FREE FRESHERS AND EXPERIENCED DEVOPS/SRE JOB READY COURSE

- WEEK 3 DAY 12 - LINUX FRESHERS/EXPERIENCED
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  WEEK BY WEEK PROJECTS AND VIDEOS

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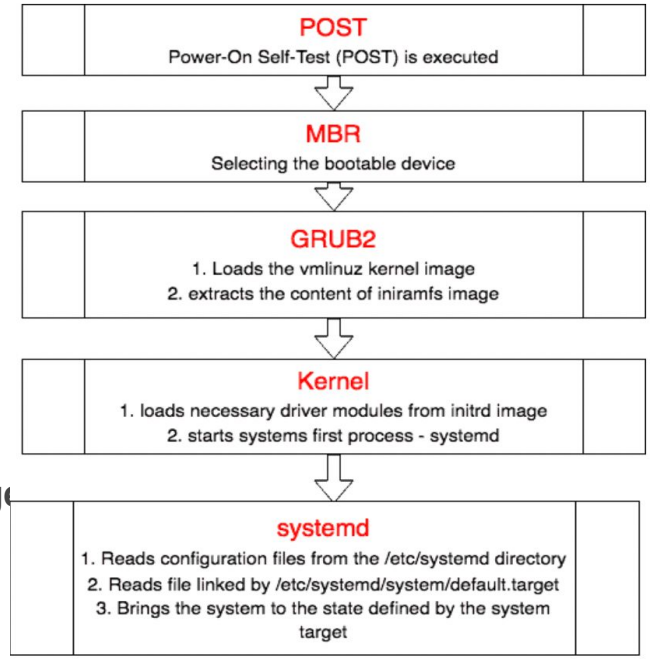
LINUX BOOTING PROCESS

The following steps summarize how the boot procedure happens in RH

1. **The computer's BIOS performs POST.**
2. **BIOS reads the MBR for the bootloader.**
3. **GRUB 2 bootloader loads the vmlinuz kernel image.**
4. **GRUB 2 extracts the contents of the initramfs image.**
5. **The kernel loads driver modules from initramfs.**
6. **Kernel starts the system's first process, systemd.**
7. **The systemd process takes over. It:**
    - **Reads configuration files from the /etc/systemd directory**
    - **Reads file linked by /etc/systemd/system/default.targe**
    - **Brings the system to the state defined by the system target**
    - **Executes /etc/rc.local**



SYSTEM

#uname -a =>Displaylinux system information
#uname -r =>isplay kernel release information
#uptime =>Show how long the system has been running + load
#hostname =>Show system host name
#hostname -i =>Display the IP address of the host
#last reboot =>Show system reboot history
#date =>Show the current date and time
#cal =>Show this month calendar
#w =>Display who is online
#whoami =>Who you are logged in as
#finger user =>Display information about user

HARDWARE

#dmesg =>Detected hardware and boot messages
#cat /proc/cpuinfo =>CPU model
#cat /proc/meminfo =>Hardware memory
#cat /proc/interrupts =>Lists the number of interrupts per CPU per I/O device
#lshw =>Displays information on hardware configuration of the system
#lsblk =>Displays block device related information in Linux
#free -m =>Used and free memory (-m for MB)
#lspci -tv =>Show PCI devices
#lsusb -tv =>Show USB devices
#dmidecode =>Show hardware info from the BIOS
#hdparm -i /dev/sda =>Show info about disk sda
#hdparm -tT /dev/sda =>Do a read speed test on disk sda
#badblocks -s /dev/sda =>Test for unreadable blocks on disk sda

FILE PERMISSION RELATED

#chmod octal file-name =>Change the permissions of file to octal
Example
#chmod 777 /data/test.c =>Set rwx permission for owner,group,world
#chmod 755 /data/test.c =>Set rwx permission for owner,rw for group and world
#chown owner-user file =>Change owner of the file
#chown owner-user:owner-group file-name =>Change owner and group owner of the file
#chown owner-user:owner-group directory =>Change owner and group owner of the directory

