

LINUX Basics

What is Linux OS

- Linux is a free open-source Operating System (OS), offered for use under the GNU General Public License (GPL).
- Linux, like any other OS, that mediates between the hardware of the machine (CPU, memory, and storage) and its software.
- A Linux-based OS uses a Linux kernel, which is used to manage the hardware resources.
- The OS shell, or command line, receive code instructions from the developer and transmits them to the machine.

Why Linux

- The most common and the most loved platform happens to be Linux.
- All of the fastest 500 supercomputers in the world run on Linux.
- About 96 percent of the top 1 million web servers run on Linux.
- About 86% of all smartphones are powered by Linux.
- In the cloud and DevOps world, many of the new tools are developed and used in Linux environments

Linux distributions for DevOps

- Ubuntu
- Amazon EC2
- centos
- Fedora
- Cloud linux OS
- Debian
- Alpine

Linux Basic Commands

Linux Fundamentals Commands

pwd command: **P**ath of the current **W**orking **D**irectory

cd command: **C**hange **D**irectory

- cd .. (with two dots) to move one directory up

- cd ~ to go straight to the home folder

- cd - (with a hyphen) to move to your previous directory

- cd ~ - change to home directory

ls command: List the content

- ls -R will list all the files in the sub-directories as well

- ls -a will show the hidden files

- ls -ltr : (reverse order)

- ls -al will list the files and directories with detailed information like the permissions, size, owner, etc

sudo command: **S**uperUser **D**o (is used to access restricted files and operations)

- sudo user

Help Command

man command: manual

man ls

man date

whatis command: One line description of a command

whatis date

help command: display the Help

date --help

date --h

Linux Fundamentals Commands

- **mkdir** command: make a new directory
 - **mkdir** dir1
 - **mkdir** abc def xyz
 - **mkdir -p** abc/def/xyz (option **-p** for parent directory creation)

working with files

cp command: copy a file

cp file1 file2

mv command: Use mv to rename a file or to move the file to another directory

mv file1 file3

rm command: remove a directory and its files

rm -i file1

rm -rf test (the f means force and the r means recursive)

touch command: create a blank new file through the Linux

touch file42

cat command : list the contents of a file

cat file1

cat > file1

cat >> file1

more command: view the contents of a text file one screen at a time

more file1

less command

less file1

head command: view the first lines of any text file

head /etc/services

head -5 /etc/services (first five lines)

tail command: display the last ten lines of a text file

tail /etc/services

tail -5 /etc/services (last five lines)

diff command: difference

diff file1 file2

rmdir command: delete empty directories

rmdir dir1

chmod command: to change the read, write, and execute permissions of files and directories

chmod 777 foldername

0 = No Permission

1 = Execute

2 = Write

4 = Read

0 = ---

1 = --x

2 = -w-

3 = -wx

4 = r-

5 = r-x

6 = rw-

7 = rwx

chown command: change or transfer the ownership of a file to the specified username

chown name foldername

ping command: check your connectivity status to a server

ping localhost

ping ip-address

ping www.google.com

wget command: download files from the internet with the help of the wget command

wget http://website.com/files/file.zip

history command

locate: locate a file, just like the search command in Windows

find: Similar to the locate command, using find also searches for files and directories. The difference is, you use the find command to locate files within a given directory.

echo command

- **grep** command: searching plain-text data sets for lines that match a regular expression
- **grep** is commonly used to print lines of a file matching a pattern but it also offers a variety of other options as well.
- The grep command is case-sensitive
- **grep** name test.txt
 - To search for the word "name" from the test.txt
- **grep -r** "errpr code" /var/log
 - To search for a pattern recursively.
- **grep -v** "StatusCode" sample.txt
 - To print the lines that don't matches the pattern
- **grep -w** Code test.txt
 - To search for the whole word

zip, unzip command

zip myfile.zip filename.txt

unzip myfile.zip

hostname command (-I for ip)

hostname -I

uname prints the kernel name

du command: Disk Usage

du -sk test.img

(-sk shows the size of a file or directory in Kilobytes)

du -sh test.img

(-sh shows the size of a file or directory)

- **top** command: list of running processes and how much CPU each process uses
- **df** command: to get a report on the system's disk space usage