

Lab 3-1: Linux Terminal Navigation

```
cd /  
ls  
cd /etc  
ls  
cd init  
ls  
ls -l rc.conf  
  
cd ~  
ls -l /etc/init/rc.conf  
  
cd ..  
pwd  
  
cd ~  
cd ../../..  
  
file /etc/init/rc.conf  
cat /etc/init/rc.conf  
  
clear  
  
grep root /etc/passwd
```

Lab 4-1: Creating Hard and Symbolic Links in Terminal

```
mkdir documents  
cd documents  
mkdir work  
mkdir home  
mkdir misc  
ls  
clear  
  
cd work  
cat > links  
This is the links file  
ctrl + c  
  
ls -l  
ln links links2
```

ls -i

ls >>links

cat links

cat links2

ls .. >> links2

cat links

cat links2

rm links

ln -s links2 links3

ls >> links3

cat links2

cat links3

rm links2

cat links3

ls -l

clear

which ls

which pwd

which cp

which mv

which halt

clear

find / -name work 2> /dev/null

clear

cp /etc/passwd ~/documents/work

cd ~/documents/work

cp passwd passwd2

mv passwd2 ~/documents/misc

rm -ri ~/documents/misc

y

y

y

clear

su root

p@ssw0rd

mkdir /home/LabConnection/documents/newprojects

```
ls -l /home/LabConnection/documents
chown LabConnection /home/LabConnection/documents/newprojects
ls -l /home/LabConnection/documents
su LabConnection
touch /home/LabConnection/documents/newprojects/project1
touch /home/LabConnection/documents/newprojects/project2
ls -l /home/LabConnection/documents/newprojects

chmod u=rwx /home/LabConnection/documents/newprojects/project1
ls -l /home/LabConnection/documents/newprojects/project1
chmod 765 /home/LabConnection/documents/newprojects/project2
ls -l /home/LabConnection/documents/newprojects/project2
```

Lab 5-1: Working with fdisk Options and Mount - Unmount Filesystems

```
su root
p@ssw0rd
visudo
Student1      ALL=(ALL)    ALL
:wq
su Student1

sudo fdisk -l
p@ssw0rd

sudo fdisk /dev/sda
m
l
q
clear

sudo mkdir /mnt/cdrom
sudo mount -r -t iso9660 /dev/cdrom /mnt/cdrom
ls -l /mnt/cdrom

mount
sudo umount /dev/cdrom
mount
ls -l /mnt/cdrom
```

Lab 7-1: Scripting in the BASH shell

```
ls
```

```
ls > newfile
cat newfile
ls -l >> newfile
cat newfile
```

```
tac < newfile
```

```
tac < newfile > elifym
cat elifym
clear
```

```
ls -l /etc
ls -l /etc | more
clear
```

```
cat newfile | grep -i documents
cat newfile | grep -i documents > docs
cat docs
clear
```

```
cat > myscript
#!/bin/bash
echo "Hello"
```

```
chmod 764 myscript
./myscript
vi myscript
:wq
./myscript
clear
```

```
vi myscript2
#!/bin/bash
echo "Please type your name, then press Enter"
read name
echo "Hello $name"
:wq
chmod 764 myscript2
./myscript
```

```
vi myscript3
#!/bin/bash
echo "Please type a positive or negative number and press Enter"
read number1
```

```
if [ $number1 -gt 0 ]
then
echo "$number1 is a positive number"
else
echo "$number1 is a negative number"
fi
:wq

chmod 764 myscript3
./myscript3
```

Lab 8-1: Working with Boot Loader and Runlevels

```
sudo cat /boot/grub/grub.conf
p@ssw0rd
sudo vi /boot/grub/grub.conf
```

```
runlevel
su root
p@ssw0rd
init 1
init 5
runlevel
clear
```

```
cat /etc/inittab
vi /etc/inittab
reboot
```

Lab 9-1: Managing Linux Processes

```
ps
ps -aux | more
pstree
top
clear

yes
yes > /dev/null
yes > /dev/null &

jobs
```

```
ps
kill %1
jobs
kill -l
clear
```

```
ps -l
clear
```

```
cat > atbatch
echo "This file was created by the at command" > atfile
date
at 5:25 AM -f atbatch
cat atfile
clear
```

```
mkdir backup
cat > mycron
SHELL = /bin/bash
*/2 * * * * cp /home/LabConnection/* /home/LabConnection/backup
crontab mycron
crontab -l
ls -l backup
crontab -r
```

