LINUX SCENARIO BASED Q&A DAY 7

Q1. Command works but no man page is available

Scenario:

You've installed a software package, and while the command executes correctly, running man <command> returns:

"No manual entry for <command>"

Possible Root Cause:

Many Linux distributions separate executable binaries from their documentation. The man pages are often part of a different package (typically named -doc).

% Solution:

1. Install the corresponding documentation package: sudo apt install <package-name>-doc

✓ Tip:

Some tools use the info system instead of man. If the man page is missing, try: info <command>

Q2. New User Created but Can't Login via SSH

★ Scenario:

A newly created user exists on the system, but SSH login fails with a "Permission denied" error.

Possible Root Cause:

This typically happens due to incorrect permissions on the user's home directory or SSH configuration files (e.g., .ssh and authorized_keys).

% Solution:

1. Check and correct home directory permissions: ls -ld /home/username chmod 700 /home/username

2. Fix SSH-related file permissions:

chmod 700 ~/.ssh chmod 600 ~/.ssh/authorized_keys

✓ Tip:

SSH enforces strict permission rules for security. Even minor deviations can prevent login.

Q3. User Gets Logged Out Immediately After Login, Password Expired

Scenario:

A user logs in via SSH or terminal but is instantly logged out with a message like:

"Your password has expired", and is not prompted to change it.

Possible Root Cause:

The user's password has expired, but the system isn't allowing an interactive password reset.

% Solution:

- 1. Reset the user's password manually: sudo passwd username
- 2. Check password expiration details: sudo chage -l username
- ✓ Tip:

You can control password aging policies in /etc/login.defs to avoid unexpected lockouts.

Q4. Unable to su to Another User, "Authentication Failure"

Scenario:

Running su - username results in an "Authentication failure" error, even though the password is correct.

- Possible Root Cause:
- The user account is locked.
- The user has an invalid login shell.

% Solution:

- Unlock the user account: sudo passwd -u username
- 2. Set a valid shell for the user: sudo usermod -s /bin/bash username
- ✓ Tip:

Always ensure that the user has a valid shell listed in /etc/passwd (e.g., /bin/bash) for successful login.

Q5. sudo Prompts for Password Every Time

Scenario:

Even though the user is in the sudoers list, sudo always prompts for a password.

Possible Root Cause:

This is the default behavior of sudo for security reasons.

- **%** Solution:
 - Open the sudoers file safely using visudo: sudo visudo
 - 2. Add the following line to allow passwordless sudo for a specific user: username ALL=(ALL) NOPASSWD:ALL
- ✓ Tip:

Use the NOPASSWD directive with caution, ideally for trusted users or restrict it to specific commands for better security.

Q6. Unable to Delete User: "User is Currently Logged In"

Scenario:

Attempting to delete a user with userdel results in an error stating the user is currently logged in.

Possible Root Cause:

The user has an active session (e.g., shell or background process), which blocks deletion.

% Solution:

- 1. Terminate all active sessions for the user: pkill -u username
- 2. Delete the user and their home directory: sudo userdel -r username

✓ Tip:

Use who, w, or ps -u username to check active sessions or processes before attempting deletion.

Q7. id Shows Incorrect Groups After Adding User to a New Group

Scenario:

User has been added to a new group, but id username doesn't reflect the change.

Possible Root Cause:

Group membership is cached in the current session. The update won't apply until a new session starts.

% Solution:

- 1. Ask the user to log out and log back in to refresh group membership.
- 2. Alternatively, restart the shell session: exec su username

✓ Tip:

For an immediate switch to a new group within the same session, use: newgrp groupname

Q8. New User Created but Home Directory is Missing

Scenario:

User was created successfully, but /home/username directory is not found.

Possible Root Cause:

The user was created without the -m option, or default settings in /etc/login.defs were changed to skip home directory creation.

% Solution:

- Create the directory manually:
 sudo mkdir /home/username
 sudo chown username:username /home/username
- 2. Or recreate the user with home directory: sudo useradd -m username
- ☑ Tip: Always ensure a home directory is created unless you're setting up a system or service account.

Q9. Users Can't Log In After Editing /etc/passwd

★ Scenario:

Manual changes were made to /etc/passwd, and now users are unable to log in.

Possible Root Cause:

A syntax error or corrupted entry in /etc/passwd can break authentication for all users.

% Solution:

1. Check for syntax issues: pwck

2. Restore the backup:

sudo cp /etc/passwd- /etc/passwd

✓ Tip:

Always use vipw instead of editing /etc/passwd directly, it locks the file and performs basic syntax checks for safety.

Q10. User Account Locked Accidentally

Scenario:

User is unable to log in and receives an "account locked" message.

Possible Root Cause:

The account was locked using passwd -l or due to multiple failed login attempts.

% Solution:

1. Unlock the account:

sudo passwd -u username

✓ Tip:

Check /etc/shadow for accounts marked with! which indicates the account is locked.