|  |  |  |
| --- | --- | --- |
| **Assignment** | **:** |  |

#### Module: 4- Linux server - Manage user and Groups and working with file systems

* 1. Manage users and groups with commands like useradd, userdel, groupadd, and

Passwd

ANS:-

USERADD

This command is used to create a user in a linux system.

#Syntax

#useradd <username> <options>

Where options are

-u user id

-G secondary group id

-g primary group id

-d home directory

-c comment

-s shell

USERDEL

The command is used to delete an existing user.

#Syntax

#userdel -r <username>

GROUPADD

The command is used to create a group.

#Syntax

#groupadd <options> <groupname>

Options are

-g group id of the new group

-r Create a system group with a GID below 1000(usually reserved for system use)

PASSWD

The command allows you to assign a password to a user of your choice

#Syntax

#passwd <username>

* 1. Explain different file system types in Linux?

ANS:-

* The filesystems supported in linux are ext2,ext3,ext4,vfat and xfs.
* Ext and xfs are the widely used filesystems in linux, whereas vfat is used to maintain a common storage between linux and windows.

|  |  |  |  |
| --- | --- | --- | --- |
| EXT2 | EXT3 | EXT4 | XFS |
| Stands for second extended file system | Stands for third extended file system | Stands for fourth extended file system | Stands for xtents filesystem |
| Introduced in 1993 | Introduced in 2001 | Introduced in 2008 | Introduced in 1993 |
| Do not have journalling feature | Supports journalling feature | Supports journalling feature | Supports journalling feature |
| Max file size can be from 16GB to 2T | Max file size can be from 16GB to 2TB | Max file size can be from 16GB to 16TB | Max file size can be from 16TB to 8EB(Exabyte) |
| Max ext2 filesystem size can be from 2TB to 32TB | Max ext3 filesystem size can be from 2TB to 32TB | Max ext3 filesystem size is 1EB(1EB = 1024 Petabyte, 1PB = 1024TB) | Max xfs filesystem size is 16 EB |
| Cannot convert ext filesystem to ext2 | You cannot convert ext2 filesystem to ext3 filesystem directly(without backup/restore). | All previous filesystems can easily be converted into ext4 filesystem.  You can also mount an existing ext3 to ext4(without having to upgrade it.) | n/a |

* 1. Explain File Permission groups in Linux?

ANS:-

In Linux, file permissions are organized into three main groups, which determine who can read, write, or execute a file or directory. These groups are:

1. Owner (User): The person who owns the file or directory. Typically, this is the user who created the file. The owner has the ability to set permissions for themselves on the file.

2. Group: This refers to a set of users that share the same permissions. Files can belong to a group, and any user in that group will have the permissions assigned to the group for that file.

3.\*\*Others In Linux, “others” refers to all users on the system who are neither the owner of the file nor part of the file’s associated group. The permissions assigned to “others” determine what actions these users can perform on a file or directory

* 1. How do you switch from one desktop environment to another, such as switching from KDE to Gnome?

ANS:-

To switch from KDE to GNOME on your Linux system, follow these steps:

1. Install GNOME Desktop Environment

If GNOME is not already installed, you need to install it first.

Ubuntu/Debian:

#sudo apt update

#sudo apt install gnome-shell

2. Log Out and Select GNOME

After installing GNOME, you can switch to it from the login screen:

1. Log out of your current KDE session.

2. On the login screen, look for a gear icon or session selector (usually next to the username or password field).

3. Click it and select GNOME from the list of desktop environments.

4. Enter your credentials and log in.

3. Set GNOME as Default (Optional)

If you want GNOME to be the default desktop environment:

Ubuntu/Debian with GDM:

If you’re using GDM (GNOME’s default display manager), GNOME will be the default after you select it once. You can also run:

#sudo dpkg-reconfigure gdm3

Choose gdm3 if prompted to switch display managers.

1. Reboot

Reboot your system to ensure all changes are applied

1. What are the kinds of permissions under Linux

ANS:-

In Linux, file and directory permissions determine who can read, write, or execute a file or directory.

Permission Types:

1. Read (r):

• For files: Allows viewing the contents of the file.

• For directories: Allows listing the contents of the directory.

2. Write (w):

• For files: Allows modifying the contents of the file.

• For directories: Allows creating, renaming, or deleting files within the directory.

3. Execute (x):

• For files: Allows running the file as a program or script.

• For directories: Allows access to the contents of the directory (cd into the directory).

Viewing Permissions:

Permissions can be viewed using the ls -l command, which displays a 10-character string:

drwxr-xr-x 1 owner group size date file

The first character indicates the type (d for directory, - for file), and the next 9 characters are grouped in sets of three:

• First set (user)

• Second set (group)

• Third set (others)

Changing Permissions:

You can change permissions using the chmod command, either with symbolic (e.g., u+r) or numeric (e.g., chmod 755) notation.

1. What are the different modes when using vi editor?

ANS:-

This is command mode editor for files. Other editors in Linux are emacs, nano, and gedit

vi editor is most popular

It has 3 modes:

1.Command Mode

2.Insert mode (edit mode)

3.extended command mode

Note: When you open the vim editor, it will be in the command mode by default.