Lab 10-1: Using Linux Administration Tools

```
cat /etc/passwd
sudo cat /etc/shadow
p@ssw0rd
```

```
sudo useradd billybob
cat /etc/passwd
sudo ls -la /home/billybob
```

```
cat /etc/login.defs
sudo cat /etc/default/useradd
ls -la /etc/skel
```

```
sudo passwd billybob
b1i2L3L4y5
ls /home
clear
```

```
sudo usermod -c "Works in Sales" billybob
cat /etc/passwd
```

```
sudo userdel billybob
sudo ls -la /home/billybob
sudo useradd -u 502 bettyjane
sudo ls -la /home/billybob
```

```
cat /etc/group
sudo groupadd -g 503 sales
cat /etc/group
sudo usermod -G sales bettyjane
cat /etc/group
```

Lab 11-1: Compress, View, and Uncompress Files in Linux

```
sudo yum install ncompress
p@ssw0rd1
y
```

```
cp .bash_history sample1
cp /etc/passwd sample2
ls -l sample*
```

```
compress -v sample1 sample2
ls -l sample*
```

```
zcat sample1.Z
uncompress -v sample1.Z sample2.Z
ls -l sample*
clear
```

```
ls -l sample*
gzip -v sample1 sample2
ls -l sample*
```

```
zcat sample1.gz
gunzip -v sample1.gz sample2.gz
ls -l sample*
clear
```

```
ls -l sample*
bzip2 -v sample1 sample2
ls -l sample*
```

```
bzcat sample1.bz2
bunzip2 -v sample1.bz2 sample2.bz2
ls -l sample*
```

Lab 12-1: Linux Network Configuration

```
ifconfig
cat /etc/sysconfig/network-scripts/ifcfg-eth0
ping 127.0.0.1
ping 192.168.15.1
ping 8.8.8.8

sudo ifconfig eth0 192.168.15.254 netmask 255.255.255.0
p@ssw0rd
ifconfig

hostname
sudo hostname mycomputer.mydomain.com
p@ssw0rd
hostname
clear

cat /etc/hosts
sudo vi /etc/hosts
p@ssw0rd
i
192.168.15.107 thiscomputer
esc
:wq
ping thiscomputer
cat /etc/resolv.conf

route
netstat -r
sudo route add -net 2.0.0.0 netmask 255.0.0.0 gw 192.168.15.150
p@ssw0rd
route
sudo route del -net 2.0.0.0 netmask 255.0.0.0 gw 192.168.15.150
route
clear

sudo yum install telnet-server
p@ssword
```



```
y
sudo vi /etc/xinetd.d/telnet
i
no
esc
:wq
sudo service xinetd restart
clear
```

```
sudo yum install openssh
p@ssword
y
sudo chkconfig sshd on
sudo /etc/init.d/sshd start
ssh root@localhost
yes
p@ssw0rd
exit
```

Lab 13-1: Configuring Network Services

```
sudo yum install dhcp
p@ssw0rd
y
```

```
sudo vi /etc/dhcp/dhcpd.conf
default-lease-time 36000;
option routers 192.168.15.254;
option domain-name-servers 192.168.15.200;
subnet 192.168.15.0 netmask 255.255.255.0 {
range 192.168.15.1 192.168.15.100;
}
esc
:wq
service dhcpd start
clear
```

```
sudo yum install bind
y
```

```
sudo yum install system-config-bind
y
```

```
system-config-bind
```

```
sudo yum install httpd
p@ssw0rd
y
sudo service httpd start
```

```
ftp localhost
y
ftp localhost
anonymous
myemail@here
ls
p@ssw0rd
bye
```

Lab 14-1: Configuring Security in Linux

```
su
p@ssw0rd
cat /var/log/boot.log
tail -f /var/log/messages
```

```
lsusb
lspci
clear
```

```
rpm -qa | more
rpm -V httpd
clear
```

```
yum install sysstat
y
```

```
mpstat
iostat
top
free
clear
```

```
nmap
y
nmap -sT localhost
```