

Day 1:

1. Login to Aws server and create the Ec2 instance with AMI id .

2. Steps to Generate the ssh-key file: refer the doc ssh-key.md file

3. download the ssh-keypair from aws and use the following command to login with out password.

```
ssh -i devops_new1.pem centos@54.196.88.48
```

IN Linux every thing is command.

Linux is case sensitive.

--> To get the architure of OS:

```
$ uname -i
```

```
x86_64
```

Note: 32-bit -i386/i586/i686 than it is 32-bit

---> to get the os details:

```
$ uname
```

```
Linux
```

---> to get the os vendor

```
cat /etc/*release
```

```
$ cat /etc/*release
```

```
CentOS Linux release 7.7.1908 (Core)
```

```
NAME="CentOS Linux"
```

```
VERSION="7 (Core)"
```

```
ID="centos"
```

```
ID_LIKE="rhel fedora"
```

```
VERSION_ID="7"
```

```
PRETTY_NAME="CentOS Linux 7 (Core)"
```

```
ANSI_COLOR="0;31"
```

```
CPE_NAME="cpe:/o:centos:centos:7"
```

```
HOME_URL="https://www.centos.org/"
```

```
BUG_REPORT_URL="https://bugs.centos.org/"
```

```
CENTOS_MANTISBT_PROJECT="CentOS-7"
```

```
CENTOS_MANTISBT_PROJECT_VERSION="7"
```

```
REDHAT_SUPPORT_PRODUCT="centos"
```

```
REDHAT_SUPPORT_PRODUCT_VERSION="7"
```

```
CentOS Linux release 7.7.1908 (Core)
```

```
CentOS Linux release 7.7.1908 (Core)
```

---> To check the CPU information:

```
$ cat /proc/cpuinfo
```

```
processor      : 0
```

```
vendor_id     : GenuineIntel
```

```
cpu family    : 6
```

```
model         : 63
```

```
model name    : Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GHz
```

```
stepping      : 2
```

```
microcode     : 0x43
```

```
cpu MHz       : 2400.130
```

```
cache size    : 30720 KB
```

```
physical id   : 0
```

```
siblings      : 1
```

```
core id       : 0
```

cpu cores : 1
apicid : 0
initial apicid : 0
fpu : yes
fpu_exception : yes
cpuid level : 13
wp : yes
flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca
cmov pat pse36 clflush mmx fxsr sse
sse2 ht syscall nx rdtscp lm constant_tsc rep_good nopl xtopology eagerfpu
pni pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt
tsc_deadline_timer aes xsave avx f16c rdrand hypervisor lahf_lm abm
invpcid_single fsgsbase bmi1 avx2 smep bmi2 erms invpcid xsaveopt
bogomips : 4800.05
clflush size : 64
cache_alignment : 64
address sizes : 46 bits physical, 48 bits virtual
power management:

--> To check the memory information:

```
$ cat /proc/meminfo
MemTotal:      1013044 kB
MemFree:       842128 kB
MemAvailable:  814608 kB
Buffers:       4172 kB
Cached:        75240 kB
SwapCached:    0 kB
Active:        60248 kB
Inactive:      54928 kB
Active(anon):  35940 kB
Inactive(anon): 6632 kB
Active(file):  24308 kB
Inactive(file): 48296 kB
Unevictable:   0 kB
Mlocked:       0 kB
SwapTotal:     839676 kB
SwapFree:      839676 kB
Dirty:         0 kB
Writeback:     0 kB
AnonPages:     35800 kB
Mapped:        19668 kB
Shmem:         6808 kB
Slab:          27556 kB
SReclaimable:  15260 kB
SUnreclaim:    12296 kB
KernelStack:   1856 kB
PageTables:    3168 kB
NFS_Unstable:  0 kB
Bounce:        0 kB
WritebackTmp:  0 kB
CommitLimit:   1346196 kB
Committed_AS:  227208 kB
VmallocTotal:  34359738367 kB
VmallocUsed:    10944 kB
VmallocChunk:  34359722492 kB
HardwareCorrupted: 0 kB
```

```

AnonHugePages:      8192 kB
CmaTotal:           0 kB
CmaFree:            0 kB
HugePages_Total:    0
HugePages_Free:     0
HugePages_Rsvd:     0
HugePages_Surp:     0
Hugepagesize:       2048 kB
DirectMap4k:        47104 kB
DirectMap2M:        1001472 kB

