Veeam Backup and Replication Operations Guide

Volume 1

Based on Version 11a

Focused on Microsoft Hyper-V

By:

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Feedback Information

We’d like to hear from you! If you have any comments about how we could improve the quality of this book, please don’t hesitate to contact us by visiting www.checkyourlogs.net or emailing feedback@mvpdays.com.

Foreward

Here is another book by Dave, Cristal, Cary and Emile; what a significant milestone!

Ask yourself one question: Why? There are so many technologies, but why do we use what we use? Why do we do what we do? The answer is how. It's how we use something. I like to explain sometimes compliance in this way. No product or technology is inherently compliant. It's how it is implemented and how it is audited. The same goes for technology implementations; it's about how we use them. The how is the why.

Operations are still cool. There are so many razzle-dazzle job titles and buzzwords in the market today, but in the end, Operations are Operations. DevOps, PlatformOps, SRE (Sire Reliability Engineer), Platform Engineering… I do not need to go on, but no technology will take care of itself across all disciplines. How it is used, implemented, monitored, etc., matters today. Technology still needs humans and their knowledge.

Expert advice is the difference. We all learn from each other. When taking on the next new challenge, where does one go first? We look for resources to consume. Blogs, books like this, and social profiles; the established experts are the trusted advisors in the technology space. Call it community, social sharing, or what you want; we all find ourselves going to the go-to experts of a particular space.

Above and Beyond. What Dave, Cristal, Cary and Emile put forth in this book is outstanding in their practicing advice for technology. They could easily focus on their professional responsibilities and keep them narrow. But writing a book is hard work! Editing a book is hard work! I've not discussed this with them, but I'm sure they aren't doing it for the money of writing a book. They write this book because they go above and beyond, share, and care.

I'm sure you will enjoy this book, and a big congratulations on this book, Dave, Cristal, Cary and Emile.

Best Regards,

Rick W. Vanover Microsoft MVP, VMware vExpert, Cisco Champion
Senior Director, Product Strategy - Veeam Software
Twitter: @RickVanover

About the Authors

Dave Kawula – Microsoft MVP

Dave is a Microsoft Most Valuable Professional (MVP) with over 20 years of experience in the IT industry. His background includes data communications networks within multi-server environments, and he has led architecture teams for virtualization, System Centers, Exchange, Active Directory, and Internet gateways. Very active within the Microsoft technical and consulting teams, Dave has provided deep-dive technical knowledge and subject matter expertise on various System centers and operating system topics.

Dave is well-known as an evangelist for Microsoft, 1E, and Veeam technologies. Locating Dave is easy as he speaks at conferences and sessions each year, including TechEd, Ignite, MVP Days Community Roadshow, and VeeamOn.

Recently Dave has been honoured to take on the role of Conference Co-Chair of TechMentor and Cyber Security & Ransomware Live with fellow MVP Sami Laiho. The lineup of speakers and attendees attending this conference over the past 20 years is fantastic. Come down to Redmond or Orlando in 2018 and meet him in person. Checkout his speaking site at https://sessionize.com/dave-kawula/

He recently tied for 1st place out of 1800 speakers at the Microsoft Ignite Conference in Orlando.

As the founder and Managing Principal Consultant at TriCon Elite Consulting, Dave is a leading technology expert for local customers and large international enterprises, providing optimal guidance and methodologies to achieve and maintain an efficient infrastructure.

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Cristal Kawula – Microsoft MVP

Cristal Kawula co-founded MVPDays Community Roadshow and #MVPHour live Twitter Chat. She was also a Technical Advisory board member and the President of TriCon Elite Consulting. Cristal is the only 2nd Woman worldwide to receive the prestigious Veeam Vanguard award.

Cristal speaks at Microsoft Ignite, MVPDays, and other local user groups. In addition, she has been instrumental in founding MVPDays Publishing and has helped author over 25 + books.

At conferences like Microsoft Ignite, she has led community meetups on Women in IT, Parenting in IT, Diversity in Tech, and becoming a Community Rockstar.

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Cary Sun – Microsoft MVP

Cary Sun is a CISCO CERTIFIED INTERNETWORK EXPERT (CCIE No.4531) and MCSE, MCIPT, Citrix CCA with over twenty years in the planning, design, and implementation of network technologies and Management and system integration. Background includes hands-on experience with multi-platform, all LAN/WAN topologies, network administration, E-mail and Internet systems, security products, PCs and Servers environment. Expertise is analyzing users' needs and coordinating system designs from concept through implementation. Exceptional analysis, organization, communication, and interpersonal skills. Demonstrated ability to work independently or as an integral part of a team to achieve objectives and goals. Specialties: CCIE /CCNA / MCSE / MCITP / MCTS / MCSA / Solution Expert / CCA

Cary is a very active blogger at checkyourlogs.net and is permanently available online for questions from the community. His passion for technology is contagious, improving everyone around him at what they do.

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Emile Cabot – Microsoft MVP

Emile started in the industry during the mid-90s working at an ISP and designing celebrity websites. He has a solid operational background specializing in Systems Management and collaboration solutions. He has spent many years performing infrastructure analyses and solution implementations for organizations ranging from 20 to over 200,000 employees. Coupling his wealth of experience with a small partner network, Emile works very closely with TriCon Elite, 1E, and Veeam to deliver low-cost solutions with minimal infrastructure requirements.

He actively volunteers as a member of the Canadian Ski Patrol, providing over 250 hours each year for first aid services and public education at Castle Mountain Resort and in the community.

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Introduction

This book aims to showcase the fantastic expertise of our guest speakers of MVPDays Online. They have so much passion, expertise, and expert knowledge that it only seemed fitting to write it down in a book.

This book aims to show how to be operationally proficient using Veeam Backup and Replication, Veeam One and various other Veeam products and tools. We hope you find immense value in reviewing this guide and encourage you to share your operational knowledge and skills with others in the community.

Sample Files

All sample files for this book can be downloaded from http://www.checkyourlogs.net and www.github.com/mvpdays

Additional Resources

In addition to all the tips and tricks provided in this book, you can find extra resources like articles and video recordings on our blog http://www.checkyourlogs.net

Chapter 1

Prerequisites

This chapter will go over the system and port requirements. Before installing the Veeam Backup and Replication, all conditions must be met.

System Requirements

Before installing Veeam Backup and Replication, please ensure the virtual environment and servers meet system requirements.

Veeam Backup and Replication Manager Server

Please ensure the server meets the following system requirements for the Veeam backup and replication manager server.

Components	Description
OS Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 11 (version21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1
OS Features	.NET Framework 4.7.2 or later, Windows Installer 4.5, PowerShell 5.1, SQL Server Management Objects, SQL Server System CLR Types, Report Viewer Redistributable 2015, Universal C Runtime, Firefox, Google Chrome, Microsoft Edge, or Microsoft Internet Explorer 11.0 or later, RDP client version 7.0 or later. Option- System Center Virtual Server Manager 2019, 1807, 1801, System Center 2016 Virtual Server Manager Admin UI, System Center 2012 R2 Virtual Server Manager Admin

	UI, System Center 2012 SP1 Virtual Server Manager Admin UI.
Database	Microsoft SQL Server 2019, 2017, 2016, 2014, 2012, 2008 R2, 2008

Veeam Backup and Replication Console Server

Before installing the Veeam backup and replication console server, please ensure the server meets the system requirements.

Components	Description
OS Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2 SP1, 11 (version21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1
OS Features	.NET Framework 4.7.2 or later, Windows Installer 4.5, PowerShell 5.1, Firefox, Google Chrome, Microsoft Edge, or Microsoft Internet Explorer 11.0 or later, and RDP client version 7.0 or later.

Veeam Backup and Replication Off-Host Backup Proxy Server

Please ensure the server meets the following system requirements for Veeam backup and replication off-host backup proxy server.

Components	Description
OS Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2 SP1

Veeam Backup and Replication Proxy Server for NAS Backup

Please ensure the server meets the system requirements of the Veeam backup and replication proxy server.

Components	Description
OS Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2 SP1, 11 (version21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1

Veeam Backup Repository Server

Please ensure the server meets the following Veeam backup repository server system requirements.

permanently	Description
Windows OS Platform	Windows Server 2022, 2019contagious passion for technologysio,n21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1
Linux distributions	CentOS 7 to 8.3, 8.41, 8.5, CentOS Stream, Debian 9.0 to 10.8, 11.0, Fedora 30 to 33, 34, 35, RHEL 6.0 to 8.3, 8.4, 8.5, openSUSE Leap 15.2, 15.3, Tumbleweed, Oracle Linux 6 (UEK3) to 8.3 (UEK R6 and UEK R6 U2), Oracle Linux 6 to 8.3, 8.4, and 8.5 (RHCK), SLES 11 SP4, 12 SP1-SP5, 15 SP0-SP2, SP3, Ubuntu 14.04 LTS, 16.04 LTS, 18permanently9.10, 20.04 LTS, 21.04, 21.10,

Veeam Tape Server

Please ensure the server meets the following system requirements for the Veeam Tape Server.

Components	Description

Windows OS Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2 SP1, 11 (version21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1

Veeam WAN Accelerator

Please ensure the server meets the following Veeam WAN accelerator server system requirements.

Components	Description
Wi. He has Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2 SP1, 11 (version21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1

Veeam Backup & Replication Gateway Server

Please ensure the server meets the following system requirements for the Veeam backup and replication gateway server.

Components	Description
Windows OS Platform	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2 SP1, 11 (version21H2), 10 (from version 1803, 21H1, 21H2), 8.1, 7 SP1
Linux distributions	CentOS 7 to 8.3, 8.41, 8.5, CentOS Stream, Debian 9.0 to 10.8, 11.0, Fedora 30 to 33, 34, 35, RHEL 6.0 to 8.3, 8.4, 8.5, openSUSE Leap 15.2, 15.3, Tumbleweed, Oracle Linux 6 (UEK3) to 8.3 (UEK R6 and UEK R6 U2), Oracle Linux 6 to 8.3, 8.4, and 8.5 (RHCK), SLES 11 SP4, 12 SP1-SP5, 15 SP0-SP2, SP3, Ubuntu 14.04 LTS, 16.04 LTS, 18.04 LTS, 19.10, 20.04 LTS, 21.04, 21.10,

Supported Applications

Veeam supports the following list of application-aware backups.

Components	Description
Active Directory	Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008
Exchange	Exchange 2019, 2016, 2013 SP1, 2013, 2010 SP1, 2010 SP2, 2010 SP3
SharePoint	SharePoint 2019, 2016, 2013, 2010
Microsoft SQL Server	SQL Server 2005 SP4, 2008 SP4, 2008 R2 SP3, 2012 SP4, 2014 SP3, 2016 SP2, 2017, 2019 2019
Oracle (Windows OS)	Oracle Database 11g Release 2, 12c Release 1, 12C Release 2, 18c, 19c, 21c
Oracle (Linux OS)	Oracle Database 11g Release 2, 12c Release 1, 12C Release 2, 18c, 19c, 21c

Firewall Ports Requirements

You should only open the ports required for an application to run in a production environment. Locking an environment is required for most Cyber Security audits and best practices. The list below is the Port requirements for Veeam Backup and Replication. This list will help you securely build your environment, and these firewall rules for the required ports are automatically created when you install the Veeam Backup & Replication servers. However, some Linux distributions need to have manual firewall rules created.

Windows Servers

Windows servers require the following inbound and outbound ports opened. The inbound/outbound ports must be opened for Windows servers as Veeam backup infrastructure components or enable application-aware processing.

Sources	Target	Network Protocol	Port Number
Veeam backup & replication manager server	Windows server	TCP	445
Microsoft Hyper-V server or Off-host backup proxy		TCP	6160
Veeam backup repository		TCP	2500 to 3300
Veeam gateway server		TCP	6162
Veeam mount server		TCP	49152 to 65535
Veeam WAN accelerator server			
Veeam tape server			

Linux Servers

Linux servers require the following inbound and outbound ports opened. The inbound/outbound ports must be opened for Windows servers as Veeam backup infrastructure components or enable application-aware processing.

Sources	Target	Network Protocol	Port Number
	Linux servers	TCP	22

Veeam backup & replication manager server		TCP	6162
		TCP	2500 to 3300
Linux Servers	Veeam backup & replication manager server	TCP	2500 to 3300

Veeam Backup and Replication er Server

The Veeam Backup and Replication Servers require the following inbound and outbound ports opened.

Sources	Target	Network Protocol	Port Number
Veeam backup & replication manager server	SCVMM server	WCF	8100
		TCP	8732
	Hyper-V Host server	TCP	445 135
		TCP	6160
		TCP	6162
		TCP	6163
		TCP	2500 to 3300

		TCP	49152 to 65535
	Veeam Backup & Replication configuration database server	TCP	1433
	DNS server	UDP	53
	Veeam update notification server (dev.veeam.com)	HTTPS TCP	443
	Veeam license update server (vbr.butler.veeam.com, autolk.veeam.com)	TCP	443

Veeam Backup & Replication Console

The Veeam Backup & Replication Console application requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
		TCP	9392

Veeam backup & replication console server	Veeam backup & replication manager server	TCP	10003
		TCP	9396
Veeam backup & replication console server	Veeam Mount server	TCP	2500 to 3300

Veeam Backup Proxy server

The Veeam Backup Proxy server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Windows Hyper-V server/ Off-host backup proxy	Windows server	TCP	49152 to 65535
	SMB (CIFS) share	TCP	445 135
	NFS share	TCP, UDP	111 2049
	Veeam Gateway server	TCP UDP	49152 to 65535
Windows Hyper-V server		TCP	2500 to 3300

SMB3 server	Veeam backup proxy server (onhost or offhost)	TCP	2500 to 3300

Windows and Linux-based Backup Repository

The Windows and Linux-based Backup Repositories require opening the inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam backup proxy server	Veeam backup repository	TCP	2500 to 3300
Veeam source backup repository	Veeam target backup repository	TCP	2500 to 3300
Veeam source backup repository	Azure Object storage repository gateway server	TCP	2500 to 3300
Veeam Backup repository/ secondary backup repository	Cache repository in NAS backup	TCP	2500 to 3300
Windows server running vPower NFS Service	Veeam backup repository gateway server as a backup repository	TCP	2500 to 3300

NFS Share Backup Repository

The NFS Share Backup Repository requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam gateway server / Veeam backup proxy	NFS is shared as a backup repository	TCP UDP	2049
		TCP UDP	111
	NFS share as a backup repository (version 3)	TCP UDP	mountd_port
		TCP UDP	statd_port
		TCP	lockd_port
		UDP	lockd_port

Windows SMB Backup Repository

The SMB Backup Repository requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam gateway server / Veeam backup proxy	Windows SMB (CIFS) backup repository	TCP	445 135

Azure Object Storage Repository

The Azure Object Storage repository requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam gateway server	Azure Object Storage	TCP	443
		HTTPS	*.blob.core.windows.net for the Global region *.blob.core.chinacloudapi.cn for China region *.blob.core.cloudapi.de for the Germany region *.blob.core.usgovcloudapi.net for Government region
		TCP	80
		HTTP	ocsp.digicert.com ocsp.msocsp.com *.d-trust.net

External Repository

The External Repository requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number

Veeam gateway server	Azure Object Storage	TCP	443
		HTTPS	*.blob.core.windows.net for Global region *.blob.core.chinacloudapi.cn for China region *.blob.core.cloudapi.de for Germany region *.blob.core.usgovcloudapi.net for Government region
		TCP	80
		HTTP	ocsp.digicert.com ocsp.msocsp.com *.d-trust.net

Azure Archive Object Storage Repository

The Azure Archive Object Storage Repository requires opening the inbound and outbound ports.

Sources	**Target**	**Network Protocol**	**Port Number**
	Azure proxy appliance	TCP	443

Veeam gateway server		SSH	22
		HTTPS	Public/private IPv4 addresses of Azure appliance
Azure proxy appliance	Azure object storage	TCP	443
		HTTPS	*.blob.core.windows.net for Global region *.blob.core.chinacloudapi.cn for China region *.blob.core.cloudapi.de for Germany region *.blob.core.usgovcloudapi.net for Government region
		TCP	80
		HTTP	ocsp.digicert.com ocsp.msocsp.com *.d-trust.net

Veeam Gateway Server

The Veeam Gateway Server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number

Veeam gateway server	Windows SMB (CIFS) backup repository	TCP	445 135
	NFS shares the backup repository	TCP, UDP	111, 2409

Veeam Tape Server

The Veeam Tape Server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server	Veeam tape server	TCP	6166
		TCP	2500 to 3300
Veeam tape server	Veeam backup and replication manager server	TCP	2500 to 3300

Veeam WAN Accelerator Server

The Veeam WAN Accelerator Server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number

Veeam backup and replication manager server	Veeam WAN accelerator server	TCP	6160
		TCP	6162
		TCP	6164
Veeam WAN accelerator server	Veeam backup and replication manager server	TCP	2500 to 3300
	Veeam WAN accelerator server	TCP	6164
		TCP	6165

Veeam Guest Interaction Proxy with Non-Persistent Runtime Components

The Veeam Guest Interaction Proxy with non-persistent Runtime Components requires opening the following inbound and outbound ports.

Sources	**Target**	**Network Protocol**	**Port Number**
Veeam backup and replication manager server	VM guest Linux OS	TCP	22
	Veeam Guest interaction proxy	TCP	6190
		TCP	6290

		TCP	445
Veeam Guest interaction proxy	VM guest Windows OS	TCP	445 135
		TCP	49152 to 65535
		TCP	6167
	VM guest Linux OS	TCP	22
VM guest OS	Veeam Guest interaction proxy	TCP	2500 to 3300

Veeam Guest Interaction Proxy with Persistent Agent Components

The Veeam Guest Interaction Proxy with persistent Runtime Components requires opening the following inbound and outbound ports.

Sources	**Target**	**Network Protocol**	**Port Number**
Veeam Guest interaction proxy	VM guest OS	TCP	6160 11731
		TCP	6167
		TCP	6173 2500

Veeam Mount Server

The Veeam Mount Server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam Mount server	Veeam backup and replication manager server	TCP	9401
	Veeam Backup repository	TCP	2500 to 3300
Veeam backup and replication manager server	Veeam Mount server	TCP	445
		TCP	2500 to 3300
		TCP	6160
		TCP	6162
		TCP	6170
		TCP	49152 to 65535

Veeam Helper Appliance

The Veeam Helper Appliance requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam helper appliance	Veeam Backup repository	TCP	2500 to 3300
Veeam backup and replication manager server	Veeam helper appliance	TCP	22
		TCP	2500 to 3300
Veeam mount server	Veeam helper appliance	TCP	22
		TCP	2500 to 3300

Veeam Helper Host

The Veeam Helper Host requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam helper host	Veeam Backup repository	TCP	2500 to 3300
Veeam backup and replication manager server	Veeam helper host	TCP	22
		TCP	2500 to 3300
		TCP	6162
	Veeam helper host	TCP	22

Veeam mount server		TCP	2500 to 3300

VM Guest OS

The VM Guest OS requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
VM guest OS	Veeam helper appliance	TCP	21
Veeam helper appliance	VM guest Linux or Unix OS	TCP	20
		TCP	2500 to 3300
Veeam helper host	VM guest Linux or Unix OS	TCP	2500 to 3300
Veeam backup and replication manager server	VM guest Linux or Unix OS	TCP	22
Veeam mount server	VM guest Windows OS	TCP	445 135
		TCP	6160 11731
		TCP	6173

			2500
		TCP	49152 to 65535
Veeam backup and replication manager server	VM guest OS	TCP	2500 to 3300

Veeam U-AIR

Veeam U-AIR requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam U-AIR	Veeam Backup Enterprise manager server	TCP	9394

Application Item of Active Directory Domain Controller Restore

The following inbound and outbound ports must be opened to utilize the Application Item level restores.

Sources	Target	Network Protocol	Port Number
		TCP	135

Veeam backup and replication manager server	Active directory VM guest OS	TCP UDP	389
		TCP	636 3268 3269
		TCP	49152 to 65535

Application Item of Exchange Server Restore

The following inbound and outbound ports must be opened to utilize the Application Item of Exchange Server restores.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server	Exchange 2003/2007 CAS Server	TCP	80 443
	Exchange 2010/2013/2016/2019 CAS Server	TCP	443

Application Item of SQL Server Restore

To utilize the Application Item of SQL Server, the following inbound and outbound ports must be opened.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server	SQL VM guest OS	TCP	1433 1434 and other

Azure Proxy Server

The Azure Proxy Server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server / Backup Repository server	Azure Proxy server	TCP	443

Azure Helper Appliance

The Azure Helper Appliance requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server	Azure helper appliance	TCP	22

Azure Stack

Azure Stack requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server	Azure stack	TCP	443 30024

SMTP Server

The SMTP Server requires opening the following inbound and outbound ports.

Sources	Target	Network Protocol	Port Number
Veeam backup and replication manager server	SMTP server	TCP	25

Chapter 2

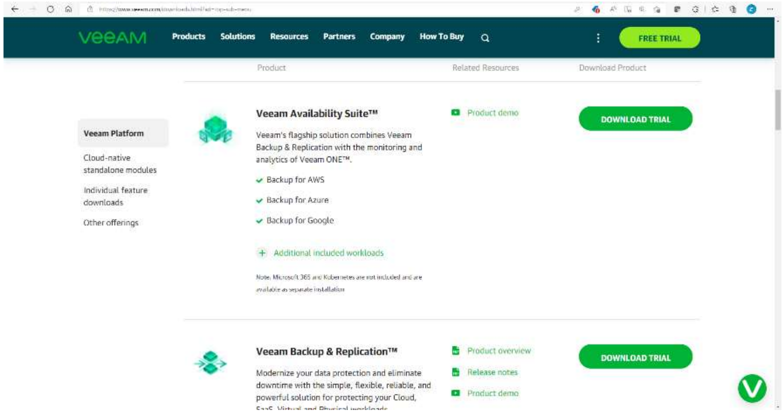
Deployment

This chapter will explain installing and upgrading Veeam Backup and Replication components. To Install or upgrade the machine's Veeam Backup and Replication components, you must ensure the devices meet the system requirements.

When writing this book, the most current Veeam Backup and replication version is Version 11.0.1.1261 P20220302. However, staying with the latest patching and version cadence provided by Veeam Software is highly recommended. Critical fixes for both functionality and security are included in the latest versions.

Install Veeam Backup and Replication v11a

Veeam released Veeam Backup and Replication v11a on September 27, 2021, and this version has many new features.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and Replication manager server. 2. Download the Veeam Backup and Replication v11a ISO image file from the Veeam website sign-in required).	

Veeam Availability Suite™

Veeam's flagship solution combines Veeam Backup & Replication with the monitoring and analytics of Veeam ONE™.

- Backup for AWS
- Backup for Azure
- Backup for Google

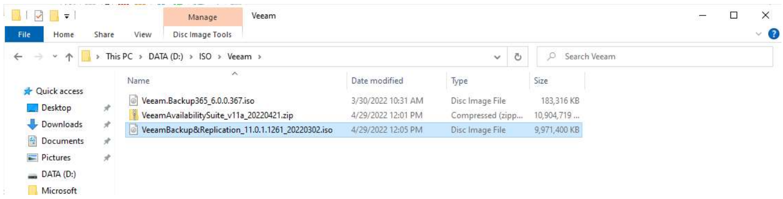
+ Additional included workloads

Note: Microsoft 365 and Kubernetes are not included and are available as separate installation

Veeam Backup & Replication™

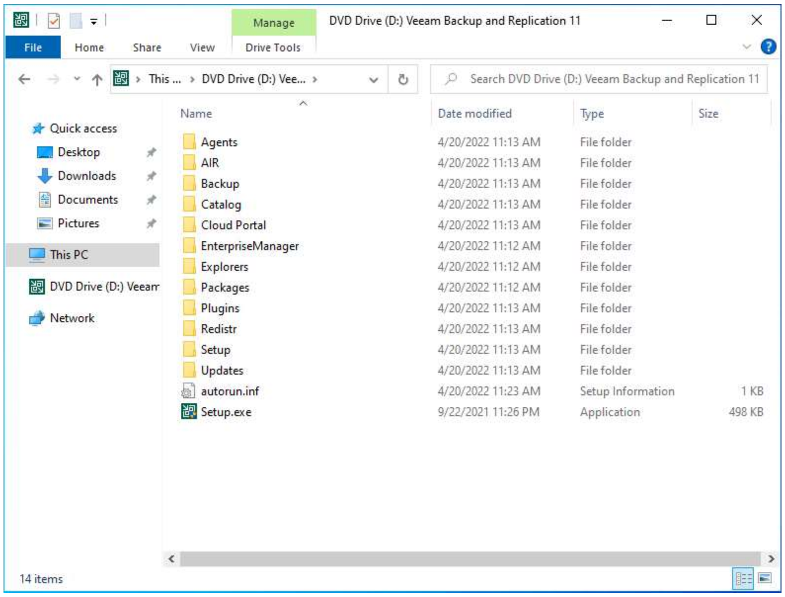
Modernize your data protection and eliminate downtime with the simple, flexible, reliable, and powerful solution for protecting your Cloud, SaaS, Virtual and Physical workloads

3. Mount VeeamBackup&Replication_11.0.1.1261_20220302.iso file.



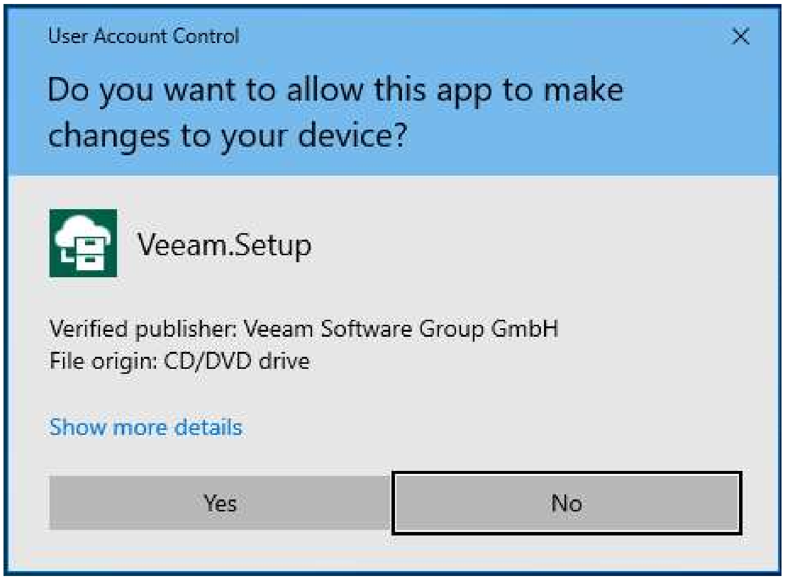
Name	Date modified	Type	Size
Veeam.Backup365_6.0.0.367.iso	3/30/2022 10:31 AM	Disc Image File	183,316 KB
VeeamAvailabilitySuite_v11a_20220421.zip	4/29/2022 12:01 PM	Compressed (zipp...	10,904,719 ...
VeeamBackup&Replication_11.0.1.1261_20220302.iso	4/29/2022 12:05 PM	Disc Image File	9,971,400 KB

4. Run Setup.exe.


Manage
DVD Drive (D:) Veeam Backup and Replication 11
File
Home
Share
View
Drive Tools
This ... › DVD Drive (D:) Vee... ›
Search DVD Drive (D:) Veeam Backup and Replication 11
Quick access
Desktop
Downloads
Documents
Pictures
This PC
DVD Drive (D:) Veeam
Network
14 items

Name	Date modified	Type	Size
Agents	4/20/2022 11:13 AM	File folder	
AIR	4/20/2022 11:13 AM	File folder	
Backup	4/20/2022 11:13 AM	File folder	
Catalog	4/20/2022 11:13 AM	File folder	
Cloud Portal	4/20/2022 11:13 AM	File folder	
EnterpriseManager	4/20/2022 11:12 AM	File folder	
Explorers	4/20/2022 11:12 AM	File folder	
Packages	4/20/2022 11:12 AM	File folder	
Plugins	4/20/2022 11:13 AM	File folder	
Redistr	4/20/2022 11:13 AM	File folder	
Setup	4/20/2022 11:13 AM	File folder	
Updates	4/20/2022 11:13 AM	File folder	
autorun.inf	4/20/2022 11:23 AM	Setup Information	1 KB
Setup.exe	9/22/2021 11:26 PM	Application	498 KB

5. On the User Access Control page, click Yes.



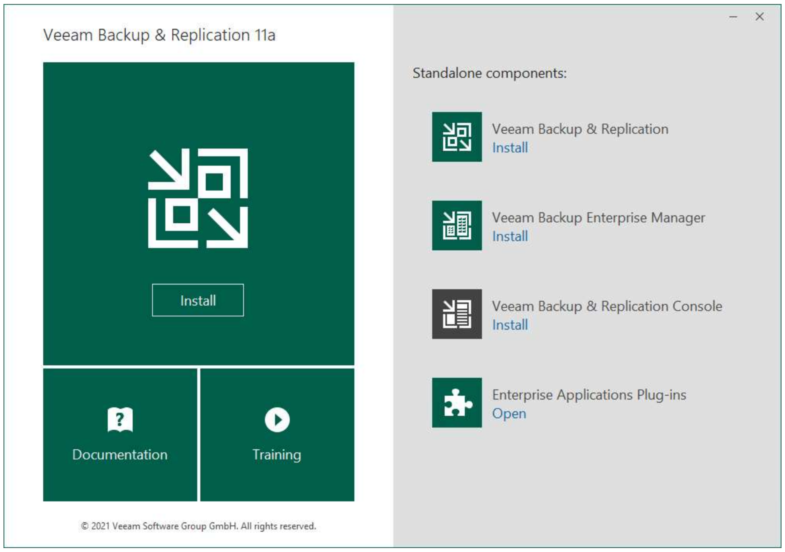
User Account Control

Do you want to allow this app to make changes to your device?

Veeam.Setup

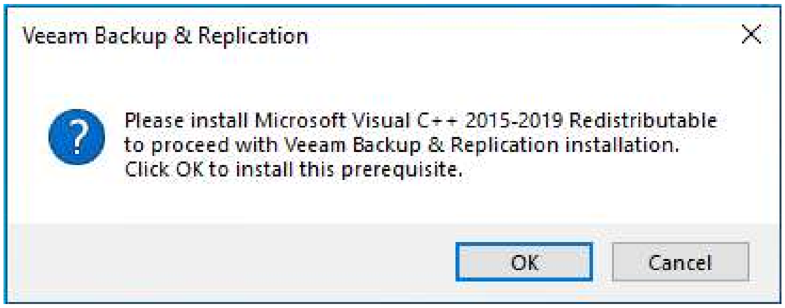
Verified publisher: Veeam Software Group GmbH
File origin: CD/DVD drive

6. On the Veeam Backup & Replication 11a page, click Install.



Veeam Backup & Replication 11a
Install
Documentation
Training
© 2021 Veeam Software Group GmbH. All rights reserved.
Standalone components:
Veeam Backup & Replication
Install
Veeam Backup Enterprise Manager
Install
Veeam Backup & Replication Console
Install
Enterprise Applications Plug-ins
Open

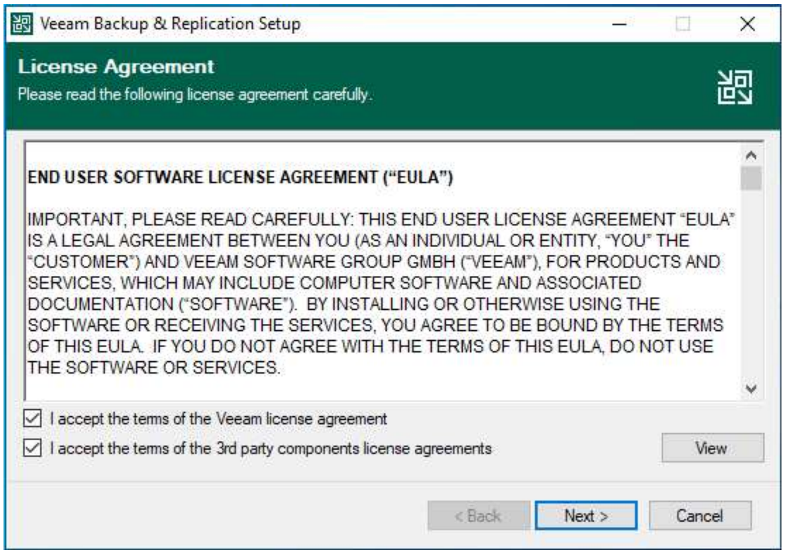
7. On the Please Install prerequisite page, click OK.



Veeam Backup & Replication

Please install Microsoft Visual C++ 2015-2019 Redistributable to proceed with Veeam Backup & Replication installation. Click OK to install this prerequisite.

8. On the License Agreement page, select I accept the terms of the Veeam license agreement checkbox
9. Select I accept the terms of the 3rd party components license agreements, click Next.



Veeam Backup & Replication Setup

License Agreement

Please read the following license agreement carefully.

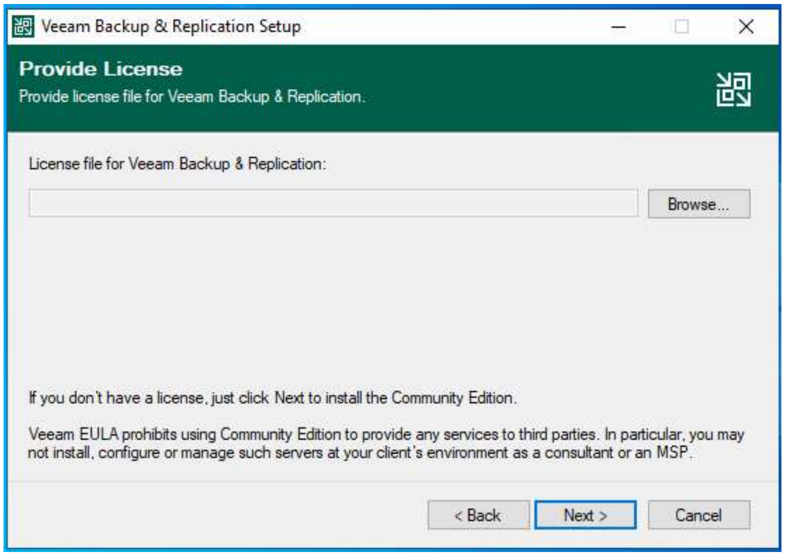
END USER SOFTWARE LICENSE AGREEMENT ("EULA")

IMPORTANT, PLEASE READ CAREFULLY: THIS END USER LICENSE AGREEMENT "EULA" IS A LEGAL AGREEMENT BETWEEN YOU (AS AN INDIVIDUAL OR ENTITY, "YOU" THE "CUSTOMER") AND VEEAM SOFTWARE GROUP GMBH ("VEEAM"), FOR PRODUCTS AND SERVICES, WHICH MAY INCLUDE COMPUTER SOFTWARE AND ASSOCIATED DOCUMENTATION ("SOFTWARE"). BY INSTALLING OR OTHERWISE USING THE SOFTWARE OR RECEIVING THE SERVICES, YOU AGREE TO BE BOUND BY THE TERMS OF THIS EULA. IF YOU DO NOT AGREE WITH THE TERMS OF THIS EULA, DO NOT USE THE SOFTWARE OR SERVICES.

☑ I accept the terms of the Veeam license agreement

☑ I accept the terms of the 3rd party components license agreements

10. Click Browse on the Provide License page.



Provide License

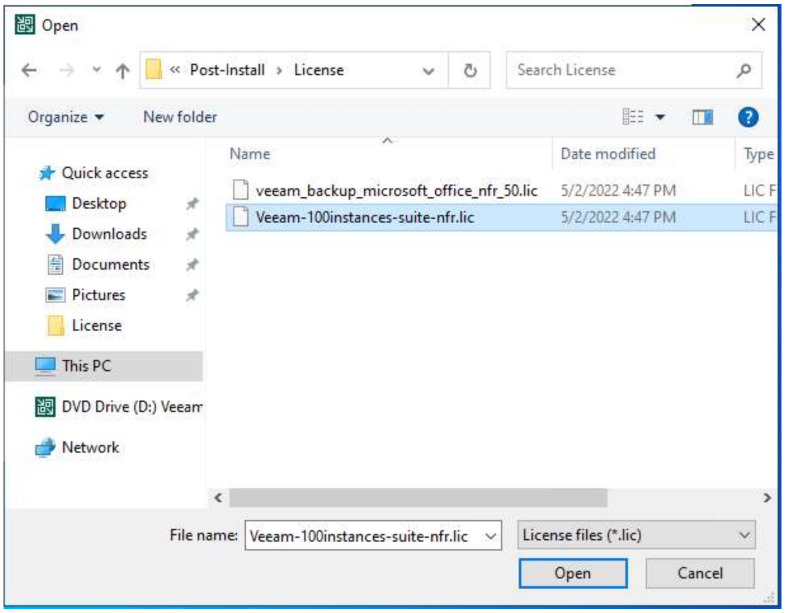
Provide license file for Veeam Backup & Replication.

License file for Veeam Backup & Replication:

If you don't have a license, just click Next to install the Community Edition.

Veeam EULA prohibits using Community Edition to provide any services to third parties. In particular, you may not install, configure or manage such servers at your client's environment as a consultant or an MSP.

11. Select a license file for Veeam Backup & Replication and click Open.

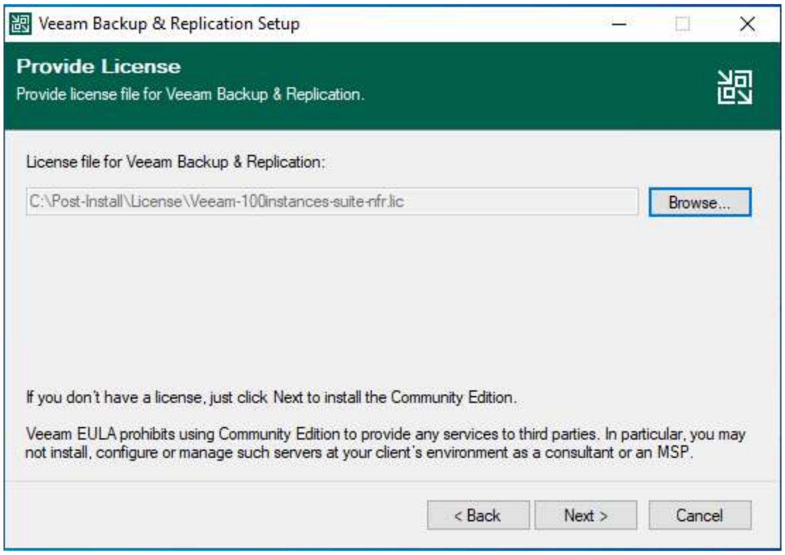


Name	Date modified	Type
veeam_backup_microsoft_office_nfr_50.lic	5/2/2022 4:47 PM	LIC F
Veeam-100instances-suite-nfr.lic	5/2/2022 4:47 PM	LIC F

File name: Veeam-100instances-suite-nfr.lic

License files (*.lic)

12. On the Provide License page, click Next.



Veeam Backup & Replication Setup

Provide License

Provide license file for Veeam Backup & Replication.

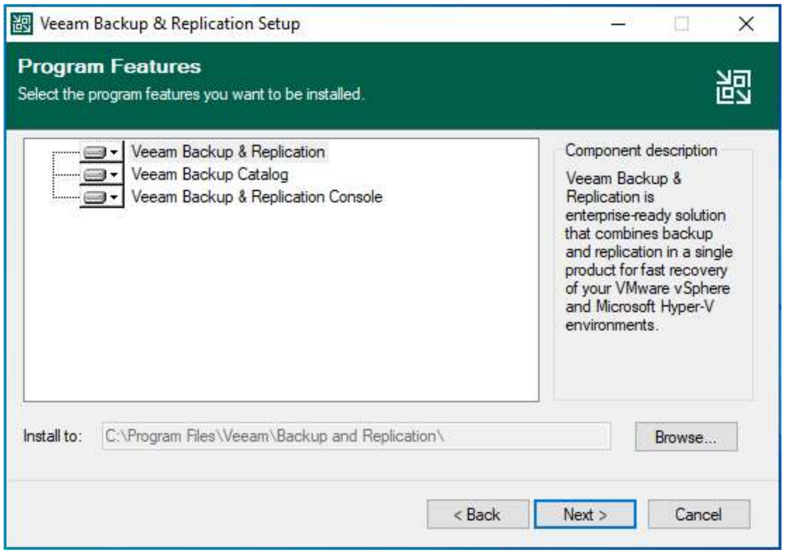
License file for Veeam Backup & Replication:

C:\Post-Install\License\Veeam-100instances-suite-nfr.lic

If you don't have a license, just click Next to install the Community Edition.

Veeam EULA prohibits using Community Edition to provide any services to third parties. In particular, you may not install, configure or manage such servers at your client's environment as a consultant or an MSP.

13. On the Program Features page, click Next.



Veeam Backup & Replication Setup

Program Features

Select the program features you want to be installed.

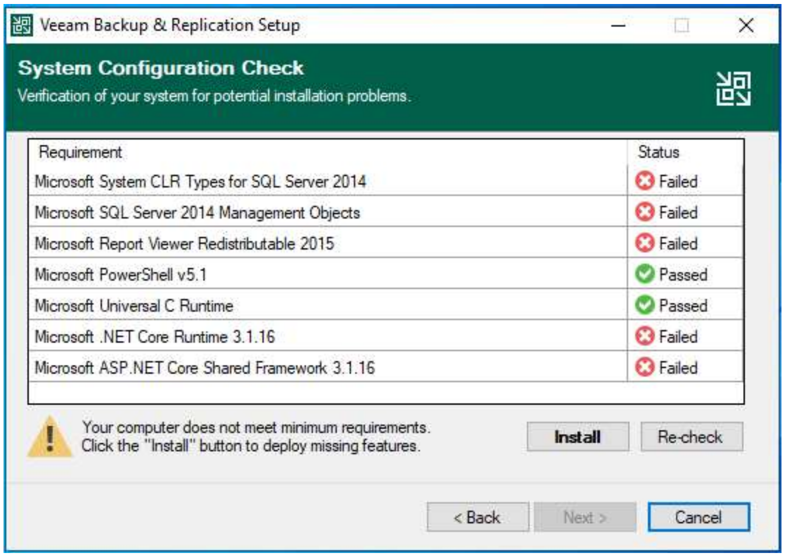
- Veeam Backup & Replication
- Veeam Backup Catalog
- Veeam Backup & Replication Console

Component description

Veeam Backup & Replication is enterprise-ready solution that combines backup and replication in a single product for fast recovery of your VMware vSphere and Microsoft Hyper-V environments.

Install to: C:\Program Files\Veeam\Backup and Replication\

14. On the System Configuration Check page, if required software components are missing, click Install to install the missing features.



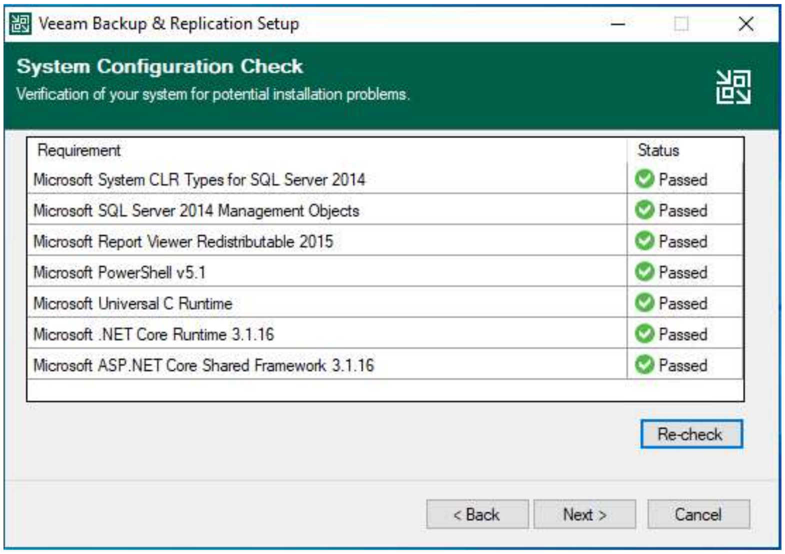
System Configuration Check

Verification of your system for potential installation problems.

Requirement	Status
Microsoft System CLR Types for SQL Server 2014	Failed
Microsoft SQL Server 2014 Management Objects	Failed
Microsoft Report Viewer Redistributable 2015	Failed
Microsoft PowerShell v5.1	Passed
Microsoft Universal C Runtime	Passed
Microsoft .NET Core Runtime 3.1.16	Failed
Microsoft ASP.NET Core Shared Framework 3.1.16	Failed

Your computer does not meet minimum requirements.
Click the "Install" button to deploy missing features.

15. Click Next after installing the missing components.

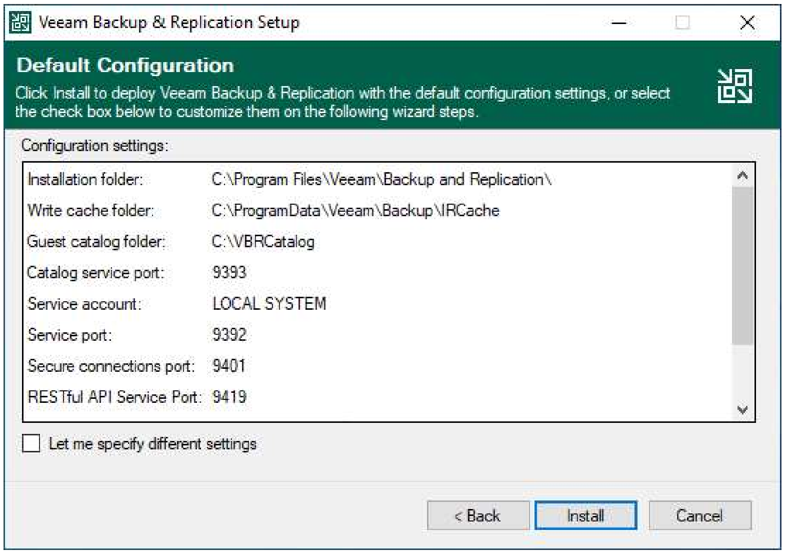


System Configuration Check

Verification of your system for potential installation problems.

Requirement	Status
Microsoft System CLR Types for SQL Server 2014	Passed
Microsoft SQL Server 2014 Management Objects	Passed
Microsoft Report Viewer Redistributable 2015	Passed
Microsoft PowerShell v5.1	Passed
Microsoft Universal C Runtime	Passed
Microsoft .NET Core Runtime 3.1.16	Passed
Microsoft ASP.NET Core Shared Framework 3.1.16	Passed

16. On the Default Configuration page, click Install.



Default Configuration

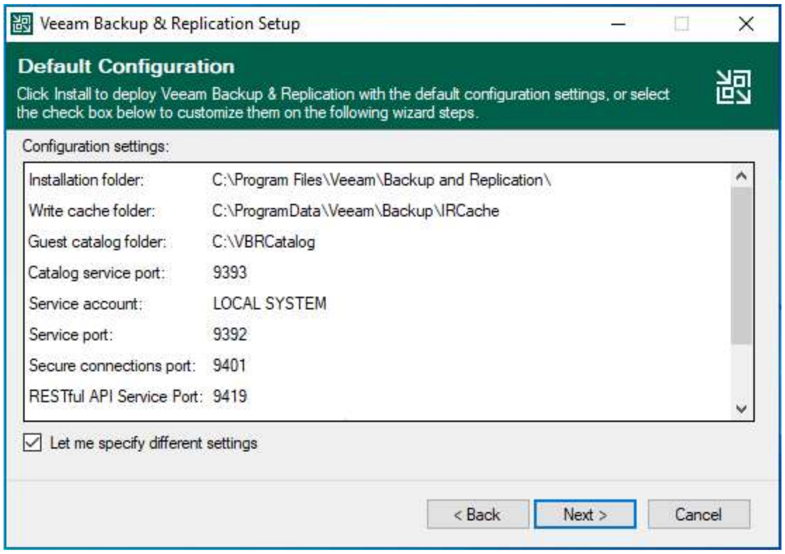
Click Install to deploy Veeam Backup & Replication with the default configuration settings, or select the check box below to customize them on the following wizard steps.

Configuration settings:

Installation folder:	C:\Program Files\Veeam\Backup and Replication\
Write cache folder:	C:\ProgramData\Veeam\Backup\IRCache
Guest catalog folder:	C:\VBRCatalog
Catalog service port:	9393
Service account:	LOCAL SYSTEM
Service port:	9392
Secure connections port:	9401
RESTful API Service Port:	9419

□ Let me specify different settings

17. If you want to specify custom installation settings, select. Let me specify different settings and click Next.



Default Configuration

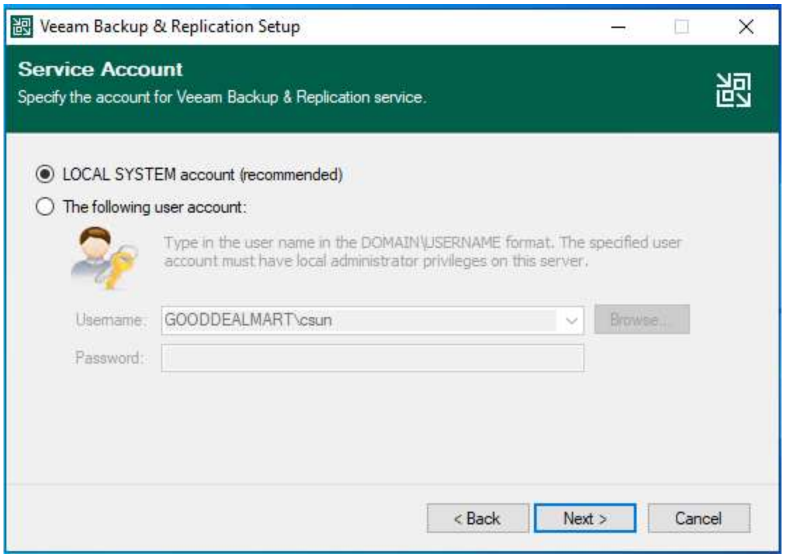
Click Install to deploy Veeam Backup & Replication with the default configuration settings, or select the check box below to customize them on the following wizard steps.

Configuration settings:

Installation folder:	C:\Program Files\Veeam\Backup and Replication\
Write cache folder:	C:\ProgramData\Veeam\Backup\IRCache
Guest catalog folder:	C:\VBRCatalog
Catalog service port:	9393
Service account:	LOCAL SYSTEM
Service port:	9392
Secure connections port:	9401
RESTful API Service Port:	9419

☑ Let me specify different settings

18. On the Service Account page, select LOCAL SYSTEM account and click Next.



Service Account

Specify the account for Veeam Backup & Replication service.

● LOCAL SYSTEM account (recommended)

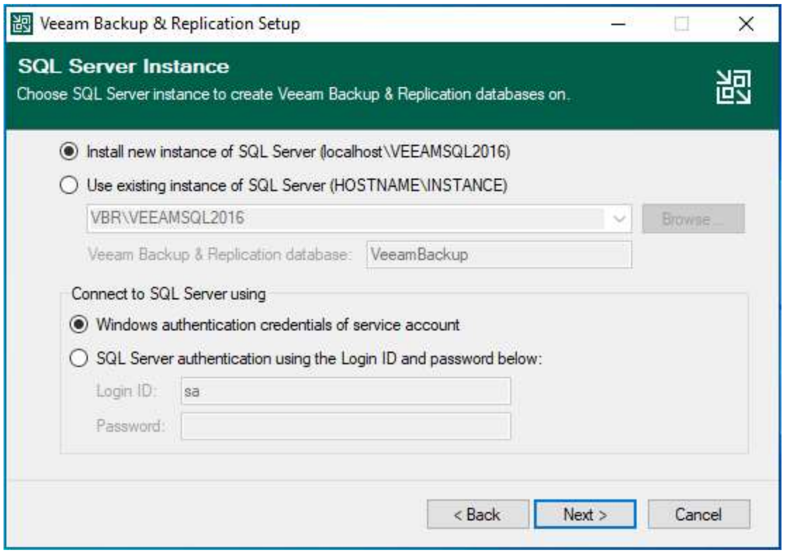
○ The following user account:

Type in the user name in the DOMAIN\USERNAME format. The specified user account must have local administrator privileges on this server.

Username: GOODDEALMART\csun

Password:

19. On the SQL Server Instance page, If a Microsoft SQL Server is not installed locally or remotely, select Install a new instance of SQL Server.
20. If you want to use the existing instance of SQL Server, enter the instance name in the HOSTNAME\INSTANCE format.
21. Enter a database name for the Veeam Backup & Replication configuration database in the Database field.



SQL Server Instance

Choose SQL Server instance to create Veeam Backup & Replication databases on.

● Install new instance of SQL Server (localhost\VEEAMSQL2016)

○ Use existing instance of SQL Server (HOSTNAME\INSTANCE)

VBR\VEEAMSQL2016

Veeam Backup & Replication database: VeeamBackup

Connect to SQL Server using

● Windows authentication credentials of service account

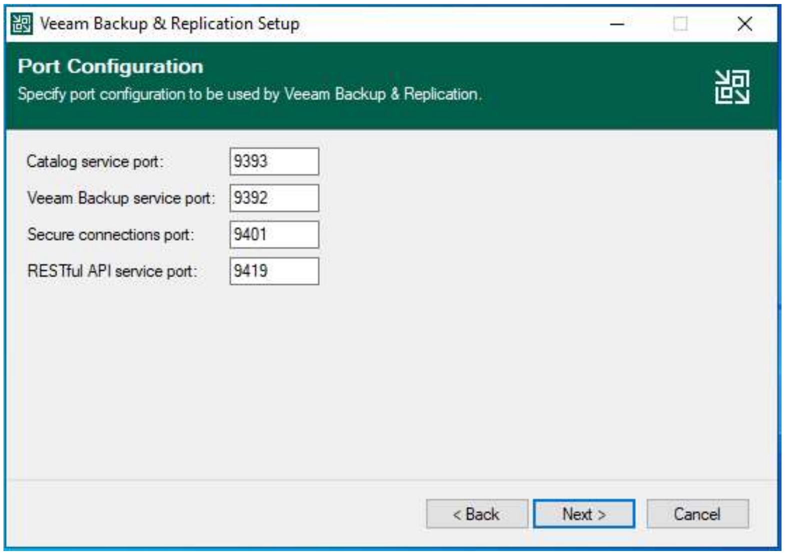
○ SQL Server authentication using the Login ID and password below:

Login ID: sa

Password:

22. Select Microsoft Windows authentication or SQL Server authentication. If you select the SQL Server authentication, enter the credentials of the SQL Server account, and click Next.

23. On the Port Configuration page, customize port number values that will be used for communication between backup infrastructure components and click Next.


Veeam Backup & Replication Setup
Port Configuration
Specify port configuration to be used by Veeam Backup & Replication.
< Back
Next >
Cancel

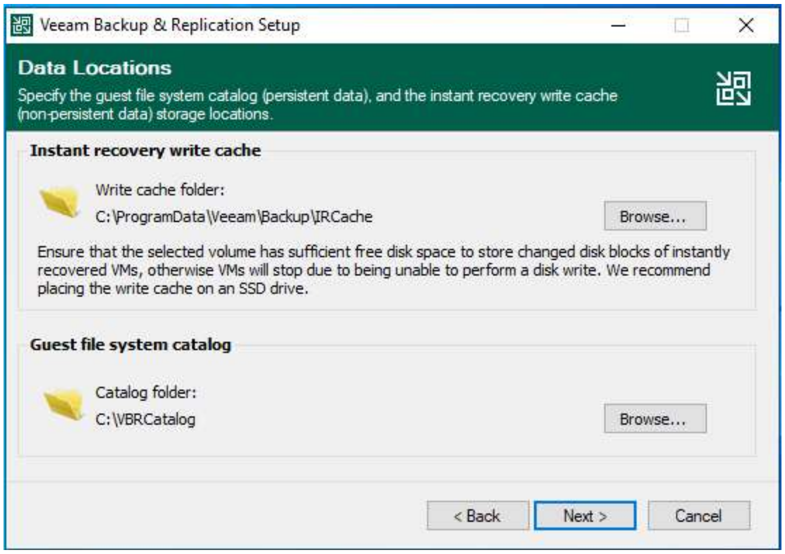
Catalog service port: 9393

Veeam Backup service port: 9392

Secure connections port: 9401

RESTful API service port: 9419

24. On the Data Locations page, specify where the write cache and indexing data must be stored, and click Next.



Veeam Backup & Replication Setup

Data Locations

Specify the guest file system catalog (persistent data), and the instant recovery write cache (non-persistent data) storage locations.

Instant recovery write cache

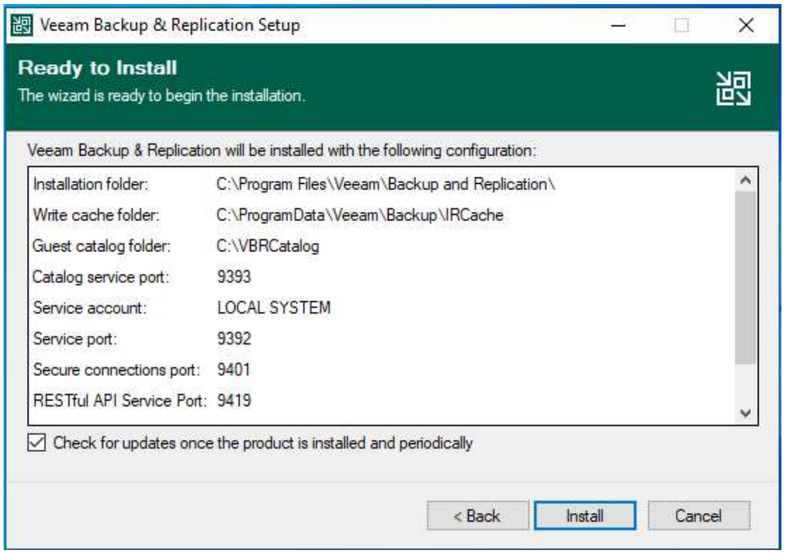
Write cache folder:
C:\ProgramData\Veeam\Backup\IRCache

Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered VMs, otherwise VMs will stop due to being unable to perform a disk write. We recommend placing the write cache on an SSD drive.

Guest file system catalog

Catalog folder:
C:\VBRCatalog

25. On the Ready to Install page, verify Veeam Backup & Replication installation settings, select Check for updates once the product is installed and periodically click Install.



Veeam Backup & Replication Setup

Ready to Install

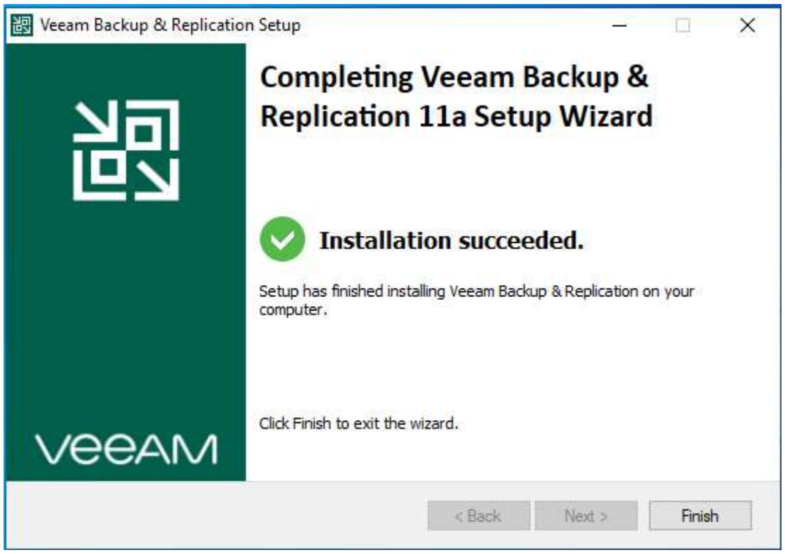
The wizard is ready to begin the installation.

Veeam Backup & Replication will be installed with the following configuration:

Installation folder:	C:\Program Files\Veeam\Backup and Replication\
Write cache folder:	C:\ProgramData\Veeam\Backup\IRCache
Guest catalog folder:	C:\VBRCatalog
Catalog service port:	9393
Service account:	LOCAL SYSTEM
Service port:	9392
Secure connections port:	9401
RESTful API Service Port:	9419

☑ Check for updates once the product is installed and periodically

26. Click Finish on the Completing Veeam Backup & Replication 11a Setup Wizard page.



Completing Veeam Backup & Replication 11a Setup Wizard

Installation succeeded.

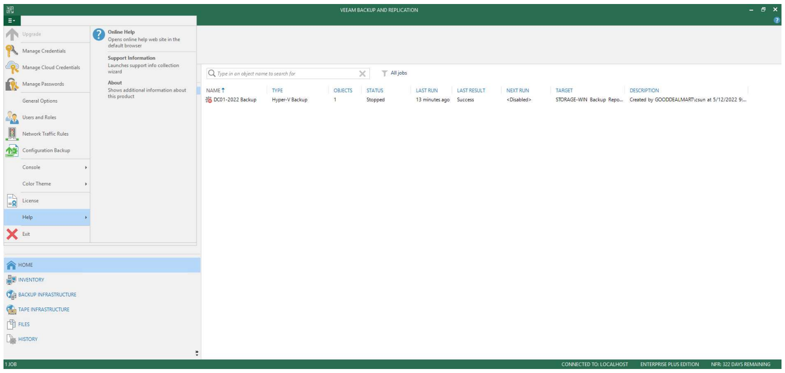
Setup has finished installing Veeam Backup & Replication on your computer.

Click Finish to exit the wizard.

Upgrade the Existing Veeam Backup and Replication to v11a

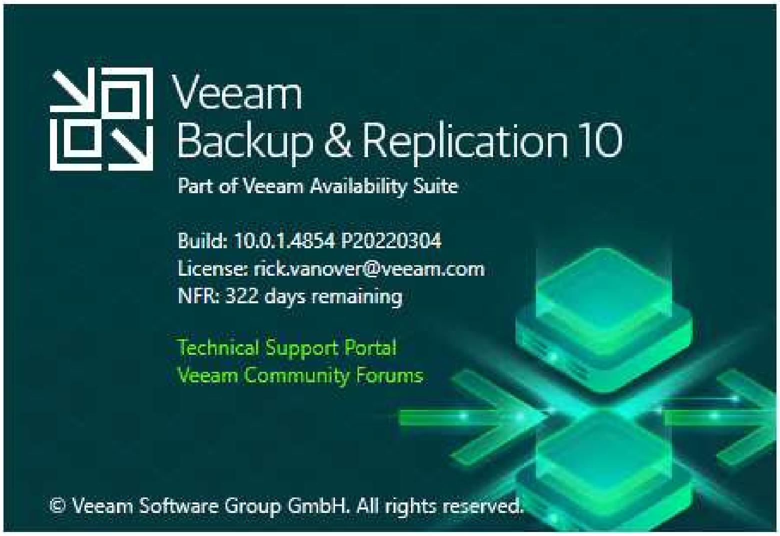
Veeam Backup and Replication v11a were released on September 27, 2021. If you are still using an older version of Veeam and Replication, it is time to upgrade it to v11a. Veeam Backup & Replication v11a is the newer version 11 that addresses issues reported by customers on the original build and adds the following new features and enhancements.

> Note:
>
> The earlier version must be Veeam Backup and Replication 9.5 Update 4b (build 9.5.4.2866) or later.

Instructions	Screenshot (if applicable)
1. Log in to the existing Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console. 3. Drop down the main menu, select Help, and click About to check Veeam Backup & Replication version.	

NAME	TYPE	OBJECTS	STATUS	LAST RUN	LAST RESULT	NEXT RUN	TARGET	DESCRIPTION
DC01-2022 Backup	Hyper-V Backup	1	Stopped	13 minutes ago	Success	<Disabled>	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:...

4. Make sure the existing Veeam Backup and Replication version meets the requirements.



Veeam
Backup & Replication 10
Part of Veeam Availability Suite

Build: 10.0.1.4854 P20220304
License: rick.vanover@veeam.com
NFR: 322 days remaining

Technical Support Portal
Veeam Community Forums

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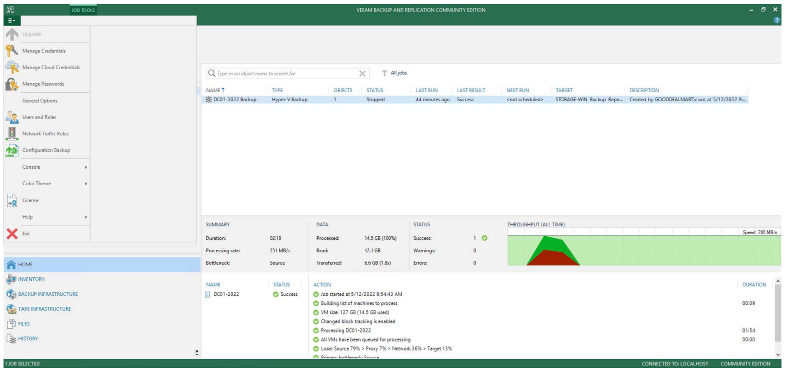
5. Drop down the main menu and select Configuration Backup.

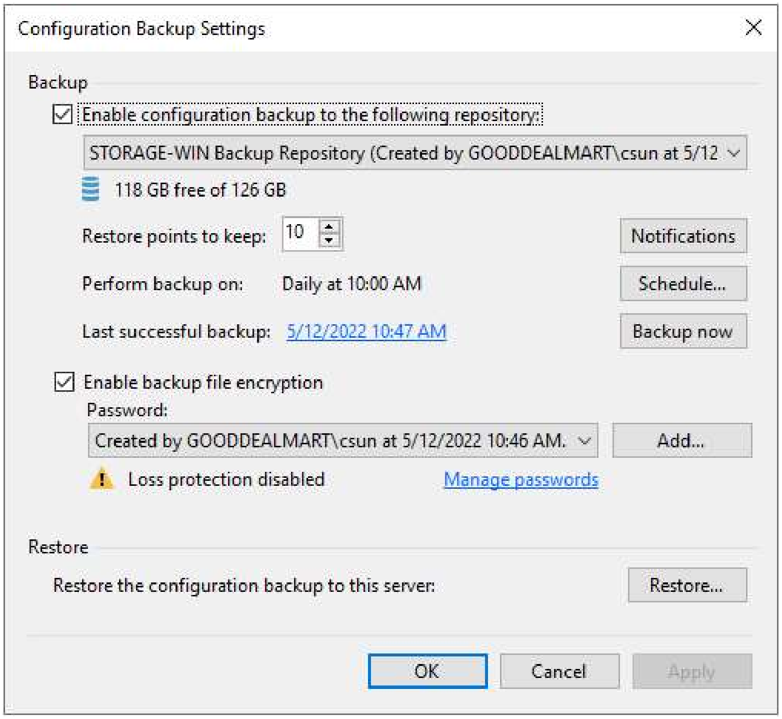


NAME ↑	TYPE	OBJECTS	STATUS	LAST RUN	LAST RESULT	NEXT RUN	TARGET	DESCRIPTION
DC01-2022 Backup	Hyper-V Backup	1	Stopped	44 minutes ago	Success	<not scheduled>	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:...

SUMMARY		DATA		STATUS	
Duration:	02:18	Processed:	14.5 GB (100%)	Success:	1 ✓
Processing rate:	251 MB/s	Read:	12.1 GB	Warnings:	0
Bottleneck:	Source	Transferred:	6.6 GB (1.8x)	Errors:	0

NAME	STATUS	ACTION	DURATION
DC01-2022	✓ Success	✓ Job started at 5/12/2022 9:54:43 AM	
		✓ Building list of machines to process	00:09
		✓ VM size: 127 GB (14.5 GB used)	
		✓ Changed block tracking is enabled	
		✓ Processing DC01-2022	01:54
		✓ All VMs have been queued for processing	00:00
		✓ Load: Source 79% > Proxy 7% > Network 36% > Target 13%	
		✓ Primary bottleneck: Source	

6. On the Configuration Backup Settings page, select Backup now to back up the current configuration.
7. Click OK to close the Configuration Backup Settings after the backup is completed.



Configuration Backup Settings

Backup

☑ Enable configuration backup to the following repository:

STORAGE-WIN Backup Repository (Created by GOODDEALMART\csun at 5/12

118 GB free of 126 GB

Restore points to keep: 10

Perform backup on: Daily at 10:00 AM

Last successful backup: 5/12/2022 10:47 AM

☑ Enable backup file encryption

Password:

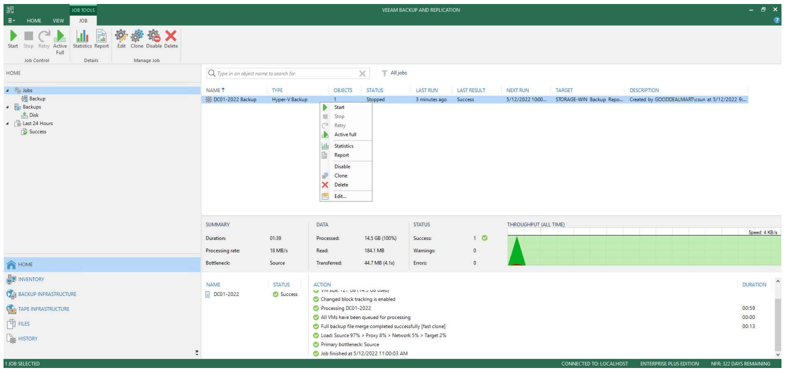
Created by GOODDEALMART\csun at 5/12/2022 10:46 AM.

Loss protection disabled

Restore

Restore the configuration backup to this server:

8. On the Home page, select Jobs.
9. Right-click jobs and select Disable to disable all jobs.



NAME	TYPE	OBJECTS	STATUS	LAST RUN	LAST RESULT	NEXT RUN	TARGET	DESCRIPTION
DC01-2022 Backup	Hyper-V Backup	1	Stopped	3 minutes ago	Success	5/12/2022 10:00...	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:...

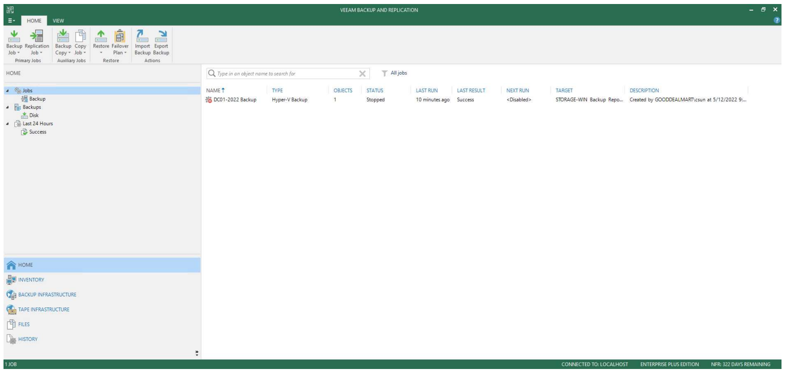
SUMMARY		DATA		STATUS	
Duration:	01:39	Processed:	14.5 GB (100%)	Success:	1
Processing rate:	18 MB/s	Read:	184.1 MB	Warnings:	0
Bottleneck:	Source	Transferred:	44.7 MB (4.1x)	Errors:	0

NAME	STATUS
DC01-2022	Success

ACTION	DURATION
VM size: 127 GB (14.5 GB used)	
Changed block tracking is enabled	
Processing DC01-2022	00:59
All VMs have been queued for processing	00:00
Full backup file merge completed successfully [fast clone]	00:13
Load: Source 97% > Proxy 8% > Network 5% > Target 2%	
Primary bottleneck: Source	
Job finished at 5/12/2022 11:00:03 AM	

1 JOB SELECTED CONNECTED TO: LOCALHOST ENTERPRISE PLUS EDITION NFR: 322 DAYS REMAINING

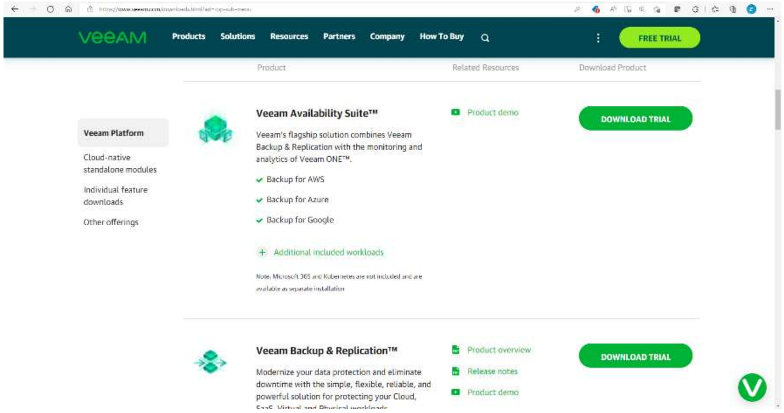
10. Make sure all jobs are disabled and close Veeam Backup & Replication Console.



NAME ↑	TYPE	OBJECTS	STATUS	LAST RUN	LAST RESULT	NEXT RUN	TARGET	DESCRIPTION
DC01-2022 Backup	Hyper-V Backup	1	Stopped	10 minutes ago	Success	<Disabled>	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:...

1 JOB   CONNECTED TO: LOCALHOST   ENTERPRISE PLUS EDITION   NFR: 322 DAYS REMAINING

11. Download the Veeam Backup and Replication v11a ISO image file from the Veeam website. (Sign-in required).



Veeam Availability Suite™

Veeam's flagship solution combines Veeam Backup & Replication with the monitoring and analytics of Veeam ONE™.

- ✓ Backup for AWS
- ✓ Backup for Azure
- ✓ Backup for Google

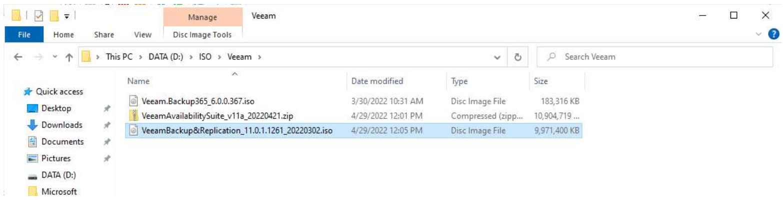
+ Additional included workloads

Note: Microsoft 365 and Kubernetes are not included and are available as separate installation

Veeam Backup & Replication™

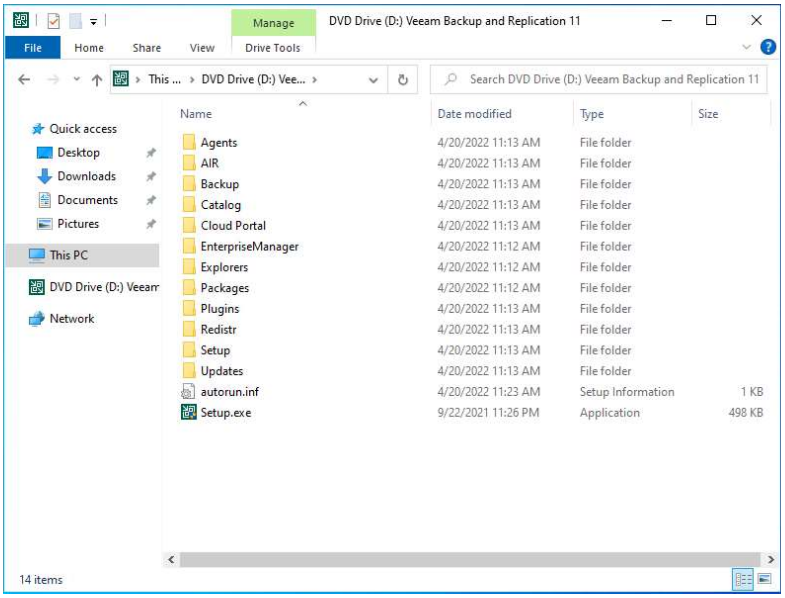
Modernize your data protection and eliminate downtime with the simple, flexible, reliable, and powerful solution for protecting your Cloud, SaaS, Virtual and Physical workloads

12. Mount VeeamBackup&Replication_11.0.1.1261_20220302.iso file.



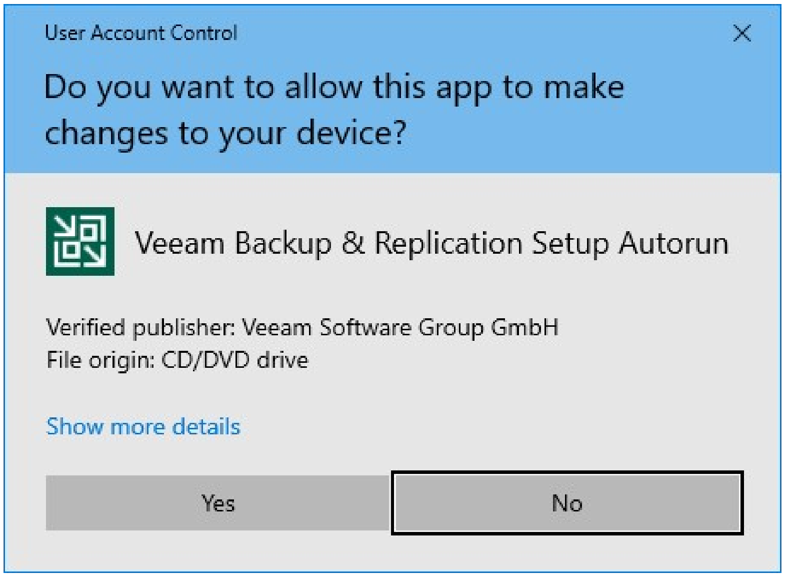
Name	Date modified	Type	Size
Veeam.Backup365_6.0.0.367.iso	3/30/2022 10:31 AM	Disc Image File	183,316 KB
VeeamAvailabilitySuite_v11a_20220421.zip	4/29/2022 12:01 PM	Compressed (zipp...	10,904,719 ...
VeeamBackup&Replication_11.0.1.1261_20220302.iso	4/29/2022 12:05 PM	Disc Image File	9,971,400 KB

13. Run Setup.exe.


Manage
DVD Drive (D:) Veeam Backup and Replication 11
File
Home
Share
View
Drive Tools
This ... › DVD Drive (D:) Vee... ›
Search DVD Drive (D:) Veeam Backup and Replication 11
Quick access
Desktop
Downloads
Documents
Pictures
This PC
DVD Drive (D:) Veeam
Network
14 items

Name	Date modified	Type	Size
Agents	4/20/2022 11:13 AM	File folder	
AIR	4/20/2022 11:13 AM	File folder	
Backup	4/20/2022 11:13 AM	File folder	
Catalog	4/20/2022 11:13 AM	File folder	
Cloud Portal	4/20/2022 11:13 AM	File folder	
EnterpriseManager	4/20/2022 11:12 AM	File folder	
Explorers	4/20/2022 11:12 AM	File folder	
Packages	4/20/2022 11:12 AM	File folder	
Plugins	4/20/2022 11:13 AM	File folder	
Redistr	4/20/2022 11:13 AM	File folder	
Setup	4/20/2022 11:13 AM	File folder	
Updates	4/20/2022 11:13 AM	File folder	
autorun.inf	4/20/2022 11:23 AM	Setup Information	1 KB
Setup.exe	9/22/2021 11:26 PM	Application	498 KB

14. On the User Account Control page, click Yes.



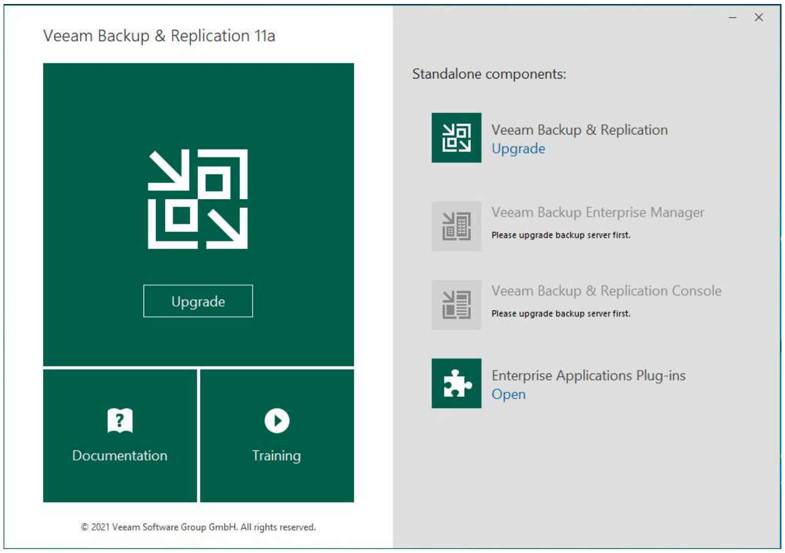
User Account Control

Do you want to allow this app to make changes to your device?

Veeam Backup & Replication Setup Autorun

Verified publisher: Veeam Software Group GmbH
File origin: CD/DVD drive

15. On the Veeam Backup & Replication 11a page, click Upgrade.


Veeam Backup & Replication 11a
Upgrade
Documentation
Training
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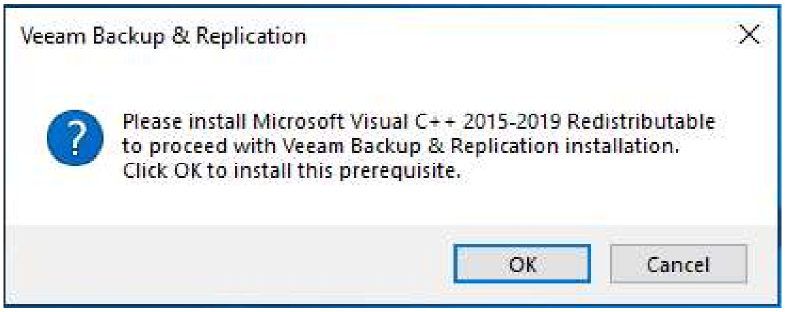
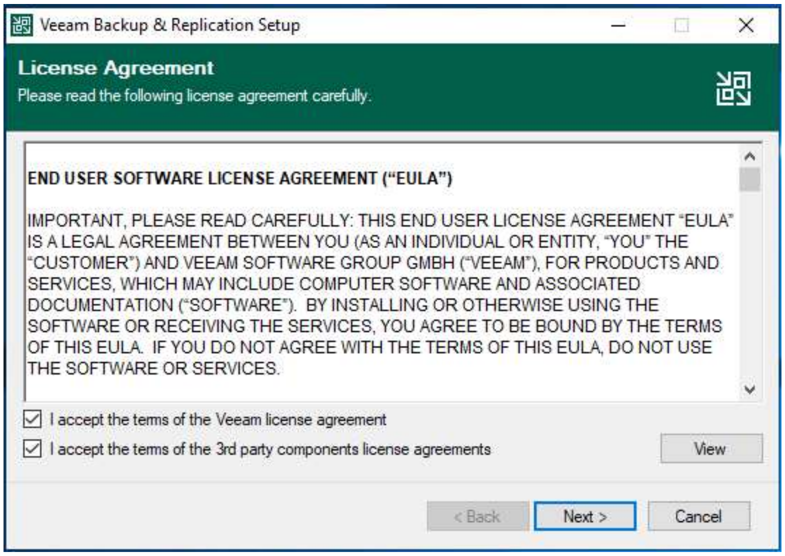
Standalone components:
Veeam Backup & Replication
Upgrade
Veeam Backup Enterprise Manager
Please upgrade backup server first.
Veeam Backup & Replication Console
Please upgrade backup server first.
Enterprise Applications Plug-ins
Open

16. Click OK to install this prerequisite.


Veeam Backup & Replication

Please install Microsoft Visual C++ 2015-2019 Redistributable to proceed with Veeam Backup & Replication installation. Click OK to install this prerequisite.

17. On the License Agreement page, select I accept the terms of the Veeam license agreement checkbox
18. Select I accept the terms of the 3rd party components license agreements checkbox and click Next.



License Agreement

Please read the following license agreement carefully.

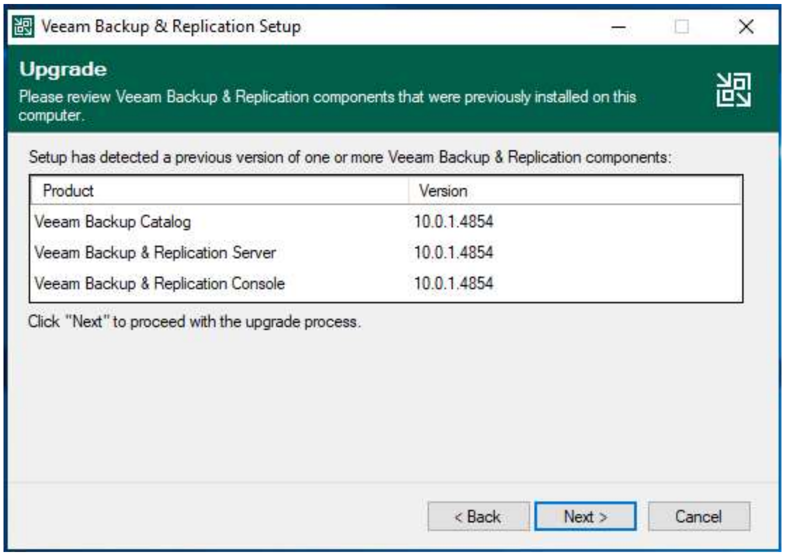
END USER SOFTWARE LICENSE AGREEMENT ("EULA")

IMPORTANT, PLEASE READ CAREFULLY: THIS END USER LICENSE AGREEMENT "EULA" IS A LEGAL AGREEMENT BETWEEN YOU (AS AN INDIVIDUAL OR ENTITY, "YOU" THE "CUSTOMER") AND VEEAM SOFTWARE GROUP GMBH ("VEEAM"), FOR PRODUCTS AND SERVICES, WHICH MAY INCLUDE COMPUTER SOFTWARE AND ASSOCIATED DOCUMENTATION ("SOFTWARE"). BY INSTALLING OR OTHERWISE USING THE SOFTWARE OR RECEIVING THE SERVICES, YOU AGREE TO BE BOUND BY THE TERMS OF THIS EULA. IF YOU DO NOT AGREE WITH THE TERMS OF THIS EULA, DO NOT USE THE SOFTWARE OR SERVICES.

☑ I accept the terms of the Veeam license agreement

☑ I accept the terms of the 3rd party components license agreements

19. On the Upgrade page, click Next.



Upgrade

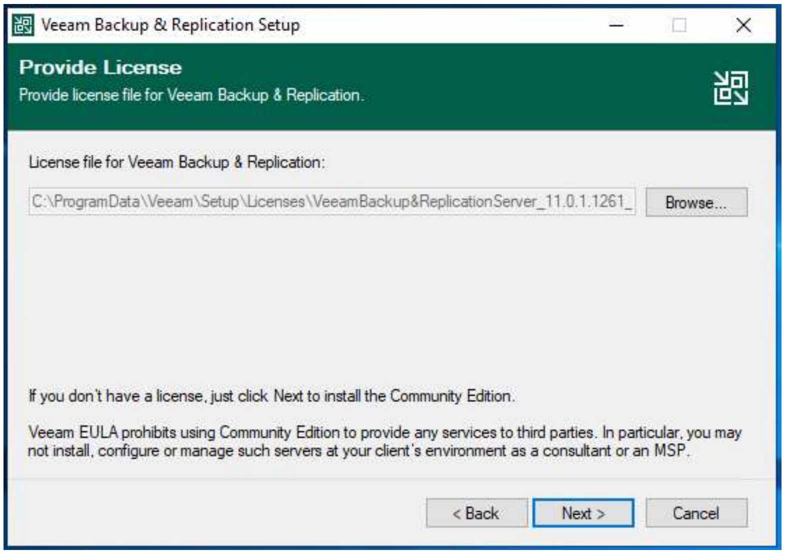
Please review Veeam Backup & Replication components that were previously installed on this computer.

Setup has detected a previous version of one or more Veeam Backup & Replication components:

Product	Version
Veeam Backup Catalog	10.0.1.4854
Veeam Backup & Replication Server	10.0.1.4854
Veeam Backup & Replication Console	10.0.1.4854

Click "Next" to proceed with the upgrade process.

20. On the Provide License page, click Browse.



Provide License

Provide license file for Veeam Backup & Replication.

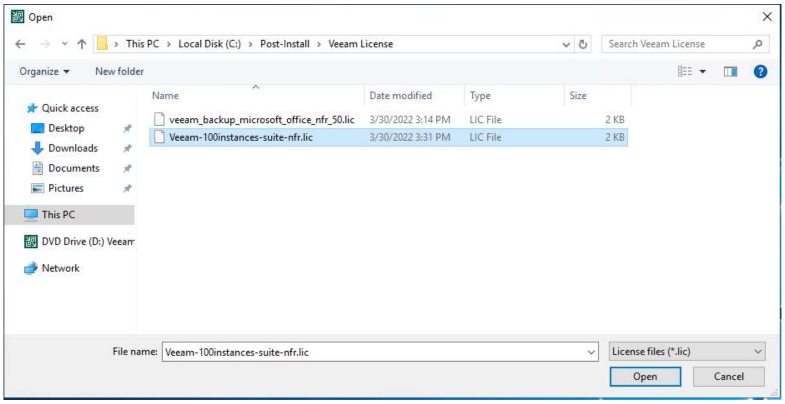
License file for Veeam Backup & Replication:

C:\ProgramData\Veeam\Setup\Licenses\VeeamBackup&ReplicationServer_11.0.1.1261_

If you don't have a license, just click Next to install the Community Edition.

Veeam EULA prohibits using Community Edition to provide any services to third parties. In particular, you may not install, configure or manage such servers at your client's environment as a consultant or an MSP.

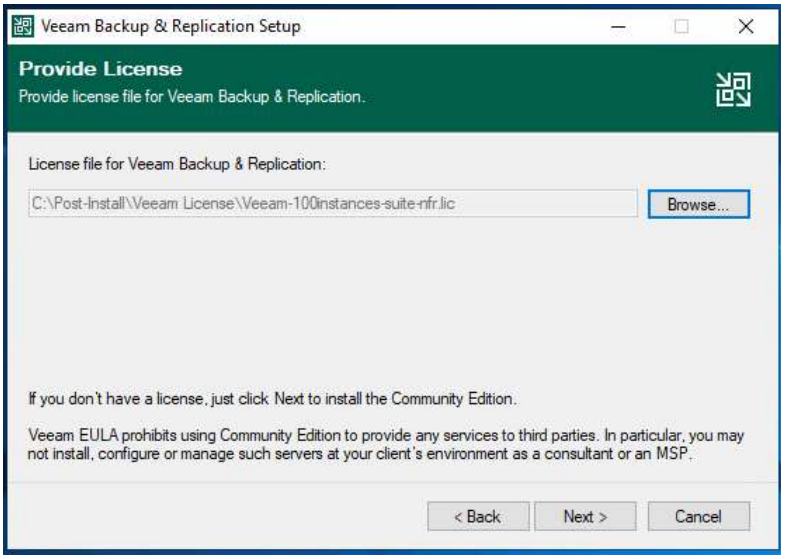
21. Select the Veeam Backup and Replication license file, and click Open.



Name	Date modified	Type	Size
veeam_backup_microsoft_office_nfr_50.lic	3/30/2022 3:14 PM	LIC File	2 KB
Veeam-100instances-suite-nfr.lic	3/30/2022 3:31 PM	LIC File	2 KB

File name: Veeam-100instances-suite-nfr.lic

22. On the Provide License page, click Next.



Provide License

Provide license file for Veeam Backup & Replication.

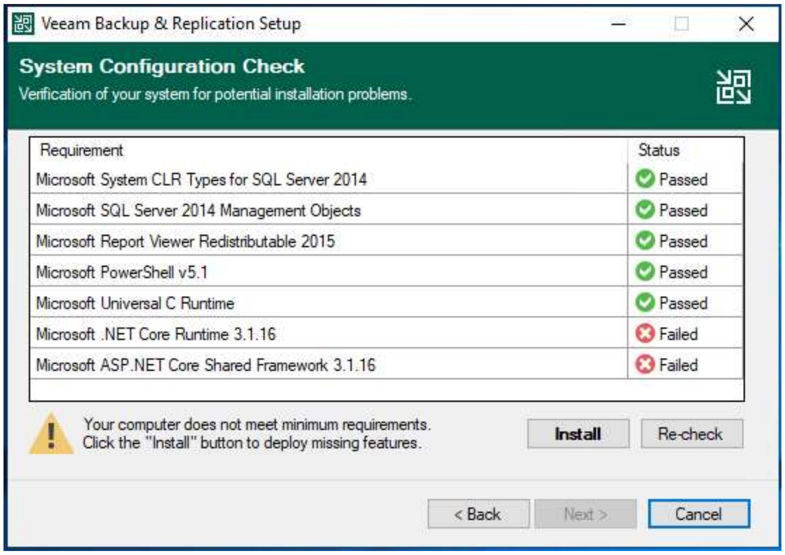
License file for Veeam Backup & Replication:

C:\Post-Install\Veeam License\Veeam-100instances-suite-nfr.lic

If you don't have a license, just click Next to install the Community Edition.

Veeam EULA prohibits using Community Edition to provide any services to third parties. In particular, you may not install, configure or manage such servers at your client's environment as a consultant or an MSP.

23. On the System Configuration Check page, click Install to deploy missing features.



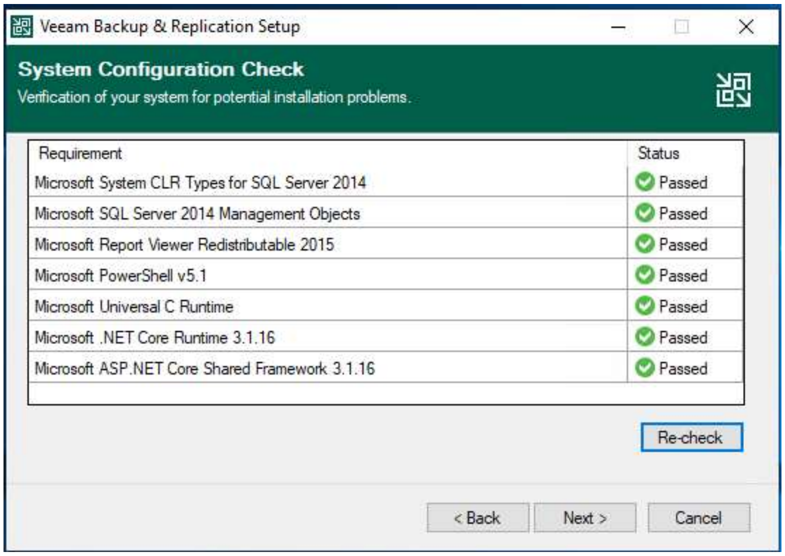
System Configuration Check

Verification of your system for potential installation problems.

Requirement	Status
Microsoft System CLR Types for SQL Server 2014	✓ Passed
Microsoft SQL Server 2014 Management Objects	✓ Passed
Microsoft Report Viewer Redistributable 2015	✓ Passed
Microsoft PowerShell v5.1	✓ Passed
Microsoft Universal C Runtime	✓ Passed
Microsoft .NET Core Runtime 3.1.16	✗ Failed
Microsoft ASP.NET Core Shared Framework 3.1.16	✗ Failed

Your computer does not meet minimum requirements.
Click the "Install" button to deploy missing features.

24. Click Next after installing the missing features.



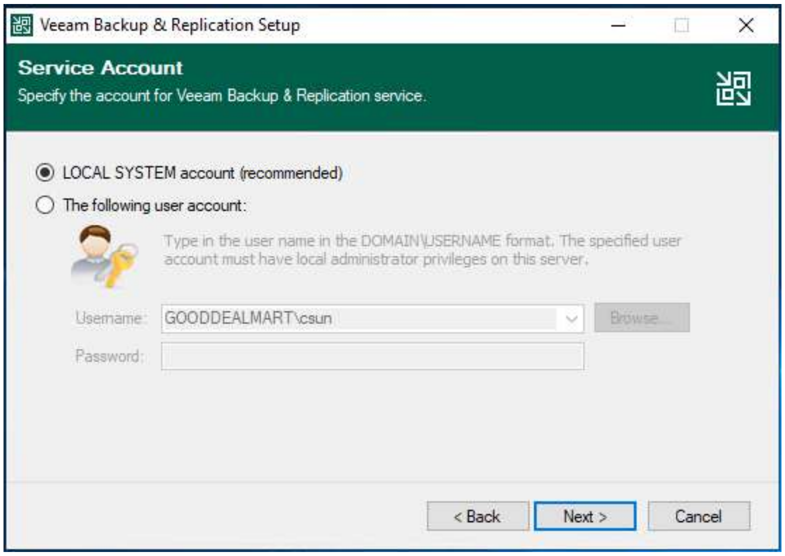
Veeam Backup & Replication Setup

System Configuration Check

Verification of your system for potential installation problems.

Requirement	Status
Microsoft System CLR Types for SQL Server 2014	✓ Passed
Microsoft SQL Server 2014 Management Objects	✓ Passed
Microsoft Report Viewer Redistributable 2015	✓ Passed
Microsoft PowerShell v5.1	✓ Passed
Microsoft Universal C Runtime	✓ Passed
Microsoft .NET Core Runtime 3.1.16	✓ Passed
Microsoft ASP.NET Core Shared Framework 3.1.16	✓ Passed

25. Select the LOCAL SYSTEM account on the Service Account page, specify another user account, and click Next.



Veeam Backup & Replication Setup

Service Account

Specify the account for Veeam Backup & Replication service.

● LOCAL SYSTEM account (recommended)

○ The following user account:

Type in the user name in the DOMAIN\USERNAME format. The specified user account must have local administrator privileges on this server.

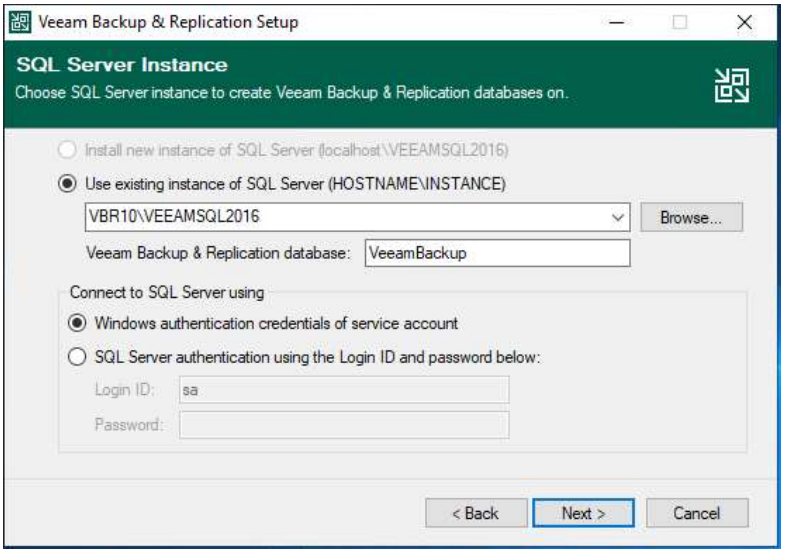
Username: GOODDEALMART\csun

Password:

Note:

If you would like to use the specified user account, the user account must be a member of the Administrators group on the Veeam Backup & Replication machine. Also, it must have db_owner rights for the configuration database.

26. On the SQL Server Instance page, click Next.



Veeam Backup & Replication Setup

SQL Server Instance

Choose SQL Server instance to create Veeam Backup & Replication databases on.

○ Install new instance of SQL Server (localhost\VEEAMSQL2016)

● Use existing instance of SQL Server (HOSTNAME\INSTANCE)

VBR10\VEEAMSQL2016

Veeam Backup & Replication database: VeeamBackup

Connect to SQL Server using

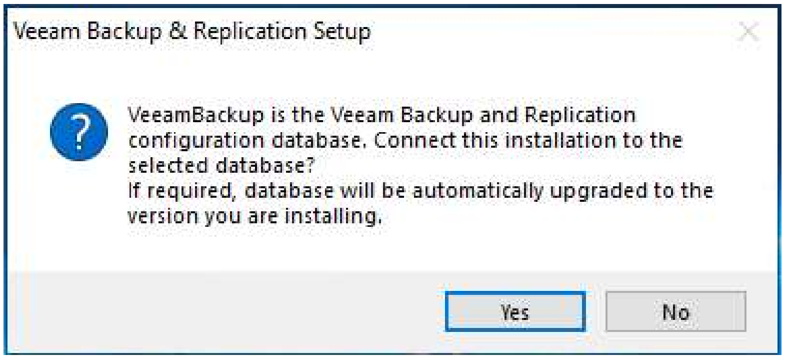
● Windows authentication credentials of service account

○ SQL Server authentication using the Login ID and password below:

Login ID: sa

Password:

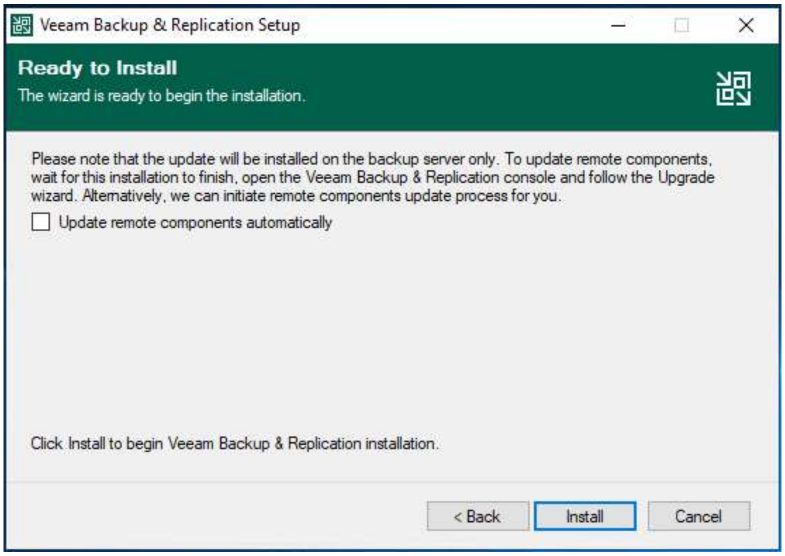
27. Click Yes on the question pop-up message. Veeam will automatically upgrade the database to the version you are installing.



Veeam Backup & Replication Setup

VeeamBackup is the Veeam Backup and Replication configuration database. Connect this installation to the selected database?
If required, database will be automatically upgraded to the version you are installing.

28. Click Install on the Ready to Install page.



Ready to Install

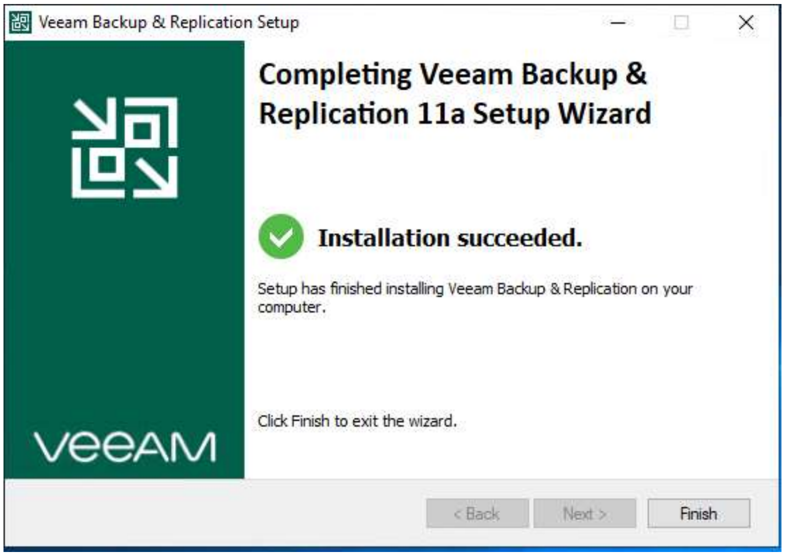
The wizard is ready to begin the installation.

Please note that the update will be installed on the backup server only. To update remote components, wait for this installation to finish, open the Veeam Backup & Replication console and follow the Upgrade wizard. Alternatively, we can initiate remote components update process for you.

□ Update remote components automatically

Click Install to begin Veeam Backup & Replication installation.

29. On the Completing Veeam Backup & Replication 11a Setup Wizard page, ensure the installation succeeded, and click Finish.



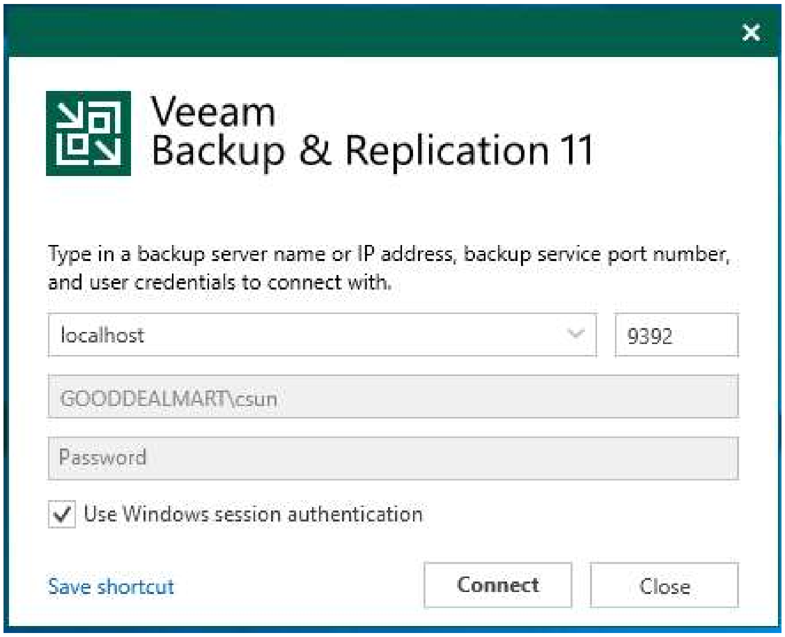
Completing Veeam Backup & Replication 11a Setup Wizard

✓ **Installation succeeded.**

Setup has finished installing Veeam Backup & Replication on your computer.

Click Finish to exit the wizard.

30. Open Veeam Backup & Replication management console and click Connect.



Veeam Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

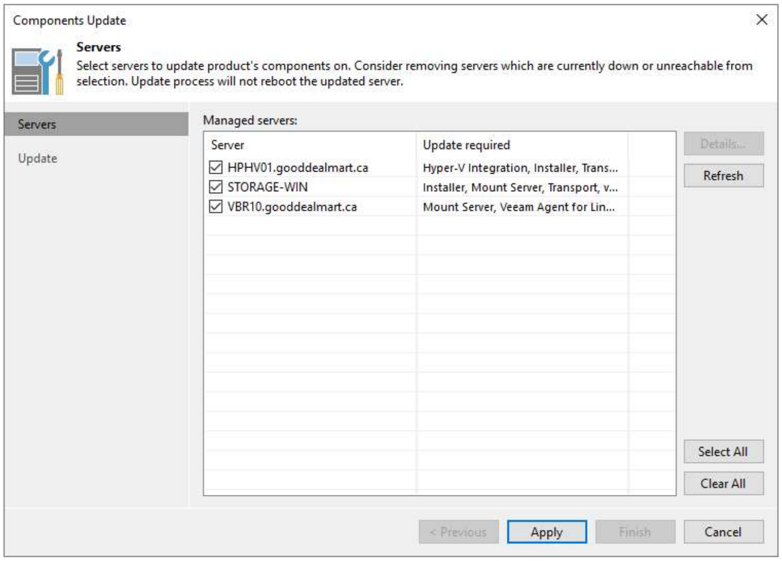
localhost | 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

31. On the Components Update page, select the servers and click Appl



Components Update

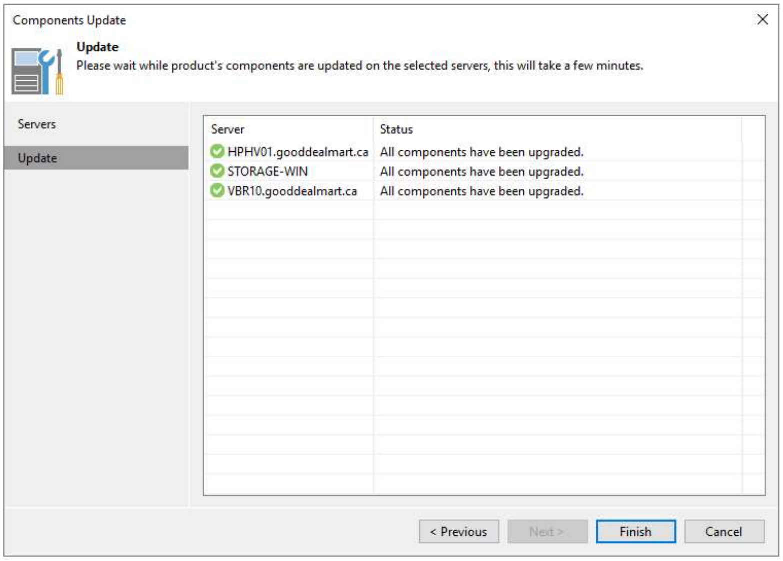
Servers

Select servers to update product's components on. Consider removing servers which are currently down or unreachable from selection. Update process will not reboot the updated server.

Managed servers:

Server	Update required
☑ HPHV01.gooddealmart.ca	Hyper-V Integration, Installer, Trans...
☑ STORAGE-WIN	Installer, Mount Server, Transport, v...
☑ VBR10.gooddealmart.ca	Mount Server, Veeam Agent for Lin...

32. Make sure the components update succeeds for selected servers and click Finish.



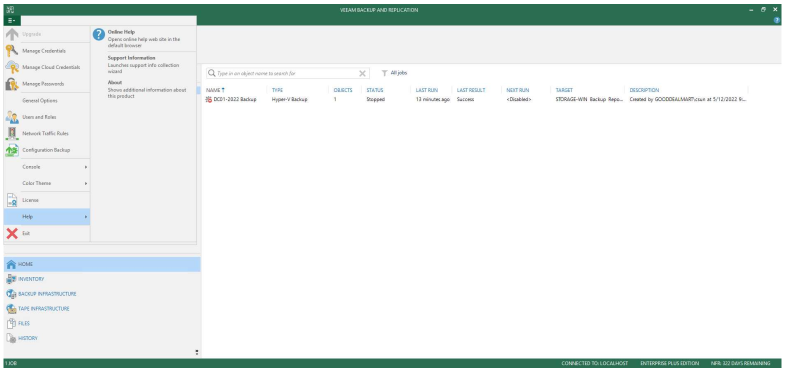
Components Update

Update

Please wait while product's components are updated on the selected servers, this will take a few minutes.

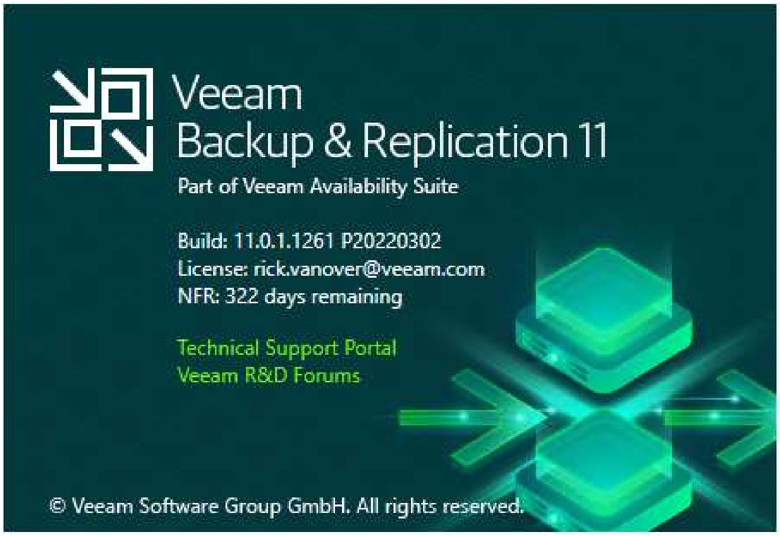
Server	Status
HPHV01.gooddealmart.ca	All components have been upgraded.
STORAGE-WIN	All components have been upgraded.
VBR10.gooddealmart.ca	All components have been upgraded.

33. Drop down the main menu, select Help, and click About to check Veeam Backup & Replication version.



NAME ↑	TYPE	OBJECTS	STATUS	LAST RUN	LAST RESULT	NEXT RUN	TARGET	DESCRIPTION
DC01-2022 Backup	Hyper-V Backup	1	Stopped	13 minutes ago	Success	<Disabled>	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:...

34. Make sure the existing Veeam Backup and Replication version is upgraded.



Veeam
Backup & Replication 11
Part of Veeam Availability Suite

Build: 11.0.1.1261 P20220302
License: rick.vanover@veeam.com
NFR: 322 days remaining

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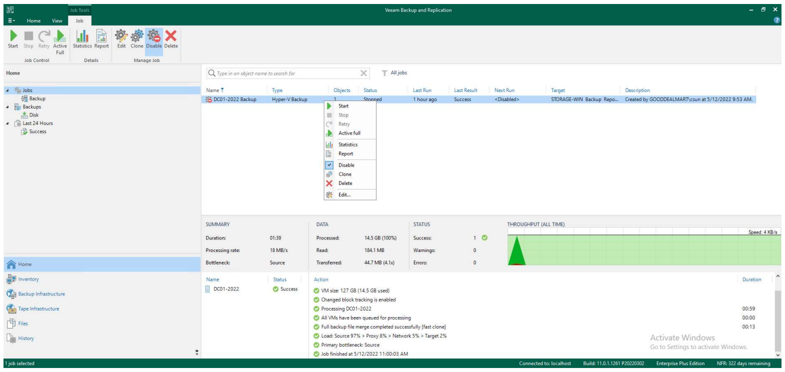
35. On the Home page, select Jobs.
36. Right-click jobs and unselect Disable to enable all jobs.



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DC01-2022 Backup	Hyper-V Backup	1	Stopped	1 hour ago	Success	<Disabled>	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:53 AM.

☑ Disable

SUMMARY
Duration: 01:39
Processing rate: 18 MB/s
Bottleneck: Source

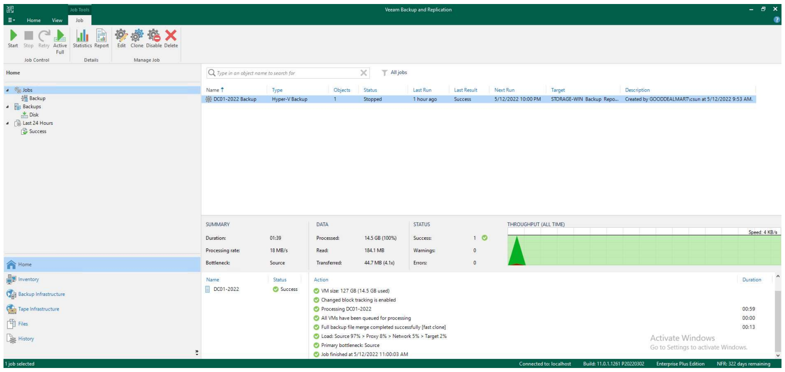
DATA
Processed: 14.5 GB (100%)
Read: 184.1 MB
Transferred: 44.7 MB (4.1x)

STATUS
Success: 1
Warnings: 0
Errors: 0

Name	Status	Action	Duration
DC01-2022	Success	VM size: 127 GB (14.5 GB used)	
		Changed block tracking is enabled	
		Processing DC01-2022	00:59
		All VMs have been queued for processing	00:00
		Full backup file merge completed successfully [fast clone]	00:13
		Load: Source 97% > Proxy 8% > Network 5% > Target 2%	
		Primary bottleneck: Source	
		Job finished at 5/12/2022 11:00:03 AM	

1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 322 days remaining

37. Make sure all jobs are enabled.



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DC01-2022 Backup	Hyper-V Backup	1	Stopped	1 hour ago	Success	5/12/2022 10:00 PM	STORAGE-WIN Backup Repo...	Created by GOODDEALMART\csun at 5/12/2022 9:53 AM.

SUMMARY
Duration: 01:39
Processing rate: 18 MB/s
Bottleneck: Source

DATA
Processed: 14.5 GB (100%)
Read: 184.1 MB
Transferred: 44.7 MB (4.1x)

STATUS
Success: 1
Warnings: 0
Errors: 0

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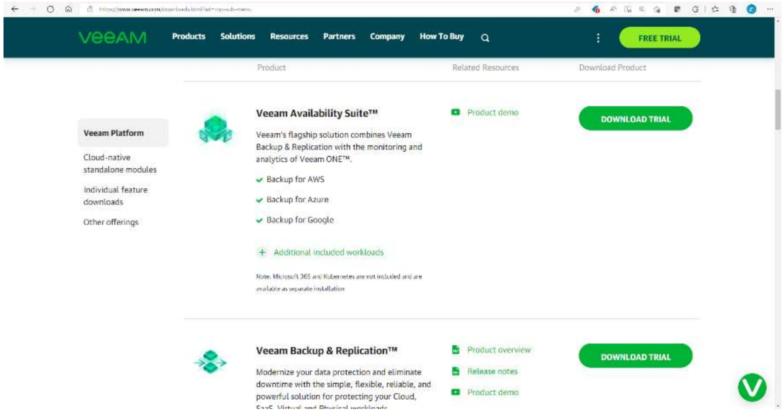
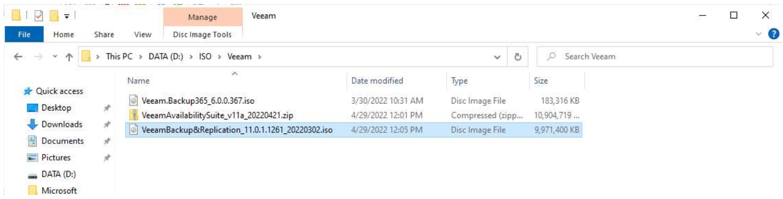
		Changed block tracking is enabled	
		Processing DC01-2022	00:59
		All VMs have been queued for processing	00:00
		Full backup file merge completed successfully [fast clone]	00:13
		Load: Source 97% > Proxy 8% > Network 5% > Target 2%	
		Primary bottleneck: Source	
		Job finished at 5/12/2022 11:00:03 AM	

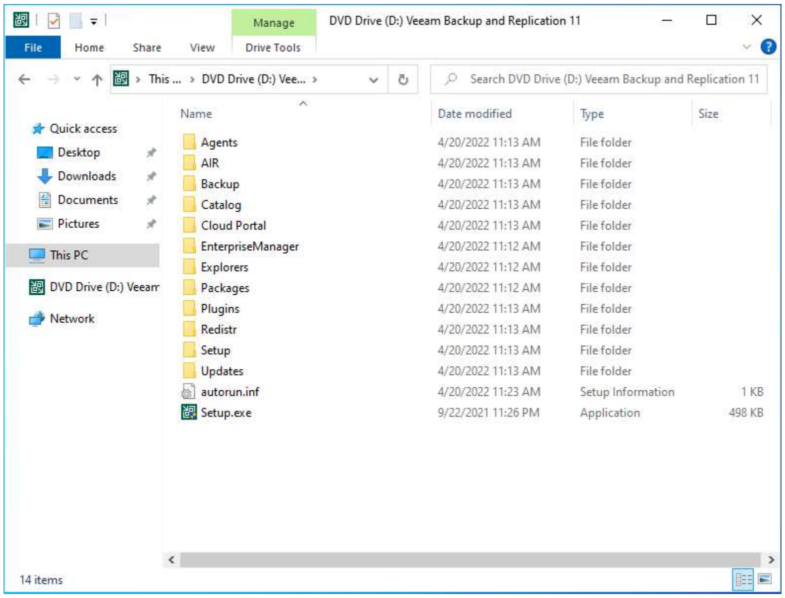
1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 322 days remaining

Install Veeam Backup and Replication Console

When you install Veeam Backup & Replication, the Veeam Backup & Replication console is automatically installed on the backup server. If you want to access Veeam Backup & Replication remotely, you can install the Veeam Backup & Replication console on a dedicated machine.

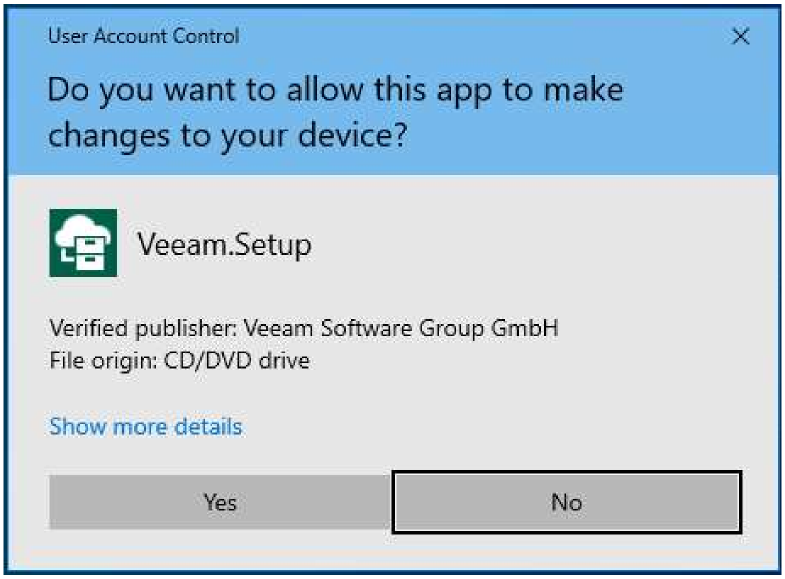
Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and Replication manager console server. 2. Download the Veeam Backup and Replication v11a ISO image file from the Veeam website. (Sign-in required).	 veeAM Products Solutions Resources Partners Company How To Buy FREE TRIAL Product Related Resources Download Product Veeam Platform Cloud-native standalone modules Individual feature downloads Other offerings Veeam Availability Suite™ Veeam's flagship solution combines Veeam Backup & Replication with the monitoring and analytics of Veeam ONE™. ✓ Backup for AWS ✓ Backup for Azure ✓ Backup for Google + Additional included workloads Note: Microsoft 365 and Kubernetes are not included and are available as separate installation Product demo DOWNLOAD TRIAL Veeam Backup & Replication™ Modernize your data protection and eliminate downtime with the simple, flexible, reliable, and powerful solution for protecting your Cloud, SaaS, Virtual and Physical workloads Product overview Release notes Product demo DOWNLOAD TRIAL
3. Mount VeeamBackup&Replication_11.0.1.1261_20220302.iso file.	 Manage Veeam File Home Share View Disc Image Tools This PC › DATA (D:) › ISO › Veeam › Search Veeam Quick access Desktop Downloads Documents Pictures DATA (D:) Microsoft Name / Date modified / Type / Size Veeam.Backup365_6.0.0.367.iso / 3/30/2022 10:31 AM / Disc Image File / 183,316 KB VeeamAvailabilitySuite_v11a_20220421.zip / 4/29/2022 12:01 PM / Compressed (zipp... / 10,904,719 ... VeeamBackup&Replication_11.0.1.1261_20220302.iso / 4/29/2022 12:05 PM / Disc Image File / 9,971,400 KB

4. Run Setup.exe.


Manage
DVD Drive (D:) Veeam Backup and Replication 11
File
Home
Share
View
Drive Tools
This ... › DVD Drive (D:) Vee... ›
Search DVD Drive (D:) Veeam Backup and Replication 11
Quick access
Desktop
Downloads
Documents
Pictures
This PC
DVD Drive (D:) Veeam
Network
14 items

Name	Date modified	Type	Size
Agents	4/20/2022 11:13 AM	File folder	
AIR	4/20/2022 11:13 AM	File folder	
Backup	4/20/2022 11:13 AM	File folder	
Catalog	4/20/2022 11:13 AM	File folder	
Cloud Portal	4/20/2022 11:13 AM	File folder	
EnterpriseManager	4/20/2022 11:12 AM	File folder	
Explorers	4/20/2022 11:12 AM	File folder	
Packages	4/20/2022 11:12 AM	File folder	
Plugins	4/20/2022 11:13 AM	File folder	
Redistr	4/20/2022 11:13 AM	File folder	
Setup	4/20/2022 11:13 AM	File folder	
Updates	4/20/2022 11:13 AM	File folder	
autorun.inf	4/20/2022 11:23 AM	Setup Information	1 KB
Setup.exe	9/22/2021 11:26 PM	Application	498 KB

5. On the User Access Control page, click Yes.

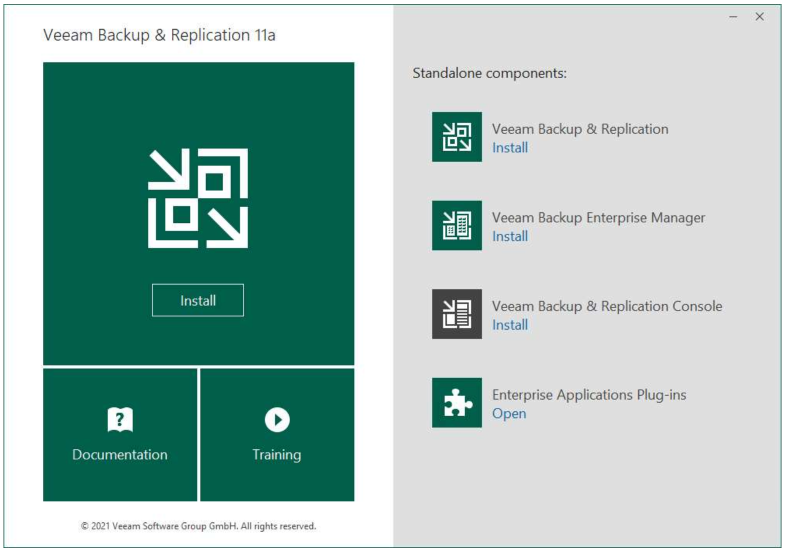

User Account Control

Do you want to allow this app to make changes to your device?

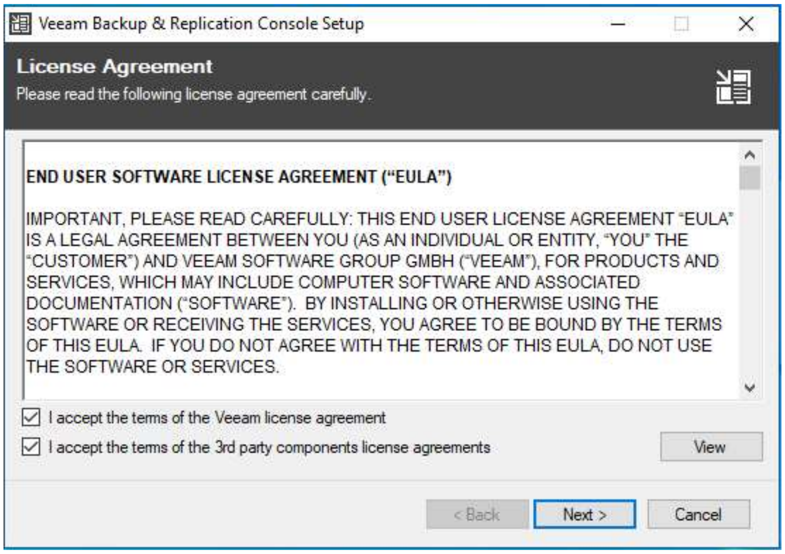
Veeam.Setup

Verified publisher: Veeam Software Group GmbH
File origin: CD/DVD drive

6. On the Veeam Backup & Replication Console page, click Install.


Veeam Backup & Replication 11a
Install
Documentation
Training
© 2021 Veeam Software Group GmbH. All rights reserved.
Standalone components:
Veeam Backup & Replication
Install
Veeam Backup Enterprise Manager
Install
Veeam Backup & Replication Console
Install
Enterprise Applications Plug-ins
Open

7. On the License Agreement page, select I accept the Veeam license agreement checkbox terms.
8. Select I accept the terms of the 3rd party components license agreements checkbox.
9. Click Next.


Veeam Backup & Replication Console Setup
License Agreement
Please read the following license agreement carefully.
View
< Back
Next >
Cancel

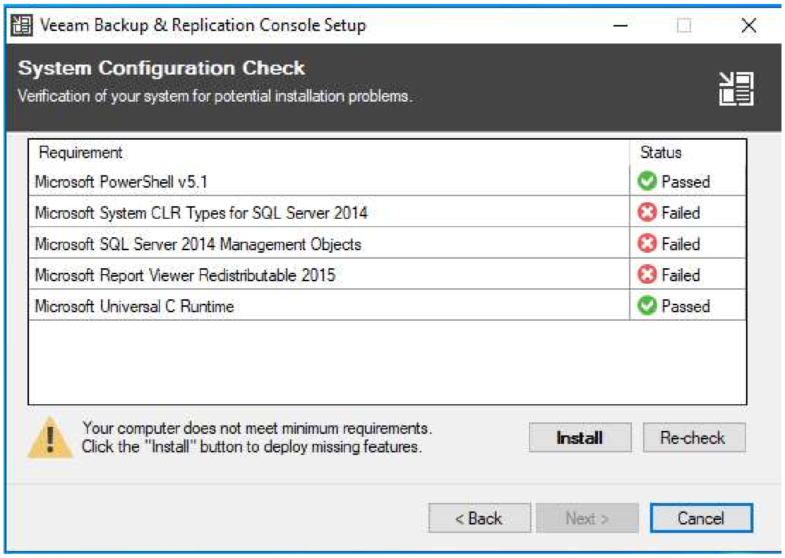
END USER SOFTWARE LICENSE AGREEMENT ("EULA")

IMPORTANT, PLEASE READ CAREFULLY: THIS END USER LICENSE AGREEMENT "EULA" IS A LEGAL AGREEMENT BETWEEN YOU (AS AN INDIVIDUAL OR ENTITY, "YOU" THE "CUSTOMER") AND VEEAM SOFTWARE GROUP GMBH ("VEEAM"), FOR PRODUCTS AND SERVICES, WHICH MAY INCLUDE COMPUTER SOFTWARE AND ASSOCIATED DOCUMENTATION ("SOFTWARE"). BY INSTALLING OR OTHERWISE USING THE SOFTWARE OR RECEIVING THE SERVICES, YOU AGREE TO BE BOUND BY THE TERMS OF THIS EULA. IF YOU DO NOT AGREE WITH THE TERMS OF THIS EULA, DO NOT USE THE SOFTWARE OR SERVICES.

☑ I accept the terms of the Veeam license agreement

☑ I accept the terms of the 3rd party components license agreements

10. On the System Configuration Check page, the setup wizard checks if all prerequisite software is installed on the machine. If required software components are missing, the setup wizard will offer you to install them. To install missing components automatically, click Instal.



Veeam Backup & Replication Console Setup

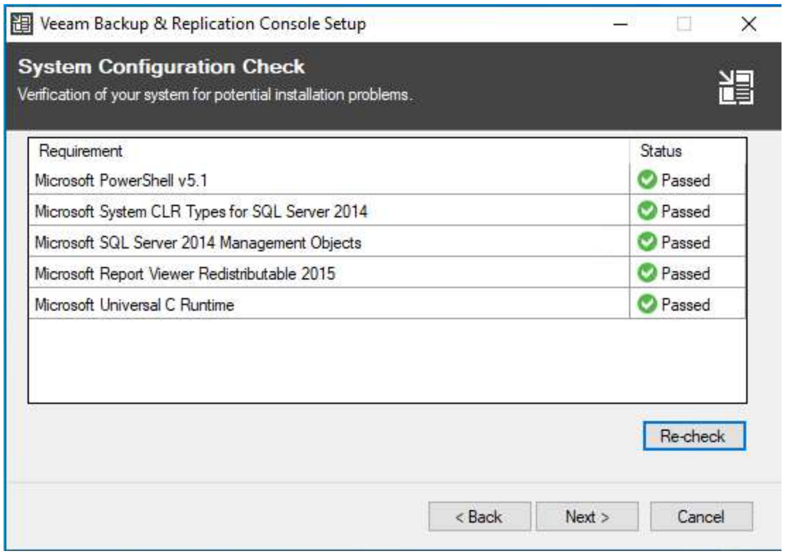
System Configuration Check

Verification of your system for potential installation problems.

Requirement	Status
Microsoft PowerShell v5.1	✓ Passed
Microsoft System CLR Types for SQL Server 2014	✗ Failed
Microsoft SQL Server 2014 Management Objects	✗ Failed
Microsoft Report Viewer Redistributable 2015	✗ Failed
Microsoft Universal C Runtime	✓ Passed

Your computer does not meet minimum requirements.
Click the "Install" button to deploy missing features.

11. Click Next after installing the missing components.



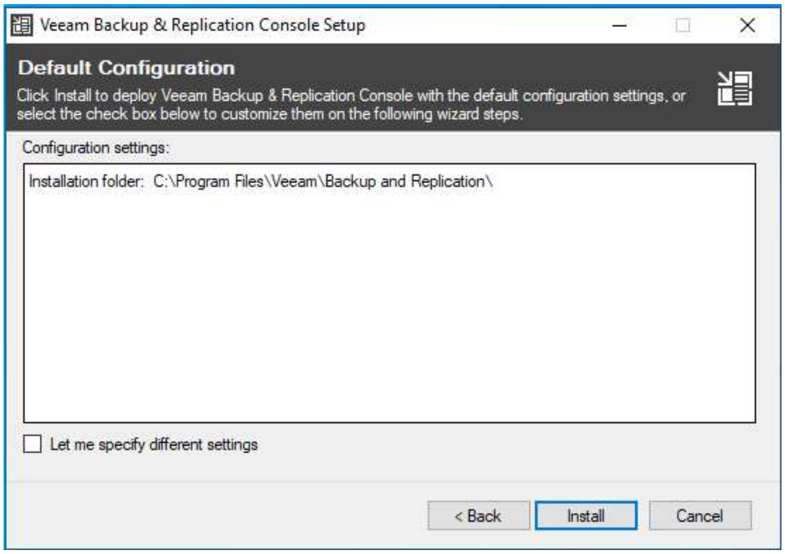
Veeam Backup & Replication Console Setup

System Configuration Check

Verification of your system for potential installation problems.

Requirement	Status
Microsoft PowerShell v5.1	✓ Passed
Microsoft System CLR Types for SQL Server 2014	✓ Passed
Microsoft SQL Server 2014 Management Objects	✓ Passed
Microsoft Report Viewer Redistributable 2015	✓ Passed
Microsoft Universal C Runtime	✓ Passed

12. On the Default Configuration page, click Instal.



Veeam Backup & Replication Console Setup

Default Configuration

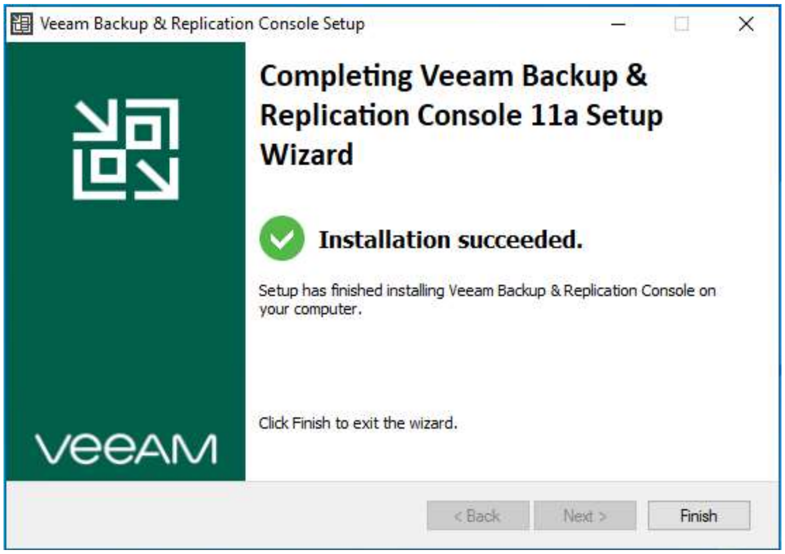
Click Install to deploy Veeam Backup & Replication Console with the default configuration settings, or select the check box below to customize them on the following wizard steps.

Configuration settings:

Installation folder: C:\Program Files\Veeam\Backup and Replication\

□ Let me specify different settings

13. Click Finish on the Completing Veeam Backup & Replication 11a Setup Wizard page.



Veeam Backup & Replication Console Setup

Completing Veeam Backup & Replication Console 11a Setup Wizard

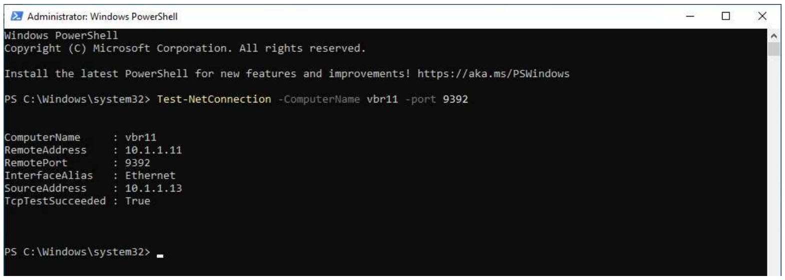
Installation succeeded.

Setup has finished installing Veeam Backup & Replication Console on your computer.

Click Finish to exit the wizard.

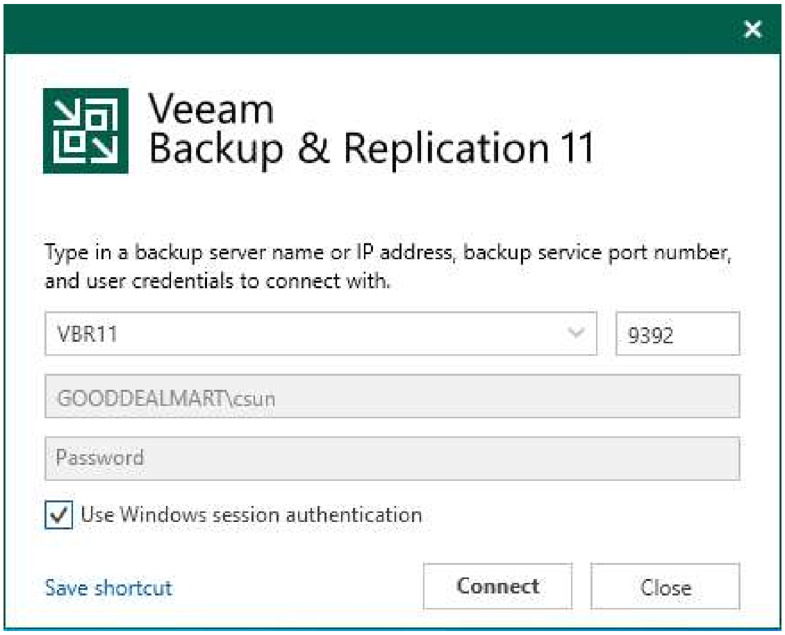
14. Verify that the Veeam Backup Service is running on the Veeam Backup Server, and then test connectivity to that service from the remote machine using the following PowerShell cmdlet.

Test-NetConnection -ComputerName <hostname/ip> -Port 9392



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Windows\system32> Test-NetConnection -ComputerName vbr11 -port 9392


ComputerName     : vbr11
RemoteAddress    : 10.1.1.11
RemotePort       : 9392
InterfaceAlias   : Ethernet
SourceAddress    : 10.1.1.13
TcpTestSucceeded : True



PS C:\Windows\system32> _
```

15. Open the Veeam Backup & Replication Console, click Connect, enter the Backup & Replication manager server name or IP address, and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

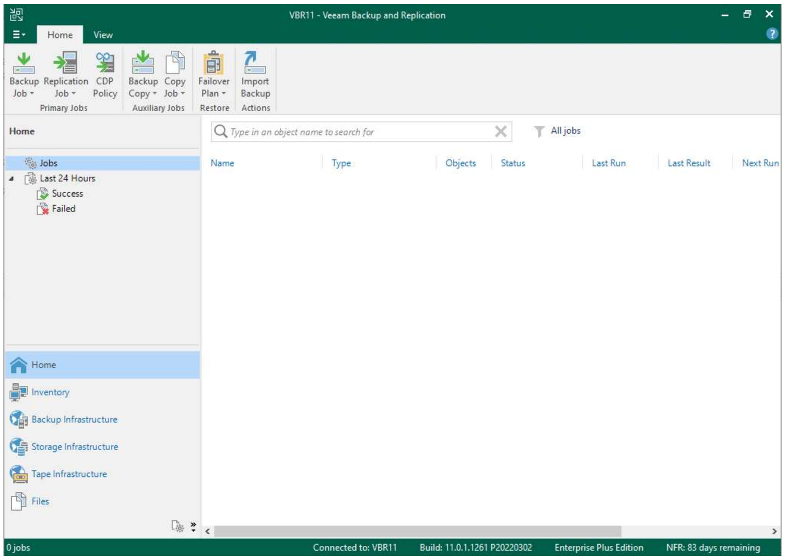
VBR11 | 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

16. Ensure you can connect to the Veeam Backup & Replication manager server without issue.



Chapter 3

Configuration

This chapter will review the initial configurations of Veeam Backup for Microsoft Office 365. These include:

- Virtual Infrastructure
- Backup Infrastructure
- Backup Repositories
- Cloud Repositories
- Backup and Replication

These steps must be configured before setting up Backup Jobs, covered in the next chapter.

Configuring Inventory

The Veeam backup and Replication inventory module consists of several components:

Virtual Infrastructure

Physical Infrastructure

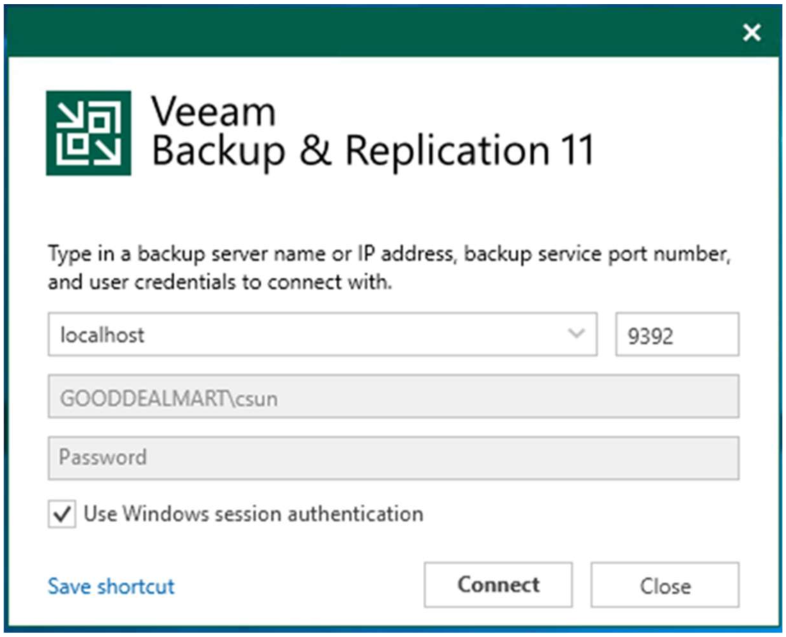
File Shares.

The following server and host categories can be added to the virtual infrastructure:

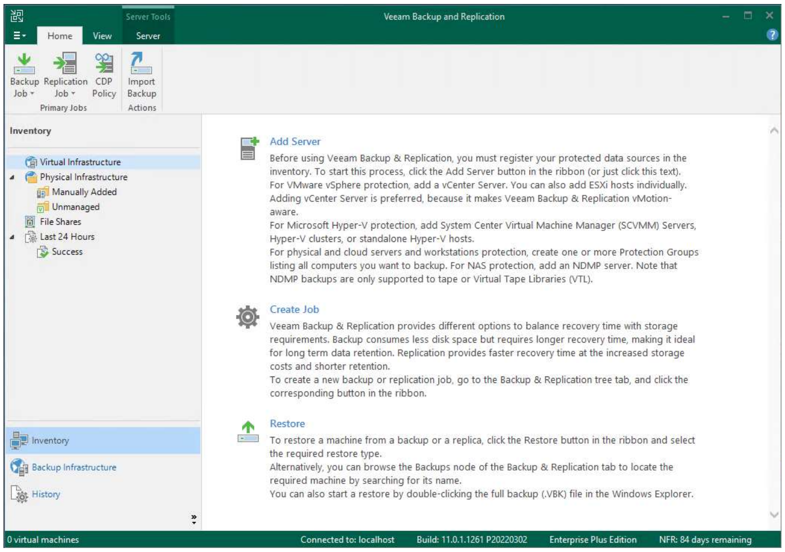
- Microsoft Hyper-V Standalone Hosts
- Microsoft Clusters
- Microsoft System Center Virtual Machine Manager (SCVMM)
- Microsoft Physical Hosts
- File Shares

Add Microsoft Hyper-V Standalone Hosts

You must add the Microsoft Hyper-V standalone hosts you plan to use as source and target for backup, replication and other activities.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Inventory.
4. On the Inventory page, select Virtual Infrastructure and click Add Server.



Add Server

Before using Veeam Backup & Replication, you must register your protected data sources in the inventory. To start this process, click the Add Server button in the ribbon (or just click this text).
For VMware vSphere protection, add a vCenter Server. You can also add ESXi hosts individually. Adding vCenter Server is preferred, because it makes Veeam Backup & Replication vMotion-aware.
For Microsoft Hyper-V protection, add System Center Virtual Machine Manager (SCVMM) Servers, Hyper-V clusters, or standalone Hyper-V hosts.
For physical and cloud servers and workstations protection, create one or more Protection Groups listing all computers you want to backup. For NAS protection, add an NDMP server. Note that NDMP backups are only supported to tape or Virtual Tape Libraries (VTL).

Create Job

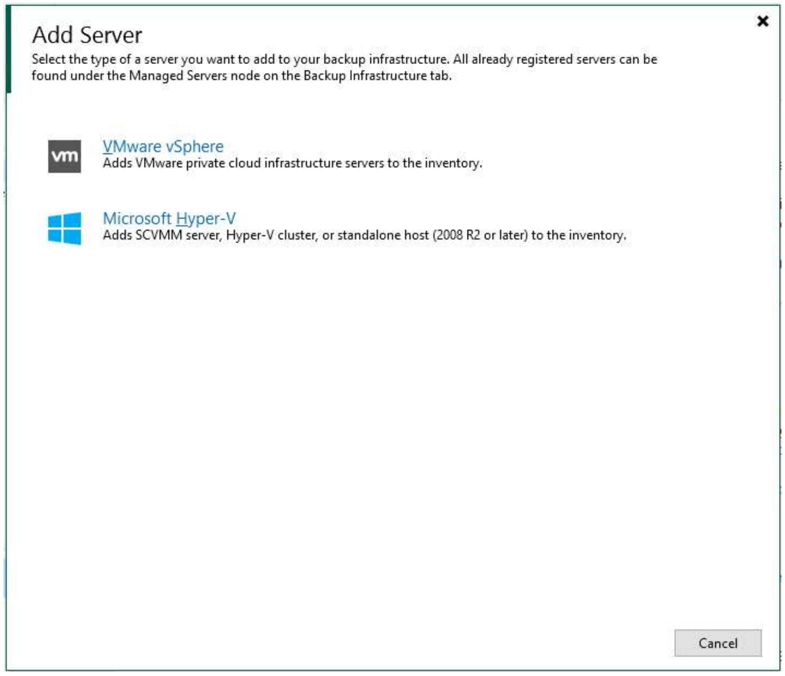
Veeam Backup & Replication provides different options to balance recovery time with storage requirements. Backup consumes less disk space but requires longer recovery time, making it ideal for long term data retention. Replication provides faster recovery time at the increased storage costs and shorter retention.
To create a new backup or replication job, go to the Backup & Replication tree tab, and click the corresponding button in the ribbon.

Restore

To restore a machine from a backup or a replica, click the Restore button in the ribbon and select the required restore type.
Alternatively, you can browse the Backups node of the Backup & Replication tab to locate the required machine by searching for its name.
You can also start a restore by double-clicking the full backup (.VBK) file in the Windows Explorer.

0 virtual machines | Connected to: localhost | Build: 11.0.1.1261 P20220302 | Enterprise Plus Edition | NFR: 84 days remaining

5. On the Add Server page, select Microsoft Hyper-V.



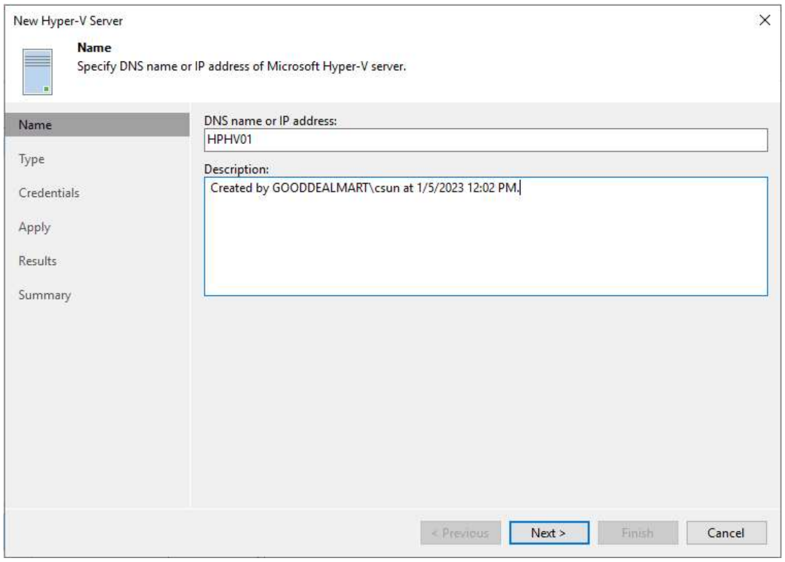
Add Server

Select the type of a server you want to add to your backup infrastructure. All already registered servers can be found under the Managed Servers node on the Backup Infrastructure tab.

VMware vSphere
Adds VMware private cloud infrastructure servers to the inventory.

Microsoft Hyper-V
Adds SCVMM server, Hyper-V cluster, or standalone host (2008 R2 or later) to the inventory.

6. On the Name page, specify a DNS name, IP address, and description for the Microsoft Hyper-V server and click Next.



New Hyper-V Server

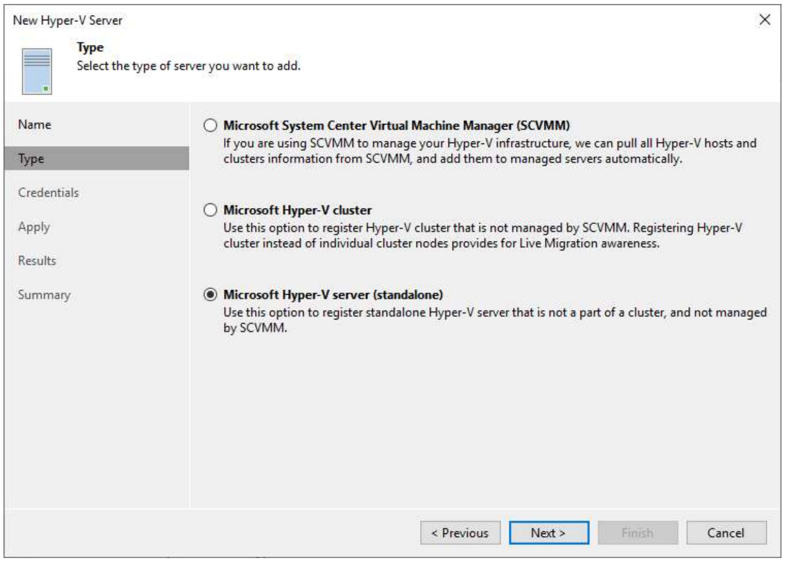
Name

Specify DNS name or IP address of Microsoft Hyper-V server.

DNS name or IP address: HPHV01

Description: Created by GOODDEALMART\csun at 1/5/2023 12:02 PM.

7. Select Microsoft Hyper-V server (standalone) on the Type page and click Next.



New Hyper-V Server

Type

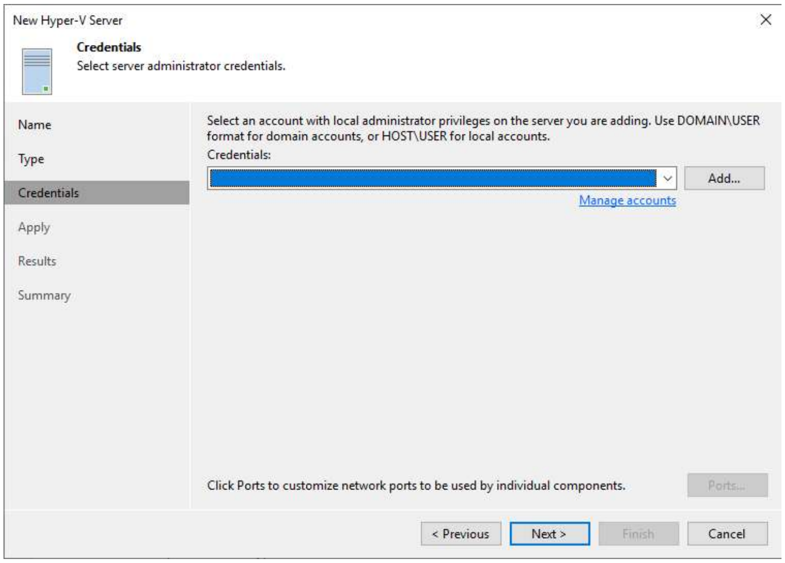
Select the type of server you want to add.

○ **Microsoft System Center Virtual Machine Manager (SCVMM)**
If you are using SCVMM to manage your Hyper-V infrastructure, we can pull all Hyper-V hosts and clusters information from SCVMM, and add them to managed servers automatically.

○ **Microsoft Hyper-V cluster**
Use this option to register Hyper-V cluster that is not managed by SCVMM. Registering Hyper-V cluster instead of individual cluster nodes provides for Live Migration awareness.

● **Microsoft Hyper-V server (standalone)**
Use this option to register standalone Hyper-V server that is not a part of a cluster, and not managed by SCVMM.

8. To add the credentials, select Add on the right or the Manage accounts link on the Credentials page.



Credentials

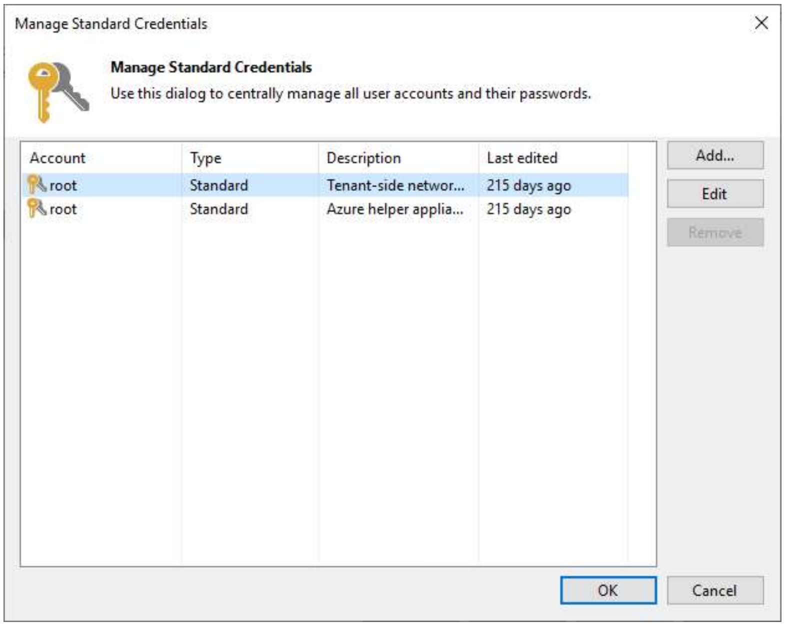
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

Click Ports to customize network ports to be used by individual components.

9. On the Manage Standard Credentials page, click Add.

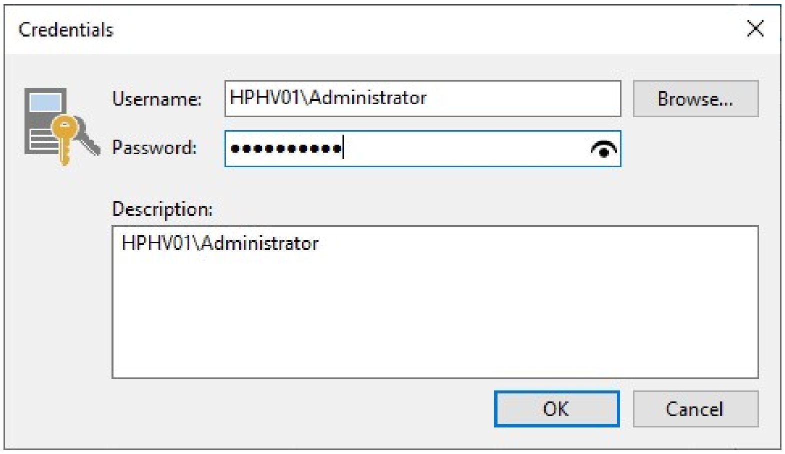


Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
root	Standard	Tenant-side networ...	215 days ago
root	Standard	Azure helper applia...	215 days ago

10. On the Credentials page, enter a user name you want to add in the Username field.
11. In the Password field, enter a password for the account you want to add.
12. Enter a description in the Description field and click OK.



Credentials

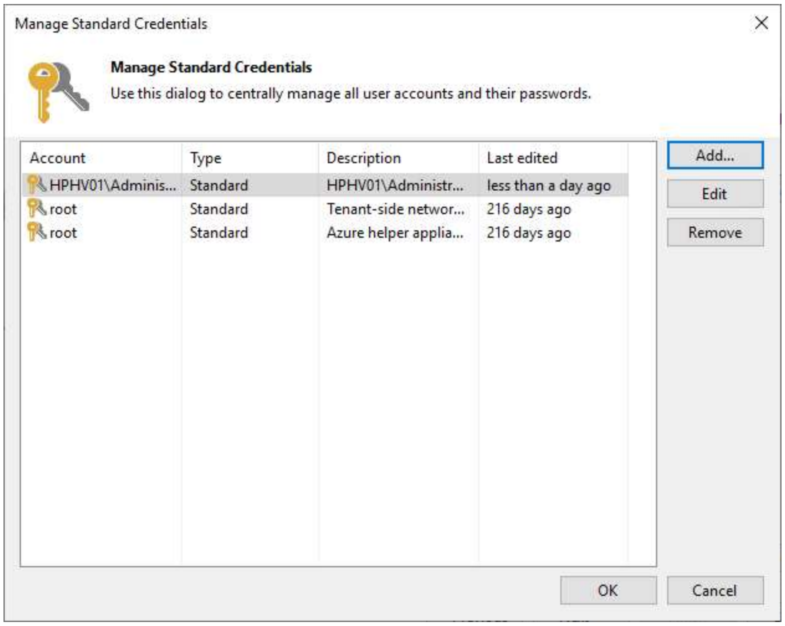
Username: HPHV01\Administrator

Password: ••••••••••

Description:

HPHV01\Administrator

13. On the Manage Standard Credentials page, click OK.



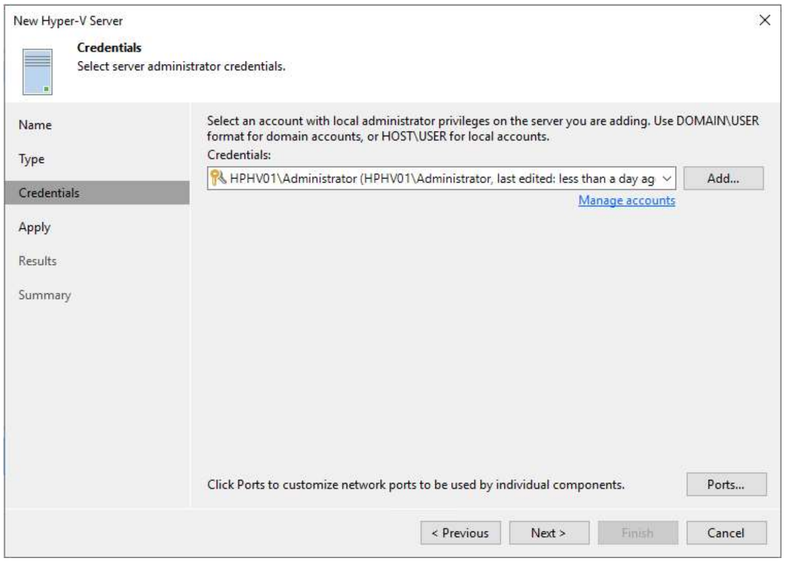
Manage Standard Credentials

Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

14. On the Credentials page, click Next.



New Hyper-V Server

Credentials

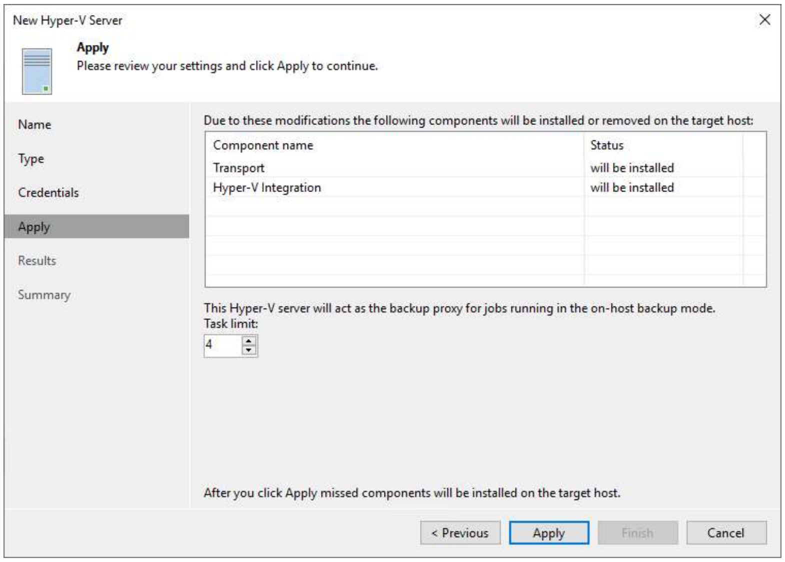
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials: HPHV01\Administrator (HPHV01\Administrator, last edited: less than a day ag

Click Ports to customize network ports to be used by individual components.

15. On the Apply page, click Apply.



New Hyper-V Server

Apply

Please review your settings and click Apply to continue.

Due to these modifications the following components will be installed or removed on the target host:

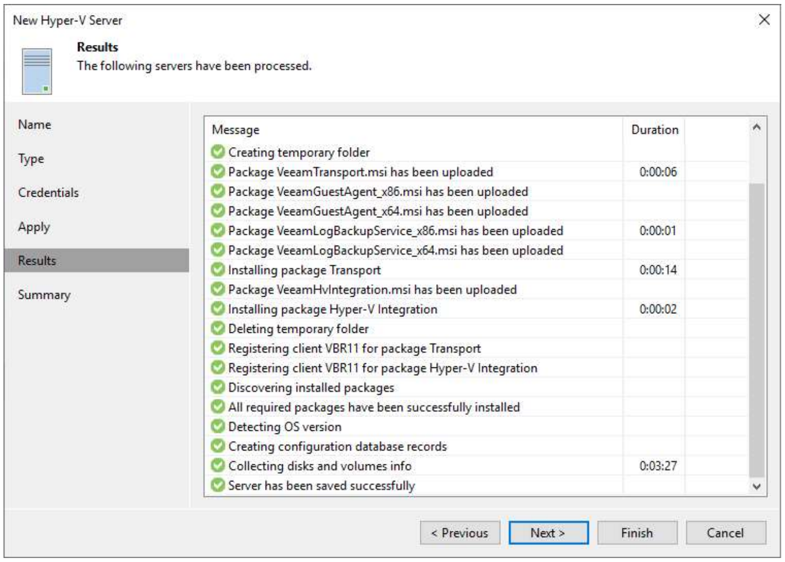
Component name	Status
Transport	will be installed
Hyper-V Integration	will be installed

This Hyper-V server will act as the backup proxy for jobs running in the on-host backup mode.

Task limit: 4

After you click Apply missed components will be installed on the target host.

16. On the Results page, ensure Veeam completes the Microsoft Hyper-V server adding procedure without error and click Next.

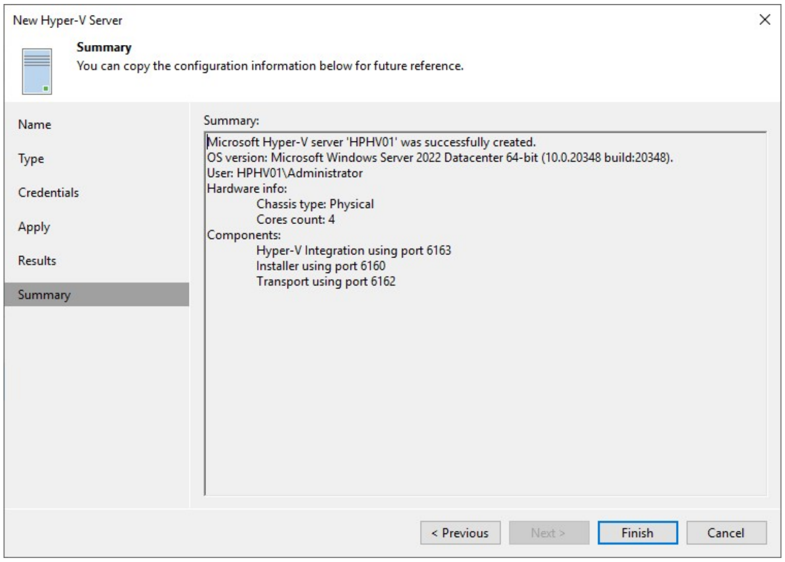


Results

The following servers have been processed.

Message	Duration
✓ Creating temporary folder	
✓ Package VeeamTransport.msi has been uploaded	0:00:06
✓ Package VeeamGuestAgent_x86.msi has been uploaded	
✓ Package VeeamGuestAgent_x64.msi has been uploaded	
✓ Package VeeamLogBackupService_x86.msi has been uploaded	0:00:01
✓ Package VeeamLogBackupService_x64.msi has been uploaded	
✓ Installing package Transport	0:00:14
✓ Package VeeamHvIntegration.msi has been uploaded	
✓ Installing package Hyper-V Integration	0:00:02
✓ Deleting temporary folder	
✓ Registering client VBR11 for package Transport	
✓ Registering client VBR11 for package Hyper-V Integration	
✓ Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Detecting OS version	
✓ Creating configuration database records	
✓ Collecting disks and volumes info	0:03:27
✓ Server has been saved successfully	

17. On the Summary page, review the details of the Microsoft Hyper-V server and click Finish.



Summary

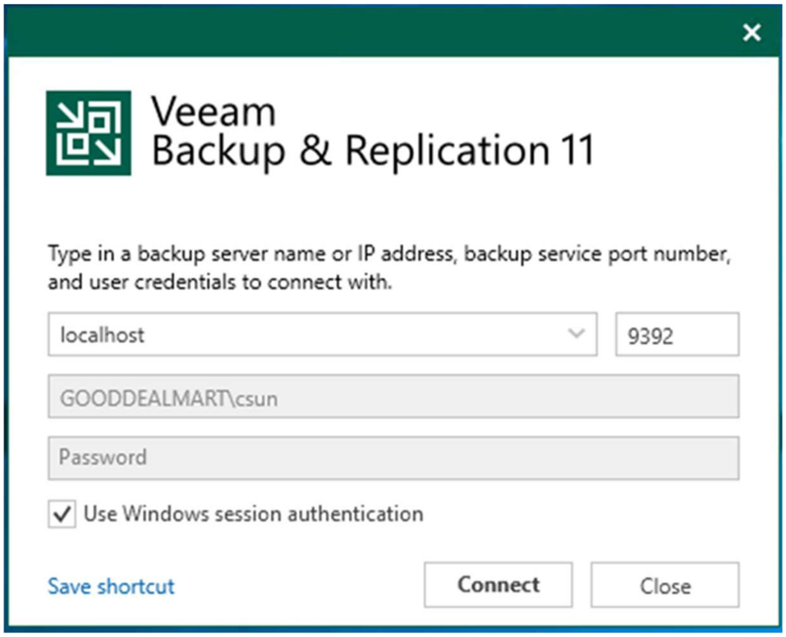
You can copy the configuration information below for future reference.

Summary:

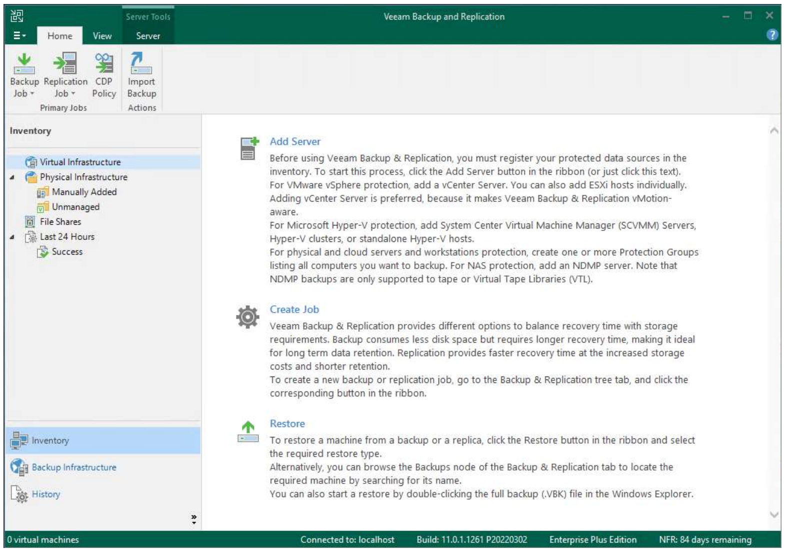
```
Microsoft Hyper-V server 'HPHV01' was successfully created.
OS version: Microsoft Windows Server 2022 Datacenter 64-bit (10.0.20348 build:20348).
User: HPHV01\Administrator
Hardware info:
        Chassis type: Physical
        Cores count: 4
Components:
        Hyper-V Integration using port 6163
        Installer using port 6160
        Transport using port 6162
```

Add Microsoft Hyper-V Clusters

You must add the Microsoft Hyper-V clusters you plan to use as source and target for backup, replication and other activities.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Inventory.
4. On the Inventory page, select Virtual Infrastructure and click Add Server.



Add Server

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For VMware vSphere protection, add a vCenter Server. You can also add ESXi hosts individually. Adding vCenter Server is preferred, because it makes Veeam Backup & Replication vMotion-aware.
For Microsoft Hyper-V protection, add System Center Virtual Machine Manager (SCVMM) Servers, Hyper-V clusters, or standalone Hyper-V hosts.
For physical and cloud servers and workstations protection, create one or more Protection Groups listing all computers you want to backup. For NAS protection, add an NDMP server. Note that NDMP backups are only supported to tape or Virtual Tape Libraries (VTL).

Create Job

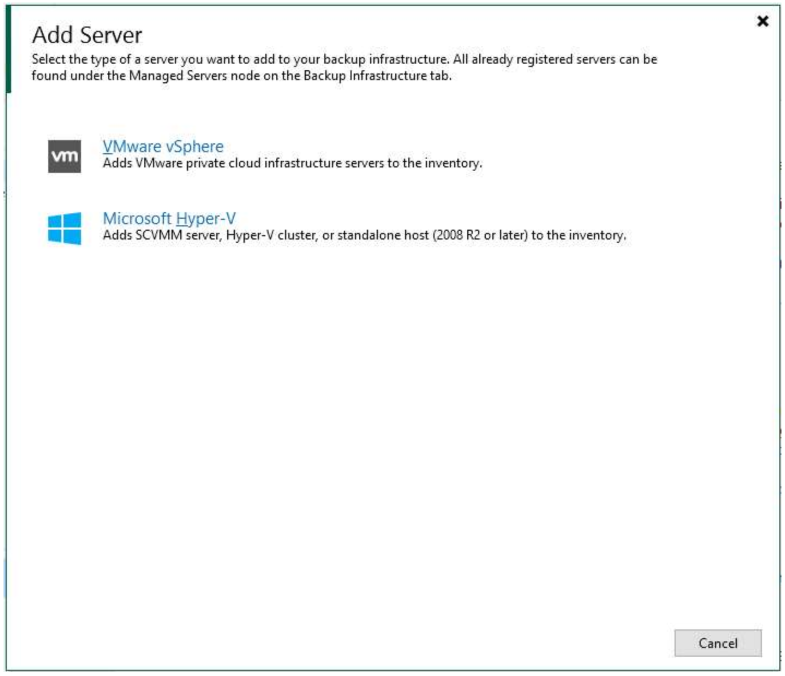
Veeam Backup & Replication provides different options to balance recovery time with storage requirements. Backup consumes less disk space but requires longer recovery time, making it ideal for long term data retention. Replication provides faster recovery time at the increased storage costs and shorter retention.
To create a new backup or replication job, go to the Backup & Replication tree tab, and click the corresponding button in the ribbon.

Restore

To restore a machine from a backup or a replica, click the Restore button in the ribbon and select the required restore type.
Alternatively, you can browse the Backups node of the Backup & Replication tab to locate the required machine by searching for its name.
You can also start a restore by double-clicking the full backup (.VBK) file in the Windows Explorer.

0 virtual machines   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 84 days remaining

5. On the Add Server page, select Microsoft Hyper-V.



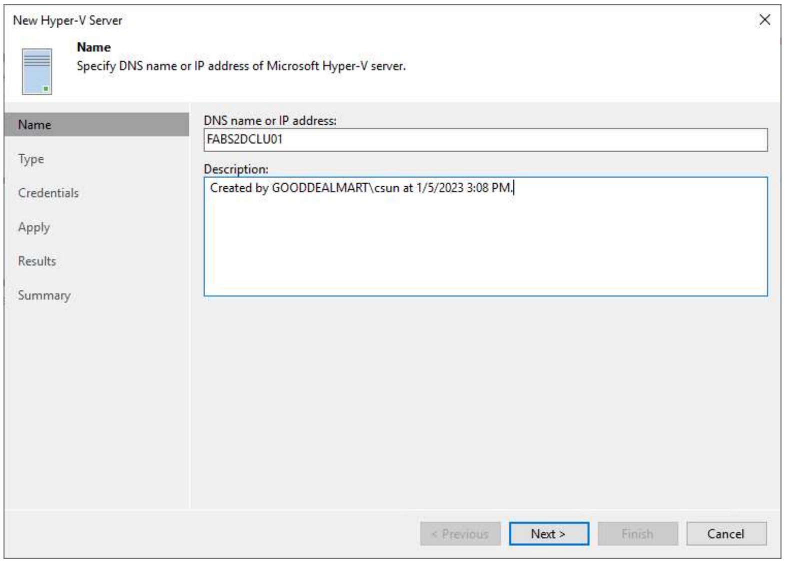
Add Server

Select the type of a server you want to add to your backup infrastructure. All already registered servers can be found under the Managed Servers node on the Backup Infrastructure tab.

VMware vSphere
Adds VMware private cloud infrastructure servers to the inventory.

Microsoft Hyper-V
Adds SCVMM server, Hyper-V cluster, or standalone host (2008 R2 or later) to the inventory.

6. On the Name page, enter a DNS name, IP address, and description for the Microsoft Hyper-V cluster and click Next.



New Hyper-V Server

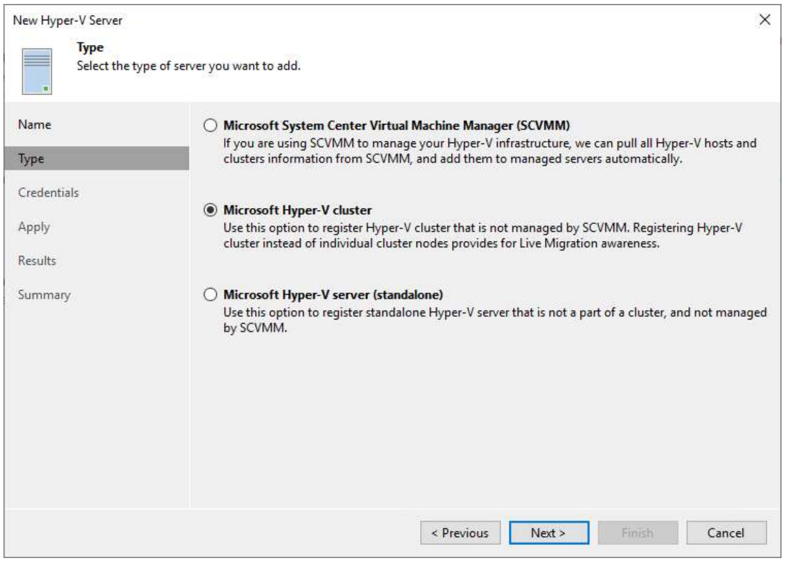
Name

Specify DNS name or IP address of Microsoft Hyper-V server.

DNS name or IP address: FABS2DCLU01

Description: Created by GOODDEALMART\csun at 1/5/2023 3:08 PM.

7. On the Type page, select Microsoft Hyper-V cluster and click Next.



New Hyper-V Server

Type

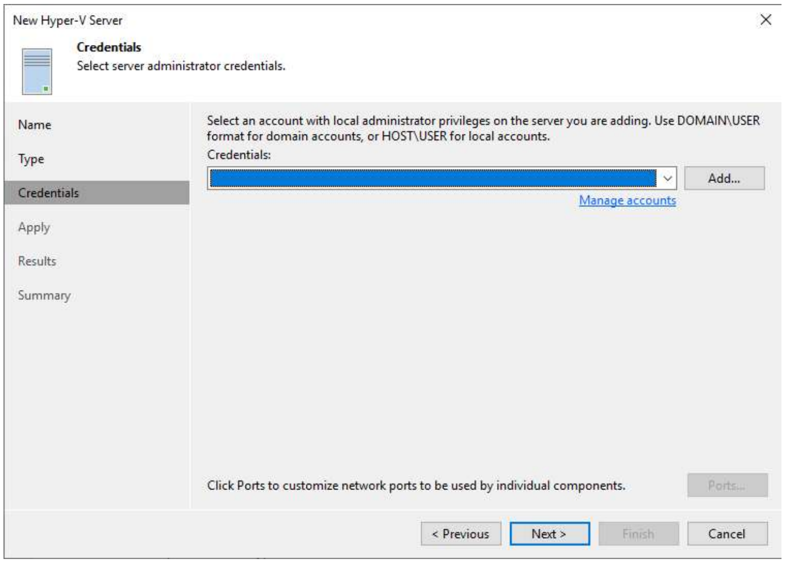
Select the type of server you want to add.

○ **Microsoft System Center Virtual Machine Manager (SCVMM)**
If you are using SCVMM to manage your Hyper-V infrastructure, we can pull all Hyper-V hosts and clusters information from SCVMM, and add them to managed servers automatically.

● **Microsoft Hyper-V cluster**
Use this option to register Hyper-V cluster that is not managed by SCVMM. Registering Hyper-V cluster instead of individual cluster nodes provides for Live Migration awareness.

○ **Microsoft Hyper-V server (standalone)**
Use this option to register standalone Hyper-V server that is not a part of a cluster, and not managed by SCVMM.

8. To add the credentials, select Add on the right or the Manage accounts link on the Credentials page.



New Hyper-V Server

Credentials

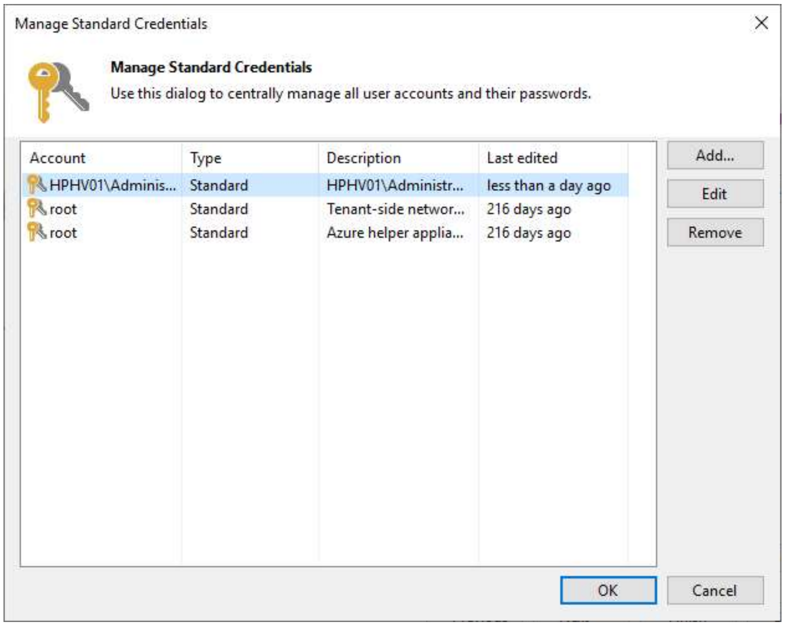
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

Click Ports to customize network ports to be used by individual components.

9. On the Manage Standard Credentials page, click Add.



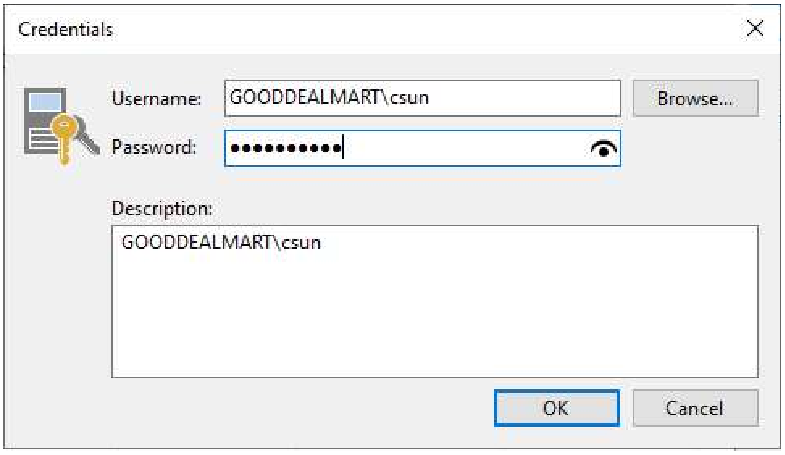
Manage Standard Credentials

Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

10. On the Credentials page, enter a domain user name for the account you want to add in the Username field.
11. Enter a password in the Password field.
12. Enter a description in the Description field, and click OK.

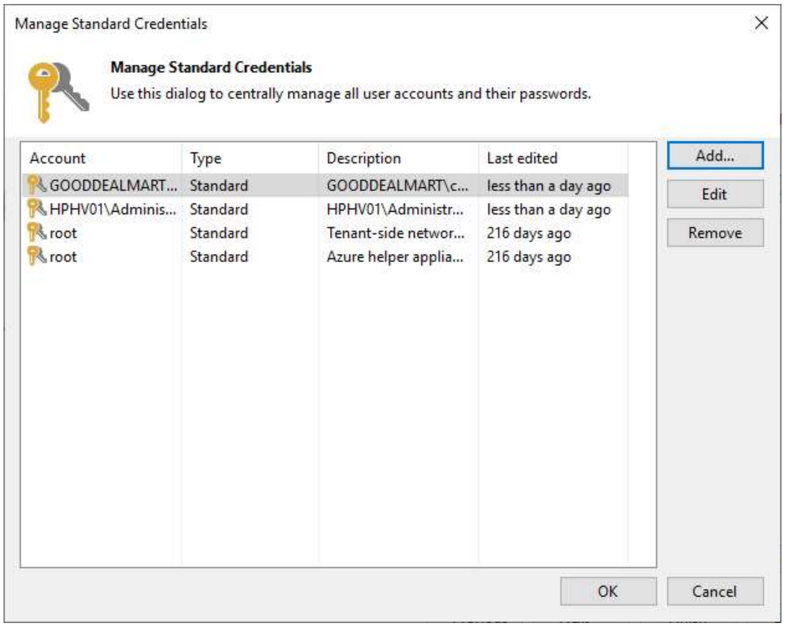


Username: GOODDEALMART\csun

Password: ••••••••••

Description: GOODDEALMART\csun

13. On the Manage Standard Credentials page, click OK.

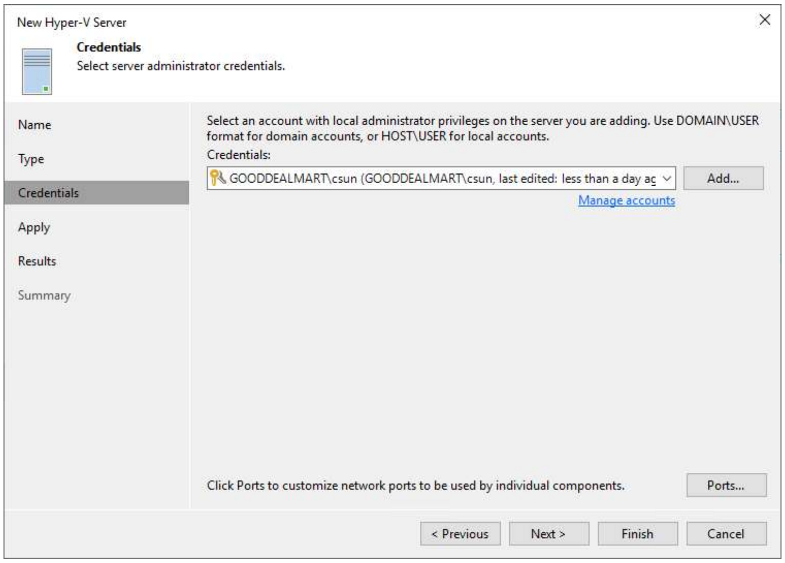


Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
GOODDEALMART...	Standard	GOODDEALMART\c...	less than a day ago
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

14. On the Credentials page, click Next.



New Hyper-V Server

Credentials

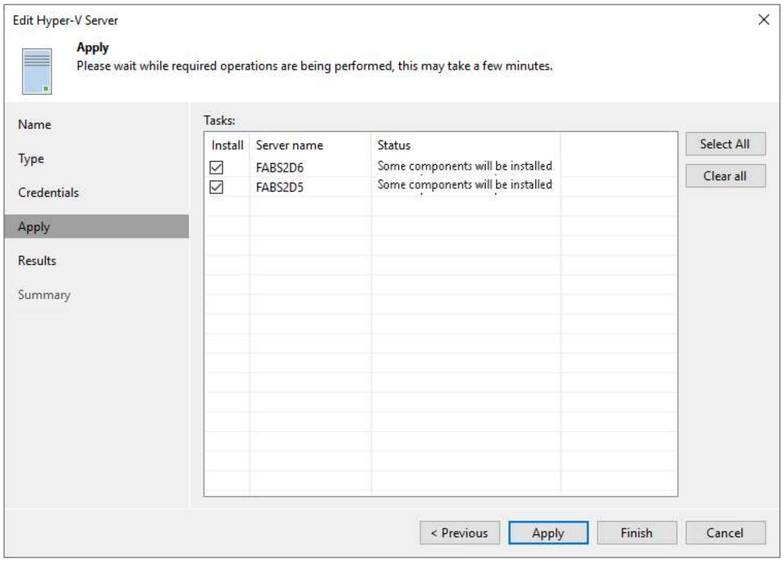
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: less than a day ag

Click Ports to customize network ports to be used by individual components.

15. On the Apply page, click Select All and then click Apply.



Edit Hyper-V Server

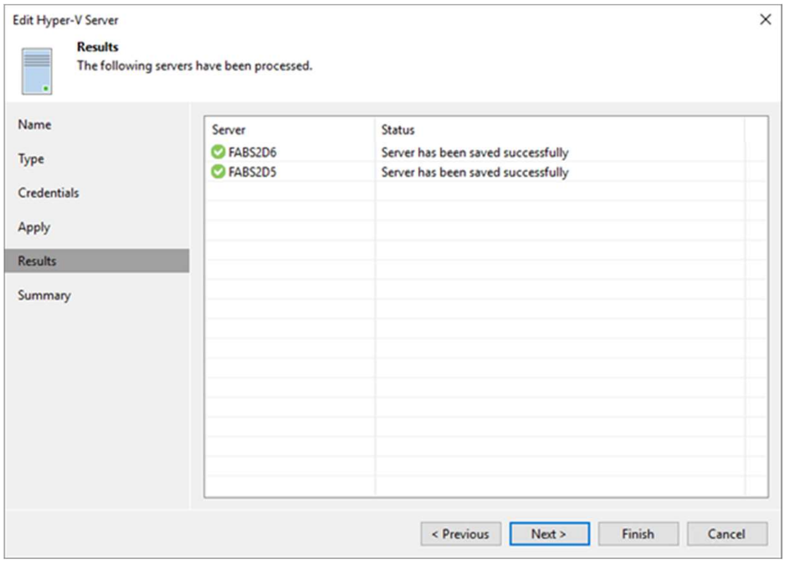
Apply

Please wait while required operations are being performed, this may take a few minutes.

Tasks:

Install	Server name	Status
☑	FABS2D6	Some components will be installed
☑	FABS2D5	Some components will be installed

16. On the Results page, ensure Veeam completes the adding the Microsoft Hyper-V cluster process without error and click Next.



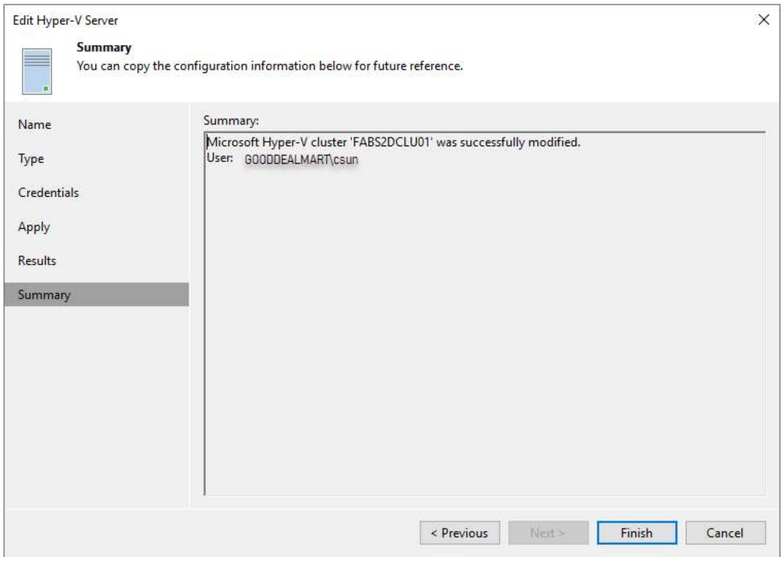
Edit Hyper-V Server

Results

The following servers have been processed.

Server	Status
✓ FABS2D6	Server has been saved successfully
✓ FABS2D5	Server has been saved successfully

17. On the Summary page, review the details of the Microsoft Hyper-V server and click Finish.



Edit Hyper-V Server

Summary

You can copy the configuration information below for future reference.

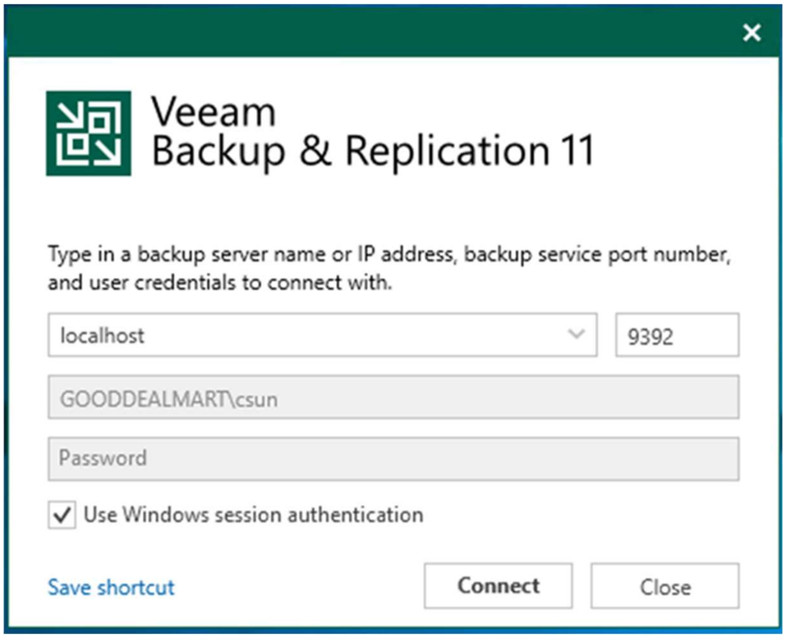
Summary:

