DEVOPS

-> Linux:

-> Linux is an operating system.It is basically of two parts means two different code of programs.one act as kernel and other acts as shell.

1) Kernel => kernel is nothing but program that accepts commands entered by user and make hardware work on it.so it acts as intermediate between user commands and hardware.

->It is open source so anyone can see the code and can modify program, creacte new os and publish their own.(linux provided by Redhat,fedora etc).
-> Linux has zero or less downtime so,it is used as servers
-> It is the clone of unix with advance features.
-> Linux provides more security than other operating systems.
-> without installing os,we can use it by using live dvd.we can just insert live dvd in dvd drive and run it.

->Linux distributions:

-> Linux directory structure:

-> Directory structure is like root directory -> sub directory -> files.

-> '/' => mount point.

-> '/ bin' => user binary files(commands to create file ,delete file,etc stored in /bin, it will work provide output)

-> '/boot' => contains boot loader files(A bootloader is **a program written in machine code that loads the operating system into RAM during the boot process**.)

-> '/dev' => contains device files.(if we connect usb drive,hard drive etc will be stored in /dev, whichever device we connect)

-> '/etc' => contains configuration files(whatevere we configure like define a host name,ip address ,configure some servers etc are stored in /etc)

-> '/home' => Home directories(every user will have their data stored in directories, which are at home)

-> '/lib' => contains all library files(we can get all help regarding configuration,commands etc contains in lib)

-> '/media' => mount point for removal media (The /media directory contains subdirectories where removable media devices inserted into the computer are mounted. For example, when you insert a CD into your Linux system, a directory will automatically be created inside the /media directory. You can access the contents of the CD inside this directory)

-> '/opt' => optional add on applications(The FHS defines /opt as "reserved for the installation of add-on application software packages." In this context, "add-on" means software that is not part of

the system; for example, any external or third-party software. This convention has its roots in the old UNIX systems built by vendors like AT&T, Sun, and dec.)

-> '/sbin' => super user use this directory for binary files.

-> '/srv' => service data

-> '/tmp' => temporary files(will be deleted when system reboots)

-> '/usr' => user programs

-> '/var' => Variable files(those data which generally varies which are not constant are stored in /var)

-> '/root' => Root user directory

-> '/proc' => process informatio(Information about devices we have connected and its process information.

-> '/lost + found' => Misplaced data.

-> Basic commands in linux:

-> command	=> syntax	=> explanation
-> mkdir	=> mkdir directory_name	=> create new directory with given name
-> cd	=> cd directory_name	=> change to directory
-> ls	=> ls	=> list content of directory
-> touch	=> touch file_name	=> creates an empty file
-> cat	=> cat > file_name	=> creates file and write content to it (ctrl+d to save file and quit writing mode)
-> cat	=> cat fileName1 fileName2>fileName3	=> creates file3 and stores file1 and file2 content by merging it.
-> cat	=> cat fileName	=> displays content of file
->ls *.txt	=> ls *.txt(.txt/.c/.py/.java etc)	=> list all files with given extension
-> pwd	=> pwd	=> display present working directory
-> cp	=> cp fileName1 fileName2	=> copies content of file1 to file2
-> mv	=> mv fileName location	=>moves file to specified location
-> head	=> head fileName	=> gives first 10 lines of file
-> tail	=> tail fileName	=> gives last 10 lines of file
-> tac	=> tac fileName	=> displays data of file in reverse order.
-> more	=> more fileName	=>Similar to cat we can display large content with enter
-> id	=> id	=> displays id of user or group
-> clear	=> clear	=> clear the screen
-> vi	=> vi	=> text editor(:wq to exit)
-> grep	=> grep Pattern fileName	=> searches given pattern in file
->diff	=> diff fileName1 fileName	=> difference between two files .content which is different is displayed
-> ping	=>ping Google.com	=> checks the connectivity status of server

-> history	=>history	=> review all the commands which we have been entered
-> hostname	=> hostname	=> displays hostname
	=> hostname -i	=> displays ip address of host
-> chmod	=>chmod u=r fileName	=> change user/grouppermission to access the file
-> nl	=> nl fileName	=> line number before the content
-> wc	=>wc fileName	=> gives number of lines , words,characters available in file content
-> uniq	=> uniq fileName	=> removes continuous duplicates in file
-> rmdir	=>rmdir directoryName	=> removes specified directory (It should be empty)
-> rm	=> rm fileName	=> remove specified files.