```

```
$ free -m
```

	total	used	free	shared	buff/cache
Mem:	989	74	822	6	92
Swap:	819	0	819		

```
--> To view the disk information.
```

```
$ sudo fdisk -l
```

```

Disk /dev/xvda: 10.7 GB, 10737418240 bytes, 20971520 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x000a2a6d

```

Device	Boot	Start	End	Blocks	Id	System
/dev/xvda1	*	2048	1026047	512000	83	Linux
/dev/xvda2		1026048	16777215	7875584	8e	Linux LVM

```

Disk /dev/mapper/centos-root: 7159 MB, 7159676928 bytes, 13983744 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

```

```

Disk /dev/mapper/centos-swap: 859 MB, 859832320 bytes, 1679360 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

```

```
[centos@ip-172-31-43-234 ~]$ $ free -m
```

```
-bash: $: command not found
```

```

[centos@ip-172-31-43-234 ~]$
total          used          free
shared buff/cache available

```

```
-bash: total: command not found
```

```

[centos@ip-172-31-43-234 ~]$ Mem:          989          74          822
6          92          795

```

```
-bash: Mem:: command not found
```

```

[centos@ip-172-31-43-234 ~]$ Mem:          989          74          822
6          92          795

```

```
[centos@ip-172-31-43-234 ~]$ clar
```

```
-bash: clar: command not found
[centos@ip-172-31-43-234 ~]$ clear
```

```
[centos@ip-172-31-43-234 ~]$ fdisk -l
fdisk: cannot open /dev/xvda: Permission denied
fdisk: cannot open /dev/mapper/centos-root: Permission denied
fdisk: cannot open /dev/mapper/centos-swap: Permission denied
[centos@ip-172-31-43-234 ~]$ sudo fdisk -l
```

```
Disk /dev/xvda: 10.7 GB, 10737418240 bytes, 20971520 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x000a2a6d
```

Device	Boot	Start	End	Blocks	Id	System
/dev/xvda1	*	2048	1026047	512000	83	Linux
/dev/xvda2		1026048	16777215	7875584	8e	Linux LVM

```
Disk /dev/mapper/centos-root: 7159 MB, 7159676928 bytes, 13983744 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
Disk /dev/mapper/centos-swap: 859 MB, 859832320 bytes, 1679360 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

#####

Day 2:

Create a new EC2 server from AWS.

```
ls: list of files in current directory
# ls
anaconda-ks.cfg  core.16461  Desktop      Documents  etc_bkp.gzip
Music           Public      Videos
clientinstall.sh desktop     desktop.pub  Downloads  initial-setup-ks.cfg
Pictures        Templates
```

```
--> in Linux any folder starting with . will be treated as hidden directory.
--> to create hidden folder/file
--> mkdir .foldername/filename
```

```
--> to list hidden files:
ls -lA or ls -a
```

```
--> to escape the some feature of command use \command
```

```
Ex: #\ls -lA
```

```
note: by prefixing the "\" dont use alias and functions, use only builtin
commands
```


--> Just observe the output:

```
# which ls
alias ls='ls --color=auto'
/usr/bin/ls
[root@desktop ~]# /usr/bin/ls
anaconda-ks.cfg  core.16461  Desktop      Documents  etc_bkp.gzip
Music           Public      Videos
clientinstall.sh desktop     desktop.pub  Downloads  initial-setup-ks.cfg
Pictures Templates
[root@desktop ~]# /usr/bin/ls --color=auto
anaconda-ks.cfg  core.16461  Desktop      Documents  etc_bkp.gzip
Music           Public      Videos
clientinstall.sh desktop     desktop.pub  Downloads  initial-setup-ks.cfg
Pictures Templates
-----
```

-> to set some alias for a command. hear i am changing ls commmand alisa command of date

```
[root@desktop ~]# alias ls='date'
[root@desktop ~]# ls
Sat Dec  7 12:21:07 IST 2019
[root@desktop ~]# date
Sat Dec  7 12:21:10 IST 2019
[root@desktop ~]# unalias ls
[root@desktop ~]# ls
anaconda-ks.cfg  core.16461  Desktop      Documents  etc_bkp.gzip
Music           Public      Videos
clientinstall.sh desktop     desktop.pub  Downloads  initial-setup-ks.cfg
Pictures Templates
-----
```

alias:::