```
Microsoft Hyper-V cluster 'FABS2DCLU01' was successfully modified.
User:    GOODDEALMART\csun
```

Add Veeam Agent to Microsoft Windows Physical machines

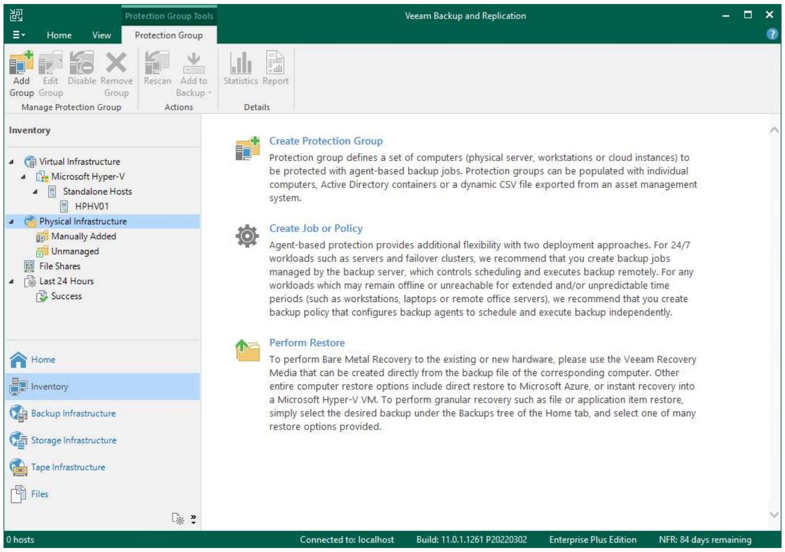
Veeam Backup & Replication is a centralized control center for deploying and managing Veeam Agent, including Veeam Agent for Microsoft Windows, Veeam Agent for Linux, Veeam Agent for IBM AIX, Veeam Agent for Oracle Solaris and Veeam Agent for Mac.

Physical machines running Windows, Linux, Unix, or macOS can be backed up and restored. Backup agents are installed on each computer by Veeam Backup & Replication.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Inventory.

4. On the Inventory page, select Physical Infrastructure and click Create Protection Group.



Create Protection Group

Protection group defines a set of computers (physical server, workstations or cloud instances) to be protected with agent-based backup jobs. Protection groups can be populated with individual computers, Active Directory containers or a dynamic CSV file exported from an asset management system.

Create Job or Policy

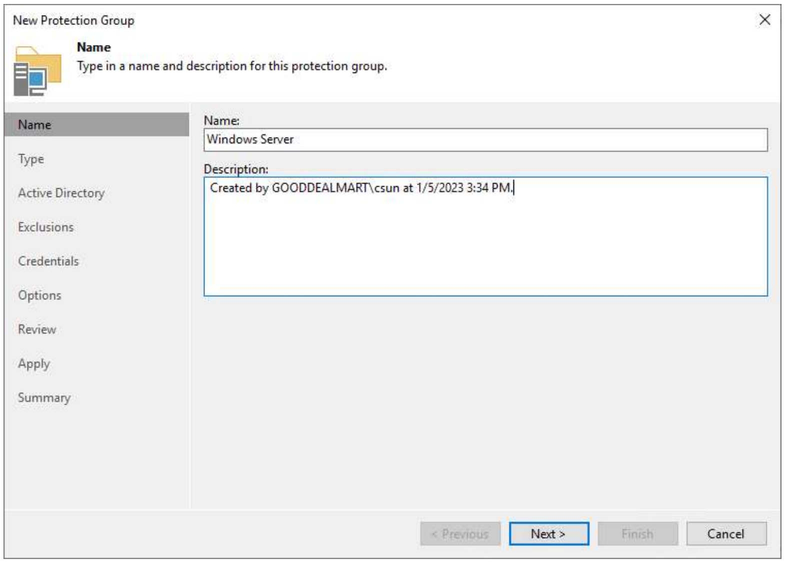
Agent-based protection provides additional flexibility with two deployment approaches. For 24/7 workloads such as servers and failover clusters, we recommend that you create backup jobs managed by the backup server, which controls scheduling and executes backup remotely. For any workloads which may remain offline or unreachable for extended and/or unpredictable time periods (such as workstations, laptops or remote office servers), we recommend that you create backup policy that configures backup agents to schedule and execute backup independently.

Perform Restore

To perform Bare Metal Recovery to the existing or new hardware, please use the Veeam Recovery Media that can be created directly from the backup file of the corresponding computer. Other entire computer restore options include direct restore to Microsoft Azure, or instant recovery into a Microsoft Hyper-V VM. To perform granular recovery such as file or application item restore, simply select the desired backup under the Backups tree of the Home tab, and select one of many restore options provided.

0 hosts Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 84 days remaining

5. On the Name page, specify a protection group name and description for the protection group and click Next.



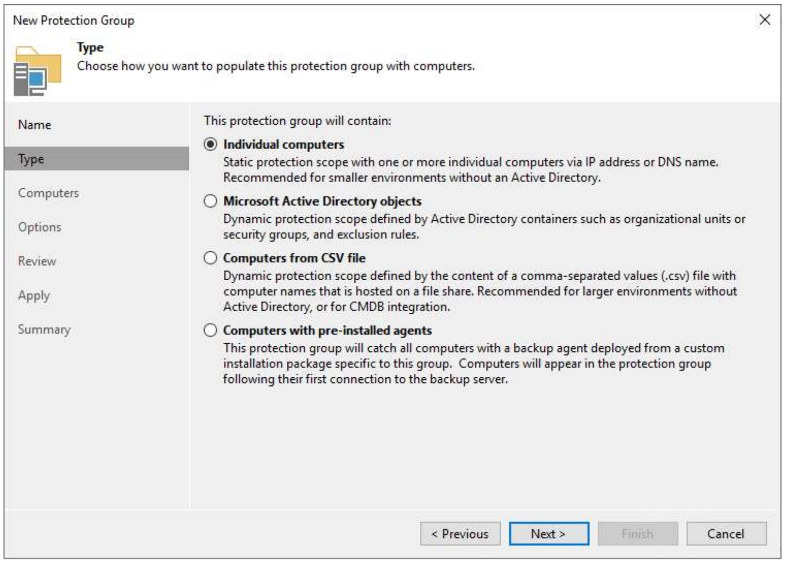
Name

Type in a name and description for this protection group.

Name: Windows Server

Description: Created by GOODDEALMART\csun at 1/5/2023 3:34 PM.

6. Select Specify protection scope for the created protection group on the Type page and click Next.



Type

Choose how you want to populate this protection group with computers.

This protection group will contain:

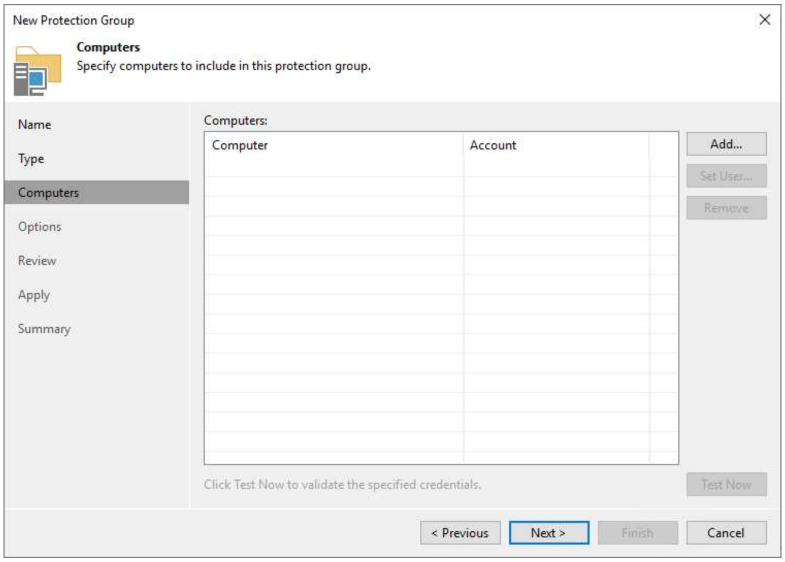
● **Individual computers**
Static protection scope with one or more individual computers via IP address or DNS name. Recommended for smaller environments without an Active Directory.

○ **Microsoft Active Directory objects**
Dynamic protection scope defined by Active Directory containers such as organizational units or security groups, and exclusion rules.

○ **Computers from CSV file**
Dynamic protection scope defined by the content of a comma-separated values (.csv) file with computer names that is hosted on a file share. Recommended for larger environments without Active Directory, or for CMDB integration.

○ **Computers with pre-installed agents**
This protection group will catch all computers with a backup agent deployed from a custom installation package specific to this group. Computers will appear in the protection group following their first connection to the backup server.

7. On the Computers page, click Add.



Computers

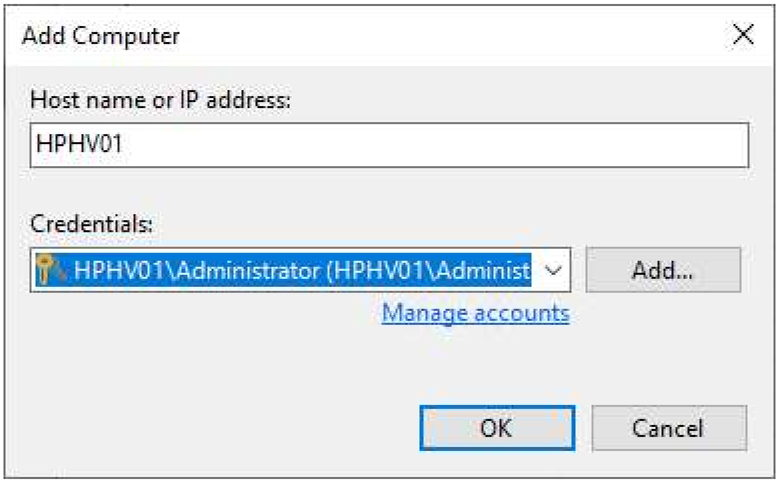
Specify computers to include in this protection group.

Computers:

Computer	Account

Click Test Now to validate the specified credentials.

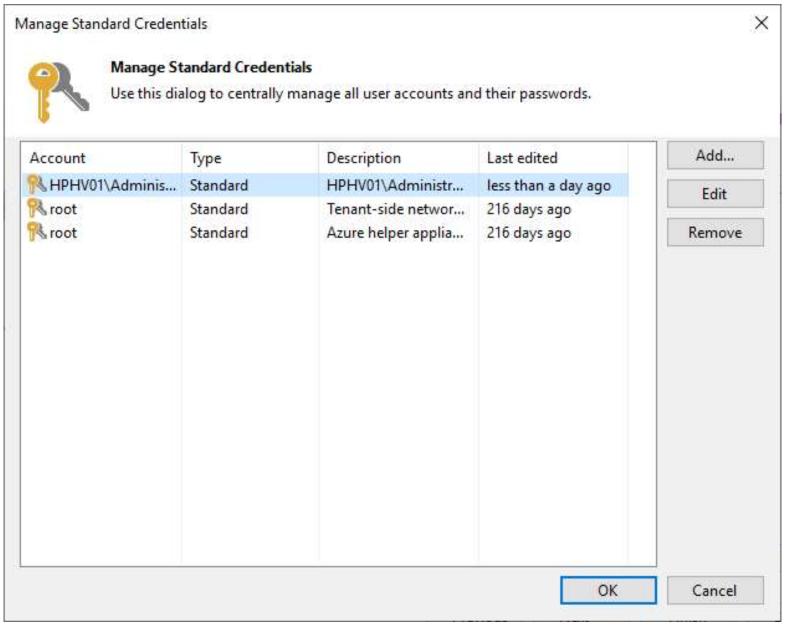
8. Specify a DNS name or IP address on the Add Computer page.
9. From the Credentials list, select a user account with administrative permissions on the computer and click OK.
10. If you still need to set up credentials beforehand, click the Manage accounts link or Add on the right.



Host name or IP address: HPHV01

Credentials: HPHV01\Administrator (HPHV01\Administ

11. On the Manage Credentials page, select the administrator account and click Add.



Manage Standard Credentials

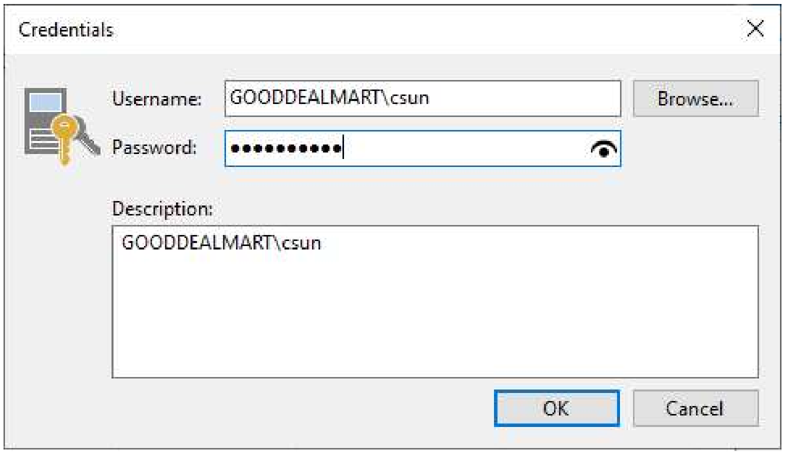
Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

12. On the Credentials page, enter a domain user name for the account you want to add in the Username field.

13. Enter a password in the Password field.

14. Enter a description in the Description field, and click OK.



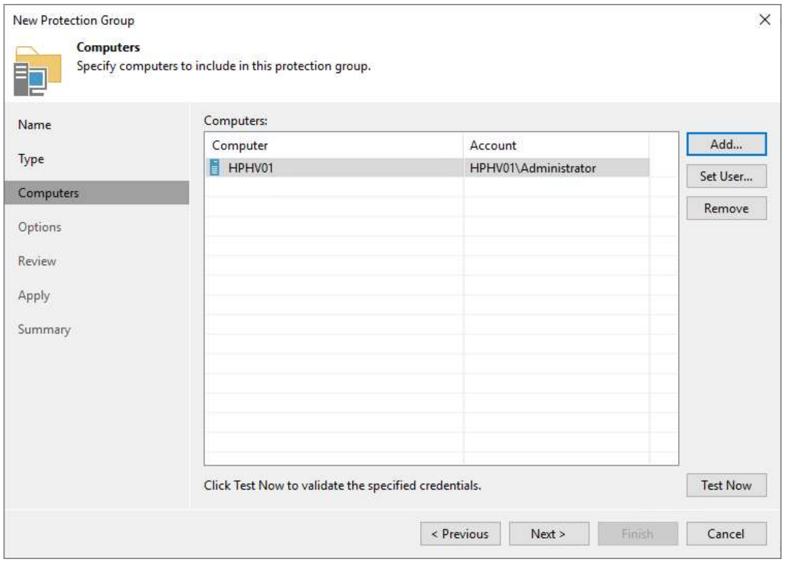
Credentials

Username: GOODDEALMART\csun

Password: ●●●●●●●●●●

Description: GOODDEALMART\csun

15. On the Computers page, click Test Now.



New Protection Group

Computers

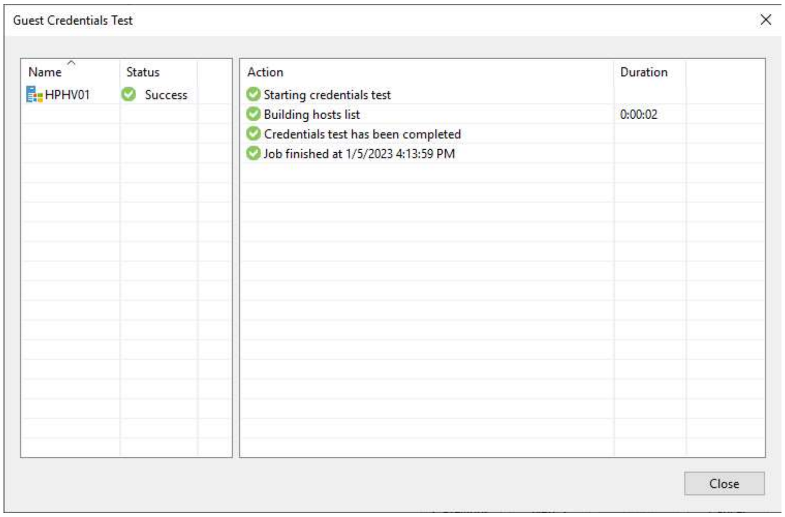
Specify computers to include in this protection group.

Computers:

Computer	Account
HPHV01	HPHV01\Administrator

Click Test Now to validate the specified credentials.

16. On the Guest Credentials Test page, ensure the status is successful and click Close.

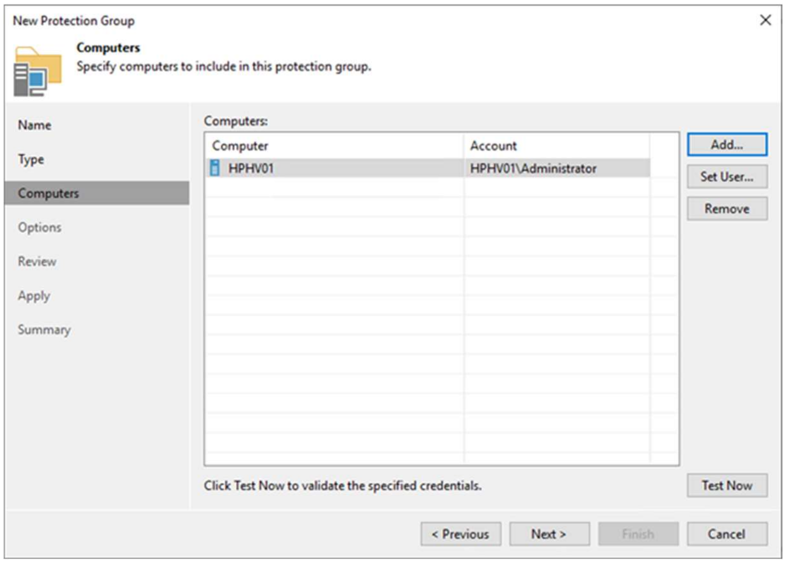


Guest Credentials Test

Name	Status
HPHV01	✓ Success

Action	Duration
✓ Starting credentials test	
✓ Building hosts list	0:00:02
✓ Credentials test has been completed	
✓ Job finished at 1/5/2023 4:13:59 PM	

17. On the Computers page, click Next.



New Protection Group

Computers

Specify computers to include in this protection group.

Computers:

Computer	Account
HPHV01	HPHV01\Administrator

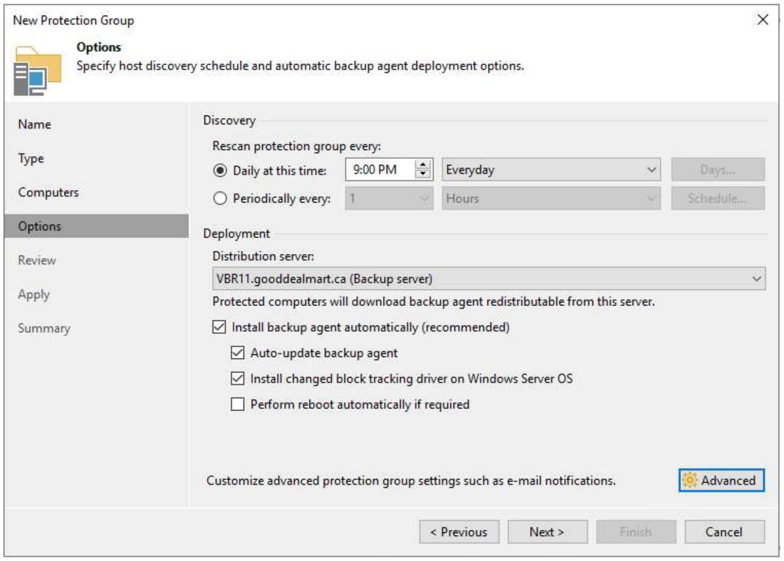
Click Test Now to validate the specified credentials.

18. On the Options page, in the Discovery section, define the schedule for automatic computer discovery within the scope of the protection group.

19. In the Deployment section, from the Distribution server list, select a Microsoft Windows server that you plan to use as a distribution server.

20. Select the Install changed block tracking driver on Windows Server OS check box if you want to install the advanced changed block tracking (CBT) driver on servers protected with Veeam Agent for Microsoft Windows.

21. Click Advanced to customize advanced protection group settings.



New Protection Group

Options

Specify host discovery schedule and automatic backup agent deployment options.

Discovery

Rescan protection group every:

● Daily at this time: 9:00 PM Everyday Days...

○ Periodically every: 1 Hours Schedule...

Deployment

Distribution server:

VBR11.gooddealmart.ca (Backup server)

Protected computers will download backup agent redistributable from this server.

☑ Install backup agent automatically (recommended)

☑ Auto-update backup agent

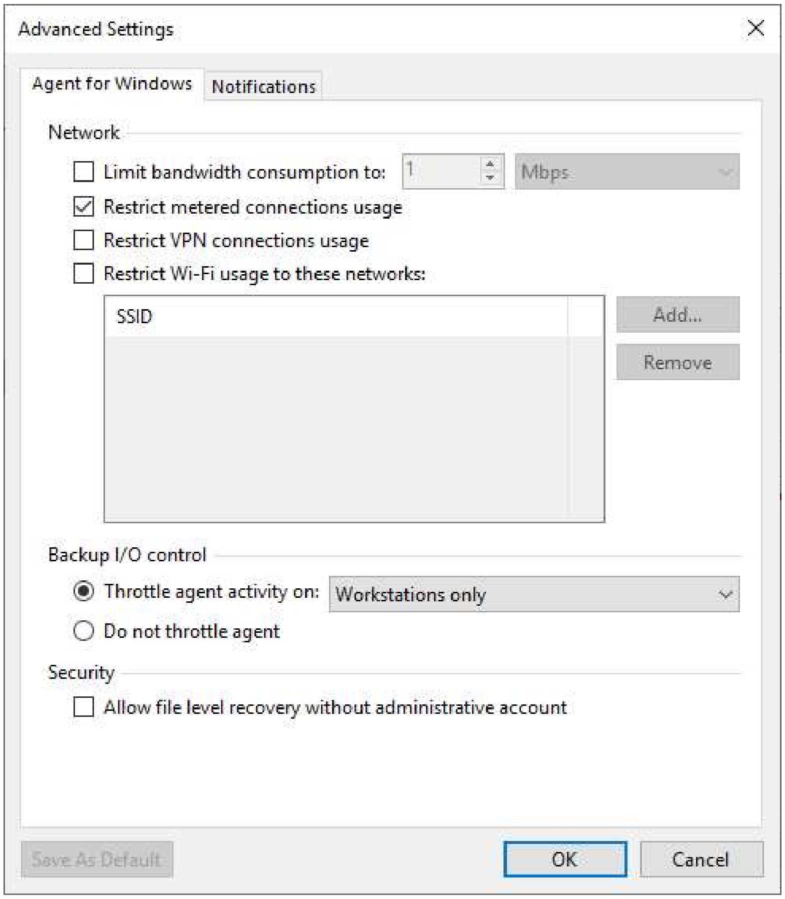
☑ Install changed block tracking driver on Windows Server OS

□ Perform reboot automatically if required

Customize advanced protection group settings such as e-mail notifications. Advanced

22. On the Advanced Settings page, specify the below settings that will be deployed on computers included in the protection group and click OK.

    - Limiting bandwidth consumption: specify the maximum speed for transferring backed-up data from the Veeam Agent computer to the target location.
    - Restrict metered connections usage: Veeam Agent automatically detects metered connections and does not perform backup when your computer is on such connection.
    - Restrict VPN connection usage: Veeam Agent for Microsoft Windows will



Advanced Settings

Agent for Windows | Notifications

Network

□ Limit bandwidth consumption to: 1 Mbps

☑ Restrict metered connections usage

□ Restrict VPN connections usage

□ Restrict Wi-Fi usage to these networks:

SSID

Backup I/O control

● Throttle agent activity on: Workstations only

○ Do not throttle agent

Security

□ Allow file level recovery without administrative account automatically detect a VPN connection and will not perform a backup when the Veeam Agent computer is on such a connection.

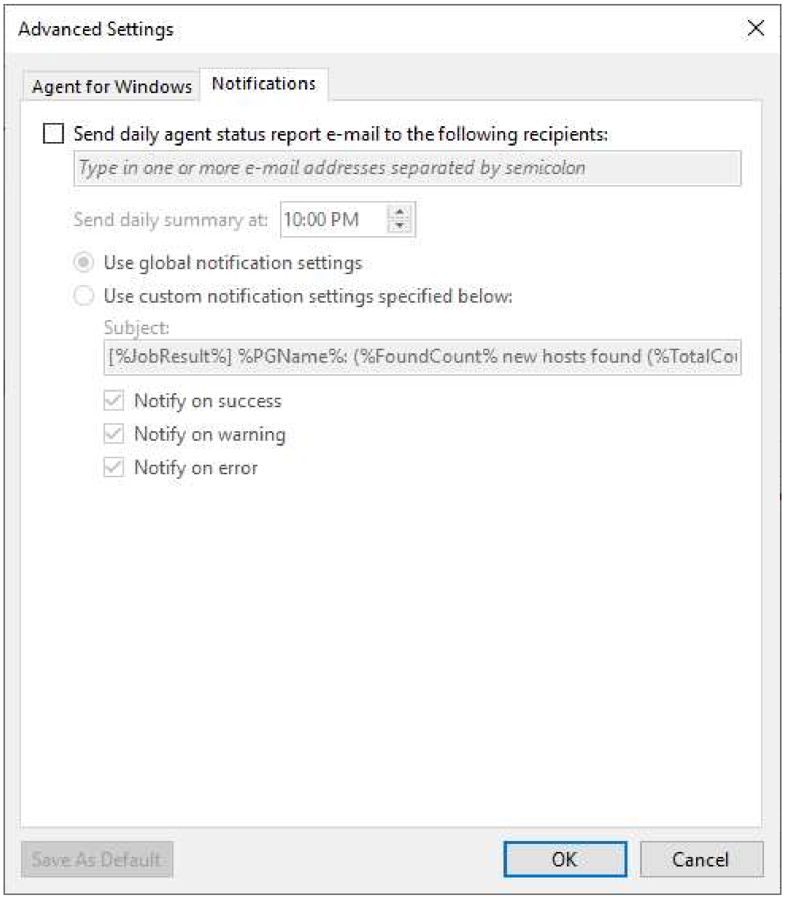
- Restrict Wi-Fi usage to these networks: restrict usage of wireless networks for Veeam Agent running on Microsoft Windows workstations.

23. Backup I/O settings: You can instruct Veeam Agent for Microsoft Windows to throttle its activities during backup.

    - Throttle agent activity on the type of computers to throttle Veeam Agent backup activities: Workstations only, Servers only or All hosts.

24. Security settings: You can allow user accounts that do not have administrative privileges on a Veeam Agent computer to perform a file-level restore on this computer.

25. On the Advanced page, select Notifications.



Advanced Settings

□ Send daily agent status report e-mail to the following recipients:

Type in one or more e-mail addresses separated by semicolon

Send daily summary at: 10:00 PM

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %PGName%: (%FoundCount% new hosts found (%TotalCo

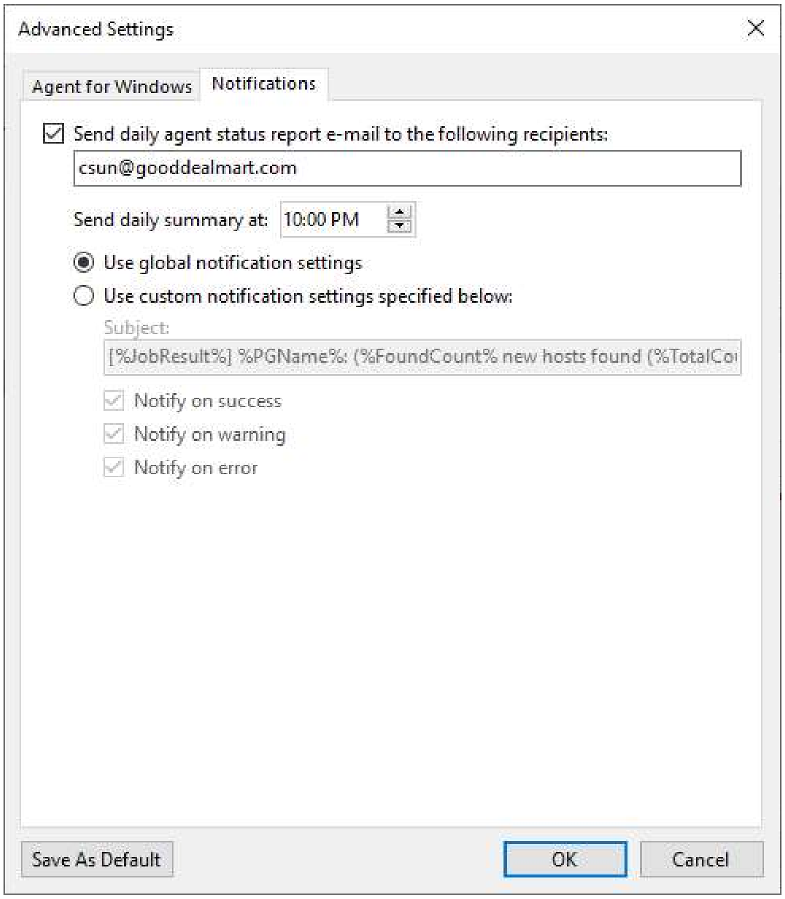
☑ Notify on success

☑ Notify on warning

☑ Notify on error

26. On the Notification page, select Send daily agent status report e-mail to the following recipients and enter an email address for each recipient. Multiple addresses can be entered, separated by a semicolon.

27. You can use global notification settings or specify custom notification settings and click OK.



Advanced Settings

☑ Send daily agent status report e-mail to the following recipients:

csun@gooddealmart.com

Send daily summary at: 10:00 PM

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

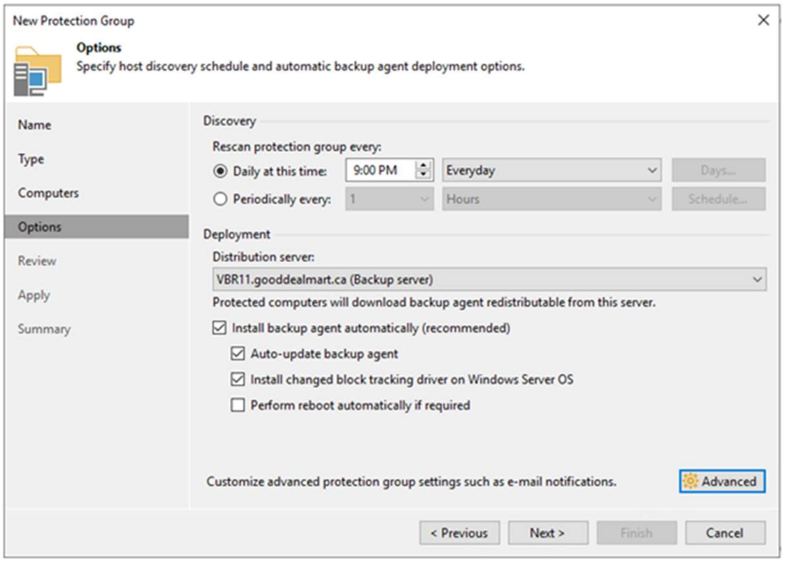
[%JobResult%] %PGName%: (%FoundCount% new hosts found (%TotalCo

☑ Notify on success

☑ Notify on warning

☑ Notify on error

28. On the Options page, click Next.



New Protection Group

Options

Specify host discovery schedule and automatic backup agent deployment options.

Discovery

Rescan protection group every:

● Daily at this time: 9:00 PM Everyday

○ Periodically every: 1 Hours

Deployment

Distribution server:

VBR11.gooddealmart.ca (Backup server)

Protected computers will download backup agent redistributable from this server.

☑ Install backup agent automatically (recommended)

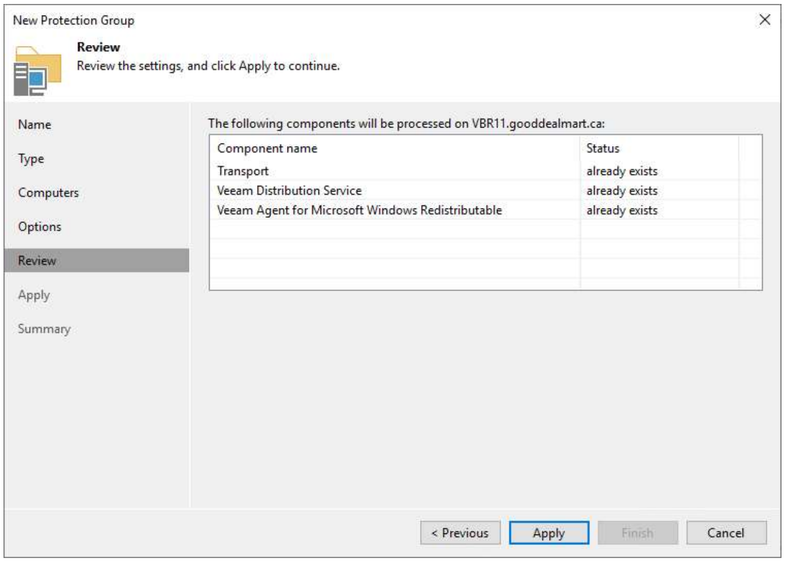
☑ Auto-update backup agent

☑ Install changed block tracking driver on Windows Server OS

☐ Perform reboot automatically if required

Customize advanced protection group settings such as e-mail notifications.

29. On the Review page, click Apply.



New Protection Group

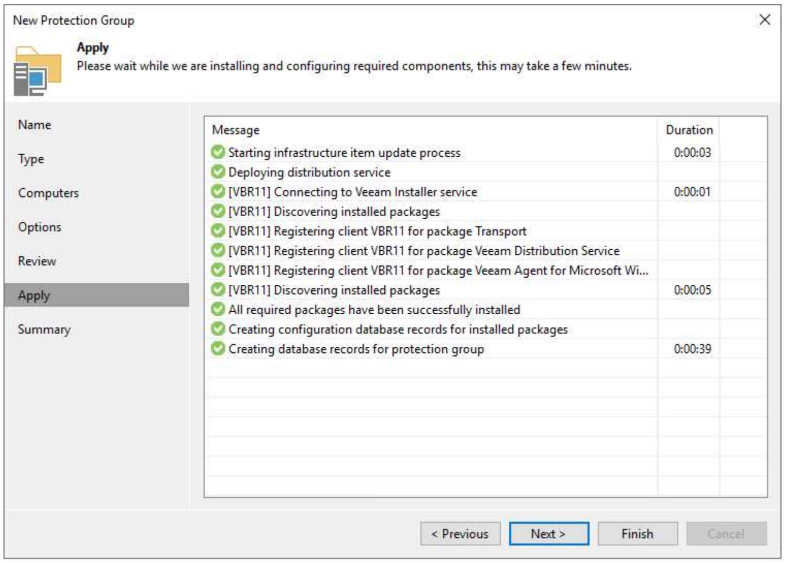
Review

Review the settings, and click Apply to continue.

The following components will be processed on VBR11.gooddealmart.ca:

Component name	Status
Transport	already exists
Veeam Distribution Service	already exists
Veeam Agent for Microsoft Windows Redistributable	already exists

30. On the Apply page, ensure the operation is complete without error, and click Next.

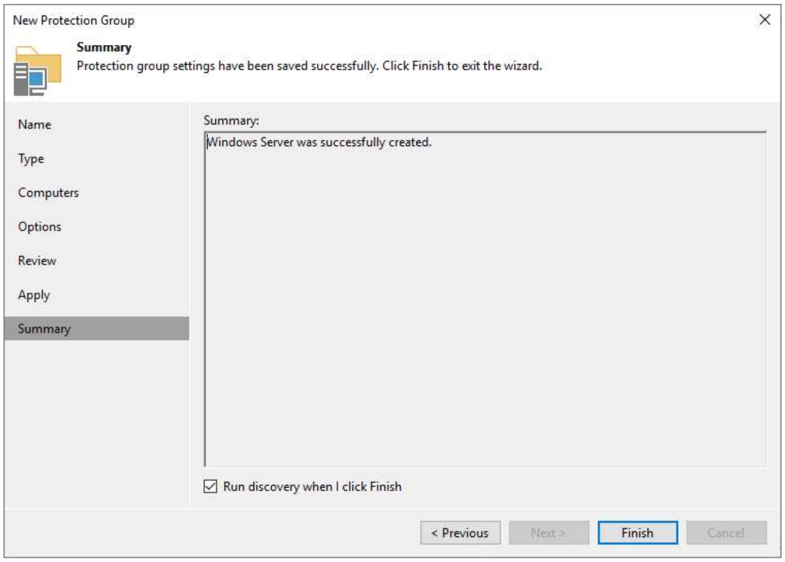


New Protection Group

Apply
Please wait while we are installing and configuring required components, this may take a few minutes.

Message	Duration
✓ Starting infrastructure item update process	0:00:03
✓ Deploying distribution service	
✓ [VBR11] Connecting to Veeam Installer service	0:00:01
✓ [VBR11] Discovering installed packages	
✓ [VBR11] Registering client VBR11 for package Transport	
✓ [VBR11] Registering client VBR11 for package Veeam Distribution Service	
✓ [VBR11] Registering client VBR11 for package Veeam Agent for Microsoft Wi...	
✓ [VBR11] Discovering installed packages	0:00:05
✓ All required packages have been successfully installed	
✓ Creating configuration database records for installed packages	
✓ Creating database records for protection group	0:00:39

31. On the Summary page, click Finish.



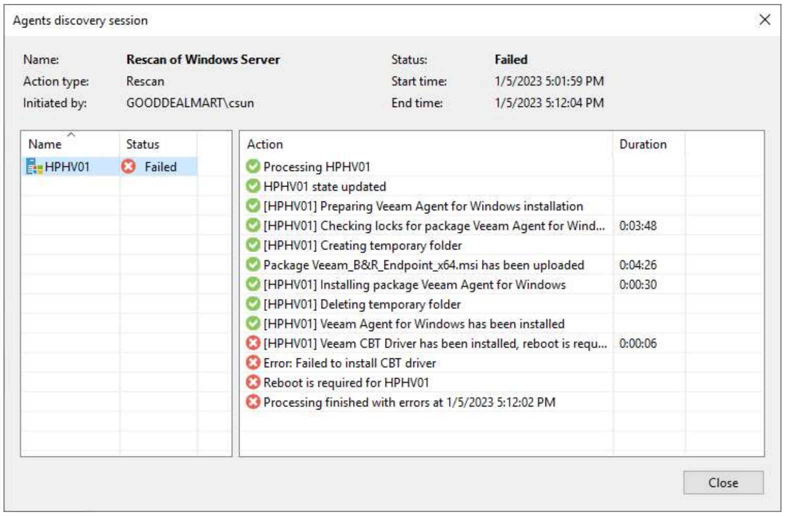
New Protection Group

Summary
Protection group settings have been saved successfully. Click Finish to exit the wizard.

Summary:
Windows Server was successfully created.

☑ Run discovery when I click Finish

32. The Computers need to reboot if you select install changed block tracking driver on Windows Server OS.



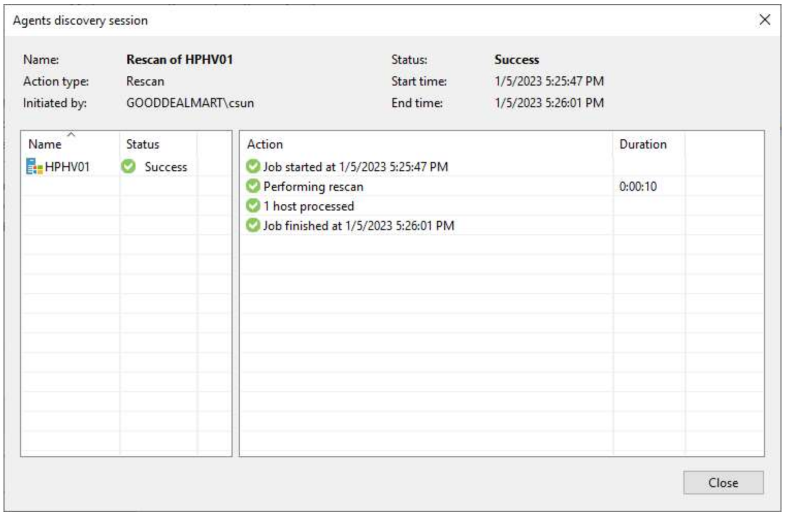
Agents discovery session

Name:	**Rescan of Windows Server**	Status:	**Failed**
Action type:	Rescan	Start time:	1/5/2023 5:01:59 PM
Initiated by:	GOODDEALMART\csun	End time:	1/5/2023 5:12:04 PM

Name	Status
HPHV01	✗ Failed

Action	Duration
✓ Processing HPHV01	
✓ HPHV01 state updated	
✓ [HPHV01] Preparing Veeam Agent for Windows installation	
✓ [HPHV01] Checking locks for package Veeam Agent for Wind...	0:03:48
✓ [HPHV01] Creating temporary folder	
✓ Package Veeam_B&R_Endpoint_x64.msi has been uploaded	0:04:26
✓ [HPHV01] Installing package Veeam Agent for Windows	0:00:30
✓ [HPHV01] Deleting temporary folder	
✓ [HPHV01] Veeam Agent for Windows has been installed	
✗ [HPHV01] Veeam CBT Driver has been installed, reboot is requ...	0:00:06
✗ Error: Failed to install CBT driver	
✗ Reboot is required for HPHV01	
✗ Processing finished with errors at 1/5/2023 5:12:02 PM	

33. Ensure the operation is complete without error on the Agents discovery session page.



Agents discovery session

Name:	**Rescan of HPHV01**	Status:	**Success**
Action type:	Rescan	Start time:	1/5/2023 5:25:47 PM
Initiated by:	GOODDEALMART\csun	End time:	1/5/2023 5:26:01 PM

Name	Status
HPHV01	✓ Success

Action	Duration
✓ Job started at 1/5/2023 5:25:47 PM	
✓ Performing rescan	0:00:10
✓ 1 host processed	
✓ Job finished at 1/5/2023 5:26:01 PM	

Configuring Backup Infrastructure

The backup infrastructure of Veeam Backup & Replication consists of Backup proxy servers, Backup Repositories, Object storage repositories, Scale-out Repositories, External Repositories, WAN Accelerators, and Managed Servers.

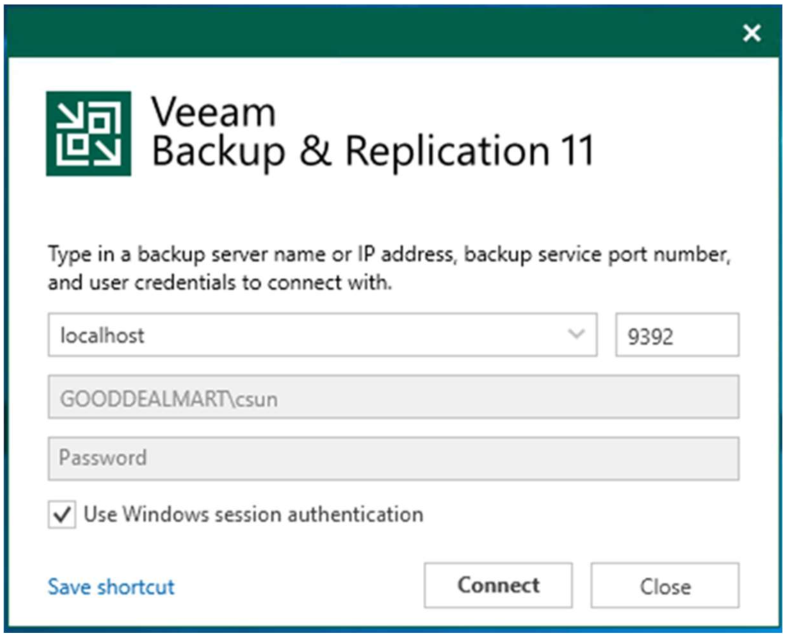
You can install Veeam Backup & Replication components on the same physical or virtual machine. Alternatively, you can set them up separately for a more scalable approach.

Adding Microsoft Hyper-V Standalone Servers

You must add the Microsoft Hyper-V standalone hosts you plan to use as source and target for backup, replication and other activities. You can add them from Inventory or Backup Infrastructure.

Instructions	Screenshot (if applicable)

1. Log in to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication Console, and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

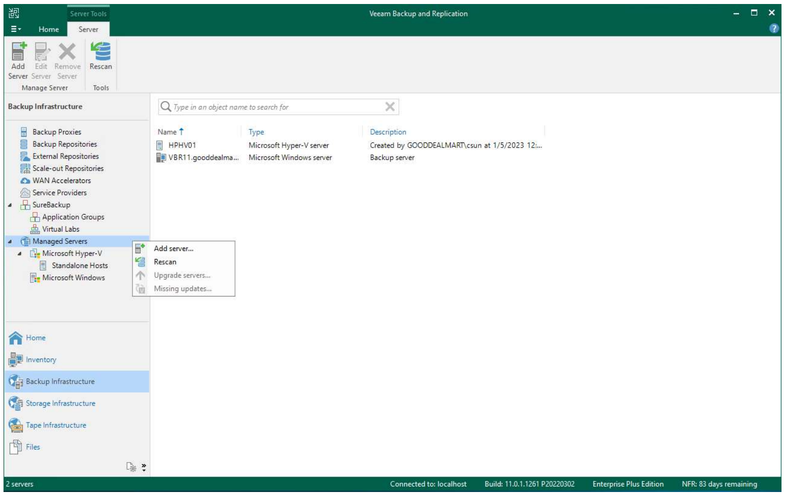
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

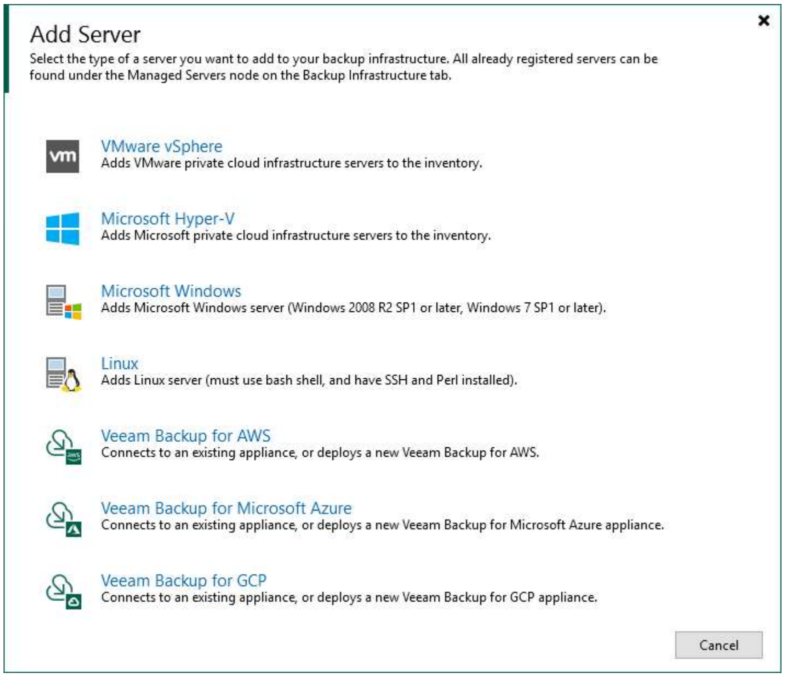
3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Managed Servers, right-click Managed Servers and select Add Server.



Name ↑	Type	Description
HPHV01	Microsoft Hyper-V server	Created by GOODDEALMART\csun at 1/5/2023 12:...
VBR11.gooddealma...	Microsoft Windows server	Backup server

2 servers Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 83 days remaining

5. On the Add Server page, select Microsoft Hyper-V.



Add Server

Select the type of a server you want to add to your backup infrastructure. All already registered servers can be found under the Managed Servers node on the Backup Infrastructure tab.

VMware vSphere
Adds VMware private cloud infrastructure servers to the inventory.

Microsoft Hyper-V
Adds Microsoft private cloud infrastructure servers to the inventory.

Microsoft Windows
Adds Microsoft Windows server (Windows 2008 R2 SP1 or later, Windows 7 SP1 or later).

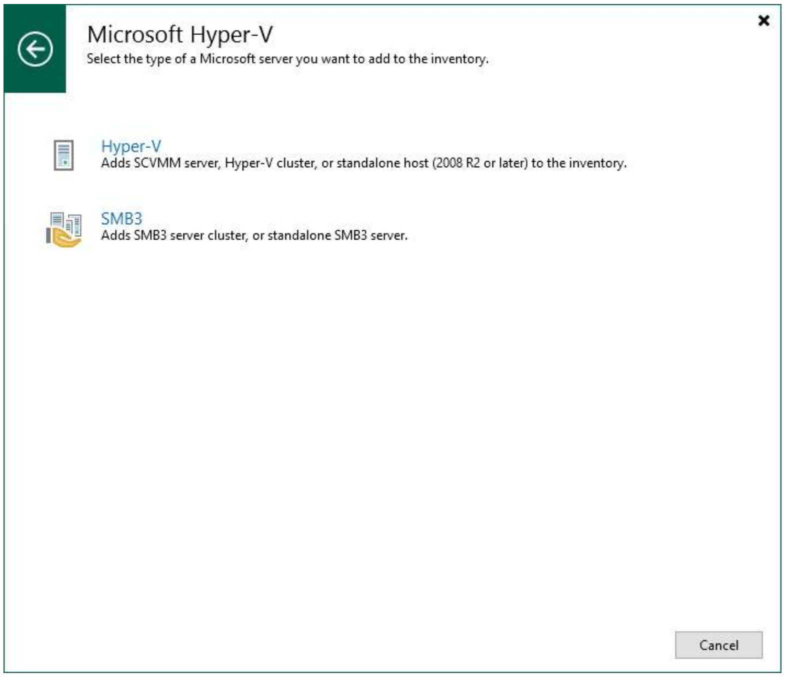
Linux
Adds Linux server (must use bash shell, and have SSH and Perl installed).

Veeam Backup for AWS
Connects to an existing appliance, or deploys a new Veeam Backup for AWS.

Veeam Backup for Microsoft Azure
Connects to an existing appliance, or deploys a new Veeam Backup for Microsoft Azure appliance.

Veeam Backup for GCP
Connects to an existing appliance, or deploys a new Veeam Backup for GCP appliance.

6. On the Microsoft Hyper-V page, select Hyper-V.



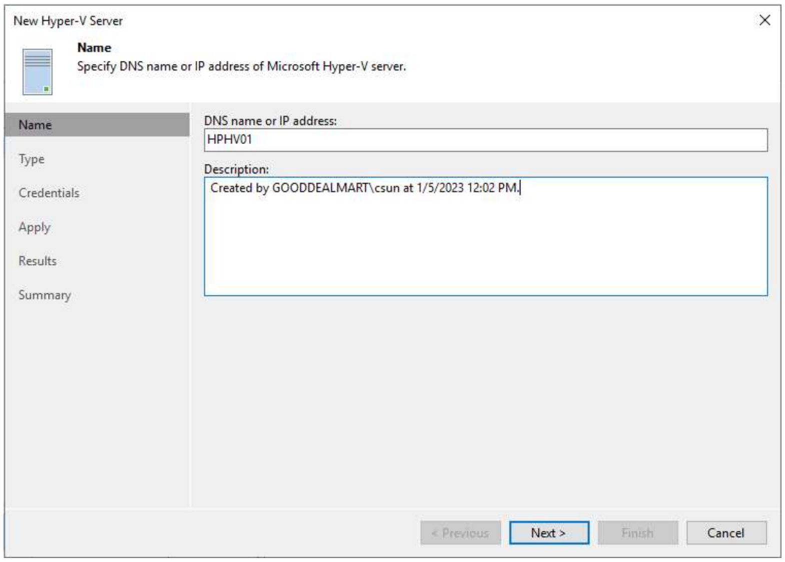
Microsoft Hyper-V

Select the type of a Microsoft server you want to add to the inventory.

Hyper-V
Adds SCVMM server, Hyper-V cluster, or standalone host (2008 R2 or later) to the inventory.

SMB3
Adds SMB3 server cluster, or standalone SMB3 server.

7. On the Name page, specify a DNS name, IP address, and description for the Microsoft Hyper-V server and click Next.



New Hyper-V Server

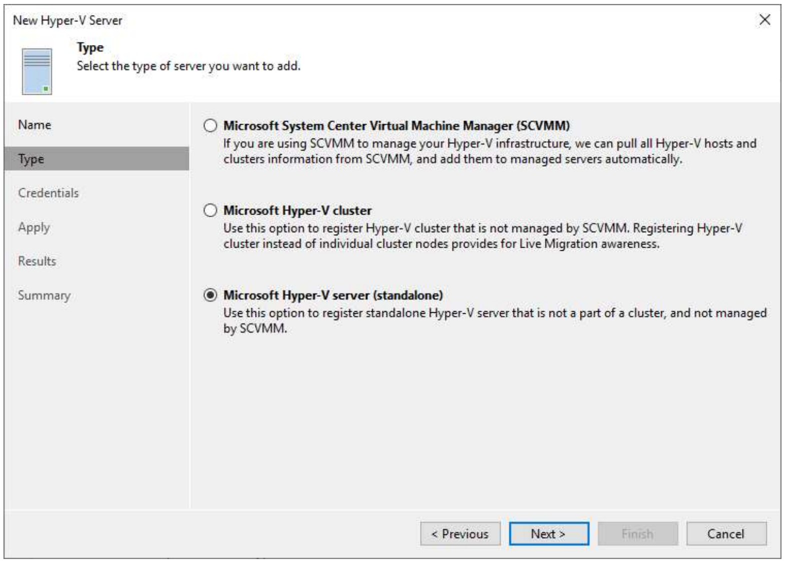
Name

Specify DNS name or IP address of Microsoft Hyper-V server.

DNS name or IP address: HPHV01

Description: Created by GOODDEALMART\csun at 1/5/2023 12:02 PM.

8. Select Microsoft Hyper-V server (standalone) on the Type page and click Next.



New Hyper-V Server

Type

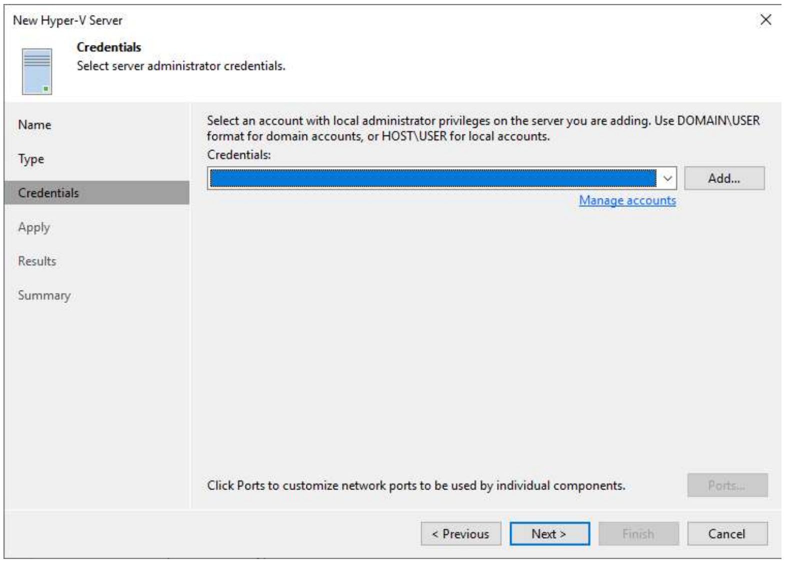
Select the type of server you want to add.

○ **Microsoft System Center Virtual Machine Manager (SCVMM)**
If you are using SCVMM to manage your Hyper-V infrastructure, we can pull all Hyper-V hosts and clusters information from SCVMM, and add them to managed servers automatically.

○ **Microsoft Hyper-V cluster**
Use this option to register Hyper-V cluster that is not managed by SCVMM. Registering Hyper-V cluster instead of individual cluster nodes provides for Live Migration awareness.

● **Microsoft Hyper-V server (standalone)**
Use this option to register standalone Hyper-V server that is not a part of a cluster, and not managed by SCVMM.

9. On the Credentials page, click the Manage accounts link or click Add on the right to add the credentials.



New Hyper-V Server

Credentials

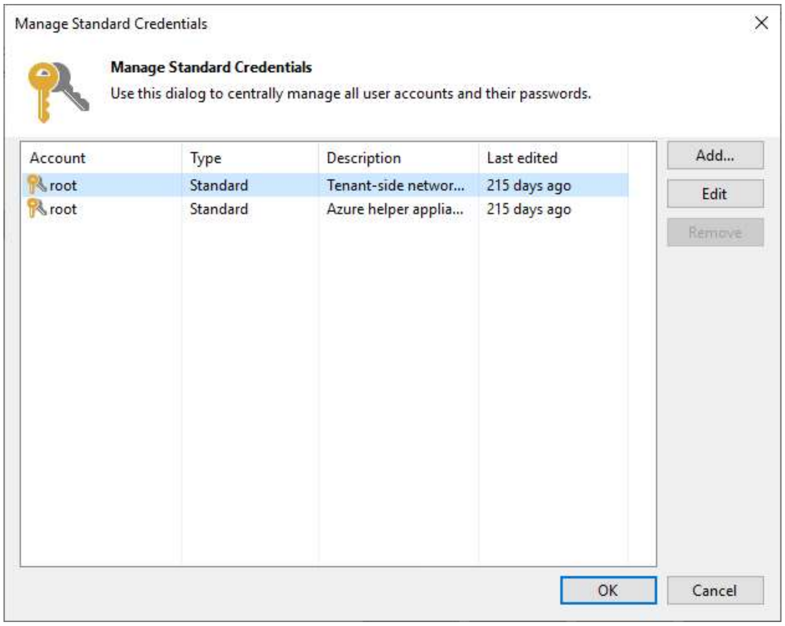
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

Click Ports to customize network ports to be used by individual components.

10. On the Manage Standard Credentials page, click Add.



Manage Standard Credentials

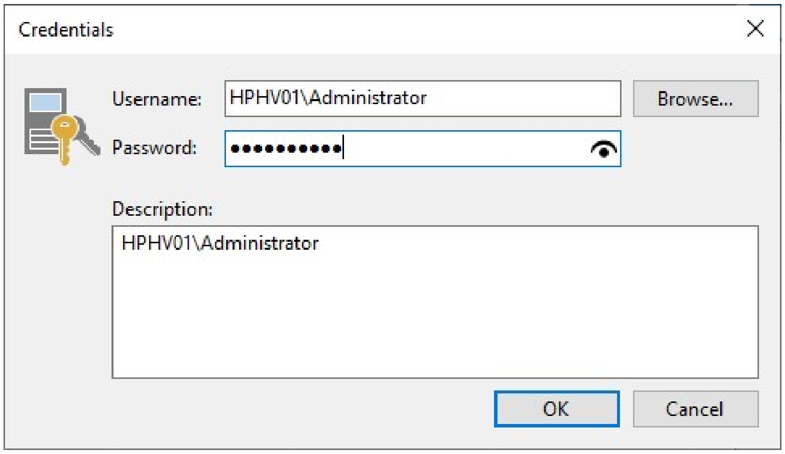
Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
root	Standard	Tenant-side networ...	215 days ago
root	Standard	Azure helper applia...	215 days ago

11. On the Credentials page, enter a user name in the Username field.

12. Enter a password in the Password field.

13. Enter a description in the Description field and click OK.

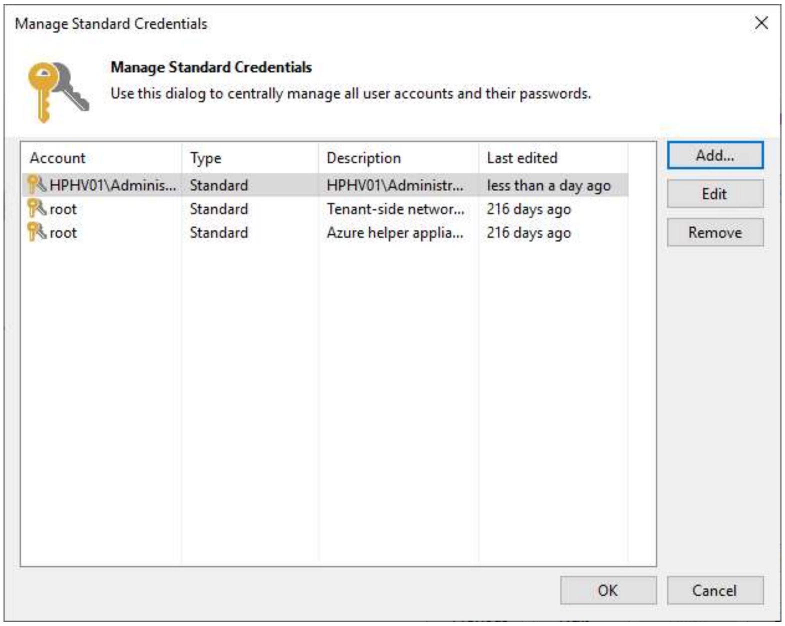


Username: HPHV01\Administrator

Password: ●●●●●●●●●●

Description:
HPHV01\Administrator

14. On the Manage Standard Credentials page, click OK.



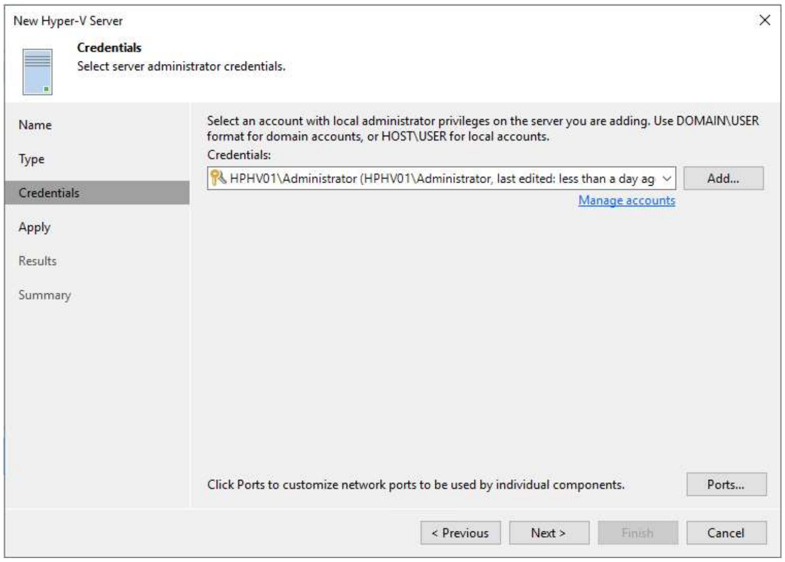
Manage Standard Credentials

Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

15. On the Credentials page, click Next.



New Hyper-V Server

Credentials

Select server administrator credentials.

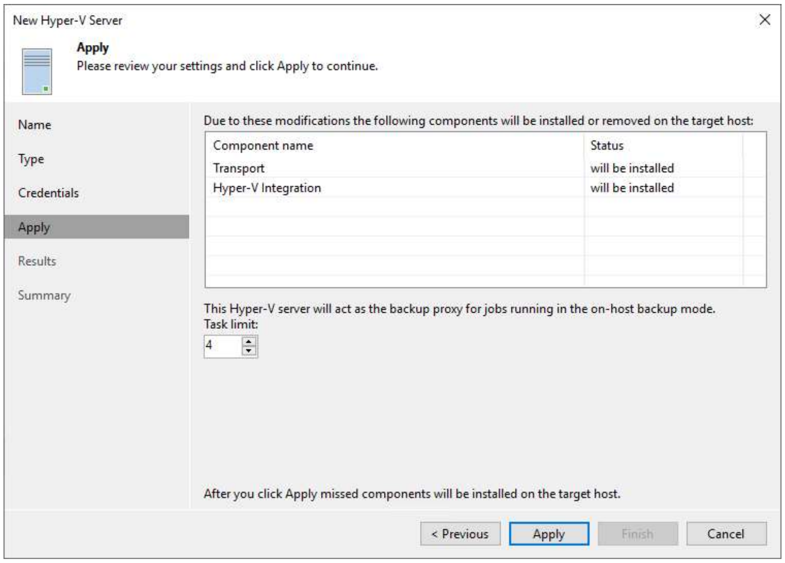
Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

HPHV01\Administrator (HPHV01\Administrator, last edited: less than a day ag

Click Ports to customize network ports to be used by individual components.

16. On the Apply page, click Apply.



Apply

Please review your settings and click Apply to continue.

Due to these modifications the following components will be installed or removed on the target host:

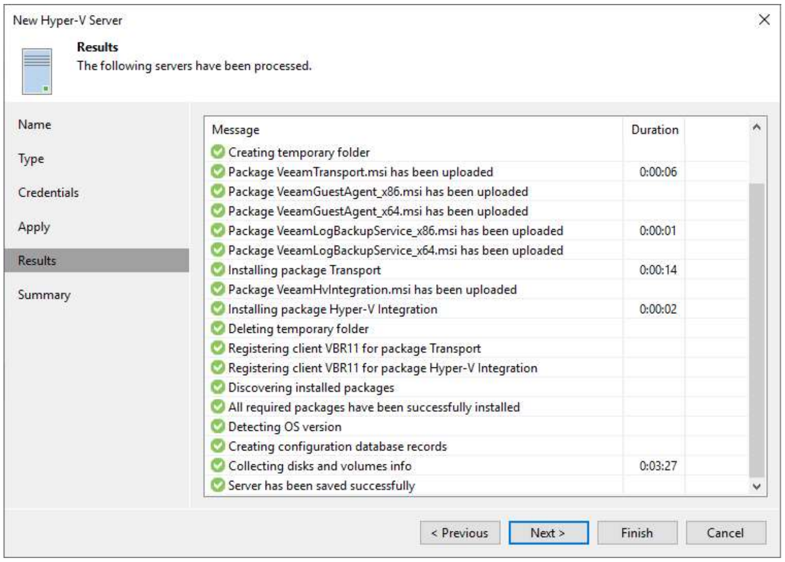
Component name	Status
Transport	will be installed
Hyper-V Integration	will be installed

This Hyper-V server will act as the backup proxy for jobs running in the on-host backup mode.

Task limit: 4

After you click Apply missed components will be installed on the target host.

17. On the Results page, complete the Microsoft Hyper-V server adding procedure without error, and click Next.

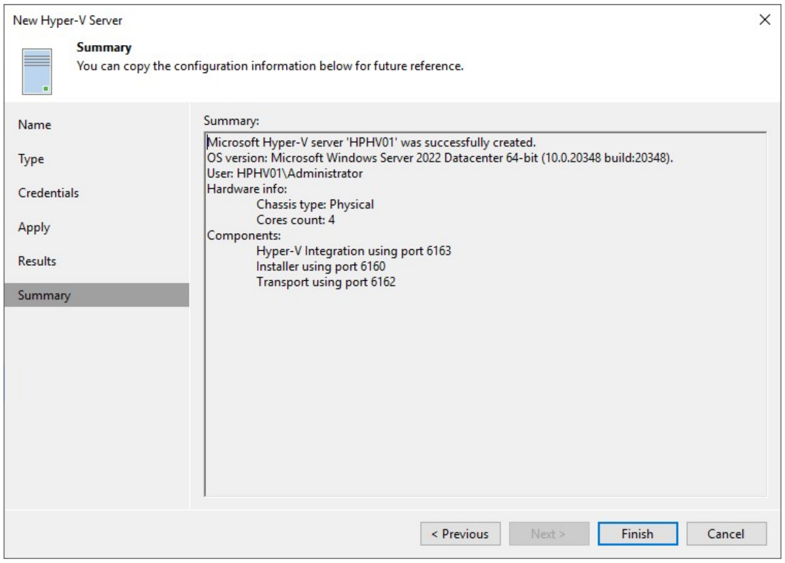


Results

The following servers have been processed.

Message	Duration
✓ Creating temporary folder	
✓ Package VeeamTransport.msi has been uploaded	0:00:06
✓ Package VeeamGuestAgent_x86.msi has been uploaded	
✓ Package VeeamGuestAgent_x64.msi has been uploaded	
✓ Package VeeamLogBackupService_x86.msi has been uploaded	0:00:01
✓ Package VeeamLogBackupService_x64.msi has been uploaded	
✓ Installing package Transport	0:00:14
✓ Package VeeamHvIntegration.msi has been uploaded	
✓ Installing package Hyper-V Integration	0:00:02
✓ Deleting temporary folder	
✓ Registering client VBR11 for package Transport	
✓ Registering client VBR11 for package Hyper-V Integration	
✓ Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Detecting OS version	
✓ Creating configuration database records	
✓ Collecting disks and volumes info	0:03:27
✓ Server has been saved successfully	

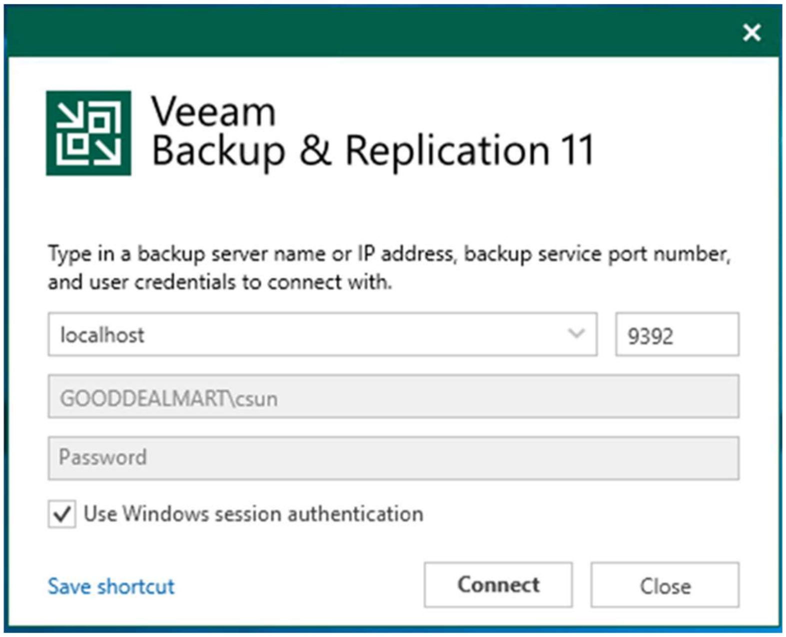
18. On the Summary page, review the details of the Microsoft Hyper-V server and click Finish.



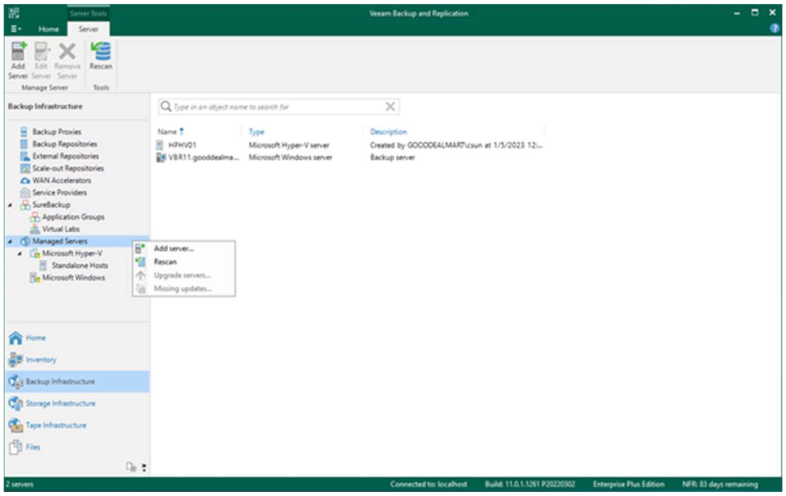
```
Microsoft Hyper-V server 'HPHV01' was successfully created.
OS version: Microsoft Windows Server 2022 Datacenter 64-bit (10.0.20348 build:20348).
User: HPHV01\Administrator
Hardware info:
        Chassis type: Physical
        Cores count: 4
Components:
        Hyper-V Integration using port 6163
        Installer using port 6160
        Transport using port 6162
```

Adding Microsoft Hyper-V Clusters

You must add the Microsoft Hyper-V clusters you plan to use as source and target for backup, replication and other activities. You can add them from Inventory or Backup Infrastructure.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

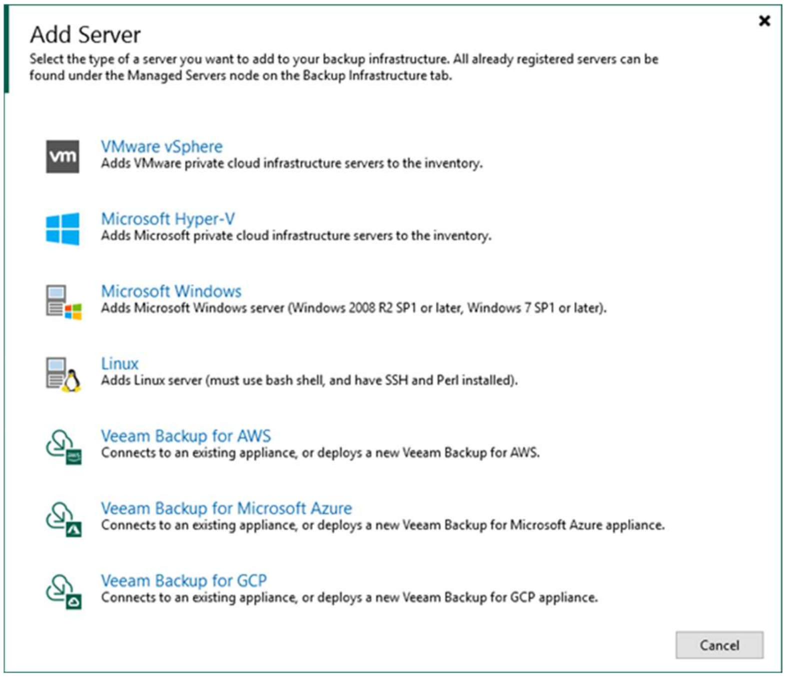
3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Managed Servers, right-click Managed Servers, and select Add Server.



Name	Type	Description
HPHV01	Microsoft Hyper-V server	Created by GOODDEALMART\csun at 1/5/2023 12:...
VBR11.gooddealma...	Microsoft Windows server	Backup server

2 servers | Connected to: localhost | Build: 11.0.1.1261 P20220302 | Enterprise Plus Edition | NFR: 83 days remaining

5. On the Add Server page, select Microsoft Hyper-V.



Add Server

Select the type of a server you want to add to your backup infrastructure. All already registered servers can be found under the Managed Servers node on the Backup Infrastructure tab.

VMware vSphere
Adds VMware private cloud infrastructure servers to the inventory.

Microsoft Hyper-V
Adds Microsoft private cloud infrastructure servers to the inventory.

Microsoft Windows
Adds Microsoft Windows server (Windows 2008 R2 SP1 or later, Windows 7 SP1 or later).

Linux
Adds Linux server (must use bash shell, and have SSH and Perl installed).

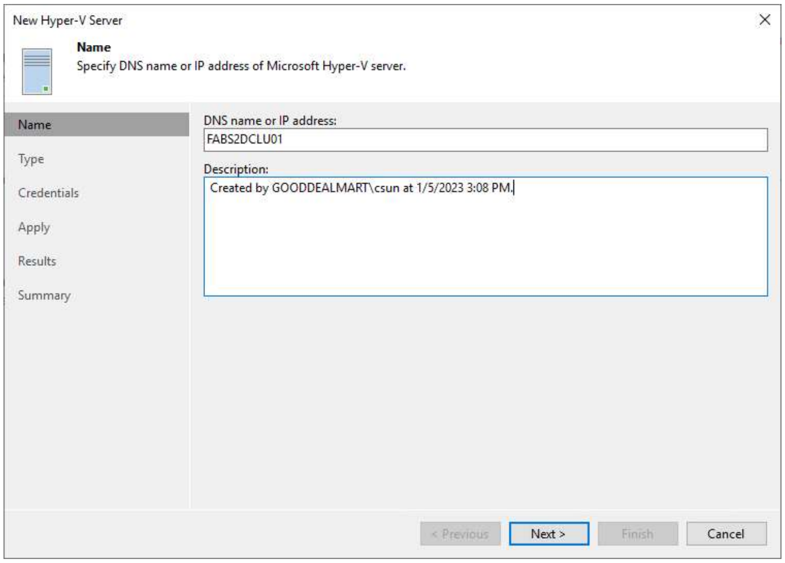
Veeam Backup for AWS
Connects to an existing appliance, or deploys a new Veeam Backup for AWS.

Veeam Backup for Microsoft Azure
Connects to an existing appliance, or deploys a new Veeam Backup for Microsoft Azure appliance.

Veeam Backup for GCP
Connects to an existing appliance, or deploys a new Veeam Backup for GCP appliance.

Cancel

6. On the Name page, specify a DNS name, IP address, and description for the Microsoft Hyper-V cluster and click Next.



New Hyper-V Server

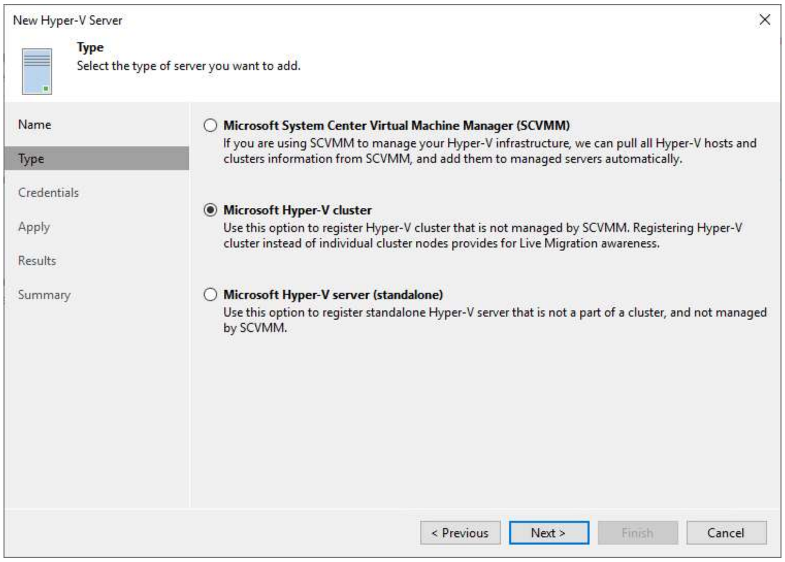
Name

Specify DNS name or IP address of Microsoft Hyper-V server.

DNS name or IP address: FABS2DCLU01

Description: Created by GOODDEALMART\csun at 1/5/2023 3:08 PM.

7. On the Type page, select Microsoft Hyper-V cluster and click Next.



New Hyper-V Server

Type

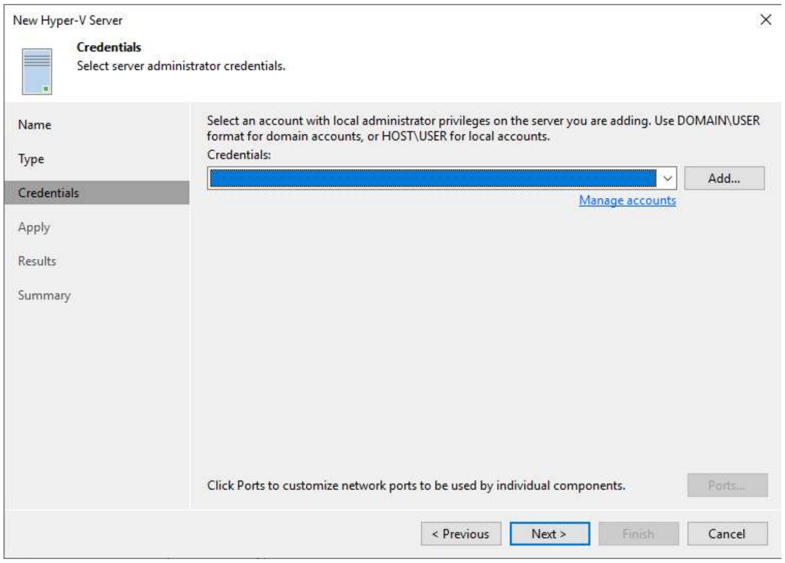
Select the type of server you want to add.

○ **Microsoft System Center Virtual Machine Manager (SCVMM)**
If you are using SCVMM to manage your Hyper-V infrastructure, we can pull all Hyper-V hosts and clusters information from SCVMM, and add them to managed servers automatically.

● **Microsoft Hyper-V cluster**
Use this option to register Hyper-V cluster that is not managed by SCVMM. Registering Hyper-V cluster instead of individual cluster nodes provides for Live Migration awareness.

○ **Microsoft Hyper-V server (standalone)**
Use this option to register standalone Hyper-V server that is not a part of a cluster, and not managed by SCVMM.

8. On the Credentials page, click the Manage accounts link or Add on the right to add the credentials.



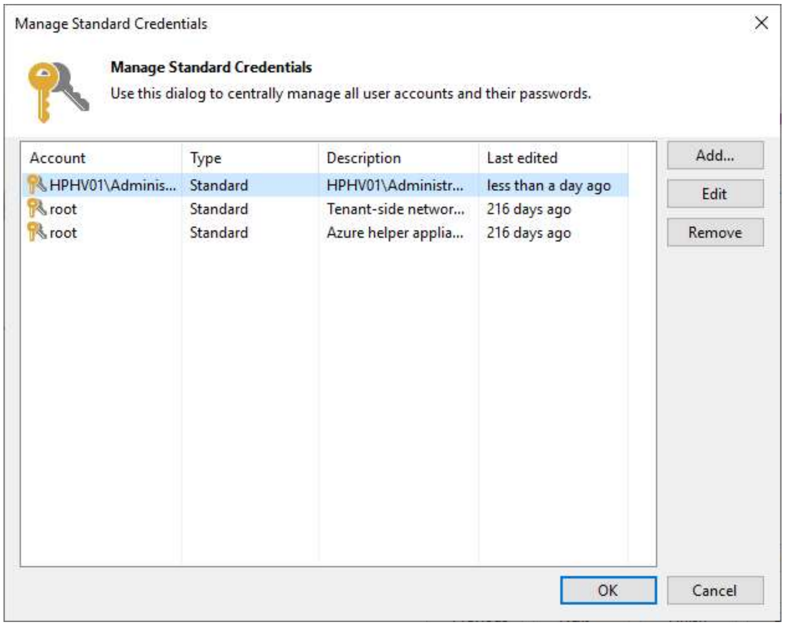
Credentials
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

Click Ports to customize network ports to be used by individual components.

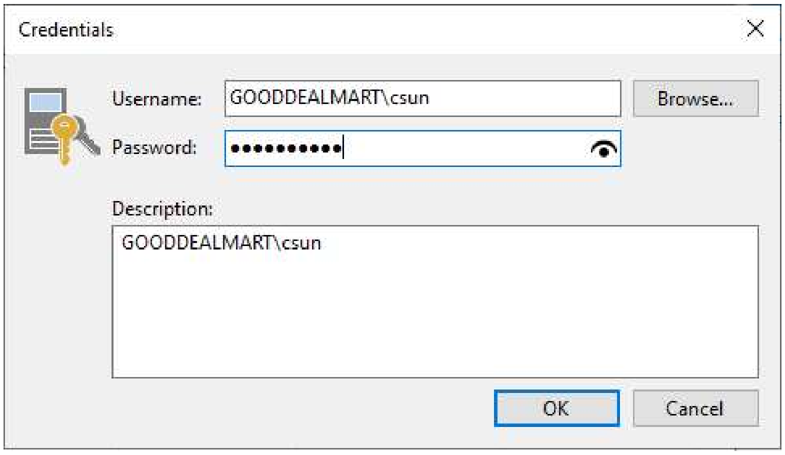
9. On the Manage Standard Credentials page, click Add.



Manage Standard Credentials
Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

10. On the Credentials page, enter a domain user name for the account you want to add in the Username field.
11. Enter a password In the Password field.
12. Enter a description in the Description field, and click OK.



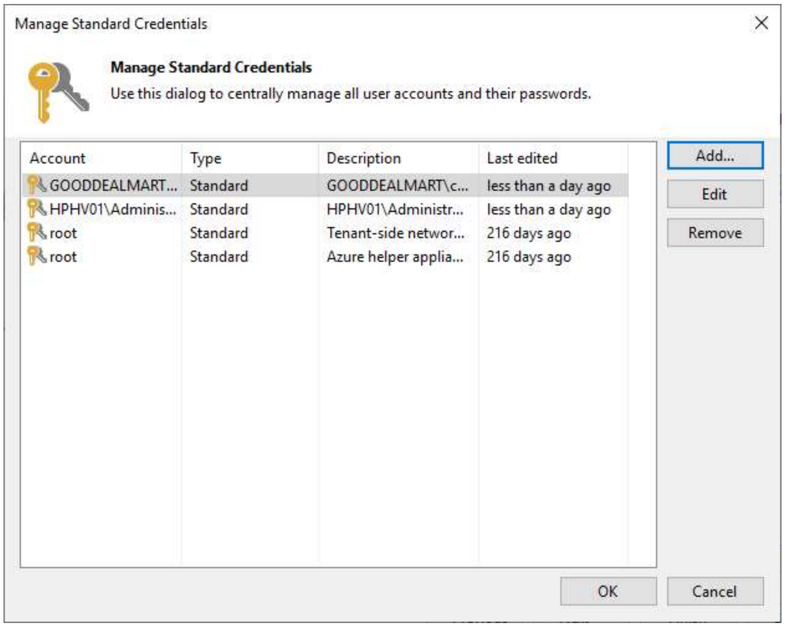
Credentials

Username: GOODDEALMART\csun

Password: ●●●●●●●●●●

Description: GOODDEALMART\csun

13. On the Manage Standard Credentials page, click OK.



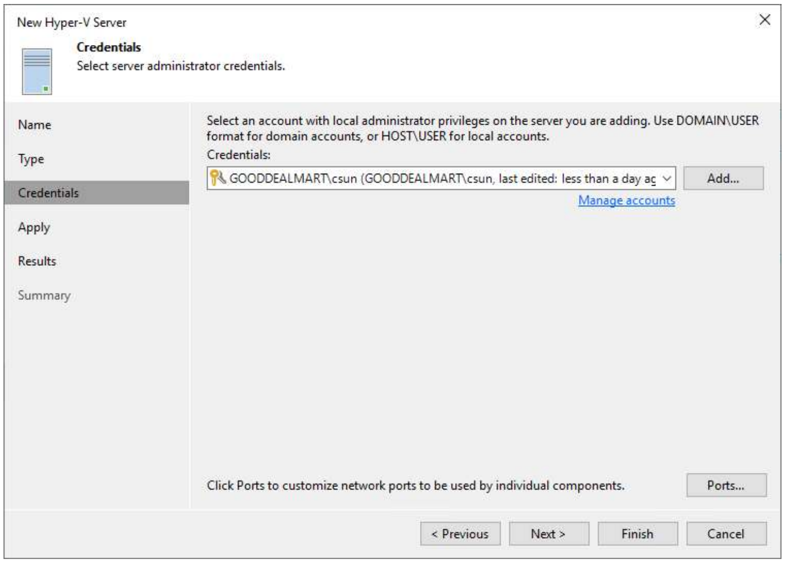
Manage Standard Credentials

Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
GOODDEALMART...	Standard	GOODDEALMART\c...	less than a day ago
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

14. On the Credentials page, click Next.



New Hyper-V Server

Credentials

Select server administrator credentials.

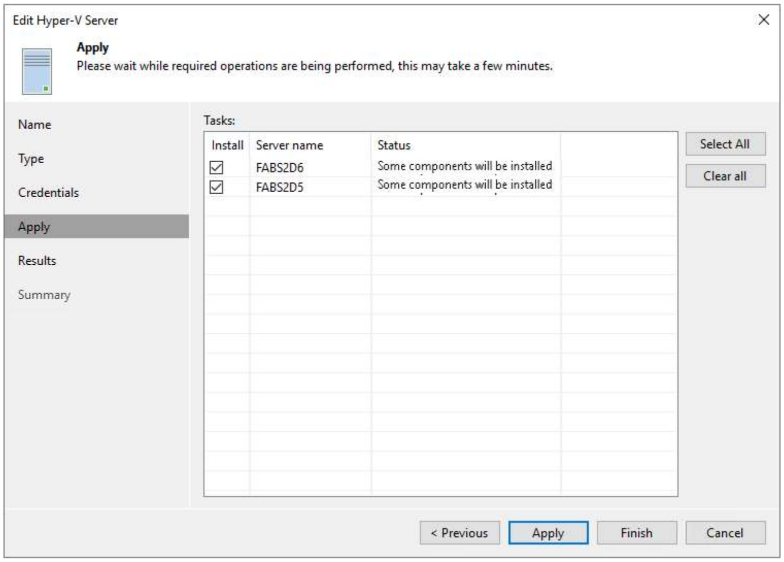
Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

GOODDEALMART\csun (GOODDEALMART\csun, last edited: less than a day ag

Click Ports to customize network ports to be used by individual components.

15. On the Apply page, click Select All and then click Apply.



Edit Hyper-V Server

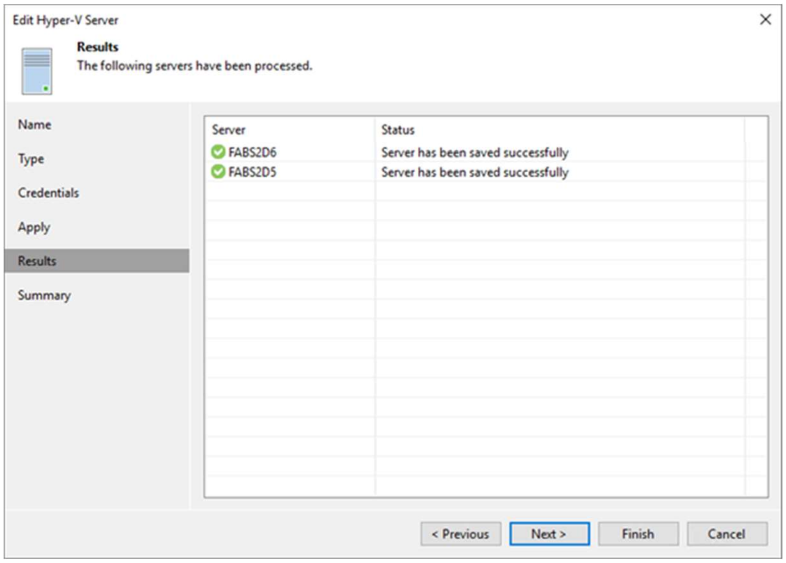
Apply

Please wait while required operations are being performed, this may take a few minutes.

Tasks:

Install	Server name	Status
☑	FABS2D6	Some components will be installed
☑	FABS2D5	Some components will be installed

16. On the Results page, complete the Microsoft Hyper-V cluster adding procedure without error, and click Next.



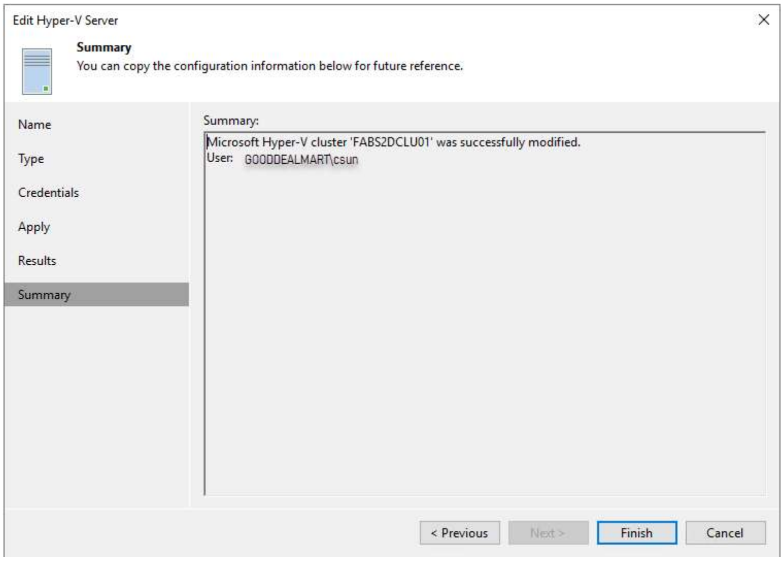
Edit Hyper-V Server

Results

The following servers have been processed.

Server	Status
✓ FABS2D6	Server has been saved successfully
✓ FABS2D5	Server has been saved successfully

17. On the Summary page, review the details of the Microsoft Hyper-V server and click Finish.



Edit Hyper-V Server

Summary

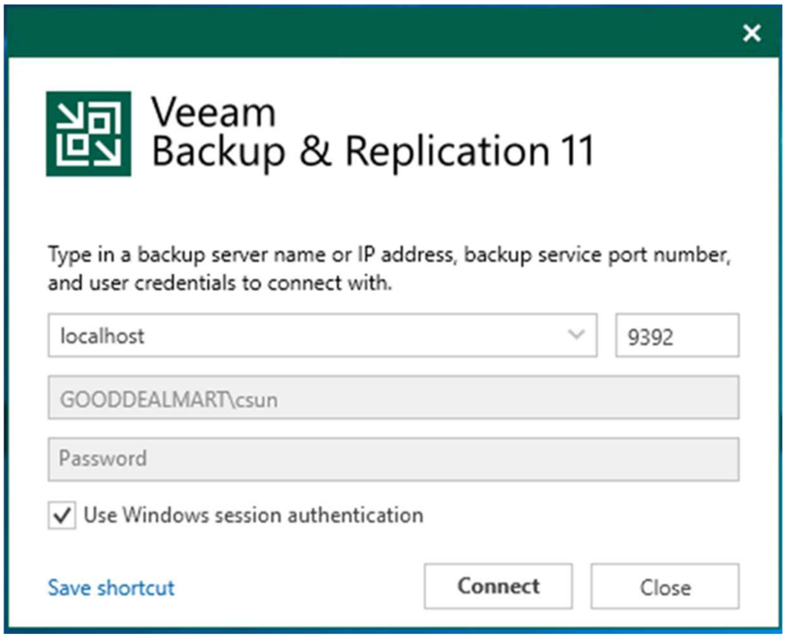
You can copy the configuration information below for future reference.

Summary:

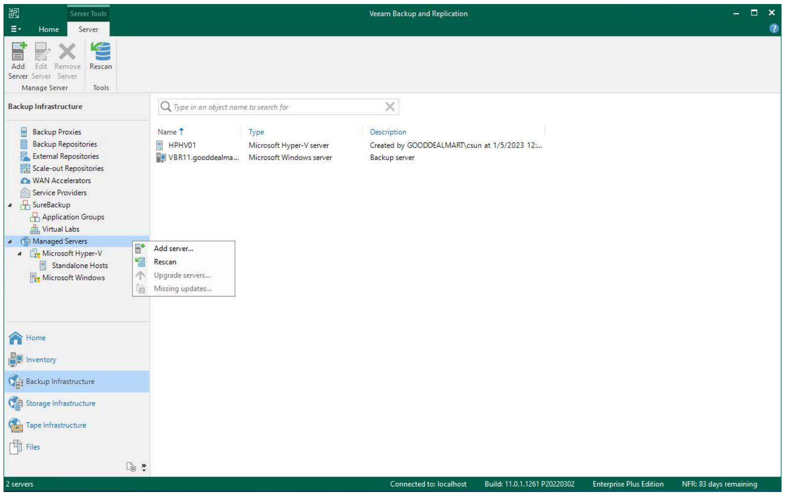
```
Microsoft Hyper-V cluster 'FABS2DCLU01' was successfully modified.
User:   GOODDEALMART\csun
```

Adding Microsoft Windows Servers

Suppose you plan to use as backup infrastructure components and servers that you plan to use for various types of restore operations. In that case, you must add the Microsoft Windows servers to the backup infrastructure.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

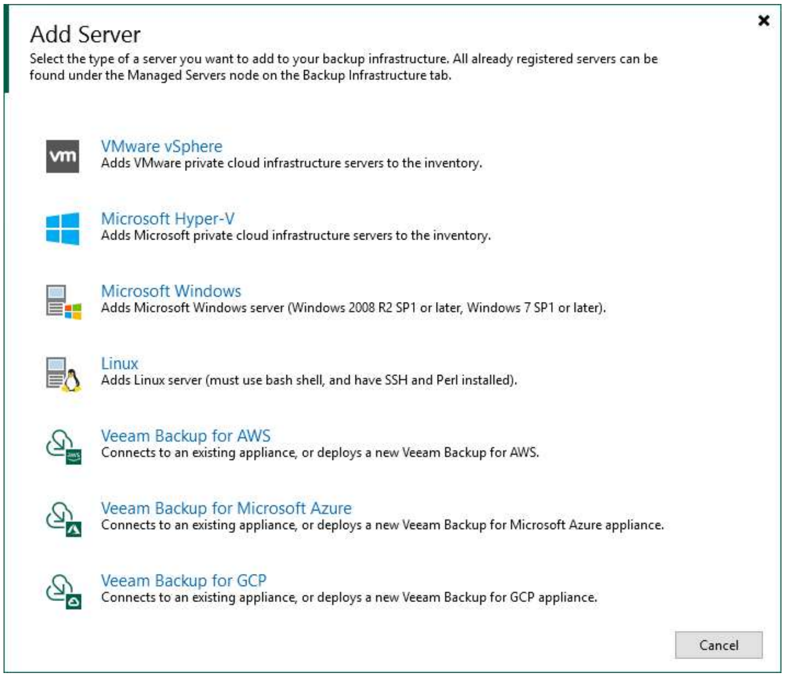
3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Managed Servers, right-click Managed Servers, and select Add Server.



Name	Type	Description
HPHV01	Microsoft Hyper-V server	Created by GOODDEALMART\csun at 1/5/2023 12:...
VBR11.gooddealma...	Microsoft Windows server	Backup server

2 servers Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 83 days remaining

5. On the Add Server page, select Microsoft Windows.



Add Server

Select the type of a server you want to add to your backup infrastructure. All already registered servers can be found under the Managed Servers node on the Backup Infrastructure tab.

VMware vSphere
Adds VMware private cloud infrastructure servers to the inventory.

Microsoft Hyper-V
Adds Microsoft private cloud infrastructure servers to the inventory.

Microsoft Windows
Adds Microsoft Windows server (Windows 2008 R2 SP1 or later, Windows 7 SP1 or later).

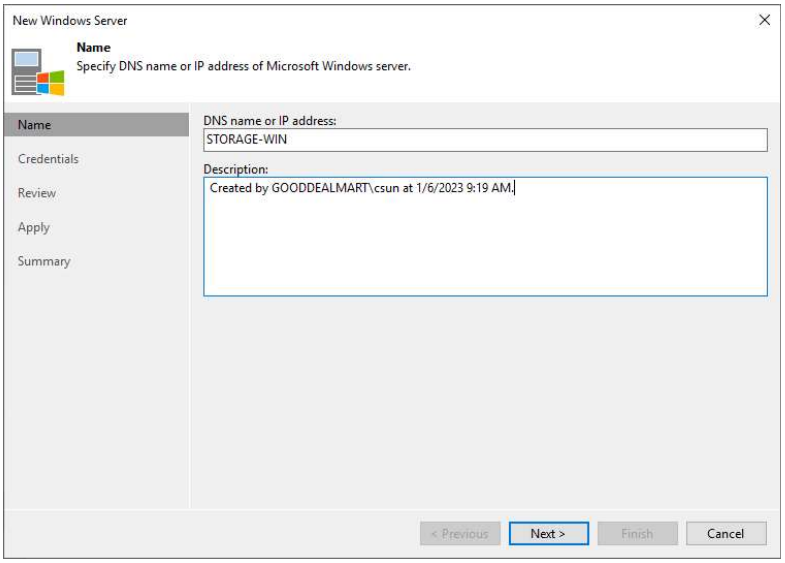
Linux
Adds Linux server (must use bash shell, and have SSH and Perl installed).

Veeam Backup for AWS
Connects to an existing appliance, or deploys a new Veeam Backup for AWS.

Veeam Backup for Microsoft Azure
Connects to an existing appliance, or deploys a new Veeam Backup for Microsoft Azure appliance.

Veeam Backup for GCP
Connects to an existing appliance, or deploys a new Veeam Backup for GCP appliance.

6. On the Name page, specify a DNS name, IP address, and description for the Microsoft Windows server and click Next.



New Windows Server

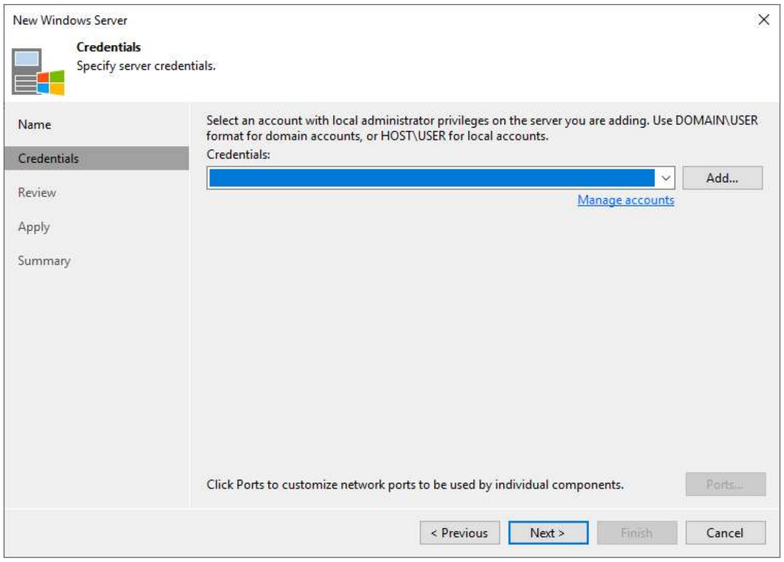
Name

Specify DNS name or IP address of Microsoft Windows server.

DNS name or IP address: STORAGE-WIN

Description: Created by GOODDEALMART\csun at 1/6/2023 9:19 AM.

7. On the Credentials page, click the Manage accounts link or Add on the right to add the credentials.



New Windows Server

Credentials

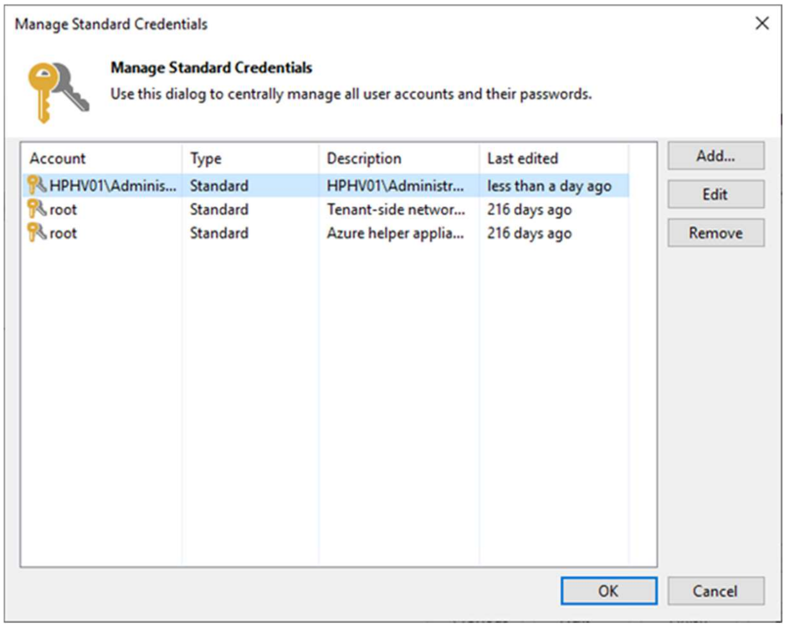
Specify server credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

Click Ports to customize network ports to be used by individual components.

8. On the Manage Standard Credentials page, click Add.



Manage Standard Credentials

Manage Standard Credentials

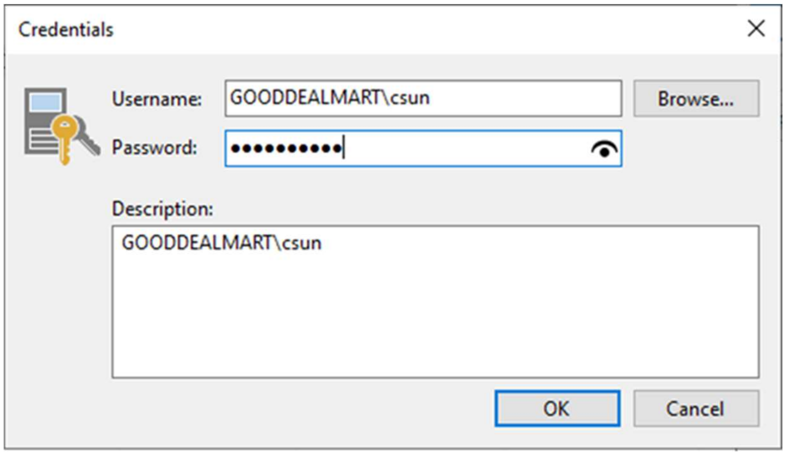
Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

9. On the Credentials page, enter a domain user name for the account you want to add in the Username field.

10. Enter a password In the Password field.

11. Enter a description in the Description field, and click OK.



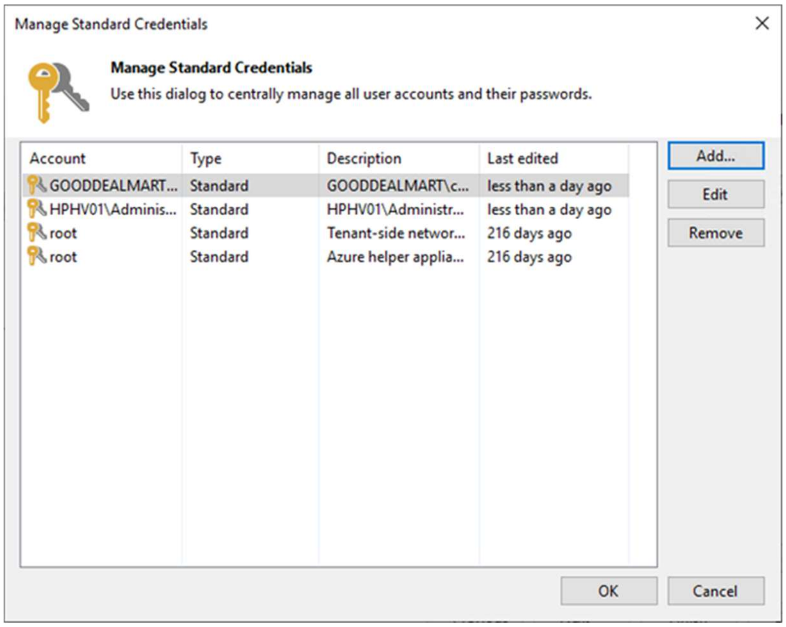
Credentials

Username: GOODDEALMART\csun

Password: ••••••••••

Description: GOODDEALMART\csun

12. On the Manage Standard Credentials page, click OK.



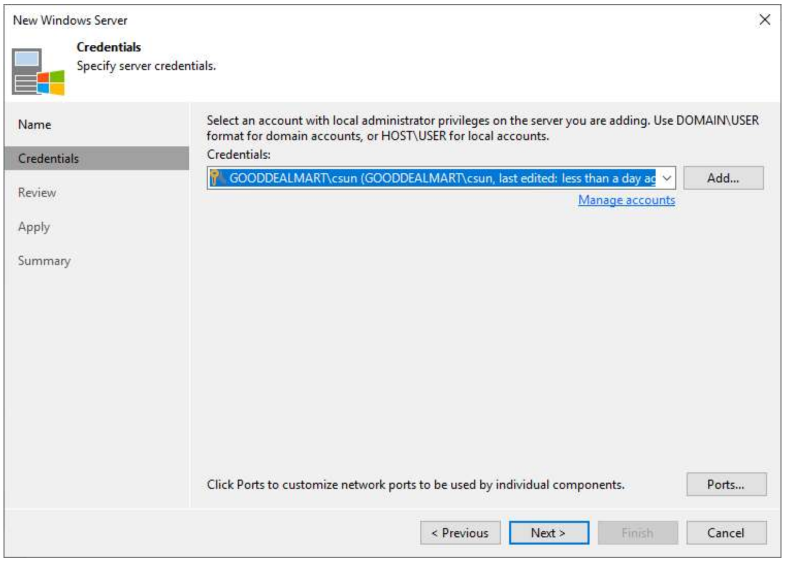
Manage Standard Credentials

Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
GOODDEALMART...	Standard	GOODDEALMART\c...	less than a day ago
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

13. On the Credentials page, click Next.



New Windows Server

Credentials

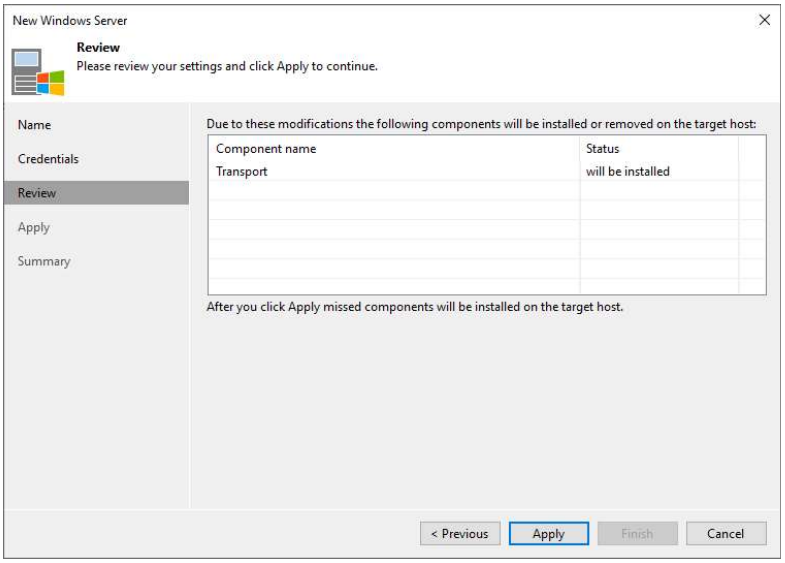
Specify server credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: less than a day ag

Click Ports to customize network ports to be used by individual components.

14. On the Review page, click Apply.



Review

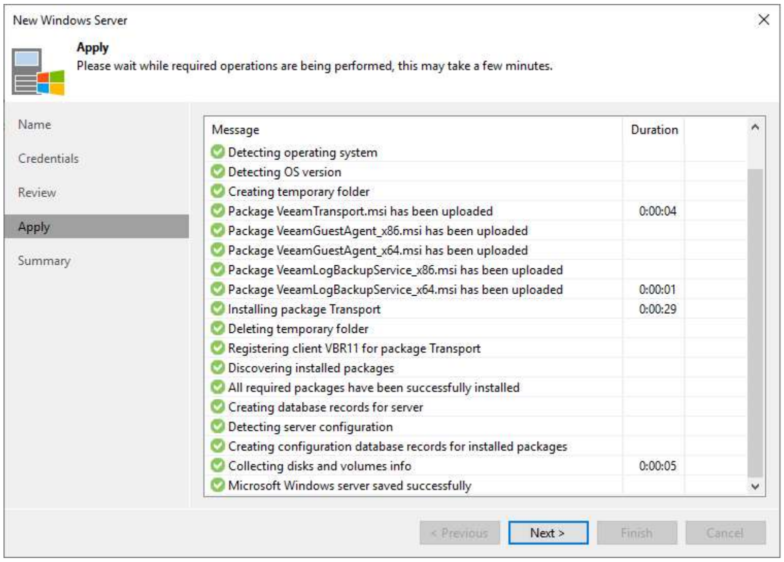
Please review your settings and click Apply to continue.

Due to these modifications the following components will be installed or removed on the target host:

Component name	Status
Transport	will be installed

After you click Apply missed components will be installed on the target host.

15. On the Apply page, complete the Microsoft Windows server adding procedure without error, and click Next.

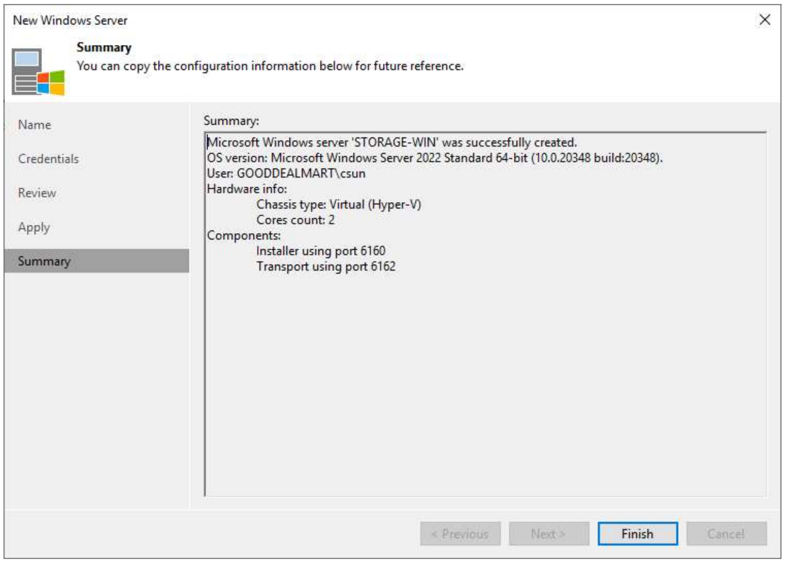


Apply

Please wait while required operations are being performed, this may take a few minutes.

Message	Duration
✓ Detecting operating system	
✓ Detecting OS version	
✓ Creating temporary folder	
✓ Package VeeamTransport.msi has been uploaded	0:00:04
✓ Package VeeamGuestAgent_x86.msi has been uploaded	
✓ Package VeeamGuestAgent_x64.msi has been uploaded	
✓ Package VeeamLogBackupService_x86.msi has been uploaded	
✓ Package VeeamLogBackupService_x64.msi has been uploaded	0:00:01
✓ Installing package Transport	0:00:29
✓ Deleting temporary folder	
✓ Registering client VBR11 for package Transport	
✓ Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Creating database records for server	
✓ Detecting server configuration	
✓ Creating configuration database records for installed packages	
✓ Collecting disks and volumes info	0:00:05
✓ Microsoft Windows server saved successfully	

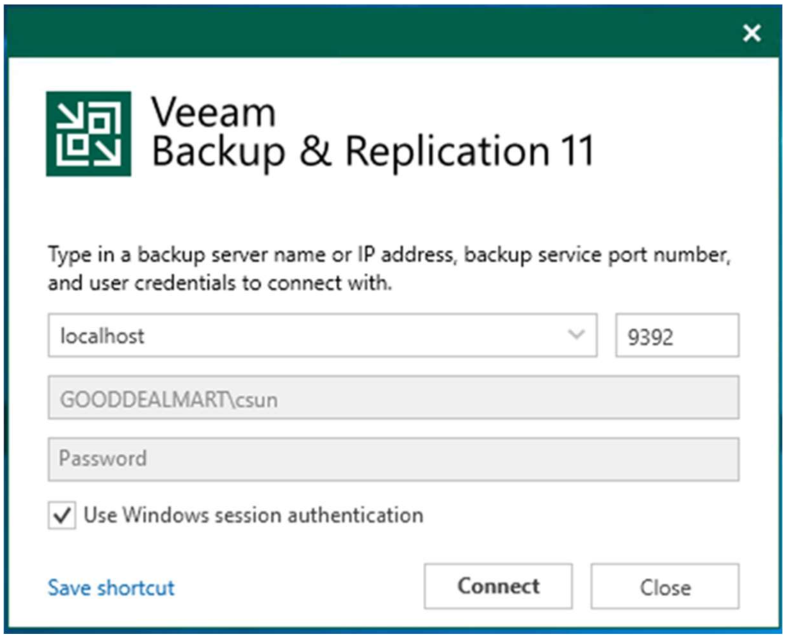
16. On the Summary page, review the details of the Microsoft Windows server, and click Finish.



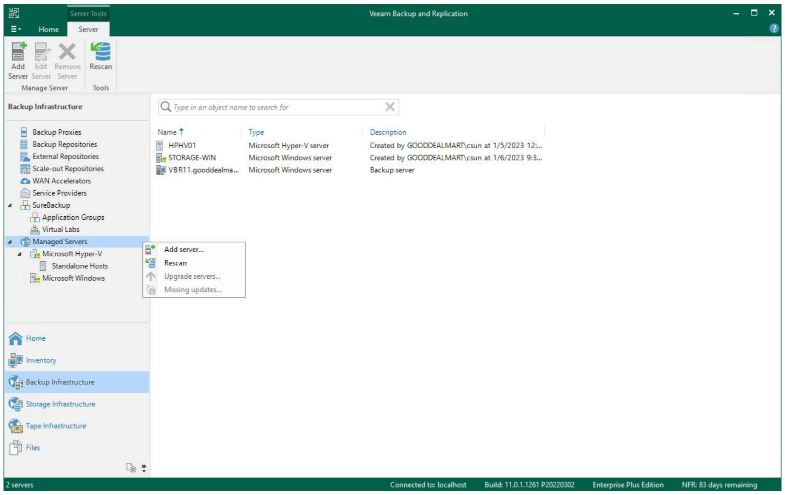
```
Microsoft Windows server 'STORAGE-WIN' was successfully created.
OS version: Microsoft Windows Server 2022 Standard 64-bit (10.0.20348 build:20348).
User: GOODDEALMART\csun
Hardware info:
        Chassis type: Virtual (Hyper-V)
        Cores count: 2
Components:
        Installer using port 6160
        Transport using port 6162
```

Adding Linux Server for a hardened repository

Suppose you plan to use backup infrastructure components and servers that you plan to use for various types of restore operations. In that case, you must add the Linux servers to the backup infrastructure.

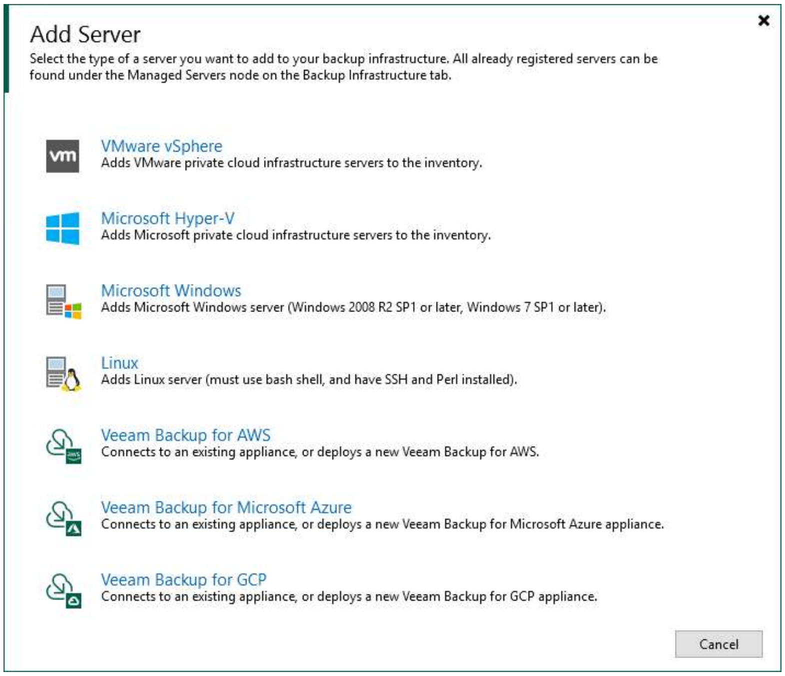
Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Managed Servers, right-click Managed Servers, and select Add Server.



Name	Type	Description
HPHV01	Microsoft Hyper-V server	Created by GOODDEALMART\csun at 1/5/2023 12:...
STORAGE-WIN	Microsoft Windows server	Created by GOODDEALMART\csun at 1/6/2023 9:3...
VBR11.gooddealma...	Microsoft Windows server	Backup server

5. On the Add Server page, select Linux.



Add Server

Select the type of a server you want to add to your backup infrastructure. All already registered servers can be found under the Managed Servers node on the Backup Infrastructure tab.

VMware vSphere
Adds VMware private cloud infrastructure servers to the inventory.

Microsoft Hyper-V
Adds Microsoft private cloud infrastructure servers to the inventory.

Microsoft Windows
Adds Microsoft Windows server (Windows 2008 R2 SP1 or later, Windows 7 SP1 or later).

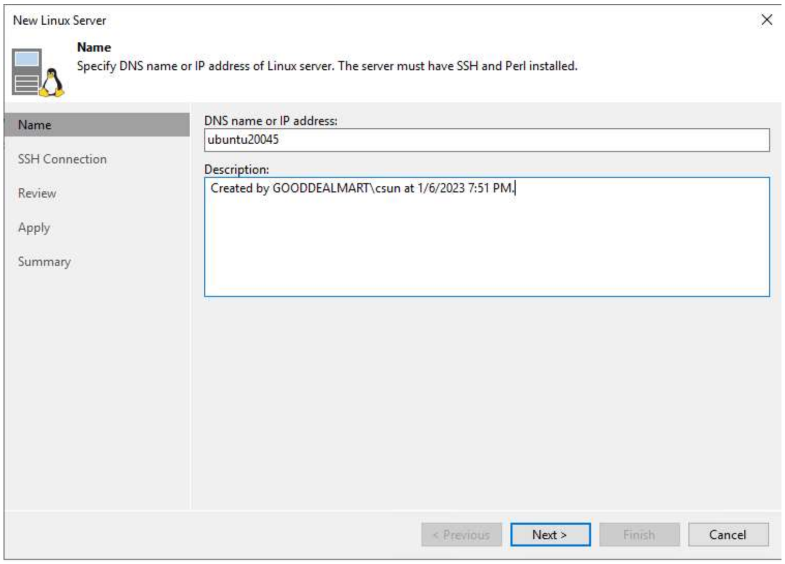
Linux
Adds Linux server (must use bash shell, and have SSH and Perl installed).

Veeam Backup for AWS
Connects to an existing appliance, or deploys a new Veeam Backup for AWS.

Veeam Backup for Microsoft Azure
Connects to an existing appliance, or deploys a new Veeam Backup for Microsoft Azure appliance.

Veeam Backup for GCP
Connects to an existing appliance, or deploys a new Veeam Backup for GCP appliance.

6. On the Name page, specify the Linux server's DNS name, IP address, and description and click Next.

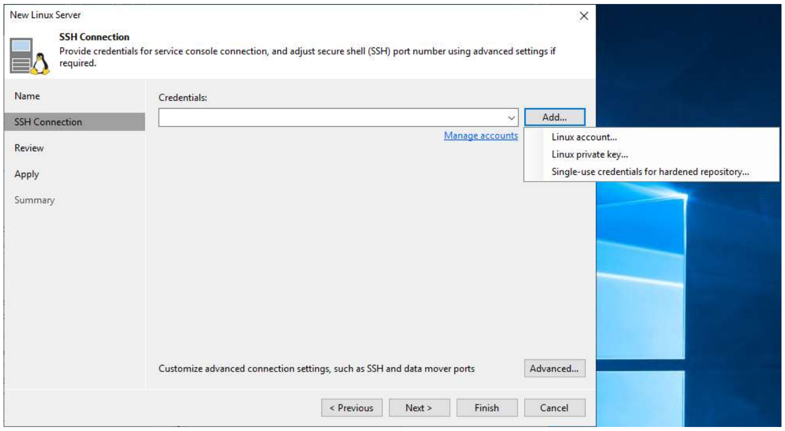

New Linux Server
Name
Specify DNS name or IP address of Linux server. The server must have SSH and Perl installed.
Name
SSH Connection
Review
Apply
Summary
< Previous
Next >
Finish
Cancel

DNS name or IP address: ubuntu20045

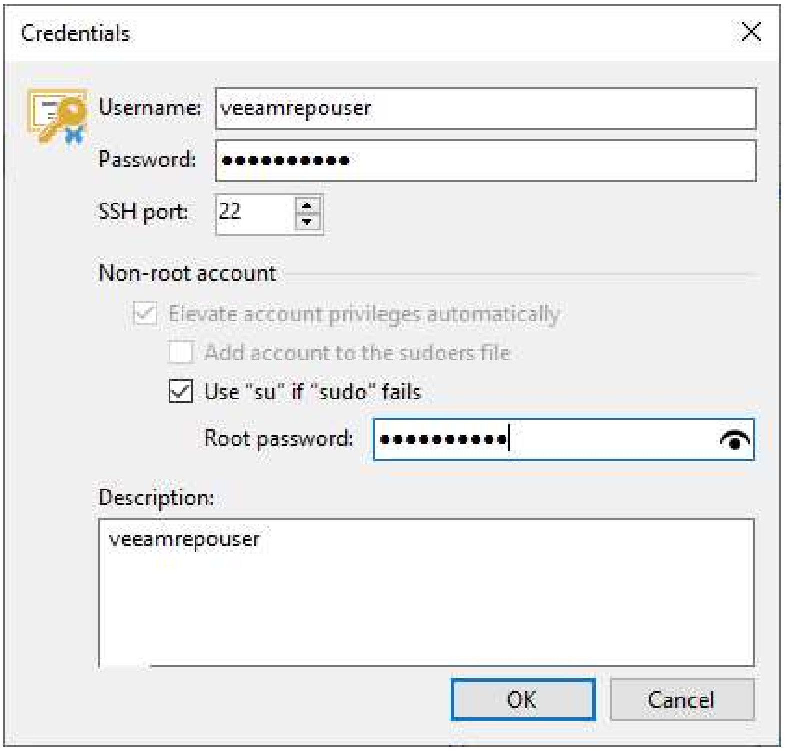
Description: Created by GOODDEALMART\csun at 1/6/2023 7:51 PM.

7. Click Add on the SSH Connection page and select Single-use credential for the hardened repository.

.


New Linux Server
SSH Connection
Provide credentials for service console connection, and adjust secure shell (SSH) port number using advanced settings if required.
Name
SSH Connection
Review
Apply
Summary
Credentials:
Add...
Manage accounts
Linux account...
Linux private key...
Single-use credentials for hardened repository...
Customize advanced connection settings, such as SSH and data mover ports
Advanced...
< Previous
Next >
Finish
Cancel

8. On the Credentials page, enter a user name in the Username field.
9. Enter a password In the Password field.
10. In the SSH port field, select 22, and click OK.
11. If you are using a non-root account, select Add account to the sudoers file, select Use “su” if sudo fails and enter the Root password.



Credentials

Username: veeamrepouser

Password: ●●●●●●●●●●

SSH port: 22

Non-root account

☑ Elevate account privileges automatically

□ Add account to the sudoers file

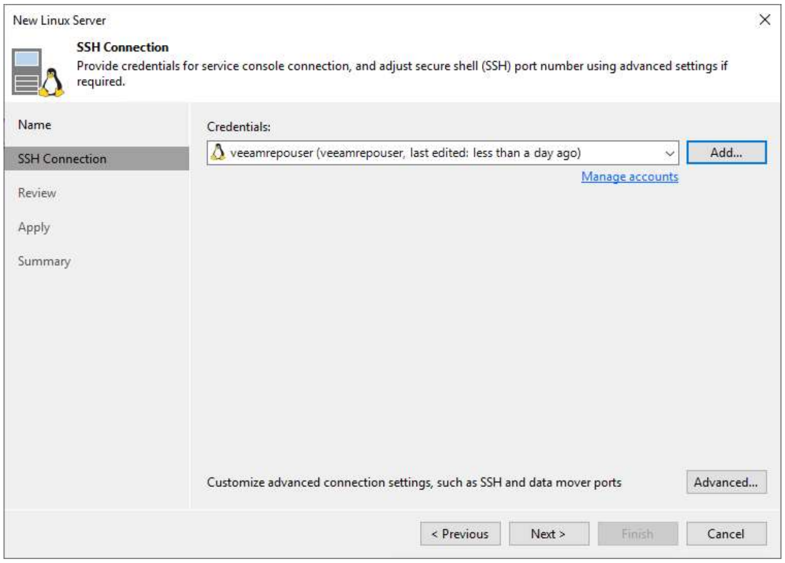
☑ Use "su" if "sudo" fails

Root password: ●●●●●●●●●●●

Description:

veeamrepouser

12. On the SSH Connection page, click Advanced.



New Linux Server

SSH Connection

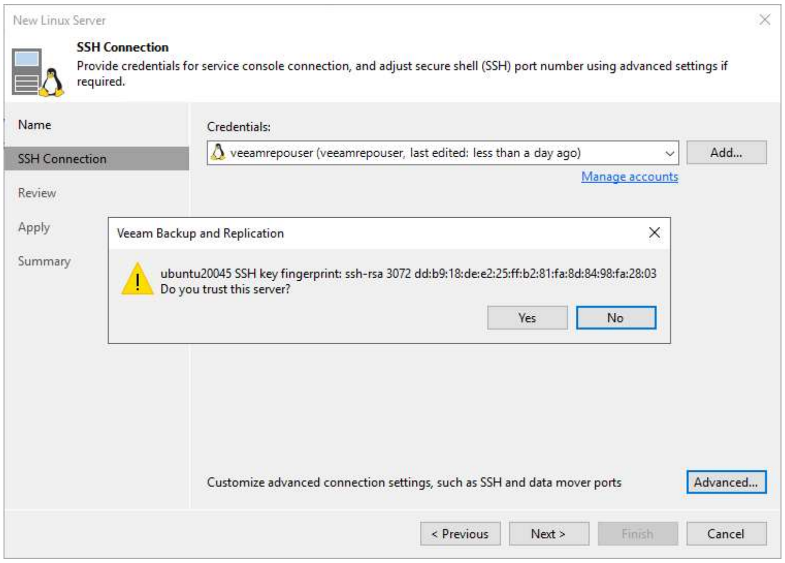
Provide credentials for service console connection, and adjust secure shell (SSH) port number using advanced settings if required.

Credentials:

veeamrepouser (veeamrepouser, last edited: less than a day ago)

Customize advanced connection settings, such as SSH and data mover ports

13. Select Yes on the trust warning message page.



New Linux Server

SSH Connection

Provide credentials for service console connection, and adjust secure shell (SSH) port number using advanced settings if required.

Credentials: veeamrepouser (veeamrepouser, last edited: less than a day ago)

Veeam Backup and Replication

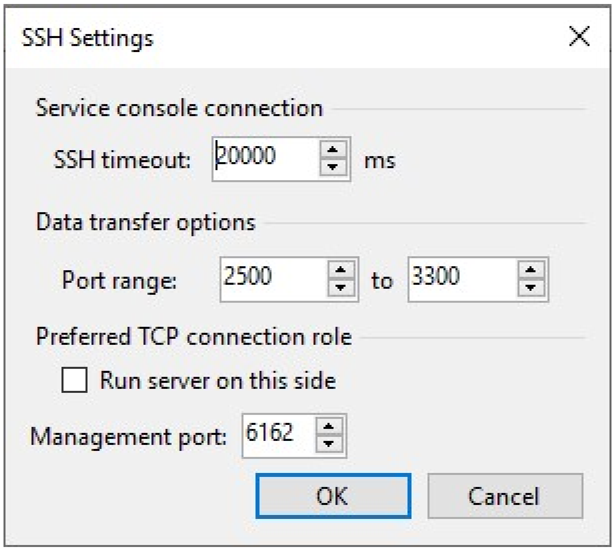
ubuntu20045 SSH key fingerprint: ssh-rsa 3072 dd:b9:18:de:e2:25:ff:b2:81:fa:8d:84:98:fa:28:03
Do you trust this server?

Customize advanced connection settings, such as SSH and data mover ports

14. On the SSH Settings page, click OK.

15. Enter an SSH timeout in the Service console connection section. The default SSH timeout is 20000 ms.

16. Configure connection settings for file copy operations in the Data transfer options section. Provide a set of ports for transmission channels between the source and target hosts (one port per task). Veeam Backup & Replication uses the port



SSH Settings

Service console connection

SSH timeout: 20000 ms

Data transfer options

Port range: 2500 to 3300

Preferred TCP connection role

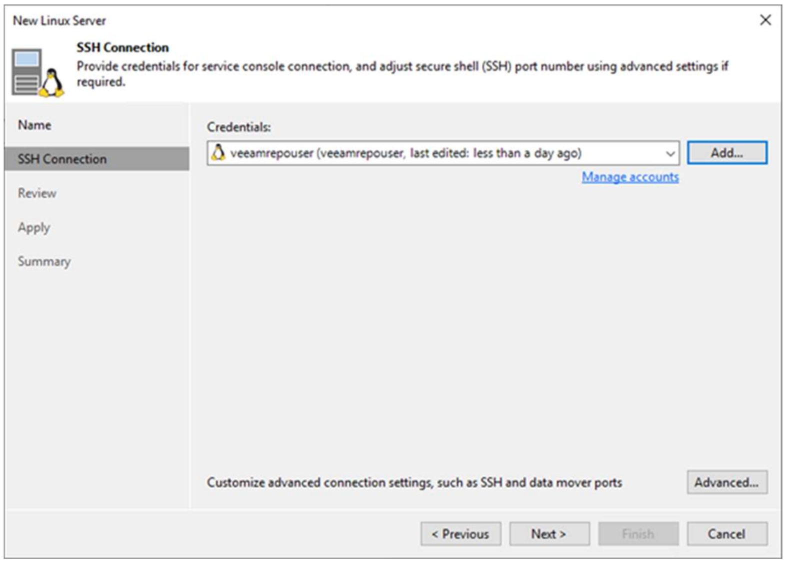
□ Run server on this side

Management port: 6162

range 2500-3300 by default.

17. By default, port 6162 is open. Veeam Data Mover uses this port.

18. On the SSH Connection page, click Next.



New Linux Server

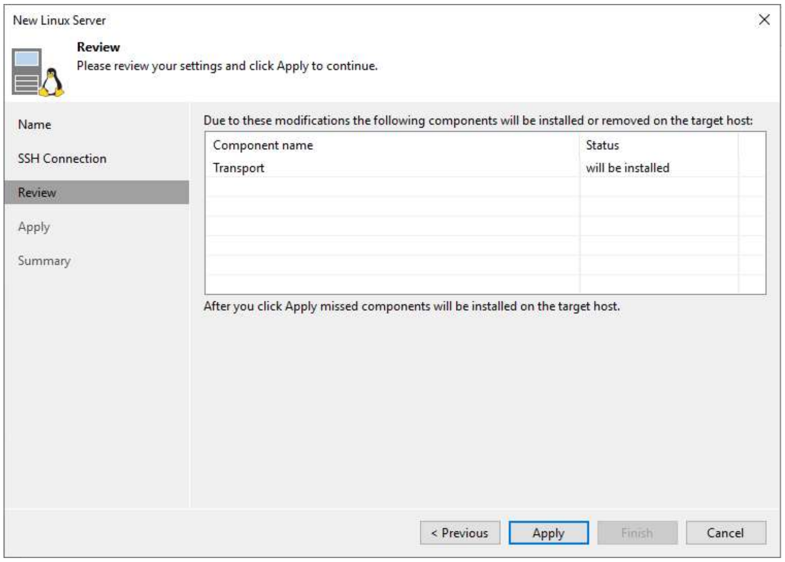
SSH Connection

Provide credentials for service console connection, and adjust secure shell (SSH) port number using advanced settings if required.

Credentials: veeamrepouser (veeamrepouser, last edited: less than a day ago)

Customize advanced connection settings, such as SSH and data mover ports

19. On the Review page, click Apply.



New Linux Server

Review

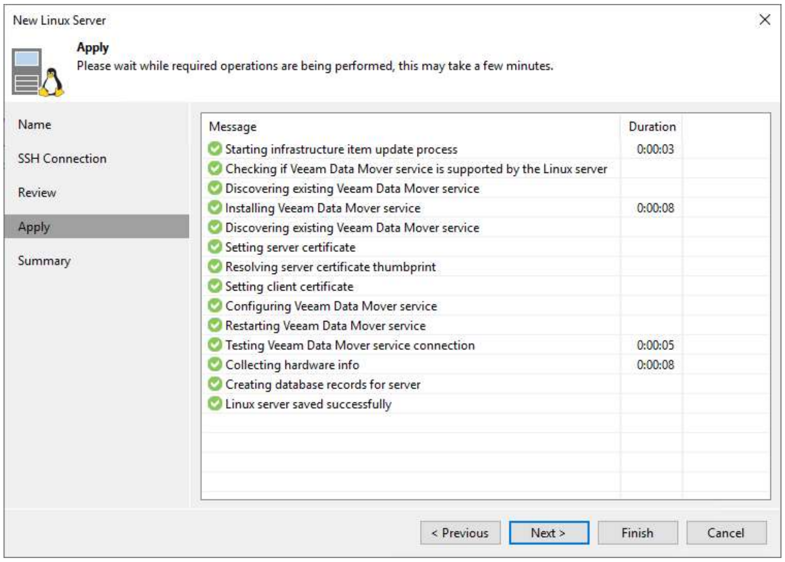
Please review your settings and click Apply to continue.

Due to these modifications the following components will be installed or removed on the target host:

Component name	Status
Transport	will be installed

After you click Apply missed components will be installed on the target host.

20. On the Apply page, complete the procedure of Linux server adding without error, and click Next.



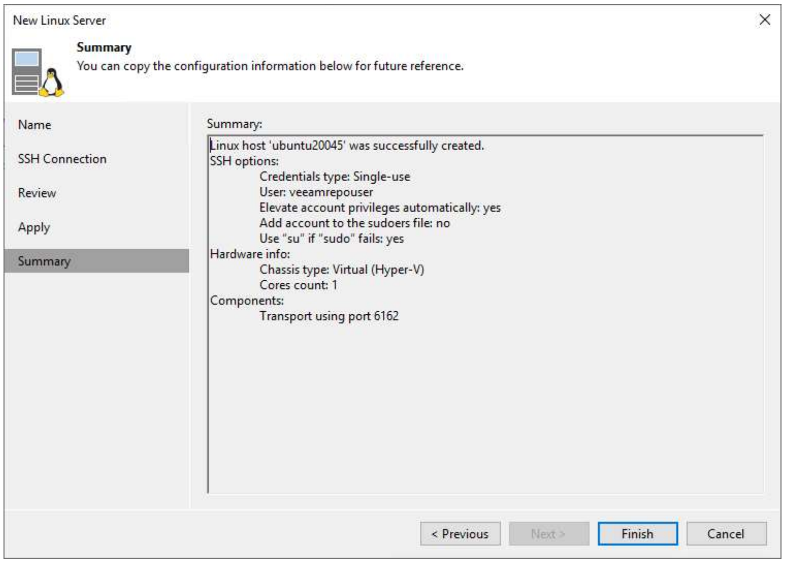
New Linux Server

Apply

Please wait while required operations are being performed, this may take a few minutes.

Message	Duration
✓ Starting infrastructure item update process	0:00:03
✓ Checking if Veeam Data Mover service is supported by the Linux server	
✓ Discovering existing Veeam Data Mover service	
✓ Installing Veeam Data Mover service	0:00:08
✓ Discovering existing Veeam Data Mover service	
✓ Setting server certificate	
✓ Resolving server certificate thumbprint	
✓ Setting client certificate	
✓ Configuring Veeam Data Mover service	
✓ Restarting Veeam Data Mover service	
✓ Testing Veeam Data Mover service connection	0:00:05
✓ Collecting hardware info	0:00:08
✓ Creating database records for server	
✓ Linux server saved successfully	

21. On the Summary page, review the details of the Linux server, and click Finish

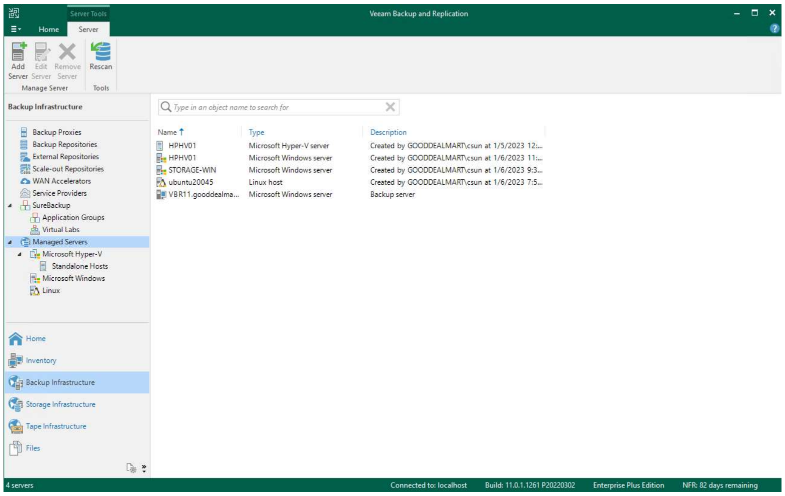


Summary
You can copy the configuration information below for future reference.

Summary:

```
Linux host 'ubuntu20045' was successfully created.
SSH options:
          Credentials type: Single-use
          User: veeamrepouser
          Elevate account privileges automatically: yes
          Add account to the sudoers file: no
          Use "su" if "sudo" fails: yes
Hardware info:
          Chassis type: Virtual (Hyper-V)
          Cores count: 1
Components:
          Transport using port 6162
```

22. Verify that the Linux server has been added

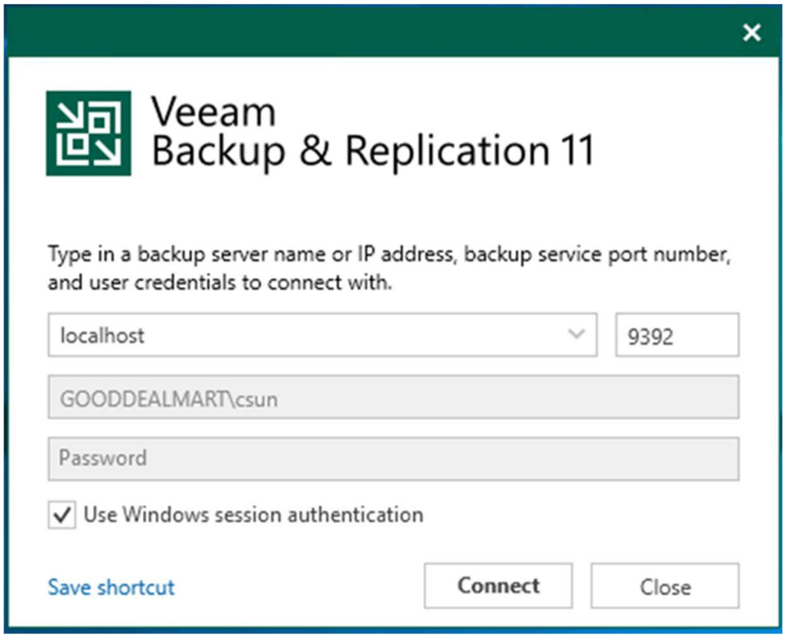


Name ↑	Type	Description
HPHV01	Microsoft Hyper-V server	Created by GOODDEALMART\csun at 1/5/2023 12:...
HPHV01	Microsoft Windows server	Created by GOODDEALMART\csun at 1/6/2023 11:...
STORAGE-WIN	Microsoft Windows server	Created by GOODDEALMART\csun at 1/6/2023 9:3...
ubuntu20045	Linux host	Created by GOODDEALMART\csun at 1/6/2023 7:5...
VBR11.gooddealma...	Microsoft Windows server	Backup server

4 servers   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 82 days remaining

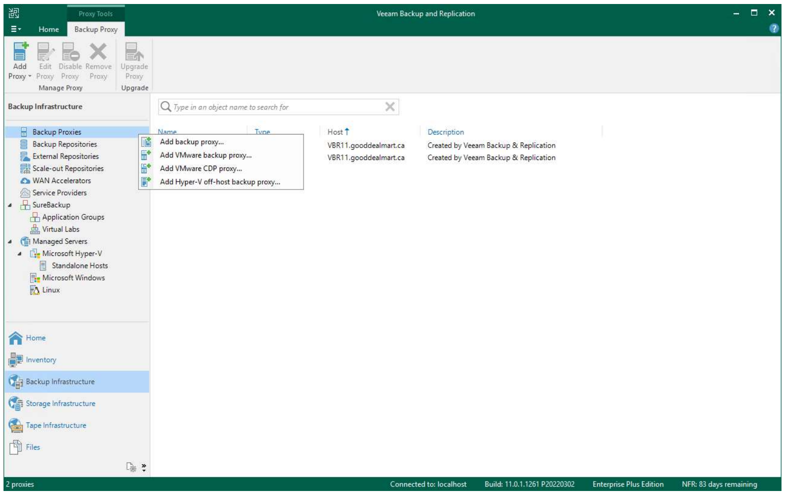
Adding Off-Host Backup proxy servers

Off-Host Backup proxy servers will retrieve VM data from the source datastore, process it and transfer it to the destination. The off-host backup proxy removes unwanted overhead on the production Hyper-V host.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Backup Infrastructure.

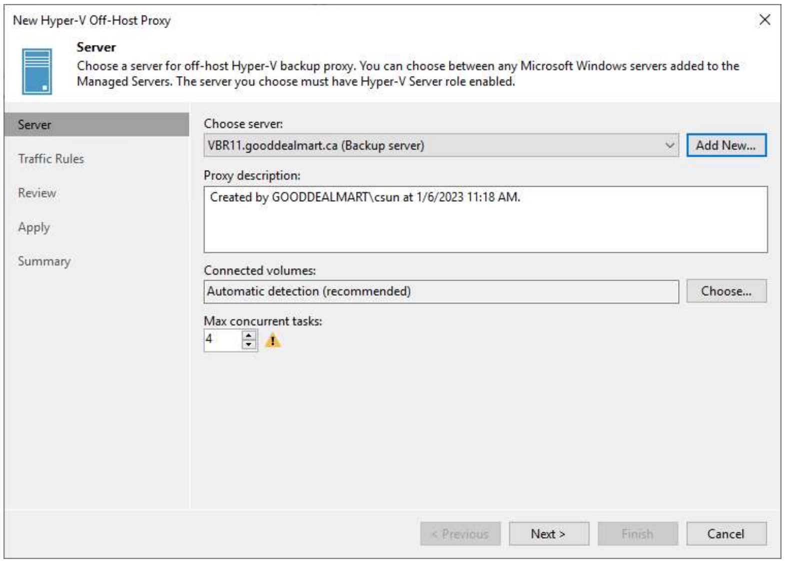
4. On the Backup Infrastructure page, select Backup Proxies, right-click Backup Proxies, and select Add Hyper-V off-host backup proxy.



Name	Type	Host	Description
		VBR11.gooddealmart.ca	Created by Veeam Backup & Replication
		VBR11.gooddealmart.ca	Created by Veeam Backup & Replication

2 proxies Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 83 days remaining

5. On the Server page, click Add New.



New Hyper-V Off-Host Proxy

Server

Choose a server for off-host Hyper-V backup proxy. You can choose between any Microsoft Windows servers added to the Managed Servers. The server you choose must have Hyper-V Server role enabled.

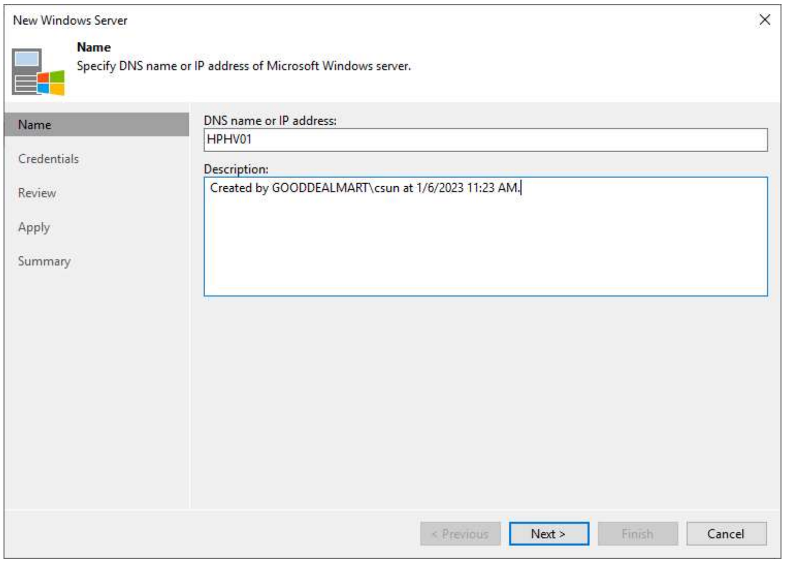
Choose server: VBR11.gooddealmart.ca (Backup server)

Proxy description: Created by GOODDEALMART\csun at 1/6/2023 11:18 AM.

Connected volumes: Automatic detection (recommended)

Max concurrent tasks: 4

6. On the Name page, specify a DNS name, IP address, and description for the Microsoft Hyper-V server and click Next.



New Windows Server

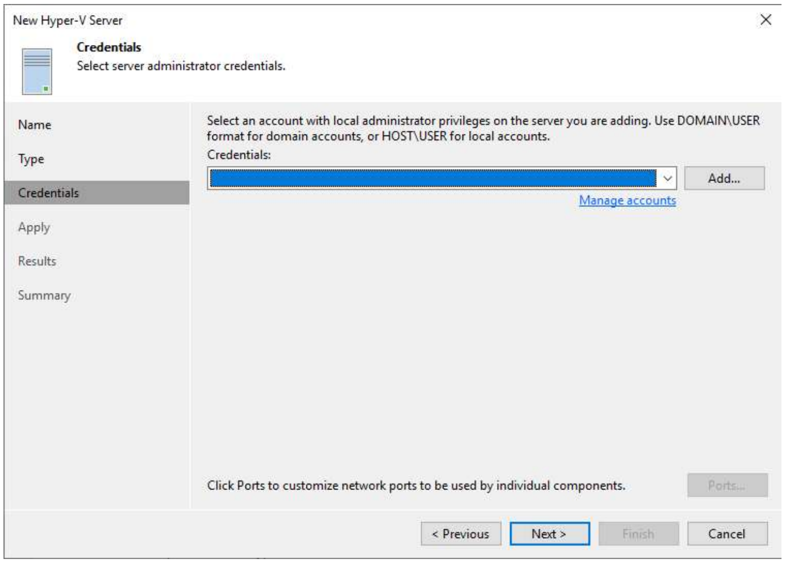
Name

Specify DNS name or IP address of Microsoft Windows server.

DNS name or IP address: HPHV01

Description: Created by GOODDEALMART\csun at 1/6/2023 11:23 AM.

7. On the Credentials page, select the existing credential. If you lack the credential, click the Manage accounts link or Add on the right.



New Hyper-V Server

Credentials

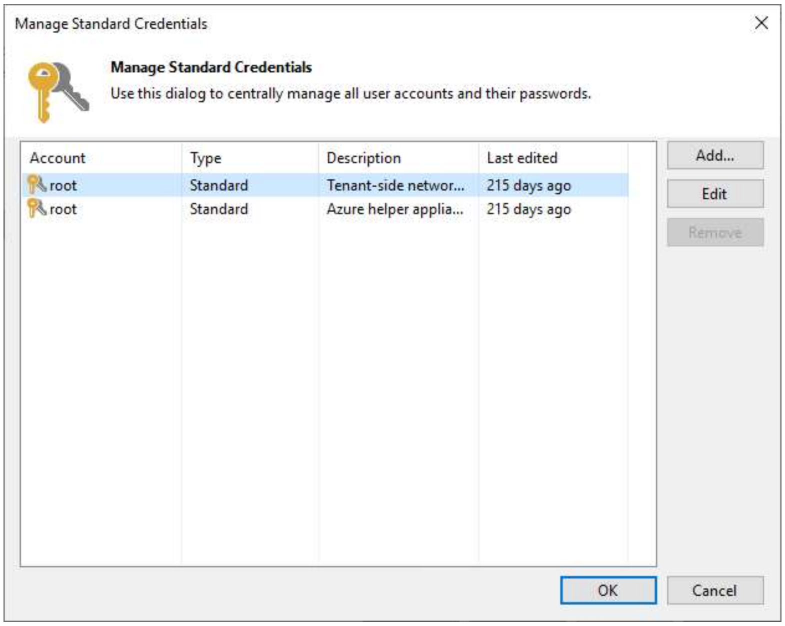
Select server administrator credentials.

Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

Click Ports to customize network ports to be used by individual components.

8. On the Manage Standard Credentials page, click Add.


Manage Standard Credentials

Manage Standard Credentials

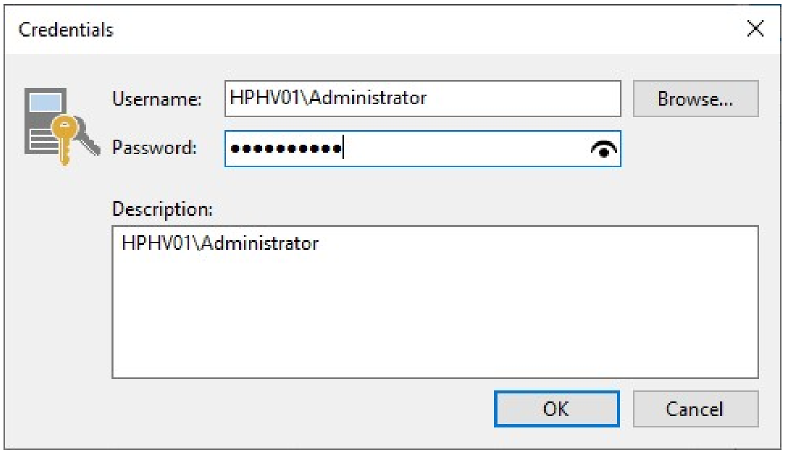
Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
root	Standard	Tenant-side networ...	215 days ago
root	Standard	Azure helper applia...	215 days ago

9. On the Credentials page, enter a user name in the Username field.

10. In the Password field, enter a password.

11. Enter a description in the Description field and click OK.

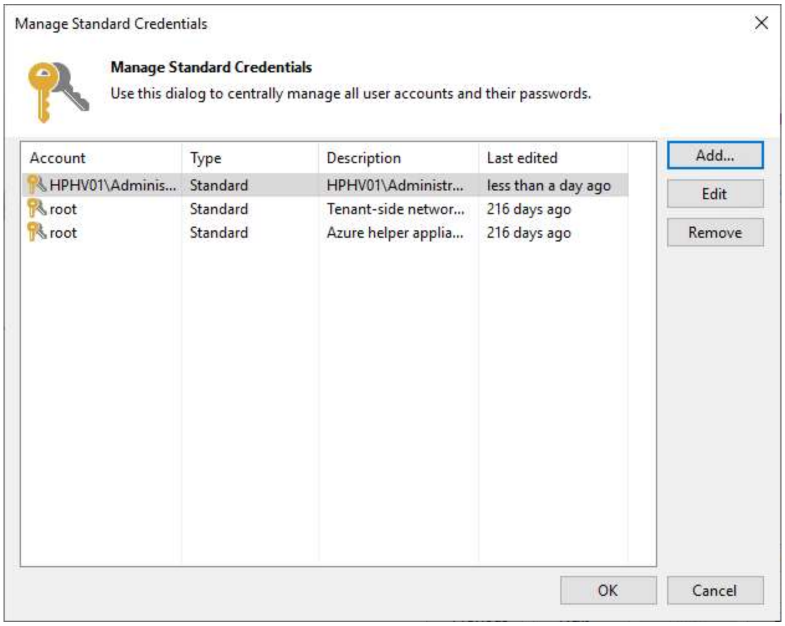

Credentials

Username: HPHV01\Administrator

Password: ●●●●●●●●●●●

Description: HPHV01\Administrator

12. On the Manage Standard Credentials page, click OK.



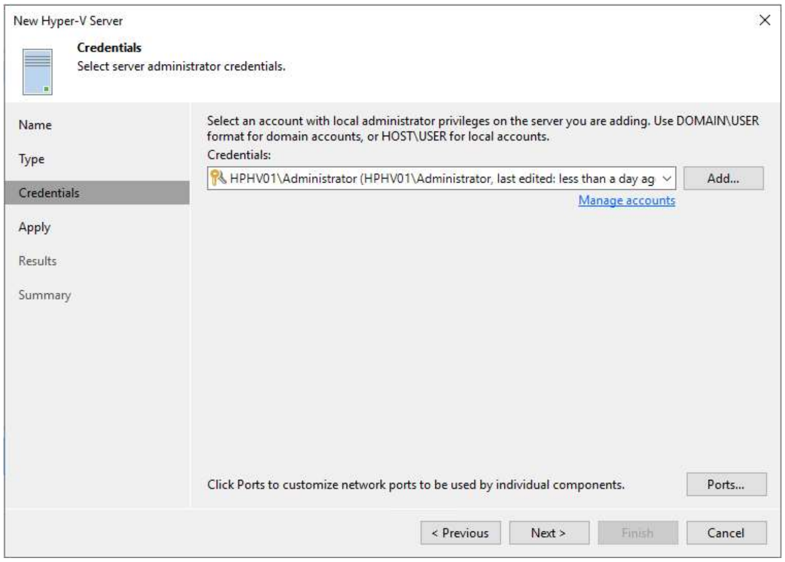
Manage Standard Credentials

Manage Standard Credentials

Use this dialog to centrally manage all user accounts and their passwords.

Account	Type	Description	Last edited
HPHV01\Adminis...	Standard	HPHV01\Administr...	less than a day ago
root	Standard	Tenant-side networ...	216 days ago
root	Standard	Azure helper applia...	216 days ago

13. On the Credentials page, click Next.



New Hyper-V Server

Credentials

Select server administrator credentials.

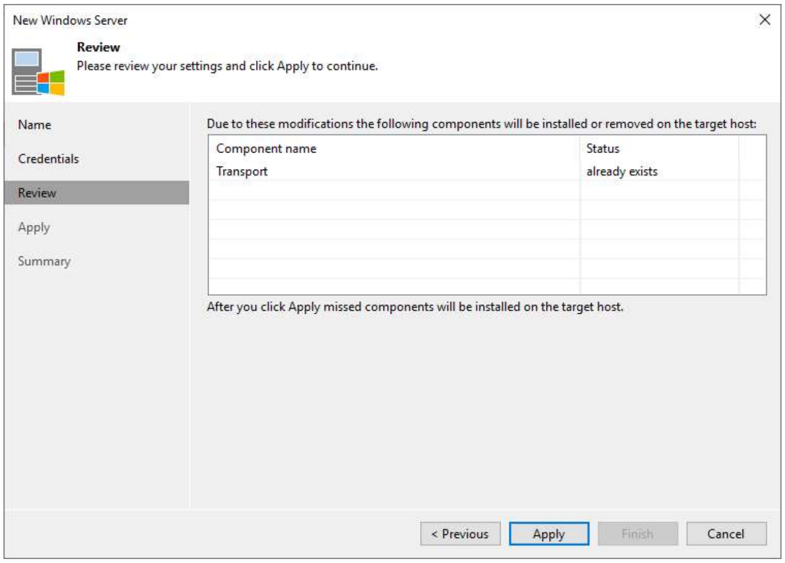
Select an account with local administrator privileges on the server you are adding. Use DOMAIN\USER format for domain accounts, or HOST\USER for local accounts.

Credentials:

HPHV01\Administrator (HPHV01\Administrator, last edited: less than a day ag

Click Ports to customize network ports to be used by individual components.

14. On the Review page, click Apply.



Review

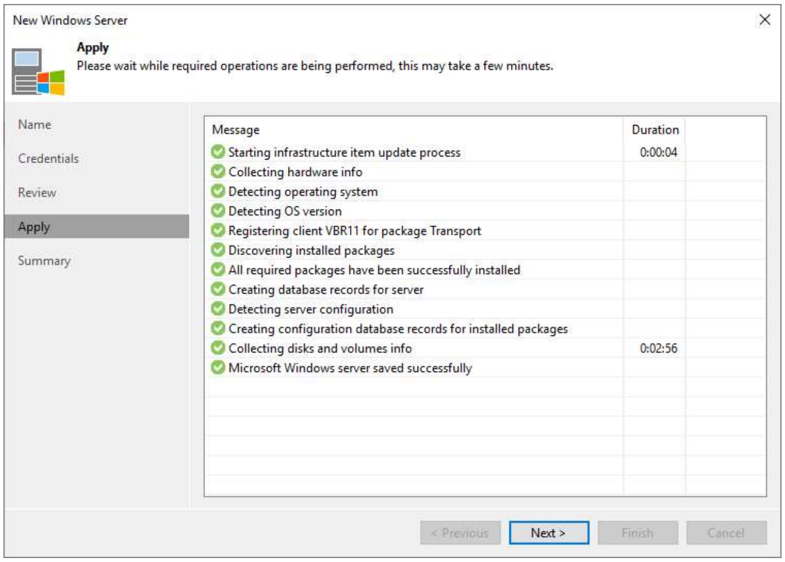
Please review your settings and click Apply to continue.

Due to these modifications the following components will be installed or removed on the target host:

Component name	Status
Transport	already exists

After you click Apply missed components will be installed on the target host.

15. On the Apply page, click Next.

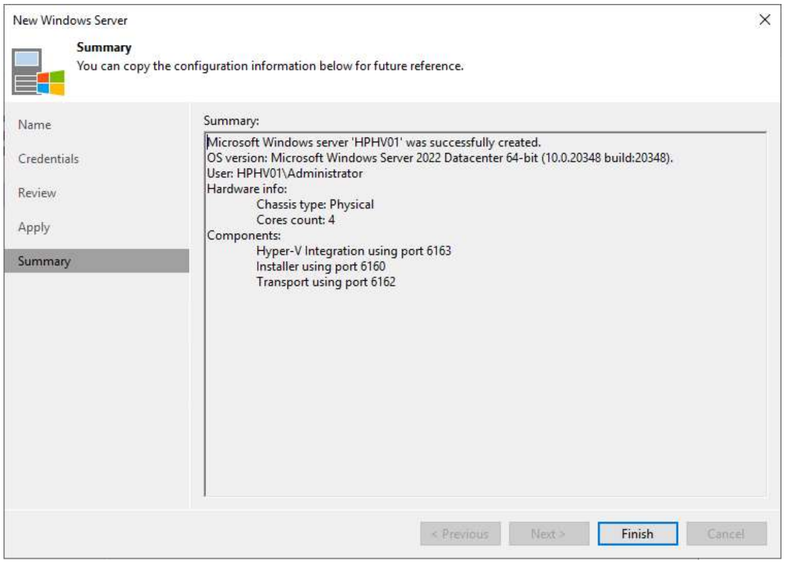


Apply

Please wait while required operations are being performed, this may take a few minutes.

Message	Duration
✓ Starting infrastructure item update process	0:00:04
✓ Collecting hardware info	
✓ Detecting operating system	
✓ Detecting OS version	
✓ Registering client VBR11 for package Transport	
✓ Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Creating database records for server	
✓ Detecting server configuration	
✓ Creating configuration database records for installed packages	
✓ Collecting disks and volumes info	0:02:56
✓ Microsoft Windows server saved successfully	

16. On the Summary page, review the details of the Microsoft Hyper-V server and click Finish.



You can copy the configuration information below for future reference.

Summary:

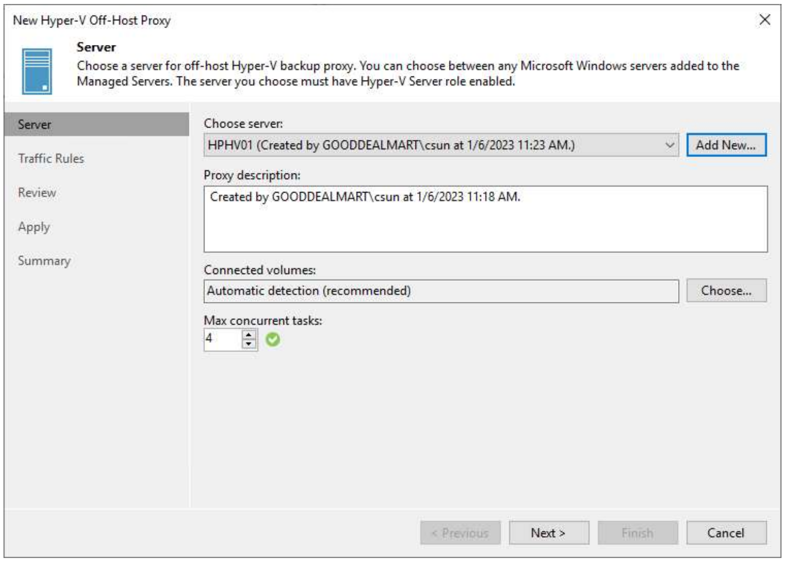
```
Microsoft Windows server 'HPHV01' was successfully created.
OS version: Microsoft Windows Server 2022 Datacenter 64-bit (10.0.20348 build:20348).
User: HPHV01\Administrator
Hardware info:
        Chassis type: Physical
        Cores count: 4
Components:
        Hyper-V Integration using port 6163
        Installer using port 6160
        Transport using port 6162
```

17. On the Server page, click Next.

18. In the Proxy description field, describe future references.

19. In the Connected volumes field, leave the default.

20. Enter the number of tasks the off-host backup proxy must handle concurrently in the Max concurrent tasks field.



Choose a server for off-host Hyper-V backup proxy. You can choose between any Microsoft Windows servers added to the Managed Servers. The server you choose must have Hyper-V Server role enabled.

Choose server: HPHV01 (Created by GOODDEALMART\csun at 1/6/2023 11:23 AM.)

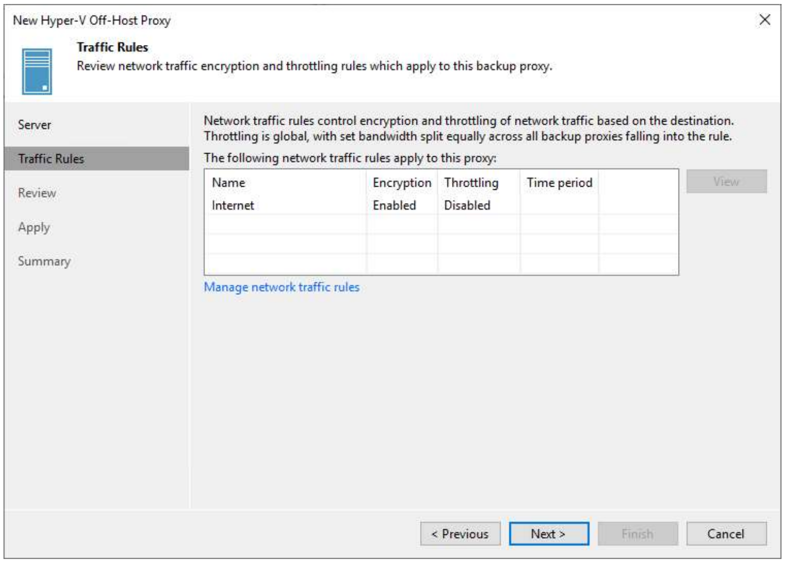
Proxy description: Created by GOODDEALMART\csun at 1/6/2023 11:18 AM.

Connected volumes: Automatic detection (recommended)

Max concurrent tasks: 4

21. On the Traffic Rules page, click Next.

22. You can open global network traffic settings and modify them directly from the New Hyper-V Off-Host Proxy wizard. To do this, click the Manage network traffic rules link at the bottom of the wizard.



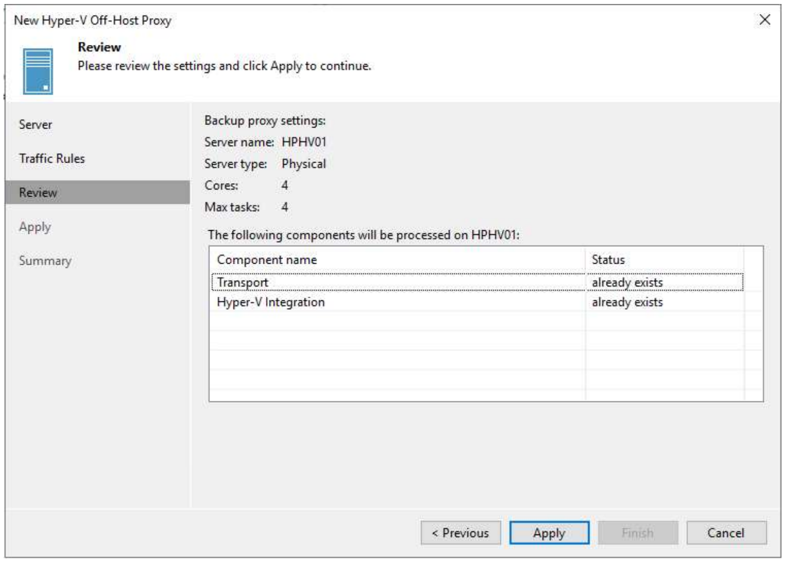
Traffic Rules
Review network traffic encryption and throttling rules which apply to this backup proxy.

Network traffic rules control encryption and throttling of network traffic based on the destination. Throttling is global, with set bandwidth split equally across all backup proxies falling into the rule.

The following network traffic rules apply to this proxy:

Name	Encryption	Throttling	Time period
Internet	Enabled	Disabled	

23. On the Review page, click Apply.



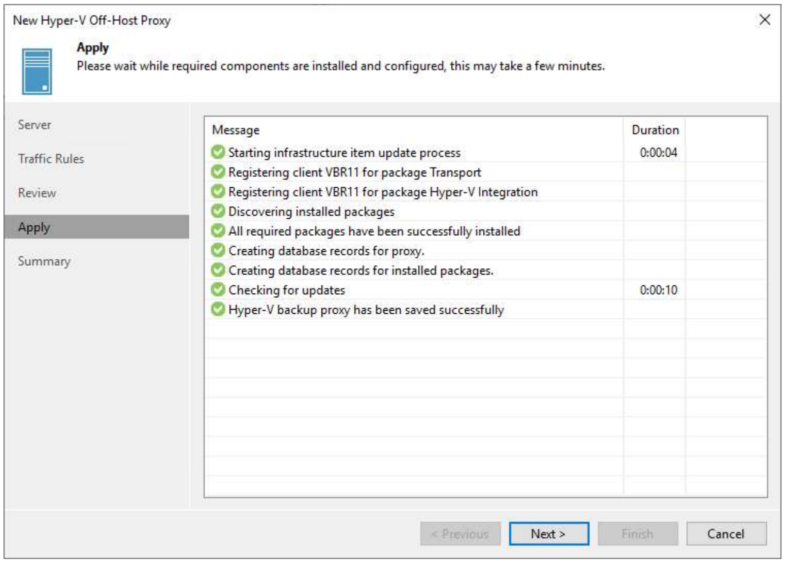
Review
Please review the settings and click Apply to continue.

Backup proxy settings:
Server name: HPHV01
Server type: Physical
Cores: 4
Max tasks: 4

The following components will be processed on HPHV01:

Component name	Status
Transport	already exists
Hyper-V Integration	already exists

24. On the Apply page, complete the Hyper-V backup proxy adding procedure without error, and click Next.

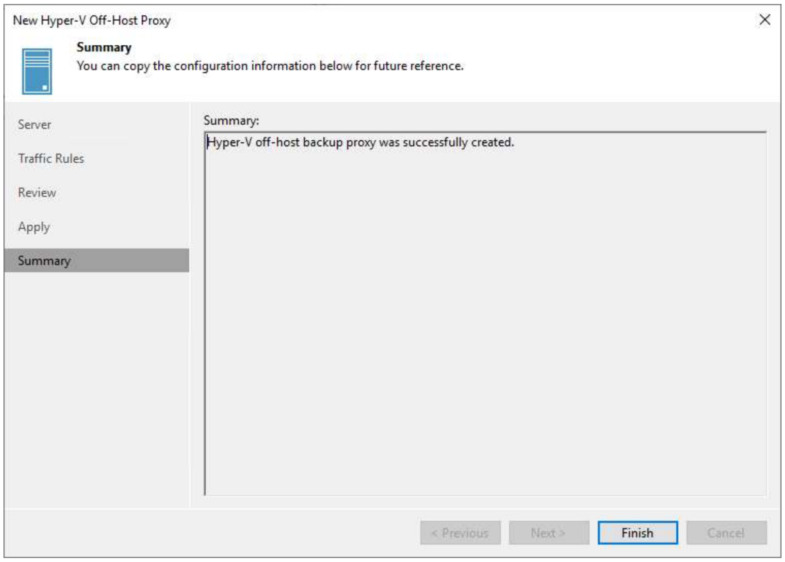


New Hyper-V Off-Host Proxy

Apply
Please wait while required components are installed and configured, this may take a few minutes.

Message	Duration
✓ Starting infrastructure item update process	0:00:04
✓ Registering client VBR11 for package Transport	
✓ Registering client VBR11 for package Hyper-V Integration	
✓ Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Creating database records for proxy.	
✓ Creating database records for installed packages.	
✓ Checking for updates	0:00:10
✓ Hyper-V backup proxy has been saved successfully	

25. On the Summary page, click Finish.



New Hyper-V Off-Host Proxy

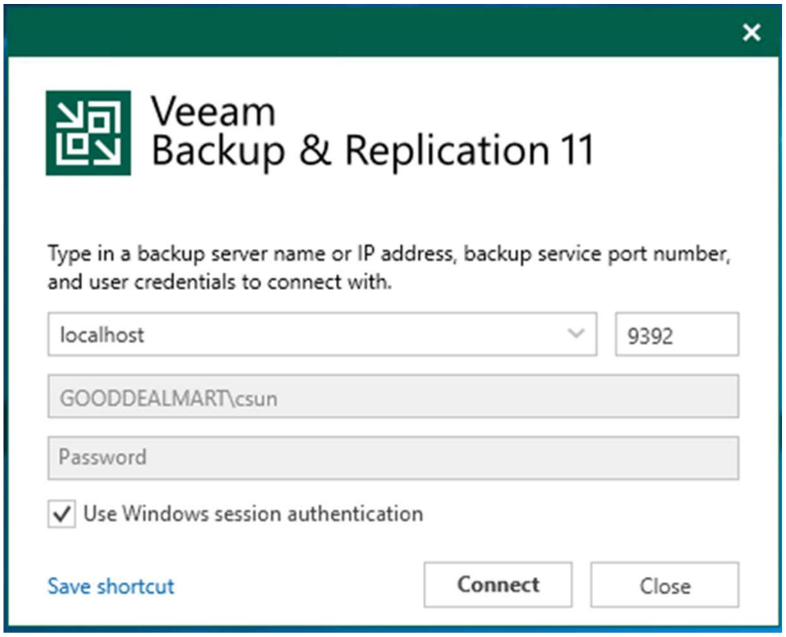
Summary
You can copy the configuration information below for future reference.

Summary:
Hyper-V off-host backup proxy was successfully created.

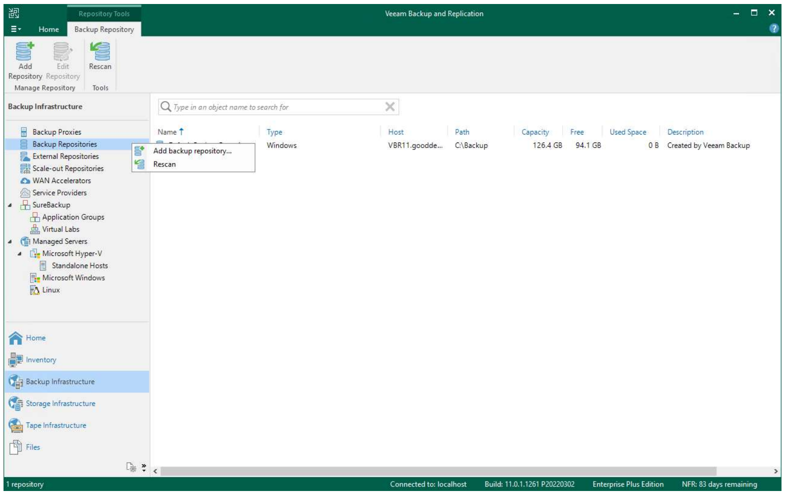
Adding a local directory on the Microsoft Windows server as Backup Repository

You can add the following types of storage to the Microsoft Windows server as a backup repository:

- A local disk.
- A directly attached disk-based storage (such as a USB hard drive).
- SCSI/FC SAN LUN in case the server is connected to the SAN fabric.

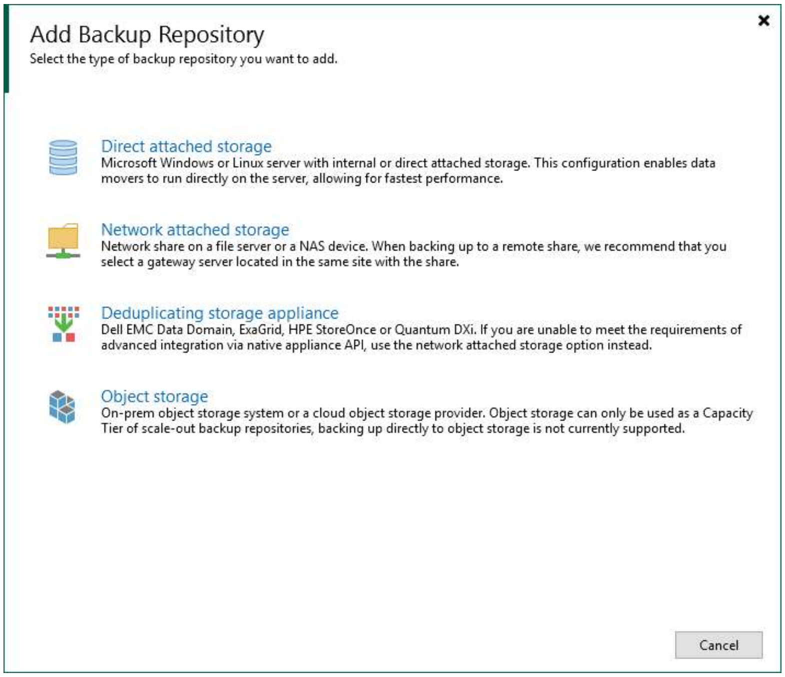
Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Backup Repositories, right-click Backup Repositories, and select Add backup repository.



Name ↑	Type	Host	Path	Capacity	Free	Used Space	Description
	Windows	VBR11.goodde...	C:\Backup	126.4 GB	94.1 GB	0 B	Created by Veeam Backup

5. On the Add Backup Repository page, select Direct attached storage.



Add Backup Repository

Select the type of backup repository you want to add.

Direct attached storage

Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.

Network attached storage

Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.

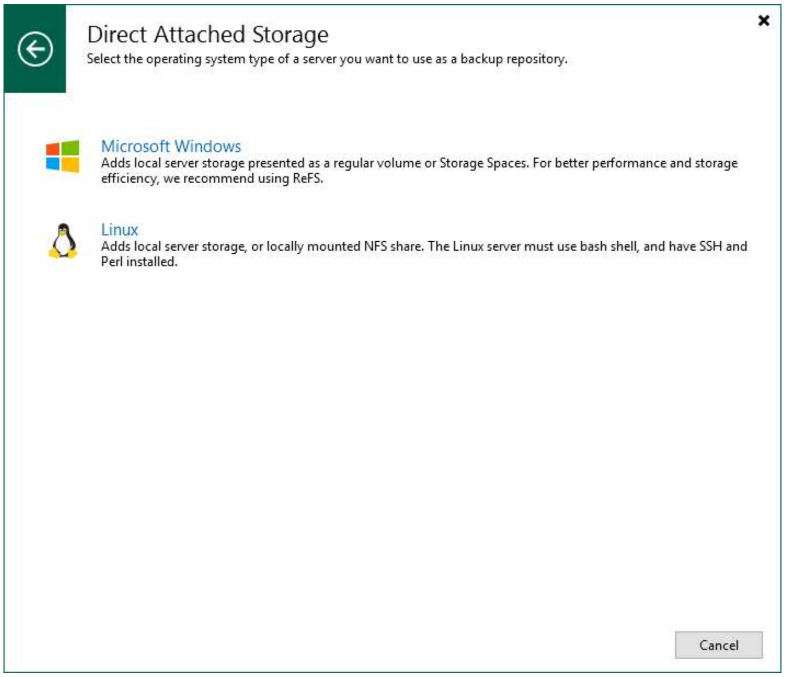
Deduplicating storage appliance

Dell EMC Data Domain, ExaGrid, HPE StoreOnce or Quantum DXi. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.

Object storage

On-prem object storage system or a cloud object storage provider. Object storage can only be used as a Capacity Tier of scale-out backup repositories, backing up directly to object storage is not currently supported.

6. On the Direct Attached Storage page, select Microsoft Windows.



Direct Attached Storage

Select the operating system type of a server you want to use as a backup repository.

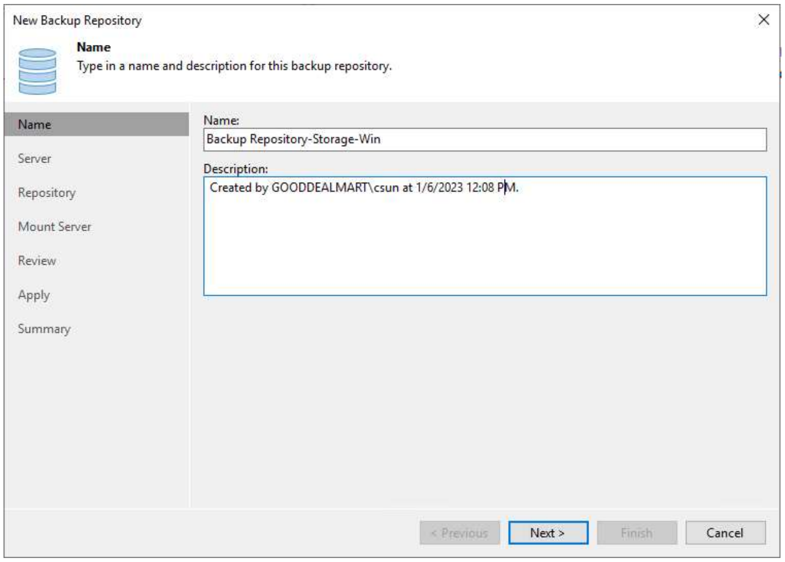
Microsoft Windows

Adds local server storage presented as a regular volume or Storage Spaces. For better performance and storage efficiency, we recommend using ReFS.

Linux

Adds local server storage, or locally mounted NFS share. The Linux server must use bash shell, and have SSH and Perl installed.

7. On the Name page, specify in the Name field.
8. In the Description field, describe future references.
9. Click Next.



New Backup Repository

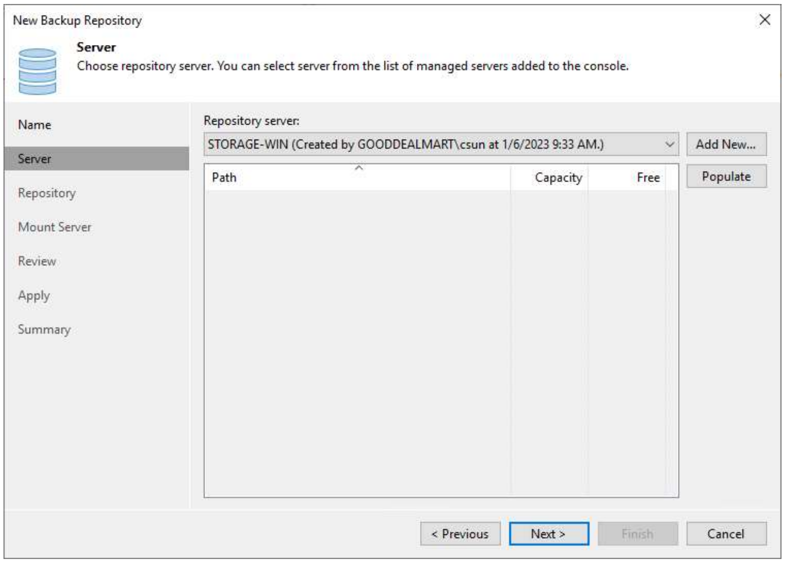
Name

Type in a name and description for this backup repository.

Name: Backup Repository-Storage-Win

Description: Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.

10. On the Server page, select the Microsoft Windows server you want to use as a backup repository and click Populate.



New Backup Repository

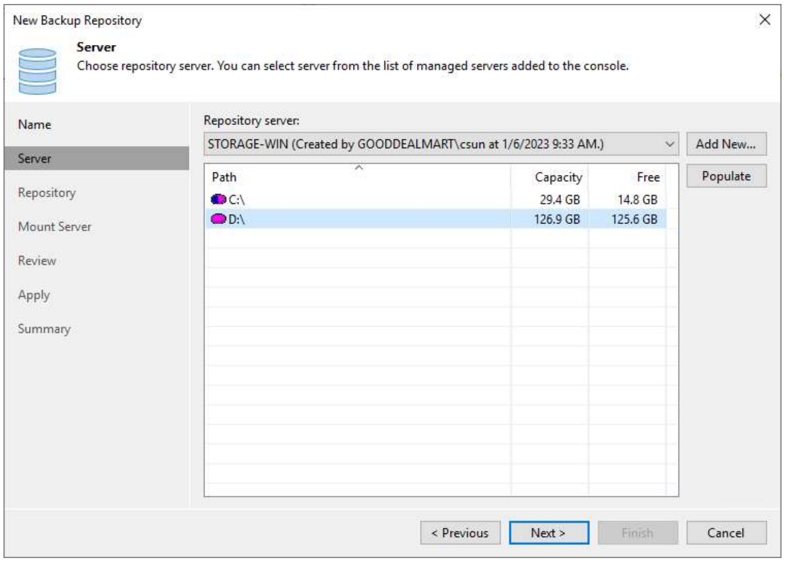
Server

Choose repository server. You can select server from the list of managed servers added to the console.

Repository server: STORAGE-WIN (Created by GOODDEALMART\csun at 1/6/2023 9:33 AM.)

Path	Capacity	Free

11. Select the disk and click Next.



New Backup Repository

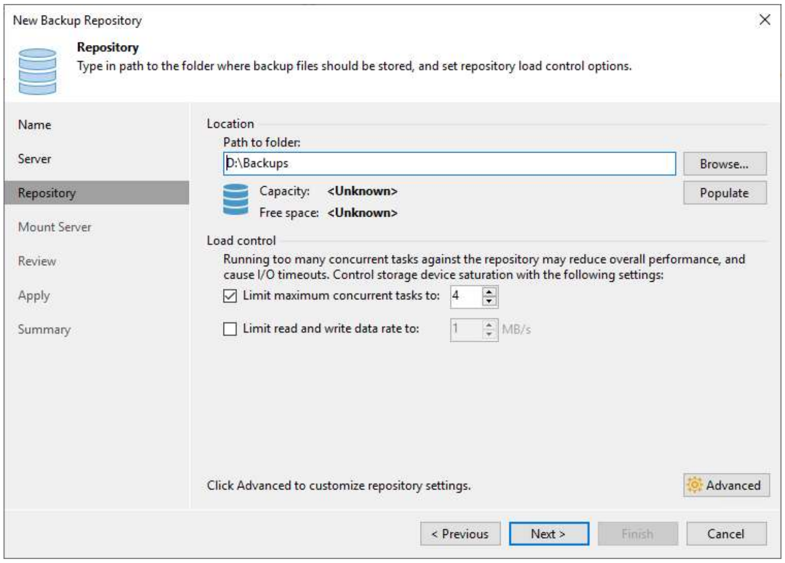
Server

Choose repository server. You can select server from the list of managed servers added to the console.

Repository server: STORAGE-WIN (Created by GOODDEALMART\csun at 1/6/2023 9:33 AM.)

Path	Capacity	Free
C:\	29.4 GB	14.8 GB
D:\	126.9 GB	125.6 GB

12. On the Repository page, click Populate to review the disk capacity and free space.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: D:\Backups

Capacity: **<Unknown>**

Free space: **<Unknown>**

Load control

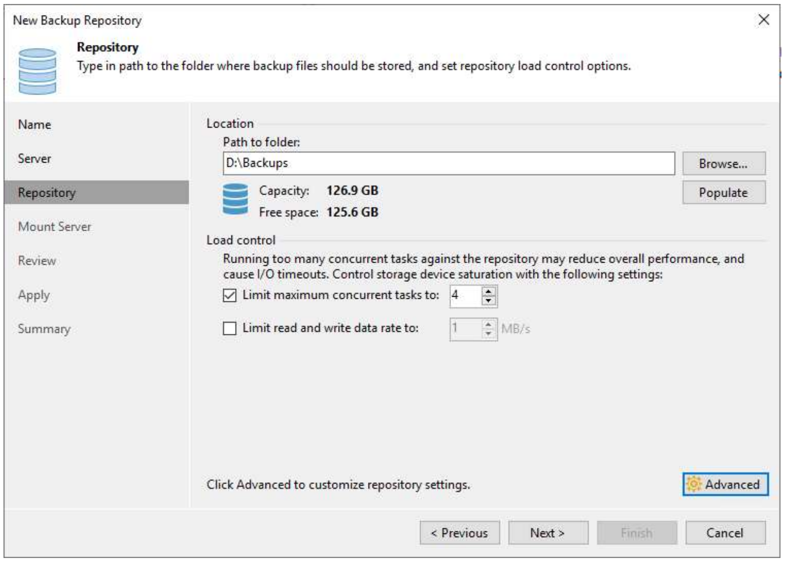
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

13. Use the Load control settings to manage the load on the backup repository and avoid storage I/O timeouts if you need it.
14. Click Advanced.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: D:\Backups

Capacity: **126.9 GB**

Free space: **125.6 GB**

Load control

Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

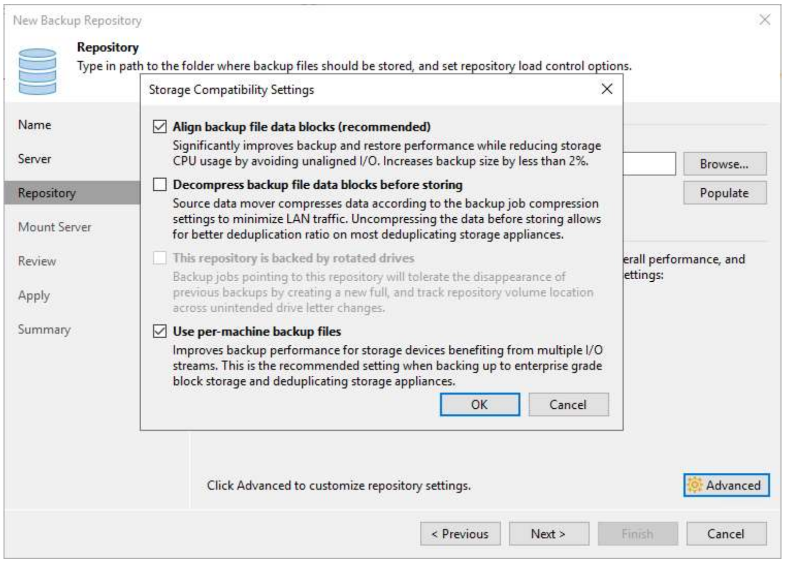
□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

15. On the Storage Compatibility Settings, select Align backup file data blocks, select Use per-machine backup files, and click OK.

Note:

Select Decompress backup file data blocks before storing if you use a deduplicating storage feature or appliance.



New Backup Repository

Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Storage Compatibility Settings

☑ **Align backup file data blocks (recommended)**
Significantly improves backup and restore performance while reducing storage CPU usage by avoiding unaligned I/O. Increases backup size by less than 2%.

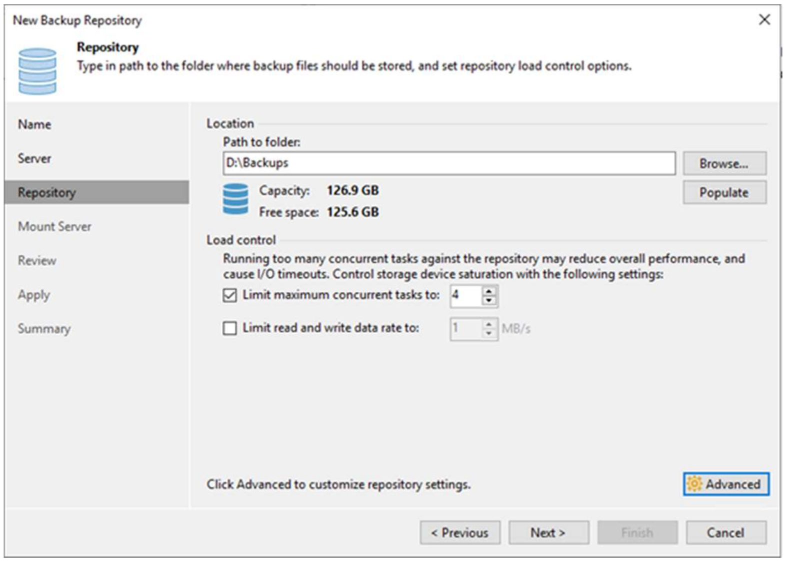
☐ **Decompress backup file data blocks before storing**
Source data mover compresses data according to the backup job compression settings to minimize LAN traffic. Uncompressing the data before storing allows for better deduplication ratio on most deduplicating storage appliances.

☐ This repository is backed by rotated drives
Backup jobs pointing to this repository will tolerate the disappearance of previous backups by creating a new full, and track repository volume location across unintended drive letter changes.

☑ **Use per-machine backup files**
Improves backup performance for storage devices benefiting from multiple I/O streams. This is the recommended setting when backing up to enterprise grade block storage and deduplicating storage appliances.

Click Advanced to customize repository settings.

16. On the Repository page, click Next.



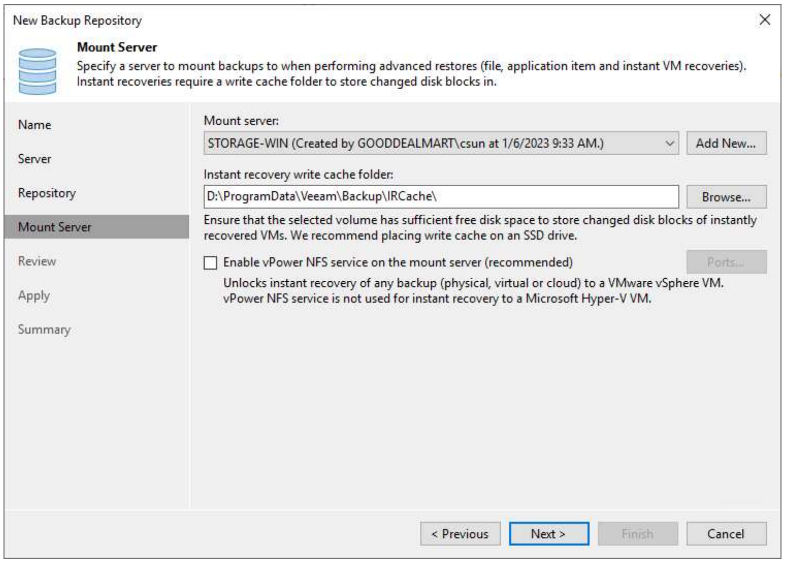
Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Location
Path to folder:
D:\Backups
Capacity: 126.9 GB
Free space: 125.6 GB

Load control
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:
☑ Limit maximum concurrent tasks to: 4
☐ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

17. Select a server from the Mount server drop-down list on the Mount Server page. The mount server is required for the restoration of file-level and application items.
18. Select a folder in the Instant recovery write cache folder field.
19. Unselect Enable vPower NFS service on the mount server, vPower NFS settings are not applicable in Microsoft Hyper-V environments.
20. Click Next.


New Backup Repository

Mount Server

Specify a server to mount backups to when performing advanced restores (file, application item and instant VM recoveries). Instant recoveries require a write cache folder to store changed disk blocks in.

Mount server:

STORAGE-WIN (Created by GOODDEALMART\csun at 1/6/2023 9:33 AM.)

Instant recovery write cache folder:

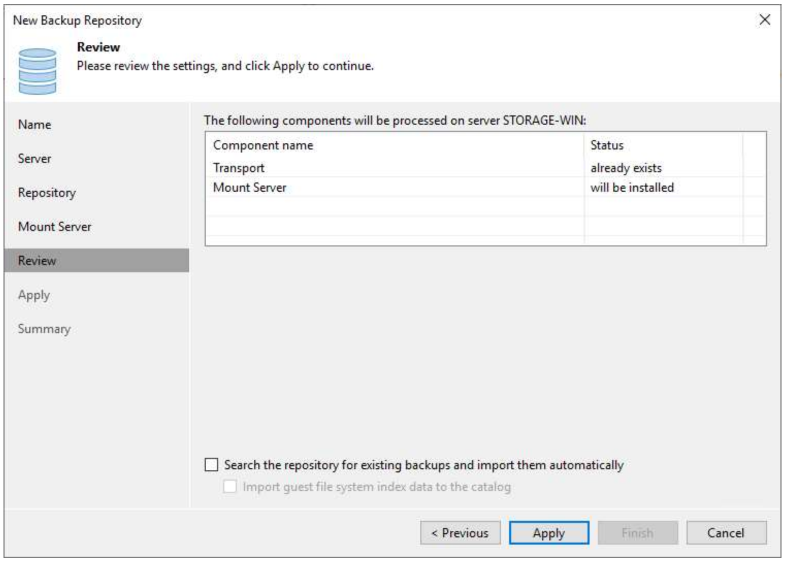
D:\ProgramData\Veeam\Backup\IRCache\

Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered VMs. We recommend placing write cache on an SSD drive.

☐ Enable vPower NFS service on the mount server (recommended)

Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM.

21. On the Review page, click Apply.
22. Select the Search the repository for existing backups and import them automatically if the backup repository contains backups previously created with Veeam Backup & Replication.
23. Select Import guest file system index data to the catalog and click Apply.


New Backup Repository

Review

Please review the settings, and click Apply to continue.

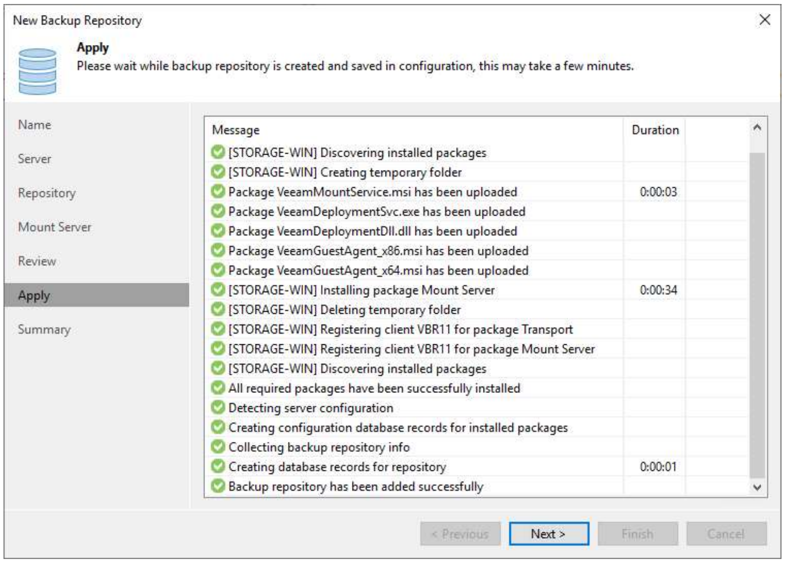
The following components will be processed on server STORAGE-WIN:

Component name	Status
Transport	already exists
Mount Server	will be installed

☐ Search the repository for existing backups and import them automatically

☐ Import guest file system index data to the catalog

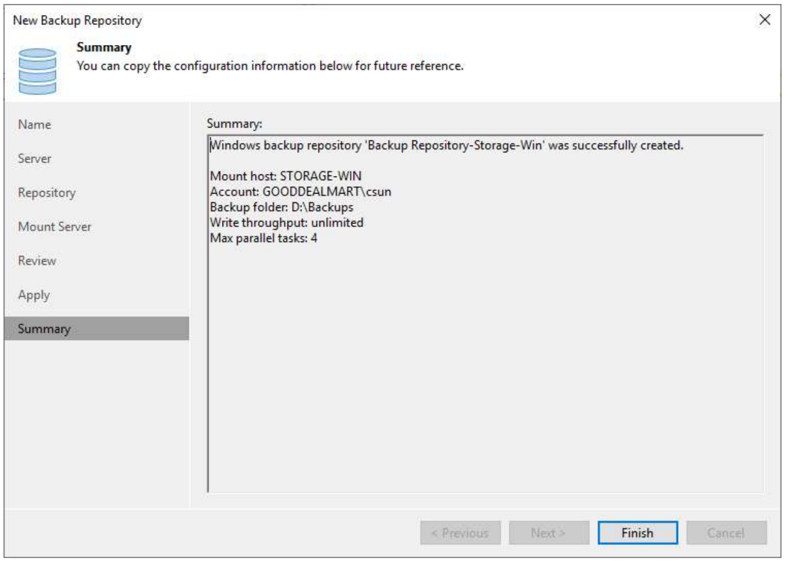
24. On the Apply page, complete the procedure of adding the backup repository without error and click Next.



Please wait while backup repository is created and saved in configuration, this may take a few minutes.

Message	Duration
✓ [STORAGE-WIN] Discovering installed packages	
✓ [STORAGE-WIN] Creating temporary folder	
✓ Package VeeamMountService.msi has been uploaded	0:00:03
✓ Package VeeamDeploymentSvc.exe has been uploaded	
✓ Package VeeamDeploymentDll.dll has been uploaded	
✓ Package VeeamGuestAgent_x86.msi has been uploaded	
✓ Package VeeamGuestAgent_x64.msi has been uploaded	
✓ [STORAGE-WIN] Installing package Mount Server	0:00:34
✓ [STORAGE-WIN] Deleting temporary folder	
✓ [STORAGE-WIN] Registering client VBR11 for package Transport	
✓ [STORAGE-WIN] Registering client VBR11 for package Mount Server	
✓ [STORAGE-WIN] Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Detecting server configuration	
✓ Creating configuration database records for installed packages	
✓ Collecting backup repository info	
✓ Creating database records for repository	0:00:01
✓ Backup repository has been added successfully	

25. On the Summary page, click Finish.

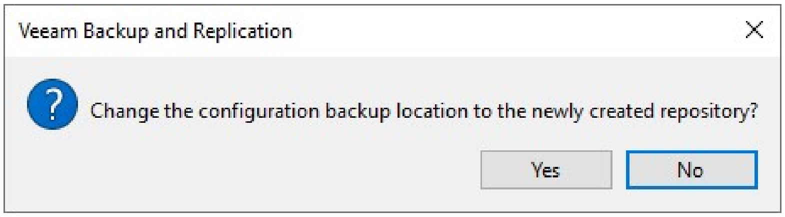


You can copy the configuration information below for future reference.

Summary:

```
Windows backup repository 'Backup Repository-Storage-Win' was successfully created.

Mount host: STORAGE-WIN
Account: GOODDEALMART\csun
Backup folder: D:\Backups
Write throughput: unlimited
Max parallel tasks: 4
```

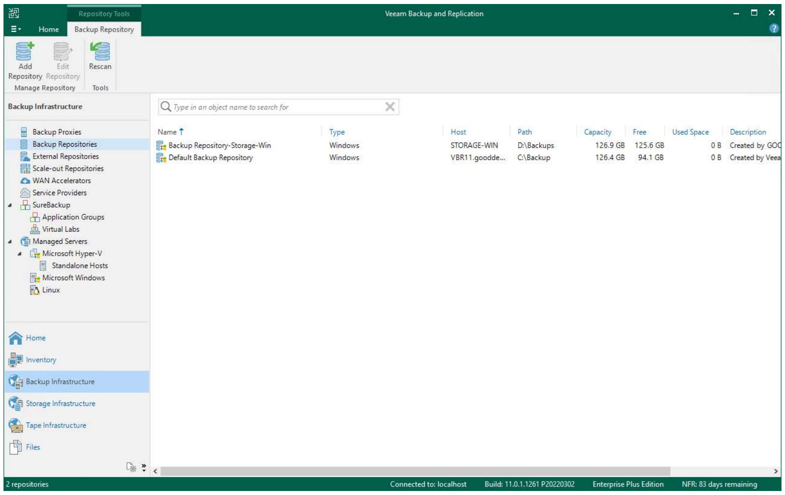
26. Click Yes to change the configuration backup location if this is the first new create backup repository, and you will be asking.



Veeam Backup and Replication

Change the configuration backup location to the newly created repository?

27. Verify that the Backup Repository has been added.



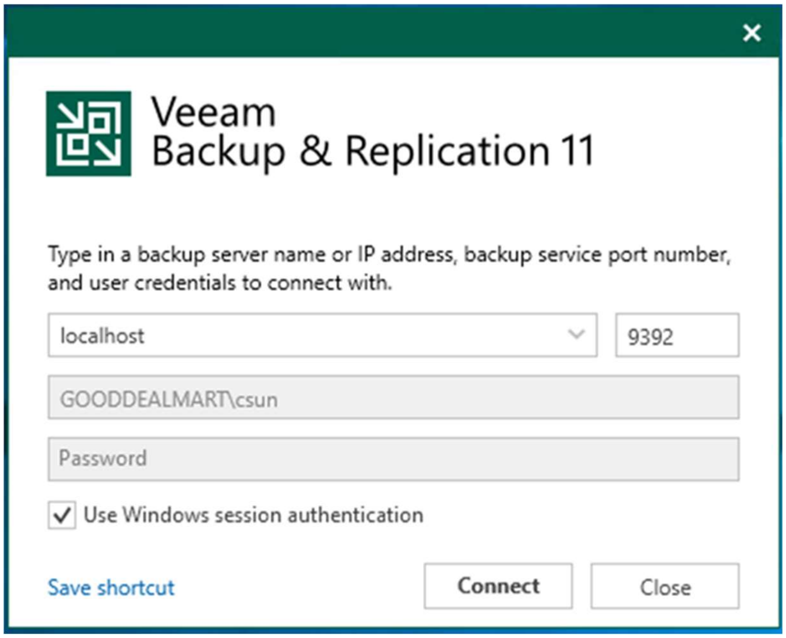
Name	Type	Host	Path	Capacity	Free	Used Space	Description
Backup Repository-Storage-Win	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GOC
Default Backup Repository	Windows	VBR11.goodde...	C:\Backup	126.4 GB	94.1 GB	0 B	Created by Veea

2 repositories   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 83 days remaining

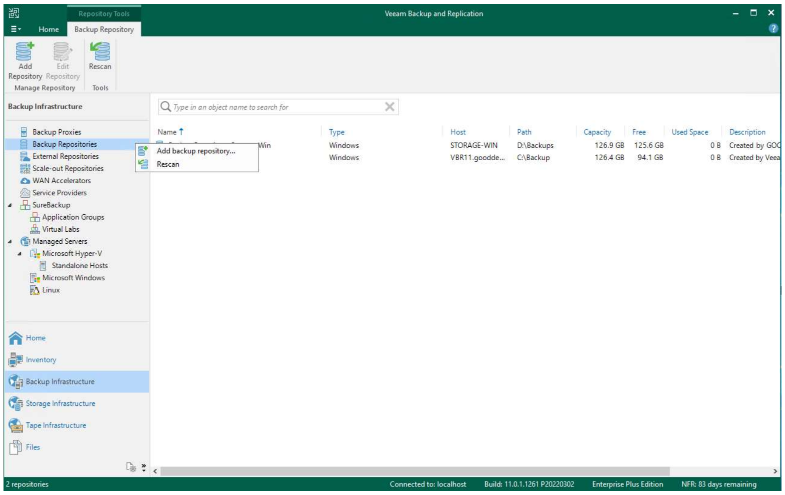
Adding a local directory on the Linux server as a Hardened Backup Repository

You can add the following types of storage to the Linux server as a backup repository:

- A local disk.
- A directly attached disk-based storage (such as a USB hard drive).
- NFS share.
- SCSI/FC SAN LUN in case the server is connected to the SAN fabric.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

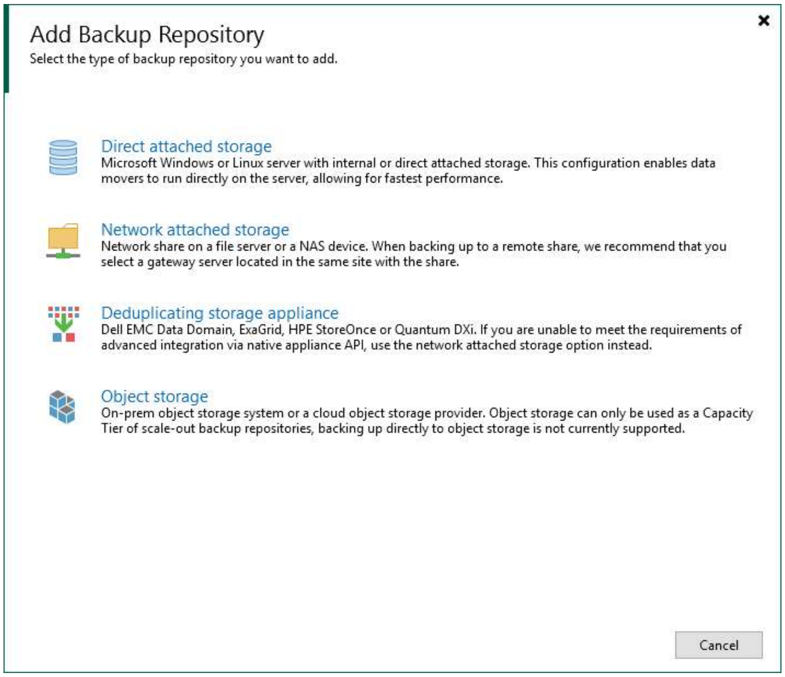
3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Backup Repositories, right-click Backup Repositories, and select Add backup repository.



Name	Type	Host	Path	Capacity	Free	Used Space	Description
Win	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GOC
	Windows	VBR11.goodde...	C:\Backup	126.4 GB	94.1 GB	0 B	Created by Veea

2 repositories Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 83 days remaining

5. On the Add Backup Repository page, select Direct attached storage.



Add Backup Repository

Select the type of backup repository you want to add.

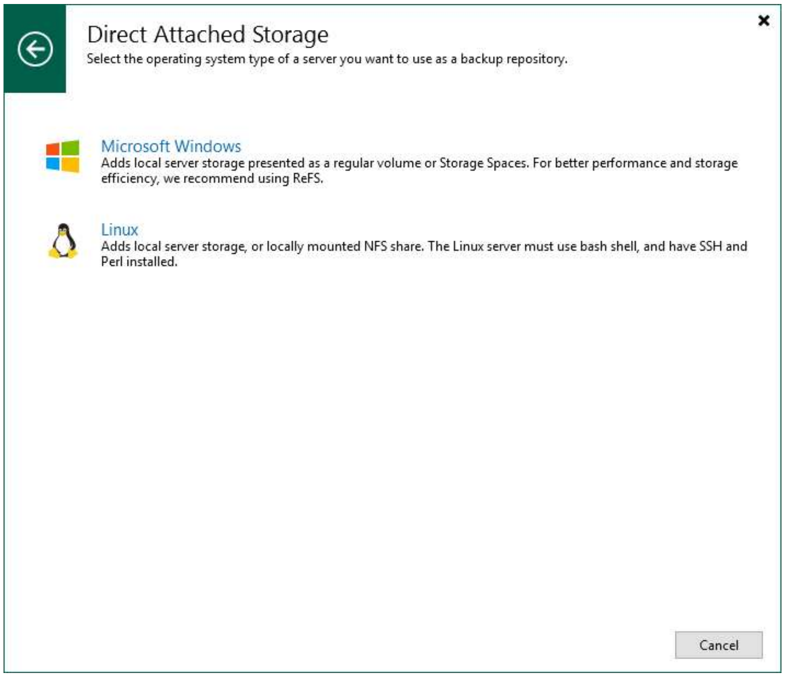
Direct attached storage
Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.

Network attached storage
Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.

Deduplicating storage appliance
Dell EMC Data Domain, ExaGrid, HPE StoreOnce or Quantum DXi. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.

Object storage
On-prem object storage system or a cloud object storage provider. Object storage can only be used as a Capacity Tier of scale-out backup repositories, backing up directly to object storage is not currently supported.

6. On the Direct Attached Storage page, select Linux.



Direct Attached Storage

Select the operating system type of a server you want to use as a backup repository.

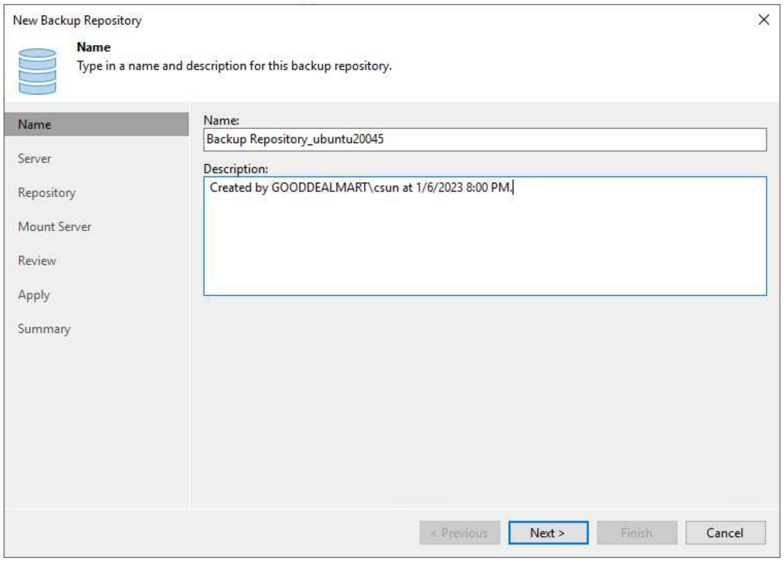
Microsoft Windows

Adds local server storage presented as a regular volume or Storage Spaces. For better performance and storage efficiency, we recommend using ReFS.

Linux

Adds local server storage, or locally mounted NFS share. The Linux server must use bash shell, and have SSH and Perl installed.

7. On the Name page, specify in the Name field.
8. In the Description field, describe future references.
9. Click Next.



New Backup Repository

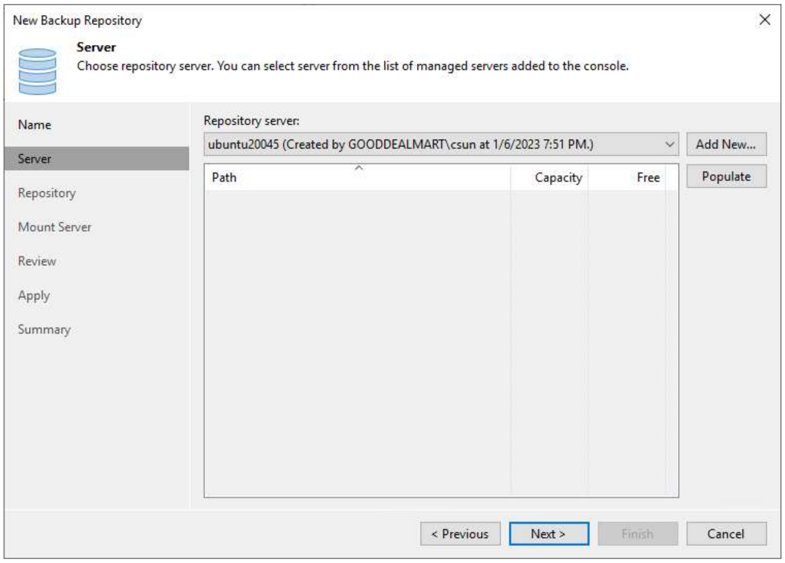
Name

Type in a name and description for this backup repository.

Name: Backup Repository_ubuntu20045

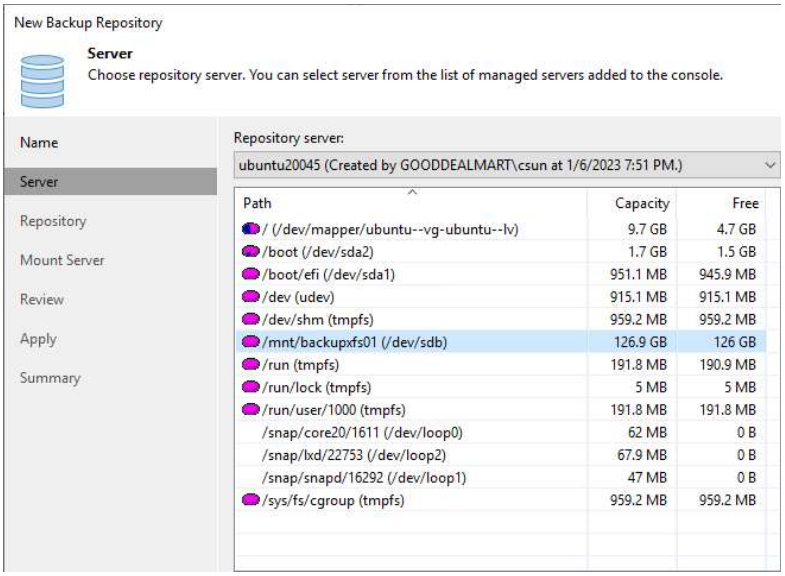
Description: Created by GOODDEALMART\csun at 1/6/2023 8:00 PM.

10. On the Server page, select the Linux server and click Populate.



Repository server: ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 7:51 PM.)

11. Select the disk and click Next.

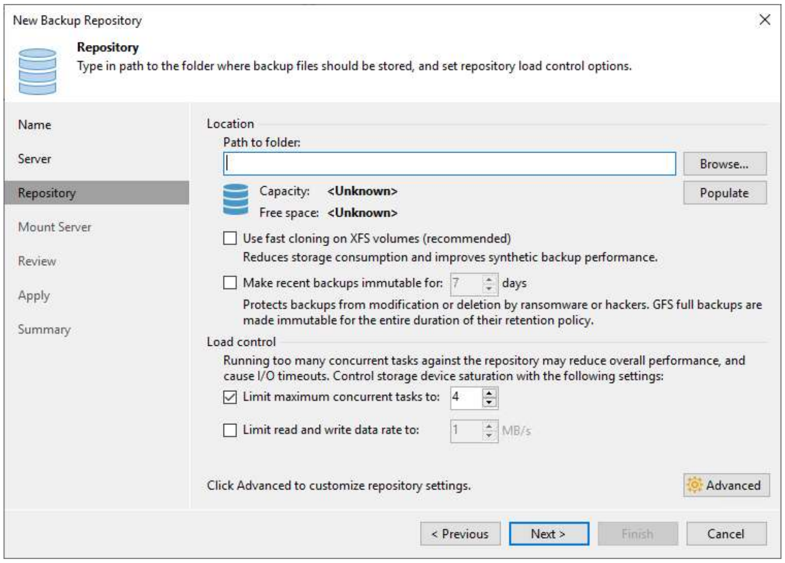


New Backup Repository
Server
Choose repository server. You can select server from the list of managed servers added to the console.
Name
Server
Repository
Mount Server
Review
Apply
Summary

Repository server: ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 7:51 PM.)

Path	Capacity	Free
/ (/dev/mapper/ubuntu--vg-ubuntu--lv)	9.7 GB	4.7 GB
/boot (/dev/sda2)	1.7 GB	1.5 GB
/boot/efi (/dev/sda1)	951.1 MB	945.9 MB
/dev (udev)	915.1 MB	915.1 MB
/dev/shm (tmpfs)	959.2 MB	959.2 MB
/mnt/backupxfs01 (/dev/sdb)	126.9 GB	126 GB
/run (tmpfs)	191.8 MB	190.9 MB
/run/lock (tmpfs)	5 MB	5 MB
/run/user/1000 (tmpfs)	191.8 MB	191.8 MB
/snap/core20/1611 (/dev/loop0)	62 MB	0 B
/snap/lxd/22753 (/dev/loop2)	67.9 MB	0 B
/snap/snapd/16292 (/dev/loop1)	47 MB	0 B
/sys/fs/cgroup (tmpfs)	959.2 MB	959.2 MB

12. On the Repository page, click Browser for Path to folder.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder:

Capacity: **<Unknown>**

Free space: **<Unknown>**

□ Use fast cloning on XFS volumes (recommended)

Reduces storage consumption and improves synthetic backup performance.

□ Make recent backups immutable for: 7 days

Protects backups from modification or deletion by ransomware or hackers. GFS full backups are made immutable for the entire duration of their retention policy.

Load control

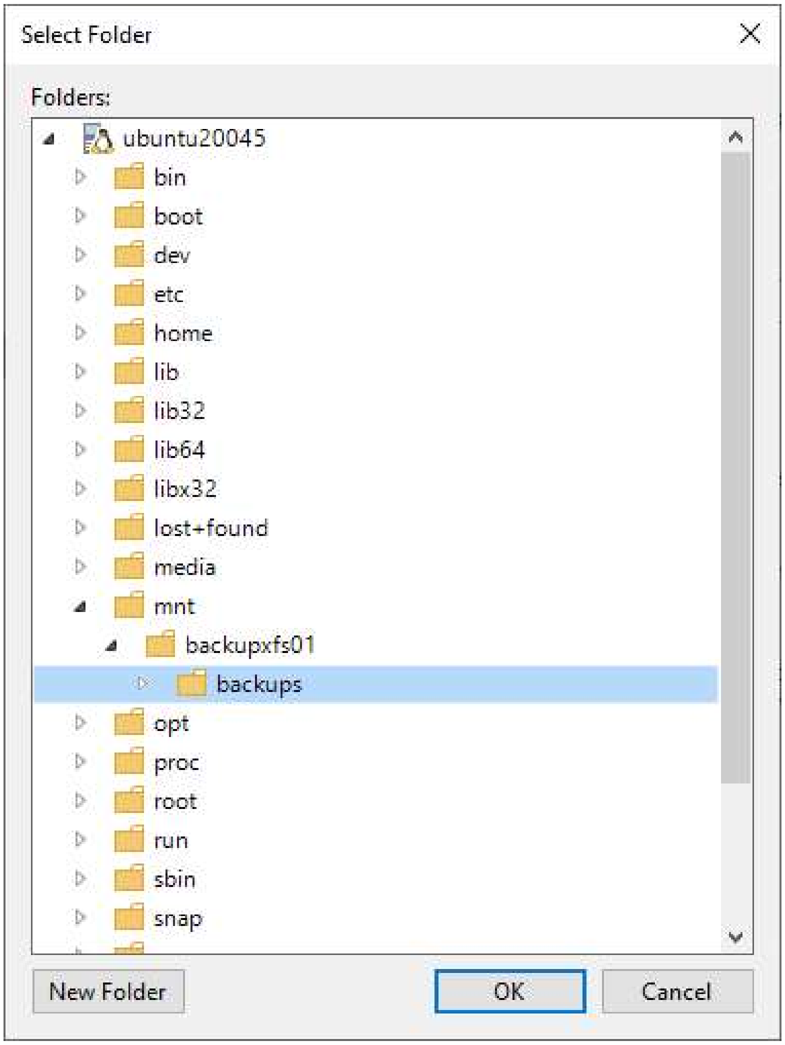
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

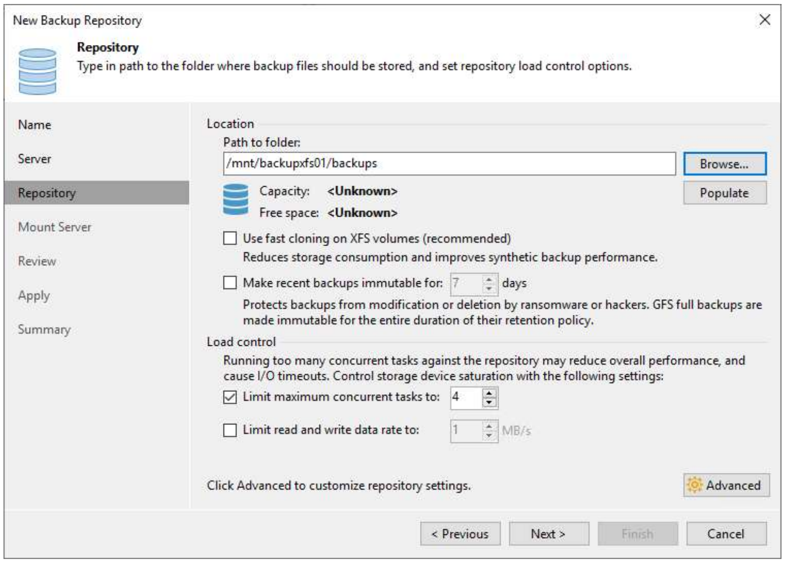
□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

13. On the Select Folder page, expand the server, select the backup folder, and click OK.



14. On the Repository page, click Populate for Path to folder.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: /mnt/backupxfs01/backups

Capacity: **<Unknown>**

Free space: **<Unknown>**

□ Use fast cloning on XFS volumes (recommended)

Reduces storage consumption and improves synthetic backup performance.

□ Make recent backups immutable for: 7 days

Protects backups from modification or deletion by ransomware or hackers. GFS full backups are made immutable for the entire duration of their retention policy.

Load control

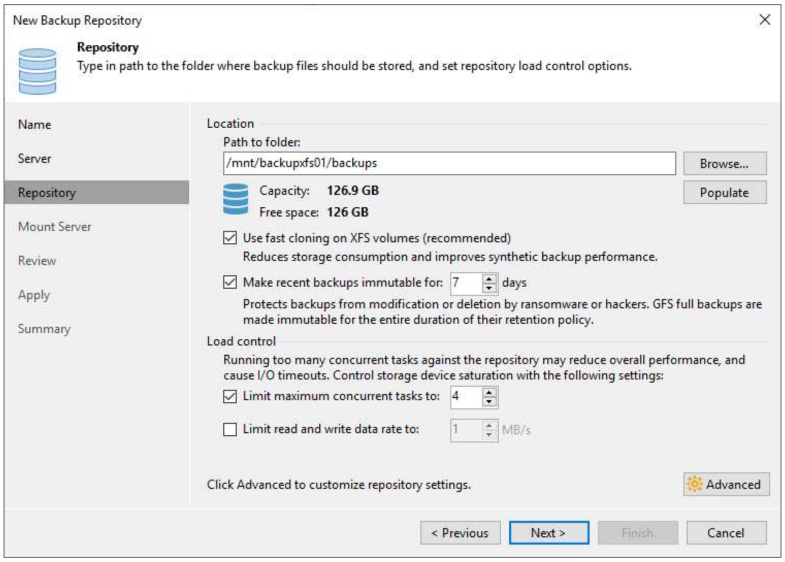
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

15. On the Repository page, select Use fast closing on XFS volumes.
16. Select Make recent backup immutable for 7 days. It depends on your requirement.
17. Use the Load control settings to manage the backup repository's load and avoid potential storage I/O timeouts if needed.
18. Click Advanced.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: /mnt/backupxfs01/backups

Capacity: **126.9 GB**

Free space: **126 GB**

☑ Use fast cloning on XFS volumes (recommended)

Reduces storage consumption and improves synthetic backup performance.

☑ Make recent backups immutable for: 7 days

Protects backups from modification or deletion by ransomware or hackers. GFS full backups are made immutable for the entire duration of their retention policy.

Load control

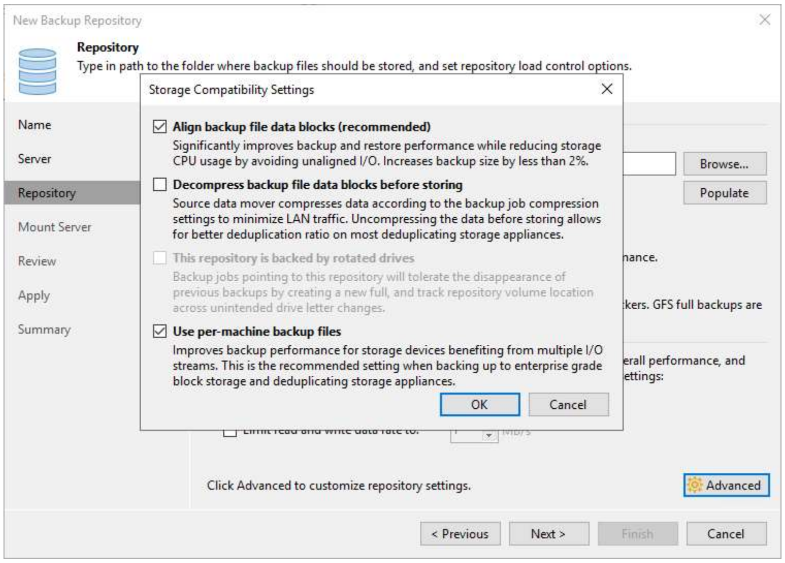
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

19. On the Storage Compatibility Settings, select Align backup file data blocks, select Use per-machine backup files, and click OK.



Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Storage Compatibility Settings

☑ **Align backup file data blocks (recommended)**
Significantly improves backup and restore performance while reducing storage CPU usage by avoiding unaligned I/O. Increases backup size by less than 2%.

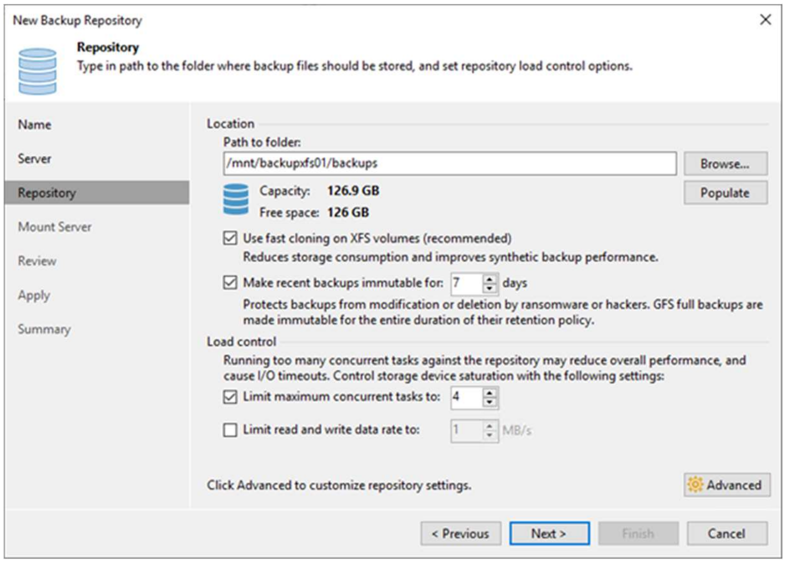
☐ **Decompress backup file data blocks before storing**
Source data mover compresses data according to the backup job compression settings to minimize LAN traffic. Uncompressing the data before storing allows for better deduplication ratio on most deduplicating storage appliances.

☐ **This repository is backed by rotated drives**
Backup jobs pointing to this repository will tolerate the disappearance of previous backups by creating a new full, and track repository volume location across unintended drive letter changes.

☑ **Use per-machine backup files**
Improves backup performance for storage devices benefiting from multiple I/O streams. This is the recommended setting when backing up to enterprise grade block storage and deduplicating storage appliances.

Click Advanced to customize repository settings.

20. On the Repository page, click Next.



Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder:
/mnt/backupxfs01/backups

Capacity: **126.9 GB**
Free space: **126 GB**

☑ Use fast cloning on XFS volumes (recommended)
Reduces storage consumption and improves synthetic backup performance.

☑ Make recent backups immutable for: 7 days
Protects backups from modification or deletion by ransomware or hackers. GFS full backups are made immutable for the entire duration of their retention policy.

Load control

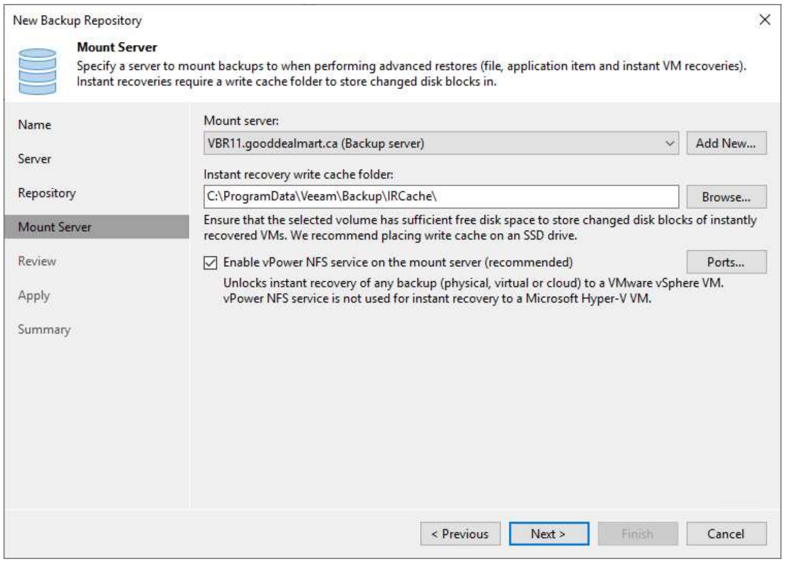
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

☐ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

21. On the Mount Server page, select a server. The mount server is required for the restoration of file-level and application items.
22. Select a folder in the Instant recovery write cache folder field.
23. Click Next.


New Backup Repository

Mount Server

Specify a server to mount backups to when performing advanced restores (file, application item and instant VM recoveries). Instant recoveries require a write cache folder to store changed disk blocks in.

Mount server: VBR11.gooddealmart.ca (Backup server)

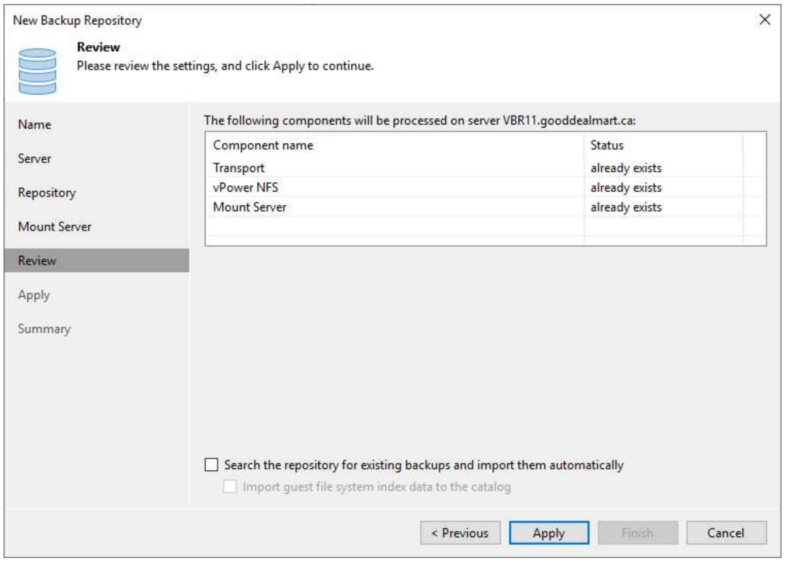
Instant recovery write cache folder: C:\ProgramData\Veeam\Backup\IRCache\

Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered VMs. We recommend placing write cache on an SSD drive.

☑ Enable vPower NFS service on the mount server (recommended)

Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM.

24. On the Review page, click Apply.
25. Select the Search the repository for existing backups and import them automatically if the backup repository contains backups previously created with Veeam Backup & Replication.
26. Select the Import guest file system index data to the catalog if the backup repository contains previously created Veeam Backup & Replication guest file system index files.


New Backup Repository

Review

Please review the settings, and click Apply to continue.

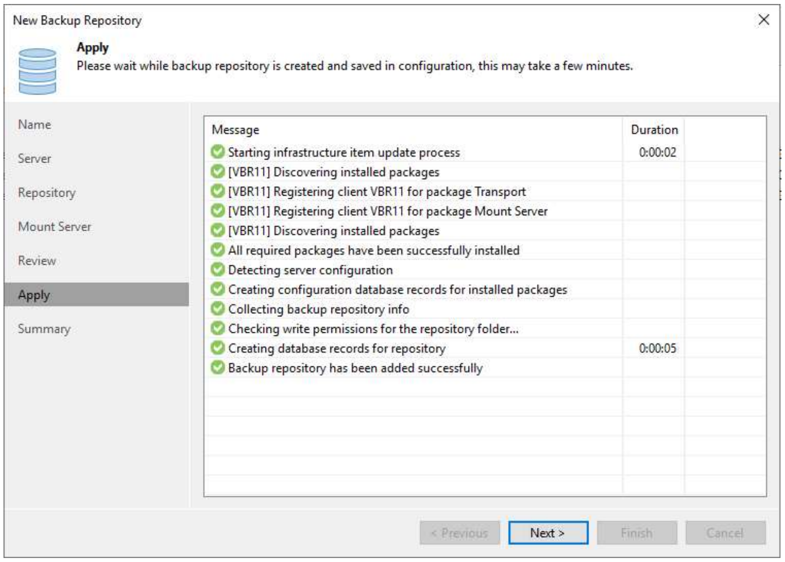
The following components will be processed on server VBR11.gooddealmart.ca:

Component name	Status
Transport	already exists
vPower NFS	already exists
Mount Server	already exists

☐ Search the repository for existing backups and import them automatically

☐ Import guest file system index data to the catalog

27. On the Apply page, ensure to complete the procedure of the backup repository adding without error and click Next.



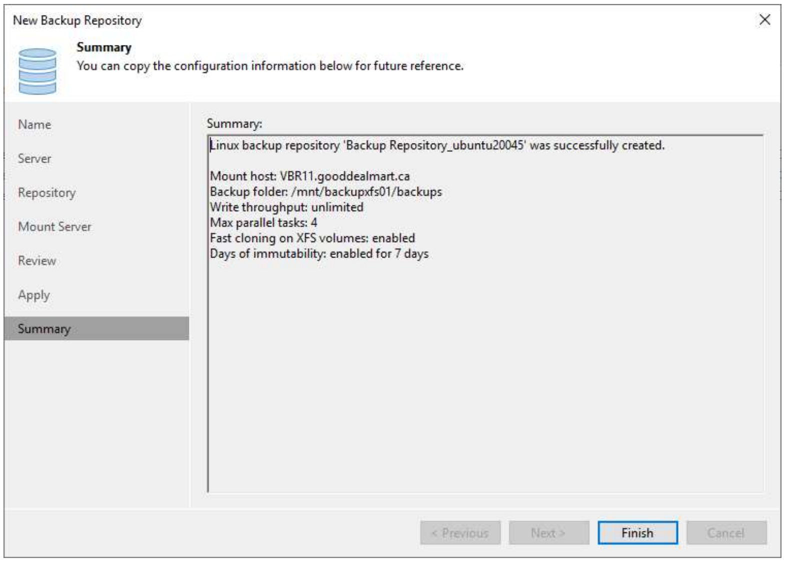
New Backup Repository

Apply

Please wait while backup repository is created and saved in configuration, this may take a few minutes.

```
Message                                                              Duration
Starting infrastructure item update process                          0:00:02
[VBR11] Discovering installed packages
[VBR11] Registering client VBR11 for package Transport
[VBR11] Registering client VBR11 for package Mount Server
[VBR11] Discovering installed packages
All required packages have been successfully installed
Detecting server configuration
Creating configuration database records for installed packages
Collecting backup repository info
Checking write permissions for the repository folder...
Creating database records for repository                             0:00:05
Backup repository has been added successfully
```

28. On the Summary page, click Finish.



New Backup Repository

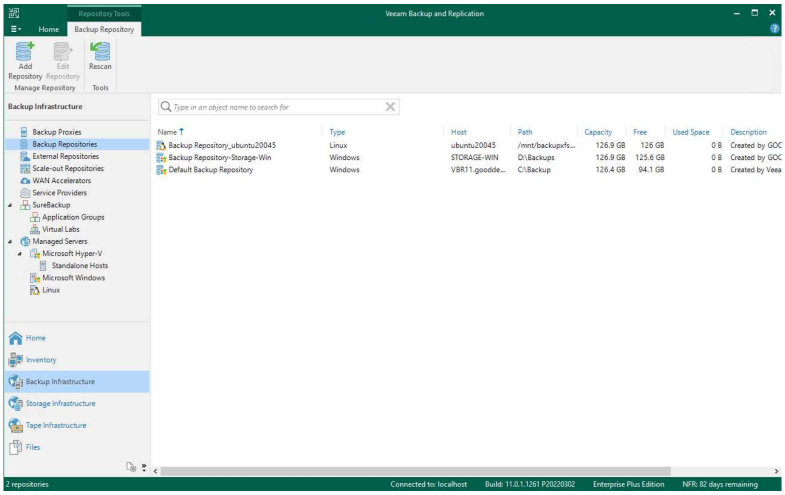
Summary

You can copy the configuration information below for future reference.

Summary:

```
Linux backup repository 'Backup Repository_ubuntu20045' was successfully created.

Mount host: VBR11.gooddealmart.ca
Backup folder: /mnt/backupxfs01/backups
Write throughput: unlimited
Max parallel tasks: 4
Fast cloning on XFS volumes: enabled
Days of immutability: enabled for 7 days
```

29. Verify that the Backup Repository has been added.



Name ↑	Type	Host	Path	Capacity	Free	Used Space	Description
Backup Repository_ubuntu20045	Linux	ubuntu20045	/mnt/backupxfs...	126.9 GB	126 GB	0 B	Created by GOC
Backup Repository-Storage-Win	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GOC
Default Backup Repository	Windows	VBR11.goodde...	C:\Backup	126.4 GB	94.1 GB	0 B	Created by Veea

2 repositories   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 82 days remaining

Adding Network Attached Storage (SMB or CIFS Shares) as Backup Repository

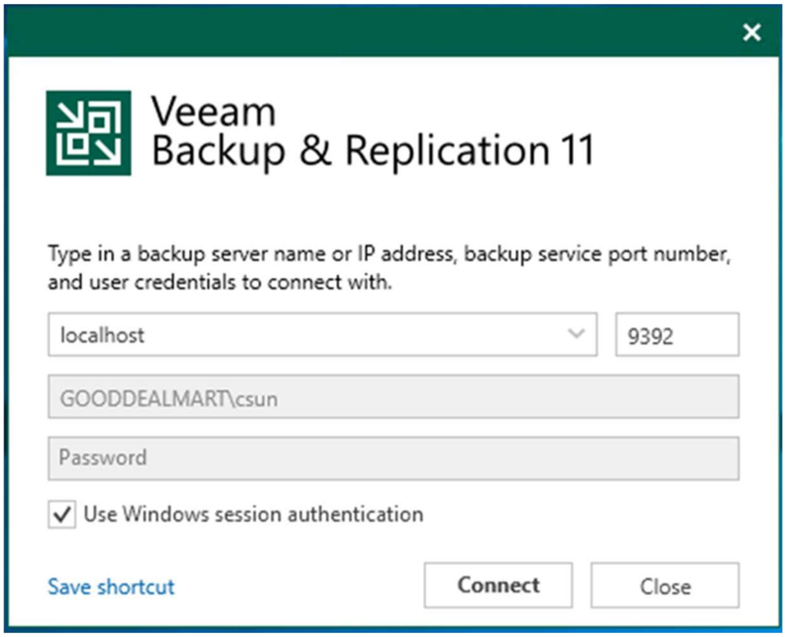
You can use network-attached storage (SMB or CIFS Shares) as backup repositories with Veeam Backup and Replication. A network-attached storage (NAS) device can be a shared folder on your computer or any other physical device accessed via the Server Message Block (SMB) protocol.

Note:

- You must deploy a gateway server because an SMB share cannot host Veeam Data Movers. However, Veeam Backup & Replication will automatically deploy a Veeam Data Mover on this gateway server.
- It is recommended that you deploy an additional gateway server in the remote site, closer to the SMB repository, if you plan to move VM data to an off-site SMB repository over a WAN link,

Instructions	Screenshot (if applicable)

1. Log in to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication Console, and click Connect.



Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

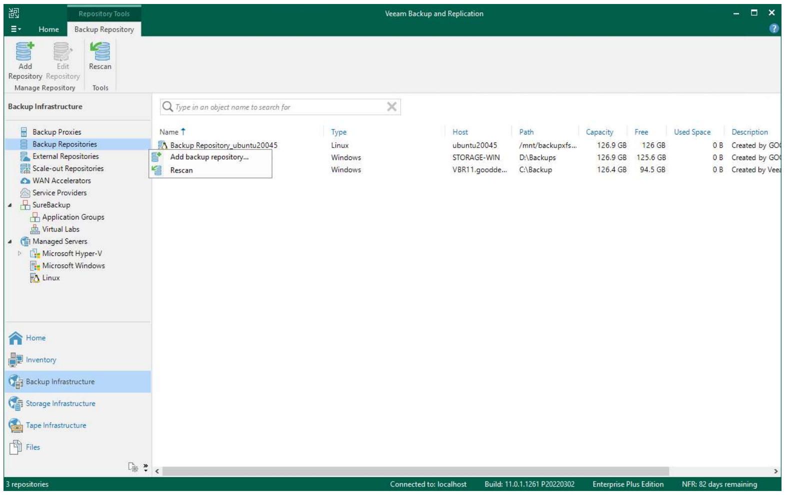
localhost | 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

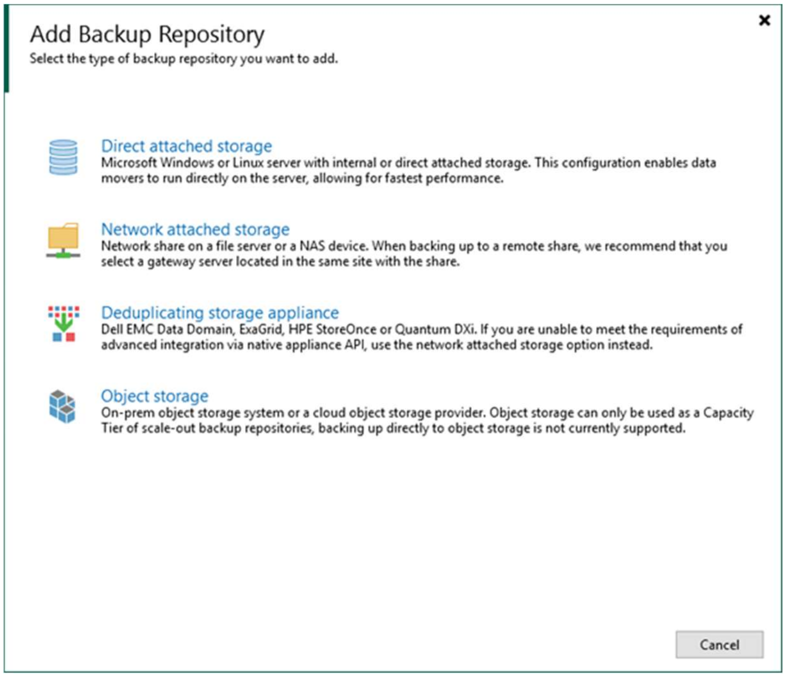
3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Backup Repositories, right-click Backup Repositories and select Add backup repository.



Name	Type	Host	Path	Capacity	Free	Used Space	Description
Backup Repository_ubuntu20045	Linux	ubuntu20045	/mnt/backupxfs...	126.9 GB	126 GB	0 B	Created by GO
	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GO
	Windows	VBR11.goodde...	C:\Backup	126.4 GB	94.5 GB	0 B	Created by Vee

3 repositories Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 82 days remaining

5. On the Add Backup Repository page, select Network attached storage.



Add Backup Repository

Select the type of backup repository you want to add.

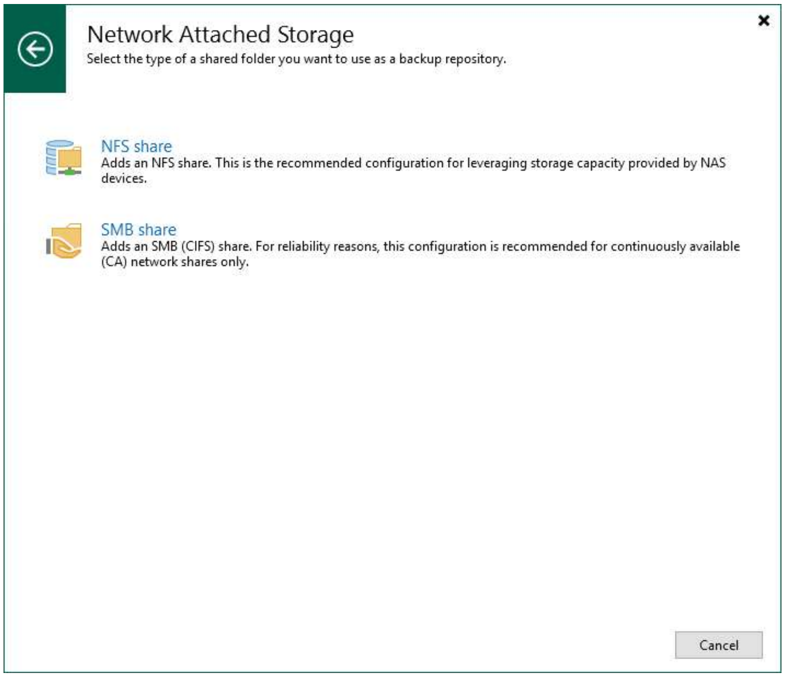
Direct attached storage
Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.

Network attached storage
Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.

Deduplicating storage appliance
Dell EMC Data Domain, ExaGrid, HPE StoreOnce or Quantum DXi. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.

Object storage
On-prem object storage system or a cloud object storage provider. Object storage can only be used as a Capacity Tier of scale-out backup repositories, backing up directly to object storage is not currently supported.

6. On the Network Attached Storage, select SMB share.



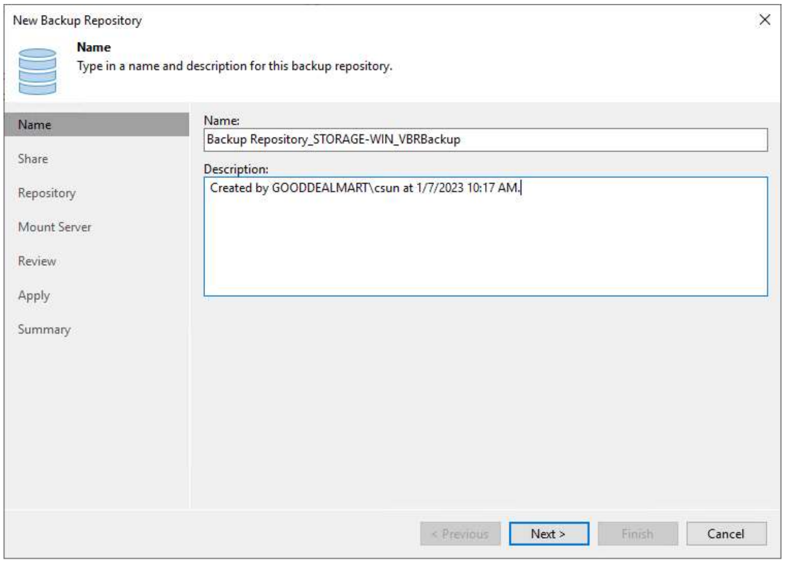
Network Attached Storage

Select the type of a shared folder you want to use as a backup repository.

NFS share
Adds an NFS share. This is the recommended configuration for leveraging storage capacity provided by NAS devices.

SMB share
Adds an SMB (CIFS) share. For reliability reasons, this configuration is recommended for continuously available (CA) network shares only.

7. On the Name page, specify in the Name field.
8. In the Description field, describe future references.
9. Click Next.



New Backup Repository

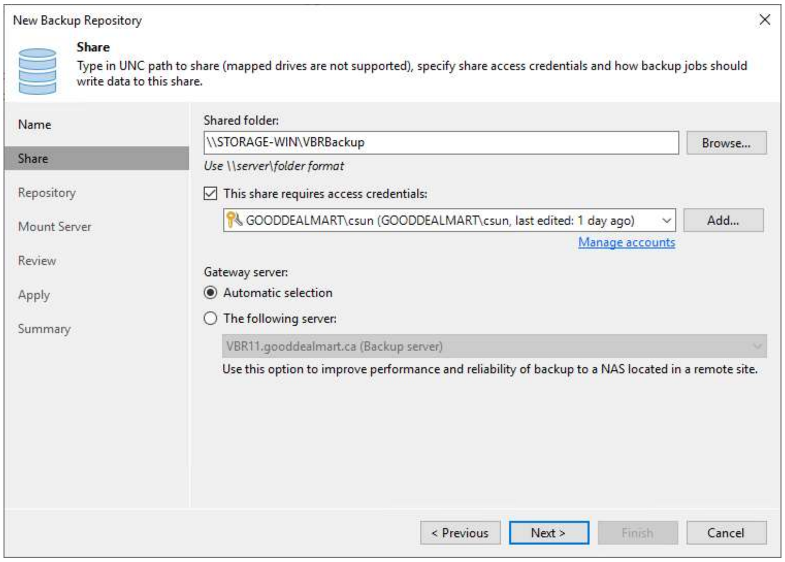
Name

Type in a name and description for this backup repository.

Name:
Backup Repository_STORAGE-WIN_VBRBackup

Description:
Created by GOODDEALMART\csun at 1/7/2023 10:17 AM.

10. On the Share page, enter the share folder name, select This share requires access credentials, and select the managed account from the drop-down list.
11. Select Automatic selection or specify the server as the Gateway server.
12. Click Next.



New Backup Repository

Share

Type in UNC path to share (mapped drives are not supported), specify share access credentials and how backup jobs should write data to this share.

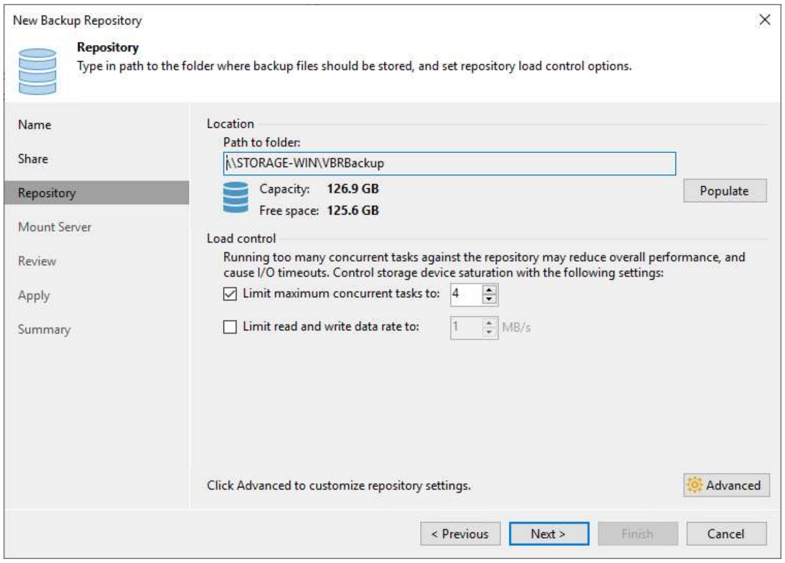
Shared folder:
\\STORAGE-WIN\VBRBackup

Use \\server\folder format

☑ This share requires access credentials:
GOODDEALMART\csun (GOODDEALMART\csun, last edited: 1 day ago)

Gateway server:
● Automatic selection
○ The following server:
VBR11.gooddealmart.ca (Backup server)
Use this option to improve performance and reliability of backup to a NAS located in a remote site.

13. On the Repository page, click Populate to review the disk capacity and free space.
14. Use the Load control settings to manage the backup repository's load and avoid potential storage I/O timeouts if necessary.
15. Click Advanced.



New Backup Repository

Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Location
Path to folder: \\STORAGE-WIN\VBRBackup
Capacity: 126.9 GB
Free space: 125.6 GB

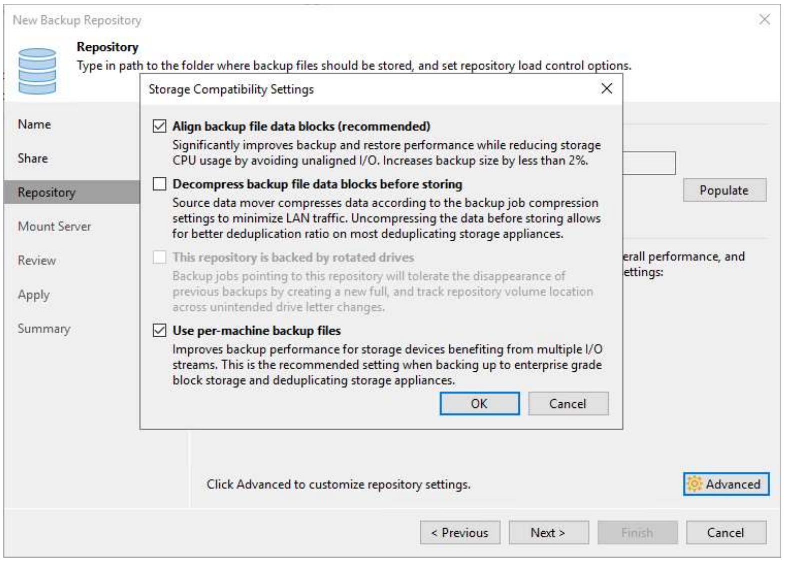
Load control
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:
☑ Limit maximum concurrent tasks to: 4
□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

16. On the Storage Compatibility Settings, select Align backup file data blocks, select Use per-machine backup files, and click OK.

Note:

Select Decompress backup file data blocks before storing if you use a deduplicating storage feature or appliance.



Storage Compatibility Settings

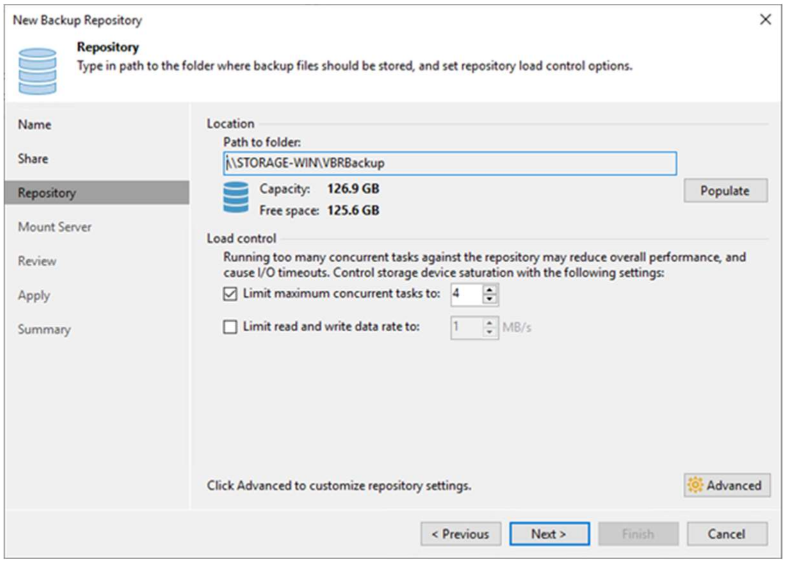
☑ **Align backup file data blocks (recommended)**
Significantly improves backup and restore performance while reducing storage CPU usage by avoiding unaligned I/O. Increases backup size by less than 2%.

□ **Decompress backup file data blocks before storing**
Source data mover compresses data according to the backup job compression settings to minimize LAN traffic. Uncompressing the data before storing allows for better deduplication ratio on most deduplicating storage appliances.

□ This repository is backed by rotated drives
Backup jobs pointing to this repository will tolerate the disappearance of previous backups by creating a new full, and track repository volume location across unintended drive letter changes.

☑ **Use per-machine backup files**
Improves backup performance for storage devices benefiting from multiple I/O streams. This is the recommended setting when backing up to enterprise grade block storage and deduplicating storage appliances.

17. On the Repository page, click Next.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: \\STORAGE-WIN\VBRBackup

Capacity: 126.9 GB

Free space: 125.6 GB

Load control

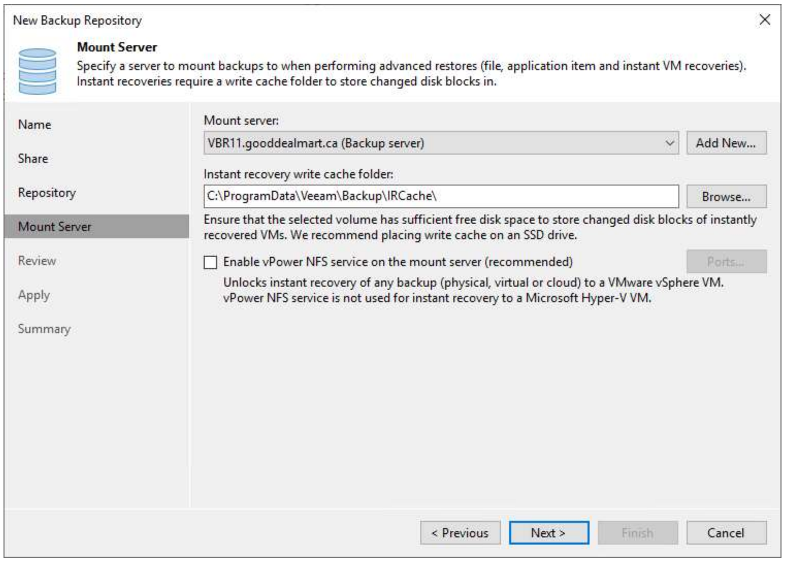
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

18. On the Mount Server page, select a server from the drop-down list.
19. Select a folder in the Instant recovery write cache folder field.
20. Unselect Enable vPower NFS service on the mount server, vPower NFS settings are not applicable in Microsoft Hyper-V environments.
21. Click Next.



New Backup Repository

Mount Server

Specify a server to mount backups to when performing advanced restores (file, application item and instant VM recoveries). Instant recoveries require a write cache folder to store changed disk blocks in.

Mount server: VBR11.gooddealmart.ca (Backup server)

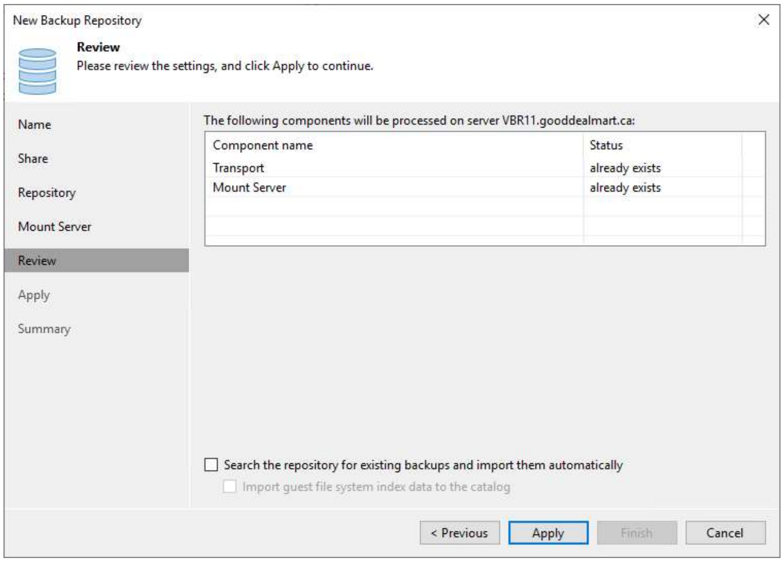
Instant recovery write cache folder: C:\ProgramData\Veeam\Backup\IRCache\

Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered VMs. We recommend placing write cache on an SSD drive.

□ Enable vPower NFS service on the mount server (recommended)

Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM.

22. On the Review page, click Apply.
23. Select the Search the repository for existing backups and import them automatically if the backup repository contains backups previously created with Veeam Backup & Replication.
24. Select the Import guest file system index data to the catalog if the backup repository contains index files for guest file systems previously created by Veeam Backup & Replication.



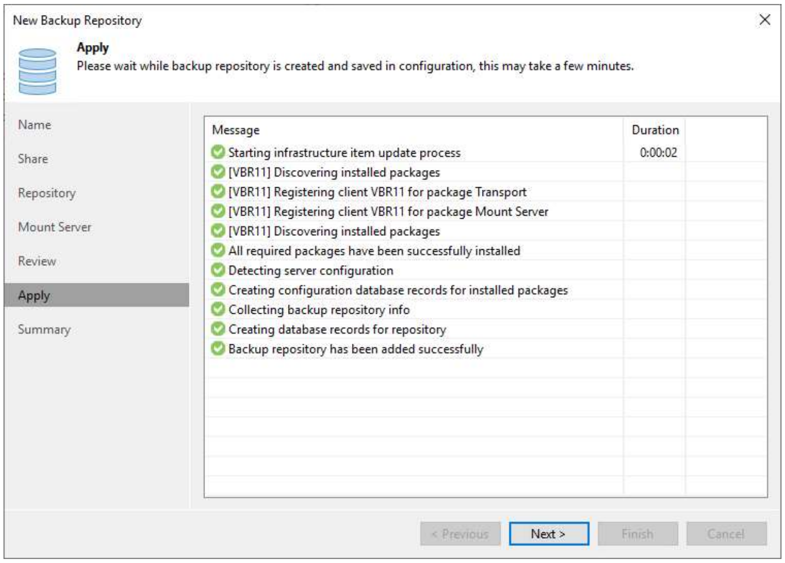
Review
Please review the settings, and click Apply to continue.

The following components will be processed on server VBR11.gooddealmart.ca:

Component name	Status
Transport	already exists
Mount Server	already exists

☐ Search the repository for existing backups and import them automatically
☐ Import guest file system index data to the catalog

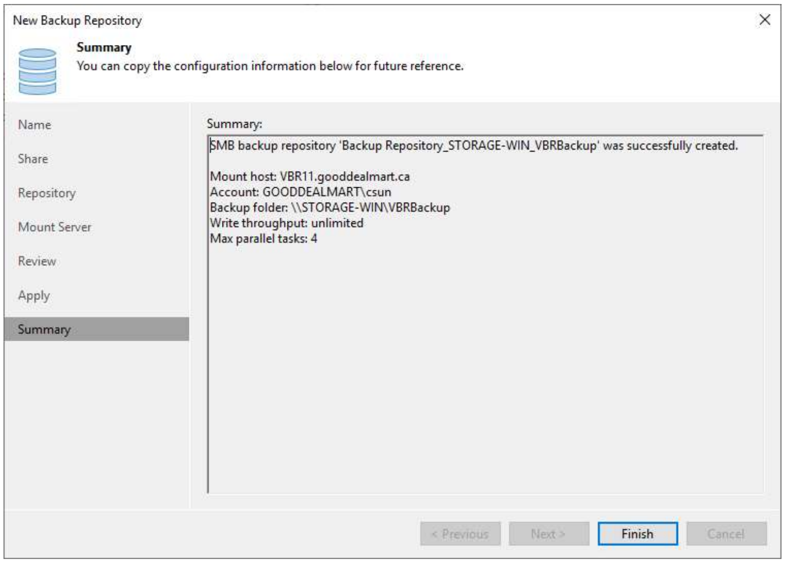
25. On the Apply page, complete the procedure of adding the backup repository without error, and click Next.



Apply
Please wait while backup repository is created and saved in configuration, this may take a few minutes.

Message	Duration
✓ Starting infrastructure item update process	0:00:02
✓ [VBR11] Discovering installed packages	
✓ [VBR11] Registering client VBR11 for package Transport	
✓ [VBR11] Registering client VBR11 for package Mount Server	
✓ [VBR11] Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Detecting server configuration	
✓ Creating configuration database records for installed packages	
✓ Collecting backup repository info	
✓ Creating database records for repository	
✓ Backup repository has been added successfully	

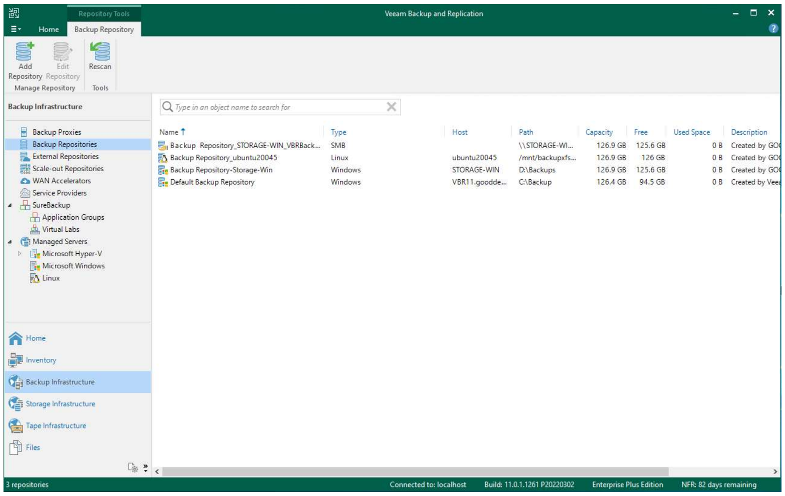
26. On the Summary page, click Finish



Summary:

```
SMB backup repository 'Backup Repository_STORAGE-WIN_VBRBackup' was successfully created.

