LINUX for DevOps Eng

File and Directory Management

- For you to be able to work with different parts of the system, you need to know how to get around the system! In this section, we look at the following basic commands:
- ls Displays the contents of a directory
- cp Copies files or directories from one location to another
- mv Moves or renames files and directories
- cd Changes the current location
- rm Deletes files or directories
- touch Creates empty files
- mkdir Creates a directory
- pwd Shows the present working directory
- file Displays the type of a file
- head Displays the beginning of a file
- tail Displays the end of a file

File Permission Basics

- Just like every operating system, Linux comes with a set of permissions that it uses to protect files, directories, and devices on the system. These permissions can be manipulated to allow (or disallow) access to files and directories on different parts of the system.
- chmod Changes the permissions of files or directories
- chown Changes the owner and group of files or directories
- ls –l Displays file permissions and ownership of files or directories
- ll Same as ls -l
- umask Defines or displays the default permissions for creation of files or directories

Read	r	4	View file contents
Write	w	2	Write to or change
Execute	x	1	Run the file

USER ADMINISTRATION

- 1. **Super user or root user**

  Super user or the root user is the most powerful user. He is the administrator user.
- 2. **System users**

  System users are the users created by the softwares or applications. For example if we install Apache it will create a user apache. These kinds of users are known as system users.
- 3. **Normal users'**

  Normal users are the users created by root user. They are normal users like Rahul, Musab etc. Only the root user has the permission to create or remove a user.
- There are two important files a user administrator should be aware of.

  1. "/etc/passwd"

  2. "/etc/shadow"

USER ADMINISTRATION

- useradd <username> Create User
- useradd testuser –u 505 -g 505 –d /home/kernel –c salesman
- passwd <user name> Assigning password to the user
- usermod -l newname oldnam (changing the name of the user)
- usermod -L newname to lock the user account
- usermod -U newname to unlock the user account
- chage -l < user name> password parameters
- userdel –r < user name > Delete User
- groupadd <name for the group> <User name >
- Cat /etc/group Verify the group
- groupmod –n <new name > < existing name > Change the Group name
- usermod –G <group name > < user name> Adding user to the group
- gpasswd –d ktuser2 ktgroup Removing user from group

JOB AUTOMATION

- Important Files related to cron and at
- /etc/crontab is the file which stores all scheduled jobs
- /etc/cron.deny is the file used to restrict the users from using cron jobs.
- /etc/cron.allow is used to allow only users whose names are mentioned in this file to use cron jobs. (this file does not exist by default)
- /etc/at.deny same as cron.deny for restricting at jobs
- /etc/at.allow same as cron.allow for allowing user to use at jobs
- crontab –eEdit the crontab file
- crontab -l Display your crontab file.
- crontab -r Remove your crontab file
- service crond restart restart the cron job services

Managing Partitions

- fdisk –l View the existing partitions
- fdisk /dev/sda Partition Administration using fdisk
- mkfs.<file system type> <partition name> Formatting a partition with ext4 filesystem
- mount <device name> <directory name (mount point)> Mounting
- umount <mount point directory> Unmounting
- Mount To View all the mounted partitions
- /etc/fstab Add entry to make permanent mount

SOFTWARE MANAGEMENT

1)RPM – REDHAT PACKAGE MANAGER
2)YUM – YELLOWDOG UPDATER MODIFIE

- rpm –qa To check all the installed packages
- rpm –qa <package name> To check whether a package is installed or not
- rpm –qa | grep –i < package name>
- rpm –ivh - -test <package name> used to check the package's consistency
- rpm –qip <package name> To see info of package
- rpm –qi < package name > To see info of installed package
- rpm –ivh <package name> To Install Package
- rpm –ivh <package name > - - force To Install forcefully
- rpm –e < package name> Remove package
- rpm –ivh <package name> - -nodeps To install without dependencies
- rpm –Uvh <package name> To update the package

SOFTWARE MANAGEMENT

- YUM is the package management application. Packages are downloaded from collections called repositories, which may be online, on a network, and/or on installation media. If one package due to be installed relies on another being present, this dependency can usually be resolved without the user needing to know the details.
- yum list installed To list all installed packages
- yum list installed <package name> To check the package installed or not
- yum install <package name> Install Package using YUM
- yum remove <package name> To remove the package
- yum update <package name> To Update the package
- yum info <package name> To check the info of the package

BACKUP AND RESTORE

- tar –cvf <destination and name to be > < source file> To backup the file using tar
- tar –cvf /opt/etc.tar /etc
- du –h /opt/etc.tar
- gzip <file name> Apply gzip on tar file and check the size
- scp <file name> Server Name:/location/
- cp filename.tar.gz /targetLocation
- gunzip <file name>
- tar –xvf <file name.tar>

Basic structure of LVM