```
[root@desktop ~]# alias ls='date'
[root@desktop ~]# ls
Sat Dec  7 12:21:07 IST 2019
[root@desktop ~]# date
Sat Dec  7 12:21:10 IST 2019
[root@desktop ~]# un
unalias      uncompress  unicode_stop  unix-lpr.sh  unlz4
unshare      unzip
uname        unexpand    uniq          unix_update  unpack200
until        unzipsfx
unbound-anchor unicode_start unix_chkpwd   unlink       unset
unxz
[root@desktop ~]# unalias ls
[root@desktop ~]# ls
anaconda-ks.cfg  core.16461  Desktop      Documents  etc_bkp.gzip
Music           Public      Videos
clientinstall.sh desktop     desktop.pub  Downloads  initial-setup-ks.cfg
Pictures Templates
-----
```

Links:::

```
# ln -s mainfile.txt mainfile_s.txt
[root@desktop ~]# ls -ltr main*
-rw-r--r-- 1 root root 10 Dec  7 12:38 mainfile.txt
```

```

lrwxrwxrwx 1 root root 12 Dec  7 12:39 mainfile_s.txt -> mainfile.txt
[root@desktop ~]# ls -li main*
34889556 lrwxrwxrwx 1 root root 12 Dec  7 12:39 mainfile_s.txt ->
mainfile.txt
34889696 -rw-r--r-- 1 root root 10 Dec  7 12:38 mainfile.txt
[root@desktop ~]# ln mainfile.txt mainfile_h.txt
[root@desktop ~]# ls -li main*
34889696 -rw-r--r-- 2 root root 10 Dec  7 12:38 mainfile_h.txt
34889556 lrwxrwxrwx 1 root root 12 Dec  7 12:39 mainfile_s.txt ->
mainfile.txt
34889696 -rw-r--r-- 2 root root 10 Dec  7 12:38 mainfile.txt
[root@desktop ~]# unlink mainfile_s.txt

```

Copy a file or folder:::

1. cp
2. rsync

both the commands are very similar to copy the files.

```

# cp etc_bkp.gzip Desktop/etc_bkp
[root@desktop ~]# rsync etc_bkp.gzip Desktop/etc_bkp1
[root@desktop ~]# cd Desktop/
[root@desktop Desktop]# ls
CentOS-7-x86_64-DVD-1810.iso  etc_bkp  etc_bkp1

```

File overwrite:

```

# cp etc_bkp1 etc_bkp
cp: overwrite 'etc_bkp'? y
[root@desktop Desktop]# cp etc_bkp etc_bkp1
cp: overwrite 'etc_bkp1'? y
[root@desktop Desktop]# cp etc_bkp etc_bkp1 -y
cp: invalid option -- 'y'
Try 'cp --help' for more information.
[root@desktop Desktop]# cp -f etc_bkp1 etc_bkp
cp: overwrite 'etc_bkp'? Y
[root@desktop Desktop]# \cp -f etc_bkp1 etc_bkp
[root@desktop Desktop]# alias cp
alias cp='cp -i'

```

in linux some of the commands are aliased as below.

```

# cp etc_bkp1 etc_bkp
cp: overwrite 'etc_bkp'? y
[root@desktop Desktop]# cp etc_bkp etc_bkp1
cp: overwrite 'etc_bkp1'? y
[root@desktop Desktop]# cp etc_bkp etc_bkp1 -y
cp: invalid option -- 'y'
Try 'cp --help' for more information.
[root@desktop Desktop]# cp -f etc_bkp1 etc_bkp
cp: overwrite 'etc_bkp'? Y
[root@desktop Desktop]# \cp -f etc_bkp1 etc_bkp
[root@desktop Desktop]# alias cp
alias cp='cp -i'

```

--> To copy a file with the file permissions...

```
cp -p sourcefile destfile
```

to search a text
grep manas* -R -l

Day 4..
Archiving:

Day 5:
package management:

```
yum list available
```

-->to list all the services which are active
systemctl list-units -t service | grep httpd
httpd.service loaded active running The Apache HTTP
Server

-->to list all the services which are active / inactive
systemctl list-units -t service -a | grep http

```
httpd.service loaded inactive dead The  
Apache HTTP Server
```

few times it willnot show correclty. better use below command.