Mount host: VBR11.gooddealmart.ca
Account: GOODDEALMART\csun
Backup folder: \\STORAGE-WIN\VBRBackup
Write throughput: unlimited
Max parallel tasks: 4
```

27. Verify that the Backup Repository has been added.



Name ↑	Type	Host	Path	Capacity	Free	Used Space	Description
Backup Repository_STORAGE-WIN_VBRBack...	SMB		\\STORAGE-WI...	126.9 GB	125.6 GB	0 B	Created by GO
Backup Repository_ubuntu20045	Linux	ubuntu20045	/mnt/backupxfs...	126.9 GB	126 GB	0 B	Created by GO
Backup Repository-Storage-Win	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GO
Default Backup Repository	Windows	VBR11.goodde...	C:\Backup	126.4 GB	94.5 GB	0 B	Created by Vee

3 repositories   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 82 days remaining

Adding Rotated Drives on the Microsoft Windows server as Backup Repository

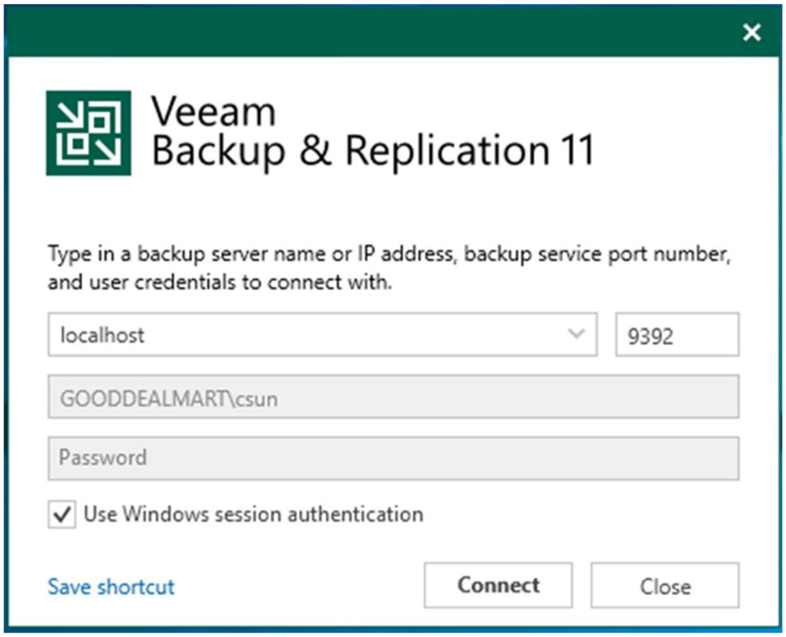
This scenario is helpful if you want to store backups on multiple external hard drives that you intend to move between locations. The drives that are rotated can be detachable USB or eSATA hard drives.

There are some limitations as below:

- Only one repository with rotated drives can be created on a single managed server.
- You cannot store archive full backups (GFS backups) created with backup jobs or backup copy jobs in backup repositories with a rotated drive.
- You cannot store per-machine backup files in backup repositories with rotated drives.
- You cannot rescan backup repositories with rotated drives.
- Scale-out backup repositories do not support rotated drives.
- Repositories with rotated drives are not supported as primary backup repositories, archive repositories, and secondary target repositories for NAS backup.

Instructions	Screenshot (if applicable)

1. Log in to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication Console, and click Connect.



Veeam
Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

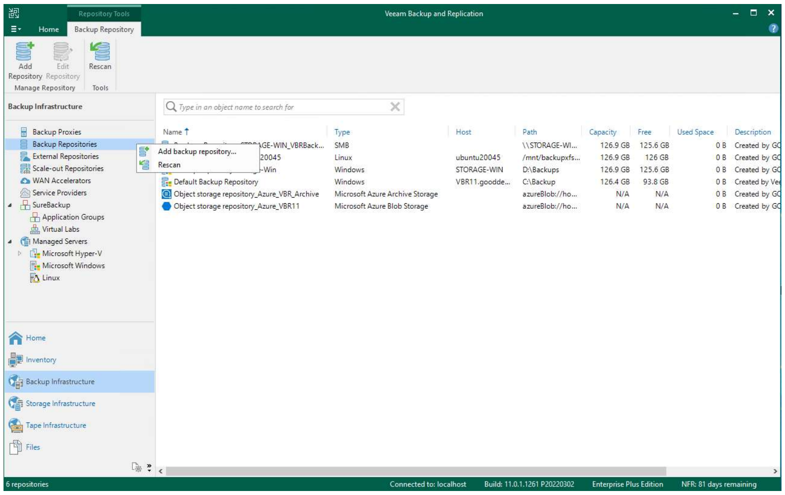
localhost | 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

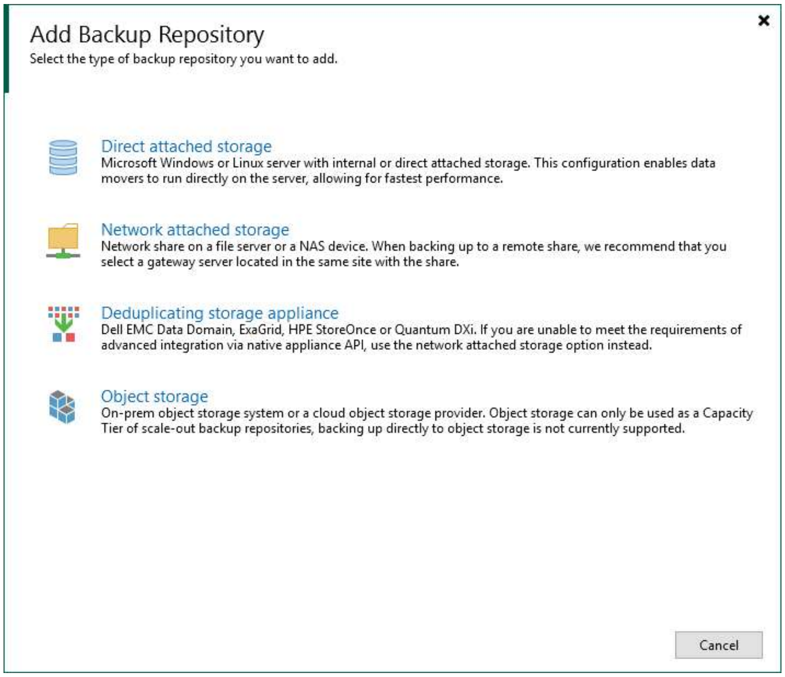
3. On the Home page, select Backup Infrastructure.
4. On the Backup Infrastructure page, select Backup Repositories, right-click Backup Repositories, and select Add backup repository.



Name ↑	Type	Host	Path	Capacity	Free	Used Space	Description
…AGE-WIN_VBRBack…	SMB		\\STORAGE-WI…	126.9 GB	125.6 GB	0 B	Created by GC
…20045	Linux	ubuntu20045	/mnt/backupxfs…	126.9 GB	126 GB	0 B	Created by GC
…-Win	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GC
Default Backup Repository	Windows	VBR11.goodde…	C:\Backup	126.4 GB	93.8 GB	0 B	Created by Ve
Object storage repository_Azure_VBR_Archive	Microsoft Azure Archive Storage		azureBlob://ho…	N/A	N/A	0 B	Created by GC
Object storage repository_Azure_VBR11	Microsoft Azure Blob Storage		azureBlob://ho…	N/A	N/A	0 B	Created by GC

6 repositories | Connected to: localhost | Build: 11.0.1.1261 P20220302 | Enterprise Plus Edition | NFR: 81 days remaining

5. On the Add Backup Repository page, select Direct attached storage.



Add Backup Repository

Select the type of backup repository you want to add.

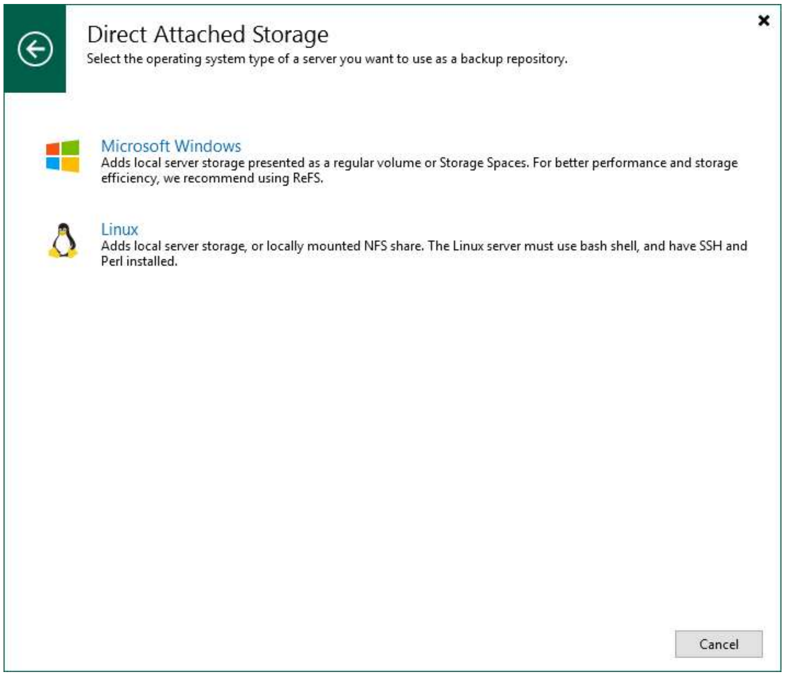
Direct attached storage
Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.

Network attached storage
Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.

Deduplicating storage appliance
Dell EMC Data Domain, ExaGrid, HPE StoreOnce or Quantum DXi. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.

Object storage
On-prem object storage system or a cloud object storage provider. Object storage can only be used as a Capacity Tier of scale-out backup repositories, backing up directly to object storage is not currently supported.

6. On the Direct Attached Storage page, select Microsoft Windows.



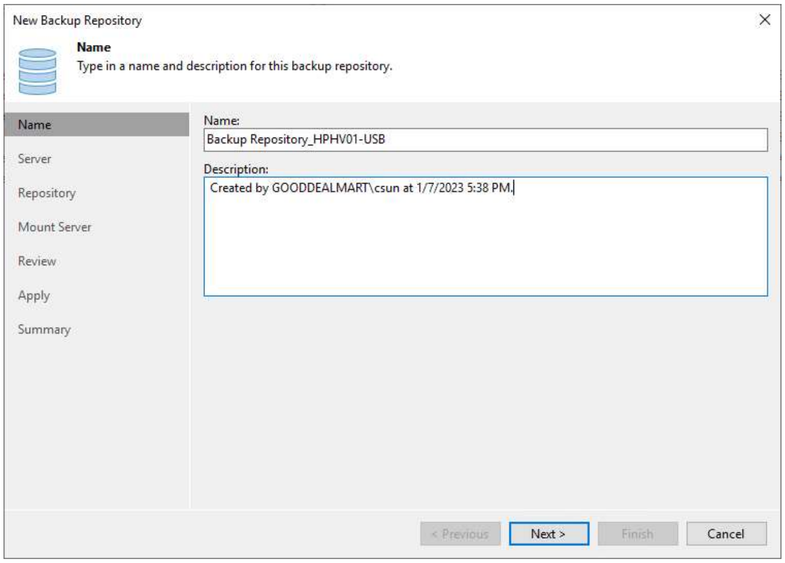
Direct Attached Storage

Select the operating system type of a server you want to use as a backup repository.

Microsoft Windows
Adds local server storage presented as a regular volume or Storage Spaces. For better performance and storage efficiency, we recommend using ReFS.

Linux
Adds local server storage, or locally mounted NFS share. The Linux server must use bash shell, and have SSH and Perl installed.

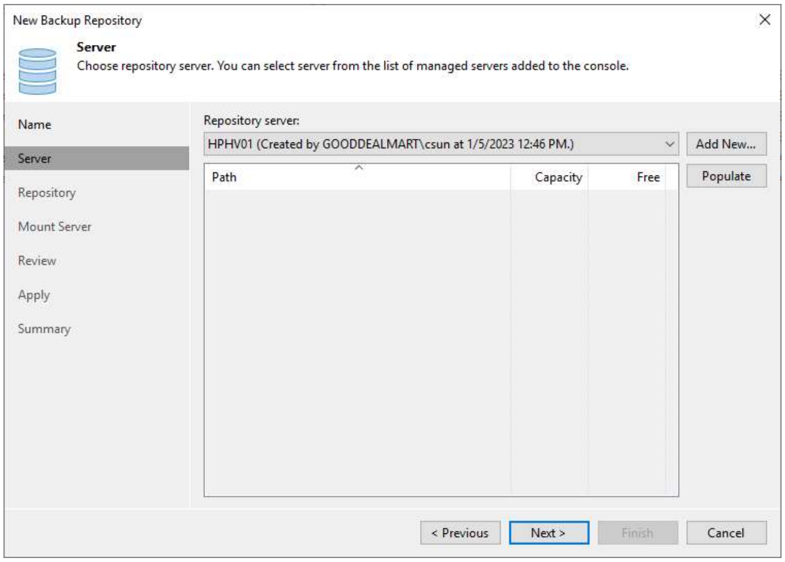
7. On the Name page, specify in the Name field.
8. In the Description field, describe future references.
9. Click Next.



Name:
Backup Repository_HPHV01-USB

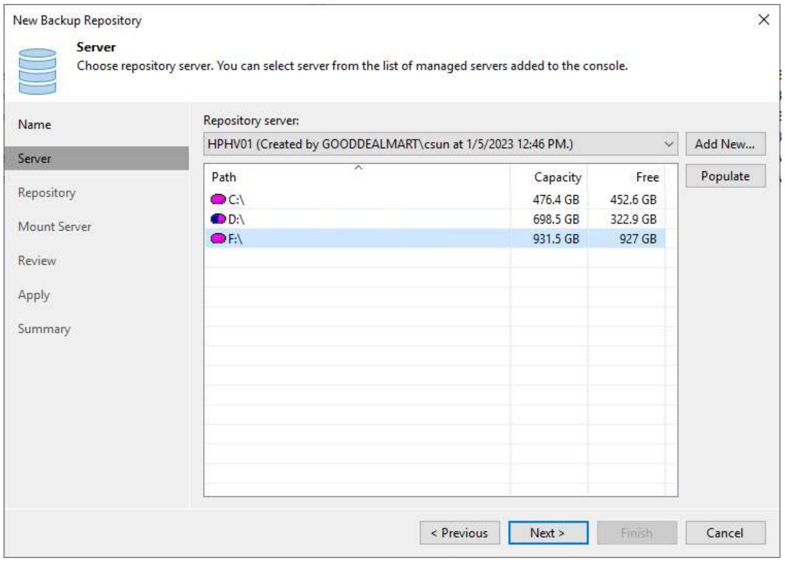
Description:
Created by GOODDEALMART\csun at 1/7/2023 5:38 PM.

10. On the Server page, select the Microsoft Windows server you want to use as a backup repository and click Populate.



Repository server:
HPHV01 (Created by GOODDEALMART\csun at 1/5/2023 12:46 PM.)

11. Select the rotated disk drive you want to use as a backup repository, and click Next.



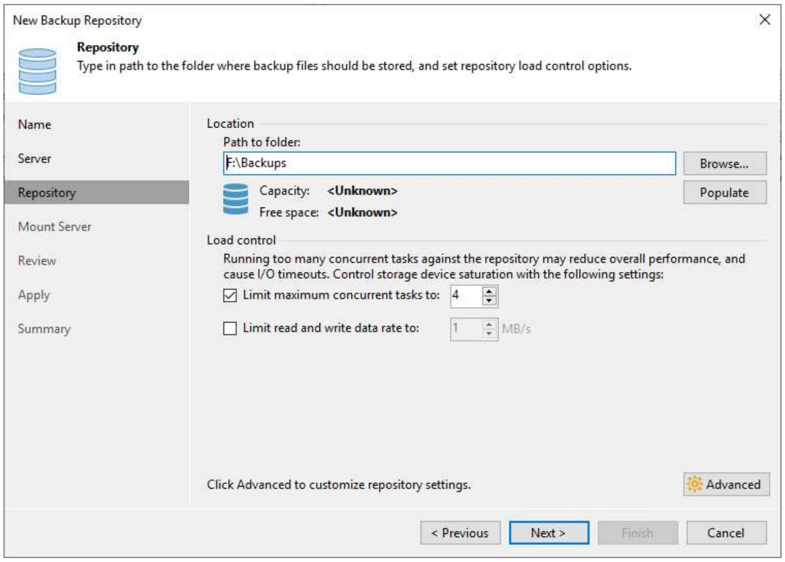
Server

Choose repository server. You can select server from the list of managed servers added to the console.

Repository server: HPHV01 (Created by GOODDEALMART\csun at 1/5/2023 12:46 PM.)

Path	Capacity	Free
C:\	476.4 GB	452.6 GB
D:\	698.5 GB	322.9 GB
F:\	931.5 GB	927 GB

12. On the Repository page, click Populate to review the disk capacity and free space.



Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: F:\Backups

Capacity: **<Unknown>**

Free space: **<Unknown>**

Load control

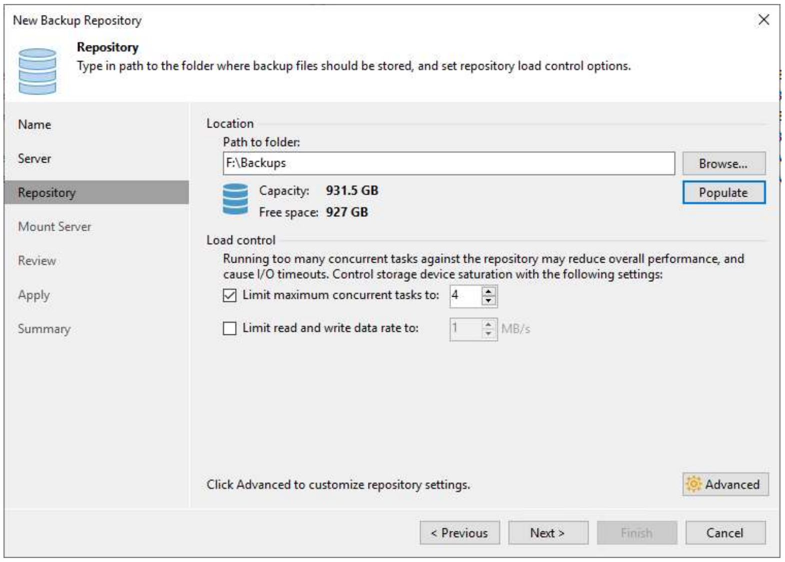
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

☐ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

13. Use the Load control settings to manage the load on the backup repository and avoid storage I/O timeouts if you require it.
14. Click Advanced.



New Backup Repository

Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: F:\Backups

Capacity: 931.5 GB
Free space: 927 GB

Load control

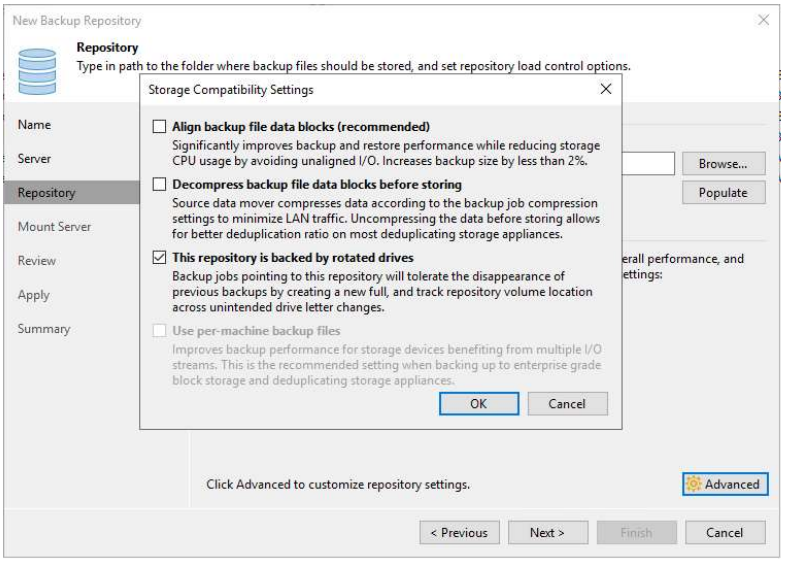
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

☐ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

15. On the Storage Compatibility Settings, select This repository is backed by rotated drives, and click OK.



Storage Compatibility Settings

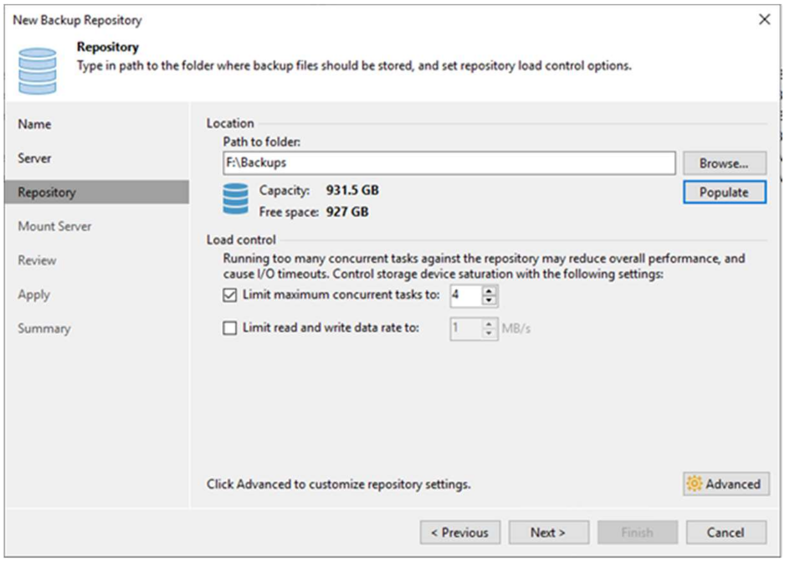
☐ **Align backup file data blocks (recommended)**
Significantly improves backup and restore performance while reducing storage CPU usage by avoiding unaligned I/O. Increases backup size by less than 2%.

☐ **Decompress backup file data blocks before storing**
Source data mover compresses data according to the backup job compression settings to minimize LAN traffic. Uncompressing the data before storing allows for better deduplication ratio on most deduplicating storage appliances.

☑ **This repository is backed by rotated drives**
Backup jobs pointing to this repository will tolerate the disappearance of previous backups by creating a new full, and track repository volume location across unintended drive letter changes.

☐ **Use per-machine backup files**
Improves backup performance for storage devices benefiting from multiple I/O streams. This is the recommended setting when backing up to enterprise grade block storage and deduplicating storage appliances.

16. On the Repository page, click Next.



New Backup Repository

Repository

Type in path to the folder where backup files should be stored, and set repository load control options.

Location

Path to folder: F:\Backups

Capacity: 931.5 GB

Free space: 927 GB

Load control

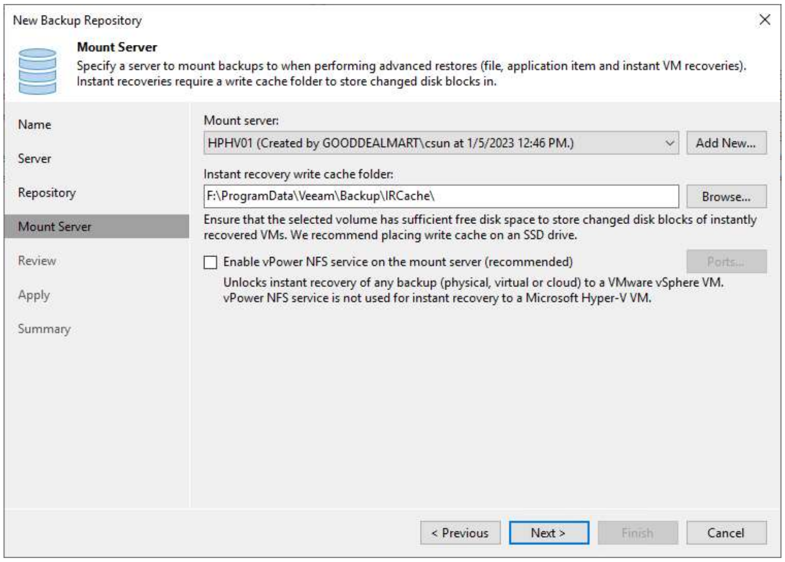
Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:

☑ Limit maximum concurrent tasks to: 4

□ Limit read and write data rate to: 1 MB/s

Click Advanced to customize repository settings.

17. On the Mount Server page, select a server from the drop-down list.
18. Select a folder in the Instant recovery write cache folder field.
19. Unselect Enable vPower NFS service on the mount server, vPower NFS settings are not applicable in Microsoft Hyper-V environments.
20. Click Next.



New Backup Repository

Mount Server

Specify a server to mount backups to when performing advanced restores (file, application item and instant VM recoveries). Instant recoveries require a write cache folder to store changed disk blocks in.

Mount server: HPHV01 (Created by GOODDEALMART\csun at 1/5/2023 12:46 PM.)

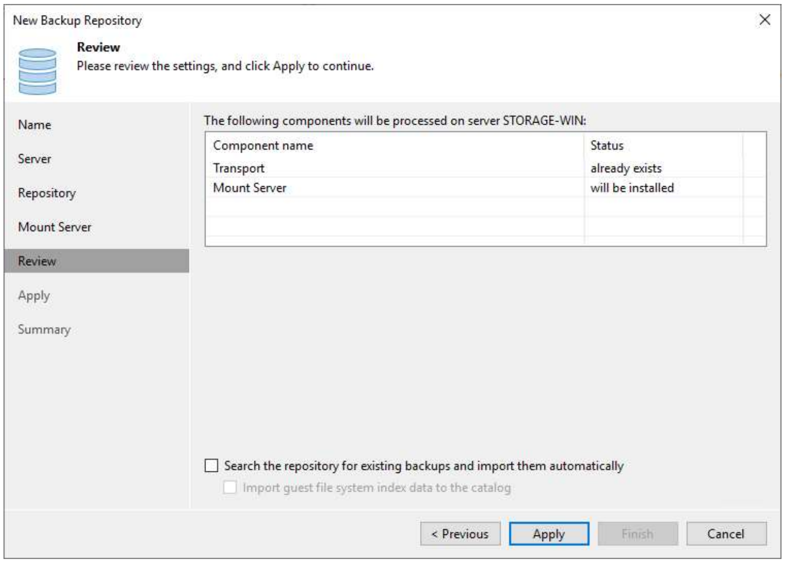
Instant recovery write cache folder: F:\ProgramData\Veeam\Backup\IRCache\

Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered VMs. We recommend placing write cache on an SSD drive.

□ Enable vPower NFS service on the mount server (recommended)

Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM.

21. On the Review page, click Apply.
22. Select the Search the repository for existing backups and import them automatically if the backup repository contains backups previously created with Veeam Backup & Replication.
23. Select the Import guest file system index data to the catalog if the backup repository contains guest file system index files previously created by Veeam Backup & Replication.



Review

Please review the settings, and click Apply to continue.

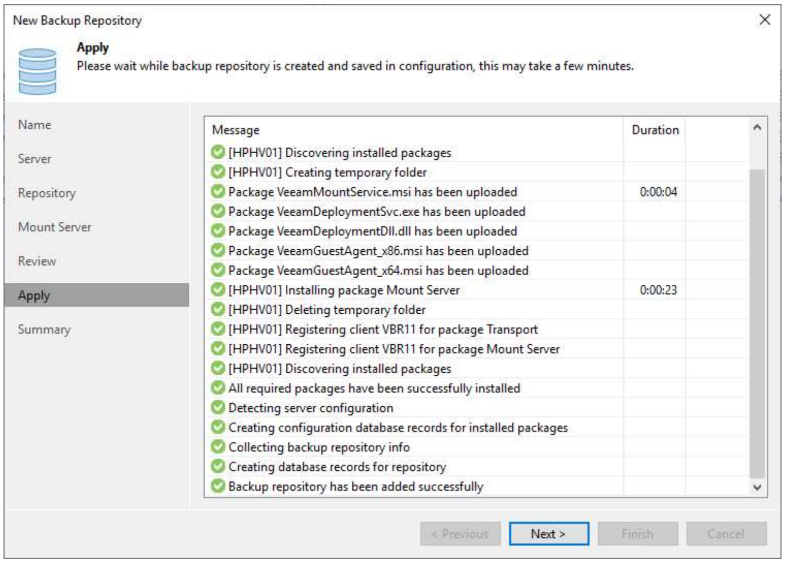
The following components will be processed on server STORAGE-WIN:

Component name	Status
Transport	already exists
Mount Server	will be installed

□ Search the repository for existing backups and import them automatically

□ Import guest file system index data to the catalog

24. On the Apply page, ensure Veeam completes adding the backup repository process without error, and click Next.

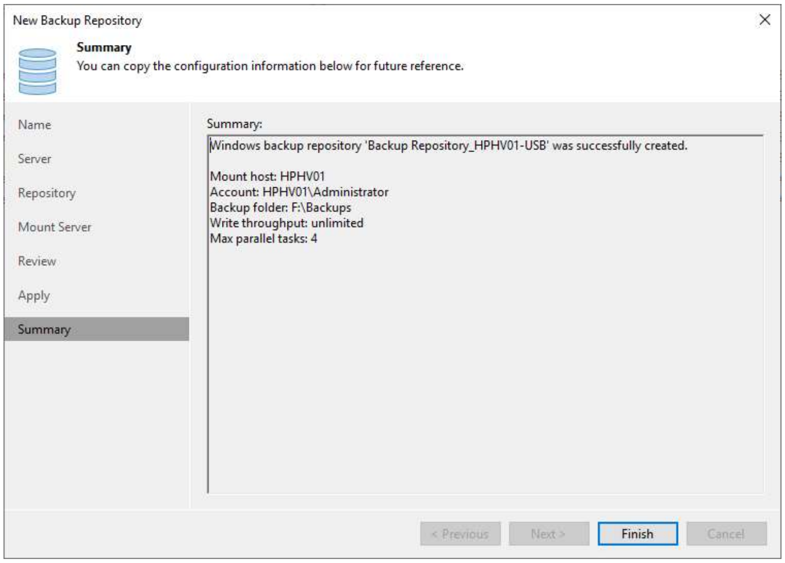


Apply

Please wait while backup repository is created and saved in configuration, this may take a few minutes.

Message	Duration
✓ [HPHV01] Discovering installed packages	
✓ [HPHV01] Creating temporary folder	
✓ Package VeeamMountService.msi has been uploaded	0:00:04
✓ Package VeeamDeploymentSvc.exe has been uploaded	
✓ Package VeeamDeploymentDll.dll has been uploaded	
✓ Package VeeamGuestAgent_x86.msi has been uploaded	
✓ Package VeeamGuestAgent_x64.msi has been uploaded	
✓ [HPHV01] Installing package Mount Server	0:00:23
✓ [HPHV01] Deleting temporary folder	
✓ [HPHV01] Registering client VBR11 for package Transport	
✓ [HPHV01] Registering client VBR11 for package Mount Server	
✓ [HPHV01] Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Detecting server configuration	
✓ Creating configuration database records for installed packages	
✓ Collecting backup repository info	
✓ Creating database records for repository	
✓ Backup repository has been added successfully	

25. On the Summary page, click Finish.

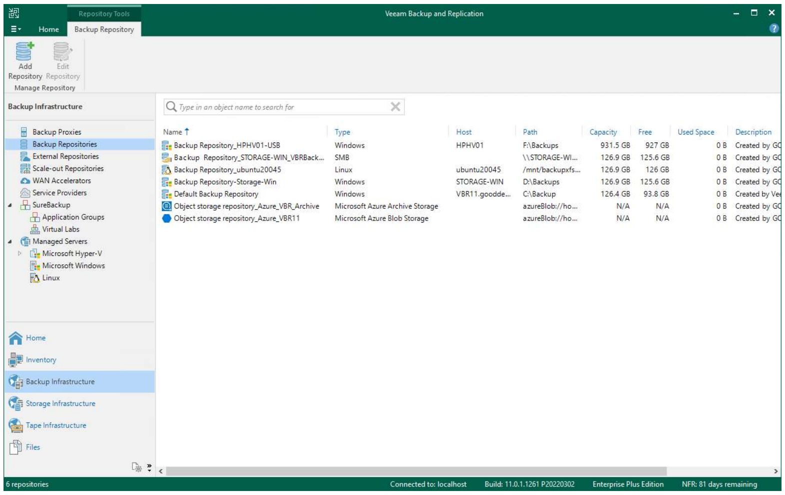


Summary:

Windows backup repository 'Backup Repository_HPHV01-USB' was successfully created.

Mount host: HPHV01
Account: HPHV01\Administrator
Backup folder: F:\Backups
Write throughput: unlimited
Max parallel tasks: 4

26. Verify that the Backup Repository has been added.



Name ↑	Type	Host	Path	Capacity	Free	Used Space	Description
Backup Repository_HPHV01-USB	Windows	HPHV01	F:\Backups	931.5 GB	927 GB	0 B	Created by GC
Backup Repository_STORAGE-WIN_VBRBack...	SMB		\\STORAGE-WI...	126.9 GB	125.6 GB	0 B	Created by GC
Backup Repository_ubuntu20045	Linux	ubuntu20045	/mnt/backupxfs...	126.9 GB	126 GB	0 B	Created by GC
Backup Repository-Storage-Win	Windows	STORAGE-WIN	D:\Backups	126.9 GB	125.6 GB	0 B	Created by GC
Default Backup Repository	Windows	VBR11.goodde...	C:\Backup	126.4 GB	93.8 GB	0 B	Created by Ve
Object storage repository_Azure_VBR_Archive	Microsoft Azure Archive Storage		azureBlob://ho...	N/A	N/A	0 B	Created by GC
Object storage repository_Azure_VBR11	Microsoft Azure Blob Storage		azureBlob://ho...	N/A	N/A	0 B	Created by GC

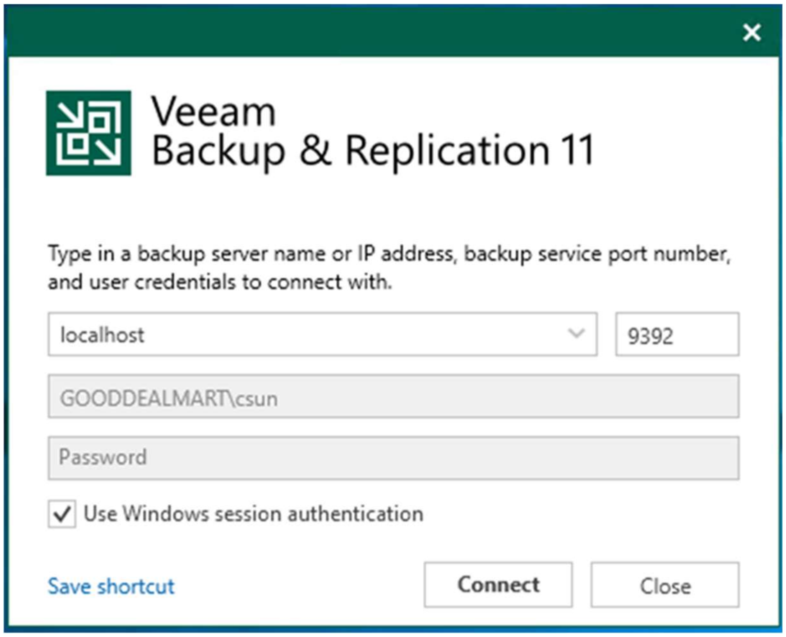
6 repositories   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 81 days remaining

Adding WAN Acceleration

Veeam's WAN acceleration technology optimizes data transfer to remote locations. It is explicitly designed for off-site backup copy and replication jobs. You must deploy a pair of WAN accelerators in your backup infrastructure to enable WAN acceleration and data deduplication technologies.

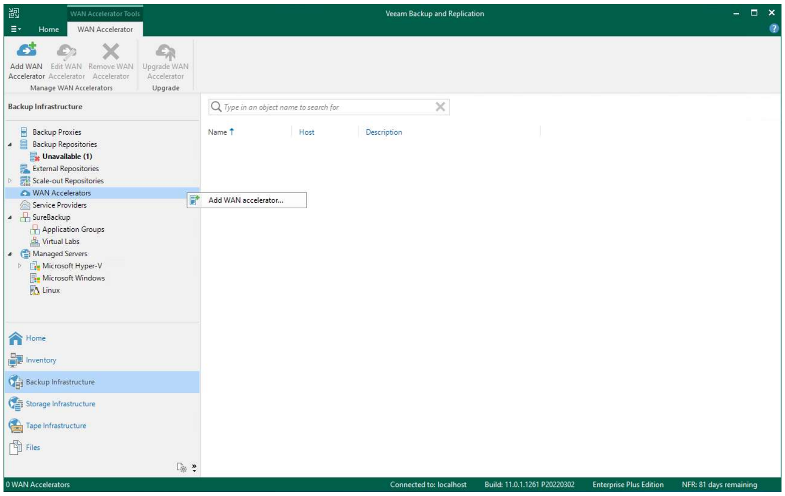
Note:

The Veeam Universal License includes WAN acceleration. Veeam Backup & Replication Enterprise or Enterprise Plus editions are required when using a legacy socket-based licence.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Backup Infrastructure.

4. On the Backup Infrastructure page, select WAN Accelerators, right-click WAN Accelerators, and select Add WAN Accelerator.

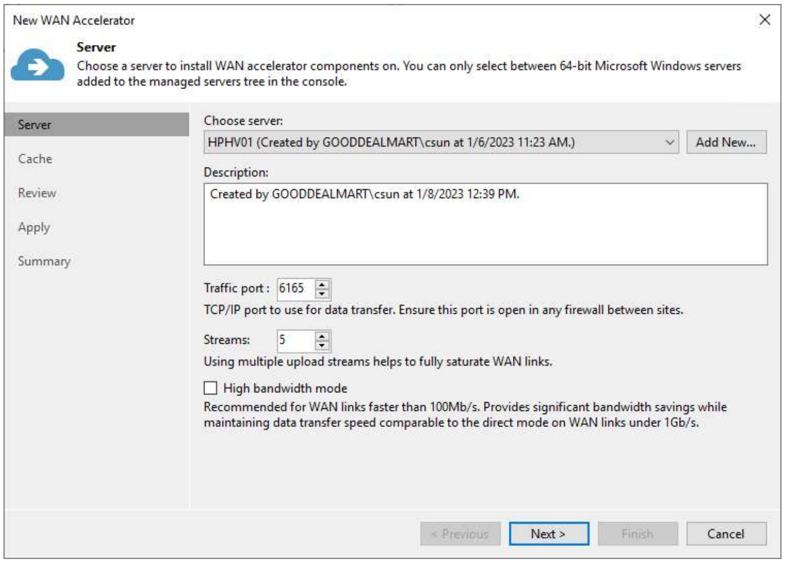


5. Select a Microsoft Windows server from the Choose server drop-down list on the Server page.

6. Describe comments in the Description.

7. Specify the number of the port in the Traffic port field.

8. Specify the number of connections in the Streams field. If the link has low latency and high bandwidth, the default setting (5 streams) may sufficiently saturate it thoroughly. The link still needs to be fully utilized the number of streams may be increased.



Server

Choose a server to install WAN accelerator components on. You can only select between 64-bit Microsoft Windows servers added to the managed servers tree in the console.

Choose server: HPHV01 (Created by GOODDEALMART\csun at 1/6/2023 11:23 AM.)

Description: Created by GOODDEALMART\csun at 1/8/2023 12:39 PM.

Traffic port : 6165

TCP/IP port to use for data transfer. Ensure this port is open in any firewall between sites.

Streams: 5

Using multiple upload streams helps to fully saturate WAN links.

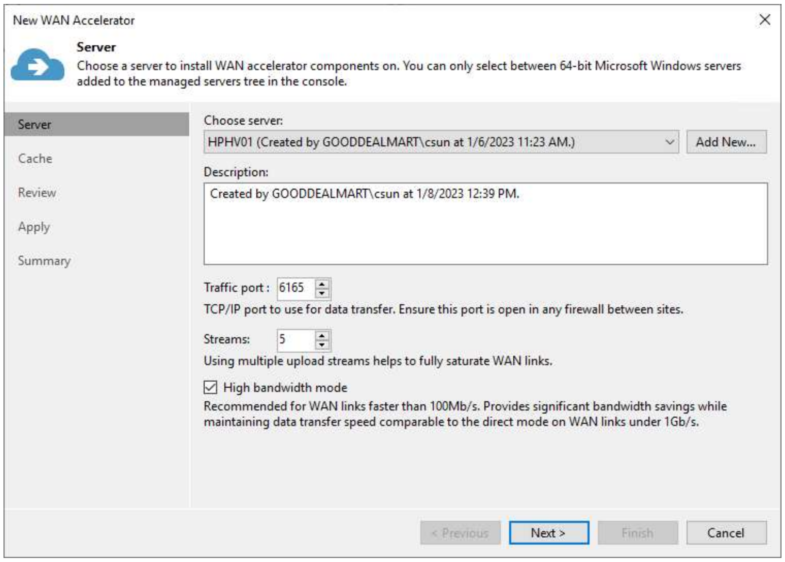
□ High bandwidth mode

Recommended for WAN links faster than 100Mb/s. Provides significant bandwidth savings while maintaining data transfer speed comparable to the direct mode on WAN links under 1Gb/s.

According to tests, multiplying the link speed by 1.5 is a good best practice for estimating the number of streams required for high latency.

9. If your network bandwidth exceeds 100 Mbps, Veeam recommends using the High bandwidth mode option. On WAN links less than 1 Gbps, this mode offers significant bandwidth savings compared to the direct method.

10. Click Next.



Server

Choose a server to install WAN accelerator components on. You can only select between 64-bit Microsoft Windows servers added to the managed servers tree in the console.

Choose server: HPHV01 (Created by GOODDEALMART\csun at 1/6/2023 11:23 AM.)

Description: Created by GOODDEALMART\csun at 1/8/2023 12:39 PM.

Traffic port : 6165

TCP/IP port to use for data transfer. Ensure this port is open in any firewall between sites.

Streams: 5

Using multiple upload streams helps to fully saturate WAN links.

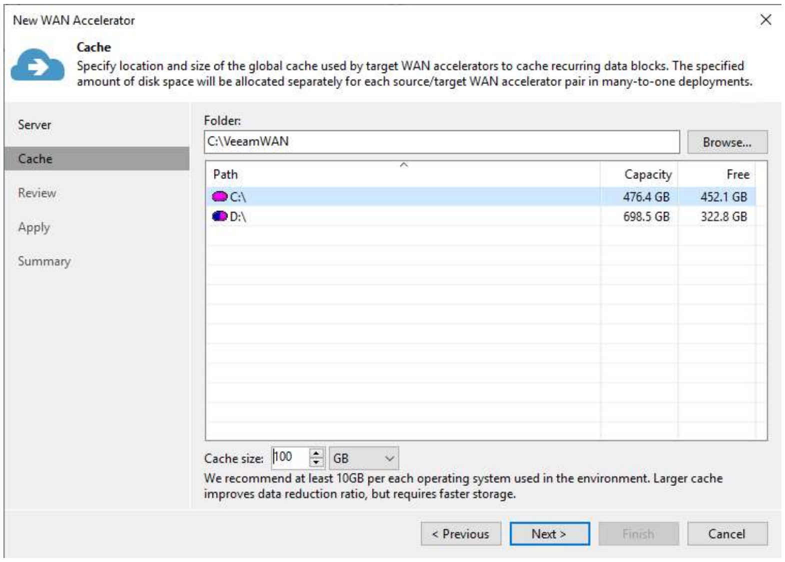
☑ High bandwidth mode

Recommended for WAN links faster than 100Mb/s. Provides significant bandwidth savings while maintaining data transfer speed comparable to the direct mode on WAN links under 1Gb/s.

11. Specify a path to the folder in the Folder field on the Cache page.
12. Specify the size for the global cache in the Cache size field.
13. Click Next.

Note:

If both WAN accelerators (source and target) are set to High bandwidth, WAN acceleration does not use the global cache. However, remember that you can deactivate the High bandwidth mode and return to the Low bandwidth mode anytime.



Cache

Specify location and size of the global cache used by target WAN accelerators to cache recurring data blocks. The specified amount of disk space will be allocated separately for each source/target WAN accelerator pair in many-to-one deployments.

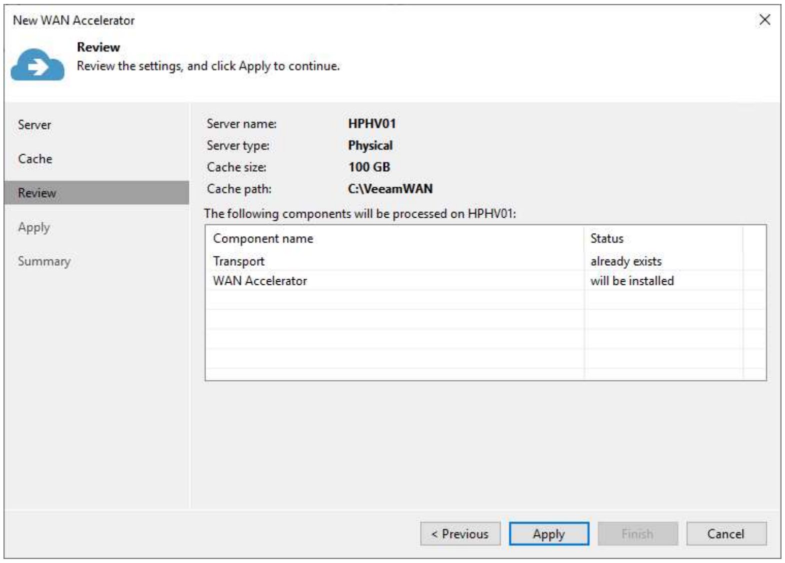
Folder: C:\VeeamWAN

Path	Capacity	Free
C:\	476.4 GB	452.1 GB
D:\	698.5 GB	322.8 GB

Cache size: 100 GB

We recommend at least 10GB per each operating system used in the environment. Larger cache improves data reduction ratio, but requires faster storage.

14. On the Review page, click Apply.



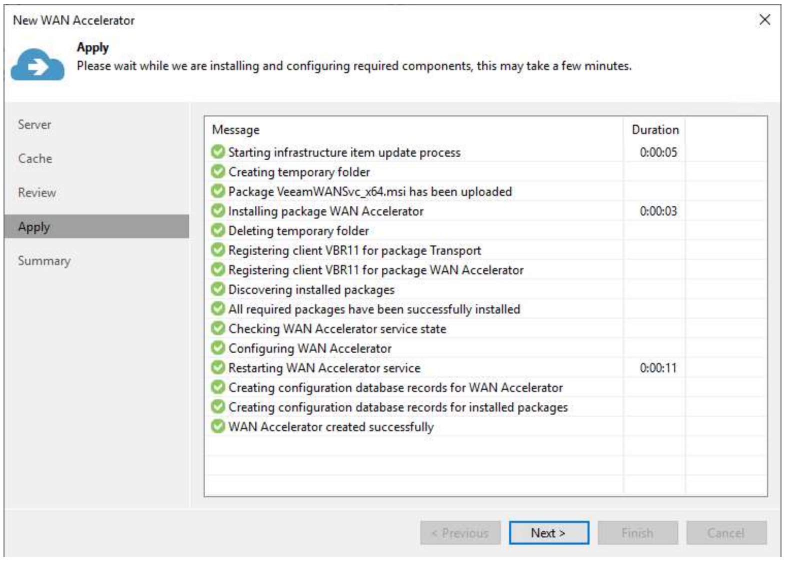
Review
Review the settings, and click Apply to continue.

Server name:	**HPHV01**
Server type:	**Physical**
Cache size:	**100 GB**
Cache path:	**C:\VeeamWAN**

The following components will be processed on HPHV01:

Component name	Status
Transport	already exists
WAN Accelerator	will be installed

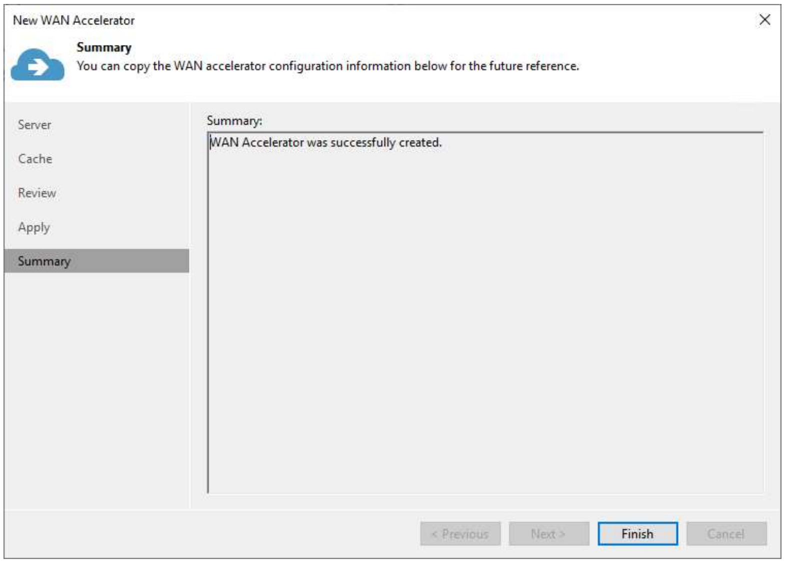
15. On the Apply page, complete the procedure of WAN Accelerator adding without error, and click Next.



Apply
Please wait while we are installing and configuring required components, this may take a few minutes.

Message	Duration
✓ Starting infrastructure item update process	0:00:05
✓ Creating temporary folder	
✓ Package VeeamWANSvc_x64.msi has been uploaded	
✓ Installing package WAN Accelerator	0:00:03
✓ Deleting temporary folder	
✓ Registering client VBR11 for package Transport	
✓ Registering client VBR11 for package WAN Accelerator	
✓ Discovering installed packages	
✓ All required packages have been successfully installed	
✓ Checking WAN Accelerator service state	
✓ Configuring WAN Accelerator	
✓ Restarting WAN Accelerator service	0:00:11
✓ Creating configuration database records for WAN Accelerator	
✓ Creating configuration database records for installed packages	
✓ WAN Accelerator created successfully	

16. On the Summary page, click Finish.

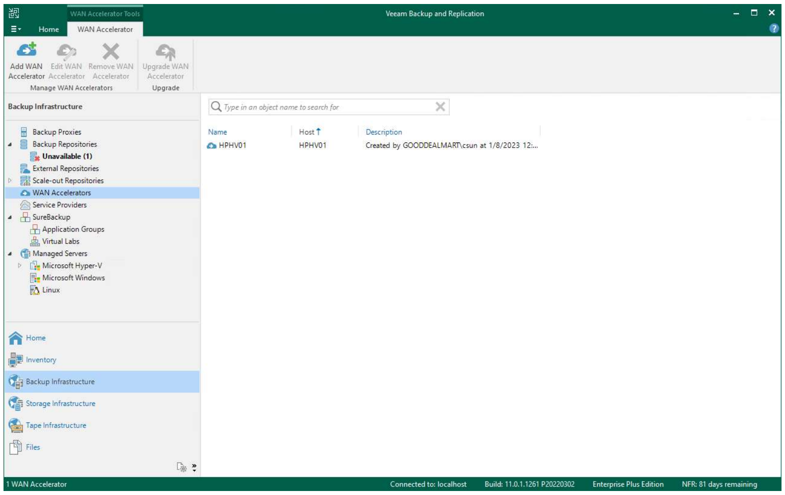


You can copy the WAN accelerator configuration information below for the future reference.

Summary:

WAN Accelerator was successfully created.

17. Verify that the WAN Accelerator has been added.



Name	Host ↑	Description
HPHV01	HPHV01	Created by GOODDEALMART\csun at 1/8/2023 12:...

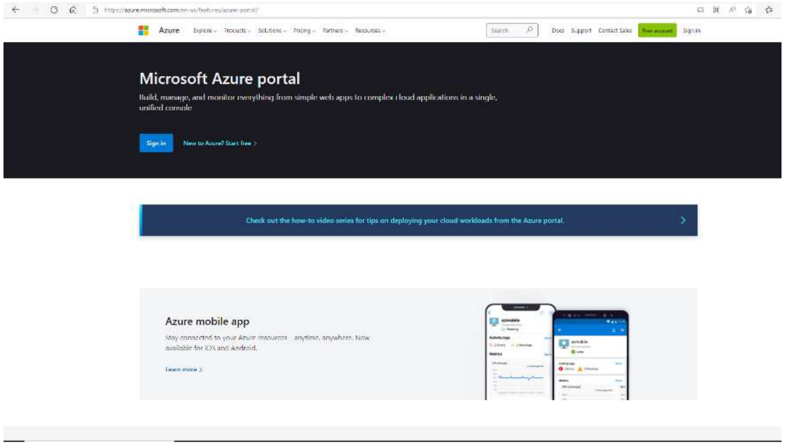
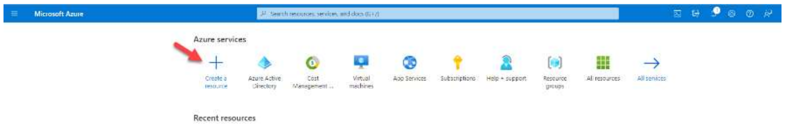
1 WAN Accelerator   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 81 days remaining

General Settings

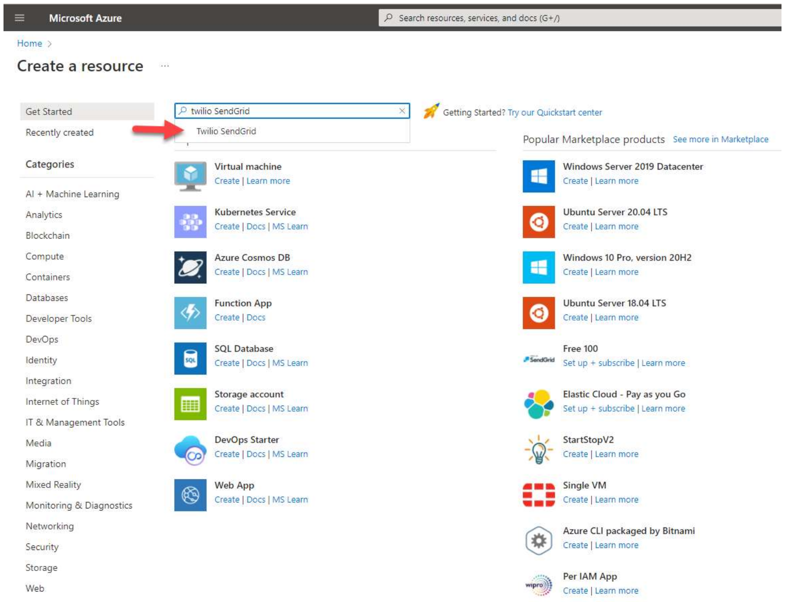
All jobs, backup infrastructure components, and other backup server-managed objects have general settings applied to them.

Configure Notification with Free SendGrid Account of Azure

You can configure the SendGrid account as an SMTP relay for notification settings if you want Veeam Backup & Replication to send email notifications about backup job results.

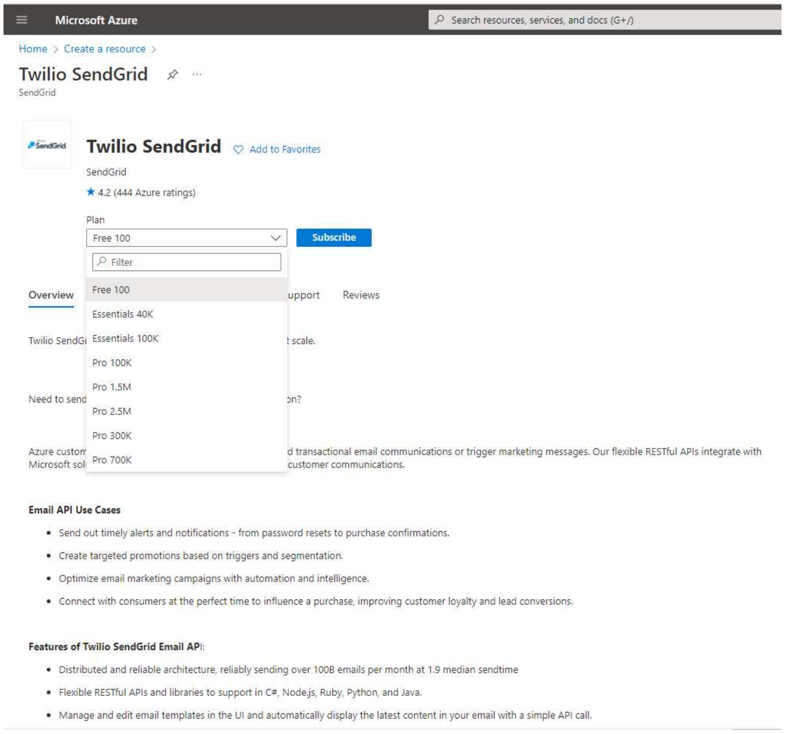
Instructions	Screenshot (if applicable)
1. Sign in Azure portal with a global admin account. https://portal.azure.com	 https://azure.microsoft.com/en-us/features/azure-portal/ Azure Explore Products Solutions Pricing Partners Resources Search Docs Support Contact Sales Free account Sign in Microsoft Azure portal Build, manage, and monitor everything from simple web apps to complex cloud applications in a single, unified console Sign in New to Azure? Start free › Check out the how-to video series for tips on deploying your cloud workloads from the Azure portal. Azure mobile app Stay connected to your Azure resources—anytime, anywhere. Now available for iOS and Android.
2. On the Azure services page, select +Create resource.	 Microsoft Azure Search resources, services, and docs (G+/) Azure services Create a resource Azure Active Directory Cost Management ... Virtual machines App Services Subscriptions Help + support Resource groups All resources All services Recent resources

3. On the Create a resource page, search and select Twilio SendGrid.



twilio SendGrid

4. On the Create Twilio SendGrid page, select subscribe Plan and click Subscribe.



Plan: Free 100

Twilio SendG t scale.

Need to send on?

Azure custom d transactional email communications or trigger marketing messages. Our flexible RESTful APIs integrate with Microsoft sol customer communications.

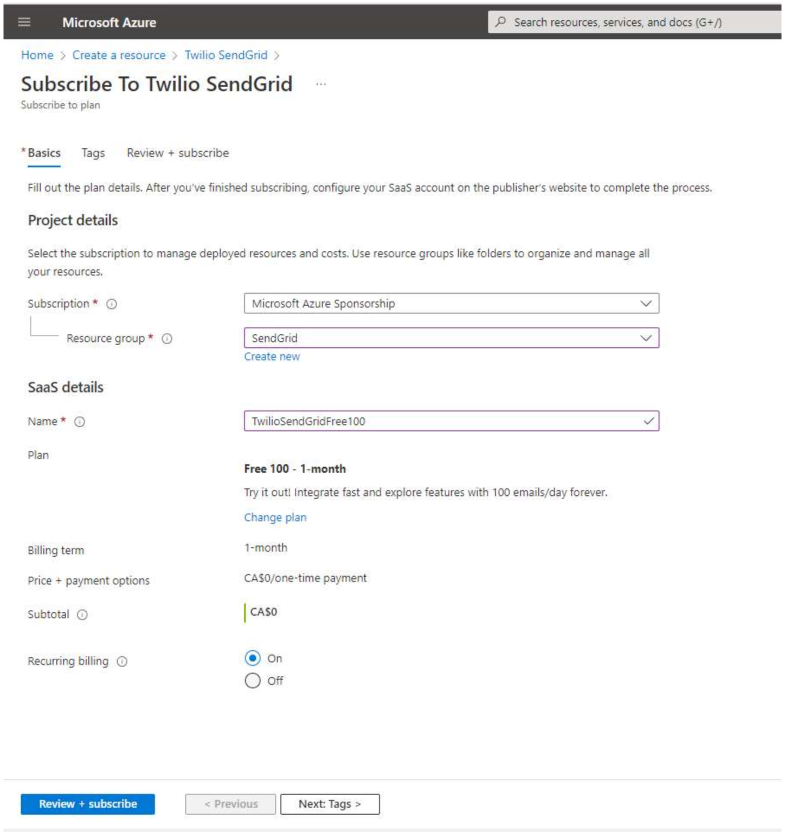
Email API Use Cases

- Send out timely alerts and notifications - from password resets to purchase confirmations.
- Create targeted promotions based on triggers and segmentation.
- Optimize email marketing campaigns with automation and intelligence.
- Connect with consumers at the perfect time to influence a purchase, improving customer loyalty and lead conversions.

Features of Twilio SendGrid Email API:

- Distributed and reliable architecture, reliably sending over 100B emails per month at 1.9 median sendtime
- Flexible RESTful APIs and libraries to support in C#, Node.js, Ruby, Python, and Java.
- Manage and edit email templates in the UI and automatically display the latest content in your email with a simple API call.

5. On the Create SendGrid Account page, select Basics, file in all the information and then click Next: Tags.



Microsoft Azure
Search resources, services, and docs (G+/)
Home > Create a resource > Twilio SendGrid >

Subscribe To Twilio SendGrid

Subscribe to plan

*Basics
Tags
Review + subscribe

Fill out the plan details. After you've finished subscribing, configure your SaaS account on the publisher's website to complete the process.

Project details

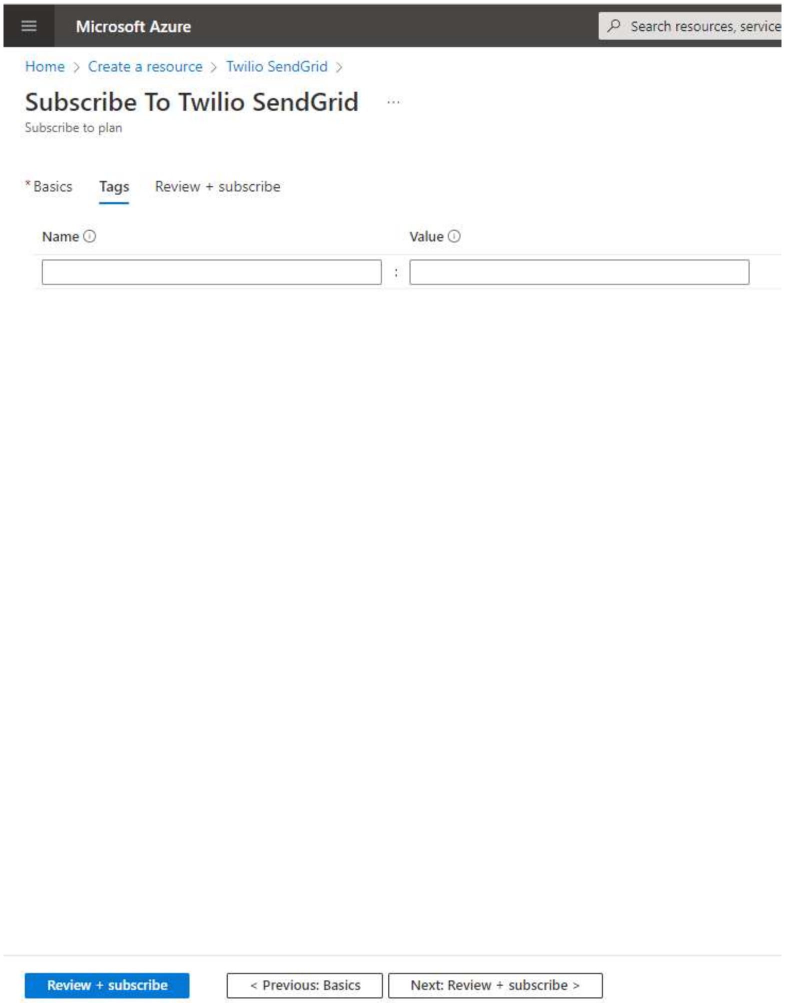
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	Microsoft Azure Sponsorship
Resource group *	SendGrid Create new

SaaS details

Name *	TwilioSendGridFree100
Plan	**Free 100 - 1-month** Try it out! Integrate fast and explore features with 100 emails/day forever. Change plan
Billing term	1-month
Price + payment options	CA$0/one-time payment
Subtotal	CA$0
Recurring billing	● On ○ Off

6. On the Tags page, click Next: Review + subscribe.



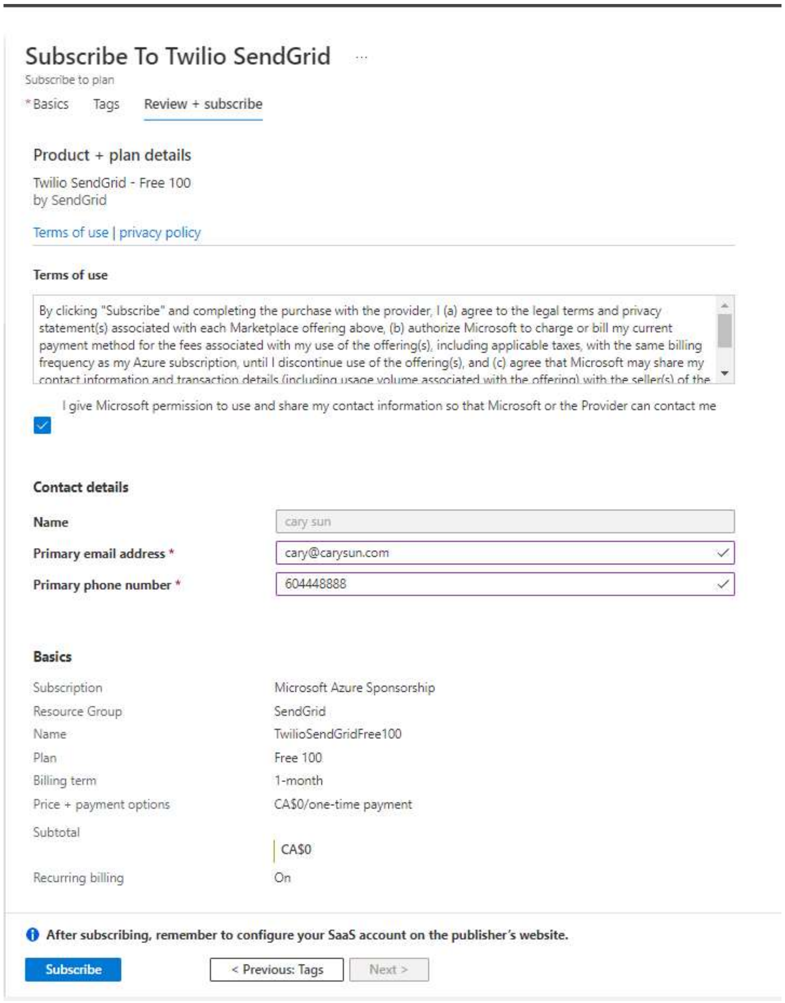
Microsoft Azure
Search resources, service
Home > Create a resource > Twilio SendGrid >

Subscribe To Twilio SendGrid

Subscribe to plan

* Basics
Tags
Review + subscribe
Name
Value
Review + subscribe
< Previous: Basics
Next: Review + subscribe >

7. On the Review + subscribe page, select I give Microsoft permission to use and share my contact information so that Microsoft or the provider can contact me.



Product + plan details

Twilio SendGrid - Free 100
by SendGrid

Terms of use | privacy policy

Terms of use

By clicking "Subscribe" and completing the purchase with the provider, I (a) agree to the legal terms and privacy statement(s) associated with each Marketplace offering above, (b) authorize Microsoft to charge or bill my current payment method for the fees associated with my use of the offering(s), including applicable taxes, with the same billing frequency as my Azure subscription, until I discontinue use of the offering(s), and (c) agree that Microsoft may share my contact information and transaction details (including usage volume associated with the offering) with the seller(s) of the

☑ I give Microsoft permission to use and share my contact information so that Microsoft or the Provider can contact me

Contact details

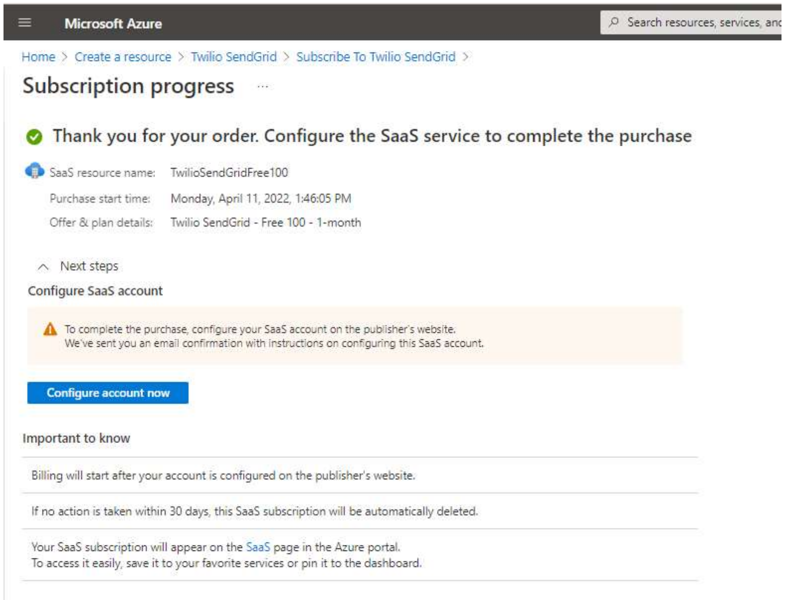
Name	cary sun
Primary email address *	cary@carysun.com ✓
Primary phone number *	604448888 ✓

Basics

Subscription	Microsoft Azure Sponsorship
Resource Group	SendGrid
Name	TwilioSendGridFree100
Plan	Free 100
Billing term	1-month
Price + payment options	CA$0/one-time payment
Subtotal	CA$0
Recurring billing	On

After subscribing, remember to configure your SaaS account on the publisher's website.

8. On the Configure SaaS account page, click Configure account now.



Microsoft Azure
Search resources, services, and
Home > Create a resource > Twilio SendGrid > Subscribe To Twilio SendGrid >

Subscription progress ...

Thank you for your order. Configure the SaaS service to complete the purchase

SaaS resource name: TwilioSendGridFree100

Purchase start time: Monday, April 11, 2022, 1:46:05 PM

Offer & plan details: Twilio SendGrid - Free 100 - 1-month

Next steps

Configure SaaS account

To complete the purchase, configure your SaaS account on the publisher's website.
We've sent you an email confirmation with instructions on configuring this SaaS account.

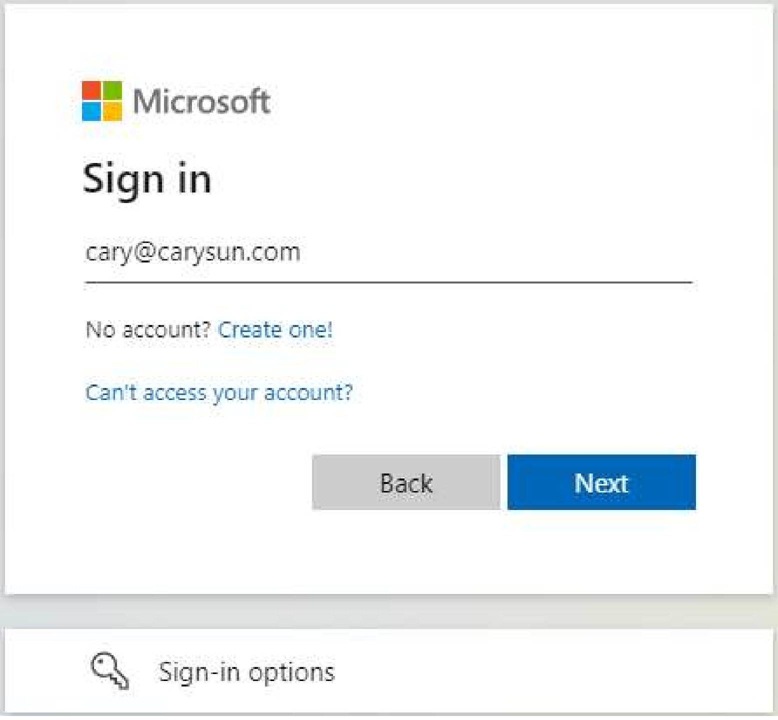
Important to know

Billing will start after your account is configured on the publisher's website.

If no action is taken within 30 days, this SaaS subscription will be automatically deleted.

Your SaaS subscription will appear on the SaaS page in the Azure portal.
To access it easily, save it to your favorite services or pin it to the dashboard.

9. On the Microsoft Sign-in page, enter your account name and click Next.



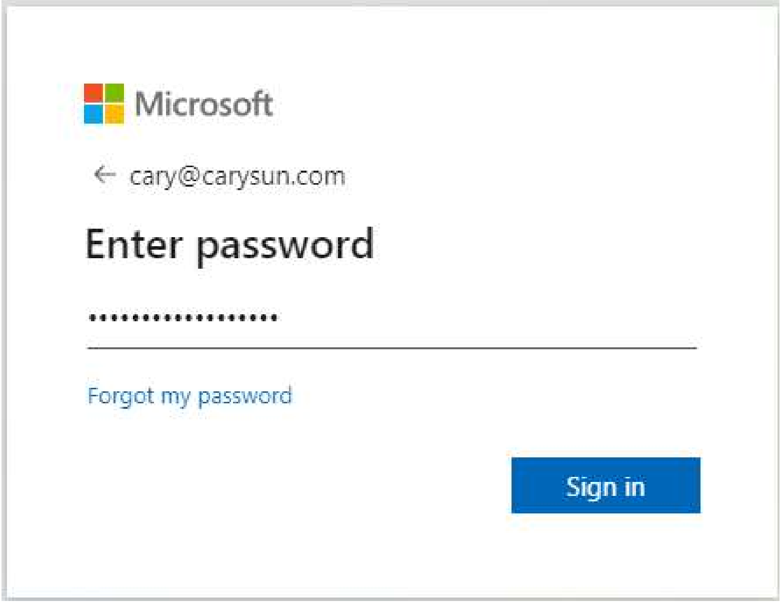
Sign in

cary@carysun.com

No account? Create one!

Can't access your account?

10. Enter a password, and click Sign in.



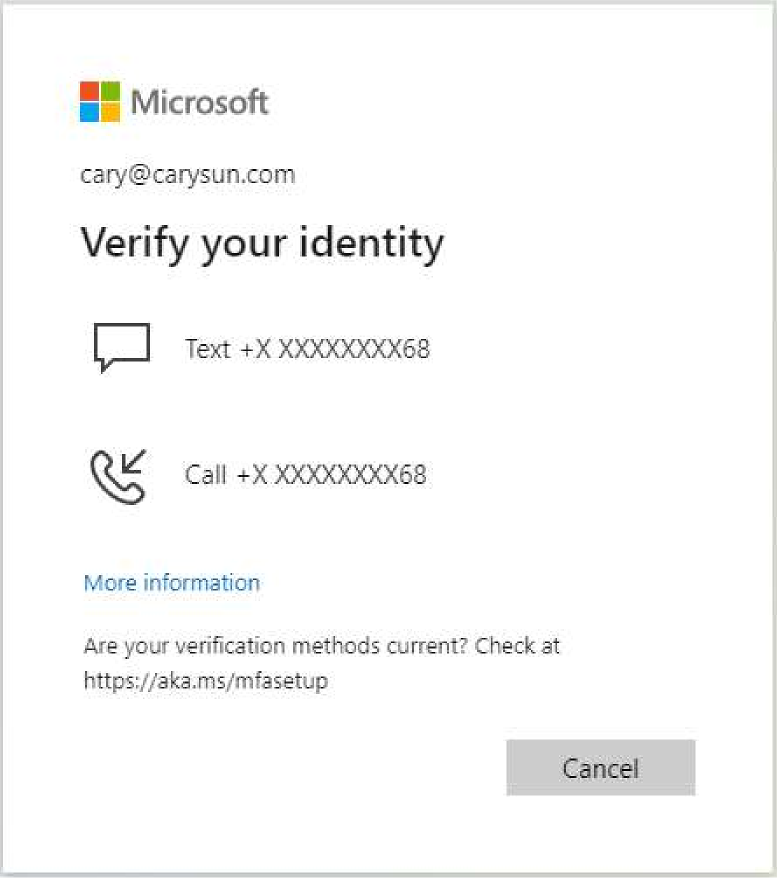
Microsoft

cary@carysun.com

Enter password

••••••••••••••••••

11. On the Verify your identity page, select the identity method.



Microsoft

cary@carysun.com

Verify your identity

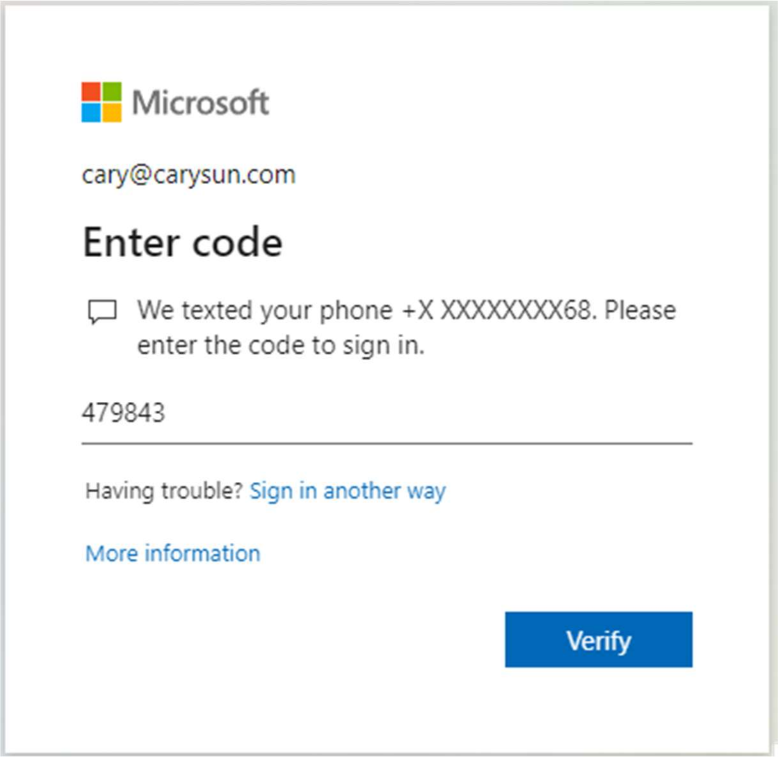
Text +X XXXXXXXX68

Call +X XXXXXXXX68

More information

Are your verification methods current? Check at https://aka.ms/mfasetup

12. Enter the code, and click Verify.



Microsoft

cary@carysun.com

Enter code

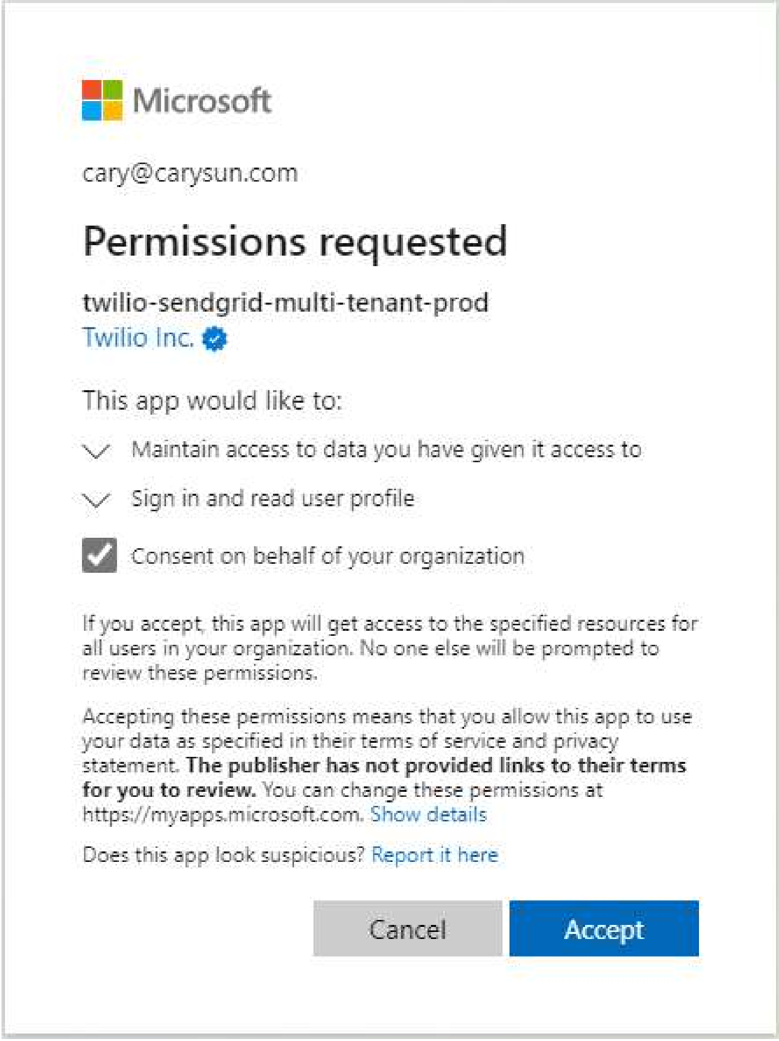
We texted your phone +X XXXXXXXX68. Please enter the code to sign in.

479843

Having trouble? Sign in another way

More information

13. On the Permissions requested page, select Consent on behalf of your organization and click Accept.



Microsoft

cary@carysun.com

Permissions requested

twilio-sendgrid-multi-tenant-prod

Twilio Inc.

This app would like to:

- Maintain access to data you have given it access to
- Sign in and read user profile

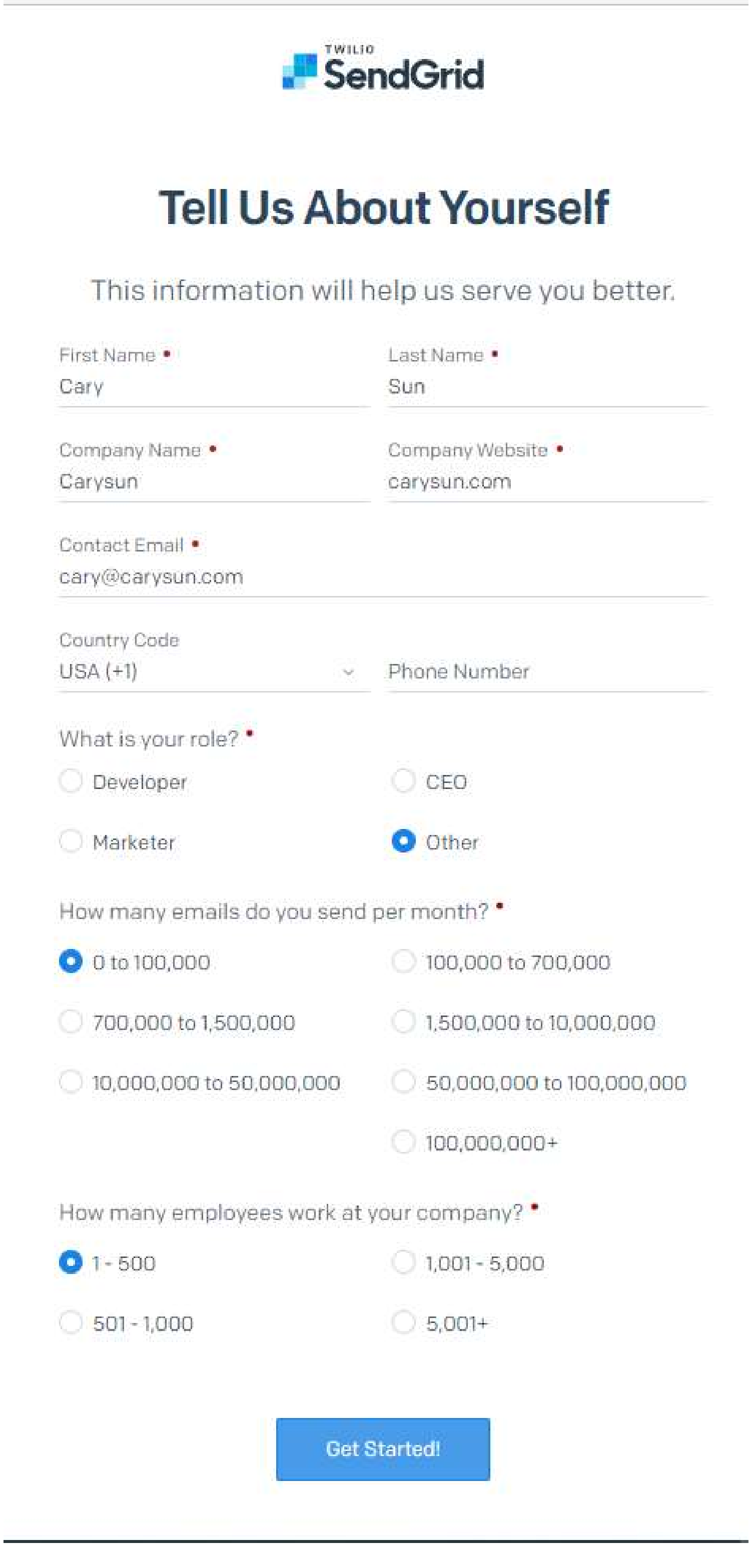
☑ Consent on behalf of your organization

If you accept, this app will get access to the specified resources for all users in your organization. No one else will be prompted to review these permissions.

Accepting these permissions means that you allow this app to use your data as specified in their terms of service and privacy statement. **The publisher has not provided links to their terms for you to review.** You can change these permissions at https://myapps.microsoft.com. Show details

Does this app look suspicious? Report it here

14. Fill in the information, and click Get Started!



Tell Us About Yourself

This information will help us serve you better.

First Name • Cary	Last Name • Sun
Company Name • Carysun	Company Website • carysun.com
Contact Email • cary@carysun.com	
Country Code USA (+1)	Phone Number

What is your role? •

○ Developer ○ CEO
○ Marketer ● Other

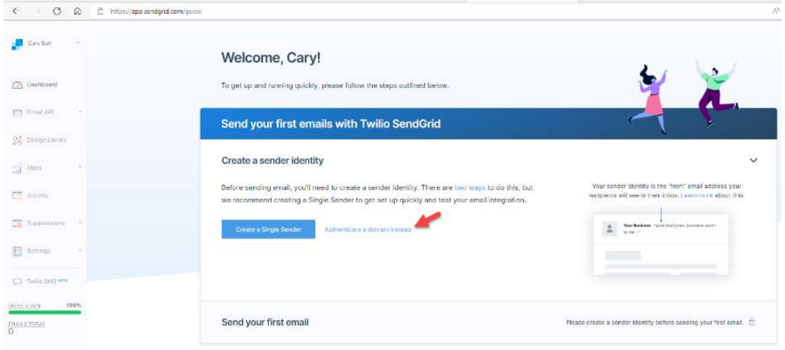
How many emails do you send per month? •

● 0 to 100,000 ○ 100,000 to 700,000
○ 700,000 to 1,500,000 ○ 1,500,000 to 10,000,000
○ 10,000,000 to 50,000,000 ○ 50,000,000 to 100,000,000
○ 100,000,000+

How many employees work at your company? •

● 1 - 500 ○ 1,001 - 5,000
○ 501 - 1,000 ○ 5,001+

15. On the SendGrid Welcome page, select Authentication a domain instead.



https://app.sendgrid.com/guide

Welcome, Cary!

To get up and running quickly, please follow the steps outlined below.

Send your first emails with Twilio SendGrid

Create a sender identity

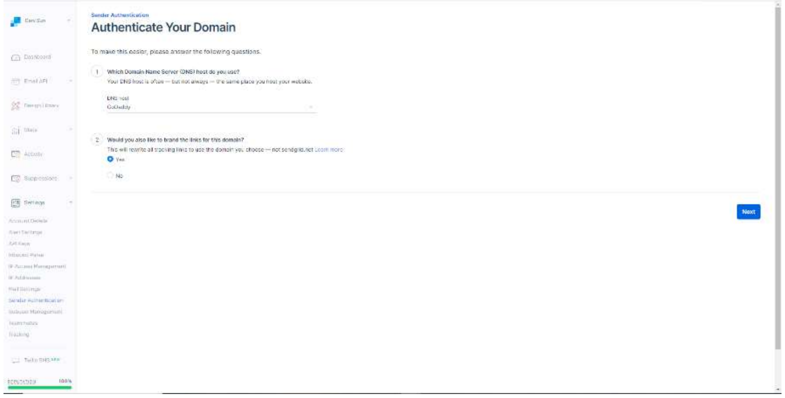
Before sending email, you'll need to create a sender identity. There are two ways to do this, but we recommend creating a Single Sender to get set up quickly and test your email integration.

Your sender identity is the "from" email address your recipients will see in their inbox. Learn more about this.

Send your first email

Please create a sender identity before sending your first email.

16. On the Authenticate Your Domain page, select your DNS host, select Yes to rewrite all tracking links to use your chosen domain –not sendgrid.net, and click Next.



Sender Authentication

Authenticate Your Domain

To make this easier, please answer the following questions.

1 Which Domain Name Server (DNS) host do you use?

Your DNS host is often — but not always — the same place you host your website.

DNS host: GoDaddy

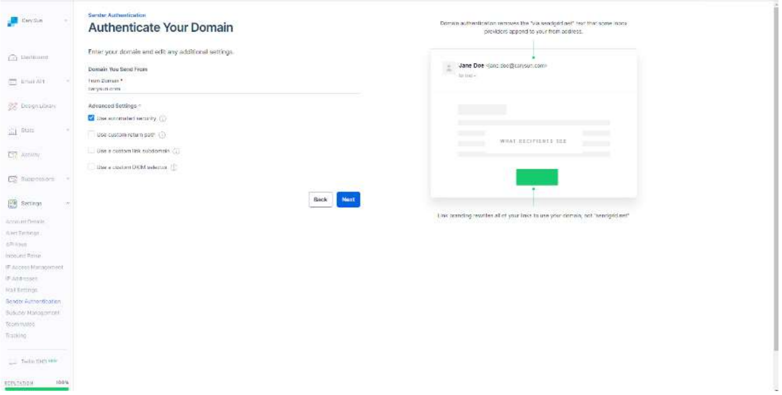
2 Would you also like to brand the links for this domain?

This will rewrite all tracking links to use the domain you choose — not sendgrid.net Learn more

● Yes

○ No

17. Enter your domain name on the Domain You Send From the page, and click Next.



Sender Authentication

Authenticate Your Domain

Enter your domain and edit any additional settings.

Domain You Send From

From Domain *: caryssun.com

Advanced Settings

☑ Use automated security

□ Use custom return path

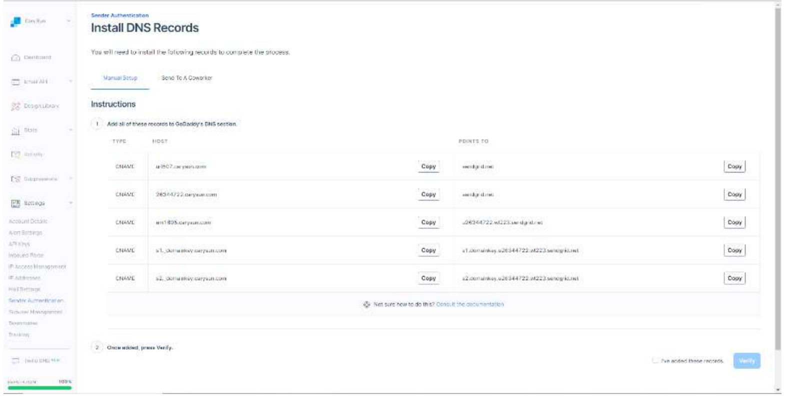
□ Use a custom link subdomain

□ Use a custom DKIM selector

Domain authentication removes the "via sendgrid.net" text that some inbox providers append to your from address.

Link branding rewrites all of your links to use your domain, not "sendgrid.net"

18. On the Install DNS Records page, copy and add all these records to your External DNS records.



Sender Authentication

Install DNS Records

You will need to install the following records to complete the process.

Instructions

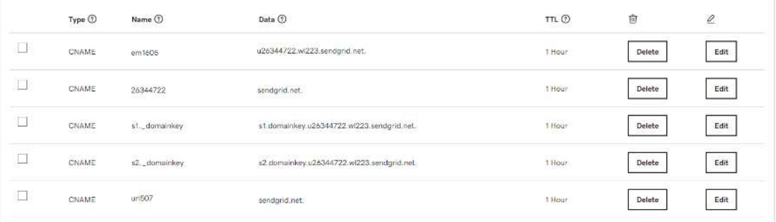
1 Add all of these records to GoDaddy's DNS section.

TYPE	HOST		POINTS TO	
CNAME	url507.carysun.com	Copy	sendgrid.net	Copy
CNAME	26344722.carysun.com	Copy	sendgrid.net	Copy
CNAME	em1605.carysun.com	Copy	u26344722.wl223.sendgrid.net	Copy
CNAME	s1._domainkey.carysun.com	Copy	s1.domainkey.u26344722.wl223.sendgrid.net	Copy
CNAME	s2._domainkey.carysun.com	Copy	s2.domainkey.u26344722.wl223.sendgrid.net	Copy

Not sure how to do this? Consult the documentation

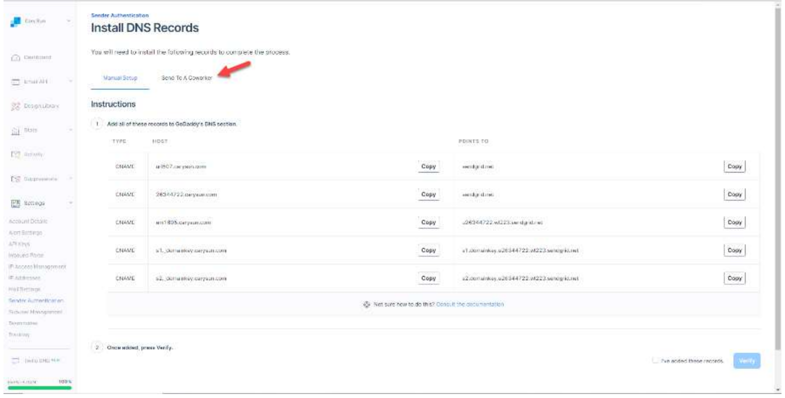
2 Once added, press Verify.

19. In my case, add them to GoDaddy.



	Type	Name	Data	TTL		
□	CNAME	em1605	u26344722.wl223.sendgrid.net.	1 Hour	Delete	Edit
□	CNAME	26344722	sendgrid.net.	1 Hour	Delete	Edit
□	CNAME	s1._domainkey	s1.domainkey.u26344722.wl223.sendgrid.net.	1 Hour	Delete	Edit
□	CNAME	s2._domainkey	s2.domainkey.u26344722.wl223.sendgrid.net.	1 Hour	Delete	Edit
□	CNAME	url507	sendgrid.net.	1 Hour	Delete	Edit

20. If you cannot add DNS records, select Send To A Coworker.



Sender Authentication

Install DNS Records

You will need to install the following records to complete the process.

Manual Setup
Send To A Coworker

Instructions

1 Add all of these records to GoDaddy's DNS section.

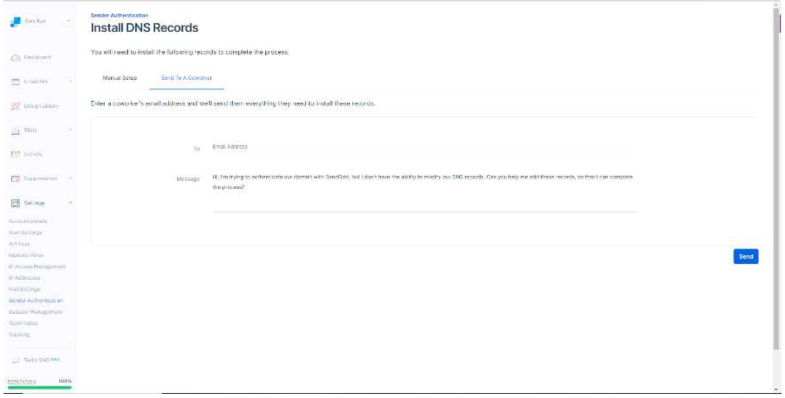
TYPE	HOST		POINTS TO	
CNAME	url507.carysun.com	Copy	sendgrid.net	Copy
CNAME	26344722.carysun.com	Copy	sendgrid.net	Copy
CNAME	em1605.carysun.com	Copy	u26344722.wl223.sendgrid.net	Copy
CNAME	s1._domainkey.carysun.com	Copy	s1.domainkey.u26344722.wl223.sendgrid.net	Copy
CNAME	s2._domainkey.carysun.com	Copy	s2.domainkey.u26344722.wl223.sendgrid.net	Copy

Not sure how to do this? Consult the documentation

2 Once added, press Verify.

□ I've added these records.
Verify

21. Type your coworker’s email address, and click Send. Ask your coworker to add these DNS records.



Sender Authentication

Install DNS Records

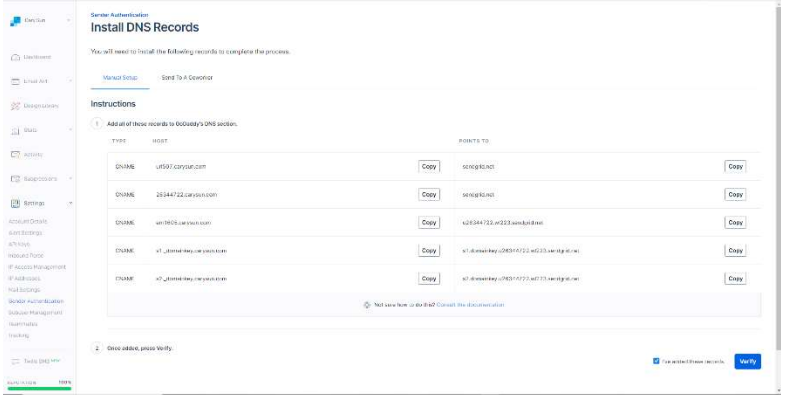
You will need to install the following records to complete the process.

Enter a coworker's email address and we'll send them everything they need to install these records.

To: Email Address

Message: Hi, I'm trying to authenticate our domain with SendGrid, but I don't have the ability to modify our DNS records. Can you help me add these records, so that I can complete the process?

22. On the Install DNS Records page, select I've added these records, click Verify.



Sender Authentication

Install DNS Records

You will need to install the following records to complete the process.

Instructions

1 Add all of these records to GoDaddy's DNS section.

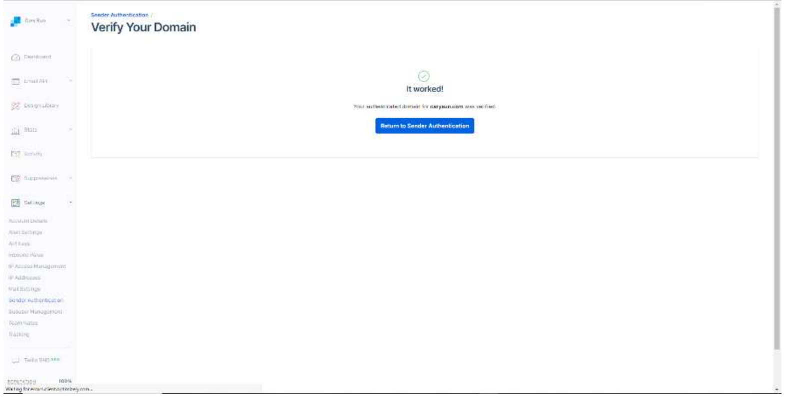
TYPE	HOST		POINTS TO	
CNAME	url507.carysun.com	Copy	sendgrid.net	Copy
CNAME	28344722.carysun.com	Copy	sendgrid.net	Copy
CNAME	em1606.carysun.com	Copy	u28344722.wl223.sendgrid.net	Copy
CNAME	s1._domainkey.carysun.com	Copy	s1.domainkey.u28344722.wl223.sendgrid.net	Copy
CNAME	s2._domainkey.carysun.com	Copy	s2.domainkey.u28344722.wl223.sendgrid.net	Copy

Not sure how to do this? Consult the documentation

2 Once added, press Verify.

☑ I've added these records.

23. On the Verify Your Domain page, make sure your authenticated domain for the domain name was verified without issues and click Return to Sender Authentication.



Sender Authentication /

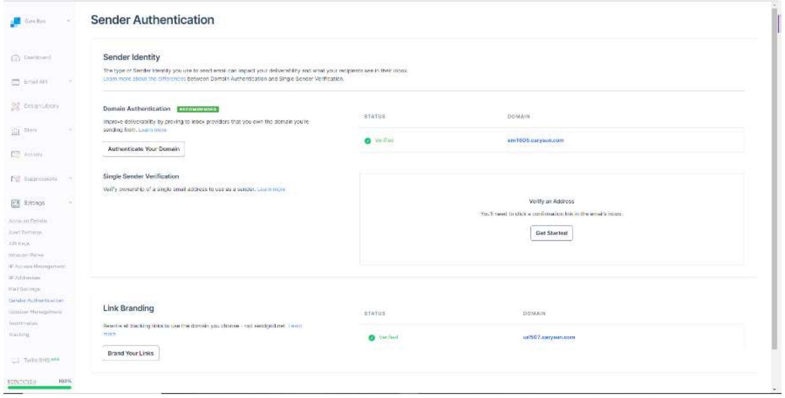
Verify Your Domain

It worked!

Your authenticated domain for carysun.com was verified.

Waiting for www.clientcdn.com...

24. On the Sender Authentication page, ensure Domain Authentication and link Branding status is Verified.



Sender Authentication

Sender Identity

The type of Sender Identity you use to send email can impact your deliverability and what your recipients see in their inbox. Learn more about the differences between Domain Authentication and Single Sender Verification.

Domain Authentication RECOMMENDED

Improve deliverability by proving to inbox providers that you own the domain you're sending from. Learn more

STATUS	DOMAIN
Verified	em1605.carysun.com

Single Sender Verification

Verify ownership of a single email address to use as a sender. Learn more

Verify an Address

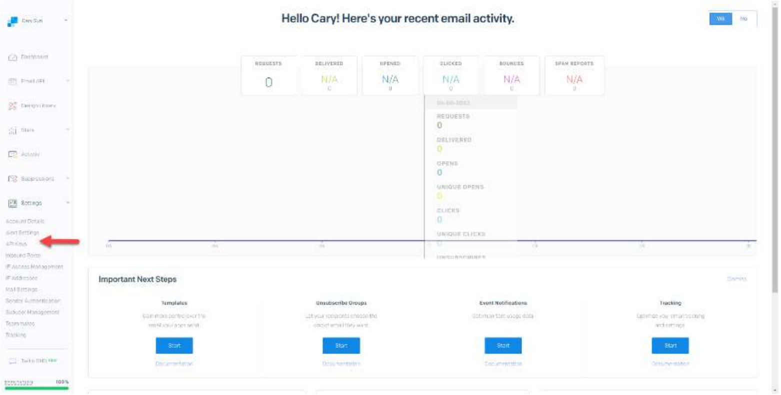
You'll need to click a confirmation link in the email's inbox.

Link Branding

Rewrite all tracking links to use the domain you choose - not sendgrid.net. Learn more

STATUS	DOMAIN
Verified	url507.carysun.com

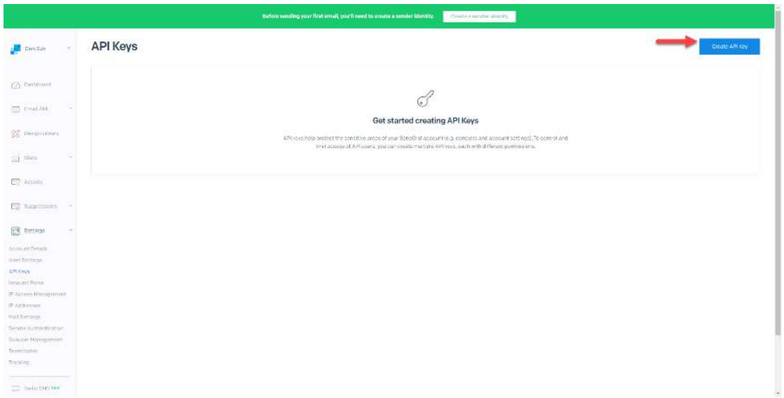
25. Under the Settings page, select API Keys.



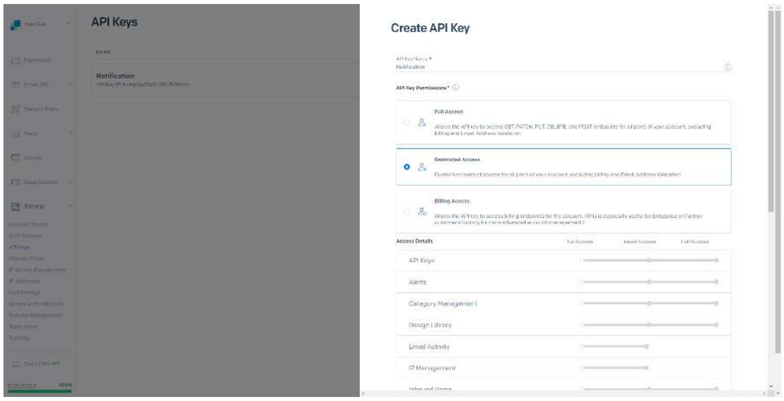
Hello Cary! Here's your recent email activity.

REQUESTS	DELIVERED	OPENED	CLICKED	BOUNCES	SPAM REPORTS
0	N/A	N/A	N/A	N/A	N/A

26. On the API Keys page, select Create API Key.



27. On the Create API Key page, type the API Key Name and select Restricted Access as API Key Permissions.



API Keys

Create API Key

API Key Name *
Notification

API Key Permissions *

○ Full Access
Allows the API key to access GET, PATCH, PUT, DELETE and POST endpoints for all parts of your account, excluding billing and Email Address Validation.

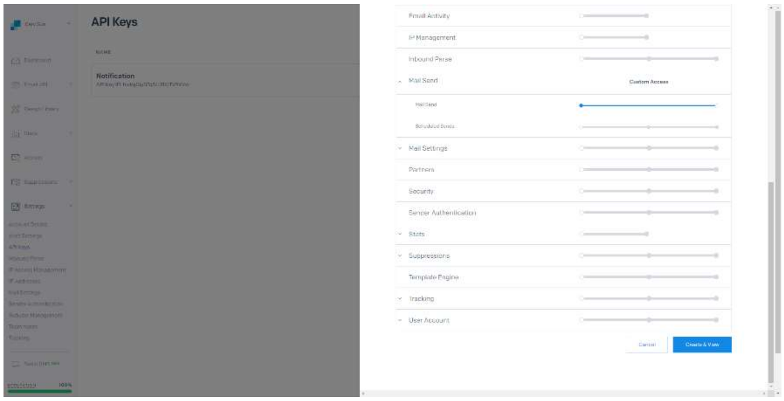
● Restricted Access
Customize levels of access for all parts of your account, excluding billing and Email Address Validation.

○ Billing Access
Allows the API key to access billing endpoints for the account. (This is especially useful for Enterprise or Partner customers looking for more advanced account management.)

Access Details — No Access / Read Access / Full Access

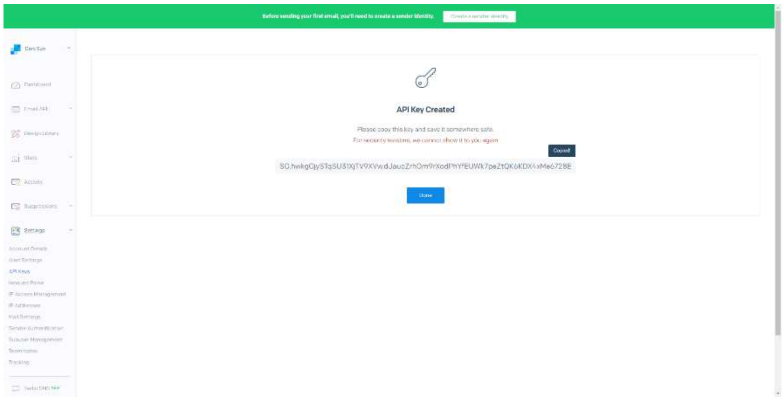
API Keys
Alerts
Category Management
Design Library
Email Activity
IP Management

28. Enable Mail Activity as Access Details, click Create & View.



Email Activity
IP Management
Inbound Parse
Mail Send — Custom Access
Mail Send
Scheduled Sends
Mail Settings
Partners
Security
Sender Authentication
Stats
Suppressions
Template Engine
Tracking
User Account

29. On the API Key Created page, copy the key.
30. Save it and click Done.



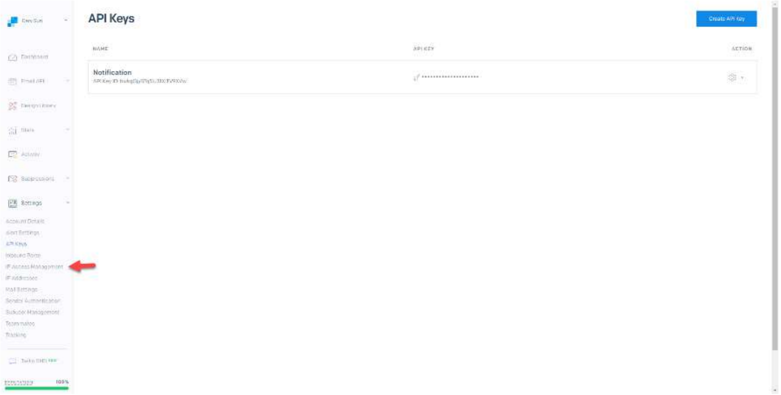
Before sending your first email, you'll need to create a sender identity.

API Key Created

Please copy this key and save it somewhere safe.
For security reasons, we cannot show it to you again

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

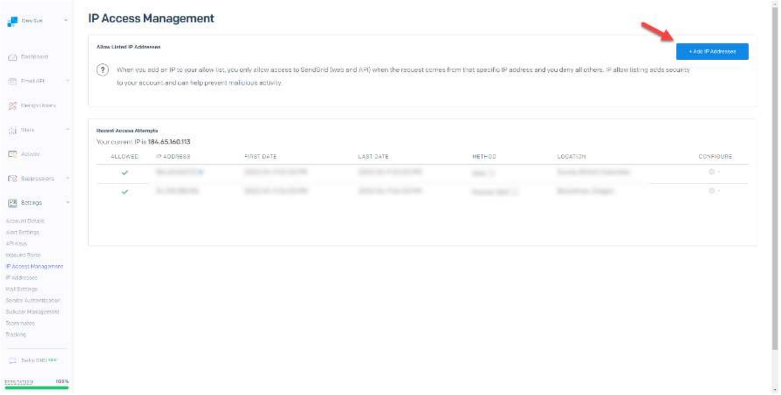
31. Under settings, select IP Access Management.



API Keys

NAME	API KEY	ACTION
Notification API Key ID: bu4qDp9Tq5L3IXTV9XVw	••••••••••••••••••••	⚙

32. On the IP Access Management page, click +Add UP Address.



IP Access Management

Allow Listed IP Addresses

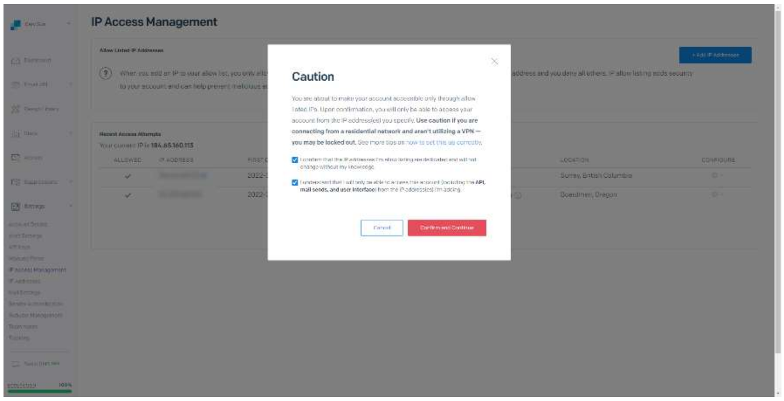
When you add an IP to your allow list, you only allow access to SendGrid (web and API) when the request comes from that specific IP address and you deny all others. IP allow listing adds security to your account and can help prevent malicious activity.

Recent Access Attempts

Your current IP is 184.65.160.113

ALLOWED	IP ADDRESS	FIRST DATE	LAST DATE	METHOD	LOCATION	CONFIGURE
✓	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	⚙
✓	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	⚙

33. On the Caution page, select I confirm that the IP addresses I'm allow listing are dedicated and will not change without my knowledge checkbox.
34. Select I understand that I will only be able to access this account (including the API, mail sends, and user interface) from the IP address(es) I'm adding checkbox.



Caution

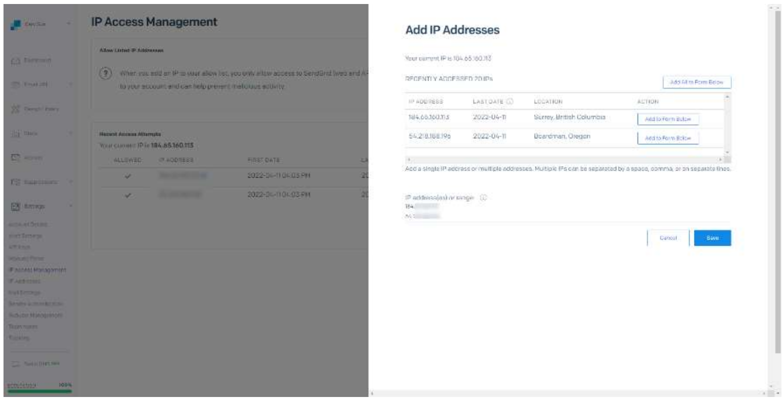
You are about to make your account accessible only through allow listed IPs. Upon confirmation, you will only be able to access your account from the IP address(es) you specify. **Use caution if you are connecting from a residential network and aren't utilizing a VPN — you may be locked out.** See more tips on how to set this up correctly.

☑ I confirm that the IP addresses I'm allow listing are dedicated and will not change without my knowledge.

☑ I understand that I will only be able to access this account (including the **API, mail sends, and user interface**) from the IP address(es) I'm adding.

35. Click Confirm and Continue.

36. On the Add IP Addresses page, add IP addresses or ranges you would like to allow access to SendGrid. Make sure to include the public IP address of the Veeam management server and click Save.



IP Access Management

Allow Listed IP Addresses

When you add an IP to your allow list, you only allow access to SendGrid (web and A…
to your account and can help prevent malicious activity.

Recent Access Attempts

Your current IP is 184.65.160.113

ALLOWED	IP ADDRESS	FIRST DATE
✓	[redacted]	2022-04-11 04:03 PM
✓	[redacted]	2022-04-11 04:03 PM

Add IP Addresses

Your current IP is 184.65.160.113

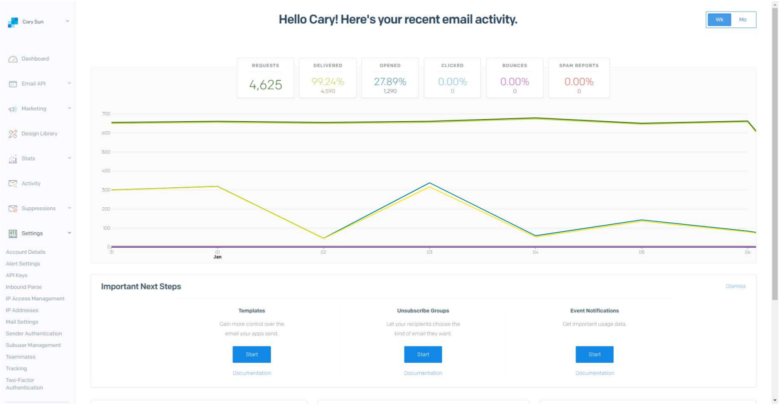
RECENTLY ACCESSED 20 IPs

IP ADDRESS	LAST DATE	LOCATION	ACTION
184.65.160.113	2022-04-11	Surrey, British Columbia	Add to Form Below
54.218.168.196	2022-04-11	Boardman, Oregon	Add to Form Below

Add a single IP address or multiple addresses. Multiple IPs can be separated by a space, comma, or on separate lines.

IP address(es) or range
184.[redacted]
54.[redacted]

37. On the Home page, expand Settings and click Sender Authentication.



Hello Cary! Here's your recent email activity.

REQUESTS	DELIVERED	OPENED	CLICKED	BOUNCES	SPAM REPORTS
4,625	99.24% 4,590	27.89% 1,290	0.00% 0	0.00% 0	0.00% 0

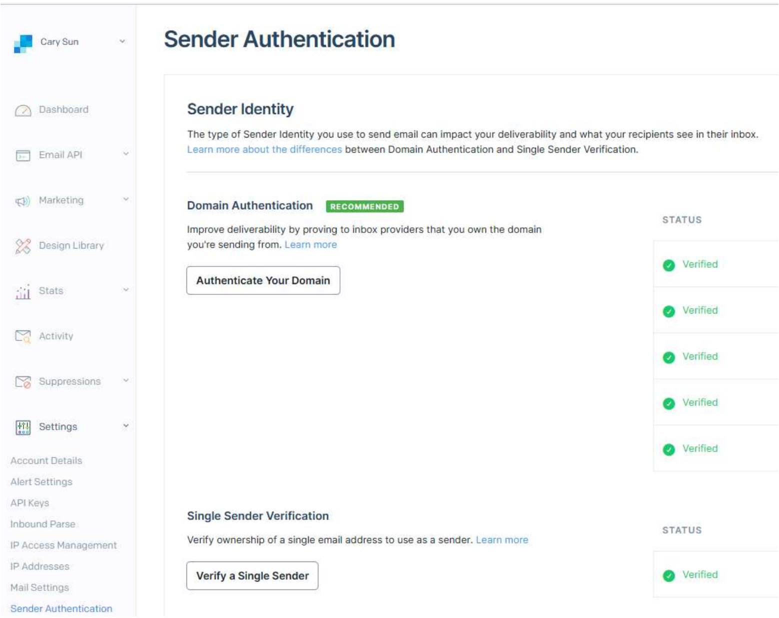
Important Next Steps

Templates: Gain more control over the email your apps send.

Unsubscribe Groups: Let your recipients choose the kind of email they want.

Event Notifications: Get important usage data.

38. On the Sender Authentication page, click Authenticate Your Domain.



Sender Authentication

Sender Identity

The type of Sender Identity you use to send email can impact your deliverability and what your recipients see in their inbox. Learn more about the differences between Domain Authentication and Single Sender Verification.

Domain Authentication

Improve deliverability by proving to inbox providers that you own the domain you're sending from. Learn more

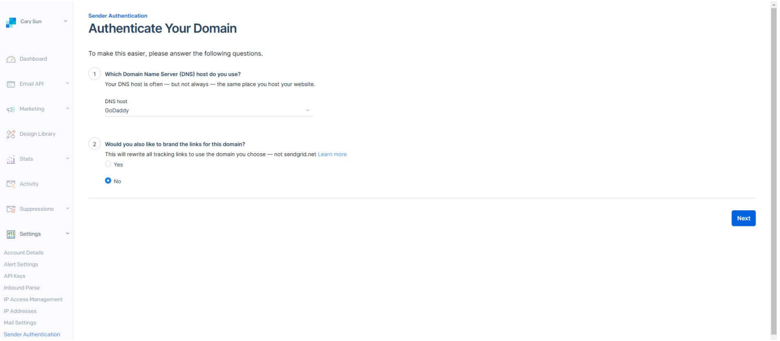
STATUS
Verified
Verified
Verified
Verified
Verified

Single Sender Verification

Verify ownership of a single email address to use as a sender. Learn more

STATUS
Verified

39. Specify your DNS host from the drop-down list on the Authentication Your Domain page.
40. Select No at Would you also like to brand the links for this domain?
41. Click Next.



Sender Authentication

Authenticate Your Domain

To make this easier, please answer the following questions.

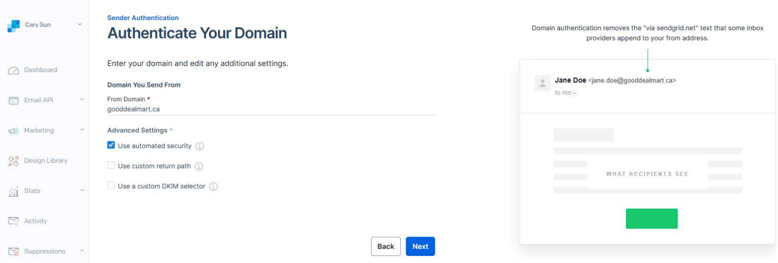
1 Which Domain Name Server (DNS) host do you use?
Your DNS host is often — but not always — the same place you host your website.

DNS host: GoDaddy

2 Would you also like to brand the links for this domain?
This will rewrite all tracking links to use the domain you choose — not sendgrid.net Learn more

○ Yes
● No

42. On the Domain, You send From page, specify your FQDN name, and click Next.



Sender Authentication

Authenticate Your Domain

Enter your domain and edit any additional settings.

Domain You Send From

From Domain *: gooddealmart.ca

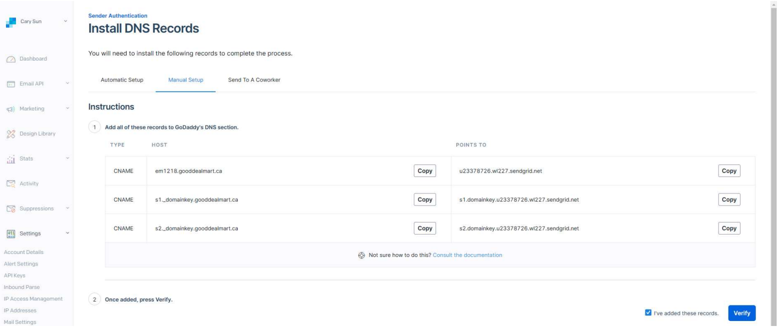
Advanced Settings

☑ Use automated security
□ Use custom return path
□ Use a custom DKIM selector

Domain authentication removes the "via sendgrid.net" text that some inbox providers append to your from address.

Jane Doe <jane.doe@gooddealmart.ca>
to me

43. Add those CNAME records to your domain on the Install DNS Records page, select I've added these records, and click Verify.



Sender Authentication

Install DNS Records

You will need to install the following records to complete the process.

Instructions

1 Add all of these records to GoDaddy's DNS section.

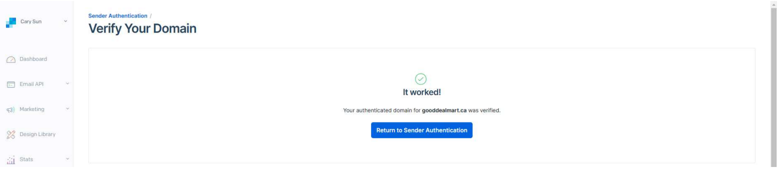
TYPE	HOST		POINTS TO	
CNAME	em1218.gooddealmart.ca	Copy	u23378726.wl227.sendgrid.net	Copy
CNAME	s1._domainkey.gooddealmart.ca	Copy	s1.domainkey.u23378726.wl227.sendgrid.net	Copy
CNAME	s2._domainkey.gooddealmart.ca	Copy	s2.domainkey.u23378726.wl227.sendgrid.net	Copy

Not sure how to do this? Consult the documentation

2 Once added, press Verify.

☑ I've added these records. Verify

44. Verify your domain successfully on the Verify Your Domain page and click Return to Send Authentication.



Sender Authentication /

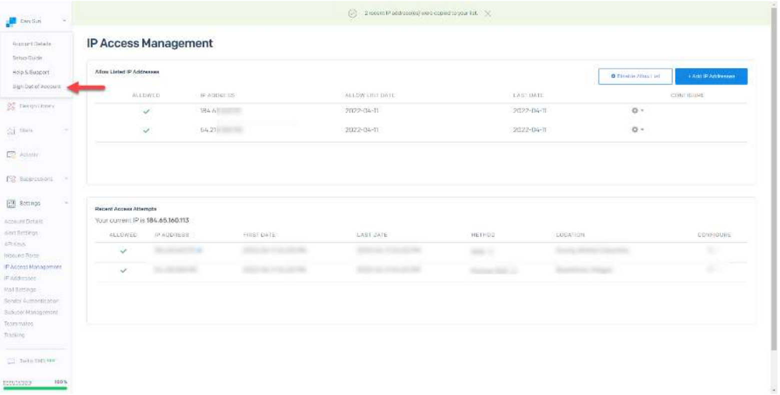
Verify Your Domain

It worked!

Your authenticated domain for **gooddealmart.ca** was verified.

Return to Sender Authentication

45. Sign Out of Account.



2 recent IP address(es) were copied to your list.

IP Access Management

Allow Listed IP Addresses

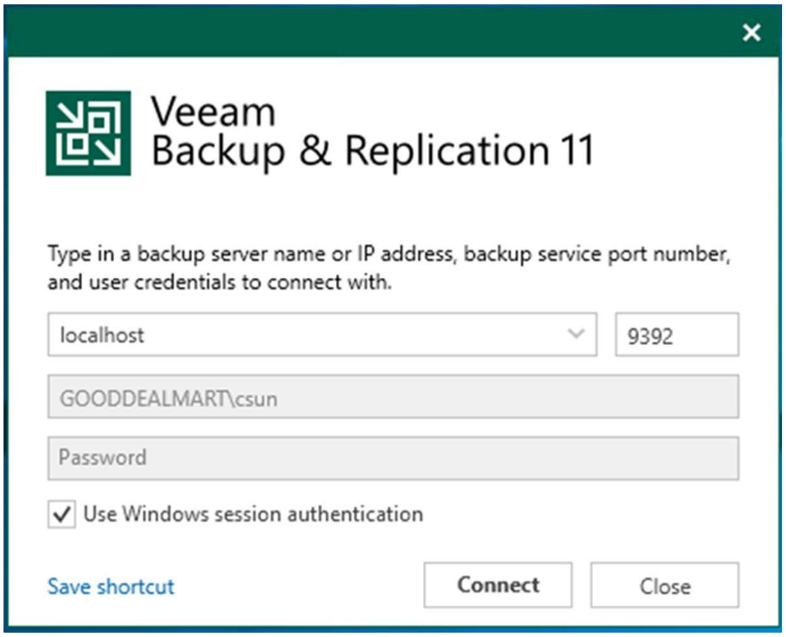
ALLOWED	IP ADDRESS	ALLOW LIST DATE	LAST DATE	CONFIGURE
✓	184.6[redacted]	2022-04-11	2022-04-11	⚙ ▾
✓	64.21[redacted]	2022-04-11	2022-04-11	⚙ ▾

Recent Access Attempts

Your current IP is 184.65.160.113

ALLOWED	IP ADDRESS	FIRST DATE	LAST DATE	METHOD	LOCATION	CONFIGURE
✓	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
✓	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

46. Log in to the Veeam Backup and replication manager server.
47. Open the Veeam Backup & Replication Console, and click Connect.



Veeam
Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

localhost 9392

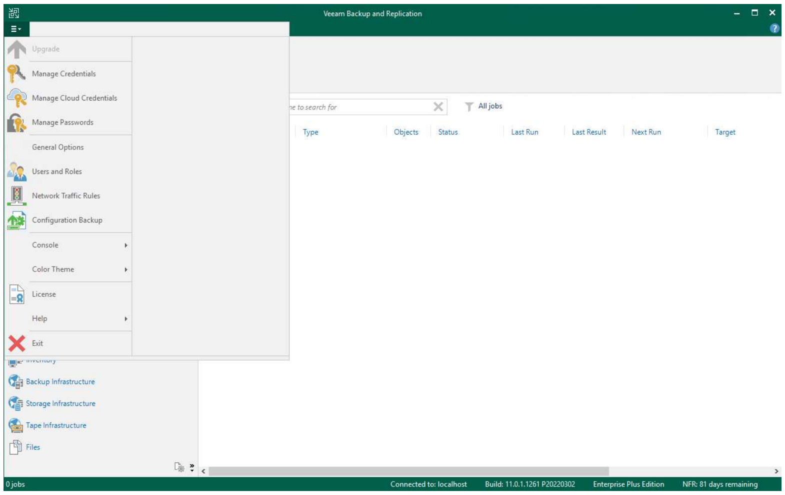
GOODDEALMART\csun

Password

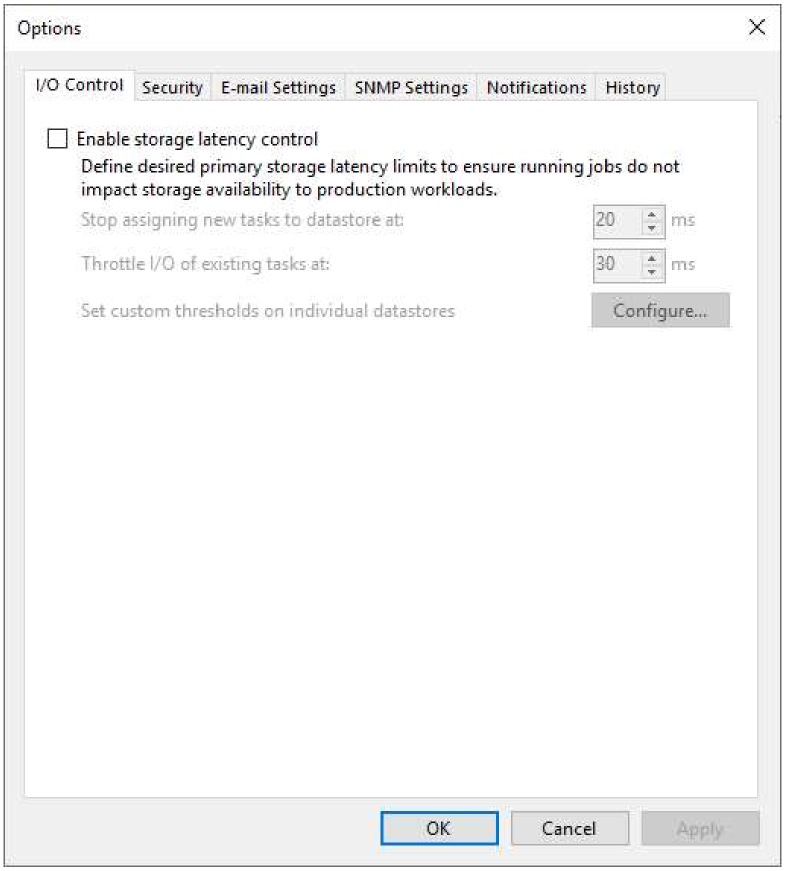
☑ Use Windows session authentication

Save shortcut Connect Close

48. Select General Options from the main menu.



49. On the Options page, select Email Settings.



Options

□ Enable storage latency control

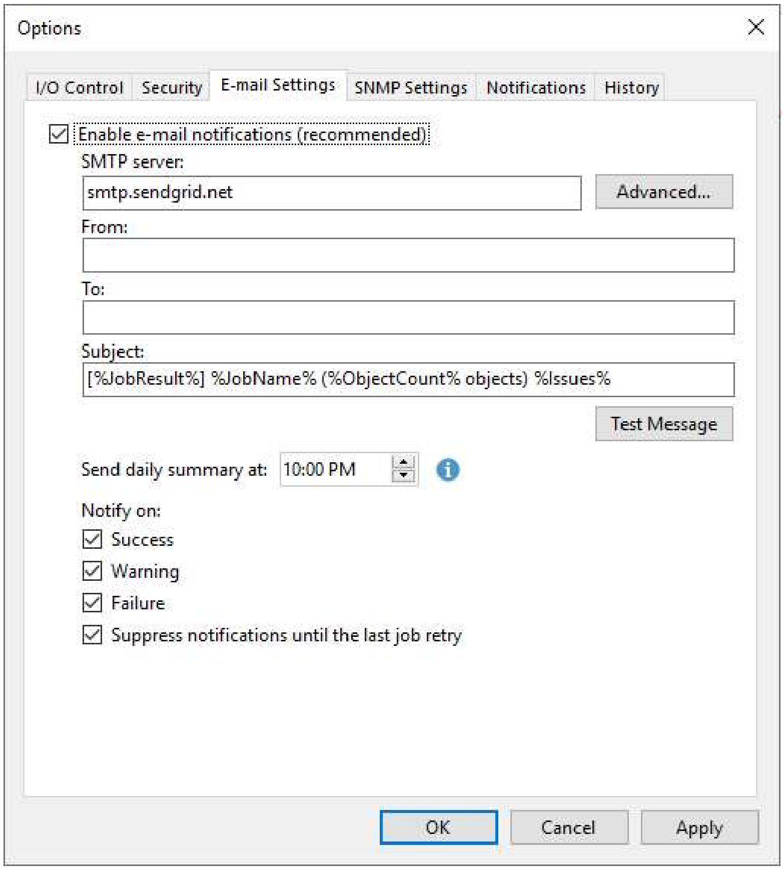
Define desired primary storage latency limits to ensure running jobs do not impact storage availability to production workloads.

Stop assigning new tasks to datastore at: 20 ms

Throttle I/O of existing tasks at: 30 ms

Set custom thresholds on individual datastores

50. Select Enable e-mail notification (recommend) on the Email Settings page.
51. In the SMTP server field, enter smtp.sendgrid.net, and click Advanced.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

From:

To:

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

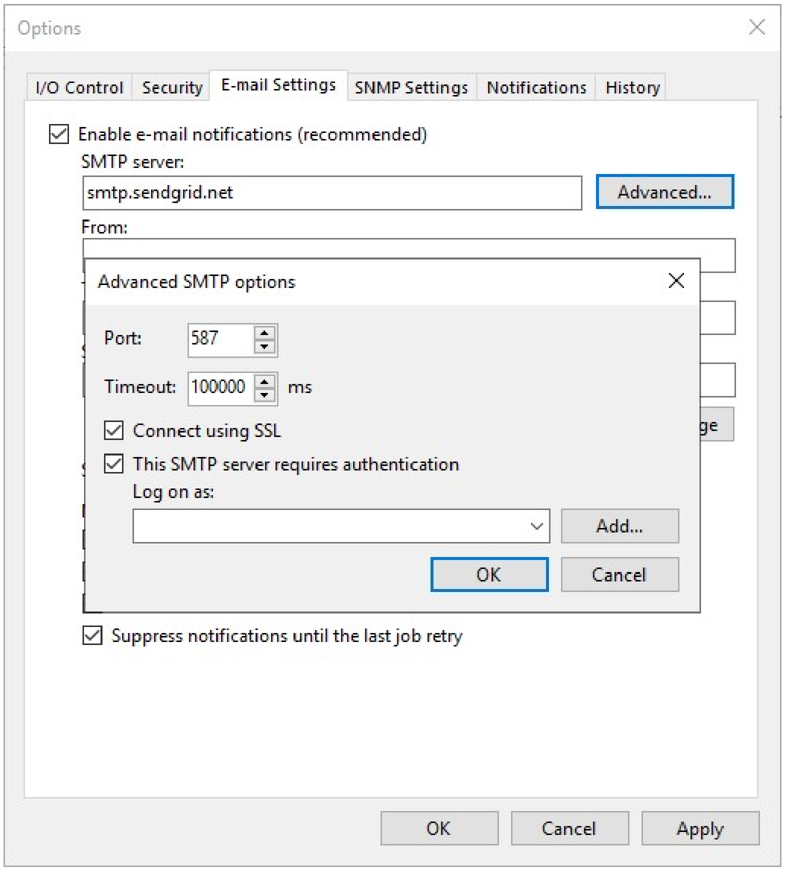
☑ Success

☑ Warning

☑ Failure

☑ Suppress notifications until the last job retry

52. On the Advanced SMTP options page, type 587 in the Port field.
53. Use 100000 milliseconds as the Timeout.
54. Select Connect using SSL.
55. Select This SMTP server requires authentication.
56. Click Add to add a credential as Log on as account.



Options

I/O Control | Security | E-mail Settings | SNMP Settings | Notifications | History

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

From:

Advanced SMTP options

Port: 587

Timeout: 100000 ms

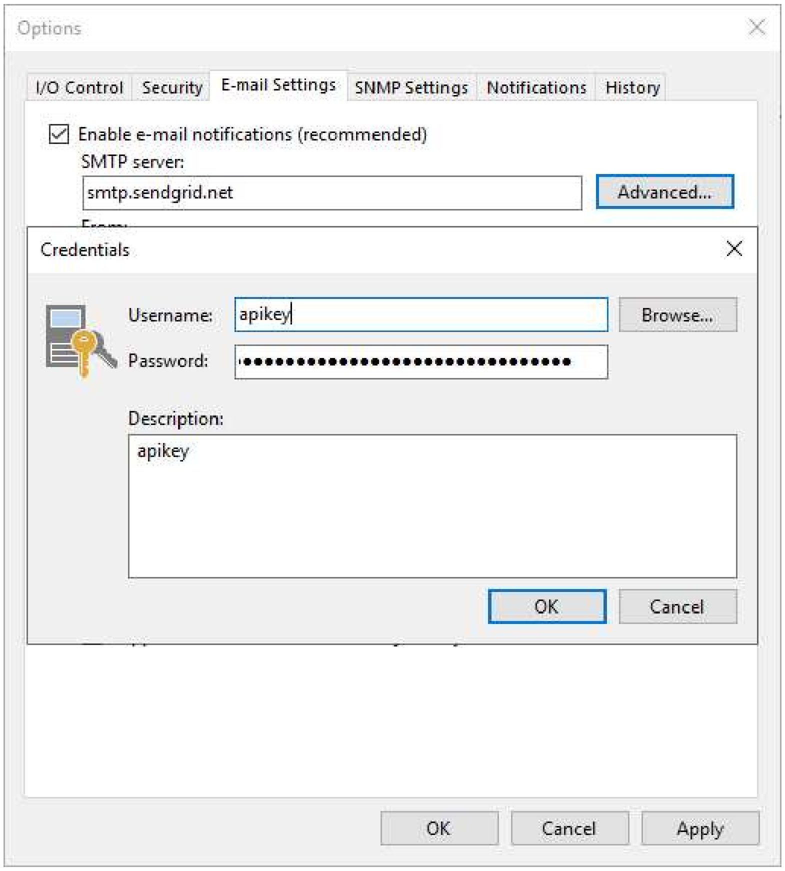
☑ Connect using SSL

☑ This SMTP server requires authentication

Log on as:

☑ Suppress notifications until the last job retry

57. Type apikey as Username.
58. Paste the apikey number as a password.
59. Click OK.



Options

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

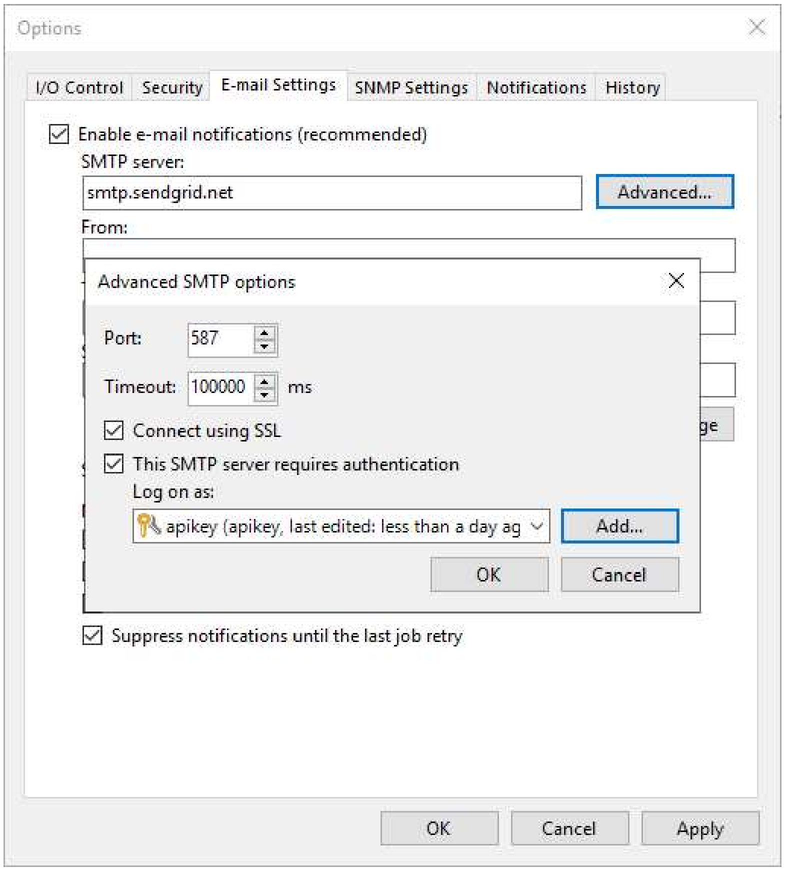
Credentials

Username: apikey

Password: ••••••••••••••••••••••••••••••••••

Description: apikey

60. On the Advanced SMTP options page, click OK.



Options

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

From:

Advanced SMTP options

Port: 587

Timeout: 100000 ms

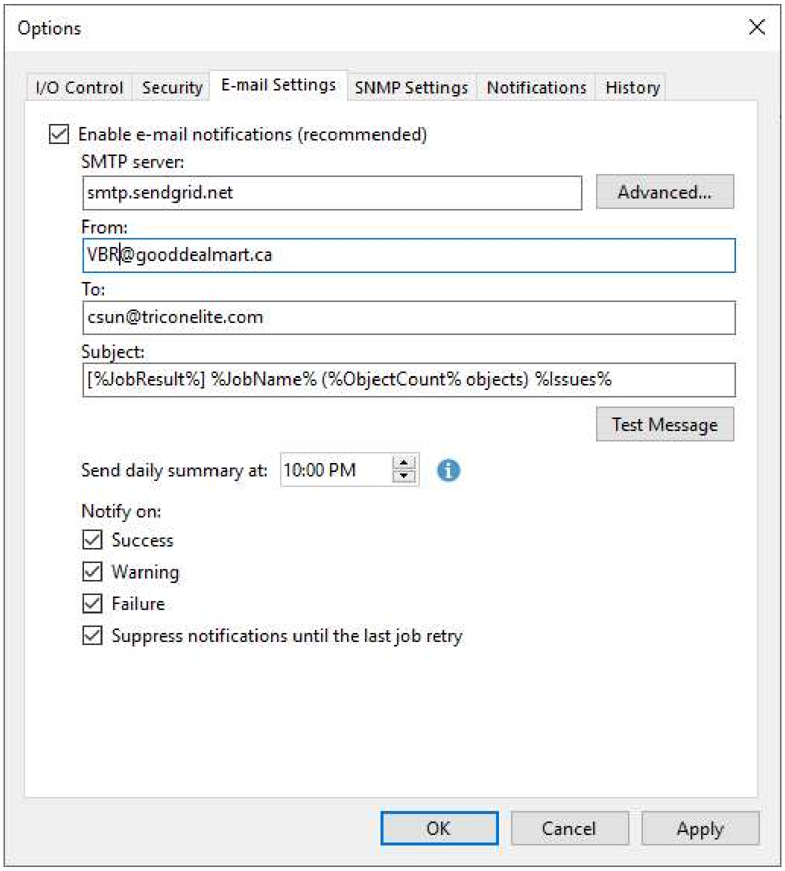
☑ Connect using SSL

☑ This SMTP server requires authentication

Log on as: apikey (apikey, last edited: less than a day ag

☑ Suppress notifications until the last job retry

61. In the From field, enter an email address you want to use as a sender.
62. In the To field, enter an email address of a notification recipient. To specify multiple email addresses, use a semicolon.
63. Click Test Message.



Options

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

From: VBR@gooddealmart.ca

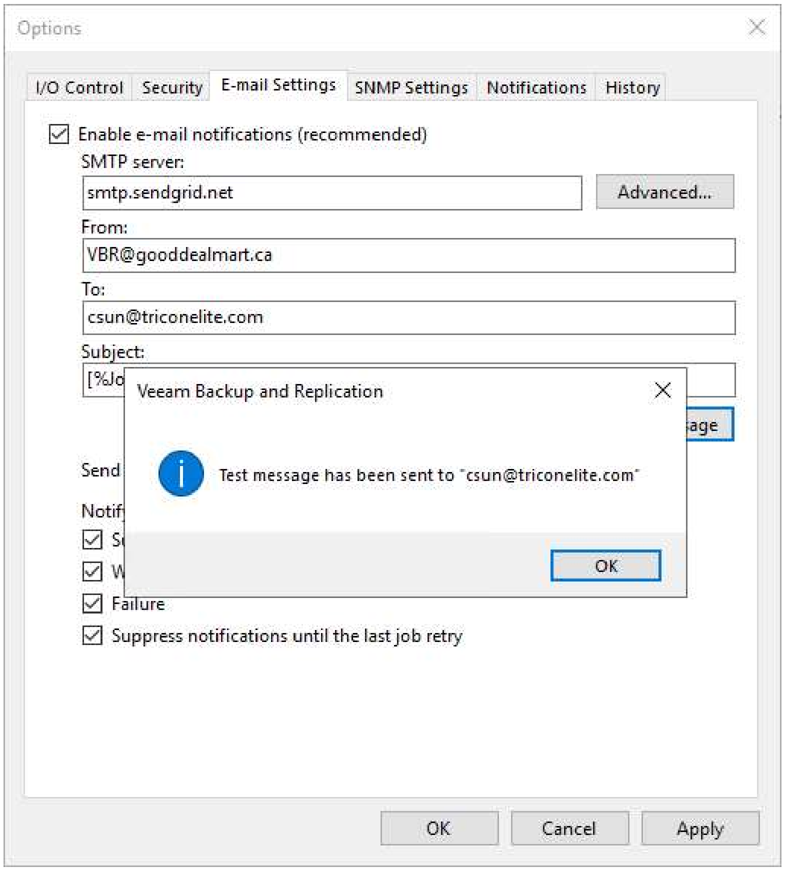
To: csun@triconelite.com

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:
☑ Success
☑ Warning
☑ Failure
☑ Suppress notifications until the last job retry

64. Verify the test message sent successfully, and click OK.



Options

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

From: VBR@gooddealmart.ca

To: csun@triconelite.com

Subject: [%Jo

Veeam Backup and Replication

Test message has been sent to "csun@triconelite.com"

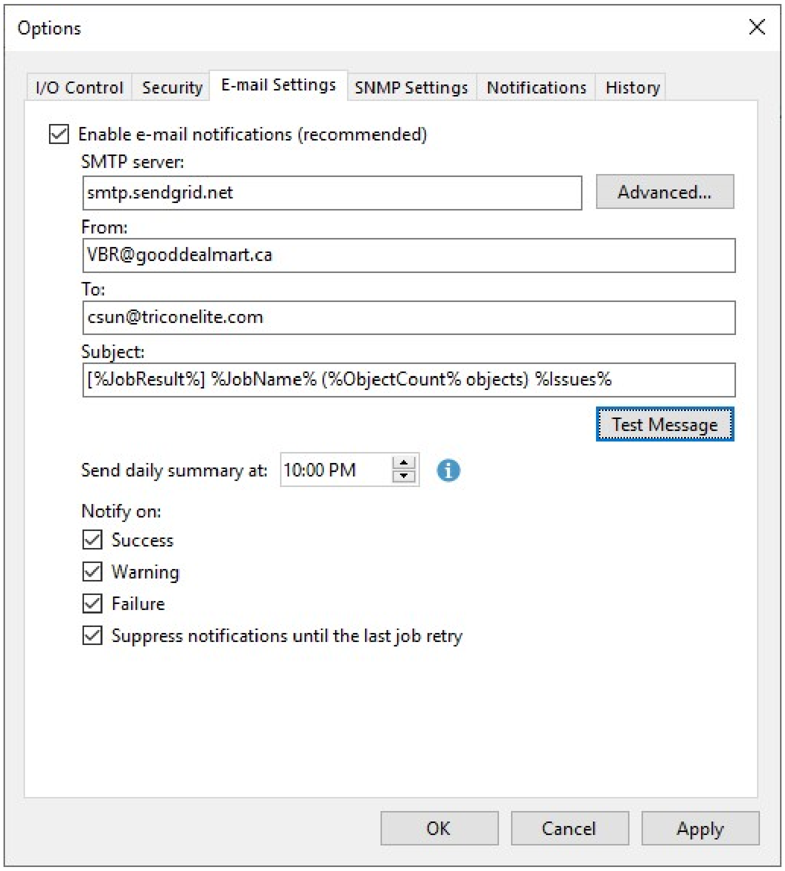
☑ S

☑ W

☑ Failure

☑ Suppress notifications until the last job retry

65. On the Options page, click OK.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.sendgrid.net

From: VBR@gooddealmart.ca

To: csun@triconelite.com

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

☑ Success

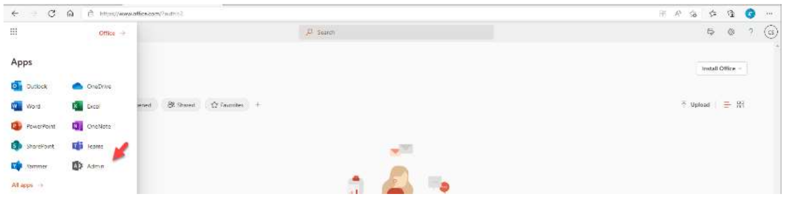
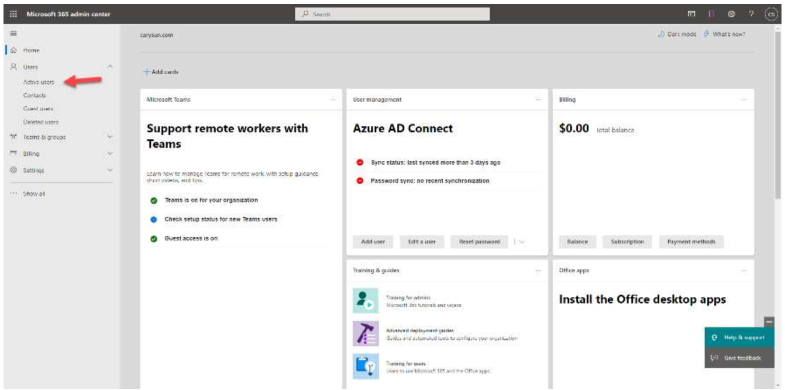
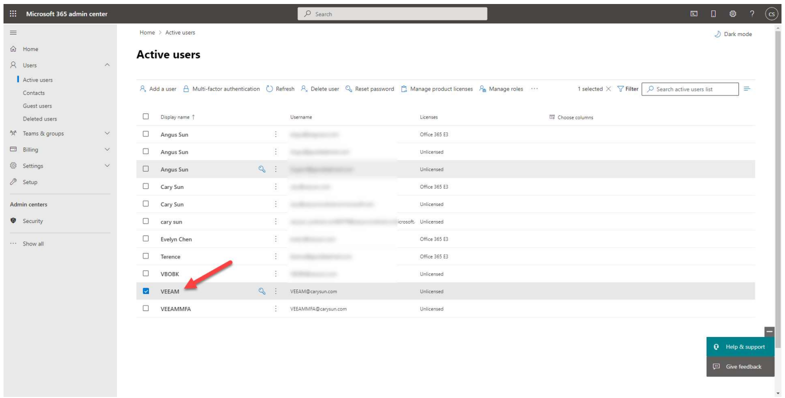
☑ Warning

☑ Failure

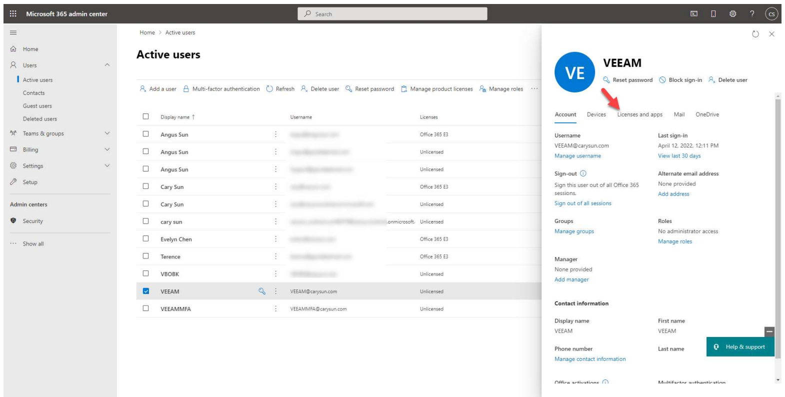
☑ Suppress notifications until the last job retry

Configure Notification with Microsoft Office 365 NON-MFA Account

You can configure Microsoft Office 365 non-MFA account for notification settings if you want Veeam Backup & Replication to send email notifications about backup job results.

Instructions	Screenshot (if applicable)
1. Sign in Office 365 portal with a Global Admin account, and select Admin.	 Office Search Apps Outlook OneDrive Word Excel PowerPoint OneNote SharePoint Teams Yammer Admin All apps Install Office Shared Favorites Upload
2. On the Microsoft 365 admin center, expand Users and select Active users.	 Microsoft 365 admin center Search Home Users Active users Contacts Guest users Deleted users Teams & groups Billing Settings Show all carysun.com Dark mode What's new? Add cards Microsoft Teams Support remote workers with Teams Teams is on for your organization Check setup status for new Teams users Guest access is on User management Azure AD Connect Sync status: last synced more than 3 days ago Password sync: no recent synchronization Add user Edit a user Reset password Billing $0.00 total balance Balance Subscription Payment methods Training & guides Training for admins Advanced deployment guides Training for users Office apps Install the Office desktop apps Help & support Give feedback
3. On the Active user's page, click Veeam service account (in my case, VEEAM).	 Microsoft 365 admin center Search Home Users Active users Contacts Guest users Deleted users Teams & groups Billing Settings Setup Admin centers Security Show all Home > Active users Dark mode Active users Add a user Multi-factor authentication Refresh Delete user Reset password Manage product licenses Manage roles 1 selected Filter Search active users list Display name ↑ Username Licenses Choose columns Angus Sun [redacted] Office 365 E3 Angus Sun [redacted] Unlicensed Angus Sun [redacted] Unlicensed Cary Sun [redacted] Office 365 E3 Cary Sun [redacted] Unlicensed cary sun [redacted] Unlicensed Evelyn Chen [redacted] Office 365 E3 Terence [redacted] Office 365 E3 VBOBK [redacted] Unlicensed VEEAM VEEAM@carysun.com Unlicensed VEEAMMFA VEEAMMFA@carysun.com Unlicensed Help & support Give feedback

4. On the account page, select License and apps.



Active users

☐	Display name ↑	Username	Licenses
☐	Angus Sun	[redacted]	Office 365 E3
☐	Angus Sun	[redacted]	Unlicensed
☐	Angus Sun	[redacted]	Unlicensed
☐	Cary Sun	[redacted]	Office 365 E3
☐	Cary Sun	[redacted]	Unlicensed
☐	cary sun	[redacted].onmicrosoft.	Unlicensed
☐	Evelyn Chen	[redacted]	Office 365 E3
☐	Terence	[redacted]	Office 365 E3
☐	VBOBK	[redacted]	Unlicensed
☑	VEEAM	VEEAM@carysun.com	Unlicensed
☐	VEEAMMFA	VEEAMMFA@carysun.com	Unlicensed

VEEAM

Username: VEEAM@carysun.com
Manage username

Last sign-in: April 12, 2022, 12:11 PM
View last 30 days

Sign-out: Sign this user out of all Office 365 sessions.
Sign out of all sessions

Alternate email address: None provided
Add address

Groups: Manage groups

Roles: No administrator access
Manage roles

Manager: None provided
Add manager

Contact information

Display name: VEEAM

First name: VEEAM

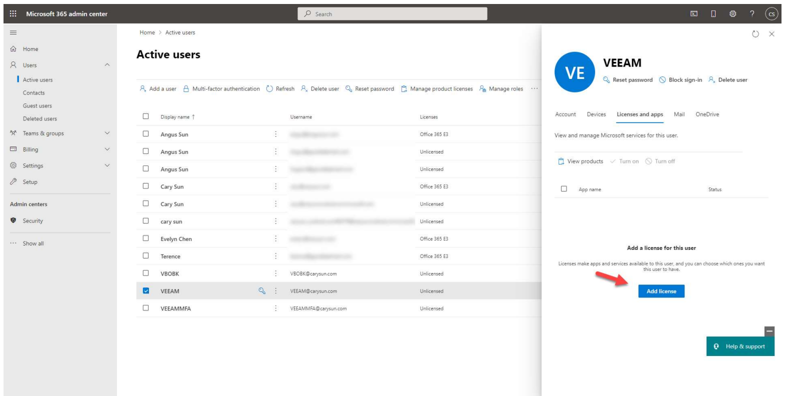
Phone number: Manage contact information

Last name

Office activations

Multifactor authentication

5. On the License and apps page, click Add license.



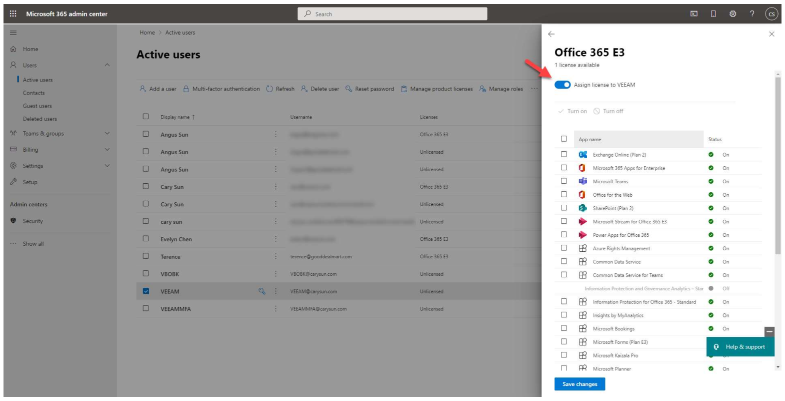
VEEAM

View and manage Microsoft services for this user.

Add a license for this user

Licenses make apps and services available to this user, and you can choose which ones you want this user to have.

6. On the Office 365 license page, enable Assign license to the account, and click Save changes.



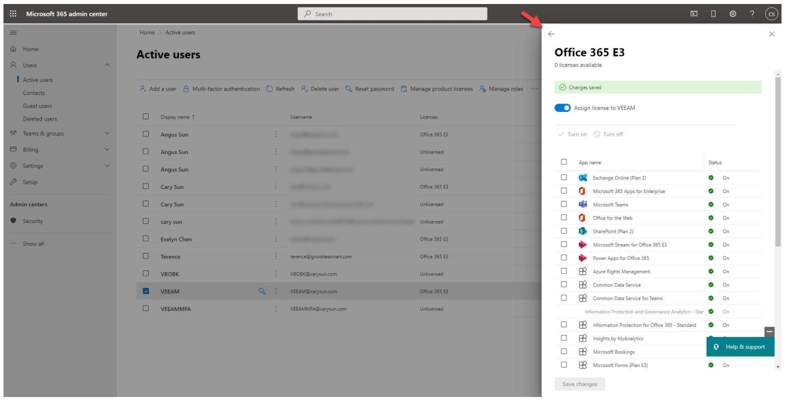
Office 365 E3

1 license available

Assign license to VEEAM

☐	App name	Status
☐	Exchange Online (Plan 2)	On
☐	Microsoft 365 Apps for Enterprise	On
☐	Microsoft Teams	On
☐	Office for the Web	On
☐	SharePoint (Plan 2)	On
☐	Microsoft Stream for Office 365 E3	On
☐	Power Apps for Office 365	On
☐	Azure Rights Management	On
☐	Common Data Service	On
☐	Common Data Service for Teams	On
	Information Protection and Governance Analytics – Star	Off
☐	Information Protection for Office 365 - Standard	On
☐	Insights by MyAnalytics	On
☐	Microsoft Bookings	On
☐	Microsoft Forms (Plan E3)	
☐	Microsoft Kaizala Pro	
☐	Microsoft Planner	On

7. Click Back <--.



Office 365 E3

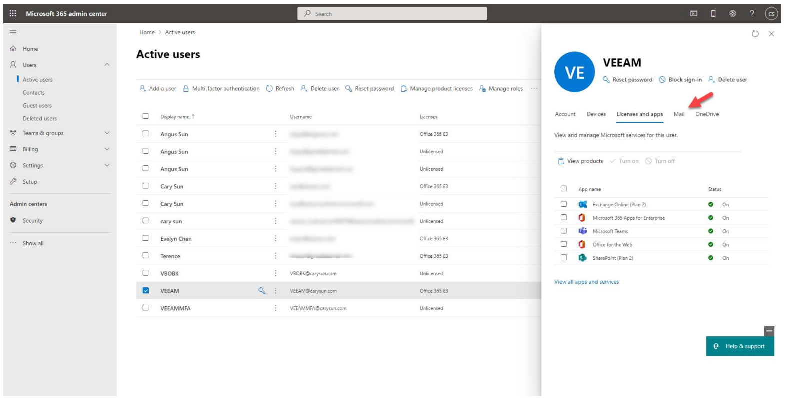
0 licenses available

Changes saved

Assign license to VEEAM

App name	Status
Exchange Online (Plan 2)	On
Microsoft 365 Apps for Enterprise	On
Microsoft Teams	On
Office for the Web	On
SharePoint (Plan 2)	On
Microsoft Stream for Office 365 E3	On
Power Apps for Office 365	On
Azure Rights Management	On
Common Data Service	On
Common Data Service for Teams	On
Information Protection and Governance Analytics – Star	On
Information Protection for Office 365 - Standard	On
Insights by MyAnalytics	
Microsoft Bookings	
Microsoft Forms (Plan E3)	On

8. On the account page, select Mail. It would be preferable to wait a few minutes before preparing a mailbox for the user.

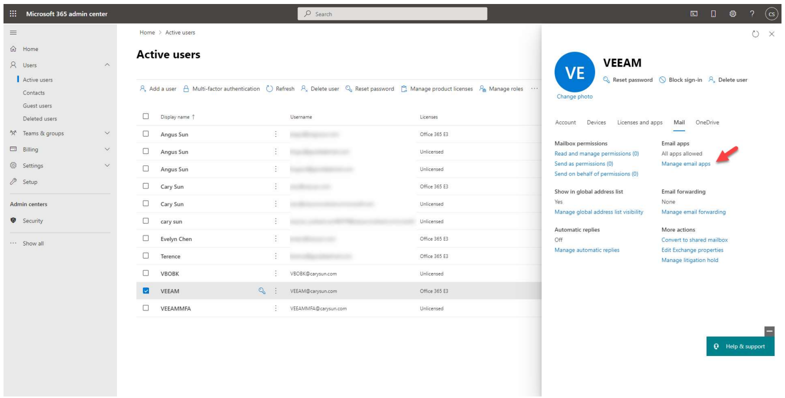


VEEAM

View and manage Microsoft services for this user.

App name	Status
Exchange Online (Plan 2)	On
Microsoft 365 Apps for Enterprise	On
Microsoft Teams	On
Office for the Web	On
SharePoint (Plan 2)	On

9. On the Mail page, select Manage email apps.



VEEAM

Mailbox permissions
Read and manage permissions (0)
Send as permissions (0)
Send on behalf of permissions (0)

Email apps
All apps allowed
Manage email apps

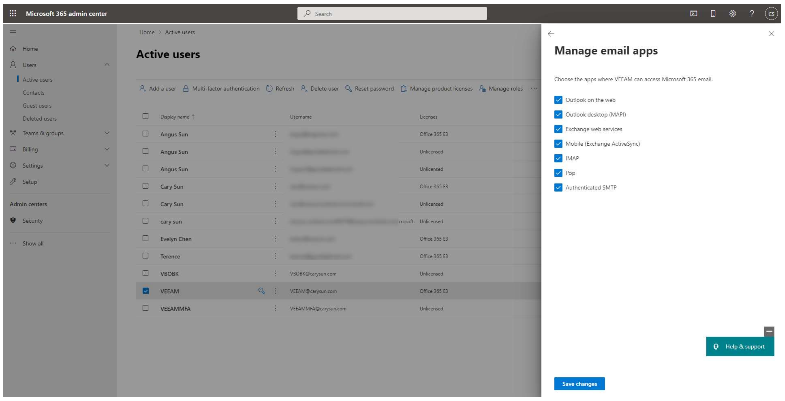
Show in global address list
Yes
Manage global address list visibility

Email forwarding
None
Manage email forwarding

Automatic replies
Off
Manage automatic replies

More actions
Convert to shared mailbox
Edit Exchange properties
Manage litigation hold

10. On the Manage email apps, select Authenticated SMTP and click Save changes.



Active users

	Display name ↑	Username	Licenses
□	Angus Sun	[redacted]	Office 365 E3
□	Angus Sun	[redacted]	Unlicensed
□	Angus Sun	[redacted]	Unlicensed
□	Cary Sun	[redacted]	Office 365 E3
□	Cary Sun	[redacted]	Unlicensed
□	cary sun	[redacted] crosoft.	Unlicensed
□	Evelyn Chen	[redacted]	Office 365 E3
□	Terence	[redacted]	Office 365 E3
□	VBOBK	VBOBK@carysun.com	Unlicensed
☑	VEEAM	VEEAM@carysun.com	Office 365 E3
□	VEEAMMFA	VEEAMMFA@carysun.com	Unlicensed

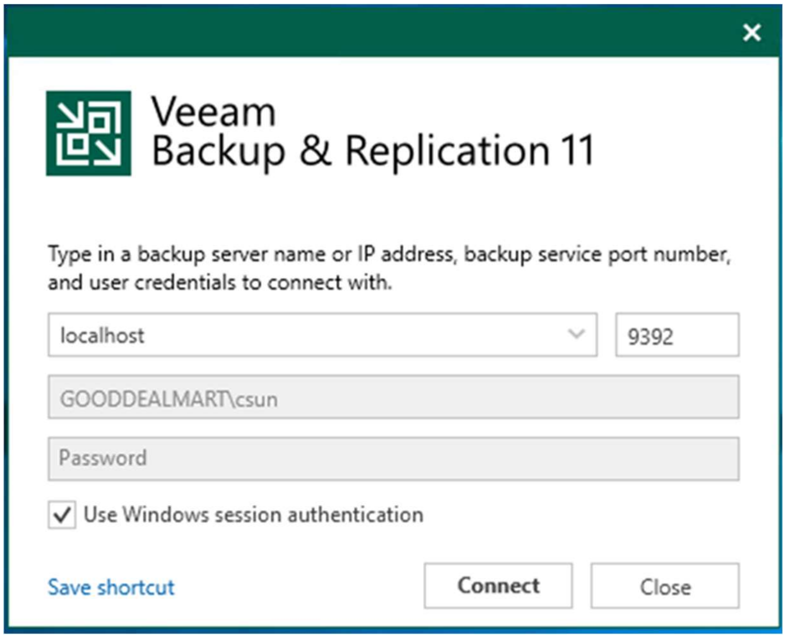
Manage email apps

Choose the apps where VEEAM can access Microsoft 365 email.

☑ Outlook on the web
☑ Outlook desktop (MAPI)
☑ Exchange web services
☑ Mobile (Exchange ActiveSync)
☑ IMAP
☑ Pop
☑ Authenticated SMTP

Save changes

11. Log in to the Veeam Backup and replication manager server.
12. Open the Veeam Backup & Replication Console, and click Connect.



Veeam
Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

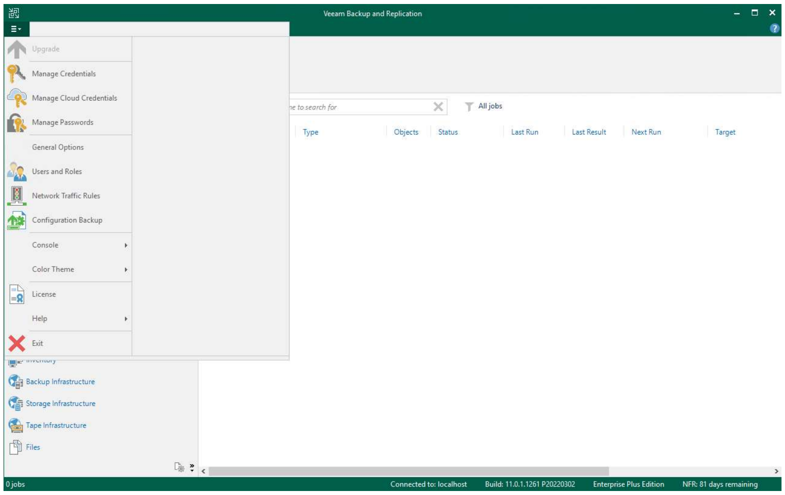
localhost | 9392

GOODDEALMART\csun

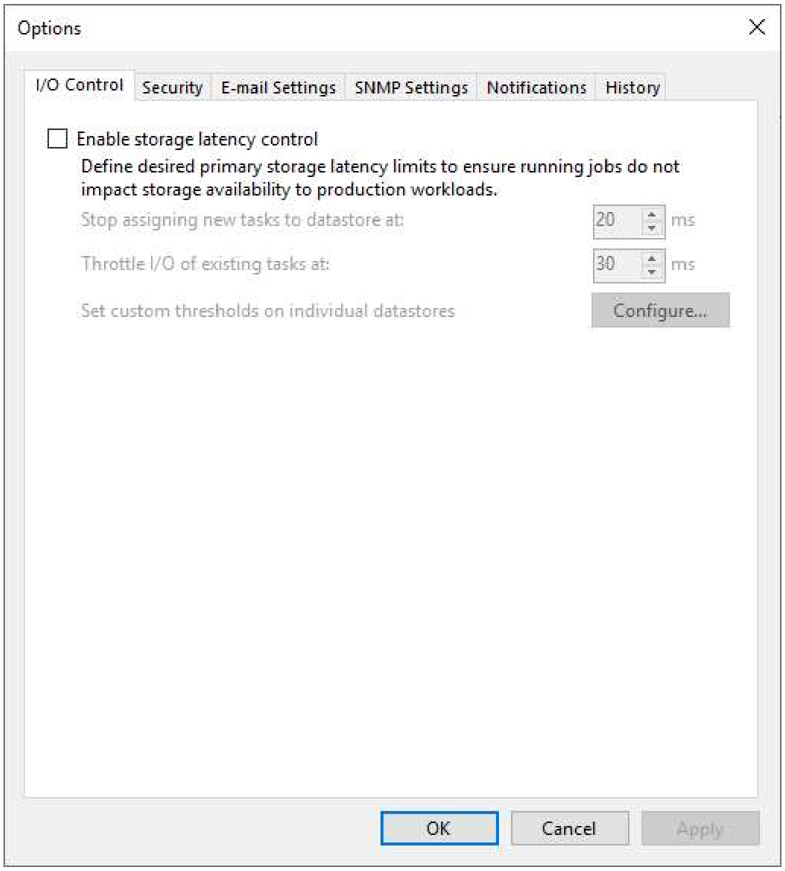
Password

☑ Use Windows session authentication

13. Select General Options from the main menu.

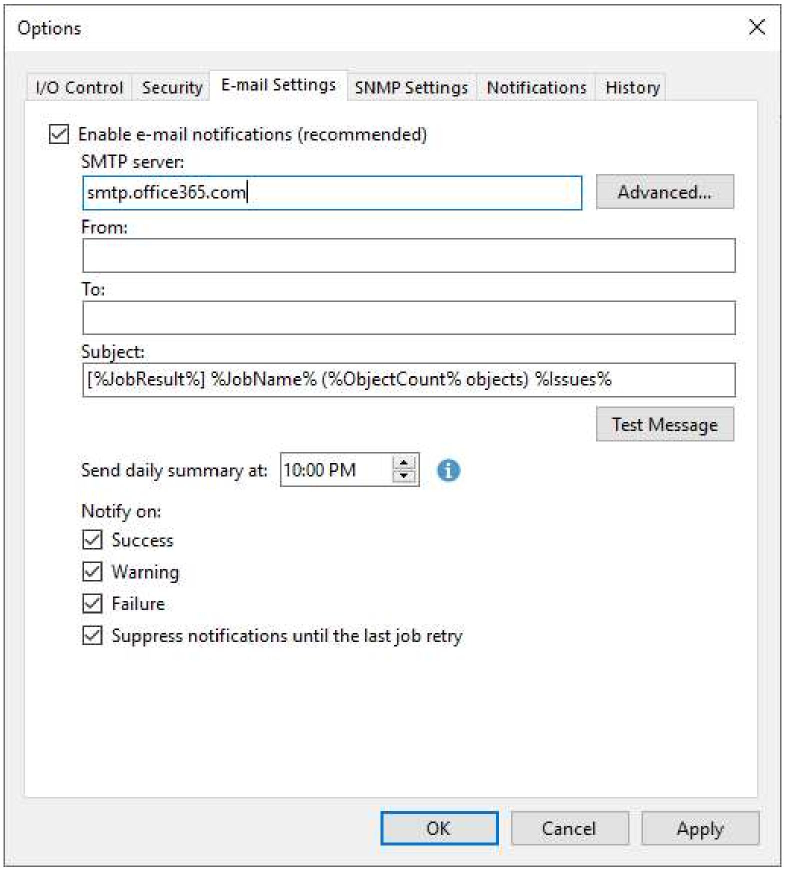


14. On the Options page, select Email Settings.



□ Enable storage latency control
Define desired primary storage latency limits to ensure running jobs do not impact storage availability to production workloads.
Stop assigning new tasks to datastore at: 20 ms
Throttle I/O of existing tasks at: 30 ms
Set custom thresholds on individual datastores

15. Select Enable e-mail notification (recommend) on the Email Settings page.
16. In the SMTP server field, enter smtp.sendgrid.net, and click Advanced.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From:

To:

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

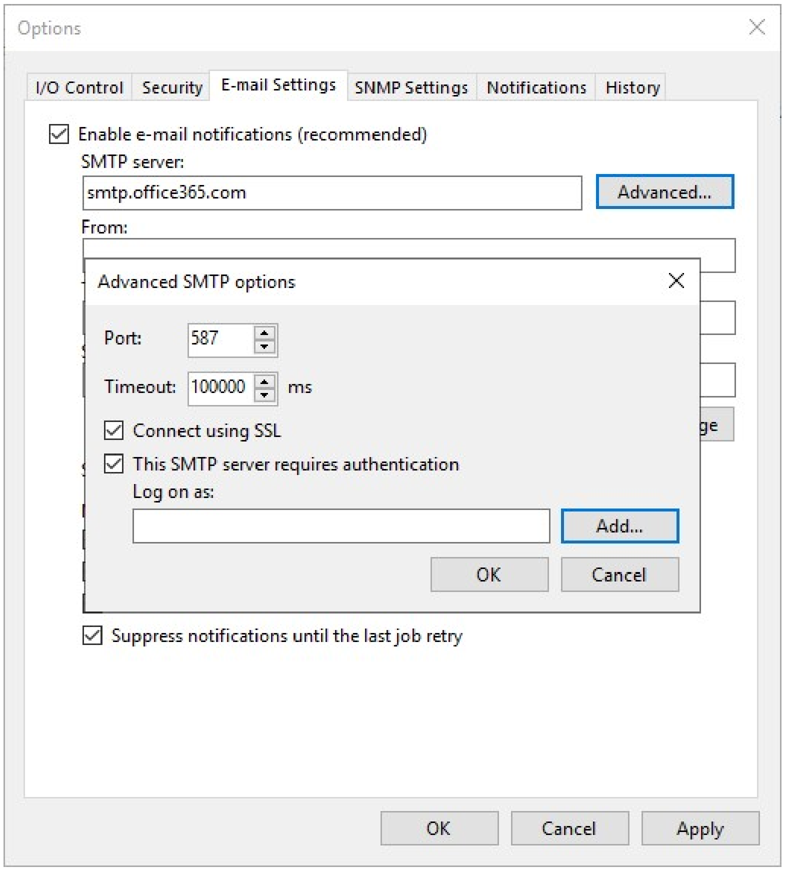
☑ Success

☑ Warning

☑ Failure

☑ Suppress notifications until the last job retry

17. On the Advanced SMTP options page, enter 587 in the Port field.
18. Use 100000 milliseconds as the Timeout.
19. Select Connect using SSL.
20. Select This SMTP server requires authentication.
21. Click Add to add a credential as Log on as account.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From:

Port: 587

Timeout: 100000 ms

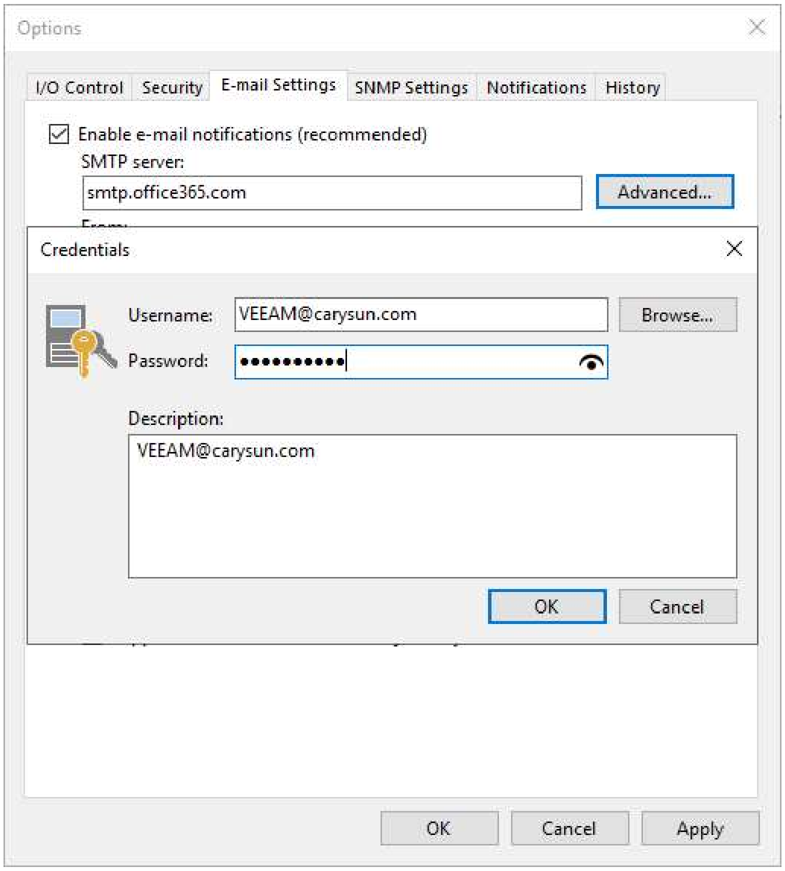
☑ Connect using SSL

☑ This SMTP server requires authentication

Log on as:

☑ Suppress notifications until the last job retry

22. The SMTP server requires authentication. Type the office 365 service account (VEEAM@carysun.com in my case) as Username, enter the account password, and click OK.



☑ Enable e-mail notifications (recommended)

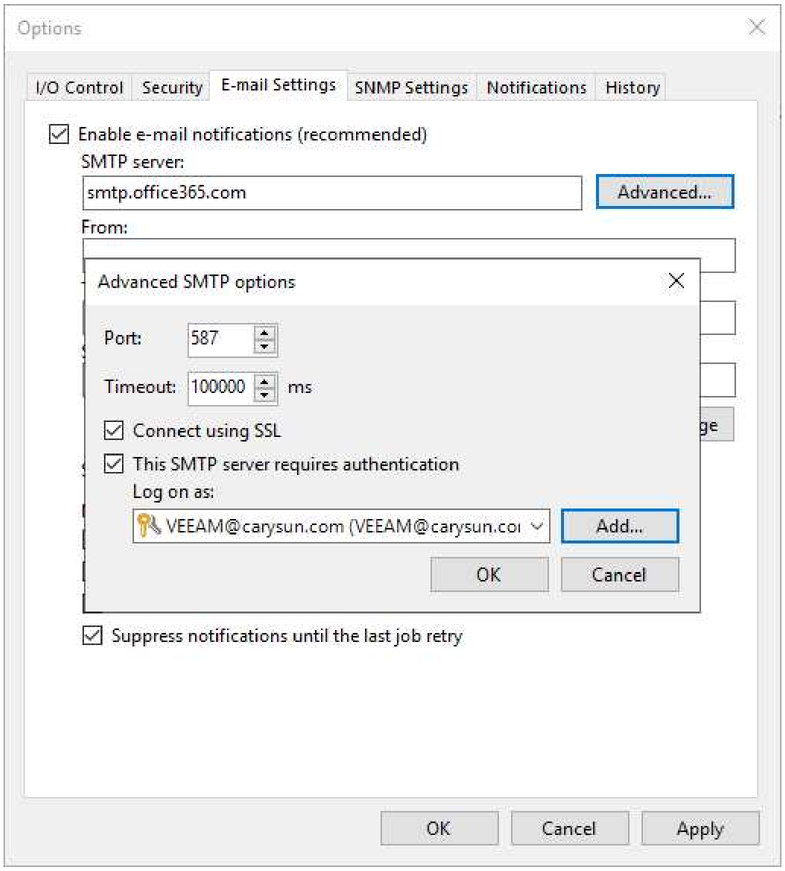
SMTP server: smtp.office365.com

Username: VEEAM@carysun.com

Password: ●●●●●●●●●●

Description: VEEAM@carysun.com

23. On the Advanced SMTP options page, click OK.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

Port: 587

Timeout: 100000 ms

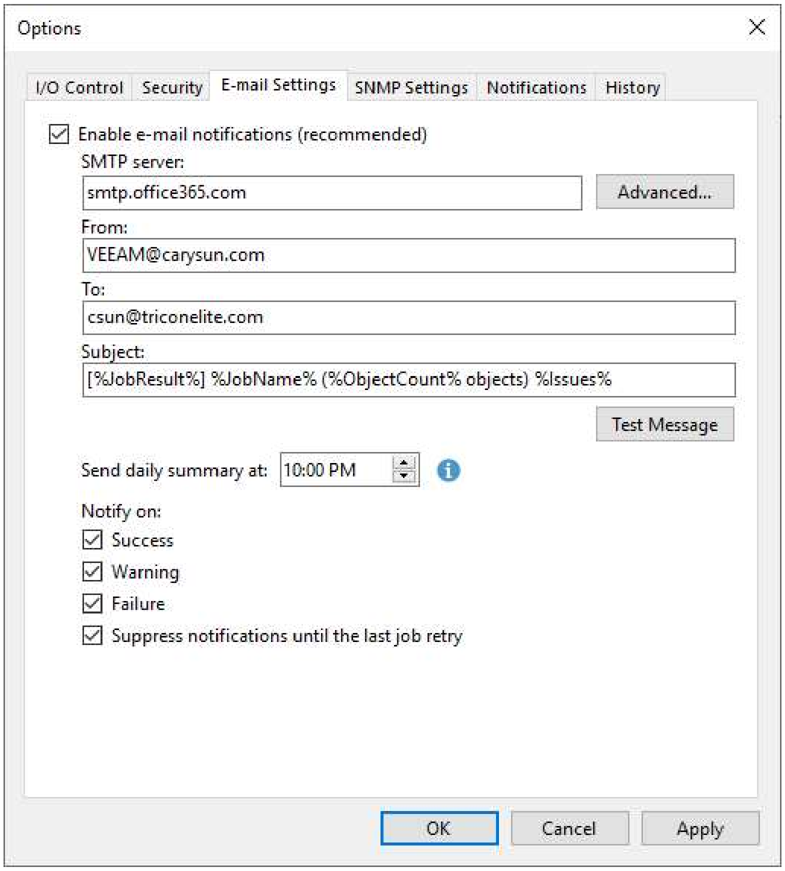
☑ Connect using SSL

☑ This SMTP server requires authentication

Log on as: VEEAM@carysun.com (VEEAM@carysun.coı

☑ Suppress notifications until the last job retry

24. In the From field, enter an email address you want to use as a sender.
25. In the To field, enter an email address of a notification recipient. To specify multiple email addresses, use a semicolon.
26. Click Test Message.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From: VEEAM@carysun.com

To: csun@triconelite.com

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

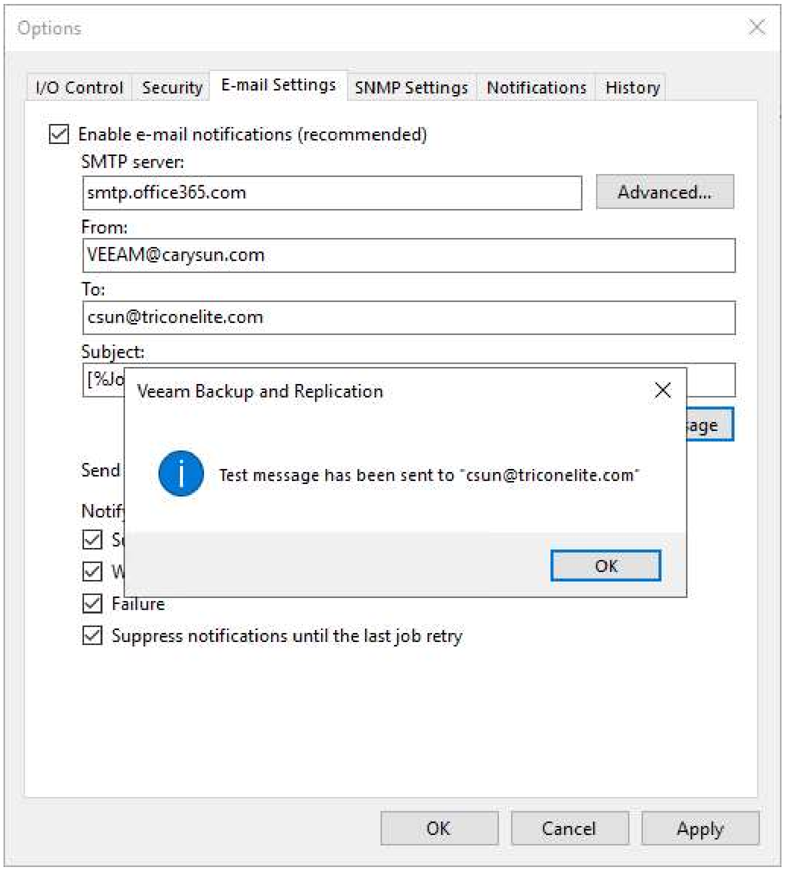
☑ Success

☑ Warning

☑ Failure

☑ Suppress notifications until the last job retry

27. Ensure the test email was successfully sent to recipients, and click OK.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From: VEEAM@carysun.com

To: csun@triconelite.com

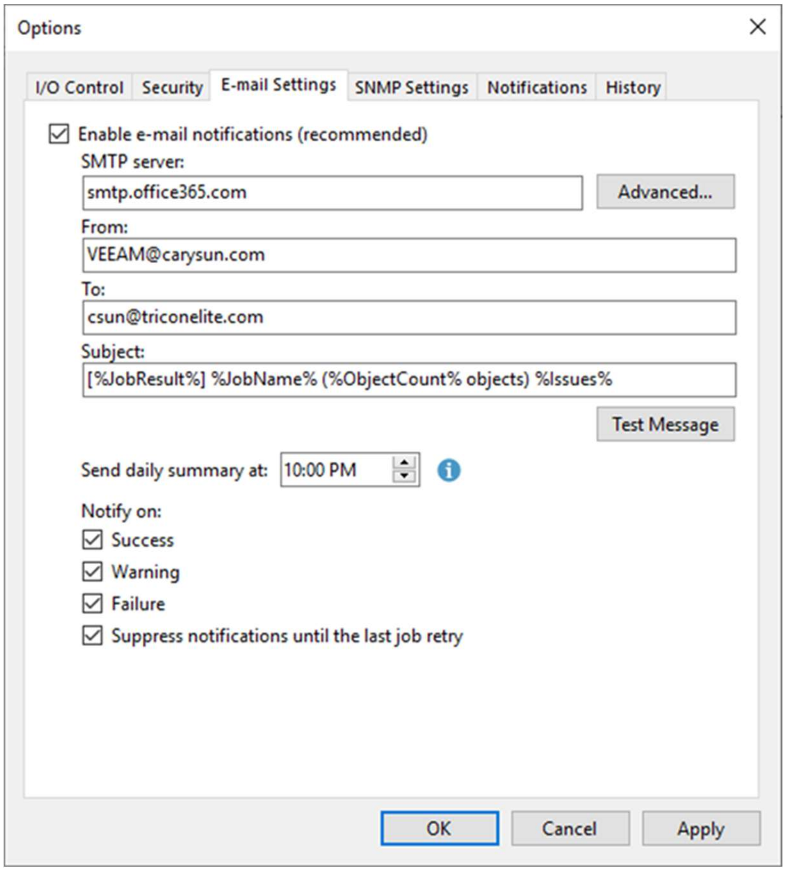
Subject: [%Jo

☑ Suppress notifications until the last job retry

Veeam Backup and Replication

Test message has been sent to "csun@triconelite.com"

28. On the Email Settings page, System notifications are sent by default whenever a backup job session ends with the following states: Success, Warning, or Failure. Keep the default settings, and click OK.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From: VEEAM@carysun.com

To: csun@triconelite.com

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

☑ Success

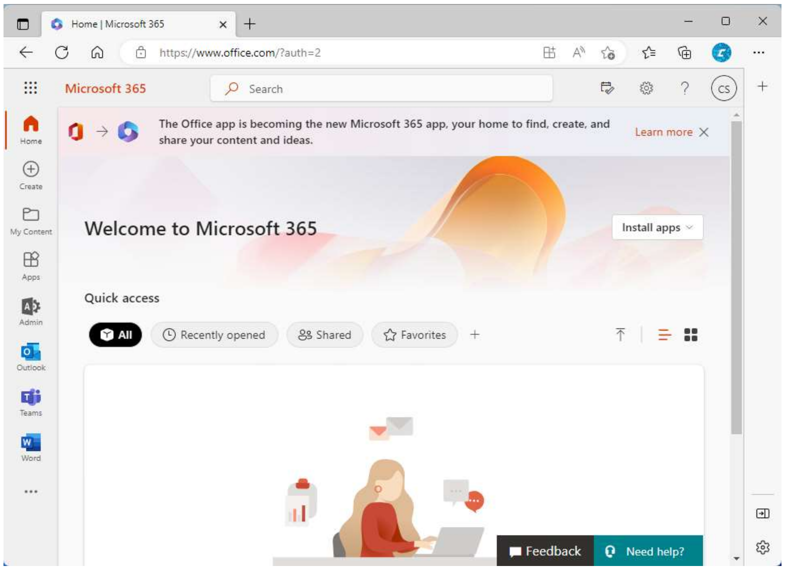
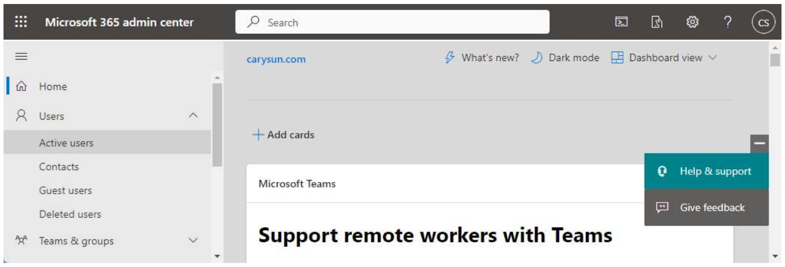
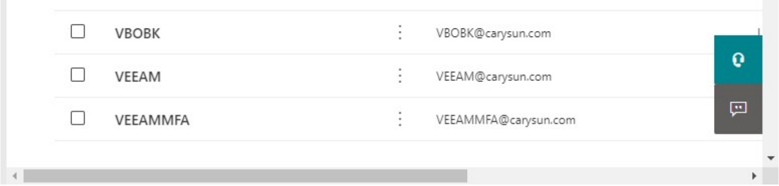
☑ Warning

☑ Failure

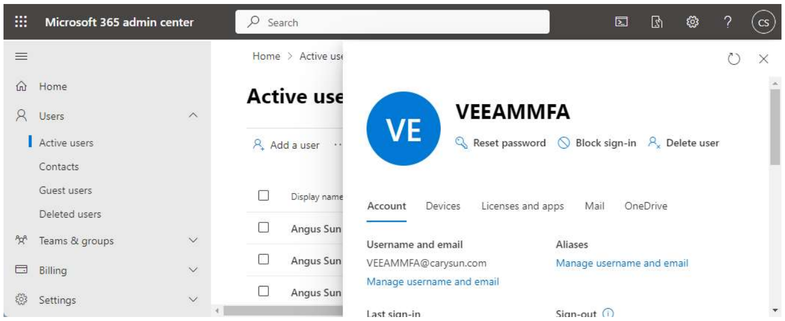
☑ Suppress notifications until the last job retry

Configure Notification with Microsoft Office 365 MFA Account

You can configure Microsoft Office 365 MFA account for notification settings if you want Veeam Backup & Replication to send email notifications about backup job results.

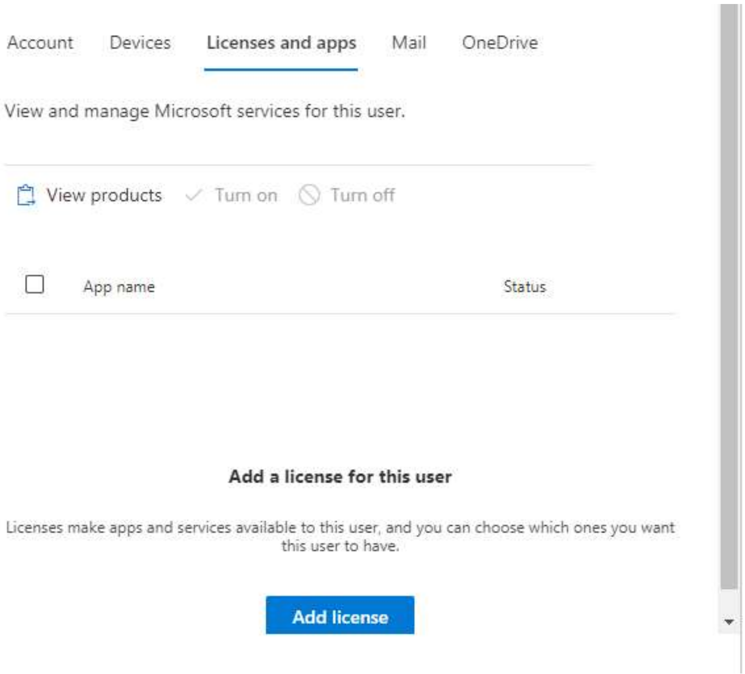
Instructions	Screenshot (if applicable)
1. Sign in Office 365 portal with a Global Admin account, and select Admin.	 Home | Microsoft 365 https://www.office.com/?auth=2 Microsoft 365 Search The Office app is becoming the new Microsoft 365 app, your home to find, create, and share your content and ideas. Learn more Welcome to Microsoft 365 Install apps Quick access All Recently opened Shared Favorites Home Create My Content Apps Admin Outlook Teams Word Feedback Need help?
2. On the Microsoft 365 admin center, expand Users and select Active users.	 Microsoft 365 admin center Search carysun.com What's new? Dark mode Dashboard view Home Users Active users Contacts Guest users Deleted users Teams & groups Add cards Microsoft Teams Support remote workers with Teams Help & support Give feedback
3. On the Active user's page, click Veeam service account (VEEAMMFA, in my case).	□ VBOBK VBOBK@carysun.com □ VEEAM VEEAM@carysun.com □ VEEAMMFA VEEAMMFA@carysun.com

4. On the account page, select License and apps.



Username and email
VEEAMMFA@carysun.com

5. On the License and apps page, click Add license.

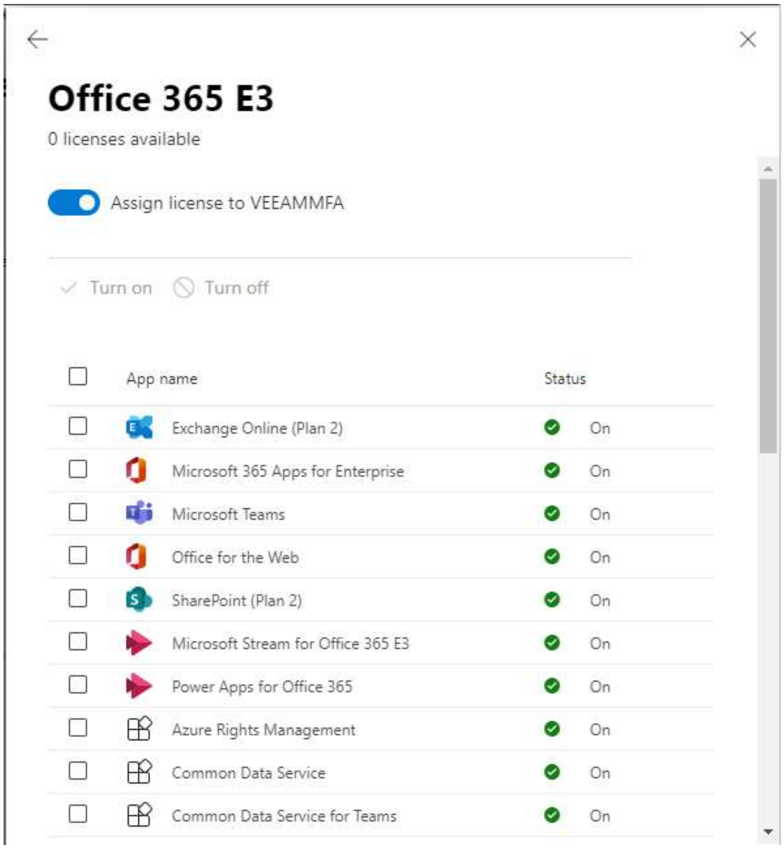


View and manage Microsoft services for this user.

Add a license for this user

Licenses make apps and services available to this user, and you can choose which ones you want this user to have.

6. On the Office 365 license page, enable Assign license to the account, and click Save changes.



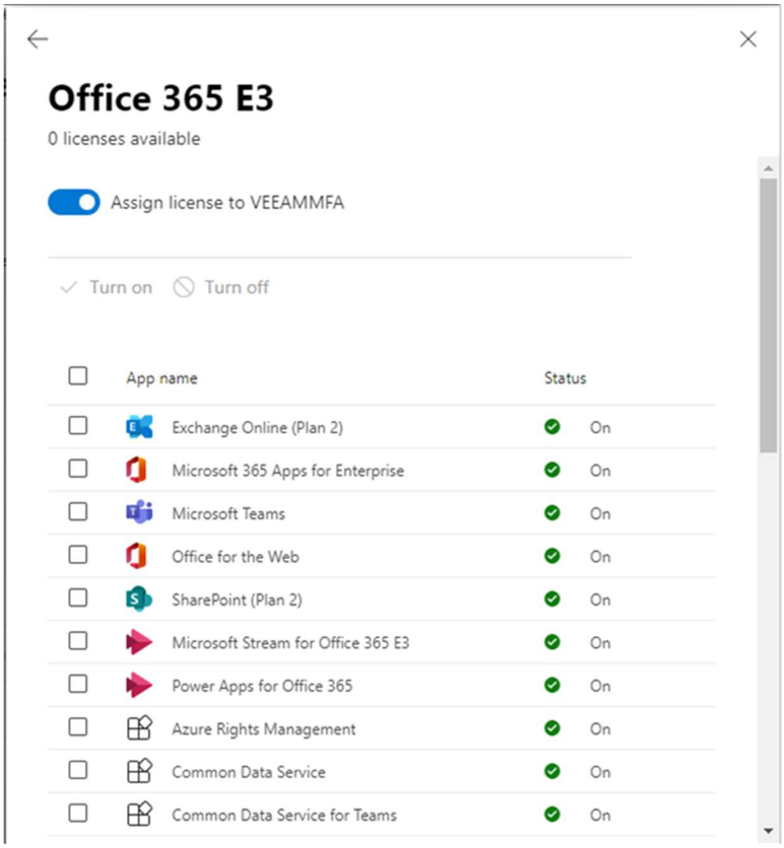
Office 365 E3

0 licenses available

Assign license to VEEAMMFA

□	App name	Status
□	Exchange Online (Plan 2)	✓ On
□	Microsoft 365 Apps for Enterprise	✓ On
□	Microsoft Teams	✓ On
□	Office for the Web	✓ On
□	SharePoint (Plan 2)	✓ On
□	Microsoft Stream for Office 365 E3	✓ On
□	Power Apps for Office 365	✓ On
□	Azure Rights Management	✓ On
□	Common Data Service	✓ On
□	Common Data Service for Teams	✓ On

7. Click Back <--.



Office 365 E3

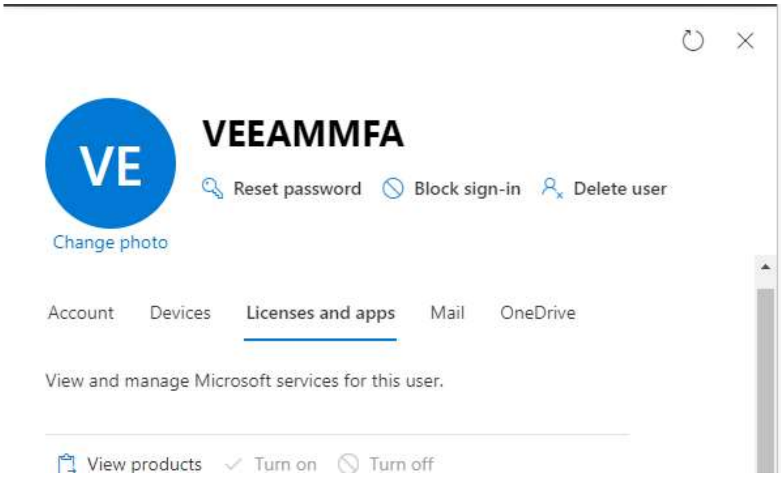
0 licenses available

Assign license to VEEAMMFA

✓ Turn on ⃠ Turn off

□	App name	Status
□	Exchange Online (Plan 2)	✓ On
□	Microsoft 365 Apps for Enterprise	✓ On
□	Microsoft Teams	✓ On
□	Office for the Web	✓ On
□	SharePoint (Plan 2)	✓ On
□	Microsoft Stream for Office 365 E3	✓ On
□	Power Apps for Office 365	✓ On
□	Azure Rights Management	✓ On
□	Common Data Service	✓ On
□	Common Data Service for Teams	✓ On

8. On the account page, select Mail. It would be preferable to wait a few minutes before preparing a mailbox for the user.



VEEAMMFA

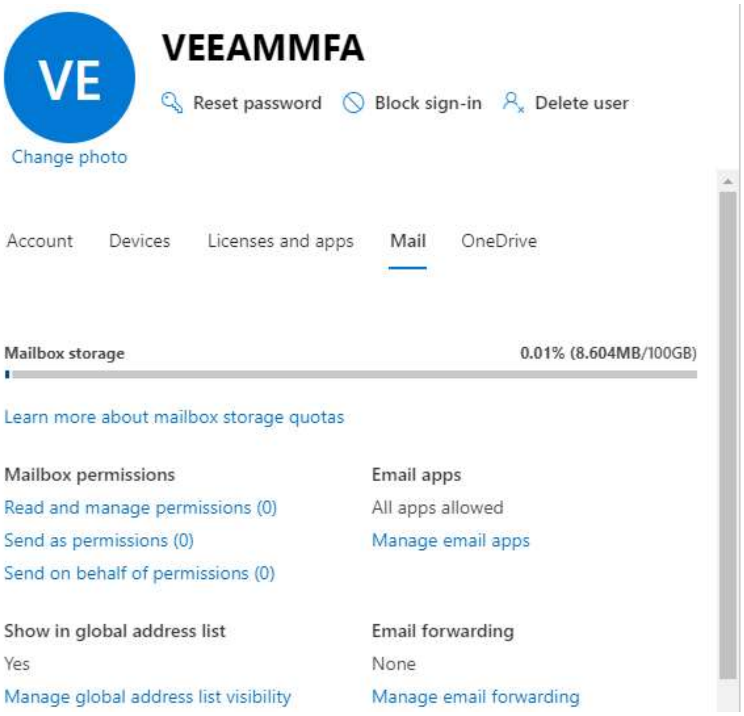
Reset password Block sign-in Delete user

Account Devices Licenses and apps Mail OneDrive

View and manage Microsoft services for this user.

View products ✓ Turn on ⃠ Turn off

9. On the Mail page, select Manage email apps.



Mailbox storage 0.01% (8.604MB/100GB)

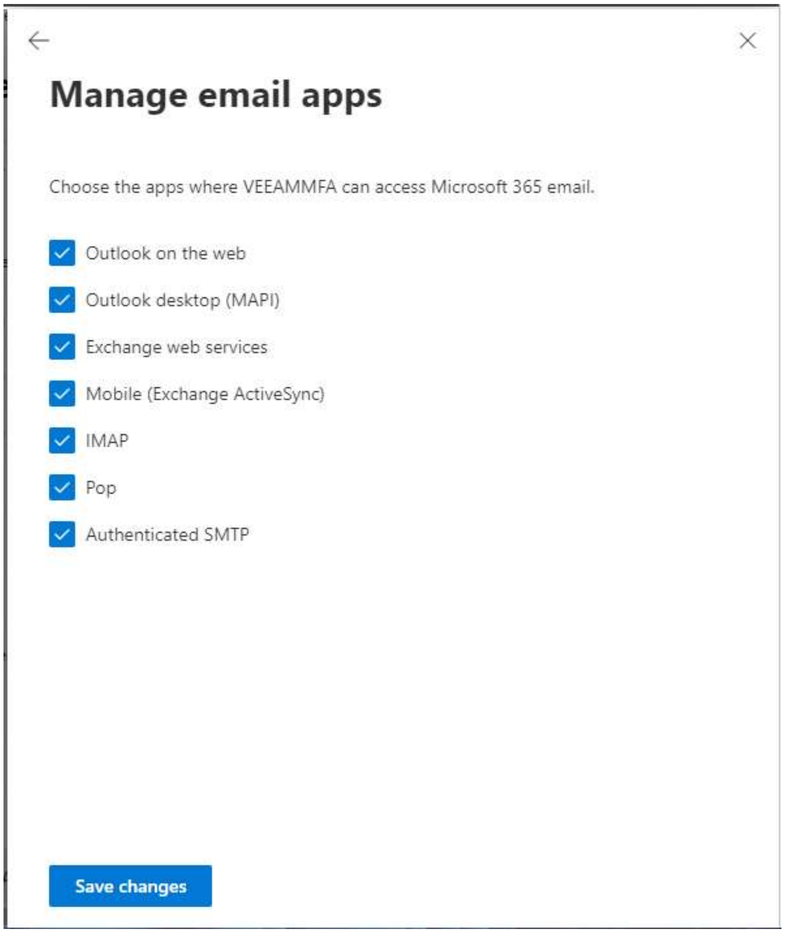
Mailbox permissions

Email apps
All apps allowed

Show in global address list
Yes

Email forwarding
None

10. On the Manage email apps, select Authenticated SMTP and click Save changes.

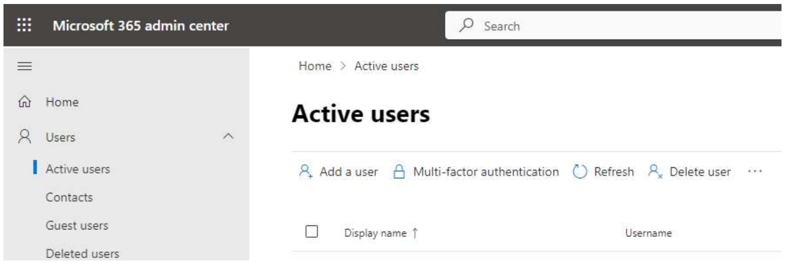


Manage email apps

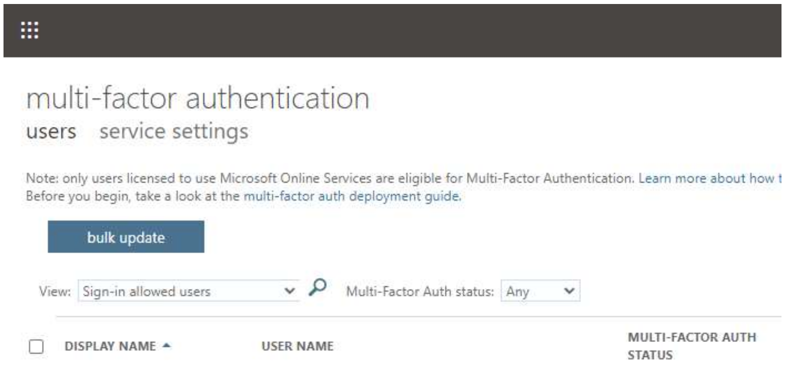
Choose the apps where VEEAMMFA can access Microsoft 365 email.

☑ Outlook on the web
☑ Outlook desktop (MAPI)
☑ Exchange web services
☑ Mobile (Exchange ActiveSync)
☑ IMAP
☑ Pop
☑ Authenticated SMTP

11. On the Active Users page, select Multi-factor authentication.



12. Sign in with a Global admin account.
13. On the multi-factor authentication page, select service settings.



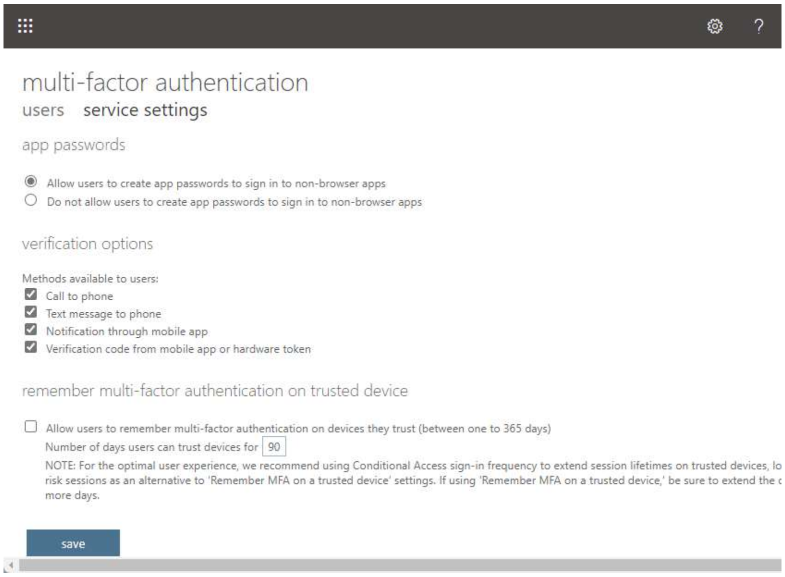
multi-factor authentication

users service settings

Note: only users licensed to use Microsoft Online Services are eligible for Multi-Factor Authentication. Learn more about how t
Before you begin, take a look at the multi-factor auth deployment guide.

□	DISPLAY NAME ▲	USER NAME	MULTI-FACTOR AUTH STATUS

14. On the service settings page, select Allow users to create an app password to sign in to non-browser apps, click save and then sign out from the office 365 portal.



multi-factor authentication

users service settings

app passwords

● Allow users to create app passwords to sign in to non-browser apps
○ Do not allow users to create app passwords to sign in to non-browser apps

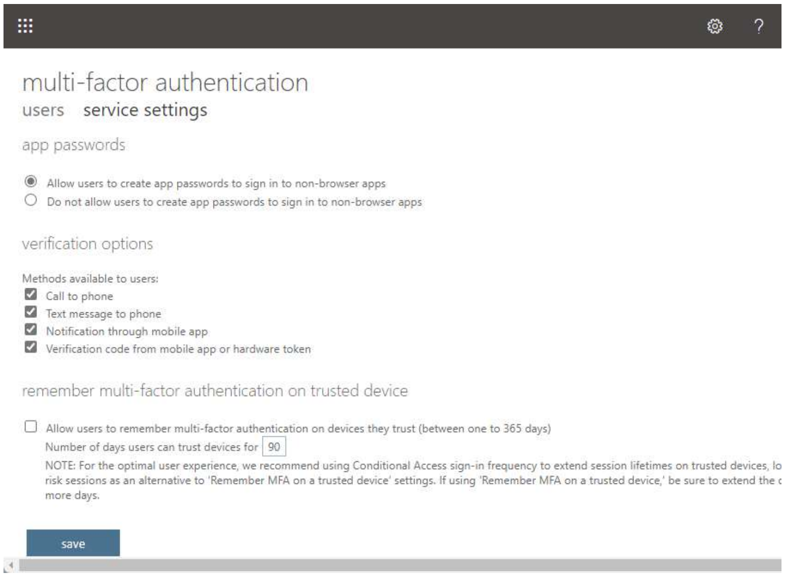
verification options

Methods available to users:
☑ Call to phone
☑ Text message to phone
☑ Notification through mobile app
☑ Verification code from mobile app or hardware token

remember multi-factor authentication on trusted device

□ Allow users to remember multi-factor authentication on devices they trust (between one to 365 days)
Number of days users can trust devices for 90
NOTE: For the optimal user experience, we recommend using Conditional Access sign-in frequency to extend session lifetimes on trusted devices, lo
risk sessions as an alternative to 'Remember MFA on a trusted device' settings. If using 'Remember MFA on a trusted device,' be sure to extend the c
more days.

15. On the multi-factor authentication page, select users.



multi-factor authentication

users service settings

app passwords

● Allow users to create app passwords to sign in to non-browser apps
○ Do not allow users to create app passwords to sign in to non-browser apps

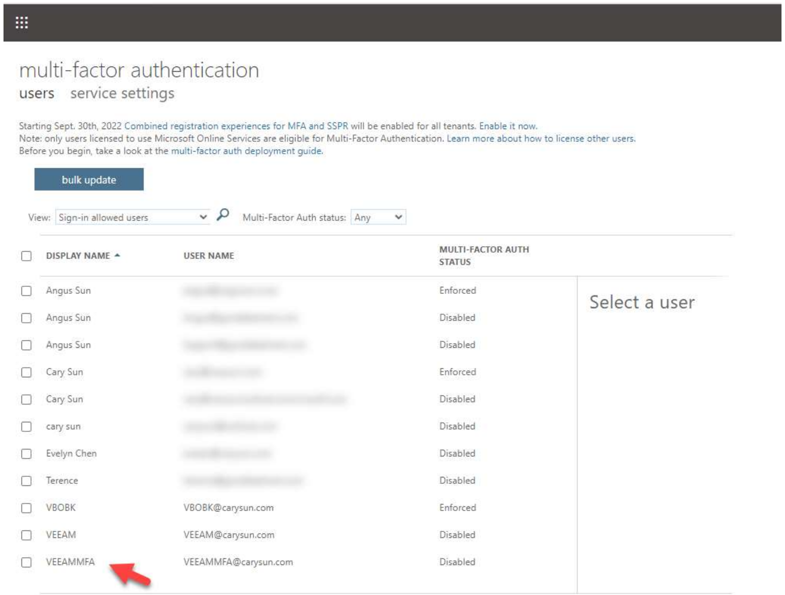
verification options

Methods available to users:
☑ Call to phone
☑ Text message to phone
☑ Notification through mobile app
☑ Verification code from mobile app or hardware token

remember multi-factor authentication on trusted device

□ Allow users to remember multi-factor authentication on devices they trust (between one to 365 days)
Number of days users can trust devices for 90
NOTE: For the optimal user experience, we recommend using Conditional Access sign-in frequency to extend session lifetimes on trusted devices, lo
risk sessions as an alternative to 'Remember MFA on a trusted device' settings. If using 'Remember MFA on a trusted device,' be sure to extend the c
more days.

16. If the Veeam service account is non-MFA, follow the steps below to enable MFA.
17. On the user's page, click Veeam service account.



multi-factor authentication

users service settings

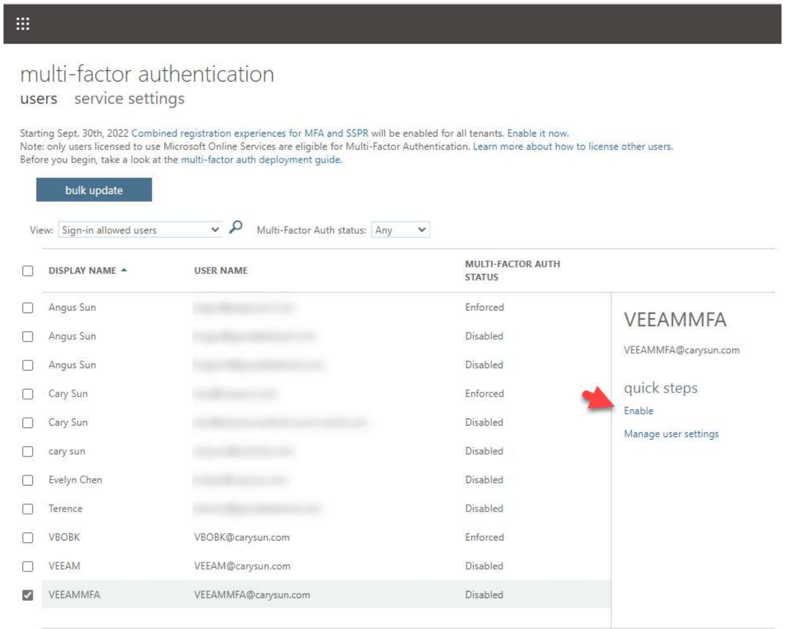
Starting Sept. 30th, 2022 Combined registration experiences for MFA and SSPR will be enabled for all tenants. Enable it now.
Note: only users licensed to use Microsoft Online Services are eligible for Multi-Factor Authentication. Learn more about how to license other users.
Before you begin, take a look at the multi-factor auth deployment guide.

View: Sign-in allowed users Multi-Factor Auth status: Any

□	DISPLAY NAME ▲	USER NAME	MULTI-FACTOR AUTH STATUS
□	Angus Sun	[redacted]	Enforced
□	Angus Sun	[redacted]	Disabled
□	Angus Sun	[redacted]	Disabled
□	Cary Sun	[redacted]	Enforced
□	Cary Sun	[redacted]	Disabled
□	cary sun	[redacted]	Disabled
□	Evelyn Chen	[redacted]	Disabled
□	Terence	[redacted]	Disabled
□	VBOBK	VBOBK@carysun.com	Enforced
□	VEEAM	VEEAM@carysun.com	Disabled
□	VEEAMMFA	VEEAMMFA@carysun.com	Disabled

Select a user

18. On the quick steps page, select Enable.



multi-factor authentication

users service settings

Starting Sept. 30th, 2022 Combined registration experiences for MFA and SSPR will be enabled for all tenants. Enable it now.
Note: only users licensed to use Microsoft Online Services are eligible for Multi-Factor Authentication. Learn more about how to license other users.
Before you begin, take a look at the multi-factor auth deployment guide.

View: Sign-in allowed users Multi-Factor Auth status: Any

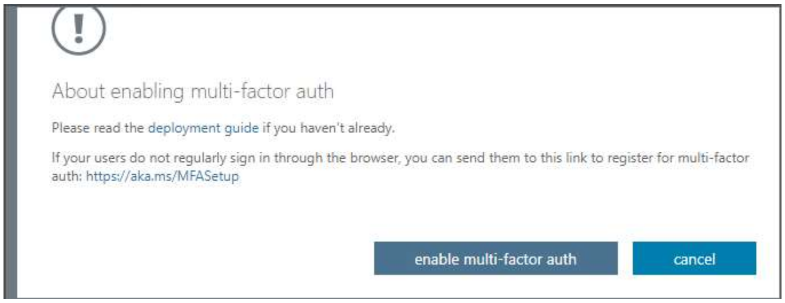
☐	DISPLAY NAME ▲	USER NAME	MULTI-FACTOR AUTH STATUS
☐	Angus Sun	[redacted]	Enforced
☐	Angus Sun	[redacted]	Disabled
☐	Angus Sun	[redacted]	Disabled
☐	Cary Sun	[redacted]	Enforced
☐	Cary Sun	[redacted]	Disabled
☐	cary sun	[redacted]	Disabled
☐	Evelyn Chen	[redacted]	Disabled
☐	Terence	[redacted]	Disabled
☐	VBOBK	VBOBK@carysun.com	Enforced
☐	VEEAM	VEEAM@carysun.com	Disabled
☑	VEEAMMFA	VEEAMMFA@carysun.com	Disabled

VEEAMMFA

VEEAMMFA@carysun.com

quick steps

19. Click enable multi-factor auth on the About helping multi-factor auth page.

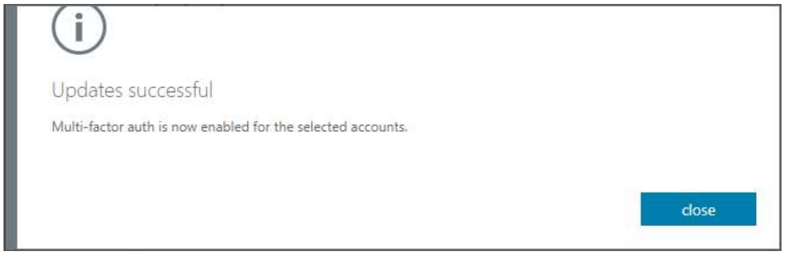


About enabling multi-factor auth

Please read the deployment guide if you haven't already.

If your users do not regularly sign in through the browser, you can send them to this link to register for multi-factor auth: https://aka.ms/MFASetup

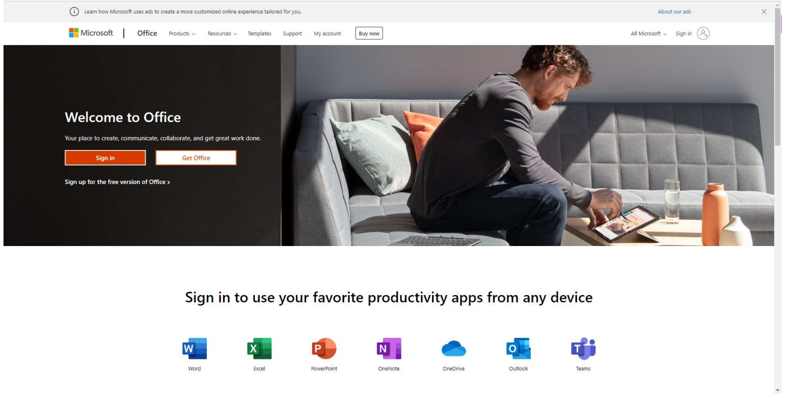
20. On the Updates, successful page, click Close.



Updates successful

Multi-factor auth is now enabled for the selected accounts.

21. Sign in Office 365 portal with a Veeam service account



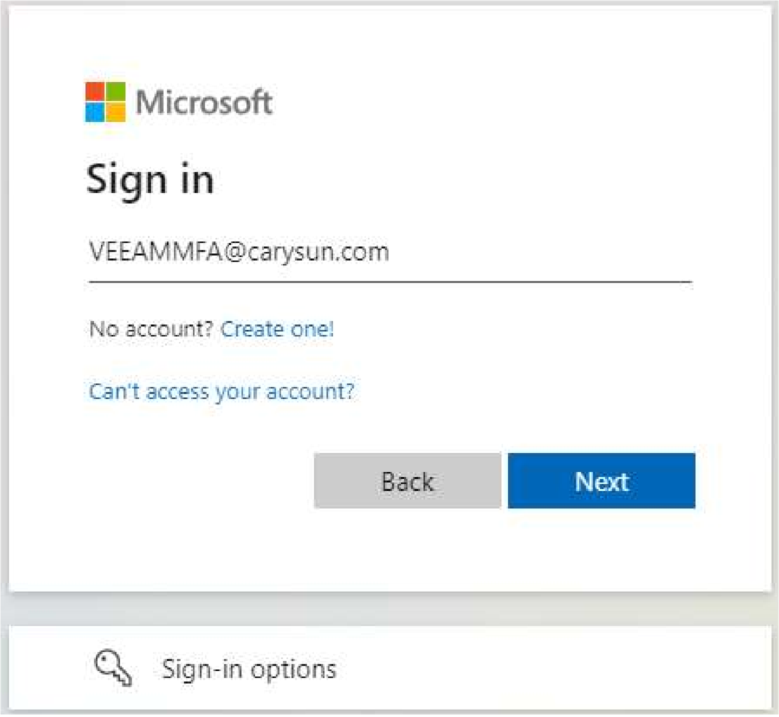
Learn how Microsoft uses ads to create a more customized online experience tailored for you.

Welcome to Office

Your place to create, communicate, collaborate, and get great work done.

Sign in to use your favorite productivity apps from any device

22. On the Sign in page, enter the Veeam services account email address.



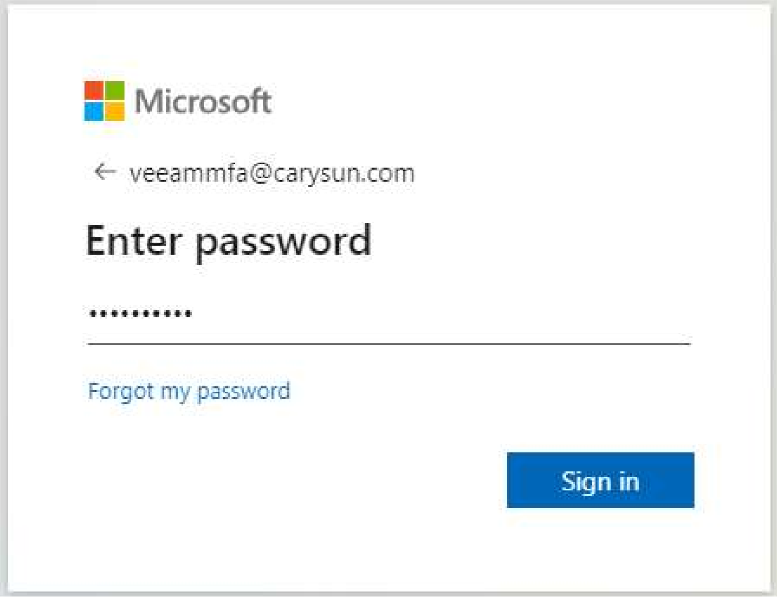
Sign in

VEEAMMFA@carysun.com

No account? Create one!

Can't access your account?

23. Enter password.



Microsoft

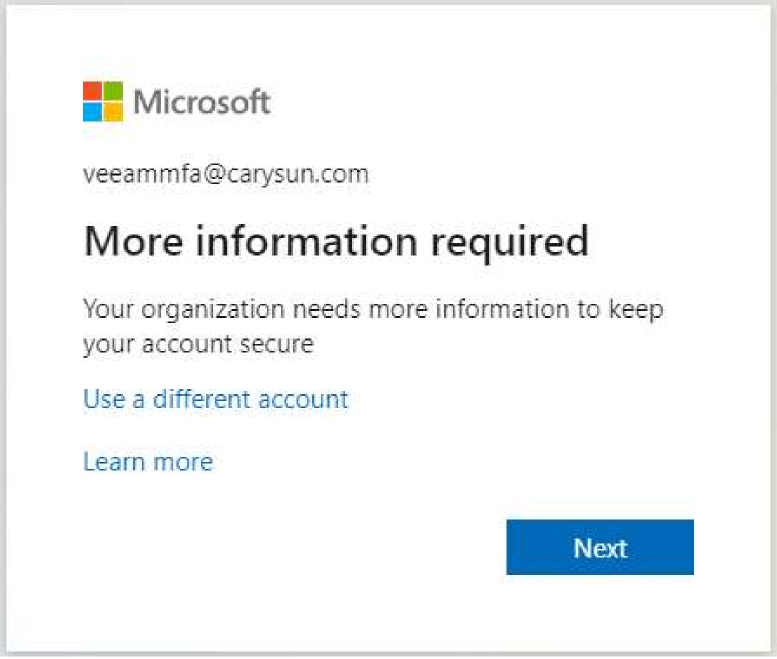
← veeammfa@carysun.com

Enter password

••••••••••

Forgot my password

24. On the More information required page, click Next.



Microsoft

veeammfa@carysun.com

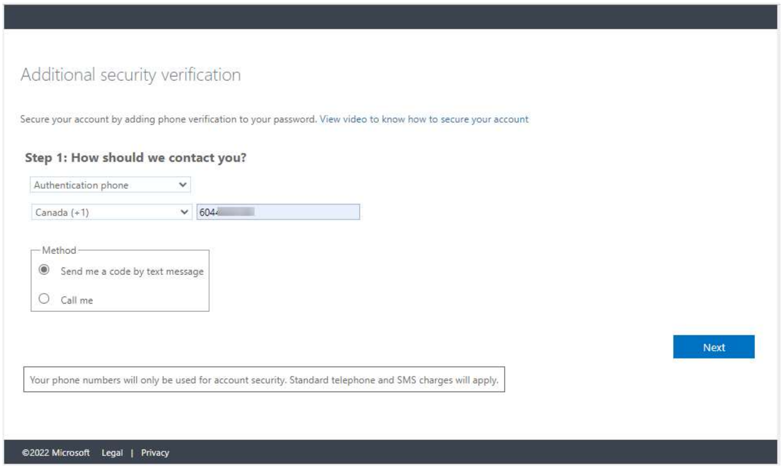
More information required

Your organization needs more information to keep your account secure

Use a different account

Learn more

25. Select Fill in the information on the Step 1 page and click Next.



Additional security verification

Secure your account by adding phone verification to your password. View video to know how to secure your account

Step 1: How should we contact you?

Authentication phone

Canada (+1) 604[redacted]

Method

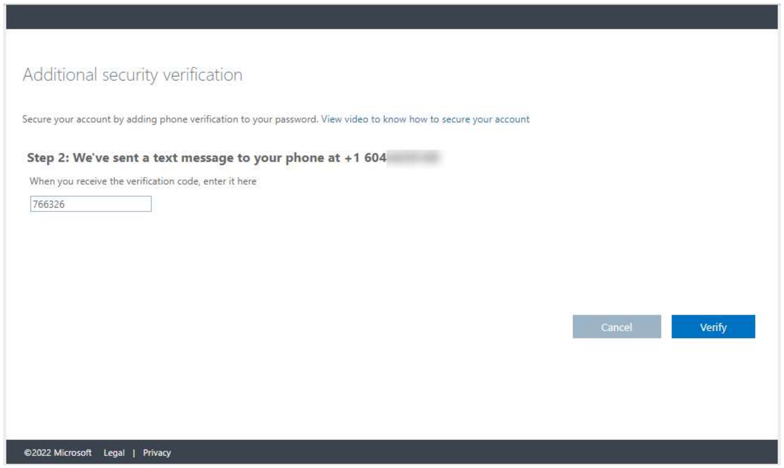
● Send me a code by text message

○ Call me

Your phone numbers will only be used for account security. Standard telephone and SMS charges will apply.

©2022 Microsoft Legal | Privacy

26. On the Step 2 page, enter the verification code and click Verify.



Additional security verification

Secure your account by adding phone verification to your password. View video to know how to secure your account

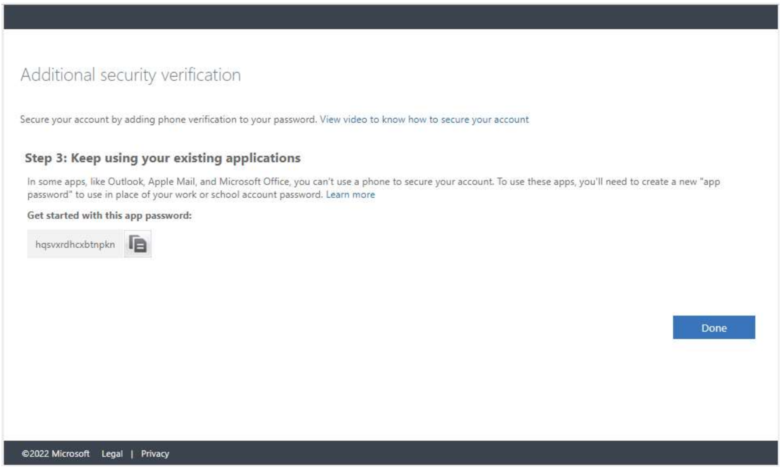
Step 2: We've sent a text message to your phone at +1 604[redacted]

When you receive the verification code, enter it here

766326

©2022 Microsoft Legal | Privacy

27. In Step 3, copy and save the app password, and click Done.



Additional security verification

Secure your account by adding phone verification to your password. View video to know how to secure your account

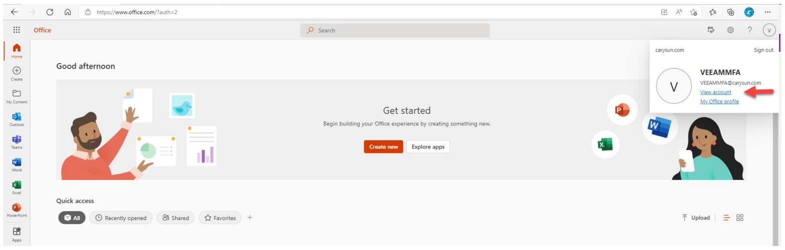
Step 3: Keep using your existing applications

In some apps, like Outlook, Apple Mail, and Microsoft Office, you can't use a phone to secure your account. To use these apps, you'll need to create a new "app password" to use in place of your work or school account password. Learn more

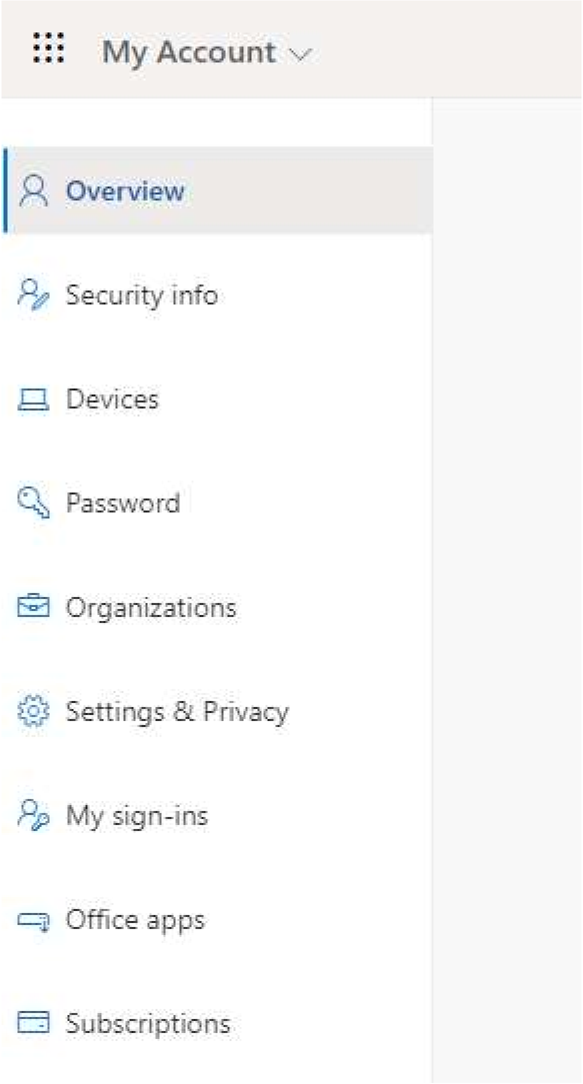
Get started with this app password:

hqsvxrdhcxbtnpkn

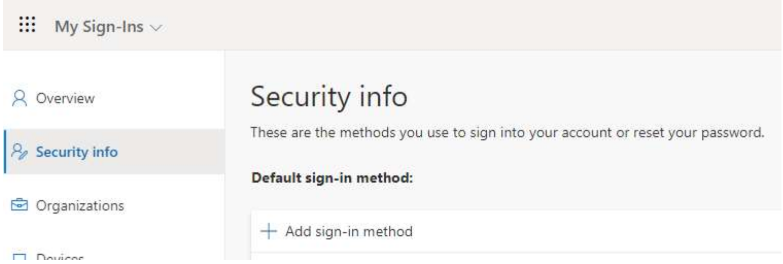
28. If the Veeam service account is an existing MFA account, follow the below steps to add App password authentication.
29. Sign in to the Office 365 portal with the Veeam service account and select View account.



30. On the My account page, select Security info.



31. On the Security info page, select the +Add method.

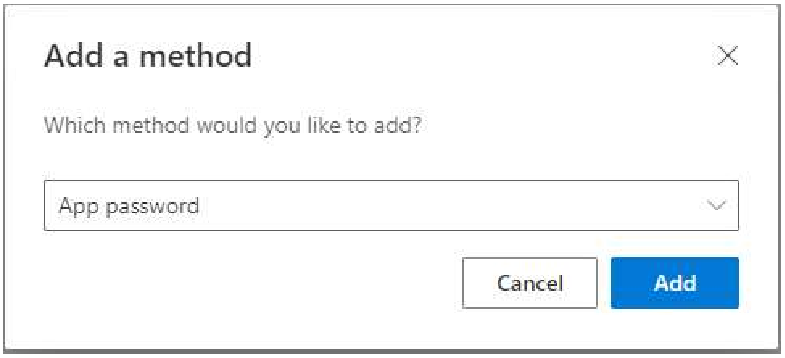


Security info

These are the methods you use to sign into your account or reset your password.

Default sign-in method:

32. On a method, select App password and click Add.

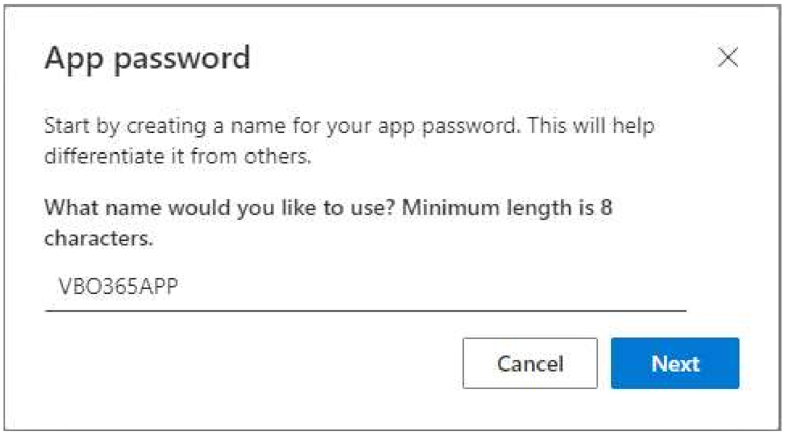


Add a method

Which method would you like to add?

App password

33. Type VBO365APP as the name of the App password, and click Next.



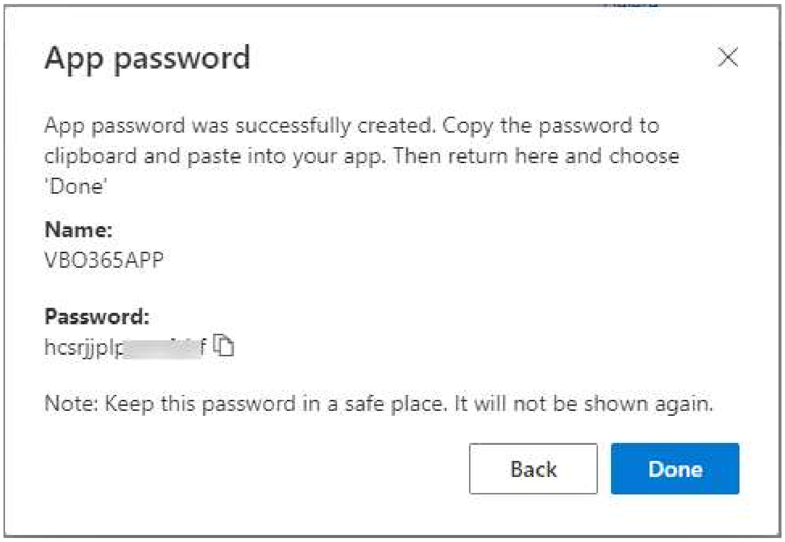
App password

Start by creating a name for your app password. This will help differentiate it from others.

What name would you like to use? Minimum length is 8 characters.

VBO365APP

34. Copy and keep the password in a safe place. It will not be shown again.
35. Click Done.



App password

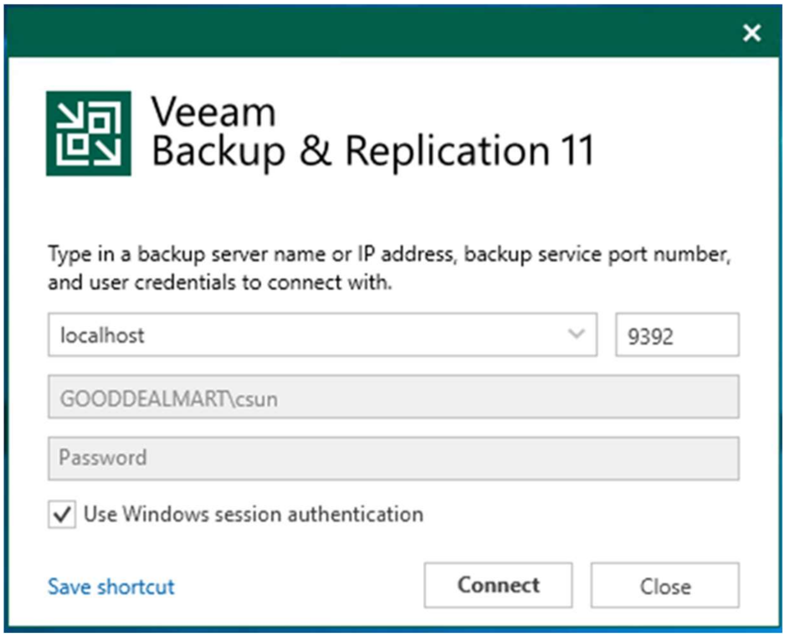
App password was successfully created. Copy the password to clipboard and paste into your app. Then return here and choose 'Done'

Name:
VBO365APP

Password:
hcsrjjplp[redacted]f

Note: Keep this password in a safe place. It will not be shown again.

36. Log in to the Veeam Backup and replication manager server.
37. Open the Veeam Backup & Replication Console, and click Connect.



Veeam
Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

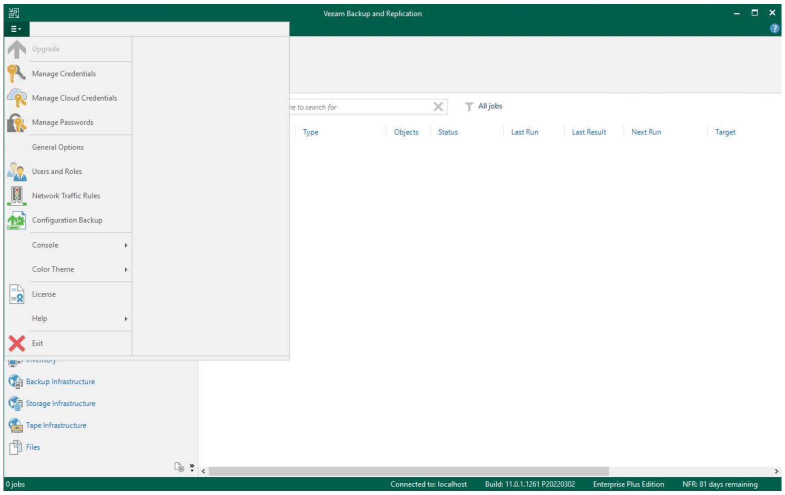
localhost 9392

GOODDEALMART\csun

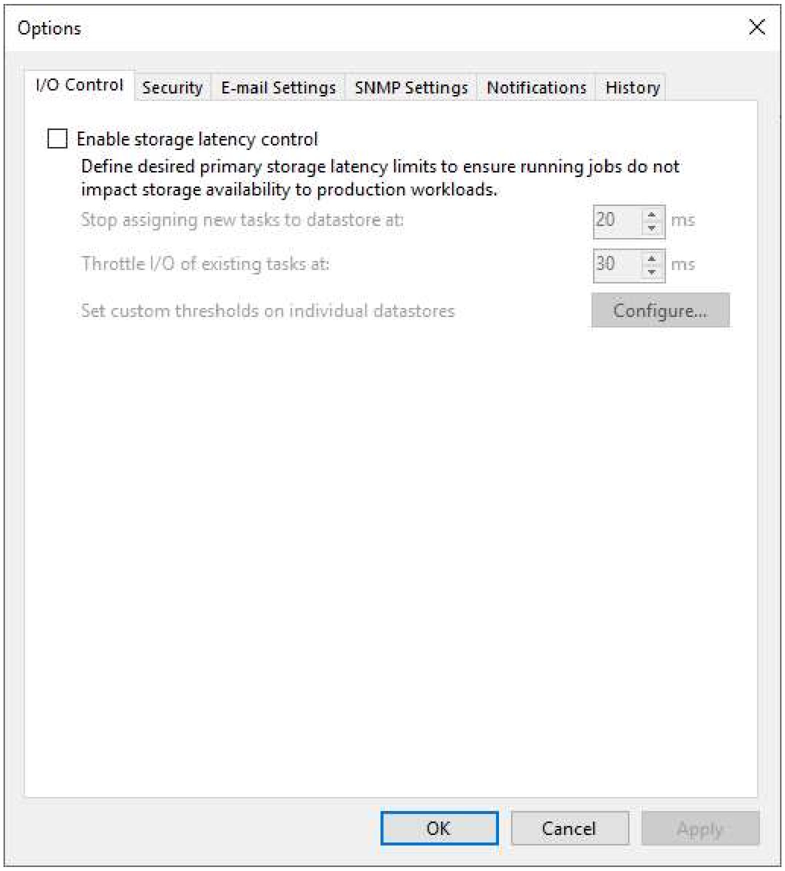
Password

☑ Use Windows session authentication

38. Select General Options from the main menu.



39. On the Options page, select Email Settings.



Options

□ Enable storage latency control

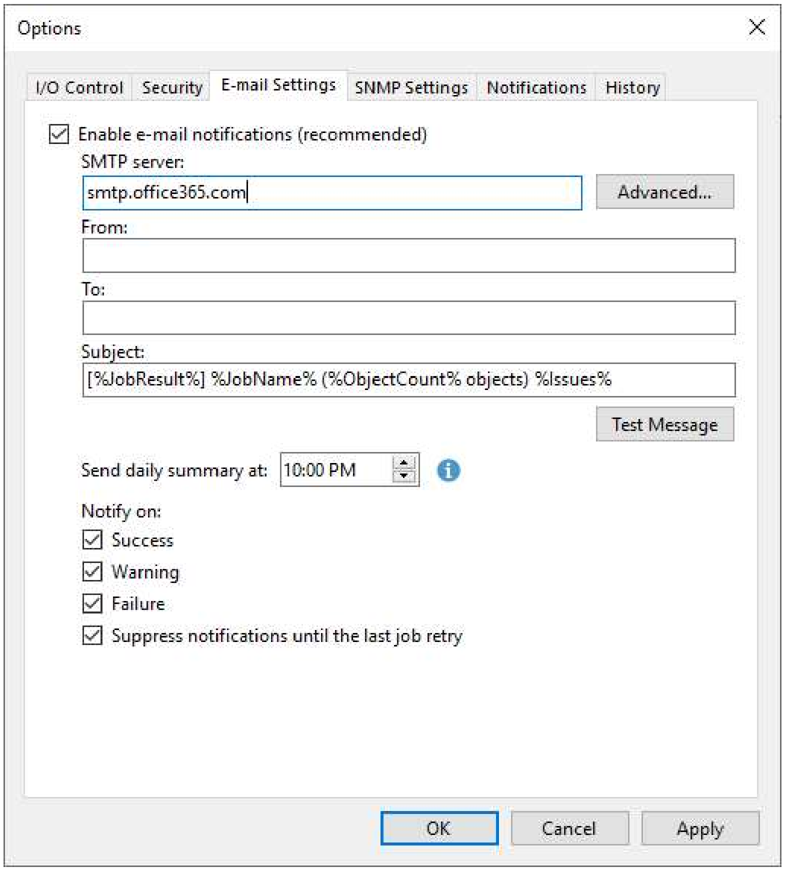
Define desired primary storage latency limits to ensure running jobs do not impact storage availability to production workloads.

Stop assigning new tasks to datastore at: 20 ms

Throttle I/O of existing tasks at: 30 ms

Set custom thresholds on individual datastores

40. Select Enable e-mail notification (recommend) on the Email Settings page.
41. In the SMTP server field, enter smtp.sendgrid.net and click Advanced.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From:

To:

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

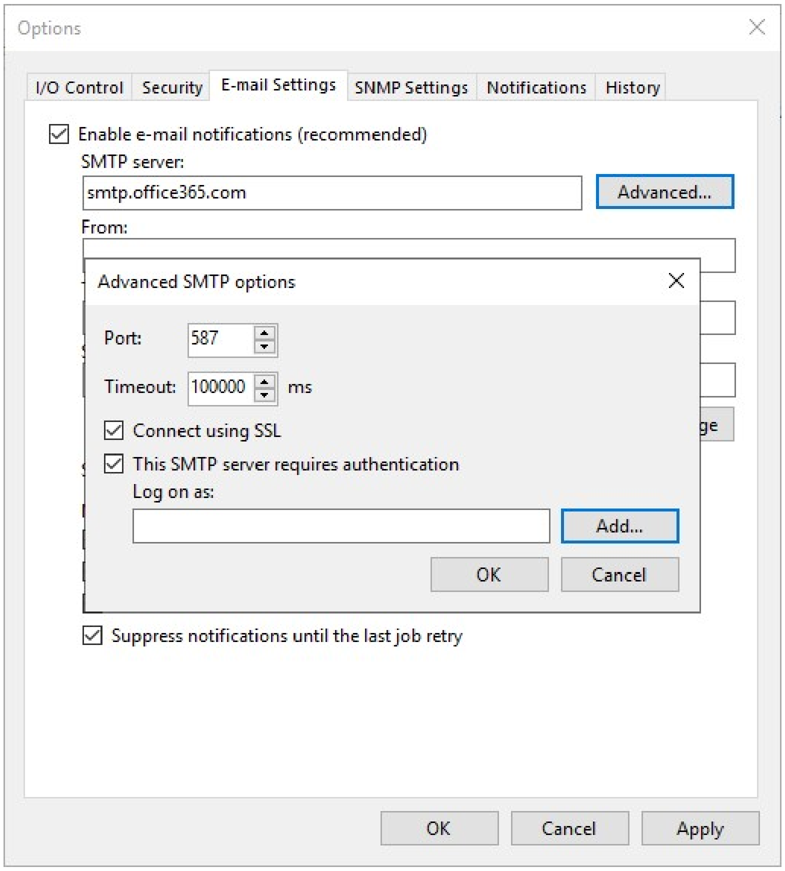
☑ Success

☑ Warning

☑ Failure

☑ Suppress notifications until the last job retry

42. On the Advanced SMTP options page, enter 587 in the Port field.
43. Use 100000 milliseconds as the Timeout.
44. Select Connect using SSL.
45. Select This SMTP server requires authentication.
46. Click Add to add a credential as Log on as account.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From:

Port: 587

Timeout: 100000 ms

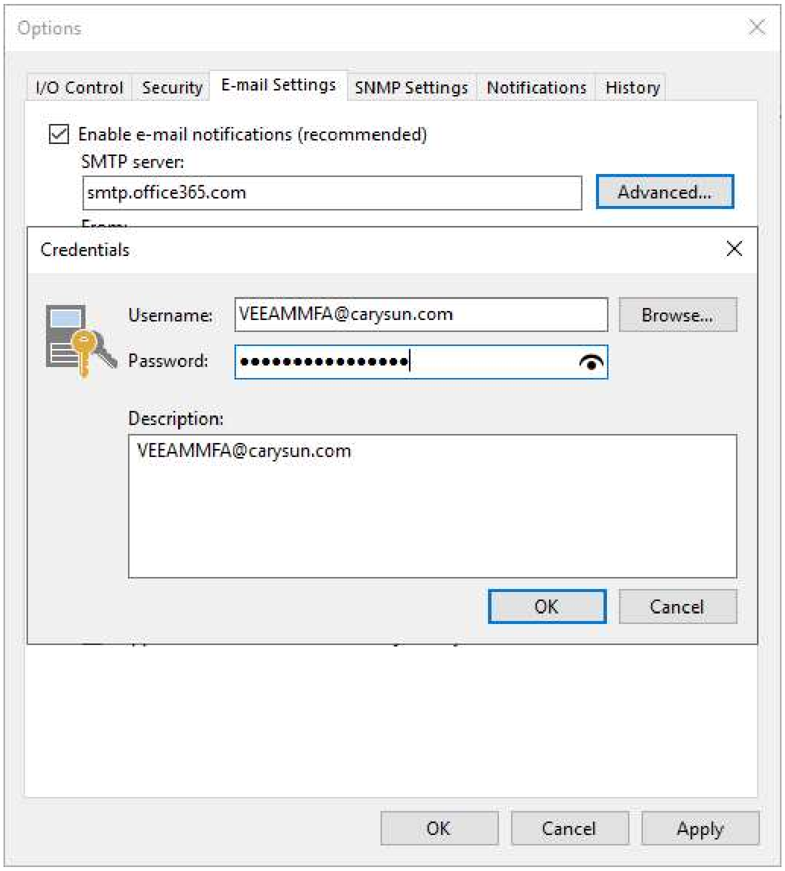
☑ Connect using SSL

☑ This SMTP server requires authentication

Log on as:

☑ Suppress notifications until the last job retry

47. The SMTP server requires authentication, type the office 365 service account (VEEAMMFA@carysun.com in my case) as Username, enter the App password as the password, and click OK.



☑ Enable e-mail notifications (recommended)

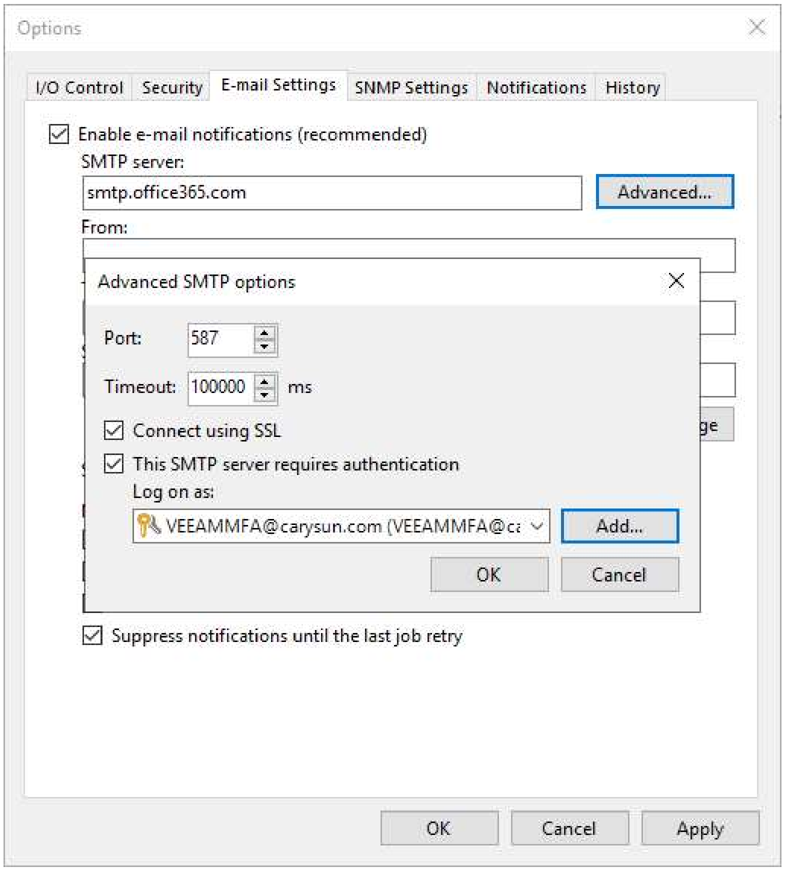
SMTP server: smtp.office365.com

Username: VEEAMMFA@carysun.com

Password: ●●●●●●●●●●●●●●●●

Description: VEEAMMFA@carysun.com

48. On the Advanced SMTP options page, click OK.



Options

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From:

Advanced SMTP options

Port: 587

Timeout: 100000 ms

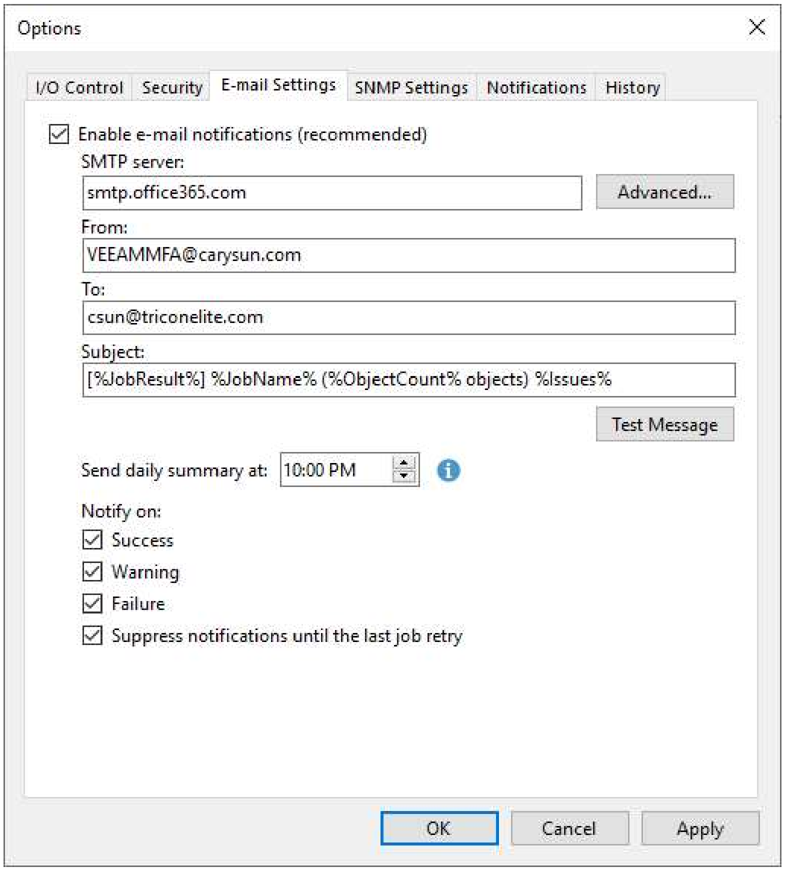
☑ Connect using SSL

☑ This SMTP server requires authentication

Log on as: VEEAMMFA@carysun.com (VEEAMMFA@ca

☑ Suppress notifications until the last job retry

49. In the From field, enter the Veeam service account’s email address as a sender.
50. In the To field, enter an email address of a notification recipient. To specify multiple email addresses, use a semicolon.
51. Click Test Message.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From: VEEAMMFA@carysun.com

To: csun@triconelite.com

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

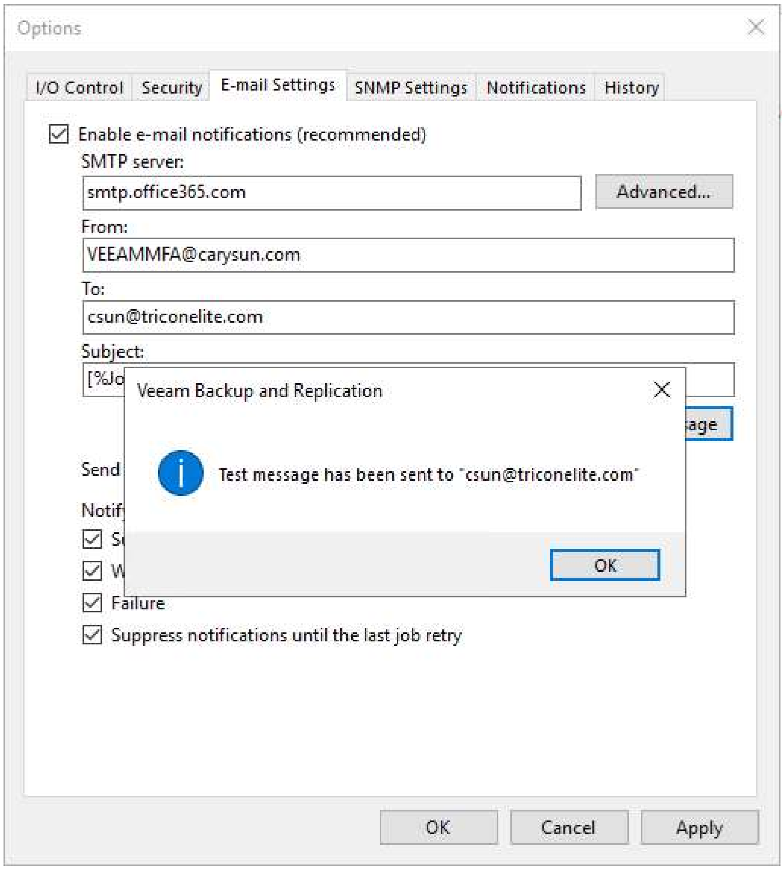
☑ Success

☑ Warning

☑ Failure

☑ Suppress notifications until the last job retry

52. Ensure the test email was successfully sent to recipients, and click OK.



Options

☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From: VEEAMMFA@carysun.com

To: csun@triconelite.com

Subject: [%Jo

☑ S

☑ W

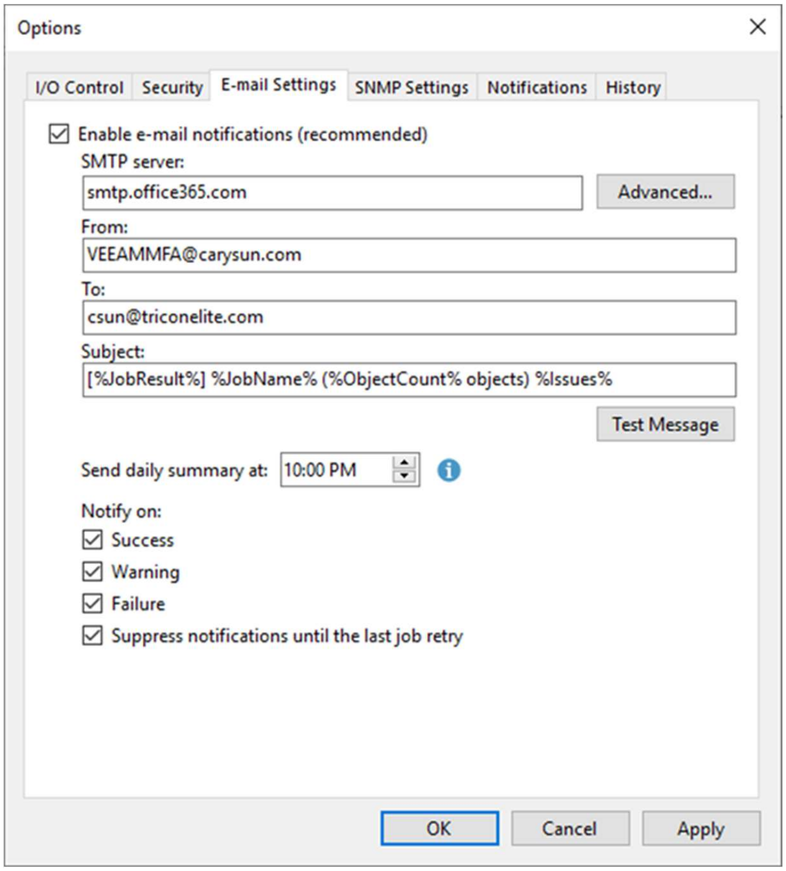
☑ Failure

☑ Suppress notifications until the last job retry

Veeam Backup and Replication

Test message has been sent to "csun@triconelite.com"

53. On the Notifications page, system notifications are sent by default whenever a backup job session ends with the following states: Success, Warning, or Failure. Keep the default settings, and click OK.



☑ Enable e-mail notifications (recommended)

SMTP server: smtp.office365.com

From: VEEAMMFA@carysun.com

To: csun@triconelite.com

Subject: [%JobResult%] %JobName% (%ObjectCount% objects) %Issues%

Send daily summary at: 10:00 PM

Notify on:

☑ Success

☑ Warning

☑ Failure

☑ Suppress notifications until the last job retry

Chapter 4

Backup and Backup Copy

Veeam Backup & Replication creates VM image-level backups. It treats virtual machines as objects rather than a collection of files. Veeam Backup & Replication copies the entire VM image at a block level when you backup a VM. Image-level backups can be used for various restore scenarios, such as Instant Recovery, restoring full VM, recovery VM file, recovery file-level, etc.

Typically, backup technology is used for VMs with shorter RTOs. When the primary virtual machine fails, restoring VM data from a deduplicated and compressed backup file takes some time.

The backup copy process is job-driven. Veeam Backup & Replication fully automates backup copying. It allows you to specify retention settings to keep the desired number of restore points and full backups for archival purposes.

The primary goal of backup is to protect your data from disasters and virtual or physical machine failures. On the other hand, having only one backup does not provide the necessary level of security. The primary backup and production data may be destroyed, leaving you with no backups from which to restore data.

It is recommended that you follow the 3-2-1 rule when developing a successful data protection and disaster recovery plan:

3: At least three copies of your data are required: the original production data and two backups.

2: You must store copies of your data on at least two media types: local disc and cloud.

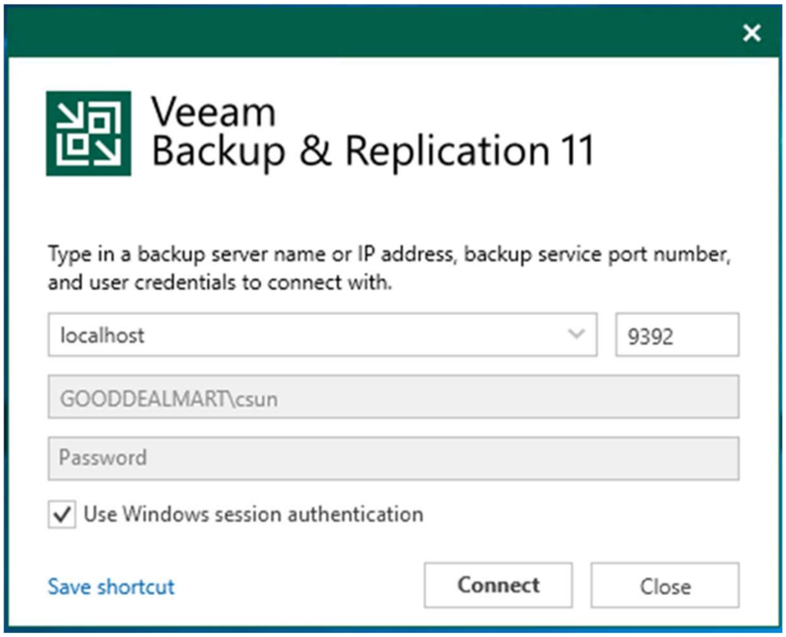
1: At least one backup must be kept off-site, such as in the cloud or a remote location.

As a result, you must have at least two backups, each in a different location. If your production data and local backup are destroyed in a disaster, you can still recover from your off-site backup.

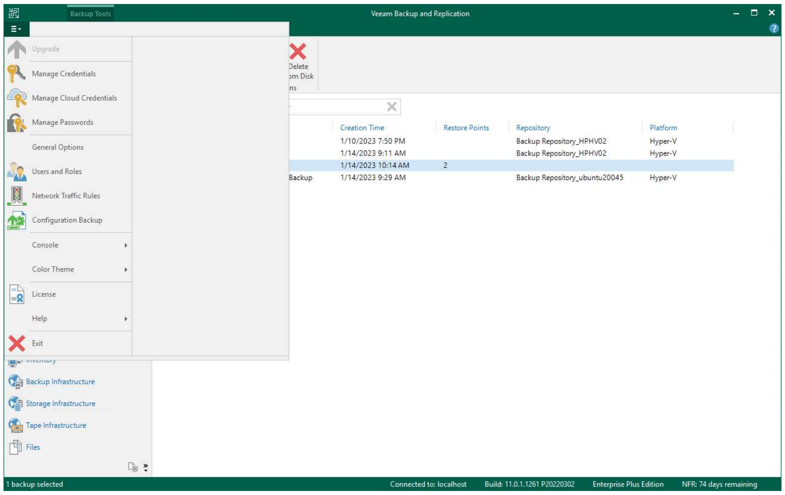
Enable Configuration Backup

The configuration database of Veeam Backup & Replication can be backed up and restored. If the backup server fails, you can quickly reinstall it and restore its configuration from a backup configuration.

Configuration Backups can also be used to back up and restore Veeam Servers. This is useful for the upgrade, wipe reload scenarios and disaster recovery.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. Select Configuration Backup from the Man menu.



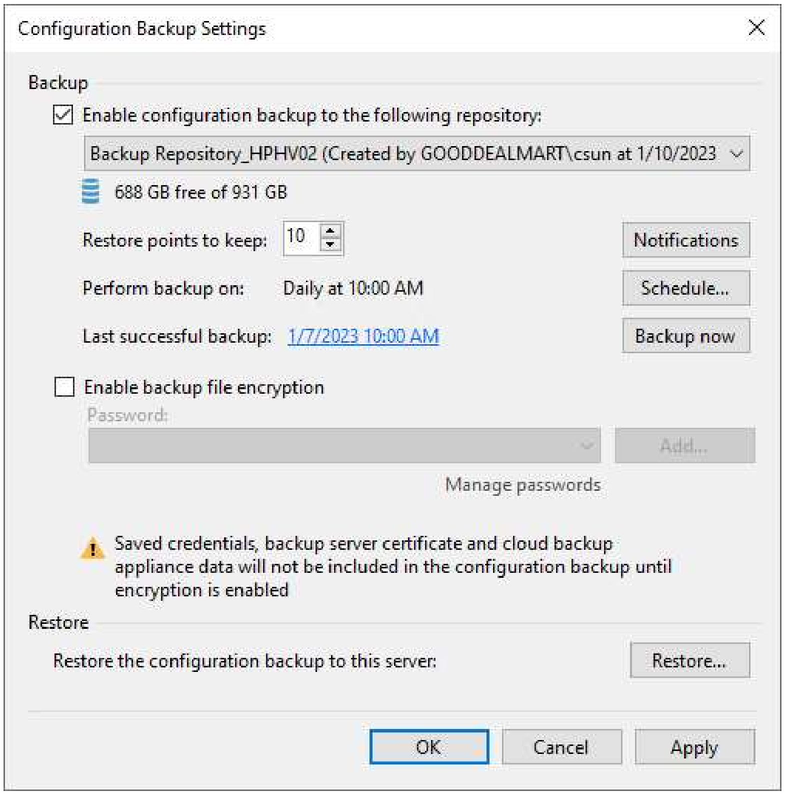
	Creation Time	Restore Points	Repository	Platform
	1/10/2023 7:50 PM		Backup Repository_HPHV02	Hyper-V
	1/14/2023 9:11 AM		Backup Repository_HPHV02	Hyper-V
	1/14/2023 10:14 AM	2		
Backup	1/14/2023 9:29 AM		Backup Repository_ubuntu20045	Hyper-V

4. Select Enable configuration backup to the following repository checkbox on the Configuration Backup Settings page.

5. Select the backup repository from the drop-down list.

6. Specify the number of restore points in the Restore points to keep the field.

7. Click Notifications.



☑ Enable configuration backup to the following repository:

Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023

688 GB free of 931 GB

Restore points to keep: 10

Perform backup on: Daily at 10:00 AM

Last successful backup: 1/7/2023 10:00 AM

☐ Enable backup file encryption

Password:

Saved credentials, backup server certificate and cloud backup appliance data will not be included in the configuration backup until encryption is enabled

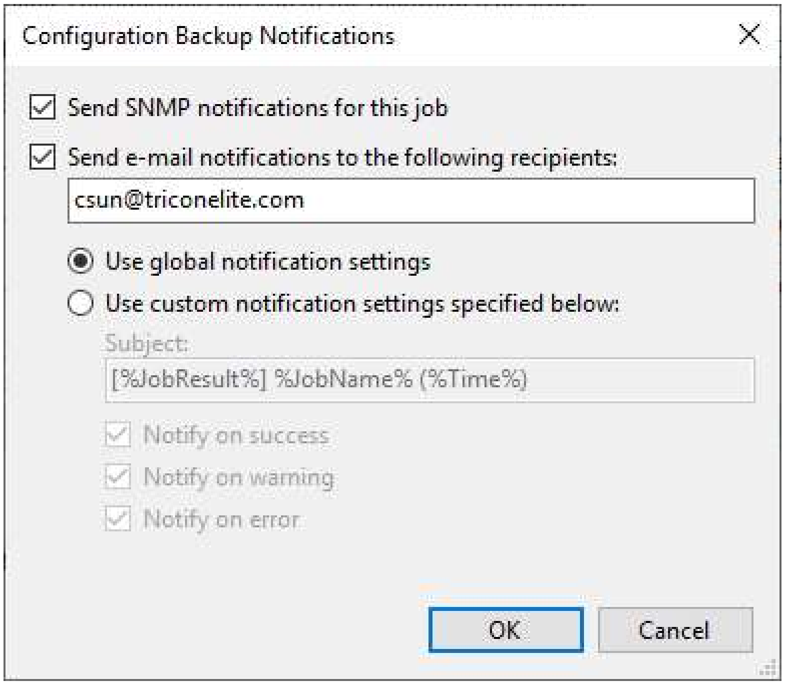
Restore the configuration backup to this server:

8. Select Send SNMP notification on the Configuration Backup Notification page for this job checkbox. If necessary.

9. Select Send e-mail notifications to the following recipients check box and enter a recipient's email address. You can enter multiple addresses, each email address separated by a semicolon.

10. Select the Use global notification settings checkbox.

11. Click OK.



Configuration Backup Notifications

☑ Send SNMP notifications for this job

☑ Send e-mail notifications to the following recipients:

csun@triconelite.com

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%Time%)

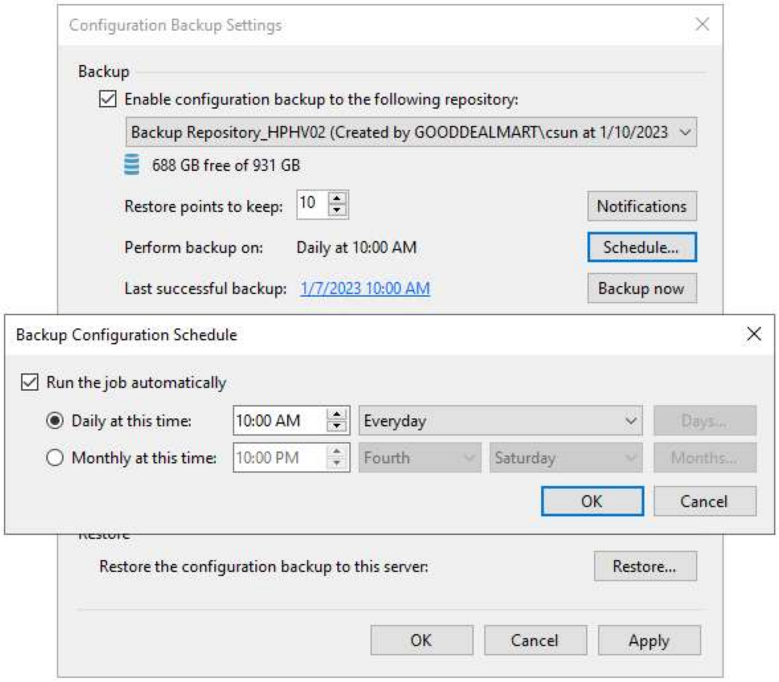
☑ Notify on success

☑ Notify on warning

☑ Notify on error

12. Click Schedule, specify the schedule according to which configuration backup must be created and click OK.

13. Click Backup now if you want to back up manually.



Configuration Backup Settings

Backup

☑ Enable configuration backup to the following repository:

Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023

688 GB free of 931 GB

Restore points to keep: 10

Perform backup on: Daily at 10:00 AM

Last successful backup: 1/7/2023 10:00 AM

Backup Configuration Schedule

☑ Run the job automatically

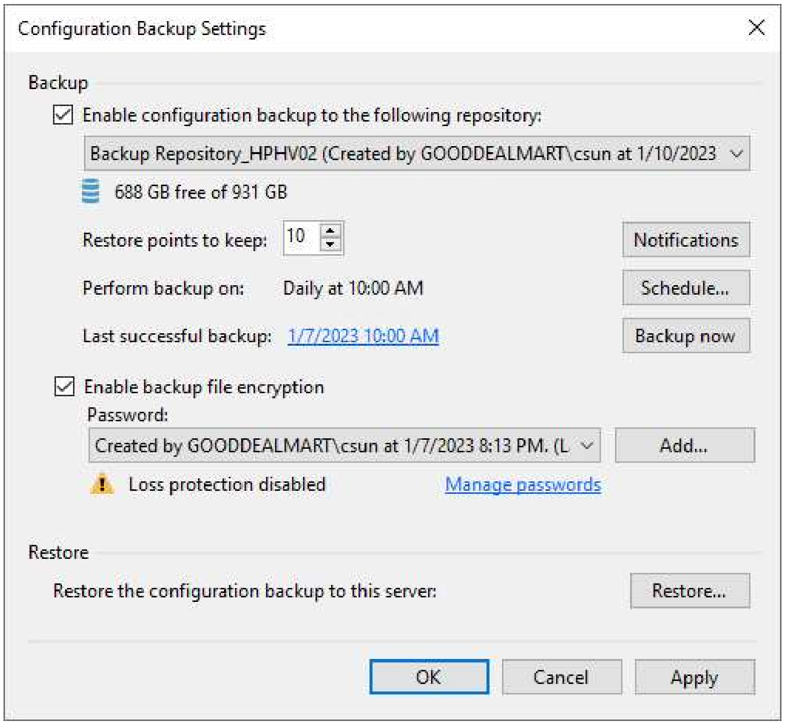
● Daily at this time: 10:00 AM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

Restore

Restore the configuration backup to this server:

14. Select Enable backup file encryption on the Configuration Backup Settings page.
15. Select a password from the Password drop-down list or click Add to create a password.
16. Click OK.



Configuration Backup Settings

Backup

☑ Enable configuration backup to the following repository:

Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023

688 GB free of 931 GB

Restore points to keep: 10

Perform backup on: Daily at 10:00 AM

Last successful backup: 1/7/2023 10:00 AM

☑ Enable backup file encryption

Password:

Created by GOODDEALMART\csun at 1/7/2023 8:13 PM. (L

Loss protection disabled

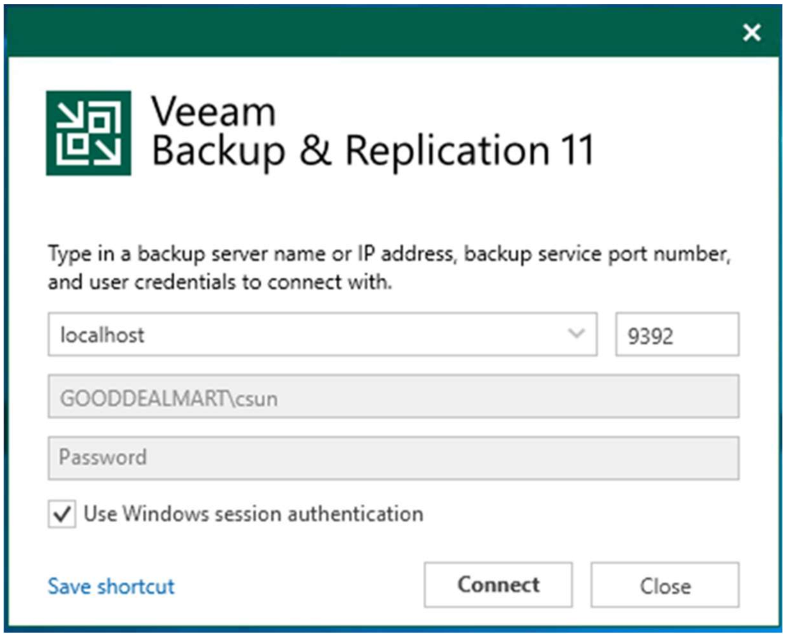
Restore

Restore the configuration backup to this server:

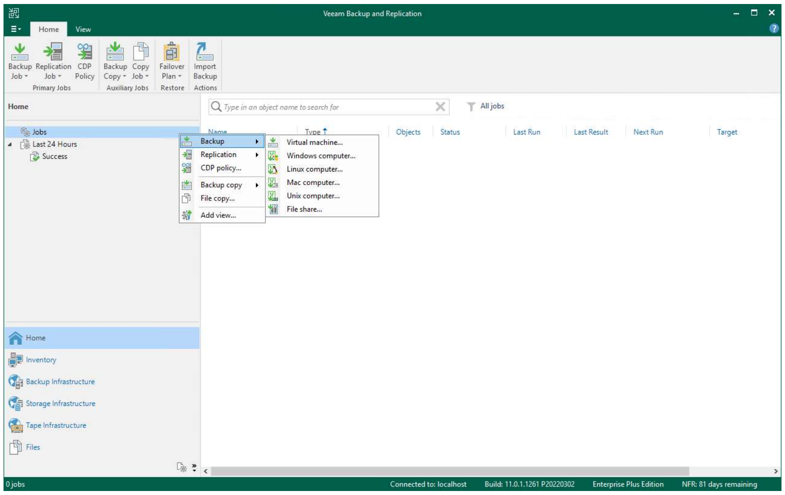
Creating a Backup job to backup the specified VMs

To backup VMs, you must first create a backup job. The backup job specifies how, where, and when VM data should be backed up. A single job can process one or more virtual machines. Jobs can be started by hand or scheduled for a specific time.

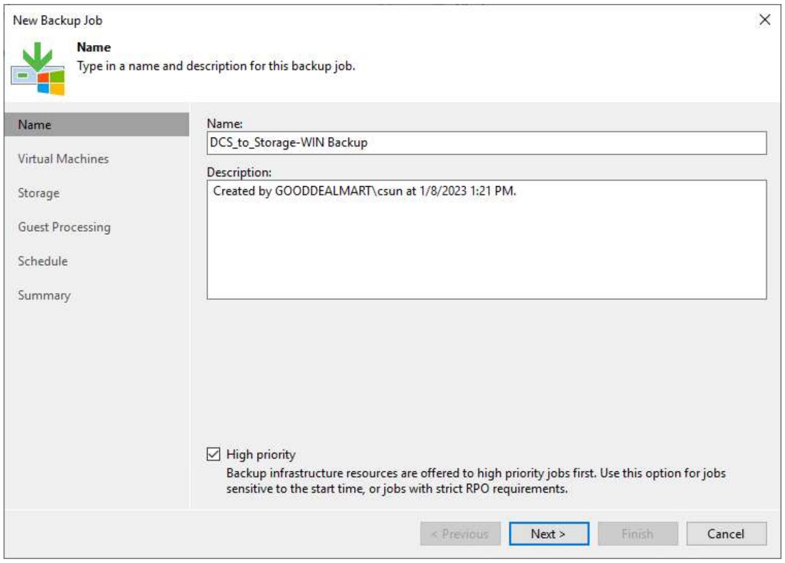
This procedure creates a backup job to backup the production VMs specified.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Jobs, right-click Jobs, select Backup and click Virtual machine.



4. On the Name page, enter a name in the Name field.
5. Describe the Description field.
6. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.
7. Click Next.



Name

Type in a name and description for this backup job.

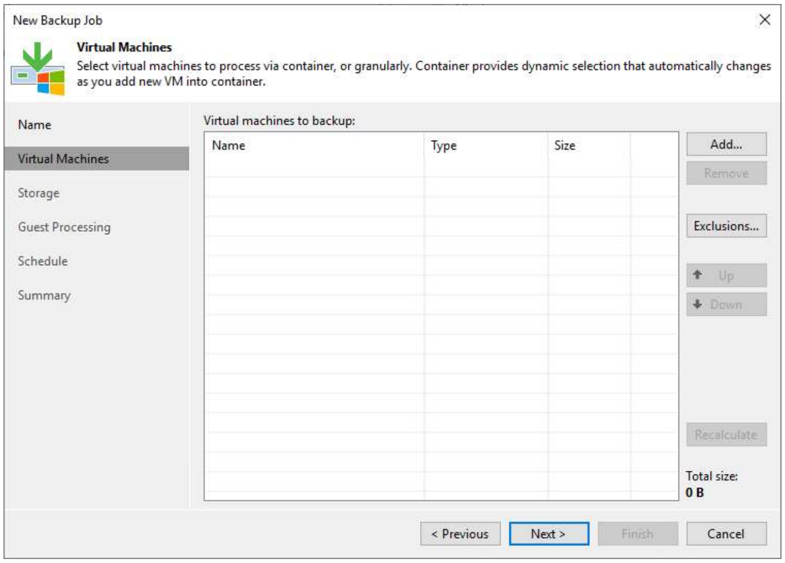
Name: DCS_to_Storage-WIN Backup

Description: Created by GOODDEALMART\csun at 1/8/2023 1:21 PM.

☑ High priority

Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

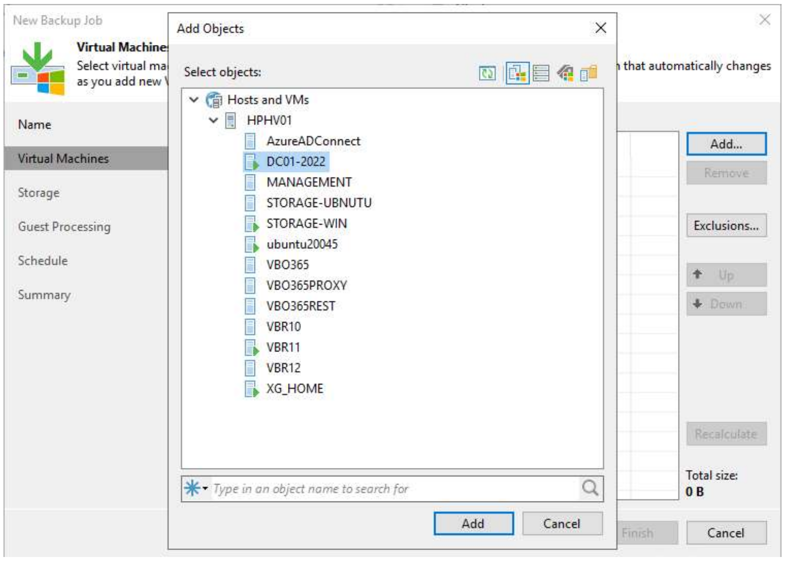
8. On the Virtual Machines page, click Add.



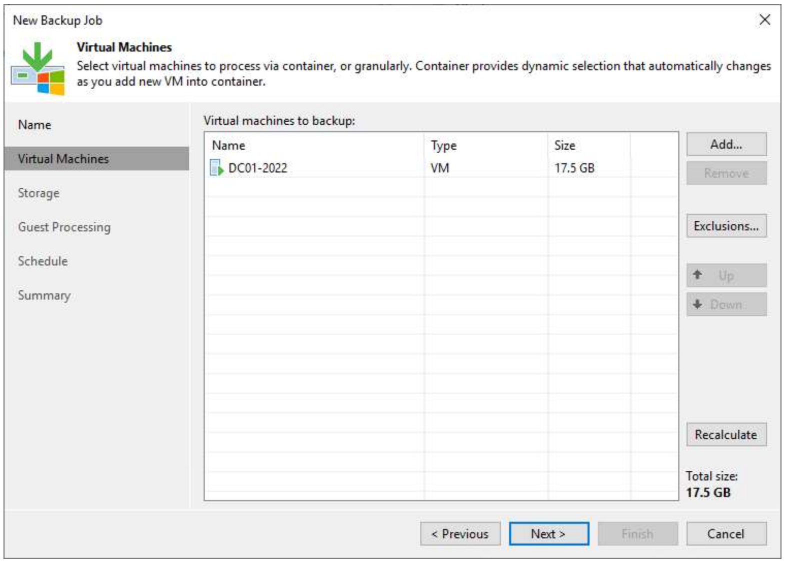
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

9. Select the VM in the list on the Add Objects page and click Add.

10. If you have multiple VMS that needs backup in the same backup job, you can repeat the step to add them.



11. On the Virtual Machines page, click Next.



New Backup Job

Virtual Machines

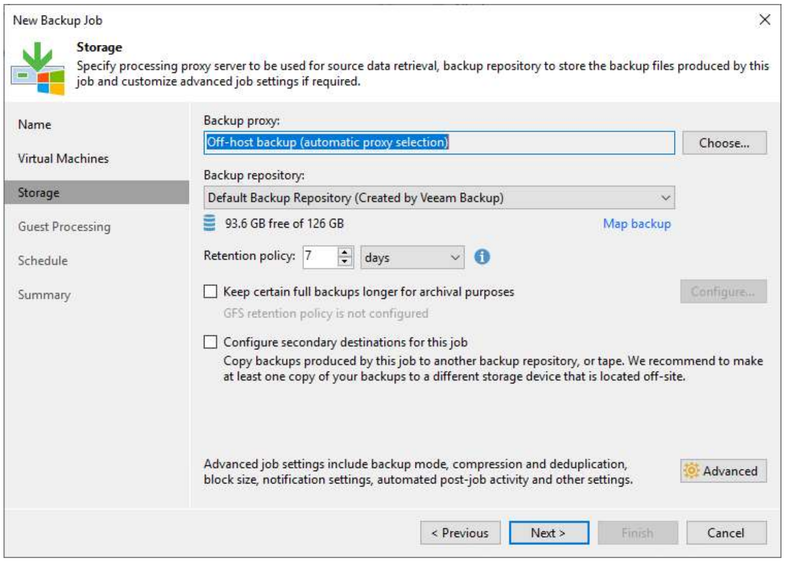
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
DC01-2022	VM	17.5 GB

Total size:
17.5 GB

12. On the Storage, click Choose to select a backup proxy if you don't want to use the default Off-host backup (automatic proxy selection) setting.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Default Backup Repository (Created by Veeam Backup)

93.6 GB free of 126 GB

Retention policy: 7 days

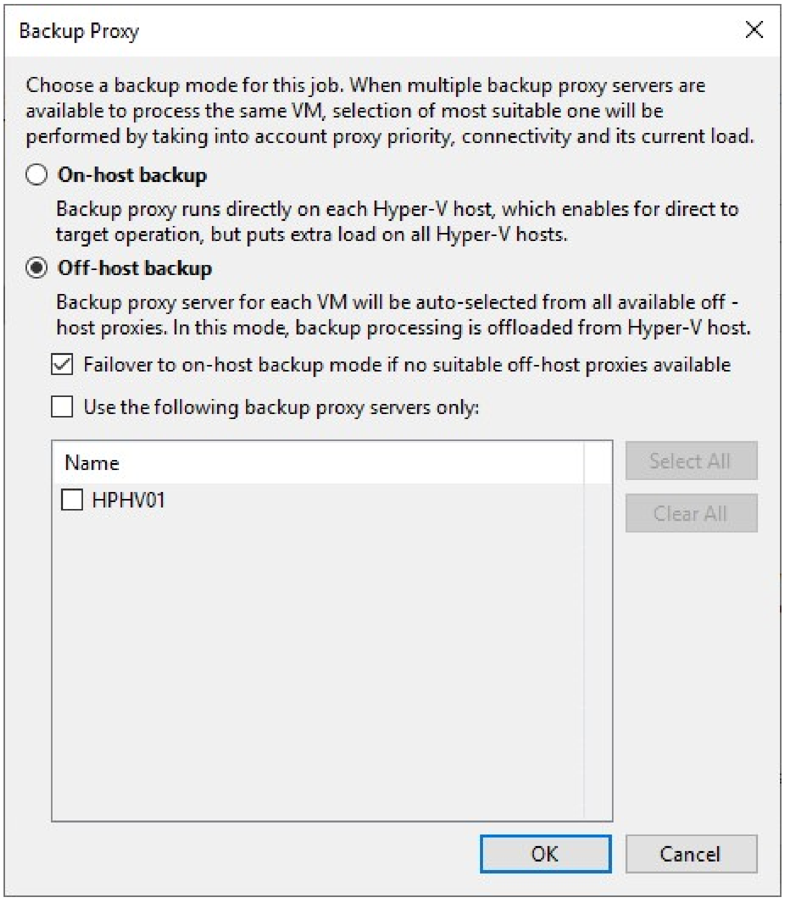
☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

□ Use the following backup proxy servers only:

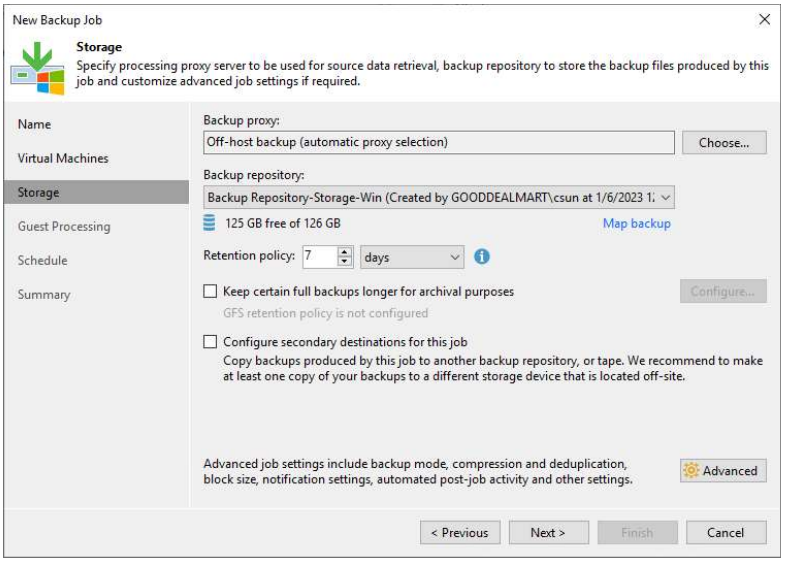
Name
□ HPHV01

13. On the Backup Proxy page, if you select On-host backup mode, the source Microsoft HyperV host will serve as both the source host and the backup proxy. In this mode, Veeam Data Mover runs directly on the source host, which speeds up data retrieval but places additional strain on the host.
14. If you select Off-host backup mode, Veeam Data Mover will run on a dedicated off-host backup proxy. All backup processing operations from the source host are routed to the off-host backup proxy in this model.
15. If the off-host backup mode is selected for the job, but there are no off-host backup proxies available when the job begins, Veeam Backup & Replication will transition to on-host backup mode.
16. You unselect the Failover to on-host backup mode if no suitable off-host

proxies available checkbox, but if off-host backup proxies are not available or are not configured properly, the job will fail to start.

17. Click OK.

18. Select the backup repository from the Backup repository drop-down list where the created backup files must be saved.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection) Choose...

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB Map backup

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes Configure...

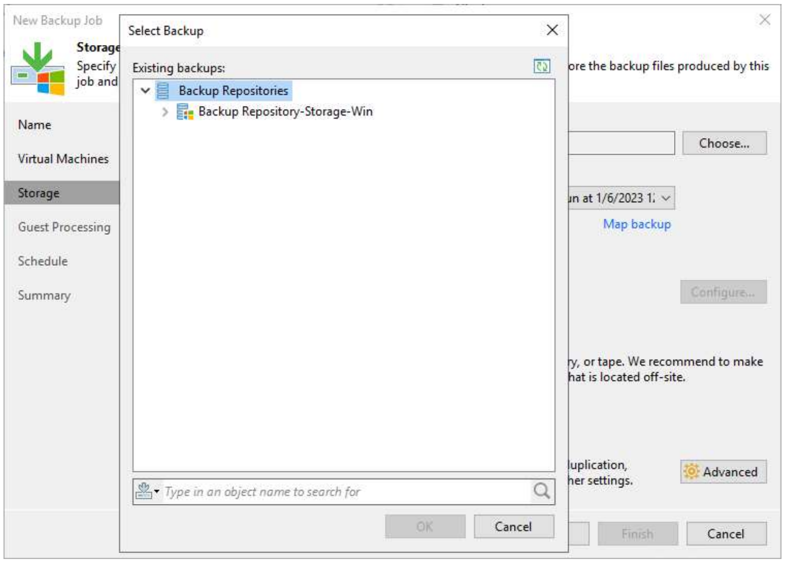
GFS retention policy is not configured

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

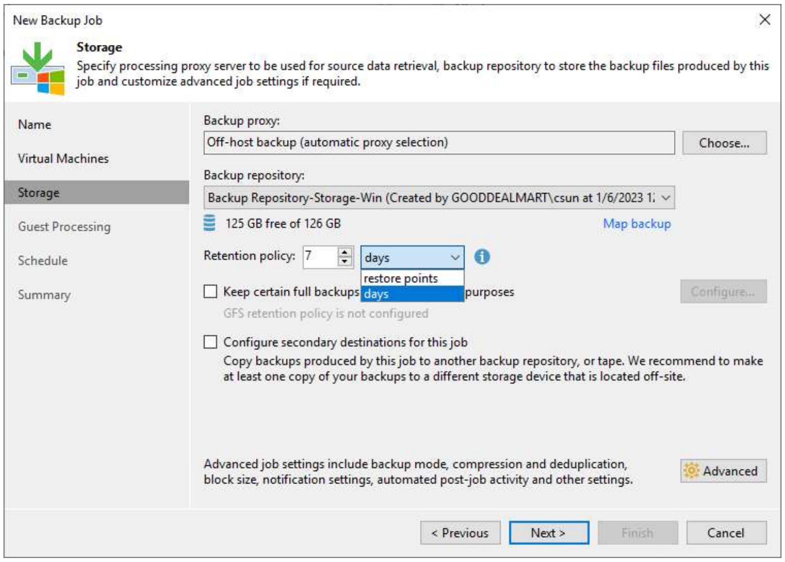
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings. Advanced

19. Click Map backup is helpful if you want to point the job to existing backups in this new repository. Backup job mapping can also be used if the configuration database becomes corrupt and you need to reconfigure backup jobs.



20. Set the retention policy settings for restore points in the Retention Policy field.

21. Select days or restore points from the drop-down list.


New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

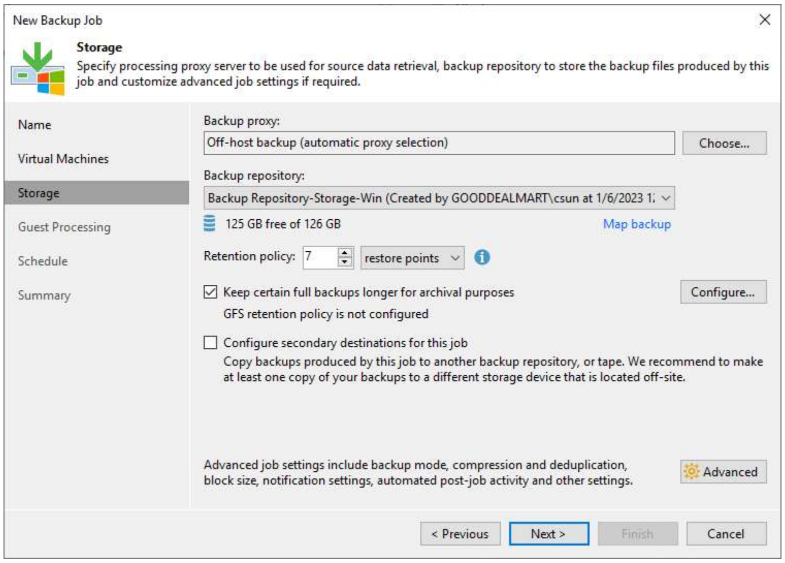
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

22. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.

23. Select the Keep certain full backups for longer for archival purposes. If you need it, click Configure.


New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

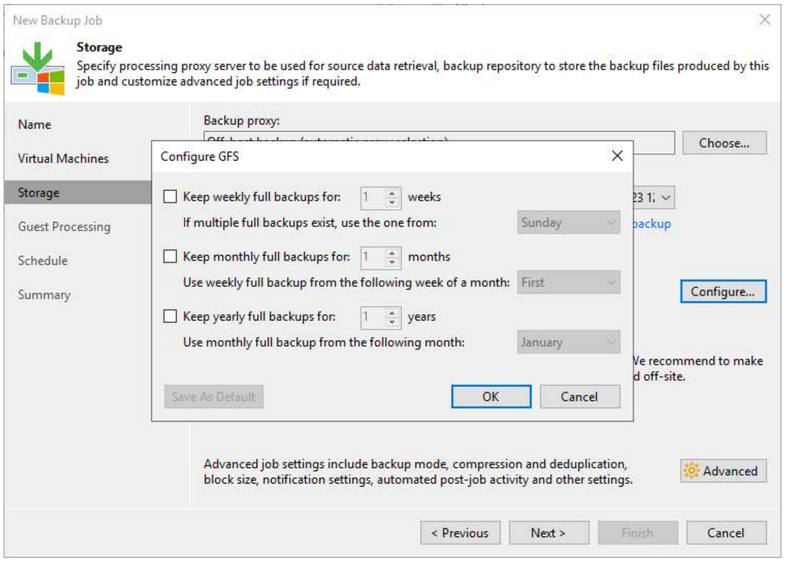
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

24. Select the Keep weekly full backups for check box, and specify the number of weeks you want to prevent restore points from being modified and deleted.

25. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.

26. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore


Configure GFS

□ Keep weekly full backups for: 1 weeks

If multiple full backups exist, use the one from: Sunday

□ Keep monthly full backups for: 1 months

Use weekly full backup from the following week of a month: First

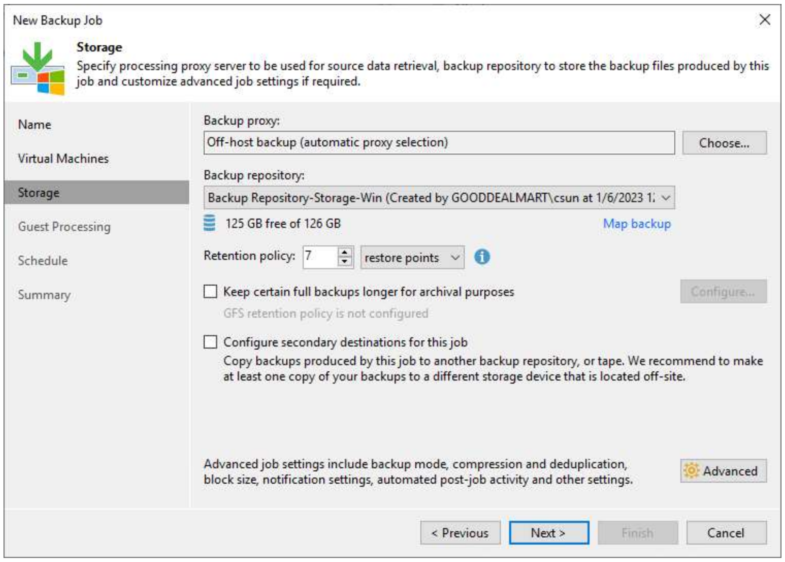
□ Keep yearly full backups for: 1 years

Use monthly full backup from the following month: January

points from being modified and deleted.

27. Click OK.

28. On the Storage page, click Advanced.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

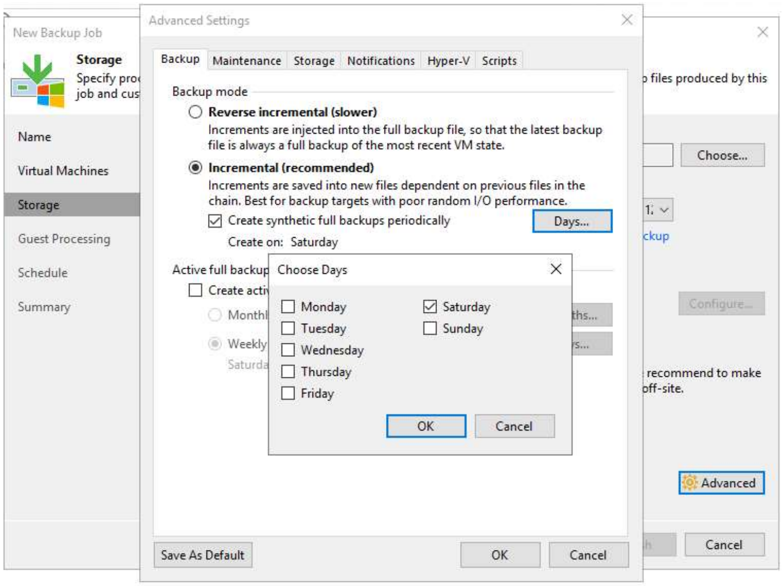
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

29. On the Backup page, there are two backup modes. You need to select one.

30. Select Reverse Incremental (slower) to create a reverse incremental backup chain.

31. Select Incremental and enable synthetic full and active full backups.

32. Click Days to schedule full synthetic backups on the necessary weekdays, and click OK.



Advanced Settings

Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

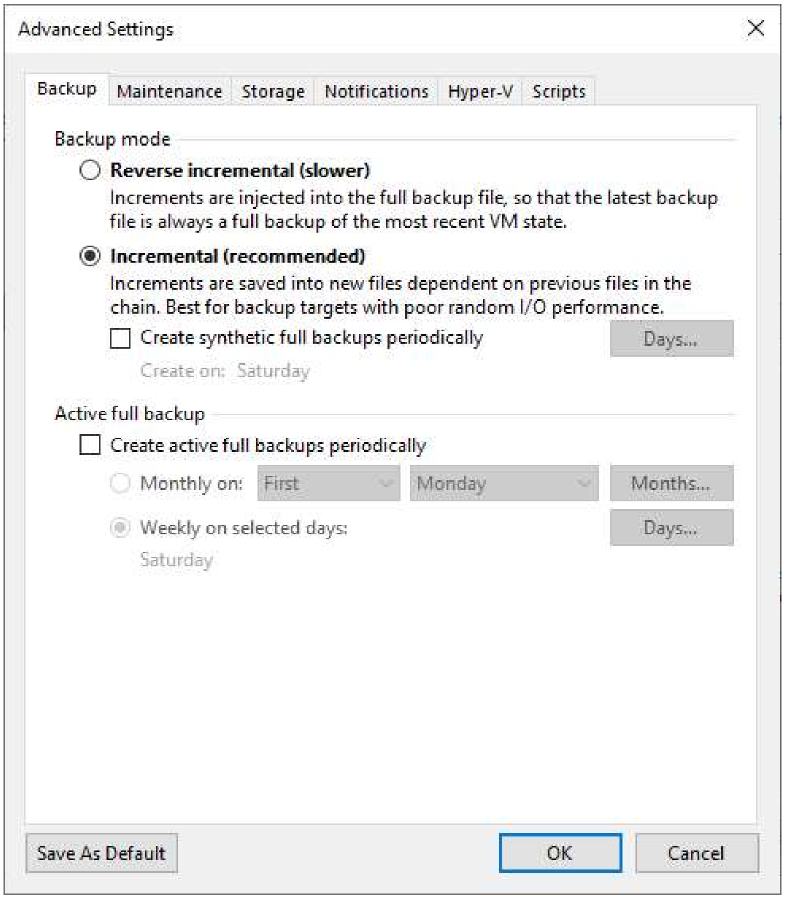
☑ Create synthetic full backups periodically
Create on: Saturday

Active full backup
□ Create acti
○ Monthl
● Weekly
Saturda

Choose Days

□ Monday
□ Tuesday
□ Wednesday
□ Thursday
□ Friday
☑ Saturday
□ Sunday

33. Select Incremental and disable synthetic full and active full backups to create a forever forward incremental backup chain.



Advanced Settings

Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically

Create on: Saturday

Active full backup

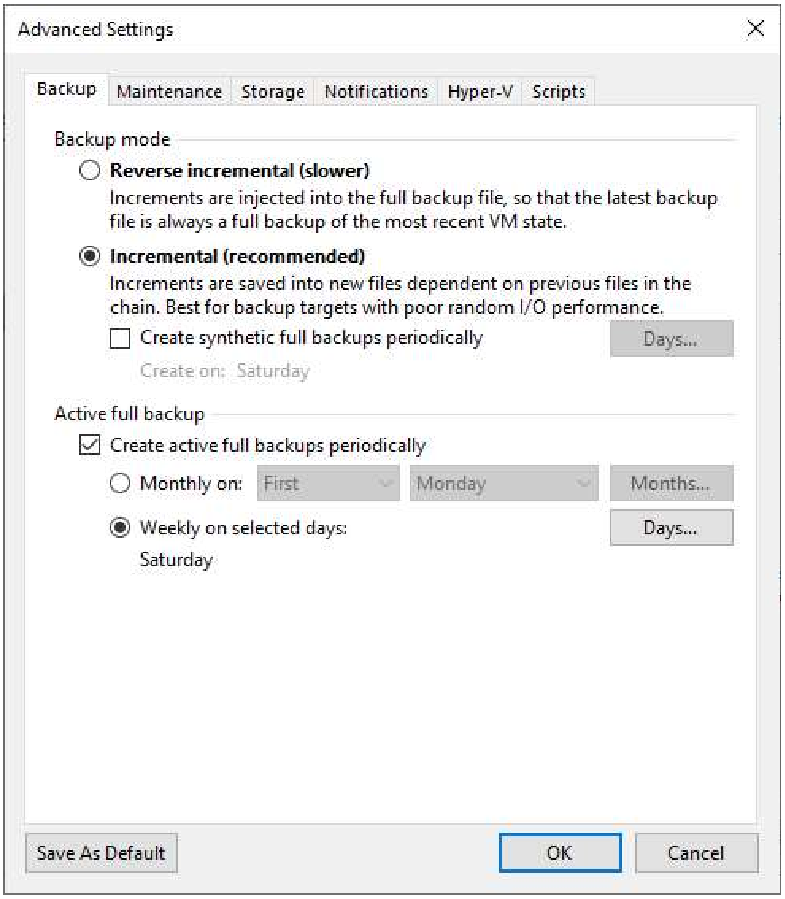
□ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:
Saturday

34. Select the Create active full backups periodically checkbox to create full backups regularly if needed.

35. Select the Monthly or Weekly on selected days options to define scheduling settings.



Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically
Create on: Saturday

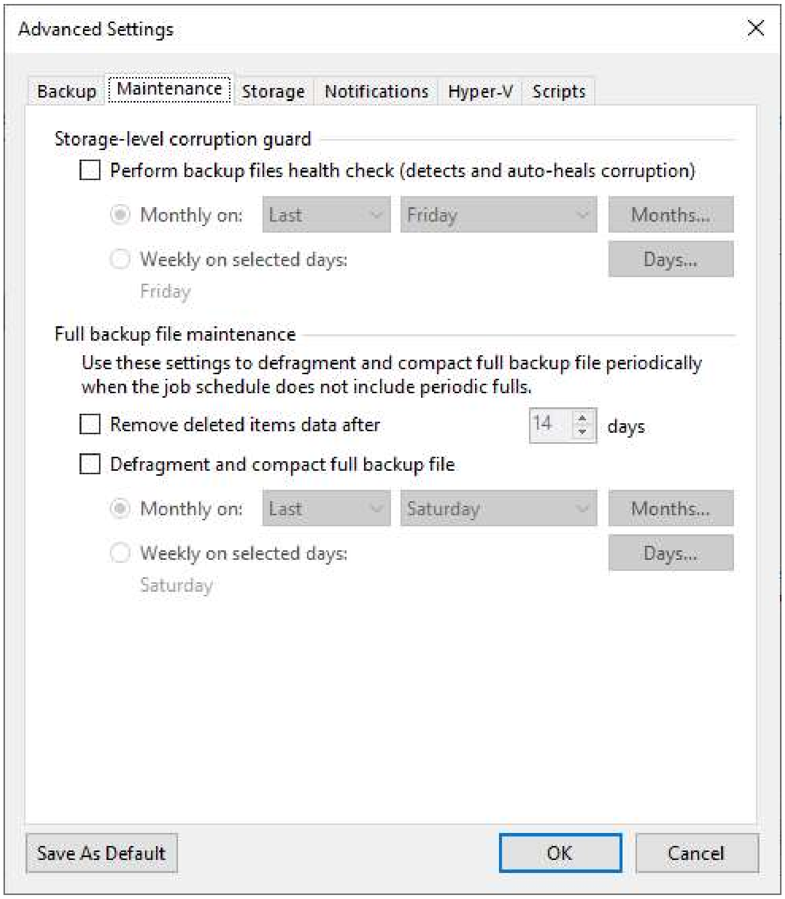
Active full backup

☑ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:
Saturday

36. On the Advanced Settings, select Maintenance.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

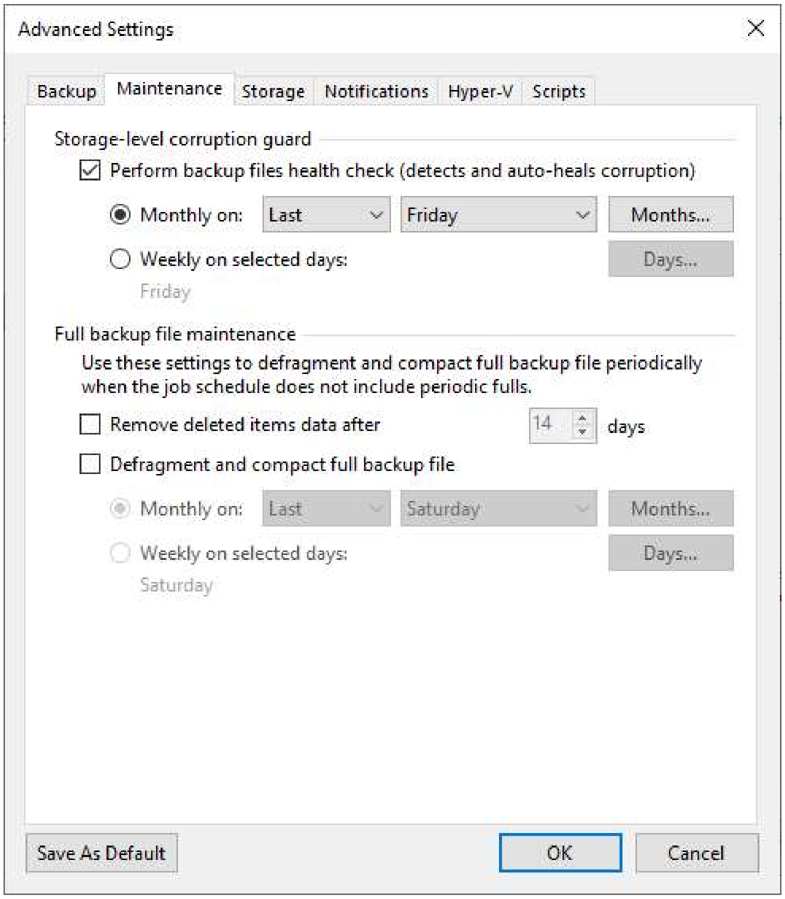
□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

37. To regularly perform a health check on the backup chain's most recent restore point, select the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard section and set a timetable for the health check.



Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days:
Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

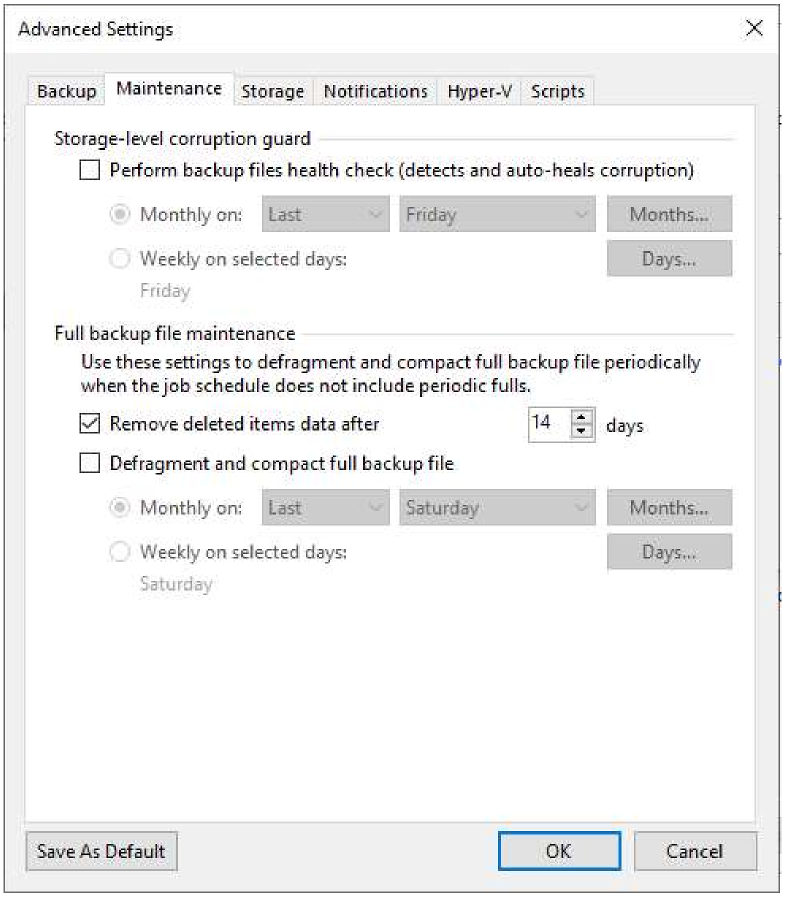
□ Remove deleted items data after 14 days

□ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days:
Saturday

38. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept.


Advanced Settings

Backup | Maintenance | Storage | Notifications | Hyper-V | Scripts

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Friday Days...

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

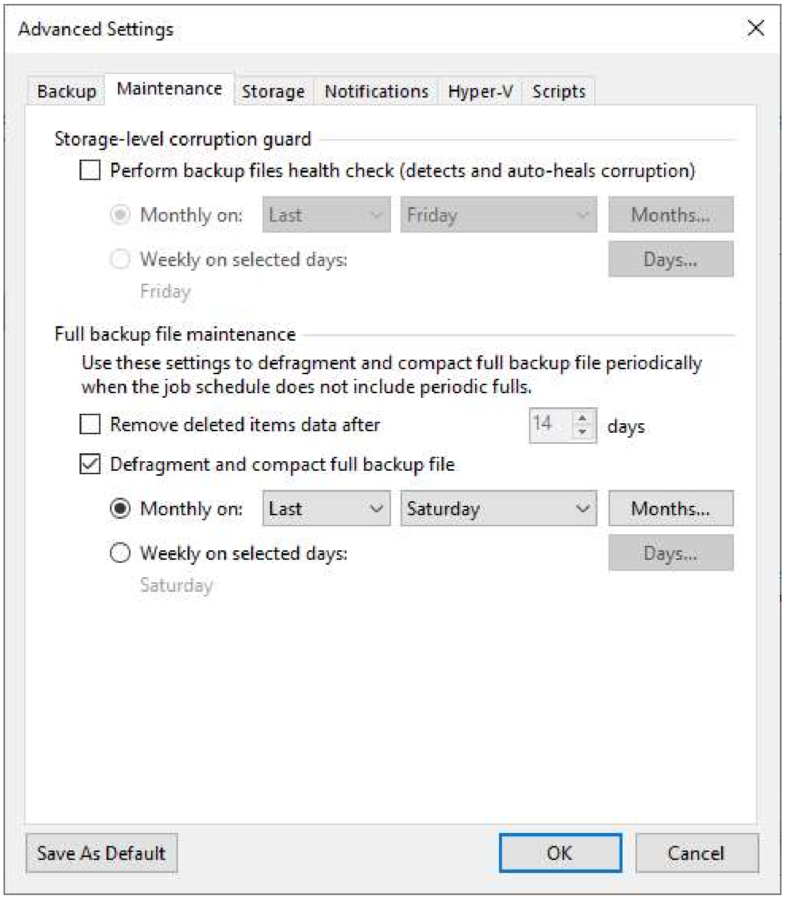
☑ Remove deleted items data after 14 days

□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Saturday Days...

39. Check the box next to Defragment and compact the full backup file and specify the schedule for the compact operation to fully compact a full backup periodically.



Advanced Settings

Storage-level corruption guard

☐ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Friday Days...

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

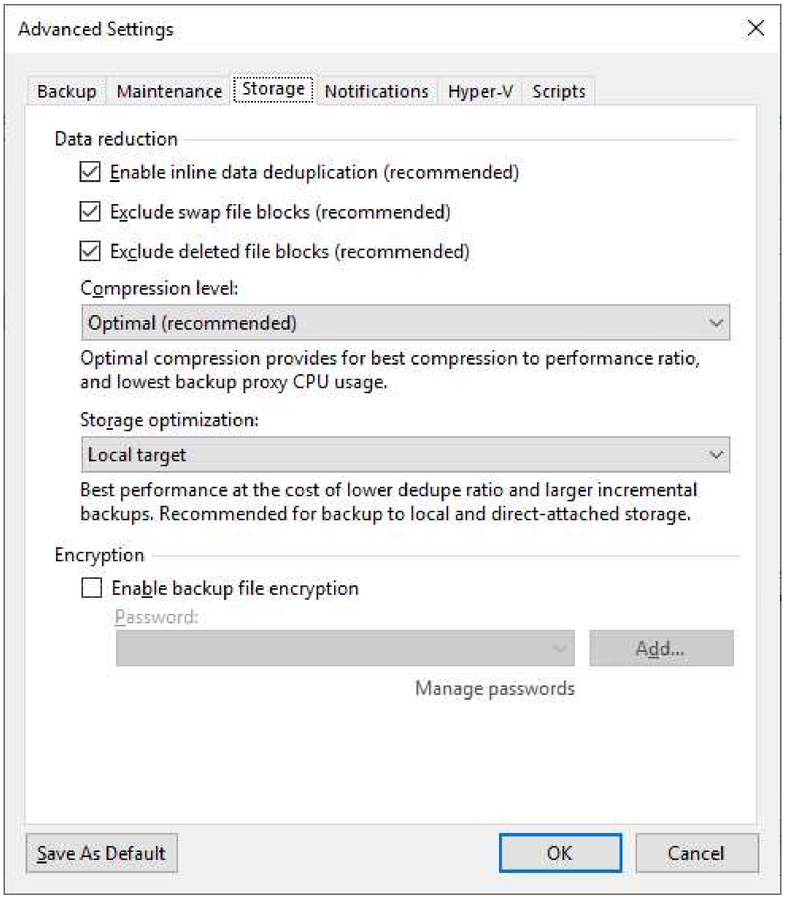
☐ Remove deleted items data after 14 days

☑ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Saturday Days...

40. On Advanced Settings, click Storage.
41. Select the Enable inline data deduplication checkbox.
42. Select the Exclude swap file blocks checkbox.
43. Select the Exclude deleted file blocks checkbox.
44. Select the compression level for the backup from the drop-down list.
    - None: if you intend to keep backup and virtual machine replica files on storage devices that support hardware compression and deduplication.
    - Dedupe-friendly: if you want to decrease the load on the backup proxy.
    - Optimal: It provides the best ratio between the



Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

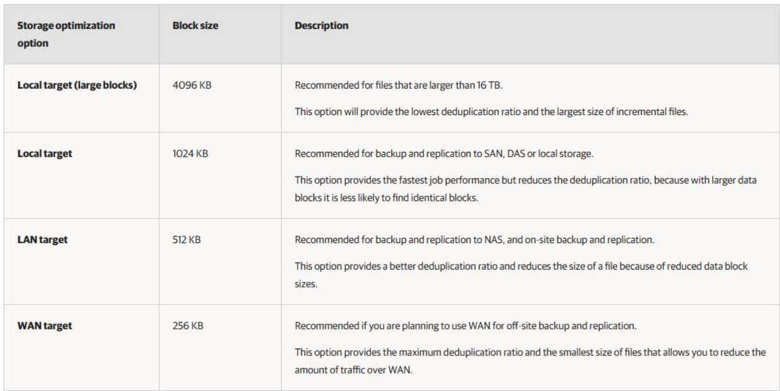
☐ Enable backup file encryption

Password:

file size and the procedure’s time.

- High: provides an additional 10% compression ratio over the Optimal level at about 10x higher CPU usage.
- Extreme: provides the smallest file size but reduces the performance.

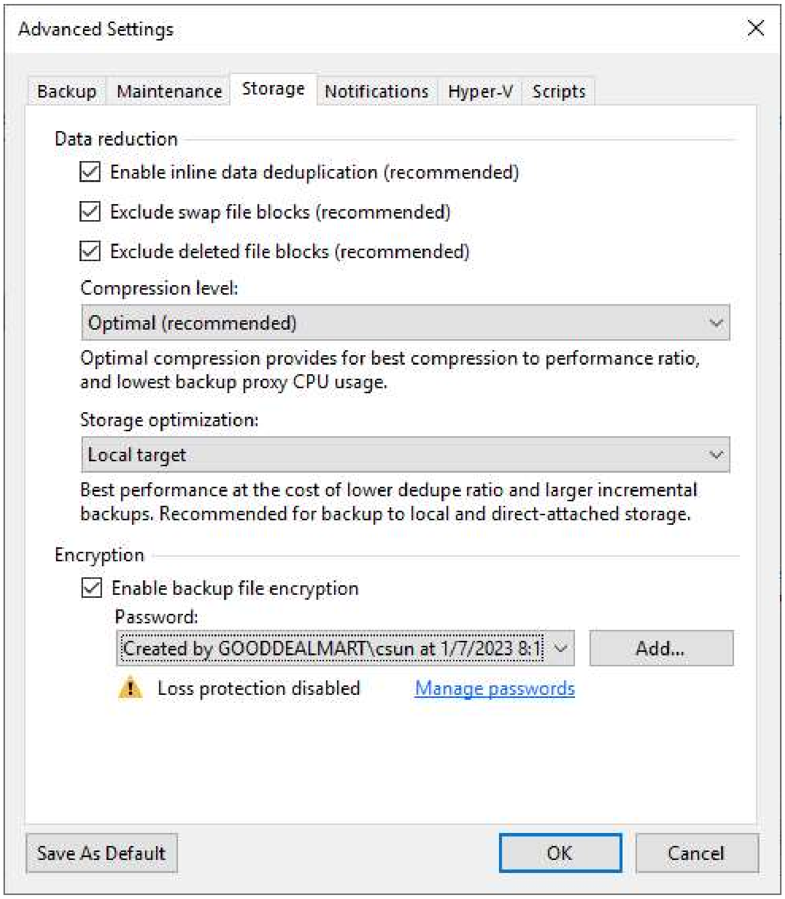
45. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

46. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

47. Select a password from the drop-down list. If you still need to do, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

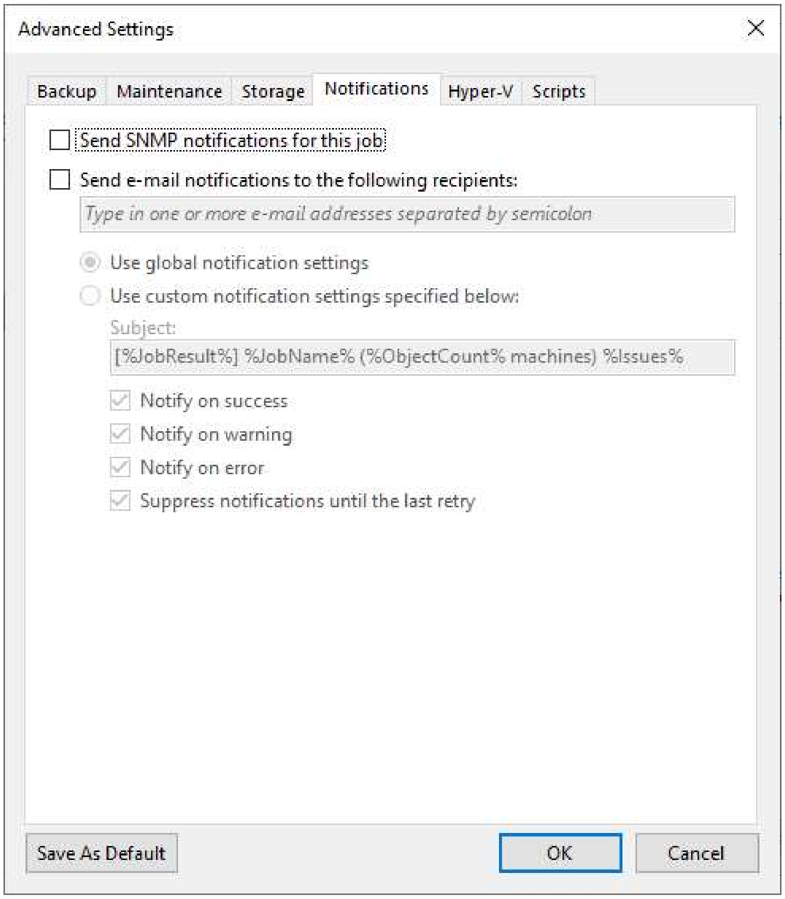
☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:1

⚠ Loss protection disabled

48. On the Advanced Settings, select Notifications.

49. Keep the default settings.



Advanced Settings

□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

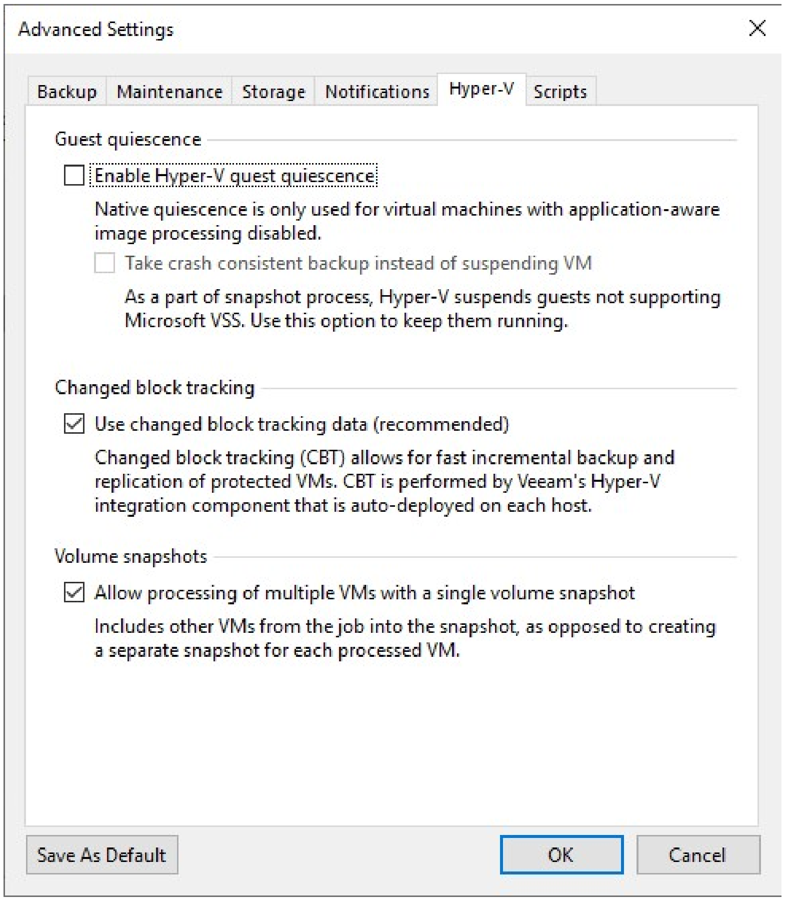
50. On the Advanced Settings, select Hyper-V.

51. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.

52. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.

53. Select the Use changed block tracking data (recommended) check box.

54. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Advanced Settings

Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

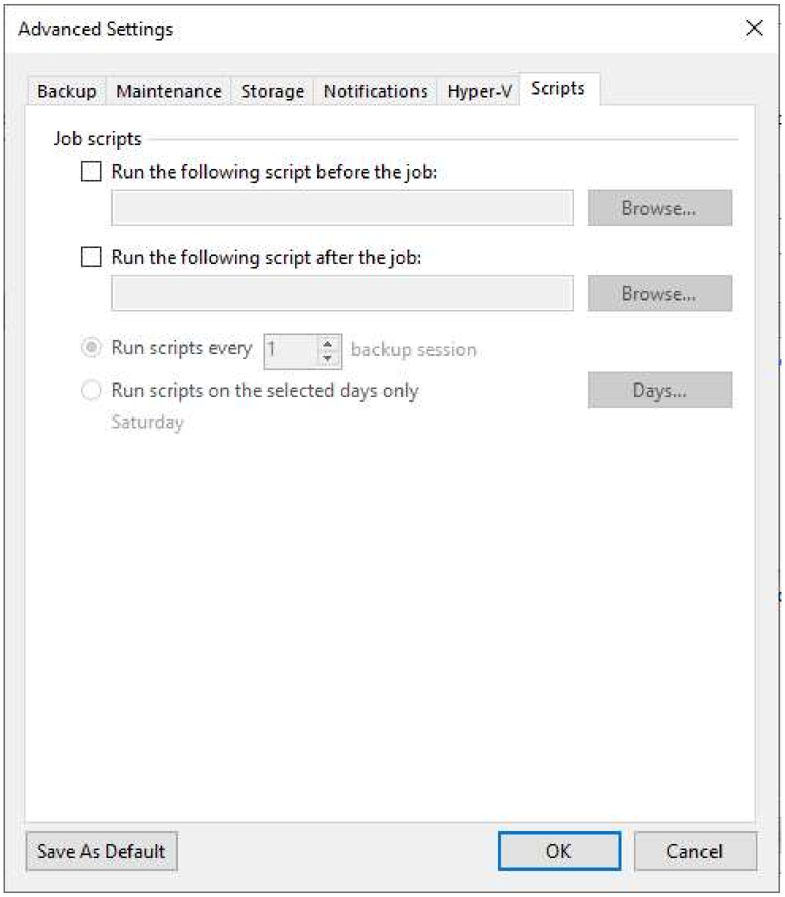
☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

55. On the Advanced Settings page, click Scripts.

56. Select the Run the following script before the job and Run the following script after the job check boxes. Then, click Browse to select executable files from a backup server's local folder if you want to run custom scripts before and after the backup job.

57. Click OK.



Advanced Settings

Job scripts

□ Run the following script before the job:

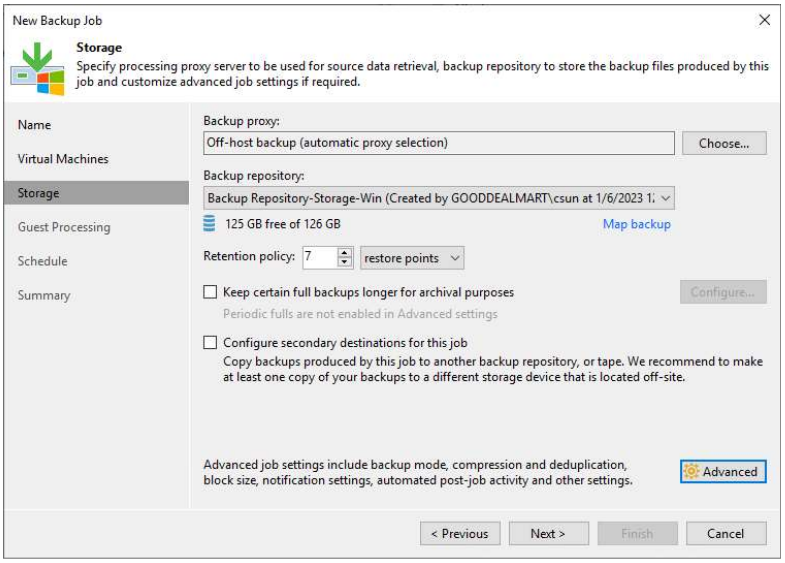
□ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

58. On the Storage page, click Next.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

□ Keep certain full backups longer for archival purposes

Periodic fulls are not enabled in Advanced settings

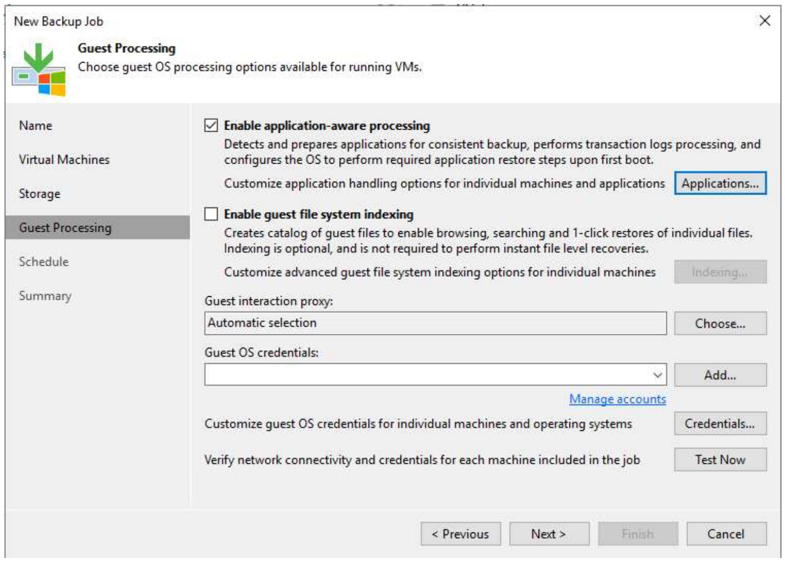
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

59. When you add VMs running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that applications on VMs can be recovered without data loss.

60. Select the Enable application-aware processing check box on the Guest Processing page and click Applications.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

□ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

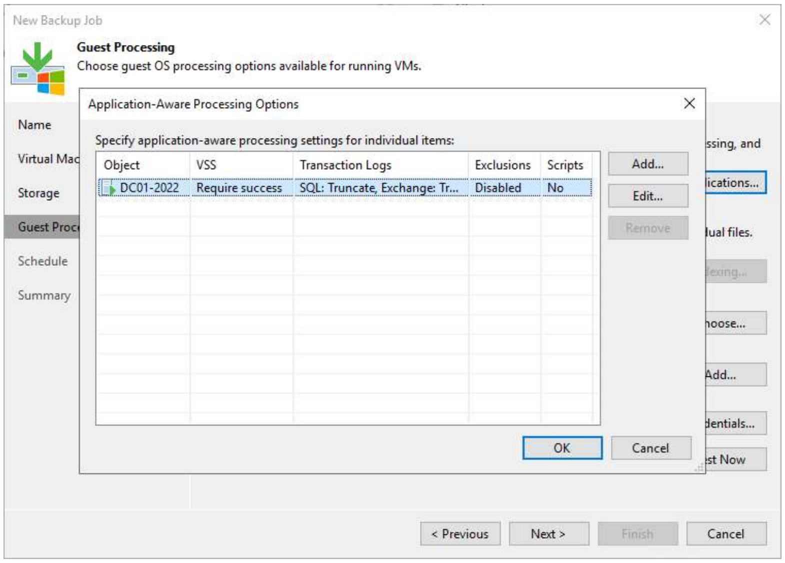
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

61. On the Application-Aware Processing Options page, select the VM and click Edit.



Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	SQL: Truncate, Exchange: Tr...	Disabled	No

62. On the Processing Settings, click General.

63. Suppose you need Veeam Backup & Replication to stop the backup process if any error occurs during application-aware processing. Select Require successful processing (recommend).

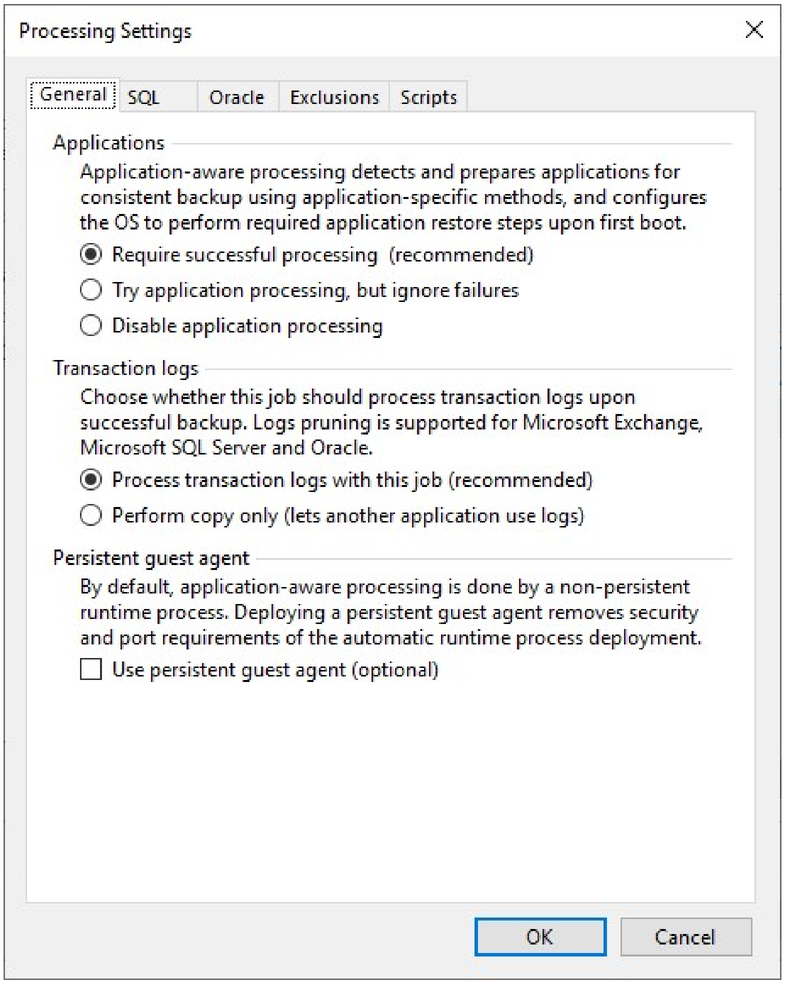
64. Suppose you must continue the backup process even if there is an error during application-aware processing. Select Try application processing but ignore failures.

65. Select Disable application processing to disable application-aware processing for the VM.

66. Select Process transaction logs with this job for process transaction logs.

67. Select Perform copy only to let another application use

68. Select the Use persistent guest agent (optional) checkbox to enable persistent agent.



Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)

○ Try application processing, but ignore failures

○ Disable application processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

● Process transaction logs with this job (recommended)

○ Perform copy only (lets another application use logs)

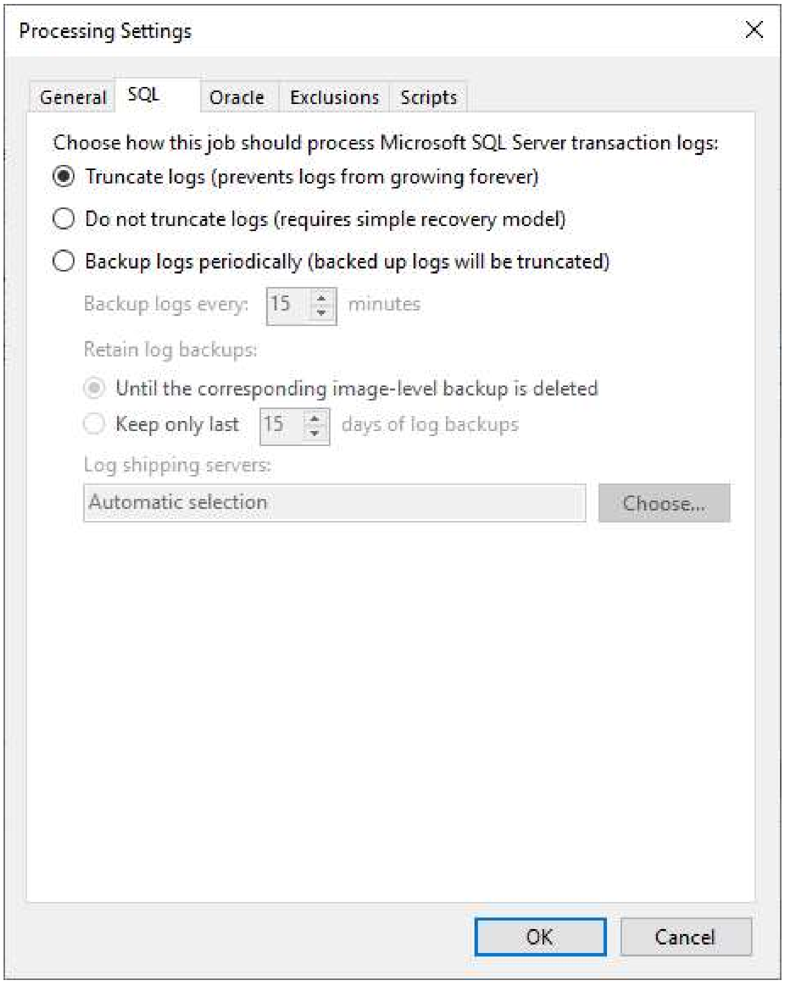
Persistent guest agent

By default, application-aware processing is done by a non-persistent runtime process. Deploying a persistent guest agent removes security and port requirements of the automatic runtime process deployment.

□ Use persistent guest agent (optional)

69. On the Processing Settings page, click SQL if the VM is a Microsoft SQL Server VM.

70. Select Truncate logs (Prevents logs from growing forever) to truncate transaction logs after a successful backup.



Processing Settings

General | SQL | Oracle | Exclusions | Scripts

Choose how this job should process Microsoft SQL Server transaction logs:

● Truncate logs (prevents logs from growing forever)

○ Do not truncate logs (requires simple recovery model)

○ Backup logs periodically (backed up logs will be truncated)

Backup logs every: 15 minutes

Retain log backups:

● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

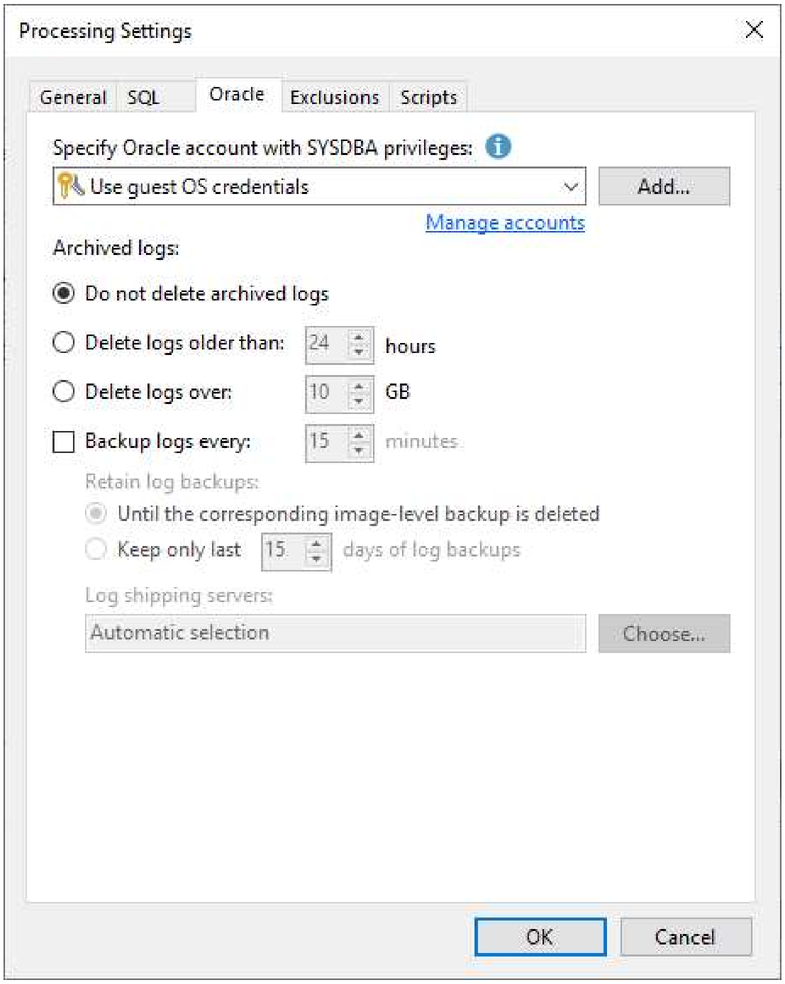
Log shipping servers:

Automatic selection

71. On the Processing Settings page, click Oracle if the VM is an Oracle Server.

72. Select a user account from the drop-down list.

73. Select Do not delete archived logs if you need Veeam Backup & Replication to preserve archived logs on the VM guest OS.



Specify Oracle account with SYSDBA privileges: Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

□ Backup logs every: 15 minutes

Retain log backups:

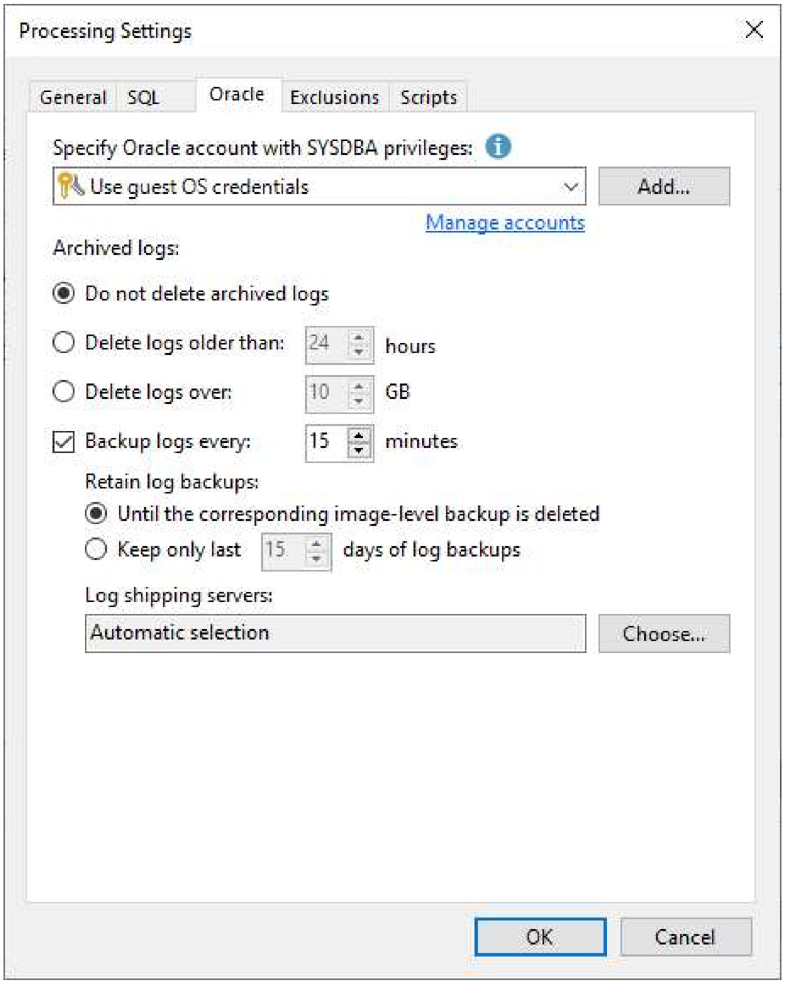
● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

Log shipping servers: Automatic selection

74. Select the retention policy settings for archived logs in the Retain log backups section.

75. Click Choose In the Log shipping servers.



Processing Settings

General | SQL | Oracle | Exclusions | Scripts

Specify Oracle account with SYSDBA privileges:

Use guest OS credentials

Add...

Manage accounts

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

☑ Backup logs every: 15 minutes

Retain log backups:

● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

Log shipping servers:

Automatic selection

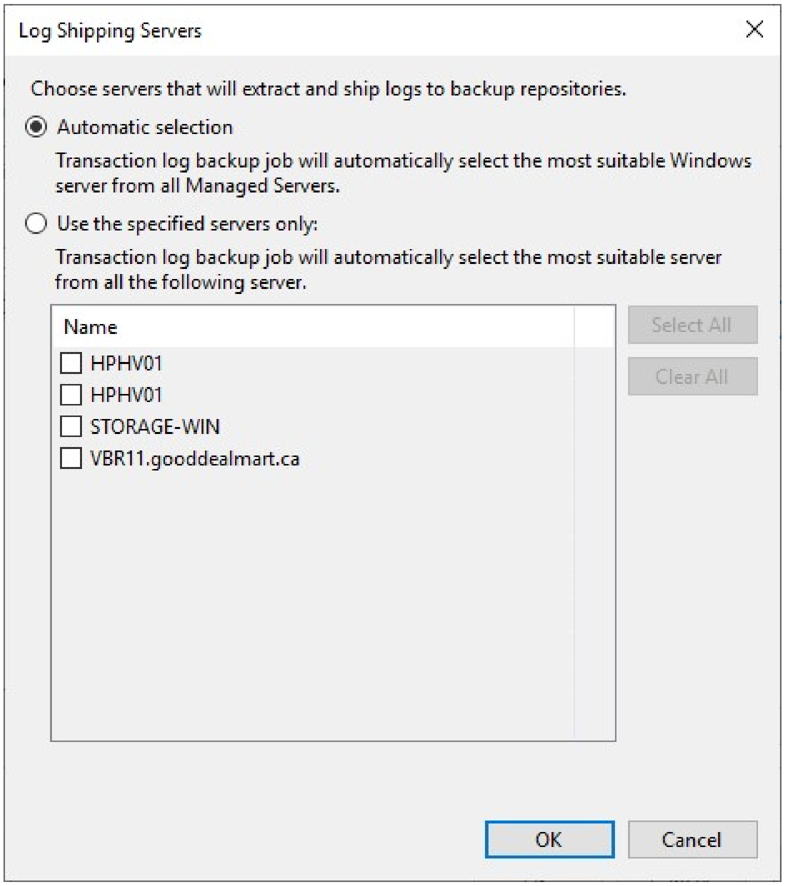
Choose...

OK | Cancel

76. On the Log Shipping Servers page, Select Automatic selection if you need Veeam Backup & Replication to choose an optimal log shipping server automatically.

77. Select Use the specified servers only and select checkboxes next to those you want to use as log shipping servers.

78. Click OK.



Log Shipping Servers

Choose servers that will extract and ship logs to backup repositories.

● Automatic selection

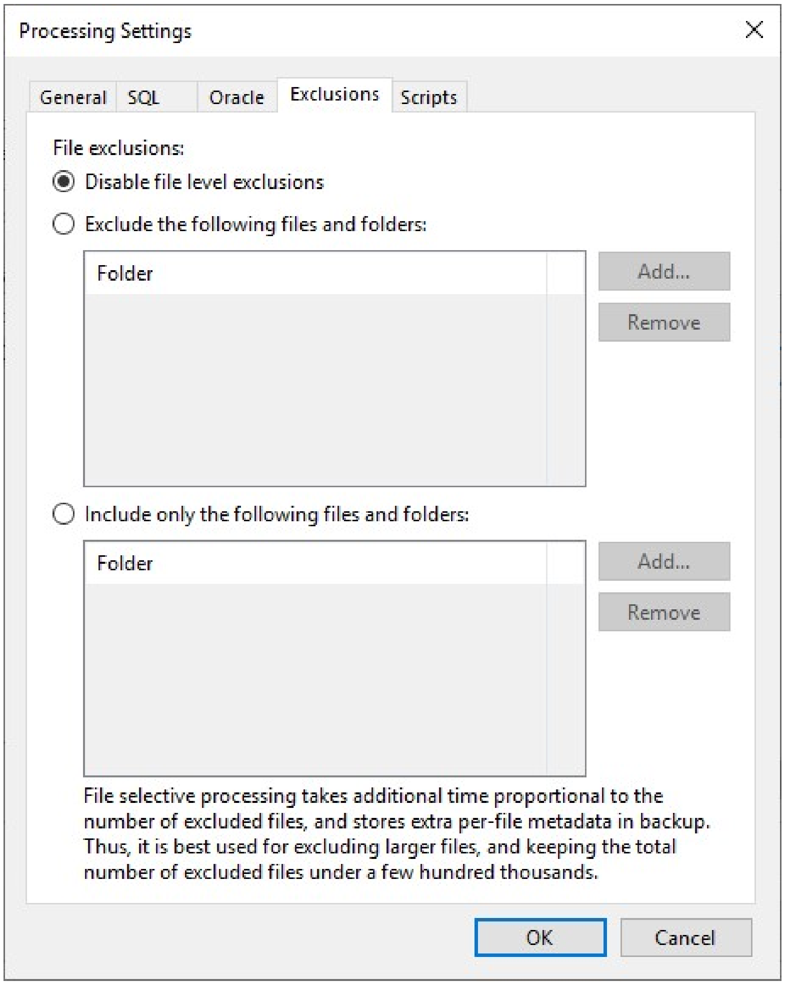
Transaction log backup job will automatically select the most suitable Windows server from all Managed Servers.

○ Use the specified servers only:

Transaction log backup job will automatically select the most suitable server from all the following server.

Name
□ HPHV01
□ HPHV01
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

79. On the Processing Settings page, click Exclusions and keep the default settings.



Processing Settings

File exclusions:

● Disable file level exclusions

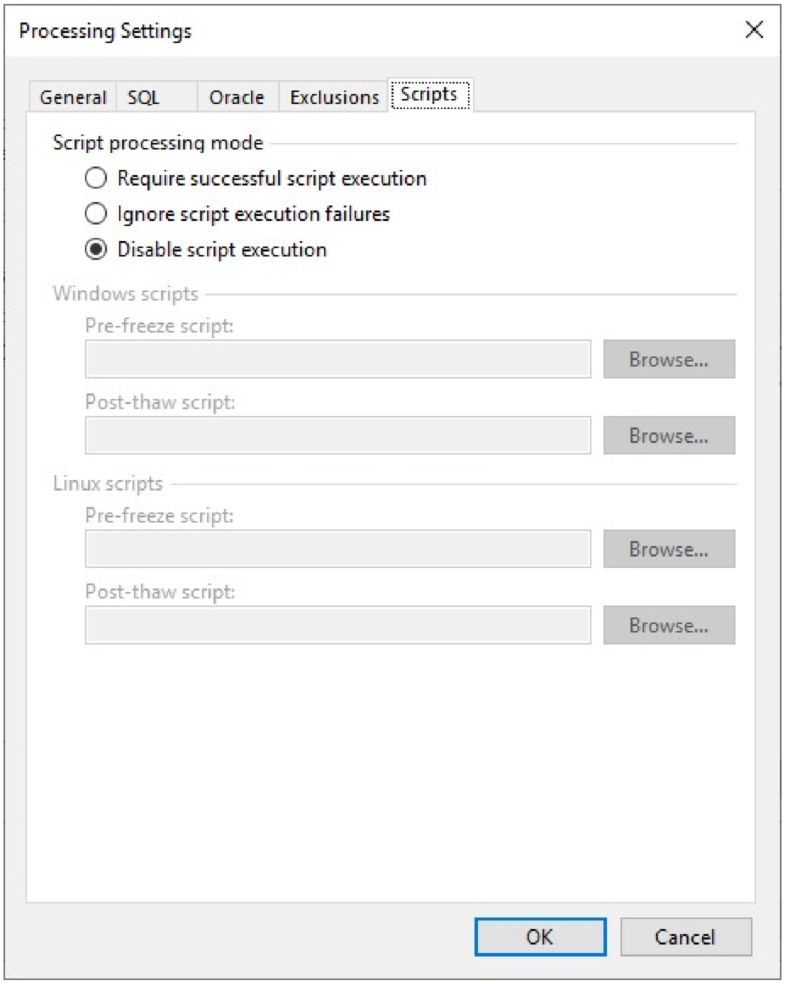
○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

80. On the Processing Settings page, click Scripts and keep the default settings.

81. Click OK.



Processing Settings

Script processing mode

○ Require successful script execution

○ Ignore script execution failures

● Disable script execution

Windows scripts

Pre-freeze script:

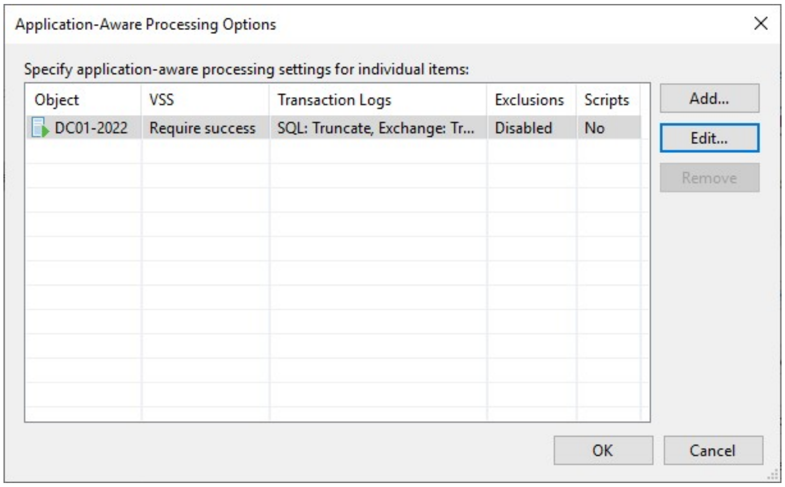
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

82. On the Application-Aware Processing Options page, click OK.

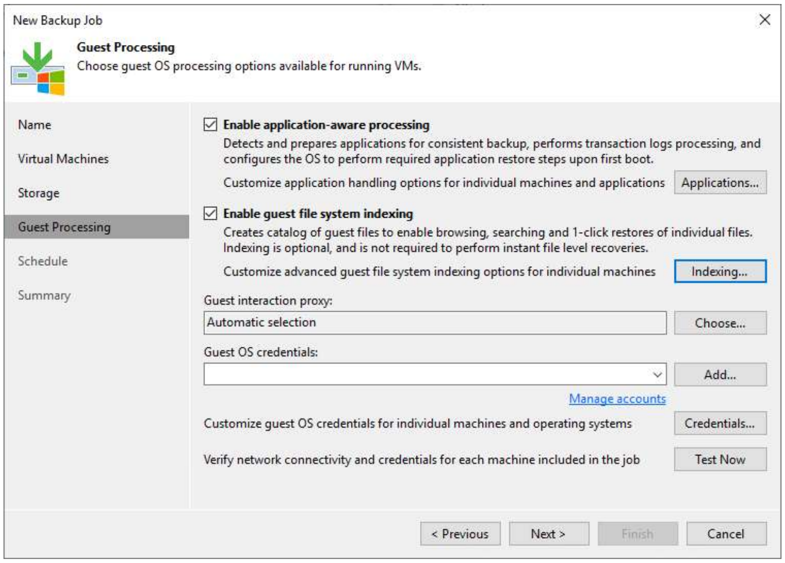


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	SQL: Truncate, Exchange: Tr...	Disabled	No

83. Select the Enable guest file system indexing checkbox and click Indexing.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

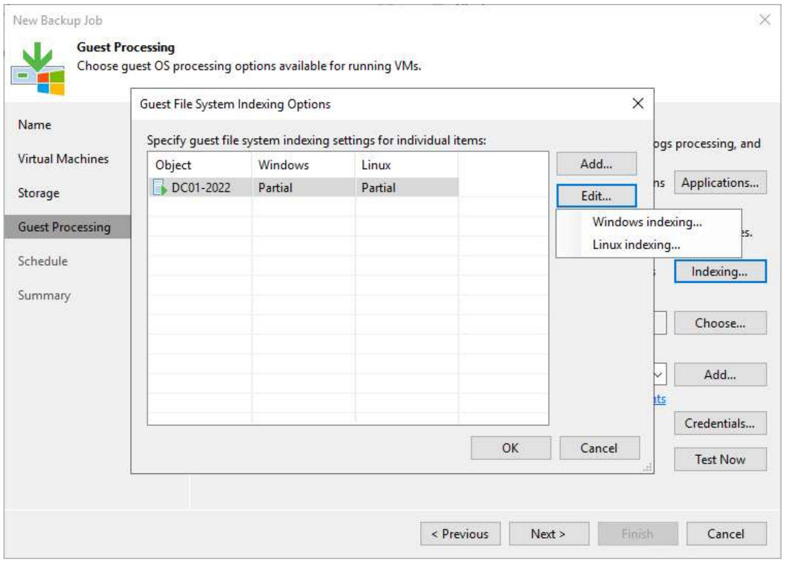
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

84. On the Guest File System Indexing Options page, select the VM, click Edit and select Windows indexing.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

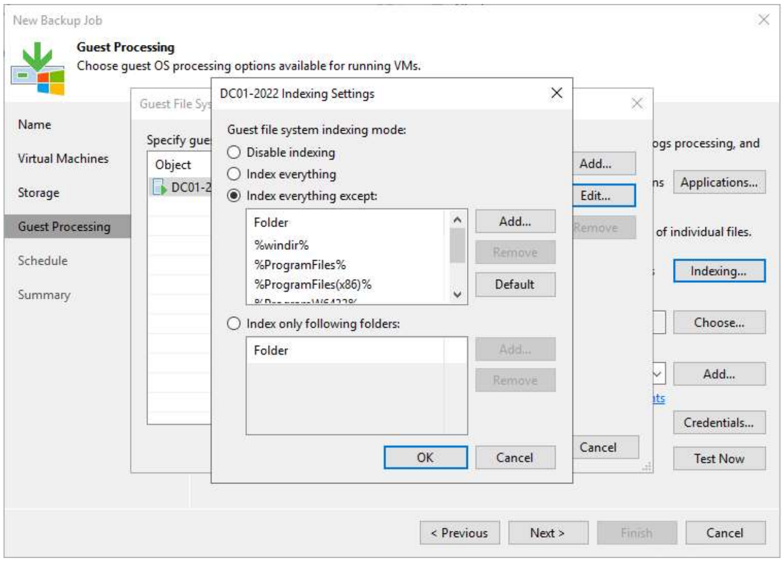
Guest File System Indexing Options

Specify guest file system indexing settings for individual items:

Object	Windows	Linux
DC01-2022	Partial	Partial

85. On the Guest file system indexing mode page, keep the default settings.

86. Click OK.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

DC01-2022 Indexing Settings

Guest file system indexing mode:

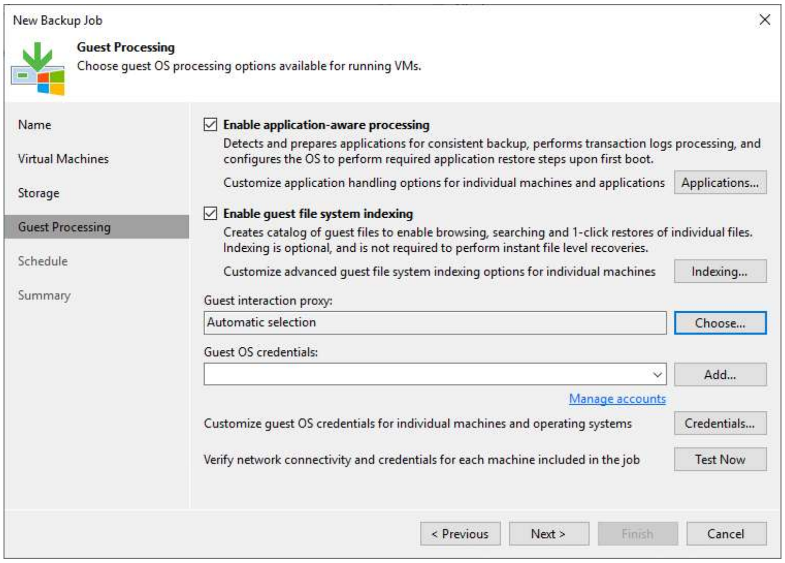
○ Disable indexing
○ Index everything
● Index everything except:

Folder
%windir%
%ProgramFiles%
%ProgramFiles(x86)%

○ Index only following folders:

Folder

87. Click Choose on the Guest interaction proxy field on the Guest Processing page.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications [Applications...]

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines [Indexing...]

Guest interaction proxy: Automatic selection [Choose...]

Guest OS credentials: [Add...]

Manage accounts

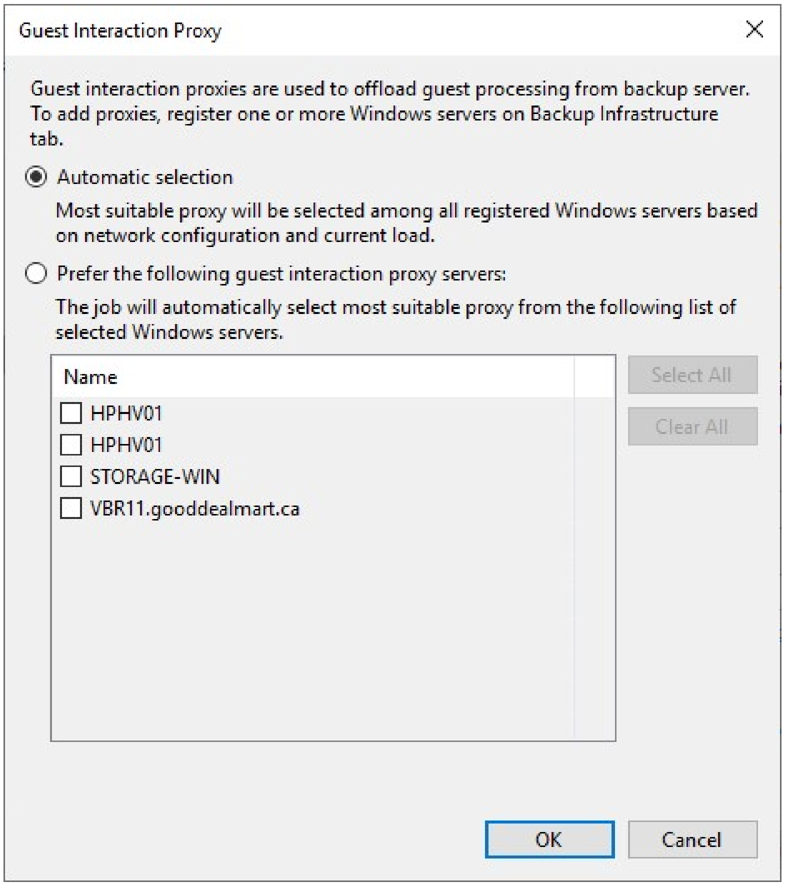
Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

88. On the Guest Interaction Proxy page, select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.

89. Select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.

90. Click OK.



Guest Interaction Proxy

Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

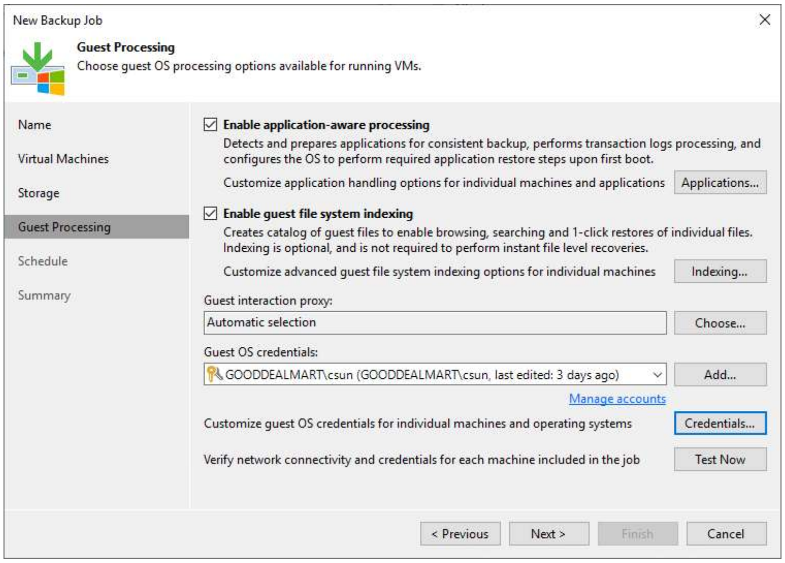
○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
□ HPHV01
□ HPHV01
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

91. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.

92. Click Credentials to Customize guest OS credentials for individual machines and operating systems.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications [Applications...]

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines [Indexing...]

Guest interaction proxy:

Automatic selection [Choose...]

Guest OS credentials:

GOODDEALMART\csun (GOODDEALMART\csun, last edited: 3 days ago) [Add...]

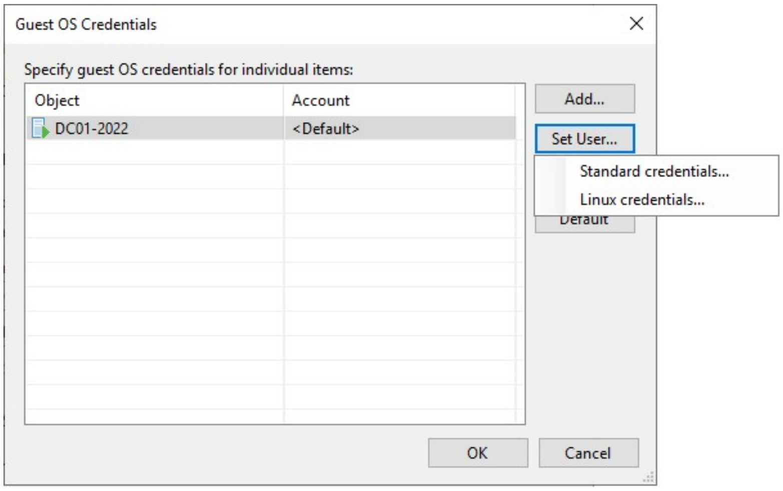
Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

93. On the Guest OS Credentials page, select the VM and click Set User.

94. Select Standard credentials.



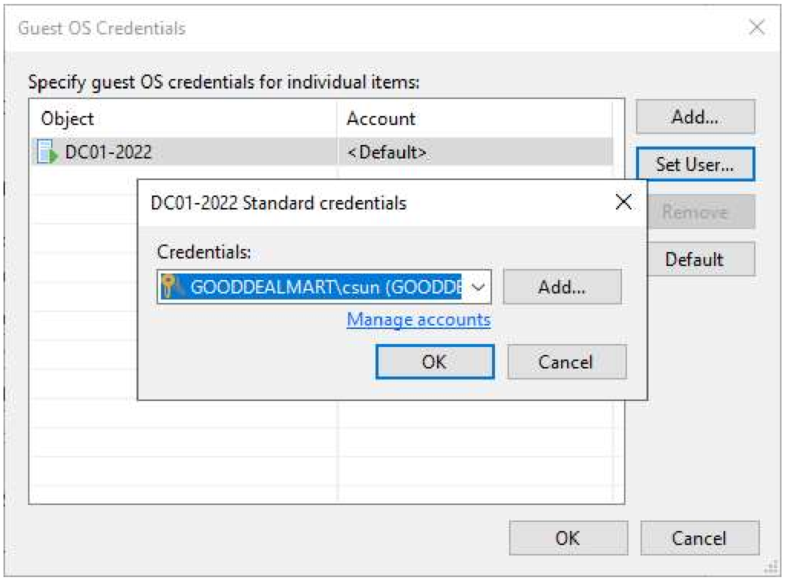
Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
DC01-2022	<Default>

95. Choose a user from the Credentials drop-down list, and click OK.

96. Repeat the steps for each VM.



Guest OS Credentials

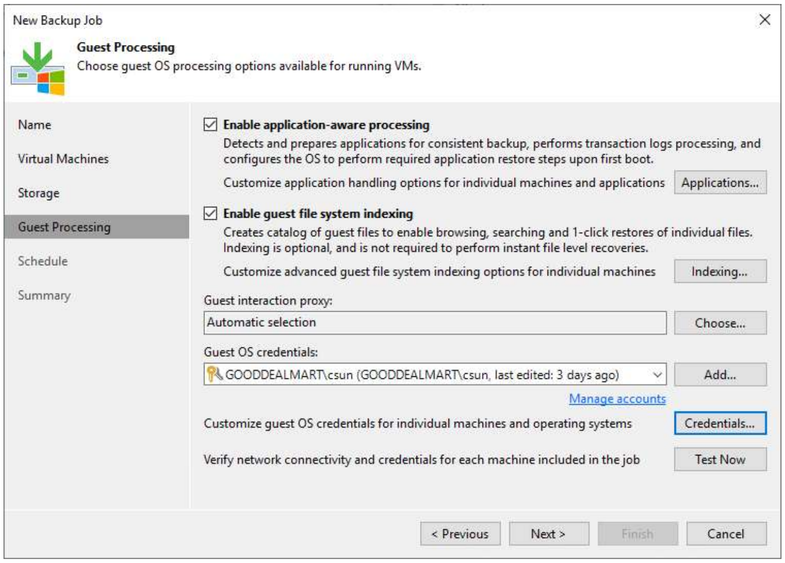
Specify guest OS credentials for individual items:

Object	Account
DC01-2022	<Default>

DC01-2022 Standard credentials

Credentials: GOODDEALMART\csun (GOODDE

97. On the Guest Processing page, click Test Now to verify network connectivity and credentials for each machine included in the job.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

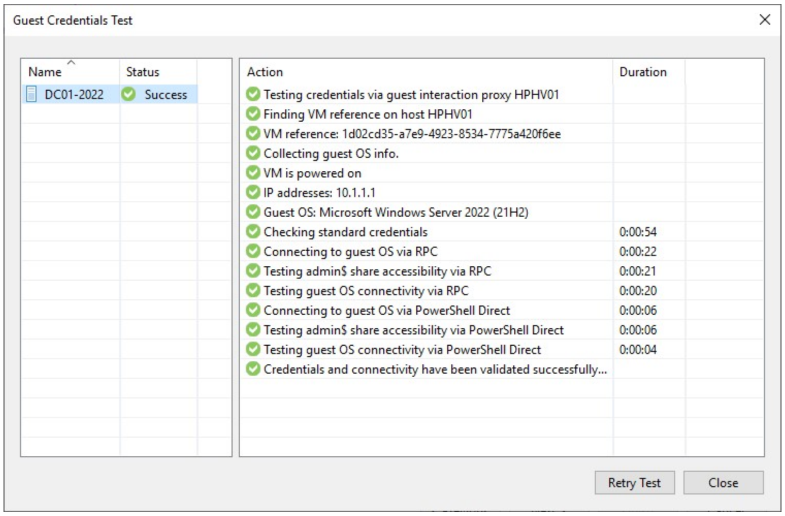
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 3 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

98. On the Guest Credentials Test page, ensure verification success for each machine.

99. Click Close.

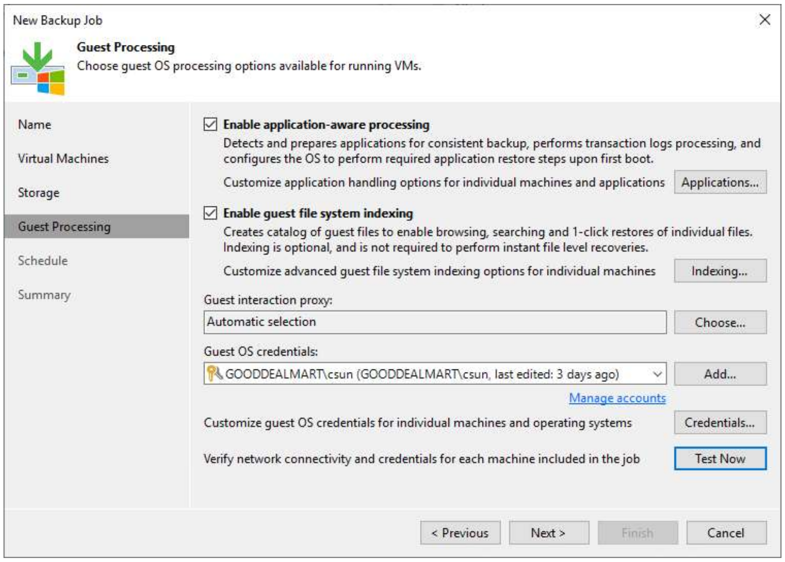


Guest Credentials Test

Name	Status
DC01-2022	Success

Action	Duration
Testing credentials via guest interaction proxy HPHV01	
Finding VM reference on host HPHV01	
VM reference: 1d02cd35-a7e9-4923-8534-7775a420f6ee	
Collecting guest OS info.	
VM is powered on	
IP addresses: 10.1.1.1	
Guest OS: Microsoft Windows Server 2022 (21H2)	
Checking standard credentials	0:00:54
Connecting to guest OS via RPC	0:00:22
Testing admin$ share accessibility via RPC	0:00:21
Testing guest OS connectivity via RPC	0:00:20
Connecting to guest OS via PowerShell Direct	0:00:06
Testing admin$ share accessibility via PowerShell Direct	0:00:06
Testing guest OS connectivity via PowerShell Direct	0:00:04
Credentials and connectivity have been validated successfully...	

100. On the Guest Processing page, click Next.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 3 days ago)

Customize guest OS credentials for individual machines and operating systems

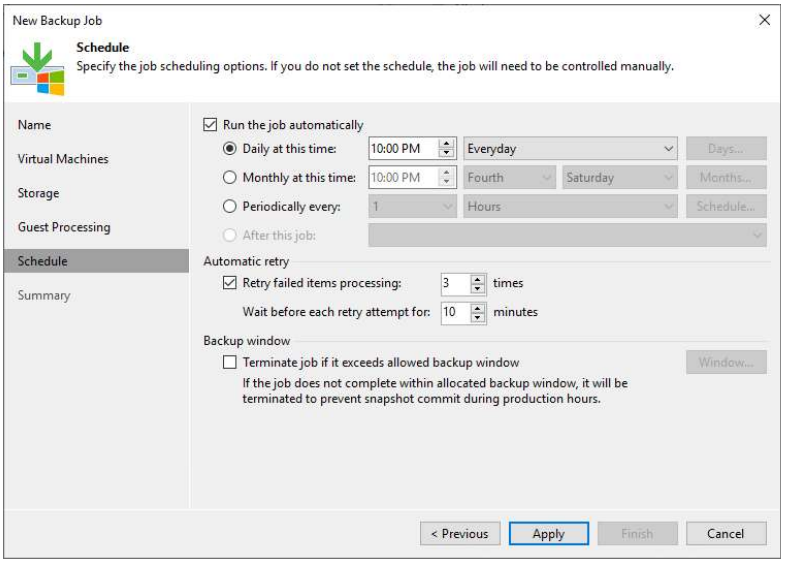
Verify network connectivity and credentials for each machine included in the job

101. Select Run the job automatically on the Schedule page and select your specified schedule.

102. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

103. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

104. Click Apply.



Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job:

Automatic retry

☑ Retry failed items processing: 3 times

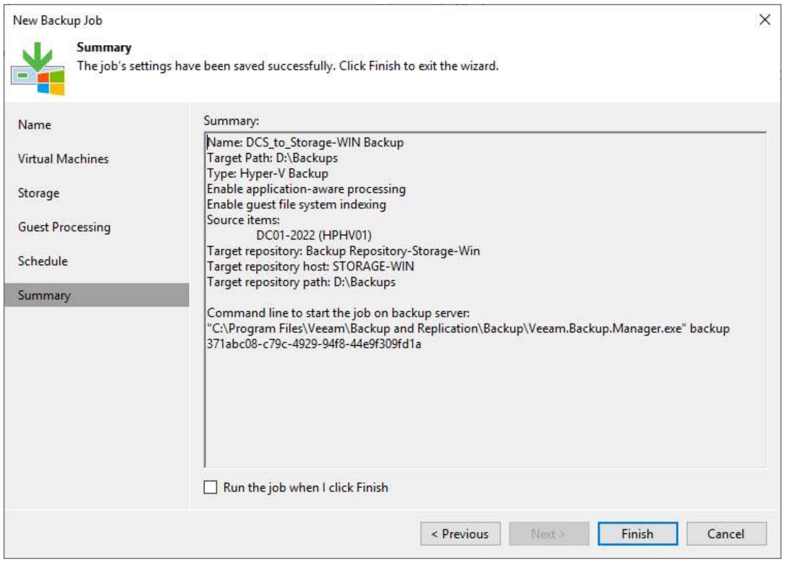
Wait before each retry attempt for: 10 minutes

Backup window

□ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

105. On the Summary page, click Finish.



Summary

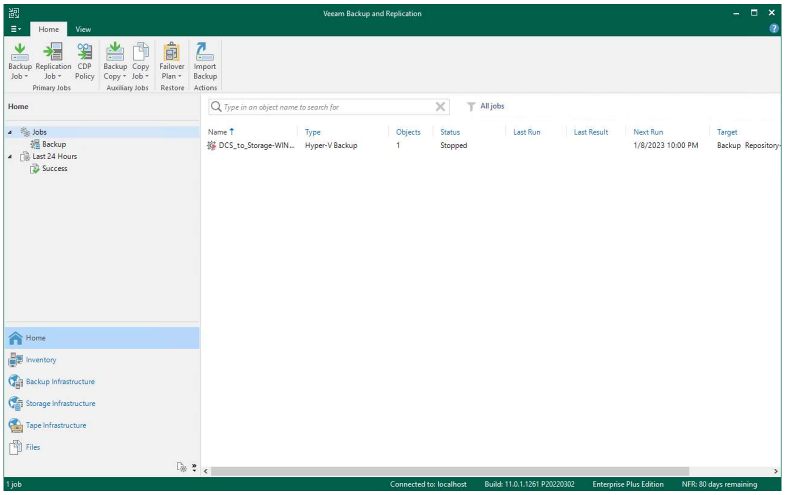
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: DCS_to_Storage-WIN Backup
Target Path: D:\Backups
Type: Hyper-V Backup
Enable application-aware processing
Enable guest file system indexing
Source items:
          DC01-2022 (HPHV01)
Target repository: Backup Repository-Storage-Win
Target repository host: STORAGE-WIN
Target repository path: D:\Backups

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
371abc08-c79c-4929-94f8-44e9f309fd1a
```