NETWORK

#ifconfig –a =>Display all network ports and ip address
#ifconfig eth0 =>Display specific ethernet port
#ethtool eth0 =>Linux tool to show ethernet status
#mii-tool eth0 =>Linux tool to show ethernet status
#ping host =>Send echo request to test connection
#whois domain =>Get who is information for domain
#dig domain =>Get DNS information for domain
#dig -x host =>Reverse lookup host
#host google.com =>Lookup DNS ip address for the name
#hostname –i =>Lookup local ip address
#wget file =>Download file
#netstat -tupl =>List active connections to / from system

COMPRESSION / ARCHIVES

#hdparm -I /dev/sda =>Show info about disk sda
#hdparm -tT /dev/sda =>Do a read speed test on disk sda
#badblocks -s /dev/sda =>Test for unreadable blocks on disk sda

USERS

#id =>Show the active user id with login and group
#last =>Show last logins on the system
#who =>Show who is logged on the system
#groupadd admin =>Add group "admin"
#useradd -c "Sam Tomshi" =>g admin -m sam #Create user "sam"
#userdel sam =>Delete user sam
#adduser sam =>Add user "sam"
#usermod =>Modify user information

FILE COMMANDS

#ls –al =>Display all information about files/ directories
#pwd =>Show the path of current directory
#mkdir directory-name =>Create a directory
#rm file-name =>Delete file
#rm -r directory-nam =>Delete directory recursively
#rm -f file-name =>Forcefully remove file
#rm -rf directory-name =>Forcefully remove directory recursively
#cp file1 file2 =>Copy file1 to file2
#cp -r dir1 dir2 =>Copy dir1 to dir2, create dir2 if it doesn't exist
#mv file1 file2 =>Rename source to dest / move source to directory
#ln –s /path/to/file-name link-name #Create symbolic link to file-name
#touch file =>Create or update file
#cat > file =>Place standard input into file
#more file =>Output contents of file
#head file =>Output first 10 lines of file
#tail file =>Output last 10 lines of file

COMPRESSION / ARCHIVES

#tar cf home.tar home =>Create tar named home.tar containing home
#tar xf file.tar =>Extract the files from file.tar
#tar czf file.tar.gz files =>Create a tar with gzip compression
#gzip file =>Compress file and renames it to file.gz

INSTALL PACKAGE

#rpm -i pkgname.rpm =>Install rpm based package
#rpm -e pkgname =>Remove package

INSTALL FROM SOURCE

#./configure
#make
#make install

SEARCH

#grep pattern files =>Search for pattern in files
#grep -r pattern dir =>Search recursively for pattern in dir
#locate file =>Find all instances of file
#find /home/tom -name 'index*' =>Find files names that start with "index"
#find /home -size +10000k =>Find files larger than 10000k in /home

LOGIN (SSH AND TELNET)

#ssh user@host =>Connect to host as user
#ssh -p port user@host =>Connect to host using specific port

last 10 lines
#gpg -c file =>Encrypt file
#gpg file.gpg =>Decrypt file
#wc =>print the number of bytes, words, and lines in files
#xargs =>Execute command lines from standard input

PROCESS RELATED

#ps =>Display your currently active processes
#ps aux | grep 'telnet' =>Find all process id related to telnet process
#pmap =>Memory map of process
#top =>Display all running processes
#killpid =>Kill process with mentioned pid id
#killall proc =>Kill all processes named proc
#pkill process-name =>Send signal to a process with its name
#bg =>Lists stopped or background jobs
#fg =>Brings the most recent job to foreground
#fg n =>Brings job n to the foreground

FILE TRANSFER

scp
#scp file.txt server2:/tmp =>Secure copy file.txt to remote host /tmp folder
rsync
#rsync -a /home/apps /backup/ =>Synchronize source to destination

DISK USAGE

#df –h =>Show free space on mounted filesystems
#df -i =>Show free inodes on mounted filesystems
#fdisk -l =>Show disks partitions sizes and types
#du -ah =>Display disk usage in human readable form
#du -sh =>Display total disk usage on the current directory

DIRECTORY TRAVERSE

#cd .. =>To go up one level of the directory tree
#cd =>Go to $HOME directory
#cd /test =>Change to /test directory

LINUX COMMANDS/FOLDERS AT ONE PLACE