```
# systemctl list-unit-files --all | grep httpd  
httpd.service disabled
```

Note: The main difference between Web server and application server is that web server is meant to serve static pages e.g. HTML and CSS, while Application Server is responsible for generating dynamic content by executing server side code e.g. JSP, Servlet or EJB

By default webserver is installed in application server. Please refer the snap for the further details.

To export the display in Gui in linux.
we need to install one utility xming --> launch xming. set the display port as 7.0

```
# export DISPLAY=192.168.1.23:7.0 ---> ipaddress of windows machine with the  
port 7.0
```

```
ln  
[root@desktop ~]# firewall-config ---> now gui working.  
NOte: this step will not work in AWS.
```

if we are connecting from linux machine gui, you can directly use the ssh
username@ipaddress -X

Day 5:

to know about the port no.
vim /etc/services

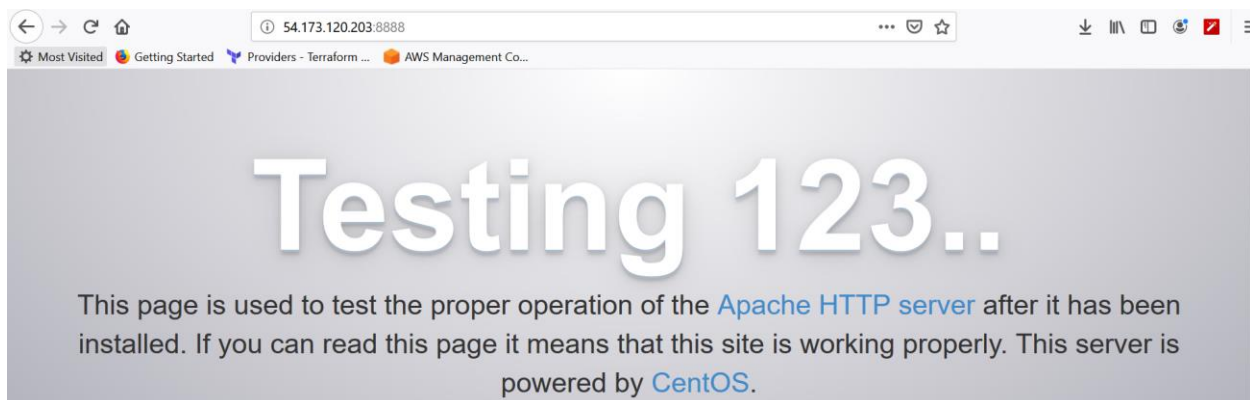
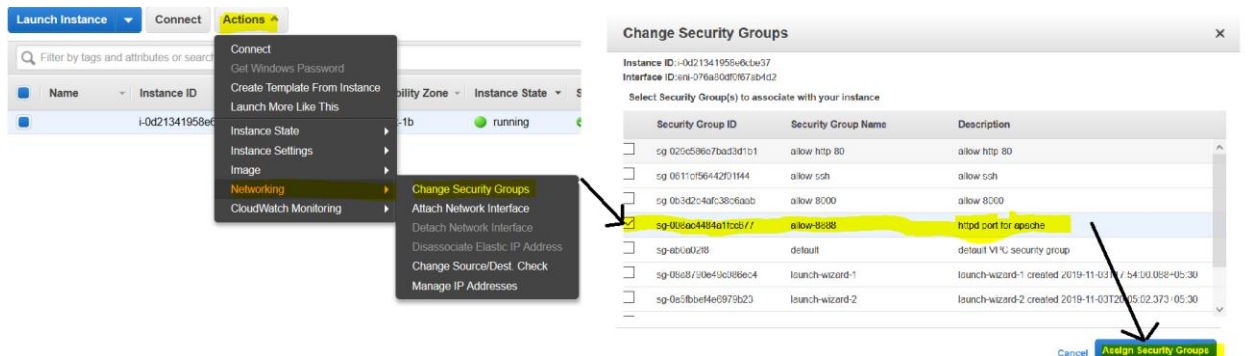
--> now we are changing the Listening portno .
1. change the Listen Port 80 to 8888

vim /etc/httpd/conf/httpd.conf

2. now restart the httpd service
systemctl restart httpd
3. we need to enable the firewall of 8888
firewall-cmd --permanent --add-port=8888/tcp
success
4. # firewall-cmd --reload
success

5. open any browser and type hostname:8888 --> it will open default apache page

Note: this is manual configuration in legacy machines.
for in the Aws cloud we need to security groups as below.



b

! [img] (apache.png)