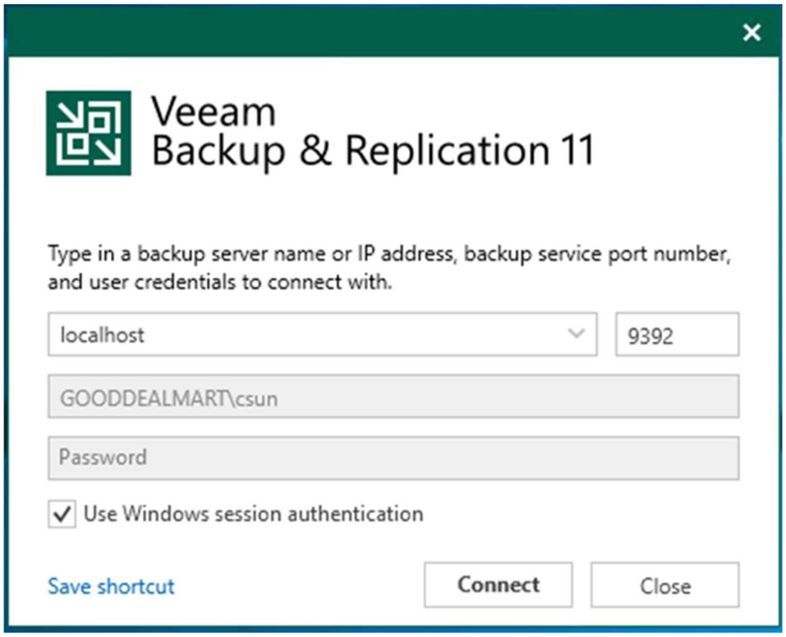
☐ Run the job when I click Finish

106. Verify that the backup job has been added.

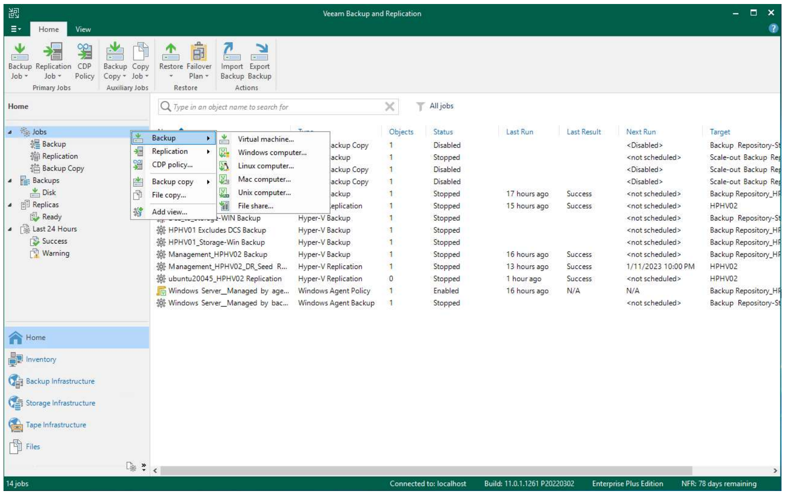


Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Target
DCS_to_Storage-WIN...	Hyper-V Backup	1	Stopped			1/8/2023 10:00 PM	Backup Repository-

Creating an Immutable Backup job to backup the specified VMs

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, select Jobs, right-click Jobs, select Backup and click Virtual machine.



		Objects	Status	Last Run	Last Result	Next Run	Target
	ackup Copy	1	Disabled			<Disabled>	Backup Repository-St
	ackup	1	Stopped			<not scheduled>	Scale-out Backup Rep
	ackup Copy	1	Disabled			<Disabled>	Scale-out Backup Rep
	ackup Copy	1	Disabled			<Disabled>	Scale-out Backup Rep
	ackup	1	Stopped	17 hours ago	Success	<not scheduled>	Backup Repository_HP
	eplication	1	Stopped	15 hours ago	Success	<not scheduled>	HPHV02
-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-St
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository_HP
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository_HP
Management_HPHV02 Backup	Hyper-V Backup	1	Stopped	16 hours ago	Success	<not scheduled>	Backup Repository_HP
Management_HPHV02_DR_Seed R...	Hyper-V Replication	1	Stopped	13 hours ago	Success	1/11/2023 10:00 PM	HPHV02
ubuntu20045_HPHV02 Replication	Hyper-V Replication	0	Stopped	1 hour ago	Success	<not scheduled>	HPHV02
Windows Server__Managed by age...	Windows Agent Policy	1	Enabled	16 hours ago	N/A	N/A	Backup Repository_HP
Windows Server__Managed by bac...	Windows Agent Backup	1	Stopped			<not scheduled>	Backup Repository-St

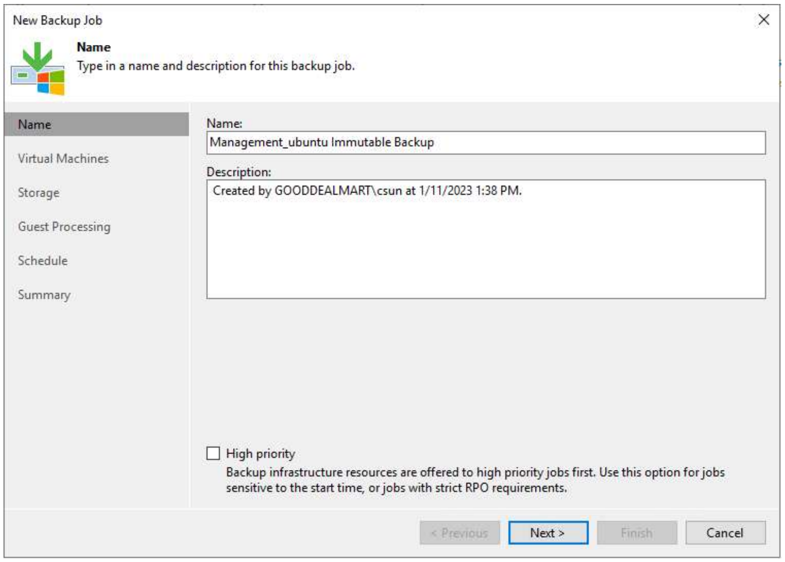
14 jobs   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 78 days remaining

4. On the Name page, enter a name in the Name field.

5. Describe the Description field.

6. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.

7. Click Next.



Name

Type in a name and description for this backup job.

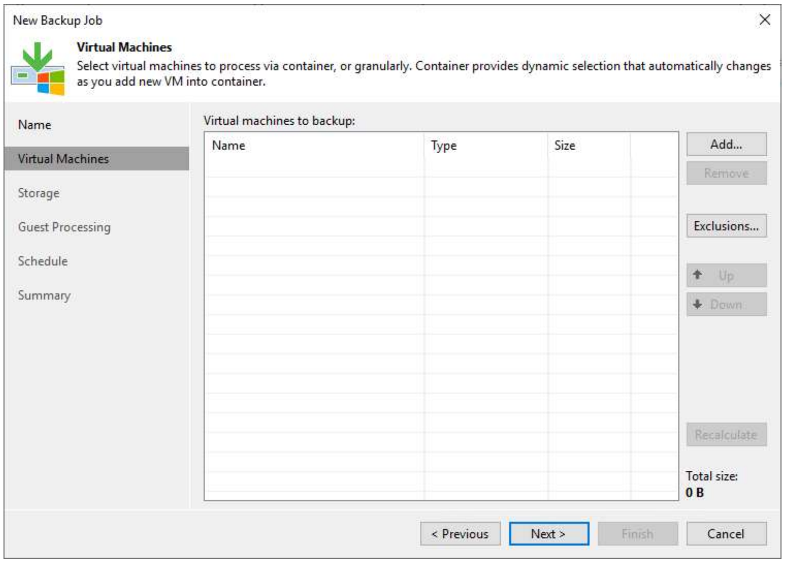
Name: Management_ubuntu Immutable Backup

Description: Created by GOODDEALMART\csun at 1/11/2023 1:38 PM.

☐ High priority

Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

8. On the Virtual Machines page, click Add.



New Backup Job

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

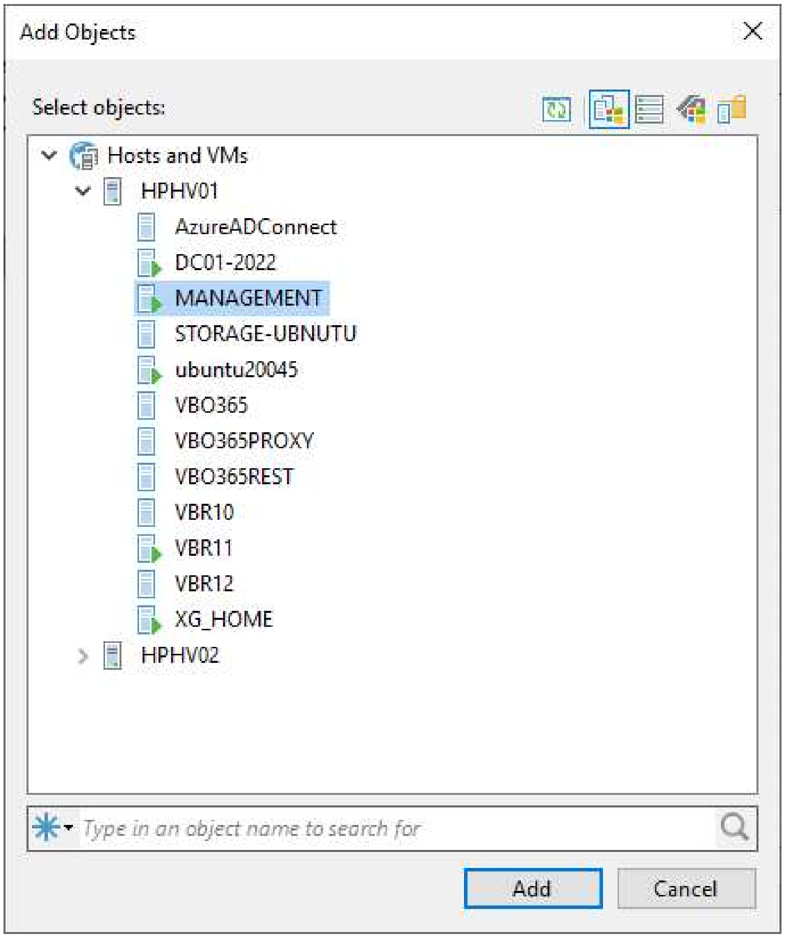
Virtual machines to backup:

Name	Type	Size

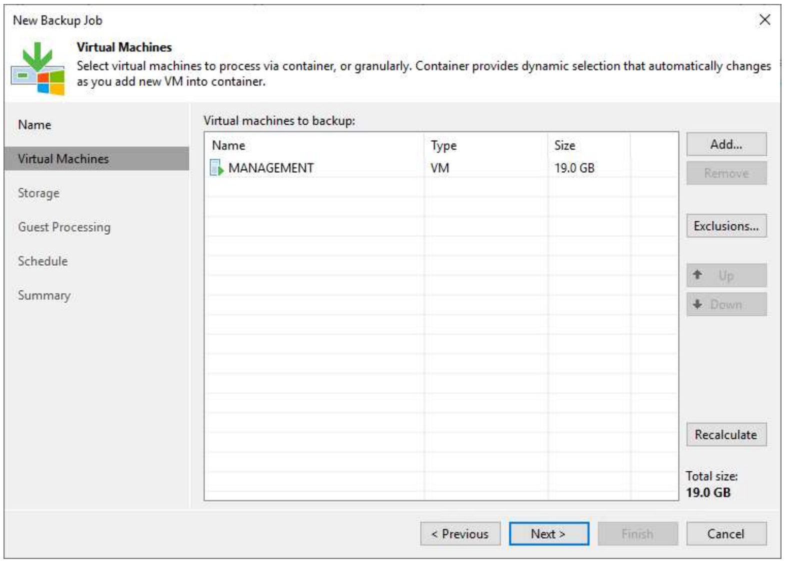
Total size: **0 B**

9. Select the VM in the list on the Add Objects page and click Add.

10. If you have multiple VMS that needs to back up in the same backup job, you can repeat the step to add them.



11. On the Virtual Machines page, click Next.



New Backup Job

Virtual Machines

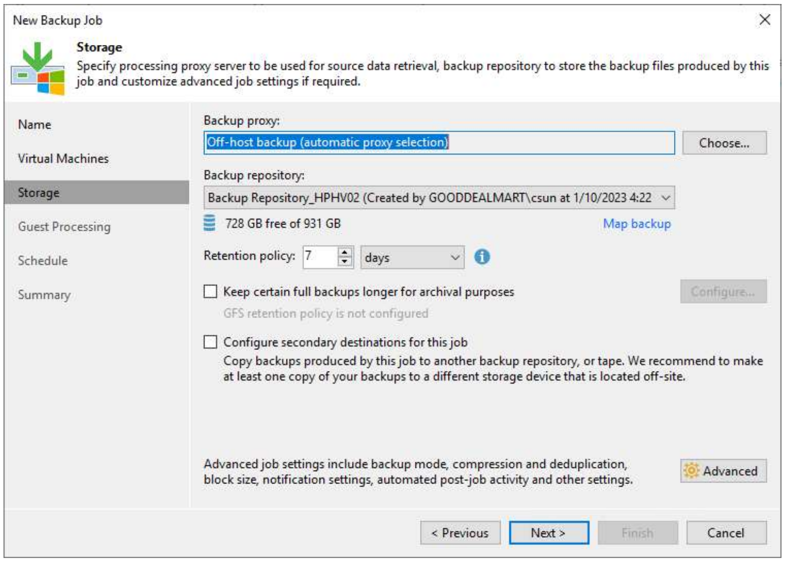
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
MANAGEMENT	VM	19.0 GB

Total size:
19.0 GB

12. On the Storage, click Choose to select a backup proxy if you don't want to use the default Off-host backup (automatic proxy selection) setting.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22

728 GB free of 931 GB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

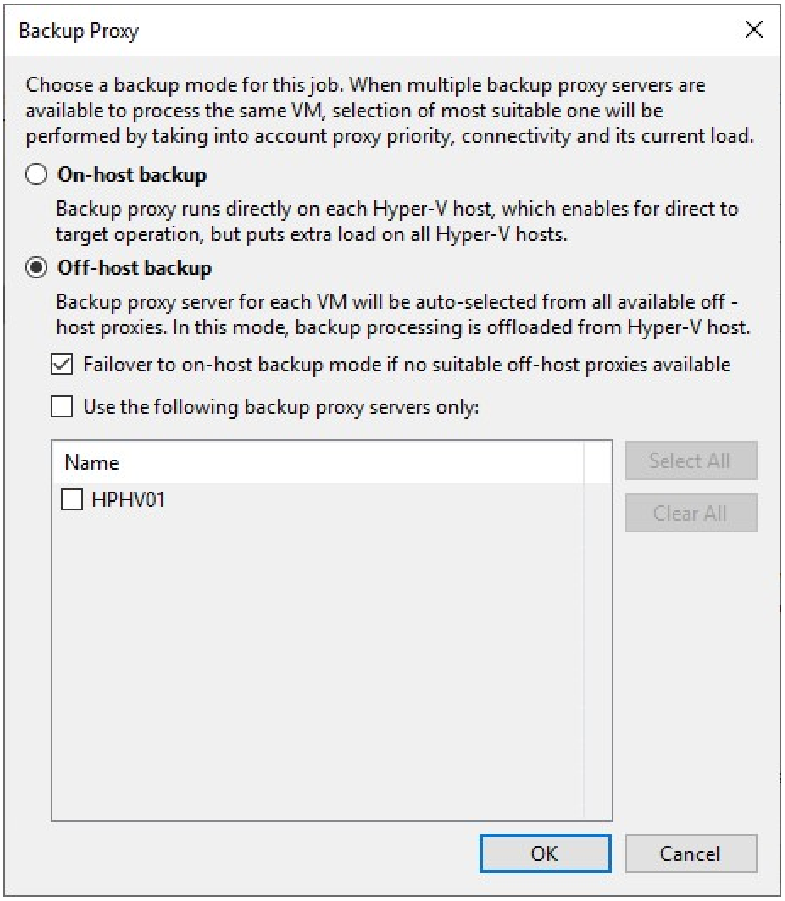
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

13. On the Backup Proxy page, if you select On-host backup mode, the source Microsoft HyperV host will serve as both the source host and the backup proxy. In this mode, Veeam Data Mover runs directly on the source host, which speeds up data retrieval but places additional strain on the host.

14. If you select Off-host backup mode, Veeam Data Mover will run on a dedicated off-host backup proxy. All backup processing operations from the source host are routed to the off-host backup proxy in this mode.

15. If the off-host backup mode is selected for the job, but there are no off-host backup proxies available when the job begins, Veeam Backup & Replication will automatically switch to on-host backup mode.

16. You unselect the Failover to on-host backup mode



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

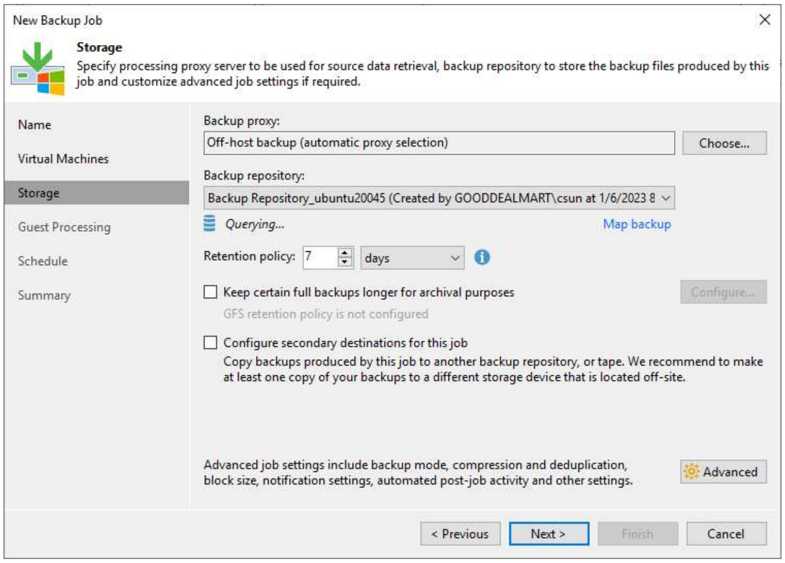
☐ Use the following backup proxy servers only:

Name
☐ HPHV01

if no suitable off-host proxies available checkbox, but if off-host backup proxies are not available or are not configured properly, the job will fail to start.

17. Click OK.

18. Select the immutable backup repository from the Backup repository drop-down list where the created backup files must be saved.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 8

Querying...

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

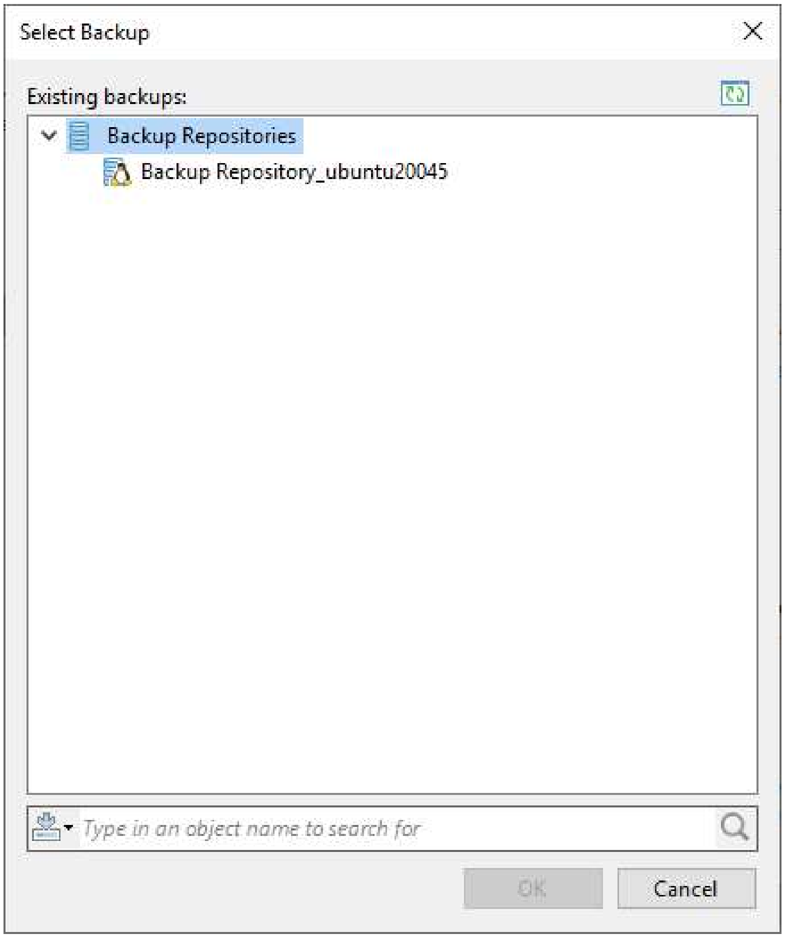
GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

19. Click Map backup is helpful if you want to point the job to existing backups in this new repository. Backup job mapping can also be used if the configuration database becomes corrupt and you need to reconfigure backup jobs.



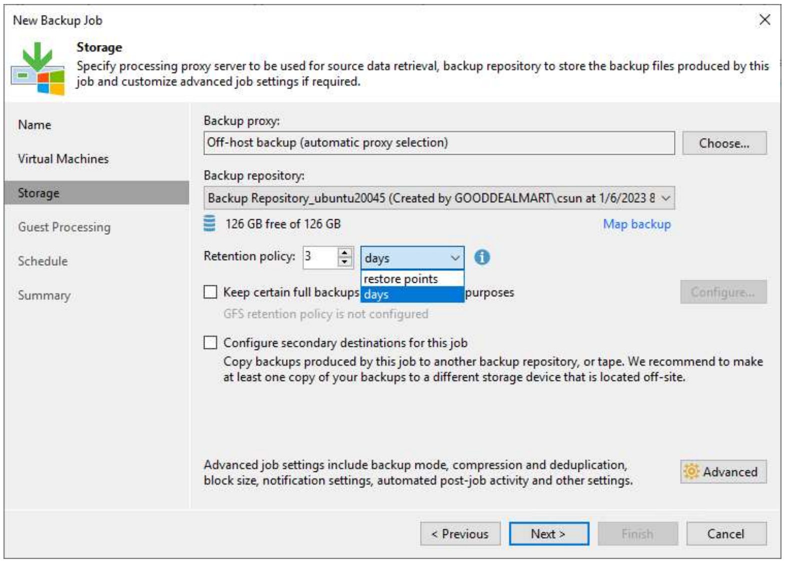
Select Backup

Existing backups:

- Backup Repositories
  - Backup Repository_ubuntu20045

20. Set the retention policy settings for restore points in the Retention Policy field.

21. Select days or restore points from the drop-down list.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection) Choose...

Backup repository: Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 8

126 GB free of 126 GB Map backup

Retention policy: 3 days (restore points / days)

□ Keep certain full backups longer for archival purposes Configure...

GFS retention policy is not configured

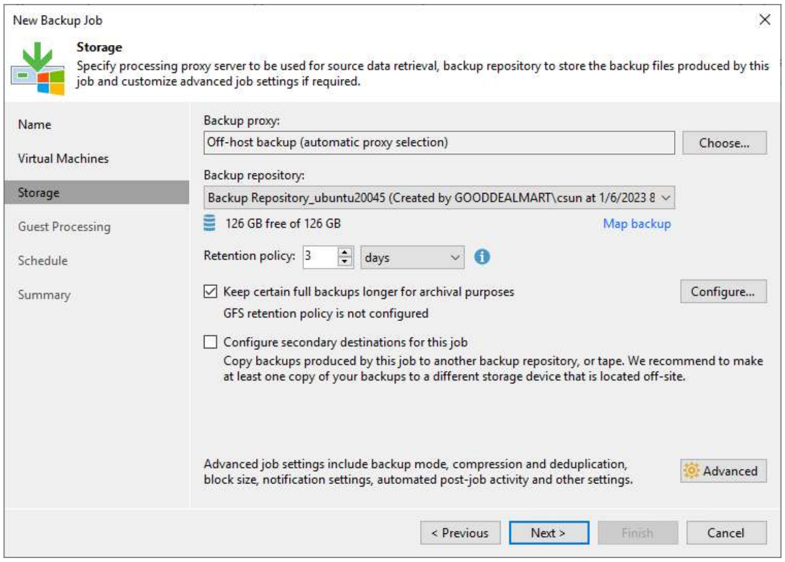
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings. Advanced

22. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.

23. Select the Keep certain full backups for longer for archival purposes. If you need it, click Configure.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection) Choose...

Backup repository: Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 8

126 GB free of 126 GB Map backup

Retention policy: 3 days

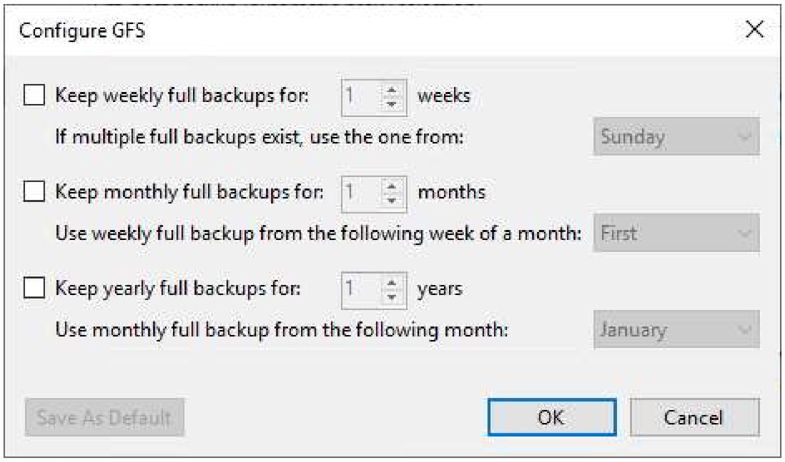
☑ Keep certain full backups longer for archival purposes Configure...

GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings. Advanced



☐ Keep weekly full backups for: 1 weeks

If multiple full backups exist, use the one from: Sunday

☐ Keep monthly full backups for: 1 months

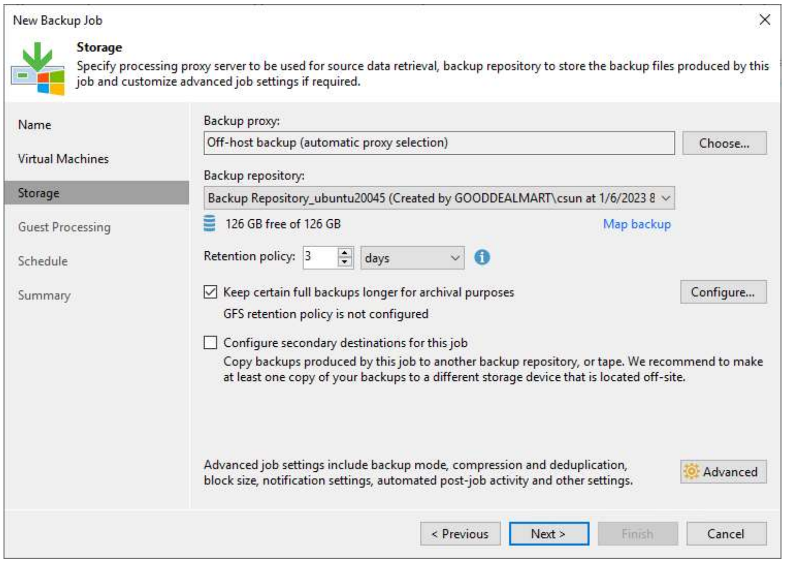
Use weekly full backup from the following week of a month: First

☐ Keep yearly full backups for: 1 years

Use monthly full backup from the following month: January

24. Select the Keep weekly full backups for check box, and specify the number of weeks you want to prevent restore points from being modified and deleted.
25. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.
26. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore points from being modified and deleted.
27. Click OK.

28. On the Storage page, click Advanced.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 8

126 GB free of 126 GB

Retention policy: 3 days

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

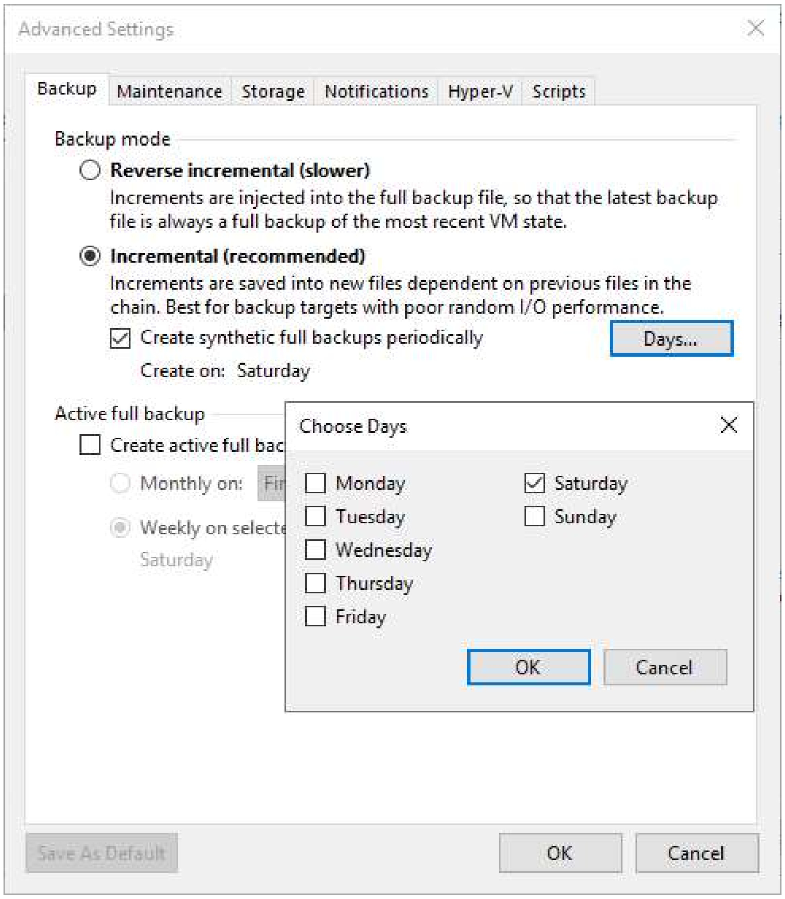
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

29. Select Incremental (recommended) and enable synthetic full and active full backups. Click Days to schedule full synthetic backups on the necessary weekdays, and click OK.

Note:

The immutable backups feature requires the usage of forward incremental backup mode with period fulls.



Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

☑ Create synthetic full backups periodically [Days...]

Create on: Saturday

Active full backup

□ Create active full bac

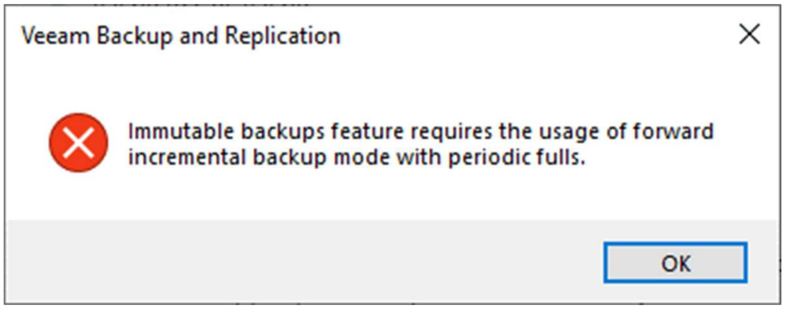
○ Monthly on: Fir

● Weekly on selecte
Saturday

Choose Days

□ Monday
□ Tuesday
□ Wednesday
□ Thursday
□ Friday
☑ Saturday
□ Sunday

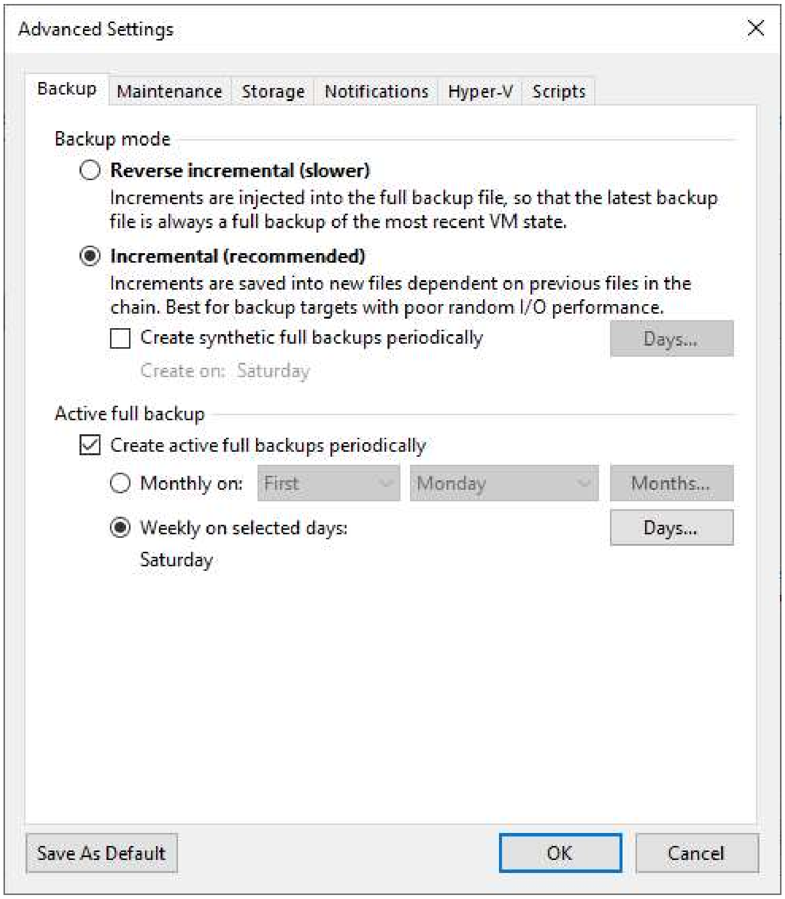
OK Cancel



Immutable backups feature requires the usage of forward incremental backup mode with periodic fulls.

30. Select the Create active full backups periodically checkbox to create full backups regularly if needed.

31. Select the Monthly or Weekly on selected days options to define scheduling settings.



Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically

Create on: Saturday

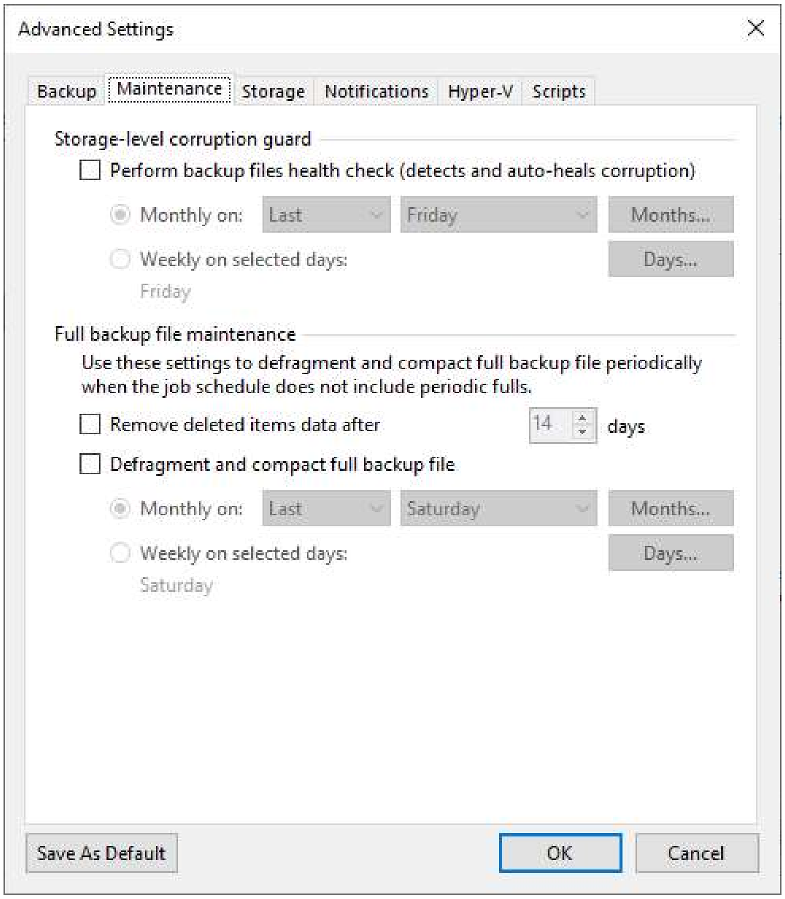
Active full backup

☑ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:
Saturday

32. On the Advanced Settings, select Maintenance.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Friday Days...

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

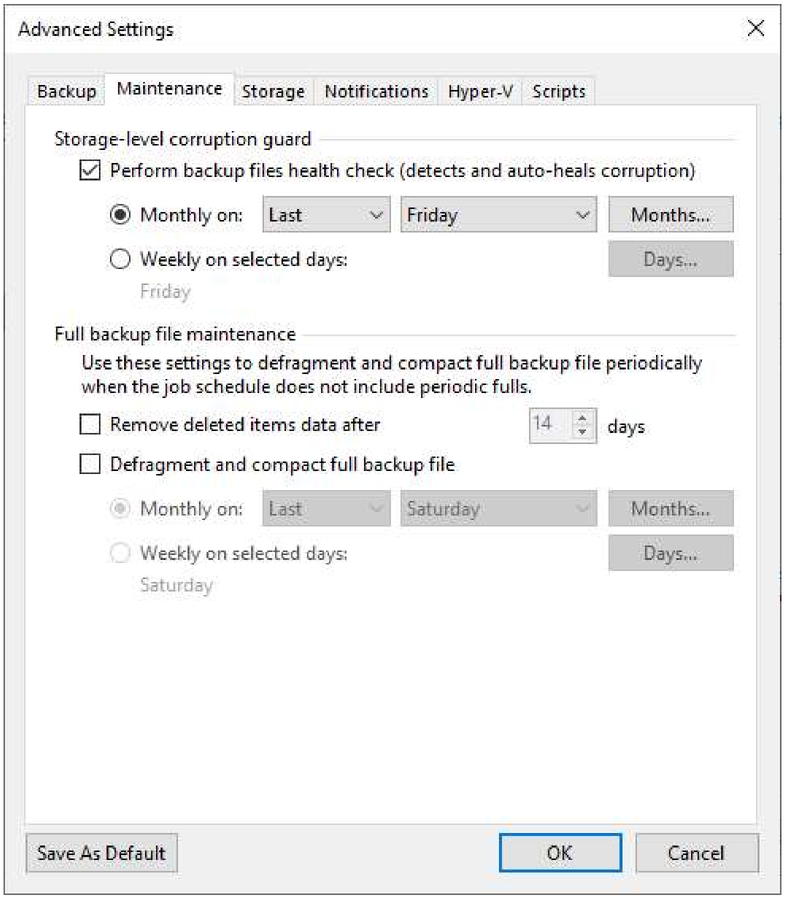
□ Remove deleted items data after 14 days

□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Saturday Days...

33. To regularly perform a health check in the backup chain, select the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard and specify a schedule for the health check.



Advanced Settings

Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days:

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

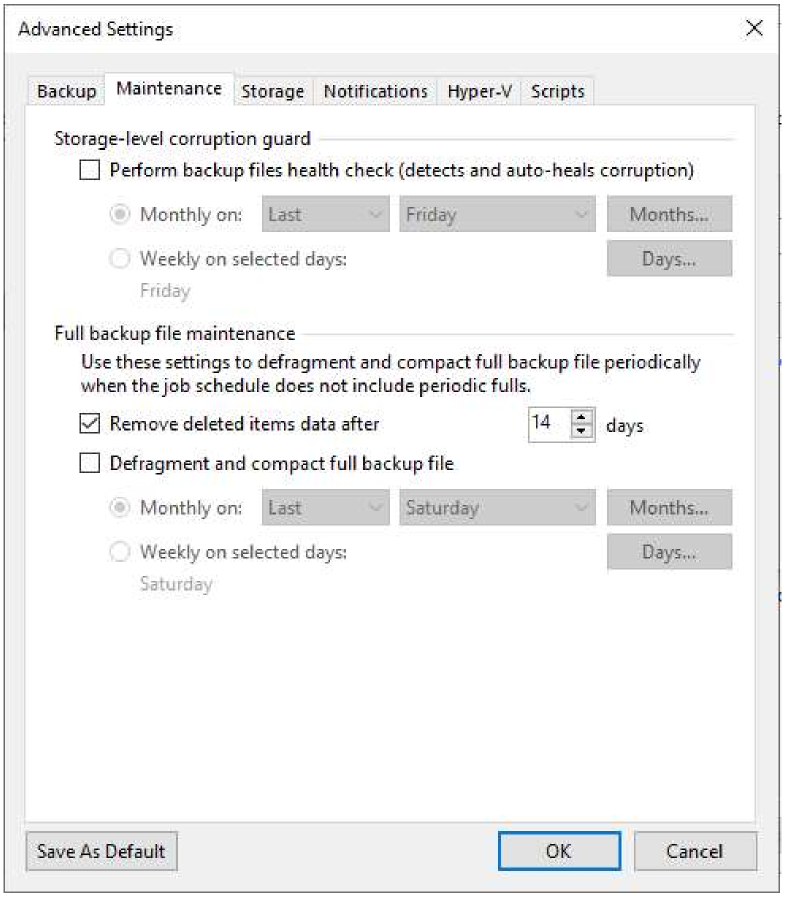
□ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days:

Saturday

34. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept.



Advanced Settings

Storage-level corruption guard

☐ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

☑ Remove deleted items data after 14 days

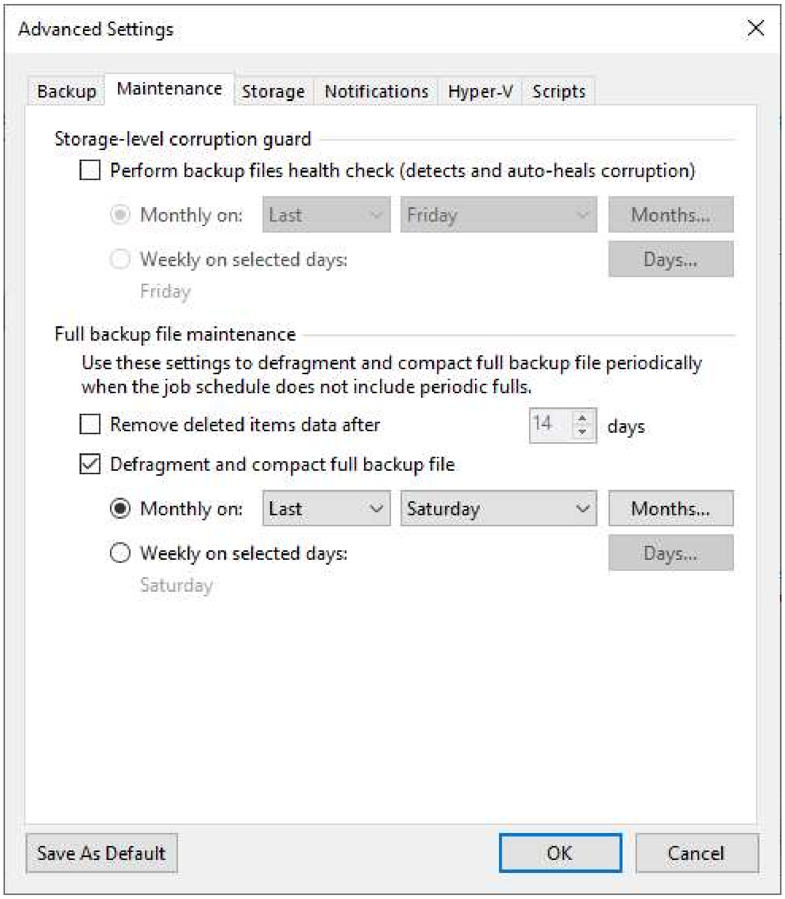
☐ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

35. Select the Defragment and compact full backup file checkbox and specify the schedule for the compact operation to compact a full backup periodically.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

☑ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

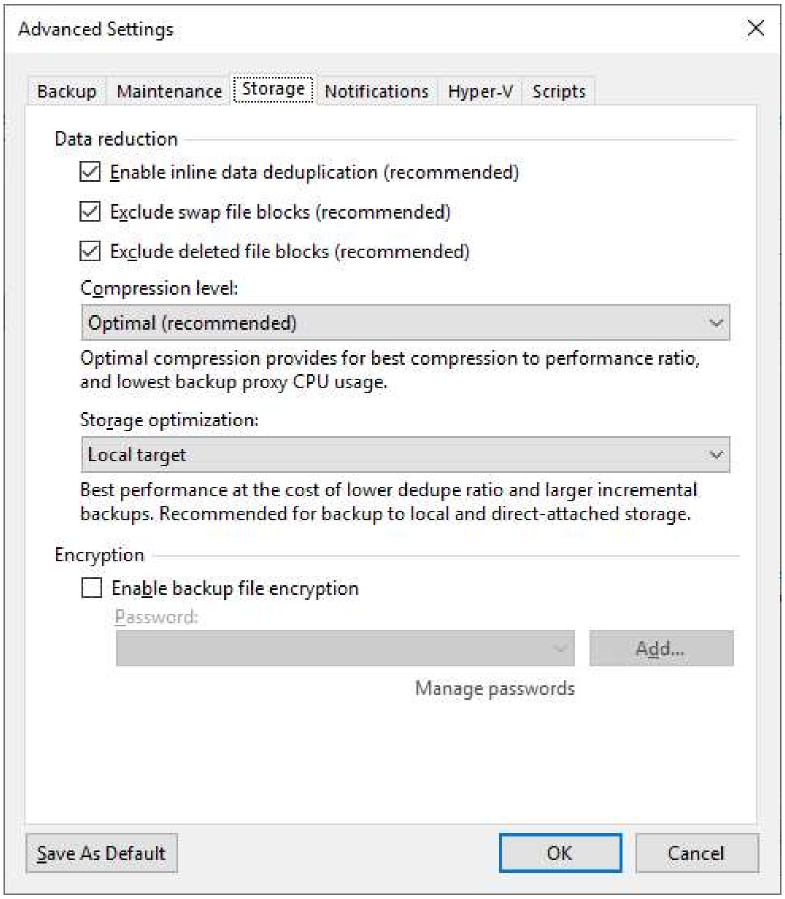
36. On Advanced Settings, click Storage.

37. Select the Enable inline data deduplication checkbox.

38. Select the Exclude swap file blocks checkbox.

39. Select the Exclude deleted file blocks checkbox.

40. Select the compression level for the backup from the drop-down list.



Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

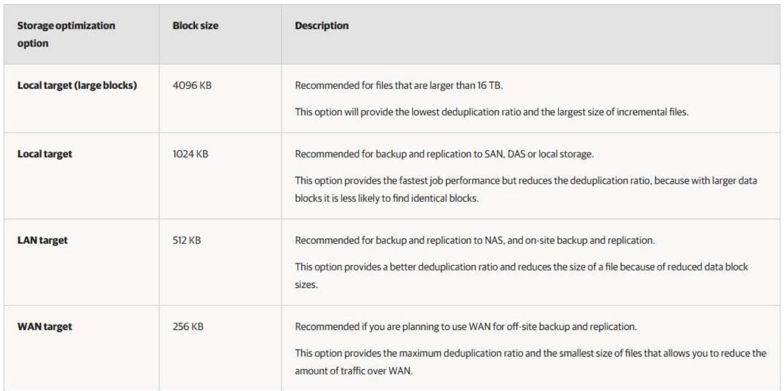
Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

☐ Enable backup file encryption

Password:

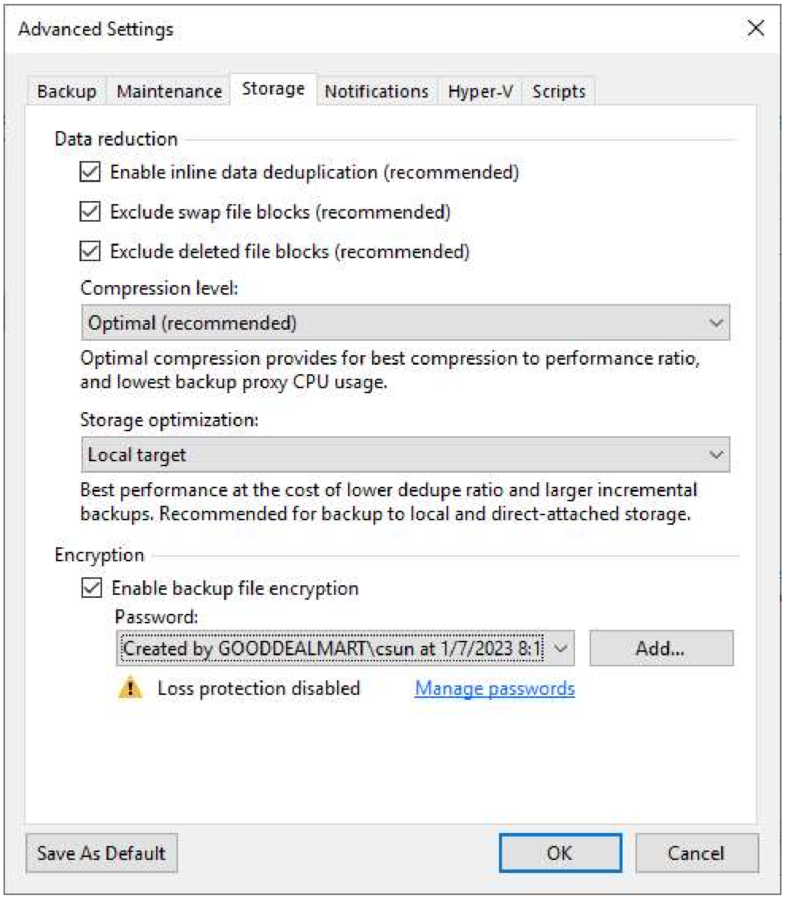
41. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

42. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

43. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

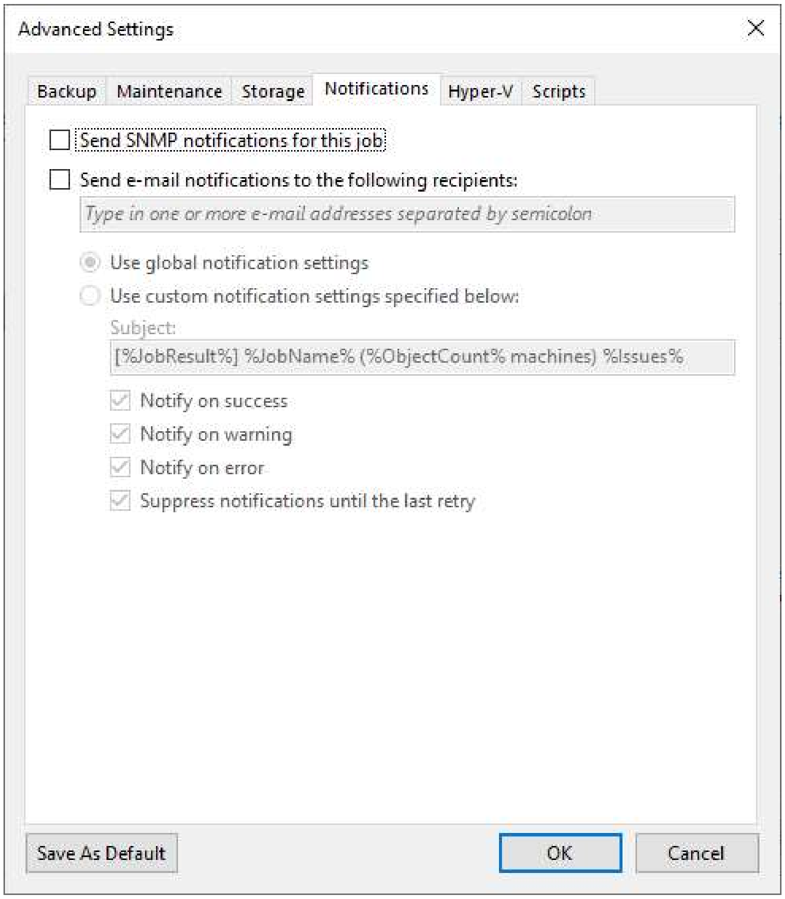
☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:1

Loss protection disabled

44. On the Advanced Settings, select Notifications.

45. Keep the default settings.



Advanced Settings

□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

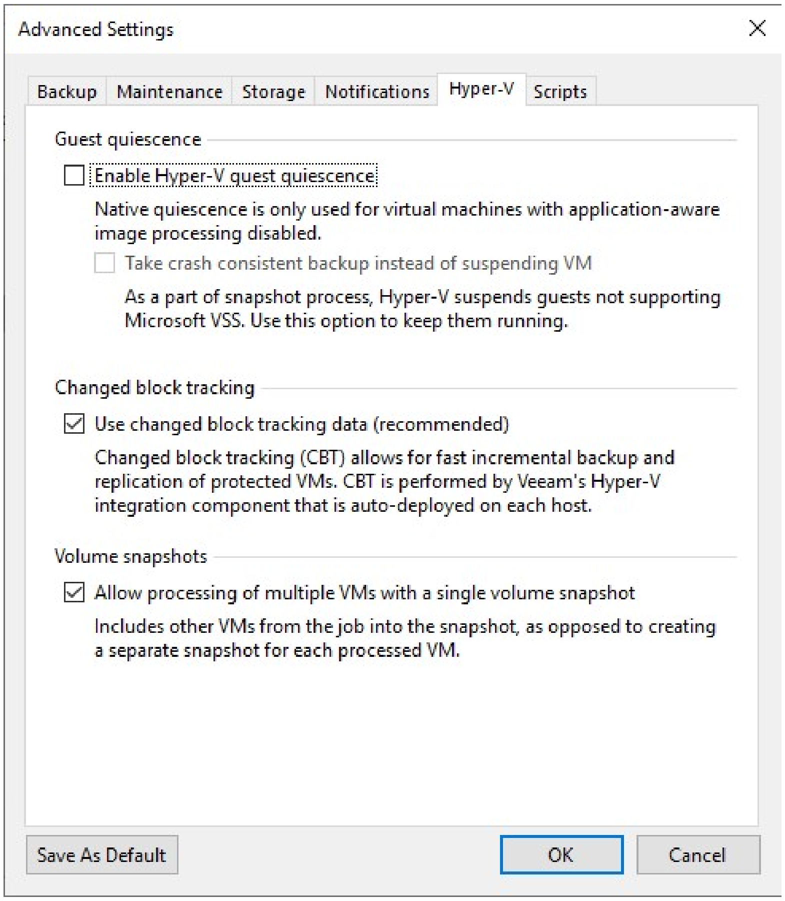
46. On the Advanced Settings, select Hyper-V.

47. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.

48. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.

49. Select the Use changed block tracking data (recommended) check box.

50. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

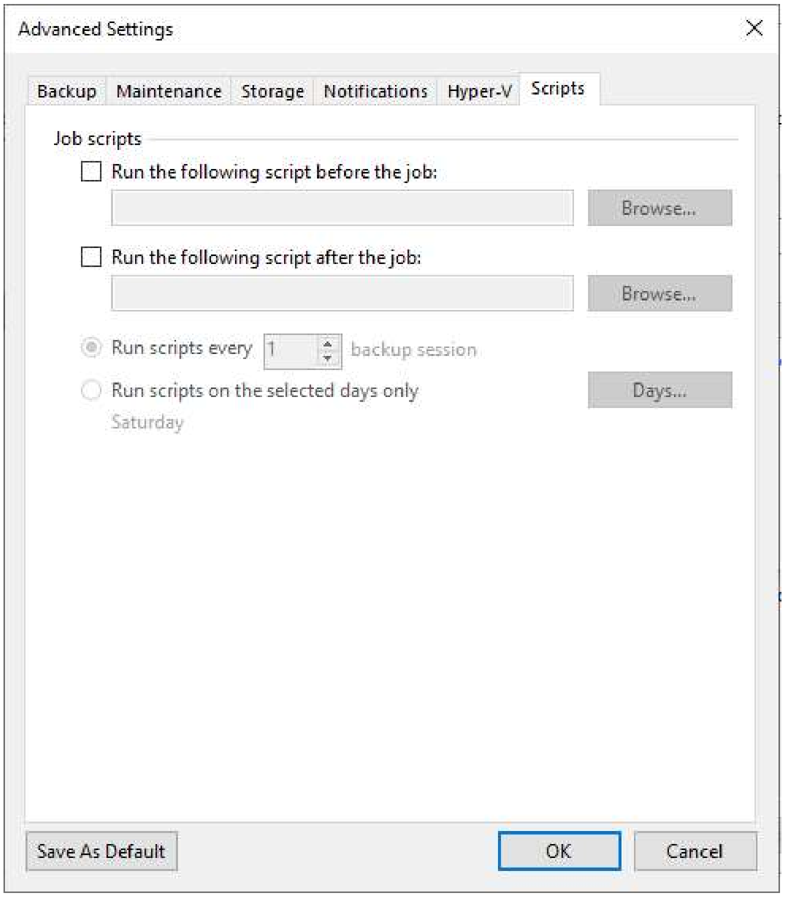
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

51. On the Advanced Settings page, click Scripts.
52. Keep the default settings.
53. Click OK.



Advanced Settings

Job scripts

□ Run the following script before the job:

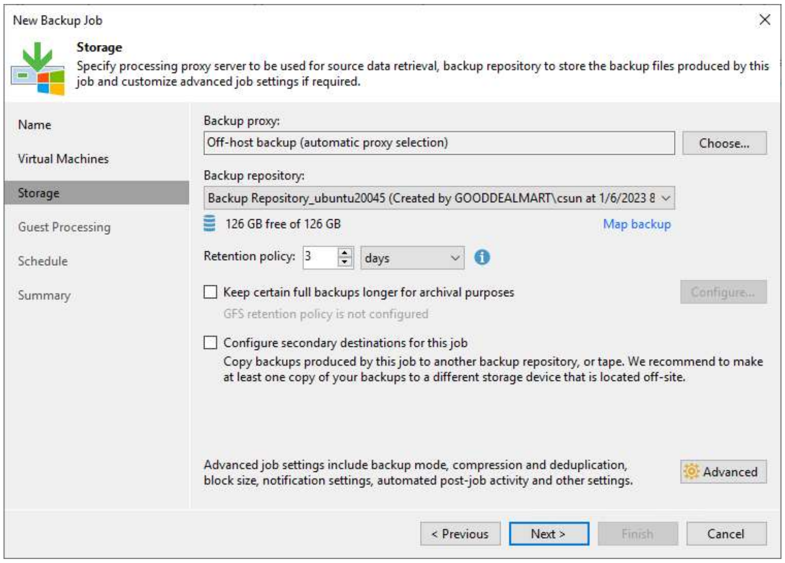
□ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

54. On the Storage page, click Next.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository_ubuntu20045 (Created by GOODDEALMART\csun at 1/6/2023 8

126 GB free of 126 GB

Retention policy: 3 days

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

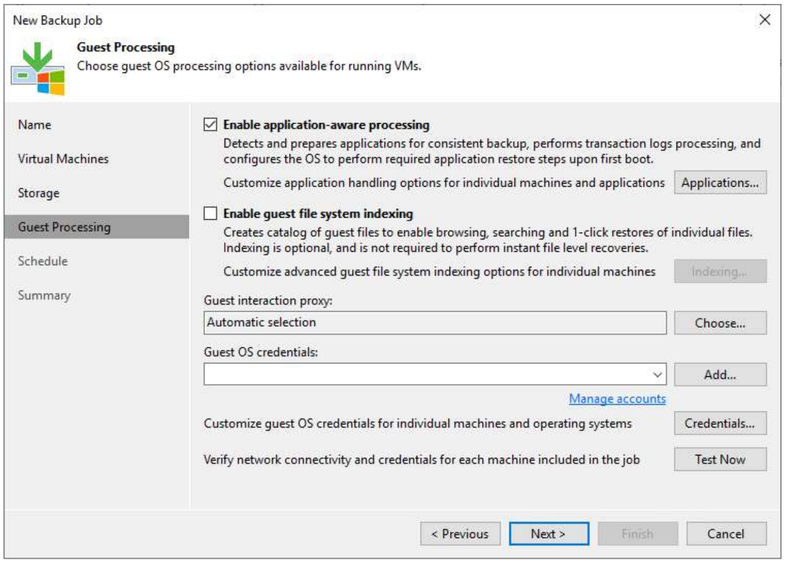
☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

55. When you add VMs running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that applications on VMs can be recovered without data loss.

56. Select the Enable application-aware processing check box on the Guest Processing page, and click Applications.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☐ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

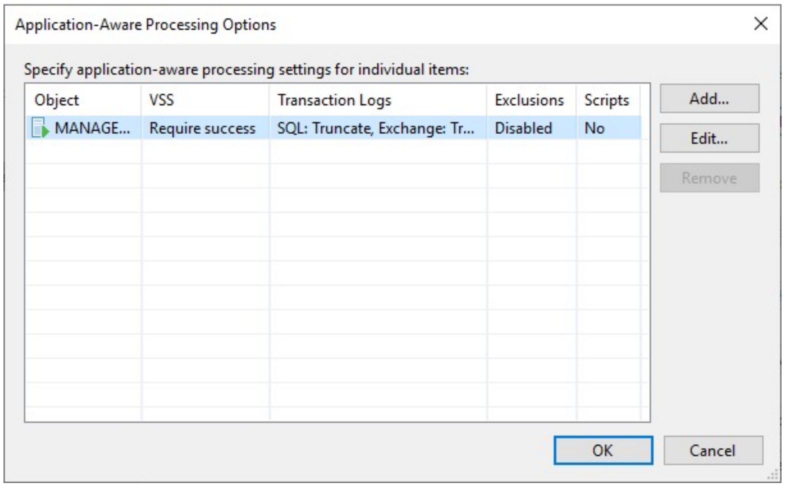
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

57. On the Application-Aware Processing Options page, select the VM, and click Edit.



Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
MANAGE...	Require success	SQL: Truncate, Exchange: Tr...	Disabled	No

58. On the Processing Settings, click General.

59. Suppose you need Veeam Backup & Replication to stop the backup process if any error occurs during application-aware processing. Select Require successful processing (recommend).

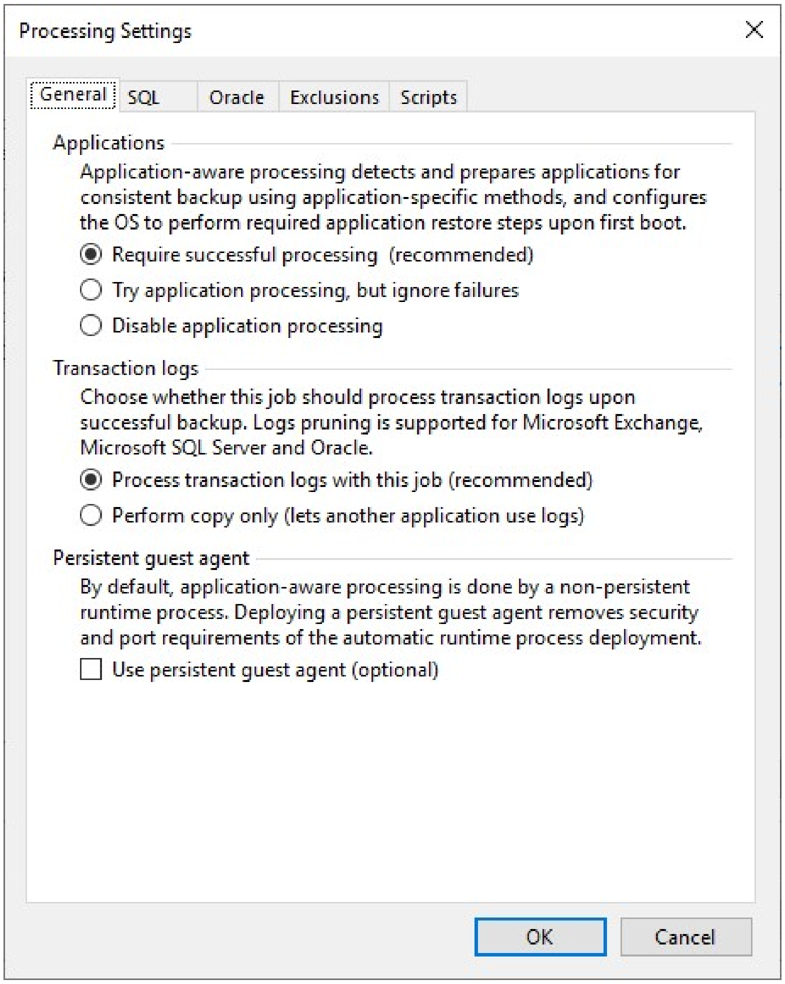
60. Suppose you must continue the backup process even if there is an error during application-aware processing. Select Try application processing but ignore failures.

61. Select Disable application processing to disable application-aware processing for the VM.

62. Select Process transaction logs with this job (recommend).

63. Select Perform copy only to let another application use

64. Select the Use persistent guest agent (optional) checkbox to enable persistent agent.



Processing Settings

Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)

○ Try application processing, but ignore failures

○ Disable application processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

● Process transaction logs with this job (recommended)

○ Perform copy only (lets another application use logs)

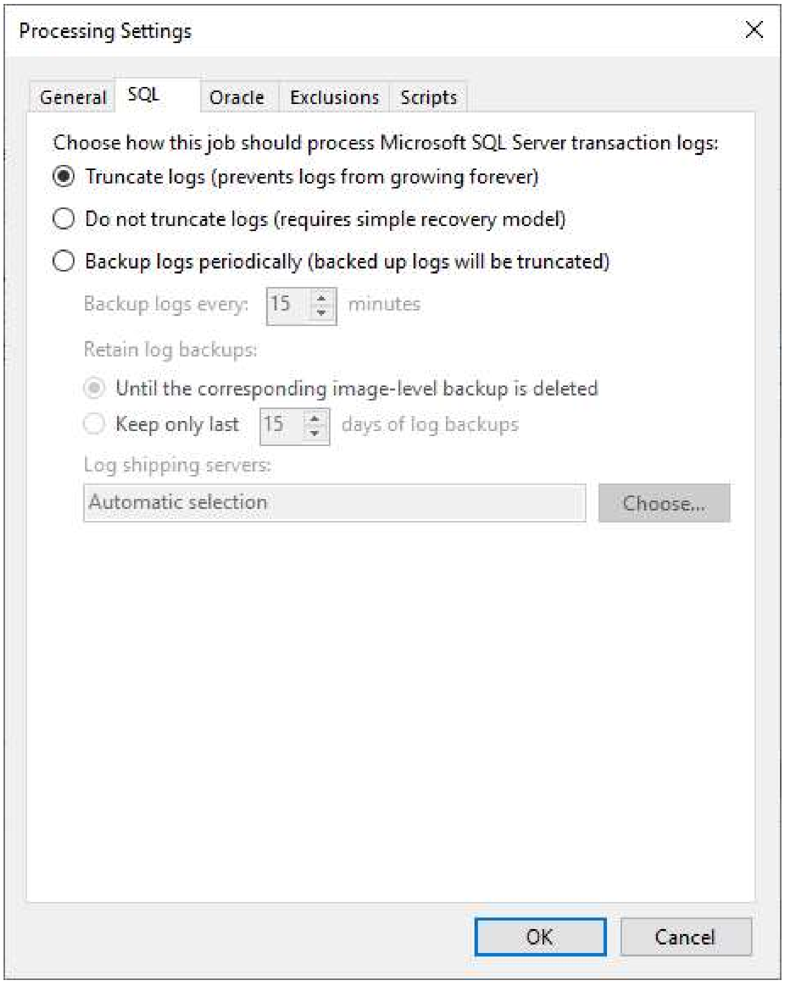
Persistent guest agent

By default, application-aware processing is done by a non-persistent runtime process. Deploying a persistent guest agent removes security and port requirements of the automatic runtime process deployment.

□ Use persistent guest agent (optional)

65. On the Processing Settings page, click SQL if the VM is a Microsoft SQL Server VM.

66. Select Truncate logs (Prevents logs from growing forever) to truncate transaction logs after a successful backup.



Processing Settings

Choose how this job should process Microsoft SQL Server transaction logs:

● Truncate logs (prevents logs from growing forever)

○ Do not truncate logs (requires simple recovery model)

○ Backup logs periodically (backed up logs will be truncated)

Backup logs every: 15 minutes

Retain log backups:

● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

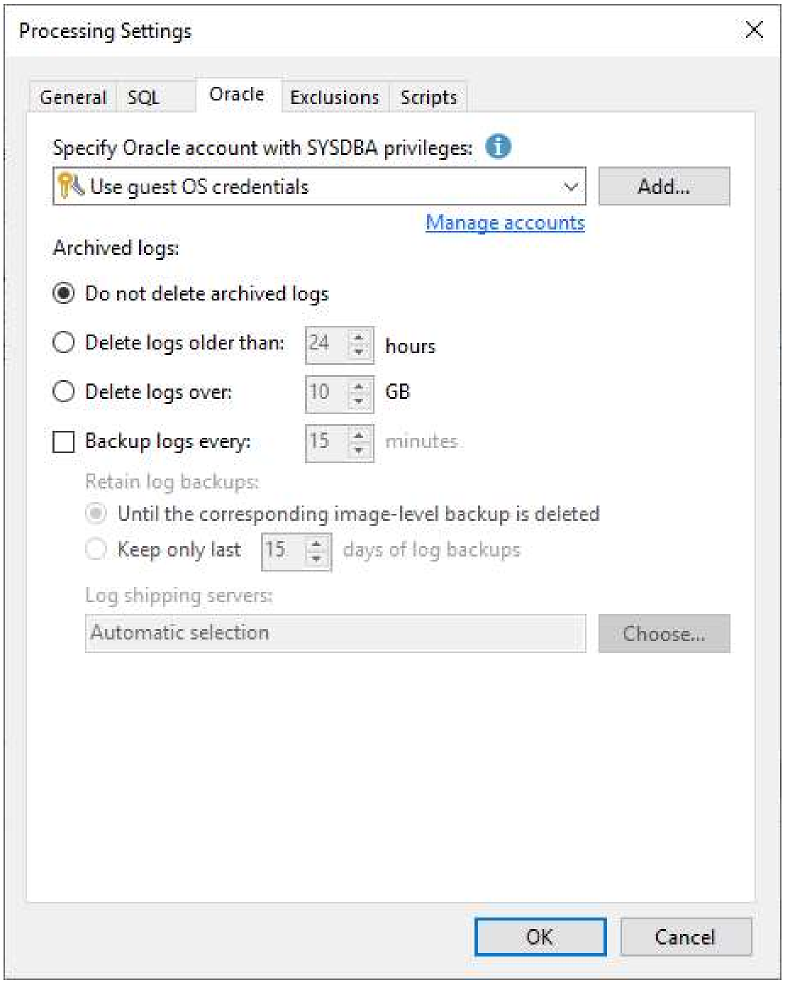
Log shipping servers:

Automatic selection

67. On the Processing Settings page, click Oracle if the VM is an Oracle Server.

68. Select a user account from the drop-down list.

69. Select Do not delete archived logs if you need Veeam Backup & Replication to preserve archived logs on the VM guest OS.


Processing Settings

Specify Oracle account with SYSDBA privileges:

Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

□ Backup logs every: 15 minutes

Retain log backups:

● Until the corresponding image-level backup is deleted

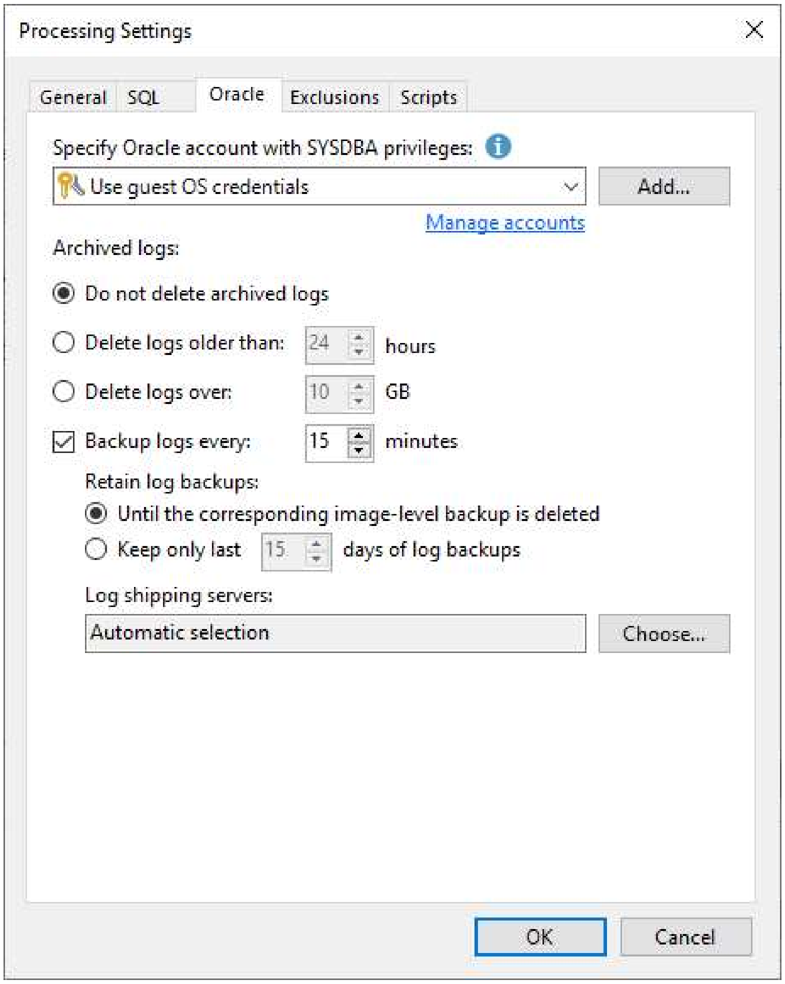
○ Keep only last 15 days of log backups

Log shipping servers:

Automatic selection

70. Select the retention policy settings for archived logs in the Retain log backups section.

71. Click Choose In the Log shipping servers.



Processing Settings

Specify Oracle account with SYSDBA privileges:

Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

☑ Backup logs every: 15 minutes

Retain log backups:

● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

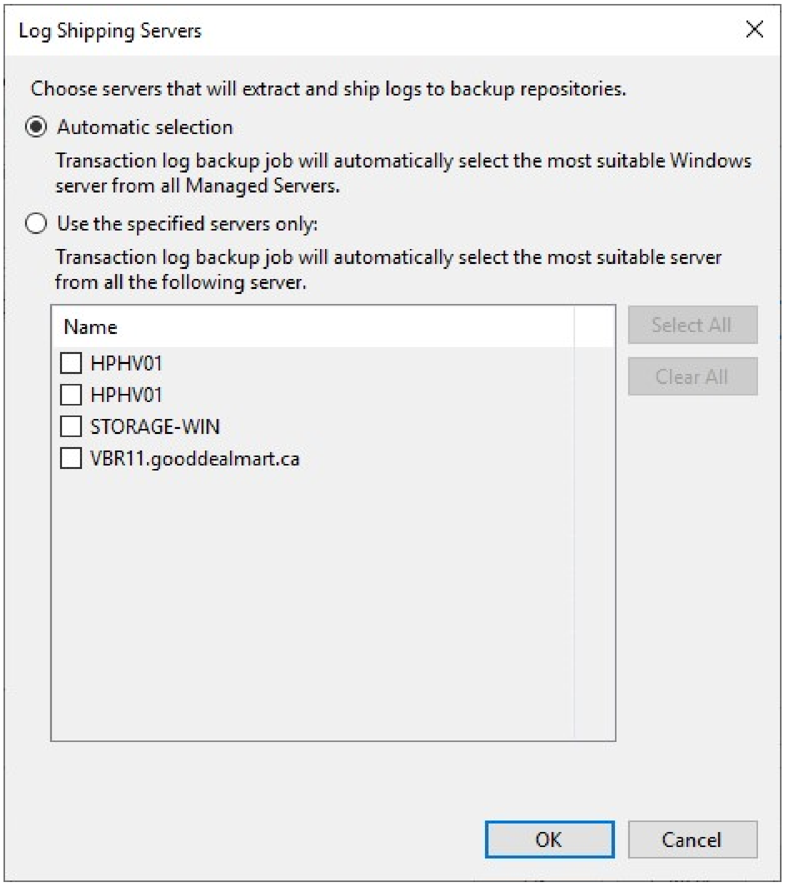
Log shipping servers:

Automatic selection

72. On the Log Shipping Servers page, Select Automatic selection if you need Veeam Backup & Replication to choose an optimal log shipping server automatically.

73. Select Use the specified servers only and then select check boxes next to those you want to use as log shipping servers.

74. Click OK.



Log Shipping Servers

Choose servers that will extract and ship logs to backup repositories.

● Automatic selection

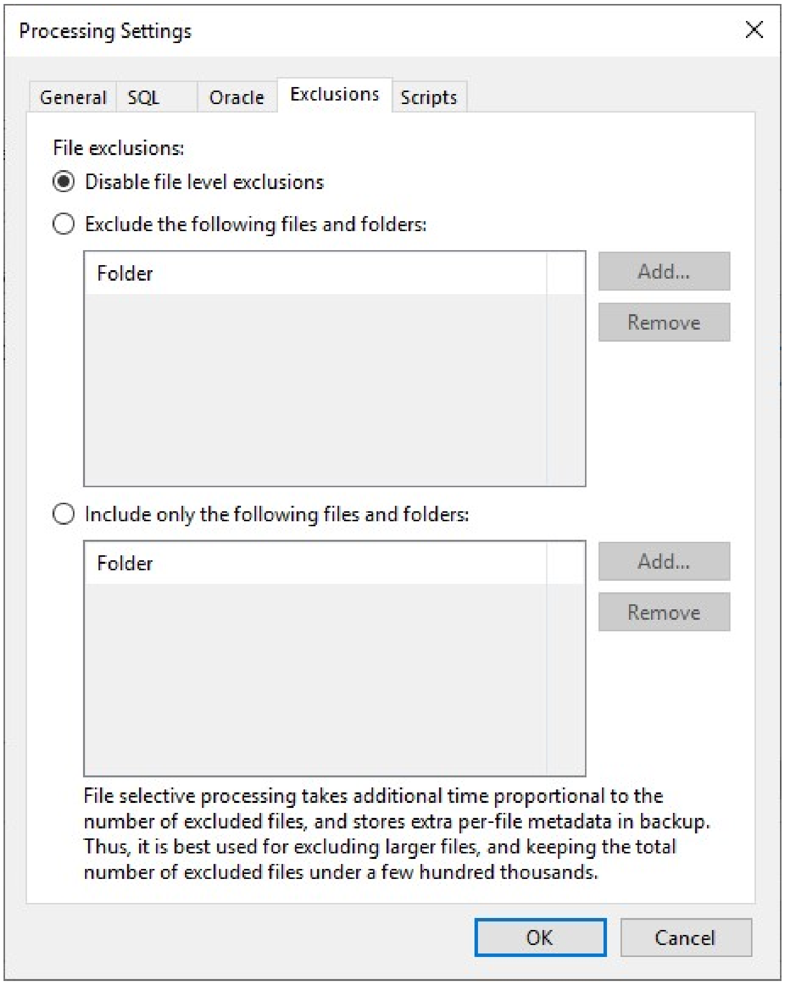
Transaction log backup job will automatically select the most suitable Windows server from all Managed Servers.

○ Use the specified servers only:

Transaction log backup job will automatically select the most suitable server from all the following server.

Name
□ HPHV01
□ HPHV01
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

75. On the Processing Settings page, click Exclusions and keep the default settings.



Processing Settings

File exclusions:

● Disable file level exclusions

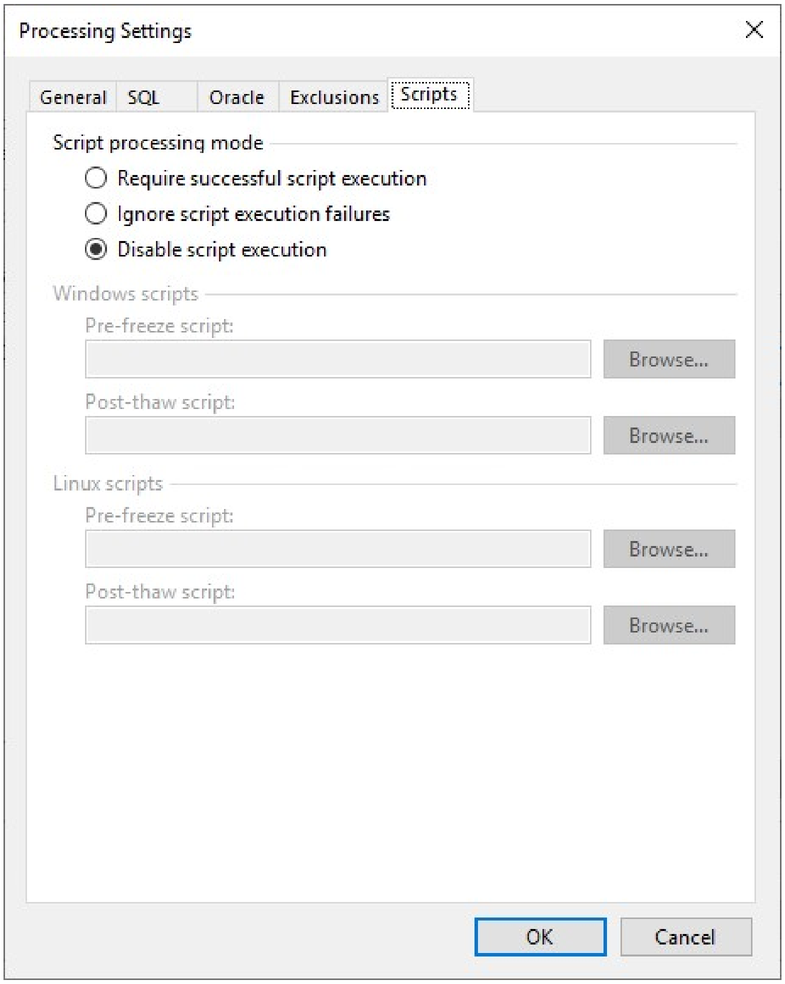
○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

76. On the Processing Settings page, click Scripts and keep the default settings.

77. Click OK.



Script processing mode

○ Require successful script execution

○ Ignore script execution failures

● Disable script execution

Windows scripts

Pre-freeze script:

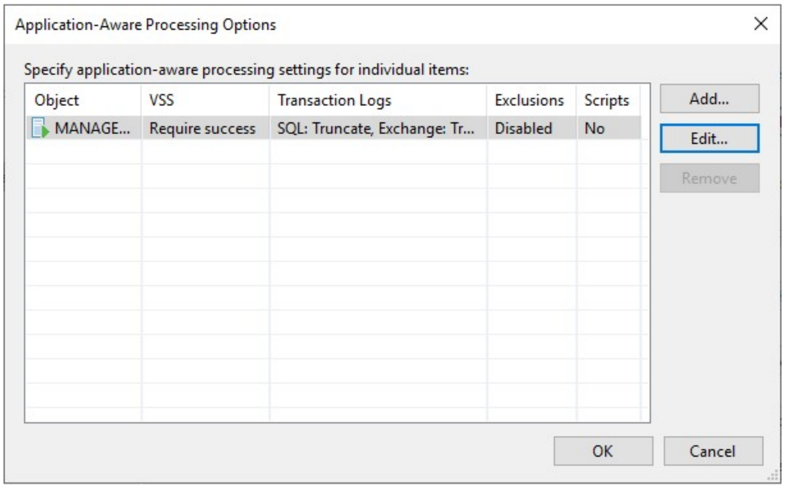
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

78. On the Application-Aware Processing Options page, click OK.

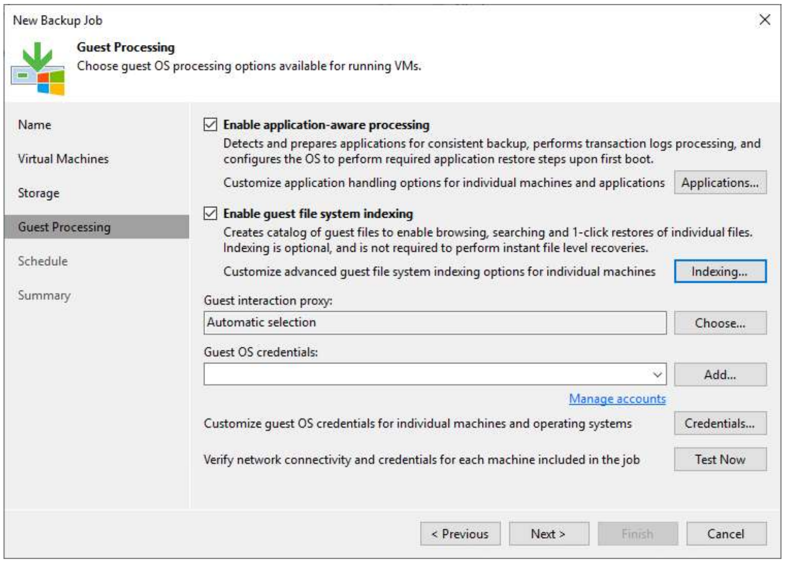


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
MANAGE...	Require success	SQL: Truncate, Exchange: Tr...	Disabled	No

79. Select the Enable guest file system indexing checkbox and click Indexing.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications [Applications...]

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines [Indexing...]

Guest interaction proxy: Automatic selection [Choose...]

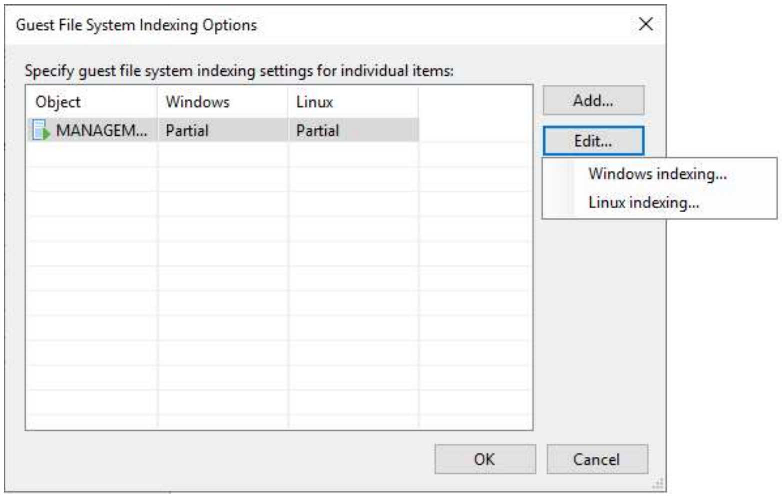
Guest OS credentials: [Add...]

Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

80. On the Guest File System Indexing Options page, select the VM, click Edit and select Windows indexing.



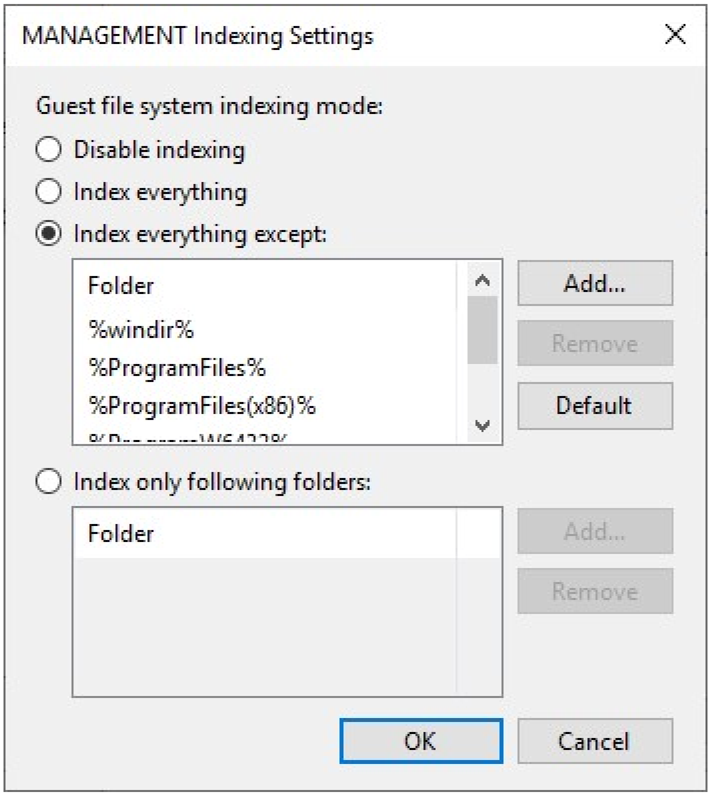
Guest File System Indexing Options

Specify guest file system indexing settings for individual items:

Object	Windows	Linux
MANAGEM...	Partial	Partial

81. On the Guest file system indexing mode page, keep the default settings.

82. Click OK.



MANAGEMENT Indexing Settings

Guest file system indexing mode:

○ Disable indexing

○ Index everything

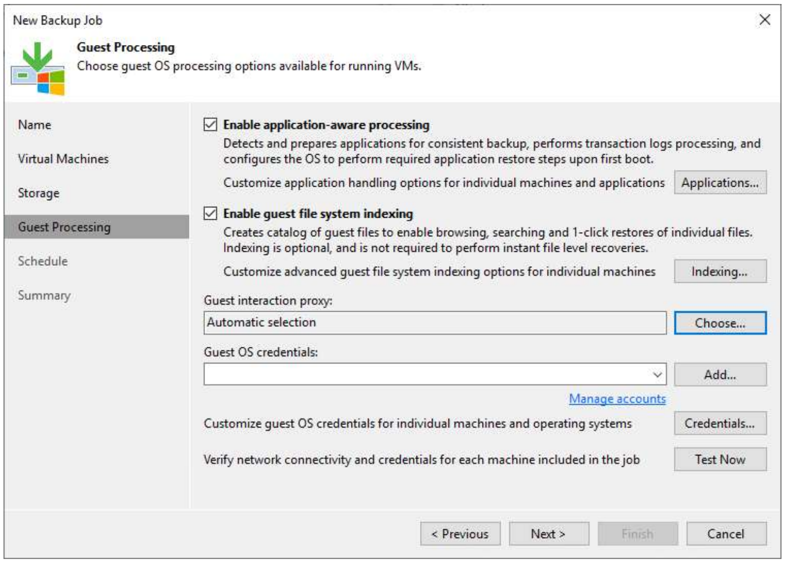
● Index everything except:

Folder
%windir%
%ProgramFiles%
%ProgramFiles(x86)%

○ Index only following folders:

Folder

83. Click Choose on the Guest interaction proxy field on the Guest Processing page.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

Guest OS credentials:

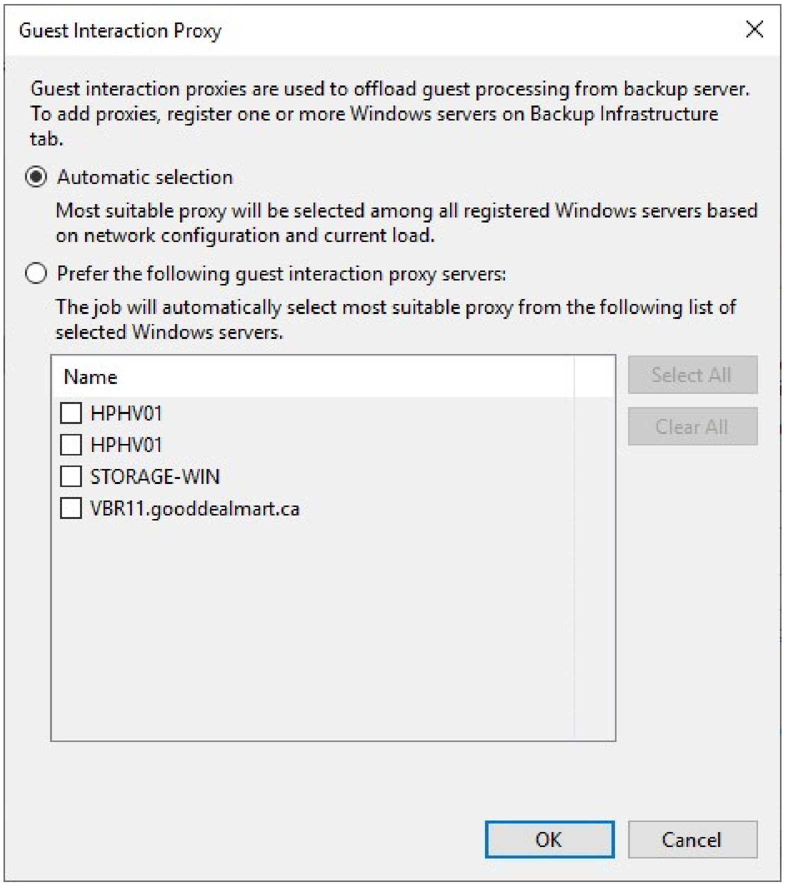
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

84. On the Guest Interaction Proxy page, select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.

85. Select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.

86. Click OK.



Guest Interaction Proxy

Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

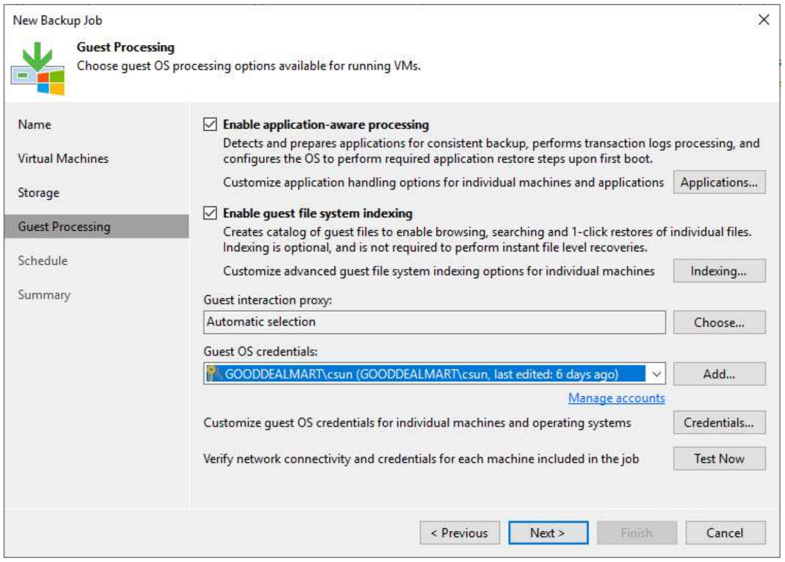
○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
□ HPHV01
□ HPHV01
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

87. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.

88. Click Credentials to Customize guest OS credentials for individual machines and operation systems.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

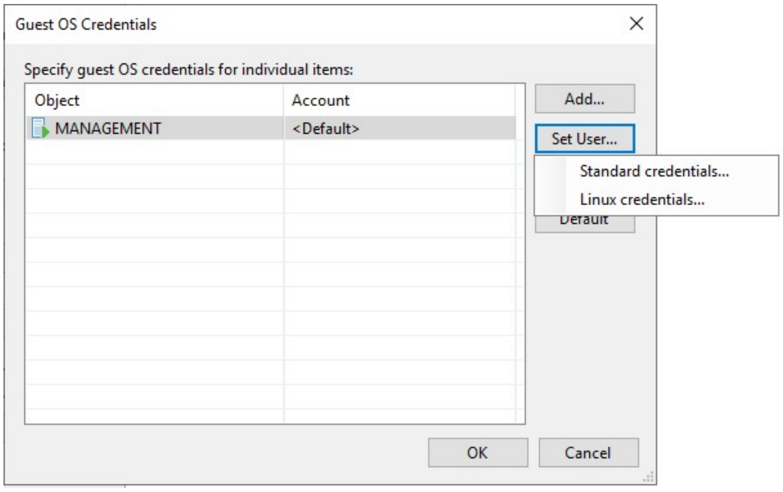
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 6 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

89. On the Guest OS Credentials page, select the VM, and click Set User.

90. Select Standard credentials.



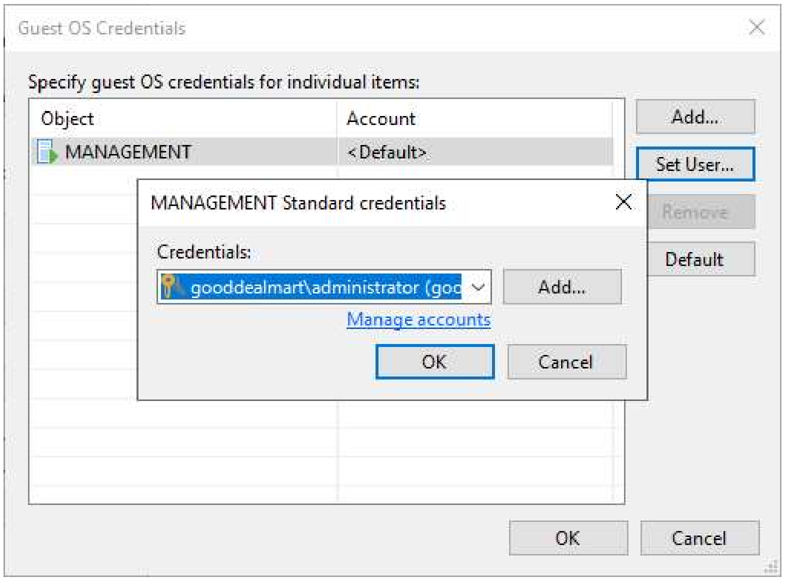
Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	<Default>

91. Choose a user from the Credentials drop-down list, and click OK.

92. Repeat the steps for each VM.



Guest OS Credentials

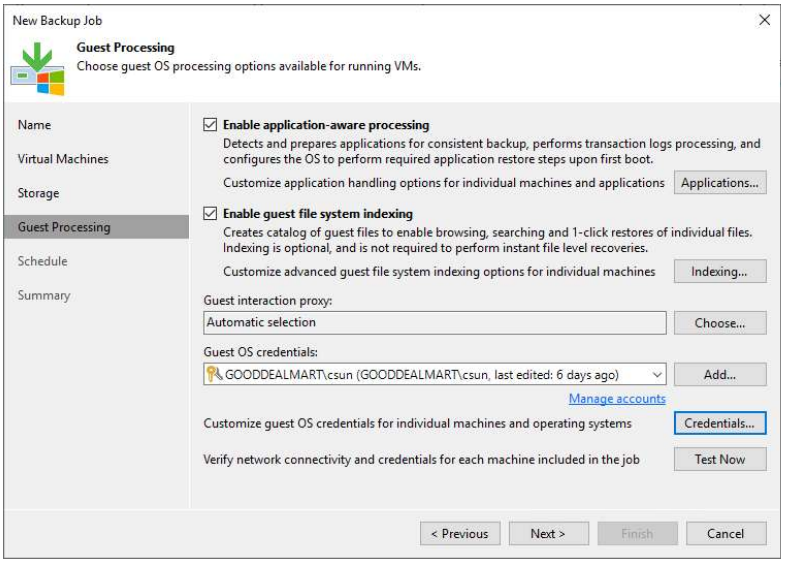
Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	<Default>

MANAGEMENT Standard credentials

Credentials: gooddealmart\administrator (goo

93. On the Guest Processing page, click Test Now to verify network connectivity and credentials for each machine included in the job.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ Enable application-aware processing

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☑ Enable guest file system indexing

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

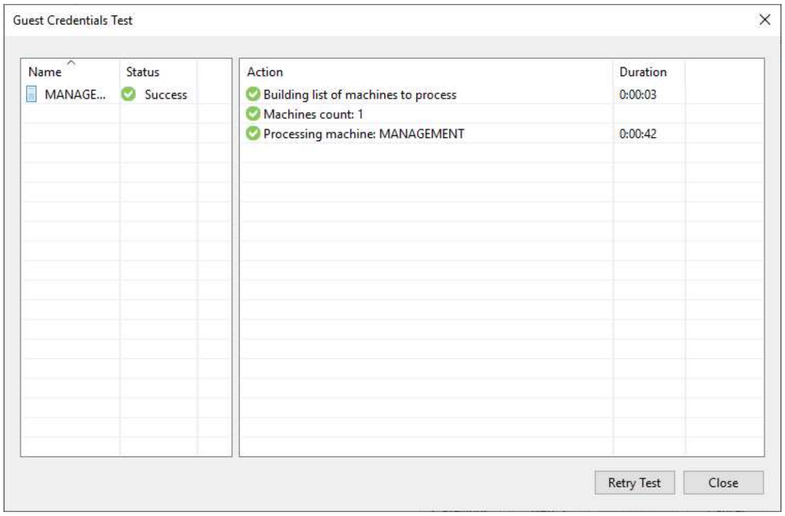
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 6 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

94. On the Guest Credentials Test page, verify each machine's success.

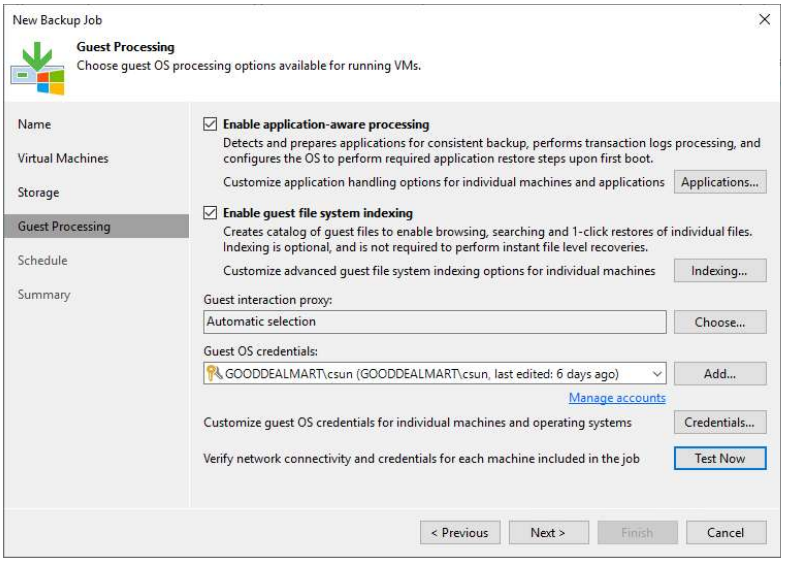
95. Click Close.



Name	Status
MANAGE...	✓ Success

Action	Duration
✓ Building list of machines to process	0:00:03
✓ Machines count: 1	
✓ Processing machine: MANAGEMENT	0:00:42

96. On the Guest Processing page, click Next.



Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

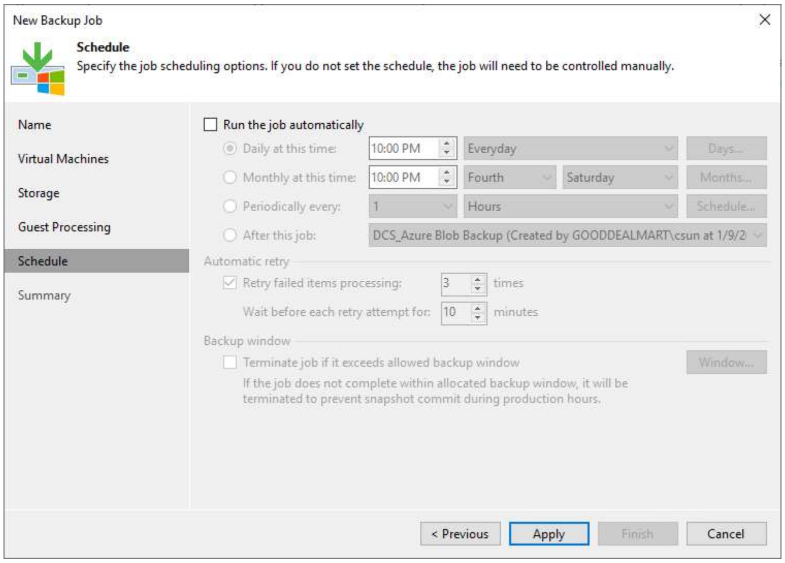
Guest interaction proxy:
Automatic selection

Guest OS credentials:
GOODDEALMART\csun (GOODDEALMART\csun, last edited: 6 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

97. Select Run the job automatically on the Schedule page and select your specified schedule.



New Backup Job

Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

□ Run the job automatically

● Daily at this time: 10:00 PM Everyday Days...

○ Monthly at this time: 10:00 PM Fourth Saturday Months...

○ Periodically every: 1 Hours Schedule...

