Module 3: Important Files, Directories and utilities Assignment

[akmtir@server1 ~]$
[akmtir@server1 ~]$ echo -e "|Whoami:| `whoami`\n|REHL Version:| `cat /etc/system-release`\n`uname -a`"
|Whoami:| akmtir
|REHL Version:| CentOS Linux release 7.3.1611 (Core)
Linux server1.example.com 3.10.0-514.el7.x86_64 #1 SMP Tue Nov 22 16:42:41 UTC 2016 x86_64 x86_64 x86_64 GNU/Linux
[akmtir@server1 ~]$

1 – Use Systemctl command to switch to graphical mode

[akmtir@server1 ~]$
[akmtir@server1 ~]$ systemctl isolate multi-user.target
[akmtir@server1 ~]$
[akmtir@server1 ~]$ startx
[akmtir@server1 ~]$

2 – Set multi-user.target as the default mode

[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lhi /etc/systemd/system/default.target
19767 lrwxrwxrwx. 1 root root 40 Apr 23 13:43 /etc/systemd/system/default.target ->
/usr/lib/systemd/system/graphical.target
[akmtir@server1 ~]$
[akmtir@server1 ~]$ systemctl list-units --type target | grep multi-user
multi-user.target   loaded active active Multi-User System
[akmtir@server1 ~]$
[akmtir@server1 ~]$ su - root
Password:
Last login: Sun Apr 30 06:10:47 CEST 2017 on pts/0
[akmtir@server1 ~]$
[root@server1 ~]# systemctl set-default multi-user.target
Removed symlink /etc/systemd/system/default.target.
Created symlink from /etc/systemd/system/default.target to /usr/lib/systemd/system/multi-user.target.
[root@server1 ~]#
[root@server1 ~]# ls -lhi /etc/systemd/system/default.target
19351 lrwxrwxrwx. 1 root root 41 May 5 12:10 /etc/systemd/system/default.target ->
/usr/lib/systemd/system/multi-user.target
[root@server1 ~]#
[root@server1 ~]#

3 – Identify and list different types of files in your system

[root@server1 ~]#
[root@server1 ~]# ls -lihd /dev/
3 drwxr-xr-x. 18 root root 3.0K May 5 10:48 /dev/
[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lha /dev/ | grep ^b | head -3
brw-rw----. 1 root   disk   8,   0 May 5 10:48 sda
brw-rw----. 1 root   disk   8,   1 May 5 10:48 sda1
brw-rw----. 1 root   disk   8,   2 May 5 10:48 sda2
[akmtir@server1 ~]$
[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lha /etc/ | grep ^d | head -3
drwxr-xr-x. 139 root root   12K May 5 13:53 .
dr-xr-xr-x. 19 root root   4.0K Apr 23 13:07 ..
drwxr-xr-x.   3 root root   4.0K Apr 22 21:45 abrt
[akmtir@server1 ~]$
[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lha /etc/ | grep ^l | head -3
lrwxrwxrwx.   1 root root   56 Apr 22 21:42 favicon.png ->
/usr/share/icons/hicolor/16x16/apps/fedora-logo-icon.png
lrwxrwxrwx.   1 root root   22 Apr 22 21:52 grub2.cfg -> ../boot/grub2/grub.cfg
lrwxrwxrwx.   1 root root   11 Apr 22 21:40 init.d -> rc.d/init.d
[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lha /dev/ | grep ^c | head -3
crw-------. 1 root   root   10, 235 May 5 10:48 autofs
crw-------. 1 root   root   10, 234 May 5 10:48 btrfs-control
crw-------. 1 root   root   5,   1 May 5 10:48 console
[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lha /dev/ | grep ^s | head -3
srw-rw-rw-. 1 root   root   0 May 5 10:48 log
[akmtir@server1 ~]$ ls -lha /var/run/cups/ | grep ^s | head -3
srw-rw-rw-. 1 root root   0 May 5 10:48 cups.sock
[akmtir@server1 ~]$
[akmtir@server1 ~]$
[akmtir@server1 ~]$ mkfifo named.pipe
[akmtir@server1 ~]$
[akmtir@server1 ~]$ ls -lh | grep ^p
prw-rw-r--. 1 akmtir akmtir   0 May 5 14:43 named.pipe
[akmtir@server1 ~]$
[akmtir@server1 ~]$ tty
/dev/pts/1
[akmtir@server1 ~]$ cat named.pipe
Hello /dev/pts/2
[akmtir@server1 ~]$

