

CUDB Application Schema Update

USER GUIDE

Copyright

© Ericsson AB 2016-2018. All rights reserved. No part of this document may be reproduced in any form without the written permission of the copyright owner.

Disclaimer

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.

Trademark List

All trademarks mentioned herein are the property of their respective owners. These are shown in the document Trademark Information.



Contents

1	Introduction	1
1.1	Document Purpose and Scope	1
1.2	Target Group	1
1.3	Revision Information	1
1.4	Typographic Conventions	3
2	Prerequisites	5
3	Limitations and Recommendations	7
4	Updating Existing Schemas	9
5	Adding New Schemas	11
6	Definition of Search Indexes	13
	Glossary	15
	Reference List	17





1 Introduction

This document contains information on how to perform a schema update when a new application, a new function, or an extension requires new data to be stored in the Ericsson Centralized User Database (CUDB) system.

1.1 Document Purpose and Scope

When a new application, a new function, or an extension requires to store new data in the CUDB system, a schema update is necessary.

The schema update can consist of the addition of a new schema to the system or the modification of existing schemas that are already installed in the system, as well as the addition of new identities. Furthermore, newly-included Lightweight Directory Access Protocol (LDAP) attributes can require the definition of search indexes.

CUDB includes a Graphical User Interface (GUI) used to edit LDAP schema files in a user-friendly environment (refer to [CUDB LDAP Schema Management Graphical User Interface](#), Reference [4] for more information). However, the process of creating and updating LDAP schema files is out of the scope of this document.

The `cudb.schema`, `internal_cudb.schema` and `core.schema` updates are not in the scope of this document. Those schemas can only be updated during a software upgrade.

Note: The procedure described in this document is performed on node level. However, the procedure must be repeated on all nodes of the CUDB system.

Request Ericsson support to execute the procedures described in this document.

1.2 Target Group

This document is intended for system administrators operating CUDB systems.

1.3 Revision Information

Rev. A

This document is based on 2/1553-CSH 109 067/9 with the following changes:

- Virtualization terminology updates throughout the document.
- Section 3 on page 7: Updated information on configuration application.



Rev. B

Other than editorial changes, this document has been revised as follows:

- Terminology updated throughout.
- Updated the network and VIP names throughout the document.

Rev. C

Other than editorial changes, this document has been revised as follows:

- Updated Ericsson personnel information.

Rev. D

Other than editorial changes, this document has been revised as follows:

- Updated Ericsson personnel information.

Rev. E

Other than editorial changes, this document has been revised as follows:

- Updated Ericsson personnel information.

Rev. F

Other than editorial changes, this document has been revised as follows:

- Updated Ericsson personnel information.

Rev. G

Other than editorial changes, this document has been revised as follows:

- Updated the document title from CUDB Node Schema Update to CUDB Application Schema Update so that it more accurately reflects the aim of the document.
- Section 1.1 on page 1: Updated the scope of the document.

Rev. H

Other than editorial changes, this document has been revised as follows:

- Updated Ericsson personnel information.



1.4 Typographic Conventions

Typographic conventions can be found in the following document:

- Typographic Conventions





2 Prerequisites

Before performing the procedure described in this document, make sure that CUDB is up and running properly without any of the following alarms raised:

- `Storage Engine, PLDB Cluster Node Down`. For further information about this alarm, refer to `Storage Engine, PLDB Cluster Node Down`, Reference [2].
- `Storage Engine, DS Cluster Node Down`. For further information about this alarm, refer to `Storage Engine, DS Cluster Node Down`, Reference [1].

Disable the following lines in `crontab`:

- Application counters in the node with the master Processing Layer (PL) before the procedure, and if they are running, wait until they end.
- Scheduled backup in all nodes before the procedure.





3 Limitations and Recommendations

Consider the following limitations and recommendations before performing the procedure described in this document:

- All nodes in the CUDB system must be updated before any new configuration is used by the clients. If a new application is added, do not execute it until all nodes are updated.
- When applying the new configuration in a node during the execution of the administrative operation `applyConfig`, certain clients can experience disconnections until the entire system is completely updated. These temporary disconnections cease when the execution of the operation ends. The execution time depends on the infrastructure on which CUDB runs.
- LDAP Front End (FE) processes in the node are restarted one by one. The interval (in seconds) allowed between the LDAP FE process restarts is calculated as follows:

$$185 / (<\text{value of the redundancyLevel parameter in class CudbLdapAccess}> - 1)$$

This interval ensures that each restarted process is fully operational before restarting another process.

- The current connections of the LDAP FEs are dropped when the processes are restarted. The impacts of this disconnection can be decreased if the clients are deliberately redirected to other nodes, or if the affected client or clients are not prepared to retry operations.





4 Updating Existing Schemas

CUDB supports the update of the LDAP schemas in a live CUDB system.

Contact Ericsson support to update existing LDAP schemas.





5 Adding New Schemas

CUDB supports adding new schemas and removing existing schemas from a live CUDB system. The removal of existing LDAP schemas is also known as “rollback.”

Contact Ericsson support to add or remove schemas in the CUDB system.





6 Definition of Search Indexes

To add new indexes for massive search optimization, update the `ldapAttrIndexes` attribute of the `CudbLdapAccess` class after the LDAP schemas have been updated (or new schemas were added). Refer to [CUDB System Administrator Guide, Reference \[3\]](#) for further details and instructions.

Note: New indexes are allowed only on newly defined LDAP attributes.





Glossary

For the terms, definitions, acronyms and abbreviations used in this document, refer to [CUDB Glossary of Terms and Acronyms](#), Reference [5].





Reference List

CUDB Documents

- [1] Storage Engine, DS Cluster Node Down
- [2] Storage Engine, PLDB Cluster Node Down
- [3] CUDB System Administrator Guide
- [4] CUDB LDAP Schema Management Graphical User Interface
- [5] CUDB Glossary of Terms and Acronyms