○ After this job: DCS_Azure Blob Backup (Created by GOODDEALMART\csun at 1/9/2

Automatic retry

☑ Retry failed items processing: 3 times

Wait before each retry attempt for: 10 minutes

Backup window

□ Terminate job if it exceeds allowed backup window

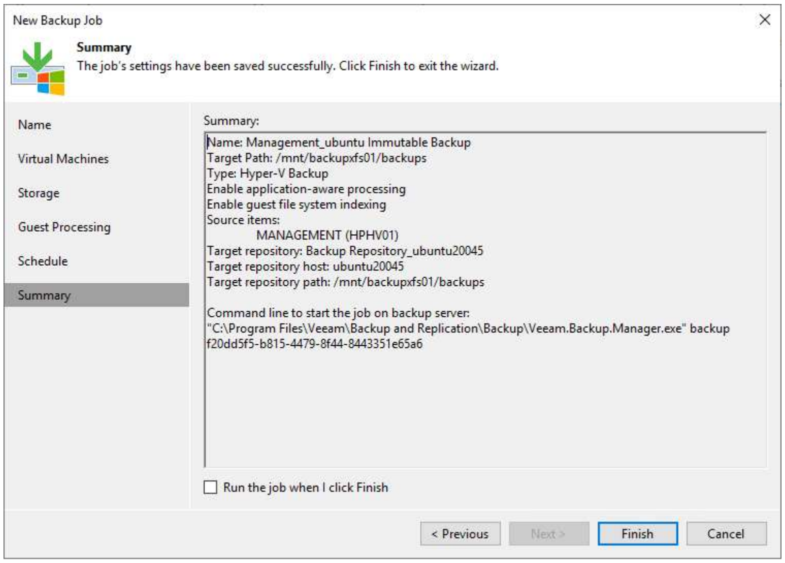
If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

98. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

99. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

100. Click Apply.

101. On the Summary page, click Finish.



Summary

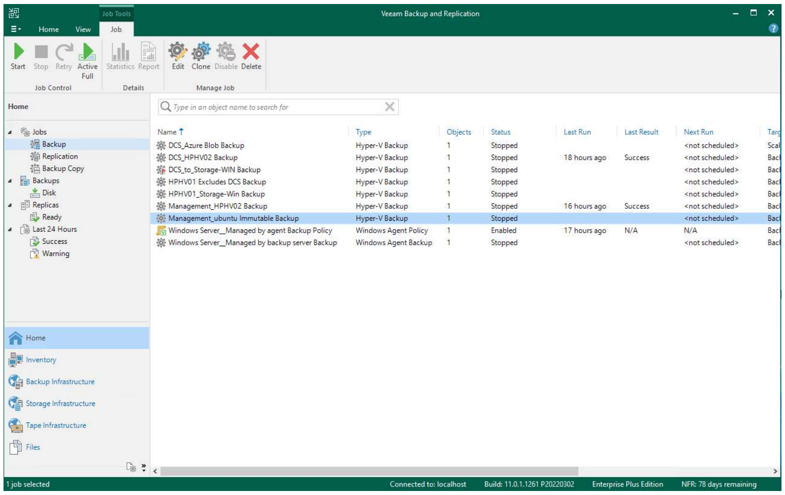
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: Management_ubuntu Immutable Backup
Target Path: /mnt/backupxfs01/backups
Type: Hyper-V Backup
Enable application-aware processing
Enable guest file system indexing
Source items:
        MANAGEMENT (HPHV01)
Target repository: Backup Repository_ubuntu20045
Target repository host: ubuntu20045
Target repository path: /mnt/backupxfs01/backups

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
f20dd5f5-b815-4479-8f44-8443351e65a6
```

☐ Run the job when I click Finish

102. Verify the backup job has been added

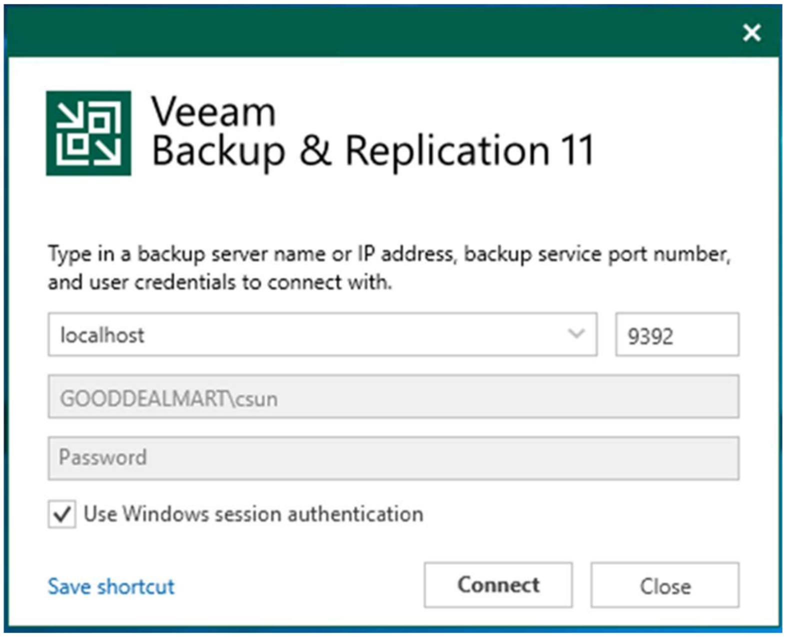


Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Targ
DCS_Azure Blob Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Scal
DCS_HPHV02 Backup	Hyper-V Backup	1	Stopped	18 hours ago	Success	<not scheduled>	Bac
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Bac
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Bac
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Bac
Management_HPHV02 Backup	Hyper-V Backup	1	Stopped	16 hours ago	Success	<not scheduled>	Bac
Management_ubuntu Immutable Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Bac
Windows Server__Managed by agent Backup Policy	Windows Agent Policy	1	Enabled	17 hours ago	N/A	N/A	Bac
Windows Server__Managed by backup server Backup	Windows Agent Backup	1	Stopped			<not scheduled>	Bac

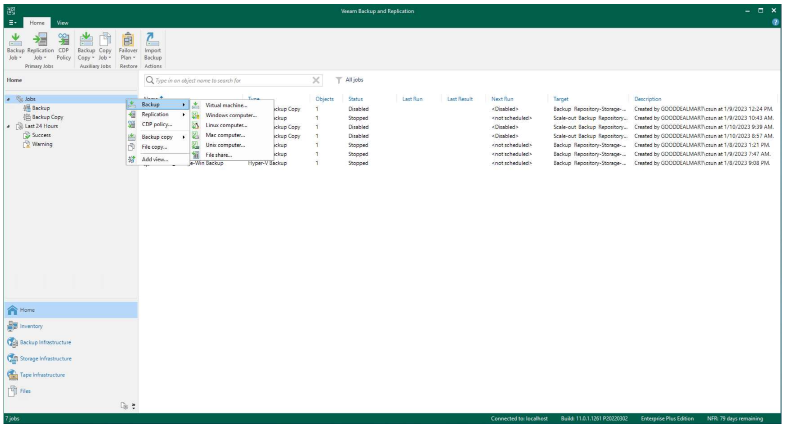
1 job selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 78 days remaining

Creating a Backup job to backup the specified Physical Machines (Managed by Backup Server Mode)

This procedure uses the managed backup server mode to create a backup job to back up the specific physical production machines.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Jobs, right-click Jobs, select Backup and click Windows computer.



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
	ckup Copy	1	Disabled			<Disabled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2023 12:24 PM.
	ckup	1	Stopped			<not scheduled>	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/9/2023 10:43 AM.
	ckup Copy	1	Disabled			<Disabled>	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/10/2023 9:39 AM.
	ckup Copy	1	Disabled			<Disabled>	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/10/2023 8:57 AM.
	ckup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 1:21 PM.
	ckup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2023 7:47 AM.
e-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 9:08 PM.

7 jobs   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 79 days remaining

4. Select the type of protected machines and Job on the Job Mode page and click Next.

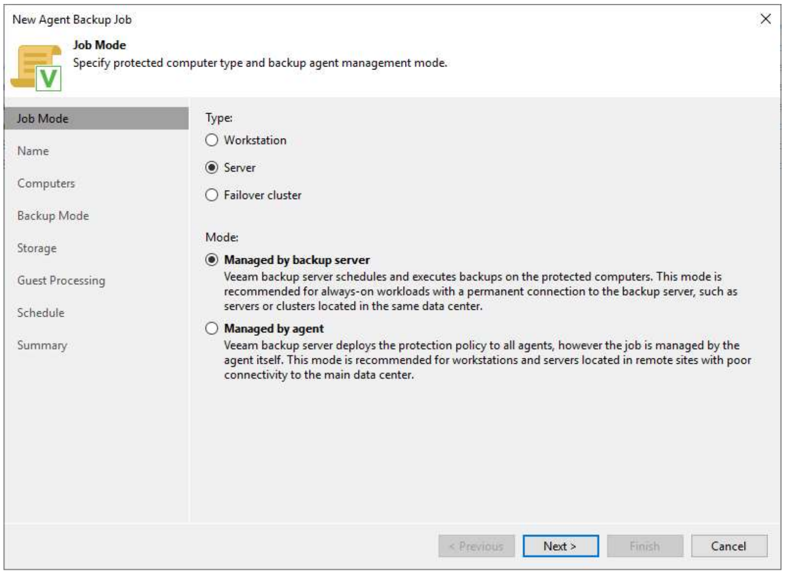
5. Select the Workstation type to back up data about workstations or laptops.

6. Select the Server type if you want to back up data on standalone servers.

7. Select the Failover cluster type if you want to back up data on a failover cluster.

8. Two modes can be chosen if you select the Server type.

9. Select the Managed by backup server mode.

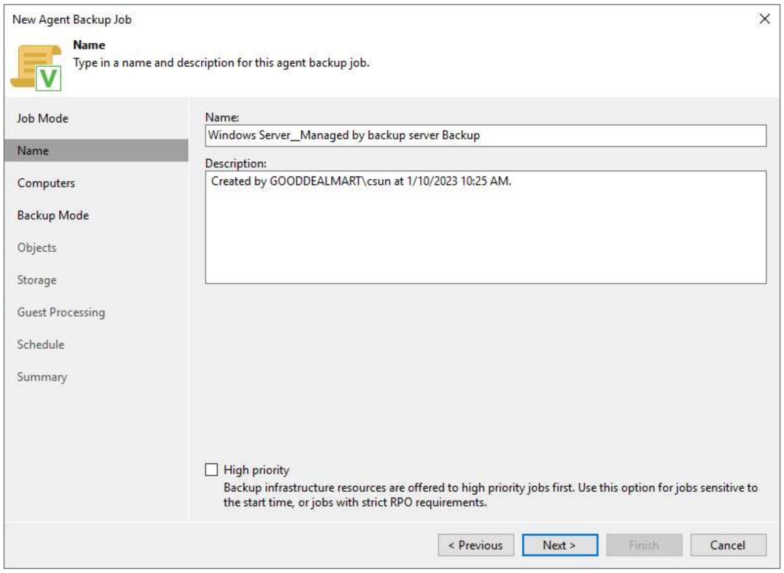


Job Mode
Specify protected computer type and backup agent management mode.

Type:
○ Workstation
● Server
○ Failover cluster

Mode:
● **Managed by backup server**
Veeam backup server schedules and executes backups on the protected computers. This mode is recommended for always-on workloads with a permanent connection to the backup server, such as servers or clusters located in the same data center.
○ **Managed by agent**
Veeam backup server deploys the protection policy to all agents, however the job is managed by the agent itself. This mode is recommended for workstations and servers located in remote sites with poor connectivity to the main data center.

10. On the Name page, enter a name in the Name field.
11. Describe the Description field.
12. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.
13. Click Next.


New Agent Backup Job

Name

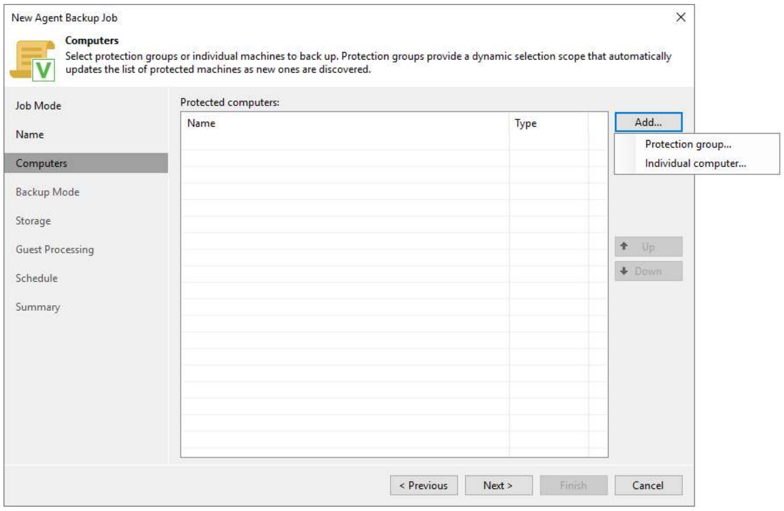
Type in a name and description for this agent backup job.

Name:
Windows Server_Managed by backup server Backup

Description:
Created by GOODDEALMART\csun at 1/10/2023 10:25 AM.

☐ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

14. On the Computers page, click Add and select Protection group.


New Agent Backup Job

Computers

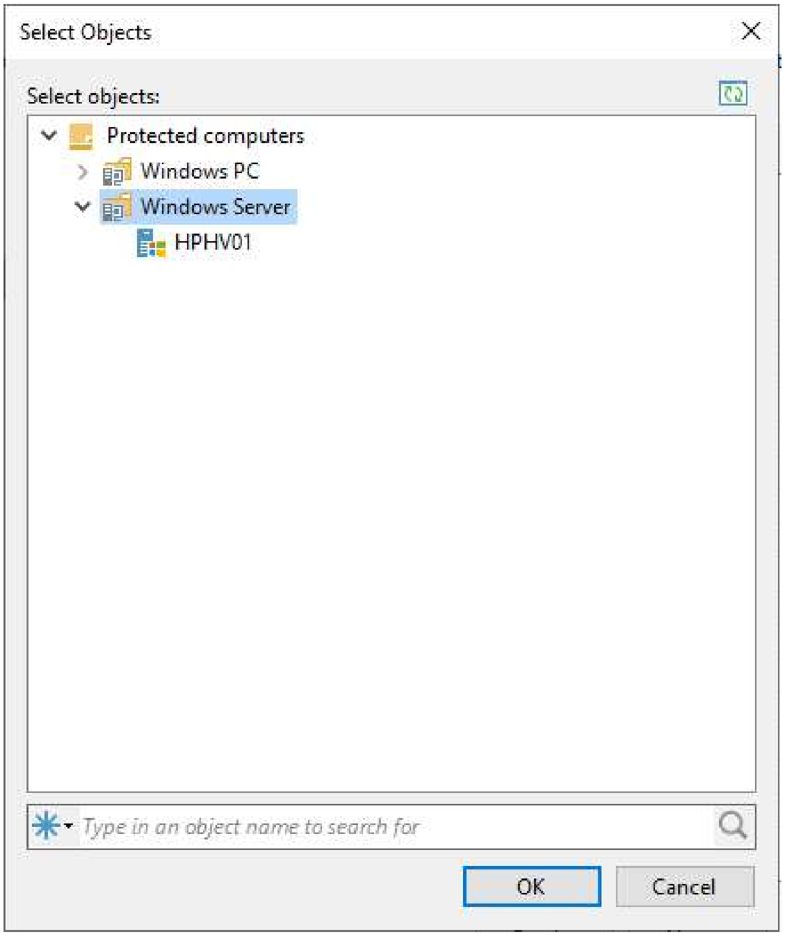
Select protection groups or individual machines to back up. Protection groups provide a dynamic selection scope that automatically updates the list of protected machines as new ones are discovered.

Protected computers:

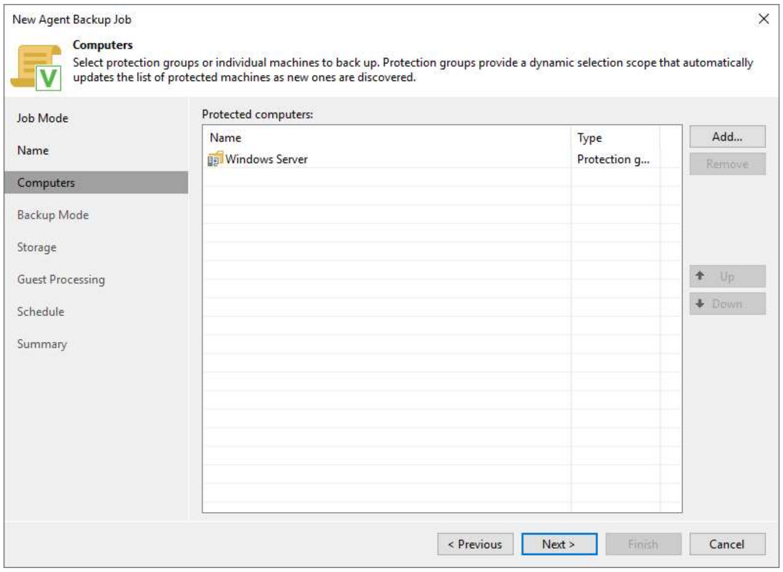
Name	Type

15. Select the protection group in the list on the Select Objects page and click OK.

16. If you have multiple protection groups that need backup in the same backup job, you can repeat the step to add them.



17. On the Computers page, click Next.



New Agent Backup Job

Computers

Select protection groups or individual machines to back up. Protection groups provide a dynamic selection scope that automatically updates the list of protected machines as new ones are discovered.

Protected computers:

Name	Type
Windows Server	Protection g...

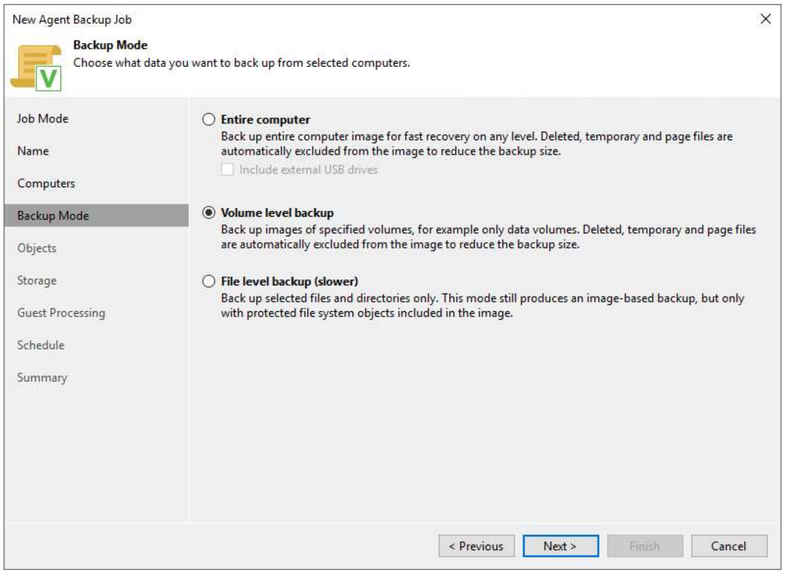
18. On the Backup Mode page, there are three backup modes.

19. Select the Entire computer backup mode if you want to back up the entire image. Select Include external USB drives if required.

20. Select Volume level backup mode for specific computer volumes.

21. Select File-level backup (slower) mode for individual folders on your computer.

22. Click Next.



New Agent Backup Job

Backup Mode

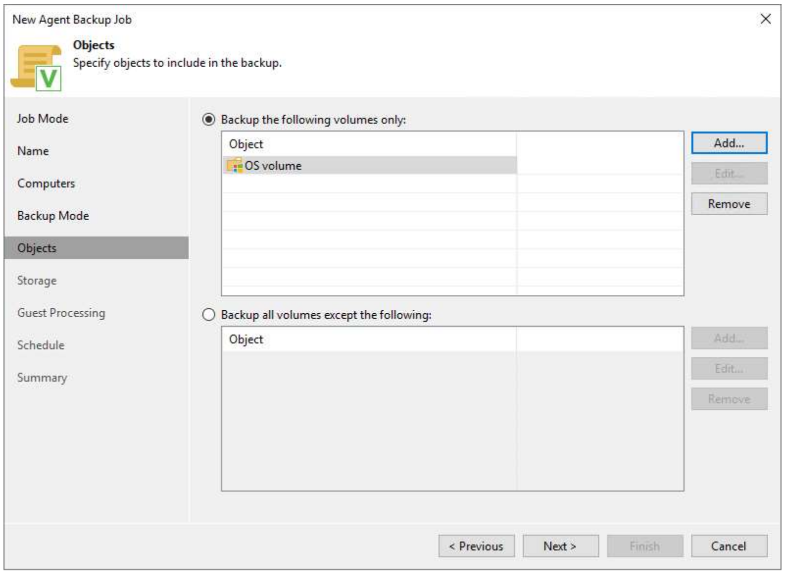
Choose what data you want to back up from selected computers.

○ **Entire computer**
Back up entire computer image for fast recovery on any level. Deleted, temporary and page files are automatically excluded from the image to reduce the backup size.
□ Include external USB drives

● **Volume level backup**
Back up images of specified volumes, for example only data volumes. Deleted, temporary and page files are automatically excluded from the image to reduce the backup size.

○ **File level backup (slower)**
Back up selected files and directories only. This mode still produces an image-based backup, but only with protected file system objects included in the image.

23. On the Objects page, select Backup the following volumes only.
24. Click Add to specify the backup scope and click Next.
25. Select the Backup all volumes except the following, and click Add to exclude objects you do not need from the backup scope.
26. Click Next.



New Agent Backup Job

Objects

Specify objects to include in the backup.

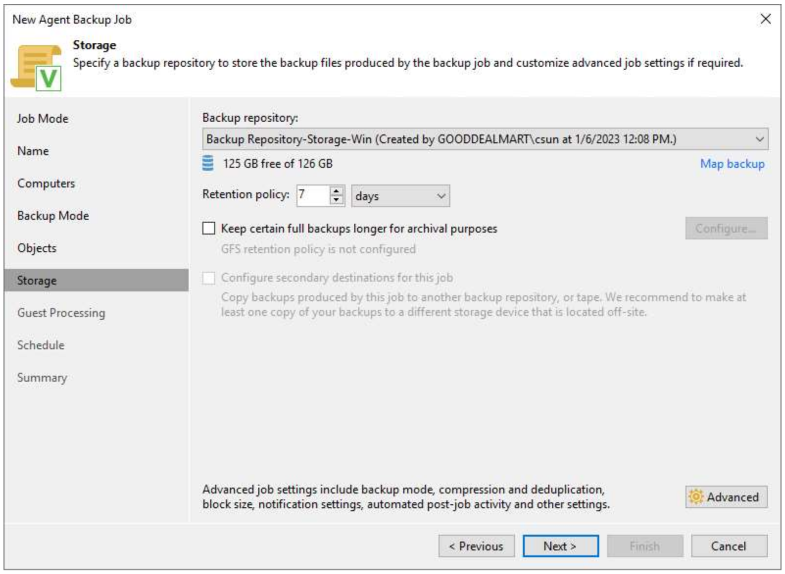
● Backup the following volumes only:

Object
OS volume

○ Backup all volumes except the following:

Object

27. Select the backup repository from the Backup repository drop-down list on the Storage page.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository:
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

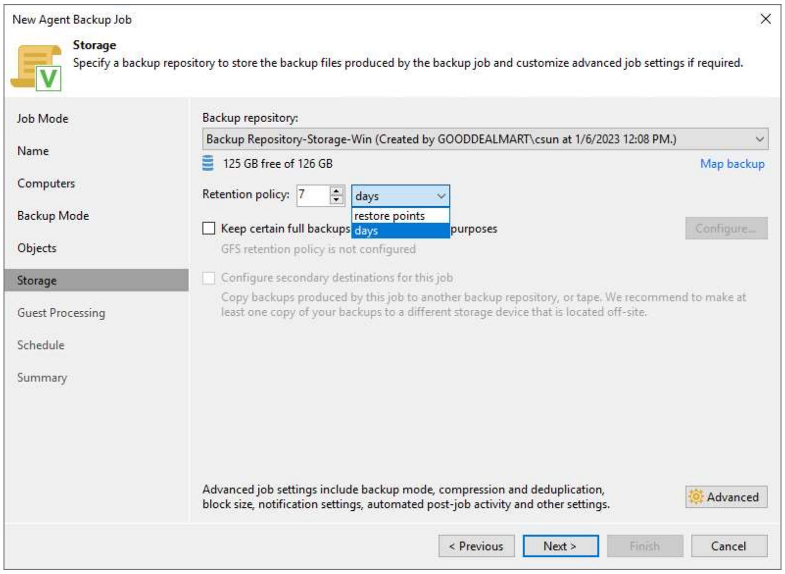
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

28. Set the retention policy settings for restore points in the Retention Policy field.

29. Select days or restore points from the drop-down list.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

restore points
days

□ Keep certain full backups [...] purposes

GFS retention policy is not configured

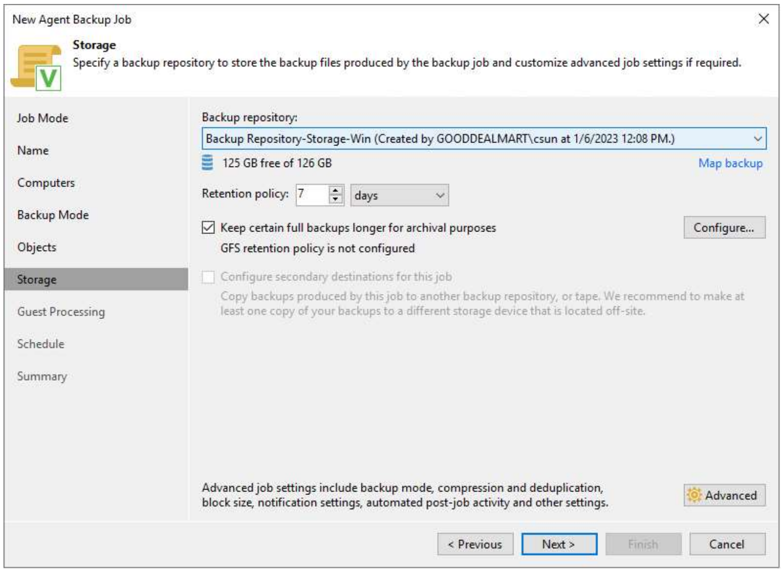
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

30. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.

31. Select the Keep certain full backups for longer for archival purposes. If you need it, click Configure.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

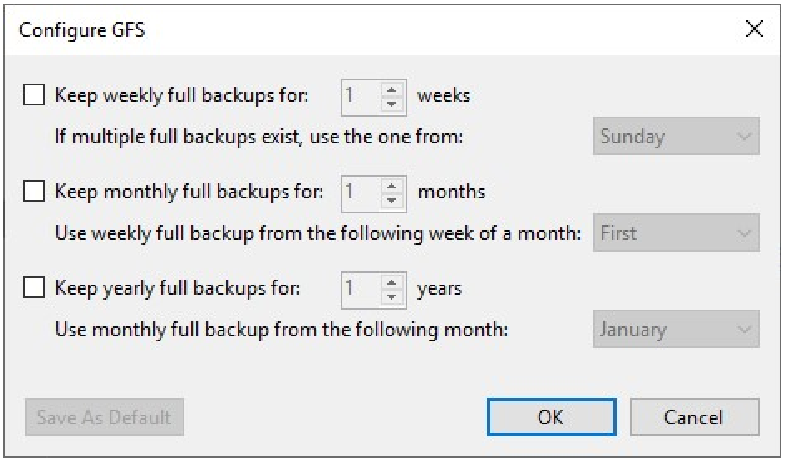
☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.



Configure GFS

□ Keep weekly full backups for: 1 weeks

If multiple full backups exist, use the one from: Sunday

□ Keep monthly full backups for: 1 months

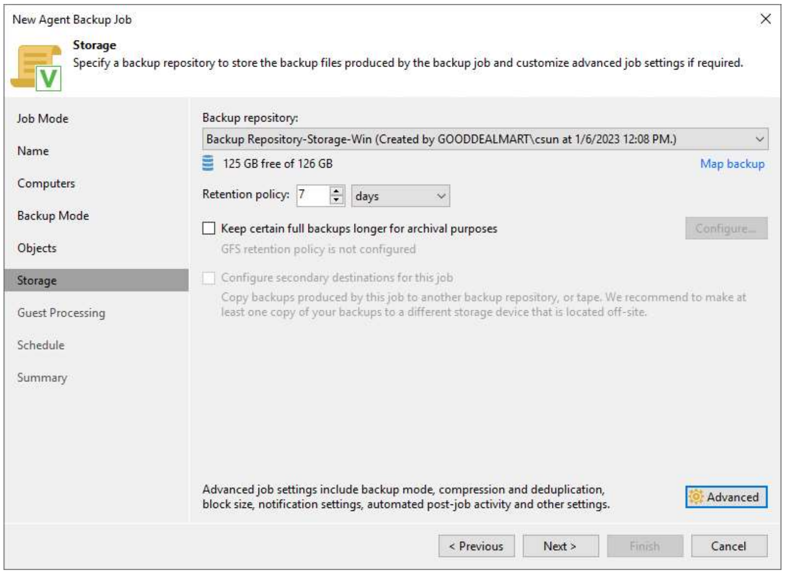
Use weekly full backup from the following week of a month: First

□ Keep yearly full backups for: 1 years

Use monthly full backup from the following month: January

32. Select the Keep weekly full backups for check box, and specify the number of weeks you want to prevent restore points from being modified and deleted.
33. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.
34. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore points from being modified and deleted.
35. Click OK.

36. On the Storage page, click Advanced.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

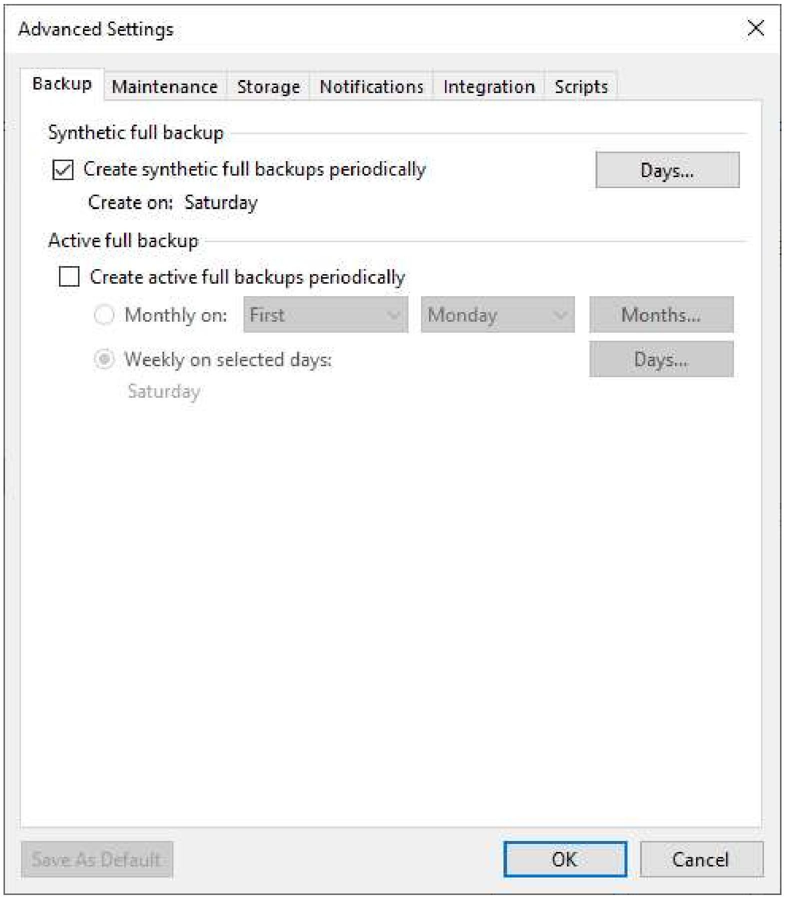
☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

37. Select Create synthetic full backups periodically checkbox to create full synthetic backups periodically.

38. Select the Create active full backups periodically checkbox if you want to create active full backups regularly.



Synthetic full backup

☑ Create synthetic full backups periodically

Create on: Saturday

Active full backup

□ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:

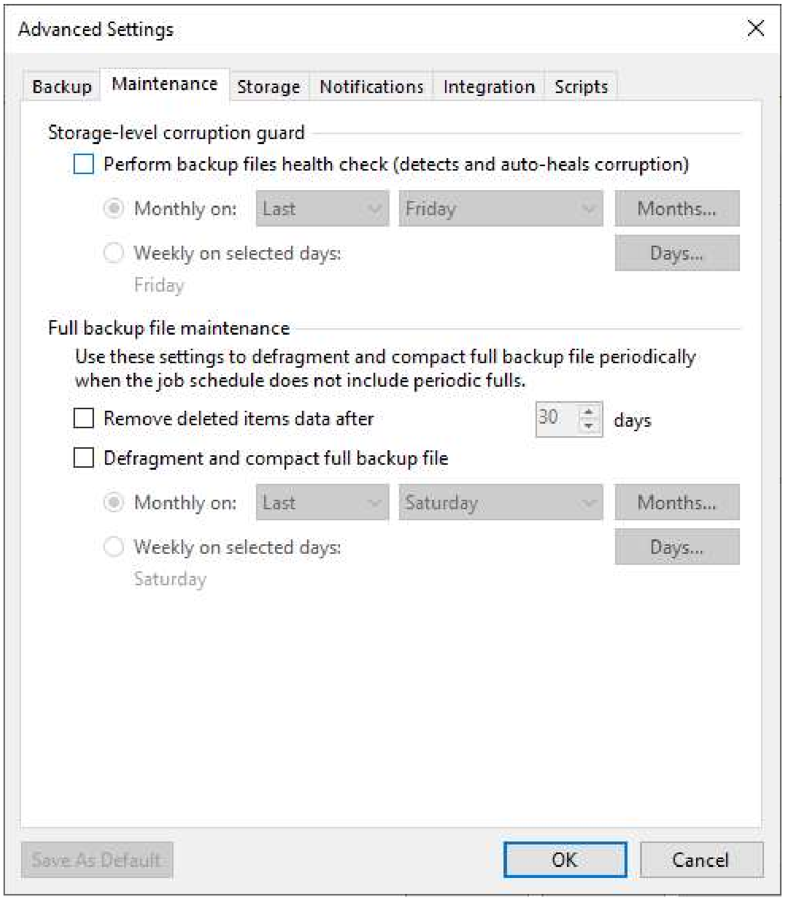
Saturday

39. On the Advanced Settings, select Maintenance.

40. To regularly perform a health check in the backup chain, select the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard and specify a schedule for the health check.

41. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept if required.

42. Select the Defragment and compact full backup file check box and specify the schedule for the compact operation to compact a full backup if required periodically.



Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days:
Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 30 days

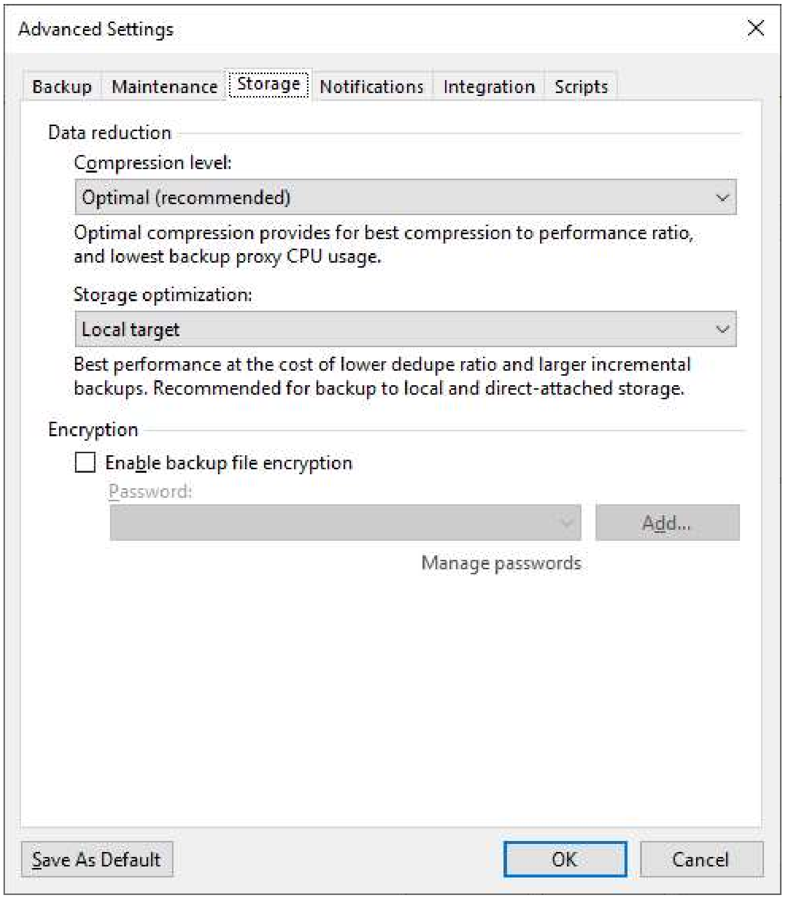
□ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days:
Saturday

43. On the Storage page, click OK.

44. Select the compression level for the backup from the drop-down list.



Advanced Settings

Data reduction

Compression level:

Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

Local target

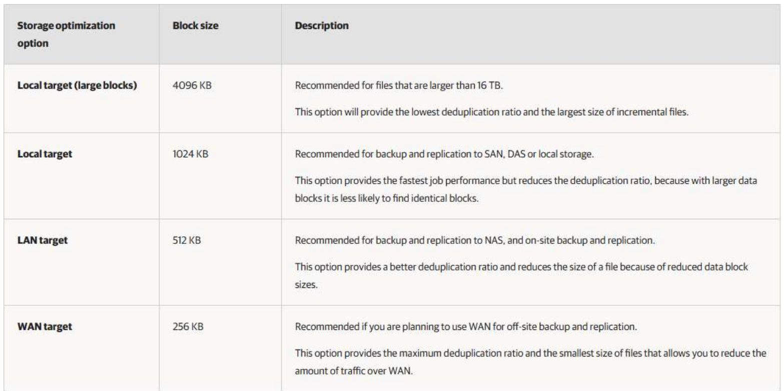
Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

☐ Enable backup file encryption

Password:

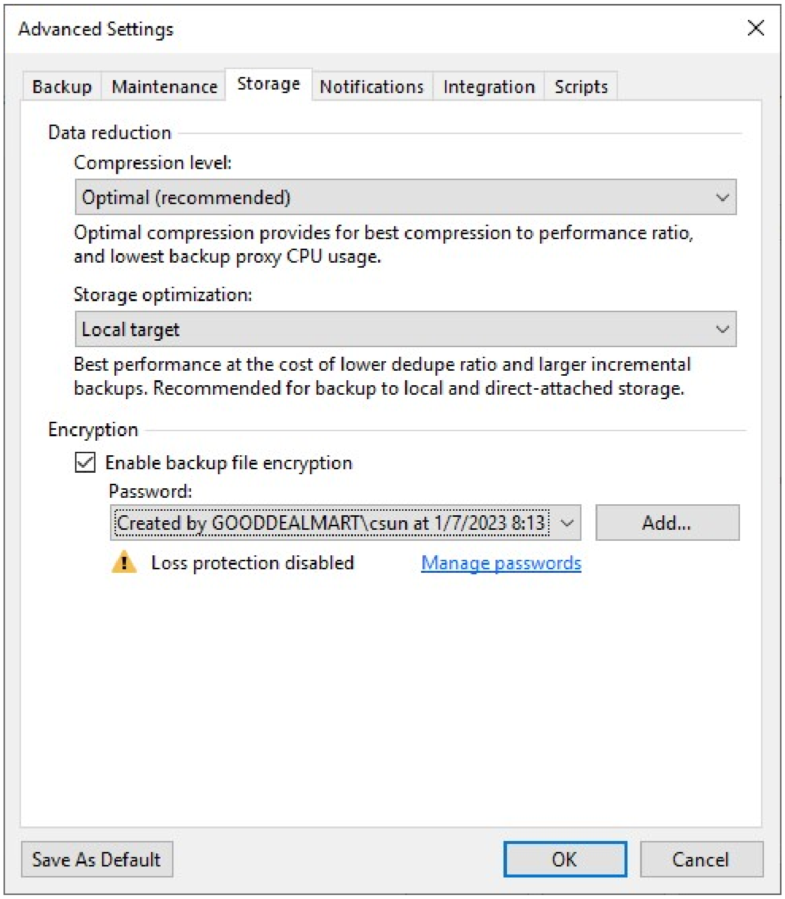
45. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

46. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

47. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Data reduction

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

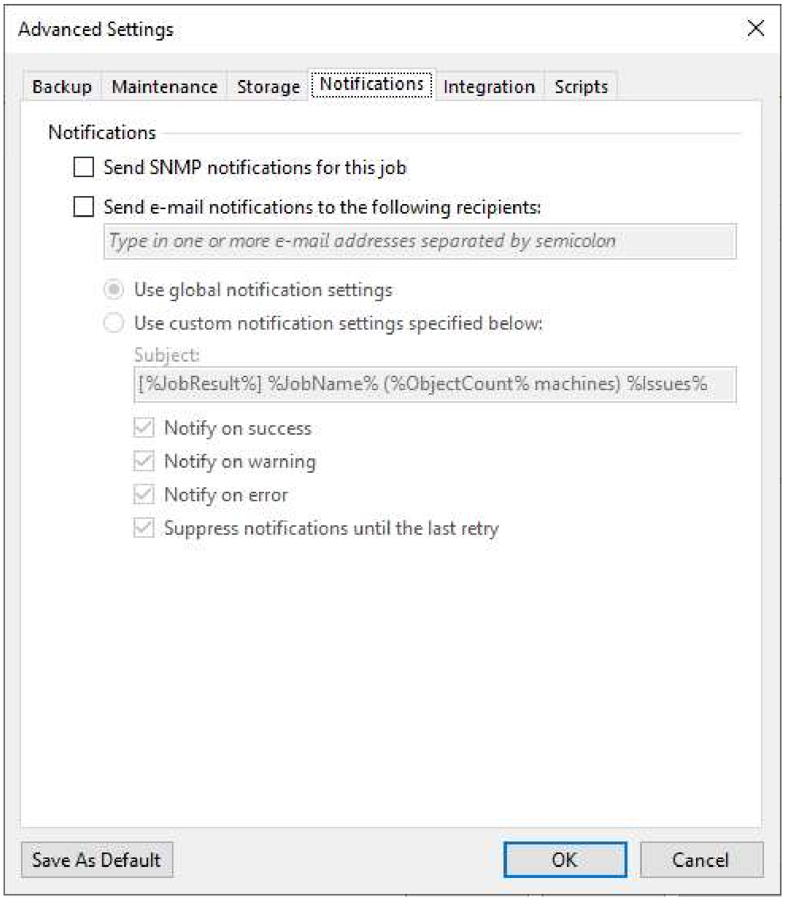
☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:13

⚠ Loss protection disabled

48. On the Advanced Settings, select Notifications.

49. Keep the default settings.



Advanced Settings

Notifications

□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

☑ Notify on success

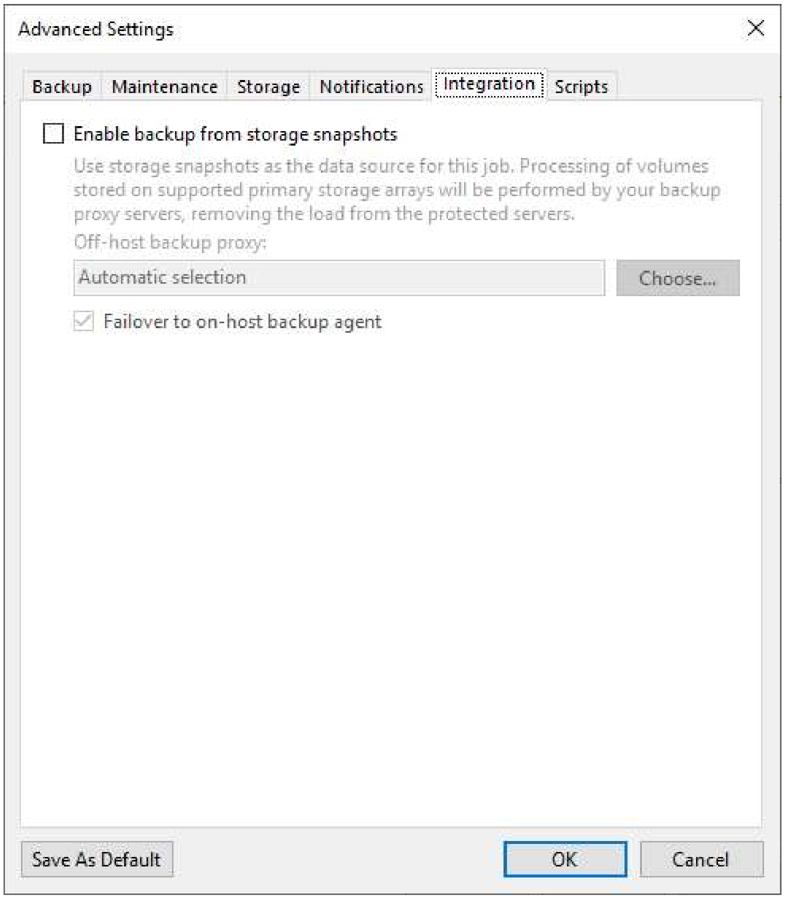
☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

50. On the Advanced Settings, select Integration.

51. Select the Enable backup from storage snapshots checkbox on the Integration page if required.



□ Enable backup from storage snapshots

Use storage snapshots as the data source for this job. Processing of volumes stored on supported primary storage arrays will be performed by your backup proxy servers, removing the load from the protected servers.

Off-host backup proxy: Automatic selection

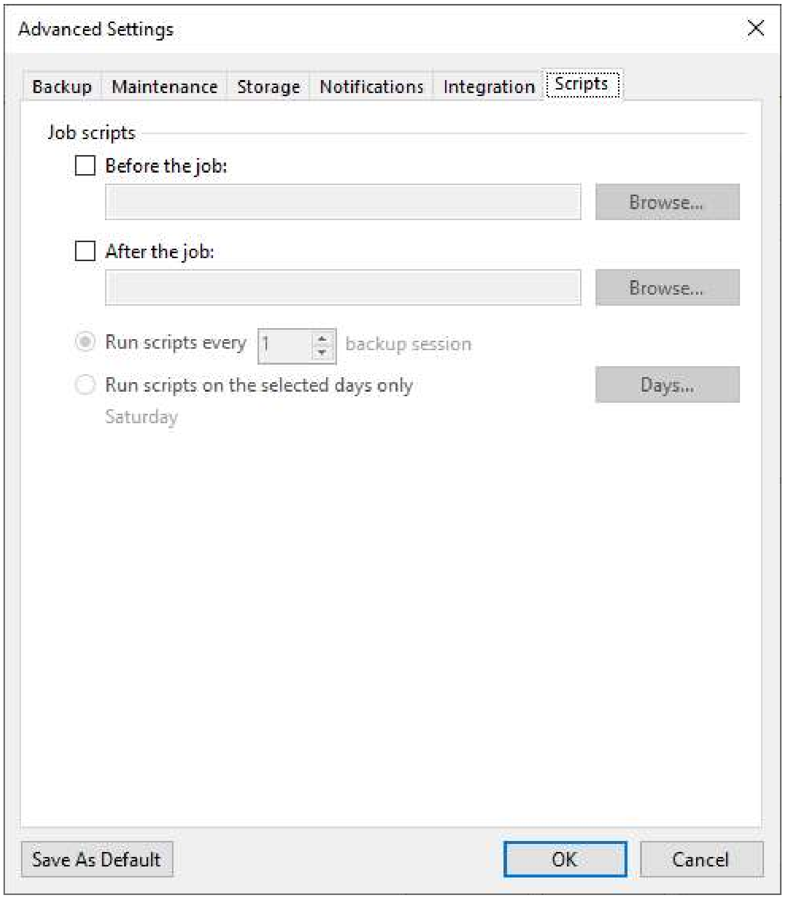
☑ Failover to on-host backup agent

52. On the Advanced Settings page, click Scripts.

53. Select the Before the job check box if required.

54. Select the After the job check box if required.

55. Click OK.



Job scripts

□ Before the job:

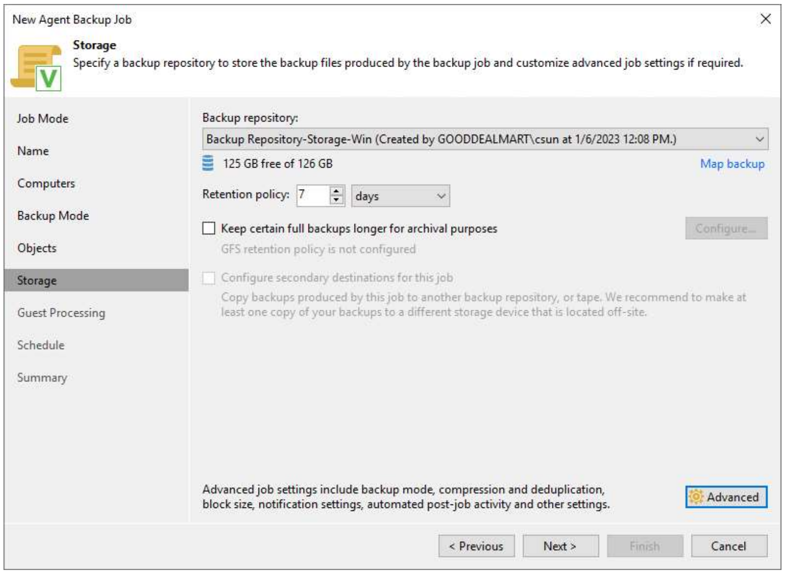
□ After the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

56. On the Storage page, click Next.



New Agent Backup Job

Storage
Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

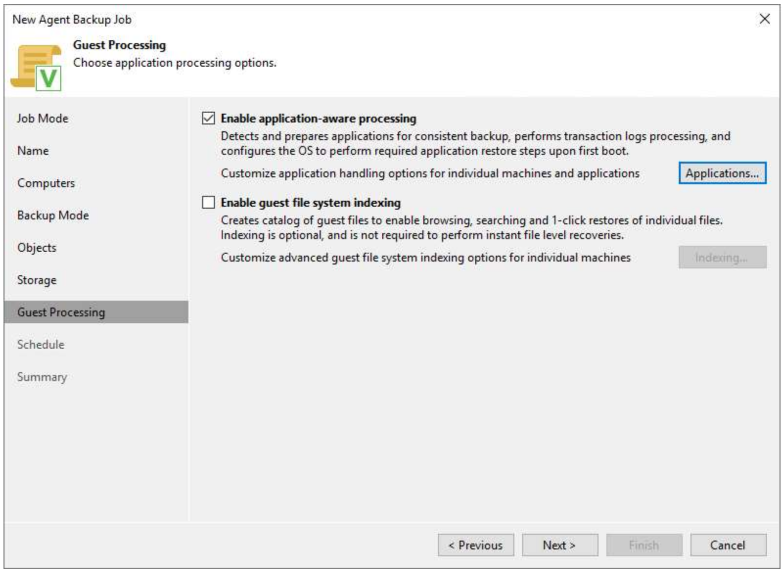
GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

57. When you add Physical machines running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that applications on VMs can be recovered without data loss.



New Agent Backup Job

Guest Processing
Choose application processing options.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

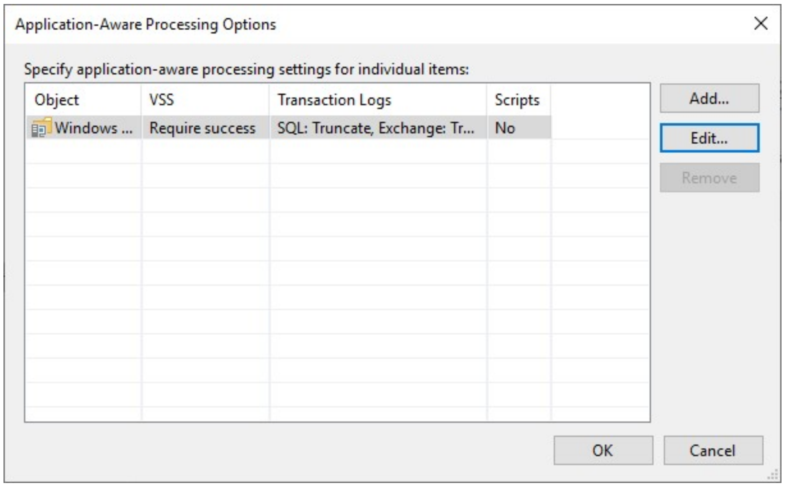
□ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

58. Select the Enable application-aware processing check box on the Guest Processing page and click Applications.

59. On the Application-Aware Processing Options page, select the Object, and click Edit.

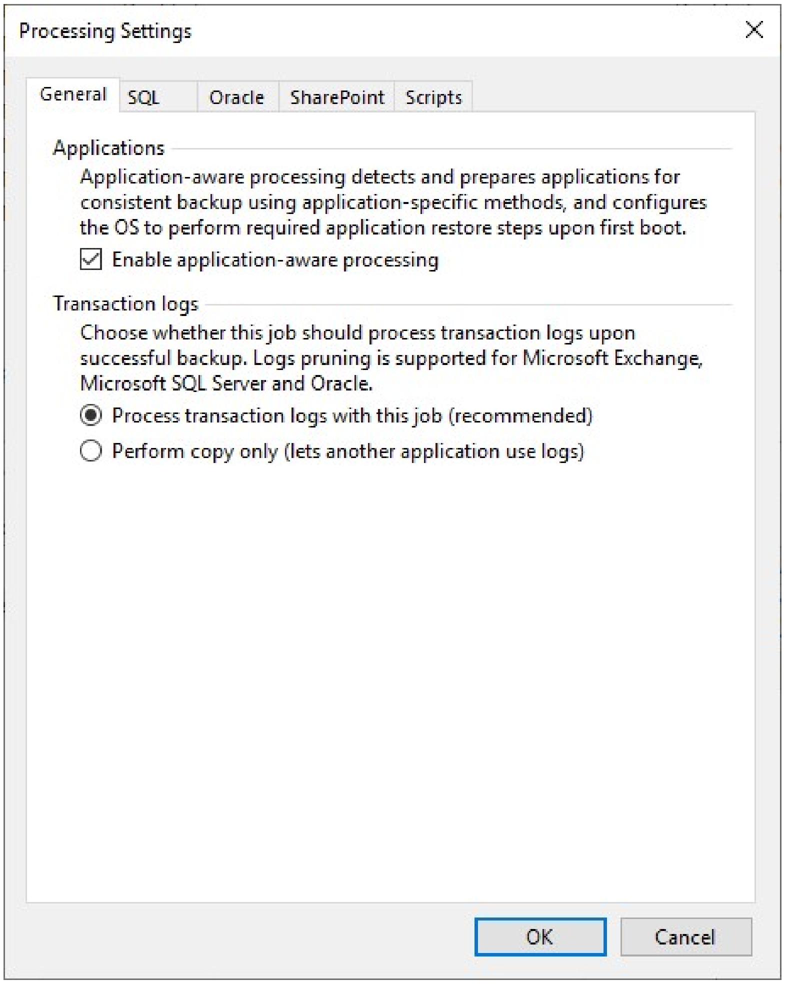


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Scripts
Windows ...	Require success	SQL: Truncate, Exchange: Tr...	No

60. On the Processing Settings, click General.
61. Make sure that the Enable application-aware processing checkbox is selected.
62. Select Process transaction logs with this job (recommend).
63. Select Perform copy only to let another application use logs.



Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

☑ Enable application-aware processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

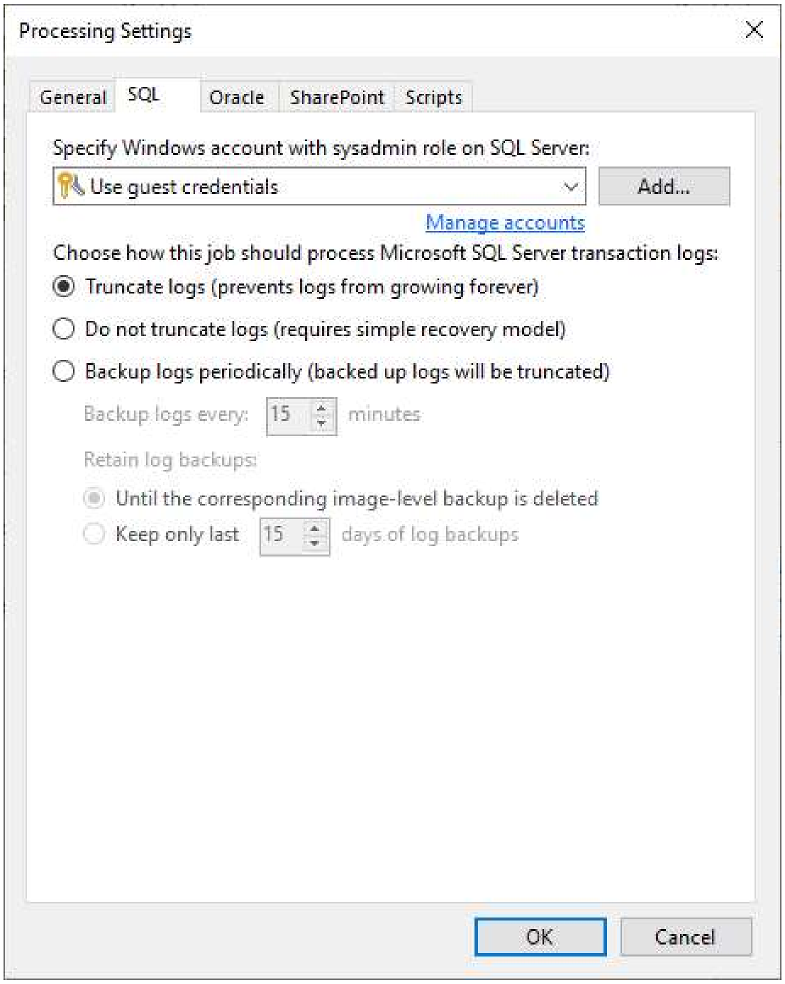
● Process transaction logs with this job (recommended)

○ Perform copy only (lets another application use logs)

64. On the Processing Settings page, click SQL if the Physical Machine is a Microsoft SQL Server.

65. Select from the Specify Microsoft SQL Server account with database admin privileges list a user account with access permissions on the database.

66. Select Truncate logs (Prevents logs from growing forever) to truncate transaction logs after a successful backup.


Processing Settings

Specify Windows account with sysadmin role on SQL Server:

Use guest credentials

Choose how this job should process Microsoft SQL Server transaction logs:

● Truncate logs (prevents logs from growing forever)

○ Do not truncate logs (requires simple recovery model)

○ Backup logs periodically (backed up logs will be truncated)

Backup logs every: 15 minutes

Retain log backups:

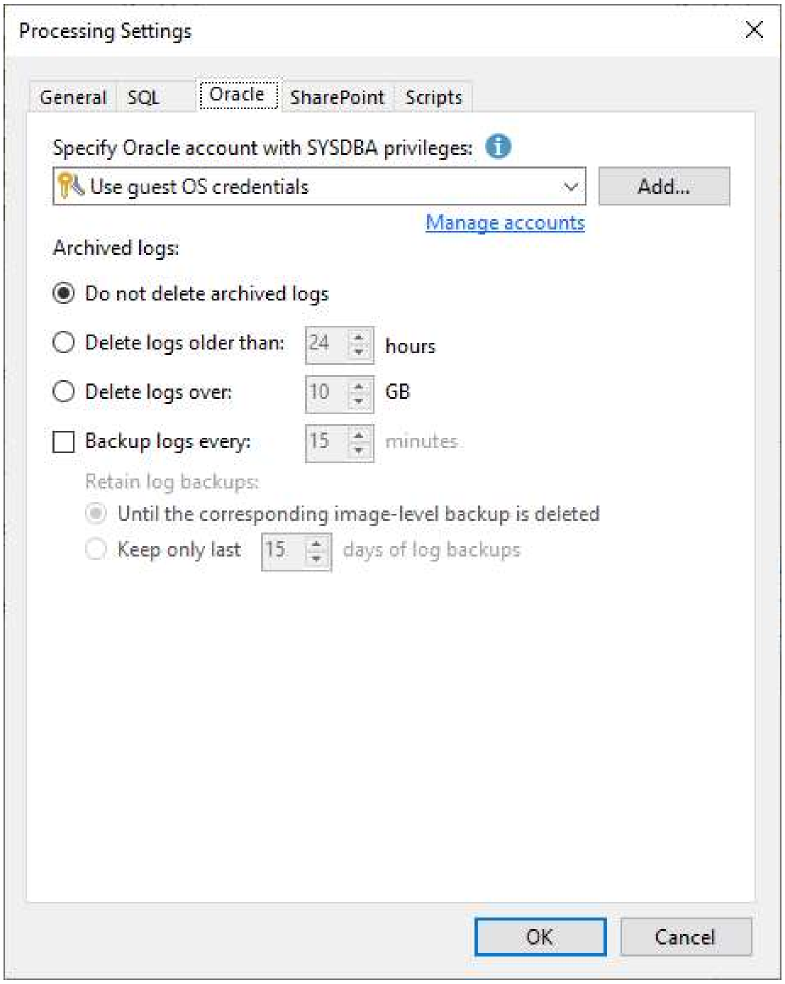
● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

67. Click Oracle on the Processing Settings page if the Physical Machine is an Oracle Server.

68. Select a user account from the drop-down list.

69. Select Do not delete archived logs if you need Veeam Backup & Replication to preserve archived logs on the VM guest OS.



Processing Settings

General | SQL | Oracle | SharePoint | Scripts

Specify Oracle account with SYSDBA privileges:

Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

□ Backup logs every: 15 minutes

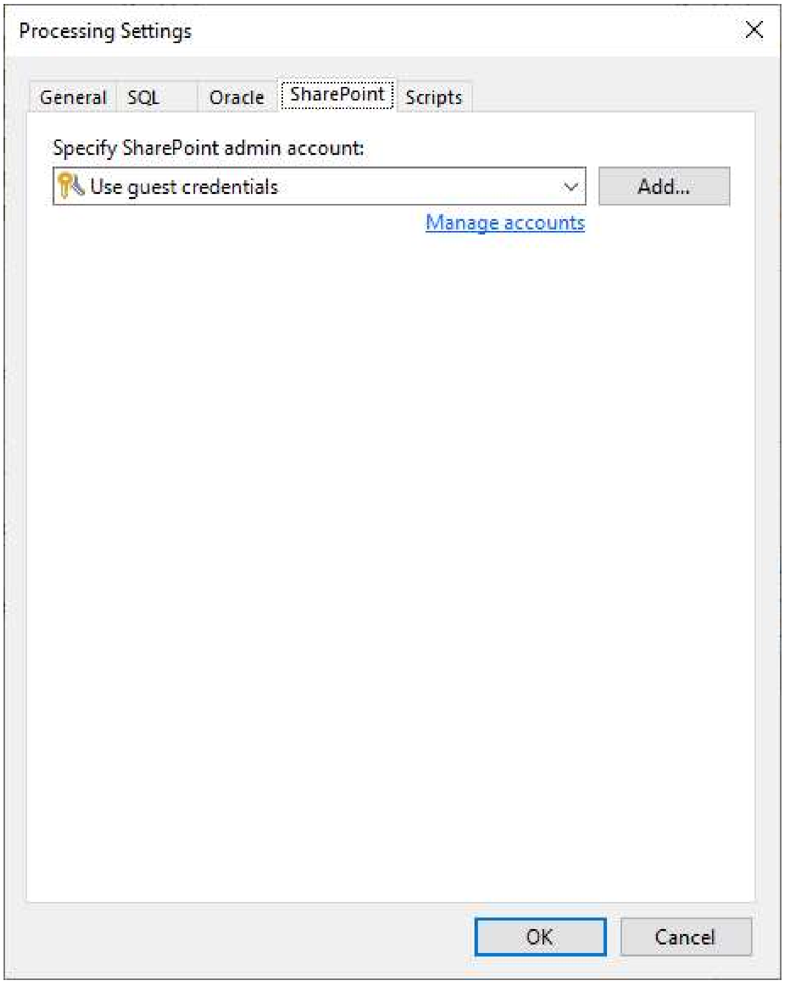
Retain log backups:

● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

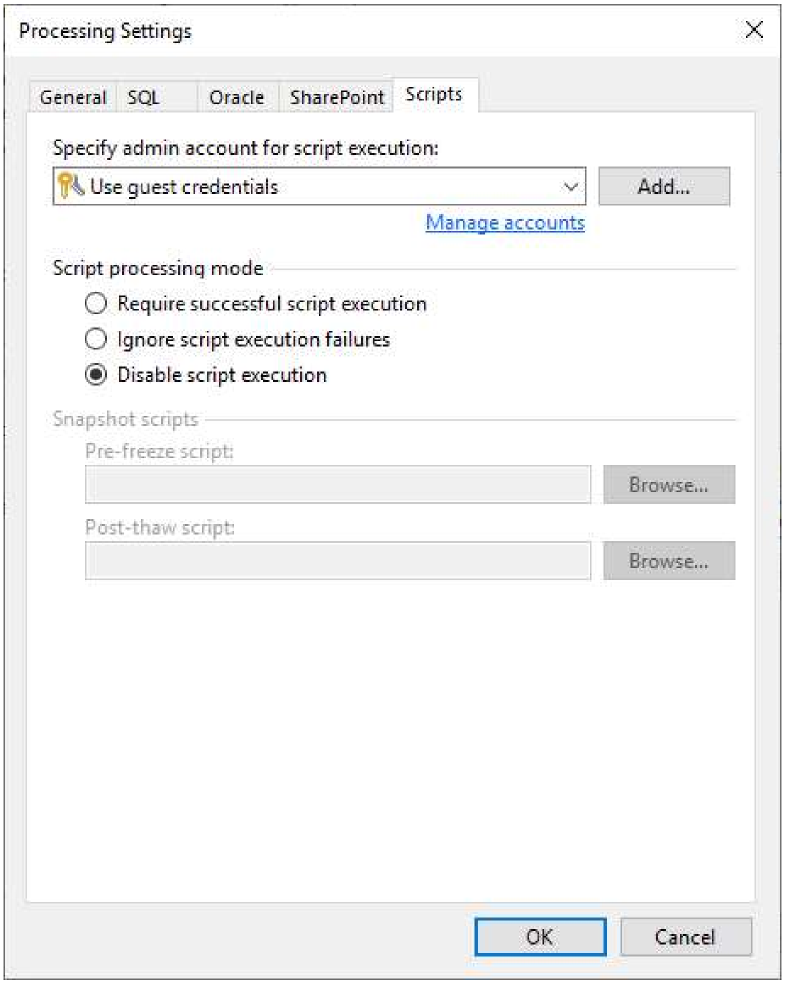
70. On the Processing Settings page, click SharePoint if the Physical Machine is a SharePoint Server.

71. Select a user account from the drop-down list.



Specify SharePoint admin account: Use guest credentials

72. ON the Processing Settings page, click Scripts.
73. In the Specify admin account for script execution section, specify a user account.
74. Select Disable script execution.
75. Select Require successful script execution if required.
76. Select Ignore script execution failures if required.
77. Click OK.



Processing Settings

Specify admin account for script execution:

Use guest credentials

Script processing mode

○ Require successful script execution

○ Ignore script execution failures

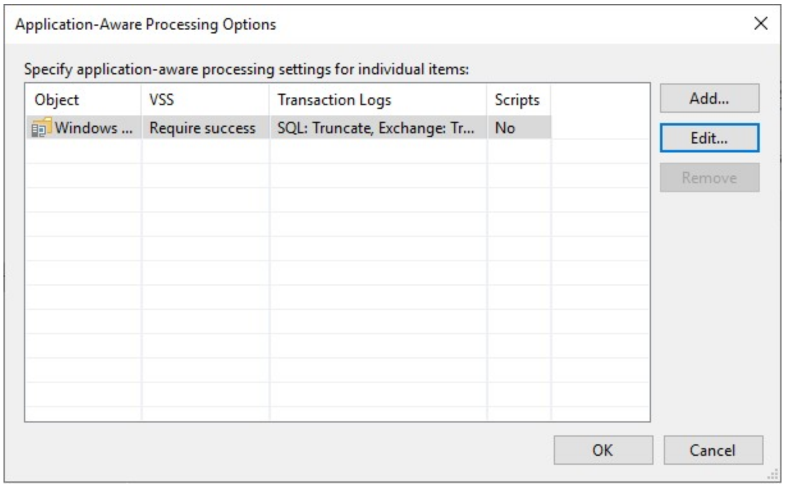
● Disable script execution

Snapshot scripts

Pre-freeze script:

Post-thaw script:

78. On the Application-Aware Processing Options page, click OK.

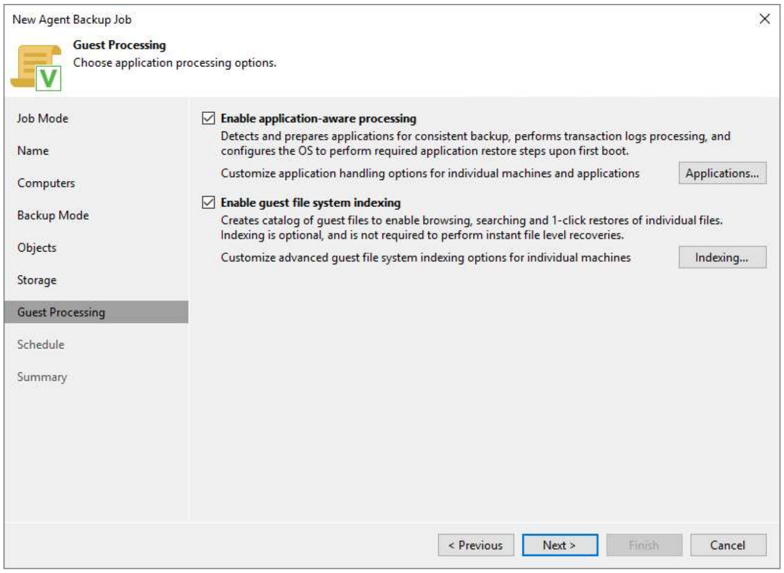


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Scripts
Windows ...	Require success	SQL: Truncate, Exchange: Tr...	No

79. Select the Enable guest file system indexing checkbox and click Indexing.



New Agent Backup Job

Guest Processing

Choose application processing options.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

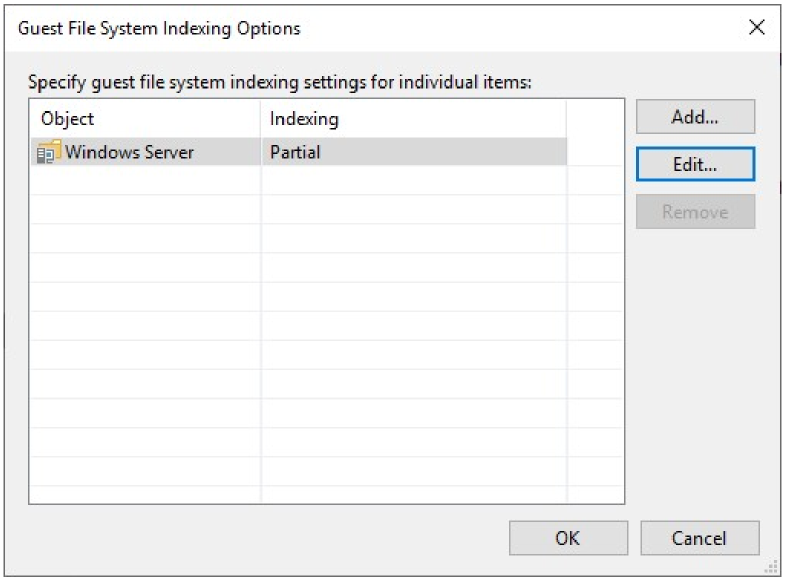
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

80. On the Guest File System Indexing Options page, select the Object, click Edit and.



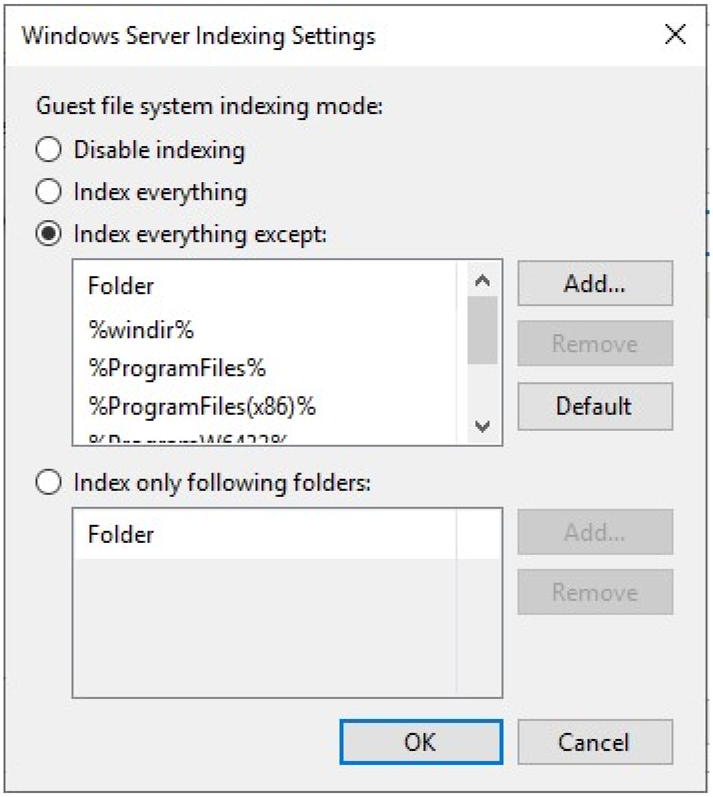
Guest File System Indexing Options

Specify guest file system indexing settings for individual items:

Object	Indexing
Windows Server	Partial

81. On the Guest file system indexing mode page, keep the default settings.

82. Click OK.



Windows Server Indexing Settings

Guest file system indexing mode:

○ Disable indexing

○ Index everything

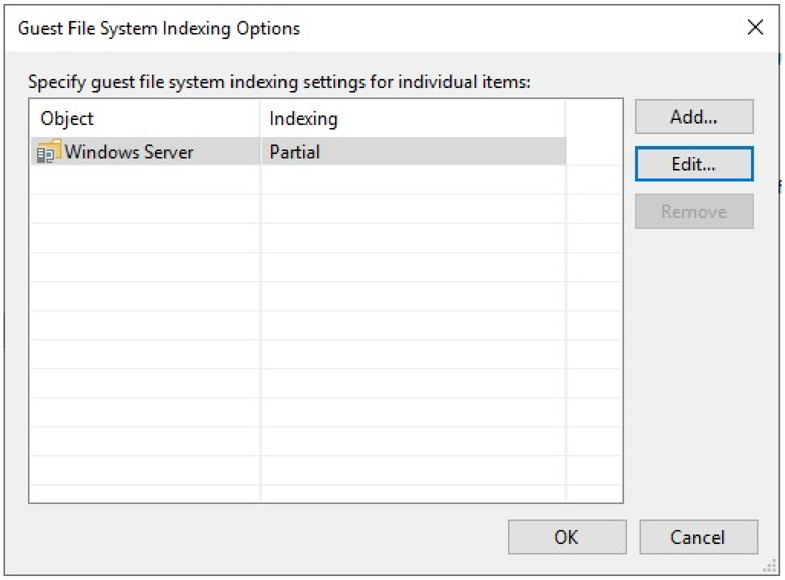
● Index everything except:

Folder
%windir%
%ProgramFiles%
%ProgramFiles(x86)%
%ProgramW6432%

○ Index only following folders:

Folder

83. On the Guest File System Indexing Options page, click OK.

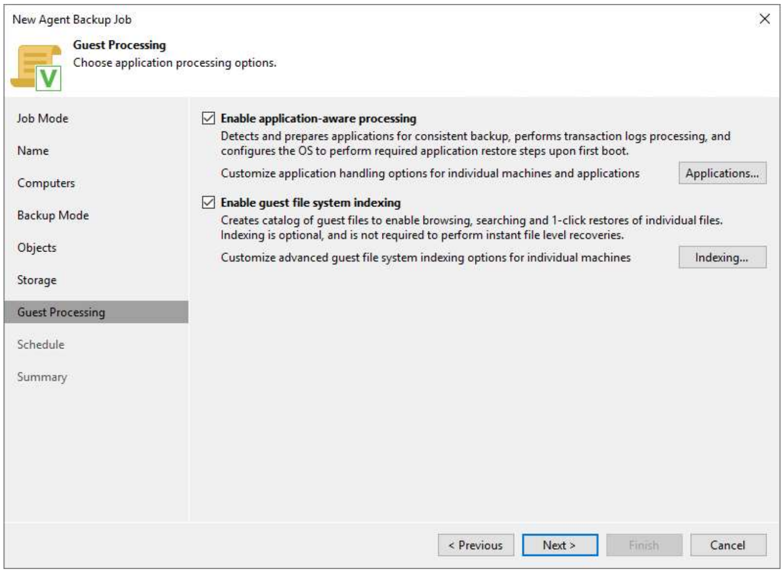


Guest File System Indexing Options

Specify guest file system indexing settings for individual items:

Object	Indexing
Windows Server	Partial

84. On the Guest Processing page, click Next.



New Agent Backup Job

Guest Processing

Choose application processing options.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

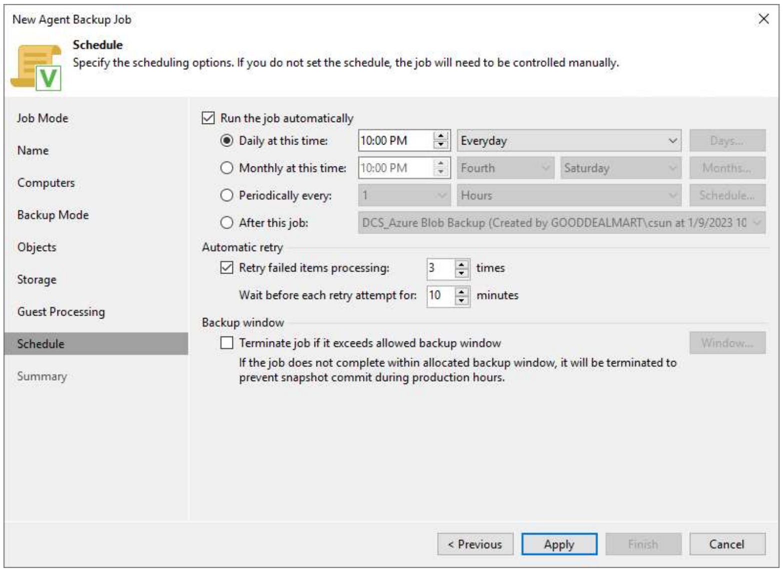
Customize advanced guest file system indexing options for individual machines

85. Select Run the job automatically on the Schedule page and select your specified schedule.

86. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

87. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

88. Click Apply.



New Agent Backup Job

Schedule

Specify the scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DCS_Azure Blob Backup (Created by GOODDEALMART\csun at 1/9/2023 10

Automatic retry

☑ Retry failed items processing: 3 times

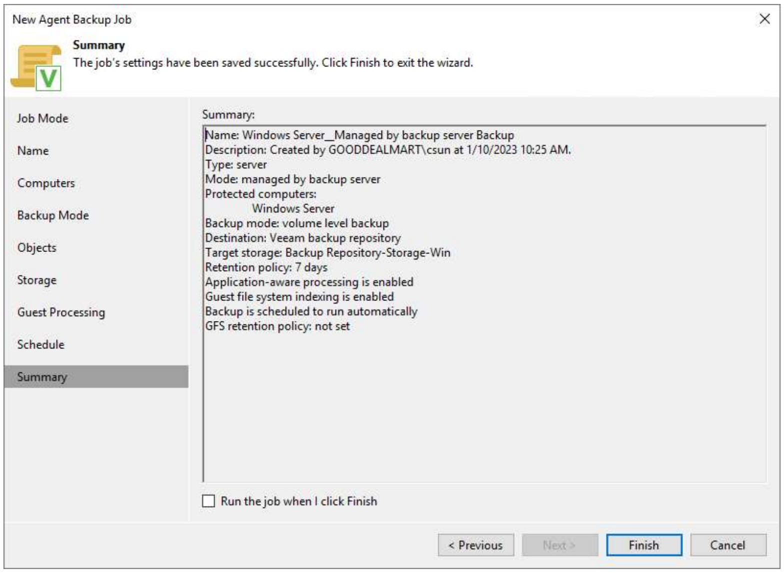
Wait before each retry attempt for: 10 minutes

Backup window

□ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

89. On the Summary page, click Finish.



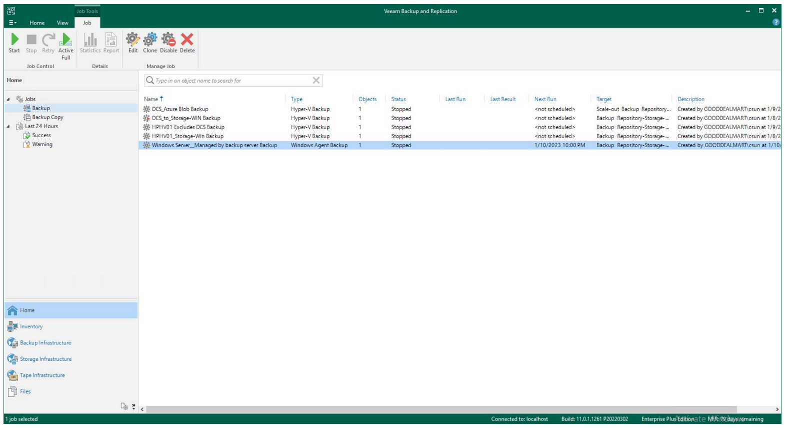
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

Name: Windows Server__Managed by backup server Backup
Description: Created by GOODDEALMART\csun at 1/10/2023 10:25 AM.
Type: server
Mode: managed by backup server
Protected computers:
Windows Server
Backup mode: volume level backup
Destination: Veeam backup repository
Target storage: Backup Repository-Storage-Win
Retention policy: 7 days
Application-aware processing is enabled
Guest file system indexing is enabled
Backup is scheduled to run automatically
GFS retention policy: not set

□ Run the job when I click Finish

90. Verify the backup job has been added

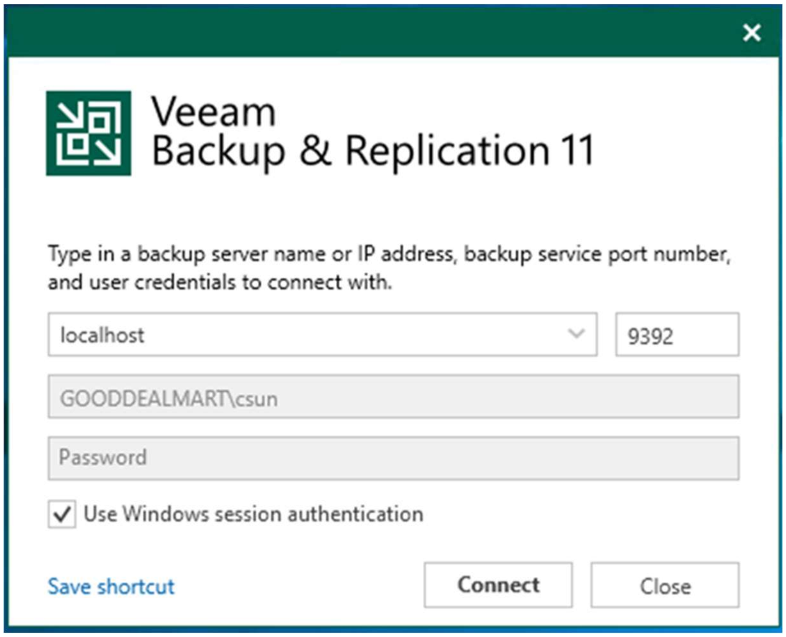


Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DCS_Azure Blob Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/9/2
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2
Windows Server__Managed by backup server Backup	Windows Agent Backup	1	Stopped			1/10/2023 10:00 PM	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/10/

1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 79 days remaining

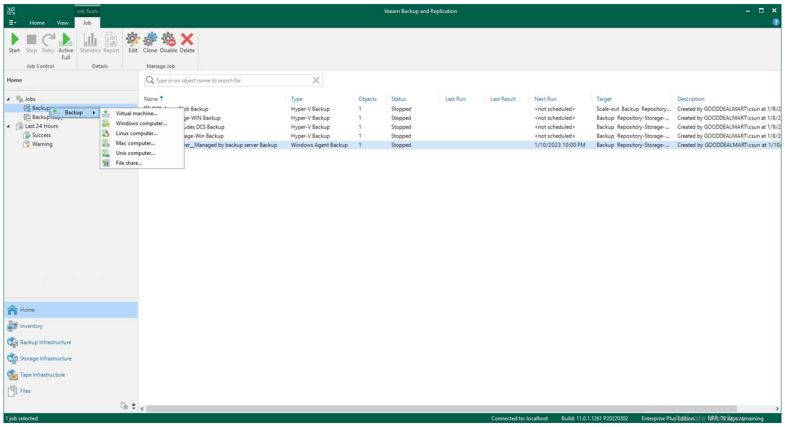
Creating a Backup job to backup the specified Physical Machines (Managed by Agent Mode)

This procedure uses the managed-by-agent mode to create a backup job to backup the specific production physical machines.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, select Jobs.

4. Right-click Jobs, select Backup and click Windows computer.

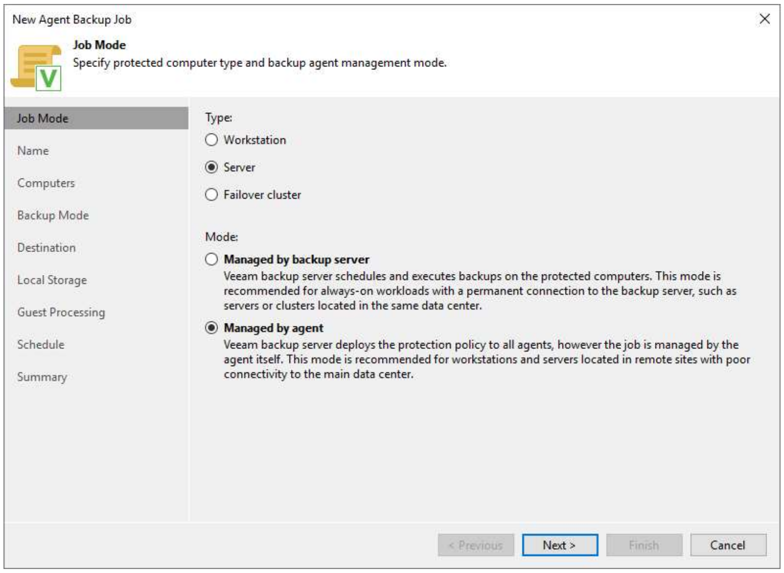


Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
ob Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/9/2
ge-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2
udes DCS Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2
age-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2
er_Managed by backup server Backup	Windows Agent Backup	1	Stopped			1/10/2023 10:00 PM	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/10/

1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 79 days remaining

5. On the Job Mode page, select the type of protected machine.

6. Select Managed by agent mode and click Next.



New Agent Backup Job

Job Mode

Specify protected computer type and backup agent management mode.

Type:

○ Workstation

● Server

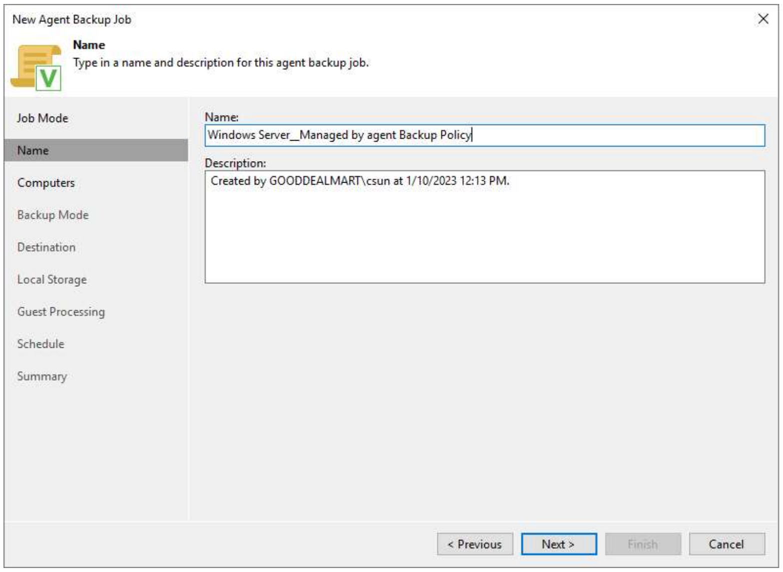
○ Failover cluster

Mode:

○ **Managed by backup server**
Veeam backup server schedules and executes backups on the protected computers. This mode is recommended for always-on workloads with a permanent connection to the backup server, such as servers or clusters located in the same data center.

● **Managed by agent**
Veeam backup server deploys the protection policy to all agents, however the job is managed by the agent itself. This mode is recommended for workstations and servers located in remote sites with poor connectivity to the main data center.

7. On the Name page, enter a name in the Name field.
8. Describe the Description field.
9. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.
10. Click Next.

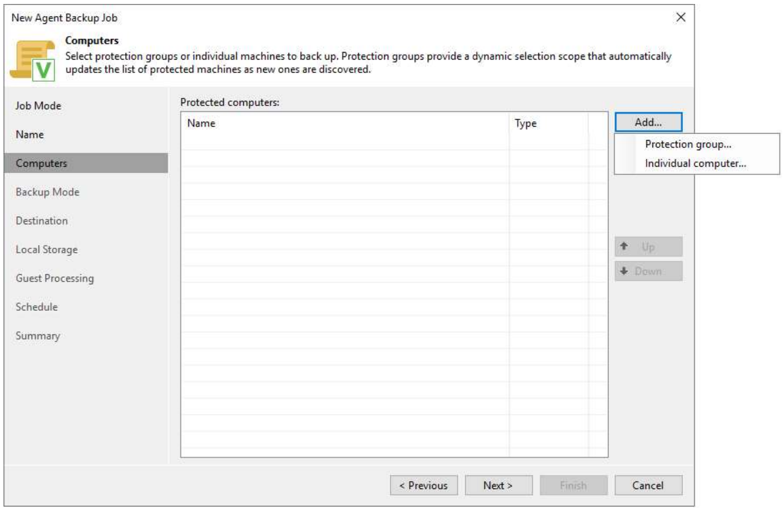


Name
Type in a name and description for this agent backup job.

Name: Windows Server_Managed by agent Backup Policy

Description: Created by GOODDEALMART\csun at 1/10/2023 12:13 PM.

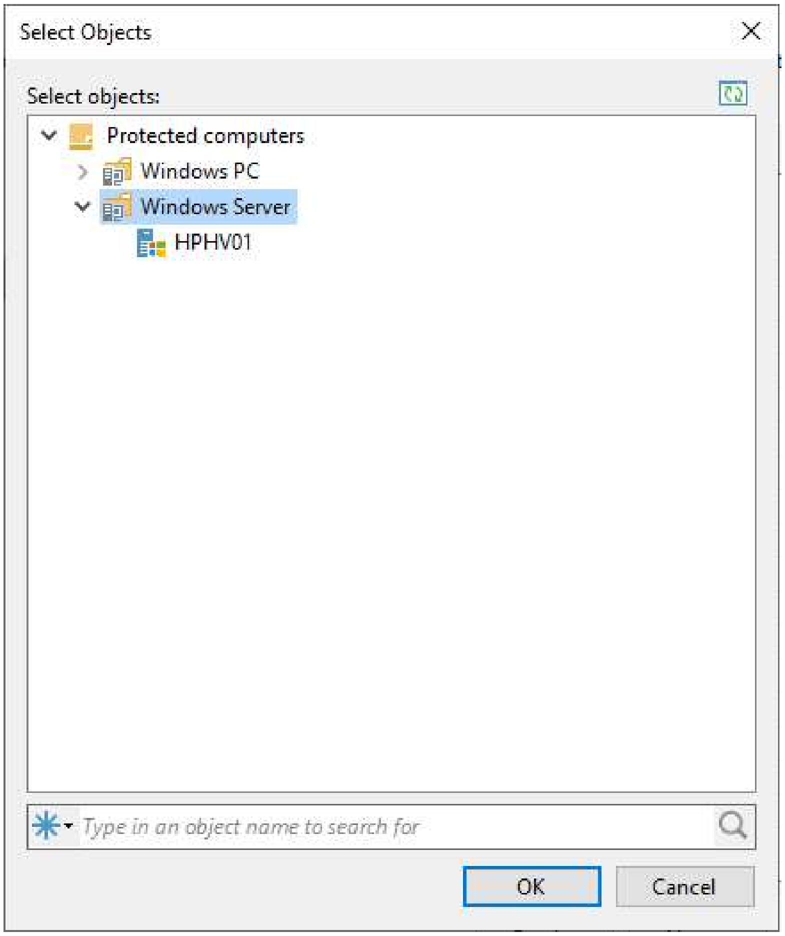
11. On the Computers page, click Add and select Protection group.



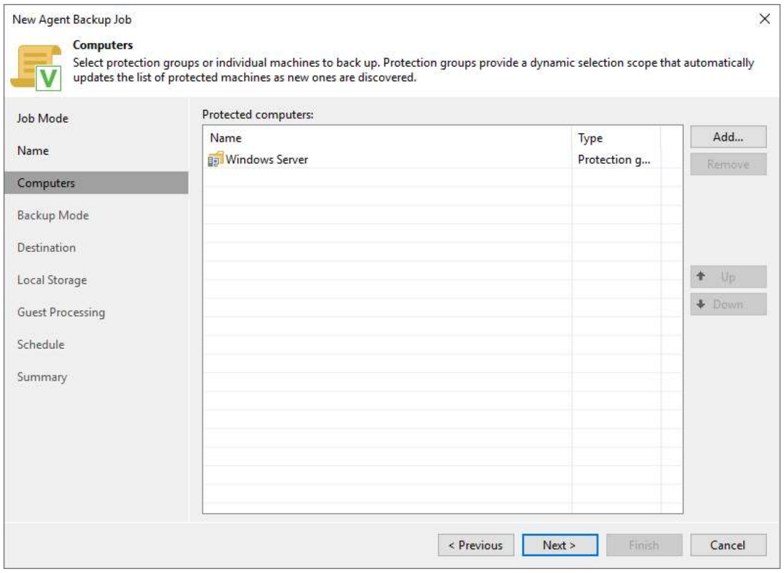
Computers
Select protection groups or individual machines to back up. Protection groups provide a dynamic selection scope that automatically updates the list of protected machines as new ones are discovered.

12. Select the protection group on the Select Objects page and click OK.

13. If multiple protection groups need to backup in the same backup job, you can repeat the step to add them.



14. On the Computers page, click Next.



New Agent Backup Job

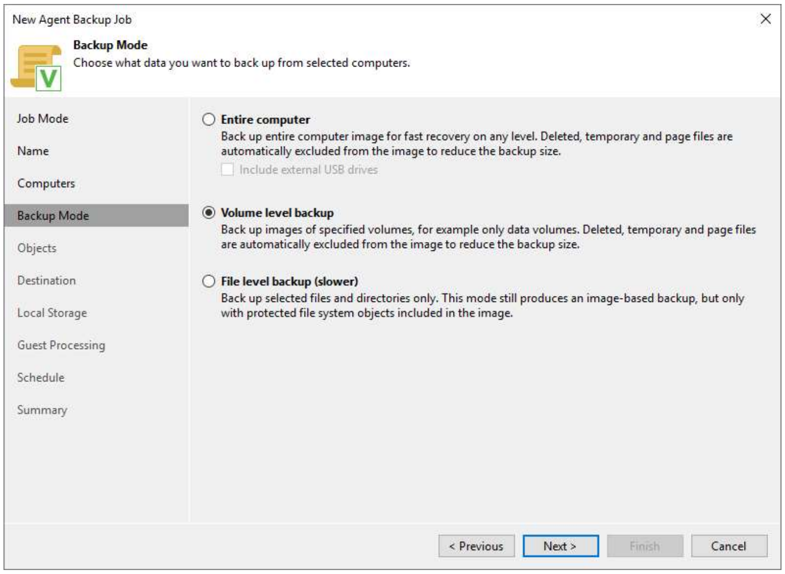
Computers

Select protection groups or individual machines to back up. Protection groups provide a dynamic selection scope that automatically updates the list of protected machines as new ones are discovered.

Protected computers:

Name	Type
Windows Server	Protection g...

15. On the Backup Mode page, there are three backup modes.
16. Select the Entire computer backup mode if you want to back up the entire image. Select Include external USB drives if required.
17. Select Volume level backup mode for specific computer volumes.
18. Select File-level backup (slower) for individual folders on your computer.
19. Click Next.



New Agent Backup Job

Backup Mode

Choose what data you want to back up from selected computers.

○ **Entire computer**
Back up entire computer image for fast recovery on any level. Deleted, temporary and page files are automatically excluded from the image to reduce the backup size.
□ Include external USB drives

● **Volume level backup**
Back up images of specified volumes, for example only data volumes. Deleted, temporary and page files are automatically excluded from the image to reduce the backup size.

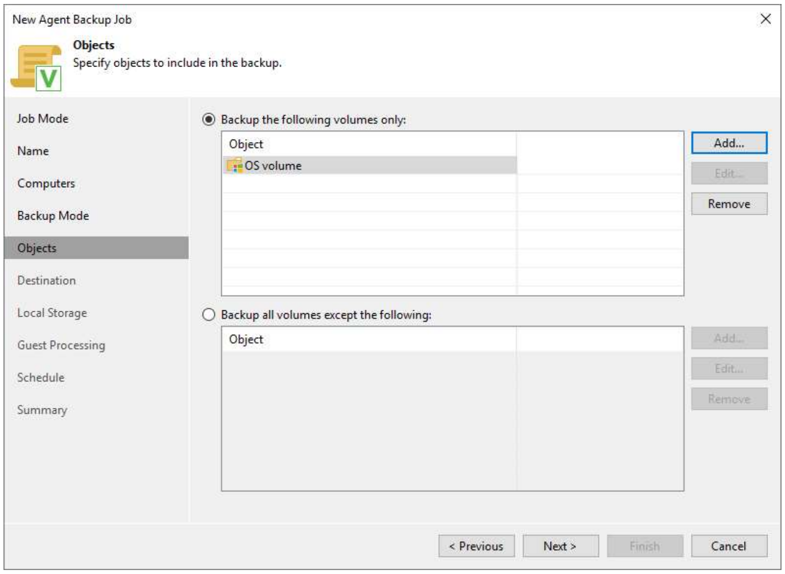
○ **File level backup (slower)**
Back up selected files and directories only. This mode still produces an image-based backup, but only with protected file system objects included in the image.

20. On the Objects page, select Backup the following volumes only.

21. Click Add to specify the backup scope and click Next.

22. Select the Backup all volumes except the following, and click Add to exclude objects you do not need from the backup scope.

23. Click Next.



New Agent Backup Job

Objects

Specify objects to include in the backup.

● Backup the following volumes only:

Object	
OS volume	

○ Backup all volumes except the following:

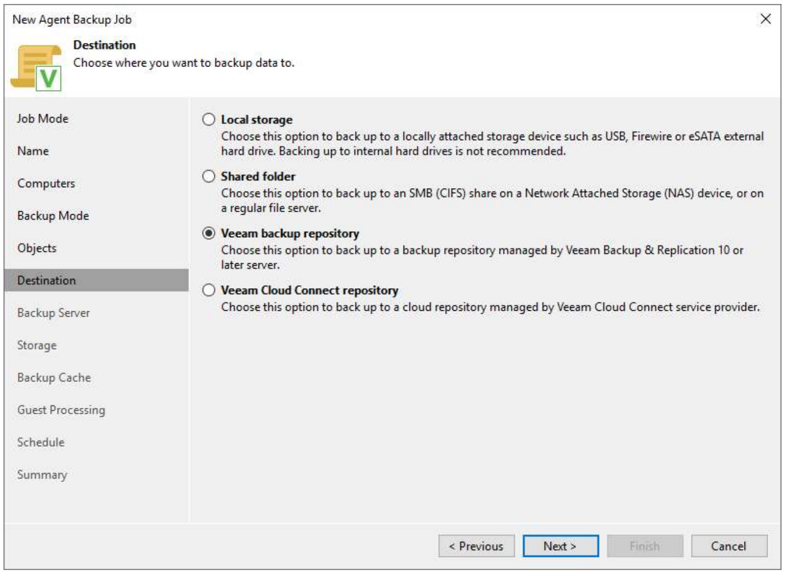
Object	

24. Select Local storage for backup to a removable device and local drive on the Destination page.

25. Select the Shared folder for backup to the network shared folder.

26. Select the Veeam backup repository if you want to save a backup on a backup repository managed by the Veeam backup server. The Veeam Agent backup job is configured.

27. Select the Veeam Cloud Connect repository for backup to the Veeam



New Agent Backup Job

Destination

Choose where you want to backup data to.

○ **Local storage**
Choose this option to back up to a locally attached storage device such as USB, Firewire or eSATA external hard drive. Backing up to internal hard drives is not recommended.

○ **Shared folder**
Choose this option to back up to an SMB (CIFS) share on a Network Attached Storage (NAS) device, or on a regular file server.

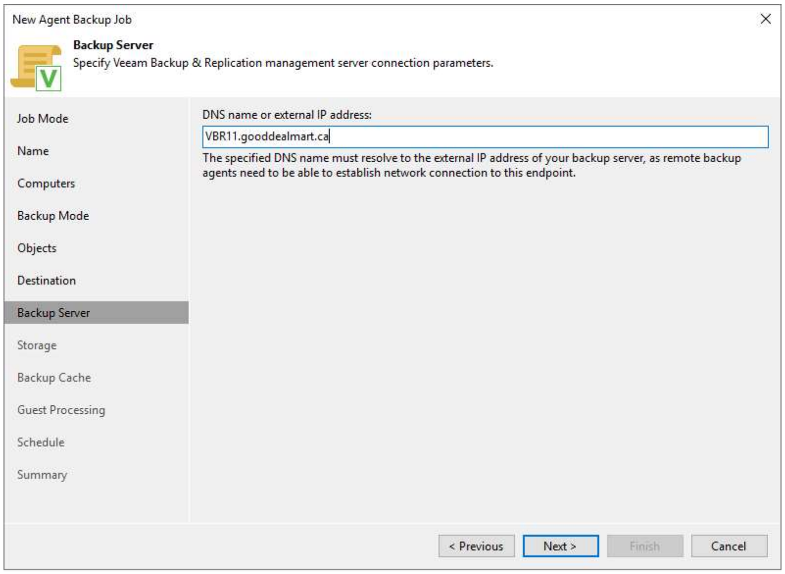
● **Veeam backup repository**
Choose this option to back up to a backup repository managed by Veeam Backup & Replication 10 or later server.

○ **Veeam Cloud Connect repository**
Choose this option to back up to a cloud repository managed by Veeam Cloud Connect service provider.

Cloud Connect service provider.

28. Click Next.

29. On the Backup Server page, enter the DNS name or IP address in the DNS name or external IP address field.



New Agent Backup Job

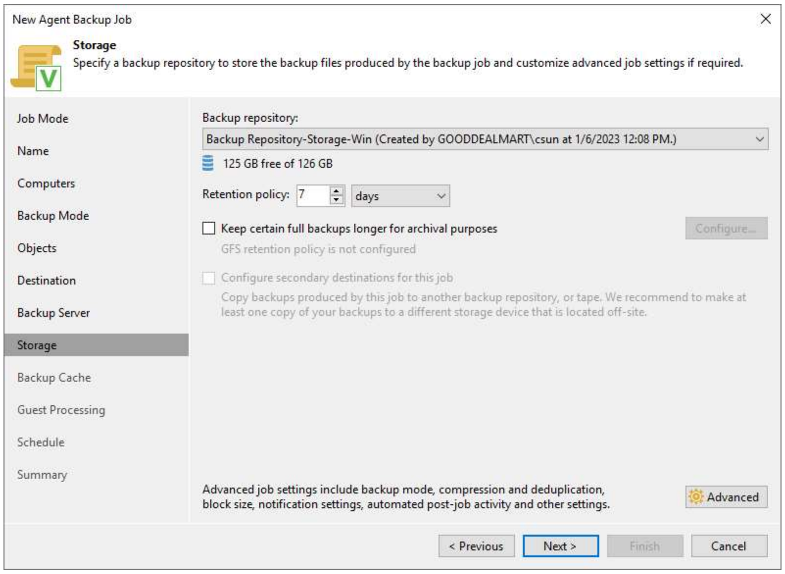
Backup Server

Specify Veeam Backup & Replication management server connection parameters.

DNS name or external IP address: VBR11.gooddealmart.ca

The specified DNS name must resolve to the external IP address of your backup server, as remote backup agents need to be able to establish network connection to this endpoint.

30. Select the backup repository from the Backup repository drop-down list on the Storage page.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

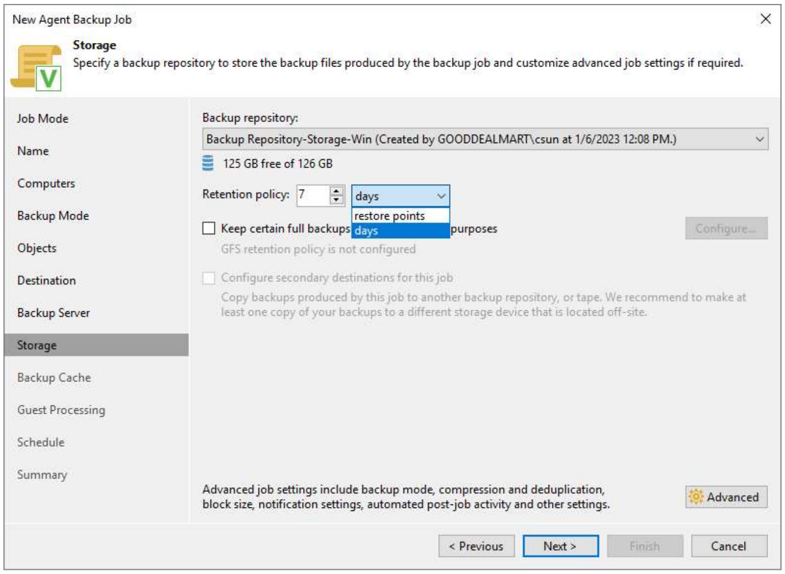
☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

31. Set the retention policy settings for restore points in the Retention Policy field.

32. Select days or restore points from the drop-down list.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository:

Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

restore points
days

□ Keep certain full backups [days] purposes

GFS retention policy is not configured

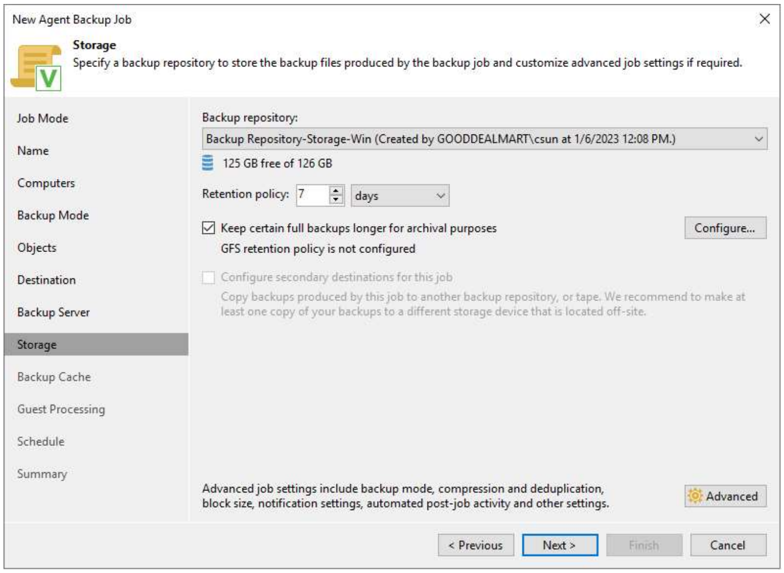
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

33. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.

34. Select the Keep certain full backups for longer for archival purposes. If you need it, click Configure.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository:

Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

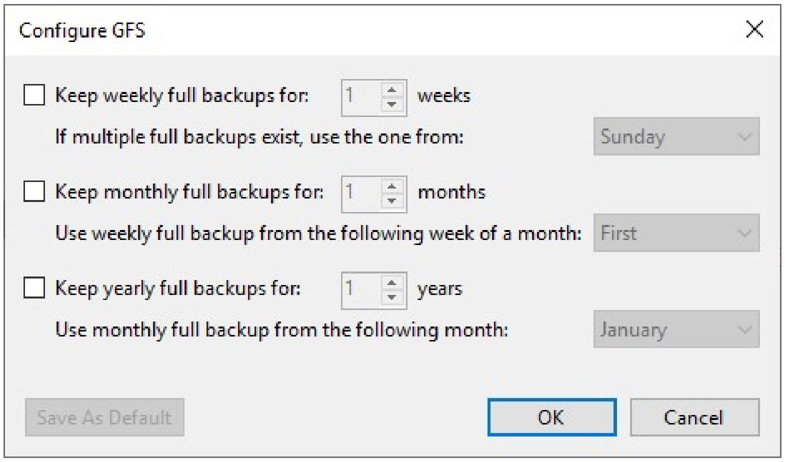
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

35. Select the Keep weekly full backups for check box, and specify the weeks you want to prevent restore points from being modified and deleted.

36. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.

37. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore points from being modified and deleted.

38. Click OK.



Configure GFS

□ Keep weekly full backups for: 1 weeks

If multiple full backups exist, use the one from: Sunday

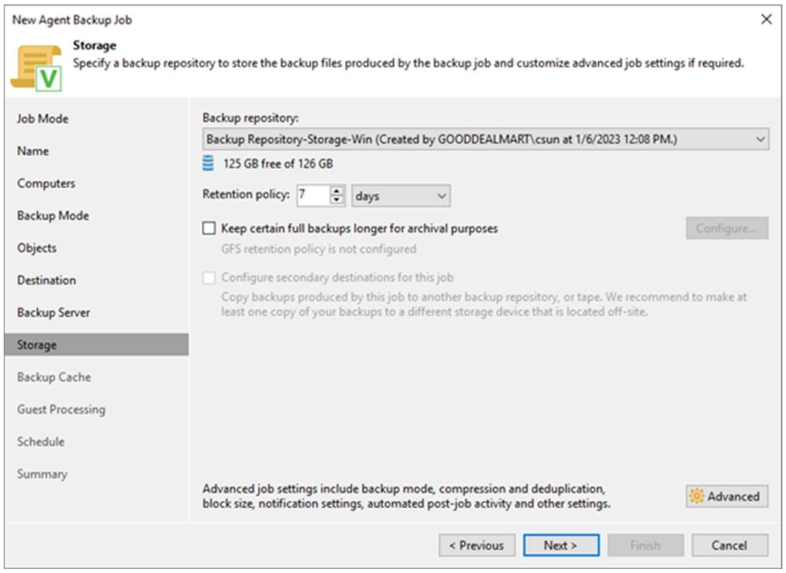
□ Keep monthly full backups for: 1 months

Use weekly full backup from the following week of a month: First

□ Keep yearly full backups for: 1 years

Use monthly full backup from the following month: January

39. On the Storage page, click Advanced.



Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

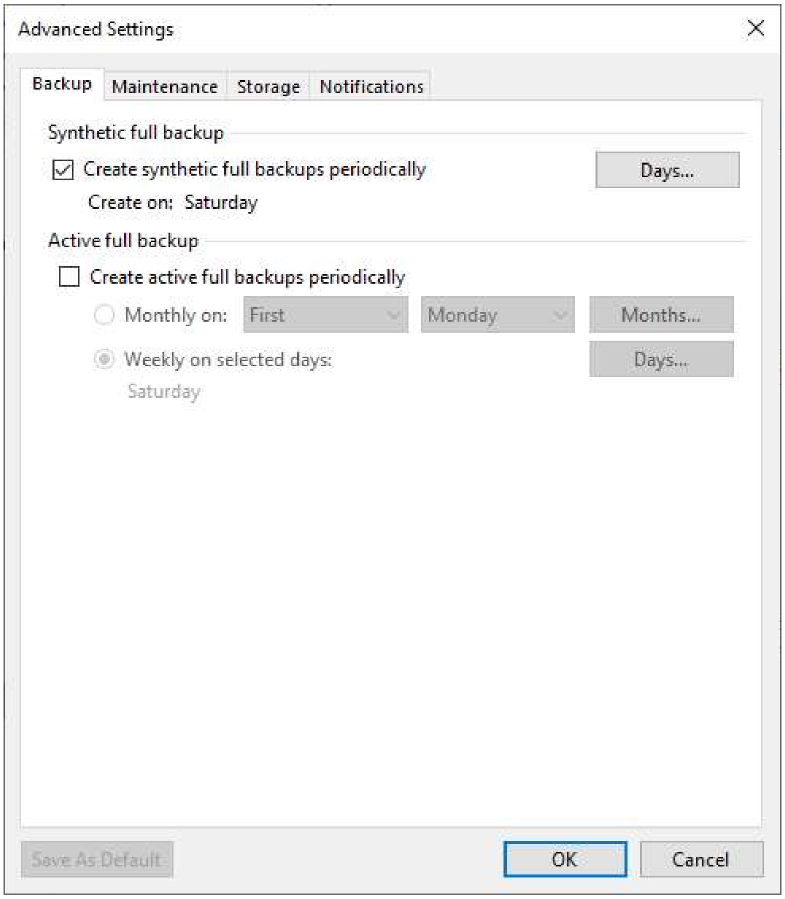
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

40. The Create synthetic full backups periodically checkbox if you want to create full synthetic backups periodically.

41. Select the Create active full backups periodically checkbox to create active full backups periodically.



Advanced Settings

Synthetic full backup

☑ Create synthetic full backups periodically

Create on: Saturday

Active full backup

□ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:

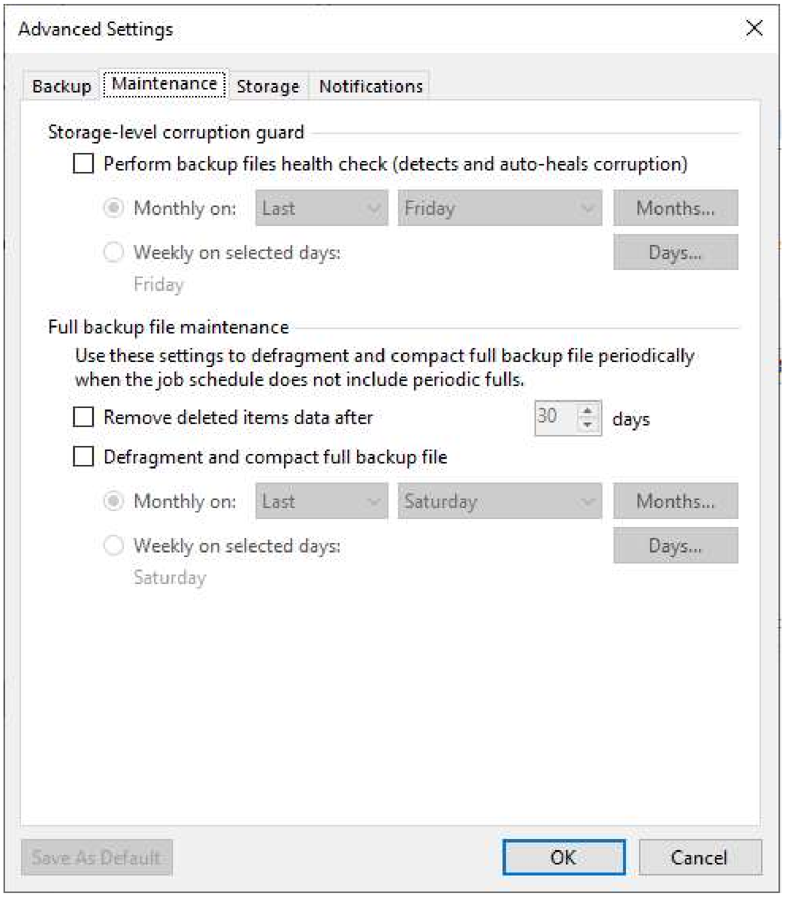
Saturday

42. On the Advanced Settings, select Maintenance.

43. Select the Perform backup files health check (detect and auto-heals corruption) checkbox and specify the schedule for the health check if required.

44. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept if required.

45. Select the Defragment and compact full backup file check box and specify the schedule for the compact operation to compact a full backup if required periodically.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days:
Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 30 days

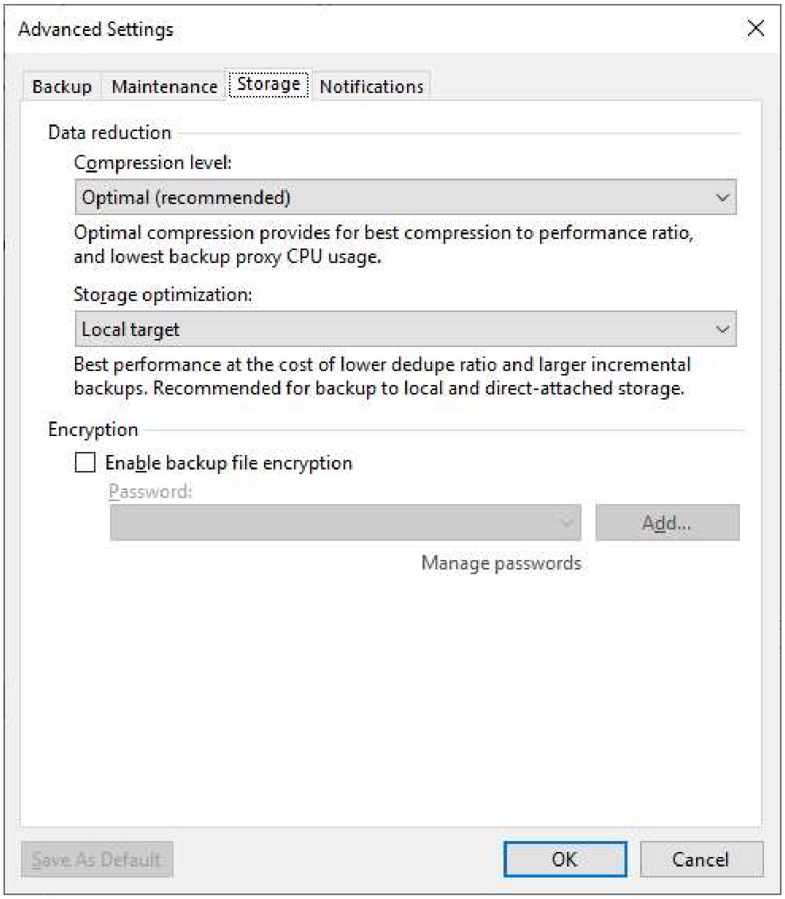
□ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days:
Saturday

46. On the Storage page, click OK.

47. Select the compression level for the backup from the drop-down list.



Data reduction

Compression level:

Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

Local target

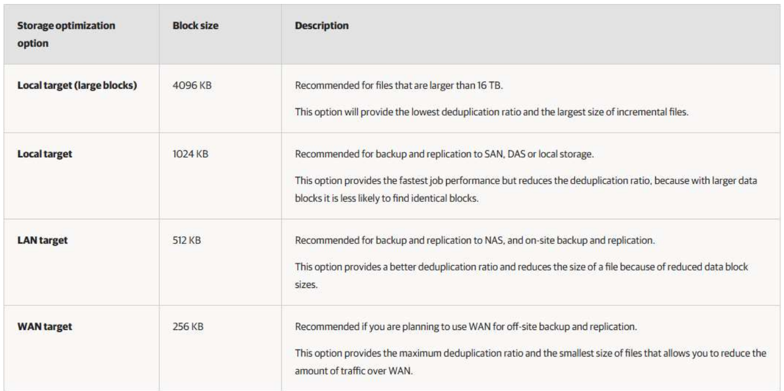
Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

□ Enable backup file encryption

Password:

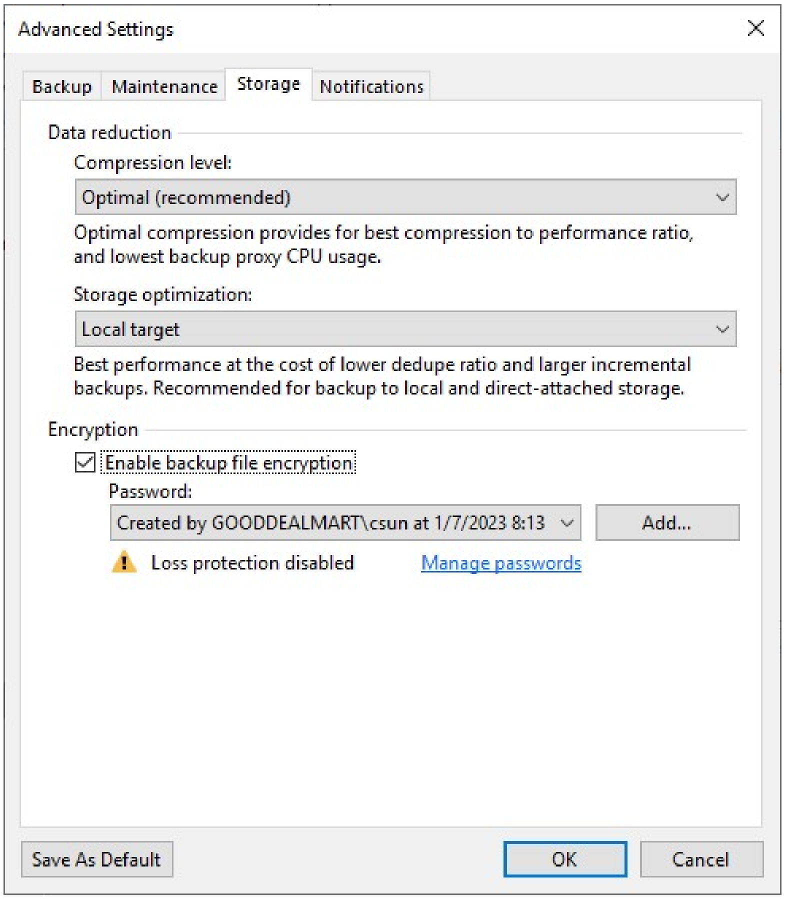
48. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

49. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

50. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

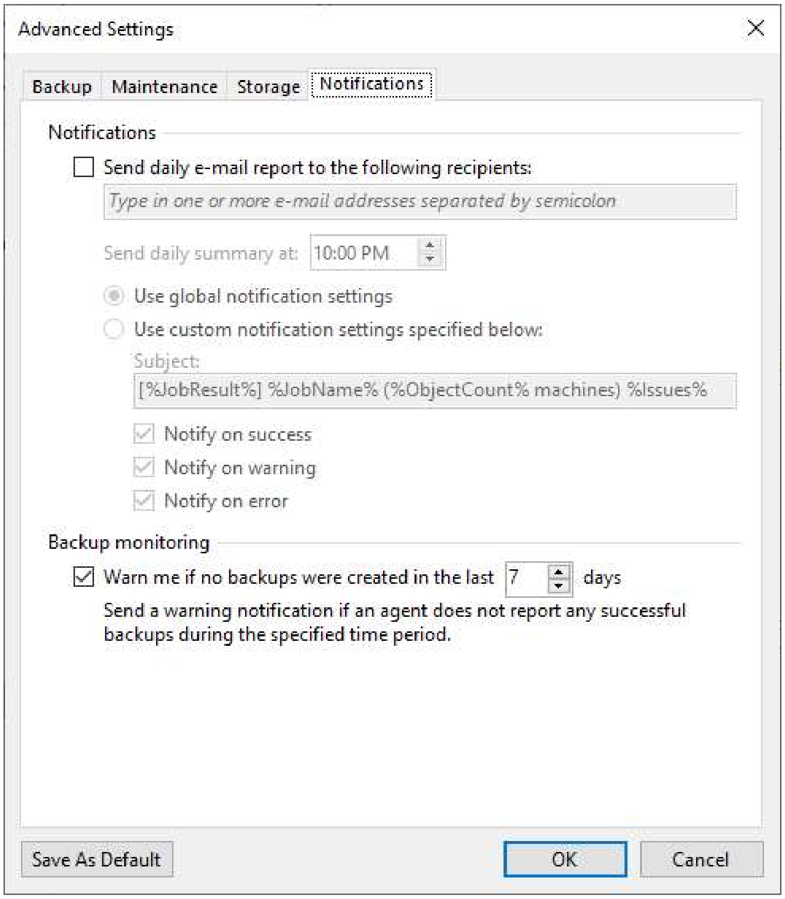
☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:13

Loss protection disabled

51. On the Advanced Settings, select Notifications.

52. Keep the default settings and click OK.



Advanced Settings

Notifications

□ Send daily e-mail report to the following recipients:

Type in one or more e-mail addresses separated by semicolon

Send daily summary at: 10:00 PM

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

☑ Notify on success

☑ Notify on warning

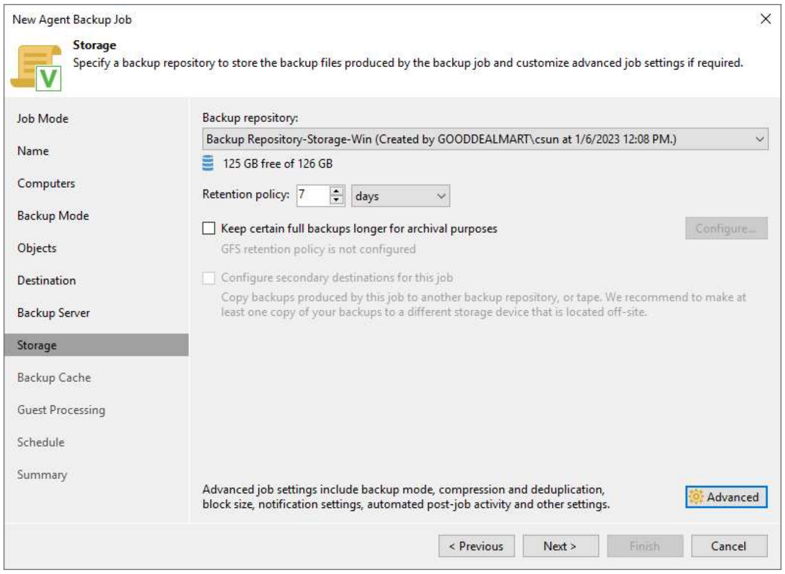
☑ Notify on error

Backup monitoring

☑ Warn me if no backups were created in the last 7 days

Send a warning notification if an agent does not report any successful backups during the specified time period.

53. On the Storage page, click Next.



New Agent Backup Job

Storage

Specify a backup repository to store the backup files produced by the backup job and customize advanced job settings if required.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

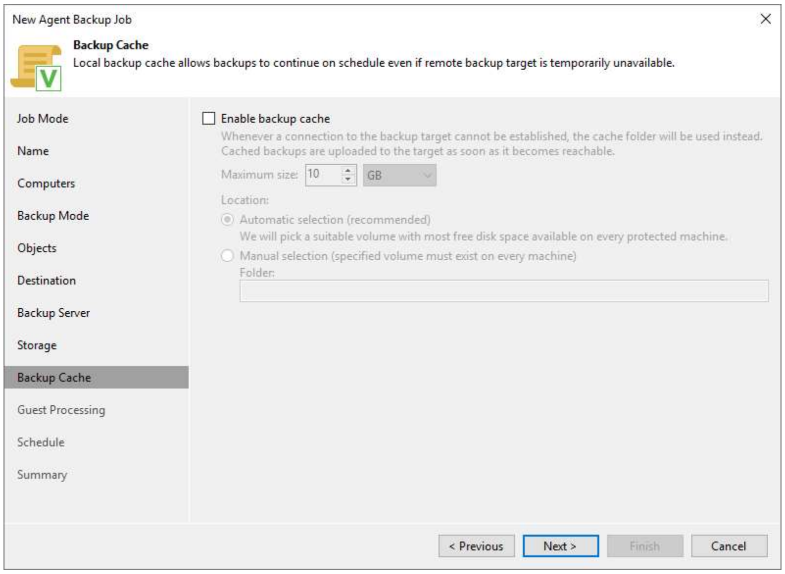
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

54. On the Backup Cache page, if required, select the Enable backup cache checkbox and specify the size for the backup cache in the Maximum size field.

55. Select Automatic selection for Veeam Agent to automatically pick a location for the backup cache.

56. Or select Manual selection if you want to manually specify a location for the backup cache and specify a path to the folder on a



New Agent Backup Job

Backup Cache

Local backup cache allows backups to continue on schedule even if remote backup target is temporarily unavailable.

□ Enable backup cache

Whenever a connection to the backup target cannot be established, the cache folder will be used instead. Cached backups are uploaded to the target as soon as it becomes reachable.

Maximum size: 10 GB

Location:

● Automatic selection (recommended)

We will pick a suitable volume with most free disk space available on every protected machine.

○ Manual selection (specified volume must exist on every machine)

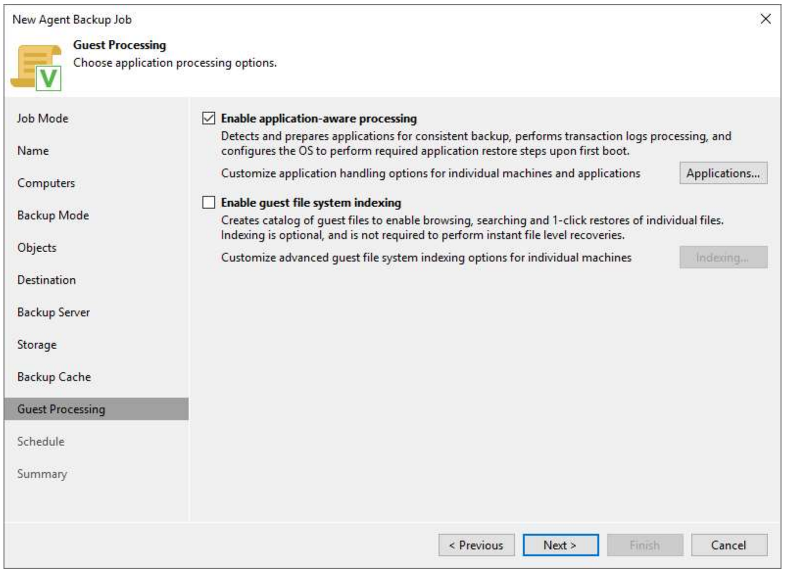
Folder:

protected computer in the Folder field.

57. Click Next.

58. When you add Physical machines running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that machines can recover applications without data loss.

59. Select the Enable application-aware processing check box on the Guest Processing page and click Applications.


New Agent Backup Job

Guest Processing

Choose application processing options.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

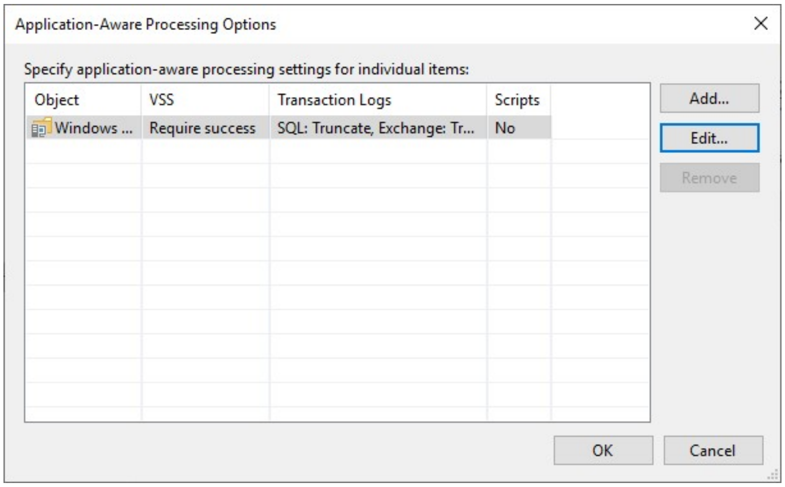
Customize application handling options for individual machines and applications

☐ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

60. On the Application-Aware Processing Options page, select the Object, and click Edit.

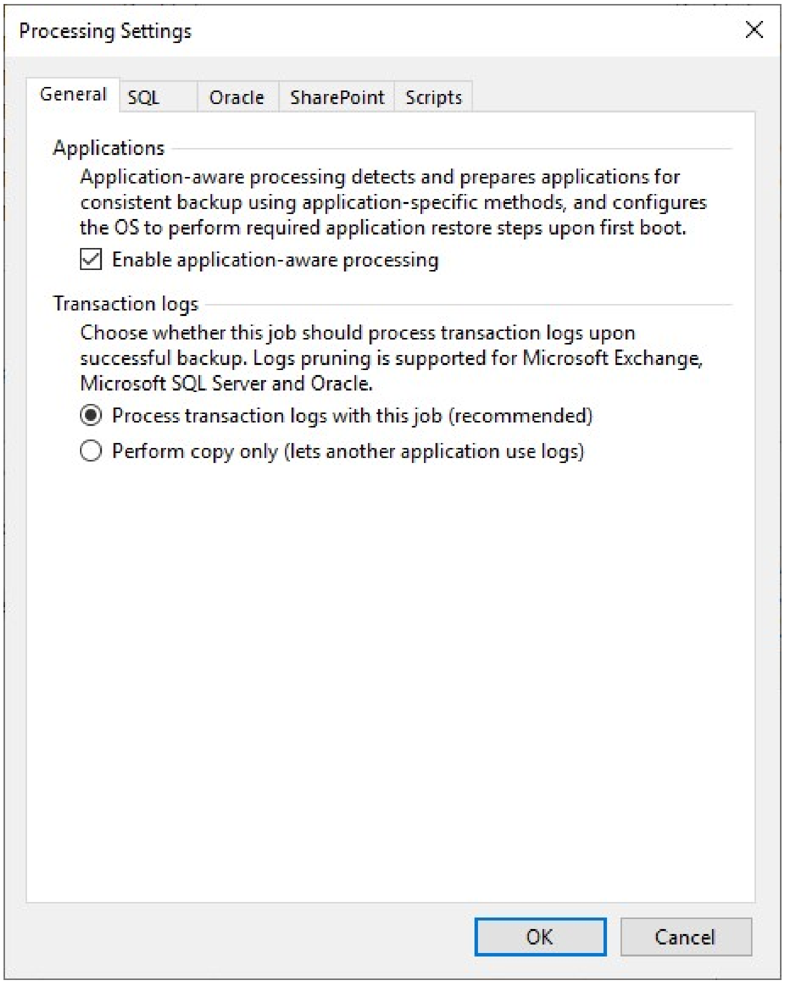


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Scripts
Windows ...	Require success	SQL: Truncate, Exchange: Tr...	No

61. On the Processing Settings, click General.
62. Make sure that the Enable application-aware processing checkbox is selected.
63. Select Process transaction logs with this job (recommended)



Processing Settings

Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

☑ Enable application-aware processing

Transaction logs

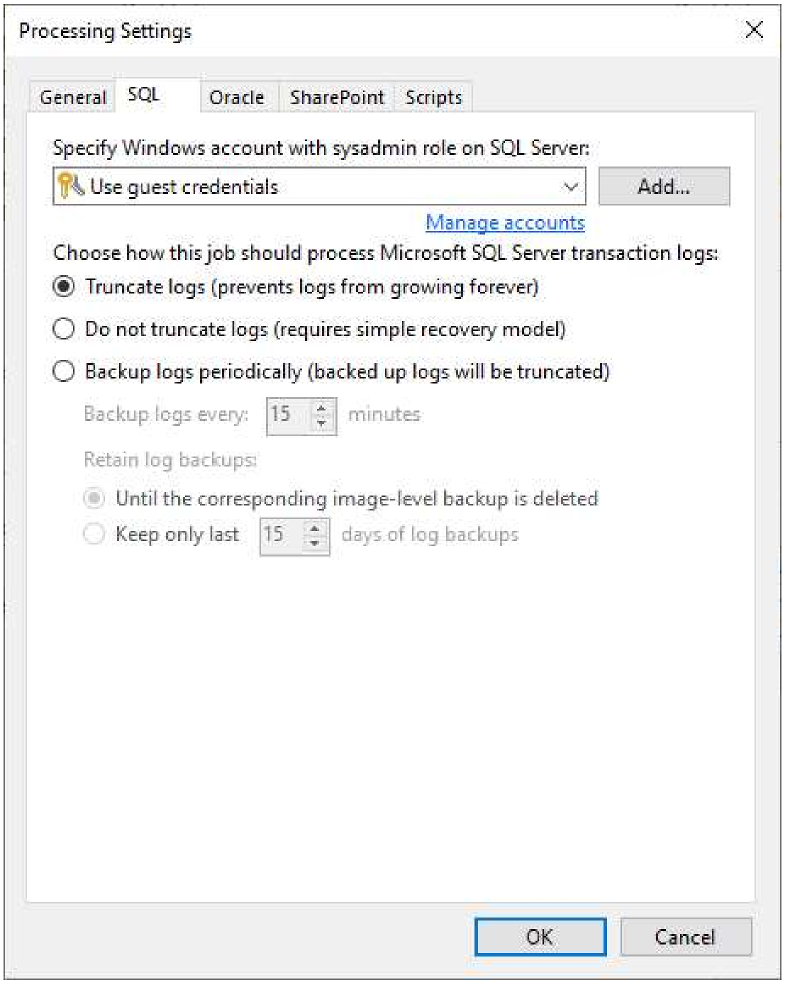
Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

● Process transaction logs with this job (recommended)

○ Perform copy only (lets another application use logs)

64. On the Processing Settings page, click SQL if the Physical Machine is a Microsoft SQL Server.

65. Select from the Specify Microsoft SQL Server account with database admin privileges list a user account with access permissions on the database.



Specify Windows account with sysadmin role on SQL Server: Use guest credentials

Choose how this job should process Microsoft SQL Server transaction logs:

● Truncate logs (prevents logs from growing forever)

○ Do not truncate logs (requires simple recovery model)

○ Backup logs periodically (backed up logs will be truncated)

Backup logs every: 15 minutes

Retain log backups:

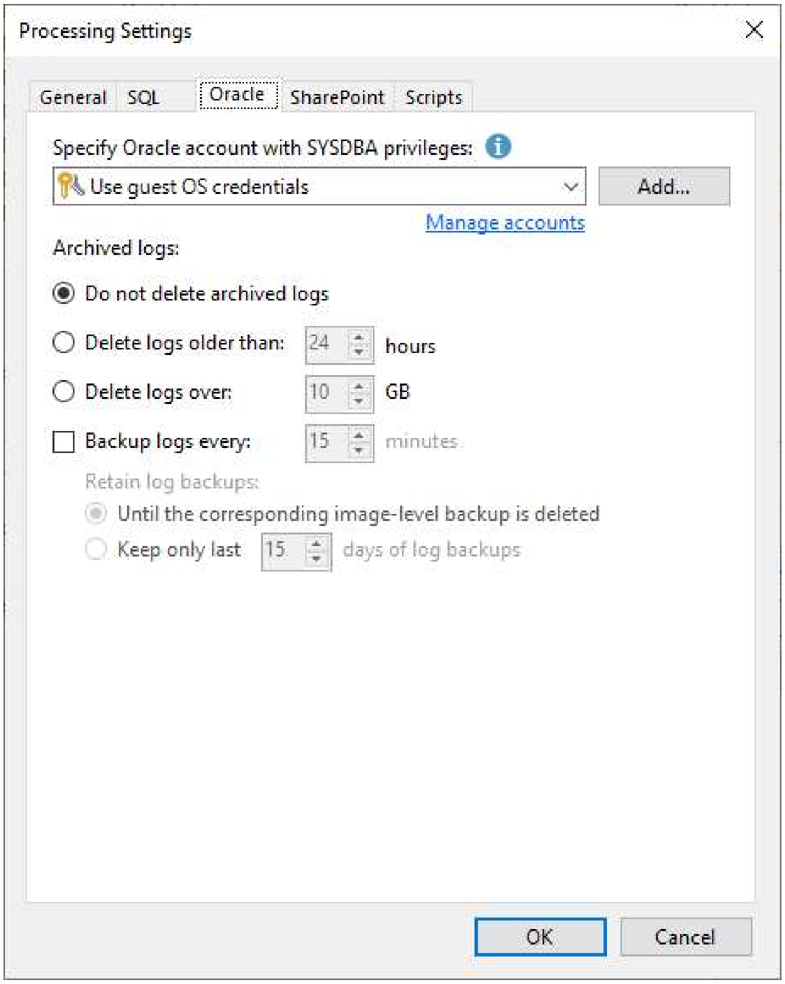
● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

66. Click Oracle on the Processing Settings page if the Physical Machine is an Oracle Server.

67. Select a user account from the drop-down list.

68. Select Do not delete archived logs if you need Veeam Backup & Replication to preserve archived logs on the VM guest OS.



Processing Settings

Specify Oracle account with SYSDBA privileges: Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

□ Backup logs every: 15 minutes

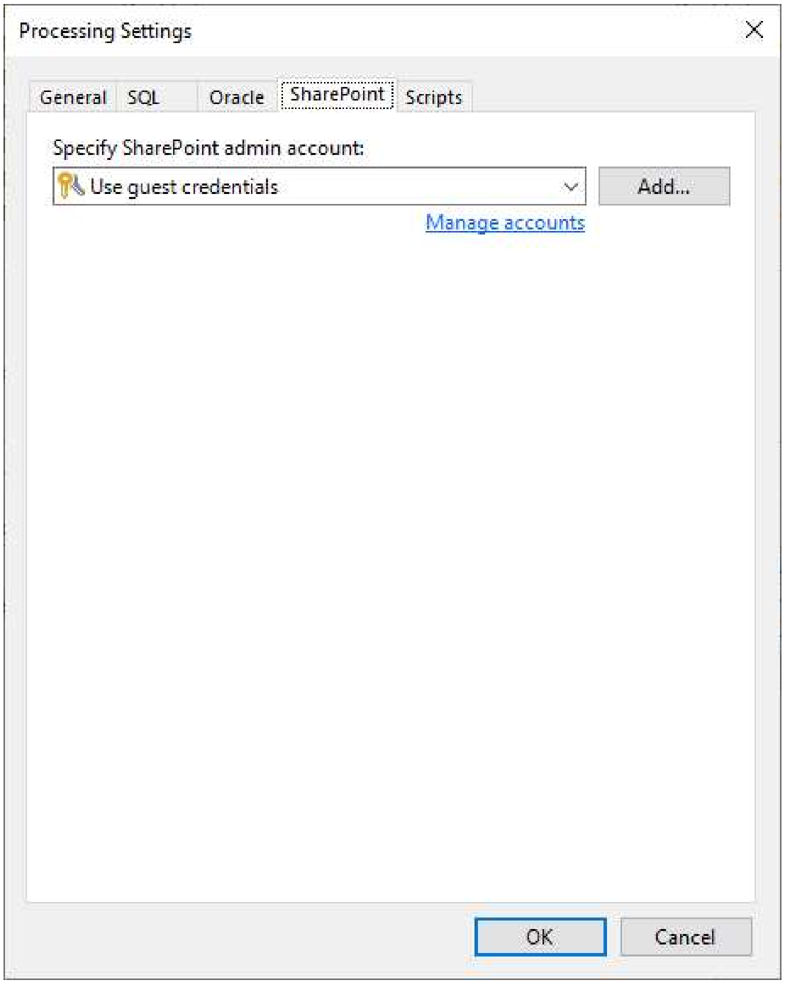
Retain log backups:

● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

69. On the Processing Settings page, click SharePoint if the Physical Machine is a SharePoint Server.

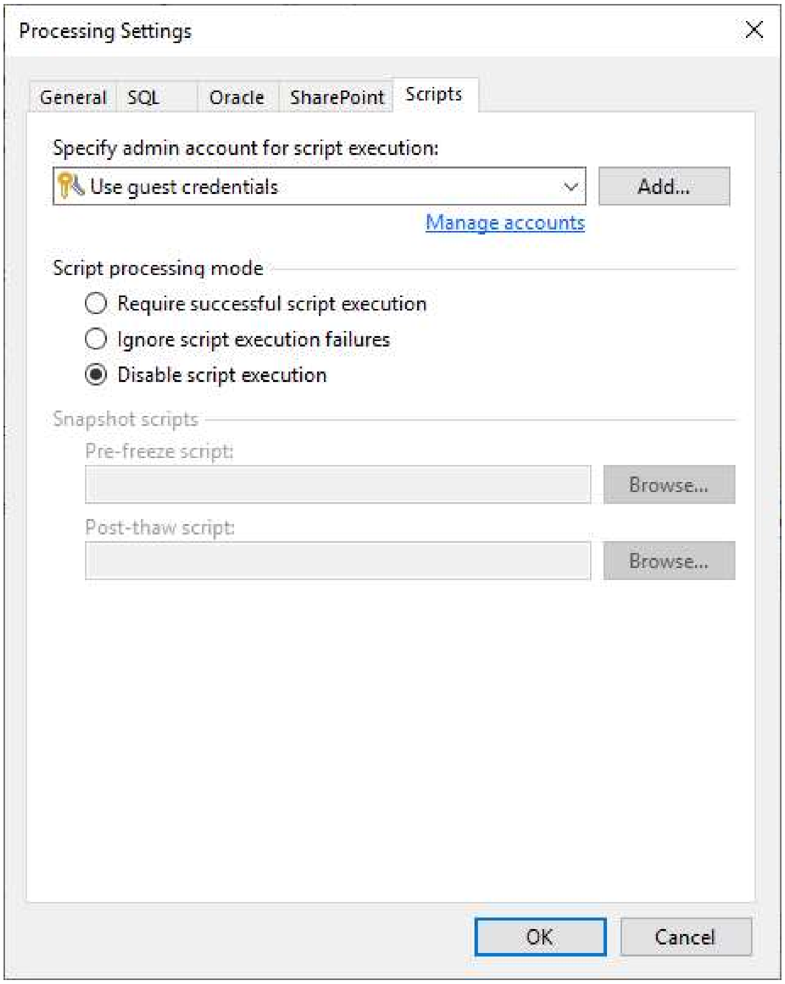
70. Select a user account from the drop-down list.



Processing Settings

Specify SharePoint admin account: Use guest credentials

71. ON the Processing Settings page, click Scripts.
72. In the Specify admin account for script execution section, specify a user account.
73. Select Disable script execution.
74. Select Require successful script execution if required.
75. Select Ignore script execution failures if required.
76. Click OK.

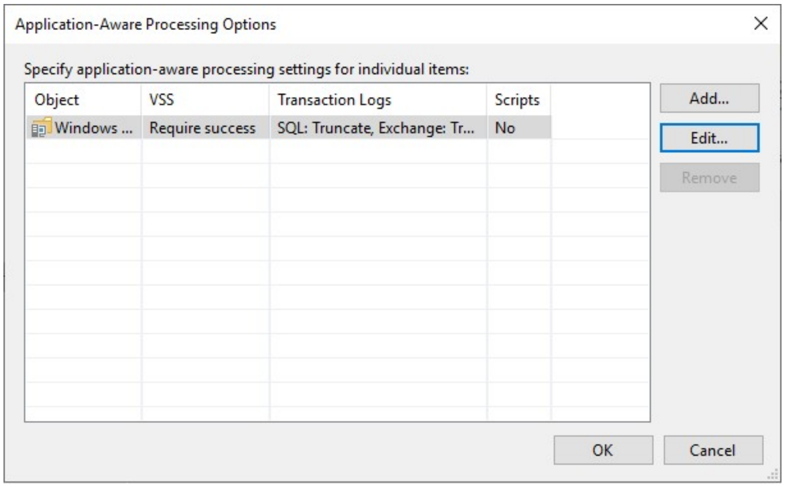


Specify admin account for script execution: Use guest credentials

Script processing mode
○ Require successful script execution
○ Ignore script execution failures
● Disable script execution

Snapshot scripts
Pre-freeze script:
Post-thaw script:

77. On the Application-Aware Processing Options page, click OK.

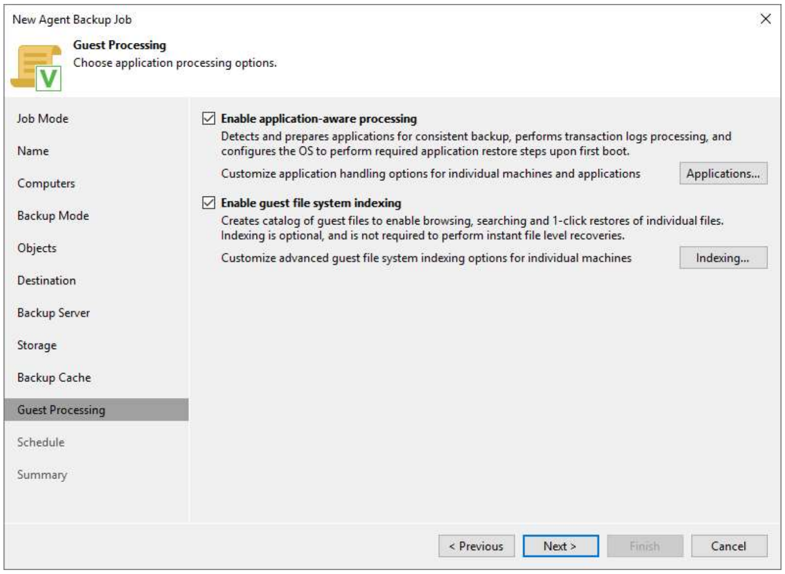


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Scripts
Windows ...	Require success	SQL: Truncate, Exchange: Tr...	No

78. Select the Enable guest file system indexing checkbox and click Indexing.



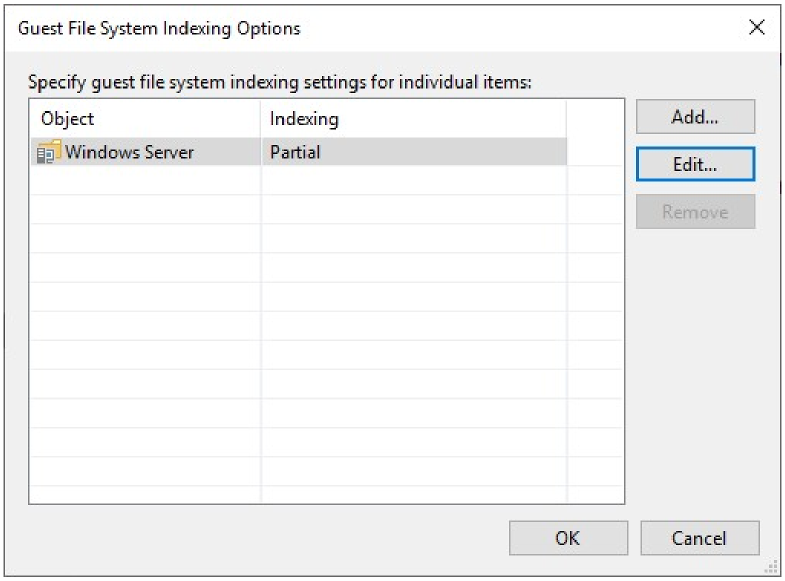
New Agent Backup Job

Guest Processing
Choose application processing options.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

79. On the Guest File System Indexing Options page, select the Object, click Edit and.



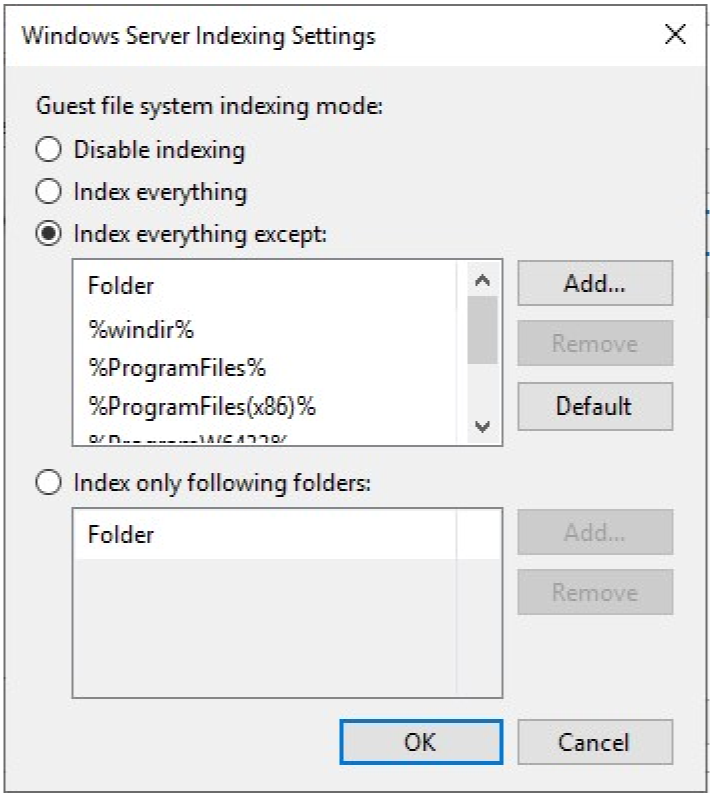
Guest File System Indexing Options

Specify guest file system indexing settings for individual items:

Object	Indexing
Windows Server	Partial

80. On the Guest file system indexing mode page, keep the default settings.

81. Click OK.



Windows Server Indexing Settings

Guest file system indexing mode:

○ Disable indexing

○ Index everything

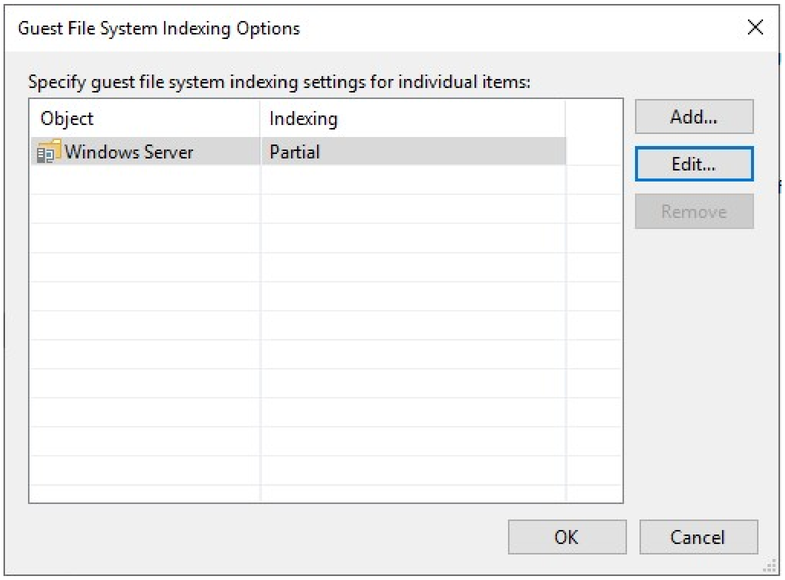
● Index everything except:

Folder
%windir%
%ProgramFiles%
%ProgramFiles(x86)%

○ Index only following folders:

Folder

82. On the Guest File System Indexing Options page, click OK.

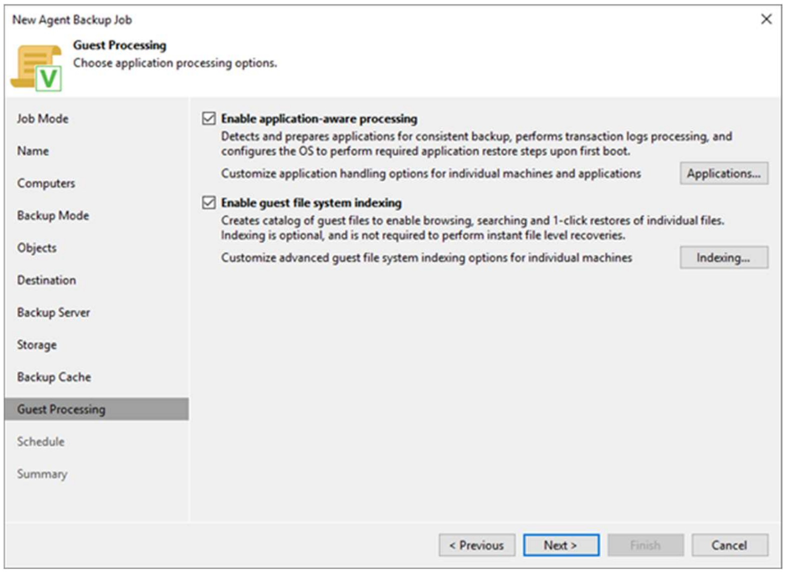


Guest File System Indexing Options

Specify guest file system indexing settings for individual items:

Object	Indexing
Windows Server	Partial

83. On the Guest Processing page, click Next.



New Agent Backup Job

Guest Processing

Choose application processing options.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

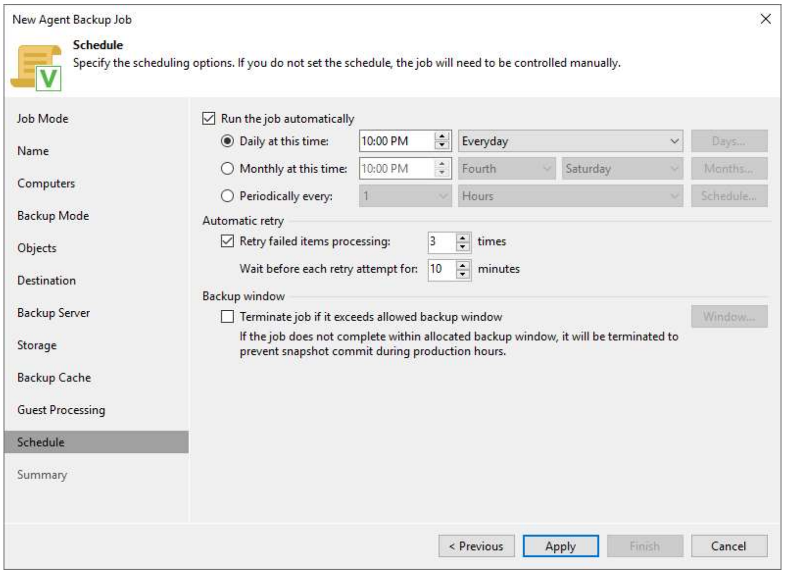
Customize advanced guest file system indexing options for individual machines

84. Select Run the job automatically on the Schedule page and select your specified schedule.

85. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

86. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

87. Click Apply.



New Agent Backup Job

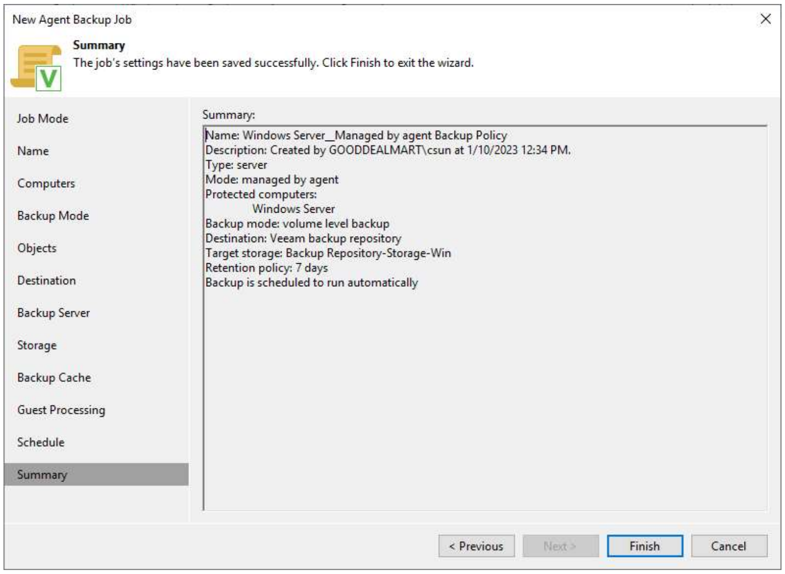
Schedule
Specify the scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically
● Daily at this time: 10:00 PM Everyday
○ Monthly at this time: 10:00 PM Fourth Saturday
○ Periodically every: 1 Hours

Automatic retry
☑ Retry failed items processing: 3 times
Wait before each retry attempt for: 10 minutes

Backup window
□ Terminate job if it exceeds allowed backup window
If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

88. On the Summary page, click Finish.

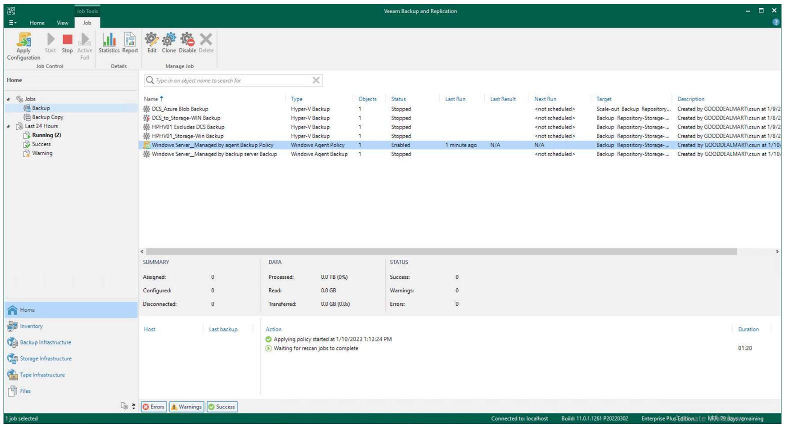


Summary
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: Windows Server__Managed by agent Backup Policy
Description: Created by GOODDEALMART\csun at 1/10/2023 12:34 PM.
Type: server
Mode: managed by agent
Protected computers:
        Windows Server
Backup mode: volume level backup
Destination: Veeam backup repository
Target storage: Backup Repository-Storage-Win
Retention policy: 7 days
Backup is scheduled to run automatically
```

89. Verify the backup job has been added



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DCS_Azure Blob Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/9/2
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2
Windows Server__Managed by agent Backup Policy	Windows Agent Policy	1	Enabled	1 minute ago	N/A	N/A	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/10/
Windows Server__Managed by backup server Backup	Windows Agent Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/10/

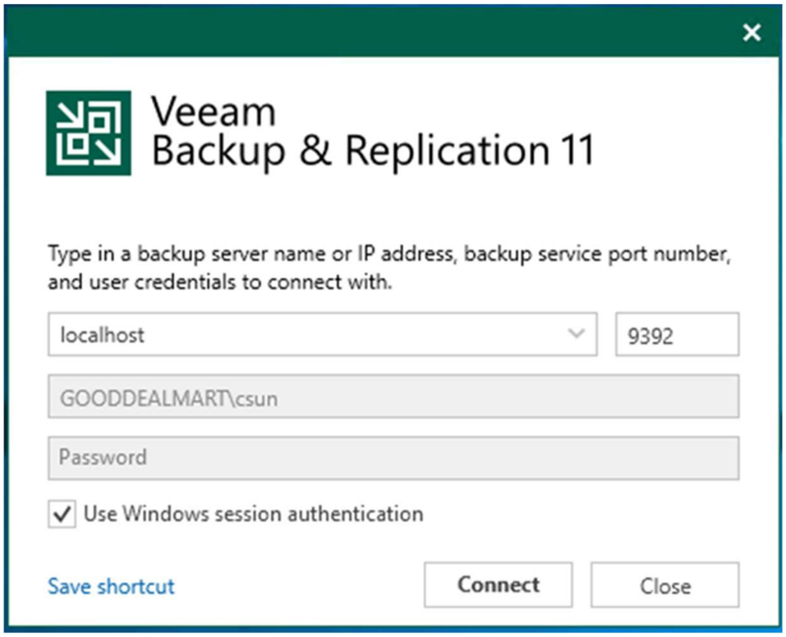
SUMMARY		DATA		STATUS	
Assigned:	0	Processed:	0.0 TB (0%)	Success:	0
Configured:	0	Read:	0.0 GB	Warnings:	0
Disconnected:	0	Transferred:	0.0 GB (0.0x)	Errors:	0

Host	Last backup	Action	Duration
		Applying policy started at 1/10/2023 1:13:24 PM	
		Waiting for rescan jobs to complete	01:20

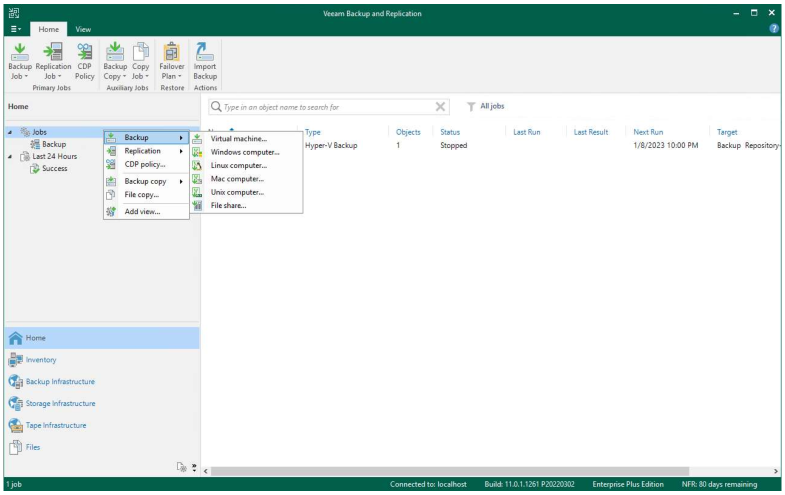
1 job selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 79 days remaining

Creating a Backup job to backup all VMS of the Hyper-V Host

This procedure creates a backup job to backup all VMS of the production Hyper-V host. The new VMS will be backup after the backup job is created. You don't need to modify the backup job settings.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Jobs, right-click Jobs, select Backup and click Virtual machine.



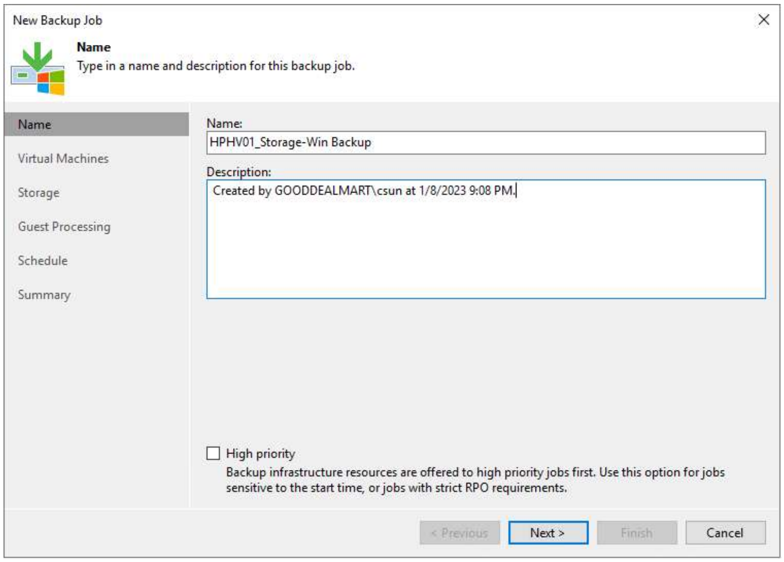
Type	Objects	Status	Last Run	Last Result	Next Run	Target
Hyper-V Backup	1	Stopped			1/8/2023 10:00 PM	Backup Repository-

4. On the Name page, enter a name in the Name field.

5. Describe the Description field.

6. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.

7. Click Next.



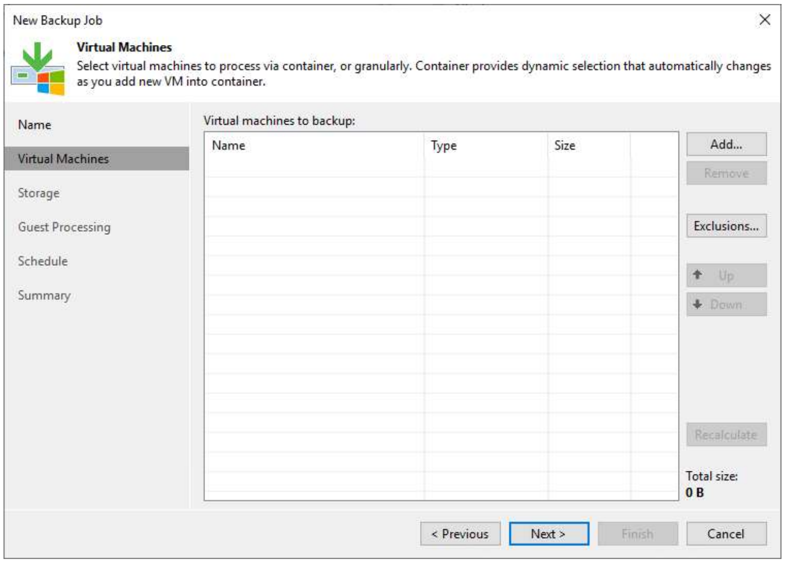
Name
Type in a name and description for this backup job.

Name: HPHV01_Storage-Win Backup

Description: Created by GOODDEALMART\csun at 1/8/2023 9:08 PM.

☐ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

8. On the Virtual Machines page, click Add.

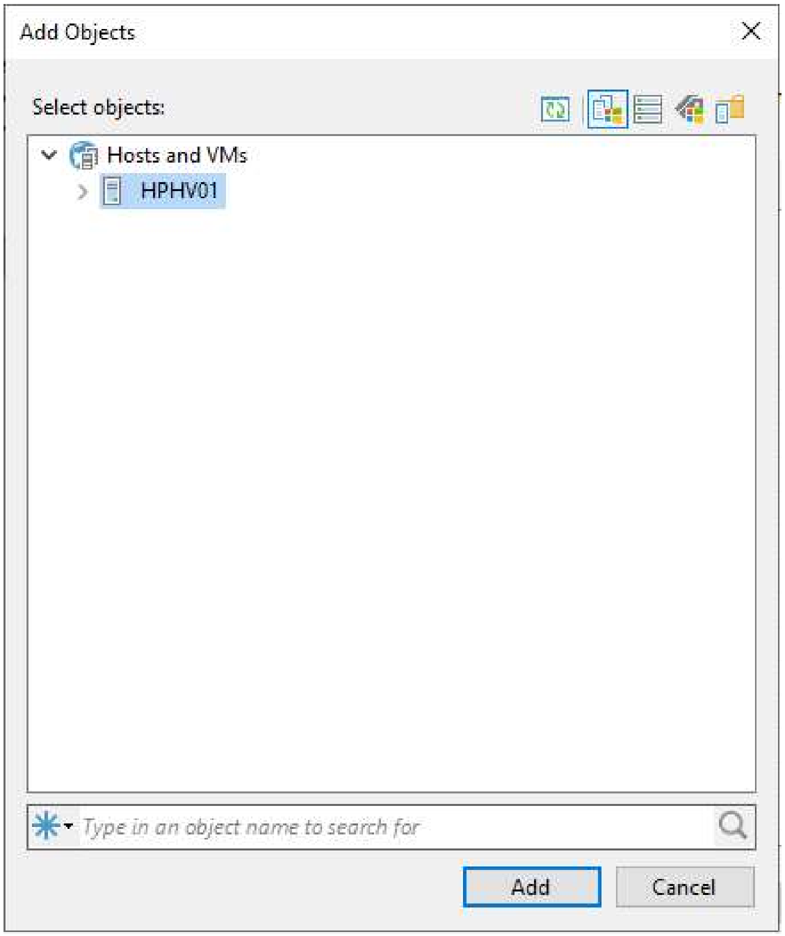


New Backup Job

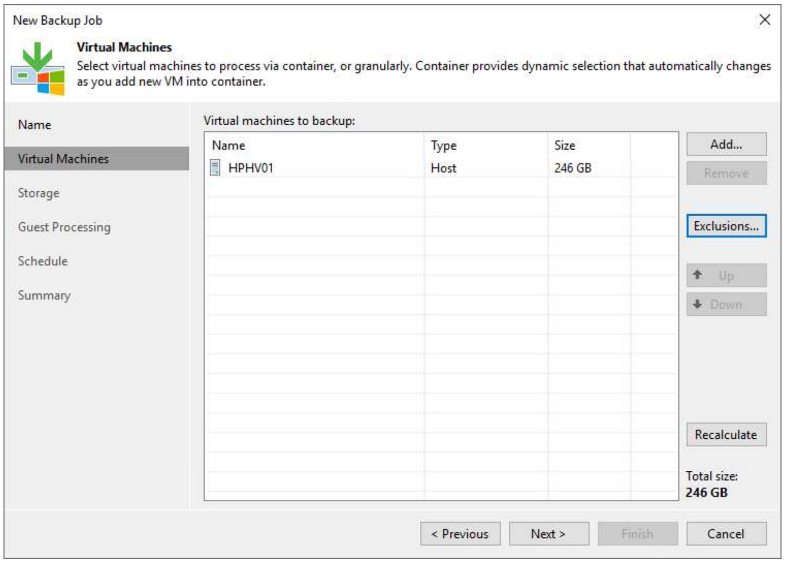
Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

9. Select the Host on the Add Objects page list and click Add.
10. If multiple Hosts need to backup in the same backup job, you can repeat the step to add them.



11. On the Virtual Machines page, click Next.



New Backup Job

Virtual Machines

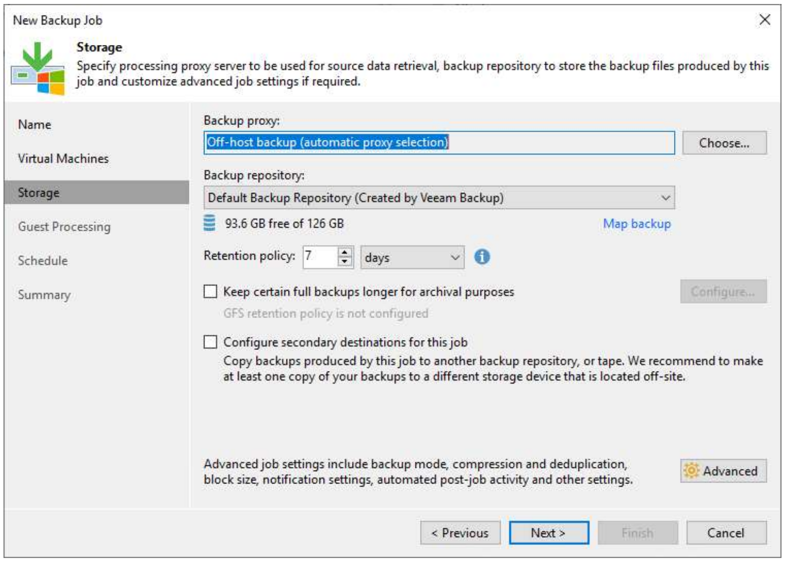
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
HPHV01	Host	246 GB

Total size: **246 GB**

12. On the Storage, click Choose to select a backup proxy if you don’t want to use the default Off-host backup (automatic proxy selection) setting.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Default Backup Repository (Created by Veeam Backup)

93.6 GB free of 126 GB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

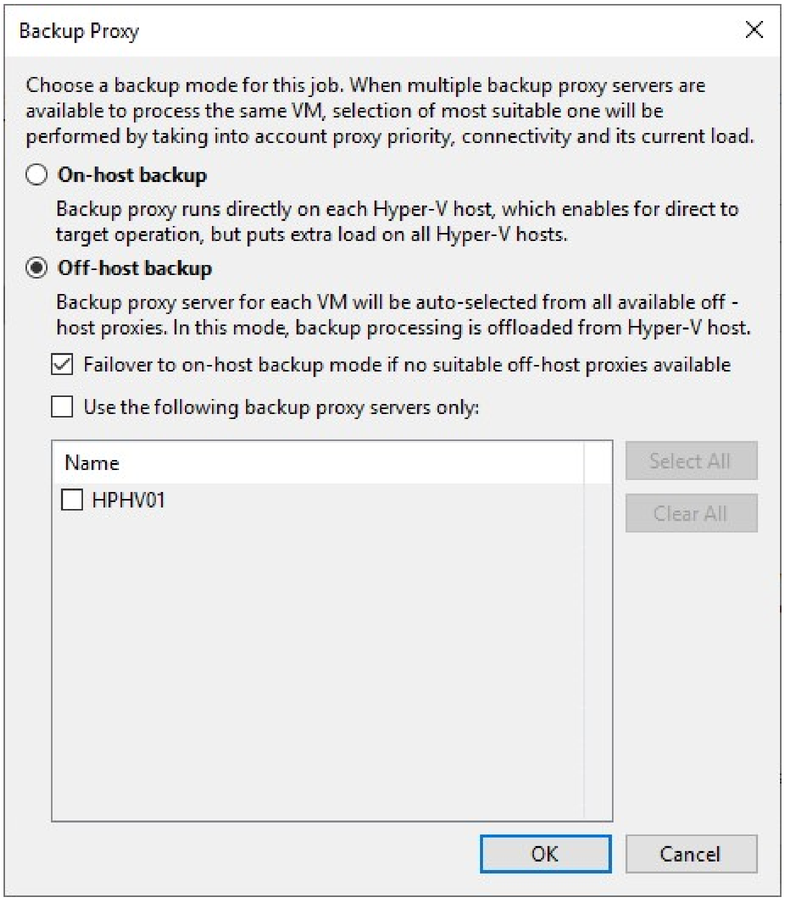
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

13. On the Backup Proxy page, if you select On-host backup mode, the source Microsoft HyperV host will serve as both the source host and the backup proxy. In this mode, Veeam Data Mover runs directly on the source host, which speeds up data retrieval but places additional strain on the host.

14. If you select Off-host backup mode, Veeam Data Mover will run on a dedicated off-host backup proxy. All backup processing operations from the source host are routed to the off-host backup proxy in this model.

15. If the off-host backup mode is selected for the job, but there are no off-host backup proxies available when the job begins, Veeam Backup & Replication will transition to on-host backup mode.

16. You unselect the Failover to on-host backup mode if no suitable off-host



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

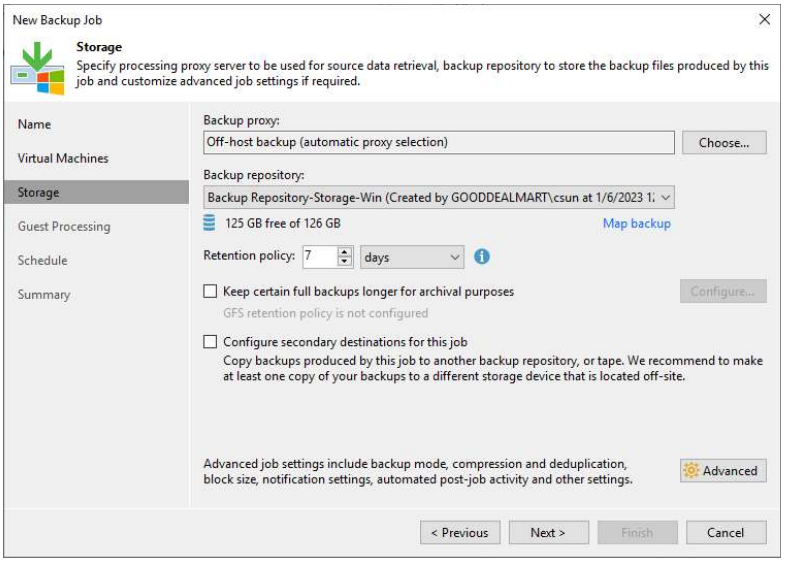
□ Use the following backup proxy servers only:

Name
□ HPHV01

proxies available checkbox, but if off-host backup proxies are not available or are not configured properly, the job will fail to start.

17. Click OK.

18. Select the backup repository from the Backup repository drop-down list where the created backup files must be saved.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

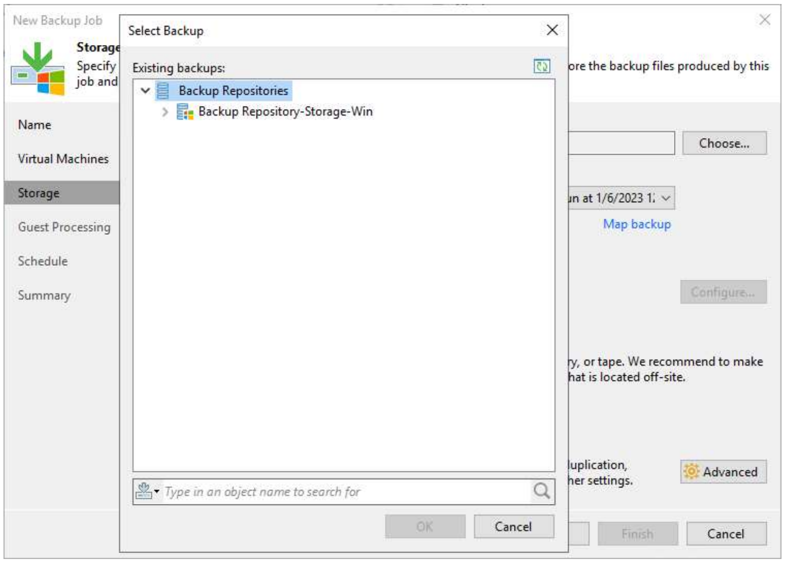
GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

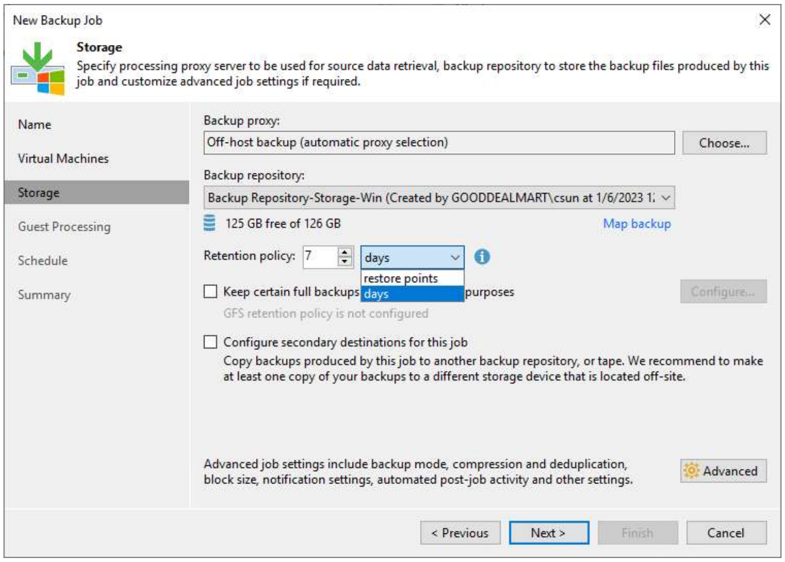
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

19. Click Map backup is helpful if you have relocated backup files to a new backup repository and want to point the job to existing backups in this new backup repository. Backup job mapping can also be used if the configuration database becomes corrupt and you need to reconfigure backup jobs.



20. Set the retention policy settings for restore points in the Retention Policy field.

21. Select days or restore points from the drop-down list.



Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups purposes

GFS retention policy is not configured

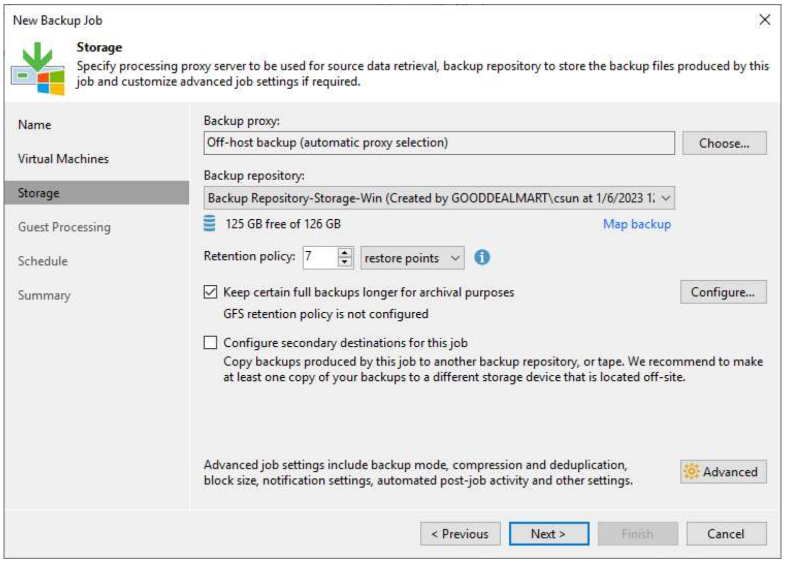
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

22. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.

23. Select the Keep certain full backups for longer for archival purposes. If you need it, click Configure.


New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

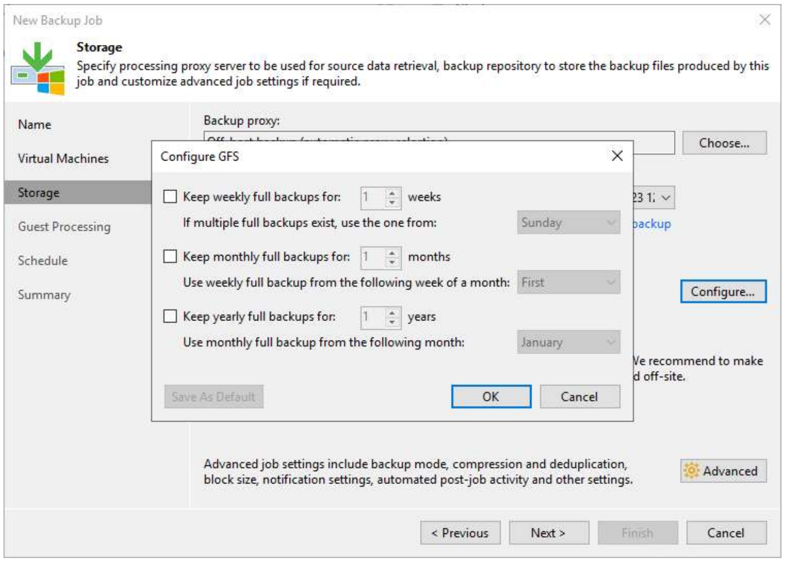
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

24. Select the Keep weekly full backups for check box, and specify the number of weeks you want to prevent restore points from being modified and deleted.

25. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.


New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Configure GFS

□ Keep weekly full backups for: 1 weeks

If multiple full backups exist, use the one from: Sunday

□ Keep monthly full backups for: 1 months

Use weekly full backup from the following week of a month: First

□ Keep yearly full backups for: 1 years

Use monthly full backup from the following month: January

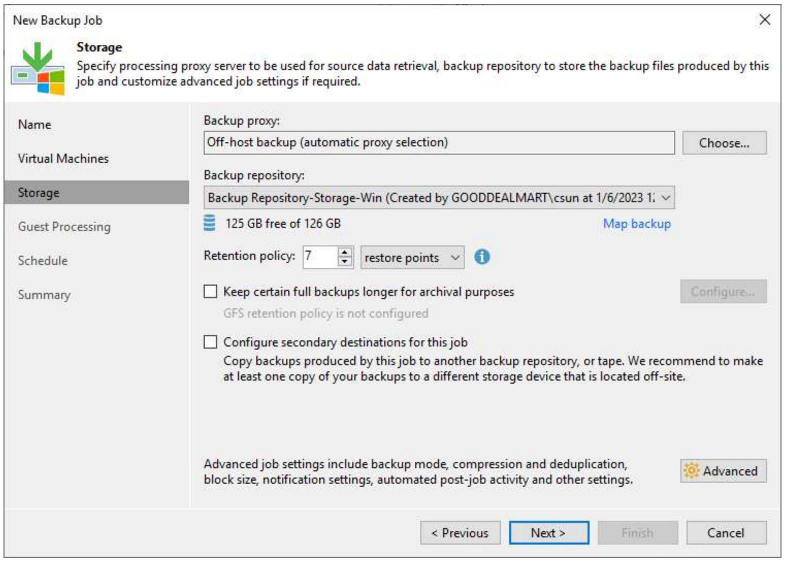
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

26. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore

points from being modified and deleted.

27. Click OK.

28. On the Storage page, click Advanced.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

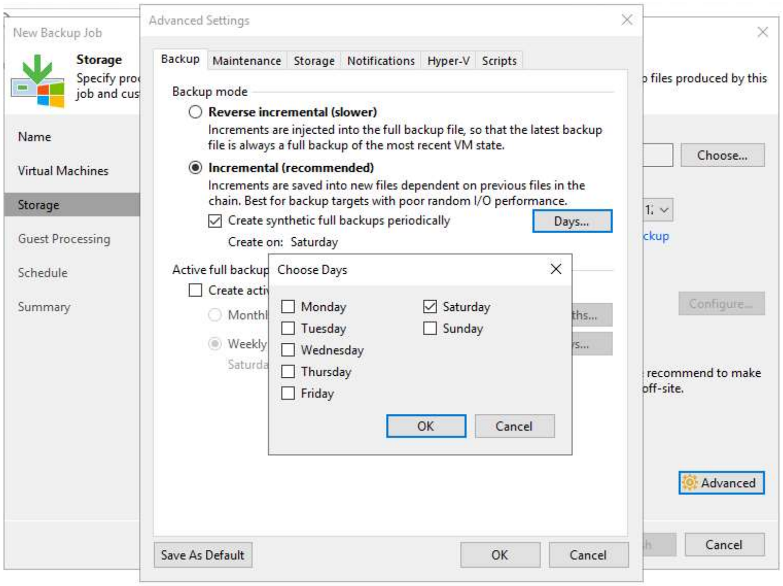
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

29. There are two backup modes on the Backup page, and you must select one.

30. Select Reverse Incremental (slower) to create a reverse incremental backup chain.

31. Select Incremental and enable synthetic full and active full backups. Click Days to schedule full synthetic backups on the necessary weekdays, and click OK.



Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

☑ Create synthetic full backups periodically

Create on: Saturday

Active full backup

☐ Create acti

○ Monthl

● Weekly

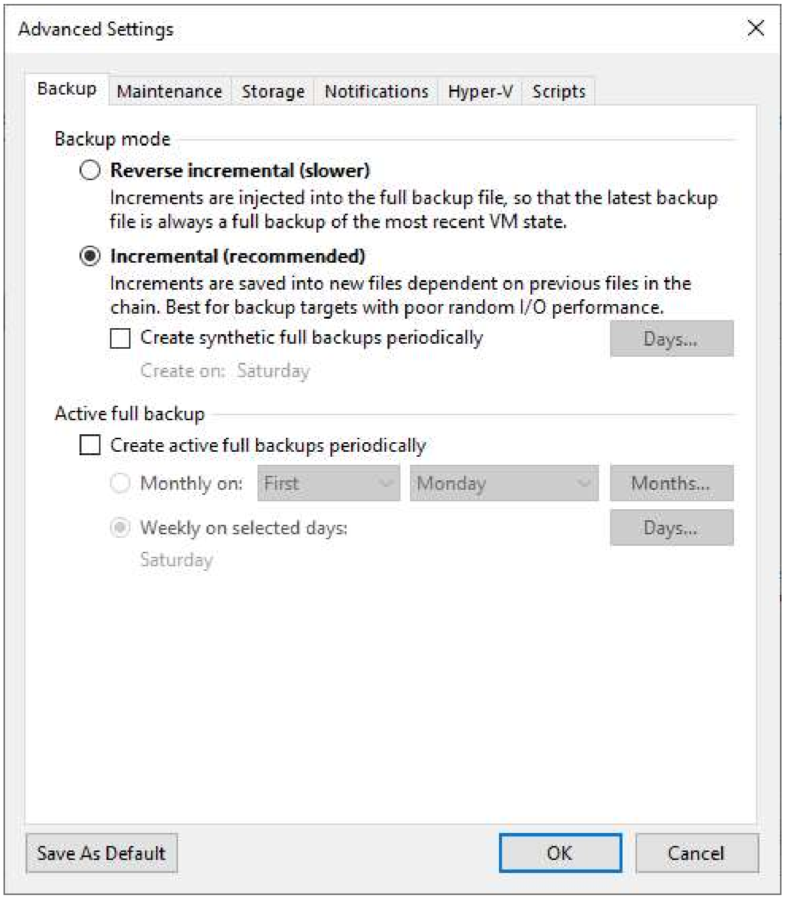
Saturda

Choose Days

☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☑ Saturday
☐ Sunday

OK Cancel

32. Select Incremental and disable synthetic full and active full backups to create a forever forward incremental backup chain.



Advanced Settings

Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically

Create on: Saturday

Active full backup

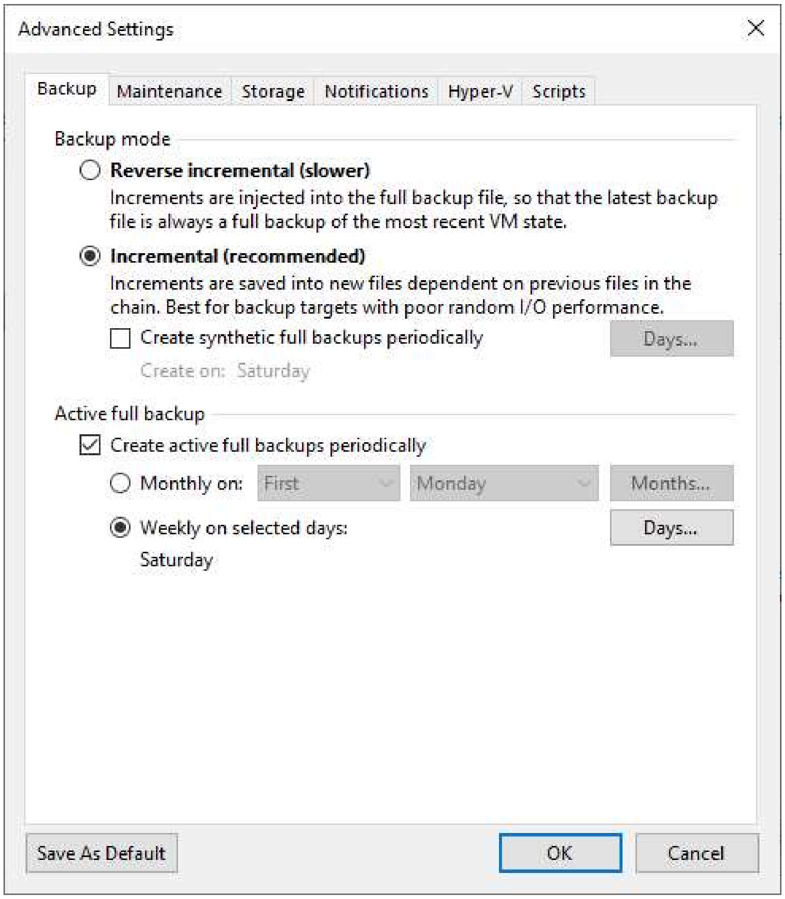
□ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:
Saturday

33. Select the Create active full backups periodically checkbox to create full backups regularly if needed.

34. Select the Monthly or Weekly on selected days options to define scheduling settings.



Advanced Settings

Backup | Maintenance | Storage | Notifications | Hyper-V | Scripts

Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically [Days...]
Create on: Saturday

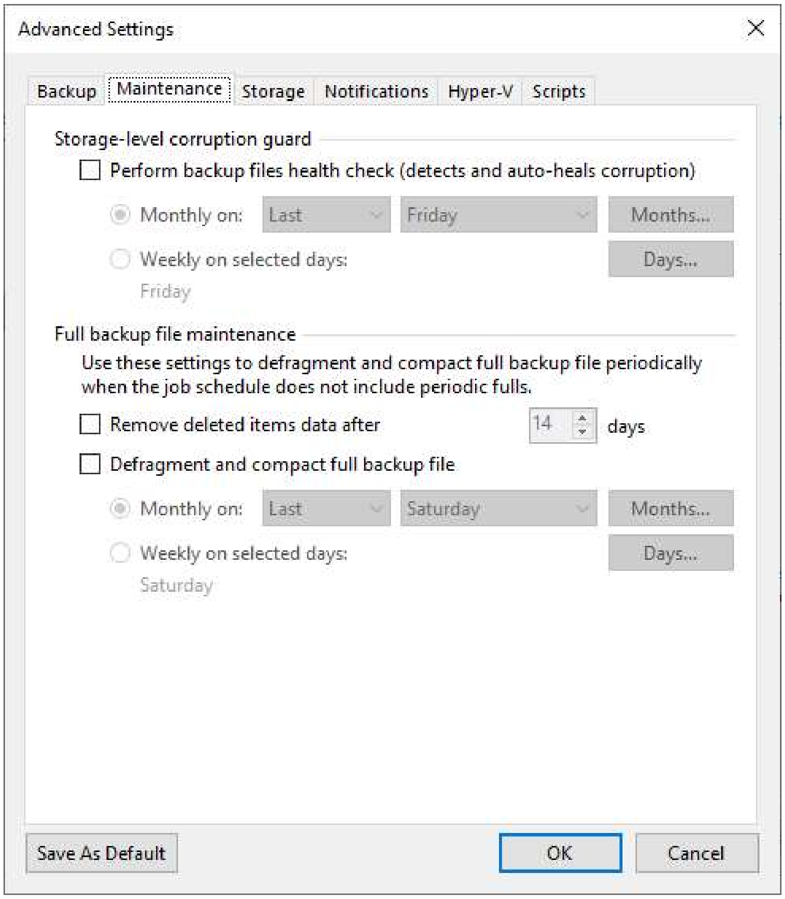
Active full backup

☑ Create active full backups periodically

○ Monthly on: First Monday [Months...]

● Weekly on selected days: [Days...]
Saturday

35. On the Advanced Settings, Maintenance.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

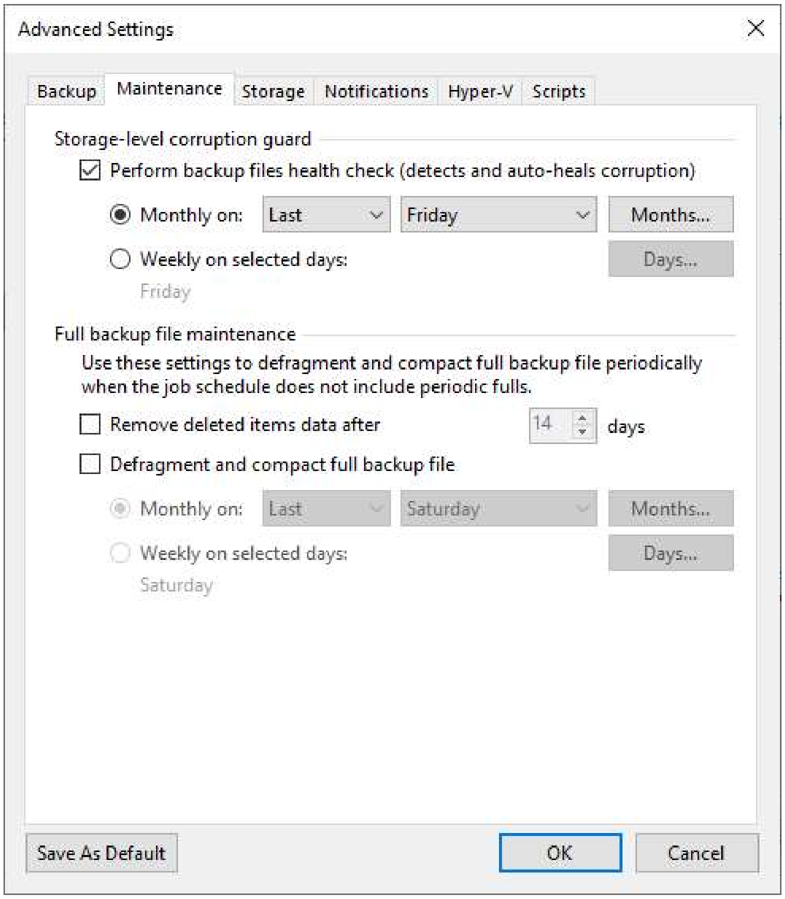
□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

36. To regularly perform a health check in the backup chain, check the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard section and specify a schedule for the health check.



Advanced Settings

Backup | Maintenance | Storage | Notifications | Hyper-V | Scripts

Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

□ Defragment and compact full backup file

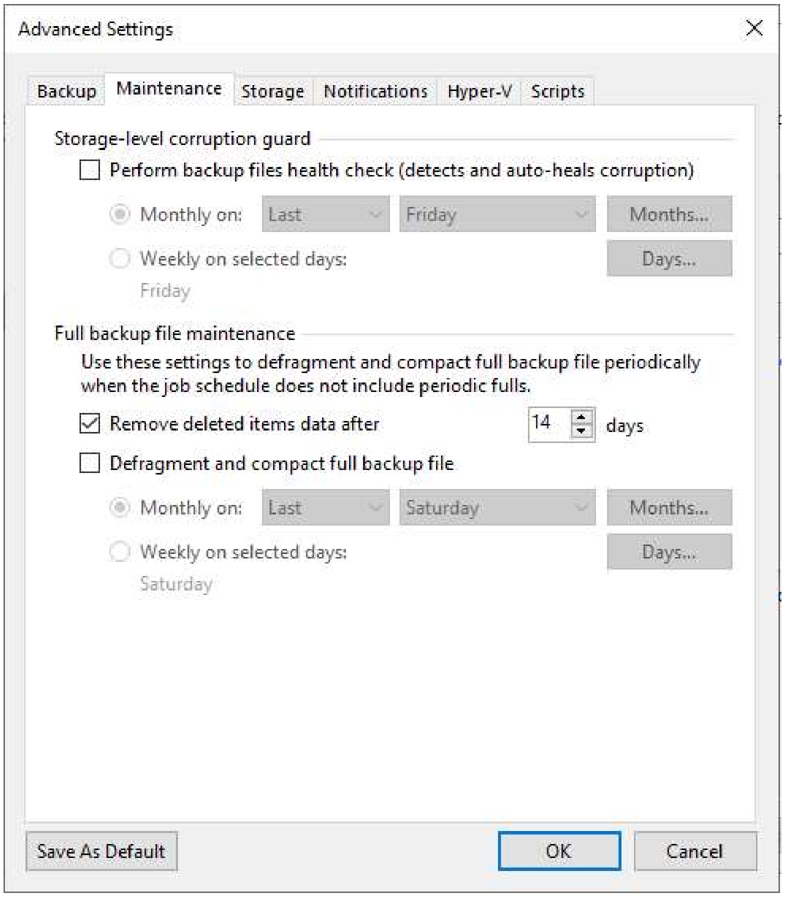
● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

Save As Default | OK | Cancel

37. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept.



Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days:

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

☑ Remove deleted items data after 14 days

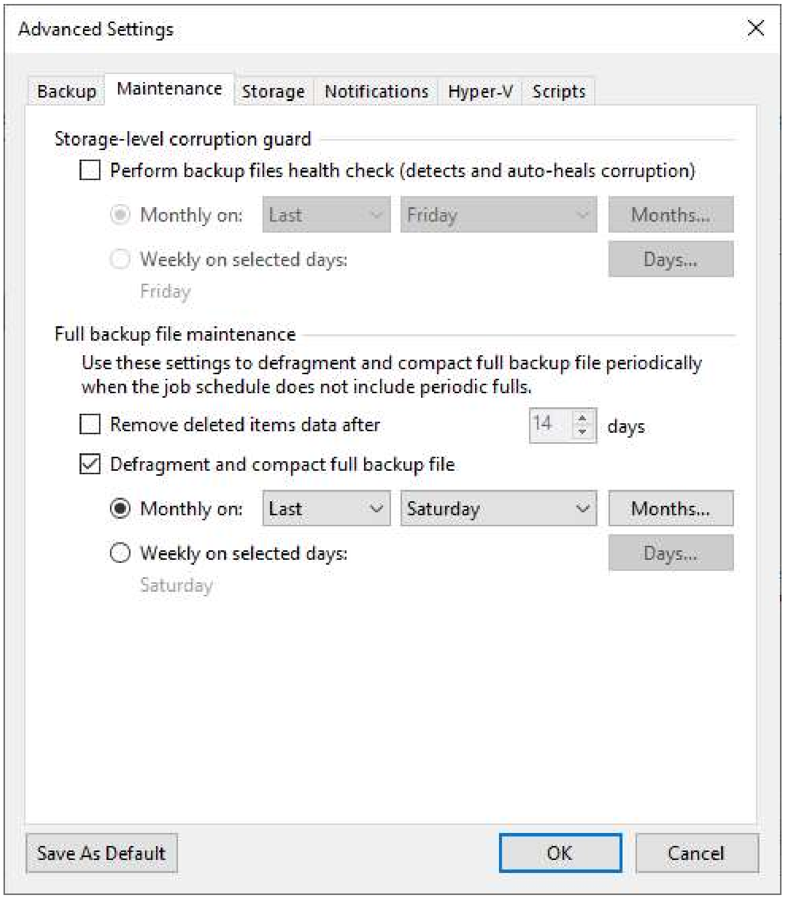
□ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days:

Saturday

38. Select the Defragment and compact full backup file check box and specify the schedule for the compact operation to compact a full backup periodically.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

☑ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

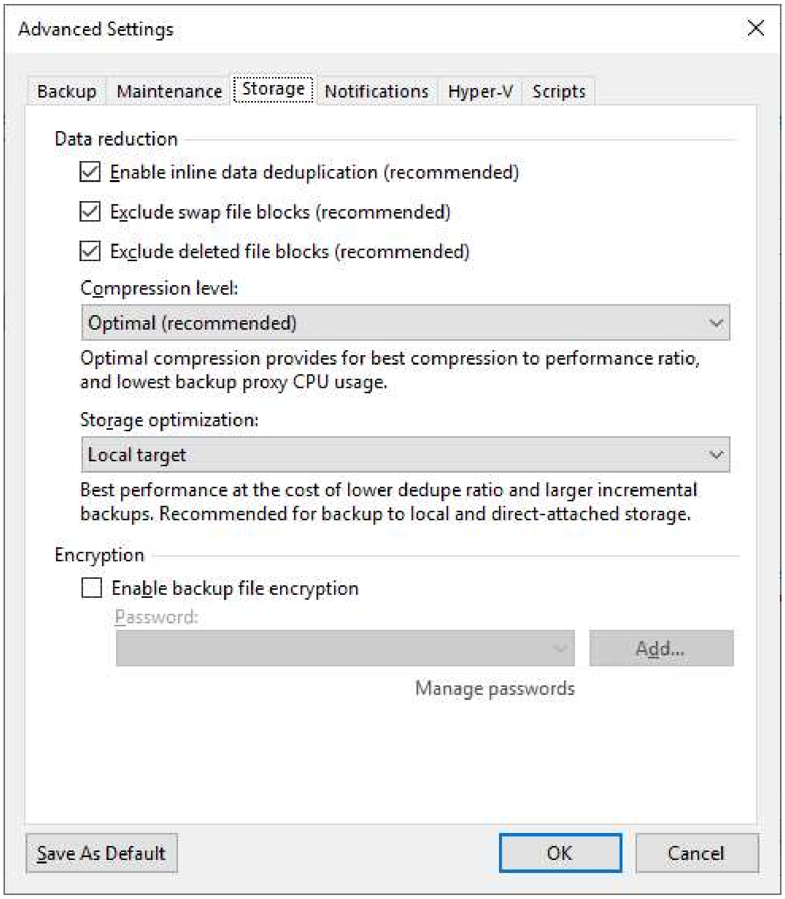
39. On Advanced Settings, click Storage.

40. Select the Enable inline data deduplication checkbox.

41. Select the Exclude swap file blocks checkbox.

42. Select the Exclude deleted file blocks checkbox.

43. Select the compression level for the backup from the drop-down list.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

Local target

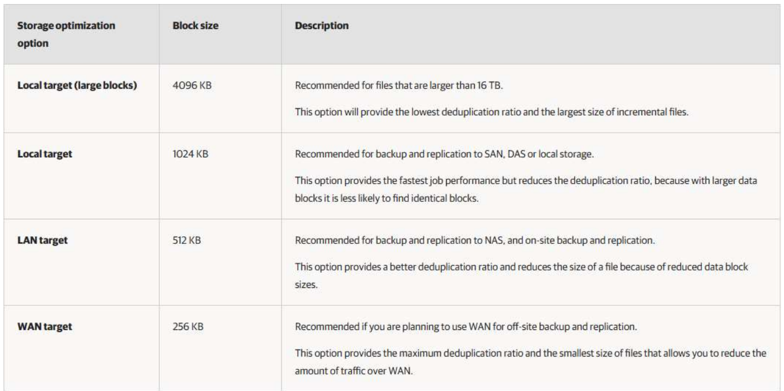
Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

☐ Enable backup file encryption

Password:

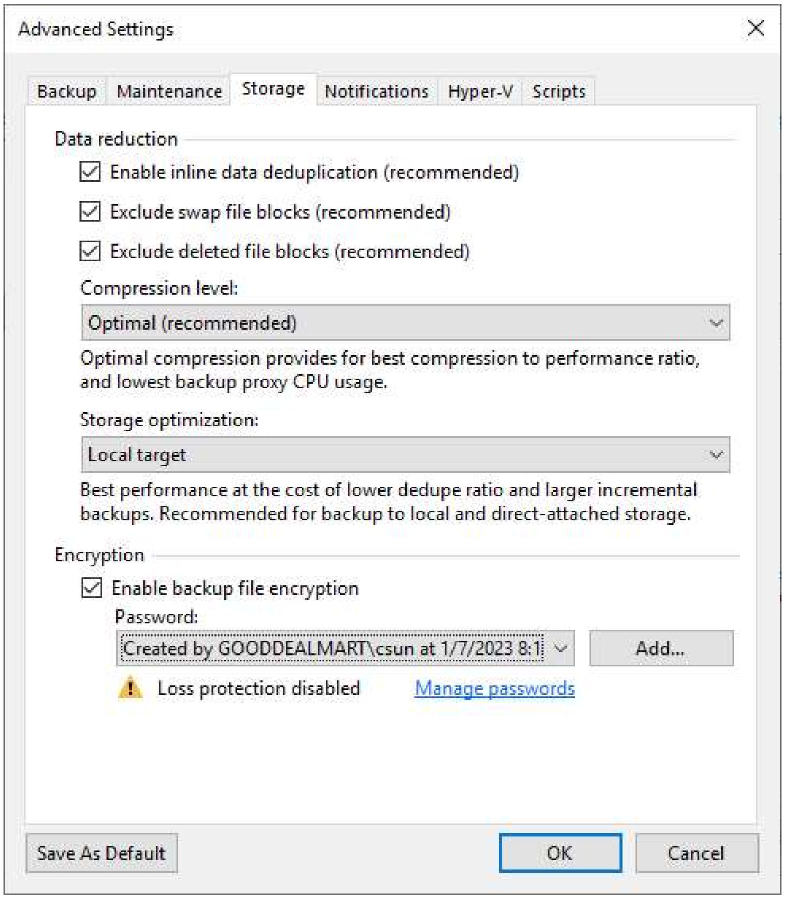
44. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

45. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

46. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

☑ Enable backup file encryption

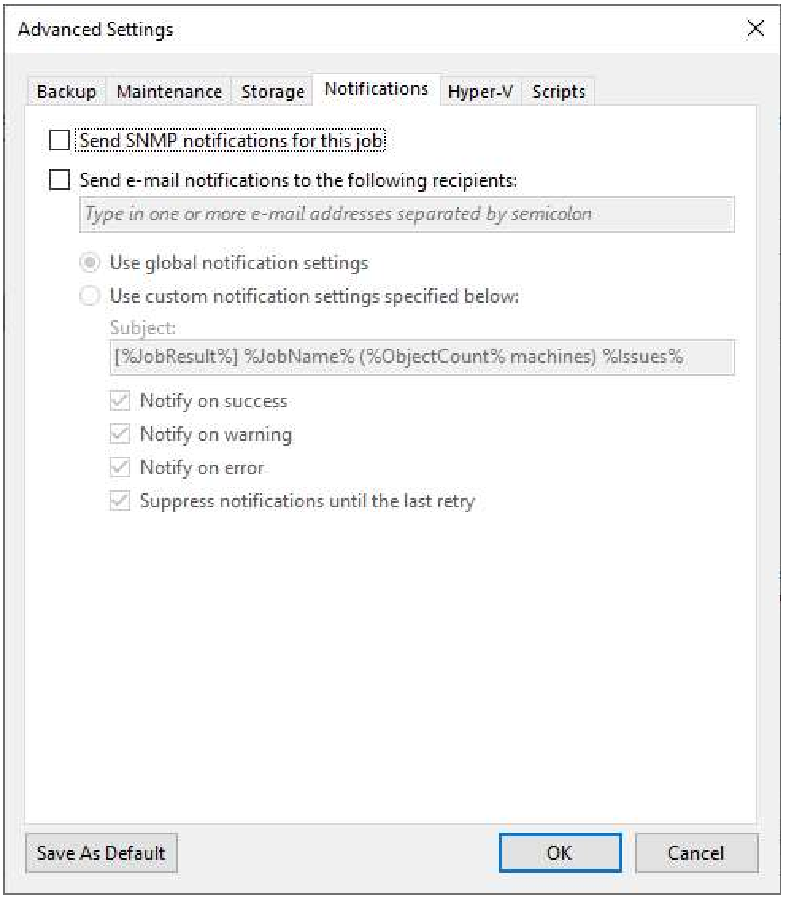
Password:

Created by GOODDEALMART\csun at 1/7/2023 8:1

Loss protection disabled

47. On the Advanced Settings, select Notifications.

48. Keep the default settings.



Advanced Settings

□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

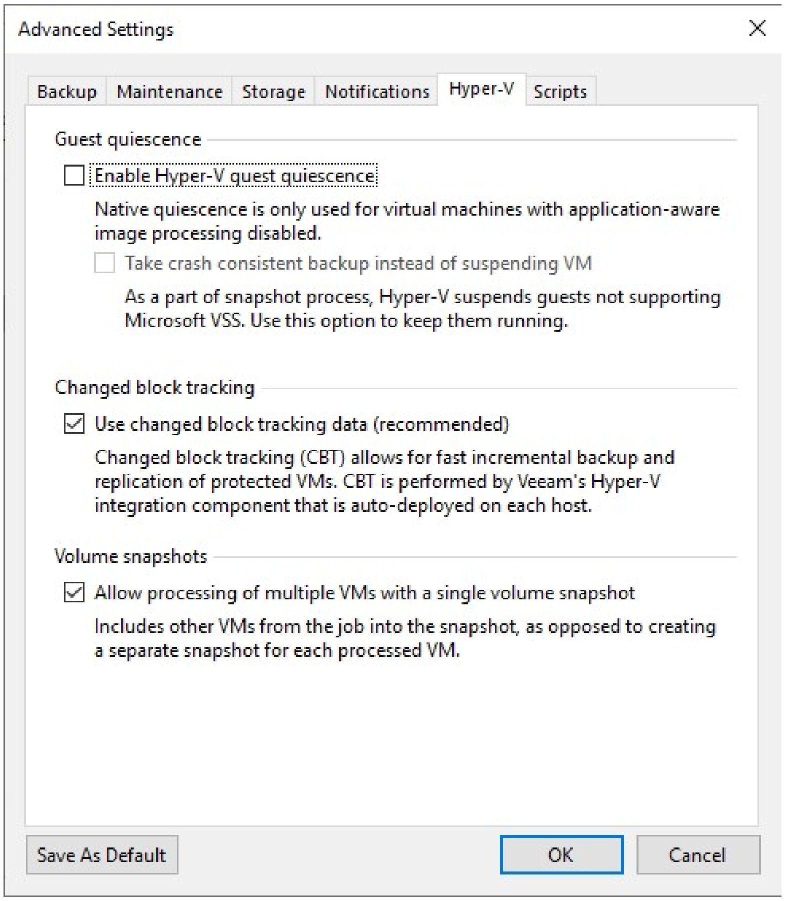
49. On the Advanced Settings, select Hyper-V.

50. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.

51. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.

52. Select the Use changed block tracking data (recommended) check box.

53. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Advanced Settings

Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

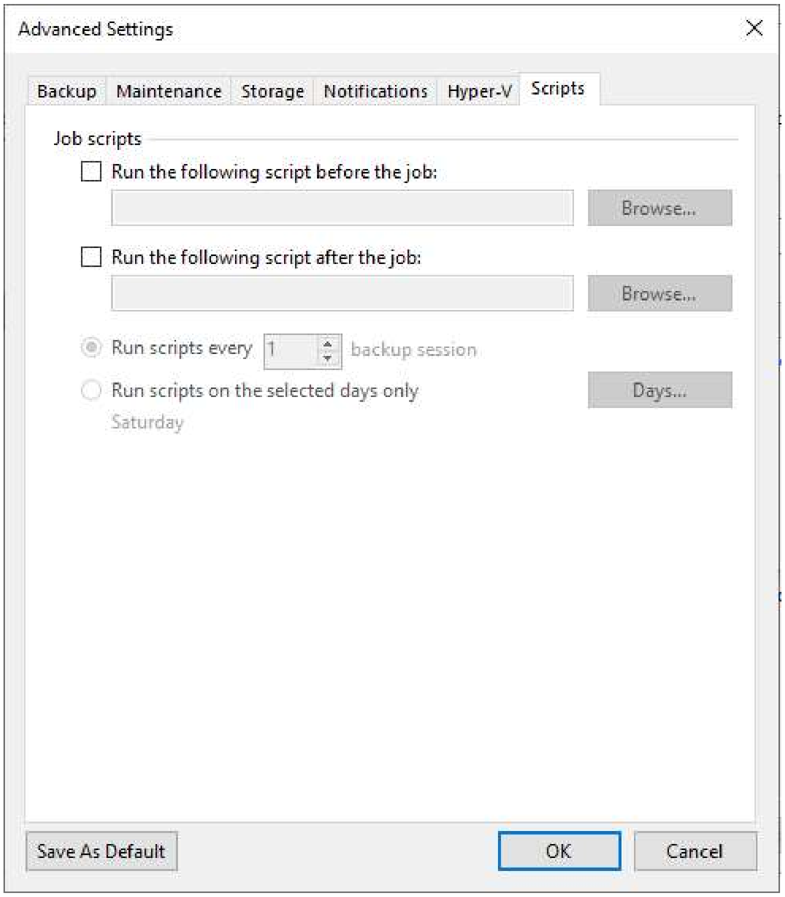
Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

54. On the Advanced Settings page, click Scripts.

55. Keep the default settings and click OK.



Advanced Settings

Job scripts

□ Run the following script before the job:

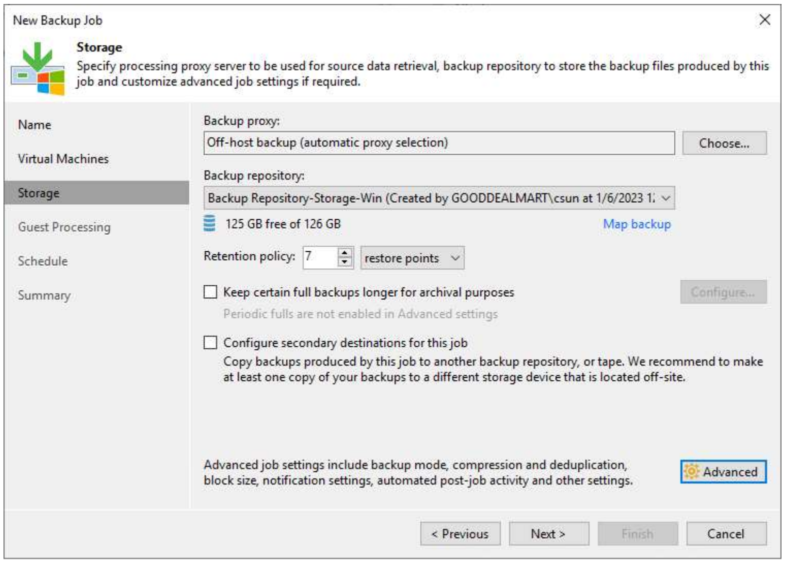
□ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

56. On the Storage page, click Next.



Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☐ Keep certain full backups longer for archival purposes

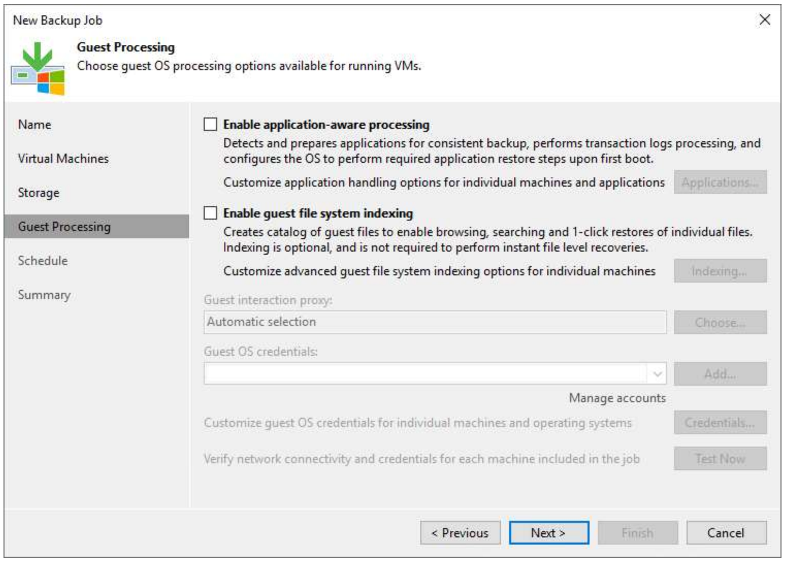
Periodic fulls are not enabled in Advanced settings

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

57. On the Guest Processing page, click Next.



Guest Processing

Choose guest OS processing options available for running VMs.

☐ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☐ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

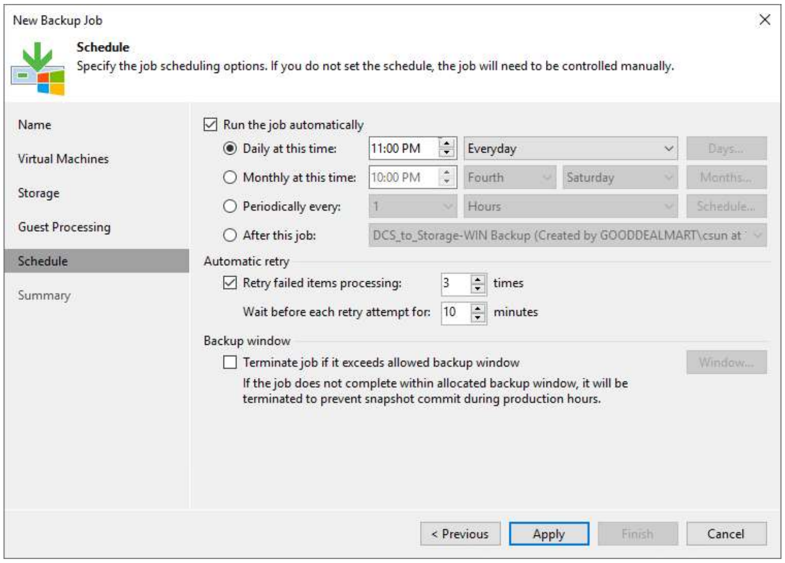
Verify network connectivity and credentials for each machine included in the job

58. Select Run the job automatically on the Schedule page and select your specified schedule.

59. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

60. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.