4 – List major and minor numbers

[root@server1 ~]#
[root@server1 ~]# cat /proc/partitions
major minor #blocks name

  11   0   1048575 sr0
   8   0 10485760 sda
   8   1   512000 sda1
   8   2   2097152 sda2
   8   3   7875584 sda3
[root@server1 ~]#
[root@server1 ~]# cat /proc/devices
Character devices:
 1 mem
 4 /dev/vc/0
 4 tty
 4 ttyS
 5 /dev/tty
 5 /dev/console
 5 /dev/ptmx
 7 vcs
 10 misc
 13 input
 14 sound
 21 sg
 29 fb
 99 ppdev
116 alsa
128 ptm
136 pts
162 raw
180 usb
188 ttyUSB
189 usb_device
202 cpu/msr
203 cpu/cpuid
249 hidraw
250 usbmon
251 bsg
252 watchdog
253 rtc
254 tpm

Block devices:

```
259 blkext
  8 sd
  9 md
 11 sr
 65 sd
 66 sd
 67 sd
 68 sd
 69 sd
 70 sd
 71 sd
128 sd
129 sd
130 sd
131 sd
132 sd
133 sd
134 sd
135 sd
253 device-mapper
254 mdp
[root@server1 ~]#
```

5 – Configure your system not to respond to ping command

[root@server1 ~]# ls -lhi /proc/sys/net/ipv4/icmp_echo_ignore_all
59588 -rw-r--r--. 1 root root 0 May 5 13:29 /proc/sys/net/ipv4/icmp_echo_ignore_all
[root@server1 ~]# cat /proc/sys/net/ipv4/icmp_echo_ignore_all
0
[root@server1 ~]# ping 127.0.0.1
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data.
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.152 ms
64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.106 ms
64 bytes from 127.0.0.1: icmp_seq=3 ttl=64 time=0.099 ms
^C
--- 127.0.0.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2000ms
rtt min/avg/max/mdev = 0.099/0.119/0.152/0.023 ms
[root@server1 ~]#
[root@server1 ~]# echo "1" > /proc/sys/net/ipv4/icmp_echo_ignore_all
[root@server1 ~]#
[root@server1 ~]# ping 127.0.0.1
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data.
^C
--- 127.0.0.1 ping statistics ---

6 packets transmitted, 0 received, 100% packet loss, time 5000ms

[root@server1 ~]# echo "0" > /proc/sys/net/ipv4/icmp_echo_ignore_all
[root@server1 ~]#

6 – Use awk, grep, sed command together for a usecase

Example to identify accounts with nologin
[akmtir@server1 ~]$
[akmtir@server1 ~]$ cat /etc/passwd | grep nologin | awk -F":" '{print $1,$3,$4,$7}' | sed -e "s/ / * /g" | head
bin * 1 * 1 * /sbin/nologin
daemon * 2 * 2 * /sbin/nologin
adm * 3 * 4 * /sbin/nologin
lp * 4 * 7 * /sbin/nologin
mail * 8 * 12 * /sbin/nologin
operator * 11 * 0 * /sbin/nologin
games * 12 * 100 * /sbin/nologin
ftp * 14 * 50 * /sbin/nologin
nobody * 99 * 99 * /sbin/nologin
systemd-bus-proxy * 999 * 997 * /sbin/nologin
[akmtir@server1 ~]$

7 – Compress and archive /etc folder to your home directory

[root@server1 /]#
[root@server1 /]# ls /home/
akmtir
[root@server1 /]#
[root@server1 /]# tar -cjvf /home/etc-arch.tarbz /etc
...
/etc/audit/
/etc/audit/auditd.conf
/etc/audit/rules.d/
/etc/audit/rules.d/audit.rules
/etc/audit/audit.rules
/etc/audit/audit-stop.rules
/etc/cron.monthly/
/etc/logrotate.conf
[root@server1 /]#
[root@server1 /]#
[root@server1 /]# ls -lh /home/
total 8.9M
drwx------. 14 akmtir akmtir 4.0K May 5 12:10 akmtir
-rw-r--r--. 1 root   root   8.9M May 5 13:48 etc-arch.tarbz
[root@server1 /]#