Login Problems with Non-Root Users in AIX

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About this Document

This document describes certain login and permissions problems for non-root users and how they can be solved by checking permissions, owner, and group for certain directories and files. This document is applicable to AIX version 3.2 and 4.1.

Symptoms

Some or all users (possibly including root) get:

```
3004-010 failed setting terminal ownership and mode
```

and is usually indicative of a broken or missing group file.

The primary group for that user as found in /etc/passwd cannot be found in the /etc/group file.

```
tps:!:215:1::/u/tps:/bin/ksh
          *
```

*In this example, the group is 1. Check /etc/group and make sure the group #1 exists.

- Only root can login; normal users get:

  ```
  3004-009 failed running login shell
  ```

  or

  ```
  system unavailable
  ```

  or

- The command "su - user_name" returns:

  ```
  3004-505 Cannot set process environment
  ```

  or

- After the login, the user sees:

```
   0653-345 permission denied
      (when trying to do anything after the login)
or
   ksh: pwd: Cannot access parent directories
      (when doing pwd, after login)
```

These symptoms are caused by the user not being able to execute the login shell (ksh, csh, or bsh, depending upon which is being used) or by a permissions problem in the home directory path.

Steps

The following steps show how to check the files and directories that may have a problem with permissions, owner, or group.

If you find a problem with any of your files or directories, use chmod, chown, or chgrp to change the permissions, ownership, or group.

If a symbolic link is missing, use the ln command to recreate it. For example, to create /bin linked to /usr/bin, run the following:

```
ln -s /usr/bin /bin
```

1. Log in as root.
2. If users other than root see the message "system unavailable" when they attempt to login, follow this step. Otherwise, skip to the next step.

   Check for the /etc/nologin file with

   ```
   ls -l /etc/nologin
   ```

   If the file /etc/nologin exists, delete it with

   ```
   rm /etc/nologin
   ```

3. For AIX 3.2 Run:

   ```
   cd /
   ls -al |pg
   ```

   Example output:

   ```
   drwxr-xr-x  45 bin   bin      1536 Dec 24 10:08 .
   drwxr-xr-x  45 bin   bin      1536 Dec 24 10:08 ..
   lrwxrwxrwx   1 root  system      8 Feb 25 1994  bin -> /usr/bin
   drwxr-xr-x  16 root  system   7168 Dec 24 10:10 etc
   drwxr-xr-x  71 bin   bin      1536 Dec 14 09:37 home
   lrwxrwxrwx   1 root  system      5 Feb 25 1994  u -> /home
   drwxr-xr-x  24 bin   bin      1024 Jun 17 1994  usr
   drwxr-xr-x  11 bin   bin       512 Dec 23 10:43 var
   ```

   For AIX 4.1 Run:

```
cd /
ls -al
```

Example output:

```
drwxr-xr-x  19 bin   bin      1024 Dec 12 21:14 .
drwxr-xr-x  19 bin   bin      1024 Dec 12 21:14 ..
lrwxrwxrwx   1 bin   bin         8 Nov 22 09:37 bin -> /usr/bin
drwxrwxr-x   4 root  system   2048 Dec 12 21:12 dev
drwxr-xr-x  12 root  system   2048 Dec 12 21:11 etc
drwxr-xr-x   5 bin   bin       512 Nov 22 14:51 home
lrwxrwxrwx   1 bin   bin         8 Nov 22 09:37 lib -> /usr/lib
drwxr-xr-x  20 bin   bin       512 Nov 22 13:33 lpp
drwxr-xr-x   3 bin   bin       512 Nov 22 09:37 sbin
lrwxrwxrwx   1 bin   bin         5 Nov 22 09:37 u -> /home
drwxr-xr-x  20 bin   bin       512 Nov 22 14:24 usr
drwxr-xr-x  12 bin   bin       512 Nov 22 12:59 var
```

4. Run

   ```
   ls -ld /usr/bin
   ```

   Example output:

   ```
   drwxr-xr-x   3 bin   bin     10752 Nov 22 12:53 /usr/bin
   ```

5. In AIX 3.2 Run:

   ```
   ls -l /usr/bin/csh /usr/bin/ksh /usr/bin/bsh
   ```

   Example output:

   ```
   -r-xr-xr-x   3 bin   bin    260507 Feb 25 1994  /usr/bin/bsh
   -r-xr-xr-x   1 bin   bin    349895 Sep 13 1993  /usr/bin/csh
   -r-xr-xr-x   2 bin   bin    374961 Feb 25 1994  /usr/bin/ksh
   ```

   In AIX 4.1 Run:

   ```
   ls -l /usr/bin/csh /usr/bin/ksh /usr/bin/bsh
   ```

   Example output:

   ```
   -r-xr-xr-x   2 bin   bin    341020 Nov 22 09:37 /usr/bin/bsh
   -r-xr-xr-x   1 bin   bin    154412 Nov 22 09:37 /usr/bin/cs
   -r-xr-xr-x   4 bin   bin    230148 Nov 22 09:37 /usr/bin/ksh
   ```

   Note: You will not have /usr/bin/csh if the C shell is not installed on the system.

6. Determine the user's home directory. In these steps, we will refer to the user's ID and directory as "user_one".

7. Run

   ```
   ls -ld /u/user_one    (use path of user's directory)
   ```

   Example output:

   ```
   drwxr-xr-x   9 user_one system   7680 Dec 24 15:00 /u/user_one
   ```

The directory should be owned by the user and the user should have rwx permissions.

8. Run

   ```
   cd /u/user_one
   ls -al |pg
   ```

   Example output:

   ```
   drwxr-xr-x   9 user_one system   7680 Dec 24 15:00 .
   drwxr-xr-x  71 bin      bin      1536 Dec 14 09:37 ..
   ```

   The owner of the . directory should be the user. The permissions on the .. directory should be at least r-x for group and r-x for other.

9. If the user still has permission denied problems (but not login problems), the cause could be file system mount point permissions.

   In order to check the permissions on the mount point, the file system must first be unmounted. Some file systems' mount points can only be checked from service mode after booting from boot media.

   The permissions of the underlying mount point should be at least d--x--x--x, but full permissions (drwxrwxrwx) are recommended. The permission setting of the mounted file system can be used to restrict access.

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