61. Click Apply.



Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 11:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DCS_to_Storage-WIN Backup (Created by GOODDEALMART\csun at

Automatic retry

☑ Retry failed items processing: 3 times

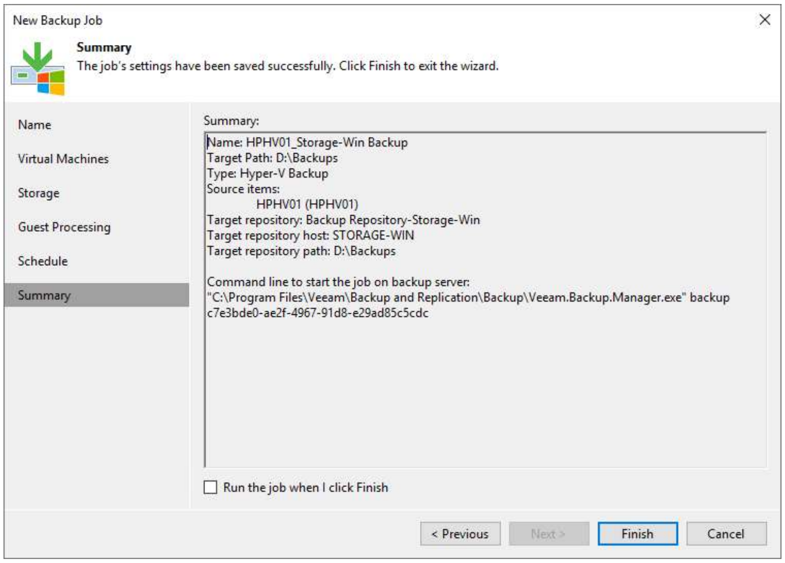
Wait before each retry attempt for: 10 minutes

Backup window

□ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

62. On the Summary page, click Finish.



Summary

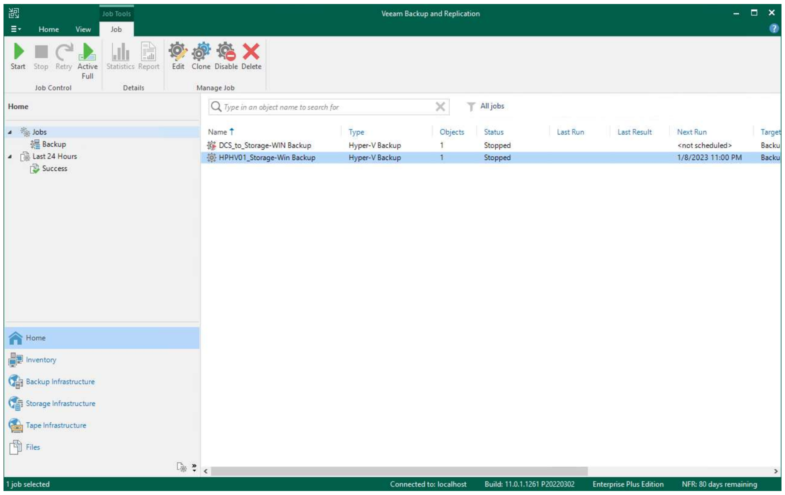
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: HPHV01_Storage-Win Backup
Target Path: D:\Backups
Type: Hyper-V Backup
Source items:
        HPHV01 (HPHV01)
Target repository: Backup Repository-Storage-Win
Target repository host: STORAGE-WIN
Target repository path: D:\Backups

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
c7e3bde0-ae2f-4967-91d8-e29ad85c5cdc
```

☐ Run the job when I click Finish

63. Verify the backup job has been added

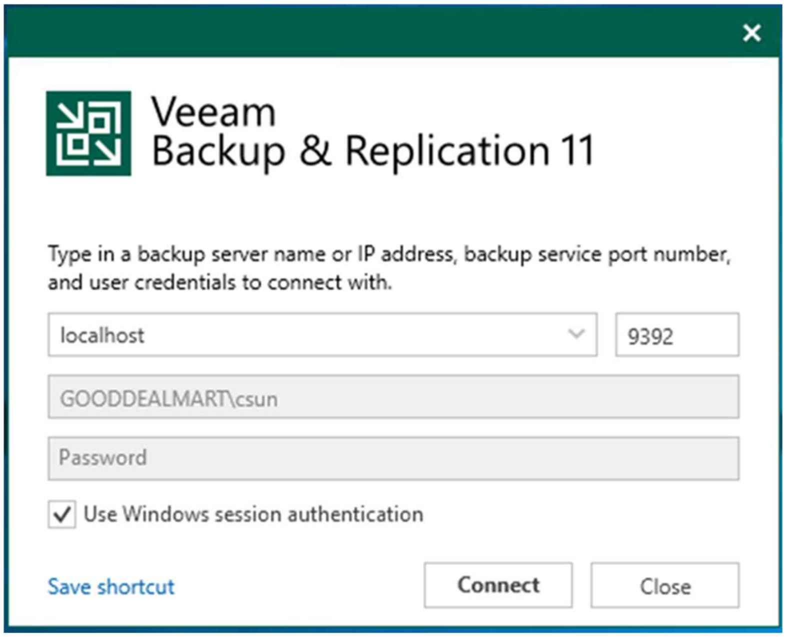


Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Target
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backu
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			1/8/2023 11:00 PM	Backu

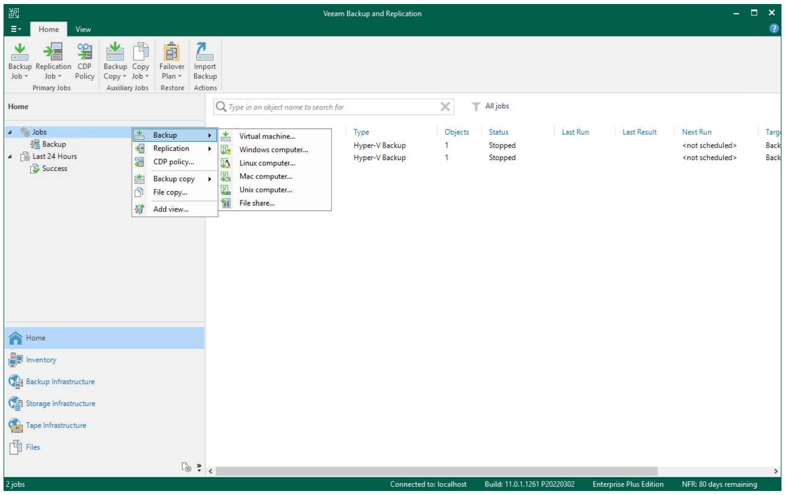
1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 80 days remaining

Creating a Backup job to backup the VMS portion of the Hyper-V Host

This process creates a backup job to backup the VMS of the Hyper-V host but not all of them.

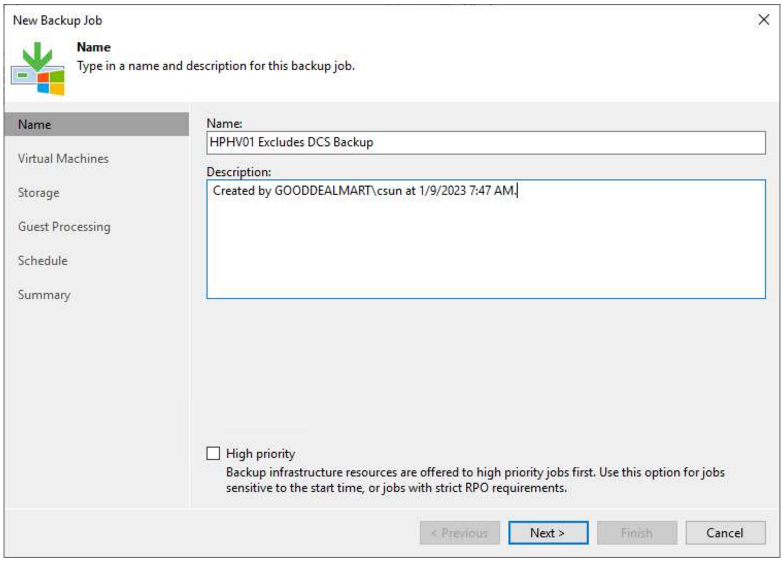
Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, select Jobs, right-click Jobs, select Backup and click Virtual machine.



Type	Objects	Status	Last Run	Last Result	Next Run	Targ
Hyper-V Backup	1	Stopped			<not scheduled>	Back
Hyper-V Backup	1	Stopped			<not scheduled>	Back

4. On the Name page, enter a name in the Name field.
5. Describe the Description field.
6. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.
7. Click Next.


New Backup Job

Name

Type in a name and description for this backup job.

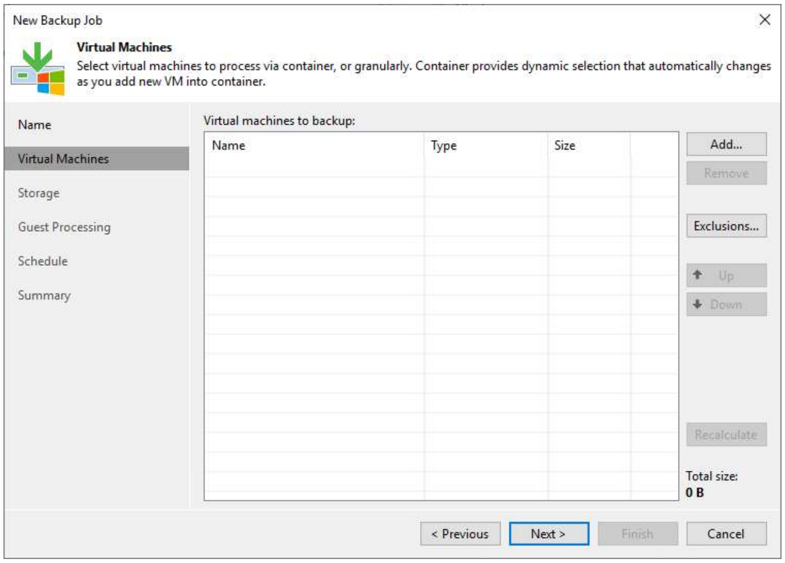
Name: HPHV01 Excludes DCS Backup

Description: Created by GOODDEALMART\csun at 1/9/2023 7:47 AM.

☐ High priority

Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

8. On the Virtual Machines page, click Add.



New Backup Job

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

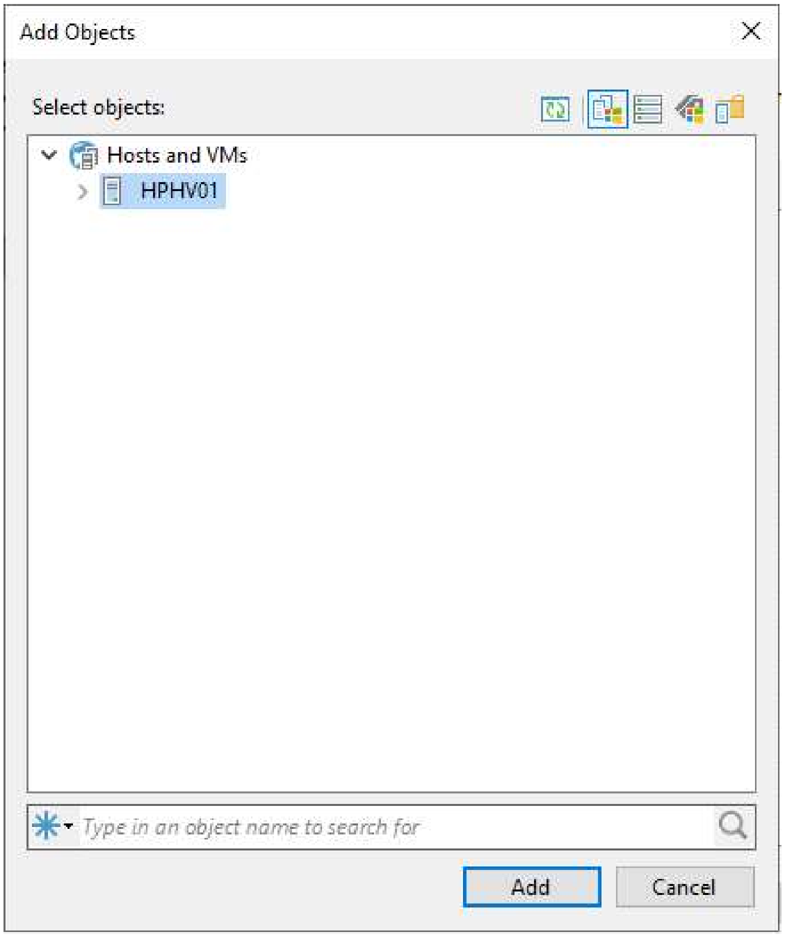
Virtual machines to backup:

Name	Type	Size

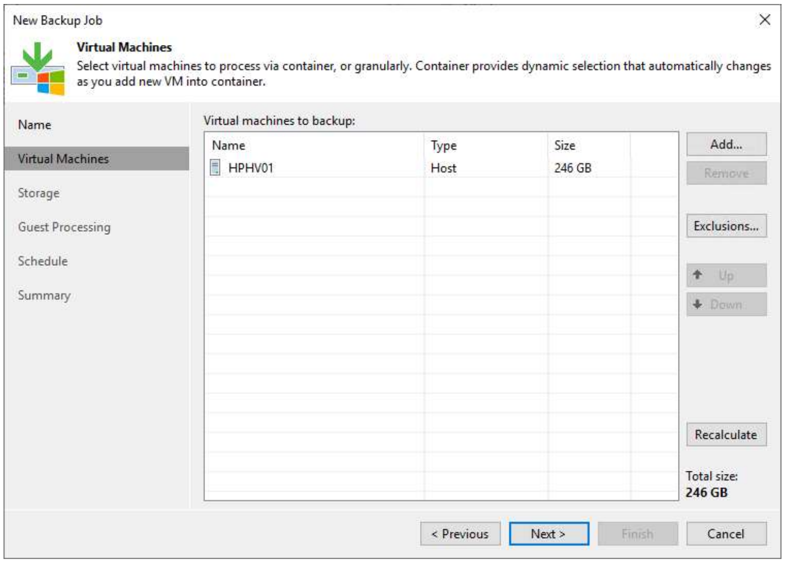
Total size:
0 B

9. Select the Host on the Add Objects page list and click Add.

10. If multiple Hosts need to backup in the same backup job, you can repeat the step to add them.



11. On the Virtual Machines page, click Exclusions.



New Backup Job

Virtual Machines

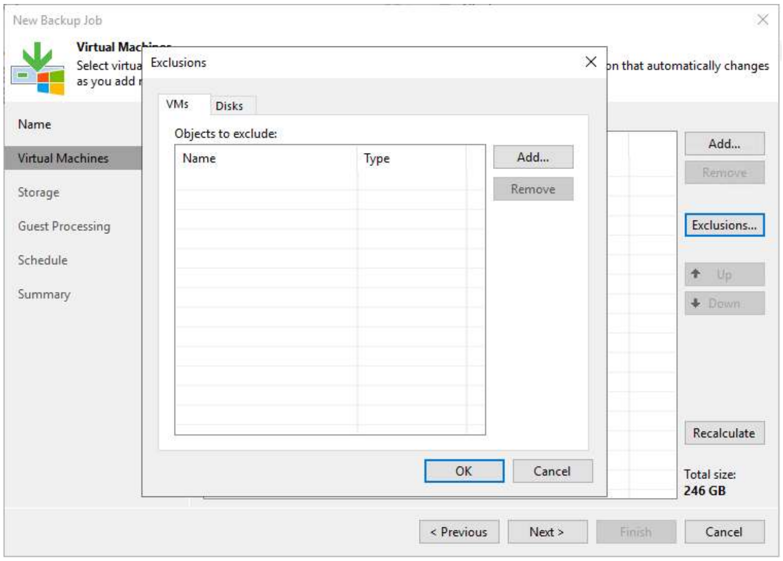
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
HPHV01	Host	246 GB

Total size: **246 GB**

12. On the Exclusions page, select VMS and click Add.



Exclusions

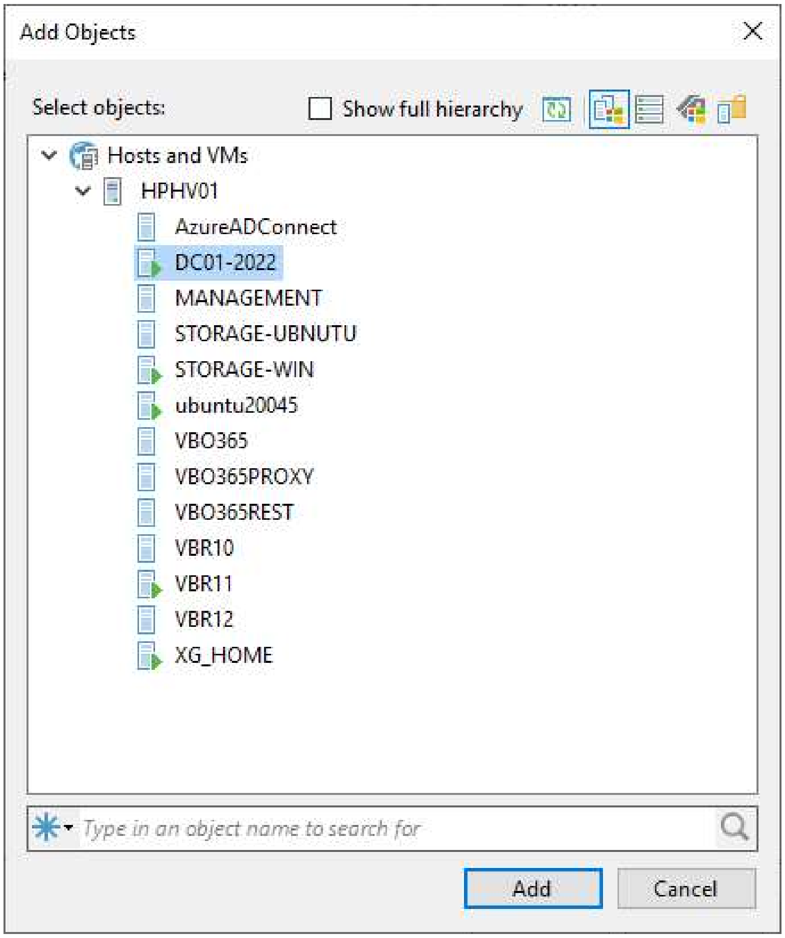
Objects to exclude:

Name	Type

Total size: **246 GB**

13. On the Add Objects page, expand the host.

14. Select the VM you want to exclude and click Add.

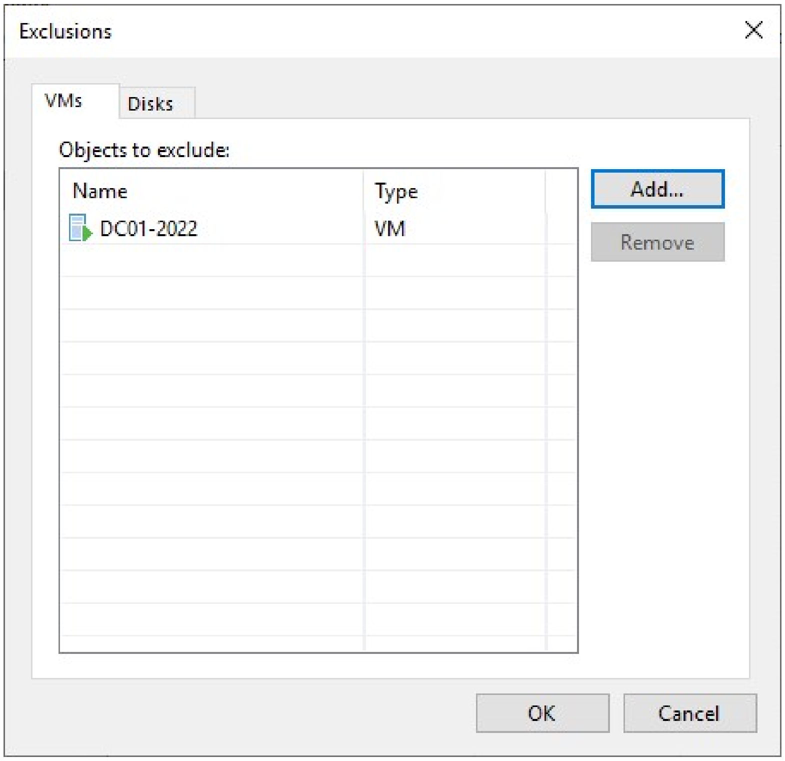


Add Objects

Select objects: □ Show full hierarchy

- Hosts and VMs
  - HPHV01
    - AzureADConnect
    - DC01-2022
    - MANAGEMENT
    - STORAGE-UBNUTU
    - STORAGE-WIN
    - ubuntu20045
    - VBO365
    - VBO365PROXY
    - VBO365REST
    - VBR10
    - VBR11
    - VBR12
    - XG_HOME

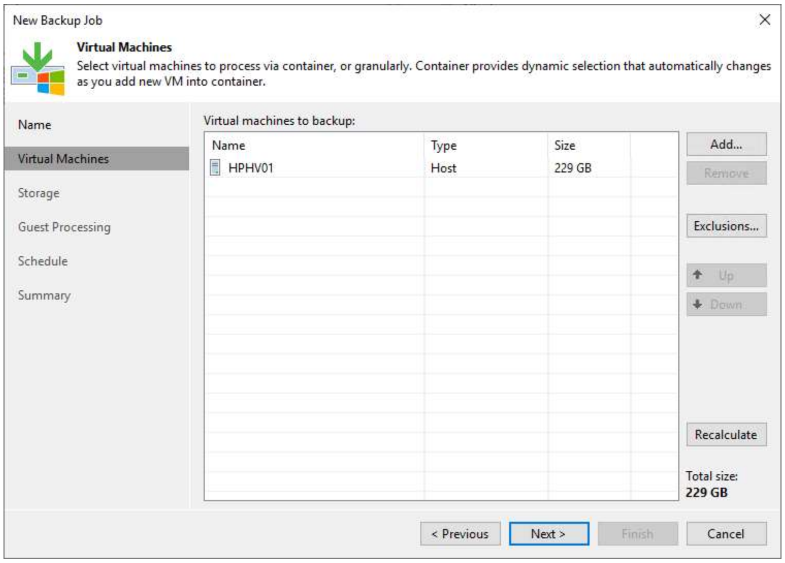
15. On the Exclusions page, click OK.



Objects to exclude:

Name	Type
DC01-2022	VM

16. On the Virtual Machines page, click Next.



Virtual Machines

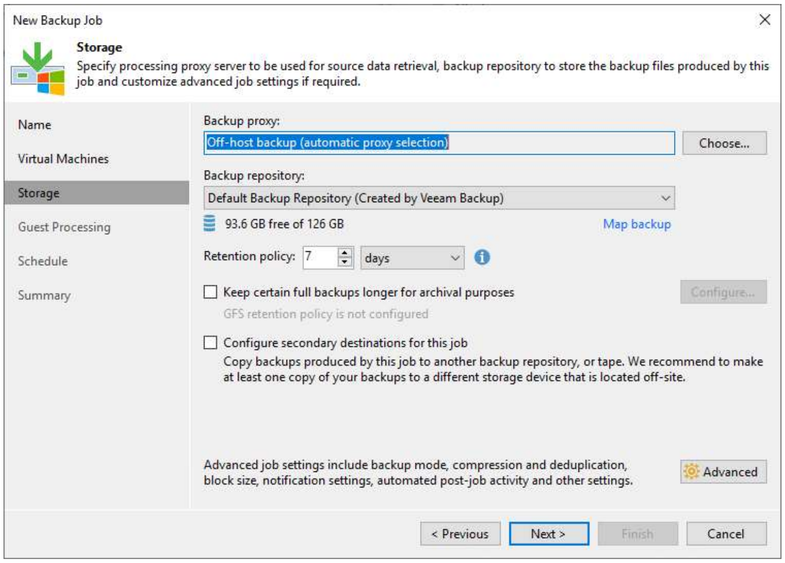
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
HPHV01	Host	229 GB

Total size:
229 GB

17. On the Storage, click Choose to select a backup proxy if you don’t want to use the default Off-host backup (automatic proxy selection) setting.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection) Choose...

Backup repository: Default Backup Repository (Created by Veeam Backup)

93.6 GB free of 126 GB Map backup

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes Configure...

GFS retention policy is not configured

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

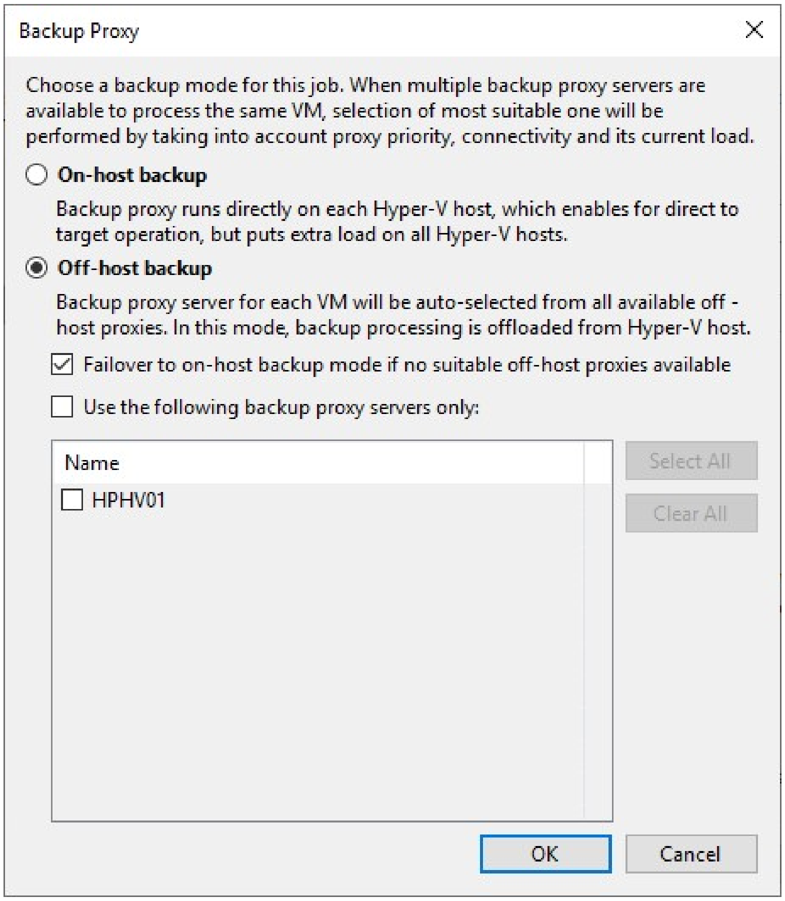
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings. Advanced

18. On the Backup Proxy page, if you select On-host backup mode, the source Microsoft HyperV host will serve as both the source host and the backup proxy. In this mode, Veeam Data Mover runs directly on the source host, which speeds up data retrieval but places additional strain on the host.

19. If you select Off-host backup mode, Veeam Data Mover will run on a dedicated off-host backup proxy. All backup processing operations from the source host are routed to the off-host backup proxy in this model.

20. If the off-host backup mode is selected for the job, but no off-host backup proxies are available when the job begins, Veeam Backup & Replication will transition to on-host backup mode.

21. You unselect the Failover to on-host backup mode if no suitable off-host



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

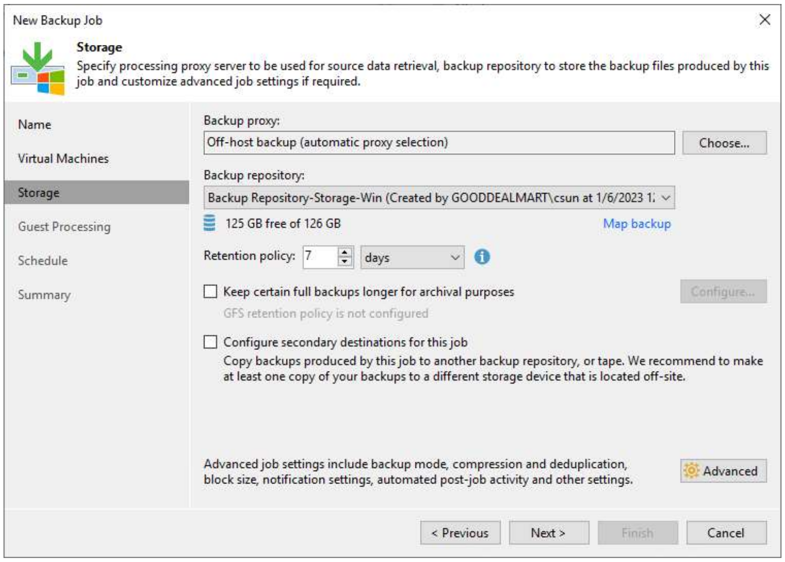
□ Use the following backup proxy servers only:

Name
□ HPHV01

proxies available checkbox, but if off-host backup proxies are not available or are not configured properly, the job will fail to start.

22. Click OK.

23. Select the backup repository from the Backup repository drop-down list where the created backup files must be saved.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

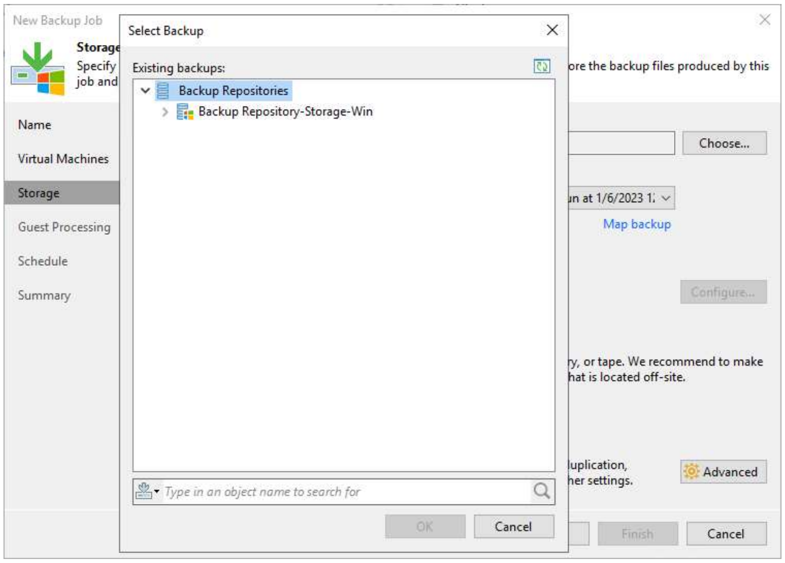
GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

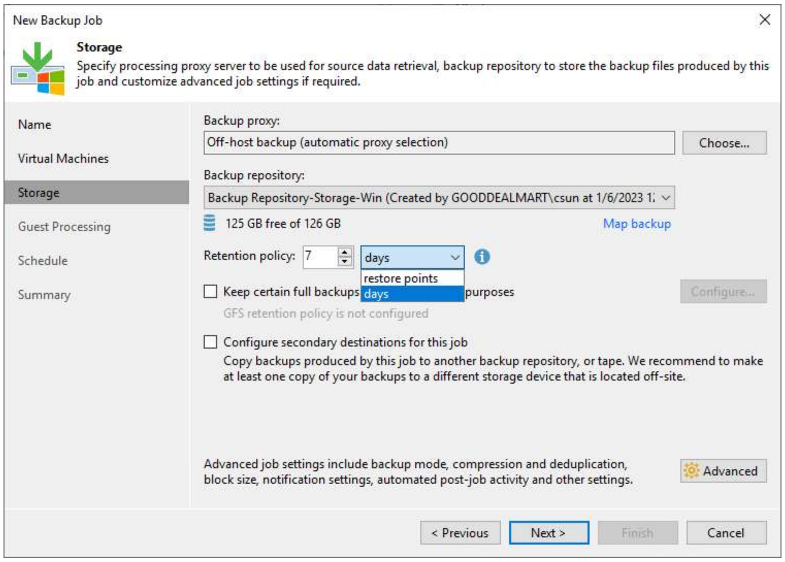
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

24. Click Map backup is helpful if you have relocated backup files to a new backup repository and want to point the job to existing backups in this new backup repository. Backup job mapping can also be used if the configuration database becomes corrupt and you need to reconfigure backup jobs.



25. Set the retention policy settings for restore points in the Retention Policy field.

26. Select days or restore points from the drop-down list.



Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

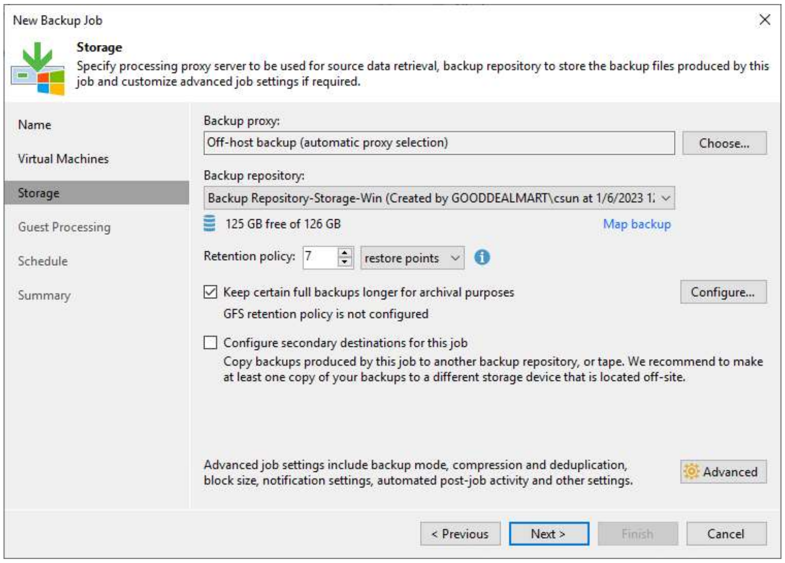
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

27. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.

28. Select the Keep certain full backups for longer for archival purposes. If you need it, click Configure.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

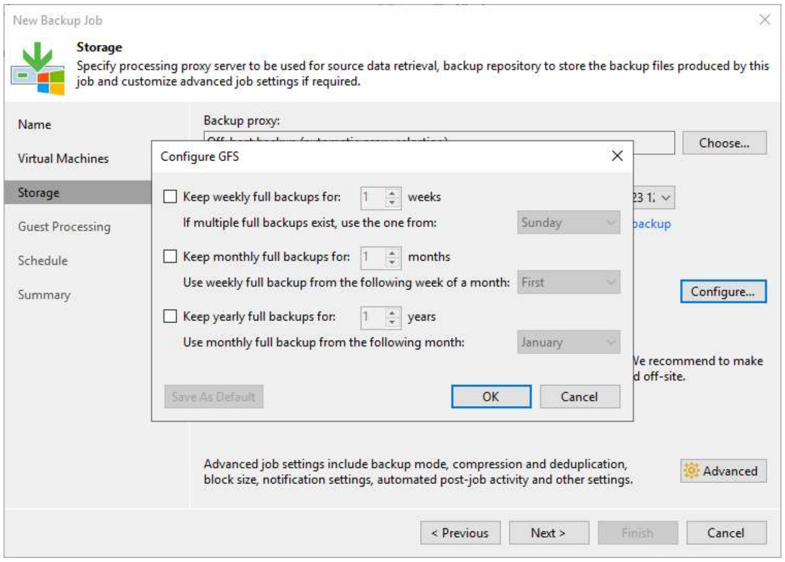
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

29. Select the Keep weekly full backups for check box, and specify the number of weeks you want to prevent restore points from being modified and deleted.

30. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.



Configure GFS

□ Keep weekly full backups for: 1 weeks

If multiple full backups exist, use the one from: Sunday

□ Keep monthly full backups for: 1 months

Use weekly full backup from the following week of a month: First

□ Keep yearly full backups for: 1 years

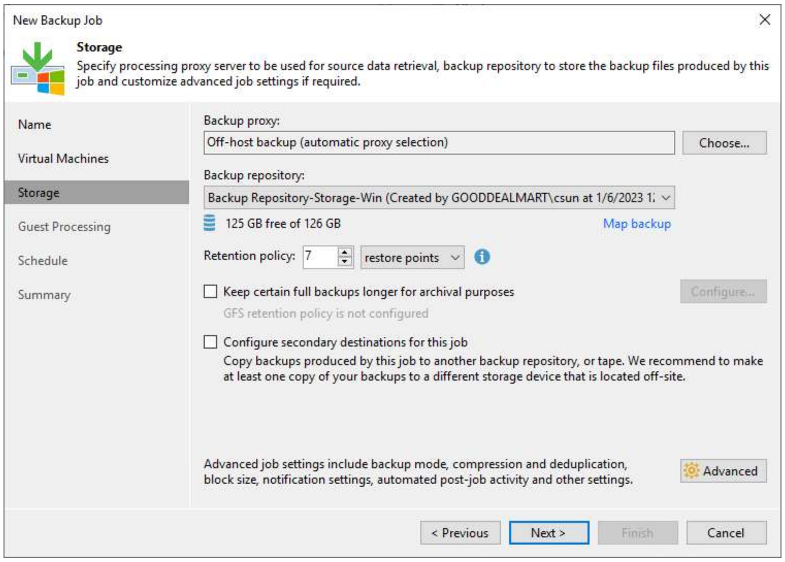
Use monthly full backup from the following month: January

31. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore

points from being modified and deleted.

32. Click OK.

33. On the Storage page, click Advanced.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Configure secondary destinations for this job

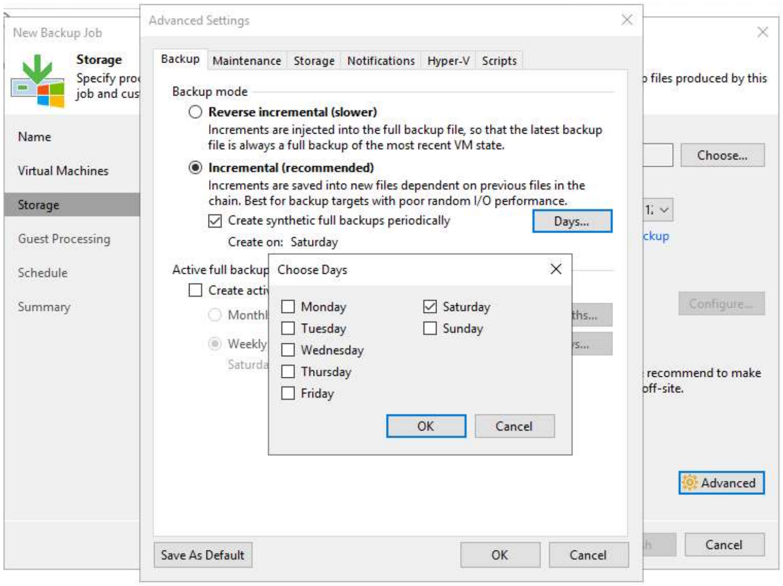
Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

34. There are two backup modes on the Backup page, and you must select one.

35. Select Reverse Incremental (slower) to create a reverse incremental backup chain.

36. Select Incremental and enable synthetic full and active full backups. Click Days to schedule full synthetic backups on the necessary weekdays, and click OK.



Advanced Settings

Backup | Maintenance | Storage | Notifications | Hyper-V | Scripts

Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

☑ Create synthetic full backups periodically   Days...
Create on: Saturday

Active full backup
□ Create acti
○ Monthl
● Weekly
Saturda

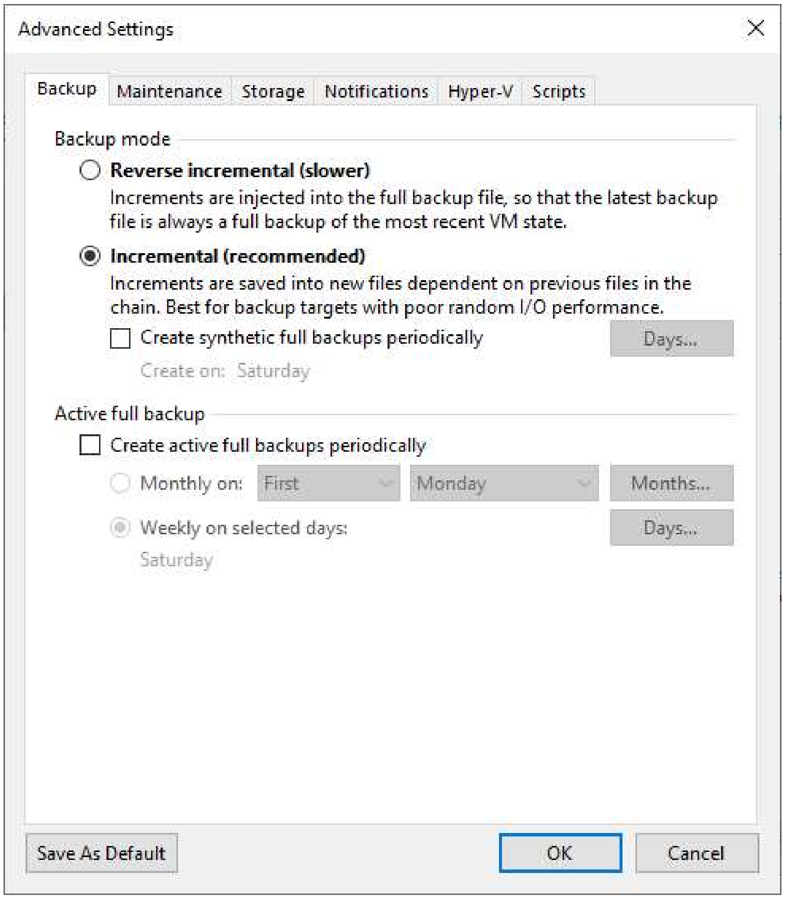
Choose Days

□ Monday   ☑ Saturday
□ Tuesday   □ Sunday
□ Wednesday
□ Thursday
□ Friday

OK   Cancel

Save As Default   OK   Cancel

37. Select Incremental and disable synthetic full and active full backups to create a forever forward incremental backup chain.



Backup mode

○ **Reverse incremental (slower)**
Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**
Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

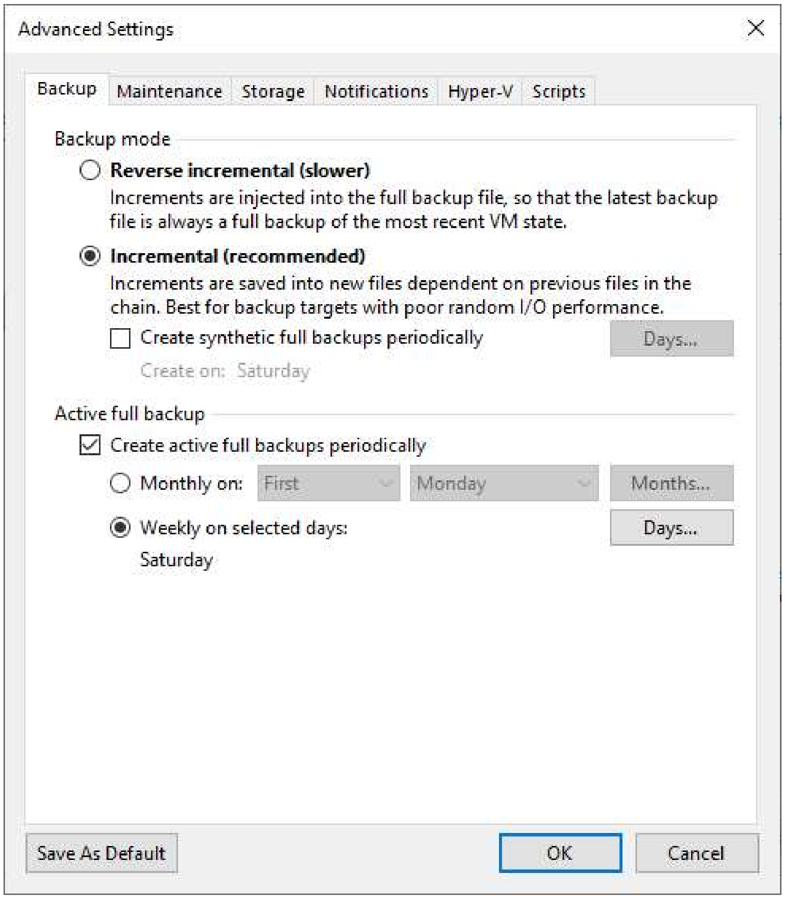
□ Create synthetic full backups periodically
Create on: Saturday

Active full backup

□ Create active full backups periodically
○ Monthly on: First Monday
● Weekly on selected days:
Saturday

38. Select the Create active full backups periodically checkbox to create full backups regularly if needed.

39. Select the Monthly or Weekly on selected days options to define scheduling settings.



Advanced Settings

Backup mode

○ **Reverse incremental (slower)**

Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**

Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically

Create on: Saturday

Active full backup

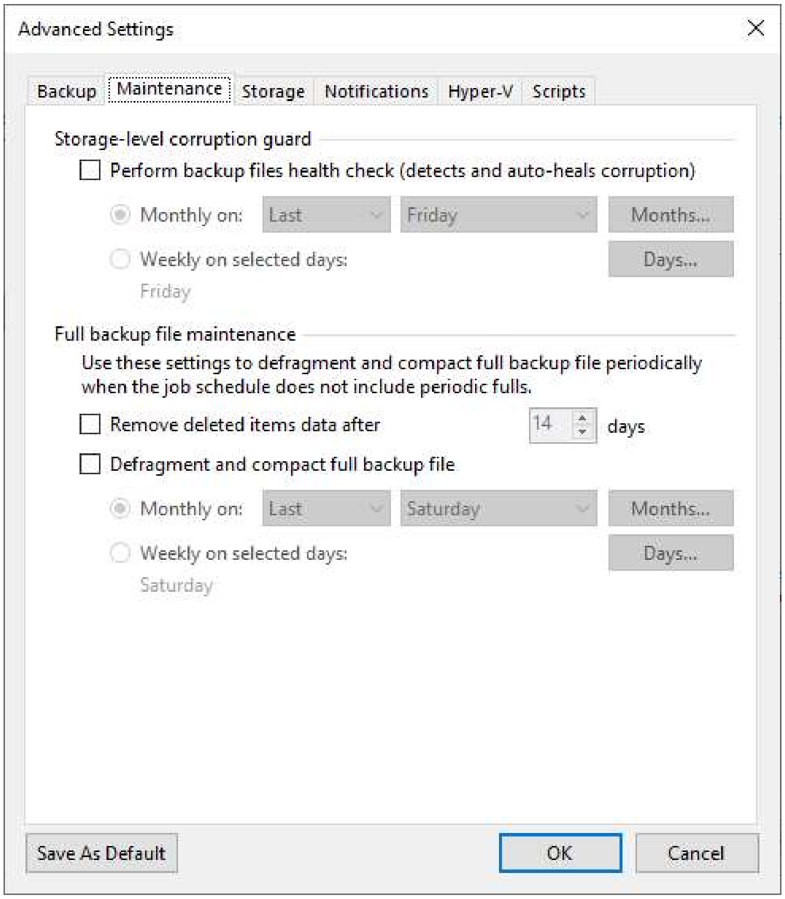
☑ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:

Saturday

40. On the Advanced Settings, Maintenance.



Advanced Settings

Backup | Maintenance | Storage | Notifications | Hyper-V | Scripts

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

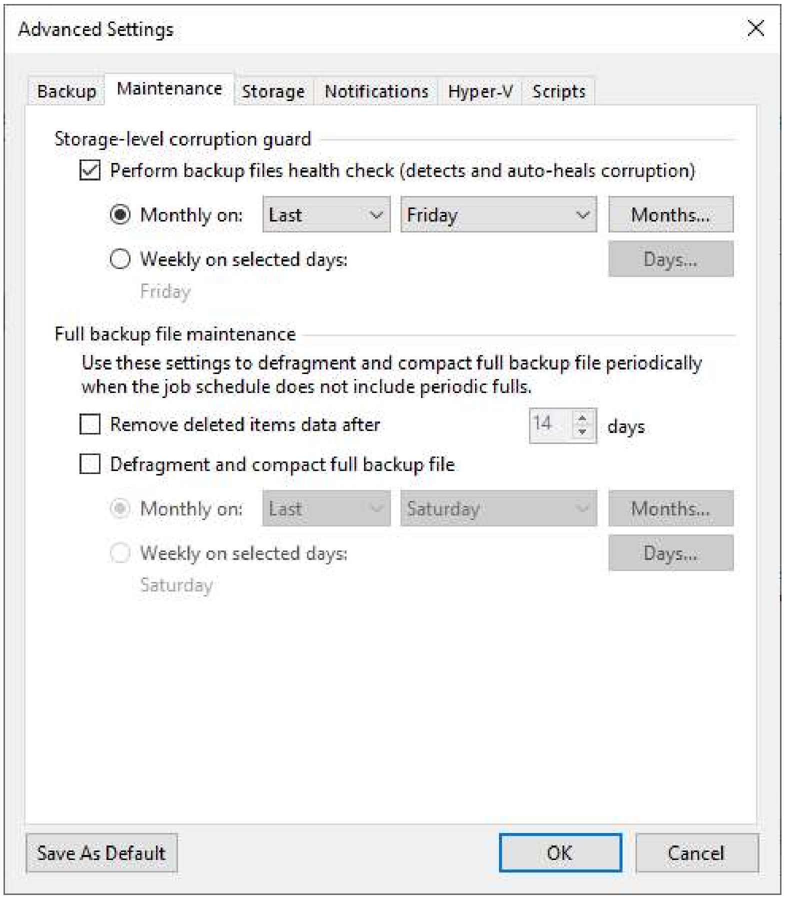
□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

41. To regularly perform a health check in the backup chain, check the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard section and specify a schedule for the health check.



Advanced Settings

Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

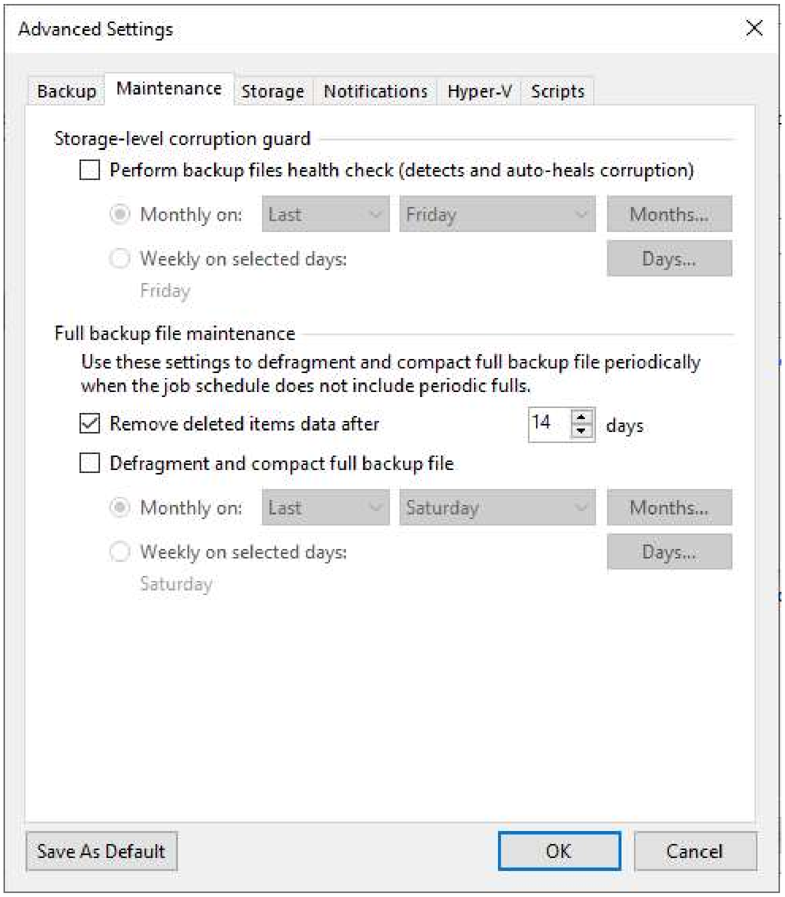
□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

42. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept.



Storage-level corruption guard

☐ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days: Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

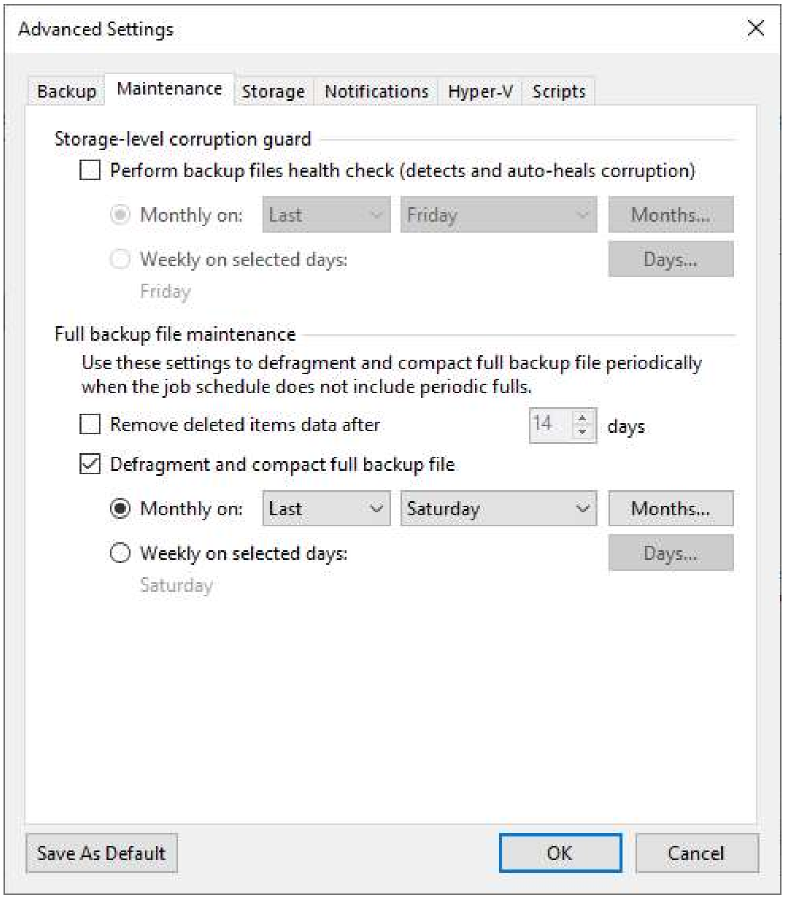
☑ Remove deleted items data after 14 days

☐ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days: Saturday

43. Select the Defragment and compact full backup file check box and specify the schedule for the compact operation to compact a full backup periodically.



Advanced Settings

Storage-level corruption guard

☐ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Friday Days...

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

☐ Remove deleted items data after 14 days

☑ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Saturday Days...

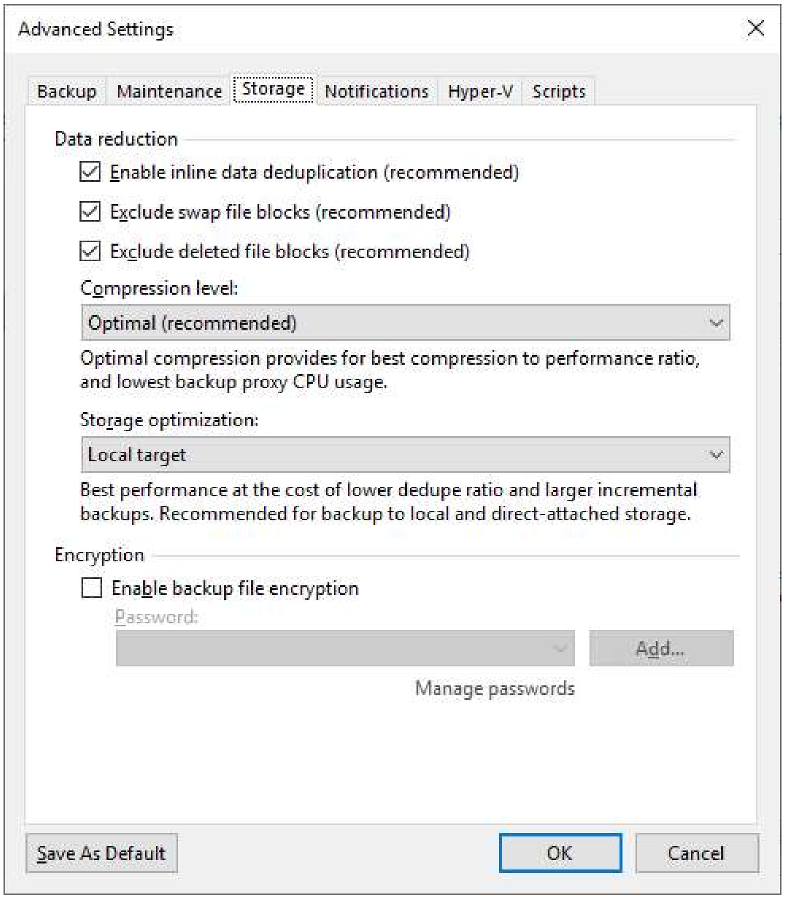
44. On Advanced Settings, click Storage.

45. Select the Enable inline data deduplication checkbox.

46. Select the Exclude swap file blocks checkbox.

47. Select the Exclude deleted file blocks checkbox.

48. Select the compression level for the backup from the drop-down list.



Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

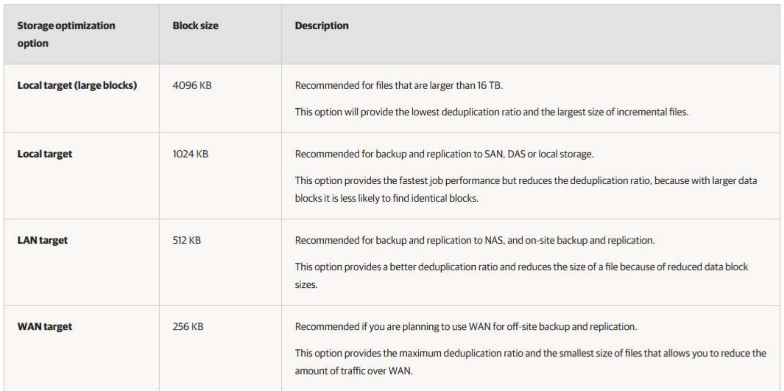
☐ Enable backup file encryption

Password:

Add...

Manage passwords

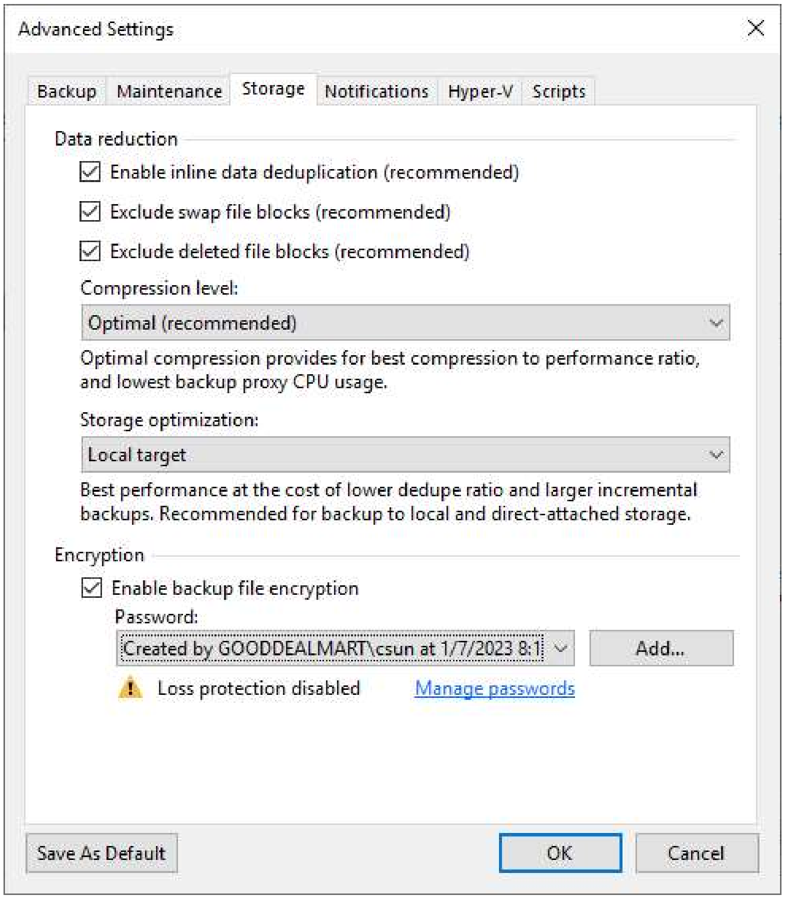
49. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

50. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

51. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

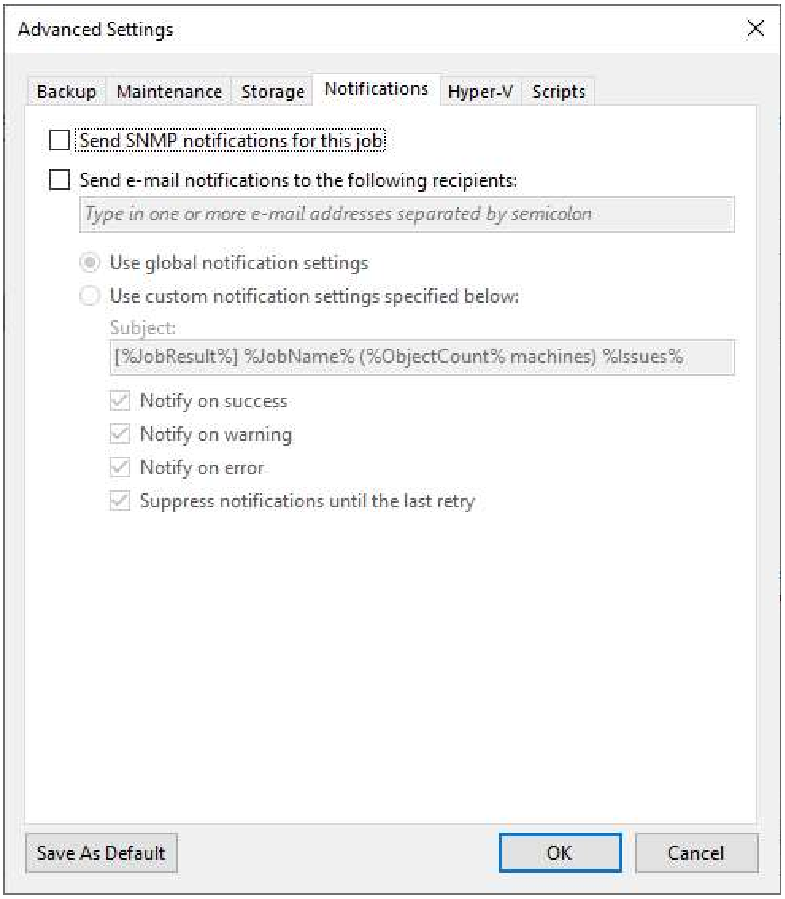
☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:1

Loss protection disabled

52. On the Advanced Settings, select Notifications.

53. Keep the default settings.



Advanced Settings

☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

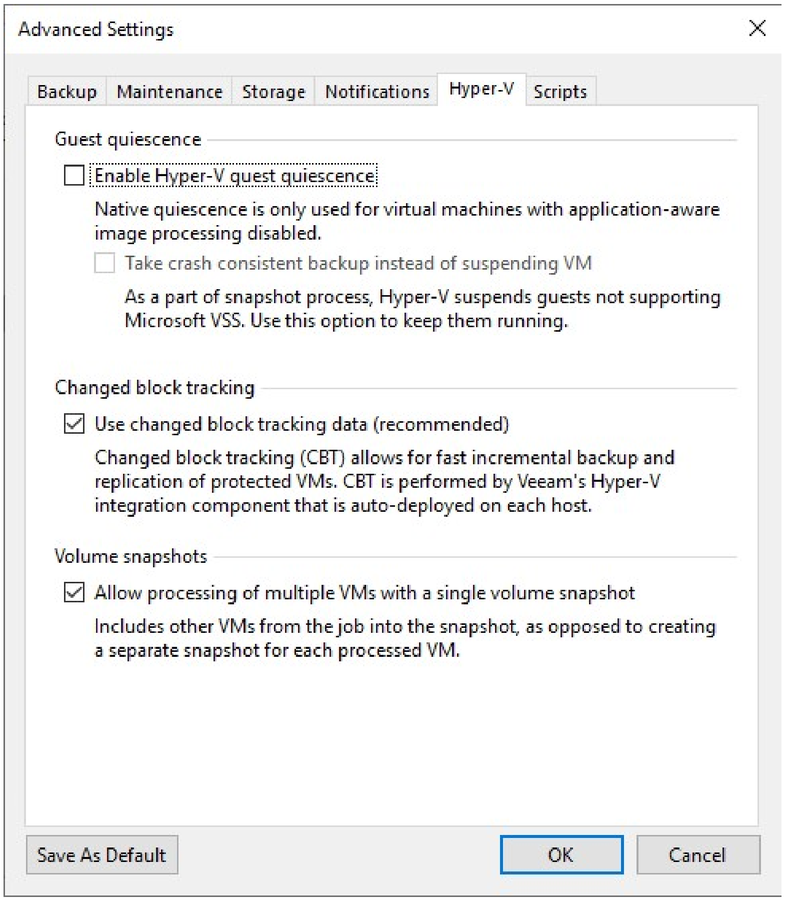
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

54. On the Advanced Settings, select Hyper-V.
55. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.
56. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.
57. Select the Use changed block tracking data (recommended) check box.
58. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Guest quiescence

☐ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

☐ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

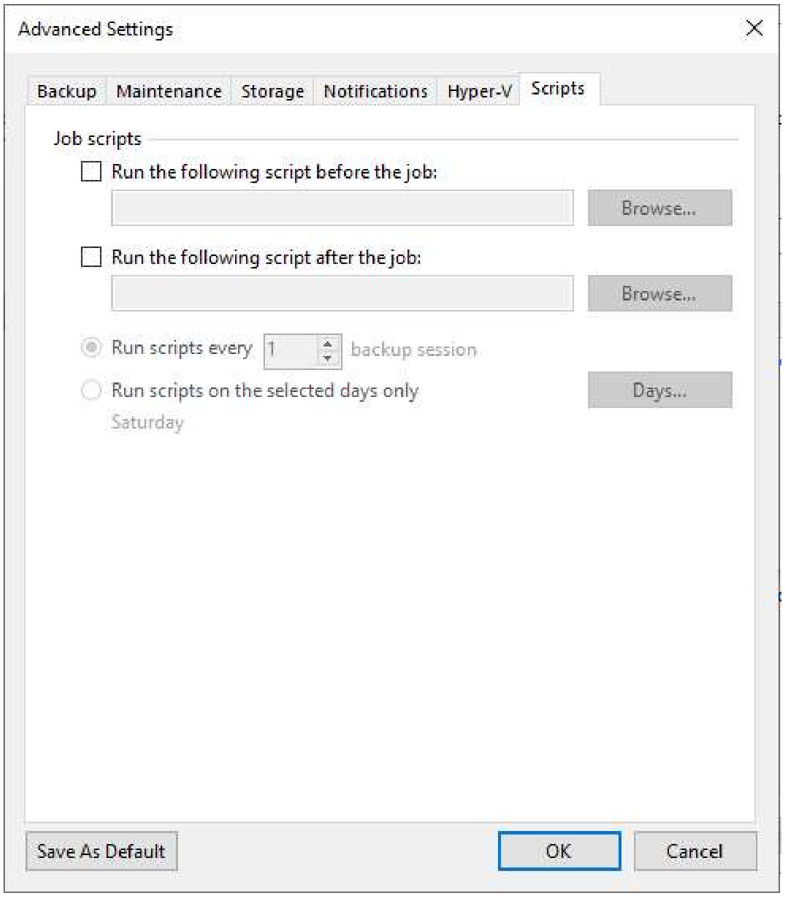
Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

59. On the Advanced Settings page, click Scripts.

60. Keep the default settings and click OK.



Advanced Settings

Job scripts

☐ Run the following script before the job:

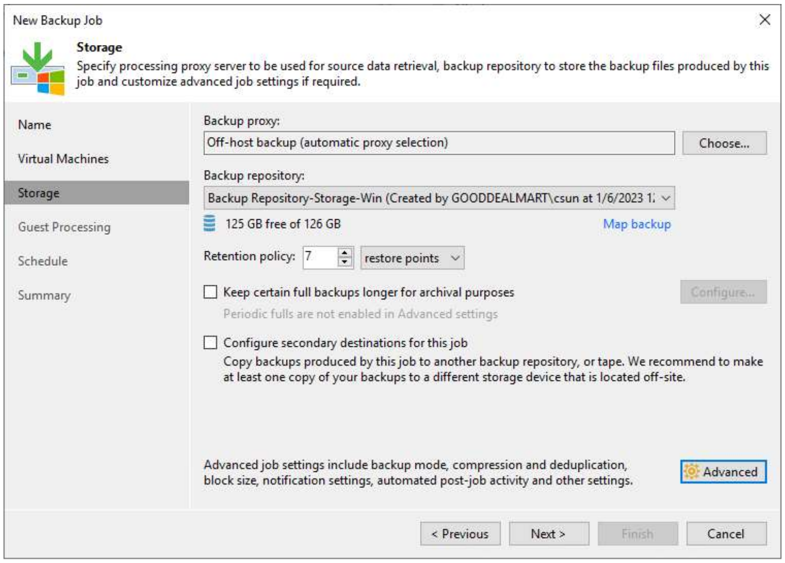
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

61. On the Storage page, click Next.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

□ Keep certain full backups longer for archival purposes

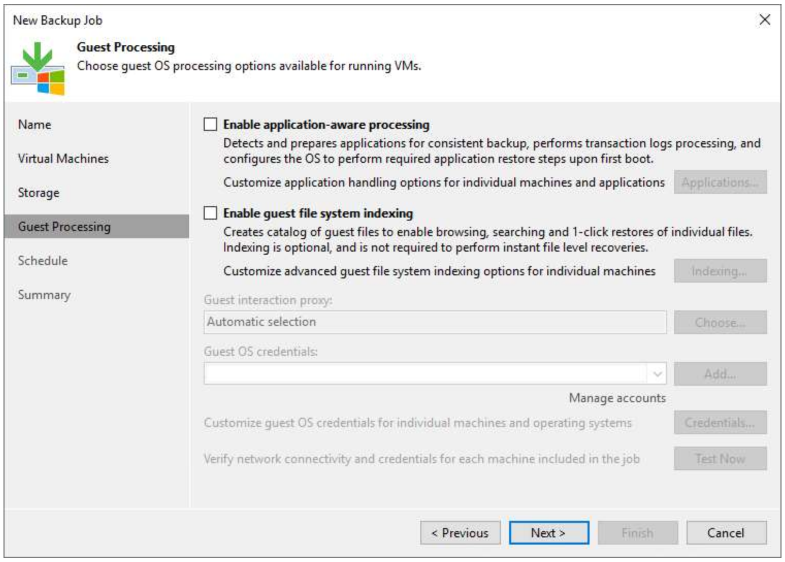
Periodic fulls are not enabled in Advanced settings

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

62. On the Guest Processing page, click Next.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

□ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

□ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

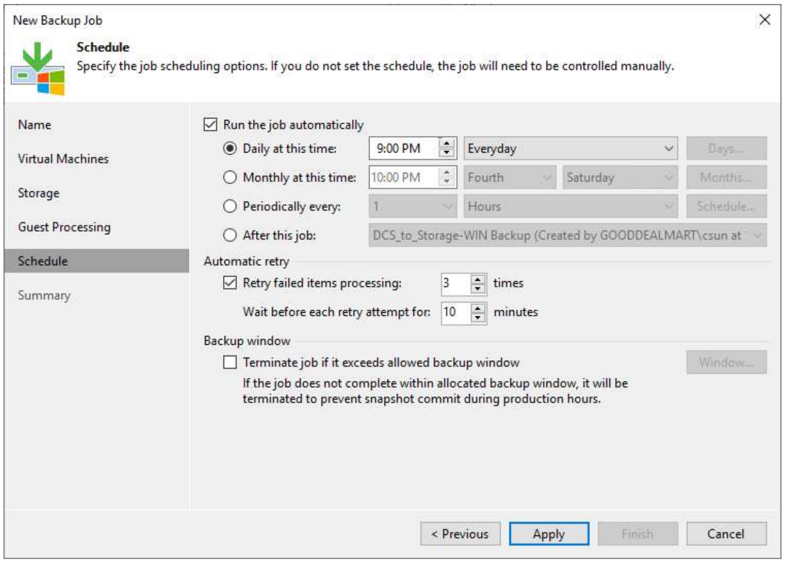
Guest OS credentials:

Manage accounts

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

63. Select Run the job automatically on the Schedule page and select your specified schedule.
64. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
65. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.
66. Click Apply.



Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 9:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DCS_to_Storage-WIN Backup (Created by GOODDEALMART\csun at

Automatic retry

☑ Retry failed items processing: 3 times

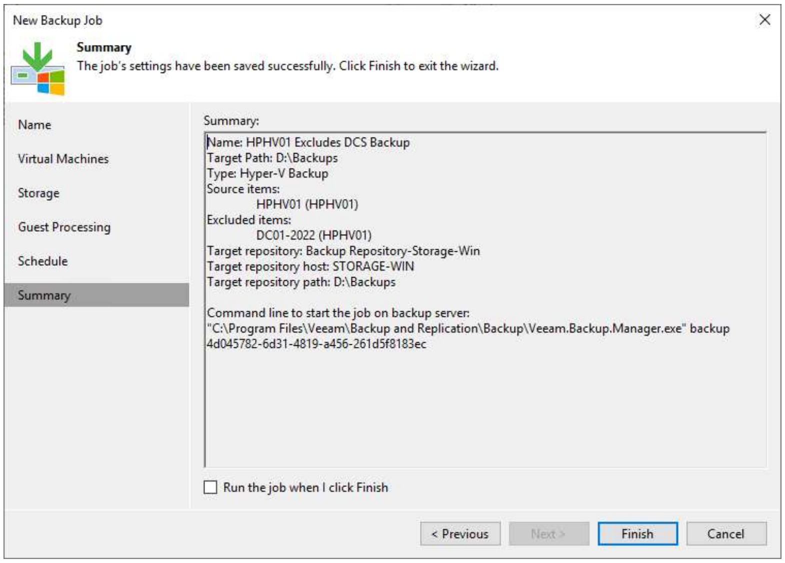
Wait before each retry attempt for: 10 minutes

Backup window

□ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

67. On the Summary page, click Finish.



New Backup Job

Summary

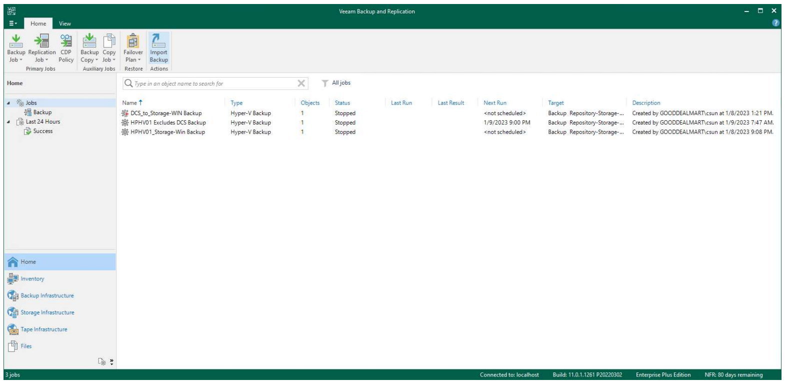
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: HPHV01 Excludes DCS Backup
Target Path: D:\Backups
Type: Hyper-V Backup
Source items:
        HPHV01 (HPHV01)
Excluded items:
        DC01-2022 (HPHV01)
Target repository: Backup Repository-Storage-Win
Target repository host: STORAGE-WIN
Target repository path: D:\Backups

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
4d045782-6d31-4819-a456-261d5f8183ec
```

☐ Run the job when I click Finish

68. Verify the backup job has been added



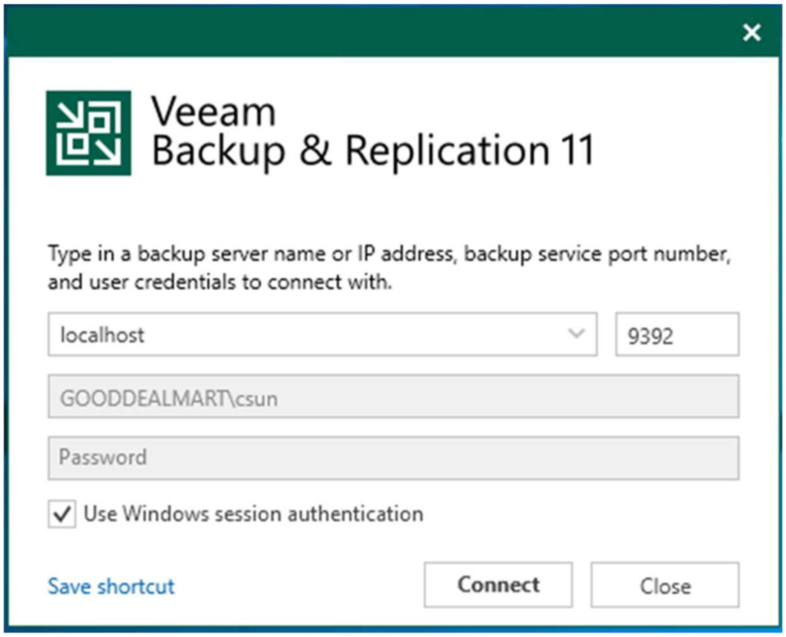
Veeam Backup and Replication

Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 1:21 PM.
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			1/9/2023 9:00 PM	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2023 7:47 AM.
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 9:08 PM.

3 jobs   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 80 days remaining

Creating a Backup job using Azure Blob repositories as Cloud Redundant Data

This procedure immediately creates a backup job to sync backup files with Azure cloud and off-loads Azure blob after performing a full backup. It would be best to have a scale-out repository ready before beginning this backup job.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

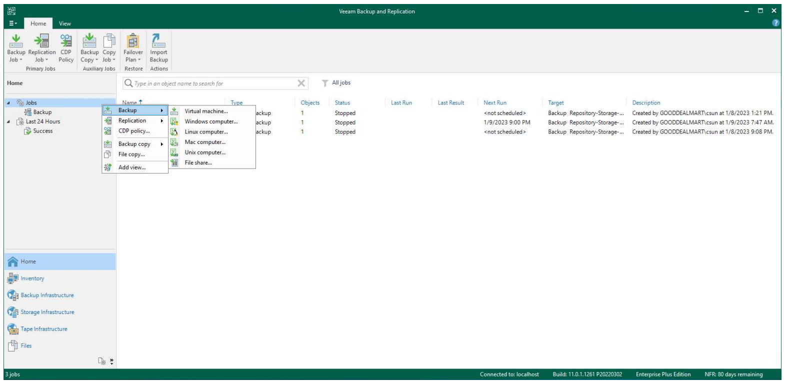
localhost 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

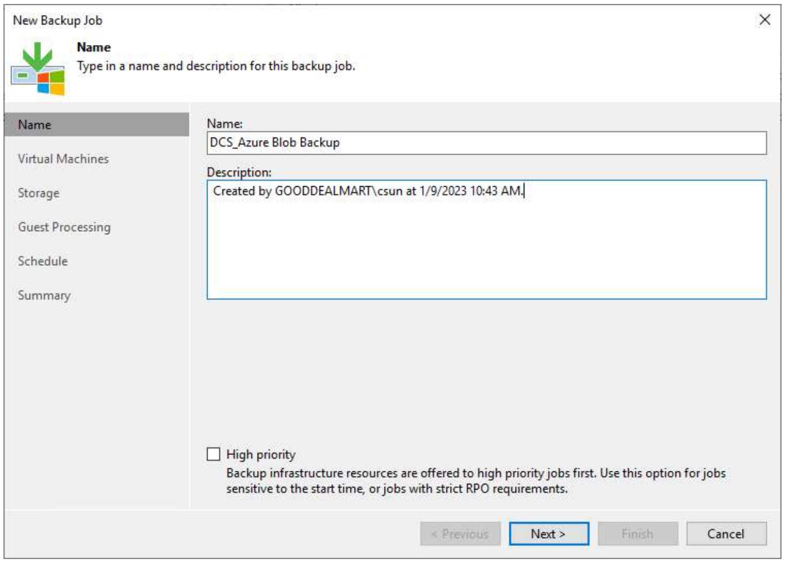
3. On the Home page, select Jobs, right-click Jobs, select Backup and click Virtual machine.



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
	ackup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 1:21 PM.
	ackup	1	Stopped			1/9/2023 9:00 PM	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2023 7:47 AM.
	ackup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 9:08 PM.

3 jobs Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 80 days remaining

4. On the Name page, enter a name in the Name field.
5. Describe the Description field.
6. Select the High priority check box if you want the resource scheduler of Veeam Backup & Replication to prioritize this job higher than similar jobs and allocate resources to it in the first place.
7. Click Next.



Name

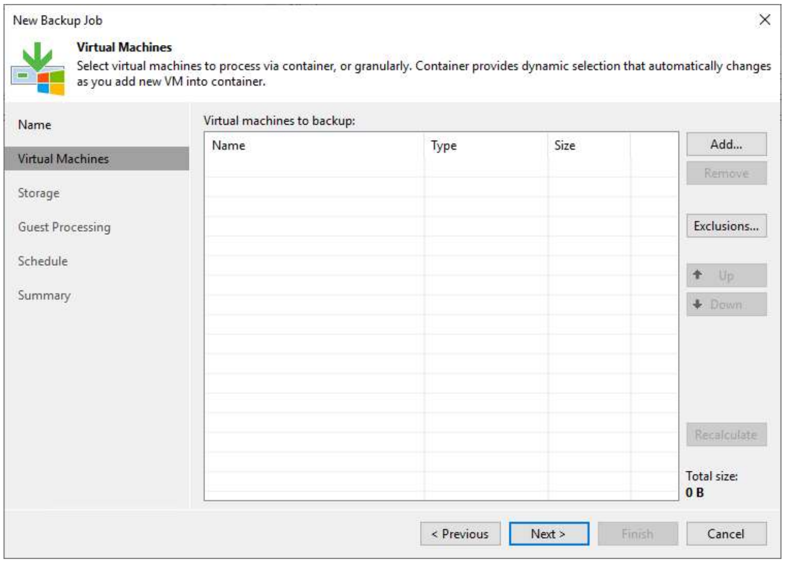
Type in a name and description for this backup job.

Name:
DCS_Azure Blob Backup

Description:
Created by GOODDEALMART\csun at 1/9/2023 10:43 AM.

□ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

8. On the Virtual Machines page, click Add.



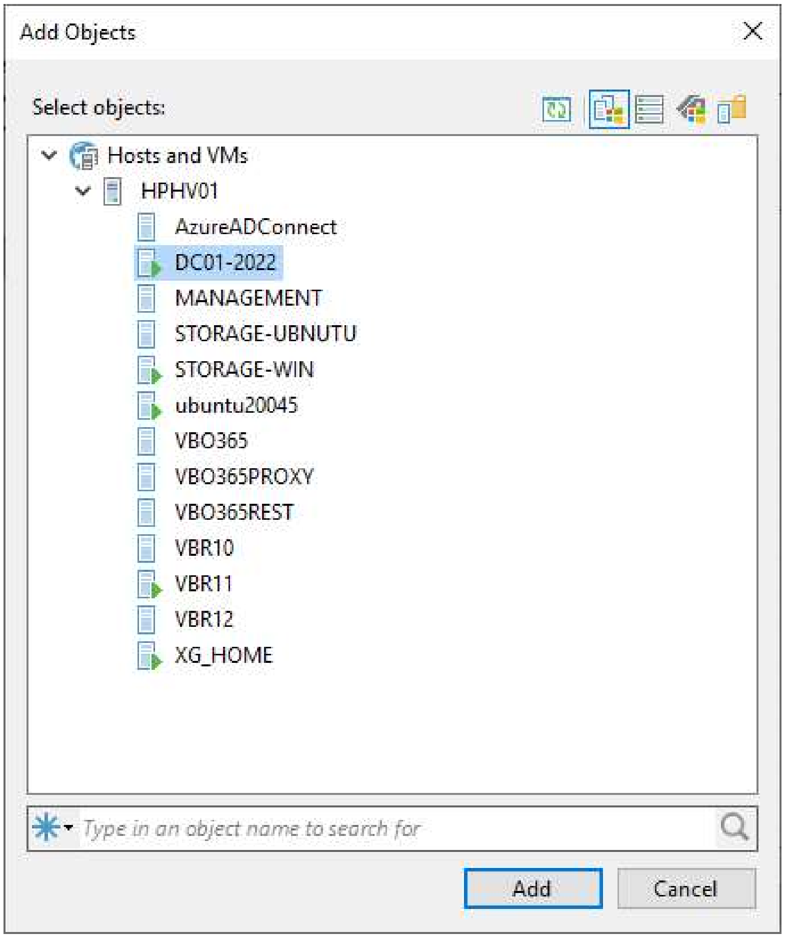
New Backup Job

Virtual Machines

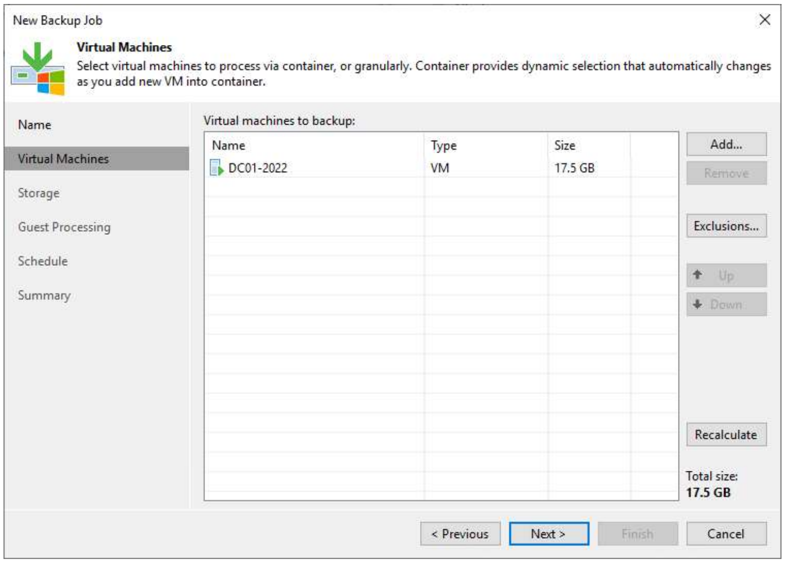
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

9. Select the VM in the list on the Add Objects page and click Add.

10. If you have multiple VMS that needs to back up in the same backup job, you can repeat the step to add them.



11. On the Virtual Machines page, click Next.



New Backup Job

Virtual Machines

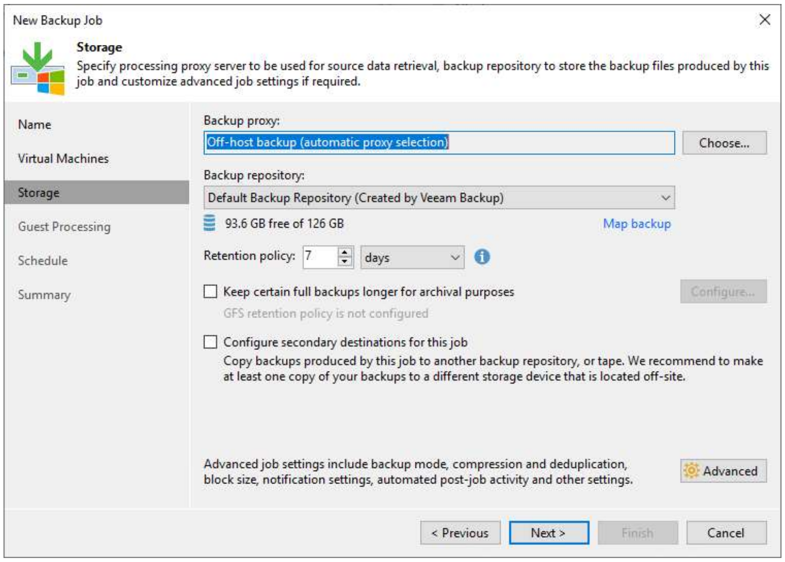
Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
DC01-2022	VM	17.5 GB

Total size:
17.5 GB

12. On the Storage, click Choose to select a backup proxy if you don’t want to use the default Off-host backup (automatic proxy selection) setting.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Default Backup Repository (Created by Veeam Backup)

93.6 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

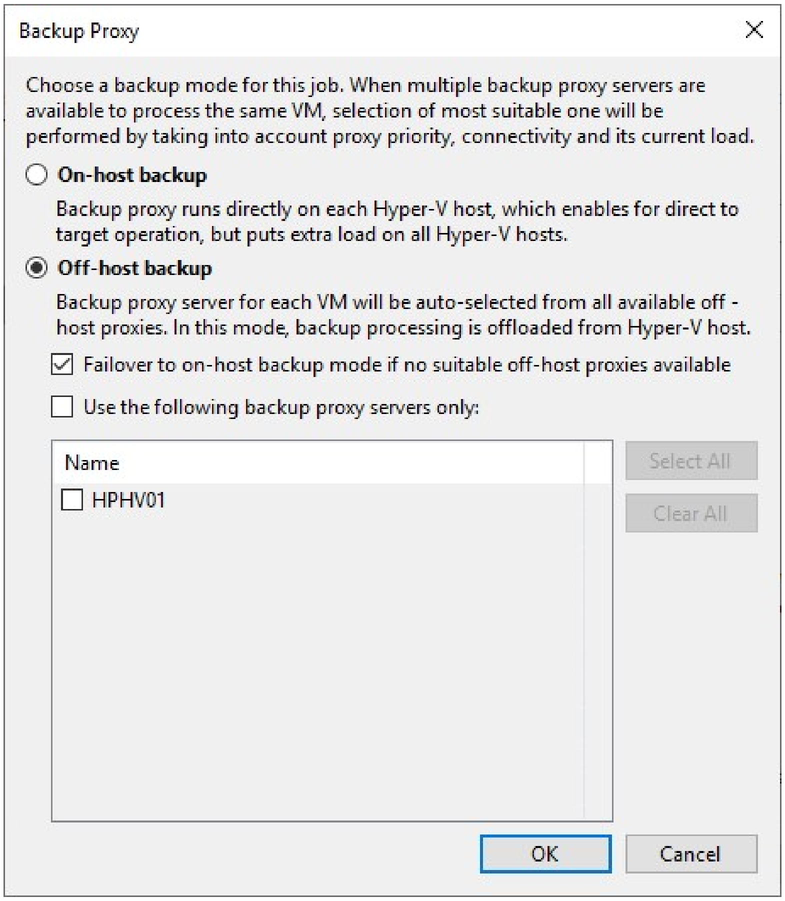
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

13. On the Backup Proxy page, if you select On-host backup mode, the source Microsoft HyperV host will serve as both the source host and the backup proxy. In this mode, Veeam Data Mover runs directly on the source host, which speeds up data retrieval but places additional strain on the host.

14. If you select Off-host backup mode, Veeam Data Mover will run on a dedicated off-host backup proxy. All backup processing operations from the source host are routed to the off-host backup proxy in this model.

15. If the off-host backup mode is selected for the job, but there are no off-host backup proxies available when the job begins, Veeam Backup & Replication will transition to on-host backup mode.

16. You unselect the Failover to on-host backup mode if no suitable off-host



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

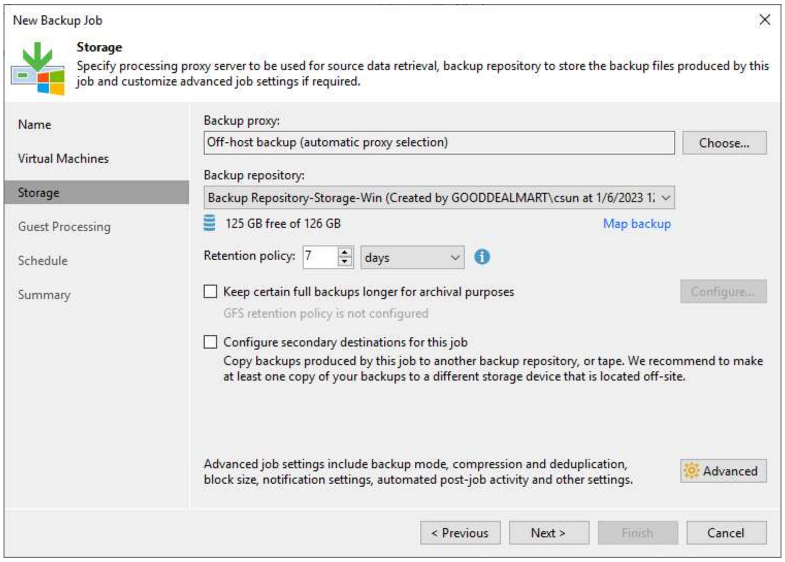
□ Use the following backup proxy servers only:

Name
□ HPHV01

proxies available checkbox, but if off-host backup proxies are not available or are not configured properly, the job will fail to start.

17. Click OK.

18. Select the Scale-out backup repository from the Backup repository drop-down list.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

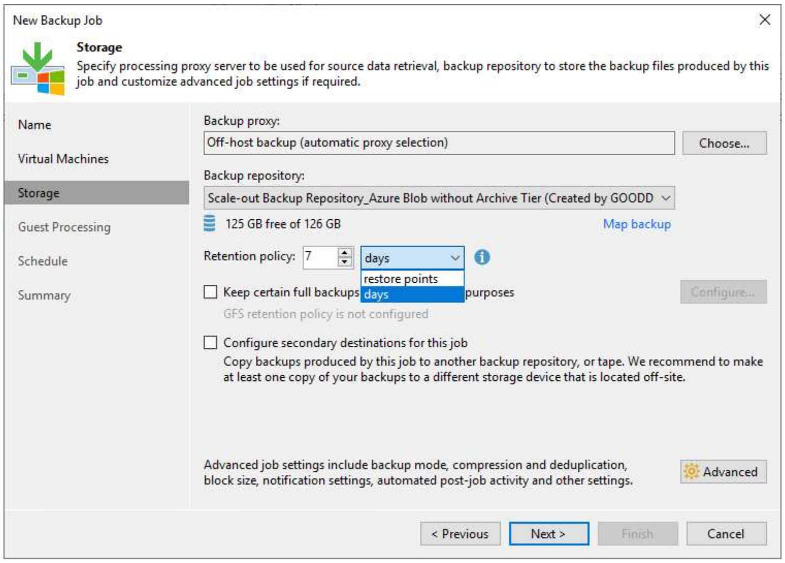
□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

19. Set the retention policy settings for restore points in the Retention Policy field.

20. Select days or restore points from the drop-down list.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Scale-out Backup Repository_Azure Blob without Archive Tier (Created by GOODD

125 GB free of 126 GB

Retention policy: 7 days

□ Keep certain full backups longer for archival purposes

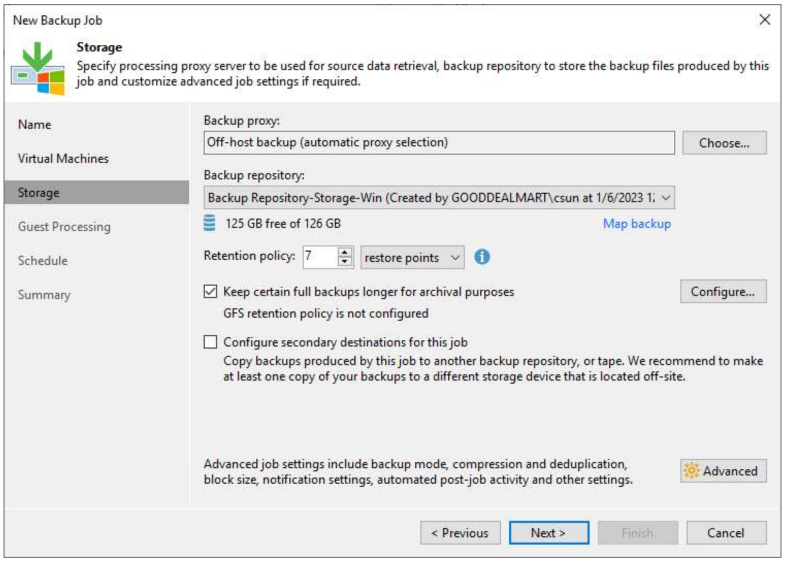
GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

21. You can configure the backup job's GFS retention policy settings to ignore the short-term retention policy for some full backups and store them for long-term archiving.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

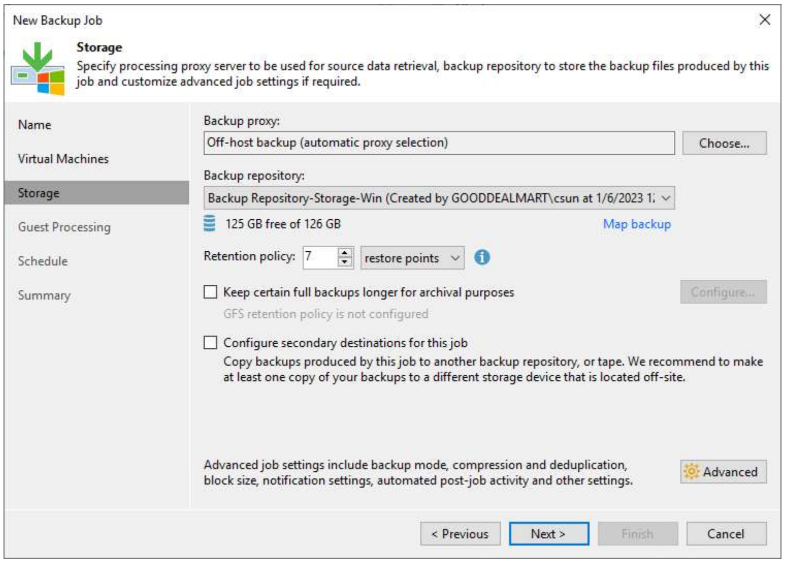
GFS retention policy is not configured

□ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

22. On the Storage page, click Advanced.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy:

Off-host backup (automatic proxy selection)

Backup repository:

Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 1:

125 GB free of 126 GB

Retention policy: 7 restore points

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

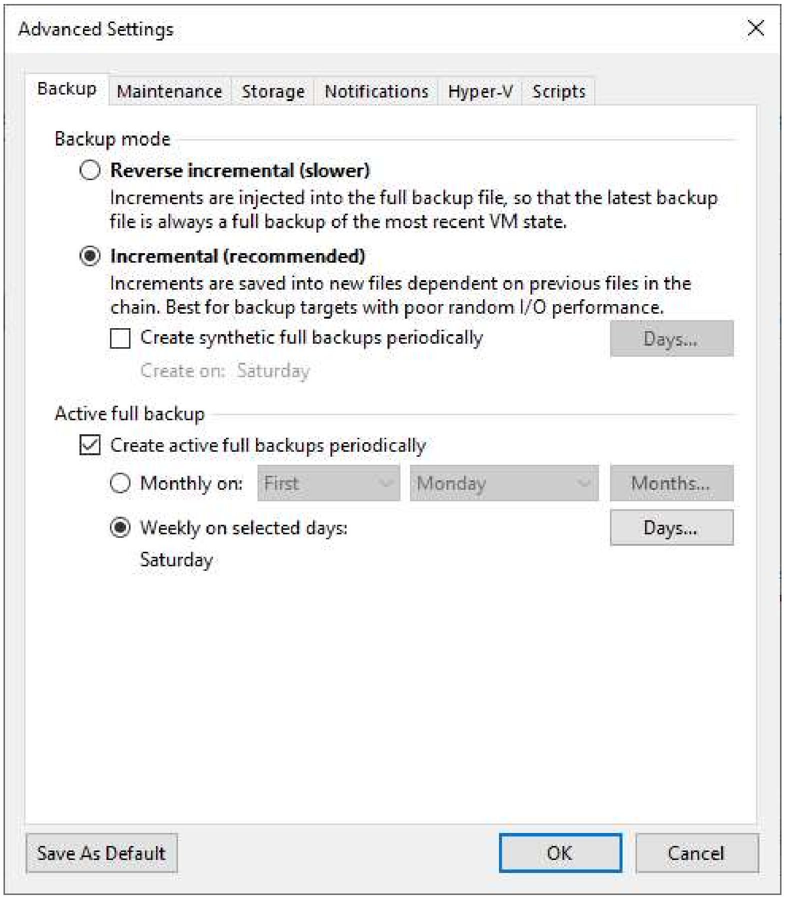
Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

23. On the Backup page, Select Incrementally and disable synthetic full.

24. In the Active full backup session, select Create active full backups periodically check box.

25. Select the Monthly on or Weekly on selected days options to define scheduling settings.

26. After creating a full backup file, all backup files start to upload from the local directory to the Azure blob.



Backup mode

○ **Reverse incremental (slower)**

Increments are injected into the full backup file, so that the latest backup file is always a full backup of the most recent VM state.

● **Incremental (recommended)**

Increments are saved into new files dependent on previous files in the chain. Best for backup targets with poor random I/O performance.

□ Create synthetic full backups periodically

Create on: Saturday

Active full backup

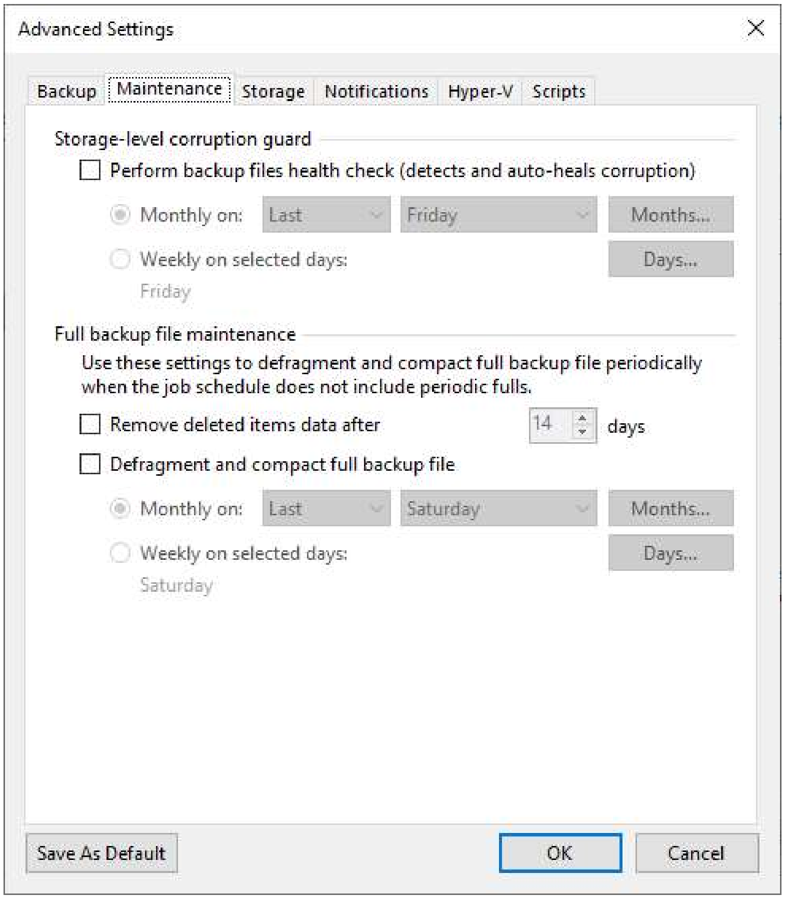
☑ Create active full backups periodically

○ Monthly on: First Monday

● Weekly on selected days:

Saturday

27. On the Advanced Settings, Maintenance.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

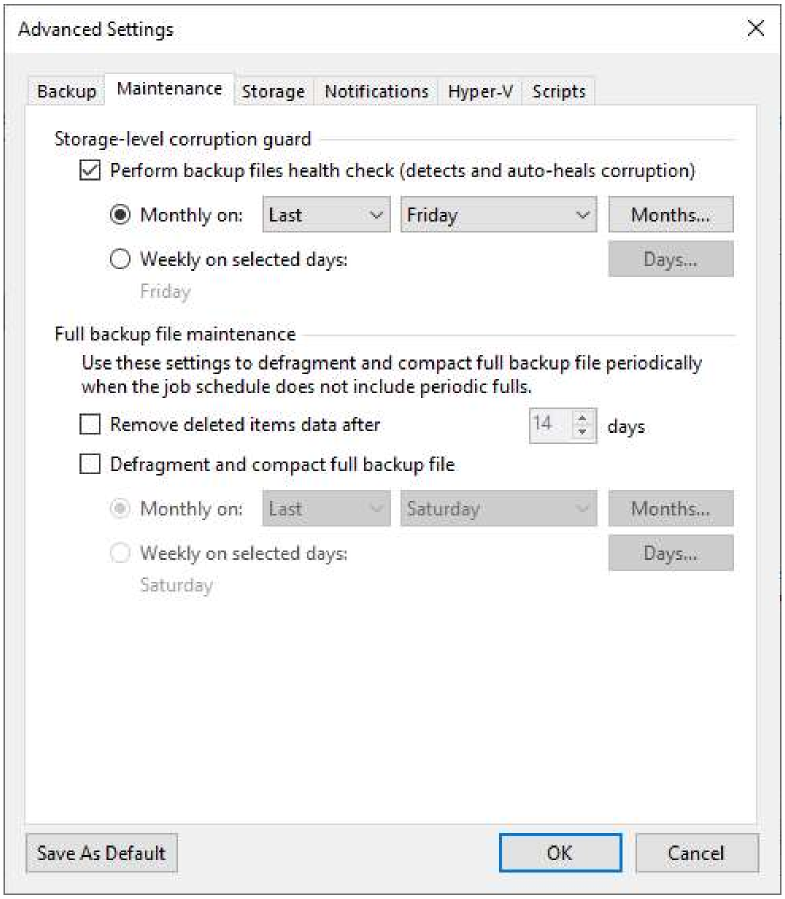
□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

28. To regularly perform a health check in the backup chain, check the Perform backup files health check (detects and auto-heals corruption) checkbox in the Storage-level corruption guard section and specify a schedule for the health check.



Storage-level corruption guard

☑ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

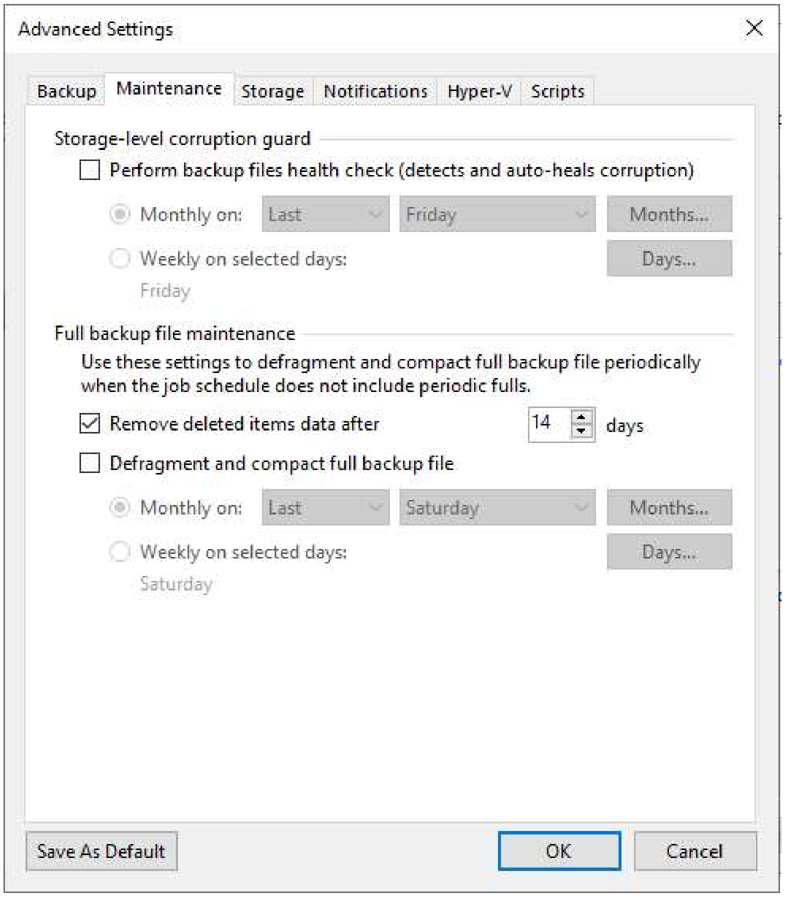
□ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

29. Select the Remove deleted items data after the check box and enter the days you want backup data for deleted VMs to be kept.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday

○ Weekly on selected days: Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

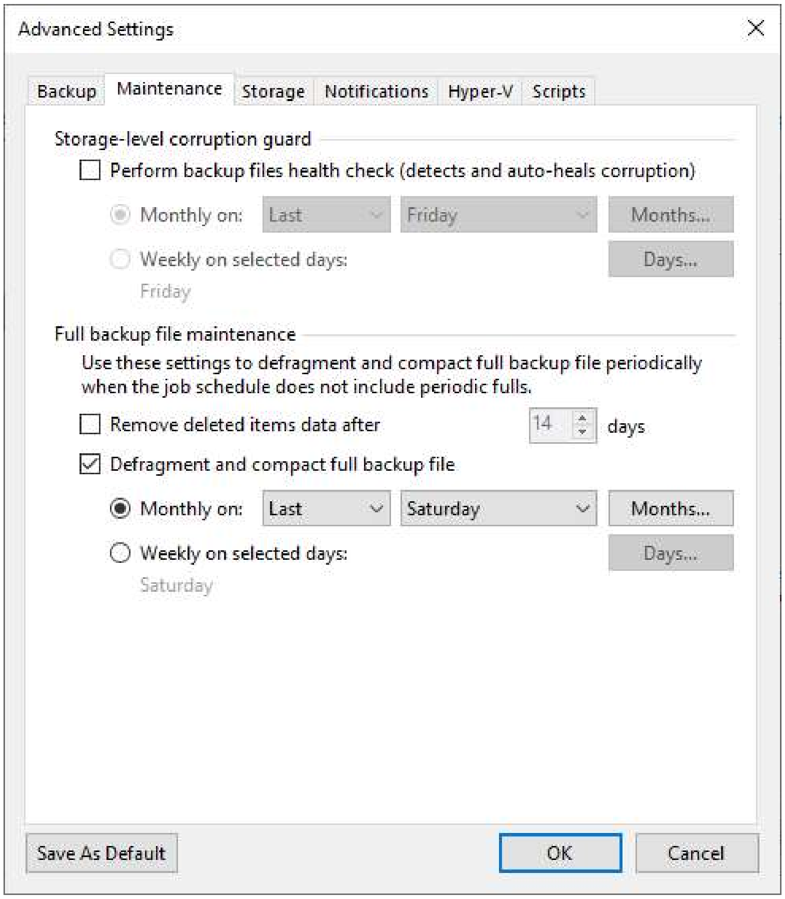
☑ Remove deleted items data after 14 days

□ Defragment and compact full backup file

● Monthly on: Last Saturday

○ Weekly on selected days: Saturday

30. Select the Defragment and compact full backup file check box and specify the schedule for the compact operation to compact a full backup periodically.



Advanced Settings

Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Friday Months...

○ Weekly on selected days: Days...

Friday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 14 days

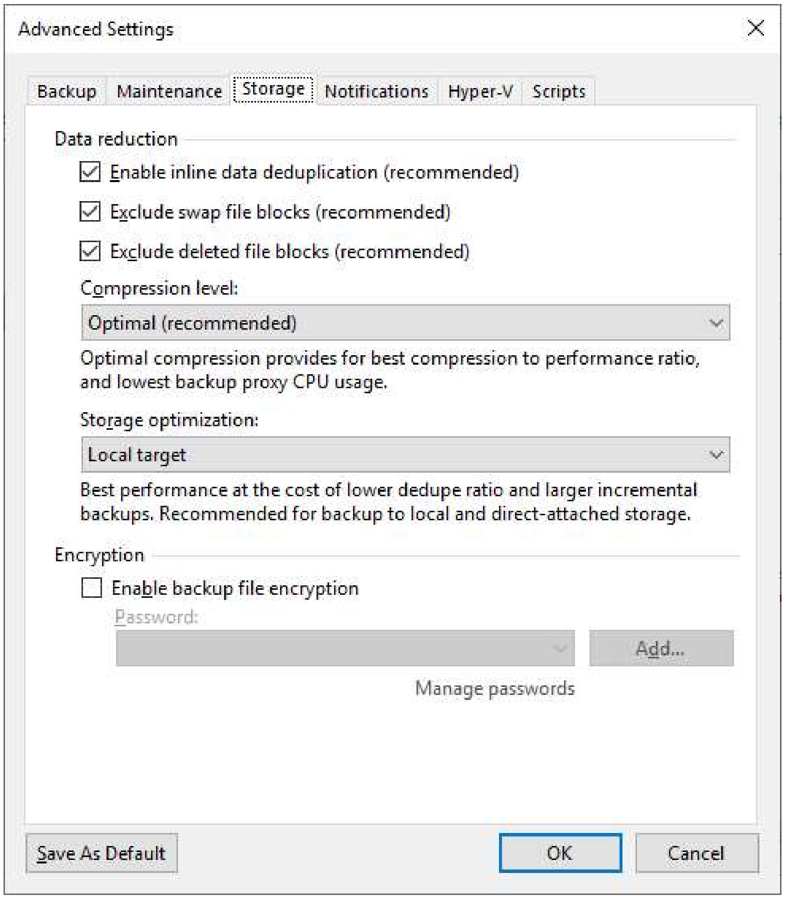
☑ Defragment and compact full backup file

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

31. On Advanced Settings, click Storage.
32. Select the Enable inline data deduplication check box.
33. Select Exclude swap file blocks checkbox.
34. Select the Exclude deleted file blocks check box.
35. Select the compression level for the backup from the drop-down list.



Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

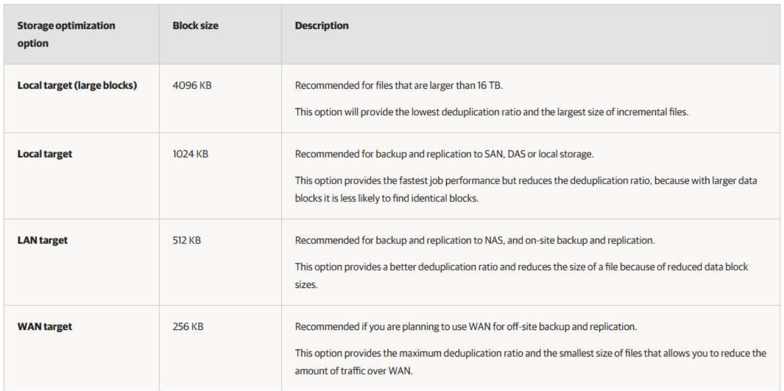
☐ Enable backup file encryption

Password:

Add...

Manage passwords

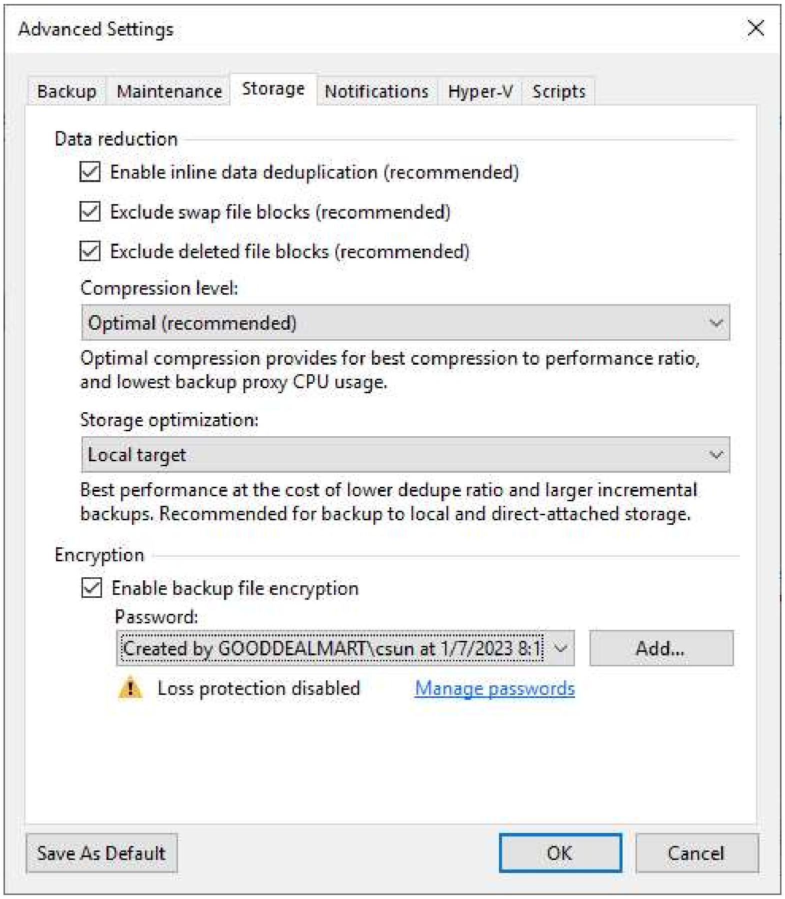
36. Select Storage optimization from the drop-down list.



Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

37. Select the Enable backup file encryption checkbox to encrypt the content of backup files.

38. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: Local target

Best performance at the cost of lower dedupe ratio and larger incremental backups. Recommended for backup to local and direct-attached storage.

Encryption

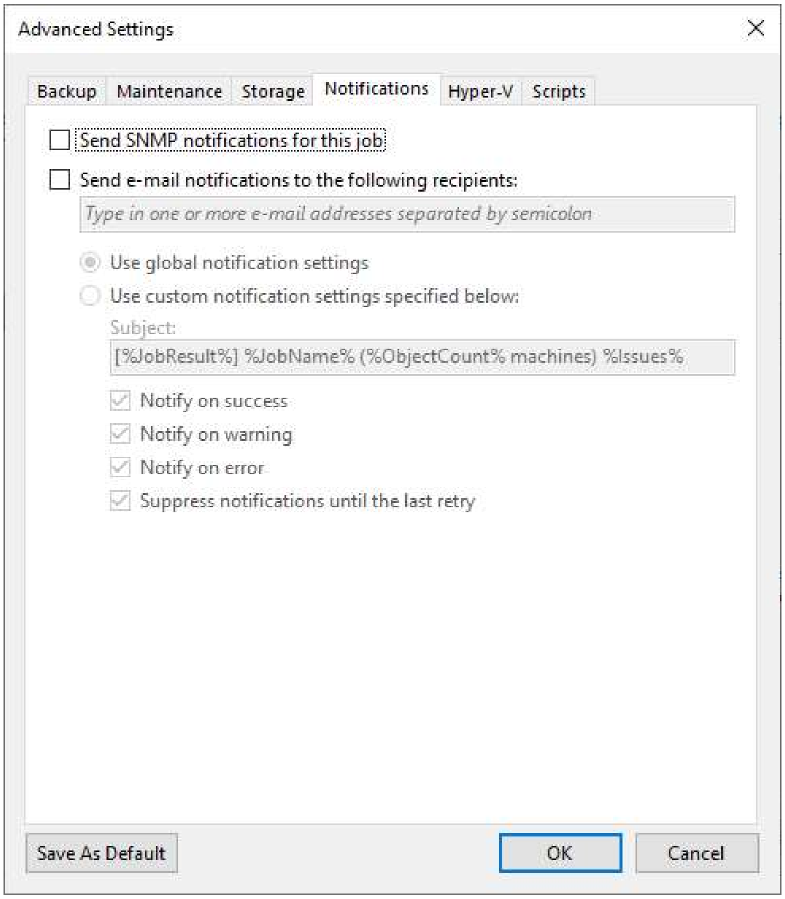
☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:1

Loss protection disabled

39. On the Advanced Settings, select Notifications.

40. Keep the default settings.



Advanced Settings

□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

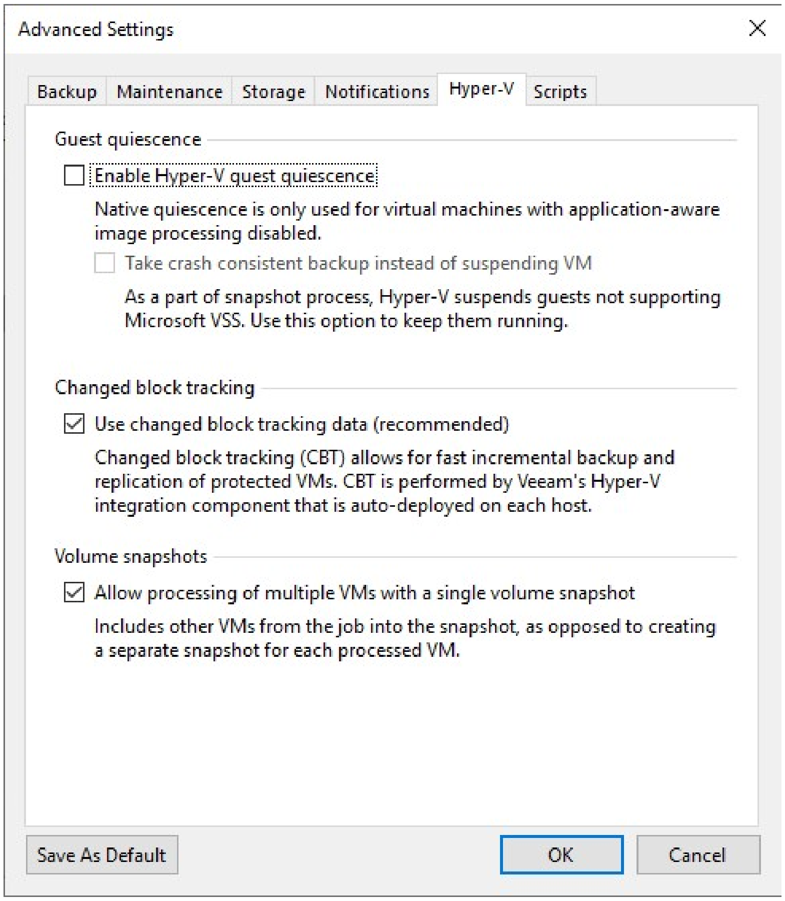
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

41. On the Advanced Settings, select Hyper-V.
42. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.
43. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.
44. Select the Use changed block tracking data (recommended) check box.
45. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

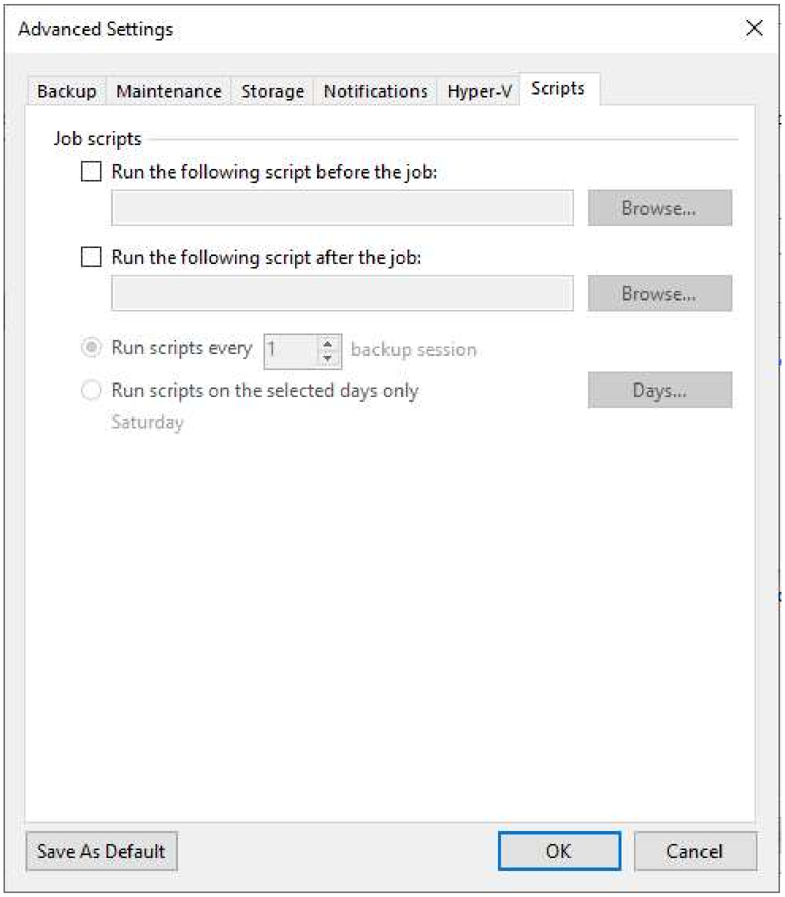
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

46. On the Advanced Settings page, click Scripts.
47. Keep the default settings and click OK.



Job scripts

□ Run the following script before the job:

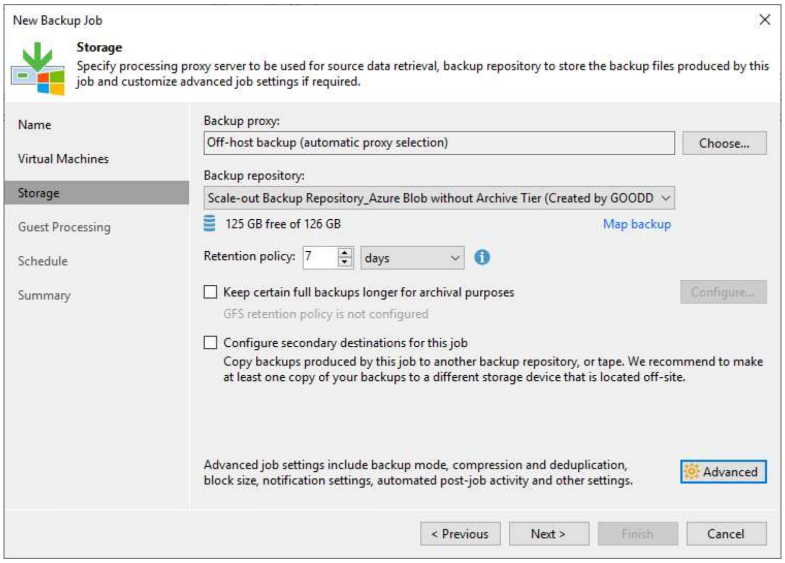
□ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

48. On the Storage page, click Next.



New Backup Job

Storage

Specify processing proxy server to be used for source data retrieval, backup repository to store the backup files produced by this job and customize advanced job settings if required.

Backup proxy: Off-host backup (automatic proxy selection)

Backup repository: Scale-out Backup Repository_Azure Blob without Archive Tier (Created by GOODD

125 GB free of 126 GB

Retention policy: 7 days

☐ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

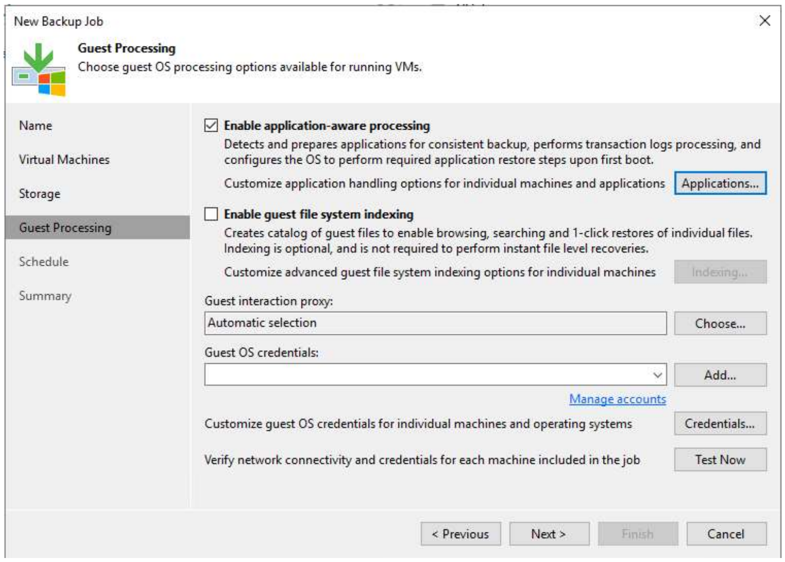
☐ Configure secondary destinations for this job

Copy backups produced by this job to another backup repository, or tape. We recommend to make at least one copy of your backups to a different storage device that is located off-site.

Advanced job settings include backup mode, compression and deduplication, block size, notification settings, automated post-job activity and other settings.

49. When you add VMs running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that applications on VMs can be recovered without data loss.

50. Select the Enable application-aware processing check box on the Guest Processing page and click Applications.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☐ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

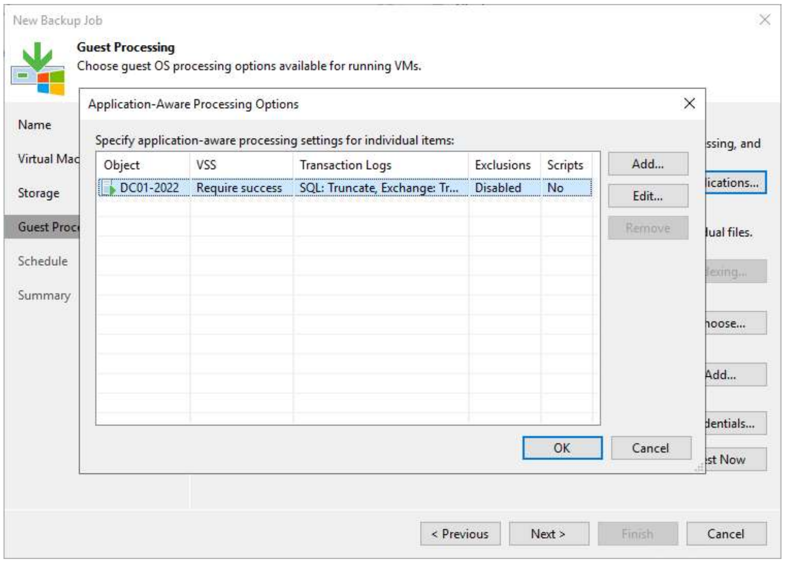
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

51. On the Application-Aware Processing Options page, select the VM, and click Edit.



Guest Processing

Choose guest OS processing options available for running VMs.

Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	SQL: Truncate, Exchange: Tr...	Disabled	No

52. On the Processing Settings, click General.

53. Suppose you need Veeam Backup & Replication to stop the backup process if any error occurs during application-aware processing. Select Require successful processing (recommend).

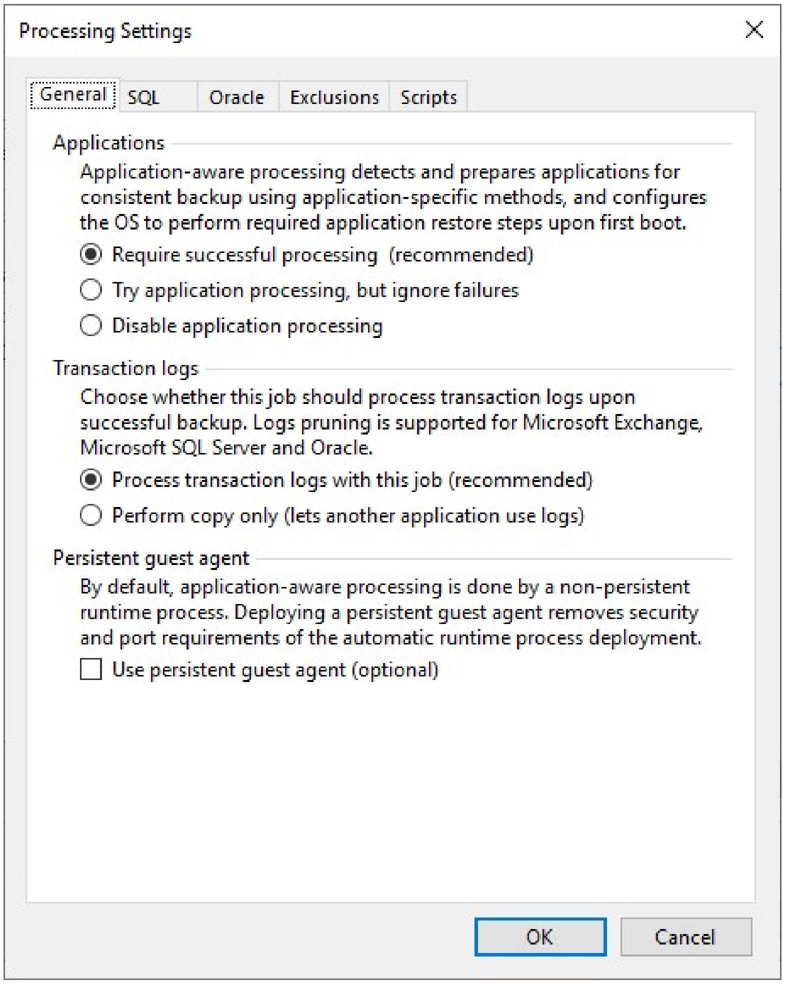
54. Suppose you must continue the backup process even if there is an error during application-aware processing. Select Try application processing but ignore failures.

55. Select Disable application processing to disable application-aware processing for the VM.

56. Select Process transaction logs with this job (recommend).

57. Select Perform copy only to let another application use

58. Select the Use persistent guest agent (optional) checkbox to enable persistent agent.



Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)

○ Try application processing, but ignore failures

○ Disable application processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

● Process transaction logs with this job (recommended)

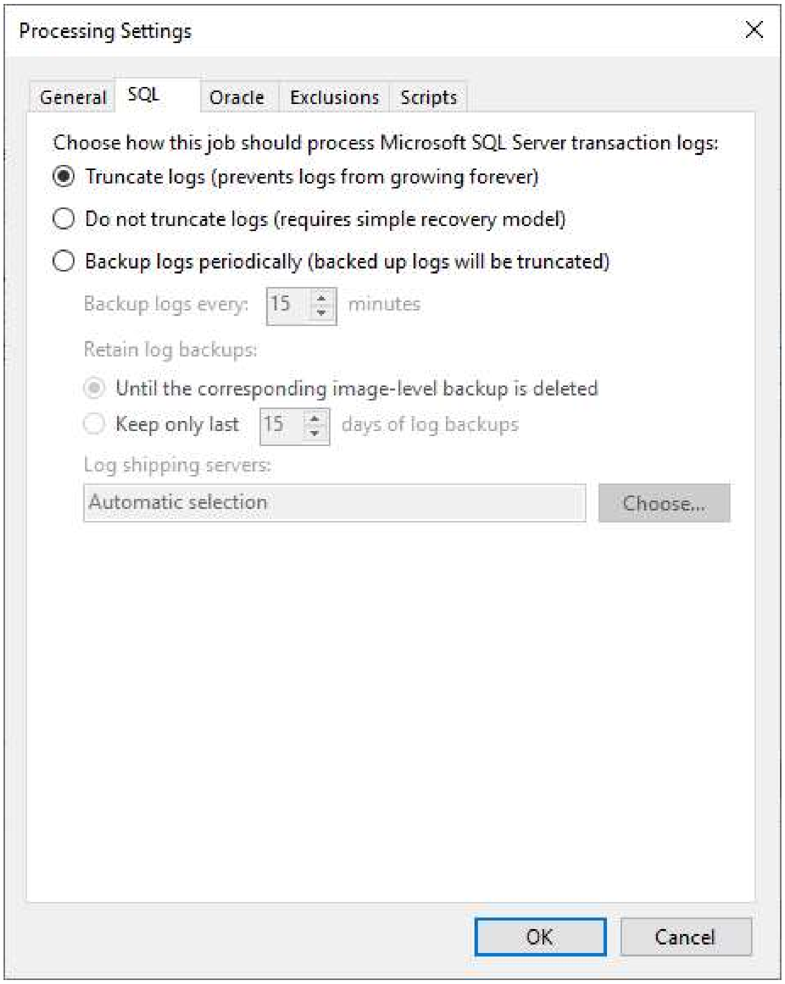
○ Perform copy only (lets another application use logs)

Persistent guest agent

By default, application-aware processing is done by a non-persistent runtime process. Deploying a persistent guest agent removes security and port requirements of the automatic runtime process deployment.

□ Use persistent guest agent (optional)

59. On the Processing Settings page, click SQL if the VM is a Microsoft SQL Server VM.
60. Select Truncate logs (Prevents logs from growing forever) to truncate transaction logs after a successful backup.
61. Click OK.



Processing Settings

Choose how this job should process Microsoft SQL Server transaction logs:

● Truncate logs (prevents logs from growing forever)

○ Do not truncate logs (requires simple recovery model)

○ Backup logs periodically (backed up logs will be truncated)

Backup logs every: 15 minutes

Retain log backups:

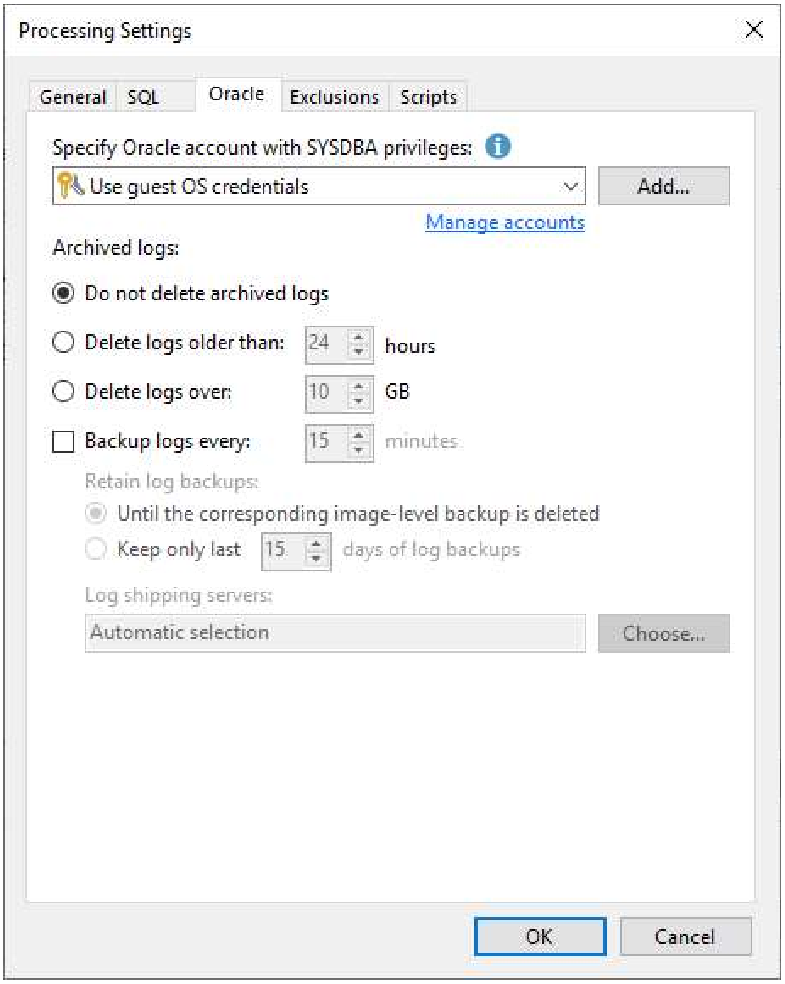
● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

Log shipping servers:

Automatic selection

62. On the Processing Settings page, click Oracle if the VM is an Oracle Server.
63. Select a user account from the drop-down list.
64. Select Do not delete archived logs if you need Veeam Backup & Replication to preserve archived logs on the VM guest OS.



Processing Settings

Specify Oracle account with SYSDBA privileges: Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

□ Backup logs every: 15 minutes

Retain log backups:

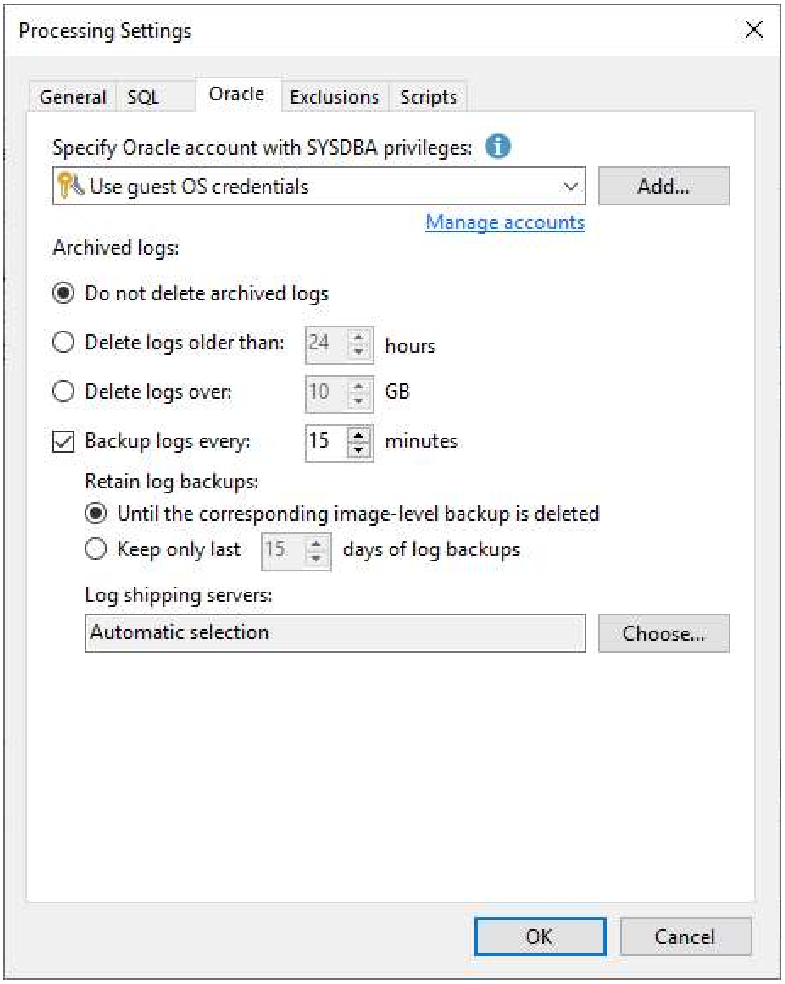
● Until the corresponding image-level backup is deleted

○ Keep only last 15 days of log backups

Log shipping servers: Automatic selection

65. Select the retention policy settings for archived logs in the Retain log backups section.

66. Click Choose In the Log shipping servers.



Processing Settings

Specify Oracle account with SYSDBA privileges: Use guest OS credentials

Archived logs:

● Do not delete archived logs

○ Delete logs older than: 24 hours

○ Delete logs over: 10 GB

☑ Backup logs every: 15 minutes

Retain log backups:

● Until the corresponding image-level backup is deleted

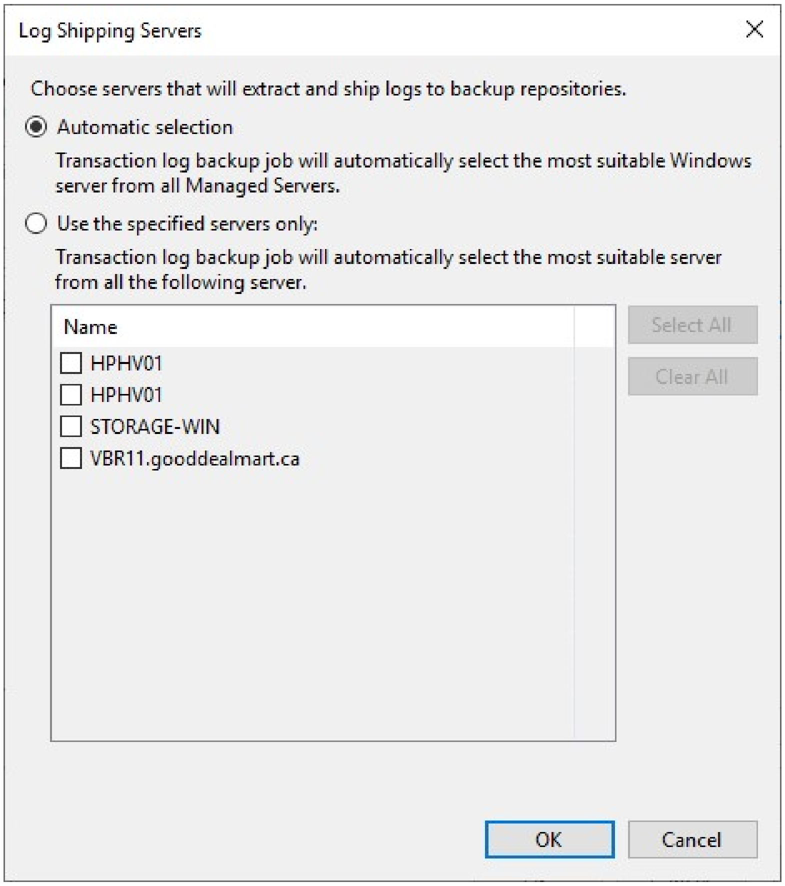
○ Keep only last 15 days of log backups

Log shipping servers: Automatic selection

67. On the Log Shipping Servers page, Select Automatic selection if you need Veeam Backup & Replication to choose an optimal log shipping server automatically.

68. Select Use the specified servers only and then select check boxes next to those you want to use as log shipping servers.

69. Click OK.



Log Shipping Servers

Choose servers that will extract and ship logs to backup repositories.

● Automatic selection

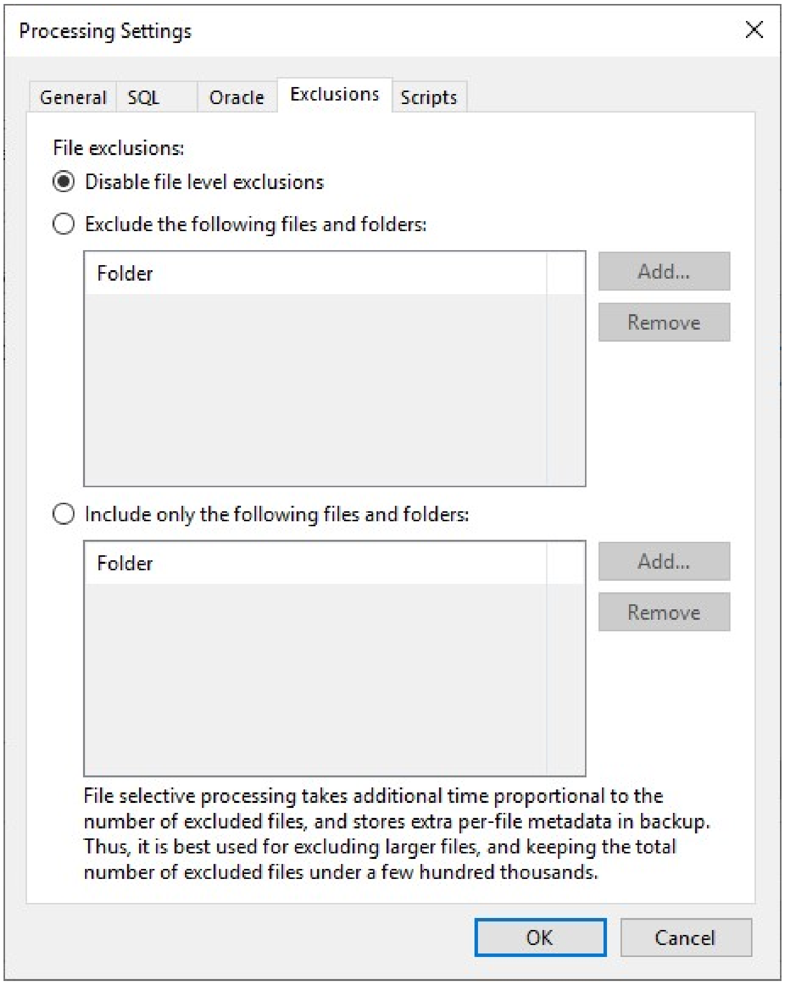
Transaction log backup job will automatically select the most suitable Windows server from all Managed Servers.

○ Use the specified servers only:

Transaction log backup job will automatically select the most suitable server from all the following server.

Name
□ HPHV01
□ HPHV01
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

70. On the Processing Settings page, click Exclusions and keep the default settings.



Processing Settings

File exclusions:

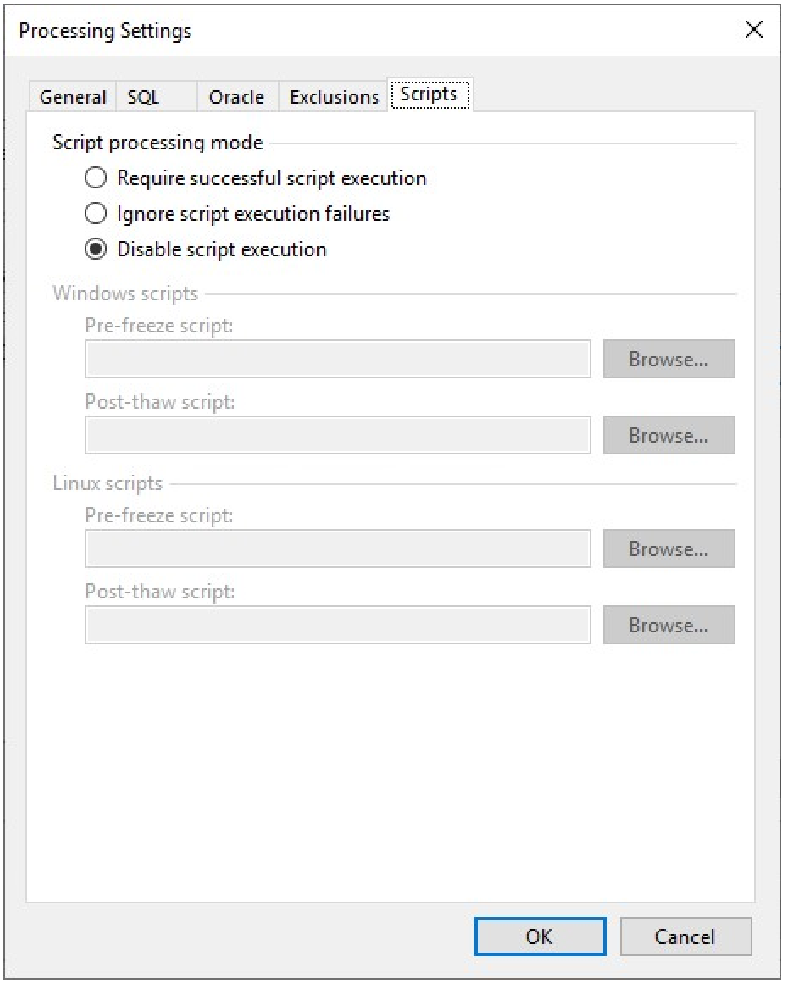
● Disable file level exclusions

○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

71. On the Processing Settings page, click Scripts and keep the default settings.
72. Click OK.



Processing Settings

Script processing mode

○ Require successful script execution

○ Ignore script execution failures

● Disable script execution

Windows scripts

Pre-freeze script:

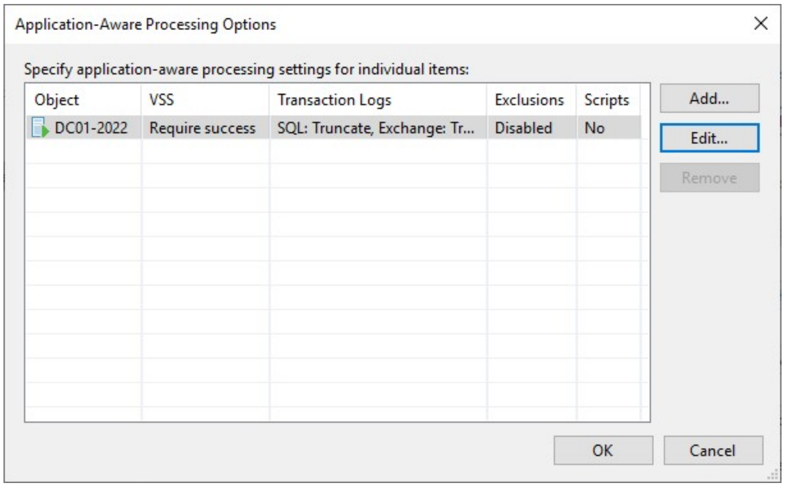
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

73. On the Application-Aware Processing Options page, click OK.

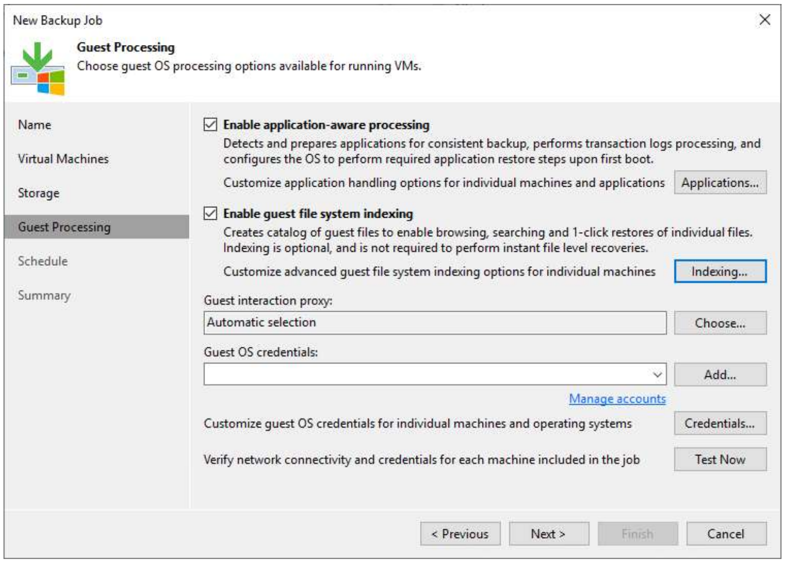


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	SQL: Truncate, Exchange: Tr...	Disabled	No

74. Select the Enable guest file system indexing checkbox and click Indexing.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

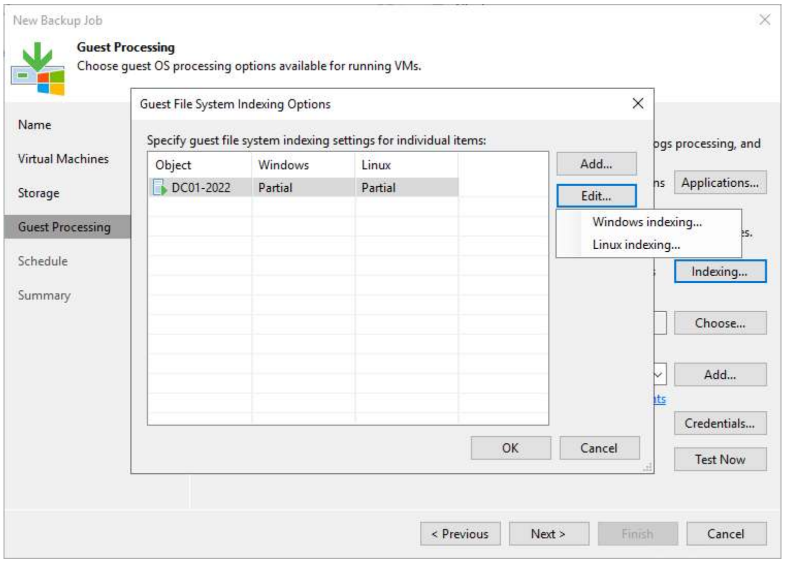
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

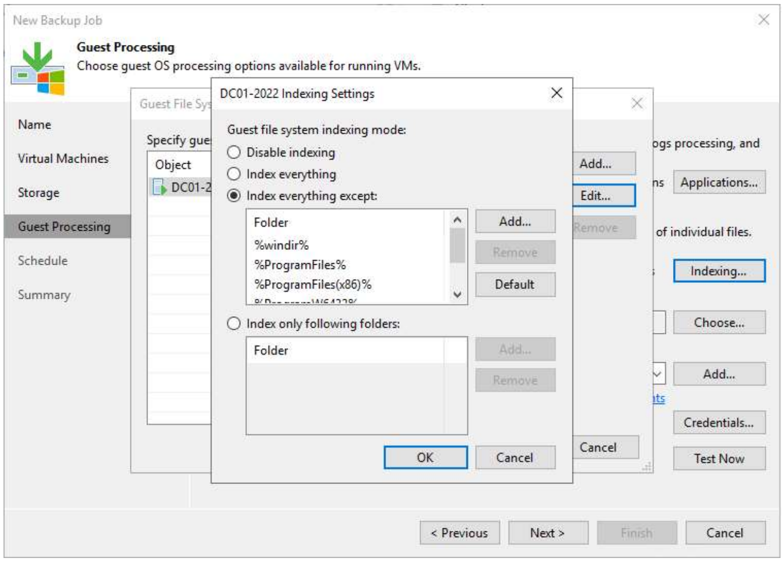
75. On the Guest File System Indexing Options page, select the VM, click Edit and select Windows indexing.



Object	Windows	Linux
DC01-2022	Partial	Partial

76. On the Guest file system indexing mode page, keep the default settings.

77. Click OK.



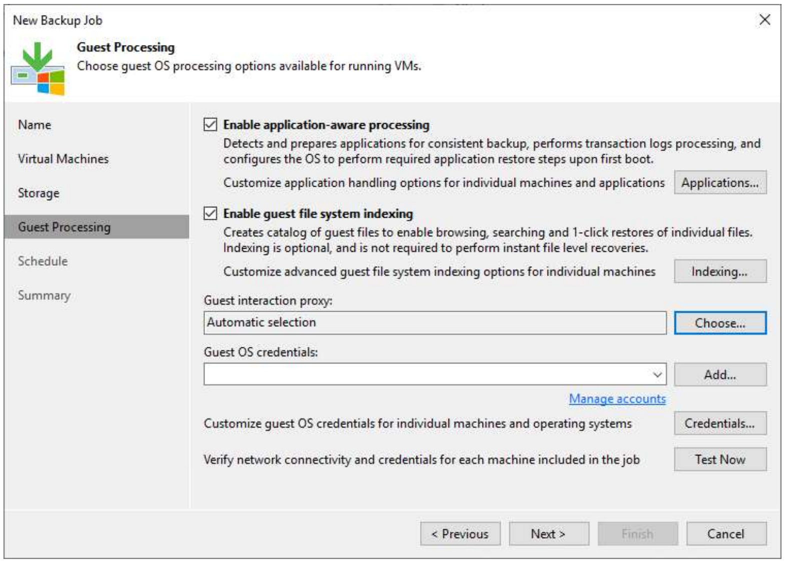
Guest file system indexing mode:
○ Disable indexing
○ Index everything
● Index everything except:

Folder
%windir%
%ProgramFiles%
%ProgramFiles(x86)%

○ Index only following folders:

Folder

78. Click Choose on the Guest interaction proxy field on the Guest Processing page.



New Backup Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**

Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.

Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

Guest OS credentials:

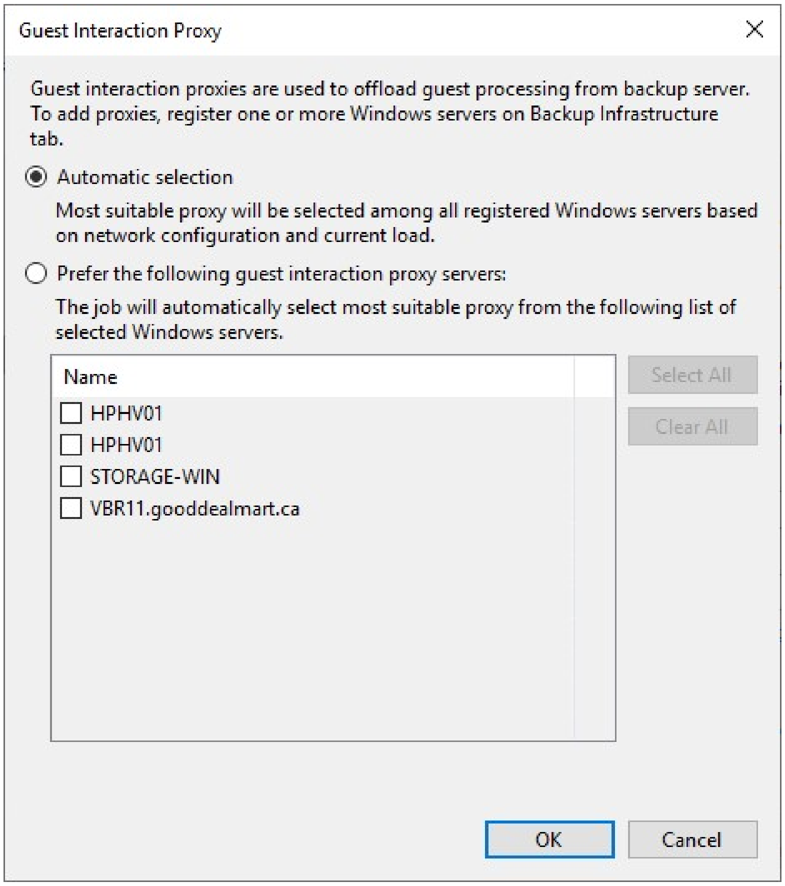
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

79. On the Guest Interaction Proxy page, select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.

80. Select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.

81. Click OK.



Guest Interaction Proxy

Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

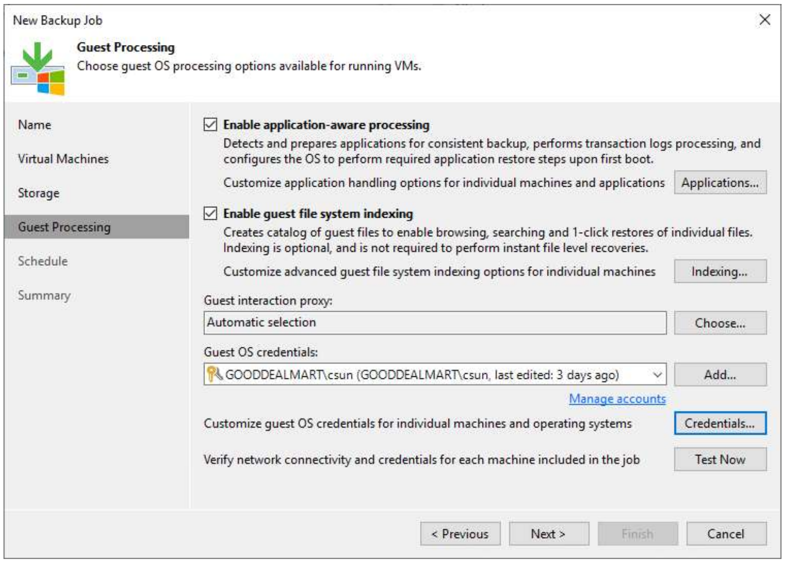
○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
□ HPHV01
□ HPHV01
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

82. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.

83. Click Credentials to Customize guest OS credentials for individual machines and operation systems.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

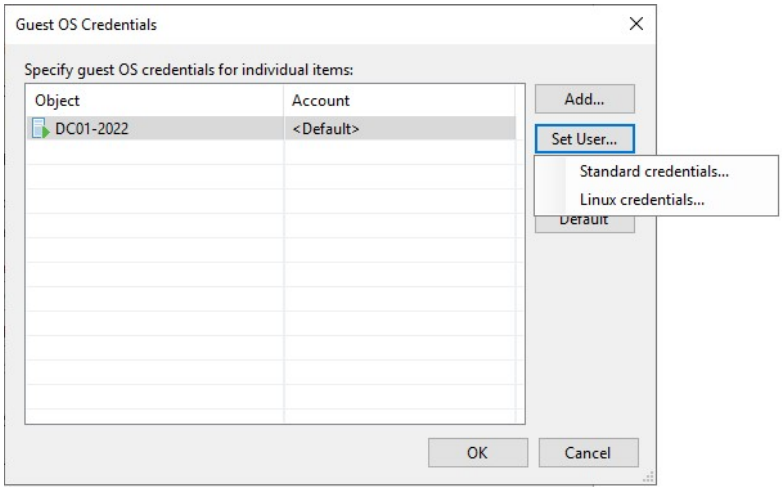
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 3 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

84. On the Guest OS Credentials page, select the VM, and click Set User.

85. Select Standard credentials.



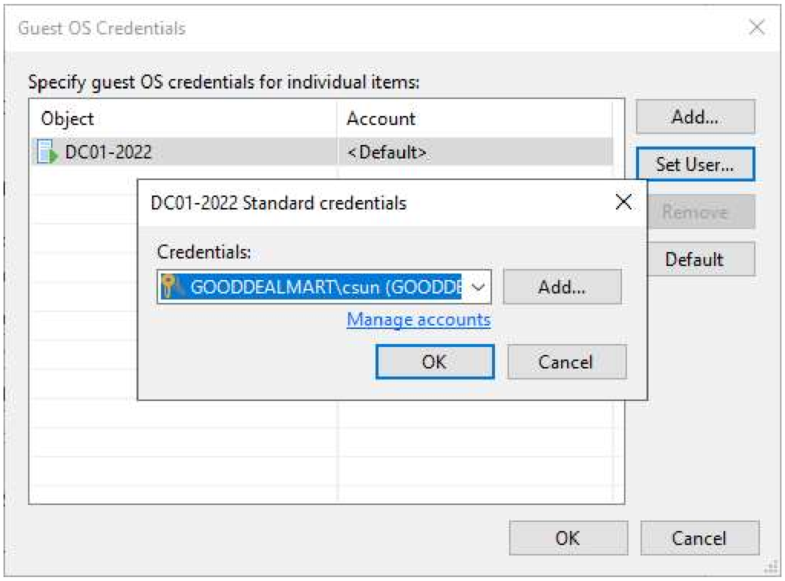
Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
DC01-2022	<Default>

86. Choose a user from the Credentials drop-down list, and click OK.

87. Repeat the steps for each VM.



Guest OS Credentials

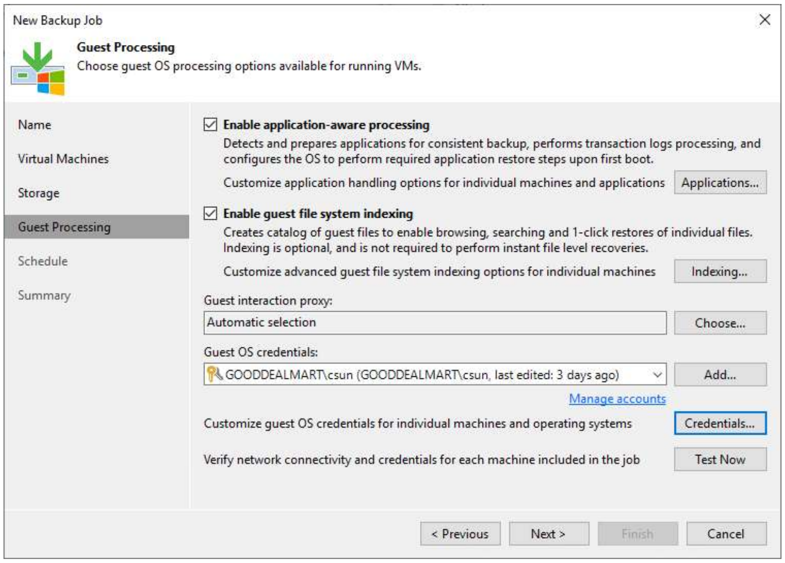
Specify guest OS credentials for individual items:

Object	Account
DC01-2022	<Default>

DC01-2022 Standard credentials

Credentials: GOODDEALMART\csun (GOODDE

88. On the Guest Processing page, click Test Now to verify network connectivity and credentials for each machine included in the job.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines

Guest interaction proxy: Automatic selection

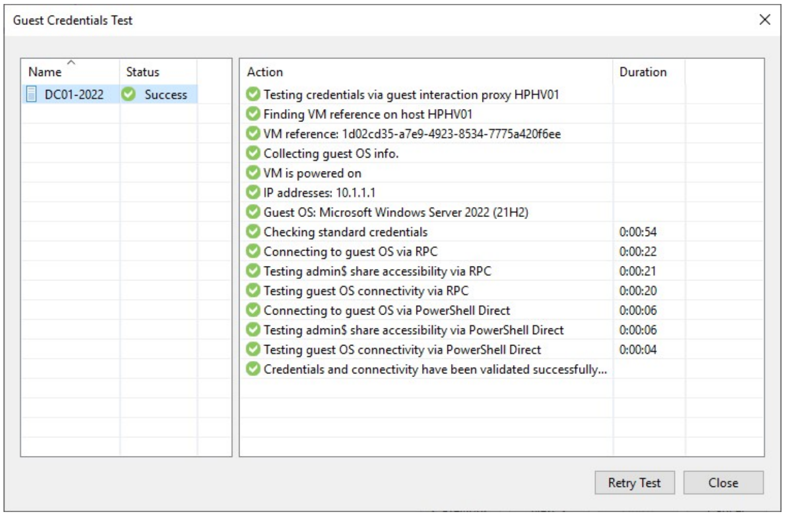
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 3 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

89. On the Guest Credentials Test page, verify each machine's success.

90. Click Close.

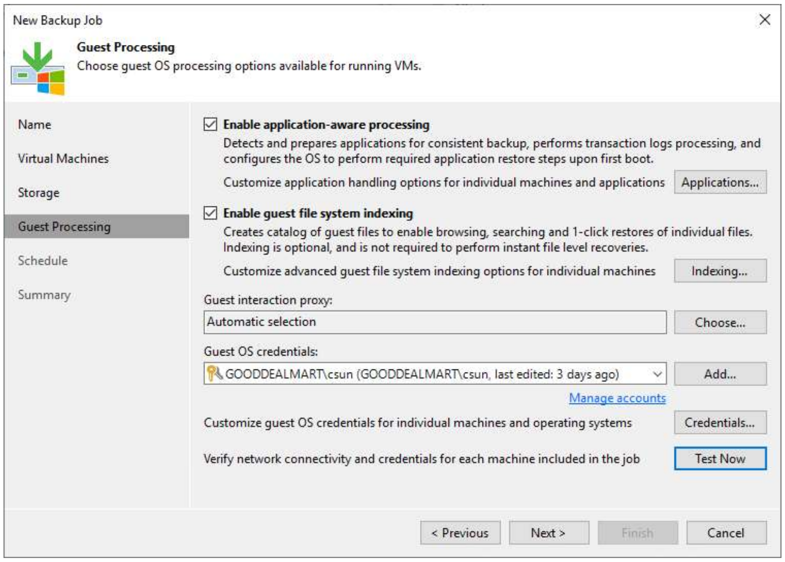


Guest Credentials Test

Name	Status
DC01-2022	✓ Success

Action	Duration
✓ Testing credentials via guest interaction proxy HPHV01	
✓ Finding VM reference on host HPHV01	
✓ VM reference: 1d02cd35-a7e9-4923-8534-7775a420f6ee	
✓ Collecting guest OS info.	
✓ VM is powered on	
✓ IP addresses: 10.1.1.1	
✓ Guest OS: Microsoft Windows Server 2022 (21H2)	
✓ Checking standard credentials	0:00:54
✓ Connecting to guest OS via RPC	0:00:22
✓ Testing admin$ share accessibility via RPC	0:00:21
✓ Testing guest OS connectivity via RPC	0:00:20
✓ Connecting to guest OS via PowerShell Direct	0:00:06
✓ Testing admin$ share accessibility via PowerShell Direct	0:00:06
✓ Testing guest OS connectivity via PowerShell Direct	0:00:04
✓ Credentials and connectivity have been validated successfully...	

91. On the Guest Processing page, click Next.



New Backup Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications [Applications...]

☑ **Enable guest file system indexing**
Creates catalog of guest files to enable browsing, searching and 1-click restores of individual files. Indexing is optional, and is not required to perform instant file level recoveries.
Customize advanced guest file system indexing options for individual machines [Indexing...]

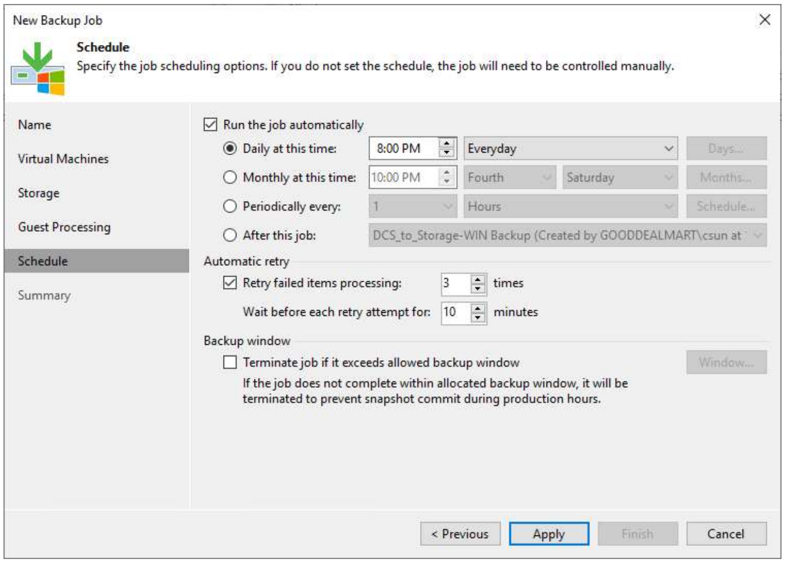
Guest interaction proxy:
Automatic selection [Choose...]

Guest OS credentials:
GOODDEALMART\csun (GOODDEALMART\csun, last edited: 3 days ago) [Add...]
Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

92. Select Run the job automatically on the Schedule page and select your specified schedule.
93. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.
94. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on the production environment.
95. Click Apply.



Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 8:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DCS_to_Storage-WIN Backup (Created by GOODDEALMART\csun at

Automatic retry

☑ Retry failed items processing: 3 times

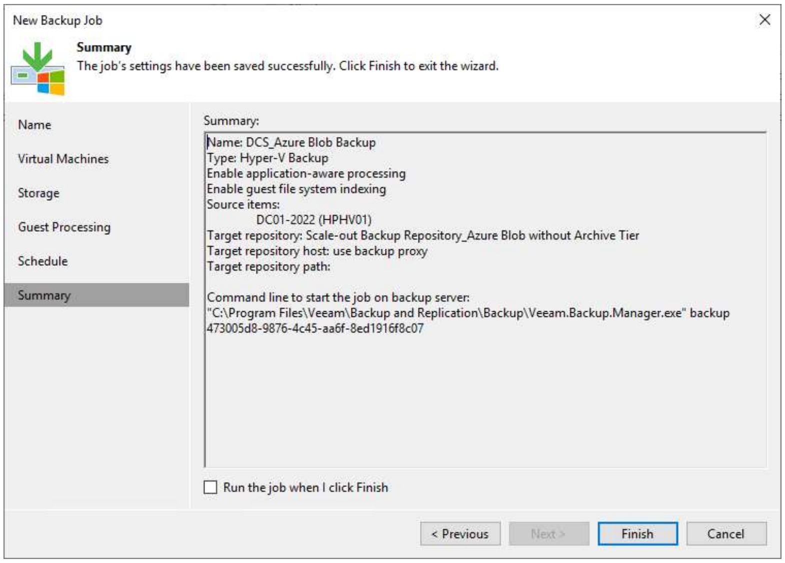
Wait before each retry attempt for: 10 minutes

Backup window

☐ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

96. On the Summary page, click Finish.



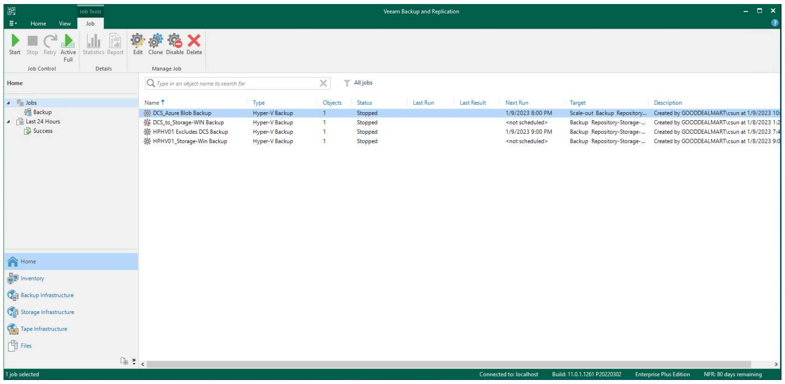
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: DCS_Azure Blob Backup
Type: Hyper-V Backup
Enable application-aware processing
Enable guest file system indexing
Source items:
        DC01-2022 (HPHV01)
Target repository: Scale-out Backup Repository_Azure Blob without Archive Tier
Target repository host: use backup proxy
Target repository path:

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
473005d8-9876-4c45-aa6f-8ed1916f8c07
```

☐ Run the job when I click Finish

97. Verify the backup job has been added

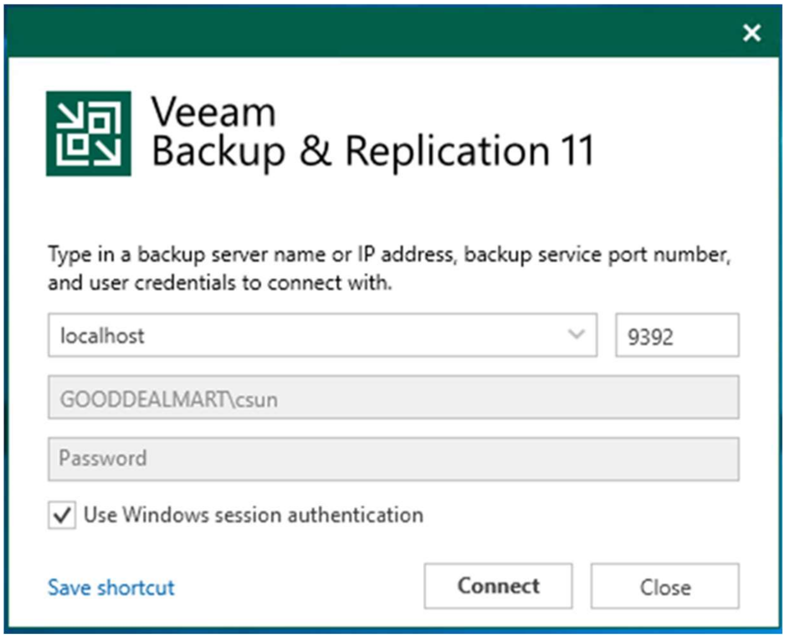


Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DCS_Azure Blob Backup	Hyper-V Backup	1	Stopped			1/9/2023 8:00 PM	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/9/2023 10
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 1:2
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			1/9/2023 9:00 PM	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2023 7:4
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 9:0

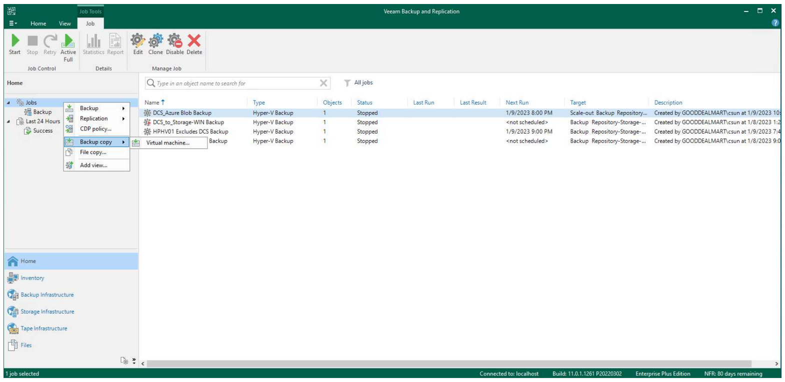
1 job selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 80 days remaining

Creating a Backup Copy Job from the backup job

The backup copy process is job-driven. Veeam Backup & Replication fully automates backup copying. It allows you to specify retention settings to keep the desired number of restore points and full backups for archival purposes.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Jobs, right-click Jobs, select Backup copy and click Virtual machine.



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target	Description
DCS_Azure Blob Backup	Hyper-V Backup	1	Stopped			1/9/2023 8:00 PM	Scale-out Backup Repository...	Created by GOODDEALMART\csun at 1/9/2023 10:
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 1:2
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			1/9/2023 9:00 PM	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/9/2023 7:4
Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-Storage-...	Created by GOODDEALMART\csun at 1/8/2023 9:0

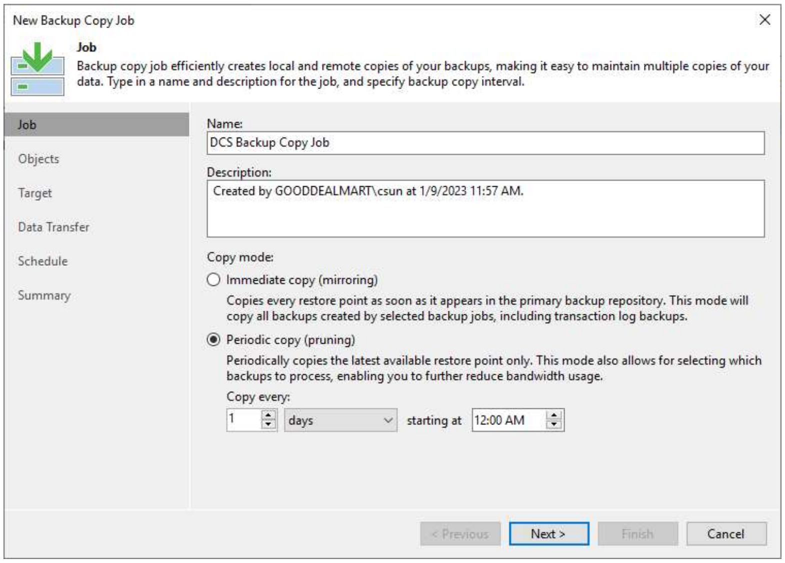
1 job selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 80 days remaining

4. On the Name page, enter a name in the Name field.

5. Describe the Description field.

6. In the copy mode session, select a backup copy mode. You cannot change the set mode after configuring the backup copy job.

7. Click Next.



Job

Backup copy job efficiently creates local and remote copies of your backups, making it easy to maintain multiple copies of your data. Type in a name and description for the job, and specify backup copy interval.

Name:
DCS Backup Copy Job

Description:
Created by GOODDEALMART\csun at 1/9/2023 11:57 AM.

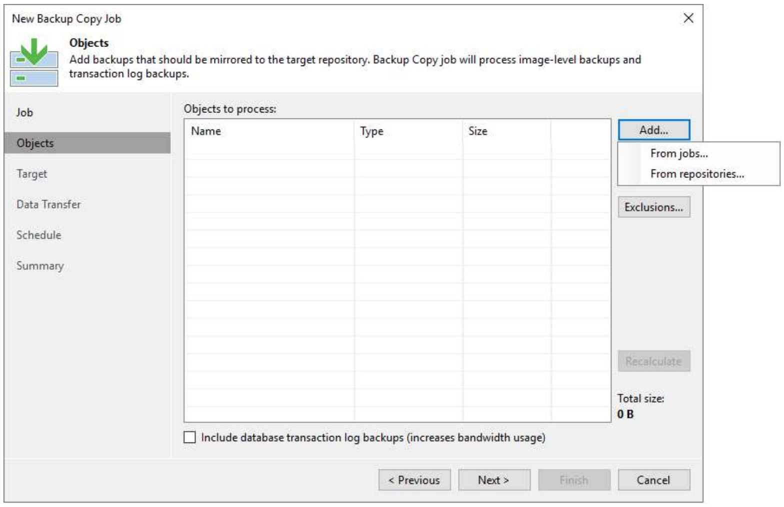
Copy mode:

○ Immediate copy (mirroring)
Copies every restore point as soon as it appears in the primary backup repository. This mode will copy all backups created by selected backup jobs, including transaction log backups.

● Periodic copy (pruning)
Periodically copies the latest available restore point only. This mode also allows for selecting which backups to process, enabling you to further reduce bandwidth usage.

Copy every:
1 days starting at 12:00 AM

8. On the Objects page, click Add and select From jobs.



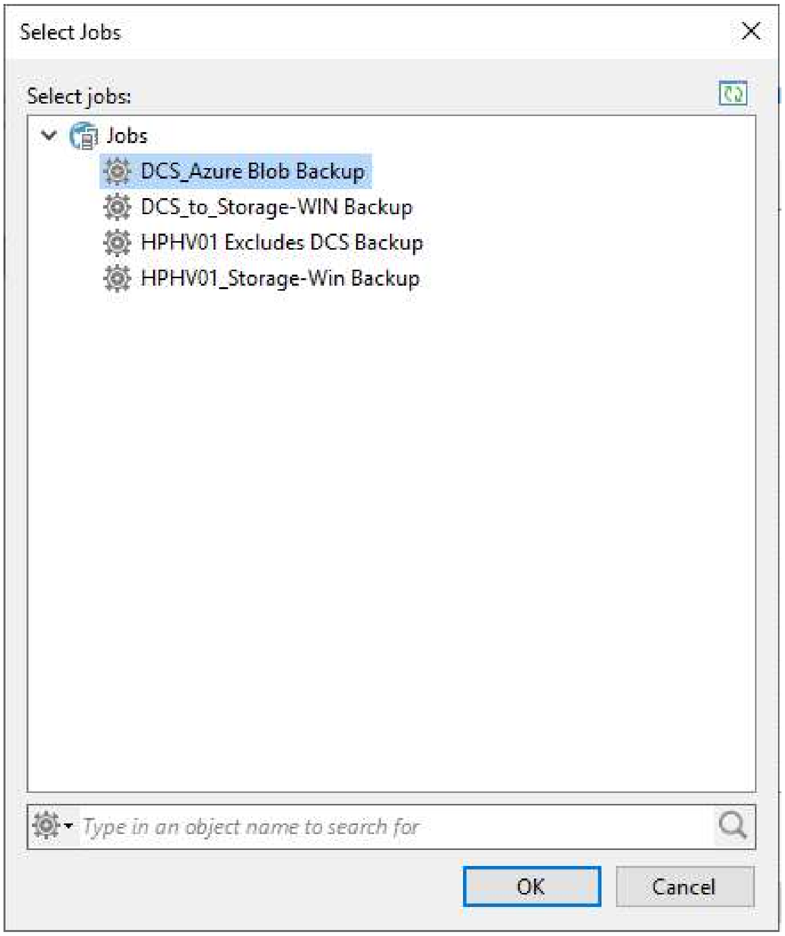
New Backup Copy Job

Objects

Add backups that should be mirrored to the target repository. Backup Copy job will process image-level backups and transaction log backups.

☐ Include database transaction log backups (increases bandwidth usage)

9. Select the job from the jobs list on the Select jobs page and click OK.



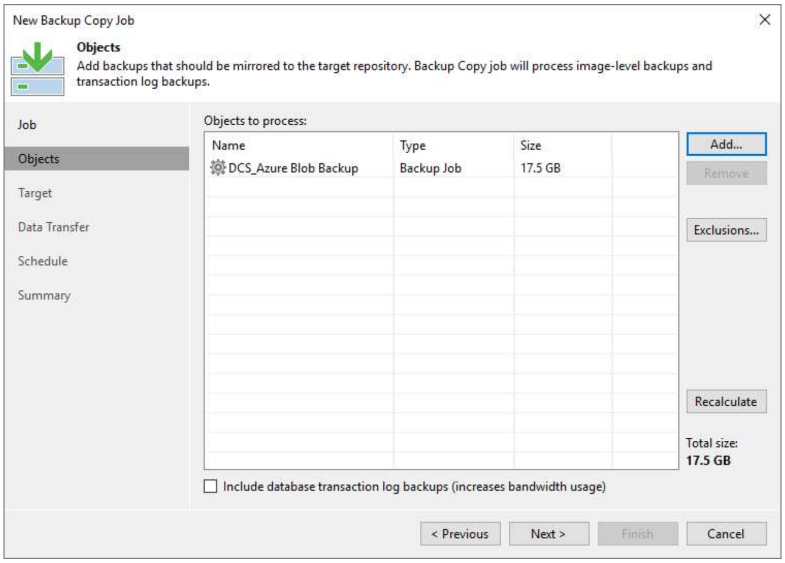
Select Jobs

Select jobs:

- Jobs
  - DCS_Azure Blob Backup
  - DCS_to_Storage-WIN Backup
  - HPHV01 Excludes DCS Backup
  - HPHV01_Storage-Win Backup

10. On the Objects page, click Next.

11. Select Include database transacting log backups (increases bandwidth usage) If required.



New Backup Copy Job

Objects

Add backups that should be mirrored to the target repository. Backup Copy job will process image-level backups and transaction log backups.

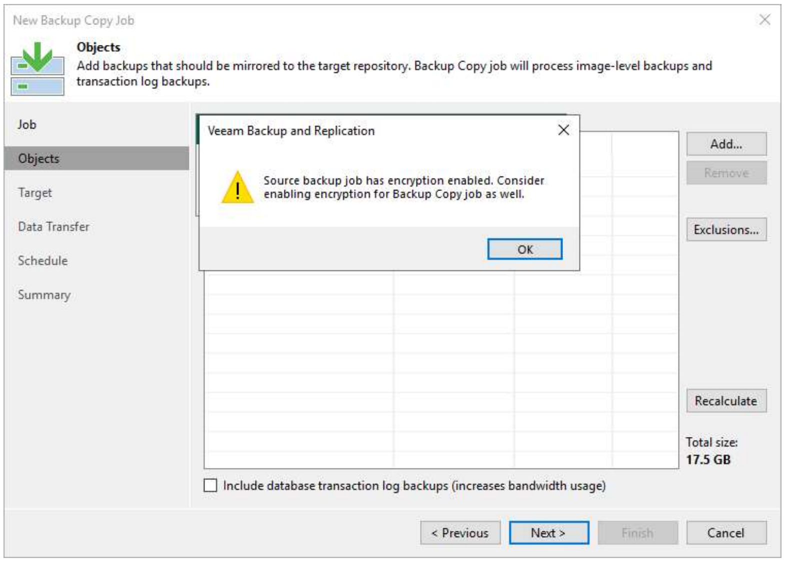
Objects to process:

Name	Type	Size
DCS_Azure Blob Backup	Backup Job	17.5 GB

Total size: **17.5 GB**

☐ Include database transaction log backups (increases bandwidth usage)

12. Click OK in the encryption-enabled warning message if the source backup job has encryption enabled.



New Backup Copy Job

Objects

Add backups that should be mirrored to the target repository. Backup Copy job will process image-level backups and transaction log backups.

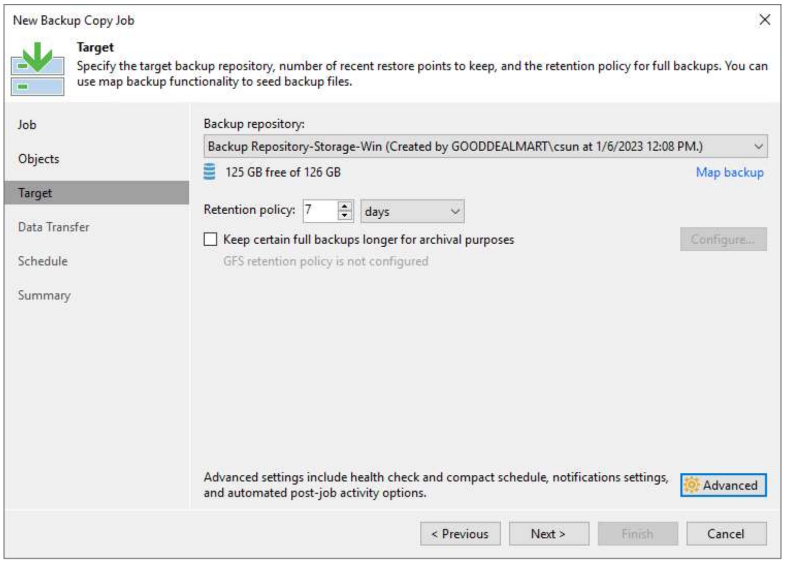
Veeam Backup and Replication

Source backup job has encryption enabled. Consider enabling encryption for Backup Copy job as well.

Total size: **17.5 GB**

☐ Include database transaction log backups (increases bandwidth usage)

13. On the Target page, select the backup repository from the drop-down list.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Job
Objects
Target
Data Transfer
Schedule
Summary

Backup repository:
Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB — Map backup

Retention policy: 7 days

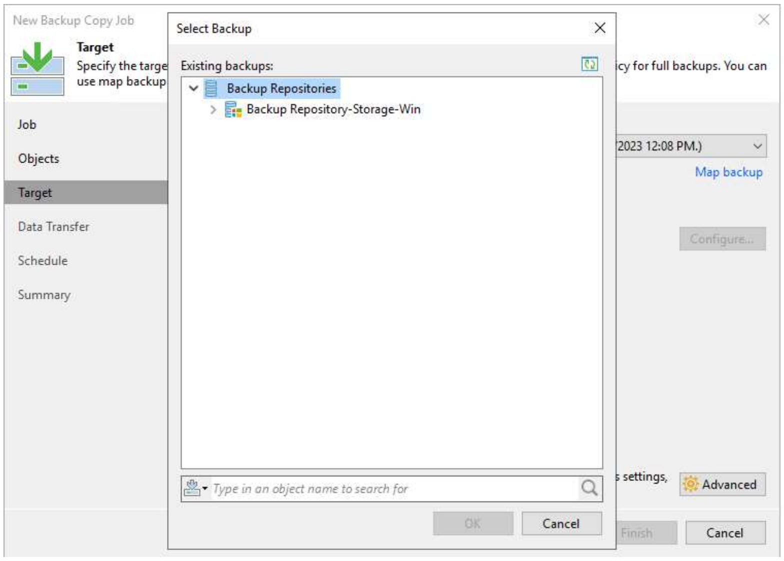
☐ Keep certain full backups longer for archival purposes — Configure...

GFS retention policy is not configured

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options. — Advanced

< Previous | Next > | Finish | Cancel

14. Click Map backup if required. It is helpful if you have relocated backup copy files to a new backup repository and want to point the job to existing backups in this new backup repository. Backup copy job mapping can also be used if the configuration database becomes corrupt and you need to reconfigure backup jobs.



Select Backup

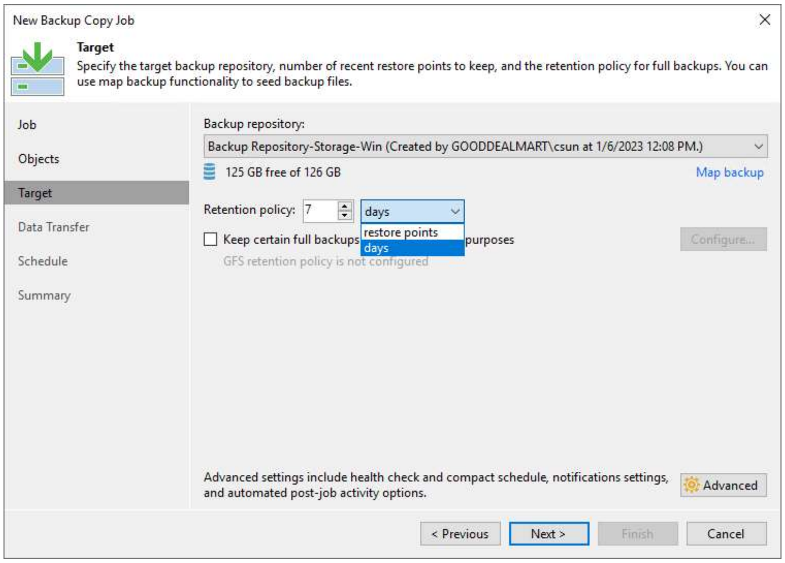
Existing backups:
- Backup Repositories
  - Backup Repository-Storage-Win

Type in an object name to search for

OK | Cancel

15. Set the retention policy settings for restore points in the Retention Policy field.

16. Select days or restore points from the drop-down list.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 days

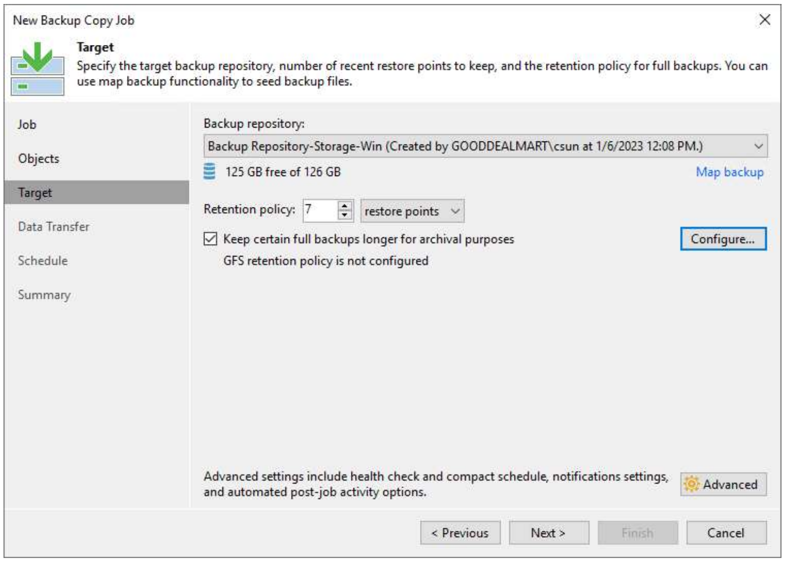
□ Keep certain full backups purposes

GFS retention policy is not configured

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

17. For long-term archiving, you can configure GFS retention policy settings for the backup copy job

18. Select Keep specific full backups for longer for archival purposes, and click Configure.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

GFS retention policy is not configured

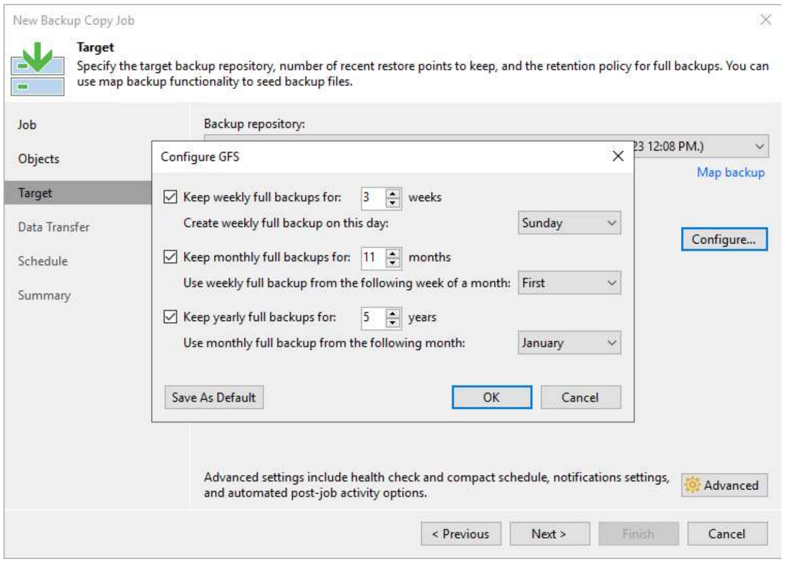
Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

19. On the Configure GFS page, select the Keep weekly full backups for check box, and specify the number of weeks you want to prevent restore points from being modified and deleted.

20. Select the Keep monthly full backups for check box, and specify the months you want to prevent restore points from being modified and deleted.

21. Select the Keep yearly full backups for check box, and specify the years you want to prevent restore points from being modified and deleted.

22. Click OK.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: ...23 12:08 PM.)

Configure GFS

☑ Keep weekly full backups for: 3 weeks

Create weekly full backup on this day: Sunday

☑ Keep monthly full backups for: 11 months

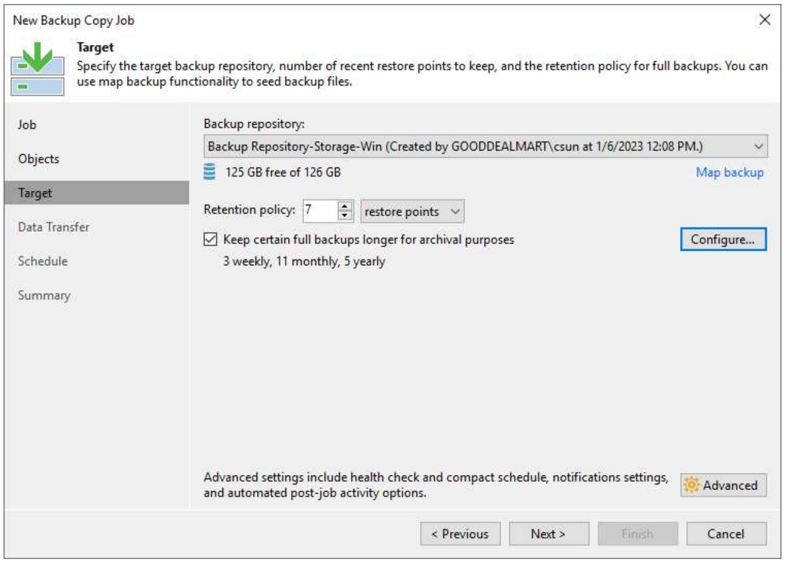
Use weekly full backup from the following week of a month: First

☑ Keep yearly full backups for: 5 years

Use monthly full backup from the following month: January

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

23. On the Target page, click Advanced.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

3 weekly, 11 monthly, 5 yearly

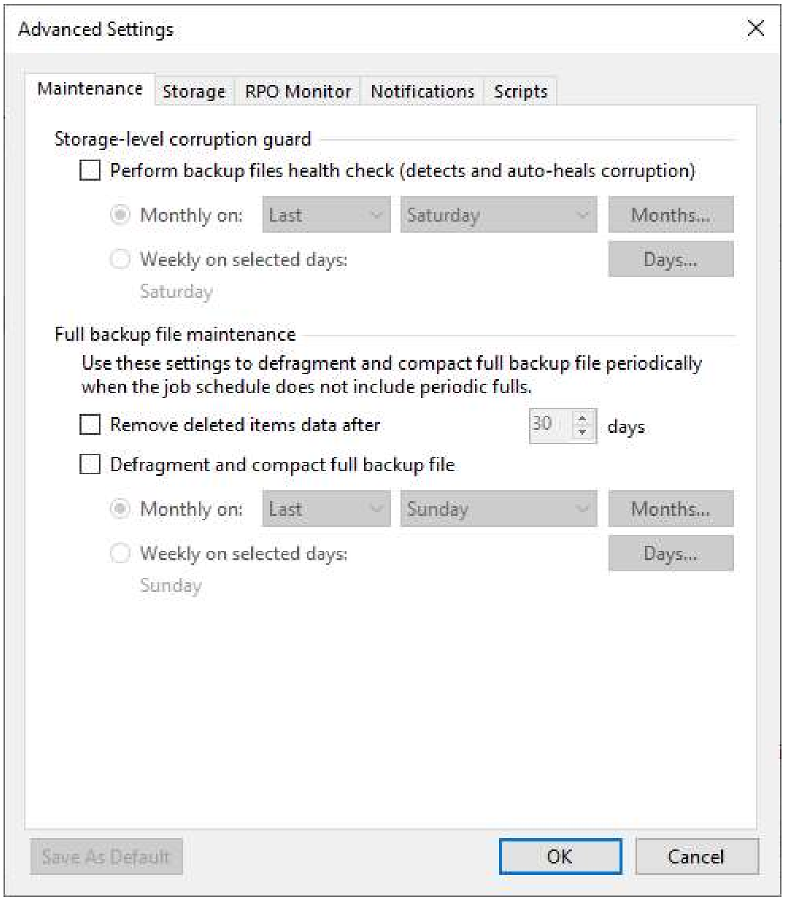
Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

24. On the Advanced Settings, click Maintenance.

25. Select the Perform backup files health check (detects and auto-heals corruption) checkbox and specify the schedule for the health check if required.

26. Select the Remove deleted items data after the checkbox and specify the retention days settings for deleted workloads if required.

27. Select the Defragment and compact full backup file checkbox and specify the schedule for the compacting operation if required.



Storage-level corruption guard

□ Perform backup files health check (detects and auto-heals corruption)

● Monthly on: Last Saturday Months...

○ Weekly on selected days: Days...

Saturday

Full backup file maintenance

Use these settings to defragment and compact full backup file periodically when the job schedule does not include periodic fulls.

□ Remove deleted items data after 30 days

□ Defragment and compact full backup file

● Monthly on: Last Sunday Months...

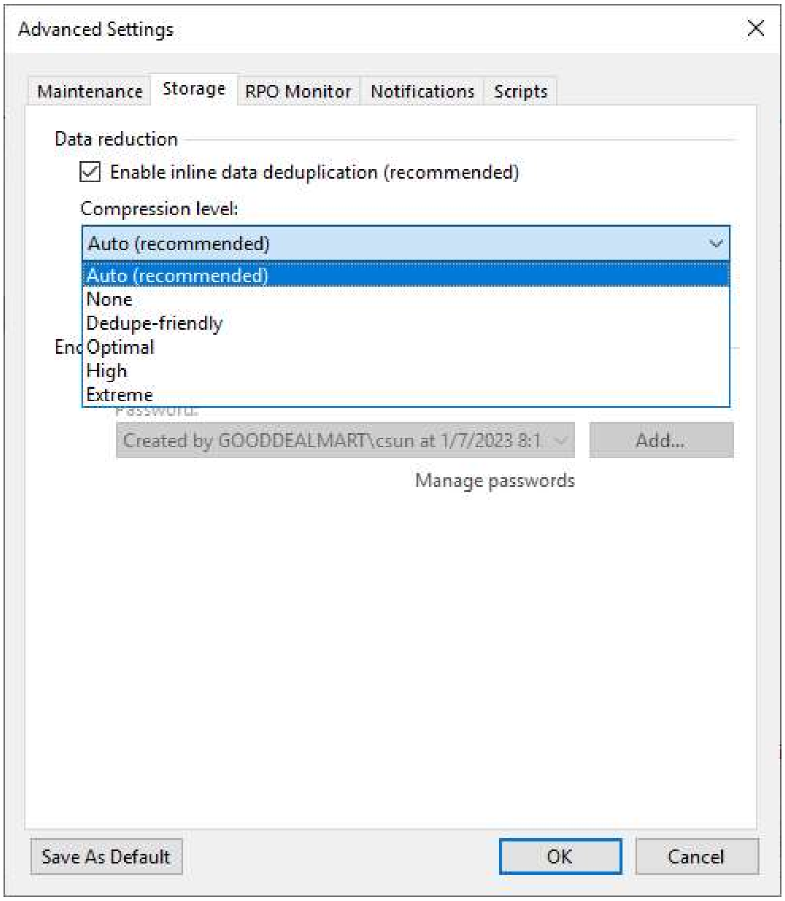
○ Weekly on selected days: Days...

Sunday

28. On Advanced Settings, click Storage.

29. Select the Enable inline data deduplication check box.

30. Select the compression level for the backup copy from the drop-down list.



Advanced Settings

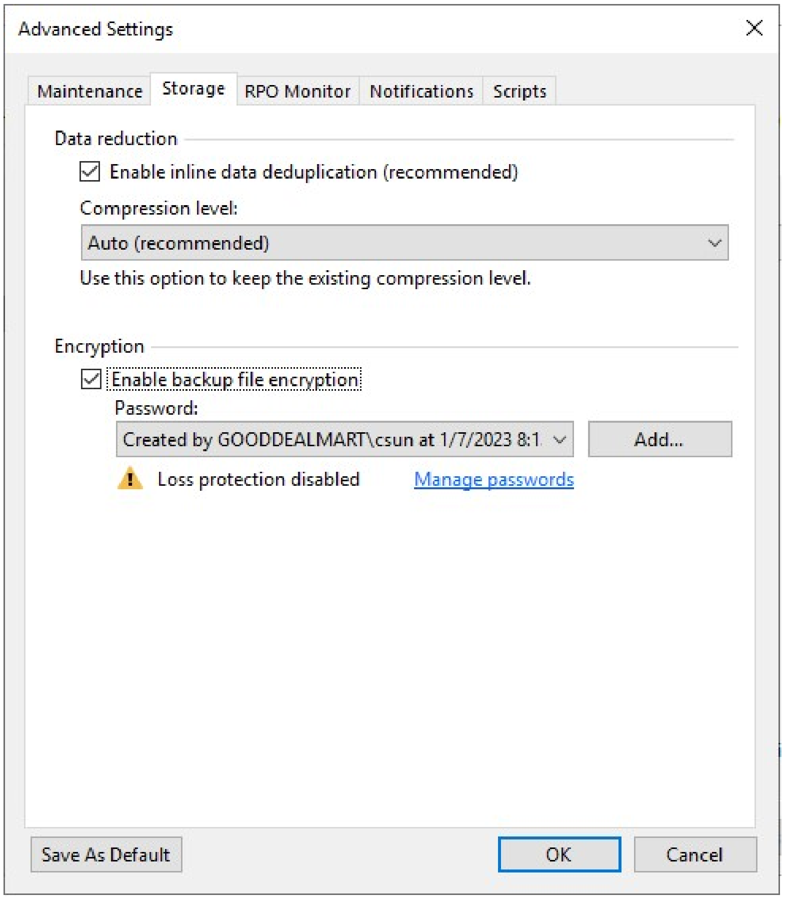
Data reduction

☑ Enable inline data deduplication (recommended)

Compression level: Auto (recommended)

Created by GOODDEALMART\csun at 1/7/2023 8:1

31. Select the Enable backup file encryption checkbox to encrypt the content of backup files.
32. Select a password from the drop-down list. If you haven't done so, click Add or use the Manage passwords link to create a new password.



Advanced Settings

Data reduction

☑ Enable inline data deduplication (recommended)

Compression level: Auto (recommended)

Use this option to keep the existing compression level.

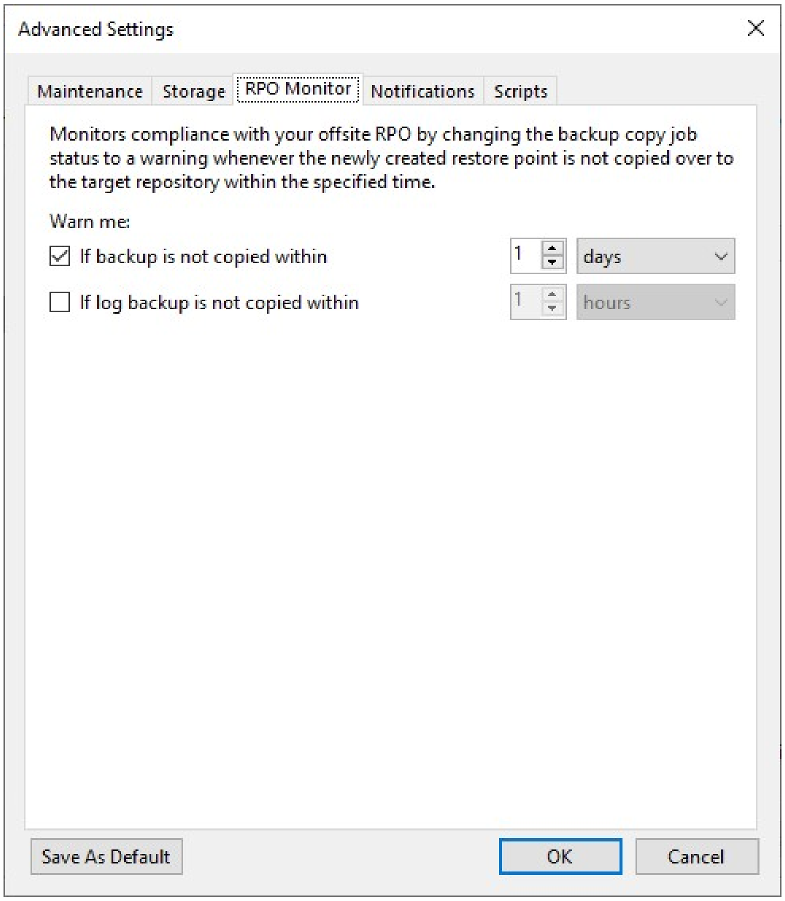
Encryption

☑ Enable backup file encryption

Password: Created by GOODDEALMART\csun at 1/7/2023 8:1

Loss protection disabled

33. On the Advanced Settings page, select RPO Monitor.
34. Select the Alert me if a backup is not copied within the checkbox, and specify the desired RPO in minutes, hours or days.
35. Select Alert me if the log backup is not copied within the checkbox.
36. If you have enabled copying of log backups, specify the desired RPO in minutes, hours or days.



Monitors compliance with your offsite RPO by changing the backup copy job status to a warning whenever the newly created restore point is not copied over to the target repository within the specified time.

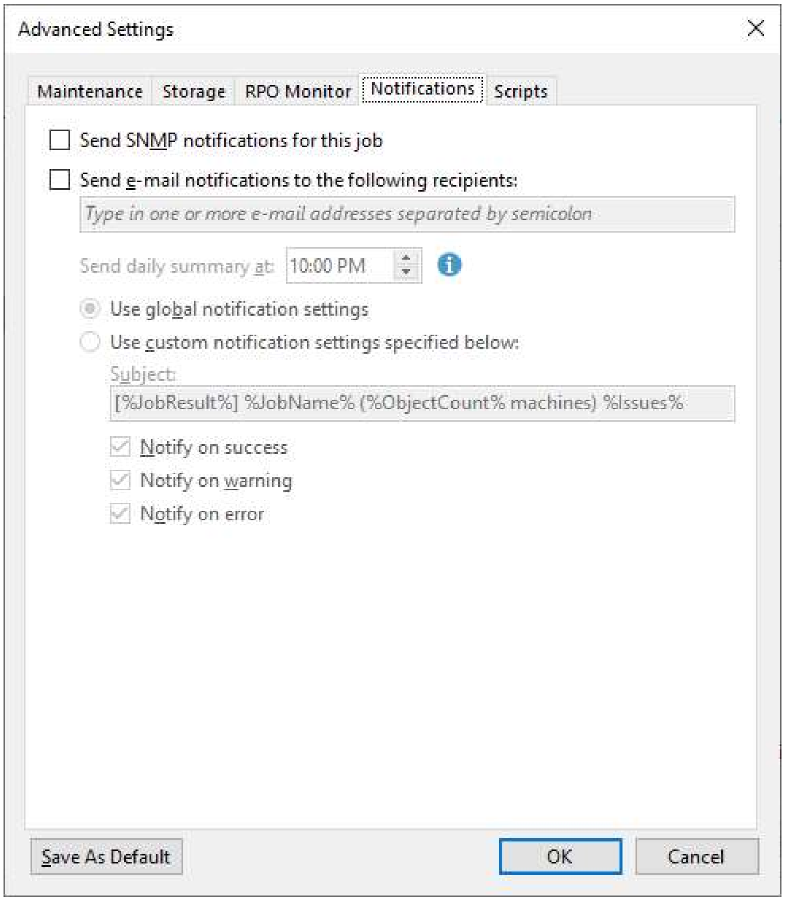
Warn me:

☑ If backup is not copied within 1 days

□ If log backup is not copied within 1 hours

37. On the Advanced Settings, select Notifications.

38. Keep the default settings.



Advanced Settings

□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

Send daily summary at: 10:00 PM

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

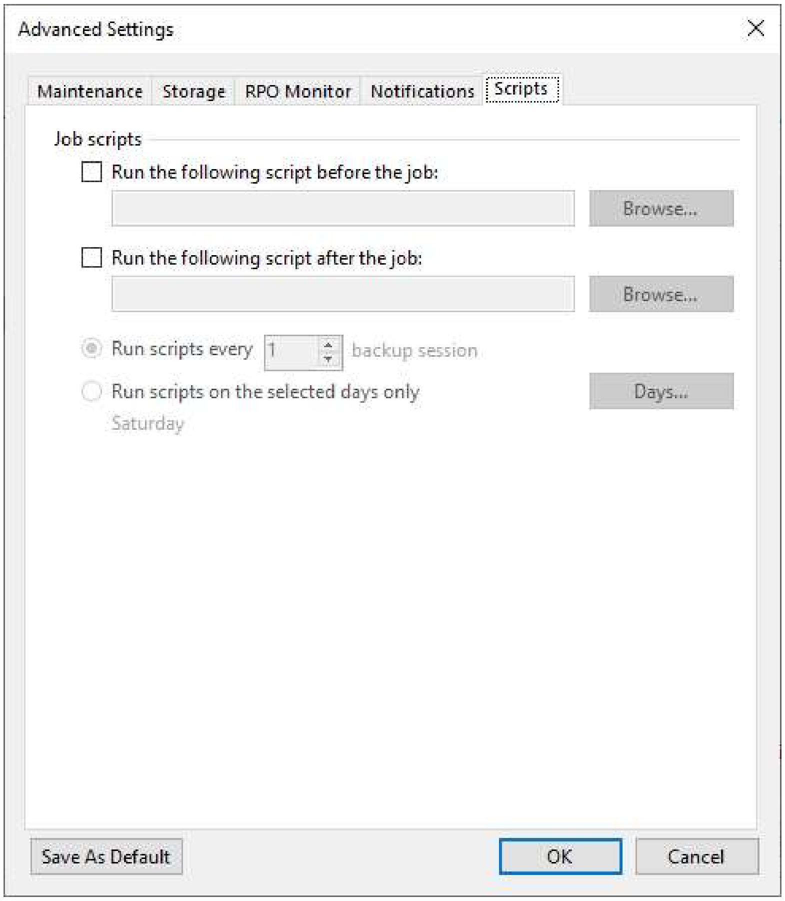
☑ Notify on success

☑ Notify on warning

☑ Notify on error

39. On the Advanced Settings page, click Scripts.

40. Keep the default settings and click OK.


Advanced Settings

Job scripts

☐ Run the following script before the job:

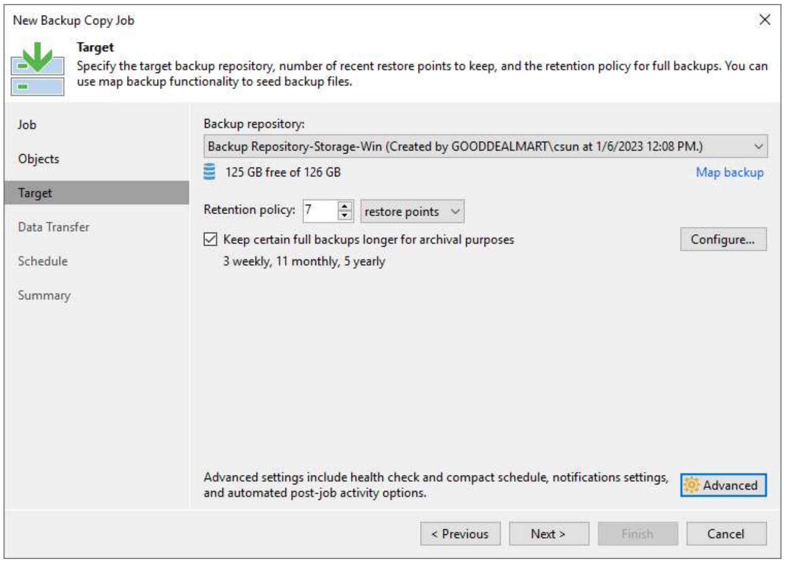
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

41. On the Target page, click Next.



New Backup Copy Job

Target

Specify the target backup repository, number of recent restore points to keep, and the retention policy for full backups. You can use map backup functionality to seed backup files.

Backup repository: Backup Repository-Storage-Win (Created by GOODDEALMART\csun at 1/6/2023 12:08 PM.)

125 GB free of 126 GB

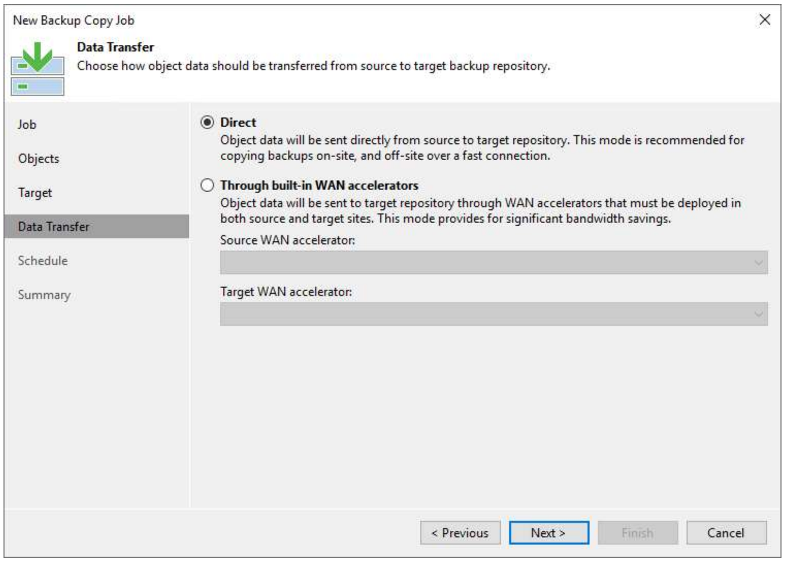
Retention policy: 7 restore points

☑ Keep certain full backups longer for archival purposes

3 weekly, 11 monthly, 5 yearly

Advanced settings include health check and compact schedule, notifications settings, and automated post-job activity options.

42. On the Data Transfer page, Select Direct if you plan to copy backup files over high-speed connections.



New Backup Copy Job

Data Transfer

Choose how object data should be transferred from source to target backup repository.

● **Direct**

Object data will be sent directly from source to target repository. This mode is recommended for copying backups on-site, and off-site over a fast connection.

○ **Through built-in WAN accelerators**

Object data will be sent to target repository through WAN accelerators that must be deployed in both source and target sites. This mode provides for significant bandwidth savings.

Source WAN accelerator:

Target WAN accelerator:

43. Select the Through built-in WAN accelerators if you copy backup files over WAN or slow connections.

44. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.

45. Select a WAN accelerator configured in the target site from the Target WAN

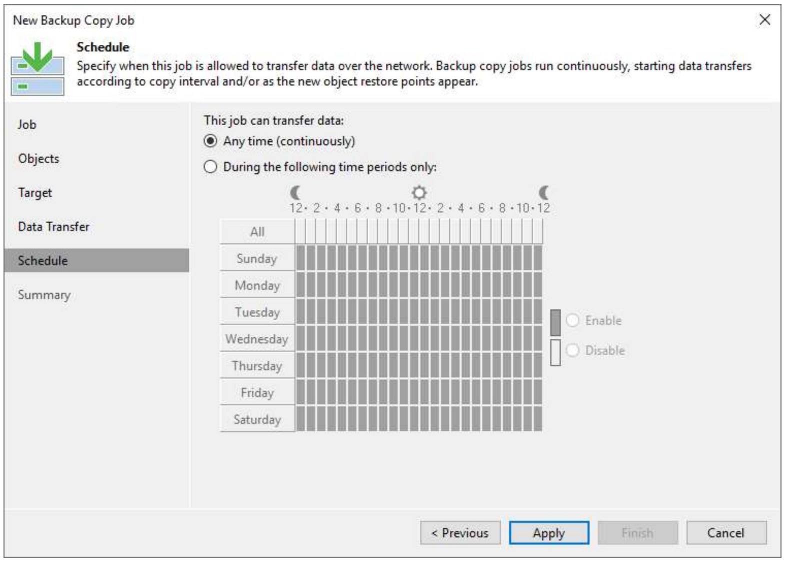
accelerator drop-down list.

46. Click Next.

47. On the Schedule page, select Any time (continuously) if this job can transfer data at any time.

48. Select During the following periods only if required.

49. Click Apply.



New Backup Copy Job

Schedule

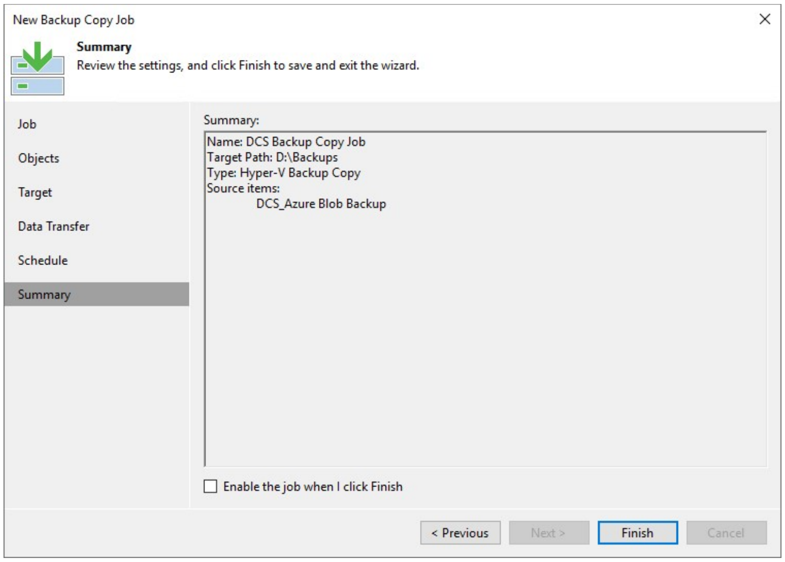
Specify when this job is allowed to transfer data over the network. Backup copy jobs run continuously, starting data transfers according to copy interval and/or as the new object restore points appear.

This job can transfer data:

● Any time (continuously)

○ During the following time periods only:

50. Select Enable the job on the Summary page when I click the Finish checkbox. If you want to start the job after creating it, click Finish.



New Backup Copy Job

Summary

Review the settings, and click Finish to save and exit the wizard.

Summary:

Name: DCS Backup Copy Job
Target Path: D:\Backups
Type: Hyper-V Backup Copy
Source items:
DCS_Azure Blob Backup

□ Enable the job when I click Finish

Chapter 5

Replication

Veeam replication is a data protection and disaster recovery solution that enables businesses to replicate virtual machines (VMs) and their data in an offsite location. This helps to ensure that critical data is protected and available in case of a disaster or other unexpected events that could disrupt business operations.

Veeam replication creates a copy of the virtual machine and its data on a remote server in another data center or a cloud environment. This copy is then kept in sync with the original VM so that any changes made to the original are also reflected in the replica.

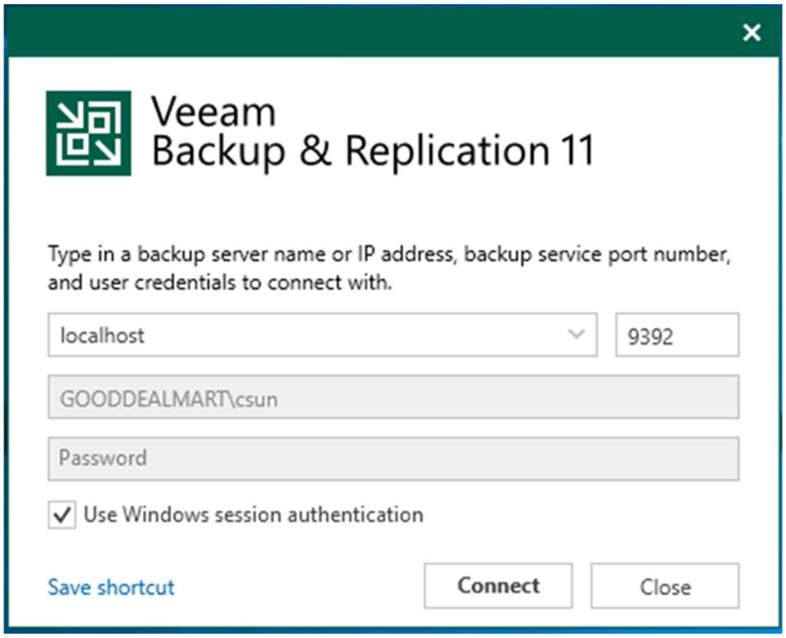
The replica can be quickly activated in a disaster to restore services and minimize downtime. Veeam replication also provides several features to ensure the reliability and security of the replicated data, including encryption, compression, and bandwidth throttling.

Veeam replication is a powerful tool for businesses that must ensure their critical data's availability and reliability. In addition, it can help minimize the impact of disasters and other unexpected events.

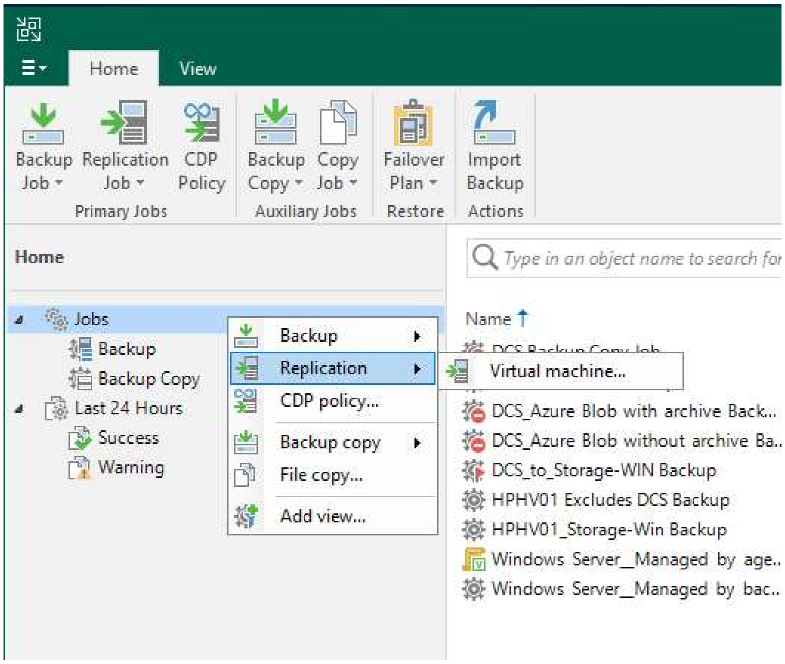
Creating a Replication job to replicate the specified VMs at the same site

A replication job must be configured before you can create VM replicas. The replication job specifies how, where, and when VM data is replicated. A single job can process one or more virtual machines.

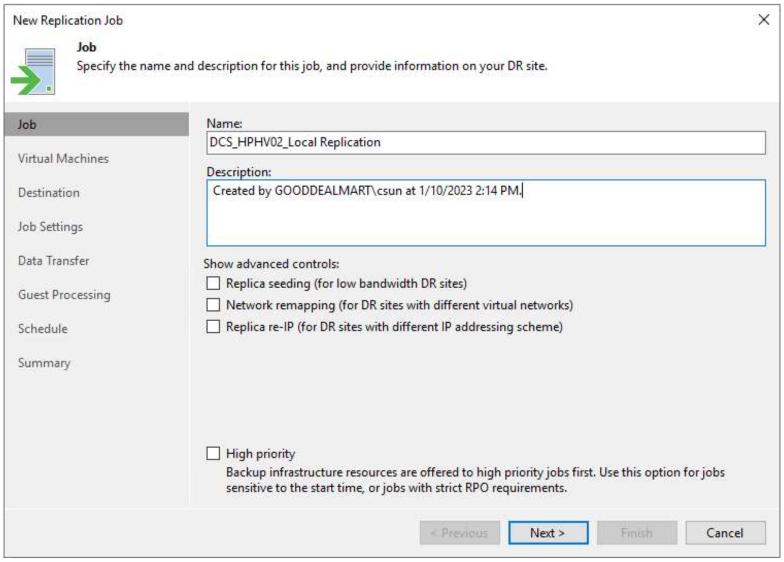
This procedure creates a replication job to replicate the specified production virtual machines at the same production site.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, select Jobs.
4. Right-click Jobs, select Replication
5. Click Virtual machine.



6. On the Job page, enter a name for the replication job in the Name field.
7. Describe the Description field.
8. Select the High priority check box if required.
9. Click Next.


New Replication Job

Job

Specify the name and description for this job, and provide information on your DR site.

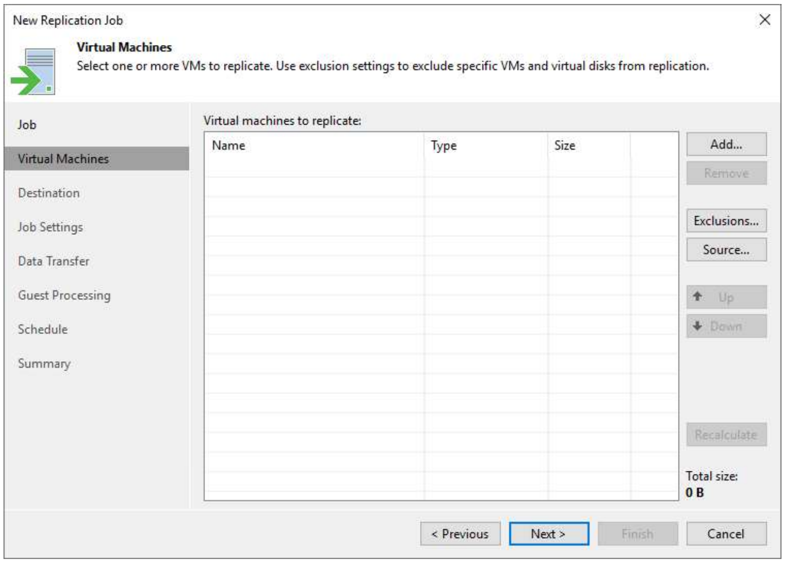
Name:
DCS_HPHV02_Local Replication

Description:
Created by GOODDEALMART\csun at 1/10/2023 2:14 PM.

Show advanced controls:
□ Replica seeding (for low bandwidth DR sites)
□ Network remapping (for DR sites with different virtual networks)
□ Replica re-IP (for DR sites with different IP addressing scheme)

□ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

10. On the Virtual Machines page, click Add.



New Replication Job

Virtual Machines

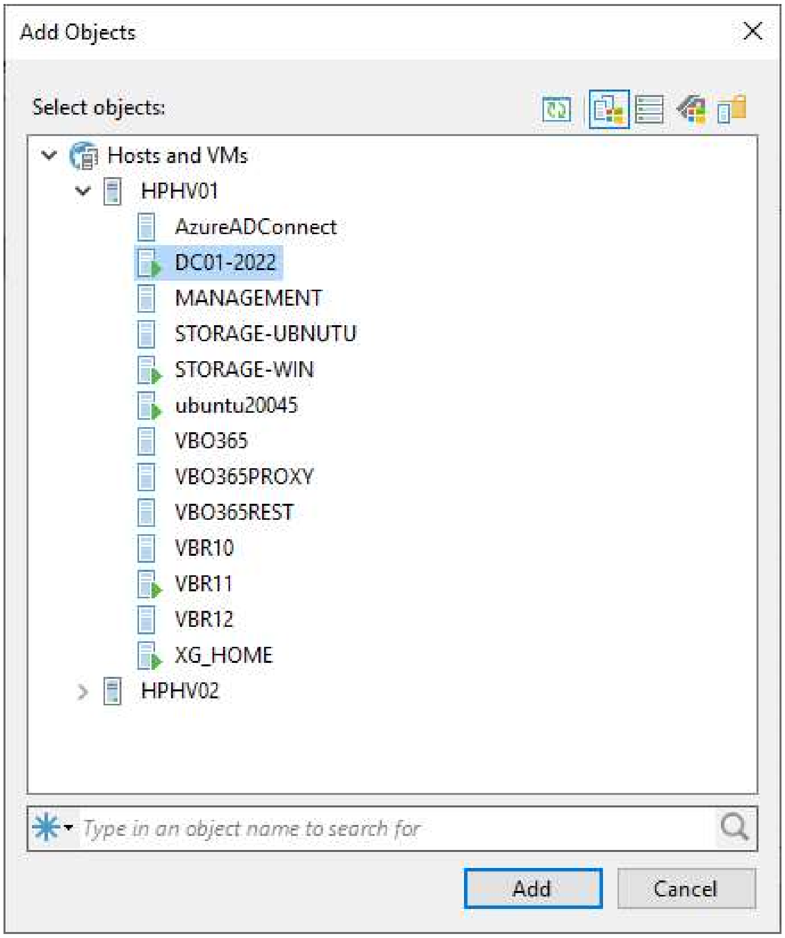
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size

Total size: **0 B**

11. Select the objects in the list on the Add Objects page and click Add.

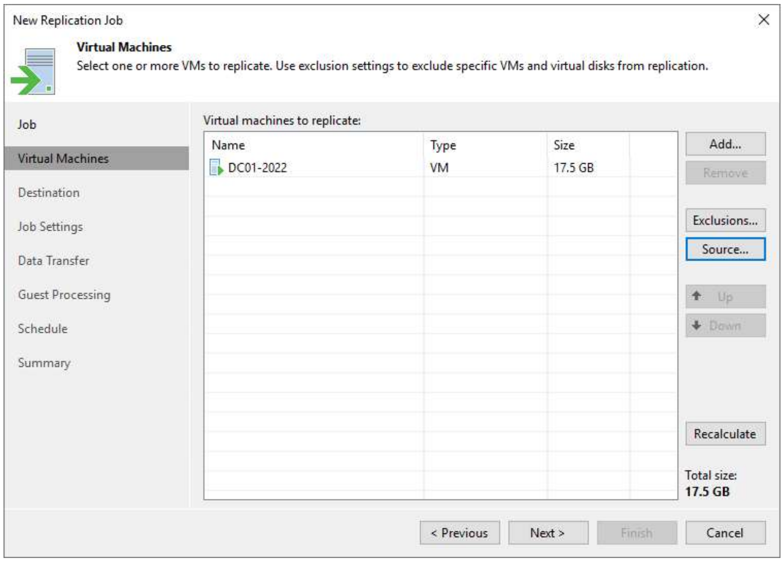


Add Objects

Select objects:

- Hosts and VMs
  - HPHV01
    - AzureADConnect
    - DC01-2022
    - MANAGEMENT
    - STORAGE-UBNUTU
    - STORAGE-WIN
    - ubuntu20045
    - VBO365
    - VBO365PROXY
    - VBO365REST
    - VBR10
    - VBR11
    - VBR12
    - XG_HOME
  - HPHV02

12. On the Virtual machines page, click Source.



New Replication Job

Virtual Machines

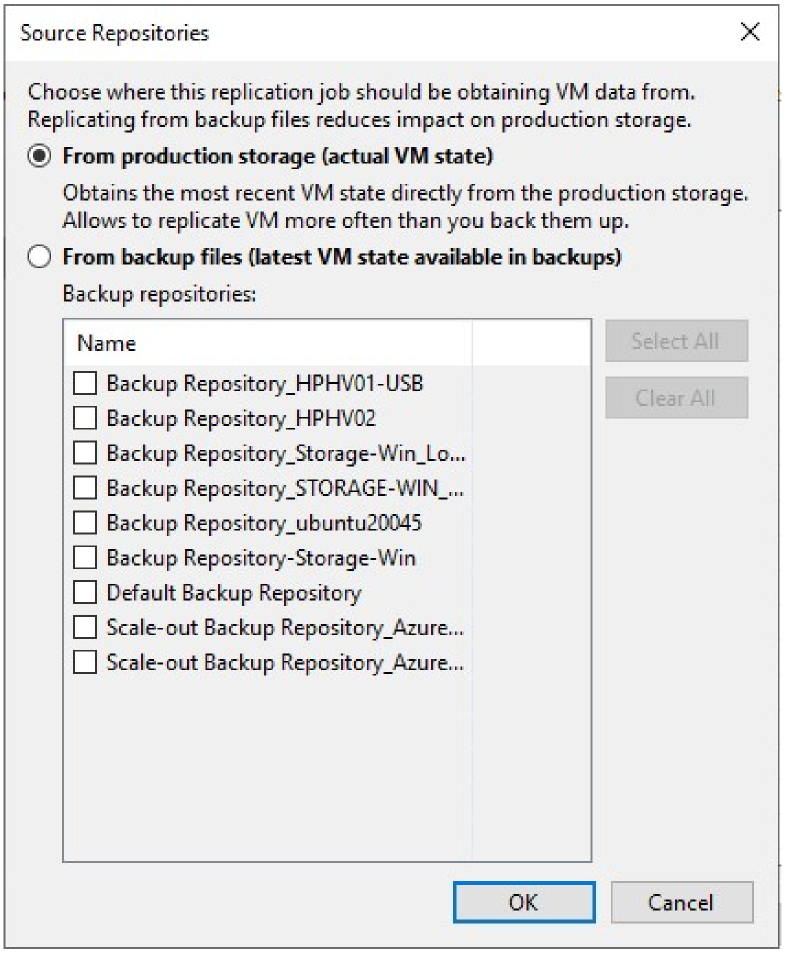
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
DC01-2022	VM	17.5 GB

Total size:
17.5 GB

13. Select the From production storage (actual VM state) on the Source Repositories page. Veeam Replication will retrieve VM data from data stores connected to the source Microsoft Hyper-V host.
14. Select Form backup files (latest VM state available in backups) if required. Veeam Replication will read VM data from the backup chain already in the selected backup repository.
15. Click OK.



Source Repositories

Choose where this replication job should be obtaining VM data from. Replicating from backup files reduces impact on production storage.

● **From production storage (actual VM state)**

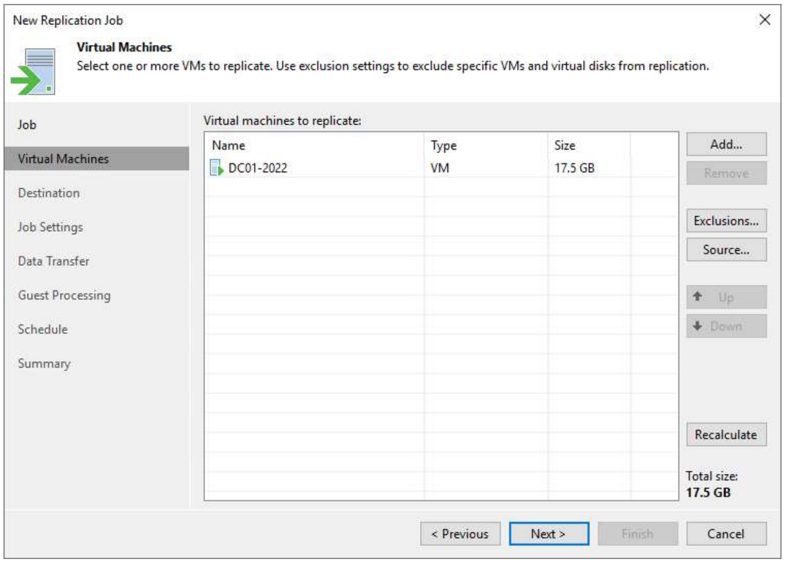
Obtains the most recent VM state directly from the production storage. Allows to replicate VM more often than you back them up.

○ **From backup files (latest VM state available in backups)**

Backup repositories:

Name
□ Backup Repository_HPHV01-USB
□ Backup Repository_HPHV02
□ Backup Repository_Storage-Win_Lo...
□ Backup Repository_STORAGE-WIN_...
□ Backup Repository_ubuntu20045
□ Backup Repository-Storage-Win
□ Default Backup Repository
□ Scale-out Backup Repository_Azure...
□ Scale-out Backup Repository_Azure...

16. On the Virtual Machines page, click Next.



New Replication Job

Virtual Machines

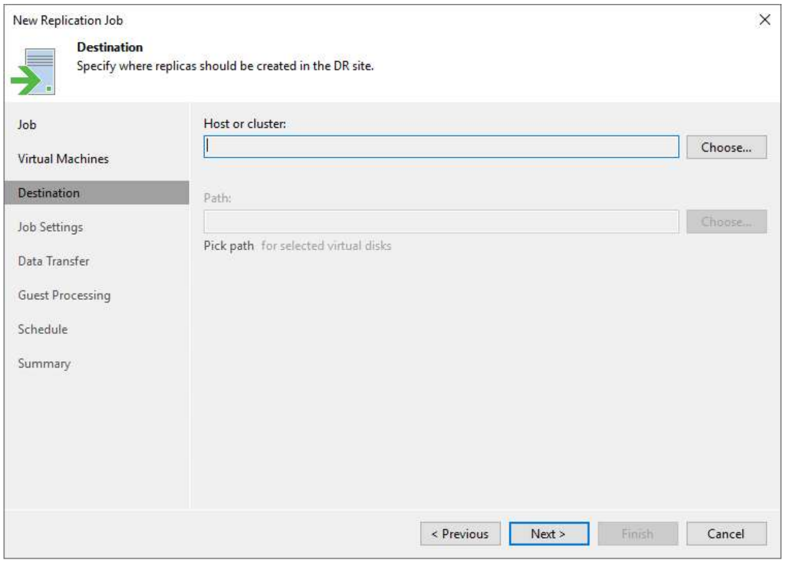
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
DC01-2022	VM	17.5 GB

Total size: **17.5 GB**

17. On the Destination page, click Choose in the Host or cluster session.



New Replication Job

Destination

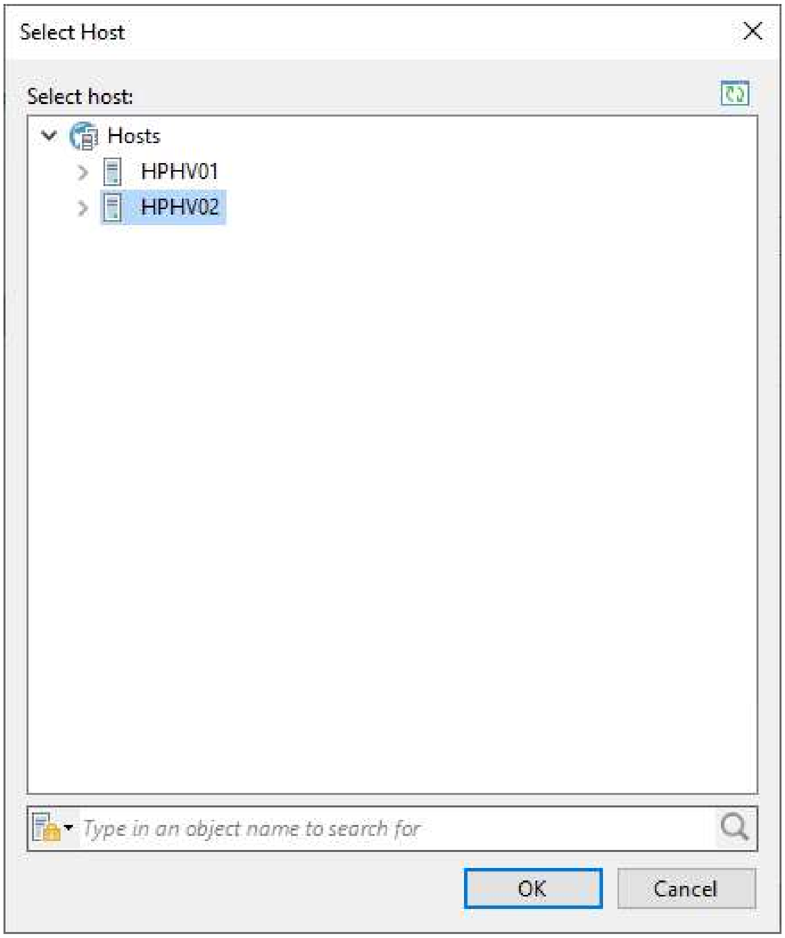
Specify where replicas should be created in the DR site.

Host or cluster:

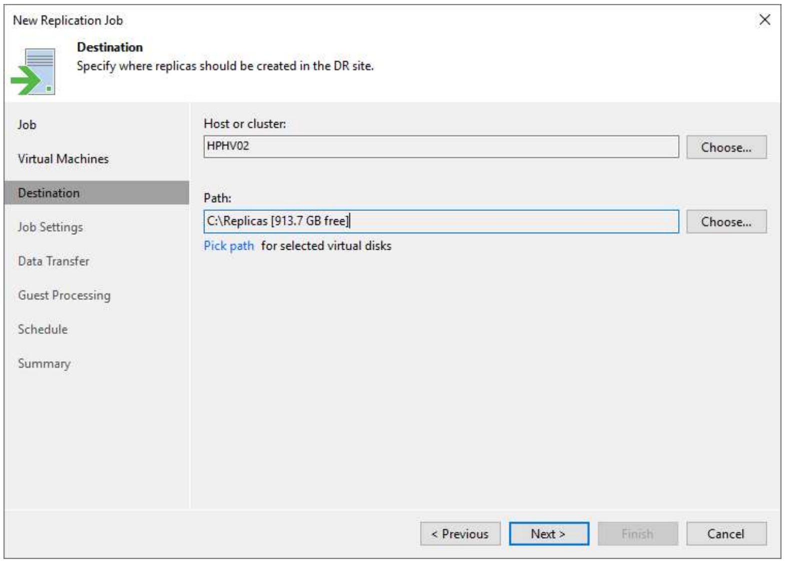
Path:

Pick path for selected virtual disks

18. Select the destination host server on the Select Host page and click OK.



19. On the Destination page, click Choose in the Path session.


New Replication Job

Destination

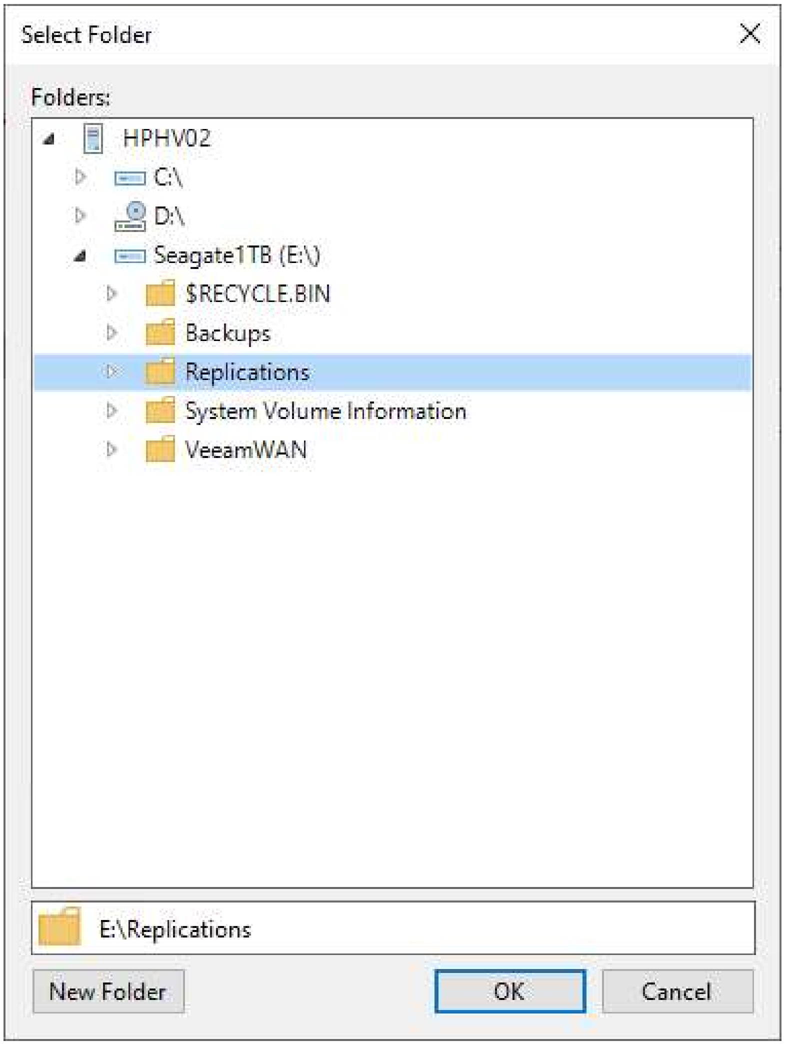
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: C:\Replicas [913.7 GB free]

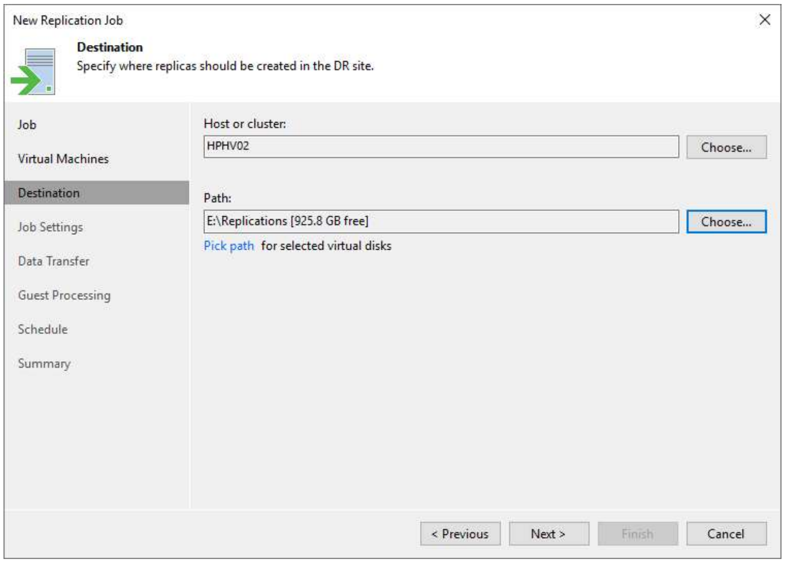
Pick path for selected virtual disks

20. On the Folders page, specify a path to the folder where VM replica files must be stored, and click OK.



E:\Replications

21. On the Destination page, click Next.



Destination

Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

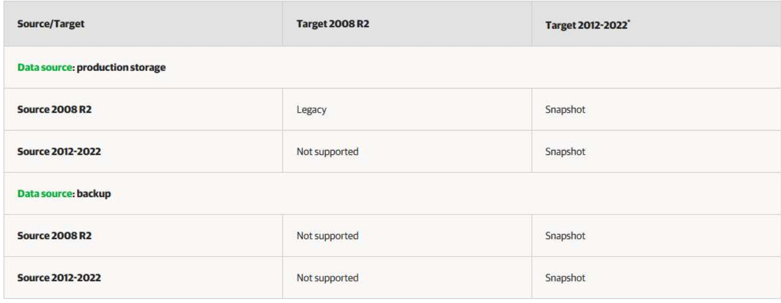
Path: E:\Replications [925.8 GB free]

Pick path for selected virtual disks

22. Select the Repository for metadata from the drop-down list on the Job Settings page.

Note:

- This setting must be specified only for snapshot replicas. Legacy replicas do not use a backup repository for storing metadata.
- You cannot store VM replica metadata on deduplicating storage appliances.



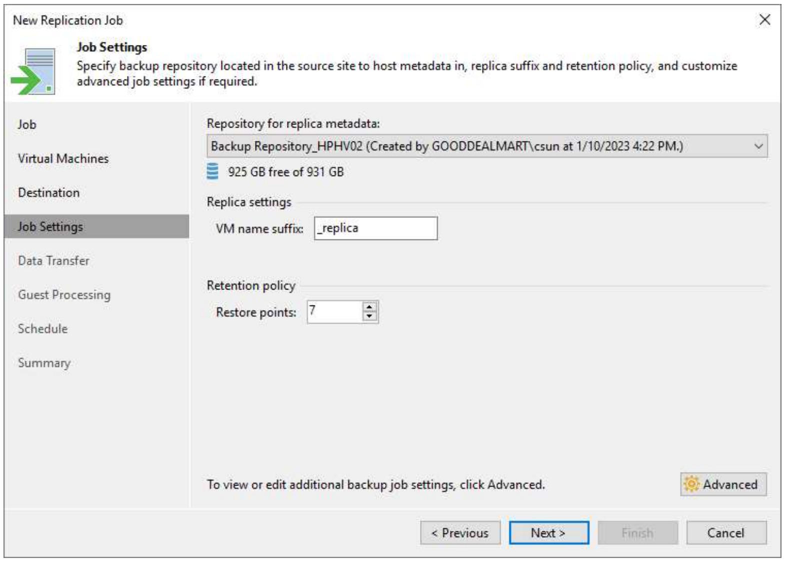
Source/Target	Target 2008 R2	Target 2012-2022*
Data source: production storage		
Source 2008 R2	Legacy	Snapshot
Source 2012-2022	Not supported	Snapshot
Data source: backup		
Source 2008 R2	Not supported	Snapshot
Source 2012-2022	Not supported	Snapshot

- You cannot store replica metadata in a scale-out backup repository.

23. Enter a suffix that will be appended to the original VM names in the Replica name suffix field.

24. Enter the number of restore points in the field.

25. Click Advanced.



Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

925 GB free of 931 GB

Replica settings

VM name suffix: _replica

Retention policy

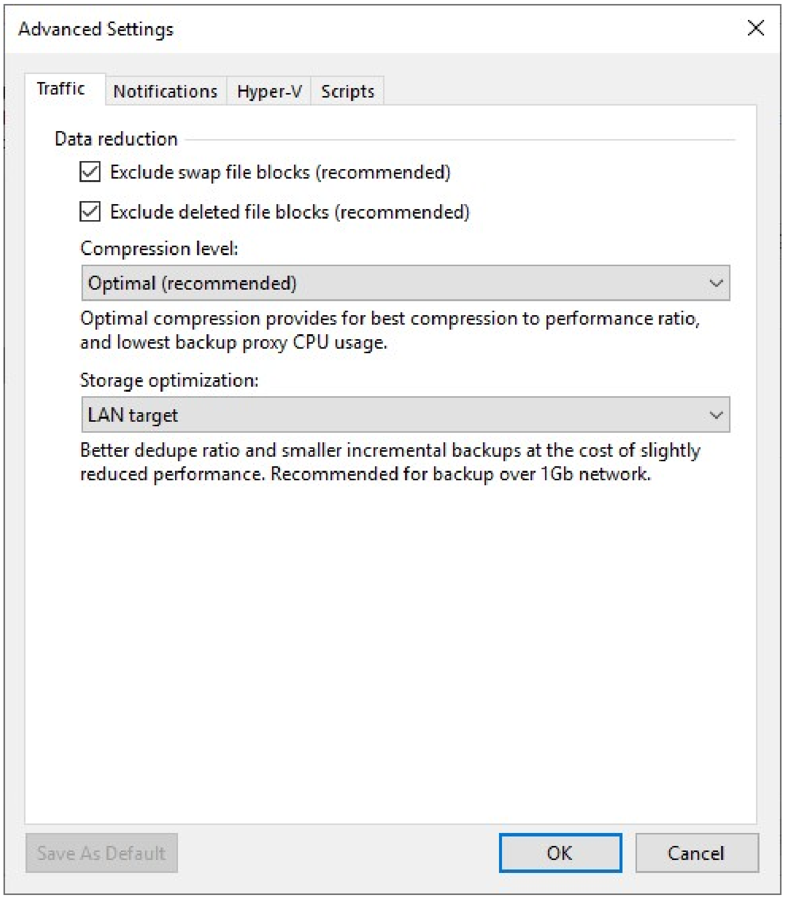
Restore points: 7

To view or edit additional backup job settings, click Advanced.

26. On Advanced Settings, click Traffic.

27. Select the Exclude swap file blocks checkbox (recommended). Veeam Backup & Replication excludes data blocks of the hiberfil.sys and pagefile.sys system files from replicas.

28. Select the Exclude deleted file blocks (recommended) check box. Veeam Backup & Replication does not copy deleted file blocks ("dirty" blocks on the VM guest OS) to the target location.



Advanced Settings

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

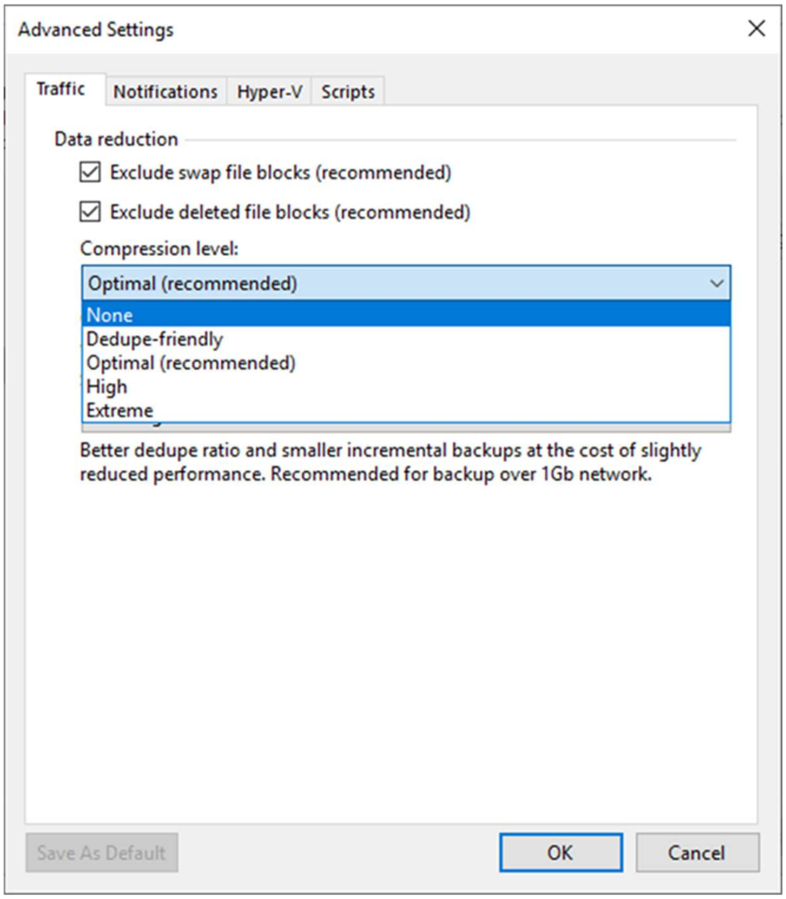
Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

LAN target

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Recommended for backup over 1Gb network.

29. Select the compression level for replicas from the drop-down list.



Advanced Settings

Data reduction

☑ Exclude swap file blocks (recommended)

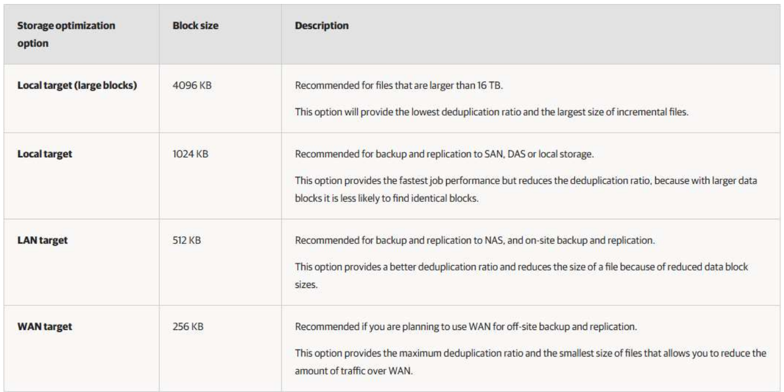
☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Recommended for backup over 1Gb network.

30. Select Storage optimization from the drop-down list.

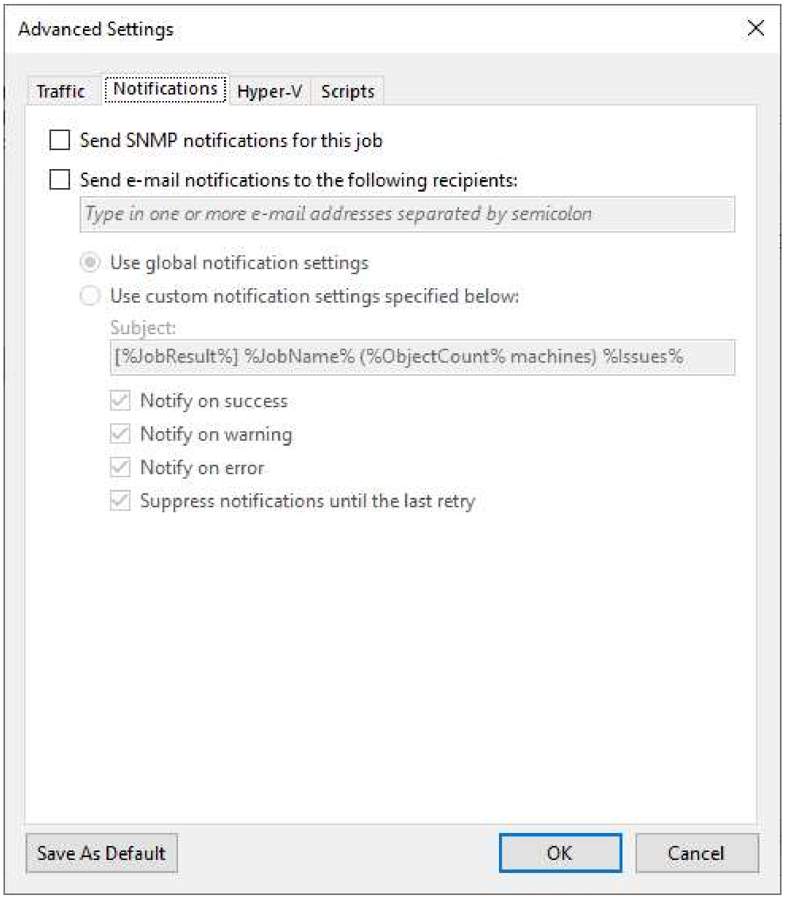


Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

31. On the Advanced Settings, select Notifications.

32. Select Send SNMP notifications for this job checkbox. In addition, Veeam will send traps to the NMS when events occur, such as when a backup job fails or a replication job encounters an error.

33. Select Send email notifications to the following recipient checkbox, If you want to receive email notifications about the job completion status.



☐ Send SNMP notifications for this job

☐ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

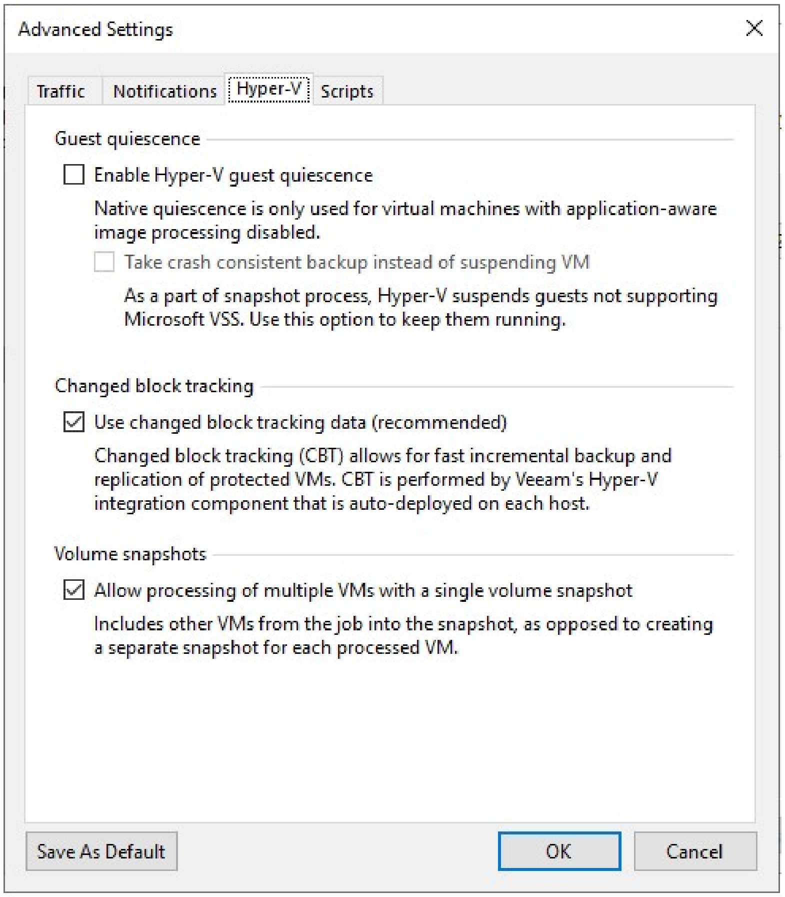
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

34. On the Advanced Settings, select Hyper-V.
35. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.
36. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.
37. Select the Use changed block tracking data (recommended) check box.
38. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Advanced Settings

Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

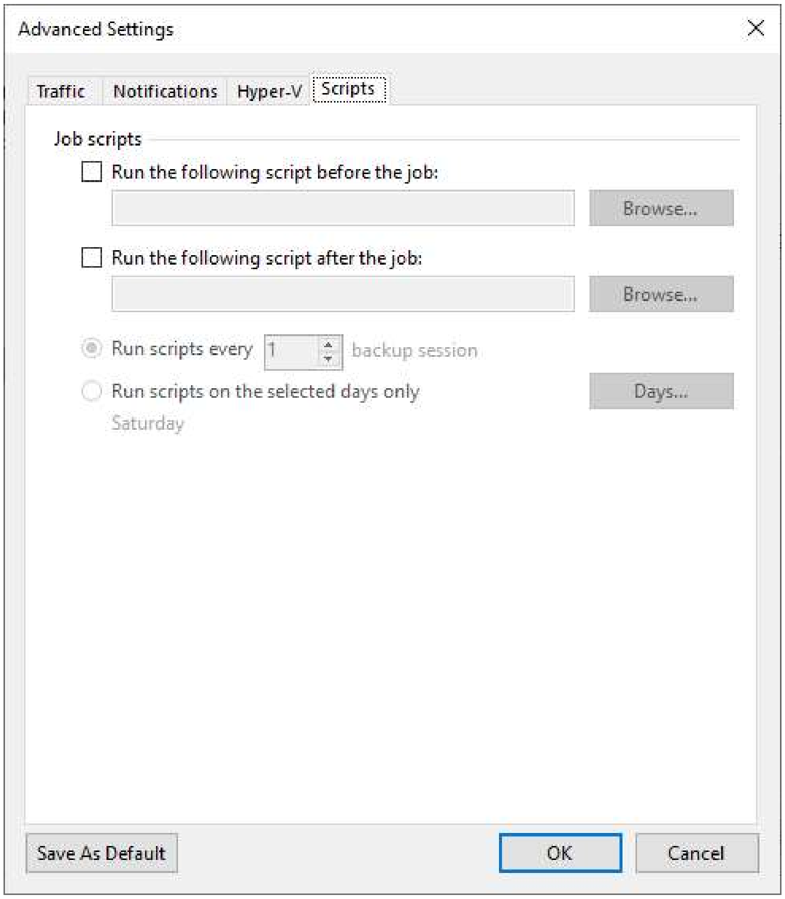
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

39. On the Advanced Settings page, click Scripts.
40. Keep the default settings and click OK.



Advanced Settings

Job scripts

☐ Run the following script before the job:

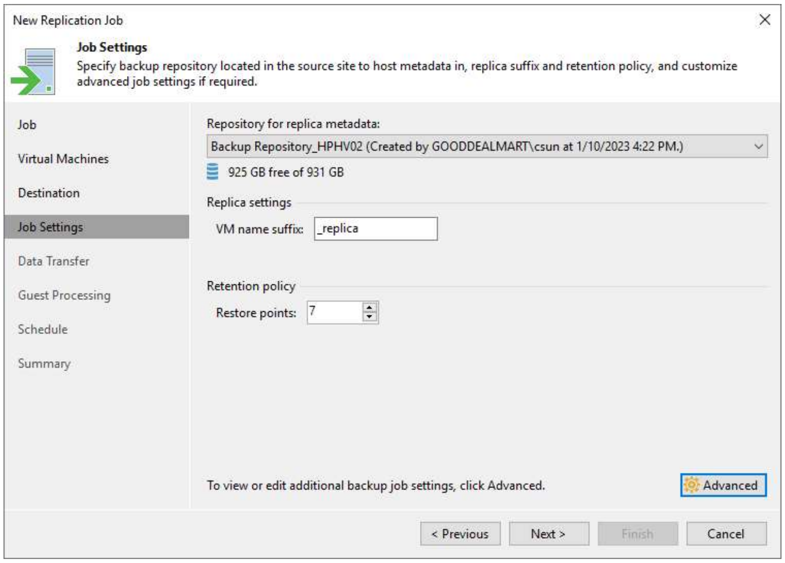
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

41. On the Job Settings page, click Next.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

925 GB free of 931 GB

Replica settings

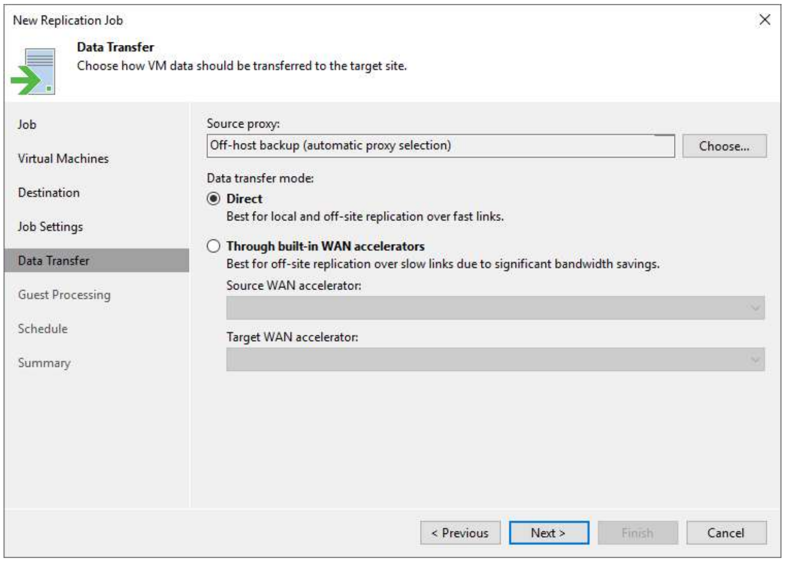
VM name suffix: _replica

Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

42. Click Choose to specify Source Proxy on the Data Transfer page.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

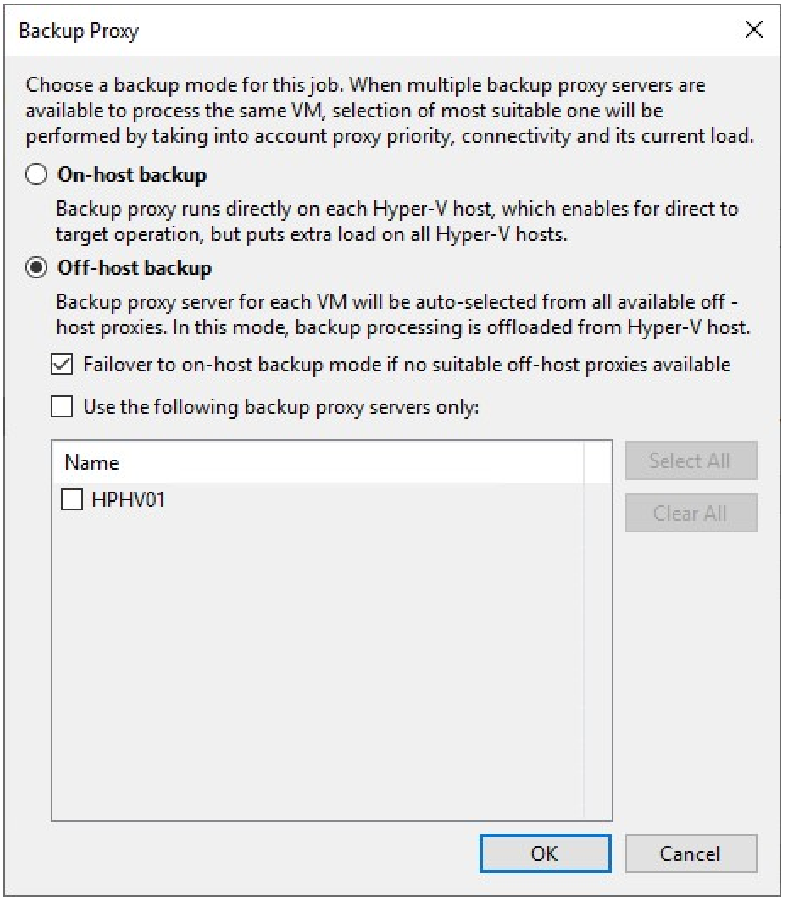
Source WAN accelerator:

Target WAN accelerator:

43. On the Backup Proxy page, Veeam Backup & Replication automatically selects off-host backup proxies and select the Failover to on-host backup mode. Suppose no suitable off-host proxies are available checkbox by default. Then, you can use the following backup proxy servers only check box and choose one or multiple off-host backup proxies from the list if necessary.

44. Select On-host backup If you want to use the Microsoft Hyper-V host as the source host and backup proxy.

45. Click OK.



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

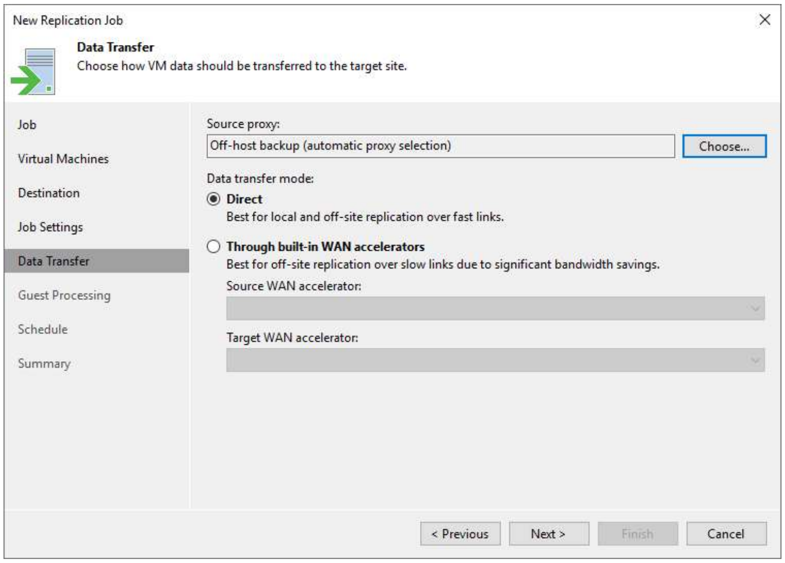
Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

□ Use the following backup proxy servers only:

Name
□ HPHV01

46. On the Data Transfer mode session, select Direct if you plan to copy backup files over high-speed connections.



Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy:
Off-host backup (automatic proxy selection) Choose...

Data transfer mode:
● **Direct**
Best for local and off-site replication over fast links.

○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator:

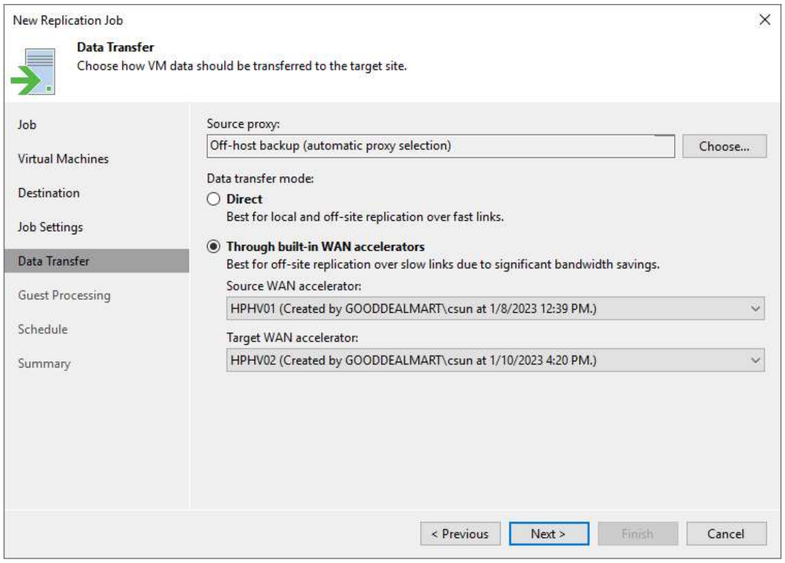
Target WAN accelerator:

47. On the Data Transfer mode session, select Direct if you plan to copy backup files over high-speed connections.

48. Select the Through built-in WAN accelerators if you transfer data over WAN or slow connections.

49. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.

50. Select a WAN accelerator configured in the target site from the Target WAN



Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy:
Off-host backup (automatic proxy selection) Choose...

Data transfer mode:
○ **Direct**
Best for local and off-site replication over fast links.

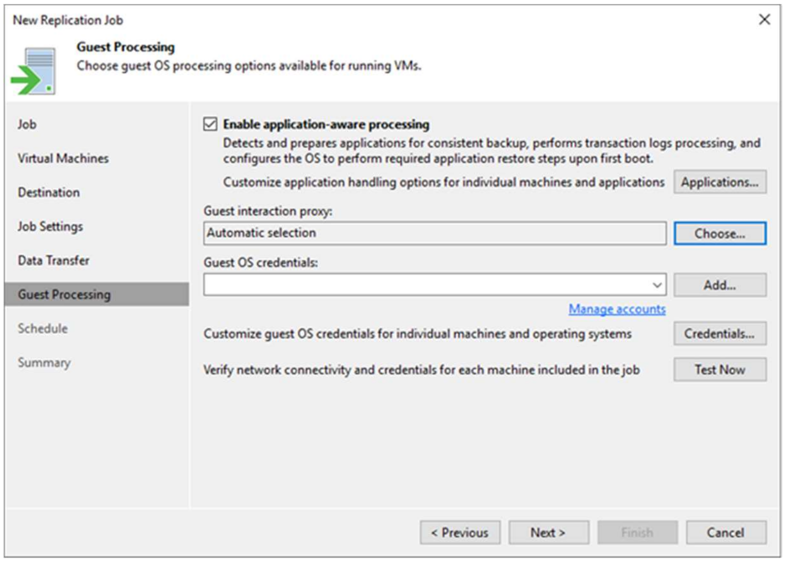
● **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator:
HPHV01 (Created by GOODDEALMART\csun at 1/8/2023 12:39 PM.)
Target WAN accelerator:
HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:20 PM.)

accelerator drop-down list.

51. Click Next.

52. When you add VMs running VSS-aware applications to the backup job, you can enable application-aware processing to create a transactionally consistent backup. The transactionally consistent backup ensures that applications on VMs can be recovered without data loss.

53. Select the Enable application-aware processing checkbox on the Guest Processing page, and click Applications.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

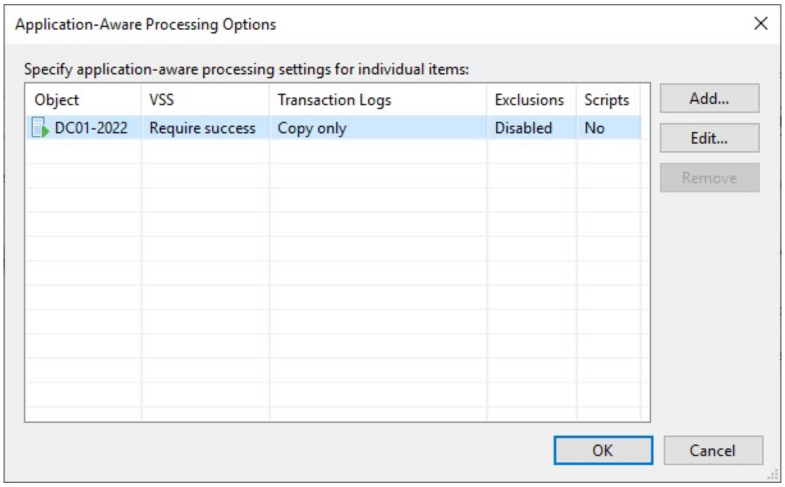
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

54. On the Application-Aware Processing Options page, select the Object, and click Edit.



Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	Copy only	Disabled	No

55. On the Processing Settings, click General.

56. Suppose you need Veeam Backup & Replication to stop the backup process if any error occurs during application-aware processing. Select Require successful processing (recommend).

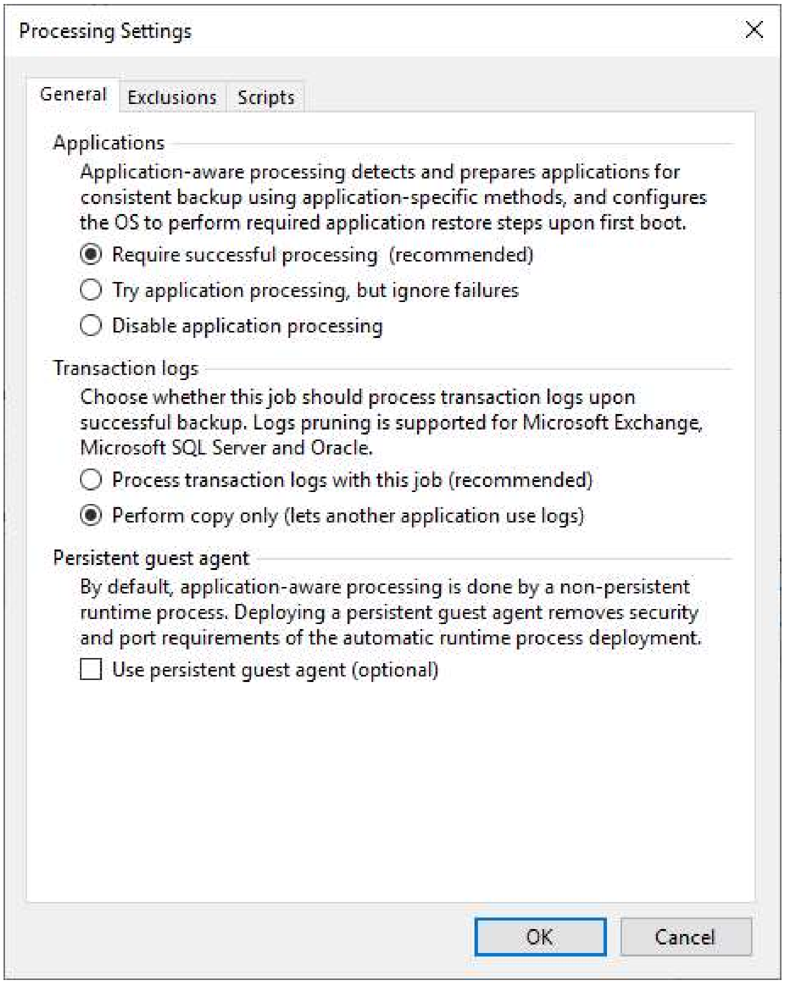
57. Suppose you must continue the backup process even if there is an error during application-aware processing. Select Try application processing but ignore failures.

58. Select Disable application processing to disable application-aware processing for the VM.

59. Select Process transaction logs with this job (recommended) to process transaction logs.

60. Select Perform copy only to let another application use

61. Select the Use persistent guest agent (optional) checkbox to enable persistent agent.



Processing Settings

Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)

○ Try application processing, but ignore failures

○ Disable application processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

○ Process transaction logs with this job (recommended)

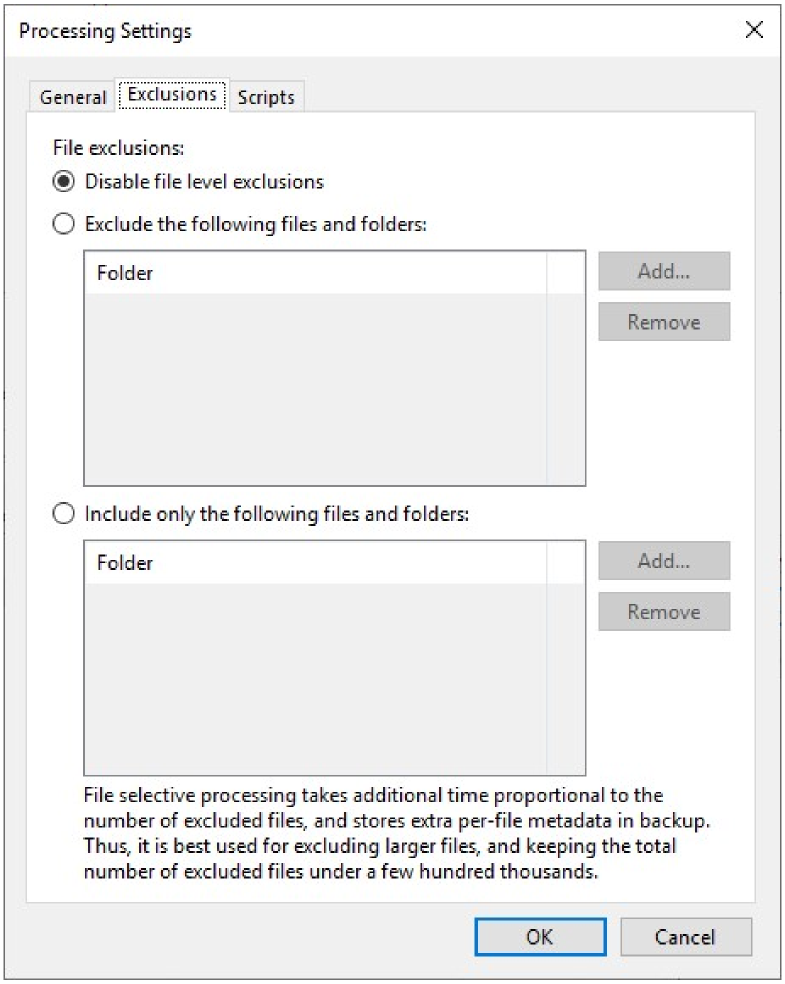
● Perform copy only (lets another application use logs)

Persistent guest agent

By default, application-aware processing is done by a non-persistent runtime process. Deploying a persistent guest agent removes security and port requirements of the automatic runtime process deployment.

□ Use persistent guest agent (optional)

62. On the Processing Settings page, click Exclusions and keep the default settings.



Processing Settings

File exclusions:

● Disable file level exclusions

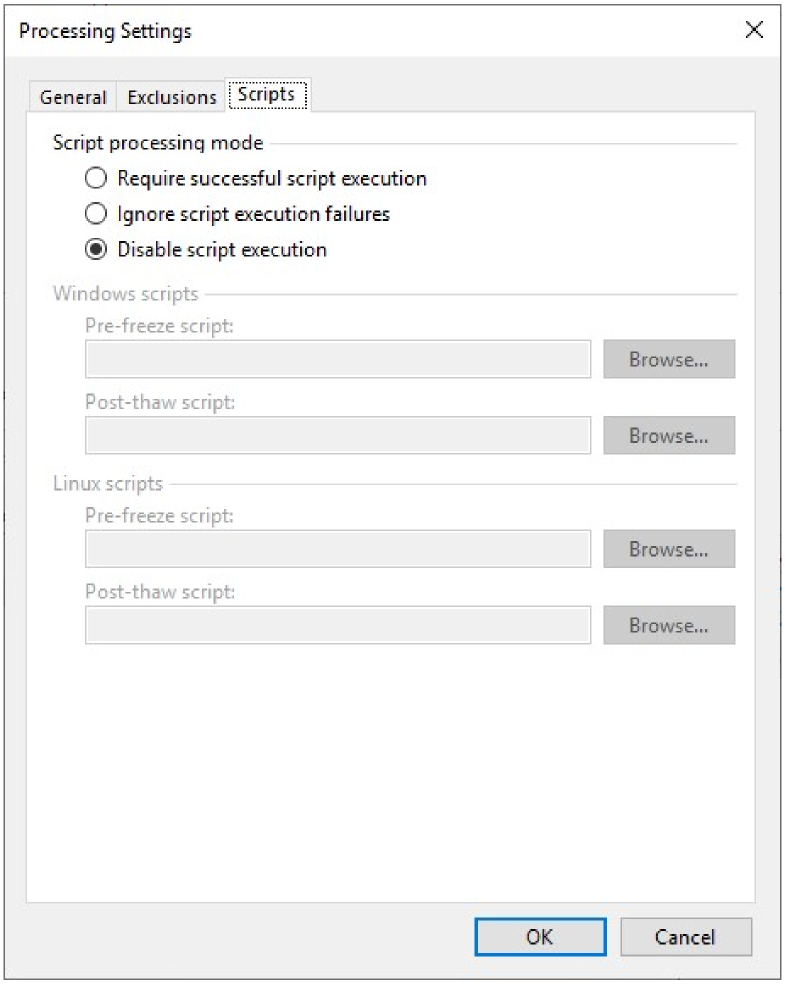
○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

63. On the Processing Settings page, click Scripts.

64. Select Disable script execution and click OK.



Processing Settings

Script processing mode

○ Require successful script execution

○ Ignore script execution failures

● Disable script execution

Windows scripts

Pre-freeze script:

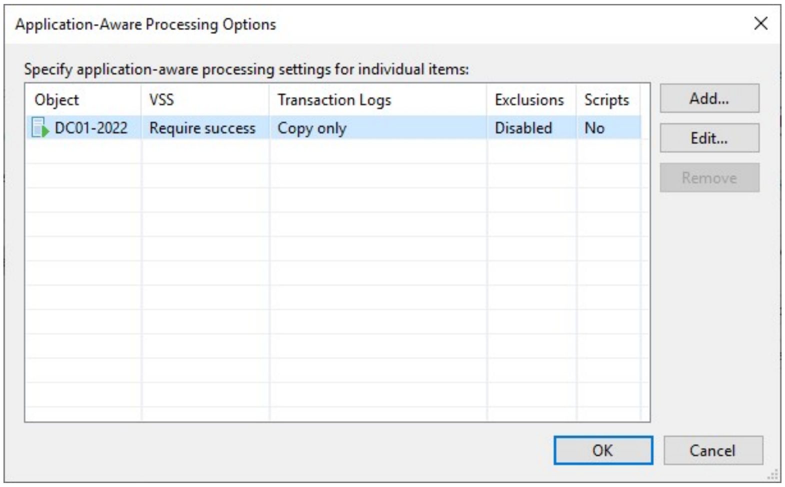
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

65. On the Application-Aware Processing Options page, click OK.

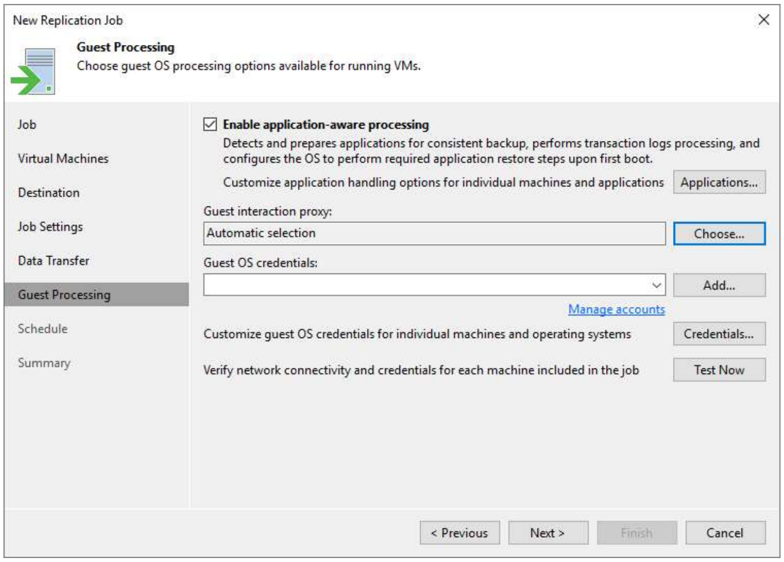


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
DC01-2022	Require success	Copy only	Disabled	No

66. Click Choose on the Guest interaction proxy field on the Guest Processing page.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

Guest OS credentials:

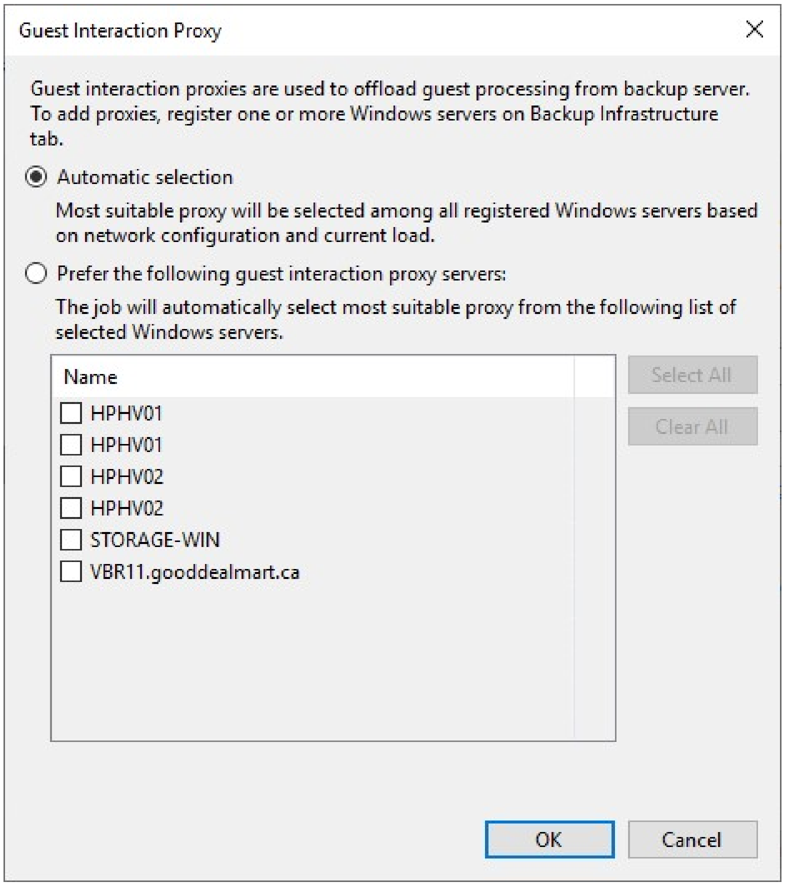
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

67. On the Guest Interaction Proxy page, select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.

68. Select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.

69. Click OK.



Guest Interaction Proxy

Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

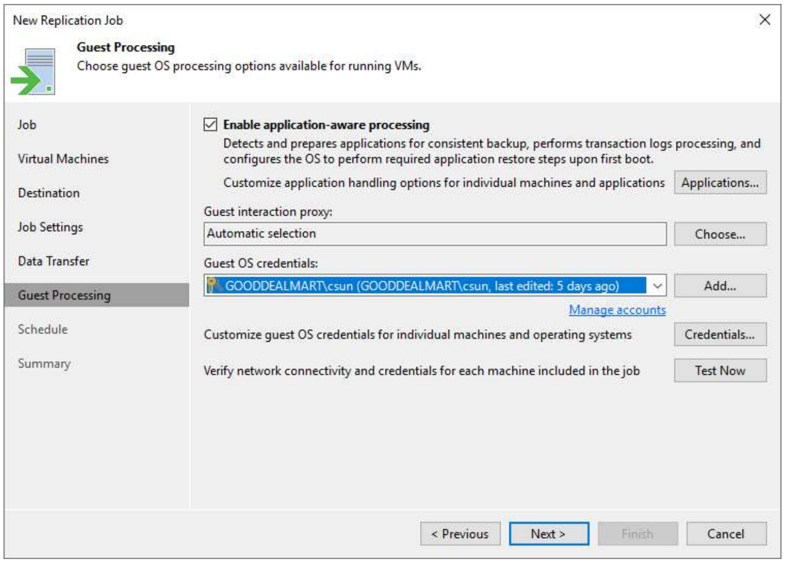
○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
□ HPHV01
□ HPHV01
□ HPHV02
□ HPHV02
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

70. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.

71. Click Credentials to Customize guest OS credentials for individual machines and operating systems.



New Replication Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications [Applications...]

Guest interaction proxy: Automatic selection [Choose...]

Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago) [Add...]

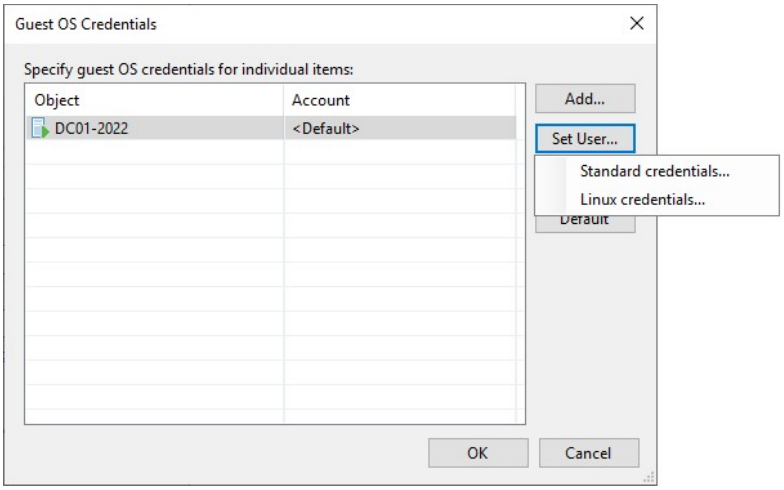
Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

72. On the Guest OS Credentials page, select the VM, and click Set User.

73. Select Standard credentials.



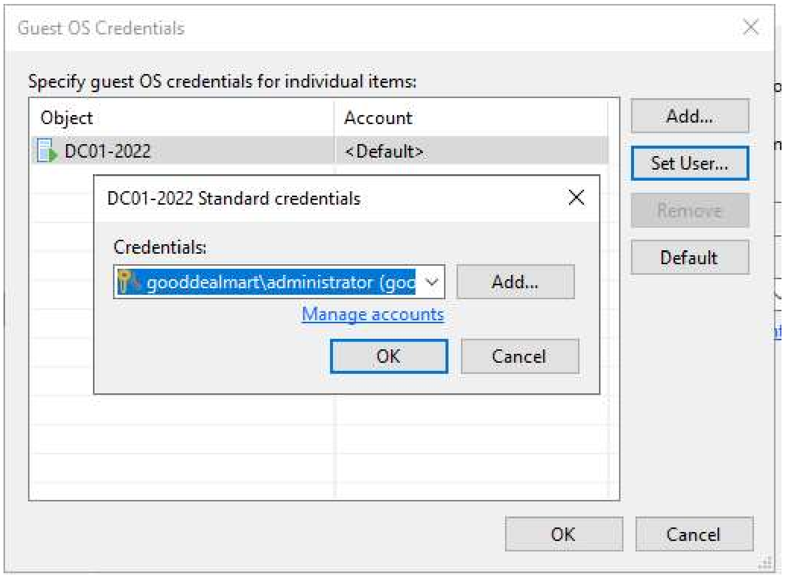
Guest OS Credentials

Specify guest OS credentials for individual items:

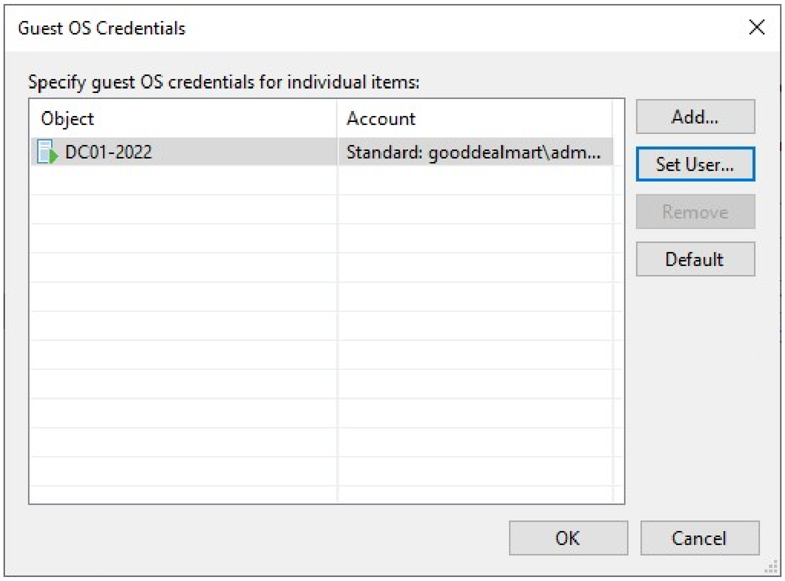
Object	Account
DC01-2022	<Default>

74. Choose a user from the Credentials drop-down list, and click OK.

75. Repeat the steps for each VM.

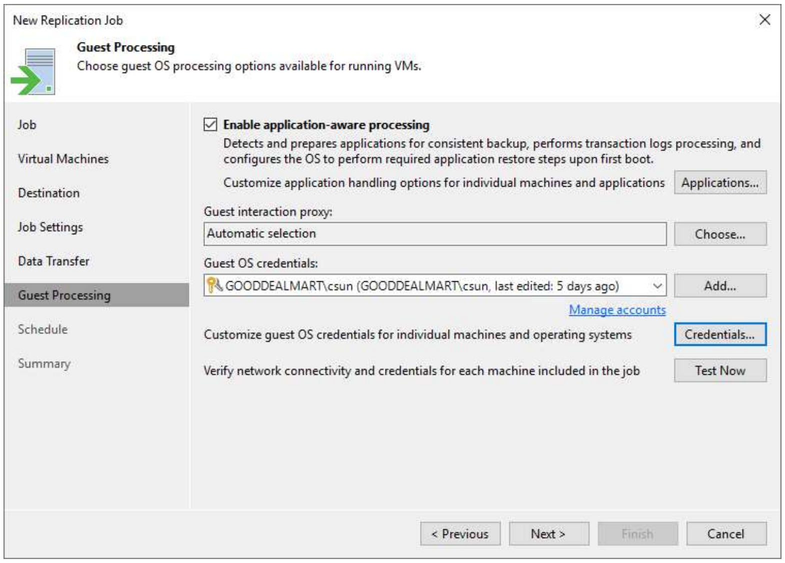


76. On the Guest OS Credentials page, click OK.



Object	Account
DC01-2022	Standard: gooddealmart\adm...

77. On the Guest Processing page, click Test Now to verify network connectivity and credentials for each machine included in the job.



New Replication Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications [Applications...]

Guest interaction proxy:
Automatic selection [Choose...]

Guest OS credentials:
GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago) [Add...]

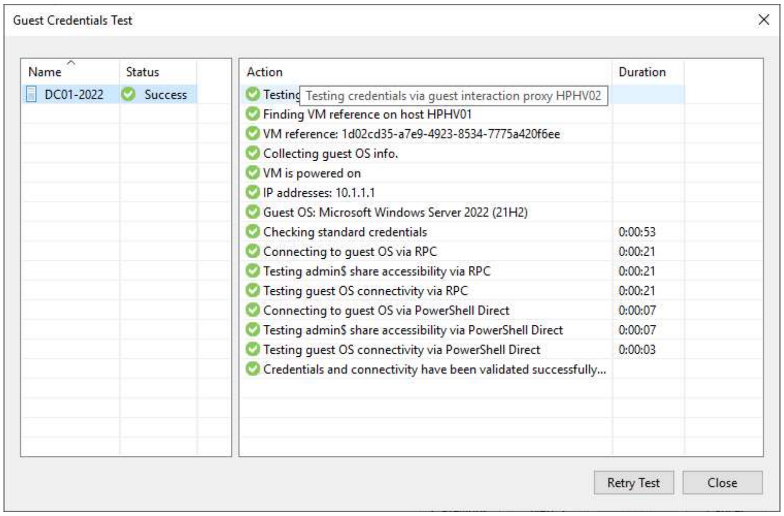
Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

78. On the Guest Credentials Test page, verify each machine's success.

103. Click Close.

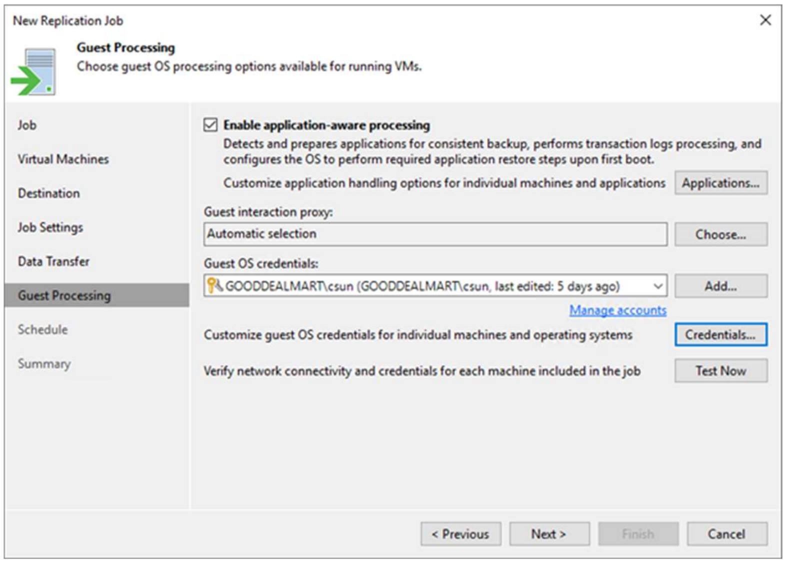


Guest Credentials Test

Name	Status
DC01-2022	✓ Success

Action	Duration
✓ Testing Testing credentials via guest interaction proxy HPHV02	
✓ Finding VM reference on host HPHV01	
✓ VM reference: 1d02cd35-a7e9-4923-8534-7775a420f6ee	
✓ Collecting guest OS info.	
✓ VM is powered on	
✓ IP addresses: 10.1.1.1	
✓ Guest OS: Microsoft Windows Server 2022 (21H2)	
✓ Checking standard credentials	0:00:53
✓ Connecting to guest OS via RPC	0:00:21
✓ Testing admin$ share accessibility via RPC	0:00:21
✓ Testing guest OS connectivity via RPC	0:00:21
✓ Connecting to guest OS via PowerShell Direct	0:00:07
✓ Testing admin$ share accessibility via PowerShell Direct	0:00:07
✓ Testing guest OS connectivity via PowerShell Direct	0:00:03
✓ Credentials and connectivity have been validated successfully...	

79. On the Guest Processing page, click Next.



Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago)

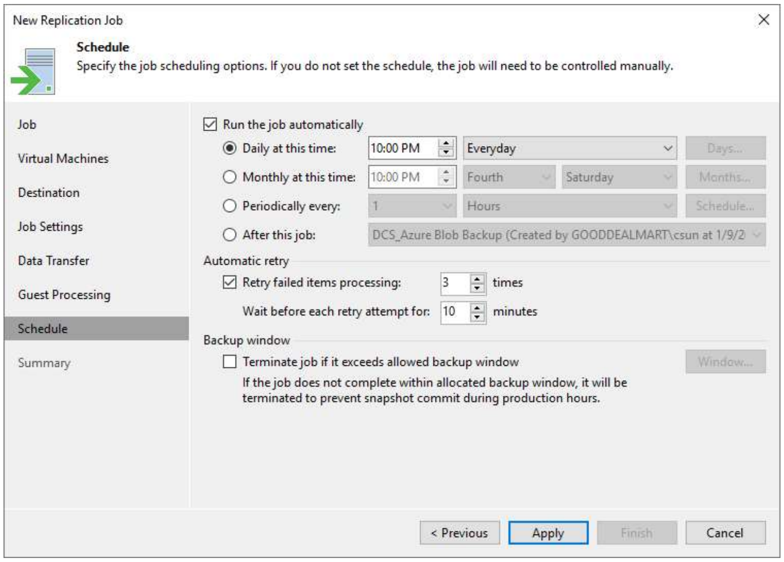
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

80. Select Run the job automatically on the Schedule page and select your specified schedule.

81. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

82. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on



Schedule
Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DCS_Azure Blob Backup (Created by GOODDEALMART\csun at 1/9/2

Automatic retry

☑ Retry failed items processing: 3 times

Wait before each retry attempt for: 10 minutes

Backup window

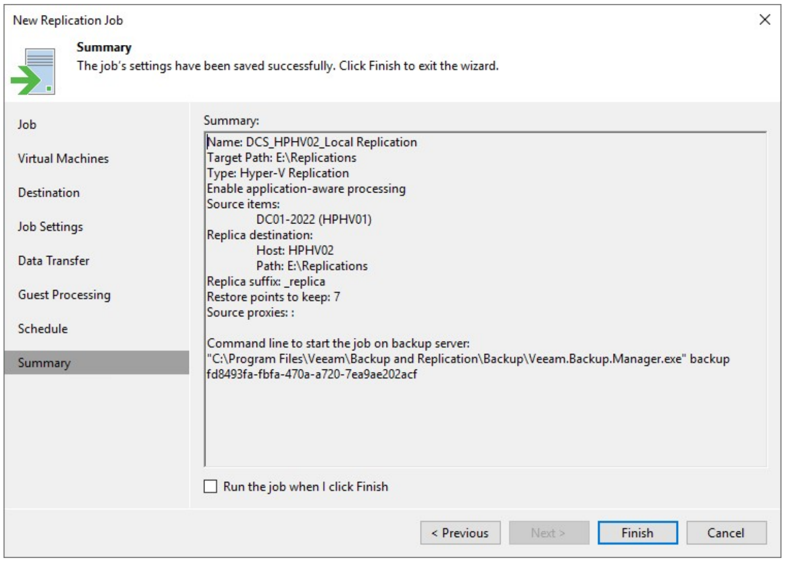
□ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

the production environment.

83. Click Apply.

84. On the Summary page, click Finish.



Summary

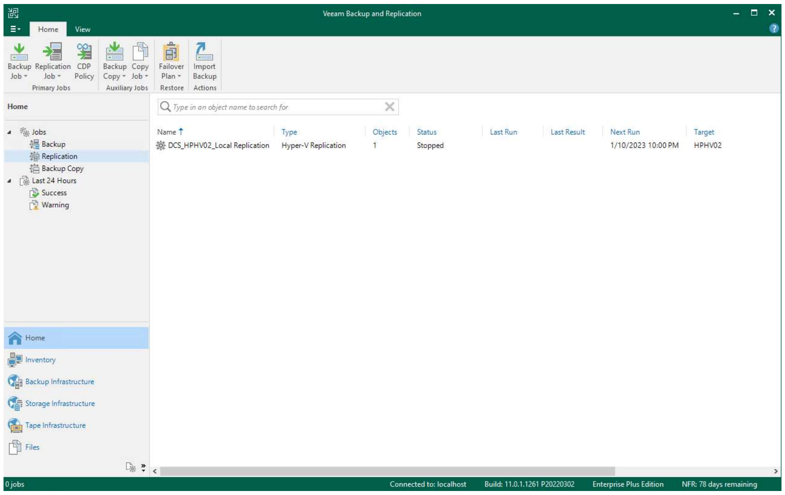
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: DCS_HPHV02_Local Replication
Target Path: E:\Replications
Type: Hyper-V Replication
Enable application-aware processing
Source items:
          DC01-2022 (HPHV01)
Replica destination:
          Host: HPHV02
          Path: E:\Replications
Replica suffix: _replica
Restore points to keep: 7
Source proxies: :

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
fd8493fa-fbfa-470a-a720-7ea9ae202acf
```

☐ Run the job when I click Finish

85. Verify the job has been added

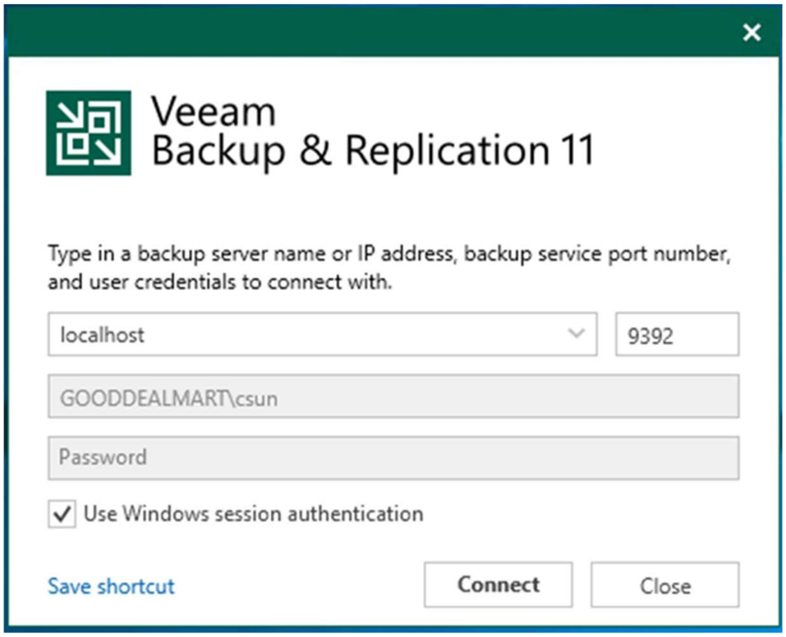


Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target
DCS_HPHV02_Local Replication	Hyper-V Replication	1	Stopped			1/10/2023 10:00 PM	HPHV02

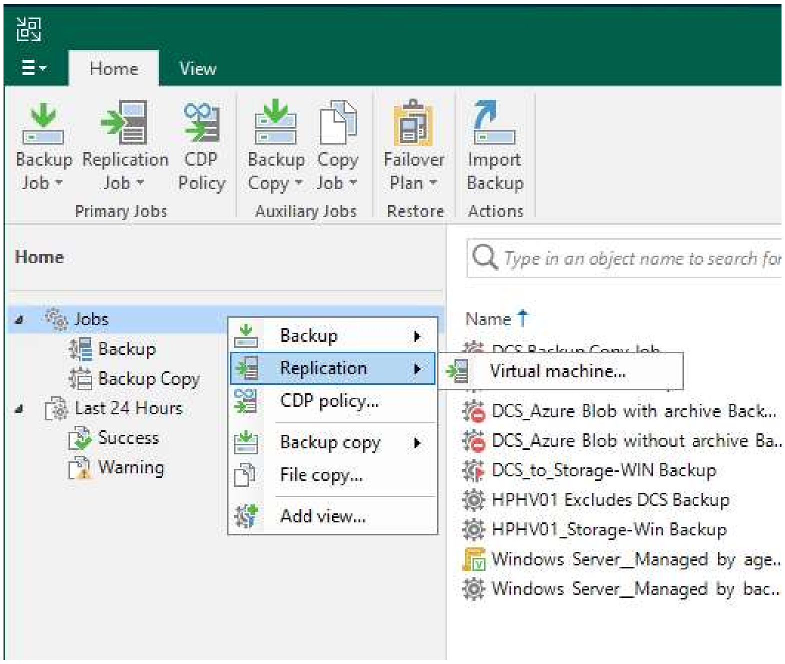
0 jobs Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

Creating a Replication job without seeding to replicate the specified VMs to the Disaster Recovery site

This procedure creates a replication job to replicate the specified VMs to the disaster recovery site. If a disaster strikes and the production VM stops working correctly, you can fail over to its replica.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, select Jobs, right-click Jobs, select Replication and click Virtual machine.



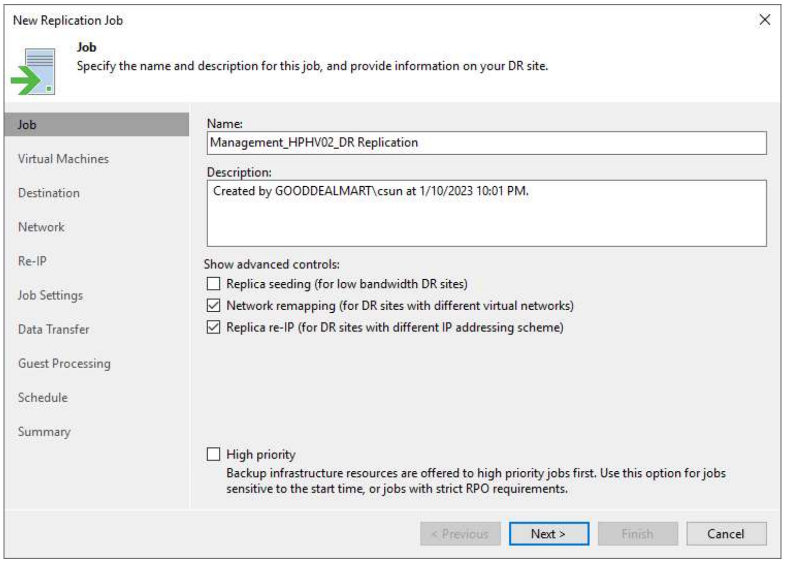
4. On the Job page, enter a name for the replication job in the Name field.

5. Describe the Description field.

6. Select Network remapping (for DR sites with different virtual networks).

7. Replica re-IP (for DR sites with different IP addressing schemes).

8. Select the High priority check box if required.



Job

Specify the name and description for this job, and provide information on your DR site.

Name: Management_HPHV02_DR Replication

Description: Created by GOODDEALMART\csun at 1/10/2023 10:01 PM.

Show advanced controls:

☐ Replica seeding (for low bandwidth DR sites)

☑ Network remapping (for DR sites with different virtual networks)

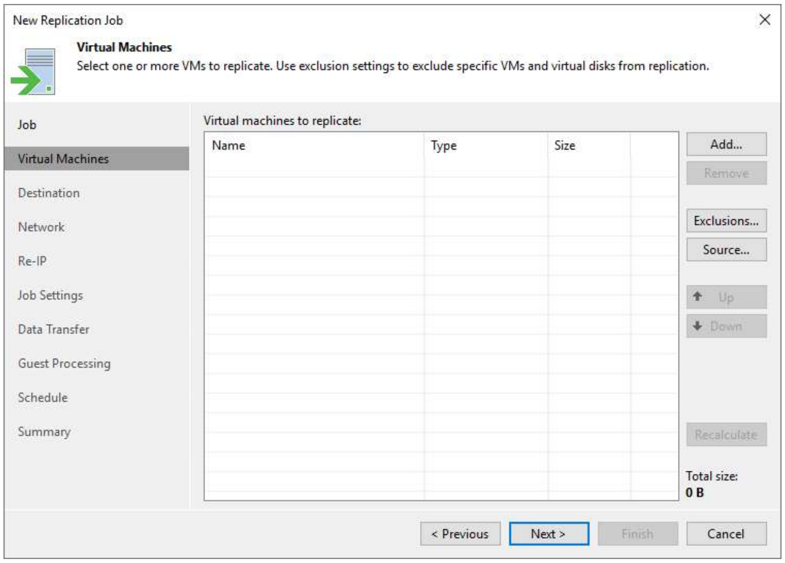
☑ Replica re-IP (for DR sites with different IP addressing scheme)

☐ High priority

Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

9. Click Next.

10. On the Virtual Machines page, click Add.



New Replication Job

Virtual Machines

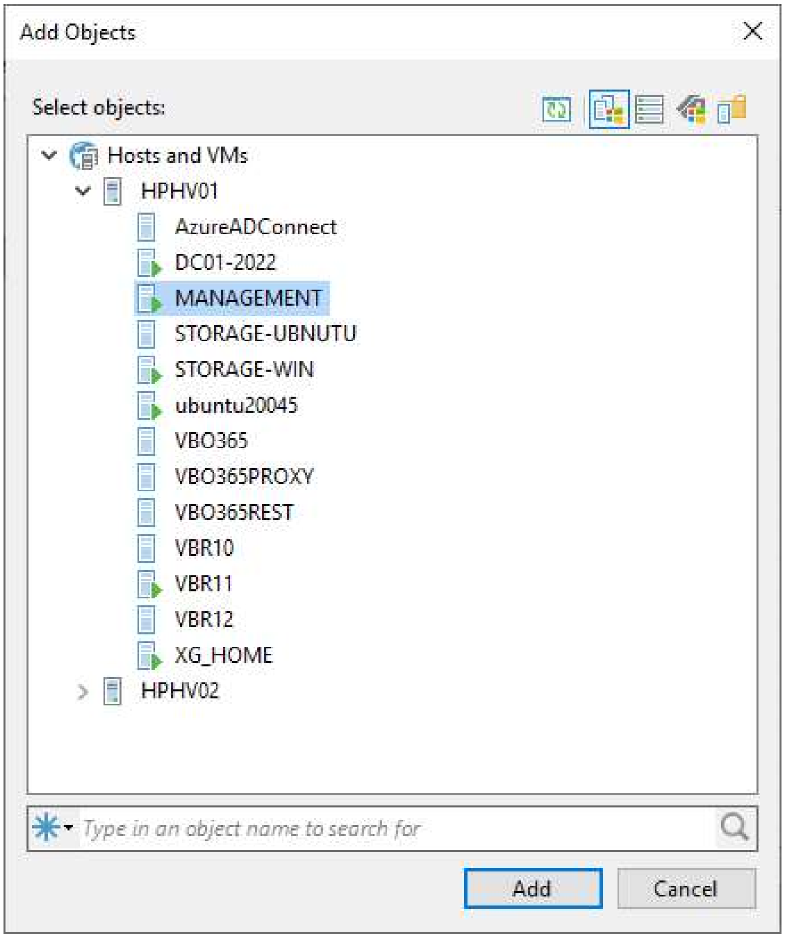
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size

Total size:
0 B

11. Select the objects in the list on the Add Objects page and click Add.

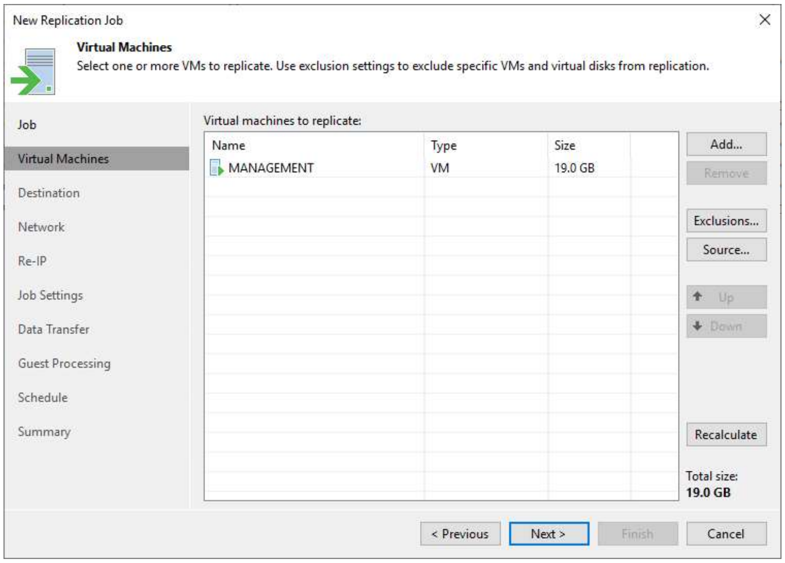


Add Objects

Select objects:

- Hosts and VMs
  - HPHV01
    - AzureADConnect
    - DC01-2022
    - MANAGEMENT
    - STORAGE-UBNUTU
    - STORAGE-WIN
    - ubuntu20045
    - VBO365
    - VBO365PROXY
    - VBO365REST
    - VBR10
    - VBR11
    - VBR12
    - XG_HOME
  - HPHV02

12. On the Virtual machines page, click Source.



New Replication Job

Virtual Machines

Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

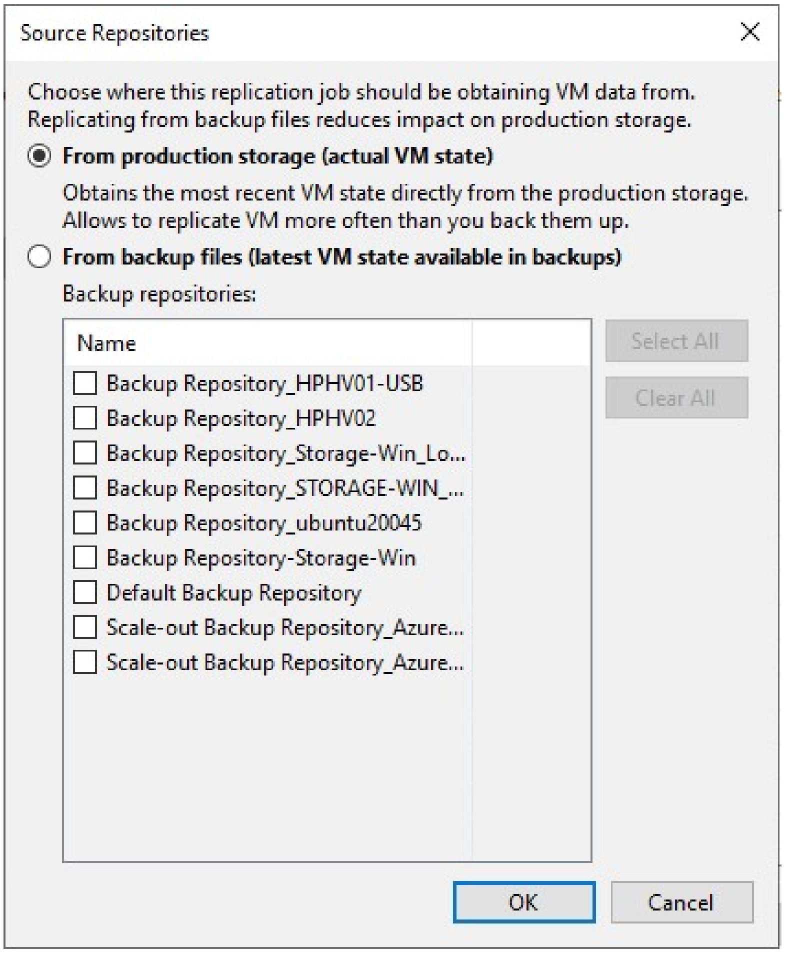
Name	Type	Size
MANAGEMENT	VM	19.0 GB

Total size:
19.0 GB

13. Select the From production storage (actual VM state) on the Source Repositories page. Veeam Replication will retrieve VM data from data stores connected to the source Microsoft Hyper-V host.

14. Or select Form backup files (latest VM state available in backups) if required. Veeam Backup & Replication will read VM data from the backup chain already existing in the selected backup repository.

15. Click OK.


Source Repositories

Choose where this replication job should be obtaining VM data from.
Replicating from backup files reduces impact on production storage.

● **From production storage (actual VM state)**

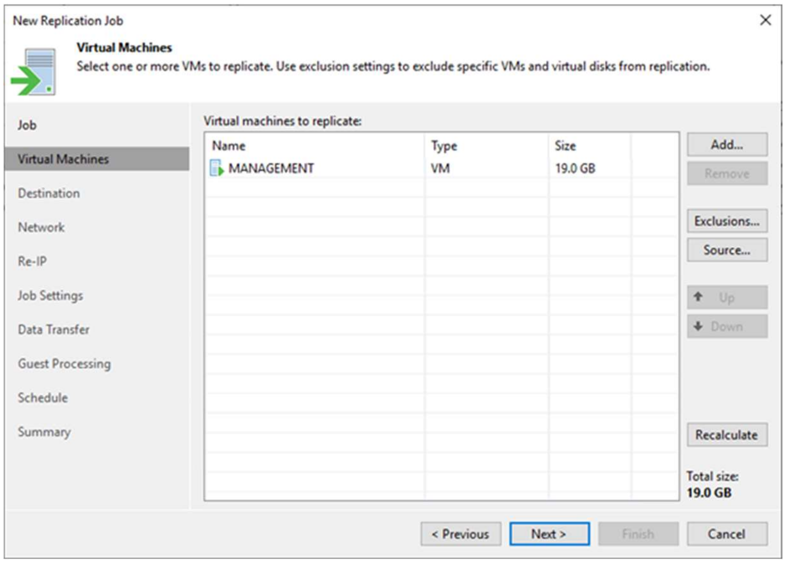
Obtains the most recent VM state directly from the production storage.
Allows to replicate VM more often than you back them up.

○ **From backup files (latest VM state available in backups)**

Backup repositories:

Name
□ Backup Repository_HPHV01-USB
□ Backup Repository_HPHV02
□ Backup Repository_Storage-Win_Lo...
□ Backup Repository_STORAGE-WIN_...
□ Backup Repository_ubuntu20045
□ Backup Repository-Storage-Win
□ Default Backup Repository
□ Scale-out Backup Repository_Azure...
□ Scale-out Backup Repository_Azure...

16. On the Virtual Machines page, click Next.



New Replication Job

Virtual Machines

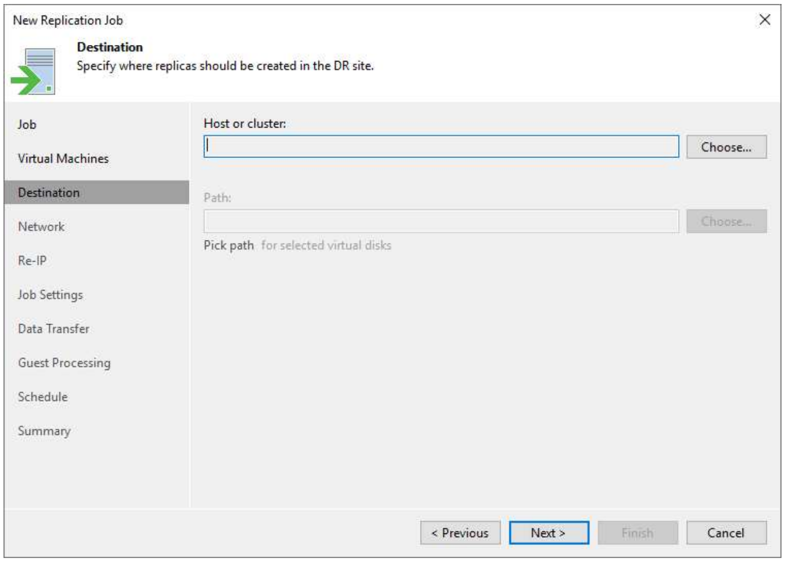
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
MANAGEMENT	VM	19.0 GB

Total size: **19.0 GB**

17. On the Destination page, click Choose in the Host or cluster session.



New Replication Job

Destination

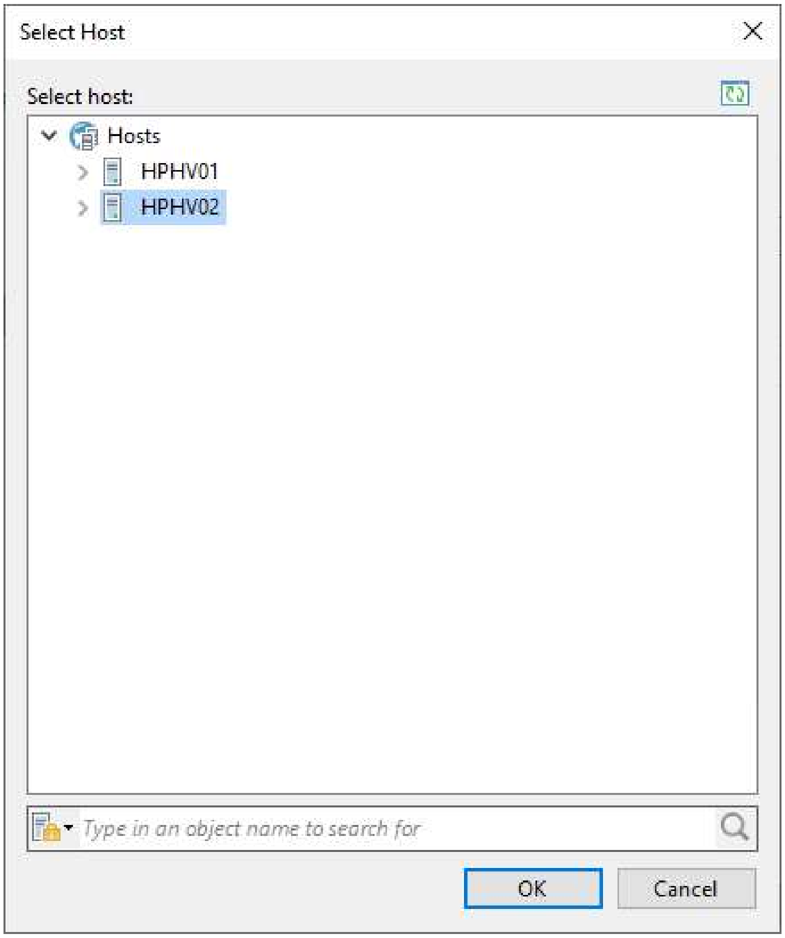
Specify where replicas should be created in the DR site.

Host or cluster:

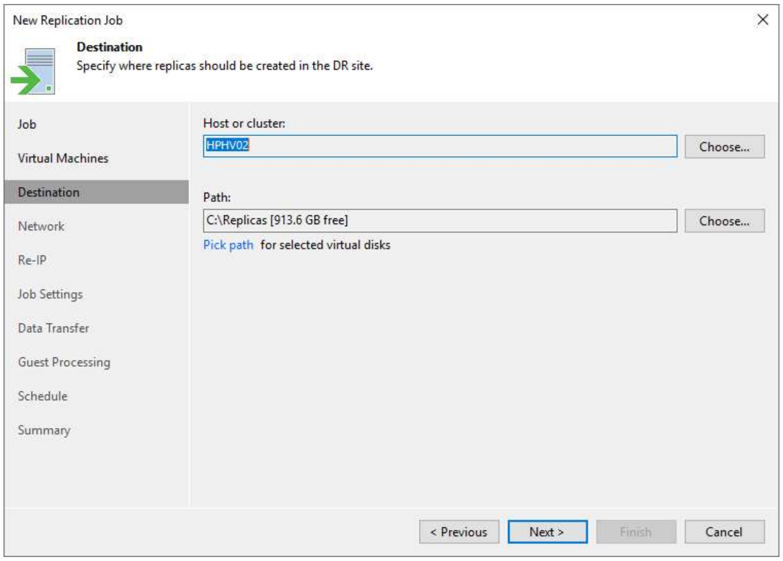
Path:

Pick path for selected virtual disks

18. Select the destination host server on the Select Host page, and click OK.



19. On the Destination page, click Choose in the Path session.



New Replication Job

Destination

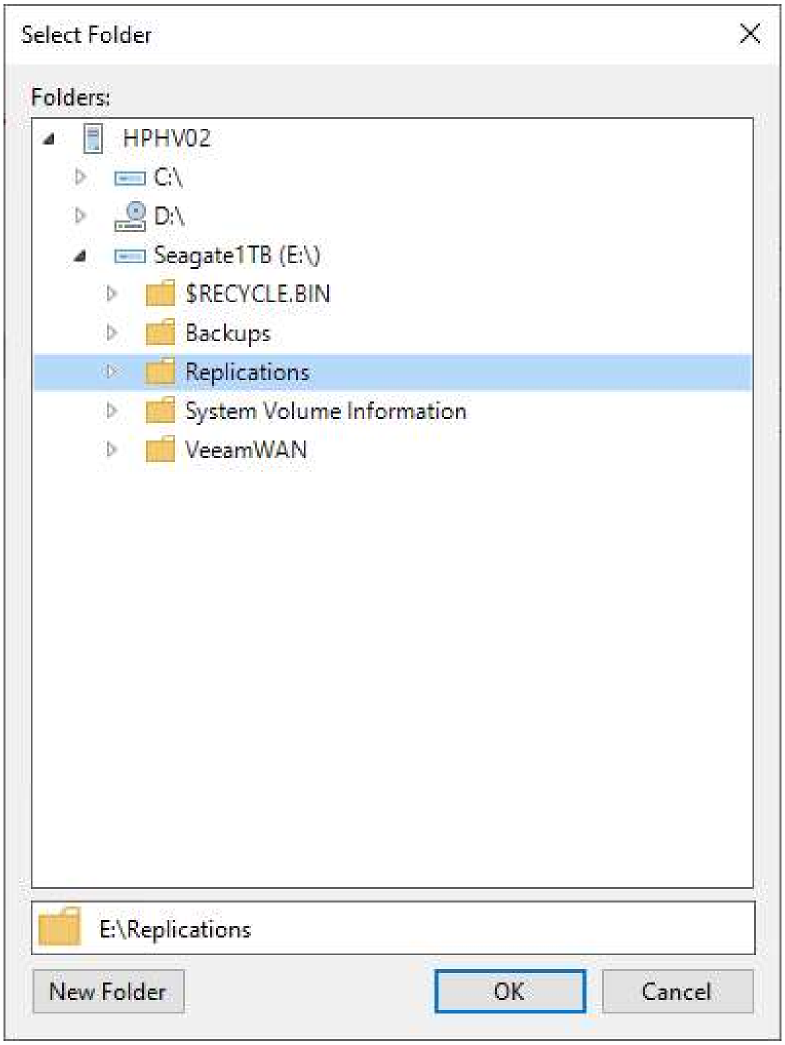
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: C:\Replicas [913.6 GB free]

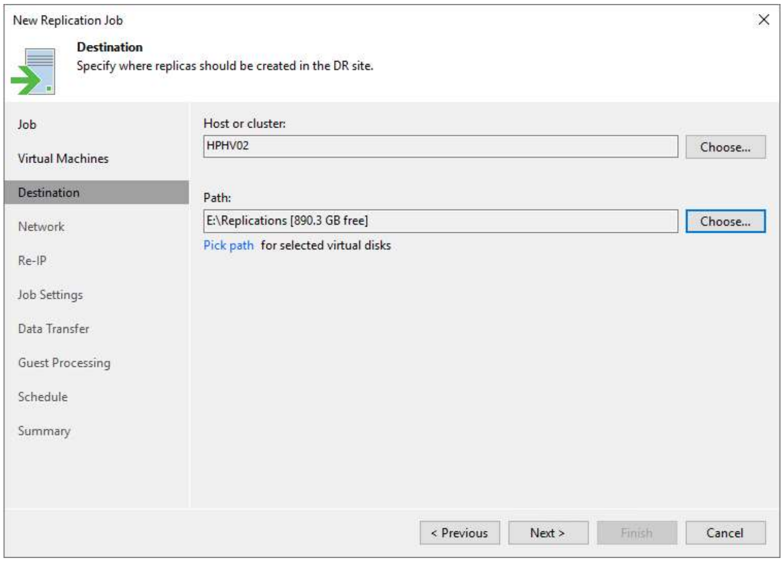
Pick path for selected virtual disks

20. On the Folders page, specify a path to the folder where VM replica files must be stored, and click OK.



E:\Replications

21. On the Destination page, click Next.



New Replication Job

Destination

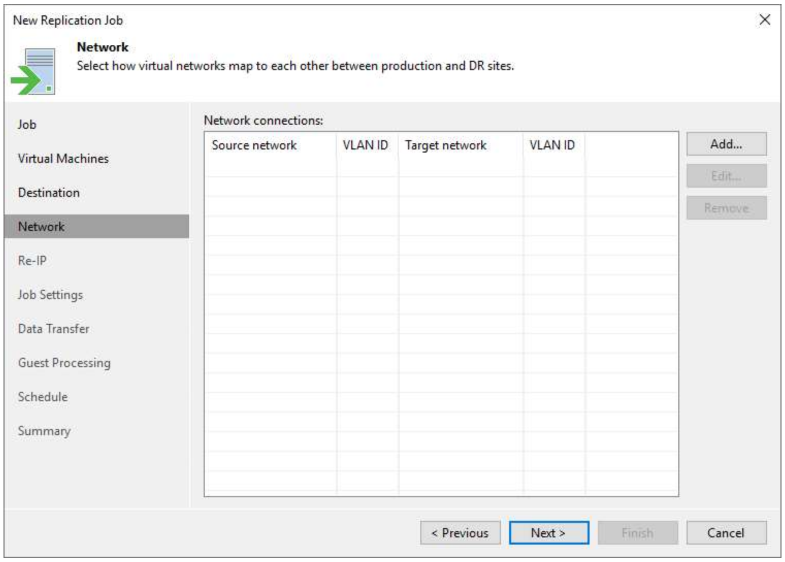
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: E:\Replications [890.3 GB free]

Pick path for selected virtual disks

22. On the Network page, click Add.



New Replication Job

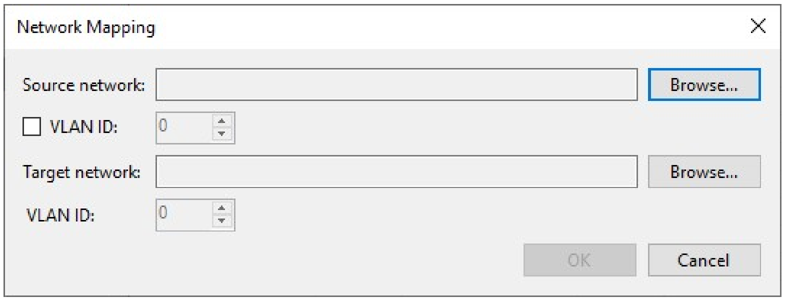
Network

Select how virtual networks map to each other between production and DR sites.

Network connections:

Source network	VLAN ID	Target network	VLAN ID

23. On the Network Mapping page, click Browse in the Source network session.



Network Mapping

Source network: Browse...

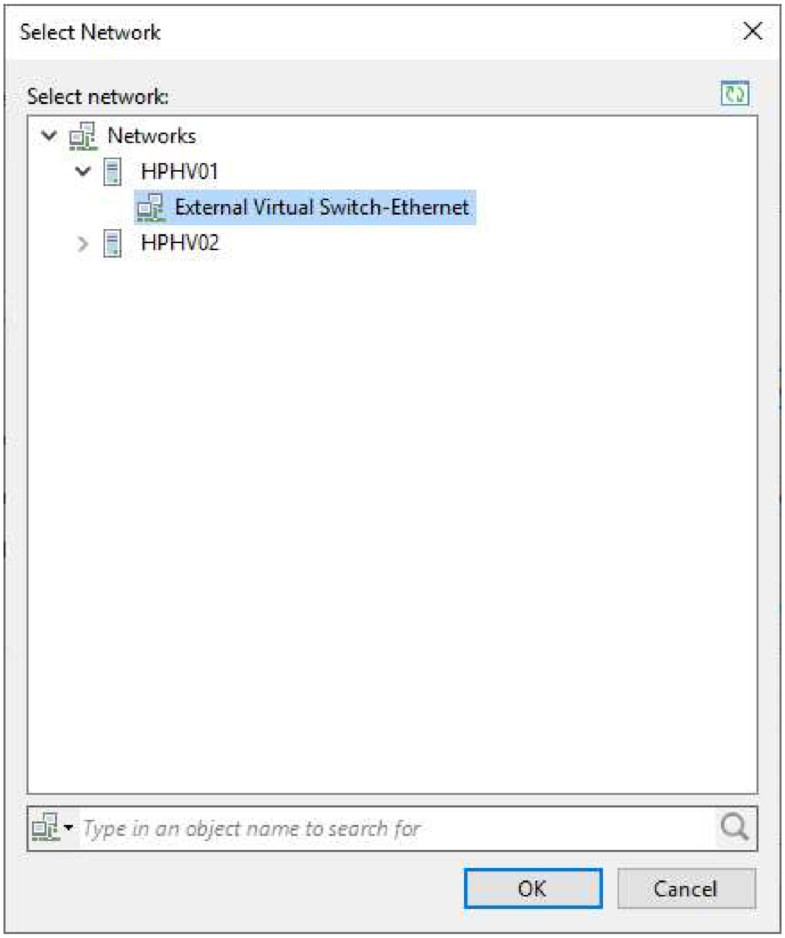
□ VLAN ID: 0

Target network: Browse...

VLAN ID: 0

OK Cancel

24. Select the production network on the Select Network page to which the original VMs are connected and click OK.



Select Network

Select network:

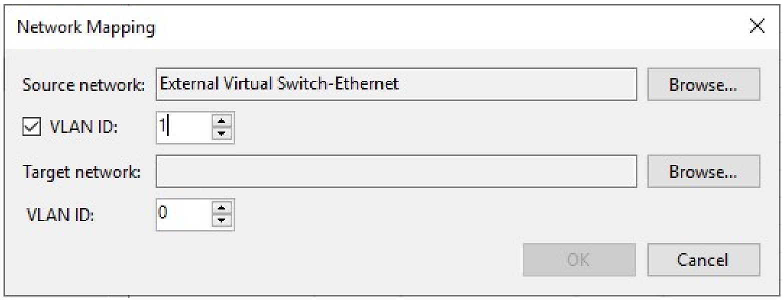
- Networks
  - HPHV01
    - External Virtual Switch-Ethernet
  - HPHV02

Type in an object name to search for

OK Cancel

25. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the source network.

26. On the Network Mapping page, click Browse in the Target network session.



Network Mapping

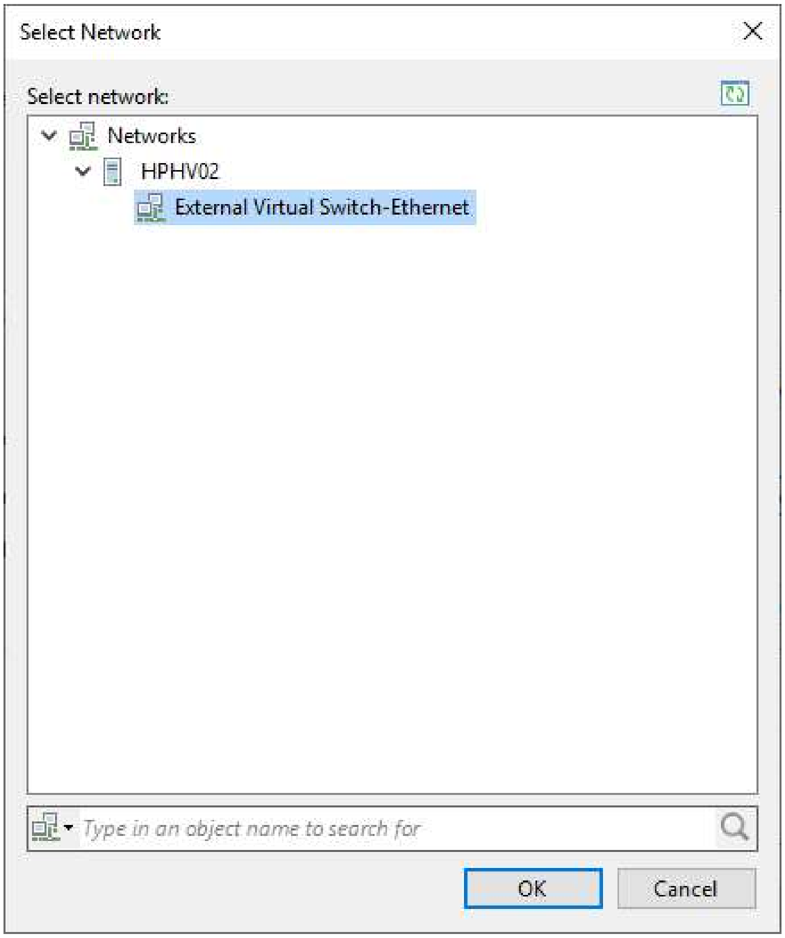
Source network: External Virtual Switch-Ethernet

☑ VLAN ID: 1

Target network:

VLAN ID: 0

27. Select the DR site network on the Select Network page to which replicas will be connected and click OK.



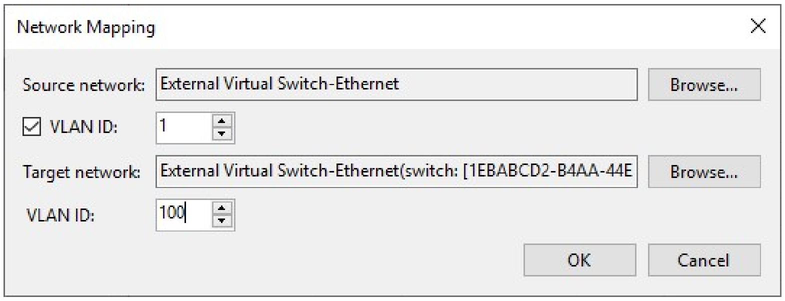
Select Network

Select network:

- Networks
  - HPHV02
    - External Virtual Switch-Ethernet

28. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the target network.

29. Click OK.



Network Mapping

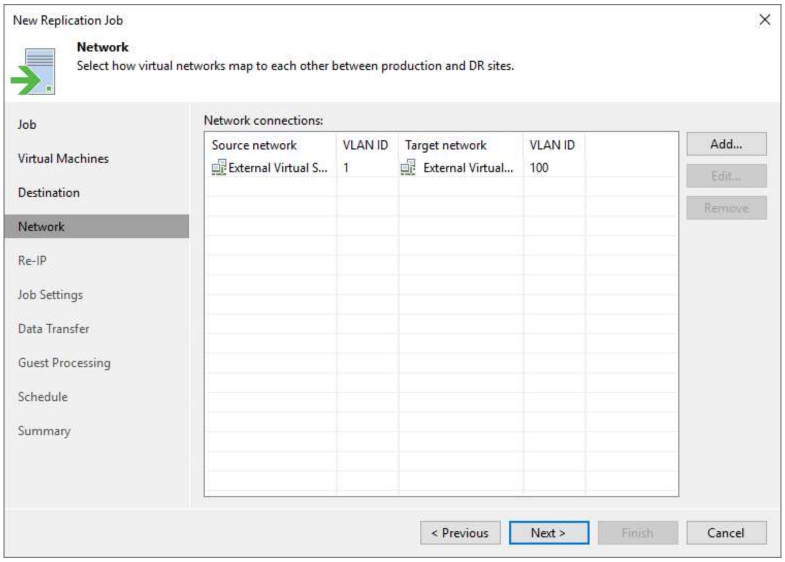
Source network: External Virtual Switch-Ethernet

☑ VLAN ID: 1

Target network: External Virtual Switch-Ethernet(switch: [1EBABCD2-B4AA-44E

VLAN ID: 100

30. On the Network page, click Next.



New Replication Job

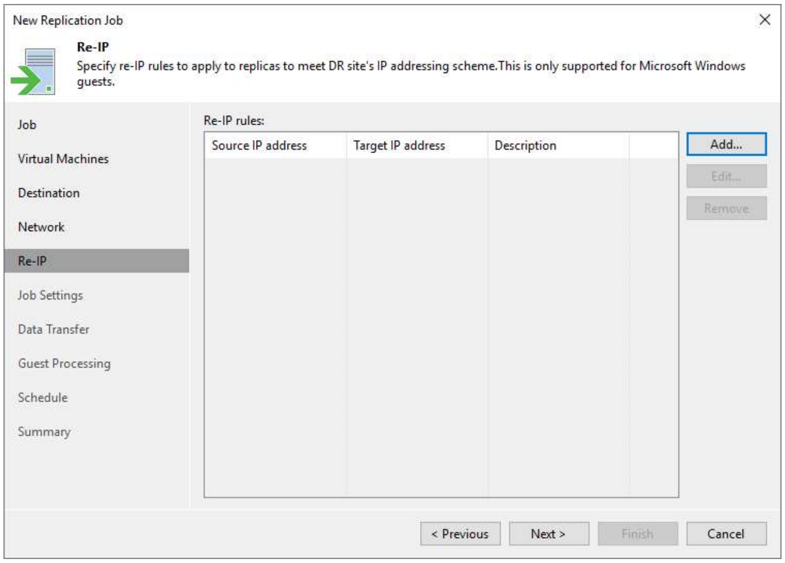
Network

Select how virtual networks map to each other between production and DR sites.

Network connections:

Source network	VLAN ID	Target network	VLAN ID
External Virtual S...	1	External Virtual...	100

31. On the Re-IP page, click Add.



New Replication Job

Re-IP

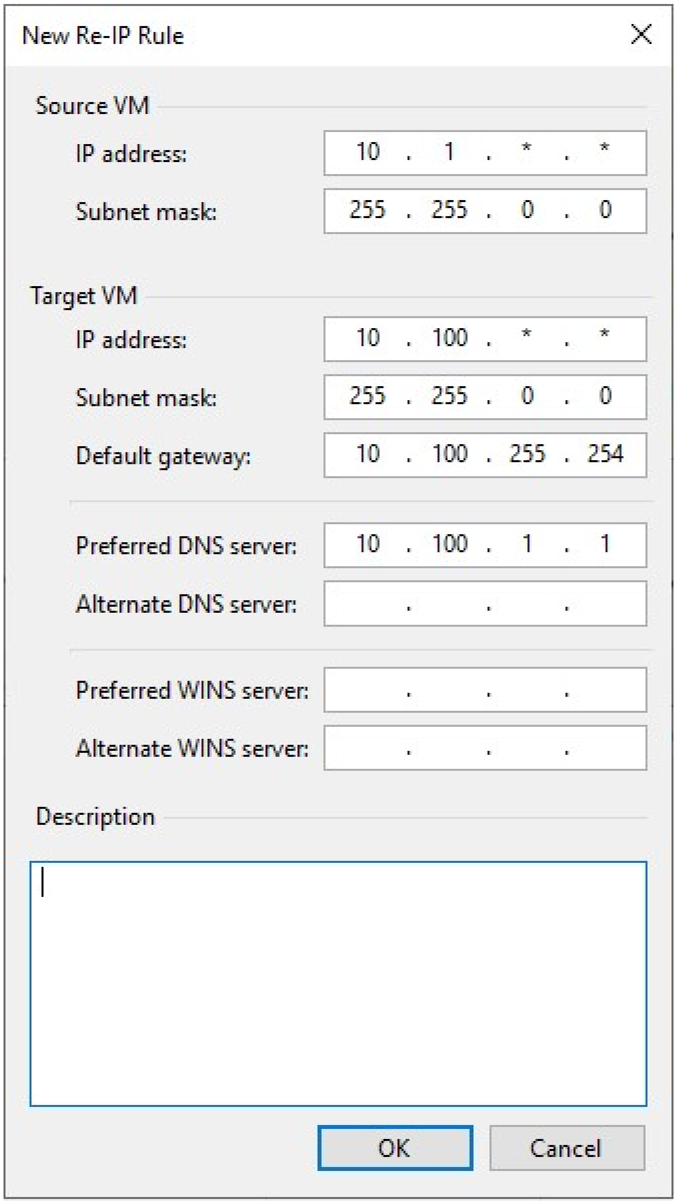
Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

32. On the New Re-IP Rule page, Enter the IP numbering scheme used at the production site in the Source VM section.

33. Enter the IP numbering scheme used at the DR site in the Target VM section.

34. Describe the rule in the Description field.

35. Click OK.



Source VM

IP address: 10 . 1 . * . *

Subnet mask: 255 . 255 . 0 . 0

Target VM

IP address: 10 . 100 . * . *

Subnet mask: 255 . 255 . 0 . 0

Default gateway: 10 . 100 . 255 . 254

Preferred DNS server: 10 . 100 . 1 . 1

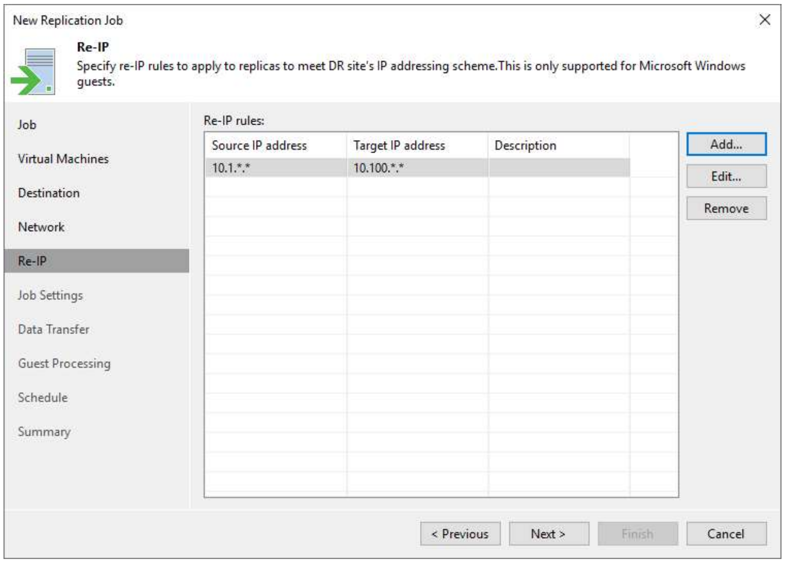
Alternate DNS server: . . .

Preferred WINS server: . . .

Alternate WINS server: . . .

Description

36. On the Re-IP page, click Next.



New Replication Job

Re-IP

Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

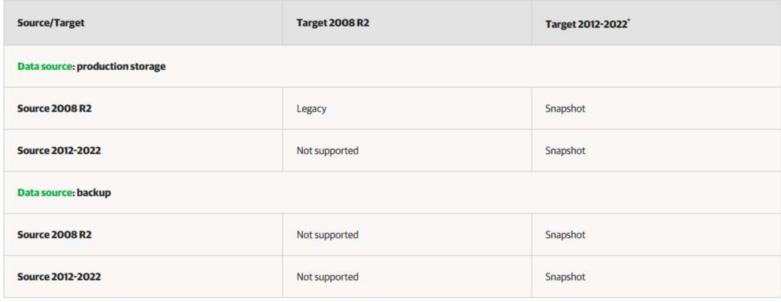
Re-IP rules:

Source IP address	Target IP address	Description
10.1.*.*	10.100.*.*	

37. Select the Repository for replica metadata from the drop-down list on the Job Settings page.

Note:

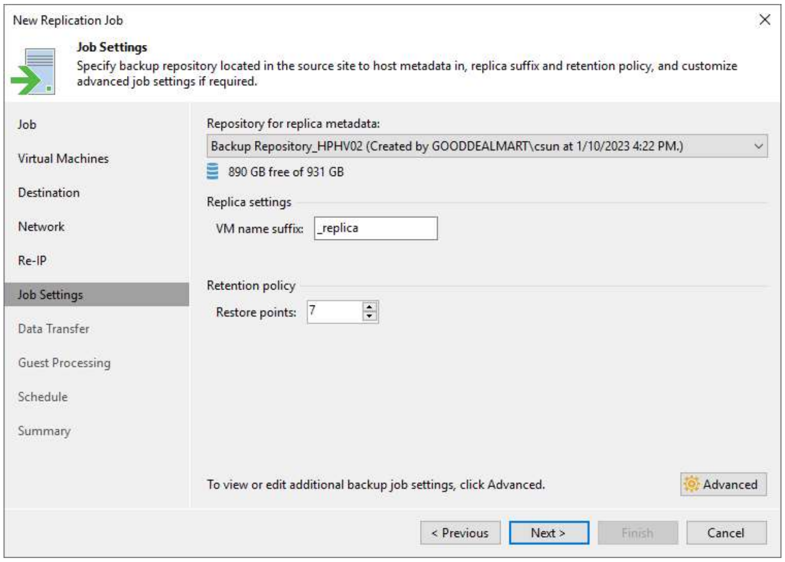
- This setting must be specified only for snapshot replicas. Legacy replicas do not use a backup repository for storing metadata.
- You cannot store VM replica metadata on deduplicating storage appliances.



Source/Target	**Target 2008 R2**	**Target 2012-2022***
Data source: production storage		
Source 2008 R2	Legacy	Snapshot
Source 2012-2022	Not supported	Snapshot
Data source: backup		
Source 2008 R2	Not supported	Snapshot
Source 2012-2022	Not supported	Snapshot

- You cannot store replica metadata in a scale-out backup repository.

38. Enter a suffix that will be appended to the original VM names in the Replica name suffix field.
39. Enter the number of restore points in the field.
40. Click Advanced.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

890 GB free of 931 GB

Replica settings

VM name suffix: _replica

Retention policy

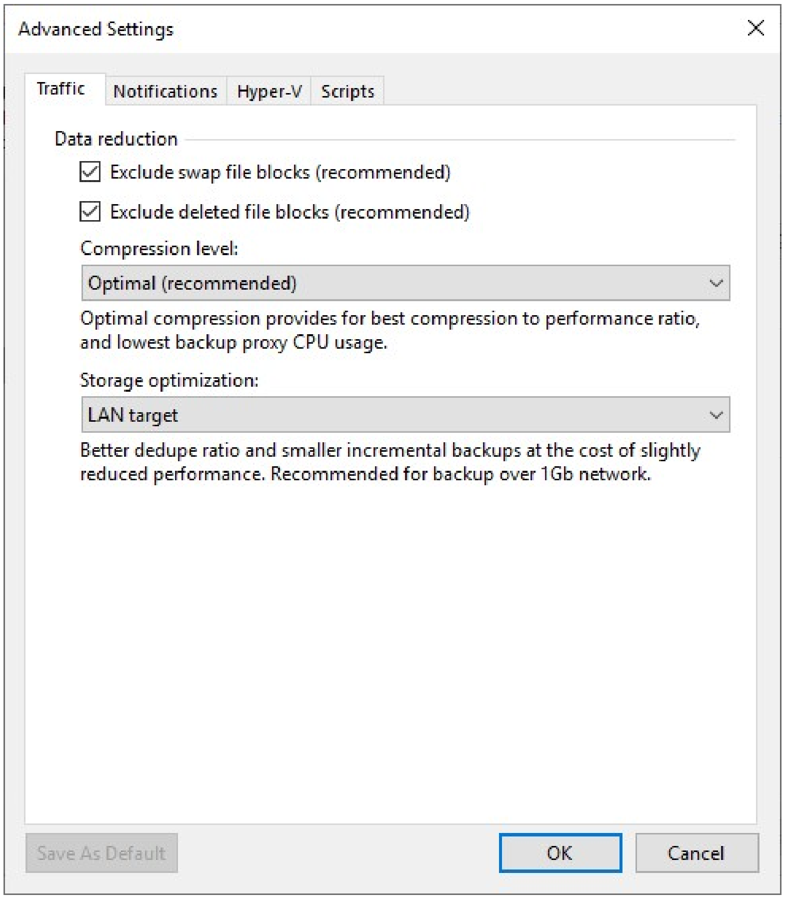
Restore points: 7

To view or edit additional backup job settings, click Advanced.

41. On Advanced Settings, click Traffic.

42. Select the Exclude swap file blocks checkbox (recommended). Veeam Backup & Replication excludes data blocks of the hiberfil.sys and pagefile.sys system files from replicas.

43. Select the Exclude deleted file blocks (recommended) check box, Veeam Backup & Replication does not copy deleted file blocks ("dirty" blocks on the VM guest OS) to the target location.



Advanced Settings

Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level:

Optimal (recommended)

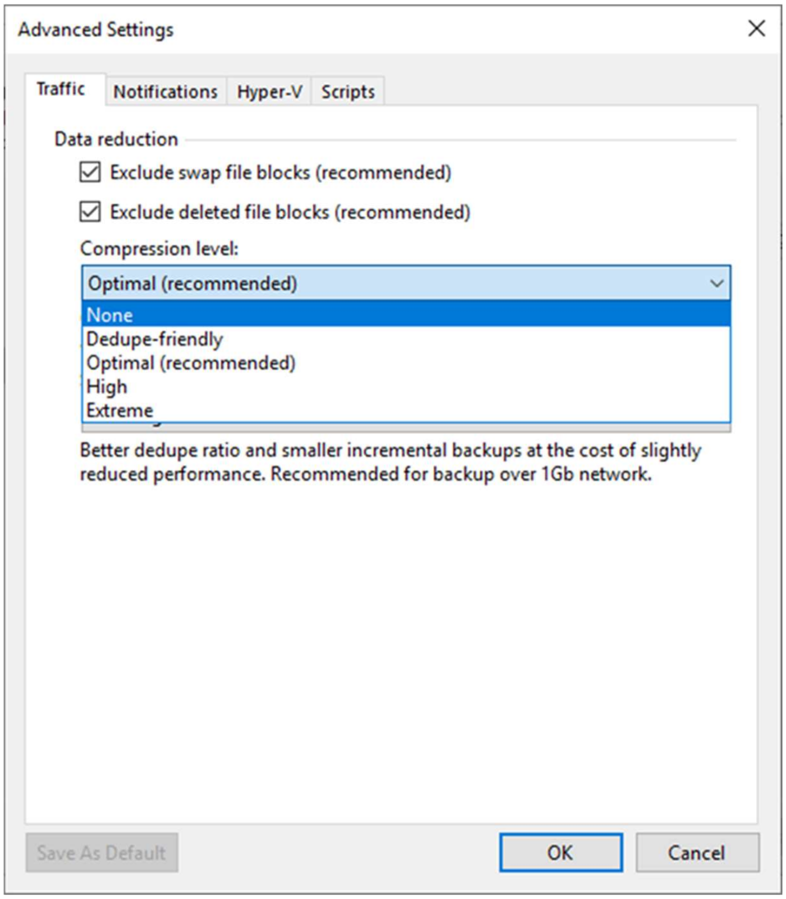
Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization:

LAN target

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Recommended for backup over 1Gb network.

44. Select the compression level for replicas from the drop-down list.



Data reduction

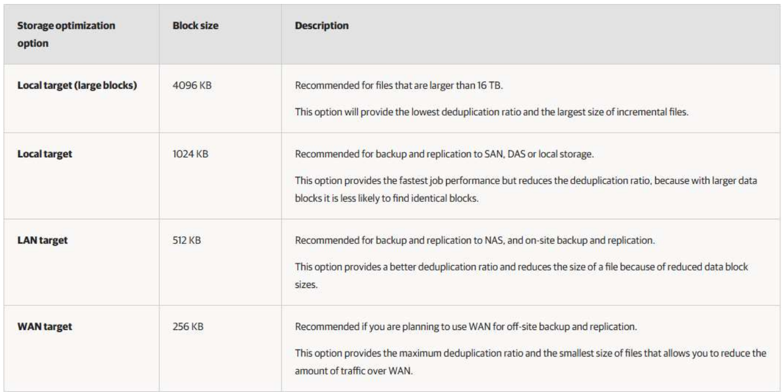
☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

Compression level: Optimal (recommended)

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Recommended for backup over 1Gb network.

45. Select Storage optimization from the drop-down list.

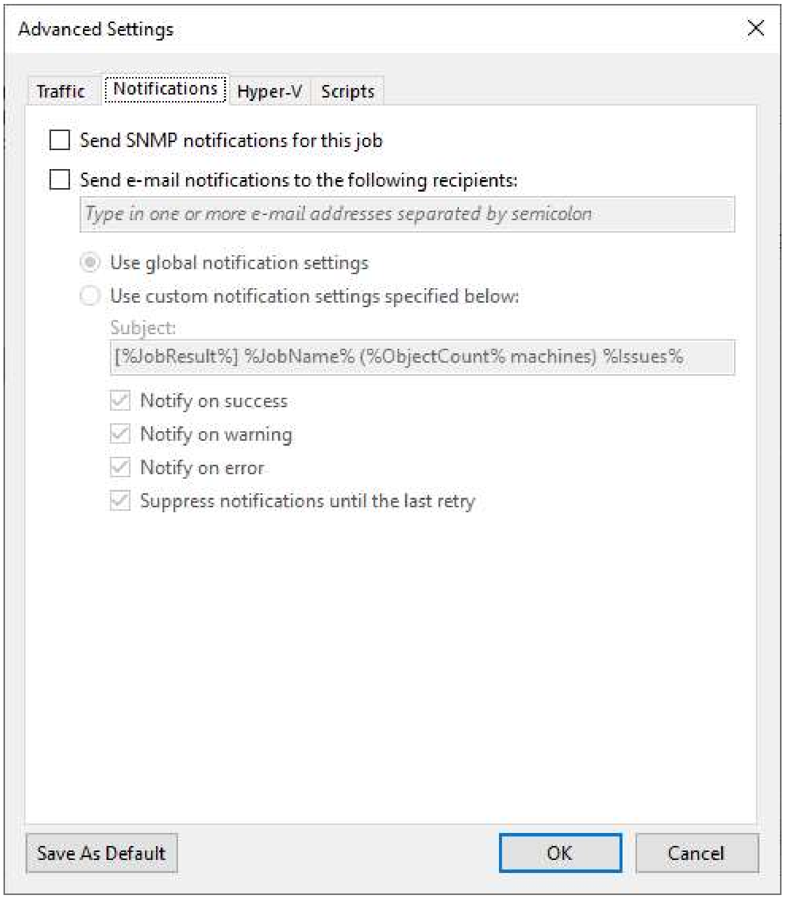


Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

46. On the Advanced Settings, select Notifications.

47. Select Send SNMP notifications for this job checkbox. In addition, Veeam will send traps to the NMS when events occur, such as when a backup job fails or a replication job encounters an error.

48. Select Send email notifications to the following recipients checkbox, If you want to receive email notifications about the job completion status.



□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

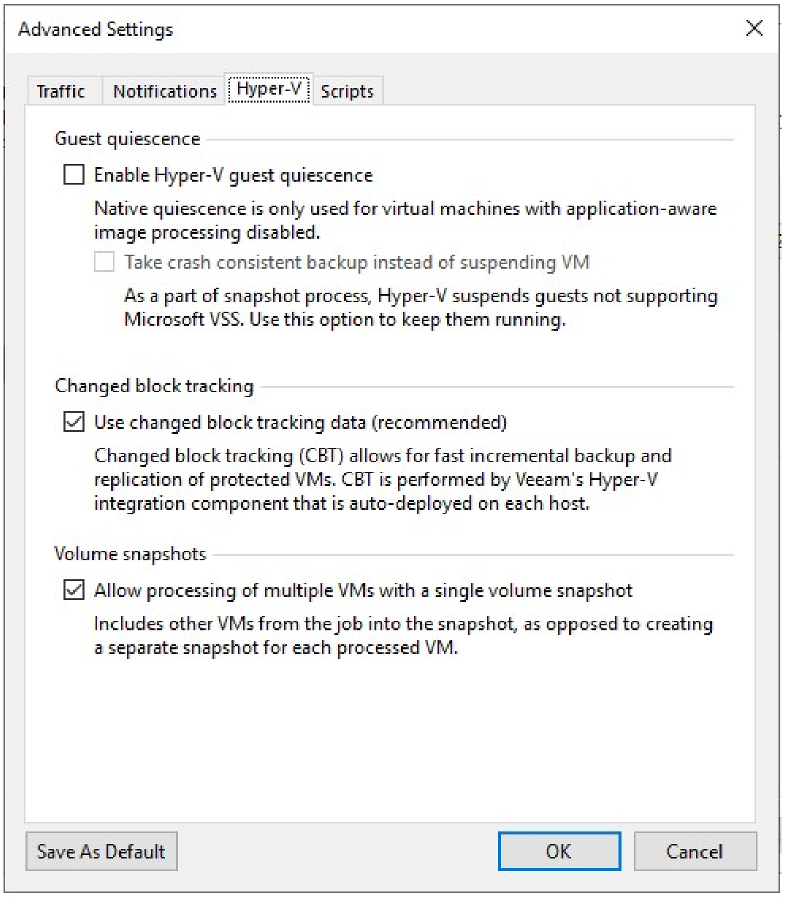
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

49. On the Advanced Settings, select Hyper-V.
50. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.
51. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.
52. Select the Use changed block tracking data (recommended) check box.
53. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

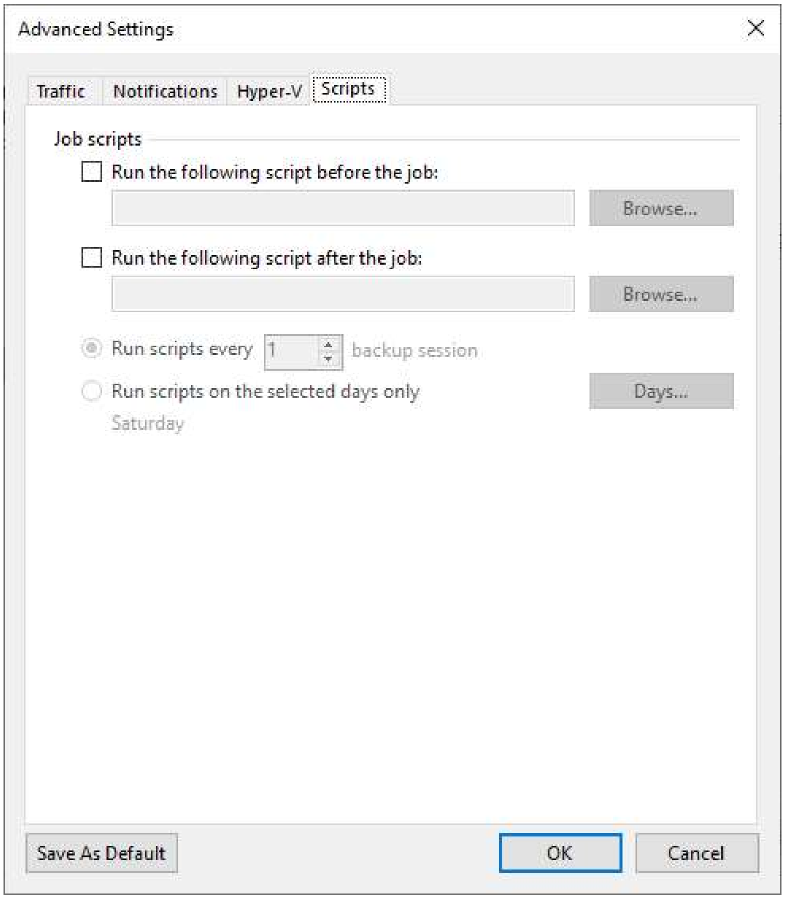
Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

54. On the Advanced Settings page, click Scripts.
55. Keep the default settings and click OK.



Job scripts

☐ Run the following script before the job:

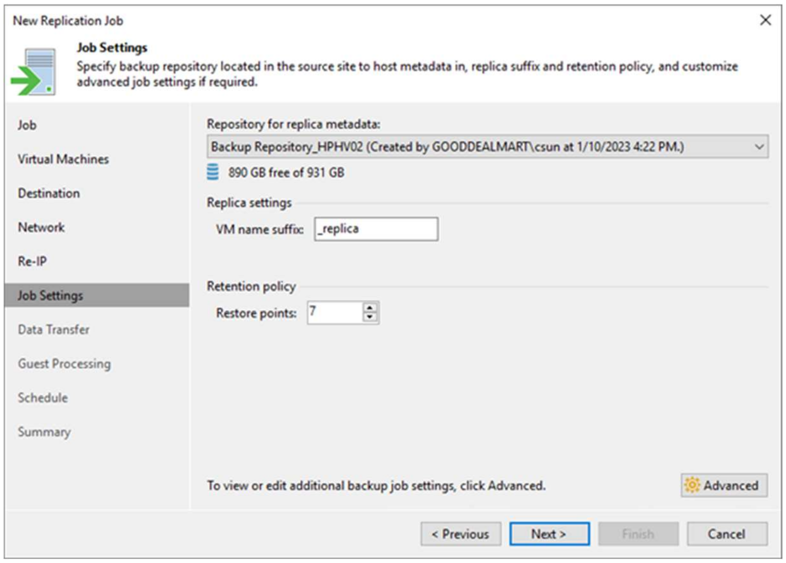
☐ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

56. On the Job Settings page, click Next.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

890 GB free of 931 GB

Replica settings

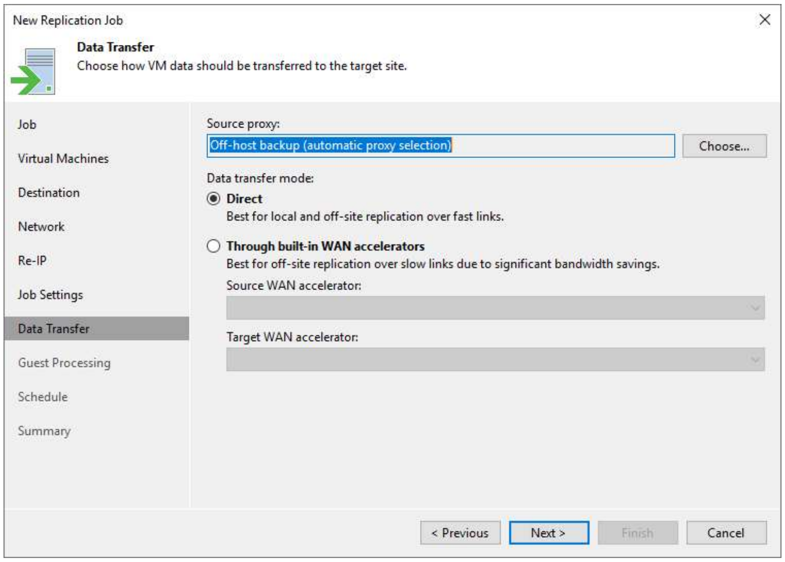
VM name suffix: _replica

Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

57. Click Choose to specify Source Proxy on the Data Transfer page.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**

Best for local and off-site replication over fast links.

○ **Through built-in WAN accelerators**

Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

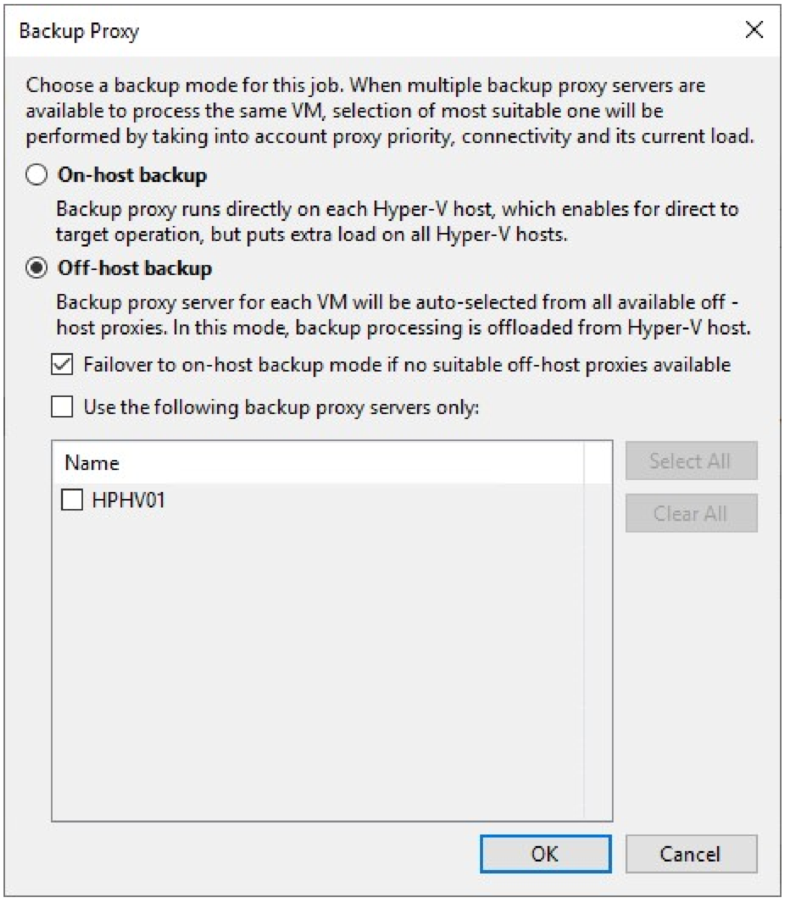
Target WAN accelerator:

58. On the Backup Proxy page, Veeam Backup & Replication automatically selects off-host backup proxies and select the Failover to on-host backup mode if no suitable off-host proxies are available checkbox by default.

59. Select Use the following backup proxy servers only check box and choose one or multiple off-host backup proxies from the list if necessary.

60. Select On-host backup If you want to use the Microsoft Hyper-V host as the source host and backup proxy.

61. Click OK.



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

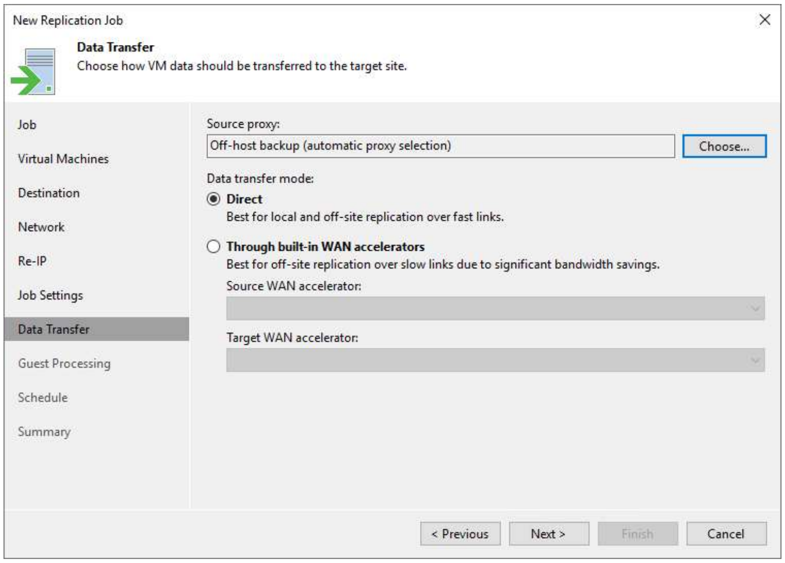
Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

☐ Use the following backup proxy servers only:

Name
☐ HPHV01

62. On the Data Transfer mode session, select Direct if you plan to copy backup files over high-speed connections.



Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy:
Off-host backup (automatic proxy selection)

Data transfer mode:
● **Direct**
Best for local and off-site replication over fast links.

○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator:

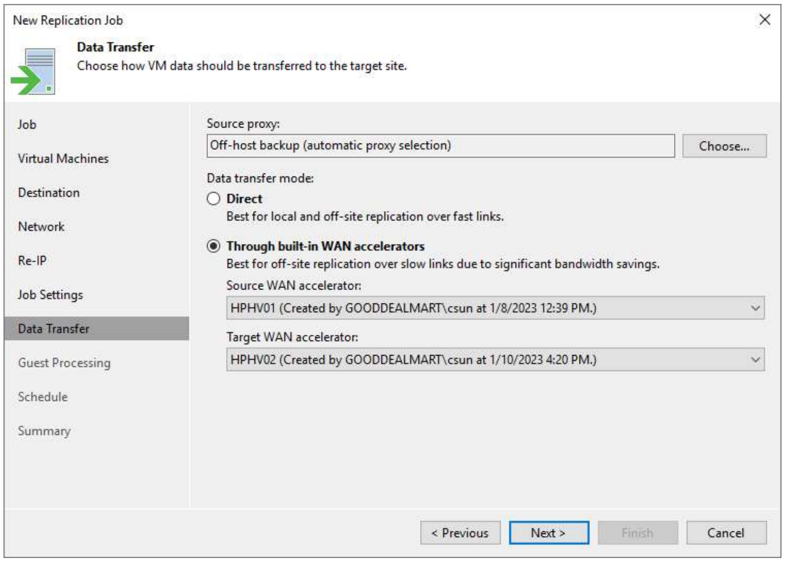
Target WAN accelerator:

63. On the Data Transfer mode session, select Direct if you plan to copy backup files over high-speed connections.

64. Select the Through built-in WAN accelerators if you transfer data over WAN or slow connections.

65. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.

66. Select a WAN accelerator configured in the target site from the Target WAN



Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy:
Off-host backup (automatic proxy selection)

Data transfer mode:
○ **Direct**
Best for local and off-site replication over fast links.

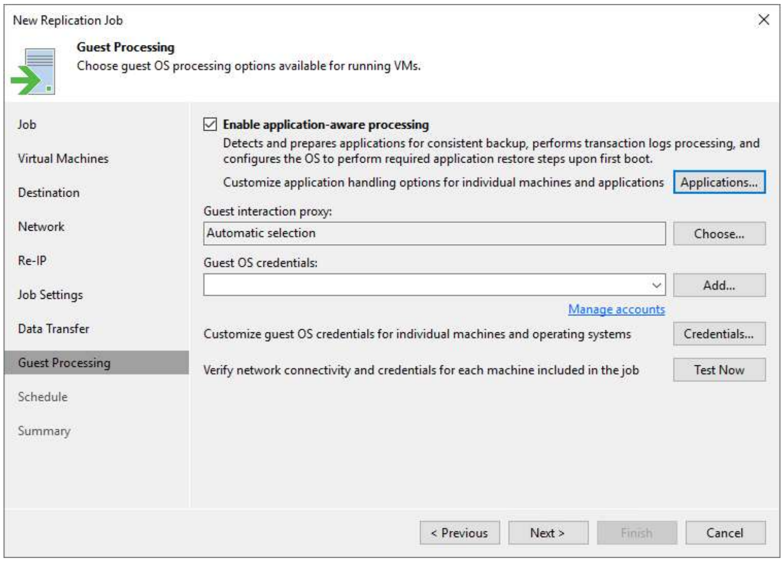
● **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator:
HPHV01 (Created by GOODDEALMART\csun at 1/8/2023 12:39 PM.)
Target WAN accelerator:
HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:20 PM.)

accelerator drop-down list.

67. Click Next.

68. When you add VMs running VSS-aware applications to the replication job, you can enable application-aware processing to create a transactionally consistent replica. The transactionally consistent replicas ensure that applications on VMs can be recovered without data loss.

69. Select the Enable application-aware processing check box on the Guest Processing page, and click Applications.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ Enable application-aware processing

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

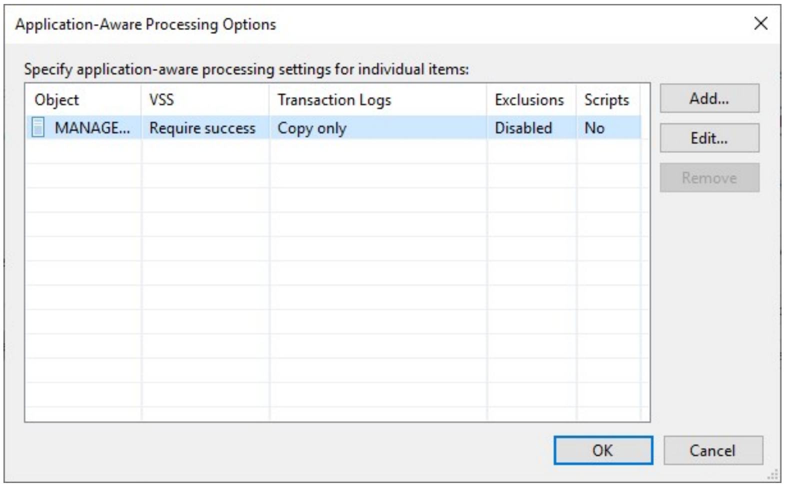
Guest interaction proxy: Automatic selection

Guest OS credentials:

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

70. On the Application-Aware Processing Options page, select the Object, and click Edit.

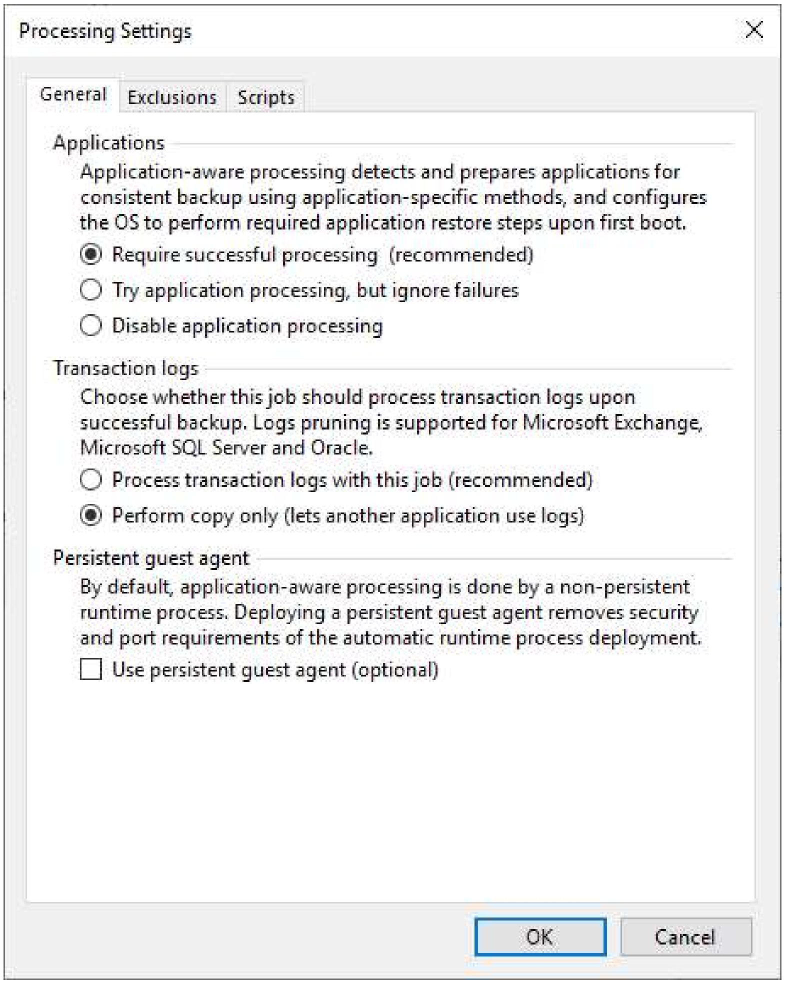


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
MANAGE...	Require success	Copy only	Disabled	No

71. On the Processing Settings, click General.
72. Suppose you need Veeam Backup & Replication to stop the backup process if any error occurs during application-aware processing. Select Require successful processing (recommend).
73. Suppose you must continue the backup process even if there is an error during application-aware processing. Select Try application processing but ignore failures.
74. Select Disable application processing to disable application-aware processing for the VM.
75. Select Process transaction logs with this job (recommended) to process transaction logs.
76. Select Perform copy only to let another application use
77. Select the Use persistent guest agent (optional) checkbox to enable persistent agent.



Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)
○ Try application processing, but ignore failures
○ Disable application processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

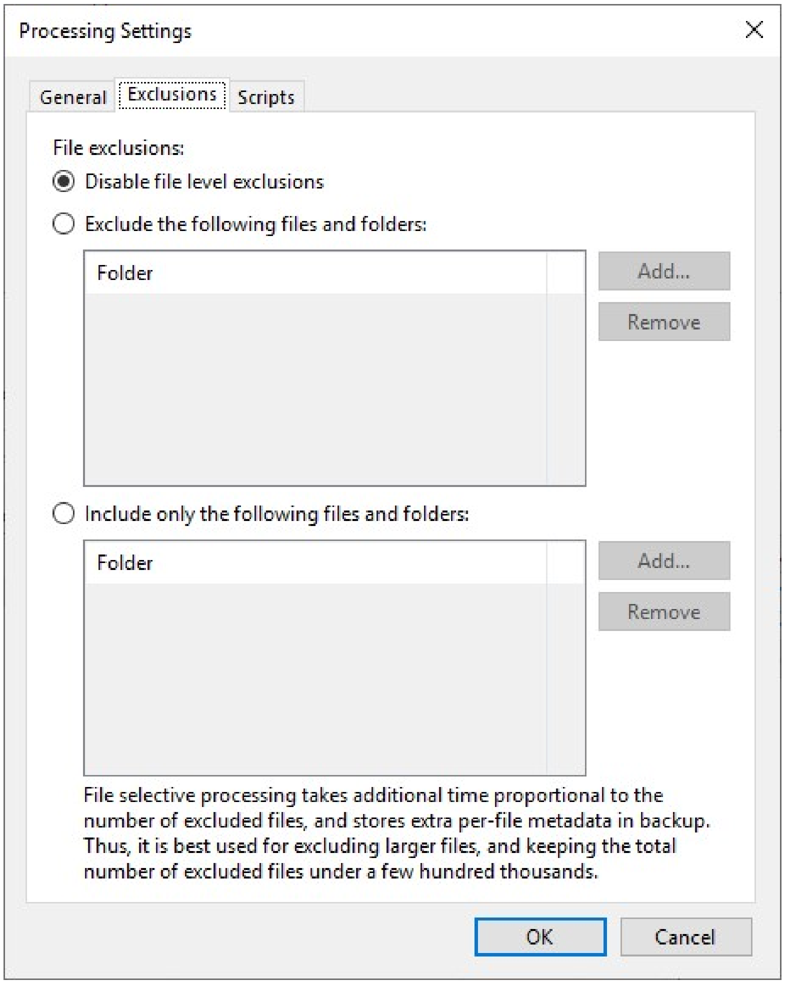
○ Process transaction logs with this job (recommended)
● Perform copy only (lets another application use logs)

Persistent guest agent

By default, application-aware processing is done by a non-persistent runtime process. Deploying a persistent guest agent removes security and port requirements of the automatic runtime process deployment.

□ Use persistent guest agent (optional)

78. On the Processing Settings page, click Exclusions and keep the default settings.



Processing Settings

File exclusions:

● Disable file level exclusions

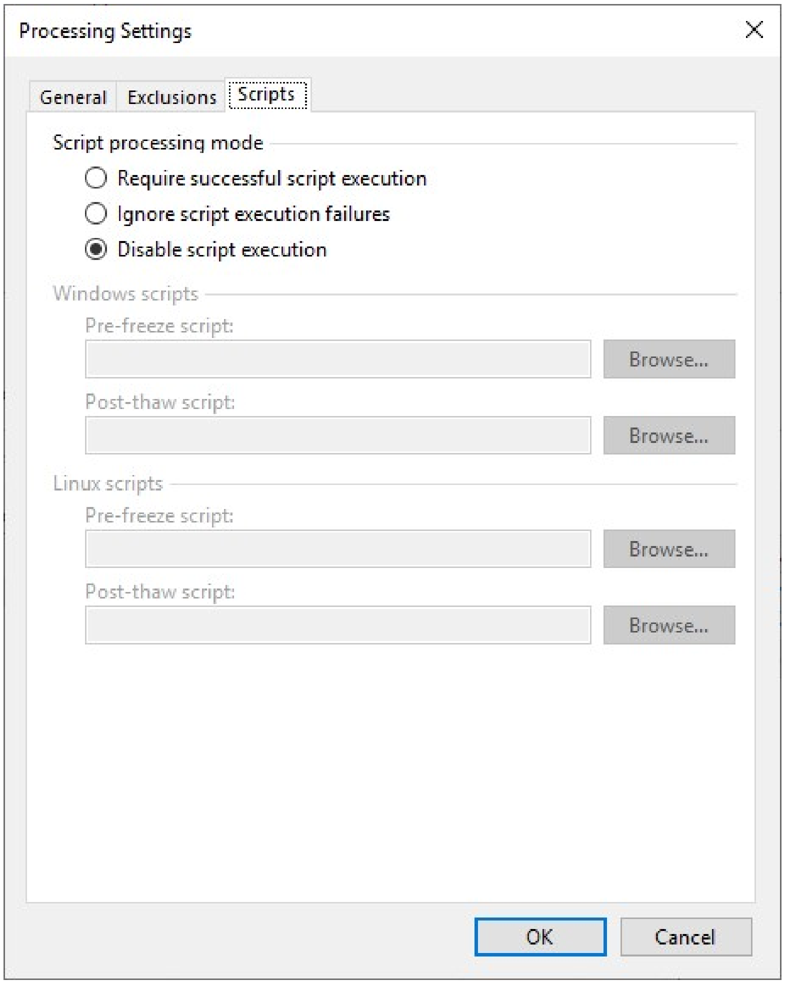
○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

79. On the Processing Settings page, click Scripts.

80. Select Disable script execution and click OK.



Processing Settings

Script processing mode

○ Require successful script execution

○ Ignore script execution failures

● Disable script execution

Windows scripts

Pre-freeze script:

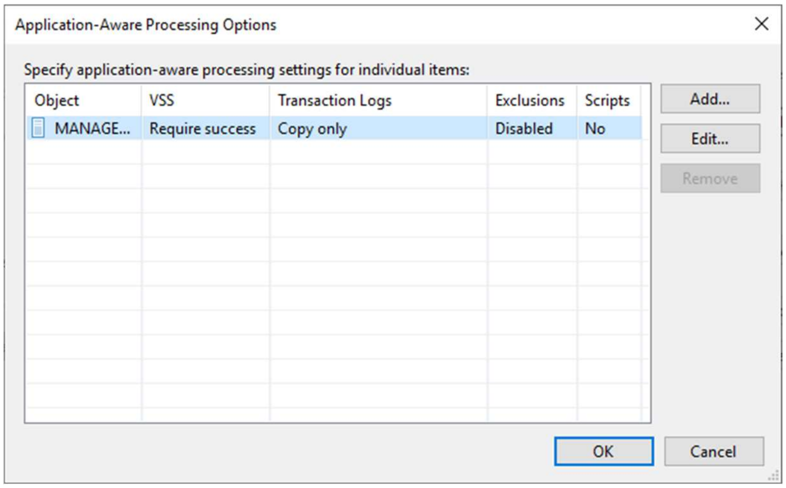
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

81. On the Application-Aware Processing Options page, click OK.

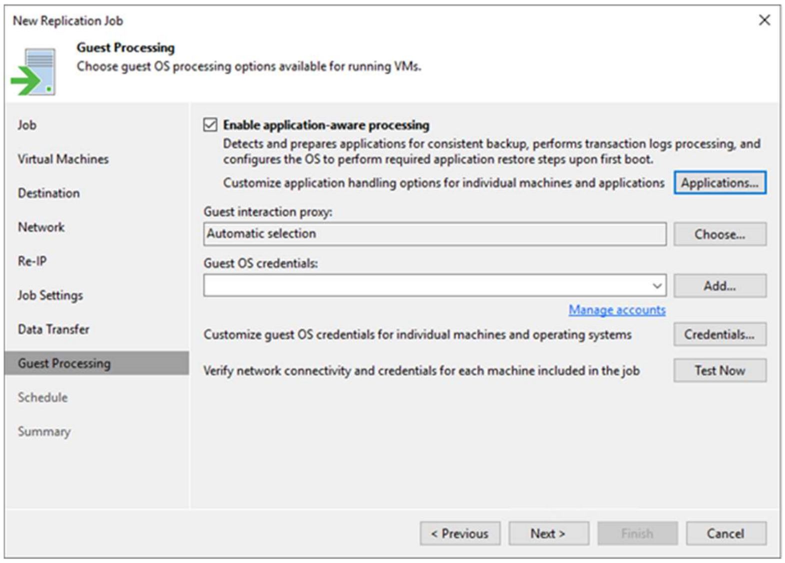


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
MANAGE...	Require success	Copy only	Disabled	No

82. Click Choose in the Guest interaction proxy field.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ Enable application-aware processing

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

Guest OS credentials:

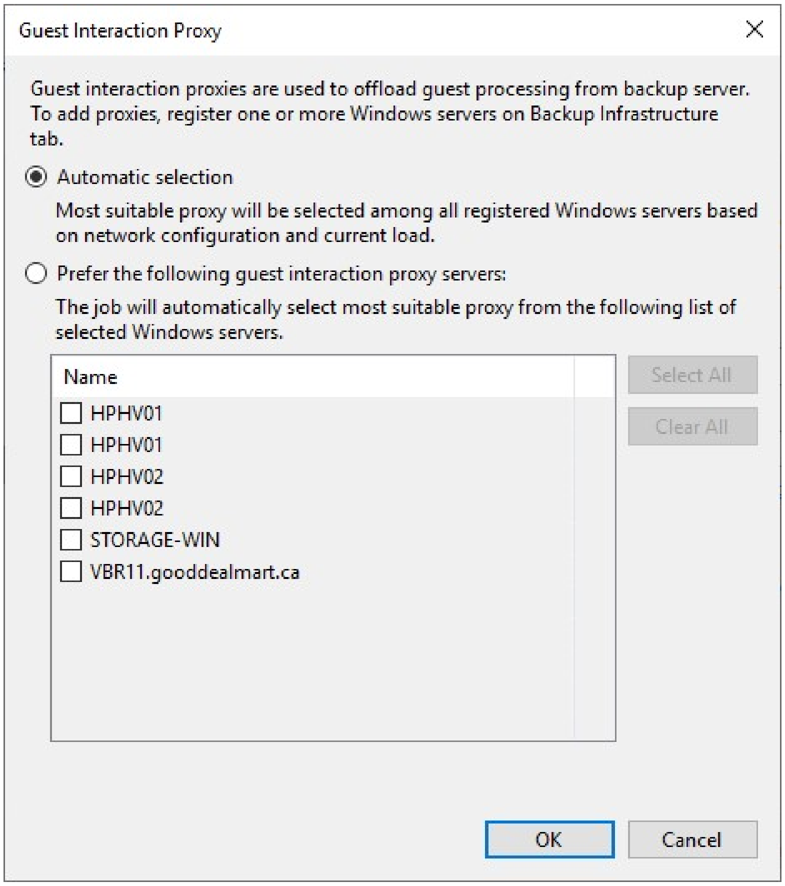
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

83. On the Guest Interaction Proxy page, select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.

84. Select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.

85. Click OK.



Guest Interaction Proxy

Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

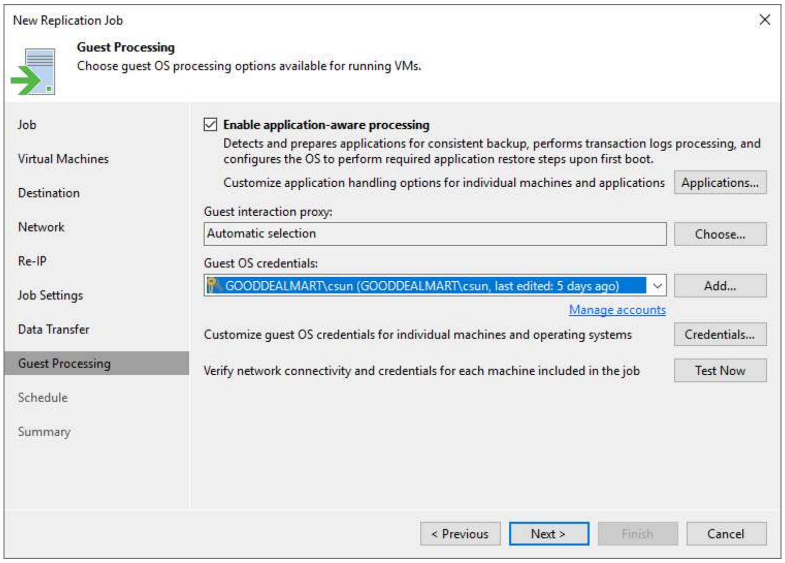
○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
□ HPHV01
□ HPHV01
□ HPHV02
□ HPHV02
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

86. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.

87. Click Credentials to Customize guest OS credentials for individual machines and operating systems.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

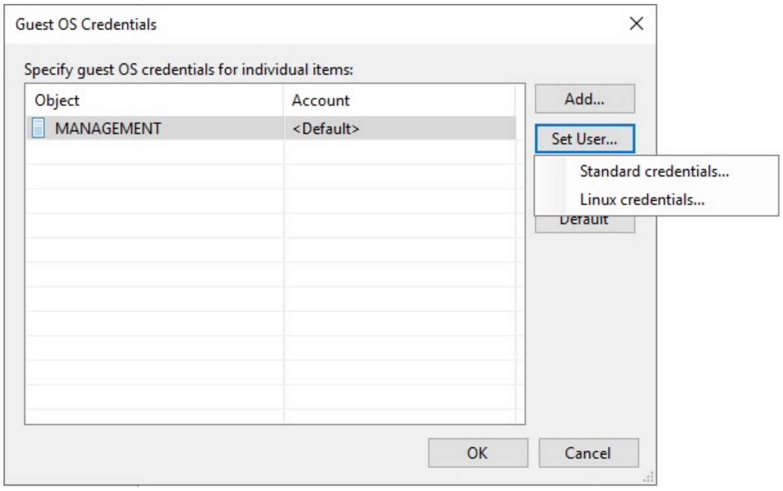
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

88. On the Guest OS Credentials page, select the VM, and click Set User.

89. Select Standard credentials.



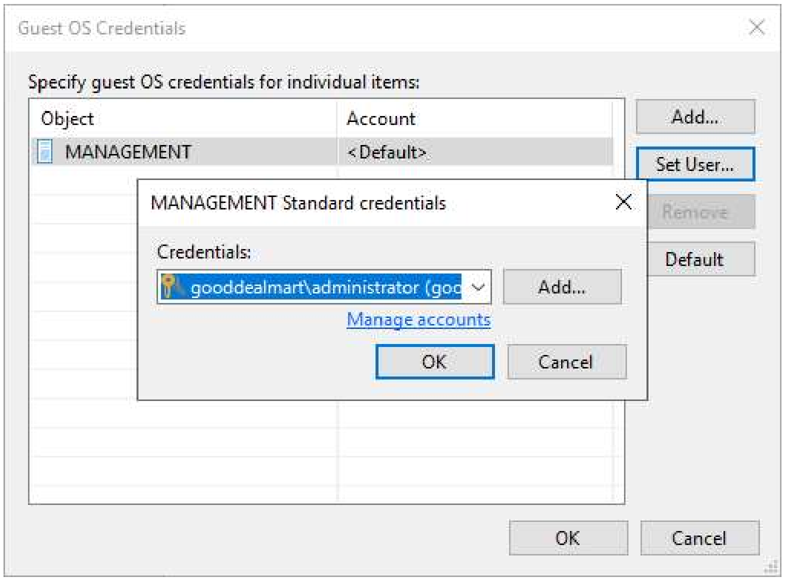
Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	<Default>

90. Choose a user from the Credentials drop-down list, and click OK.

91. Repeat the steps for each VM.



Guest OS Credentials

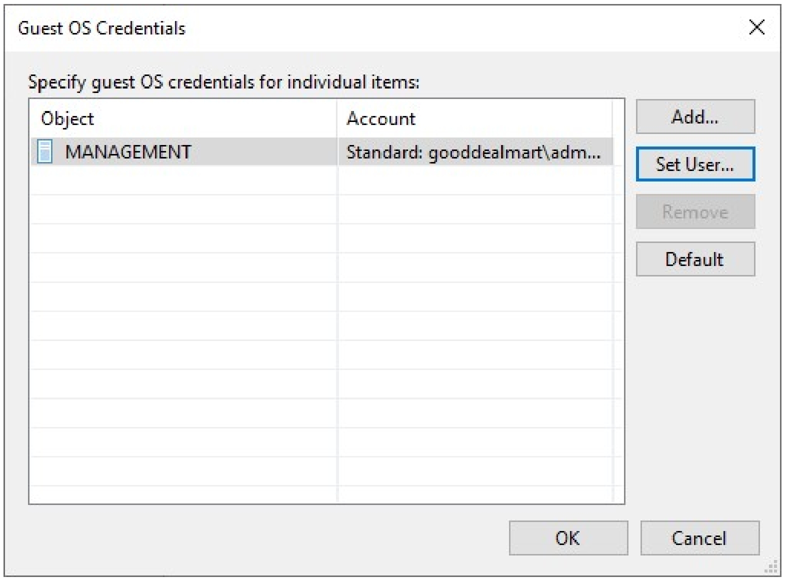
Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	<Default>

MANAGEMENT Standard credentials

Credentials: gooddealmart\administrator (goo

92. On the Guest OS Credentials page, click OK.

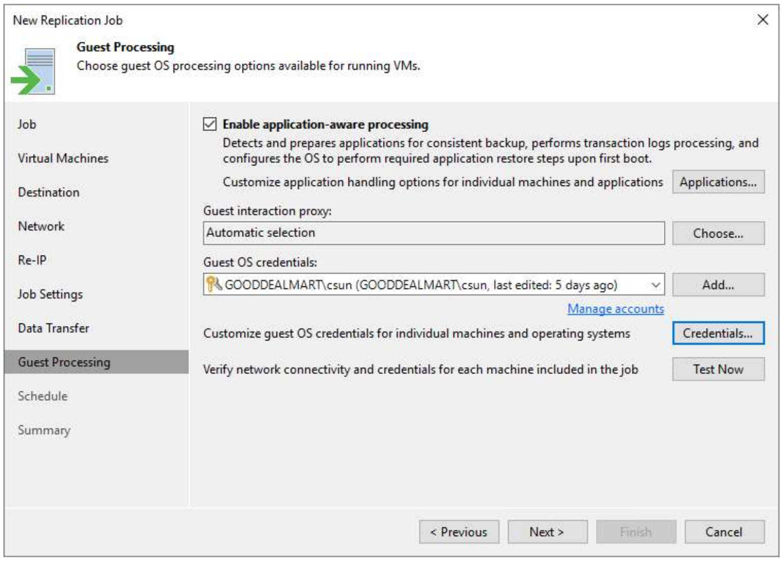


Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	Standard: gooddealmart\adm...

93. On the Guest Processing page, click Test Now to verify network connectivity and credentials for each machine included in the job.



New Replication Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications [Applications...]

Guest interaction proxy:
Automatic selection [Choose...]

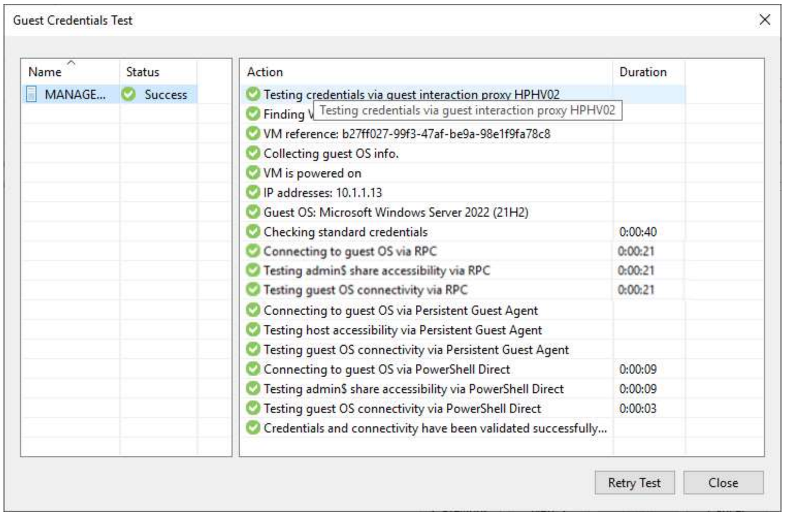
Guest OS credentials:
GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago) [Add...]
Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

94. On the Guest Credentials Test page, verify each machine's success.

95. Click Close.

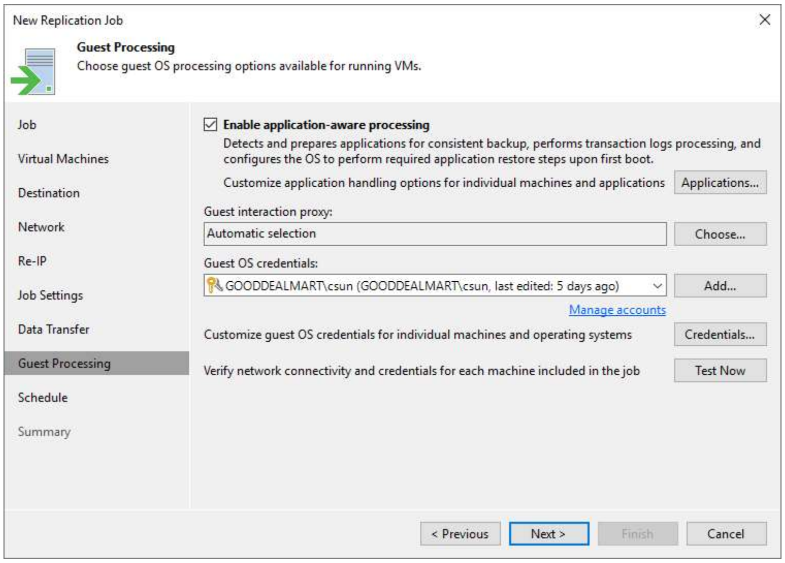


Guest Credentials Test

Name	Status
MANAGE...	✓ Success

Action	Duration
✓ Testing credentials via guest interaction proxy HPHV02	
✓ Finding V Testing credentials via guest interaction proxy HPHV02	
✓ VM reference: b27ff027-99f3-47af-be9a-98e1f9fa78c8	
✓ Collecting guest OS info.	
✓ VM is powered on	
✓ IP addresses: 10.1.1.13	
✓ Guest OS: Microsoft Windows Server 2022 (21H2)	
✓ Checking standard credentials	0:00:40
✓ Connecting to guest OS via RPC	0:00:21
✓ Testing admin$ share accessibility via RPC	0:00:21
✓ Testing guest OS connectivity via RPC	0:00:21
✓ Connecting to guest OS via Persistent Guest Agent	
✓ Testing host accessibility via Persistent Guest Agent	
✓ Testing guest OS connectivity via Persistent Guest Agent	
✓ Connecting to guest OS via PowerShell Direct	0:00:09
✓ Testing admin$ share accessibility via PowerShell Direct	0:00:09
✓ Testing guest OS connectivity via PowerShell Direct	0:00:03
✓ Credentials and connectivity have been validated successfully...	

96. On the Guest Processing page, click Next.


New Replication Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago)

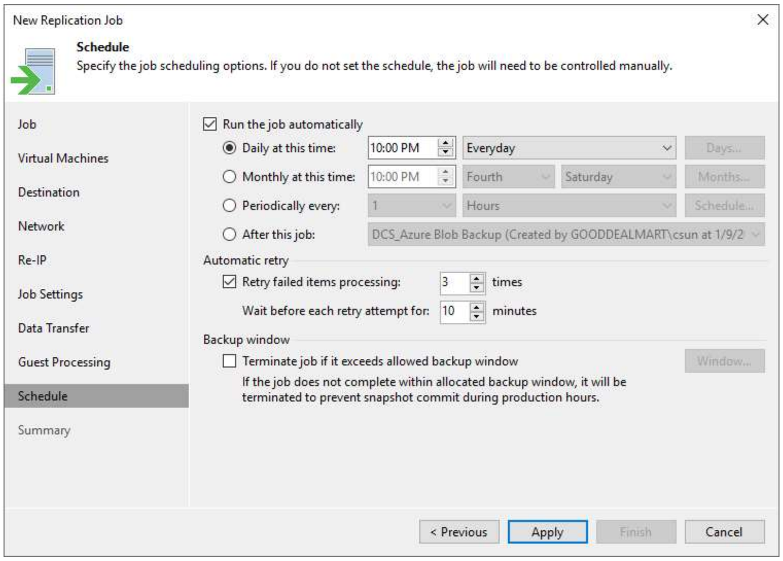
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

97. Select Run the job automatically on the Schedule page and select your specified schedule.

98. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

99. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on


New Replication Job

Schedule
Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically
● Daily at this time: 10:00 PM Everyday
○ Monthly at this time: 10:00 PM Fourth Saturday
○ Periodically every: 1 Hours
○ After this job: DCS_Azure Blob Backup (Created by GOODDEALMART\csun at 1/9/2

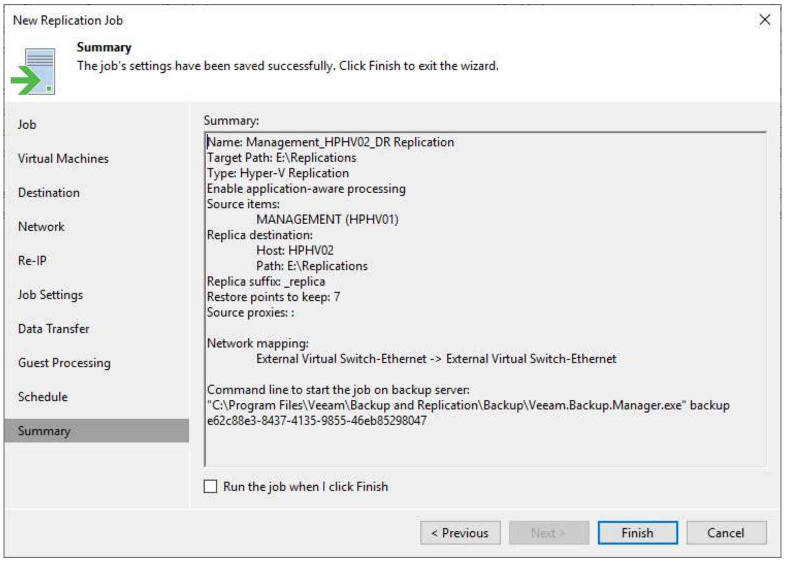
Automatic retry
☑ Retry failed items processing: 3 times
Wait before each retry attempt for: 10 minutes

Backup window
□ Terminate job if it exceeds allowed backup window
If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

the production environment.

100. Click Apply.

101. On the Summary page, click Finish.



Summary

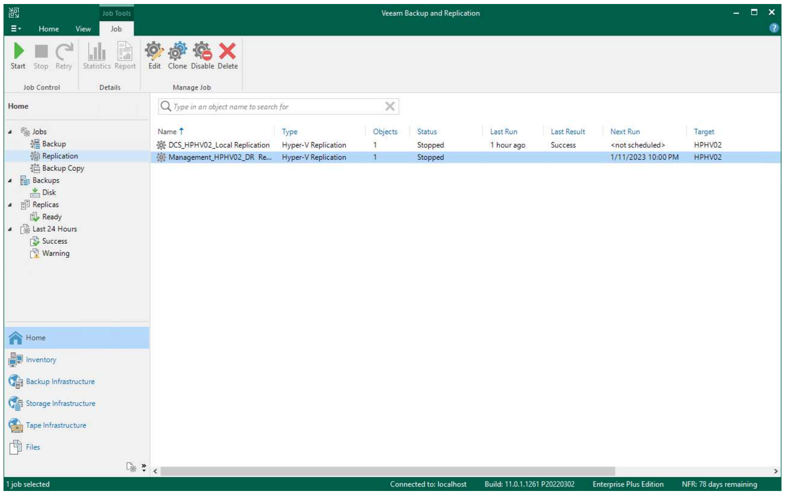
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: Management_HPHV02_DR Replication
Target Path: E:\Replications
Type: Hyper-V Replication
Enable application-aware processing
Source items:
          MANAGEMENT (HPHV01)
Replica destination:
          Host: HPHV02
          Path: E:\Replications
Replica suffix: _replica
Restore points to keep: 7
Source proxies: :

Network mapping:
          External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
e62c88e3-8437-4135-9855-46eb85298047
```

☐ Run the job when I click Finish

102. Verify the job has been added



Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Target
DCS_HPHV02_Local Replication	Hyper-V Replication	1	Stopped	1 hour ago	Success	<not scheduled>	HPHV02
Management_HPHV02_DR Re...	Hyper-V Replication	1	Stopped			1/11/2023 10:00 PM	HPHV02

1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

Creating a Replication job with seeding to replicate the specified VMs to the Disaster Recovery site

This procedure creates a replication job with seeding to replicate the specified VMs to the disaster recovery site. If a disaster strikes and the production VM stops working correctly, you can fail over to its replica.

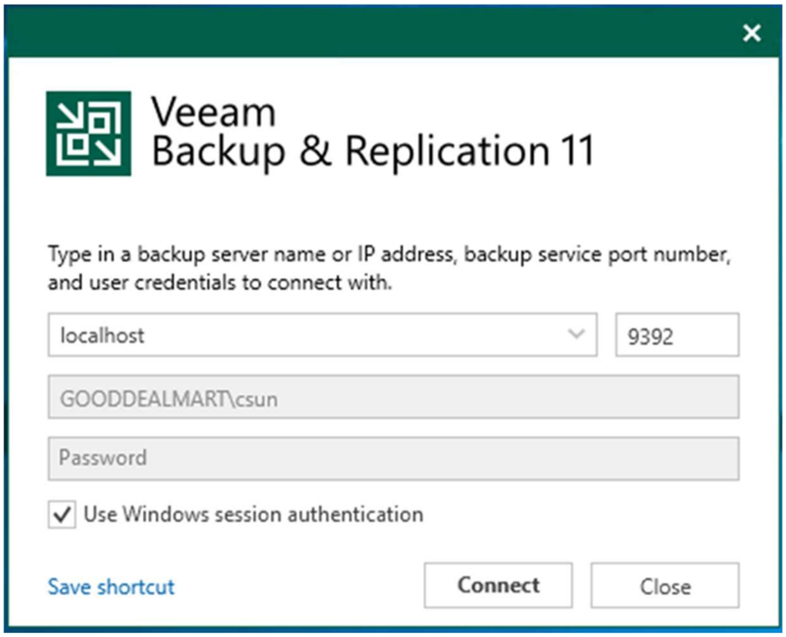
As a prerequisite for replica seeding, you must create a backup of the VM you intend to replicate. Replica seeding and mapping are two technologies that help to reduce network traffic. Veeam Backup & Replication does not need to transfer all VM data from the source host to the target host across sites during the first session of a replication job using these technologies (during the initial replication).

Configure replica mapping if you have ready-to-use copies of the original VMs on the host in the DR site. These can be restored virtual machines (VMs) or replicas created by other replication jobs. Veeam Backup & Replication will use these ready-to-use VMs as replicas after synchronizing their states with the most current state of the original VMs. You can also use replica mapping to reconfigure or recreate replication jobs, such as splitting one replication job into multiple jobs.

If seeding or mapping is enabled in a replication job, it must be applied to all VMs. It will be skipped if a VM does not have a seed or is not mapped to an existing VM.

Instructions	Screenshot (if applicable)

1. Log in to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication Console, and click Connect.



Veeam
Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

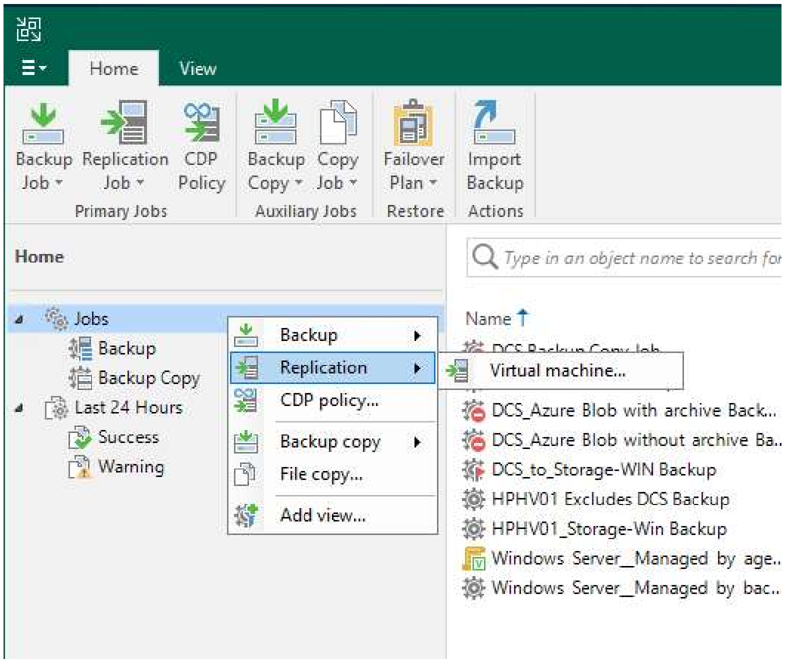
localhost | 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. On the Home page, select Jobs, right-click Jobs, select Replication and click Virtual machine.



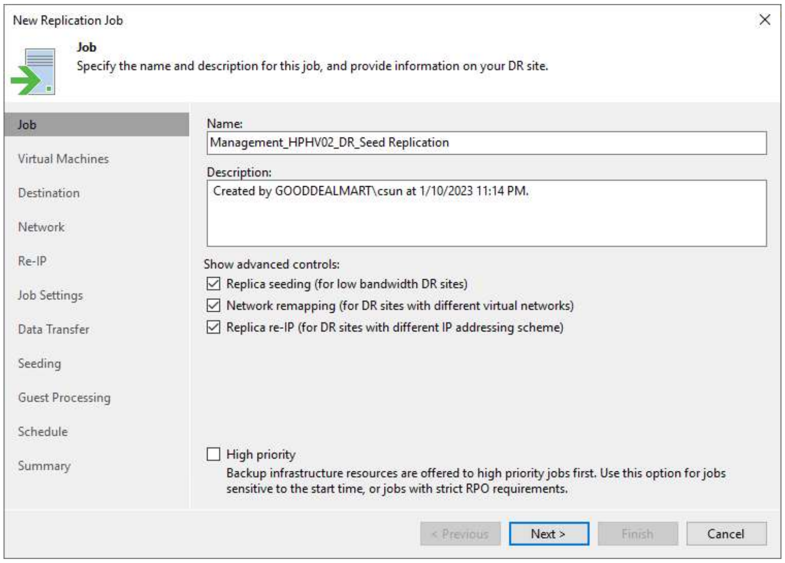
4. On the Job page, enter a name for the replication job in the Name field.

5. Describe the Description field.

6. Select Replica seeding)for low bandwidth DR sites).

Note:

As a prerequisite for replica seeding, you must create a backup of a VM you intend to replicate.



New Replication Job

Job

Specify the name and description for this job, and provide information on your DR site.

Name:
Management_HPHV02_DR_Seed Replication

Description:
Created by GOODDEALMART\csun at 1/10/2023 11:14 PM.

Show advanced controls:

☑ Replica seeding (for low bandwidth DR sites)

☑ Network remapping (for DR sites with different virtual networks)

☑ Replica re-IP (for DR sites with different IP addressing scheme)

□ High priority

Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

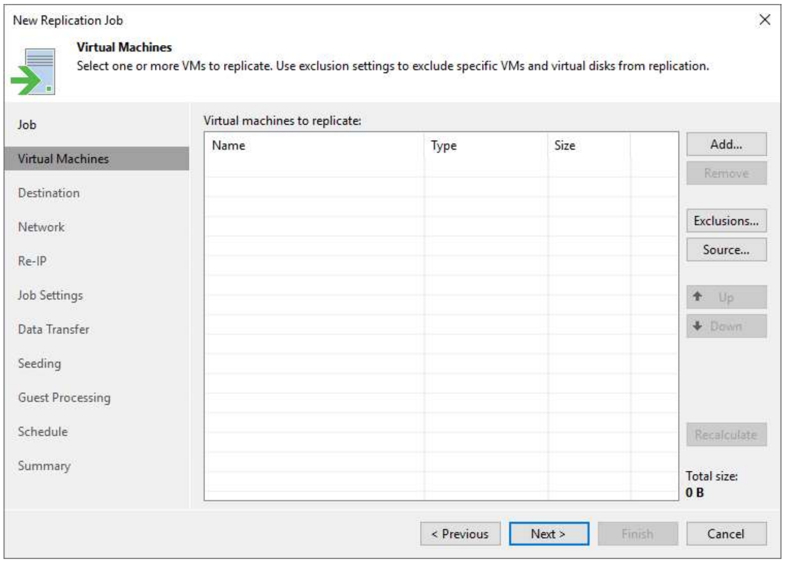
7. Select Network remapping (for DR sites with different virtual networks).

8. Replica re-IP (for DR sites with different IP addressing schemes).

9. Select the High priority check box if required.

10. Click Next.

11. On the Virtual Machines page, click Add.



New Replication Job

Virtual Machines

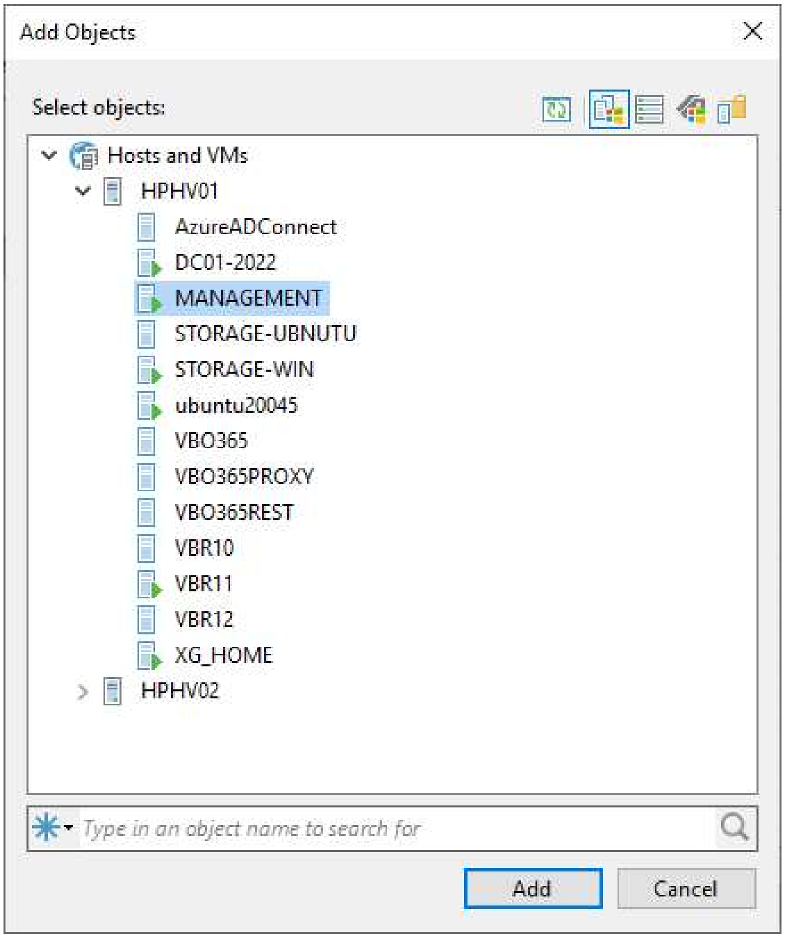
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size

Total size: **0 B**

12. Select the objects in the list on the Add Objects page and click Add.



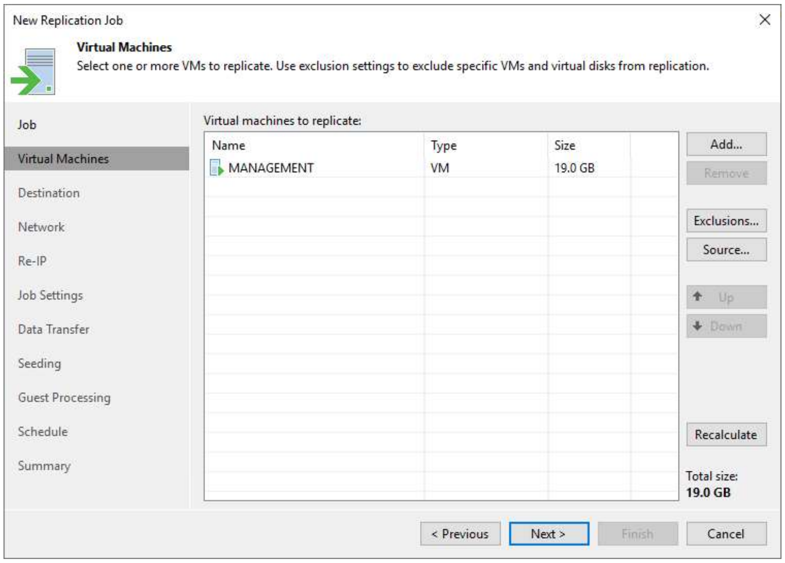
Add Objects

Select objects:

- Hosts and VMs
  - HPHV01
    - AzureADConnect
    - DC01-2022
    - MANAGEMENT
    - STORAGE-UBNUTU
    - STORAGE-WIN
    - ubuntu20045
    - VBO365
    - VBO365PROXY
    - VBO365REST
    - VBR10
    - VBR11
    - VBR12
    - XG_HOME
  - HPHV02

Type in an object name to search for

13. On the Virtual Machines page, click Source.



Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

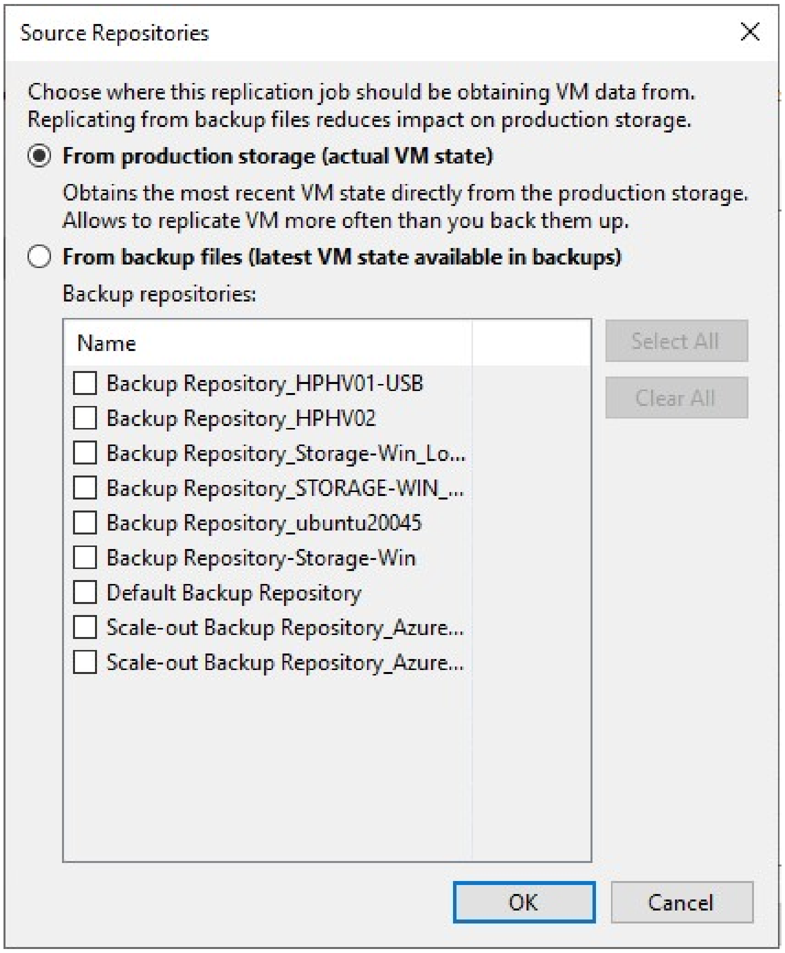
Name	Type	Size
MANAGEMENT	VM	19.0 GB

Total size:
19.0 GB

14. Select the From production storage (actual VM state) on the Source Repositories page. Veeam Replication will retrieve VM data from data stores connected to the source Microsoft Hyper-V host.

15. Or select Form backup files (latest VM state available in backups) if required. Veeam Backup & Replication will read VM data from the backup chain already existing in the selected backup repository.

16. Click OK.



Source Repositories

Choose where this replication job should be obtaining VM data from. Replicating from backup files reduces impact on production storage.

● **From production storage (actual VM state)**

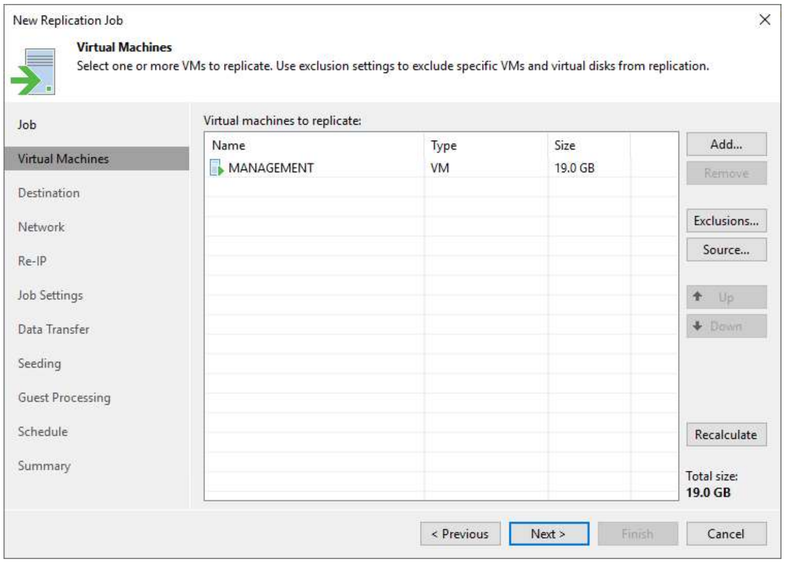
Obtains the most recent VM state directly from the production storage. Allows to replicate VM more often than you back them up.

○ **From backup files (latest VM state available in backups)**

Backup repositories:

Name
□ Backup Repository_HPHV01-USB
□ Backup Repository_HPHV02
□ Backup Repository_Storage-Win_Lo...
□ Backup Repository_STORAGE-WIN_...
□ Backup Repository_ubuntu20045
□ Backup Repository-Storage-Win
□ Default Backup Repository
□ Scale-out Backup Repository_Azure...
□ Scale-out Backup Repository_Azure...

17. On the Virtual Machines page, click Next.


New Replication Job

Virtual Machines

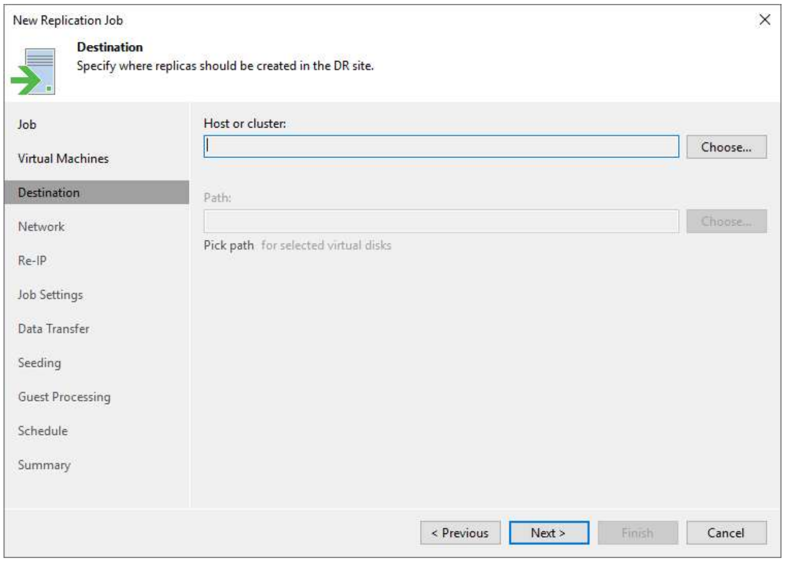
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

Name	Type	Size
MANAGEMENT	VM	19.0 GB

Total size: **19.0 GB**

18. On the Destination page, click Choose in the Host or cluster session.


New Replication Job

Destination

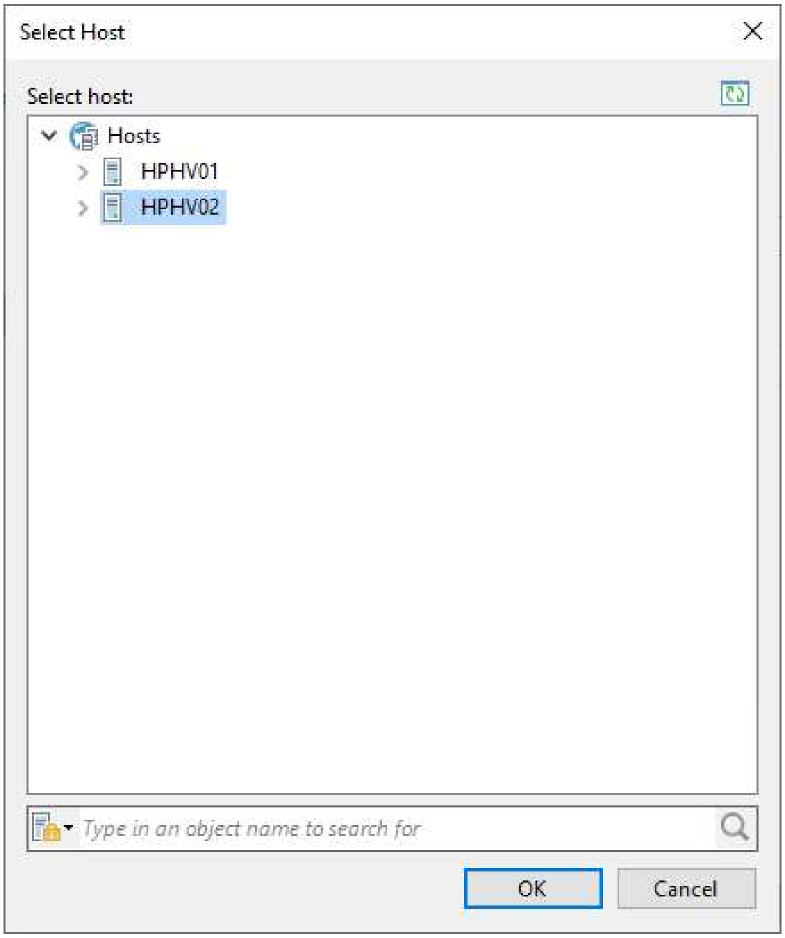
Specify where replicas should be created in the DR site.

Host or cluster:

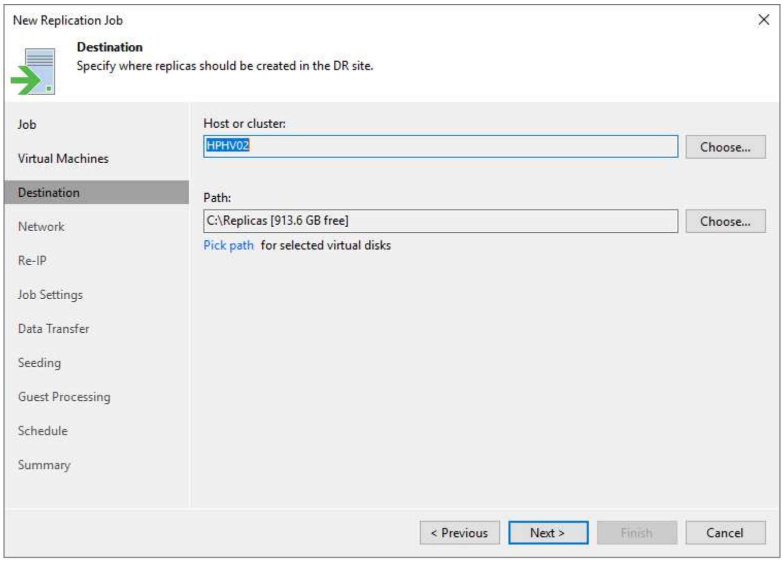
Path:

Pick path for selected virtual disks

19. Select the destination host server on the Select Host page, and click OK.



20. On the Destination page, click Choose in the Path session.

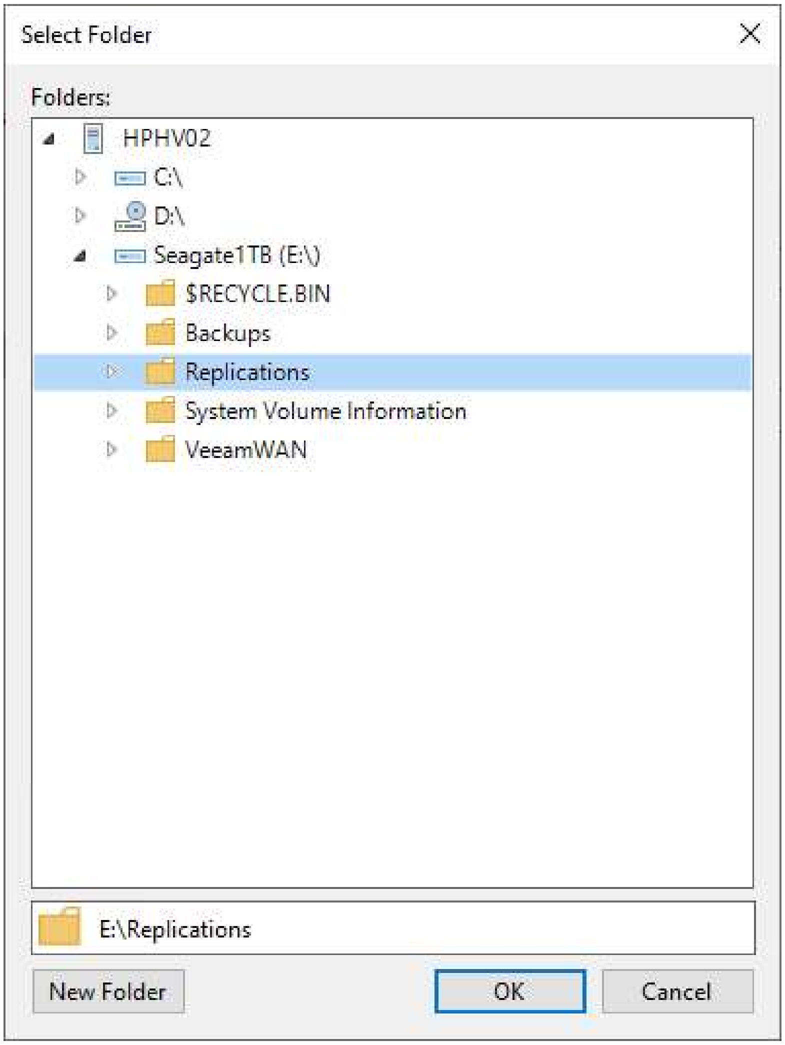


Host or cluster: HPHV02

Path: C:\Replicas [913.6 GB free]

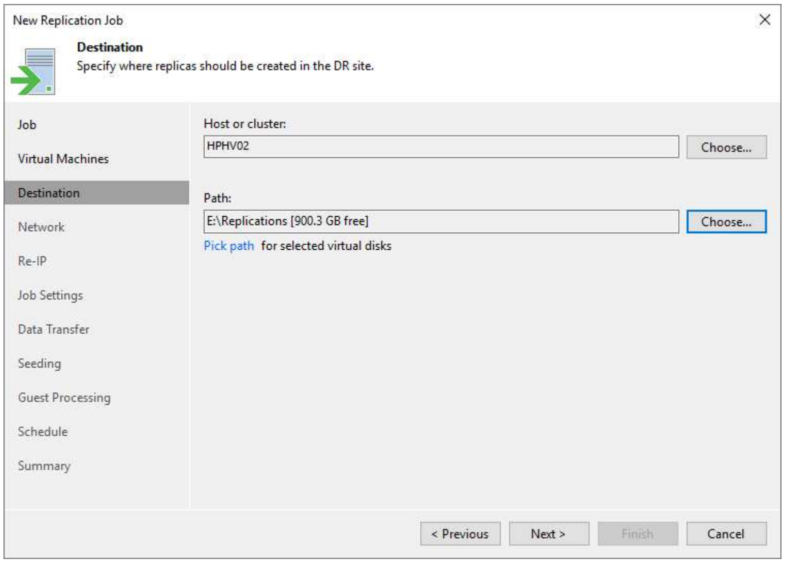
Pick path for selected virtual disks

21. On the Folders page, specify a path to the folder where VM replica files must be stored, and click OK.



E:\Replications

22. On the Destination page, click Next.



New Replication Job

Destination

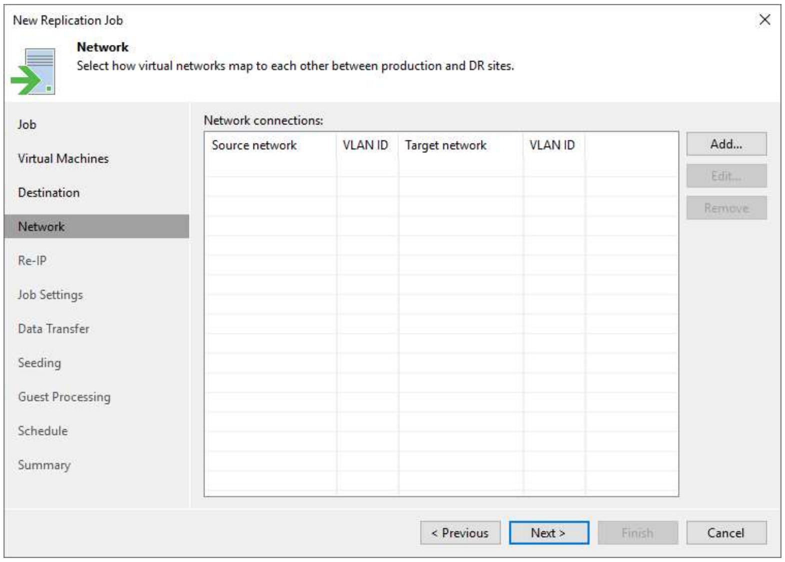
Specify where replicas should be created in the DR site.

Host or cluster: HPHV02

Path: E:\Replications [900.3 GB free]

Pick path for selected virtual disks

23. On the Network page, click Add.



New Replication Job

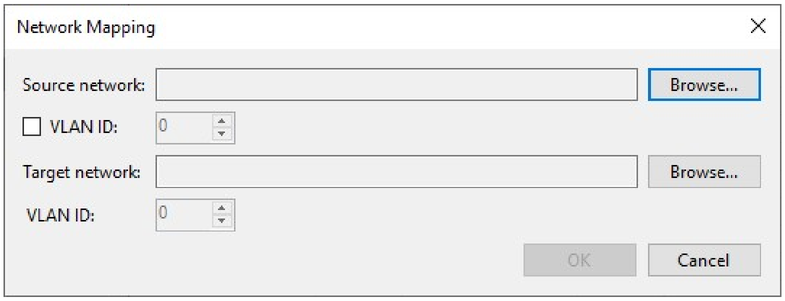
Network

Select how virtual networks map to each other between production and DR sites.

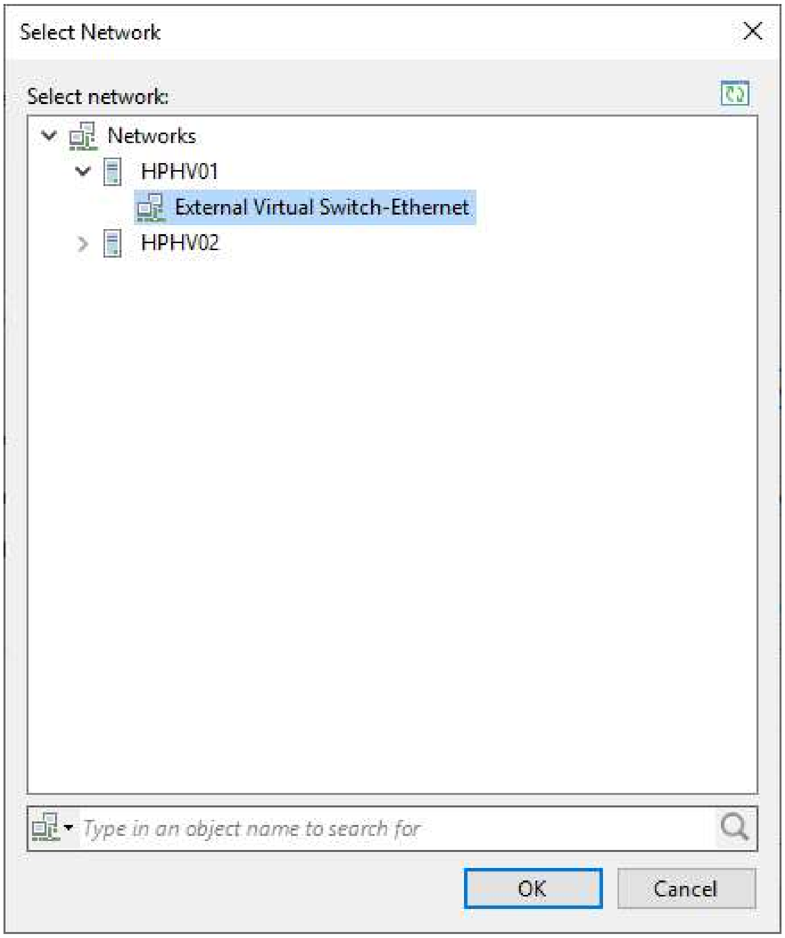
Network connections:

Source network	VLAN ID	Target network	VLAN ID

24. On the Network Mapping page, click Browse in the Source network session.



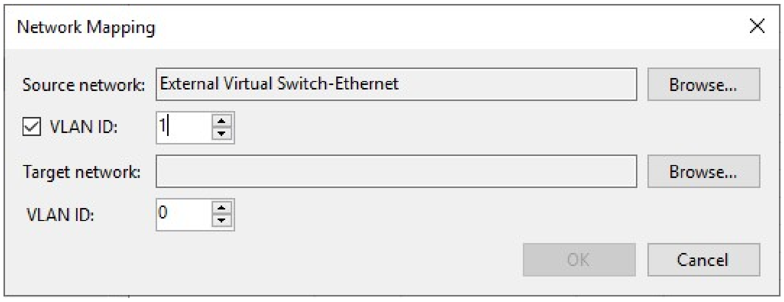
25. Select the production network on the Select Network page to which the original VMs are connected and click OK.



Select Network
Select network:
Networks
HPHV01
External Virtual Switch-Ethernet
HPHV02
Type in an object name to search for
OK
Cancel

26. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the source network.

27. On the Network Mapping page, click Browse in the Target network session.



Network Mapping

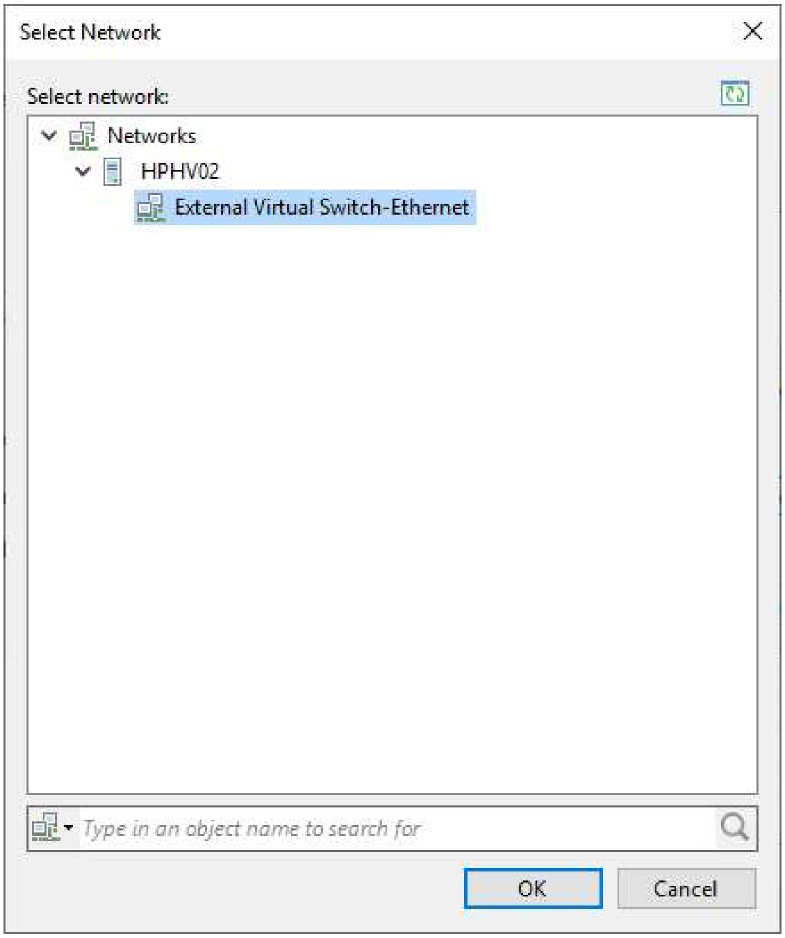
Source network: External Virtual Switch-Ethernet

☑ VLAN ID: 1

Target network:

VLAN ID: 0

28. Select the DR site network on the Select Network page to which replicas will be connected and click OK.



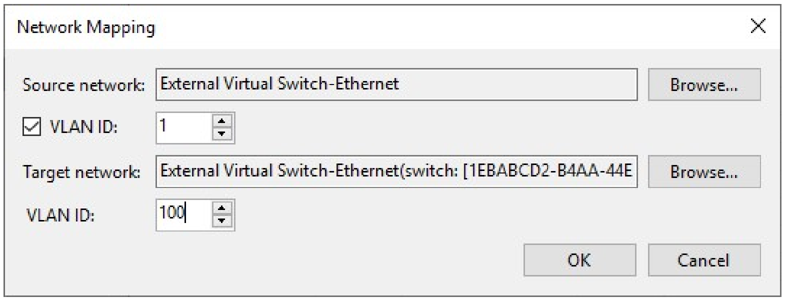
Select Network

Select network:

- Networks
  - HPHV02
    - External Virtual Switch-Ethernet

29. If you use VLAN IDs for networking, select the VLAN ID check box and enter the VLAN ID of the target network.

30. Click OK.



Network Mapping

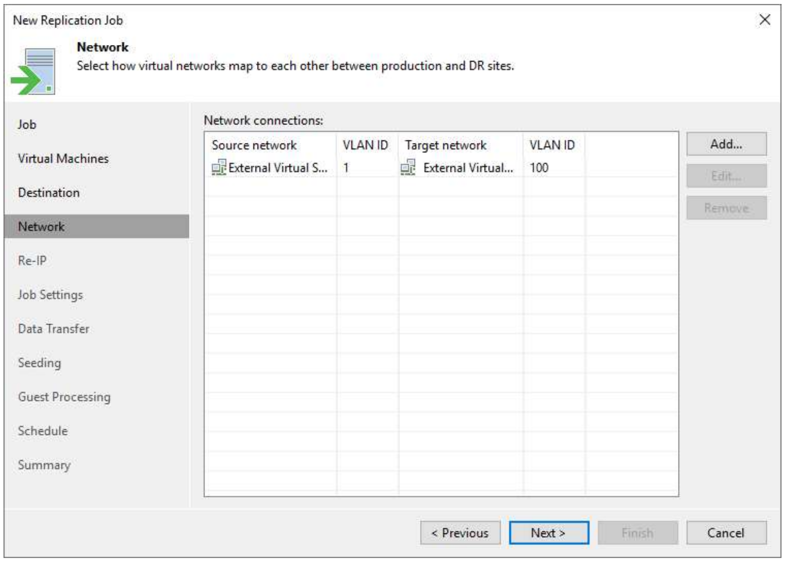
Source network: External Virtual Switch-Ethernet

☑ VLAN ID: 1

Target network: External Virtual Switch-Ethernet(switch: [1EBABCD2-B4AA-44E

VLAN ID: 100

31. On the Network page, click Next.



New Replication Job

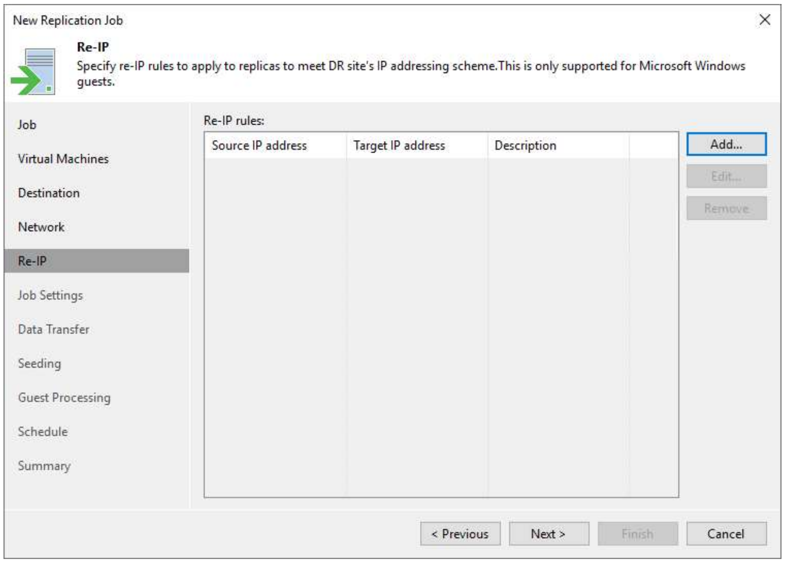
Network

Select how virtual networks map to each other between production and DR sites.

Network connections:

Source network	VLAN ID	Target network	VLAN ID
External Virtual S...	1	External Virtual...	100

32. On the Re-IP page, click Add.



New Replication Job

Re-IP

Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

Re-IP rules:

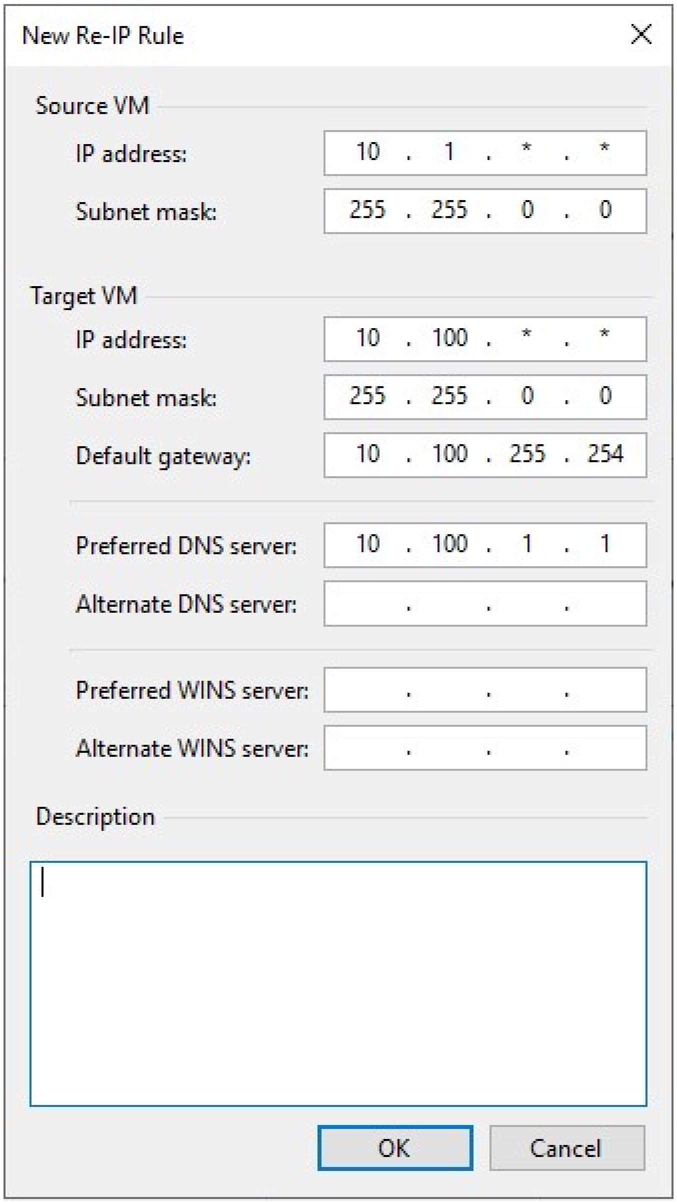
Source IP address	Target IP address	Description

33. On the New Re-IP Rule page, Enter the IP numbering scheme used at the production site in the Source VM section.

34. Enter the IP numbering scheme used at the DR site in the Target VM section.

35. Describe the rule in the Description field.

36. Click OK.



New Re-IP Rule

Source VM

IP address: 10 . 1 . * . *

Subnet mask: 255 . 255 . 0 . 0

Target VM

IP address: 10 . 100 . * . *

Subnet mask: 255 . 255 . 0 . 0

Default gateway: 10 . 100 . 255 . 254

Preferred DNS server: 10 . 100 . 1 . 1

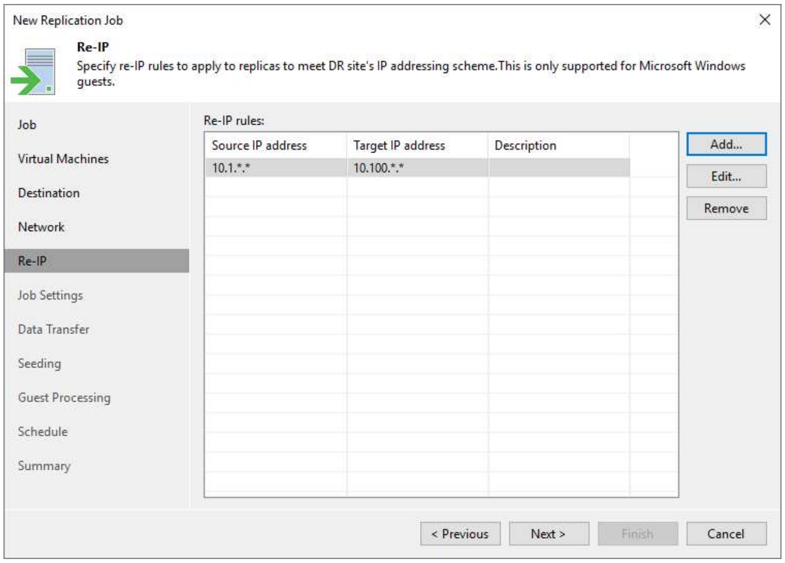
Alternate DNS server: . . .

Preferred WINS server: . . .

Alternate WINS server: . . .

Description

37. On the Re-IP page, click Next.



New Replication Job

Re-IP

Specify re-IP rules to apply to replicas to meet DR site's IP addressing scheme.This is only supported for Microsoft Windows guests.

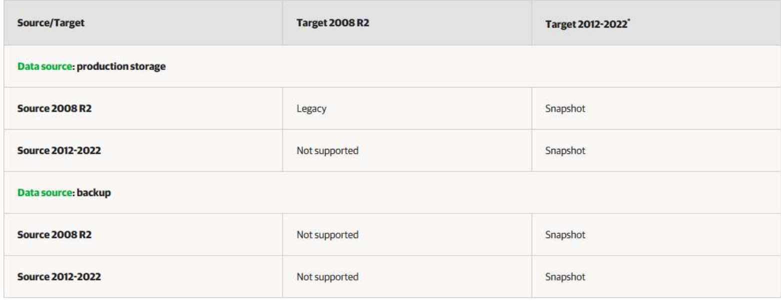
Re-IP rules:

Source IP address	Target IP address	Description
10.1.*.*	10.100.*.*	

38. Select the Repository for replica metadata from the drop-down list on the Job Settings page.

Note:

- This setting must be specified only for snapshot replicas. Legacy replicas do not use a backup repository for storing metadata.
- You cannot store VM replica metadata on deduplicating storage appliances.



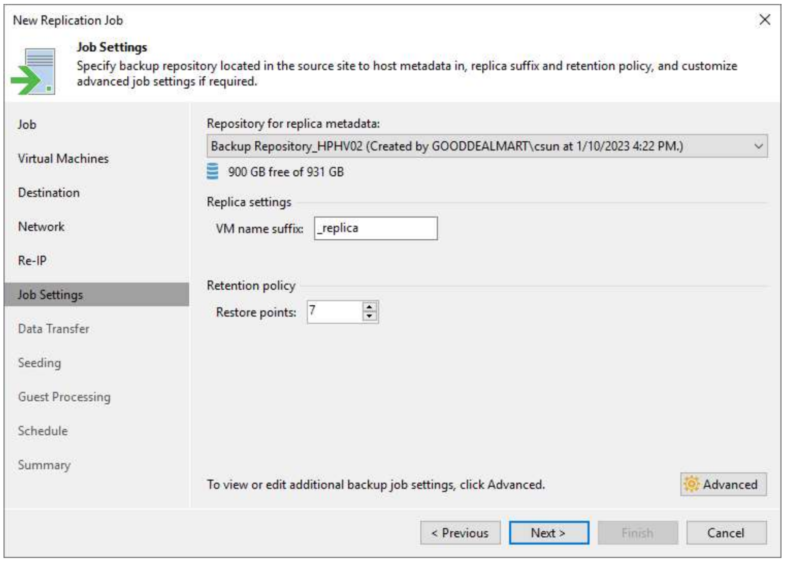
Source/Target	**Target 2008 R2**	**Target 2012-2022***
Data source: production storage		
Source 2008 R2	Legacy	Snapshot
Source 2012-2022	Not supported	Snapshot
Data source: backup		
Source 2008 R2	Not supported	Snapshot
Source 2012-2022	Not supported	Snapshot

- You cannot store replica metadata in a scale-out backup repository.

39. Enter a suffix that will be appended to the original VM names in the Replica name suffix field.

40. Enter the number of restore points in the field.

41. Click Advanced.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata:
Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)
900 GB free of 931 GB

Replica settings
VM name suffix: _replica

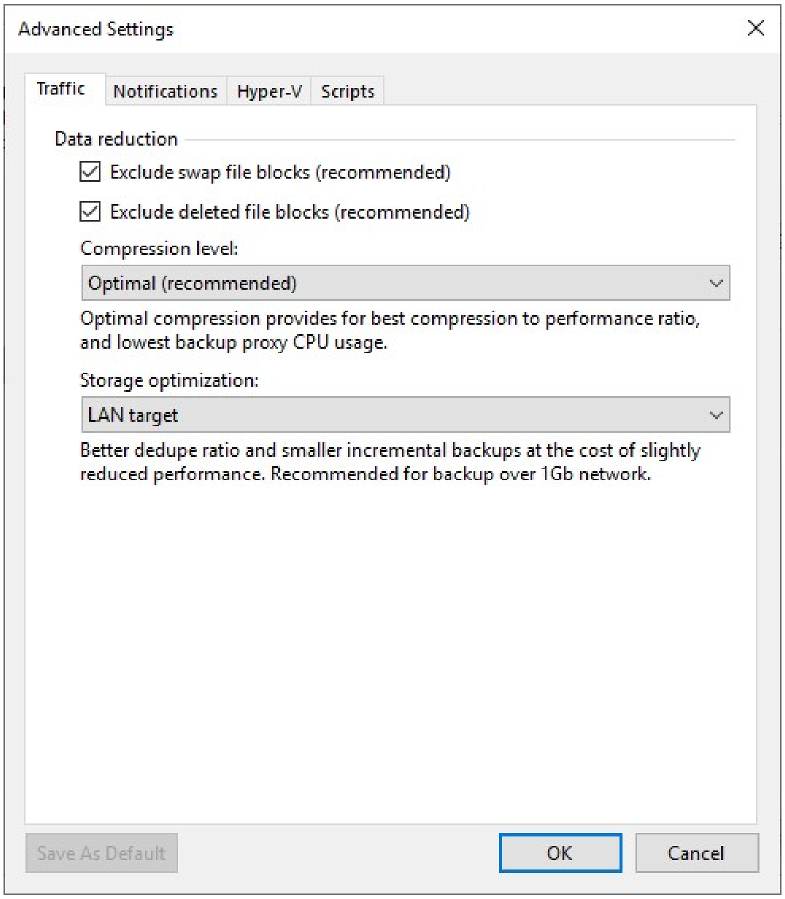
Retention policy
Restore points: 7

To view or edit additional backup job settings, click Advanced.

42. On Advanced Settings, click Traffic.

43. Select the Exclude swap file blocks checkbox (recommended). Veeam Backup & Replication excludes data blocks of the hiberfil.sys and pagefile.sys system files from replicas.

44. Select the Exclude deleted file blocks (recommended) check box, Veeam Backup & Replication does not copy deleted file blocks ("dirty" blocks on the VM guest OS) to the target location.



Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

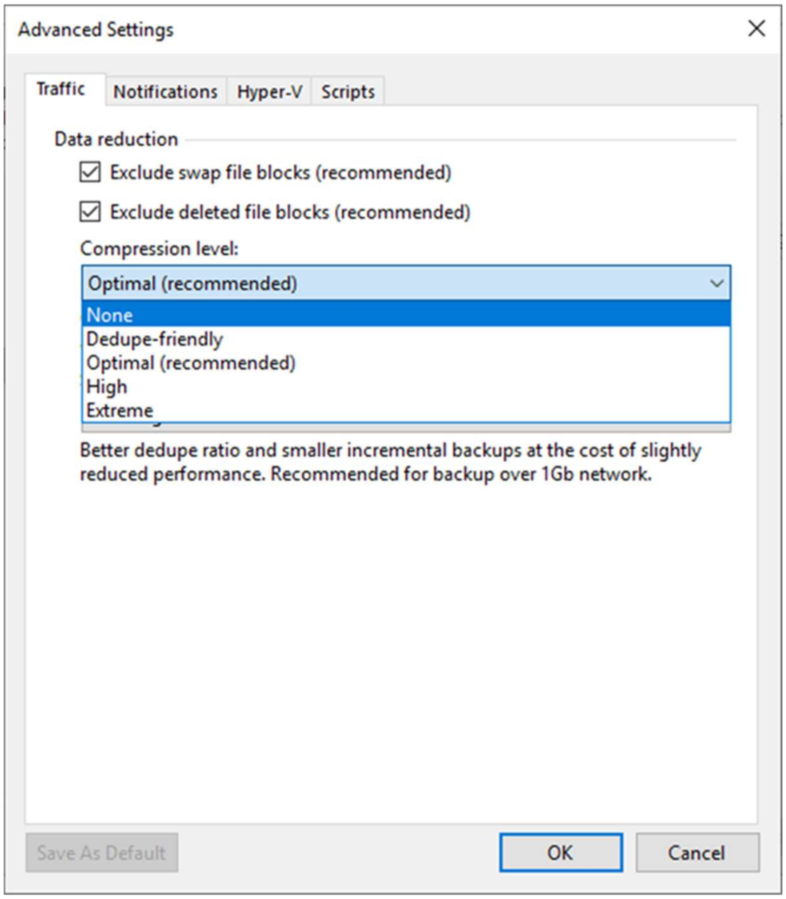
Compression level: Optimal (recommended)

Optimal compression provides for best compression to performance ratio, and lowest backup proxy CPU usage.

Storage optimization: LAN target

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Recommended for backup over 1Gb network.

45. Select the compression level for replicas from the drop-down list.



Data reduction

☑ Exclude swap file blocks (recommended)

☑ Exclude deleted file blocks (recommended)

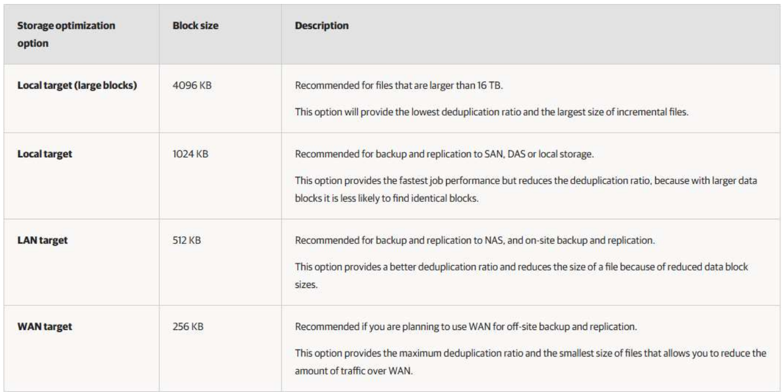
Compression level:

Optimal (recommended)

- None
- Dedupe-friendly
- Optimal (recommended)
- High
- Extreme

Better dedupe ratio and smaller incremental backups at the cost of slightly reduced performance. Recommended for backup over 1Gb network.

46. Select Storage optimization from the drop-down list.

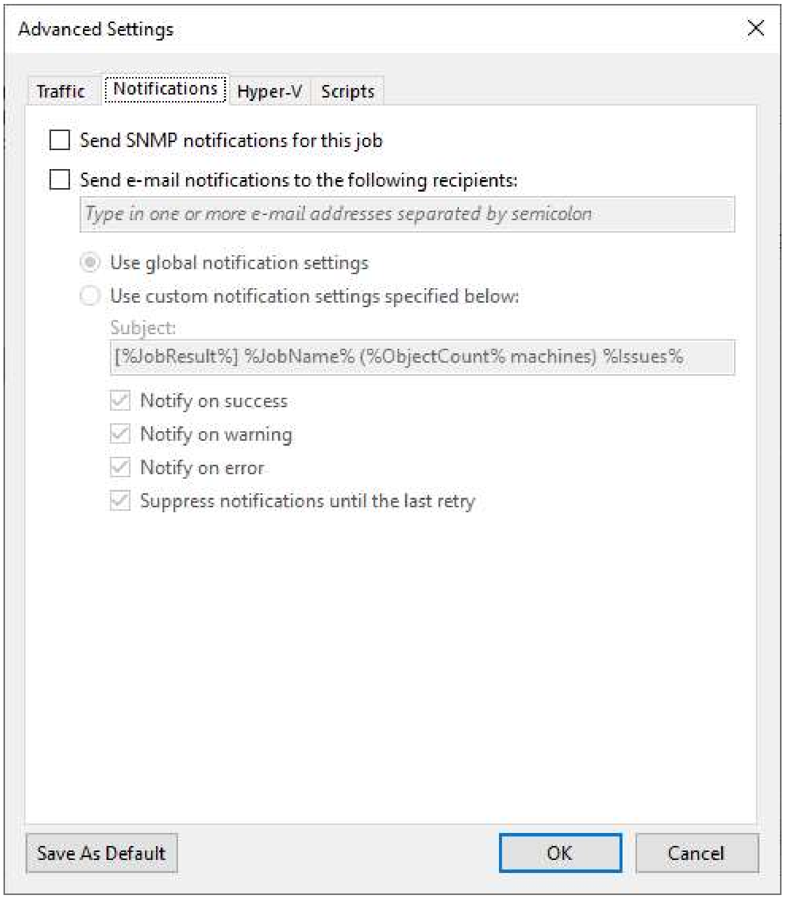


Storage optimization option	Block size	Description
Local target (large blocks)	4096 KB	Recommended for files that are larger than 16 TB. This option will provide the lowest deduplication ratio and the largest size of incremental files.
Local target	1024 KB	Recommended for backup and replication to SAN, DAS or local storage. This option provides the fastest job performance but reduces the deduplication ratio, because with larger data blocks it is less likely to find identical blocks.
LAN target	512 KB	Recommended for backup and replication to NAS, and on-site backup and replication. This option provides a better deduplication ratio and reduces the size of a file because of reduced data block sizes.
WAN target	256 KB	Recommended if you are planning to use WAN for off-site backup and replication. This option provides the maximum deduplication ratio and the smallest size of files that allows you to reduce the amount of traffic over WAN.

47. On the Advanced Settings, select Notifications.

48. Select Send SNMP notifications for this job checkbox. In addition, Veeam will send traps to the NMS when events occur, such as when a backup job fails or a replication job encounters an error.

49. Select Send email notifications to the following recipients check box, If you want to receive email notifications about the job completion status.



□ Send SNMP notifications for this job

□ Send e-mail notifications to the following recipients:

Type in one or more e-mail addresses separated by semicolon

● Use global notification settings

○ Use custom notification settings specified below:

Subject:

[%JobResult%] %JobName% (%ObjectCount% machines) %Issues%

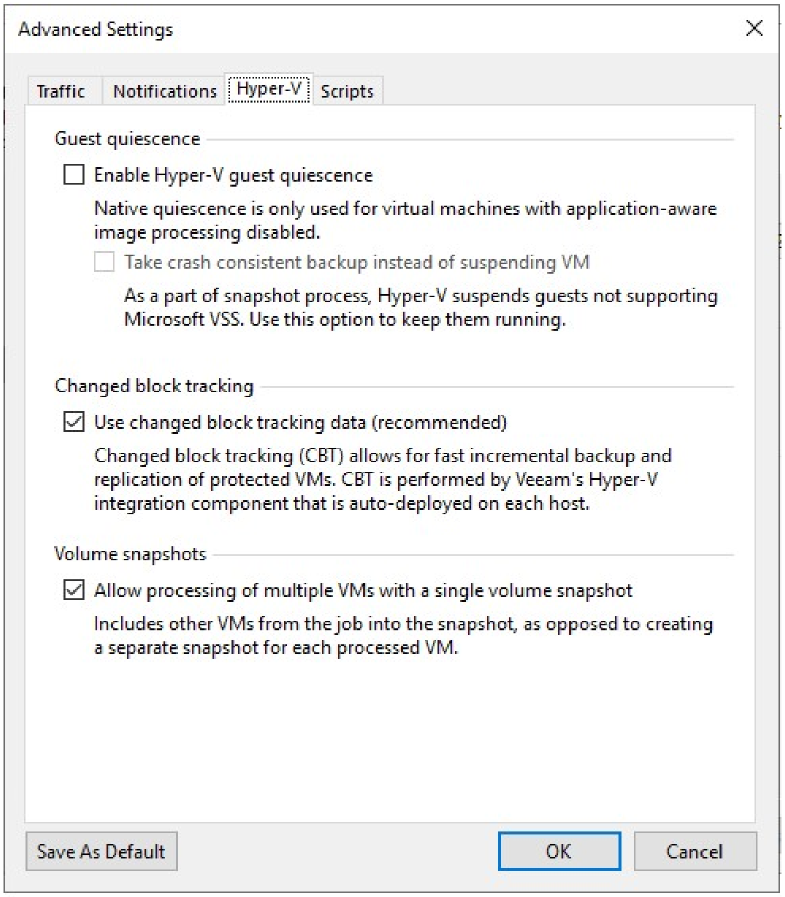
☑ Notify on success

☑ Notify on warning

☑ Notify on error

☑ Suppress notifications until the last retry

50. On the Advanced Settings, select Hyper-V.
51. Select the Enable Hyper-V guest quiescence check box if application-aware processing cannot be used for some reason.
52. Select the Take crash consistent backup instead of suspending VM check box if you do not want to suspend VMs in the job.
53. Select the Use changed block tracking data (recommended) check box.
54. Select the Allow processing of multiple VMs with a single volume snapshot check box.



Advanced Settings

Guest quiescence

□ Enable Hyper-V guest quiescence

Native quiescence is only used for virtual machines with application-aware image processing disabled.

□ Take crash consistent backup instead of suspending VM

As a part of snapshot process, Hyper-V suspends guests not supporting Microsoft VSS. Use this option to keep them running.

Changed block tracking

☑ Use changed block tracking data (recommended)

Changed block tracking (CBT) allows for fast incremental backup and replication of protected VMs. CBT is performed by Veeam's Hyper-V integration component that is auto-deployed on each host.

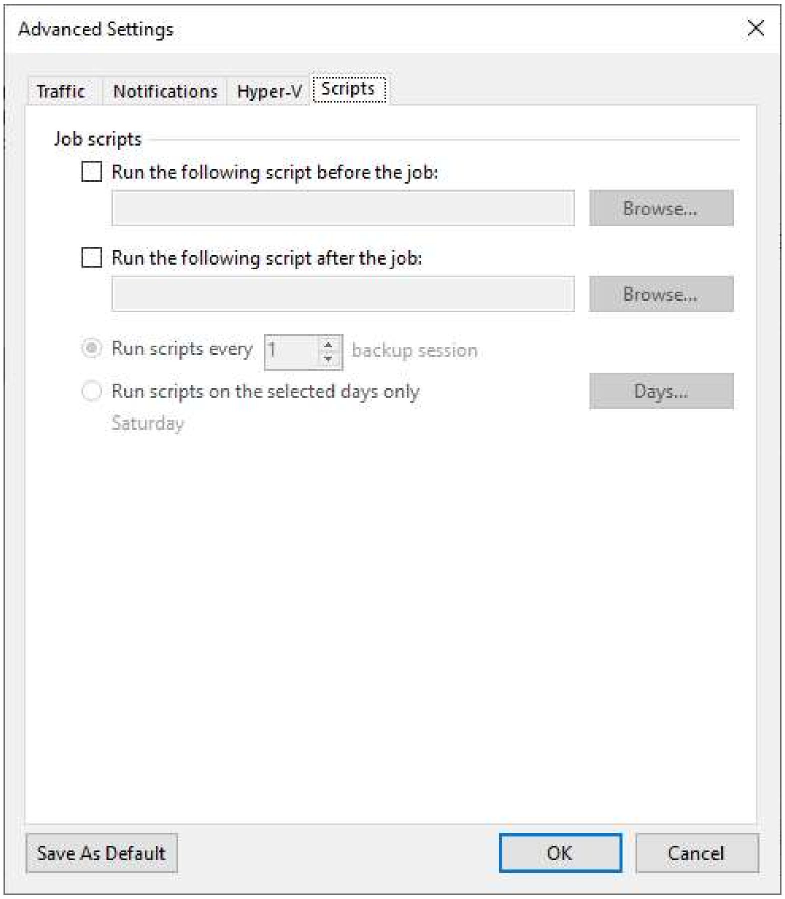
Volume snapshots

☑ Allow processing of multiple VMs with a single volume snapshot

Includes other VMs from the job into the snapshot, as opposed to creating a separate snapshot for each processed VM.

55. On the Advanced Settings page, click Scripts.

56. Keep the default settings and click OK.



Advanced Settings

Job scripts

□ Run the following script before the job:

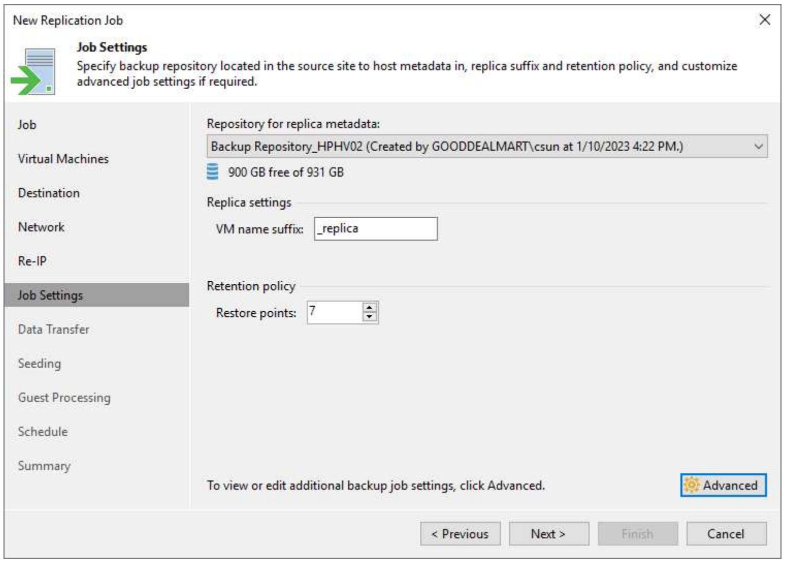
□ Run the following script after the job:

● Run scripts every 1 backup session

○ Run scripts on the selected days only

Saturday

57. On the Job Settings page, click Next.



New Replication Job

Job Settings

Specify backup repository located in the source site to host metadata in, replica suffix and retention policy, and customize advanced job settings if required.

Repository for replica metadata: Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

900 GB free of 931 GB

Replica settings

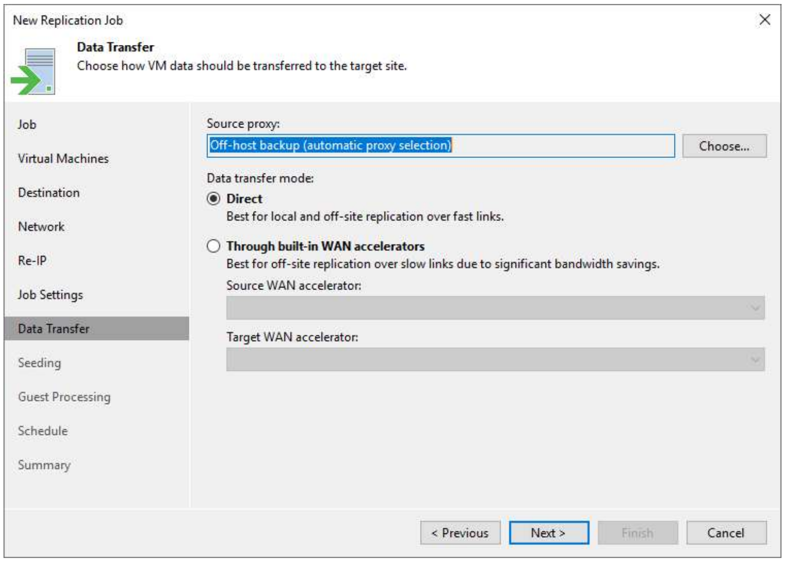
VM name suffix: _replica

Retention policy

Restore points: 7

To view or edit additional backup job settings, click Advanced.

58. Click Choose to specify Source Proxy on the Data Transfer page.



New Replication Job

Data Transfer

Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

Data transfer mode:

● **Direct**
Best for local and off-site replication over fast links.

○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.

Source WAN accelerator:

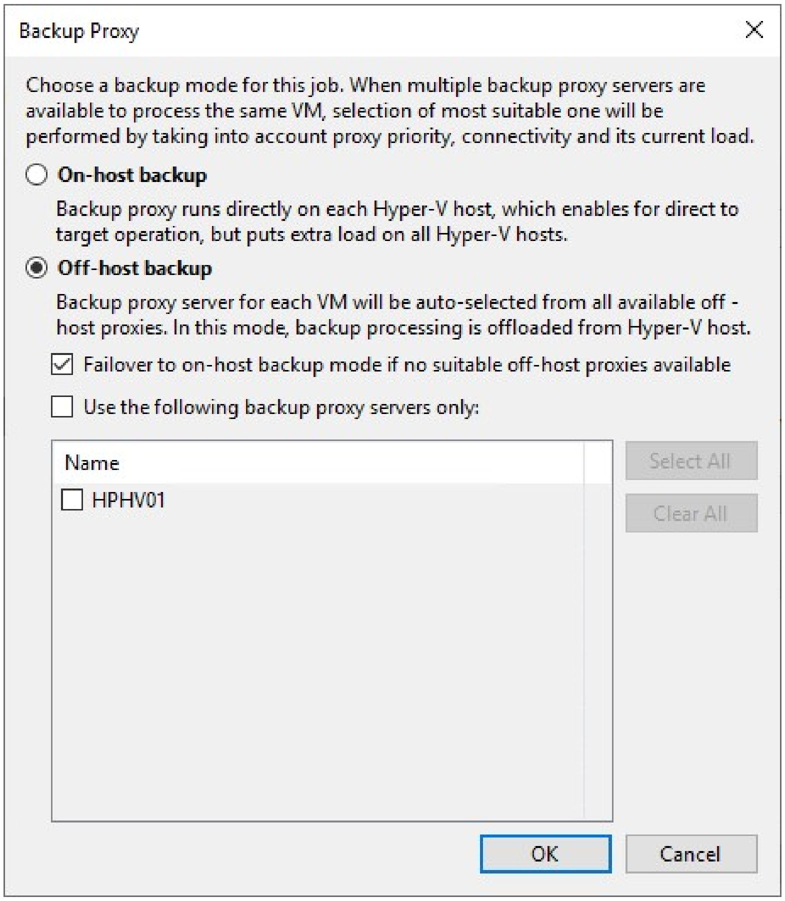
Target WAN accelerator:

59. On the Backup Proxy page, Veeam Backup & Replication automatically selects off-host backup proxies and select the Failover to on-host backup mode if no suitable off-host proxies are available checkbox by default.

60. Select Use the following backup proxy servers only check box and choose one or multiple off-host backup proxies from the list if necessary.

61. Select On-host backup If you want to use the Microsoft Hyper-V host as the source host and backup proxy.

62. Click OK.



Backup Proxy

Choose a backup mode for this job. When multiple backup proxy servers are available to process the same VM, selection of most suitable one will be performed by taking into account proxy priority, connectivity and its current load.

○ **On-host backup**

Backup proxy runs directly on each Hyper-V host, which enables for direct to target operation, but puts extra load on all Hyper-V hosts.

● **Off-host backup**

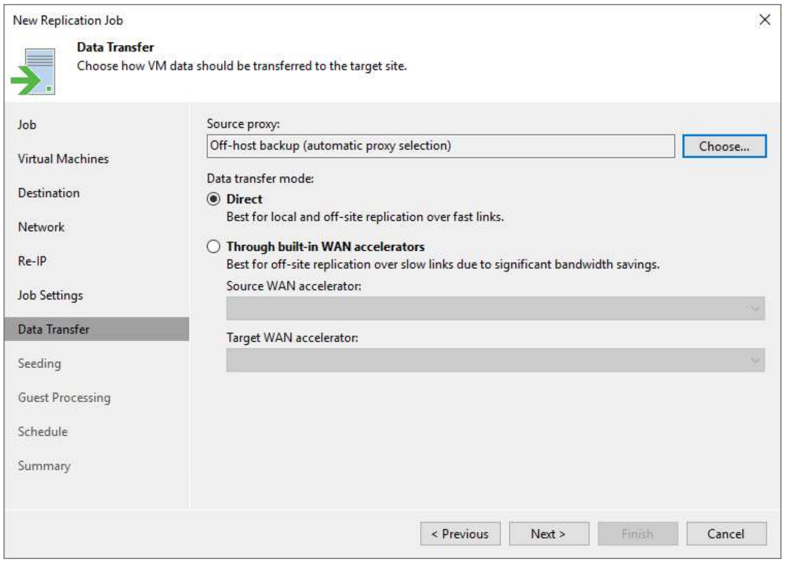
Backup proxy server for each VM will be auto-selected from all available off - host proxies. In this mode, backup processing is offloaded from Hyper-V host.

☑ Failover to on-host backup mode if no suitable off-host proxies available

□ Use the following backup proxy servers only:

Name
□ HPHV01

63. On the Data Transfer mode session, select Direct if you plan to copy backup files over high-speed connections.



New Replication Job

Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

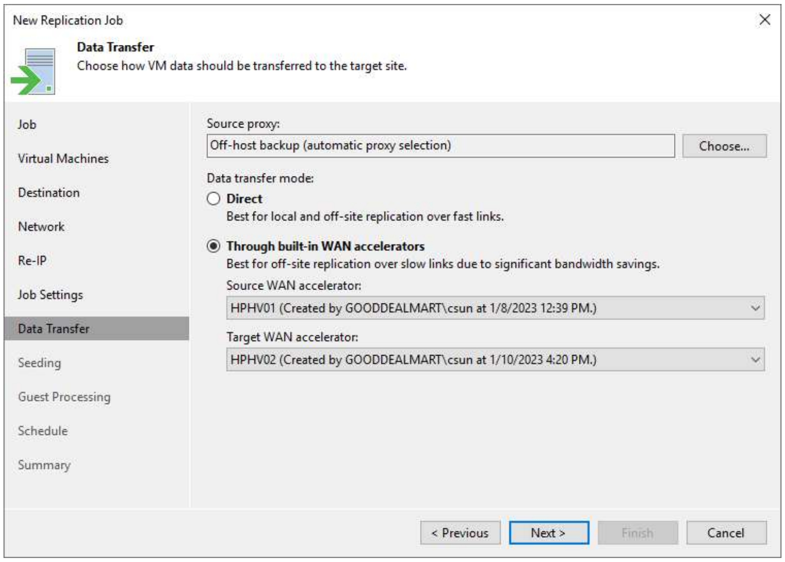
Data transfer mode:
● **Direct**
Best for local and off-site replication over fast links.
○ **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator:
Target WAN accelerator:

64. On the Data Transfer mode session, select Direct if you plan to copy backup files over high-speed connections.

65. Select the Through built-in WAN accelerators if you transfer data over WAN or slow connections.

66. Select a WAN accelerator configured in the source site from the Source WAN accelerator drop-down list.

67. Select a WAN accelerator configured in the target site from the Target WAN



New Replication Job

Data Transfer
Choose how VM data should be transferred to the target site.

Source proxy: Off-host backup (automatic proxy selection)

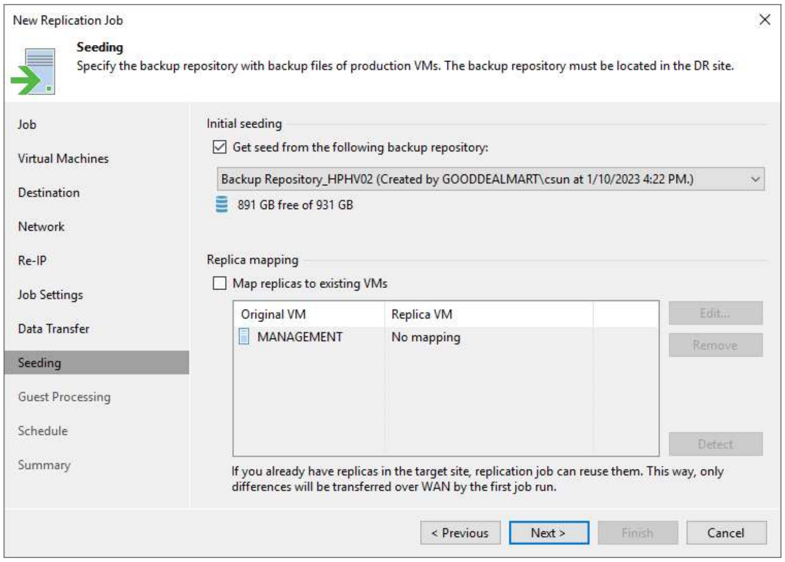
Data transfer mode:
○ **Direct**
Best for local and off-site replication over fast links.
● **Through built-in WAN accelerators**
Best for off-site replication over slow links due to significant bandwidth savings.
Source WAN accelerator: HPHV01 (Created by GOODDEALMART\csun at 1/8/2023 12:39 PM.)
Target WAN accelerator: HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:20 PM.)

accelerator drop-down list.

68. Click Next.

69. Select Get seed from the following backup repository checkbox in the Initial seeding.

70. Choose the repository where your replica seeds are stored from the list of available backup repositories.



New Replication Job

Seeding

Specify the backup repository with backup files of production VMs. The backup repository must be located in the DR site.

Initial seeding

☑ Get seed from the following backup repository:

Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

891 GB free of 931 GB

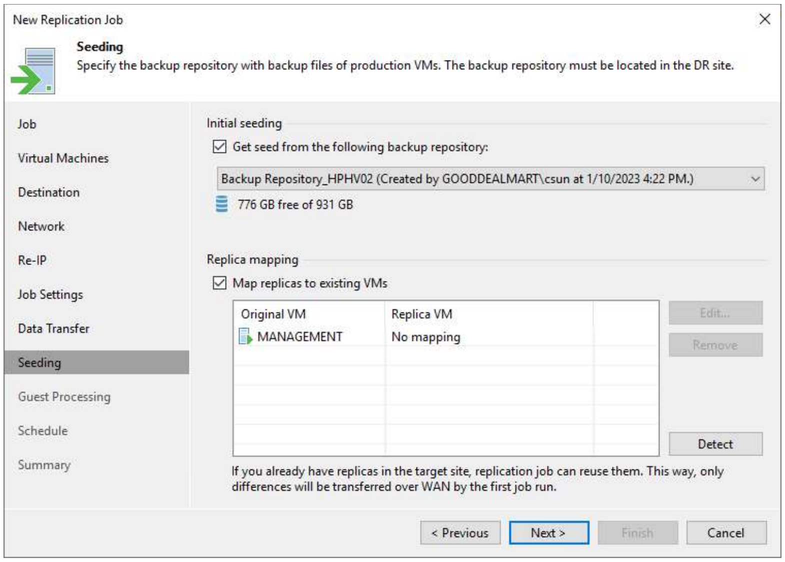
Replica mapping

☐ Map replicas to existing VMs

Original VM	Replica VM
MANAGEMENT	No mapping

If you already have replicas in the target site, replication job can reuse them. This way, only differences will be transferred over WAN by the first job run.

71. Configure replica mapping if you have ready-to-use copies of the original VMs on the host in the DR site. These can be restored virtual machines (VMs) or replicas created by other replication jobs. Veeam Backup & Replication will use these ready-to-use VMs as replicas after synchronizing their states with the most current state of the original VMs. You can also use replica



New Replication Job

Seeding

Specify the backup repository with backup files of production VMs. The backup repository must be located in the DR site.

Initial seeding

☑ Get seed from the following backup repository:

Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

776 GB free of 931 GB

Replica mapping

☑ Map replicas to existing VMs

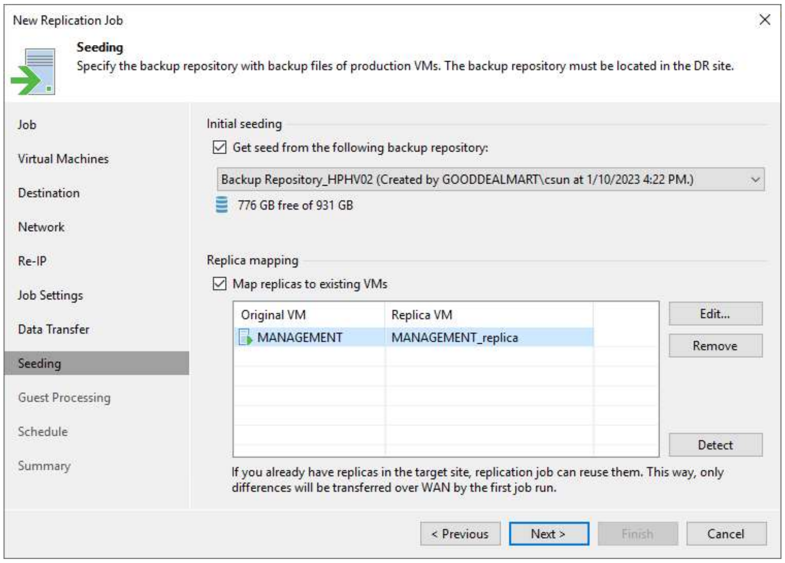
Original VM	Replica VM
MANAGEMENT	No mapping

If you already have replicas in the target site, replication job can reuse them. This way, only differences will be transferred over WAN by the first job run.

mapping to reconfigure or recreate replication jobs, such as splitting one replication job into multiple jobs.

72. Select Map replicas to exist Vms, and click Detect.

73. On the Seeding page, click Next.



New Replication Job

Seeding

Specify the backup repository with backup files of production VMs. The backup repository must be located in the DR site.

Initial seeding

☑ Get seed from the following backup repository:

Backup Repository_HPHV02 (Created by GOODDEALMART\csun at 1/10/2023 4:22 PM.)

776 GB free of 931 GB

Replica mapping

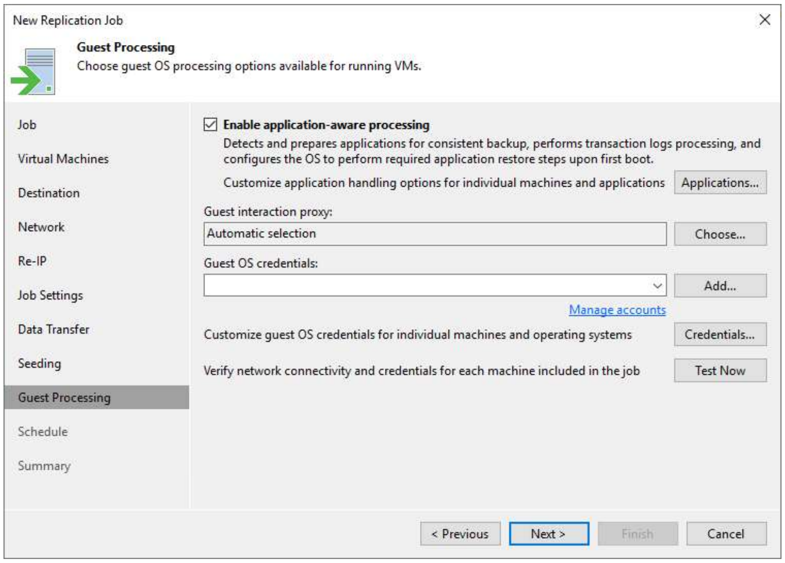
☑ Map replicas to existing VMs

Original VM	Replica VM
MANAGEMENT	MANAGEMENT_replica

If you already have replicas in the target site, replication job can reuse them. This way, only differences will be transferred over WAN by the first job run.

74. When you add VMs running VSS-aware applications to the replica job, you can enable application-aware processing to create a transactionally consistent replica. The transactionally consistent replication ensures that applications on VMs can be recovered without data loss.

75. Select the Enable application-aware processing checkbox on the Guest Processing page, and click Applications.



New Replication Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.
Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

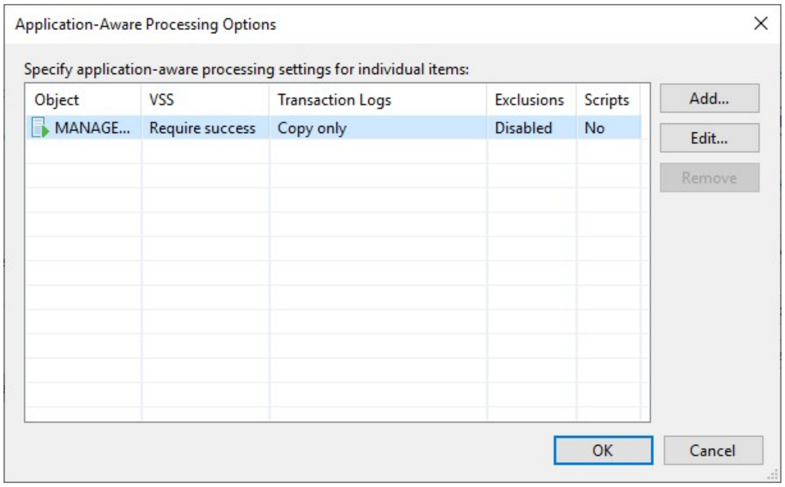
Guest OS credentials:

Manage accounts

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

76. On the Application-Aware Processing Options page, select the Object, and click Edit.



Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
MANAGE...	Require success	Copy only	Disabled	No

77. On the Processing Settings, click General.

78. Suppose you need Veeam Backup & Replication to stop the backup process if any error occurs during application-aware processing. Then, select Require successful processing (recommend).

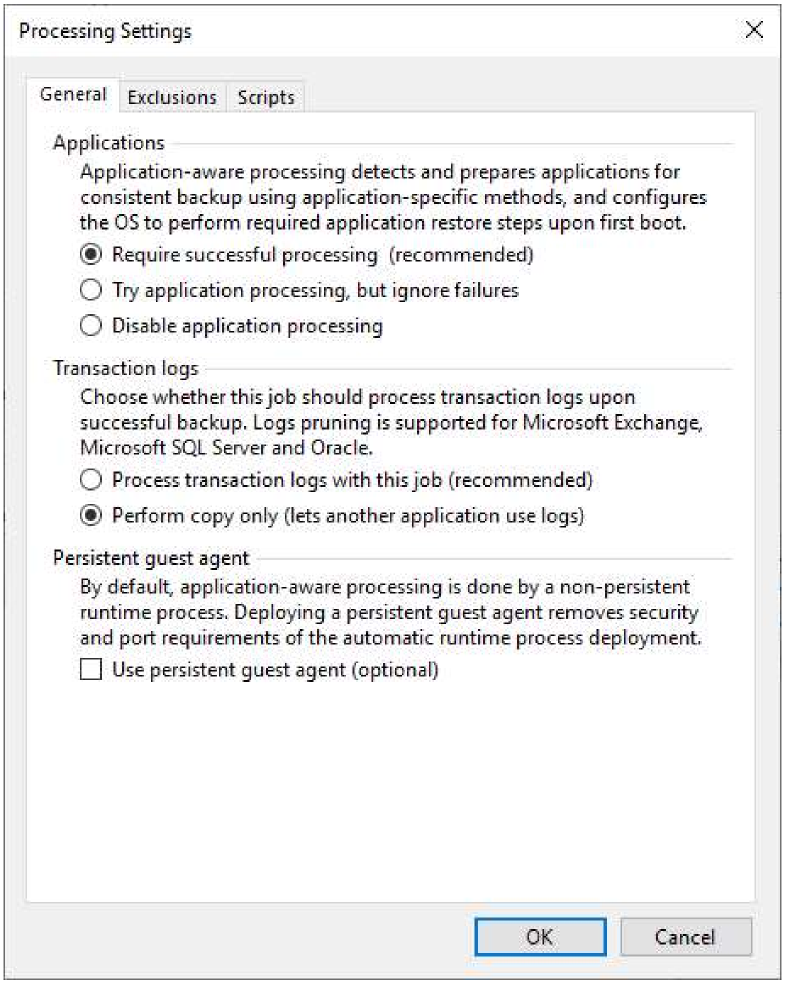
79. Suppose you must continue the backup process even if there is an error during application-aware processing. Select Try application processing but ignore failures.

80. Select Disable application processing to disable application-aware processing for the VM.

81. Select Process transaction logs with this job (recommended) to process transaction logs.

82. Select Perform copy only to let another application use

83. Select the Use persistent guest agent (optional) checkbox to enable persistent agent.



Applications

Application-aware processing detects and prepares applications for consistent backup using application-specific methods, and configures the OS to perform required application restore steps upon first boot.

● Require successful processing (recommended)

○ Try application processing, but ignore failures

○ Disable application processing

Transaction logs

Choose whether this job should process transaction logs upon successful backup. Logs pruning is supported for Microsoft Exchange, Microsoft SQL Server and Oracle.

○ Process transaction logs with this job (recommended)

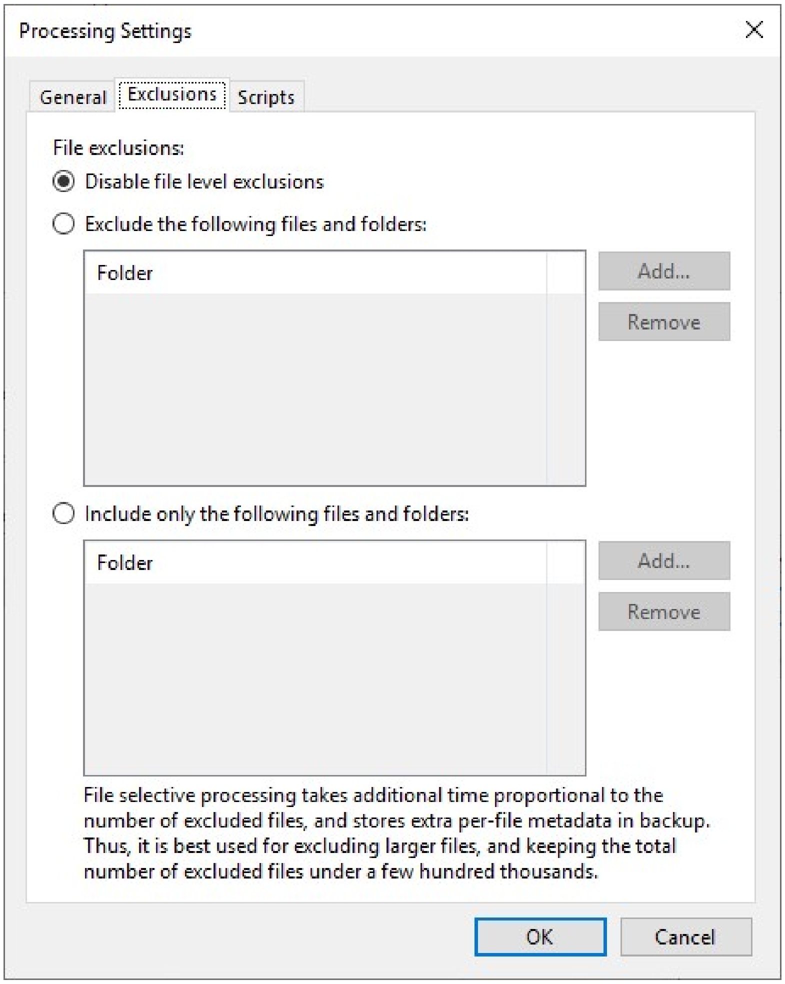
● Perform copy only (lets another application use logs)

Persistent guest agent

By default, application-aware processing is done by a non-persistent runtime process. Deploying a persistent guest agent removes security and port requirements of the automatic runtime process deployment.

□ Use persistent guest agent (optional)

84. On the Processing Settings page, click Exclusions and keep the default settings.



Processing Settings

File exclusions:

● Disable file level exclusions

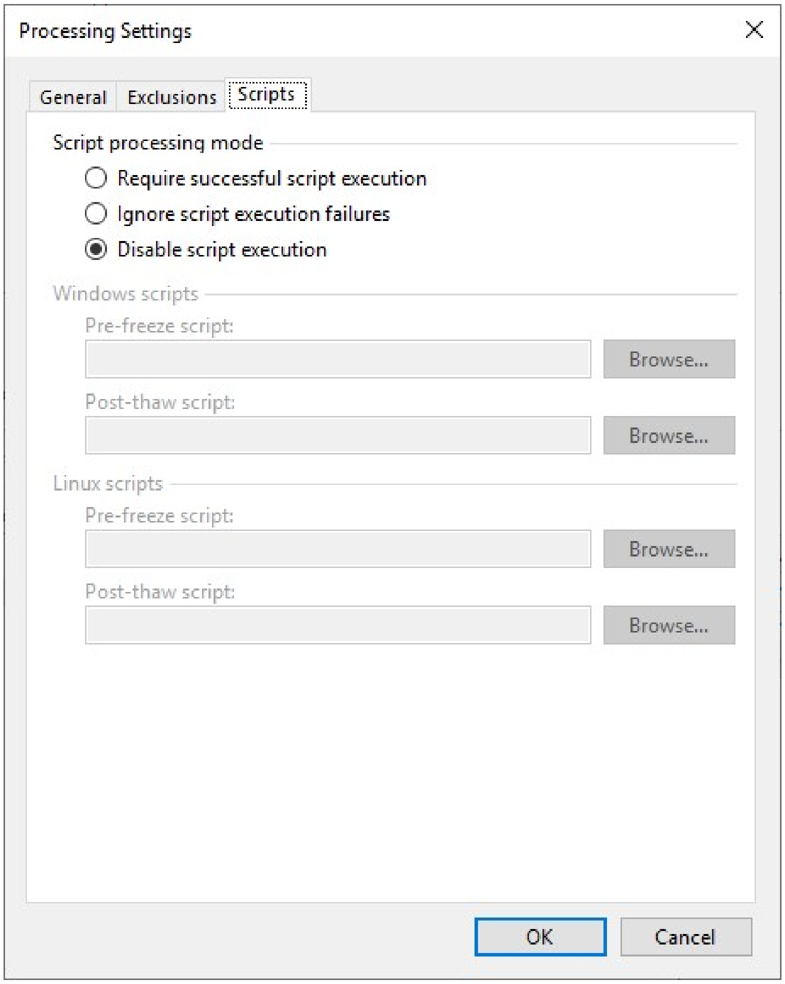
○ Exclude the following files and folders:

○ Include only the following files and folders:

File selective processing takes additional time proportional to the number of excluded files, and stores extra per-file metadata in backup. Thus, it is best used for excluding larger files, and keeping the total number of excluded files under a few hundred thousands.

85. On the Processing Settings page, click Scripts.

86. Select Disable script execution and click OK.



Processing Settings

Script processing mode

○ Require successful script execution
○ Ignore script execution failures
● Disable script execution

Windows scripts

Pre-freeze script:

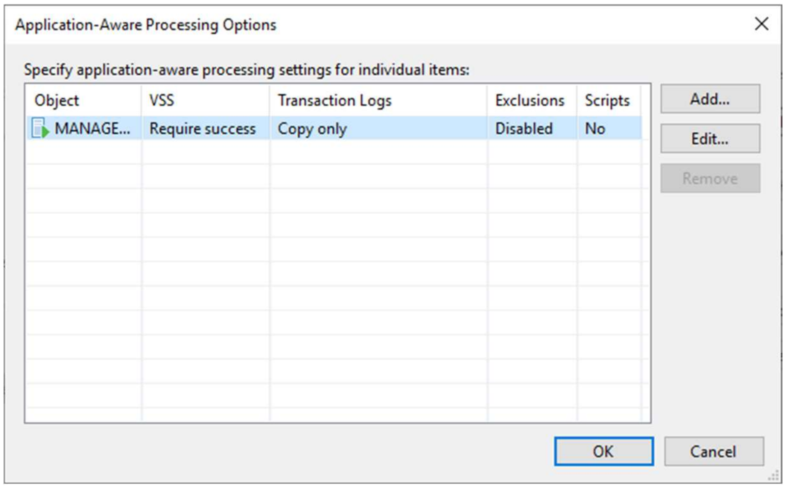
Post-thaw script:

Linux scripts

Pre-freeze script:

Post-thaw script:

87. On the Application-Aware Processing Options page, click OK.

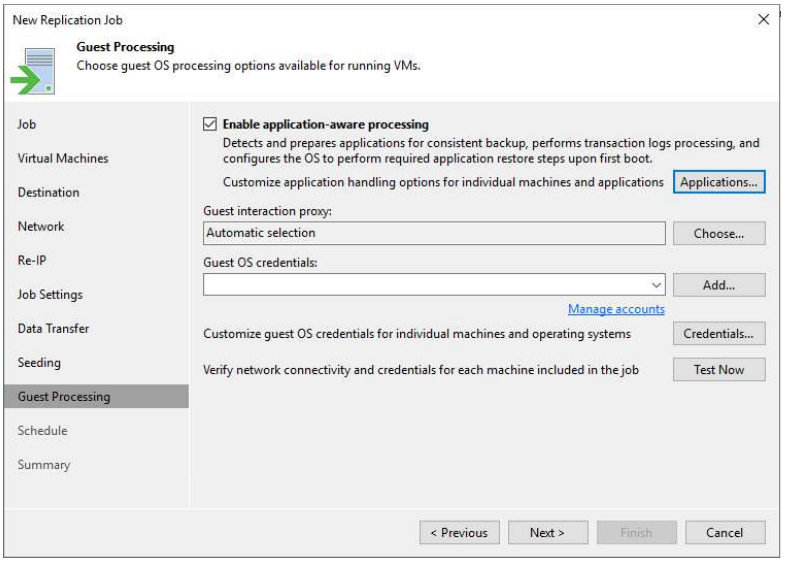


Application-Aware Processing Options

Specify application-aware processing settings for individual items:

Object	VSS	Transaction Logs	Exclusions	Scripts
MANAGE...	Require success	Copy only	Disabled	No

88. Click Choose on the Guest interaction proxy field on the Guest Processing page.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

Guest OS credentials:

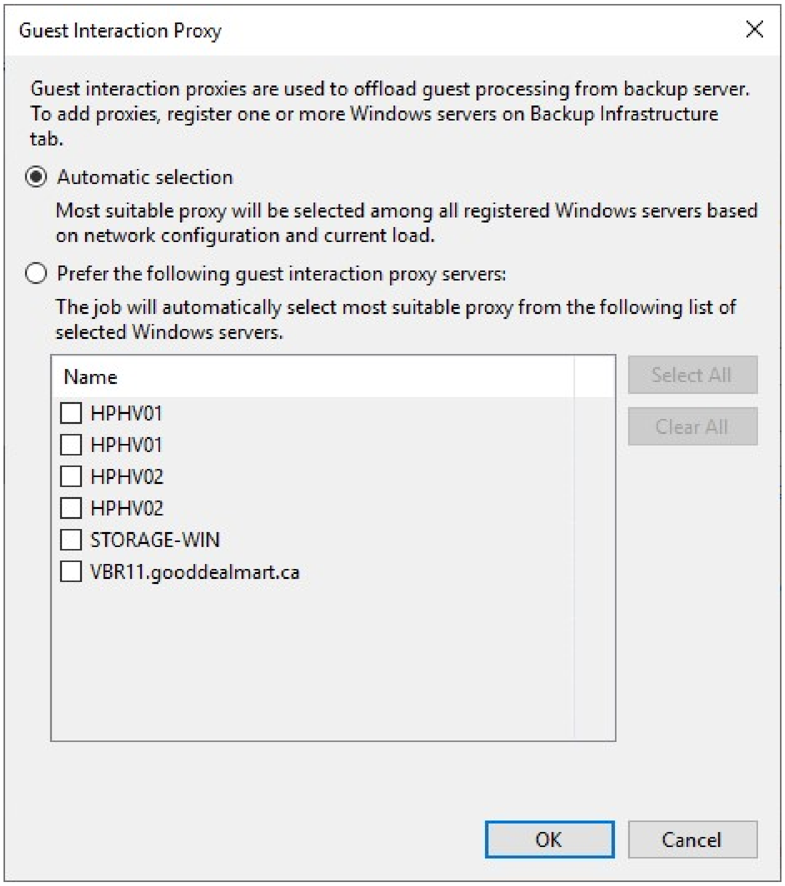
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

89. On the Guest Interaction Proxy page, select Automatic selection to let Veeam Backup & Replication automatically select the guest interaction proxy.

90. Select Prefer the following guest interaction proxy servers to explicitly define which servers will perform the guest interaction proxy role.

91. Click OK.



Guest Interaction Proxy

Guest interaction proxies are used to offload guest processing from backup server. To add proxies, register one or more Windows servers on Backup Infrastructure tab.

● Automatic selection

Most suitable proxy will be selected among all registered Windows servers based on network configuration and current load.

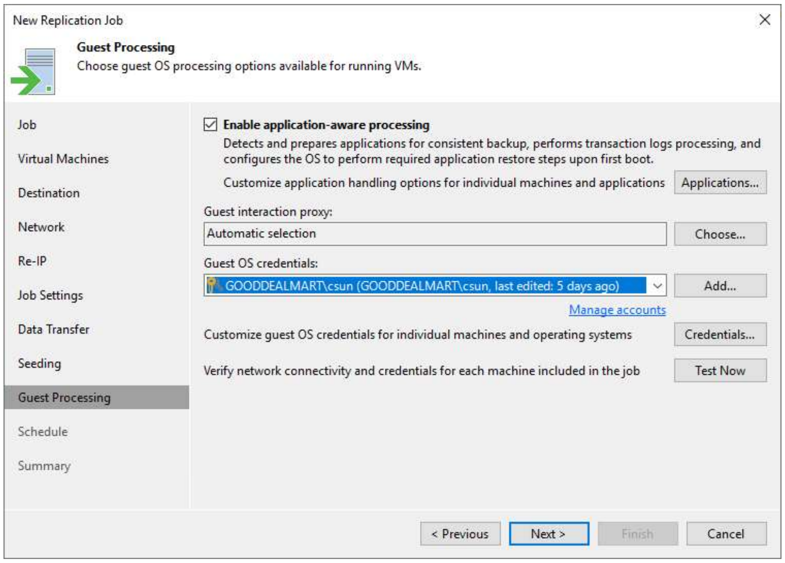
○ Prefer the following guest interaction proxy servers:

The job will automatically select most suitable proxy from the following list of selected Windows servers.

Name
□ HPHV01
□ HPHV01
□ HPHV02
□ HPHV02
□ STORAGE-WIN
□ VBR11.gooddealmart.ca

92. Choose a user account on the Guest Processing page with sufficient permissions from the Guest OS credentials drop-down list.

93. Click Credentials to Customize guest OS credentials for individual machines and operating systems.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

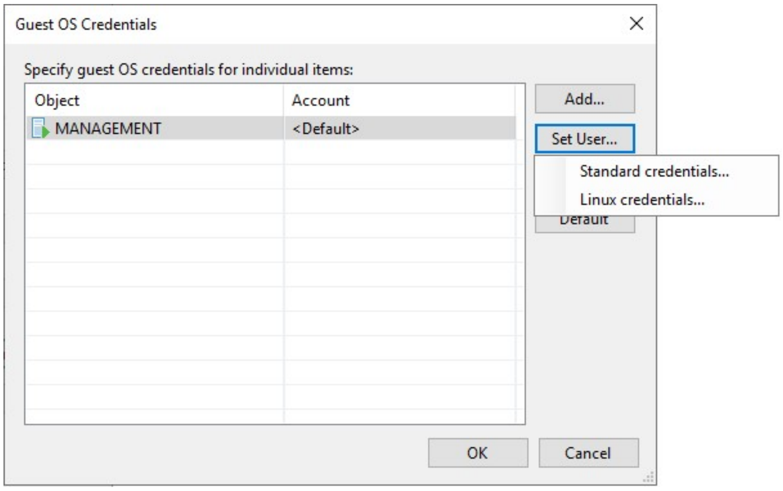
Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago)

Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

94. On the Guest OS Credentials page, select the VM, and click Set User.

95. Select Standard credentials.



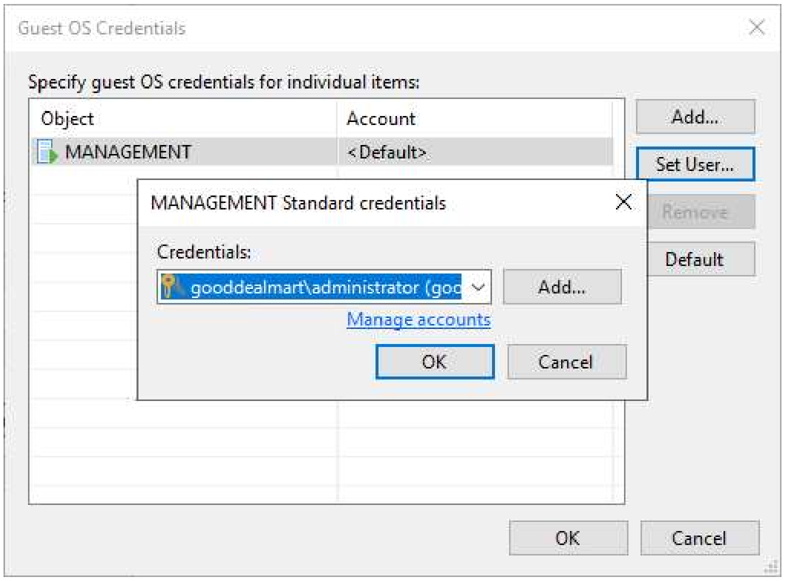
Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	<Default>

96. Choose a user from the Credentials drop-down list, and click OK.

97. Repeat the steps for each VM.



Guest OS Credentials

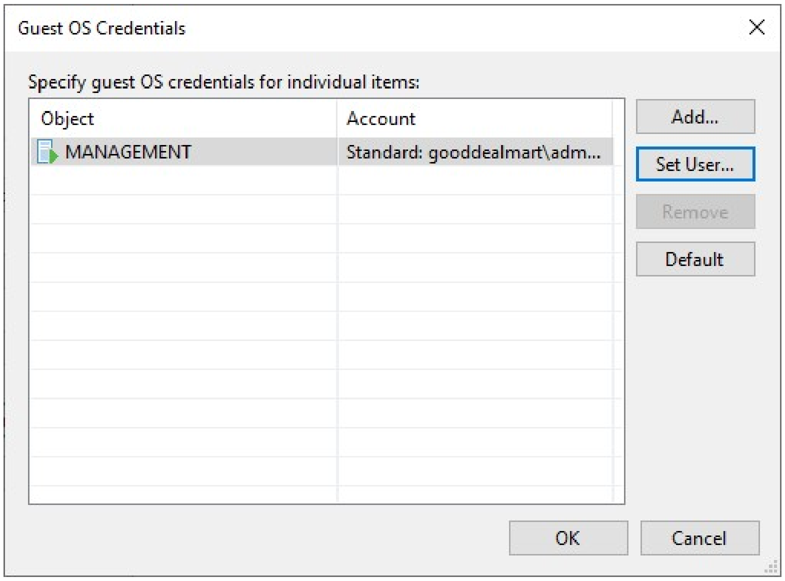
Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	<Default>

MANAGEMENT Standard credentials

Credentials: gooddealmart\administrator (goo

98. On the Guest OS Credentials page, click OK.

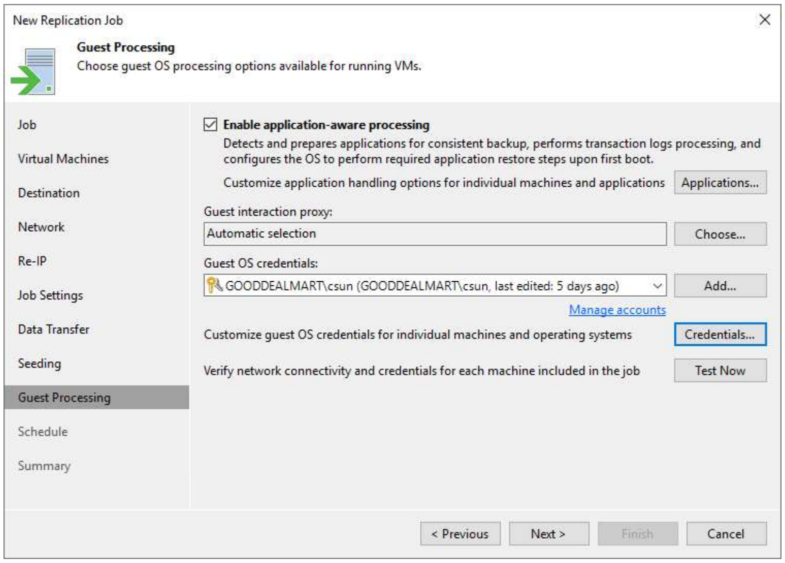


Guest OS Credentials

Specify guest OS credentials for individual items:

Object	Account
MANAGEMENT	Standard: gooddealmart\adm...

99. On the Guest Processing page, click Test Now to verify network connectivity and credentials for each machine included in the job.



New Replication Job

Guest Processing
Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**
Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications [Applications...]

Guest interaction proxy:
Automatic selection [Choose...]

Guest OS credentials:
GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago) [Add...]

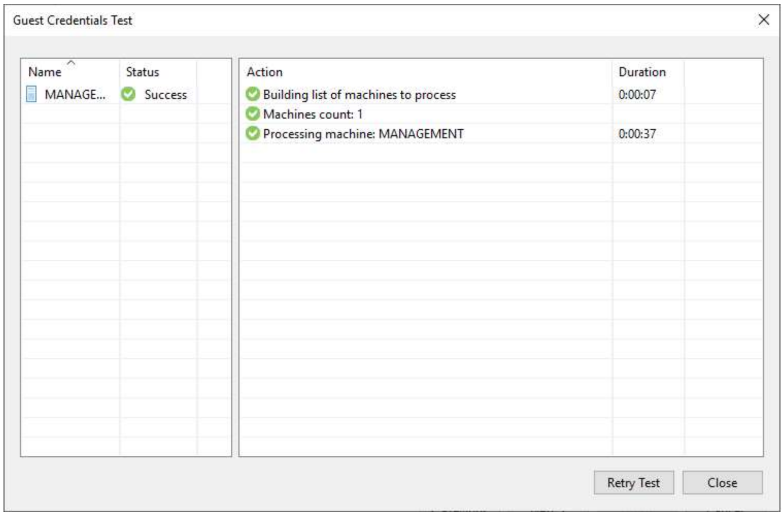
Manage accounts

Customize guest OS credentials for individual machines and operating systems [Credentials...]

Verify network connectivity and credentials for each machine included in the job [Test Now]

100. On the Guest Credentials Test page, make sure to verify the success of each machine.

101. Click Close.

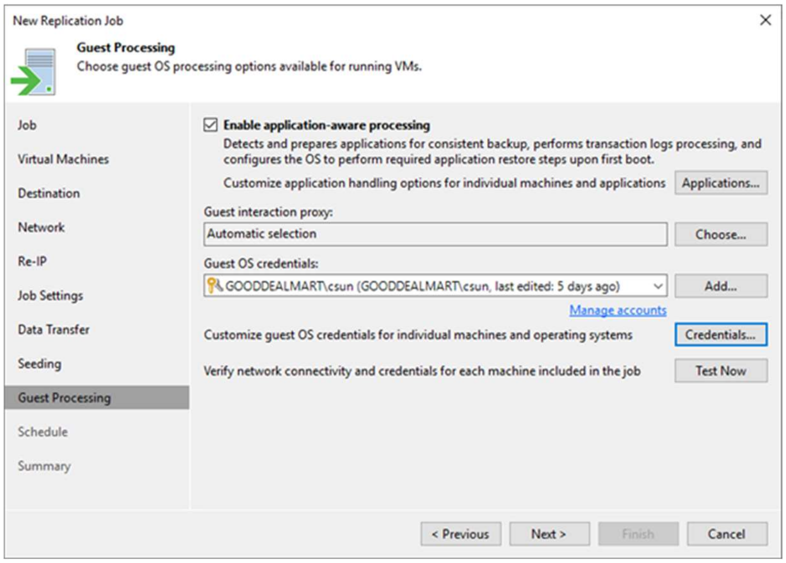


Guest Credentials Test

Name	Status
MANAGE...	✓ Success

Action	Duration
✓ Building list of machines to process	0:00:07
✓ Machines count: 1	
✓ Processing machine: MANAGEMENT	0:00:37

102. On the Guest Processing page, click Next.



New Replication Job

Guest Processing

Choose guest OS processing options available for running VMs.

☑ **Enable application-aware processing**

Detects and prepares applications for consistent backup, performs transaction logs processing, and configures the OS to perform required application restore steps upon first boot.

Customize application handling options for individual machines and applications

Guest interaction proxy: Automatic selection

Guest OS credentials: GOODDEALMART\csun (GOODDEALMART\csun, last edited: 5 days ago)

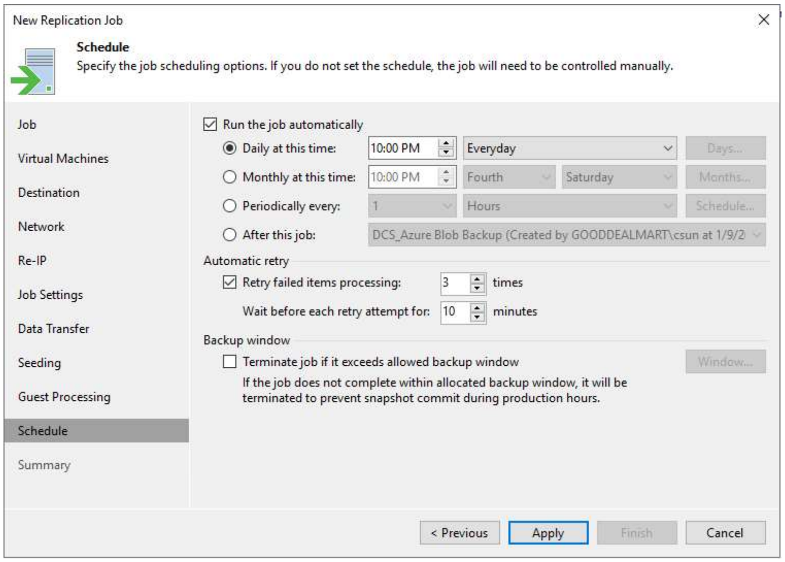
Customize guest OS credentials for individual machines and operating systems

Verify network connectivity and credentials for each machine included in the job

103. Select Run the job automatically on the Schedule page and select your specified schedule.

104. Define whether Veeam Backup & Replication should retry the backup job if it fails in the Automatic retry section.

105. Define the time interval the backup job must complete in the Backup window section. The backup window ensures that the job does not overlap with production hours and that there is no unnecessary overhead on



New Replication Job

Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically

● Daily at this time: 10:00 PM Everyday

○ Monthly at this time: 10:00 PM Fourth Saturday

○ Periodically every: 1 Hours

○ After this job: DCS_Azure Blob Backup (Created by GOODDEALMART\csun at 1/9/2

Automatic retry

☑ Retry failed items processing: 3 times

Wait before each retry attempt for: 10 minutes

Backup window

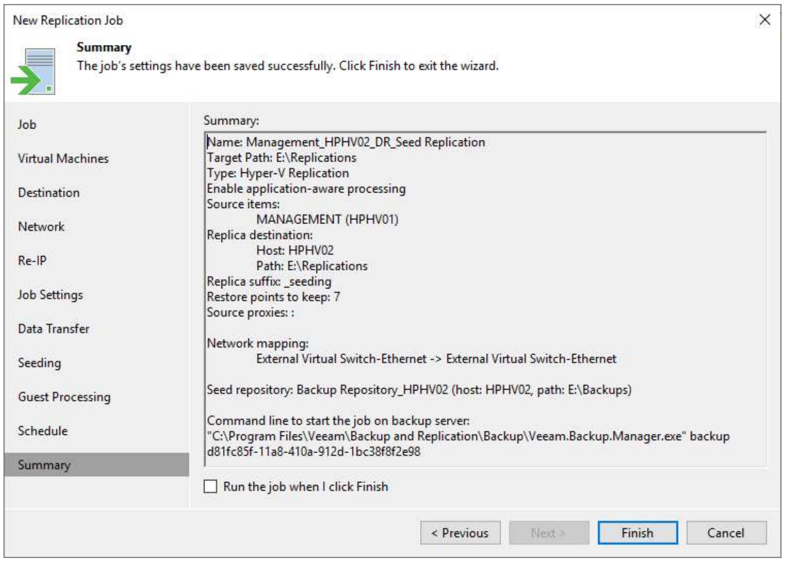
□ Terminate job if it exceeds allowed backup window

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

the production environment.

106. Click Apply.

107. On the Summary page, click Finish.



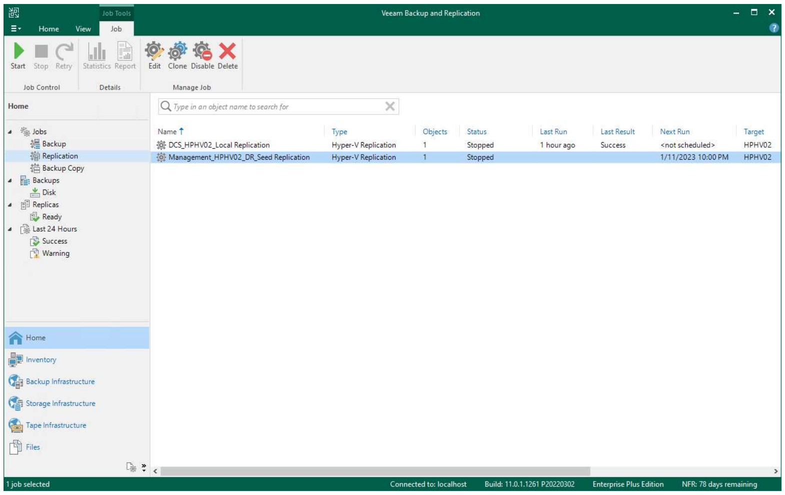
The job's settings have been saved successfully. Click Finish to exit the wizard.

Summary:

```
Name: Management_HPHV02_DR_Seed Replication
Target Path: E:\Replications
Type: Hyper-V Replication
Enable application-aware processing
Source items:
          MANAGEMENT (HPHV01)
Replica destination:
          Host: HPHV02
          Path: E:\Replications
Replica suffix: _seeding
Restore points to keep: 7
Source proxies: :

Network mapping:
          External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Seed repository: Backup Repository_HPHV02 (host: HPHV02, path: E:\Backups)

Command line to start the job on backup server:
"C:\Program Files\Veeam\Backup and Replication\Backup\Veeam.Backup.Manager.exe" backup
d81fc85f-11a8-410a-912d-1bc38f8f2e98
```

☐ Run the job when I click Finish

108. Verify the job has been added

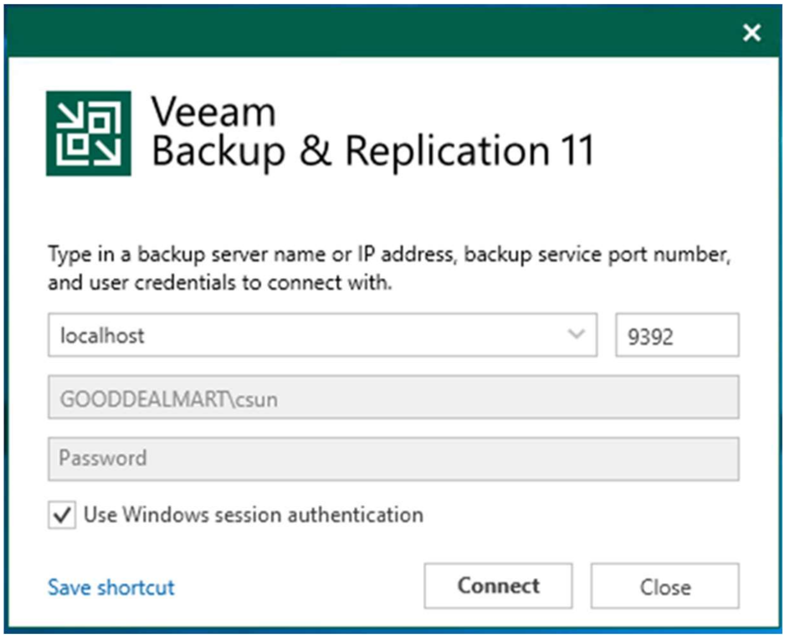


Name ↑	Type	Objects	Status	Last Run	Last Result	Next Run	Target
DCS_HPHV02_Local Replication	Hyper-V Replication	1	Stopped	1 hour ago	Success	<not scheduled>	HPHV02
Management_HPHV02_DR_Seed Replication	Hyper-V Replication	1	Stopped			1/11/2023 10:00 PM	HPHV02

1 job selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

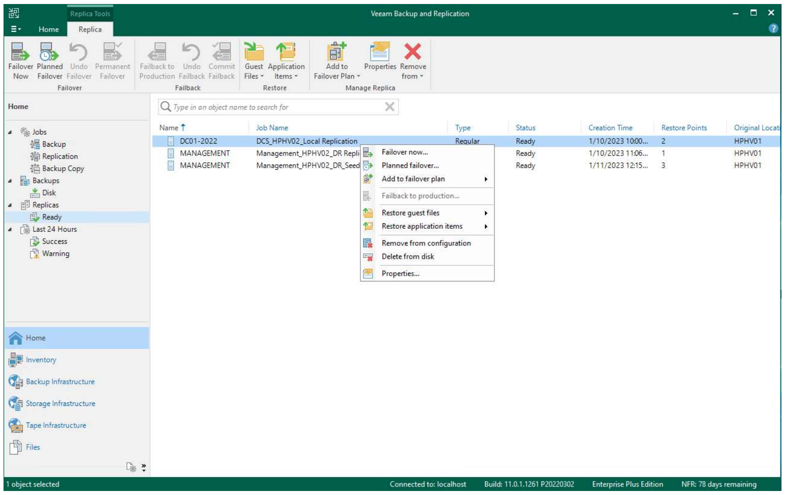
Failover Virtual Machine to Disaster Recovery Site

Failing over a virtual machine to a disaster recovery site involves replicating the virtual machine and its data to the disaster recovery site and activating the replicated copy in case of a disaster or other disruptive event that renders the original virtual machine unavailable.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, expand Replicas. Select Ready.

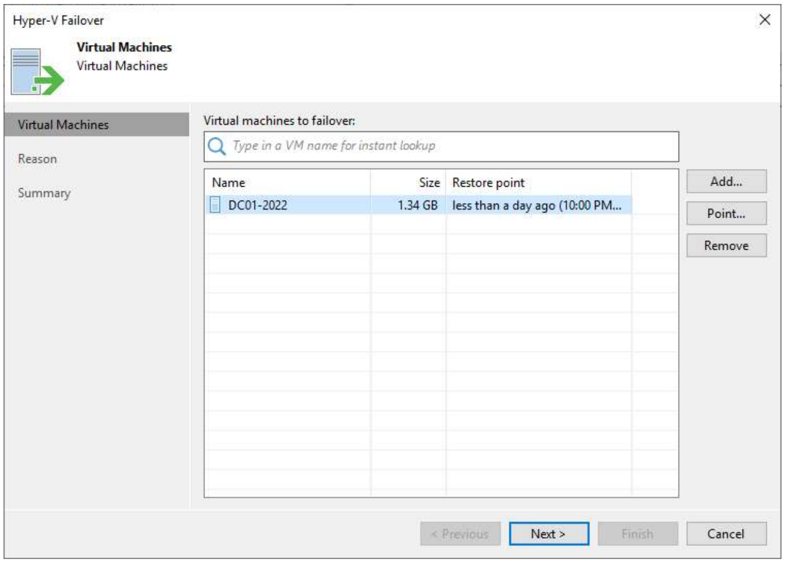
4. Right-click the virtual machine, and select Failover now.



Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
DC01-2022	DCS_HPHV02_Local Replication	Regular	Ready	1/10/2023 10:00...	2	HPHV01
MANAGEMENT	Management_HPHV02_DR Repli		Ready	1/10/2023 11:06...	1	HPHV01
MANAGEMENT	Management_HPHV02_DR_Seed		Ready	1/11/2023 12:15...	3	HPHV01

1 object selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

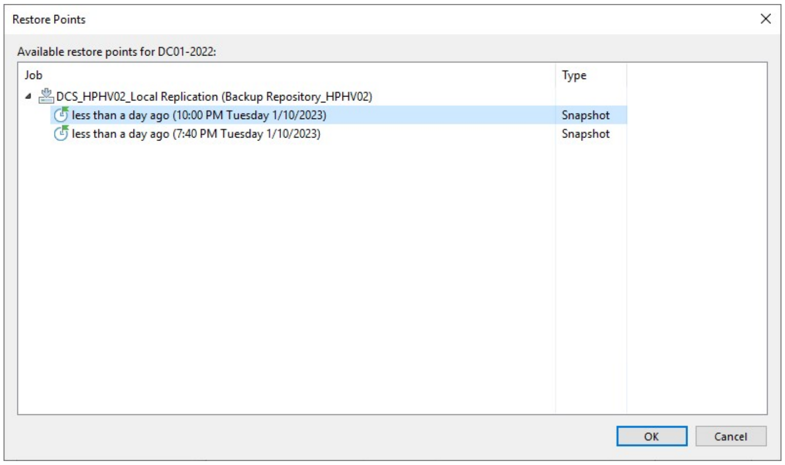
5. Select the virtual machine and click Point on the Virtual Machines page.



Virtual machines to failover:

Name	Size	Restore point
DC01-2022	1.34 GB	less than a day ago (10:00 PM...

6. Expand the Job name on the Restore Point page, select the necessary restore point, and click OK.

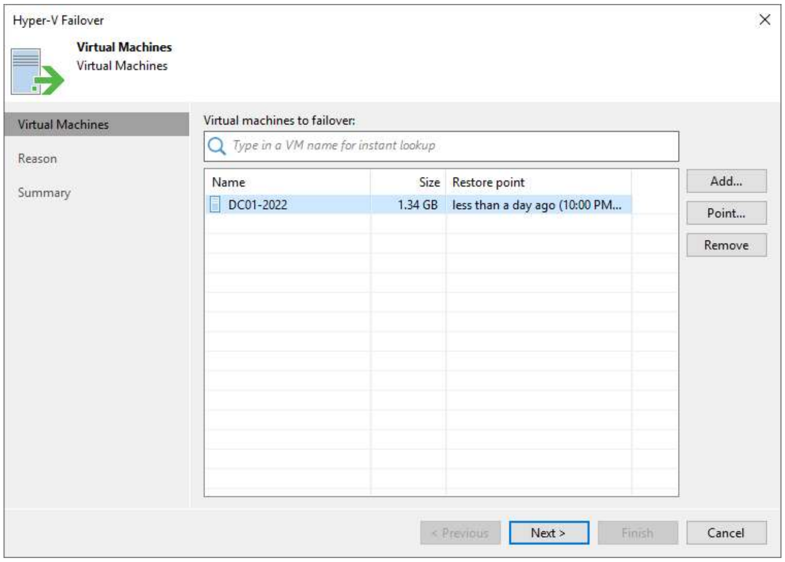


Restore Points

Available restore points for DC01-2022:

Job	Type
DCS_HPHV02_Local Replication (Backup Repository_HPHV02)	
less than a day ago (10:00 PM Tuesday 1/10/2023)	Snapshot
less than a day ago (7:40 PM Tuesday 1/10/2023)	Snapshot

7. On the Virtual Machines page, click Next.



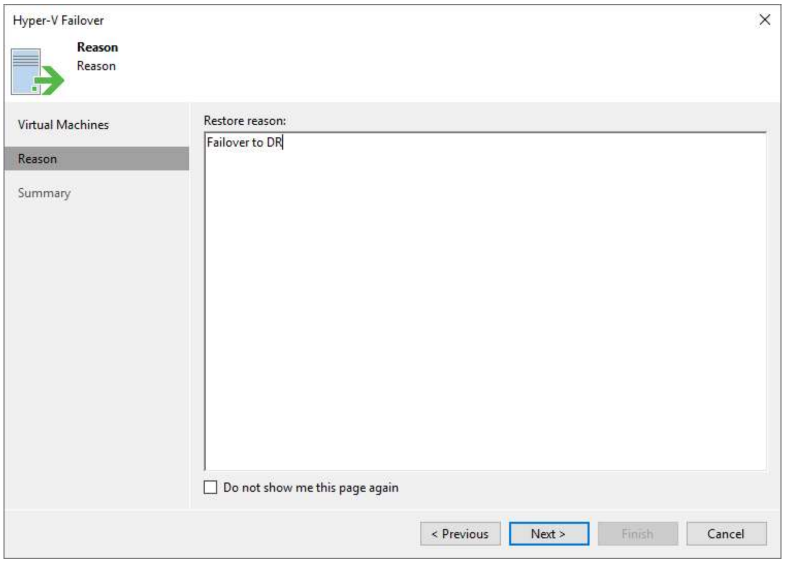
Hyper-V Failover

Virtual Machines
Virtual Machines

Virtual machines to failover:

Name	Size	Restore point
DC01-2022	1.34 GB	less than a day ago (10:00 PM...

8. On the Reason page, the Restore reason, click Next.

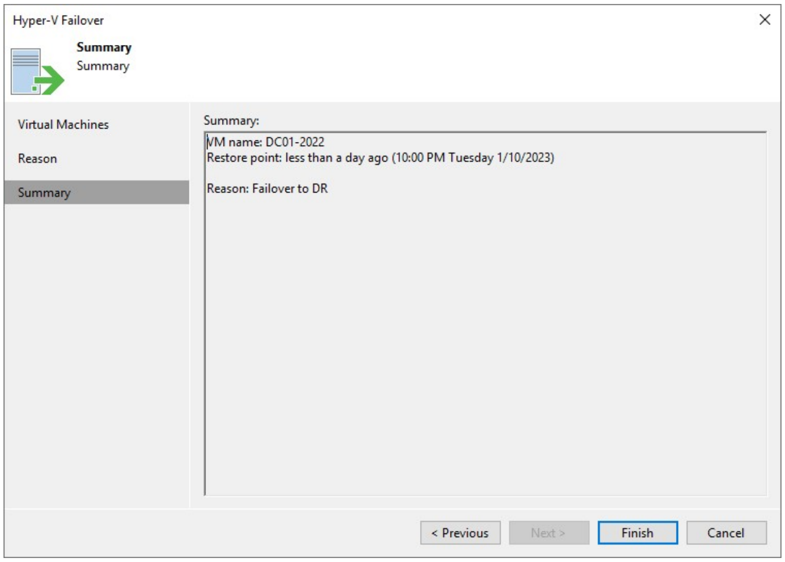


Restore reason:

Failover to DR

☐ Do not show me this page again

9. On the Summary page, click Finish.

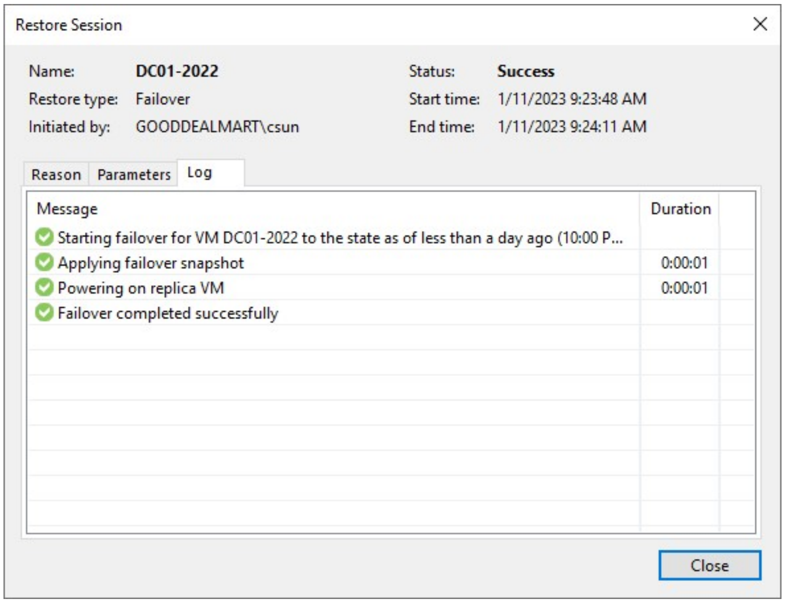


Summary:

VM name: DC01-2022
Restore point: less than a day ago (10:00 PM Tuesday 1/10/2023)

Reason: Failover to DR

10. Select log on the Restore Session page, ensure the failover completed processes successfully, and click Closed.

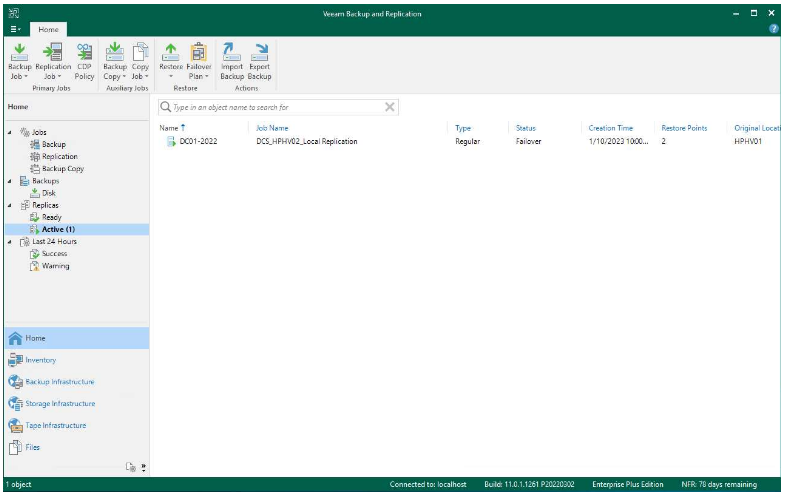


Restore Session

Name:	**DC01-2022**	Status:	**Success**
Restore type:	Failover	Start time:	1/11/2023 9:23:48 AM
Initiated by:	GOODDEALMART\csun	End time:	1/11/2023 9:24:11 AM

Message	Duration
✓ Starting failover for VM DC01-2022 to the state as of less than a day ago (10:00 P...	
✓ Applying failover snapshot	0:00:01
✓ Powering on replica VM	0:00:01
✓ Failover completed successfully	

11. On the Home page, expend Replicas and select Active. The virtual machine status shows Failover.

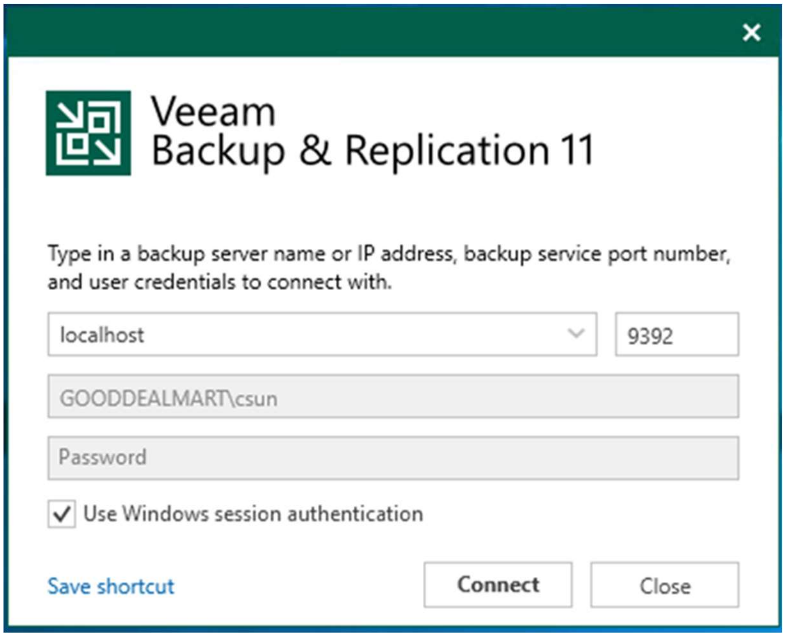


Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
DC01-2022	DCS_HPHV02_Local Replication	Regular	Failover	1/10/2023 10:00...	2	HPHV01

1 object Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

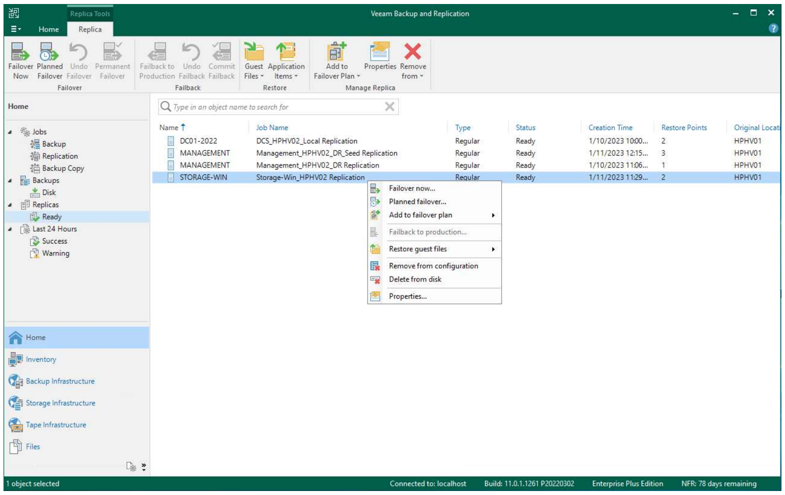
Planned Failover Virtual Machine to Disaster Recovery Site

Planned failover is the smooth manual switching from a primary VM to its replica with minor downtime. Planned failover is proper when you know primary VMs are planning to go offline, and you need to switch the workload from the original VMs to their replicas as soon as possible. For example, you can use planned failover to perform data center migration, maintenance, or software upgrades on primary VMs. You can also perform planned failover if you see signs of an impending disaster.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

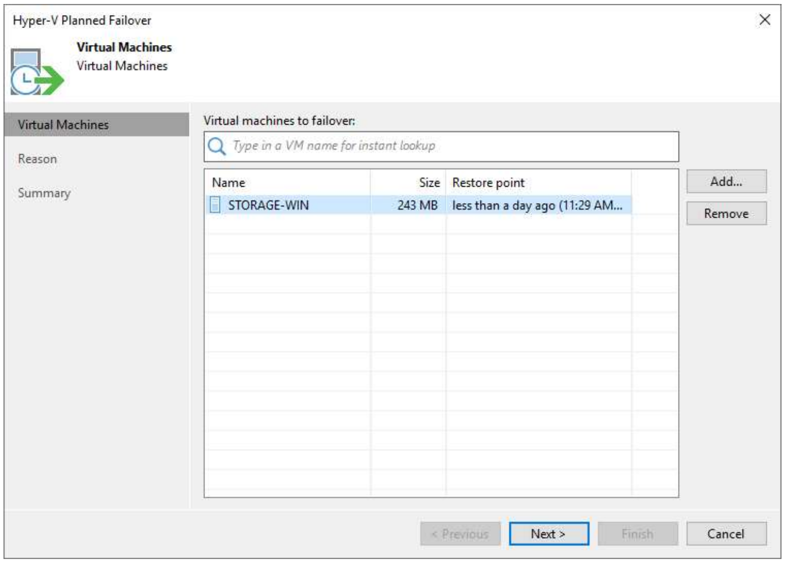
3. On the Home page, expand Replicas. Select Ready.

4. Right-click the virtual machine, and select Planned failover.



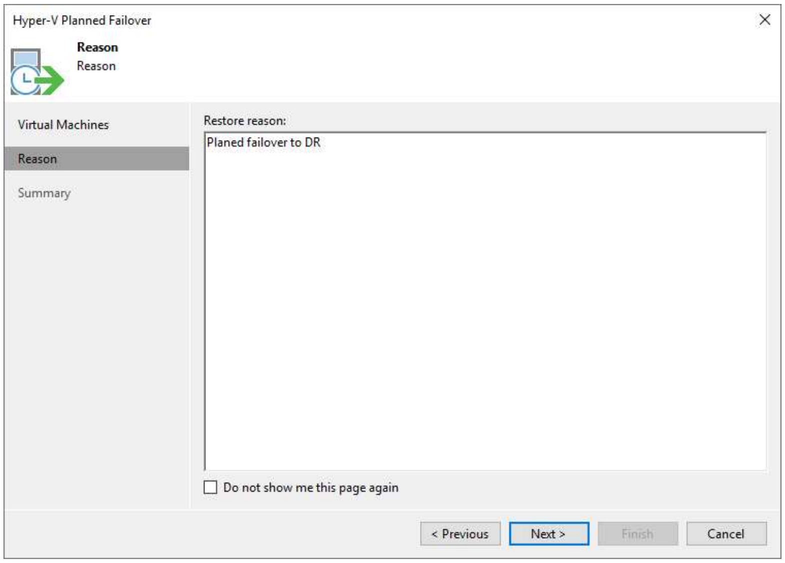
Name ↑	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
DC01-2022	DCS_HPHV02_Local Replication	Regular	Ready	1/10/2023 10:00...	2	HPHV01
MANAGEMENT	Management_HPHV02_DR_Seed Replication	Regular	Ready	1/11/2023 12:15...	3	HPHV01
MANAGEMENT	Management_HPHV02_DR Replication	Regular	Ready	1/10/2023 11:06...	1	HPHV01
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Ready	1/11/2023 11:29...	2	HPHV01

5. On the Virtual Machines page, click Next.



Name	Size	Restore point
STORAGE-WIN	243 MB	less than a day ago (11:29 AM...

6. On the Reason page, the Restore reason, click Next.

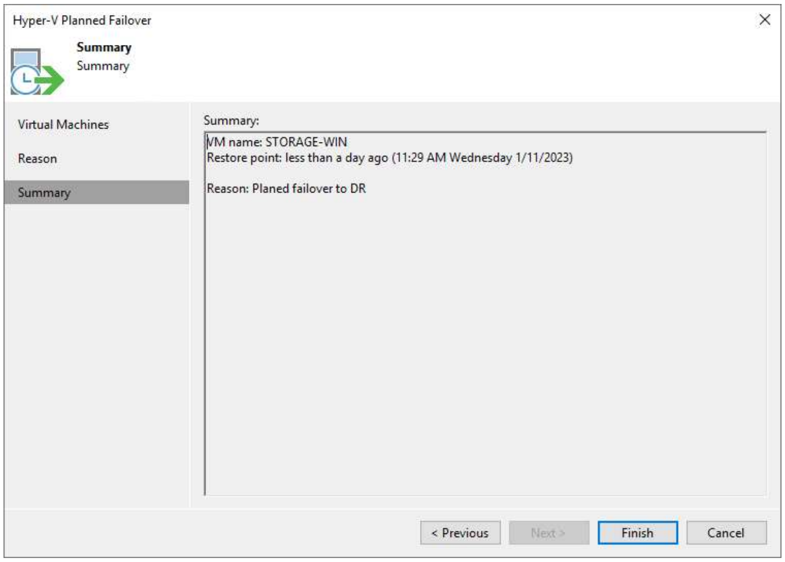


Restore reason:

Planed failover to DR

☐ Do not show me this page again

7. On the Summary page, click Finish.

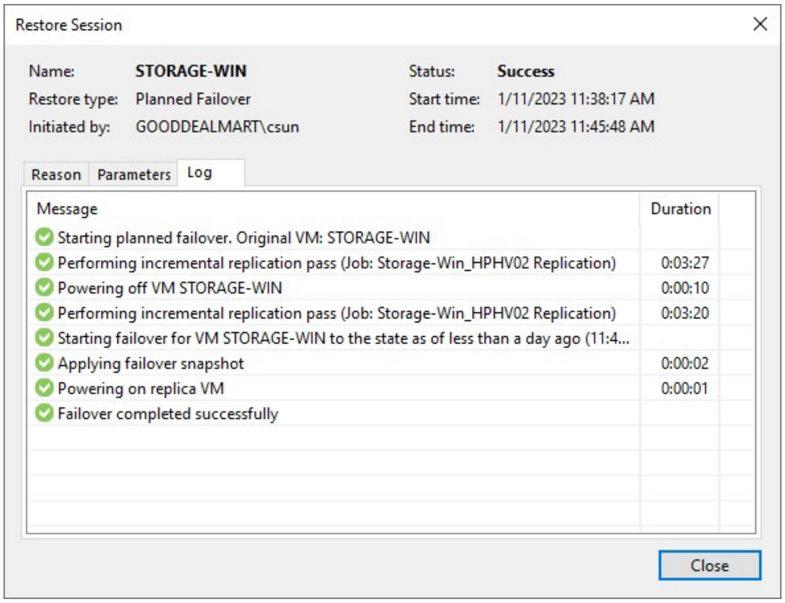


Summary:

VM name: STORAGE-WIN
Restore point: less than a day ago (11:29 AM Wednesday 1/11/2023)

Reason: Planed failover to DR

8. On the Restore Session page, select log, ensure the planned failover processes were completed successfully, and click Closed.

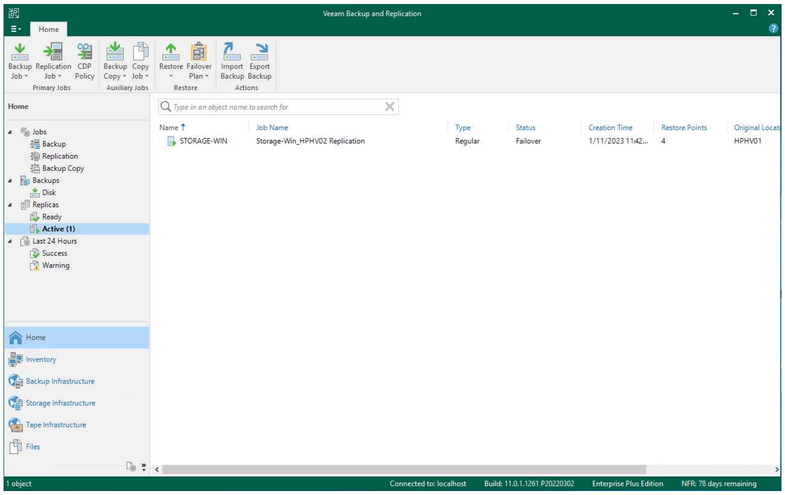


Restore Session

Name:	**STORAGE-WIN**	Status:	**Success**
Restore type:	Planned Failover	Start time:	1/11/2023 11:38:17 AM
Initiated by:	GOODDEALMART\csun	End time:	1/11/2023 11:45:48 AM

Message	Duration
✓ Starting planned failover. Original VM: STORAGE-WIN	
✓ Performing incremental replication pass (Job: Storage-Win_HPHV02 Replication)	0:03:27
✓ Powering off VM STORAGE-WIN	0:00:10
✓ Performing incremental replication pass (Job: Storage-Win_HPHV02 Replication)	0:03:20
✓ Starting failover for VM STORAGE-WIN to the state as of less than a day ago (11:4...	
✓ Applying failover snapshot	0:00:02
✓ Powering on replica VM	0:00:01
✓ Failover completed successfully	

9. On the Home page, expend Replicas and select Active. The virtual machine status shows Failover.



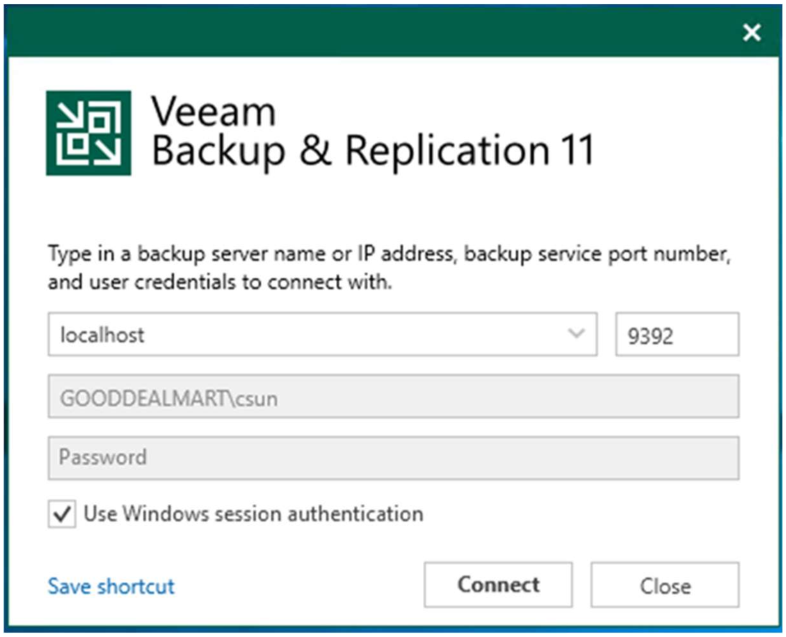
Veeam Backup and Replication

Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Failover	1/11/2023 11:42...	4	HPHV01

1 object Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

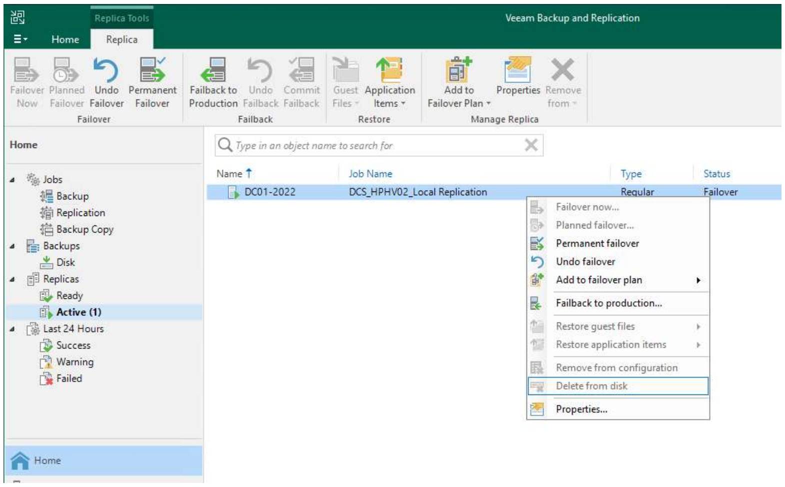
Failover Undo the Virtual Machine to Production Site

One method for completing failover is to use failover undo. When you undo failover, you return to the original VM from a VM replica. When a virtual machine replica is in the Failover state, Veeam Backup & Replication discards all changes made to the replica. This is because the Failover state is intended to temporarily restore the virtual machine to operation quickly in the event of a disaster.

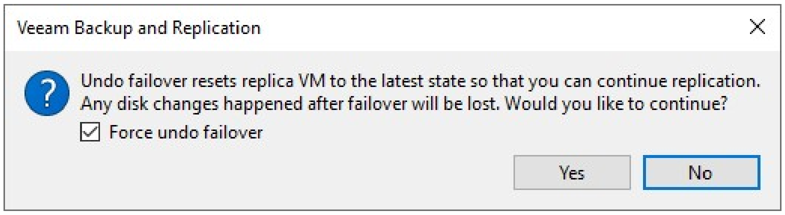
Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, expand Replicas. Select Active.

4. Right-click the virtual machine, and select Undo failover.



5. On the Veeam Backup and Replication display windows, select Force undo failover and click Yes.

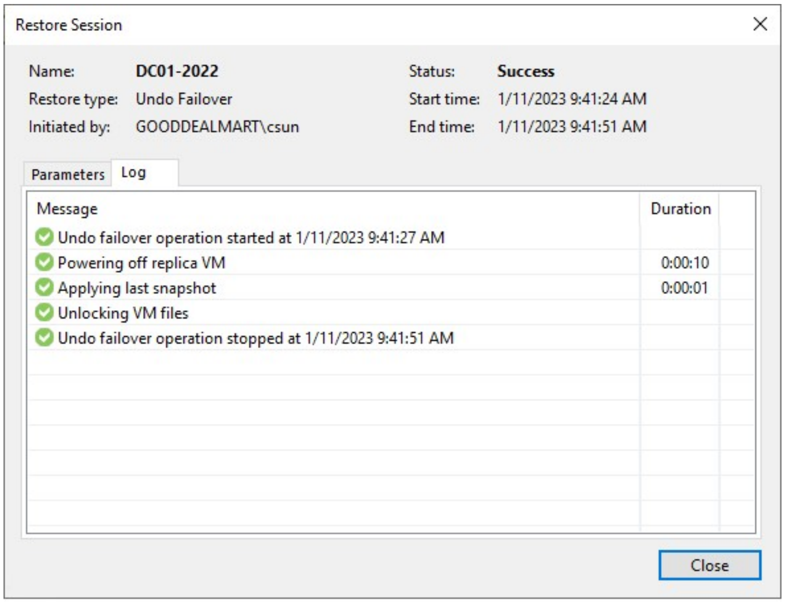

Veeam Backup and Replication

Undo failover resets replica VM to the latest state so that you can continue replication. Any disk changes happened after failover will be lost. Would you like to continue?

☑ Force undo failover

6. On the Restore Session page, select Log.

7. Ensure the undo failover is completed successfully and click Closed.

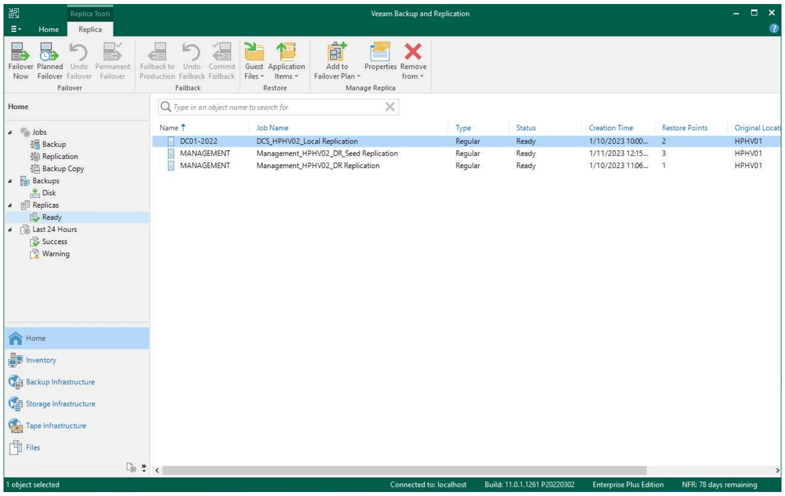


Restore Session

Name:	**DC01-2022**	Status:	**Success**
Restore type:	Undo Failover	Start time:	1/11/2023 9:41:24 AM
Initiated by:	GOODDEALMART\csun	End time:	1/11/2023 9:41:51 AM

Message	Duration
✓ Undo failover operation started at 1/11/2023 9:41:27 AM	
✓ Powering off replica VM	0:00:10
✓ Applying last snapshot	0:00:01
✓ Unlocking VM files	
✓ Undo failover operation stopped at 1/11/2023 9:41:51 AM	

8. On the Home page, expand Replicas and the virtual machine to regular type and Ready status.



Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
DC01-2022	DCS_HPHV02_Local Replication	Regular	Ready	1/10/2023 10:00...	2	HPHV01
MANAGEMENT	Management_HPHV02_DR_Seed Replication	Regular	Ready	1/11/2023 12:15...	3	HPHV01
MANAGEMENT	Management_HPHV02_DR Replication	Regular	Ready	1/10/2023 11:06...	1	HPHV01

Failback of the Virtual Machine to the Production Site

Failback is returning operations to the primary site after a disaster recovery event. It reverses the failover process by replicating any changes made to the virtual machine during the Failover state back to the primary site and then redirecting users and applications to the primary site.

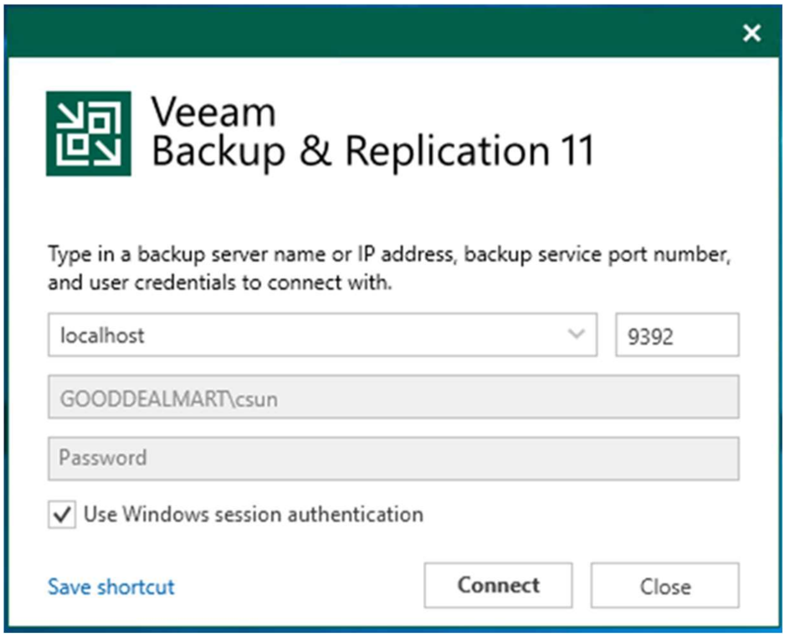
Veeam Backup & Replication provides the following failback options:

- Failback to the original VM in the original location.
- Failback to a VM already recovered to a new location. This VM must be retrieved before you perform failback.
- Failback to a VM from a replica in a different location or to any site with different settings. During the failback process, the VM will be recovered from the replica.

Because Veeam Backup & Replication only needs to transfer differences between the original/recovered VM and VM replica, the first two options help reduce recovery time and network traffic. Veeam Backup & Replication must transfer the entire VM data, including its configuration and virtual disc content, for the third option. Choose the third option if you cannot use the original VM or restore it from a backup.

Instructions	Screenshot (if applicable)

1. Log in to the Veeam Backup and replication manager server.
2. Open the Veeam Backup & Replication Console, and click Connect.



Veeam
Backup & Replication 11

Type in a backup server name or IP address, backup service port number, and user credentials to connect with.

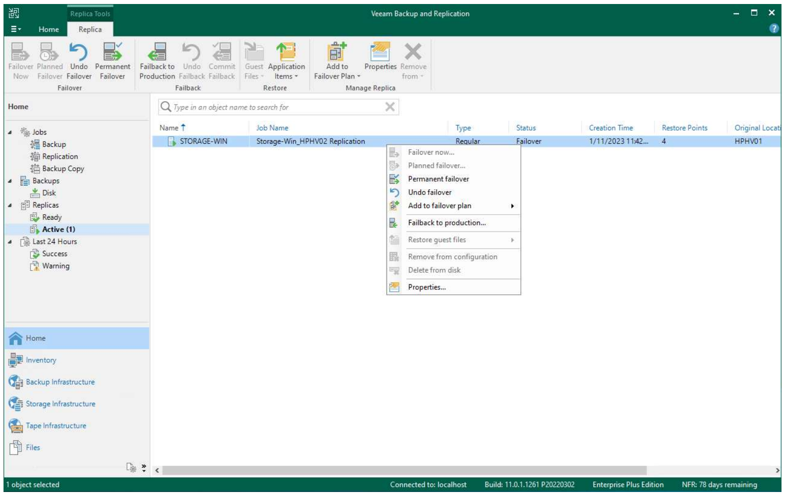
localhost | 9392

GOODDEALMART\csun

Password

☑ Use Windows session authentication

3. On the Home page, expand Replicas. Select Active.
4. Right-click the virtual machine, and select Failback to production.



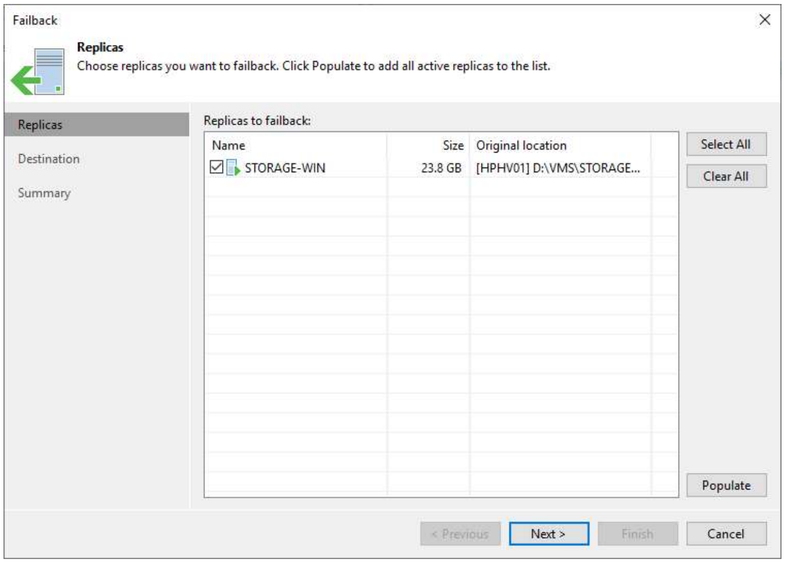
Veeam Backup and Replication

Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Failover	1/11/2023 11:42...	4	HPHV01

1 object selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 78 days remaining

5. Click Populate on the Virtual Machine page to update the replicas ready for the failback list.

6. Select the replicas and click Next.



Replicas

Choose replicas you want to failback. Click Populate to add all active replicas to the list.

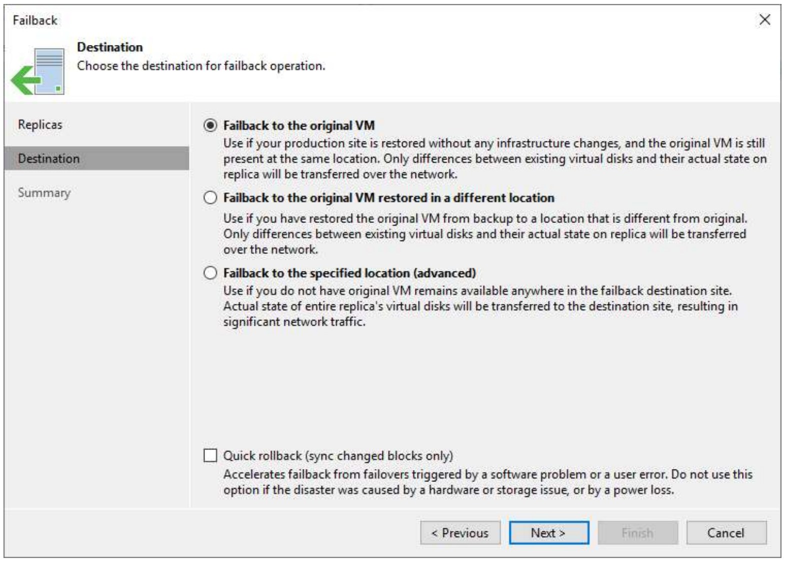
Replicas to failback:

Name	Size	Original location
☑ STORAGE-WIN	23.8 GB	[HPHV01] D:\VMS\STORAGE...

7. On the Destination page, select Failback to the original VM if you want to return to the original VMs that reside on the source hosts.

8. Select Quick rollback (sync changed blocks only) If you want to fasten failback, and the original VMs had problems at the guest OS level.

9. Click Next.



Destination

Choose the destination for failback operation.

● **Failback to the original VM**
Use if your production site is restored without any infrastructure changes, and the original VM is still present at the same location. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the original VM restored in a different location**
Use if you have restored the original VM from backup to a location that is different from original. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

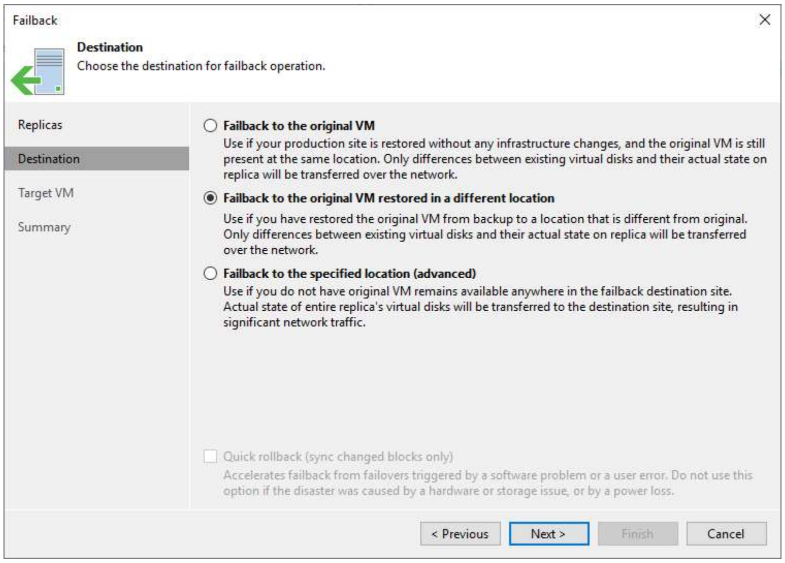
○ **Failback to the specified location (advanced)**
Use if you do not have original VM remains available anywhere in the failback destination site. Actual state of entire replica's virtual disks will be transferred to the destination site, resulting in significant network traffic.

□ Quick rollback (sync changed blocks only)
Accelerates failback from failovers triggered by a software problem or a user error. Do not use this option if the disaster was caused by a hardware or storage issue, or by a power loss.

10. Select Failback to the original VM restored in a different location if the original VMs have already been recovered to a new location and you want to switch to the recovered VMs from their replicas.

Note:

If you select this option, you will proceed to the Target VM.



Failback

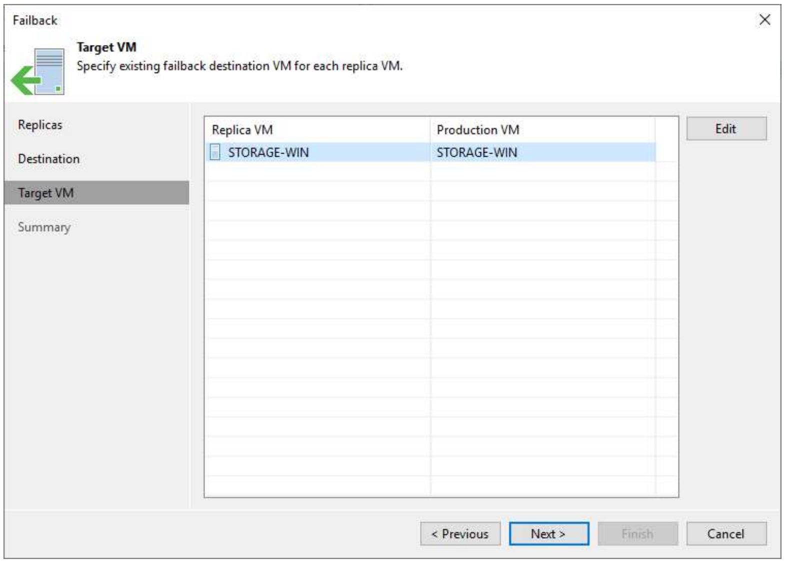
Destination
Choose the destination for failback operation.

○ **Failback to the original VM**
Use if your production site is restored without any infrastructure changes, and the original VM is still present at the same location. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

● **Failback to the original VM restored in a different location**
Use if you have restored the original VM from backup to a location that is different from original. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the specified location (advanced)**
Use if you do not have original VM remains available anywhere in the failback destination site. Actual state of entire replica's virtual disks will be transferred to the destination site, resulting in significant network traffic.

□ Quick rollback (sync changed blocks only)
Accelerates failback from failovers triggered by a software problem or a user error. Do not use this option if the disaster was caused by a hardware or storage issue, or by a power loss.

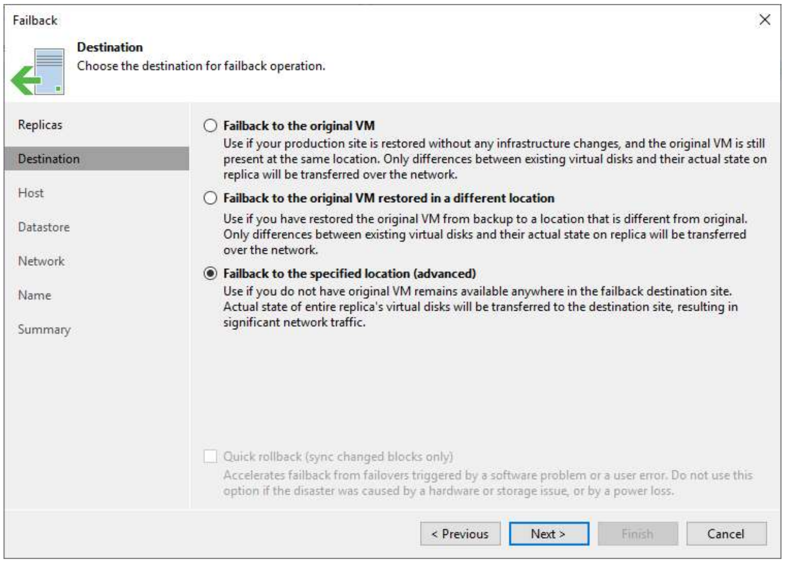


Failback

Target VM
Specify existing failback destination VM for each replica VM.

Replica VM	Production VM
STORAGE-WIN	STORAGE-WIN

11. Select Failback to the specified location to recover VMs from replicas. You can recover VMs to a new location or any location but with different settings (such as network settings, virtual disk type, configuration file path and so on).



Failback

Destination

Choose the destination for failback operation.

○ **Failback to the original VM**

Use if your production site is restored without any infrastructure changes, and the original VM is still present at the same location. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

○ **Failback to the original VM restored in a different location**

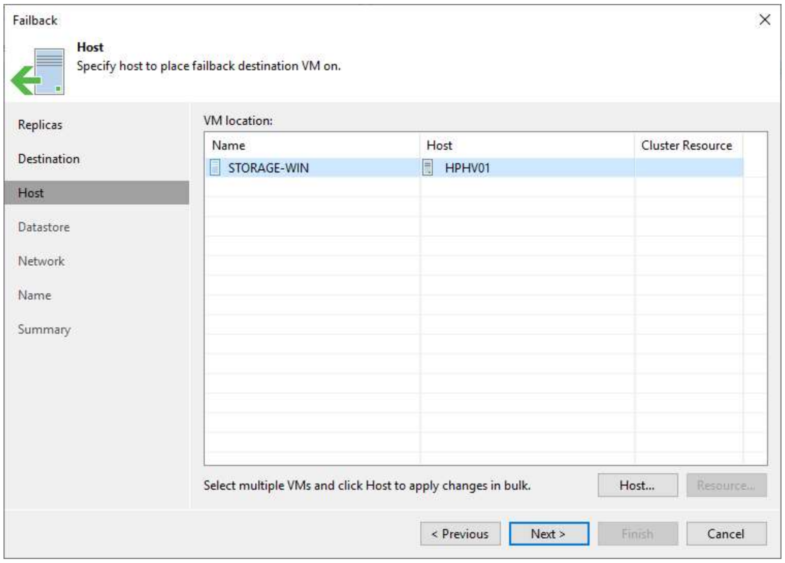
Use if you have restored the original VM from backup to a location that is different from original. Only differences between existing virtual disks and their actual state on replica will be transferred over the network.

● **Failback to the specified location (advanced)**

Use if you do not have original VM remains available anywhere in the failback destination site. Actual state of entire replica's virtual disks will be transferred to the destination site, resulting in significant network traffic.

□ Quick rollback (sync changed blocks only)

Accelerates failback from failovers triggered by a software problem or a user error. Do not use this option if the disaster was caused by a hardware or storage issue, or by a power loss.



Failback

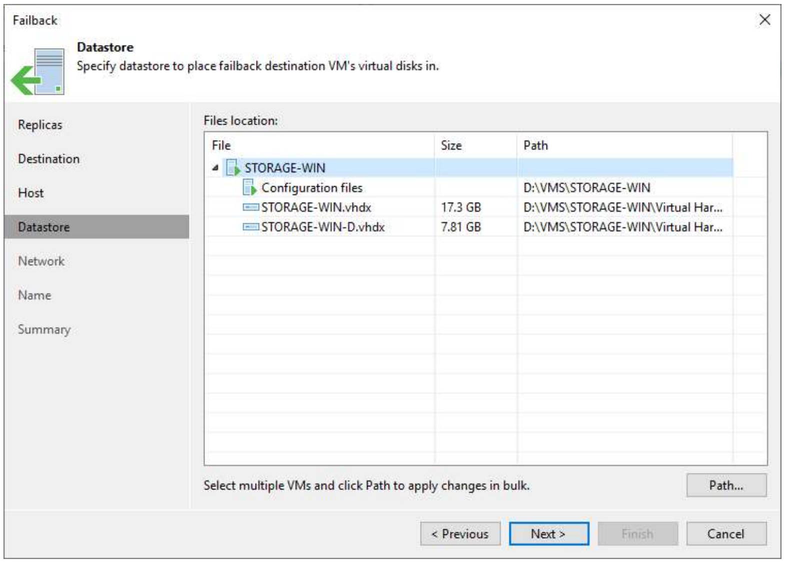
Host

Specify host to place failback destination VM on.

VM location:

Name	Host	Cluster Resource
STORAGE-WIN	HPHV01	

Select multiple VMs and click Host to apply changes in bulk.



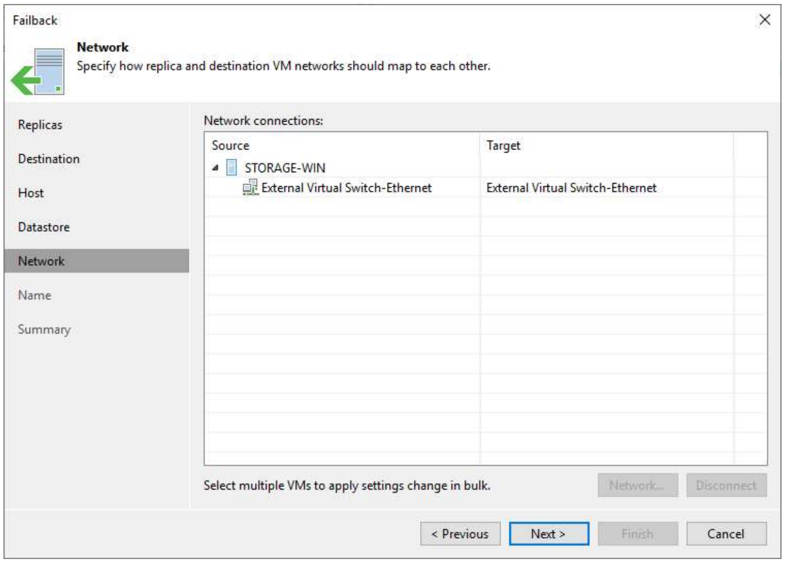
Datastore

Specify datastore to place failback destination VM's virtual disks in.

Files location:

File	Size	Path
STORAGE-WIN		
Configuration files		D:\VMS\STORAGE-WIN
STORAGE-WIN.vhdx	17.3 GB	D:\VMS\STORAGE-WIN\Virtual Har...
STORAGE-WIN-D.vhdx	7.81 GB	D:\VMS\STORAGE-WIN\Virtual Har...

Select multiple VMs and click Path to apply changes in bulk.



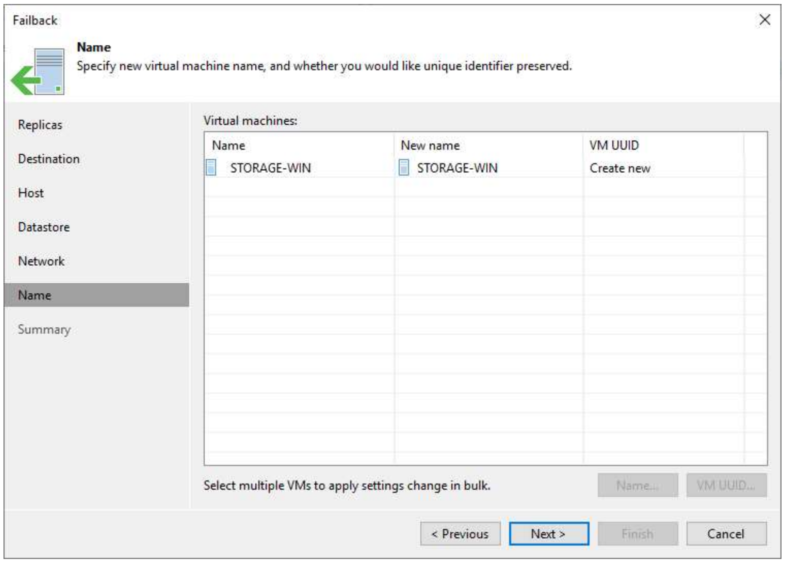
Network

Specify how replica and destination VM networks should map to each other.

Network connections:

Source	Target
STORAGE-WIN	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.



Name

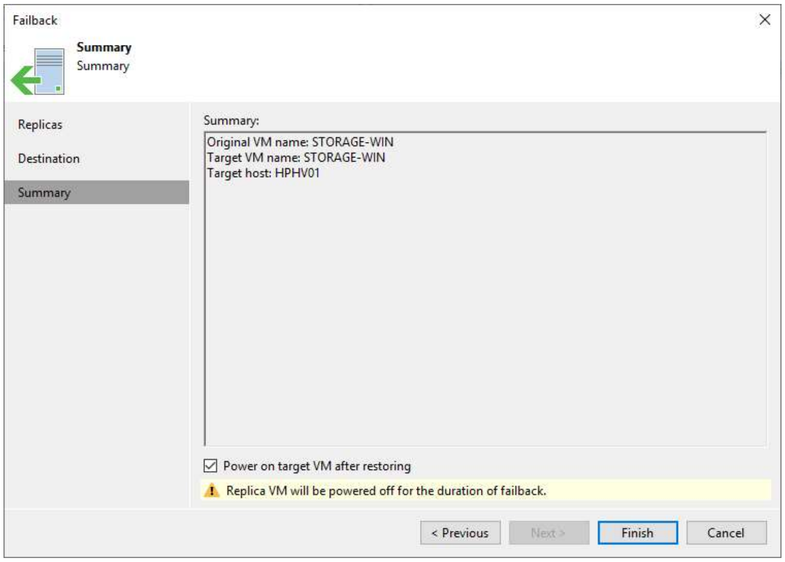
Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual machines:

Name	New name	VM UUID
STORAGE-WIN	STORAGE-WIN	Create new

Select multiple VMs to apply settings change in bulk.

12. Select Power on the target VM after restoring and click Finish on the Summary page.



Summary

Summary

Summary:

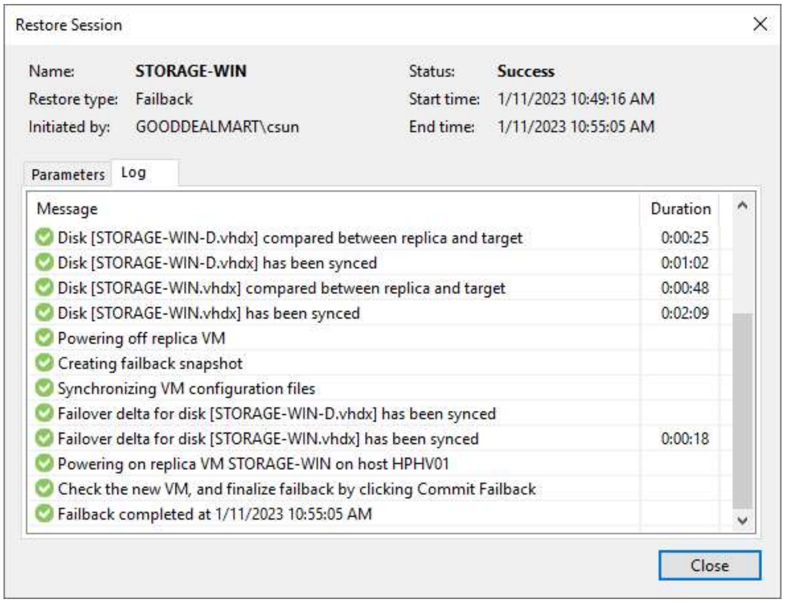
Original VM name: STORAGE-WIN
Target VM name: STORAGE-WIN
Target host: HPHV01

☑ Power on target VM after restoring

⚠ Replica VM will be powered off for the duration of failback.

13. On the Restore Session page, select Log.

14. Ensure the failback is completed successfully and click Closed.



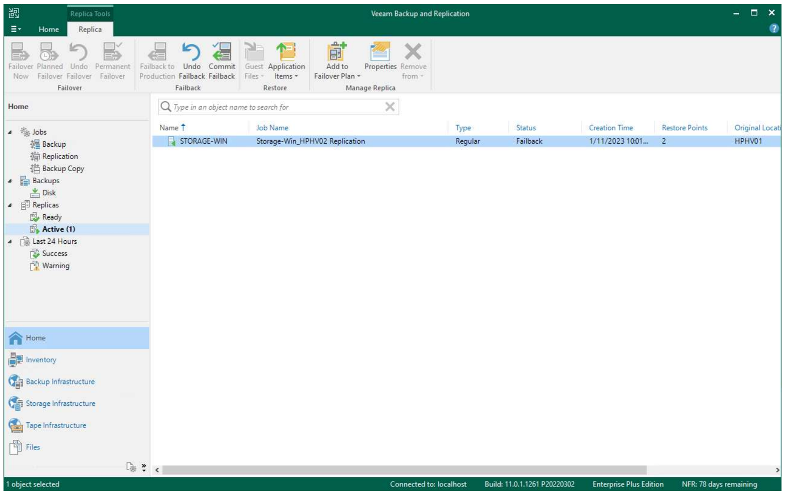
Restore Session

Name:	**STORAGE-WIN**	Status:	**Success**
Restore type:	Failback	Start time:	1/11/2023 10:49:16 AM
Initiated by:	GOODDEALMART\csun	End time:	1/11/2023 10:55:05 AM

Message	Duration
✓ Disk [STORAGE-WIN-D.vhdx] compared between replica and target	0:00:25
✓ Disk [STORAGE-WIN-D.vhdx] has been synced	0:01:02
✓ Disk [STORAGE-WIN.vhdx] compared between replica and target	0:00:48
✓ Disk [STORAGE-WIN.vhdx] has been synced	0:02:09
✓ Powering off replica VM	
✓ Creating failback snapshot	
✓ Synchronizing VM configuration files	
✓ Failover delta for disk [STORAGE-WIN-D.vhdx] has been synced	
✓ Failover delta for disk [STORAGE-WIN.vhdx] has been synced	0:00:18
✓ Powering on replica VM STORAGE-WIN on host HPHV01	
✓ Check the new VM, and finalize failback by clicking Commit Failback	
✓ Failback completed at 1/11/2023 10:55:05 AM	

15. On the Home page, expend Replicas and select Active.

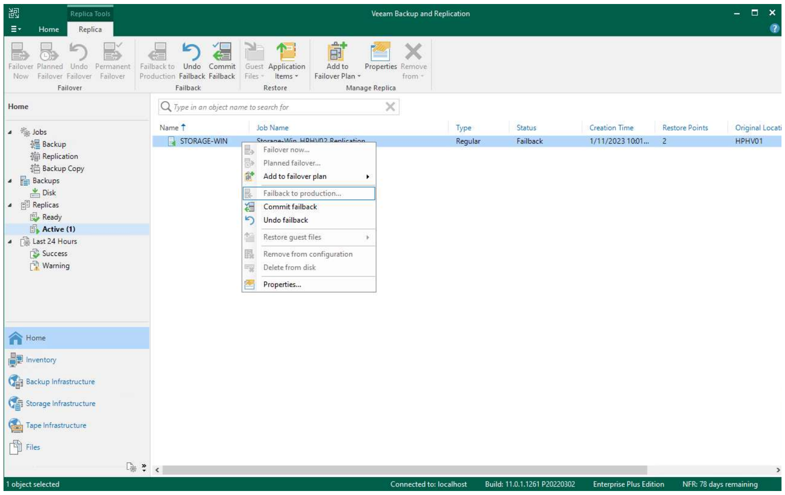
16. The VM status changed from Failover to Failback.



Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Failback	1/11/2023 10:01...	2	HPHV01

1 object selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

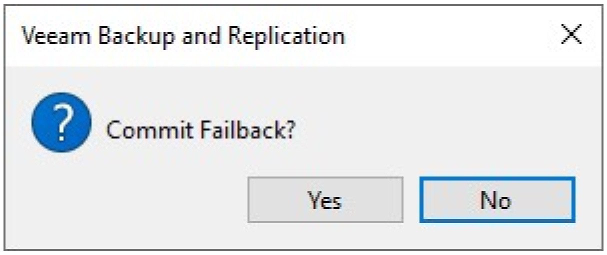
17. Right-click the VM and select Commit failback.



Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Failback	1/11/2023 10:01...	2	HPHV01

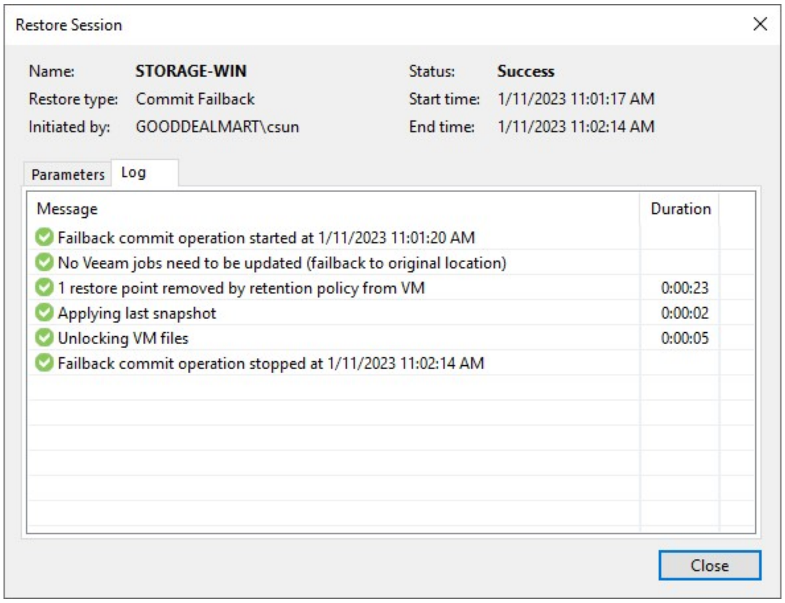
1 object selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

18. Click Yes in the Commit Failback display windows.



Commit Failback?

19. On the Restore Session page, select log, make sure the undo failover is completed successfully, click Closed



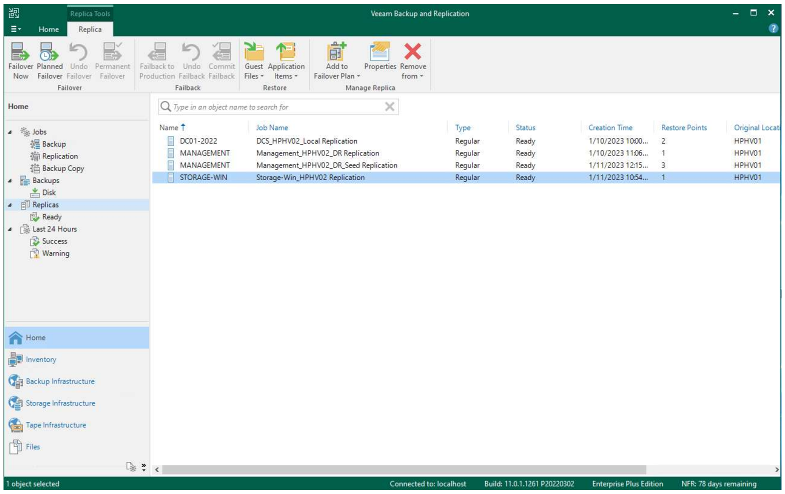
Restore Session

Name: **STORAGE-WIN**
Restore type: Commit Failback
Initiated by: GOODDEALMART\csun

Status: **Success**
Start time: 1/11/2023 11:01:17 AM
End time: 1/11/2023 11:02:14 AM

Message	Duration
✓ Failback commit operation started at 1/11/2023 11:01:20 AM	
✓ No Veeam jobs need to be updated (failback to original location)	
✓ 1 restore point removed by retention policy from VM	0:00:23
✓ Applying last snapshot	0:00:02
✓ Unlocking VM files	0:00:05
✓ Failback commit operation stopped at 1/11/2023 11:02:14 AM	

20. On the Home page, add Replicas and the virtual machine to regular type and Ready status.



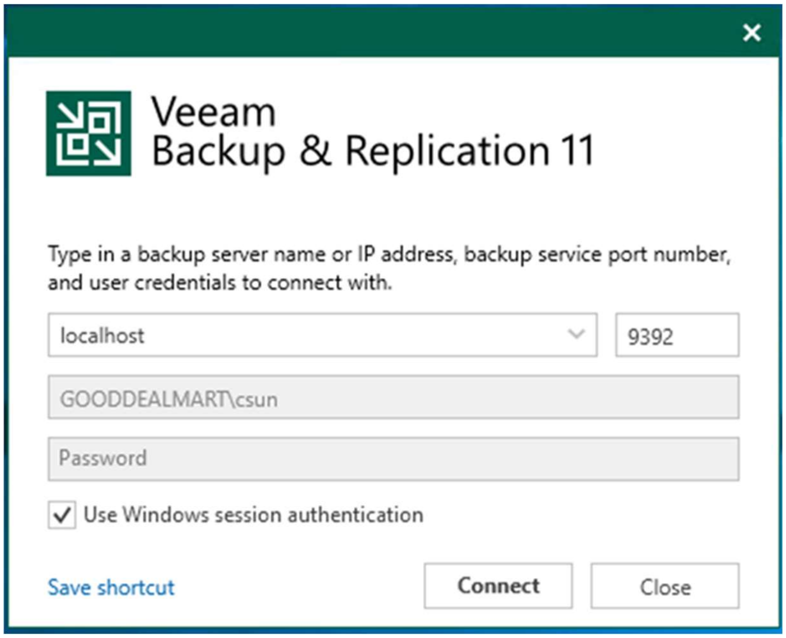
Name ↑	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
DC01-2022	DCS_HPHV02_Local Replication	Regular	Ready	1/10/2023 10:00...	2	HPHV01
MANAGEMENT	Management_HPHV02_DR Replication	Regular	Ready	1/10/2023 11:06...	1	HPHV01
MANAGEMENT	Management_HPHV02_DR_Seed Replication	Regular	Ready	1/11/2023 12:15...	3	HPHV01
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Ready	1/11/2023 10:54...	1	HPHV01

1 object selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 78 days remaining

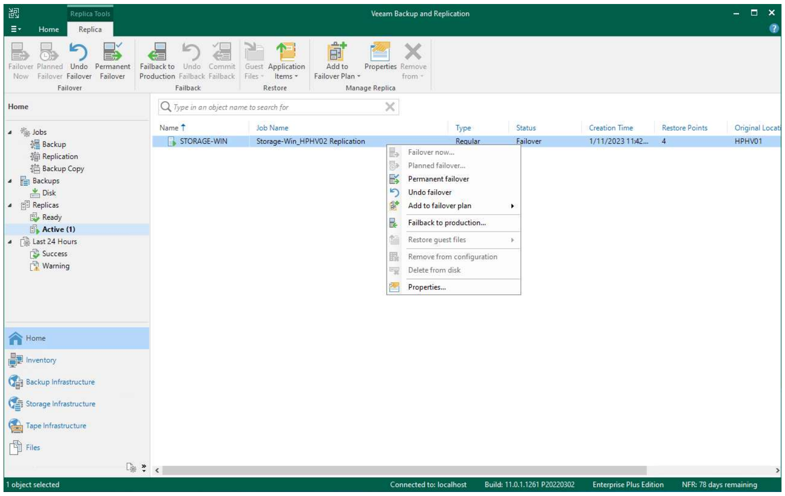
Permanent Failover of the Virtual Machine to the Disaster Recovery Site

Permanent failover is one method of completing failover. Permanent failover means permanently switching from the original VM to its replica.

The VM replica ceases to be a replica due to permanent failover and becomes the production VM.

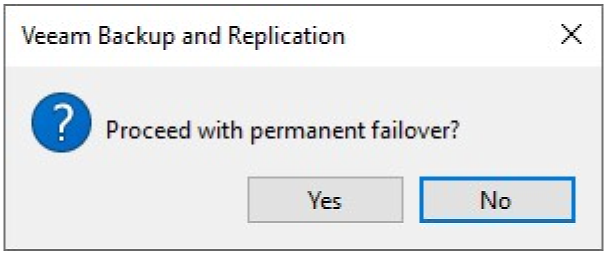
Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

3. On the Home page, expand Replicas. Select the Active.
4. Right-click the virtual machine, and select the Permanent failover.



Name	Job Name	Type	Status	Creation Time	Restore Points	Original Locati
STORAGE-WIN	Storage-Win_HPHV02 Replication	Regular	Failover	1/11/2023 11:42...	4	HPHV01

5. Click Yes in the Process with the permanent failover display window.

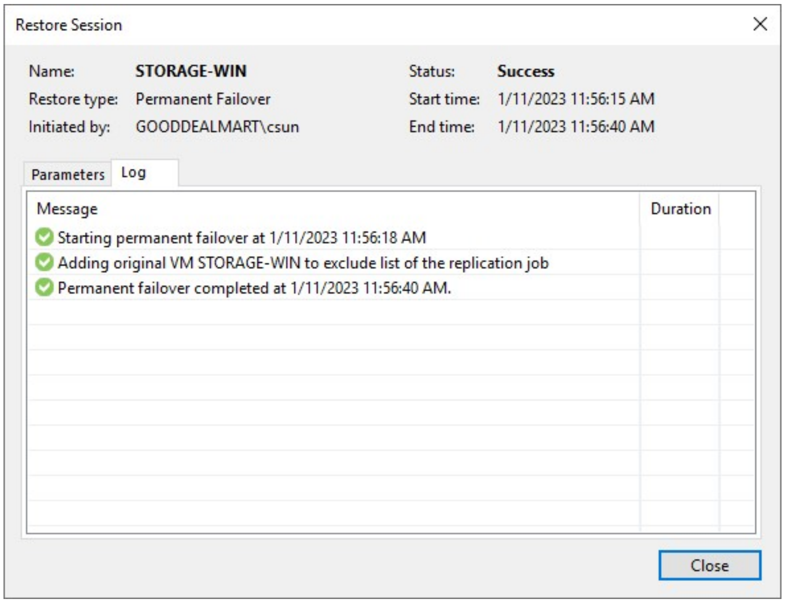


Proceed with permanent failover?

6. On the Restore Session page, select Log.

7. Ensure the permanent failover is completed successfully and click Closed.

8. Delete the existing replication job and create a new one for the VM.



Name: STORAGE-WIN
Restore type: Permanent Failover
Initiated by: GOODDEALMART\csun
Status: Success
Start time: 1/11/2023 11:56:15 AM
End time: 1/11/2023 11:56:40 AM

Message	Duration
✓ Starting permanent failover at 1/11/2023 11:56:18 AM	
✓ Adding original VM STORAGE-WIN to exclude list of the replication job	
✓ Permanent failover completed at 1/11/2023 11:56:40 AM.	

Chapter 6

Data Restore

Veeam Backup & Replication supports the following recovery methods:

- VM recovery entails restoring entire virtual machines (VMs) to various data protection environments, such as VMware vSphere, Hyper-V, Amazon EC2, etc.
- Disk export enables you to convert discs from various workloads (EC2 instances, Microsoft Azure VMs, and so on) to VMDK, VHD, or VHDX formats.
- Recovery of VM files, guest OS files and folders, and application items.
- Veeam Data Integration API — to retrieve backup content via iSCSI or FUSE and analyze data stored in this backup.
- Secure restore entails scanning data with antivirus software before restoring it to production.

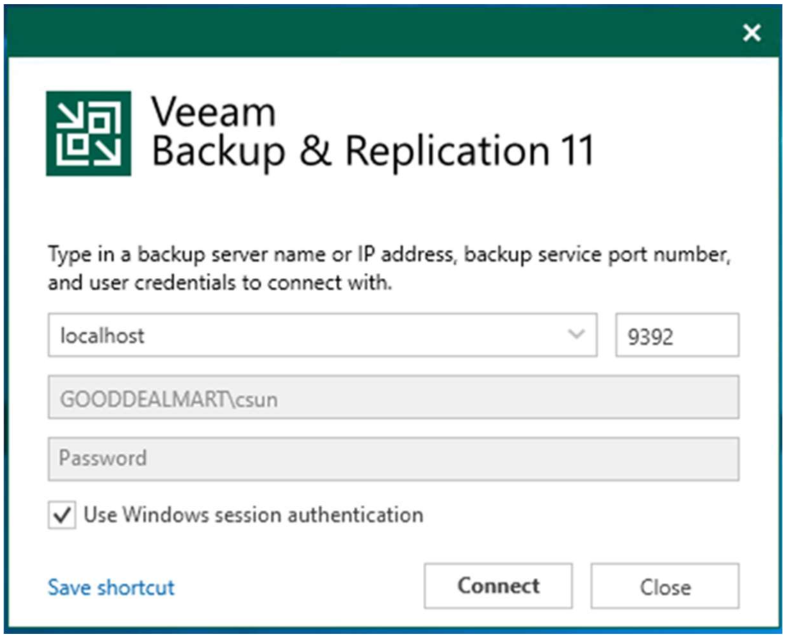
Note:

Backward compatibility is provided by Veeam Backup & Replication: backups created with previous product versions can be restored with later product versions. Backups created with later product versions, on the other hand, cannot be restored with previous product versions.

Restore the Entire VM to the Original Location

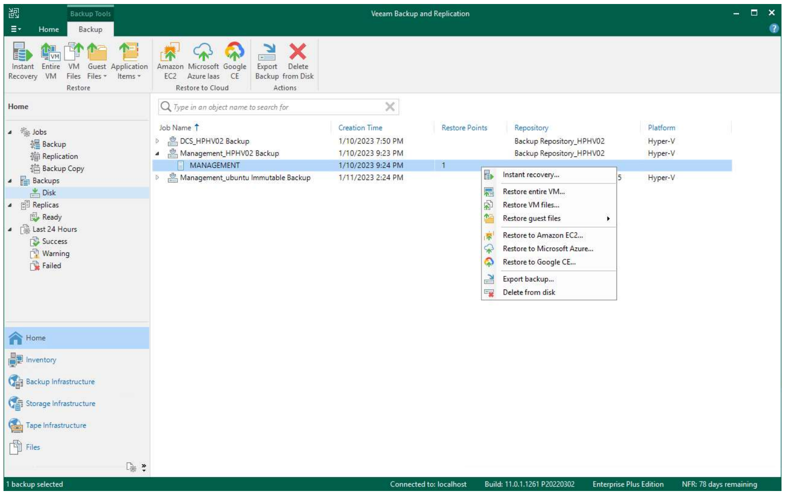
If the original VM fails, you can use Veeam Backup & Replication to restore an entire VM from a backup file to the most recent state or a previous point.

Before the entire VM restore can occur, the VM image must be fully extracted to the production storage. Veeam Backup & Replication copies the VM data from the backup repository to the chosen storage, registers the VM on the desired Hyper-V host, and, if necessary, powers it on.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, expand Backups. Select the Disk.

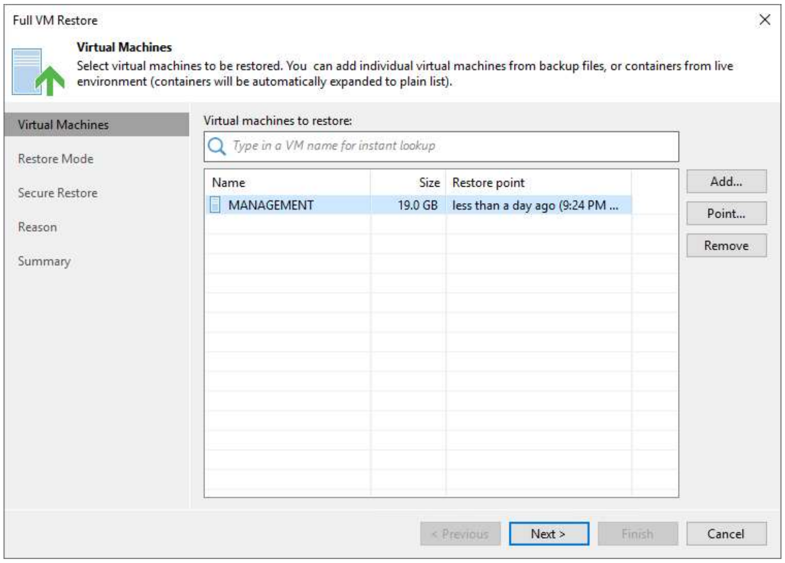
4. Expand the backup job name, right-click the virtual machine, and select Restore the entire VM.



Job Name	Creation Time	Restore Points	Repository	Platform
DCS_HPHV02 Backup	1/10/2023 7:50 PM		Backup Repository_HPHV02	Hyper-V
Management_HPHV02 Backup	1/10/2023 9:23 PM		Backup Repository_HPHV02	Hyper-V
MANAGEMENT	1/10/2023 9:24 PM	1		
Management_ubuntu Immutable Backup	1/11/2023 2:24 PM		5	Hyper-V

1 backup selected Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 78 days remaining

5. Select the virtual machine and click Point on the Virtual Machine page.



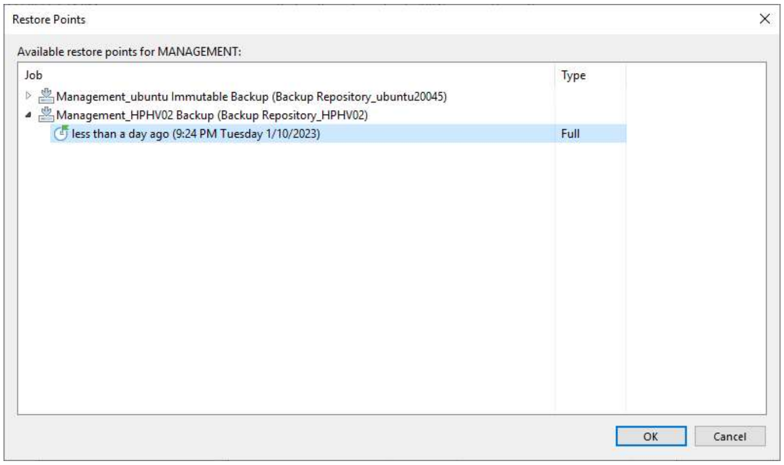
Virtual Machines

Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Name	Size	Restore point
MANAGEMENT	19.0 GB	less than a day ago (9:24 PM ...

6. Expand the backup job on the Restore Point page, select the restore point, and click OK.

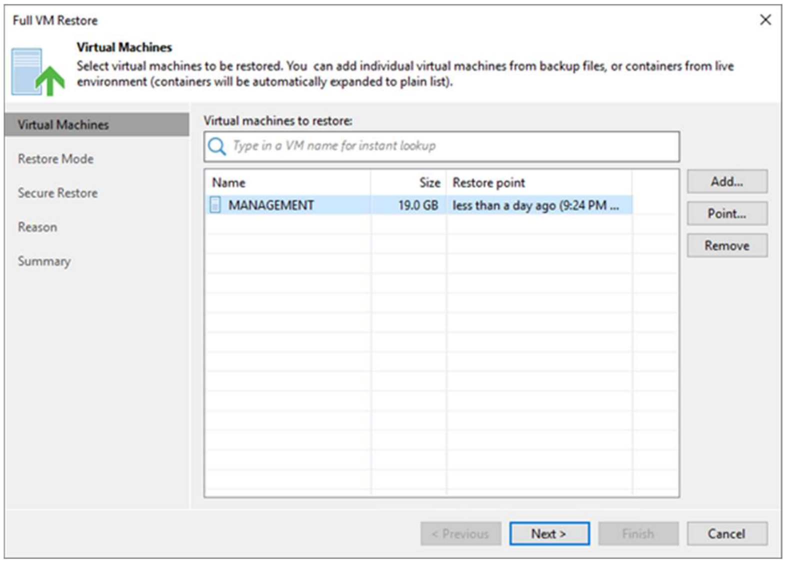


Restore Points

Available restore points for MANAGEMENT:

Job	Type
Management_ubuntu Immutable Backup (Backup Repository_ubuntu20045)	
Management_HPHV02 Backup (Backup Repository_HPHV02)	
less than a day ago (9:24 PM Tuesday 1/10/2023)	Full

7. On the Virtual Machines page, click Next.



Full VM Restore

Virtual Machines

Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

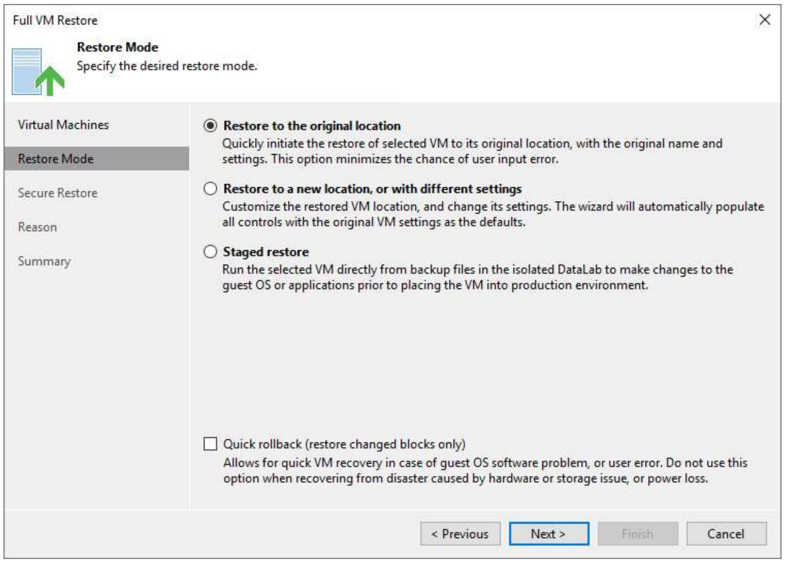
Type in a VM name for instant lookup

Name	Size	Restore point
MANAGEMENT	19.0 GB	less than a day ago (9:24 PM ...

8. On the Restore Mode page, select Restore to the original location.

9. Select the Quick rollback (restore changed blocks only) checkbox If you restore a VM following a problem at the VM guest OS level.

10. Click Next.



Restore Mode
Specify the desired restore mode.

● **Restore to the original location**
Quickly initiate the restore of selected VM to its original location, with the original name and settings. This option minimizes the chance of user input error.

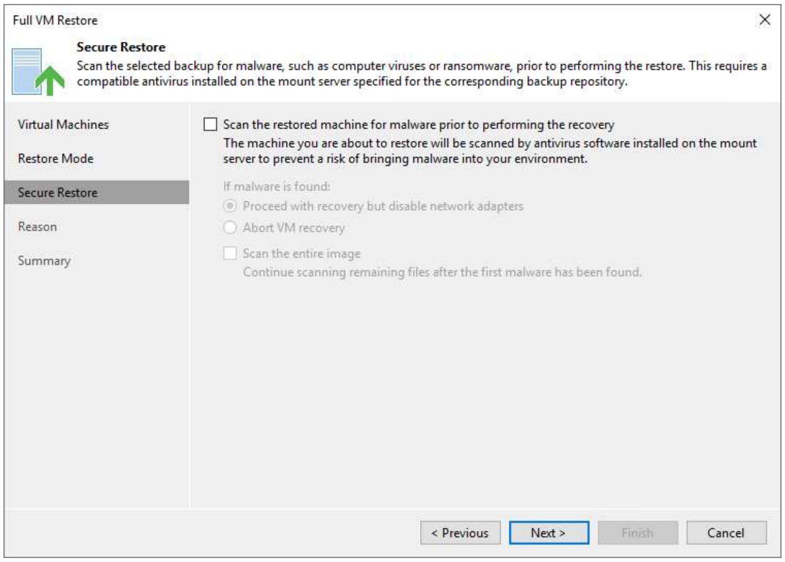
○ **Restore to a new location, or with different settings**
Customize the restored VM location, and change its settings. The wizard will automatically populate all controls with the original VM settings as the defaults.

○ **Staged restore**
Run the selected VM directly from backup files in the isolated DataLab to make changes to the guest OS or applications prior to placing the VM into production environment.

□ Quick rollback (restore changed blocks only)
Allows for quick VM recovery in case of guest OS software problem, or user error. Do not use this option when recovering from disaster caused by hardware or storage issue, or power loss.

11. Check the following prerequisites before performing a secure restore:

- Support Microsoft Windows only.
- The antivirus software must be installed on the mount server and support the command line interface (CLI).
- The antivirus configuration file must be configured on the mount server.
- Veeam Backup & Replication does not



Secure Restore
Scan the selected backup for malware, such as computer viruses or ransomware, prior to performing the restore. This requires a compatible antivirus installed on the mount server specified for the corresponding backup repository.

□ Scan the restored machine for malware prior to performing the recovery
The machine you are about to restore will be scanned by antivirus software installed on the mount server to prevent a risk of bringing malware into your environment.

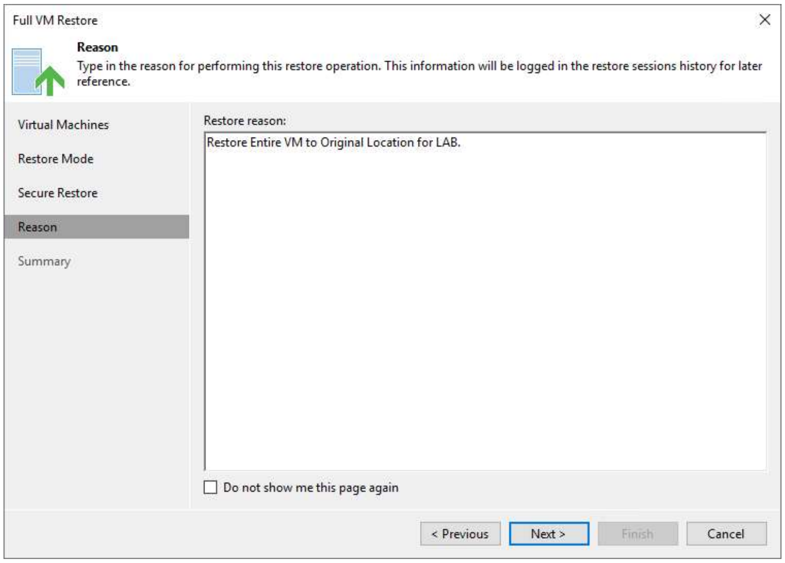
If malware is found:
● Proceed with recovery but disable network adapters
○ Abort VM recovery
□ Scan the entire image
Continue scanning remaining files after the first malware has been found.

perform malware scans for disks or volumes that cannot be mounted to the mount server.

12. Select the Scan the restored machine for malware before performing the recovery check box.

13. Click Next.

14. On the Reason page, enter a reason for restoring the selected VMs.



Full VM Restore

Reason

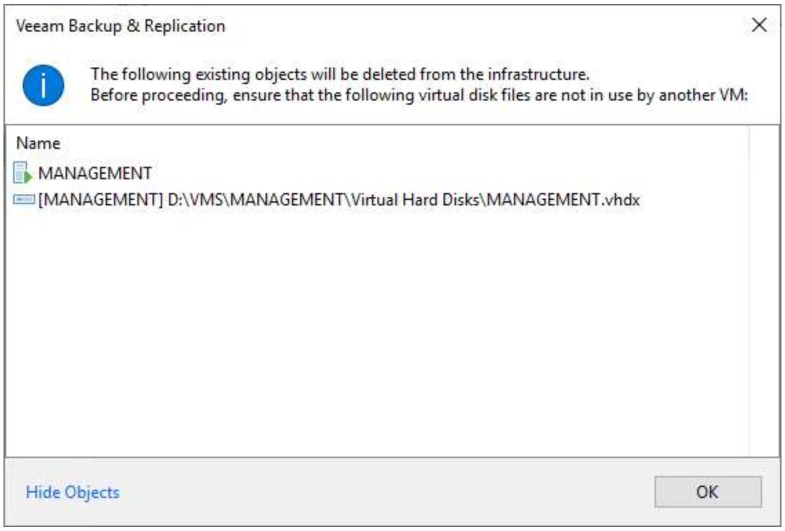
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Restore reason:

Restore Entire VM to Original Location for LAB.

□ Do not show me this page again

15. Click OK on the object will be deleted the warning message.

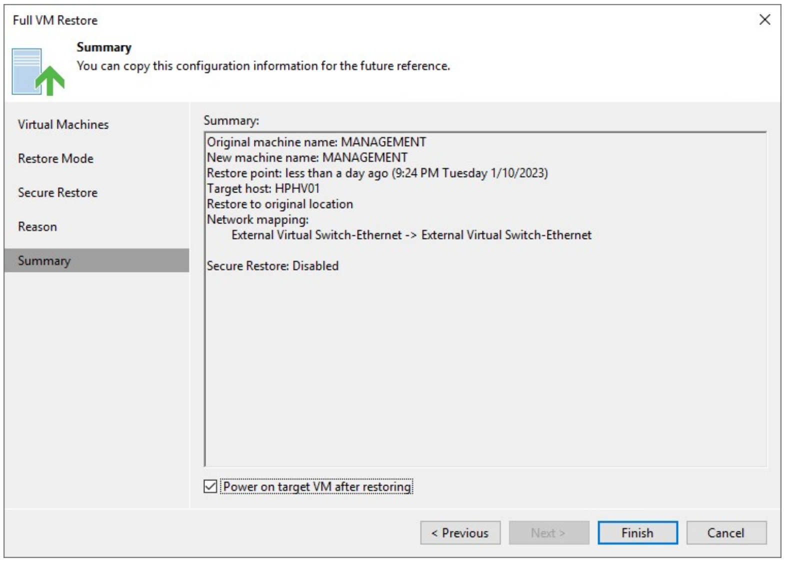


Veeam Backup & Replication

The following existing objects will be deleted from the infrastructure.
Before proceeding, ensure that the following virtual disk files are not in use by another VM:

Name
MANAGEMENT
[MANAGEMENT] D:\VMS\MANAGEMENT\Virtual Hard Disks\MANAGEMENT.vhdx

16. Select Power on the target VM after restoring and click Finish on the Summary page.



Full VM Restore

Summary
You can copy this configuration information for the future reference.

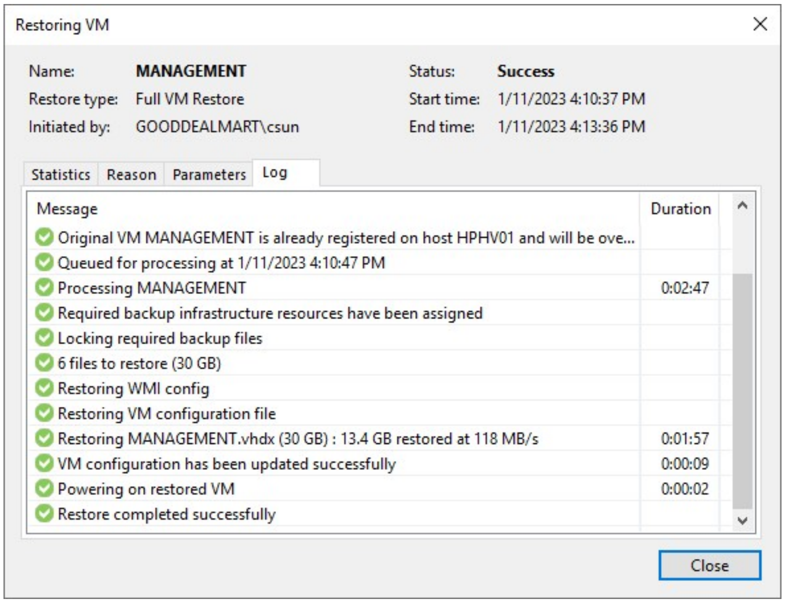
Summary:

```
Original machine name: MANAGEMENT
New machine name: MANAGEMENT
Restore point: less than a day ago (9:24 PM Tuesday 1/10/2023)
Target host: HPHV01
Restore to original location
Network mapping:
     External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Secure Restore: Disabled
```

☑ Power on target VM after restoring

17. On the Restoring VM page, select Log.

18. Ensure the restore VM is completed successfully and click Closed.

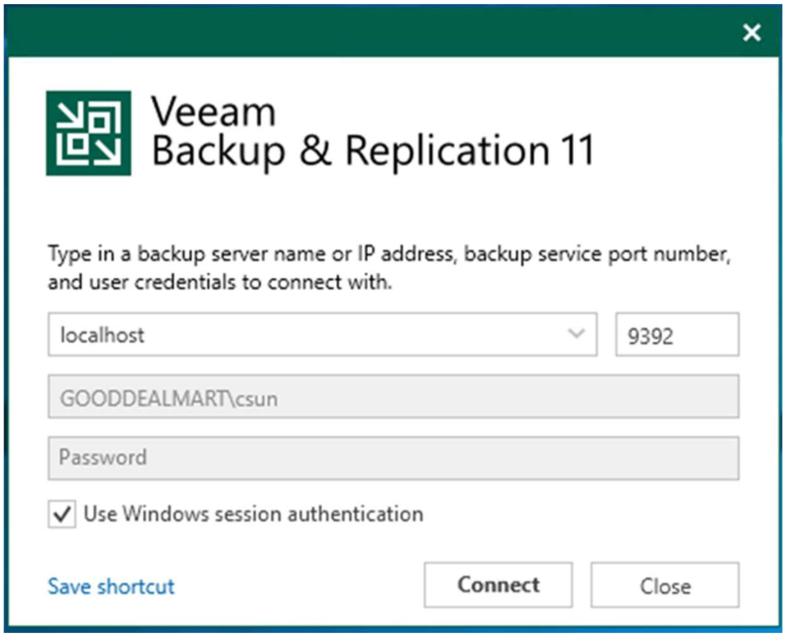


Name: **MANAGEMENT**
Restore type: Full VM Restore
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 1/11/2023 4:10:37 PM
End time: 1/11/2023 4:13:36 PM

Message	Duration
✓ Original VM MANAGEMENT is already registered on host HPHV01 and will be ove...	
✓ Queued for processing at 1/11/2023 4:10:47 PM	
✓ Processing MANAGEMENT	0:02:47
✓ Required backup infrastructure resources have been assigned	
✓ Locking required backup files	
✓ 6 files to restore (30 GB)	
✓ Restoring WMI config	
✓ Restoring VM configuration file	
✓ Restoring MANAGEMENT.vhdx (30 GB) : 13.4 GB restored at 118 MB/s	0:01:57
✓ VM configuration has been updated successfully	0:00:09
✓ Powering on restored VM	0:00:02
✓ Restore completed successfully	

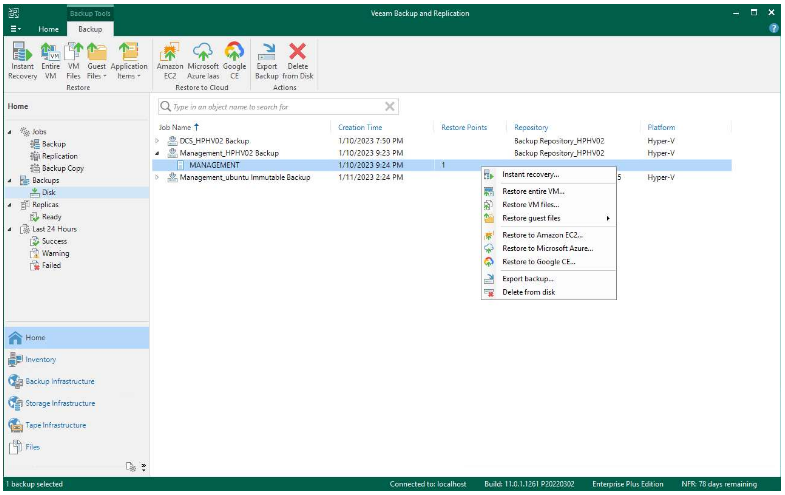
Restore the Entire VM to the New Location

Existing jobs do not need to be updated that process the original/recovered VMs if you restore them to the same host and choose to preserve VM UUIDs. However, if you configure restore differently and want to process the recovered VMs, you must edit existing jobs or create new ones.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

3. On the Home page, expand Backups. Select the Disk.

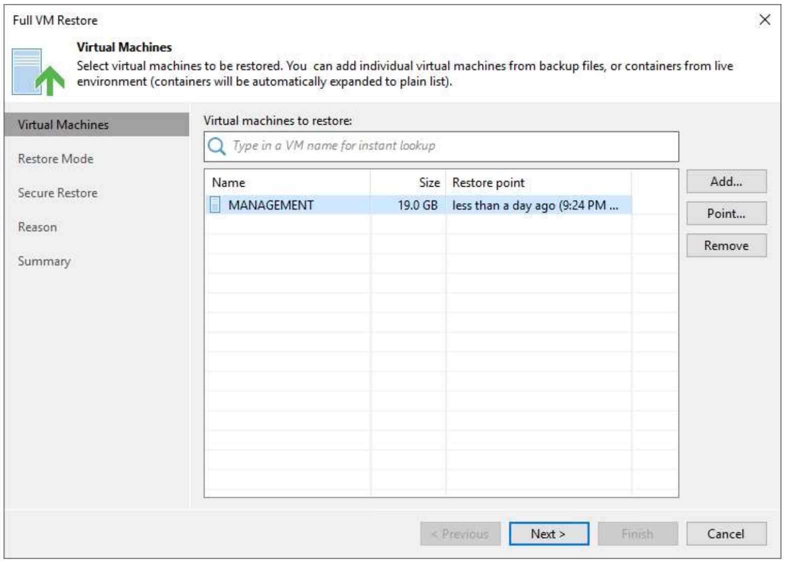
4. Expand the backup job name, right-click the virtual machine, and select Restore the entire VM.



Job Name	Creation Time	Restore Points	Repository	Platform
DCS_HPHV02 Backup	1/10/2023 7:50 PM		Backup Repository_HPHV02	Hyper-V
Management_HPHV02 Backup	1/10/2023 9:23 PM		Backup Repository_HPHV02	Hyper-V
MANAGEMENT	1/10/2023 9:24 PM	1		
Management_ubuntu Immutable Backup	1/11/2023 2:24 PM	5		Hyper-V

1 backup selected   Connected to: localhost   Build: 11.0.1.1261 P20220302   Enterprise Plus Edition   NFR: 78 days remaining

5. Select the virtual machine and click Point on the Virtual Machine page.



Virtual Machines

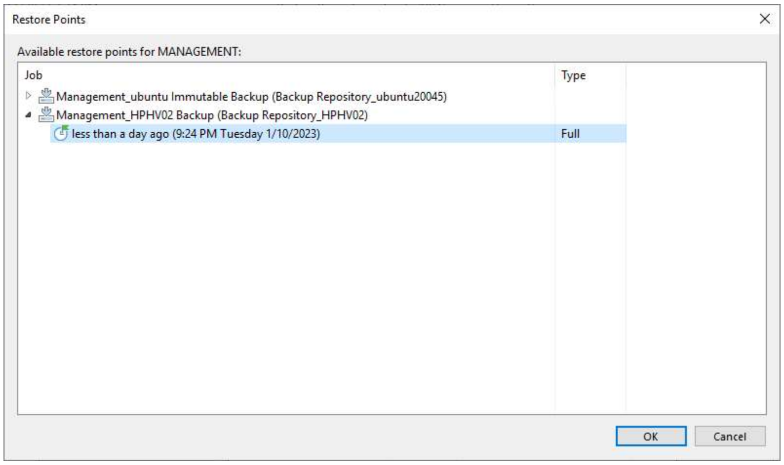
Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Type in a VM name for instant lookup

Name	Size	Restore point
MANAGEMENT	19.0 GB	less than a day ago (9:24 PM ...

6. Expand the backup job on the Restore Point page, select the restore point, and click OK.

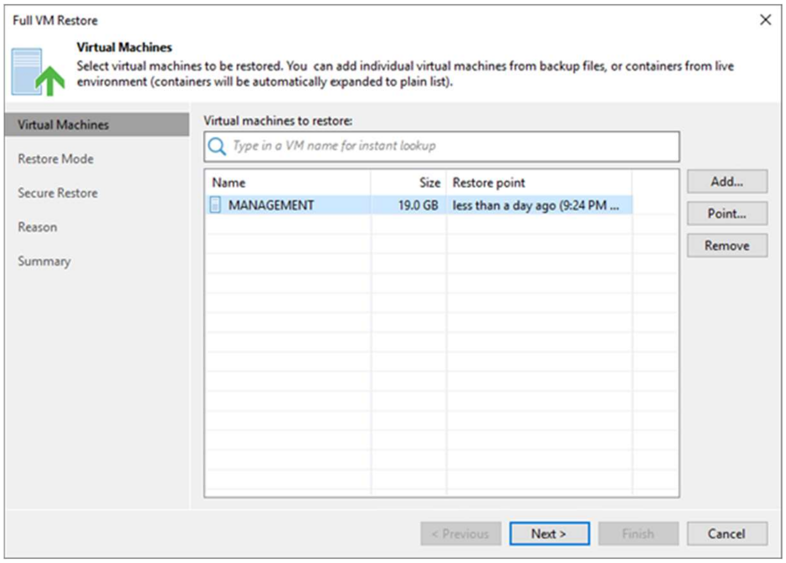


Restore Points

Available restore points for MANAGEMENT:

Job	Type
Management_ubuntu Immutable Backup (Backup Repository_ubuntu20045)	
Management_HPHV02 Backup (Backup Repository_HPHV02)	
less than a day ago (9:24 PM Tuesday 1/10/2023)	Full

7. On the Virtual Machines page, click Next.



Full VM Restore

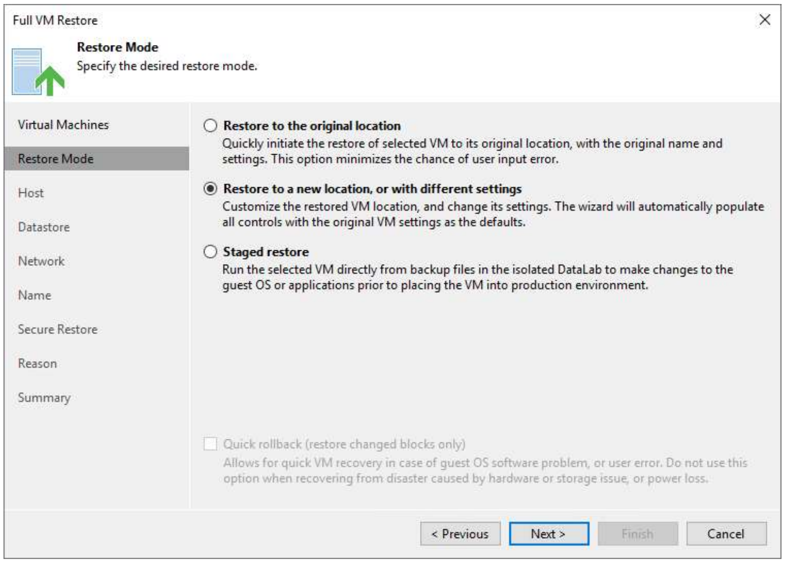
Virtual Machines

Select virtual machines to be restored. You can add individual virtual machines from backup files, or containers from live environment (containers will be automatically expanded to plain list).

Virtual machines to restore:

Name	Size	Restore point
MANAGEMENT	19.0 GB	less than a day ago (9:24 PM ...

8. Select Restore to a new location or with different settings on the Restore Mode page and click Next.



Restore Mode

Specify the desired restore mode.

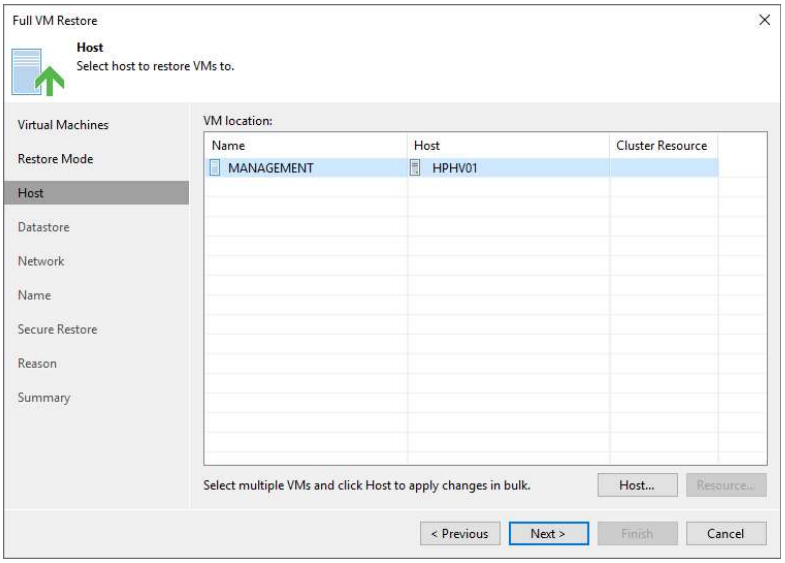
○ **Restore to the original location**
Quickly initiate the restore of selected VM to its original location, with the original name and settings. This option minimizes the chance of user input error.

● **Restore to a new location, or with different settings**
Customize the restored VM location, and change its settings. The wizard will automatically populate all controls with the original VM settings as the defaults.

○ **Staged restore**
Run the selected VM directly from backup files in the isolated DataLab to make changes to the guest OS or applications prior to placing the VM into production environment.

□ Quick rollback (restore changed blocks only)
Allows for quick VM recovery in case of guest OS software problem, or user error. Do not use this option when recovering from disaster caused by hardware or storage issue, or power loss.

9. On the Host page, select the virtual machine and click Host.



Host

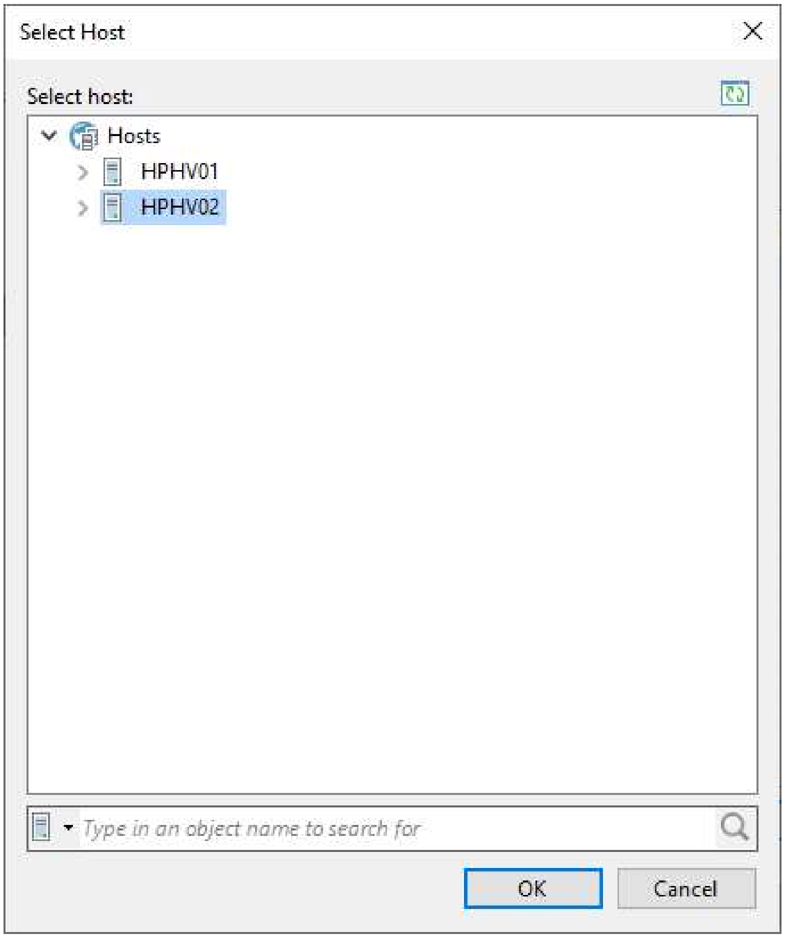
Select host to restore VMs to.

VM location:

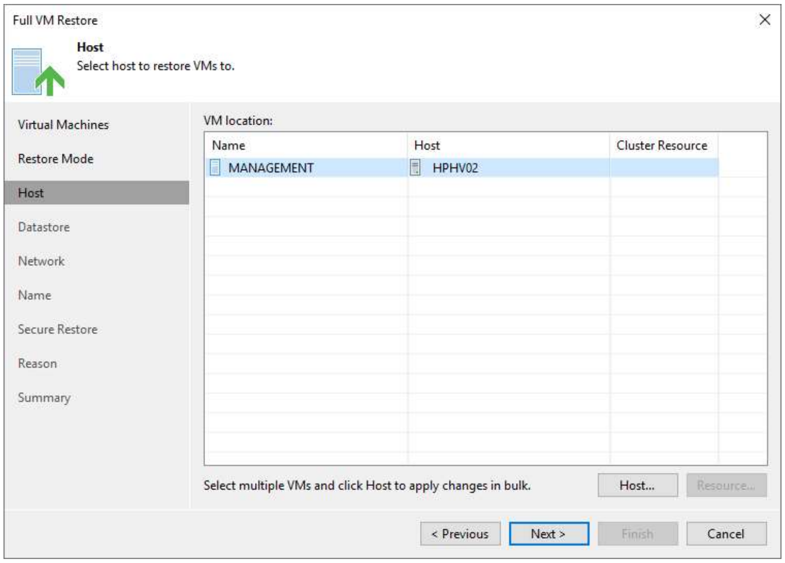
Name	Host	Cluster Resource
MANAGEMENT	HPHV01	

Select multiple VMs and click Host to apply changes in bulk.

10. On the Host page, select the target host, and click OK.



11. On the Host page, click Next.



Full VM Restore

Host

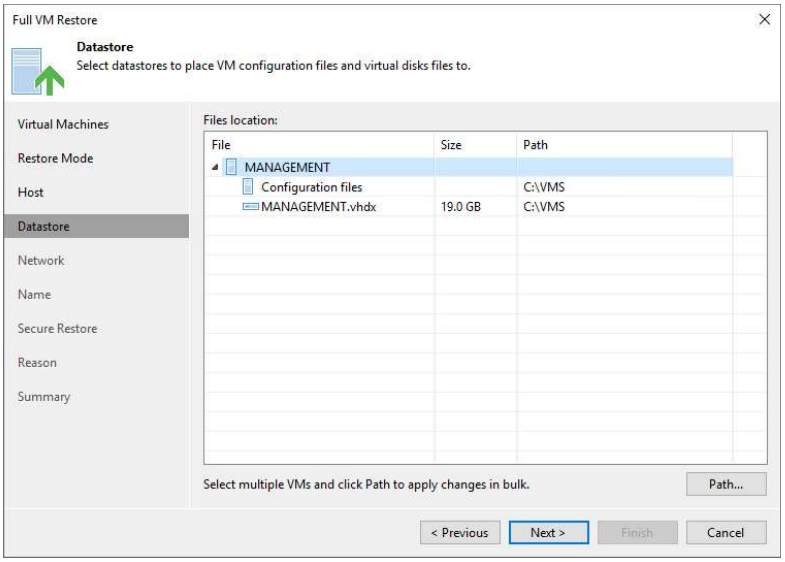
Select host to restore VMs to.

VM location:

Name	Host	Cluster Resource
MANAGEMENT	HPHV02	

Select multiple VMs and click Host to apply changes in bulk.

12. On the Datastore page, select the virtual machine and click Path.



Full VM Restore

Datastore

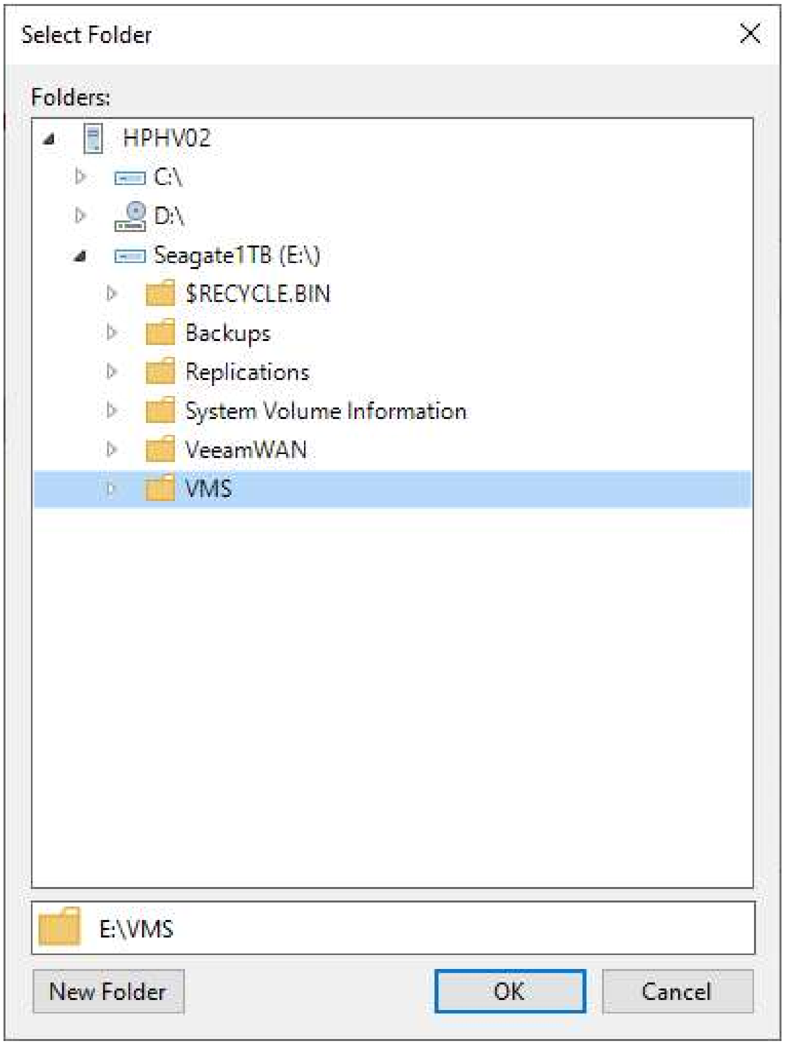
Select datastores to place VM configuration files and virtual disks files to.

Files location:

File	Size	Path
MANAGEMENT		
Configuration files		C:\VMS
MANAGEMENT.vhdx	19.0 GB	C:\VMS

Select multiple VMs and click Path to apply changes in bulk.

13. Select the target folder and click OK on the Select Folder page.

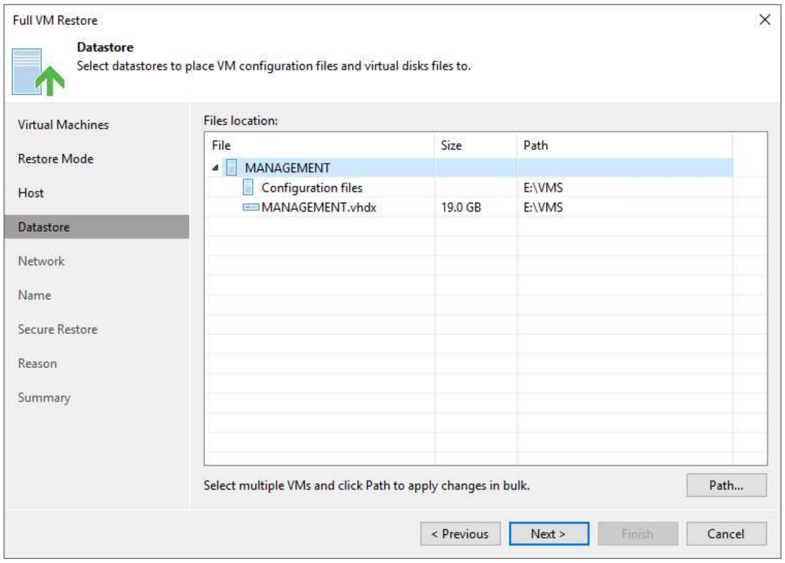


Select Folder

Folders:

E:\VMS

14. On the Datastore page, click Next.



Datastore

Select datastores to place VM configuration files and virtual disks files to.

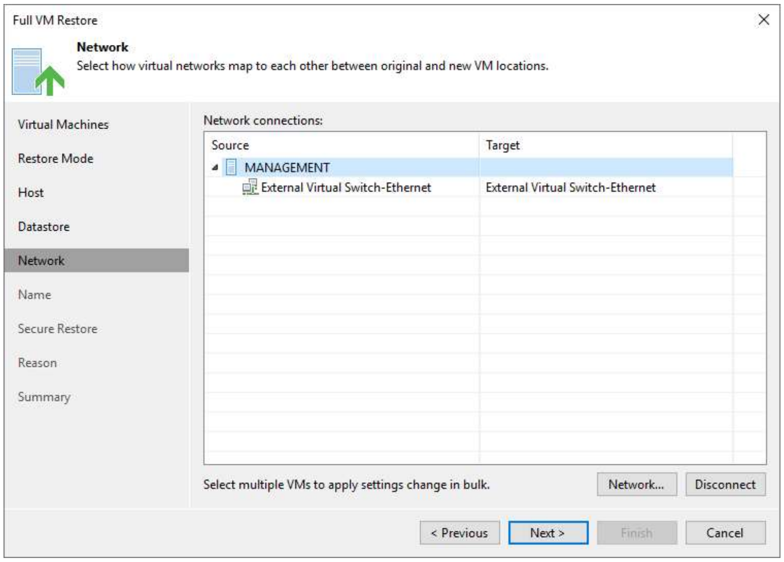
Files location:

File	Size	Path
MANAGEMENT		
Configuration files		E:\VMS
MANAGEMENT.vhdx	19.0 GB	E:\VMS

Select multiple VMs and click Path to apply changes in bulk.

15. On the Network page, select the virtual machine and click Network.

16. If the restored VM does not need to connect to any virtual network, select the VM in the list and click Disconnected.



Network

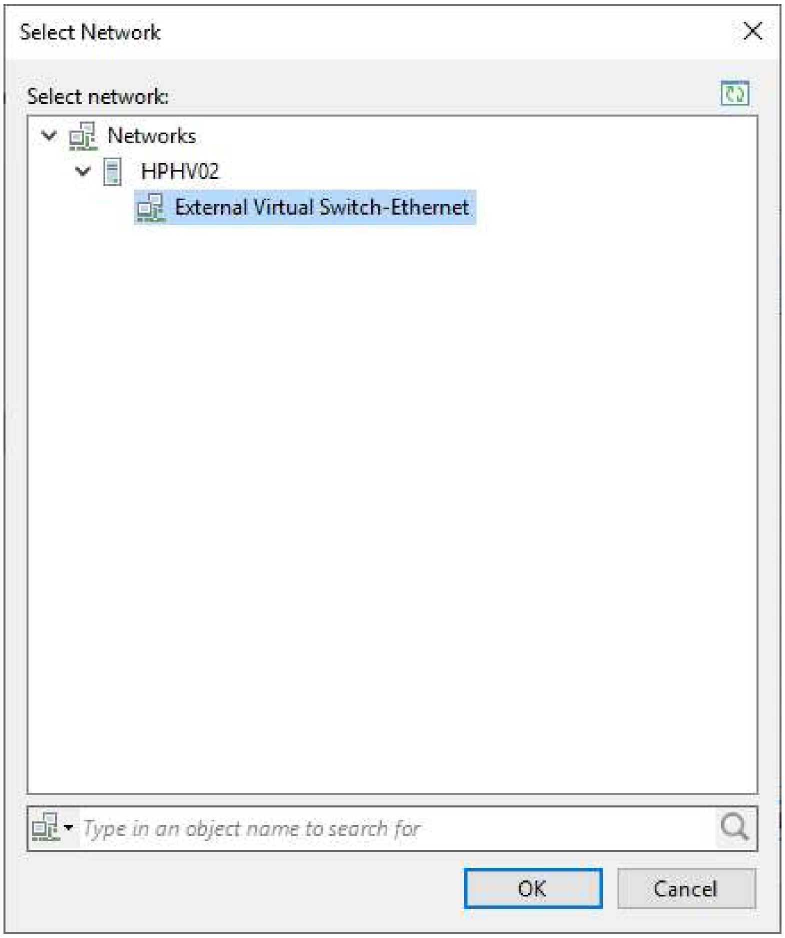
Select how virtual networks map to each other between original and new VM locations.

Network connections:

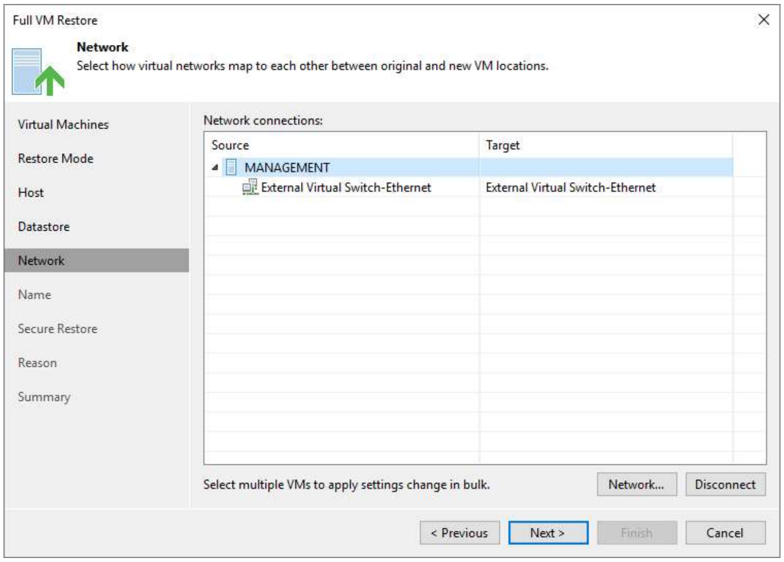
Source	Target
MANAGEMENT	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.

17. On the Select Network page, select the network for restoring the VM and click OK.


Select Network
Select network:
Networks
HPHV02
External Virtual Switch-Ethernet
Type in an object name to search for
OK
Cancel

18. On the Network page, click Next.



Full VM Restore

Network

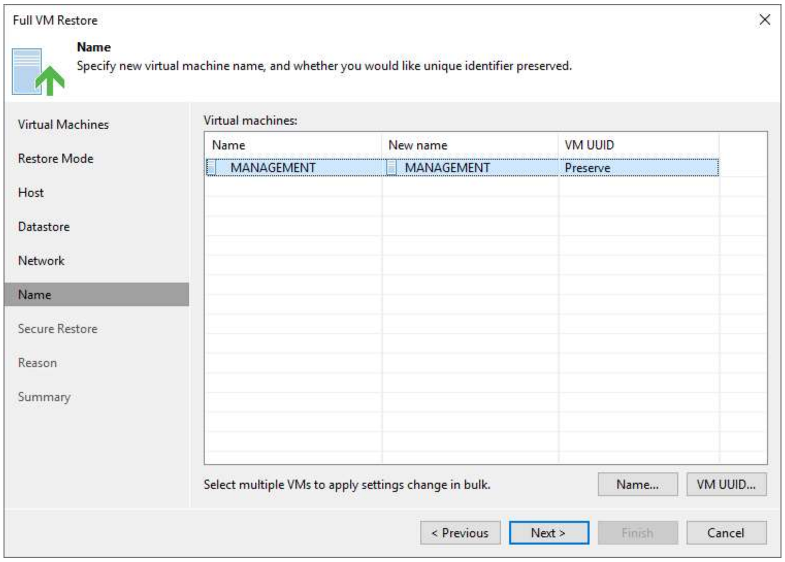
Select how virtual networks map to each other between original and new VM locations.

Network connections:

Source	Target
MANAGEMENT	
External Virtual Switch-Ethernet	External Virtual Switch-Ethernet

Select multiple VMs to apply settings change in bulk.

19. On the Name page, select the virtual machine and click Name.



Full VM Restore

Name

Specify new virtual machine name, and whether you would like unique identifier preserved.

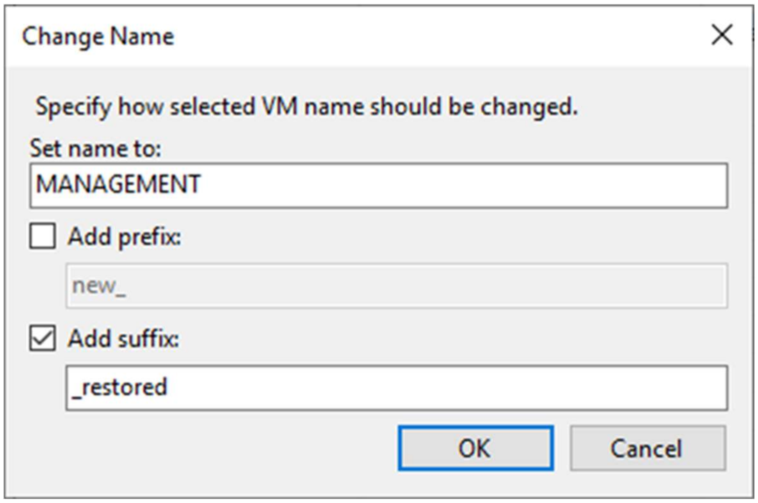
Virtual machines:

Name	New name	VM UUID
MANAGEMENT	MANAGEMENT	Preserve

Select multiple VMs to apply settings change in bulk.

20. On the Change Name page, enter a new name or change the name by adding a prefix and suffix to the regular VM name.

21. Click OK.



Change Name

Specify how selected VM name should be changed.

Set name to:

MANAGEMENT

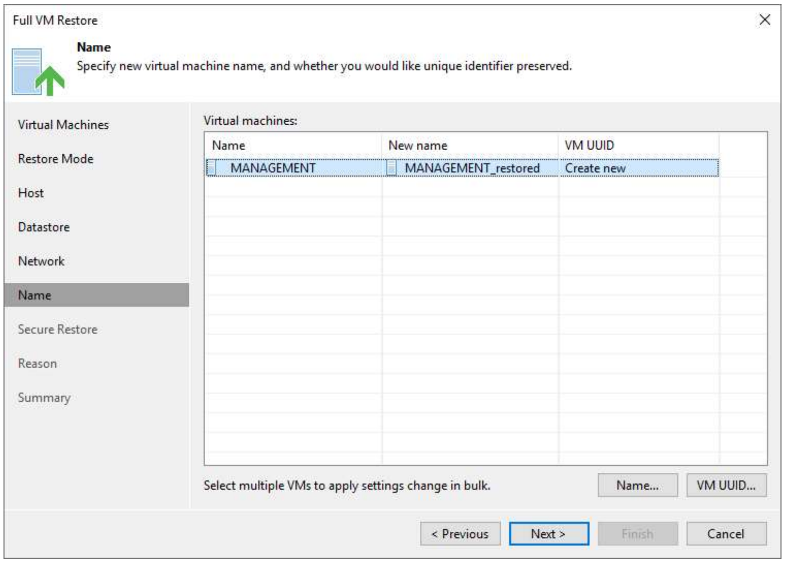
□ Add prefix:

new_

☑ Add suffix:

_restored

22. On the Name page, select the virtual machine and click VM UUID.



Full VM Restore

Name

Specify new virtual machine name, and whether you would like unique identifier preserved.

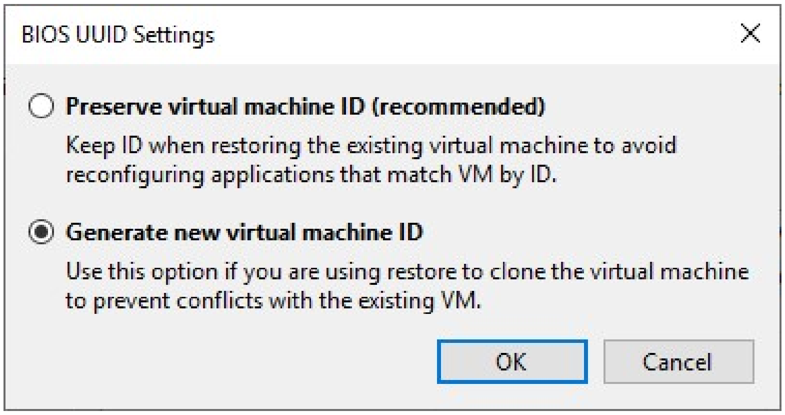
Virtual machines:

Name	New name	VM UUID
MANAGEMENT	MANAGEMENT_restored	Create new

Select multiple VMs to apply settings change in bulk.

23. On the BIOS UUID Settings, Select Preserve existing VM ID if the original VM was decommissioned.

24. Click OK.



BIOS UUID Settings

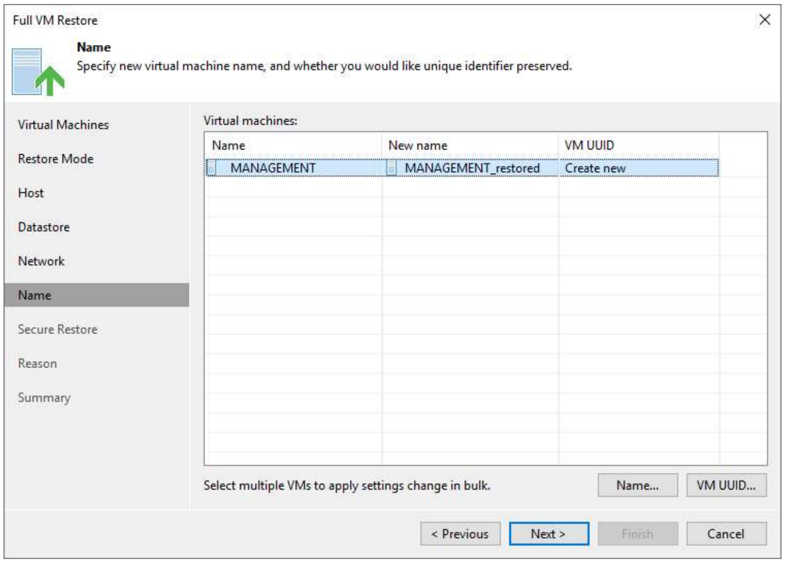
○ **Preserve virtual machine ID (recommended)**

Keep ID when restoring the existing virtual machine to avoid reconfiguring applications that match VM by ID.

● **Generate new virtual machine ID**

Use this option if you are using restore to clone the virtual machine to prevent conflicts with the existing VM.

25. On the Name page, click Next.



Full VM Restore

Name

Specify new virtual machine name, and whether you would like unique identifier preserved.

Virtual machines:

Name	New name	VM UUID
MANAGEMENT	MANAGEMENT_restored	Create new

Select multiple VMs to apply settings change in bulk.

26. Check the following prerequisites before performing a secure restore:

27. Support Microsoft Windows only.

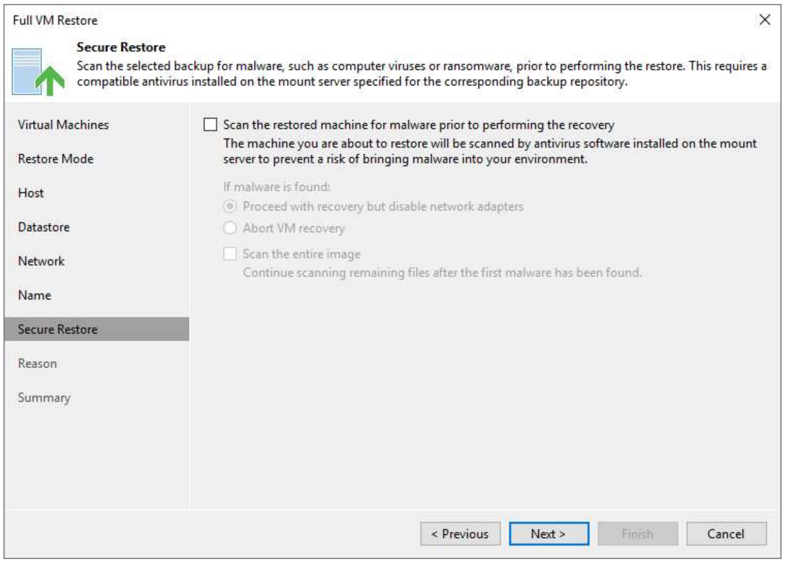
28. The antivirus software must be installed on the mount server and support the command line interface (CLI).

29. The antivirus configuration file must be configured on the mount server.

30. Veeam Backup & Replication does not perform malware scans for disks or volumes that cannot be mounted to the mount server.

31. Select the Scan the restored machine for malware before performing the recovery check box.

32. Click Next.


Full VM Restore

Secure Restore

Scan the selected backup for malware, such as computer viruses or ransomware, prior to performing the restore. This requires a compatible antivirus installed on the mount server specified for the corresponding backup repository.

☐ Scan the restored machine for malware prior to performing the recovery

The machine you are about to restore will be scanned by antivirus software installed on the mount server to prevent a risk of bringing malware into your environment.

If malware is found:

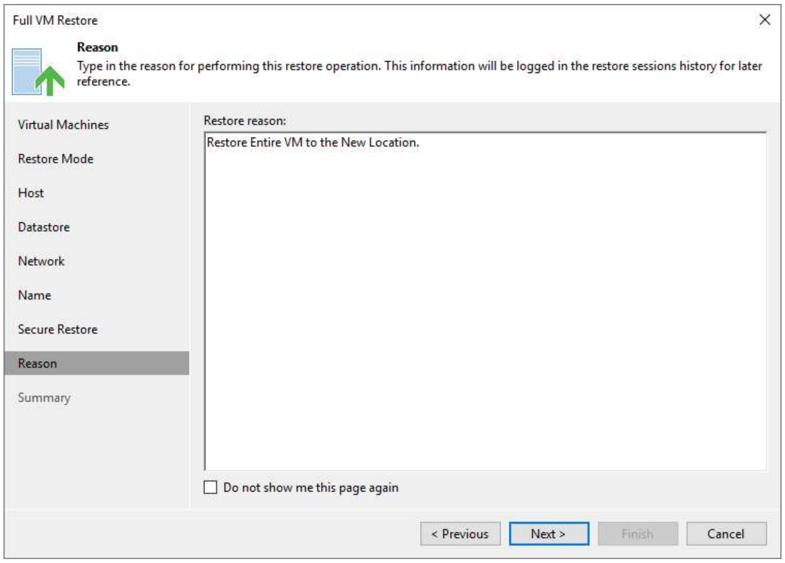
● Proceed with recovery but disable network adapters

○ Abort VM recovery

☐ Scan the entire image

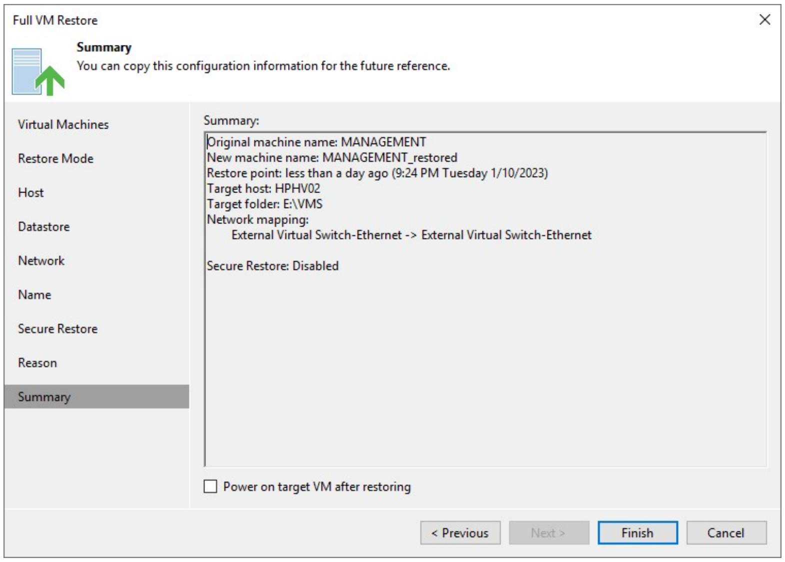
Continue scanning remaining files after the first malware has been found.

33. On the Reason page, enter a reason for restoring the selected VMs and click Next.


Full VM Restore
Reason
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.
Virtual Machines
Restore Mode
Host
Datastore
Network
Name
Secure Restore
Reason
Summary
□ Do not show me this page again
< Previous
Next >
Finish
Cancel

Restore reason:
Restore Entire VM to the New Location.

34. On the Summary page, click Finish.

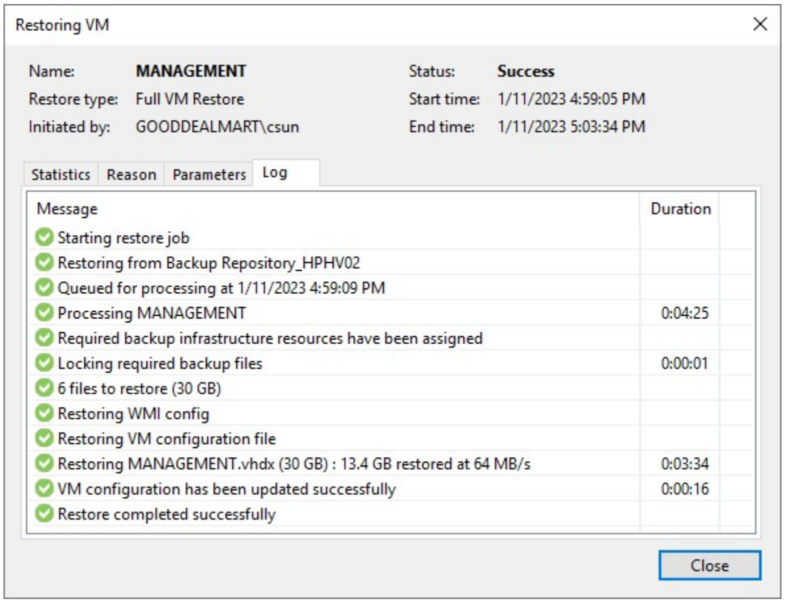


Summary:

```
Original machine name: MANAGEMENT
New machine name: MANAGEMENT_restored
Restore point: less than a day ago (9:24 PM Tuesday 1/10/2023)
Target host: HPHV02
Target folder: E:\VMS
Network mapping:
      External Virtual Switch-Ethernet -> External Virtual Switch-Ethernet

Secure Restore: Disabled
```

35. On the Restoring VM page, select Log.

36. Ensure the restore VM is completed successfully and click Closed.



Restoring VM

Name: **MANAGEMENT**
Restore type: Full VM Restore
Initiated by: GOODDEALMART\csun
Status: **Success**
Start time: 1/11/2023 4:59:05 PM
End time: 1/11/2023 5:03:34 PM

Message	Duration
✓ Starting restore job	
✓ Restoring from Backup Repository_HPHV02	
✓ Queued for processing at 1/11/2023 4:59:09 PM	
✓ Processing MANAGEMENT	0:04:25
✓ Required backup infrastructure resources have been assigned	
✓ Locking required backup files	0:00:01
✓ 6 files to restore (30 GB)	
✓ Restoring WMI config	
✓ Restoring VM configuration file	
✓ Restoring MANAGEMENT.vhdx (30 GB) : 13.4 GB restored at 64 MB/s	0:03:34
✓ VM configuration has been updated successfully	0:00:16
✓ Restore completed successfully	

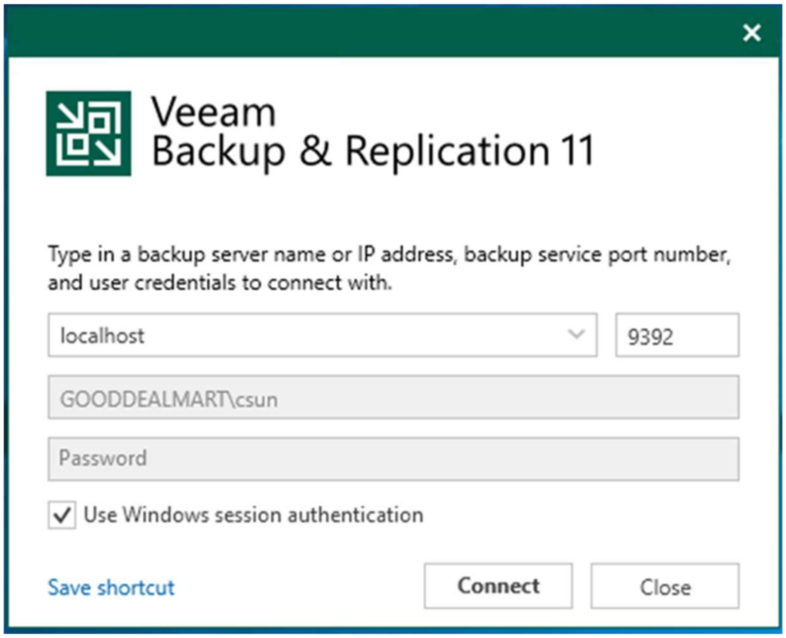
Restore VM Files

If corrupted, you can restore VM files (.XML. VMCX, VMRS,.VMGS,.VHD,.VHDX). This option is an excellent alternative to restoring the entire VM. However, you can only restore a single VM file.

When you perform a VM file restore, the VM file is restored directly from regular image-level backups without de-staging VM images from backups first. VM files can be converted to either the original or a new location.

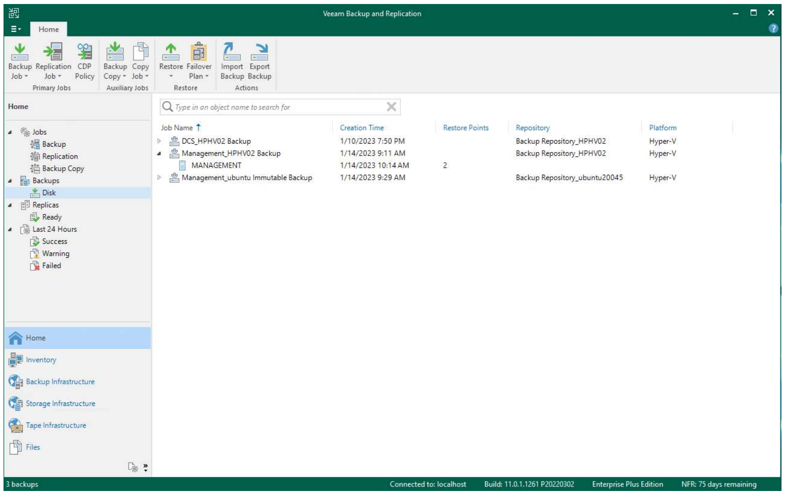
Note:

If you recover a .VMCX file and import it to Microsoft Hyper-V, the VM will be registered under the Veeam Recovery Checkpoint-(<GUID>) name. After import, you can rename the VM if required.

Instructions	Screenshot (if applicable)
1. Log in to the Veeam Backup and replication manager server. 2. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication

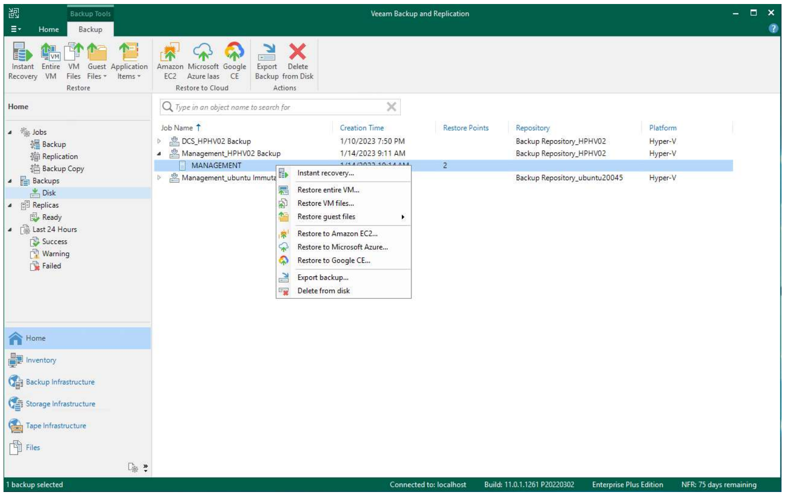
3. On the Home page, expand Backups.

4. Select the Disk and expand the backup job name.



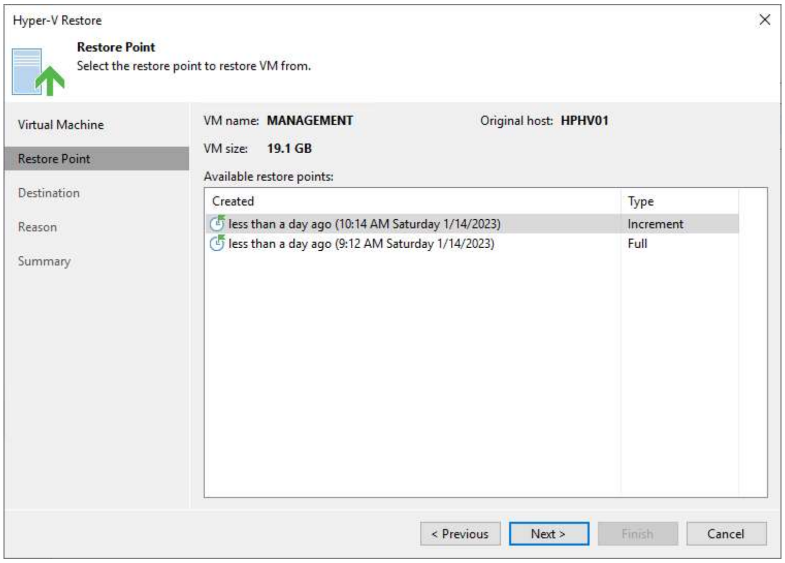
Job Name	Creation Time	Restore Points	Repository	Platform
DCS_HPHV02 Backup	1/10/2023 7:50 PM		Backup Repository_HPHV02	Hyper-V
Management_HPHV02 Backup	1/14/2023 9:11 AM		Backup Repository_HPHV02	Hyper-V
MANAGEMENT	1/14/2023 10:14 AM	2		
Management_ubuntu Immutable Backup	1/14/2023 9:29 AM		Backup Repository_ubuntu20045	Hyper-V

5. Right-click the virtual machine and select Restore VM files.



Job Name	Creation Time	Restore Points	Repository	Platform
DCS_HPHV02 Backup	1/10/2023 7:50 PM		Backup Repository_HPHV02	Hyper-V
Management_HPHV02 Backup	1/14/2023 9:11 AM		Backup Repository_HPHV02	Hyper-V
MANAGEMENT	1/14/2023 10:14 AM	2		
Management_ubuntu Immuta			Backup Repository_ubuntu20045	Hyper-V

6. Select the restore point on the Restore Point page and click Next.



Hyper-V Restore

Restore Point

Select the restore point to restore VM from.

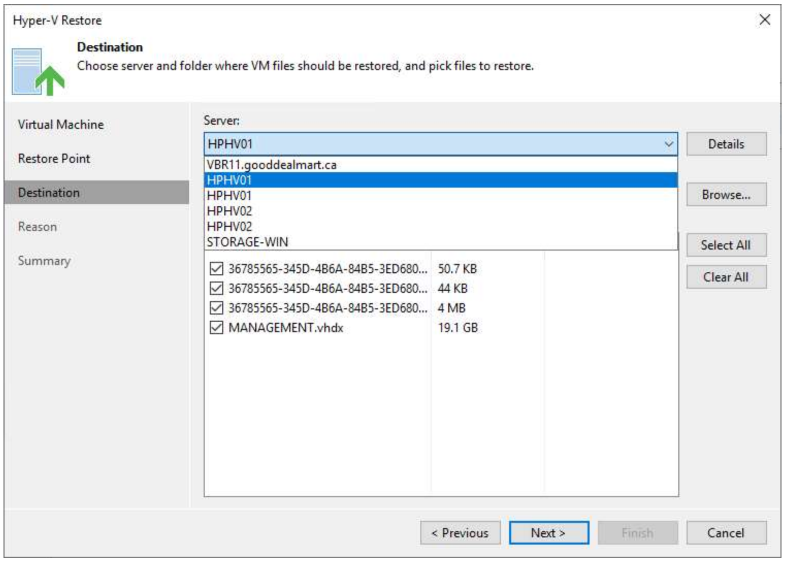
VM name: **MANAGEMENT** Original host: **HPHV01**

VM size: **19.1 GB**

Available restore points:

Created	Type
less than a day ago (10:14 AM Saturday 1/14/2023)	Increment
less than a day ago (9:12 AM Saturday 1/14/2023)	Full

7. On the Destination page, select the server from the drop-down.



Hyper-V Restore

Destination

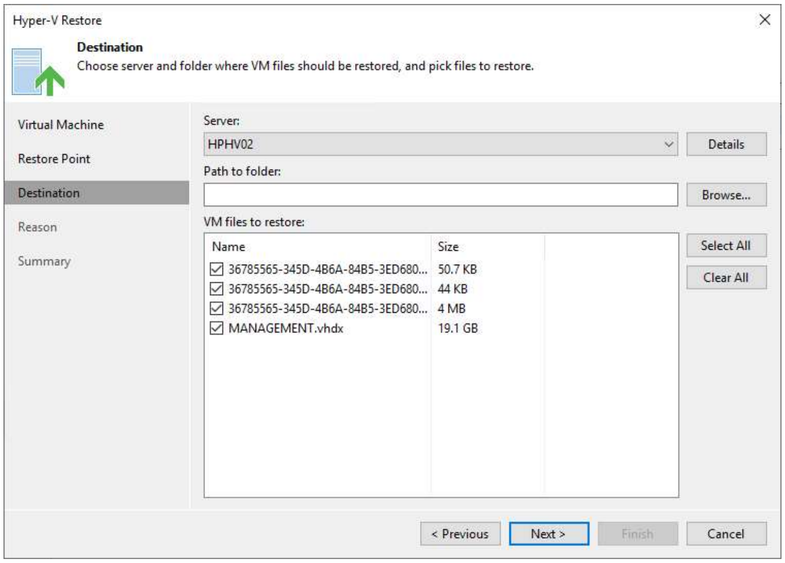
Choose server and folder where VM files should be restored, and pick files to restore.

Server: HPHV01

VBR11.gooddealmart.ca
HPHV01
HPHV01
HPHV02
HPHV02
STORAGE-WIN

☑ 36785565-345D-4B6A-84B5-3ED680...	50.7 KB
☑ 36785565-345D-4B6A-84B5-3ED680...	44 KB
☑ 36785565-345D-4B6A-84B5-3ED680...	4 MB
☑ MANAGEMENT.vhdx	19.1 GB

8. Click Browser in the path to folder session.



Hyper-V Restore

Destination

Choose server and folder where VM files should be restored, and pick files to restore.

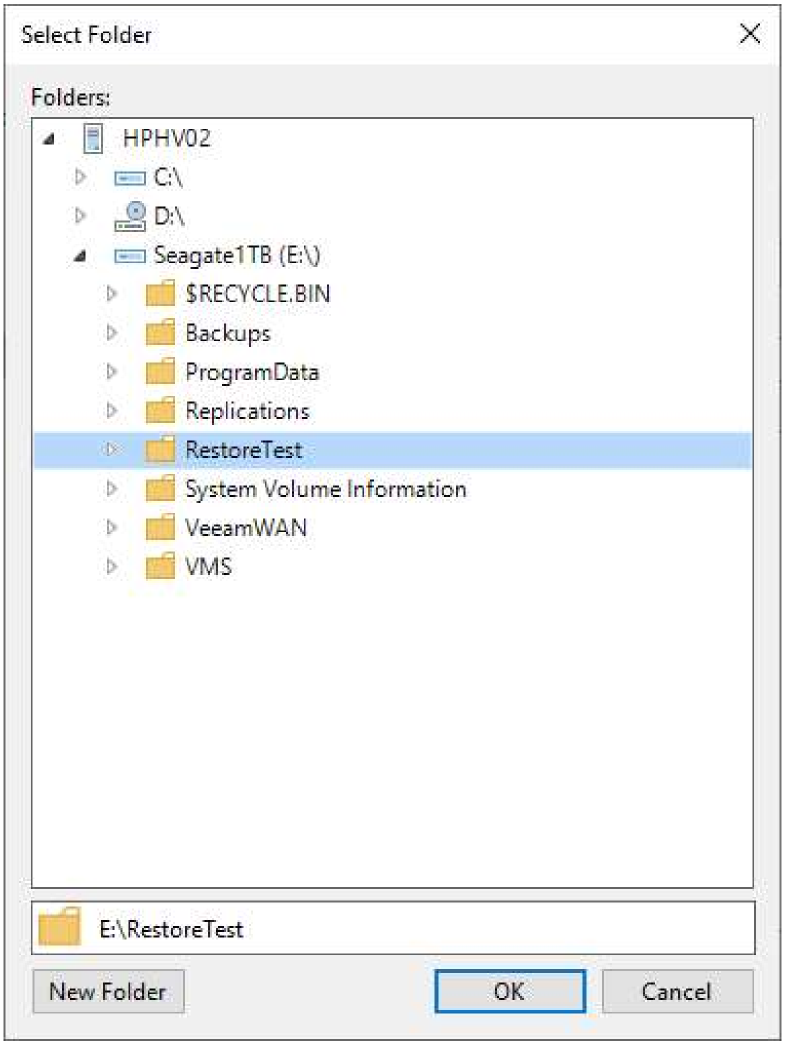
Server: HPHV02

Path to folder:

VM files to restore:

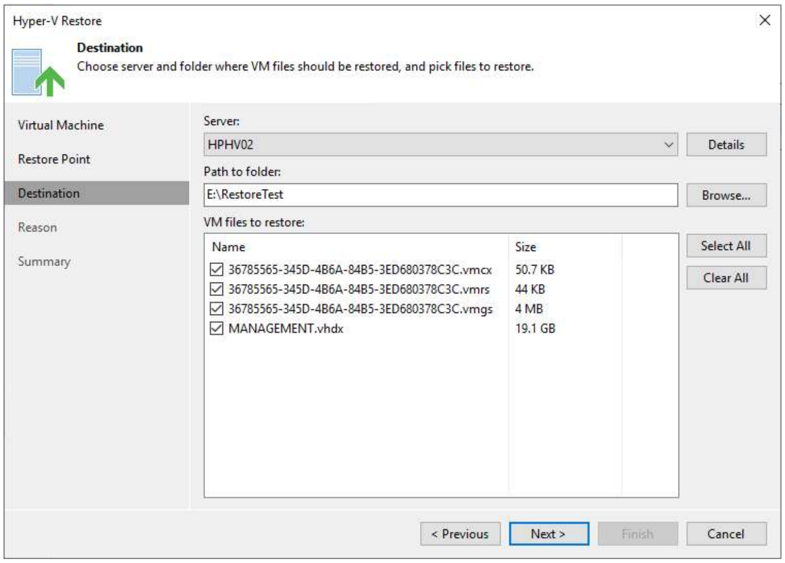
Name	Size
☑ 36785565-345D-4B6A-84B5-3ED680...	50.7 KB
☑ 36785565-345D-4B6A-84B5-3ED680...	44 KB
☑ 36785565-345D-4B6A-84B5-3ED680...	4 MB
☑ MANAGEMENT.vhdx	19.1 GB

9. On the Select Folder page, select the folder. Click OK.



E:\RestoreTest

10. Select the files check box from the VM files to restore list, and click Next.



Hyper-V Restore

Destination

Choose server and folder where VM files should be restored, and pick files to restore.

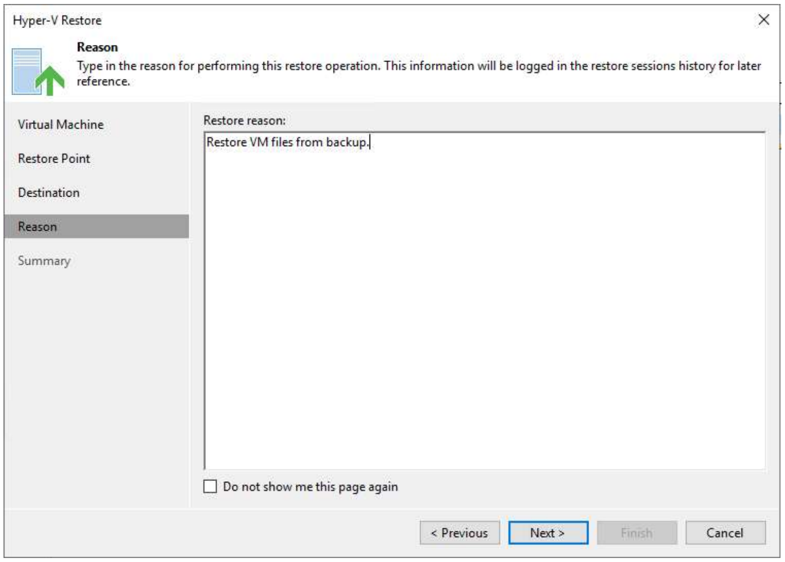
Server: HPHV02

Path to folder: E:\RestoreTest

VM files to restore:

Name	Size
☑ 36785565-345D-4B6A-84B5-3ED680378C3C.vmcx	50.7 KB
☑ 36785565-345D-4B6A-84B5-3ED680378C3C.vmrs	44 KB
☑ 36785565-345D-4B6A-84B5-3ED680378C3C.vmgs	4 MB
☑ MANAGEMENT.vhdx	19.1 GB

11. On the Reason page, enter the reason for restoring the selected VMs and click Next.



Hyper-V Restore

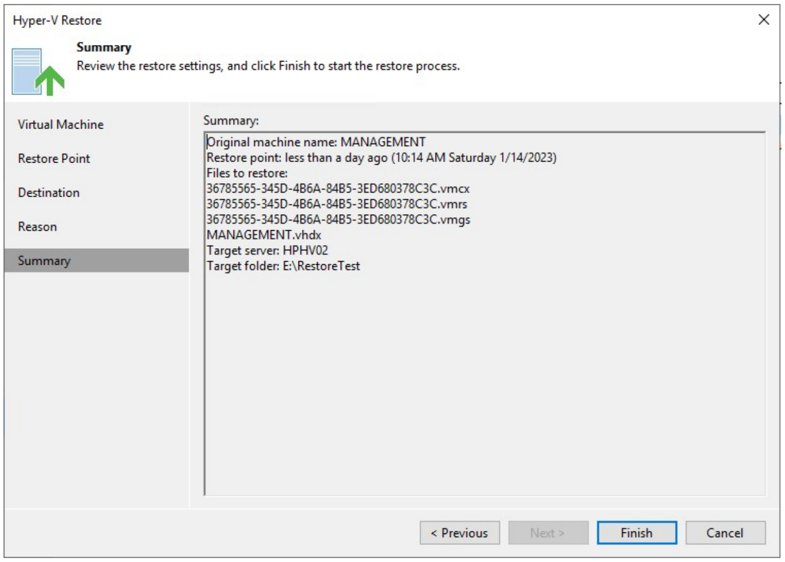
Reason

Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Restore reason: Restore VM files from backup.

☐ Do not show me this page again

12. On the Summary page, click Finish.



Hyper-V Restore

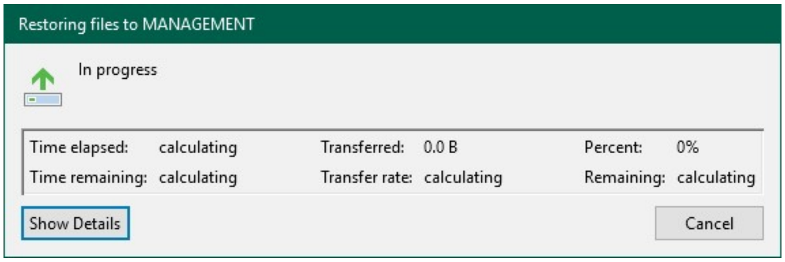
Summary

Review the restore settings, and click Finish to start the restore process.

Summary:

```
Original machine name: MANAGEMENT
Restore point: less than a day ago (10:14 AM Saturday 1/14/2023)
Files to restore:
36785565-345D-4B6A-84B5-3ED680378C3C.vmcx
36785565-345D-4B6A-84B5-3ED680378C3C.vmrs
36785565-345D-4B6A-84B5-3ED680378C3C.vmgs
MANAGEMENT.vhdx
Target server: HPHV02
Target folder: E:\RestoreTest
```

13. On the Restoring VM page, click Show Details.

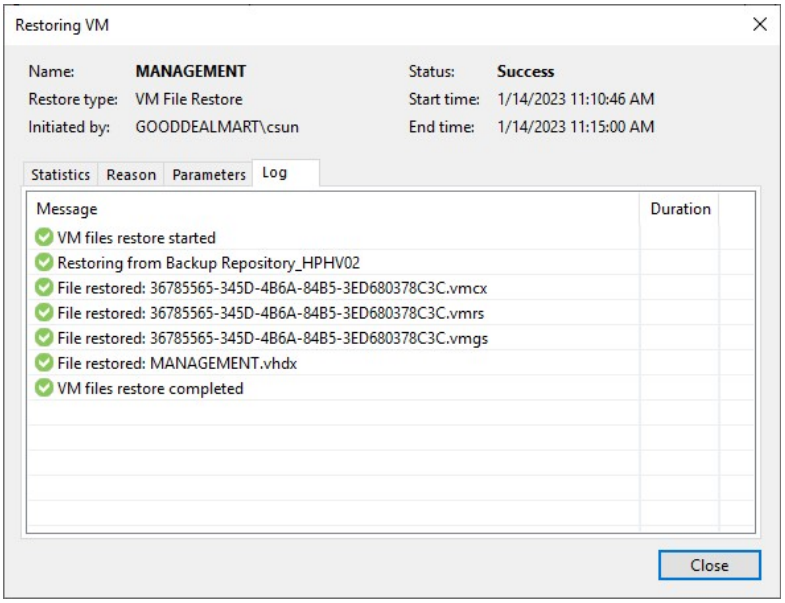


Restoring files to MANAGEMENT

In progress

```
Time elapsed:    calculating    Transferred:    0.0 B          Percent:    0%
Time remaining:  calculating    Transfer rate:  calculating    Remaining:  calculating
```

14. Select log on the Restoring VM page, ensure the restore VM files are completed successfully and click Closed.

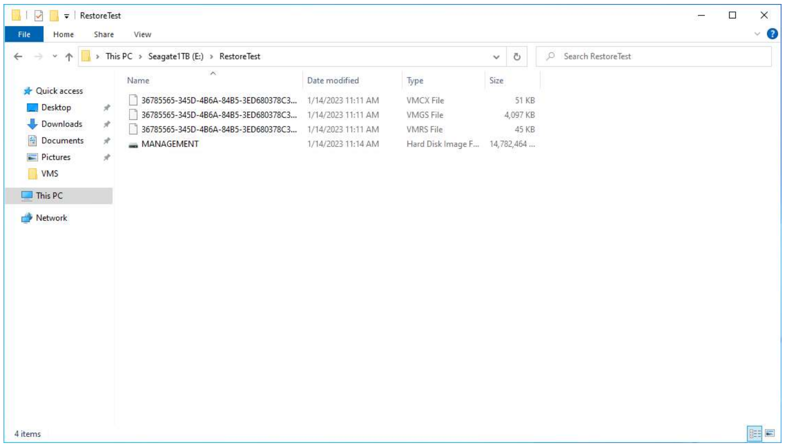


Restoring VM

Name:	**MANAGEMENT**	Status:	**Success**
Restore type:	VM File Restore	Start time:	1/14/2023 11:10:46 AM
Initiated by:	GOODDEALMART\csun	End time:	1/14/2023 11:15:00 AM

Message	Duration
✓ VM files restore started	
✓ Restoring from Backup Repository_HPHV02	
✓ File restored: 36785565-345D-4B6A-84B5-3ED680378C3C.vmcx	
✓ File restored: 36785565-345D-4B6A-84B5-3ED680378C3C.vmrs	
✓ File restored: 36785565-345D-4B6A-84B5-3ED680378C3C.vmgs	
✓ File restored: MANAGEMENT.vhdx	
✓ VM files restore completed	

15. Verify restored VM files.

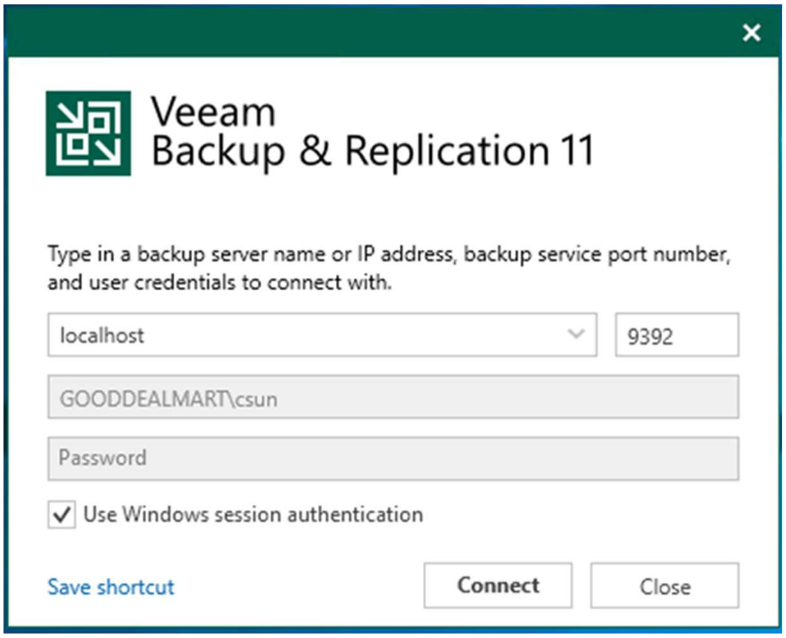


Name	Date modified	Type	Size
36785565-345D-4B6A-84B5-3ED680378C3...	1/14/2023 11:11 AM	VMCX File	51 KB
36785565-345D-4B6A-84B5-3ED680378C3...	1/14/2023 11:11 AM	VMGS File	4,097 KB
36785565-345D-4B6A-84B5-3ED680378C3...	1/14/2023 11:11 AM	VMRS File	45 KB
MANAGEMENT	1/14/2023 11:14 AM	Hard Disk Image F...	14,782,464 ...

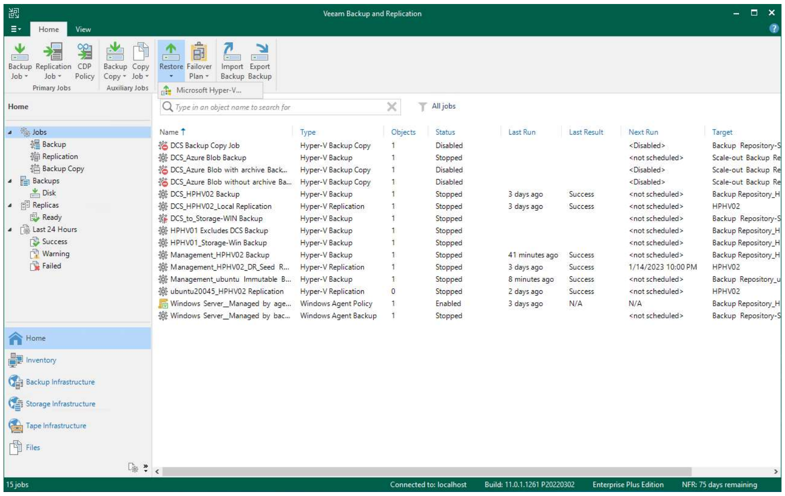
Restore Guest Files (or Folder) for Microsoft Windows

You can restore files from Microsoft Windows VMs with NTFS, FAT, and ReFS file systems using the restore from FAT, NTFS, and ReFS methods.

You can restore files to their original or new location, use Microsoft Windows File Explorer to work with the converted files or launch application item restore for the files.

Instructions	Screenshot (if applicable)
17. Log in to the Veeam Backup and replication manager server. 18. Open the Veeam Backup & Replication Console, and click Connect.	 Veeam Backup & Replication 11 Type in a backup server name or IP address, backup service port number, and user credentials to connect with. localhost 9392 GOODDEALMART\csun Password ☑ Use Windows session authentication Save shortcut Connect Close

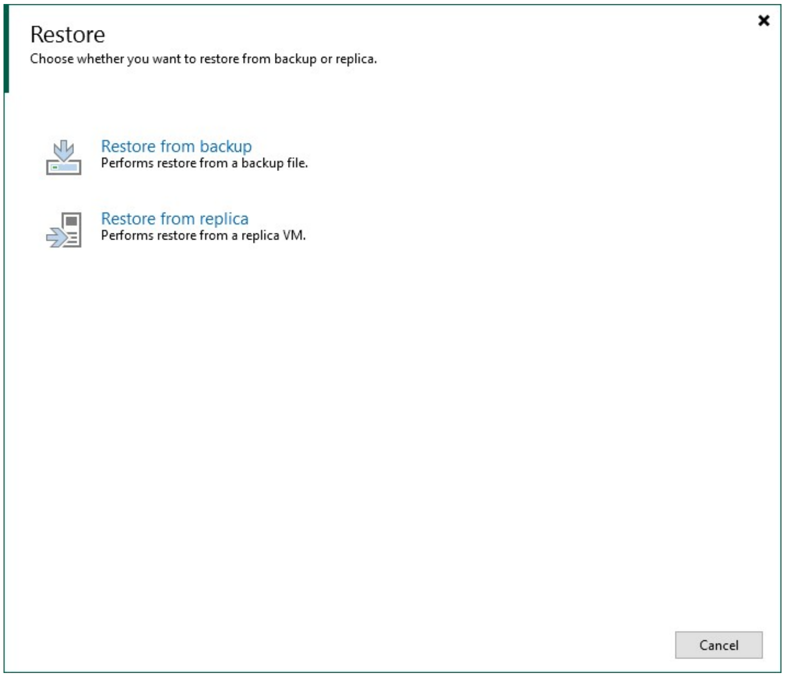
19. On the Home page, click Restore and select Microsoft Hyper-V.



Name	Type	Objects	Status	Last Run	Last Result	Next Run	Target
DCS Backup Copy Job	Hyper-V Backup Copy	1	Disabled			<Disabled>	Backup Repository-S
DCS_Azure Blob Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Scale-out Backup Re
DCS_Azure Blob with archive Back...	Hyper-V Backup Copy	1	Disabled			<Disabled>	Scale-out Backup Re
DCS_Azure Blob without archive Ba...	Hyper-V Backup Copy	1	Disabled			<Disabled>	Scale-out Backup Re
DCS_HPHV02 Backup	Hyper-V Backup	1	Stopped	3 days ago	Success	<not scheduled>	Backup Repository_H
DCS_HPHV02_Local Replication	Hyper-V Replication	1	Stopped	3 days ago	Success	<not scheduled>	HPHV02
DCS_to_Storage-WIN Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository-S
HPHV01 Excludes DCS Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository_H
HPHV01_Storage-Win Backup	Hyper-V Backup	1	Stopped			<not scheduled>	Backup Repository_H
Management_HPHV02 Backup	Hyper-V Backup	1	Stopped	41 minutes ago	Success	<not scheduled>	Backup Repository_H
Management_HPHV02_DR_Seed R...	Hyper-V Replication	1	Stopped	3 days ago	Success	1/14/2023 10:00 PM	HPHV02
Management_ubuntu Immutable B...	Hyper-V Backup	1	Stopped	8 minutes ago	Success	<not scheduled>	Backup Repository_u
ubuntu20045_HPHV02 Replication	Hyper-V Replication	0	Stopped	2 days ago	Success	<not scheduled>	HPHV02
Windows Server_Managed by age...	Windows Agent Policy	1	Enabled	3 days ago	N/A	N/A	Backup Repository_H
Windows Server_Managed by bac...	Windows Agent Backup	1	Stopped			<not scheduled>	Backup Repository-S

15 jobs Connected to: localhost Build: 11.0.1.1261 P20220302 Enterprise Plus Edition NFR: 75 days remaining

20. On the Restore page, select Restore from backup.



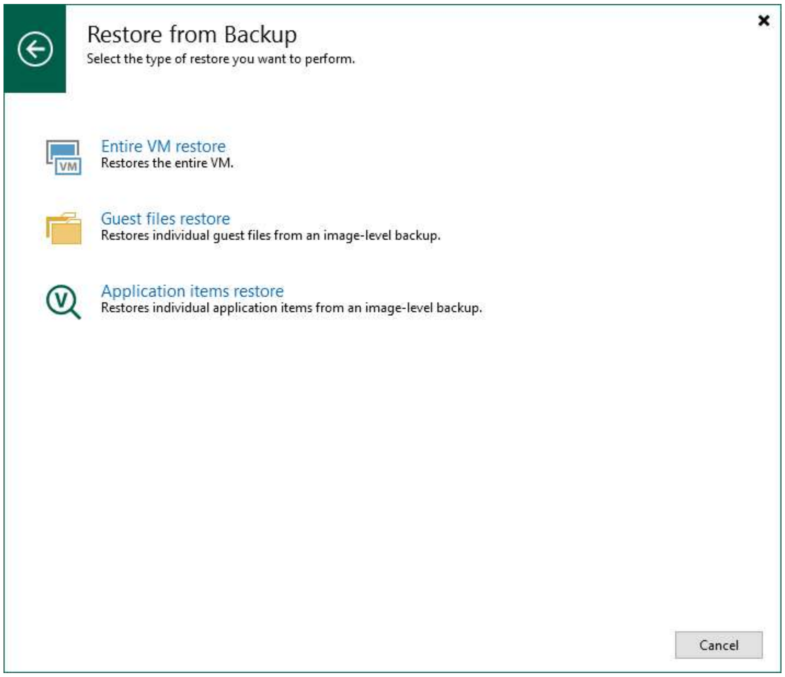
Restore

Choose whether you want to restore from backup or replica.

Restore from backup
Performs restore from a backup file.

Restore from replica
Performs restore from a replica VM.

21. On the Restore from a Backup page, select Guest files restore.



Restore from Backup

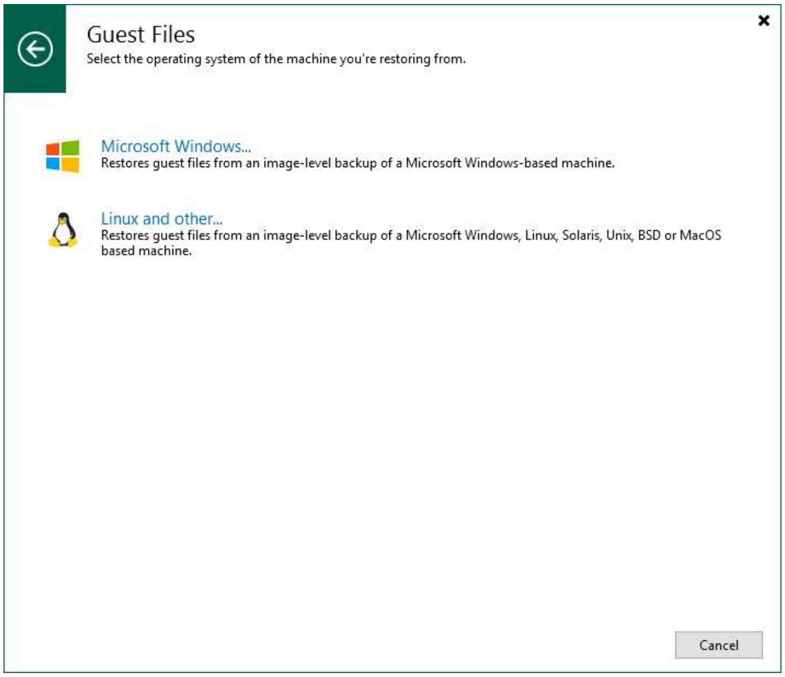
Select the type of restore you want to perform.

Entire VM restore
Restores the entire VM.

Guest files restore
Restores individual guest files from an image-level backup.

Application items restore
Restores individual application items from an image-level backup.

22. On the Guest files page, select Microsoft Windows.



Guest Files

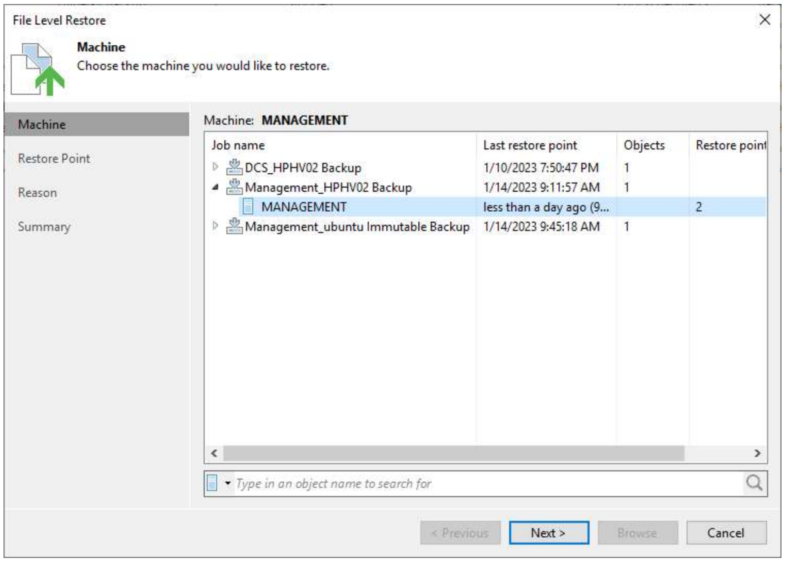
Select the operating system of the machine you're restoring from.

Microsoft Windows...
Restores guest files from an image-level backup of a Microsoft Windows-based machine.

Linux and other...
Restores guest files from an image-level backup of a Microsoft Windows, Linux, Solaris, Unix, BSD or MacOS based machine.

23. On the Machine page, expand the backup job.

24. Select the machine and click Next.



File Level Restore

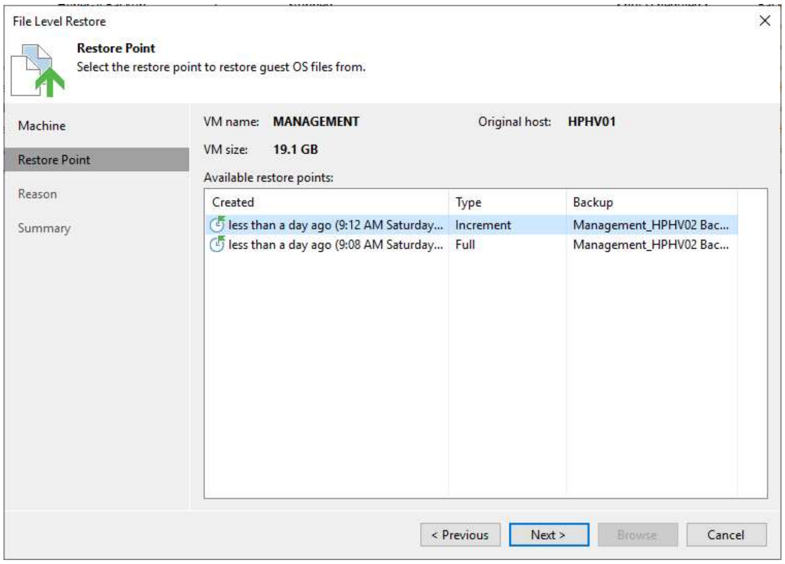
Machine

Choose the machine you would like to restore.

Machine: **MANAGEMENT**

Job name	Last restore point	Objects	Restore point
DCS_HPHV02 Backup	1/10/2023 7:50:47 PM	1	
Management_HPHV02 Backup	1/14/2023 9:11:57 AM	1	
MANAGEMENT	less than a day ago (9...		2
Management_ubuntu Immutable Backup	1/14/2023 9:45:18 AM	1	

25. Select the restore point on the Restore Point page and click Next.



File Level Restore

Restore Point

Select the restore point to restore guest OS files from.

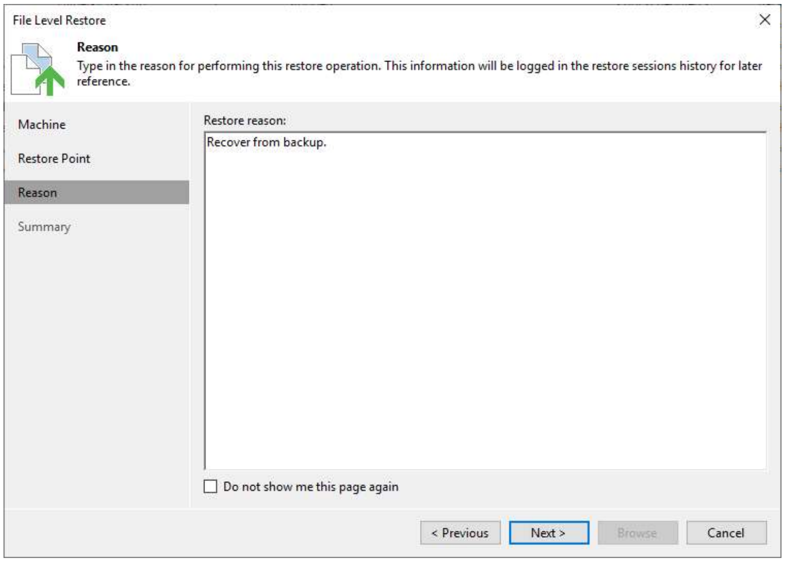
VM name: **MANAGEMENT** Original host: **HPHV01**

VM size: **19.1 GB**

Available restore points:

Created	Type	Backup
less than a day ago (9:12 AM Saturday...	Increment	Management_HPHV02 Bac...
less than a day ago (9:08 AM Saturday...	Full	Management_HPHV02 Bac...

26. On the Reason page, enter the reason for restoring the selected VMs and click Next.



File Level Restore

Reason

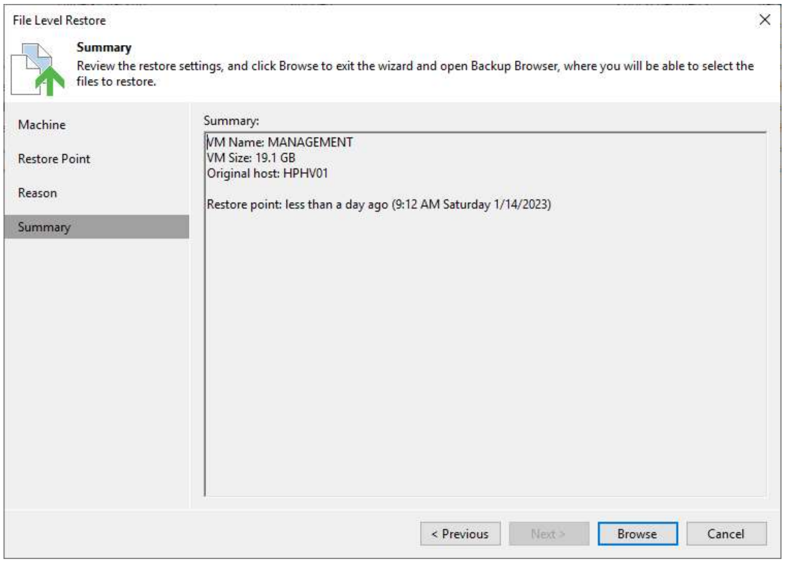
Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Restore reason:

Recover from backup.

☐ Do not show me this page again

27. On the Summary page, click Browse.



File Level Restore

Summary

Review the restore settings, and click Browse to exit the wizard and open Backup Browser, where you will be able to select the files to restore.

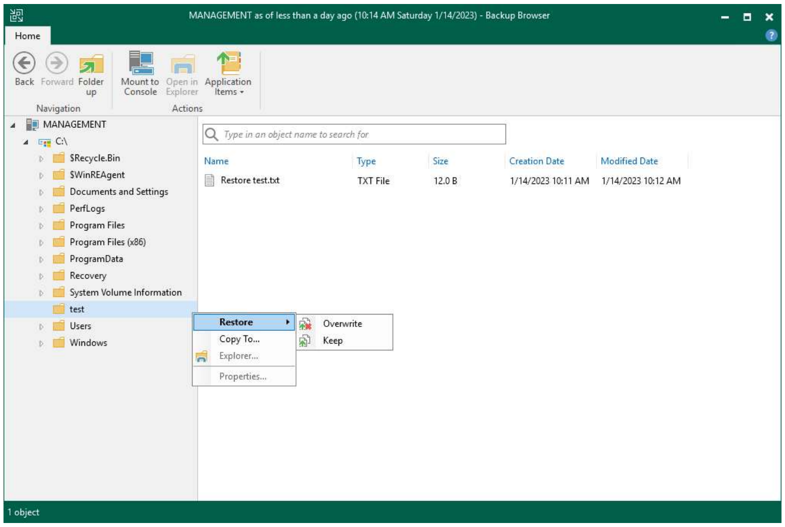
Summary:

VM Name: MANAGEMENT
VM Size: 19.1 GB
Original host: HPHV01

Restore point: less than a day ago (9:12 AM Saturday 1/14/2023)

28. On the Backup Browser page, expand the disk, select the file or folder, and right-click the file or folder.

29. Select Restore and click Overwrite or Keep.

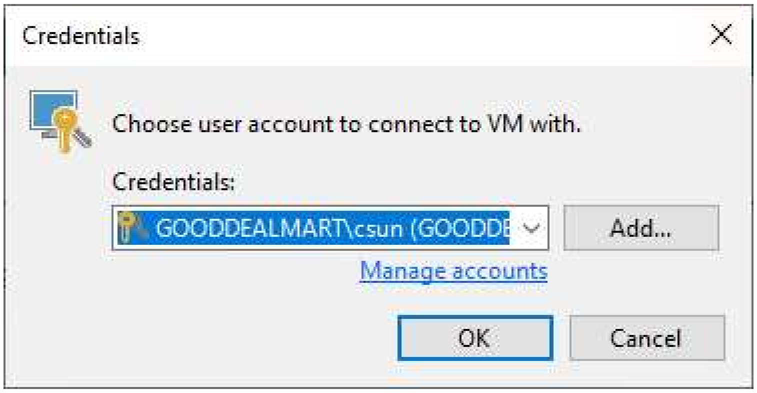


MANAGEMENT as of less than a day ago (10:14 AM Saturday 1/14/2023) - Backup Browser

Name	Type	Size	Creation Date	Modified Date
Restore test.txt	TXT File	12.0 B	1/14/2023 10:11 AM	1/14/2023 10:12 AM

1 object

30. Select an account from the Credentials drop-down list on the Credentials page and click OK.

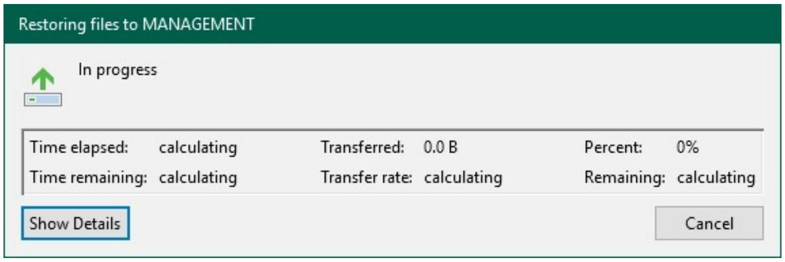


Credentials

Choose user account to connect to VM with.

Credentials: GOODDEALMART\csun (GOODDE

31. On the Restoring files page, click Show Details.

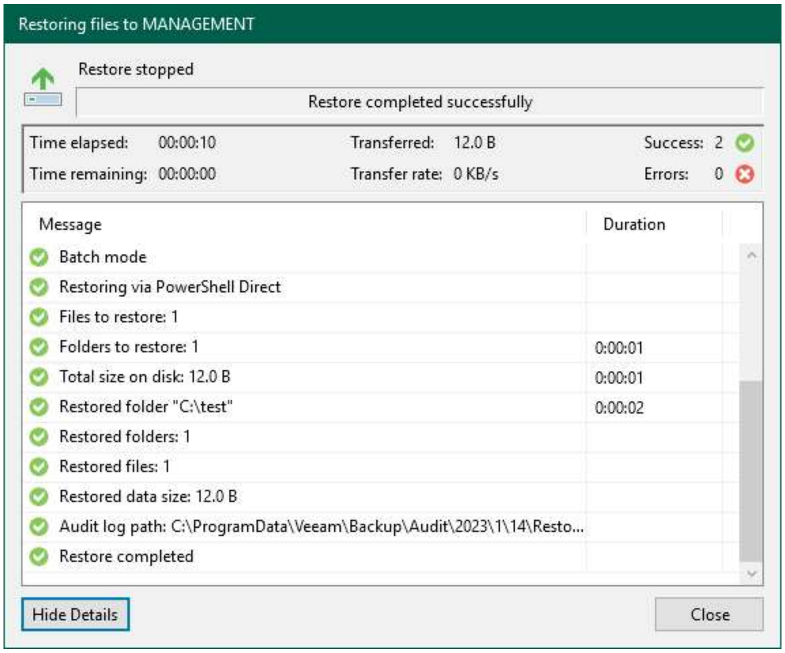


Restoring files to MANAGEMENT

In progress

```
Time elapsed:    calculating    Transferred:    0.0 B          Percent:    0%
Time remaining:  calculating    Transfer rate:  calculating    Remaining:  calculating
```

32. On the Restoring files page, ensure the file or folder restore is successful and click Close.



Restoring files to MANAGEMENT

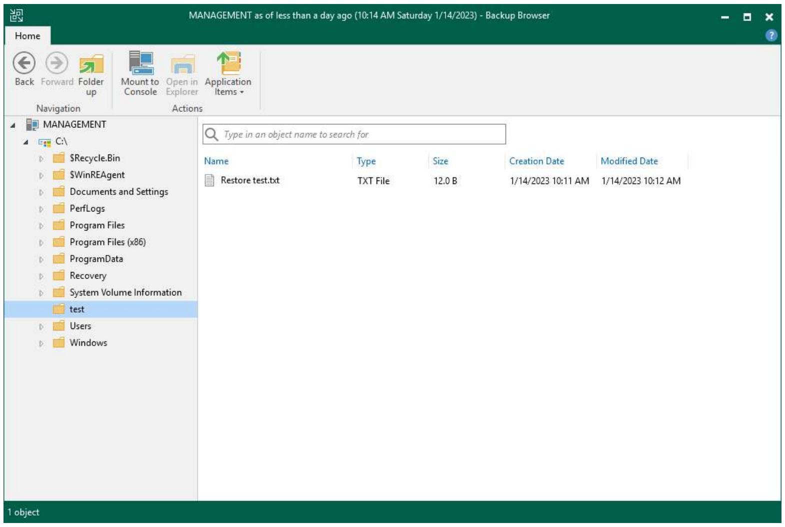
Restore stopped

Restore completed successfully

```
Time elapsed:     00:00:10     Transferred:    12.0 B     Success:  2
Time remaining:   00:00:00     Transfer rate:  0 KB/s     Errors:   0
```

Message	Duration
✓ Batch mode	
✓ Restoring via PowerShell Direct	
✓ Files to restore: 1	
✓ Folders to restore: 1	0:00:01
✓ Total size on disk: 12.0 B	0:00:01
✓ Restored folder "C:\test"	0:00:02
✓ Restored folders: 1	
✓ Restored files: 1	
✓ Restored data size: 12.0 B	
✓ Audit log path: C:\ProgramData\Veeam\Backup\Audit\2023\1\14\Resto...	
✓ Restore completed	

33. Close the Backup Browser.

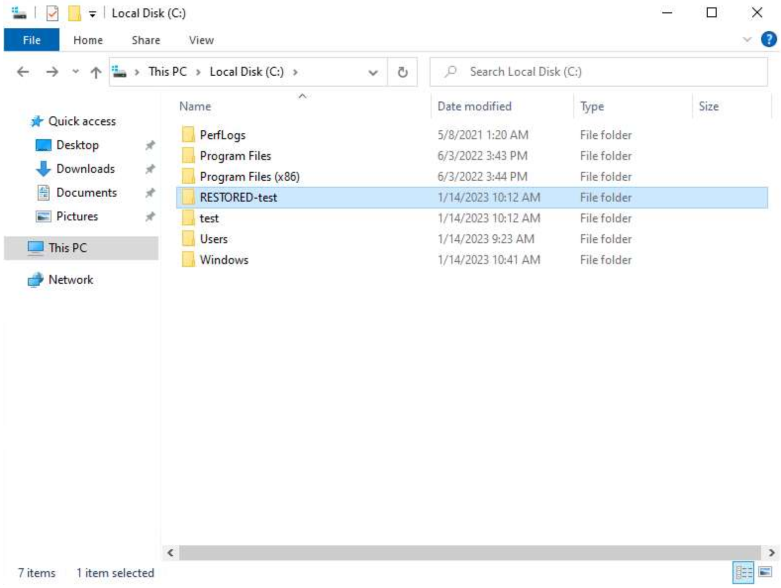


MANAGEMENT as of less than a day ago (10:14 AM Saturday 1/14/2023) - Backup Browser

Name	Type	Size	Creation Date	Modified Date
Restore test.txt	TXT File	12.0 B	1/14/2023 10:11 AM	1/14/2023 10:12 AM

1 object

34. Verify the restored file or folder.



Name	Date modified	Type	Size
PerfLogs	5/8/2021 1:20 AM	File folder	
Program Files	6/3/2022 3:43 PM	File folder	
Program Files (x86)	6/3/2022 3:44 PM	File folder	
RESTORED-test	1/14/2023 10:12 AM	File folder	
test	1/14/2023 10:12 AM	File folder	
Users	1/14/2023 9:23 AM	File folder	
Windows	1/14/2023 10:41 AM	File folder	

Chapter 7

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For video-based training, see the following site:

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- www.truesec.com
- www.checkyourlogs.net

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