BASIC LINUX COMMANDS

Linux Command Line

The Linux command line gives text based access to an interpreter called Bash. To perform instructions enter commands at the command prompt.

File Commands

ls: List the contents of current directory

root@kali:~# **ls**
Desktop

pwd : Prints the current working directory

root@kali:~# **pwd**
/root

cd : Change Directories

root@kali:~# **cd Desktop**
root@kali:~/Desktop# **cd ..**
root@kali:~# **cd ../etc**
root@kali:/etc#

Manipulating Files

Everything in Linux is a file.

To create a new file:

root@kali:~# **touch myfile**
(this will create a new file with name myfile in current working directory)

To create a new directory:

root@kali:~# **mkdir mydirectory**
root@kali:~# **ls**
Desktop mydirectory myfile

Copying Files:

cp <source> <destination> (makes a copy leaving the original in place)

root@kali:~# **cd mydirectory/**
root@kali:~/mydirectory# **cp /root/myfile myfile2**
root@kali:~/mydirectory# **ls**
myfile2

Moving Files:

mv <source> <destination> (moves the file deleting the original)

root@kali:~/mydirectory# **mv myfile2 myfile3**
root@kali:~/mydirectory# **ls**

myfile3

Deleting Files: rm <filename> (removes the file)

root@kali:~/mydirectory# **rm myfile3**

Deleting Directories: rm -r <directory name> (removes the directory)

root@kali:~# **rm mydirectory**

Adding Text to a File

echo <text>: prints the text out to the terminal

root@kali:~/mydirectory# **echo hello world**
hello world

echo text > myfile: Redirect output into a file named myfile (create a new file and overrides the existing one)

root@kali:~/mydirectory# **echo hello world> myfile**
root@kali:~/mydirectory# **cat myfile**
hello world
root@kali:~/mydirectory# **echo hello world again > myfile**
root@kali:~/mydirectory# **cat myfile**
hello world again

cat <filename> : View the contents of a file

root@kali:~/mydirectory# **cat myfile**
hello world again

echo text >> myfile : Append text to a file instead of overwriting it

root@kali:~/mydirectory# **echo hello world a third time >> myfile**
hello world again
hello world a third time

Man Pages

To learn more about a Linux command you can use the Linux man pages.
They give you usage, description, and options about a command.

root@kali:~# **man ls**
LS(1) User Commands LS(1)
NAME
ls - list directory contents
SYNOPSIS
ls [OPTION]... [FILE]...
DESCRIPTION
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
fied.
Mandatory arguments to long options are mandatory for short options
too.
-a, --all
do not ignore entries starting with .
-A, --almost-all
do not list implied . and ..
--author
Manual page ls(1) line 1 (press h for help or q to quit)

User Privileges

Root is the superuser on a Linux system with full privileges (use at your own risk)
By default on Kali we only have the Root user.
On a typical Linux system we would have unprivileged users with Sudo privileges to use Root temporarily

Adding a User

root@kali:~# **adduser georgia**
Adding user `georgia' ...
Adding new group `georgia' (1001) ...
Adding new user `georgia' (1000) with group `georgia' ...
Creating home directory `/home/georgia' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for georgia
Enter the new value, or press ENTER for the default
Full Name []: **Georgia Weidman**
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] **Y**

Adding a User to the sudoers File: The sudoers group contains all the users that can use the sudo command to run privileged operations.

root@kali:~# **adduser georgia sudo**
Adding user `georgia' to group `sudo' ...
Adding user georgia to group sudo
Done.

Switching Users and Using Sudo

root@kali:~# **su georgia**
georgia@kali:/root$ **adduser james**
bash: adduser: command not found
georgia@kali:/root$ **sudo adduser james**
We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:
#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.
[sudo] password for georgia:
Adding user `james' ...

File Permissions

root@kali:~/mydirectory# **ls -l myfile**
-rw-r--r-- 1 root root 47 Aug 26 19:36 myfile

From left to right: File permissions(three sets), links, owner, group, size in bytes, time of last edit, filename.
Possible permissions include read write and execute (rwx).
Three sets of permissions include owner, group & everyone.

Example Explained: In this example, the first three symbols ,i.e., **-rw** denotes the file permissions for owner of the file which in this case is root. The **-** denotes no execute permission,**r** denotes read permission and **w** denotes the write permission.
The next set of Permission is for group which owner belongs to and the last set of permission is for everyone.

Editing Files with Nano

Opening the existing file: nano <filename>

root@kali:~/mydirectory# **nano myfile**
hello world again
hello world a third time

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text^T To Spell

Searching for text: Ctrl+W

Editing the file: In nano we can edit file by opening it and typing what we want to add.

Editing Files with Vi

root@kali:~/mydirectory# **vi testfile.txt**
hi
admiral
we
are
teaching
pentesting
today
~
~
"testfile.txt" 7L, 44C 1,1 All

By default Vi is in command mode. You can not directly enter text.
Enter I to switch to insert mode, ESC to switch back to command mode.
To save and exit from command mode type **:wq**

In command mode we can use shortcuts to perform tasks.
For example put the cursor on the word we and type **dd** to delete the line.

Managing Installed Packages

Install a package:

root@kali:~/mydirectory**# apt-get install package_name**

Get the latest packages from the repositories listed in /etc/apt/sources.list :

root@kali:~/mydirectory# **apt-get update**

Update the software :

root@kali:~/mydirectory# **apt-get upgrade**

Managing Networking

Checking ip address:

root@kali:~# **ifconfig**
eth0 Link encap:Ethernet HWaddr 00:0c:29:b0:09:56
inet addr:**10.0.0.61** Bcast:10.0.0.255 Mask:255.255.255.0
inet6 addr: **fe80::20c:29ff:feb0:956/64** Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:51 errors:0 dropped:0 overruns:0 frame:0
TX packets:42 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:4342 (4.2 KiB) TX bytes:3418 (3.3 KiB)
Interrupt:19 Base address:0x2000

Turning Interface Up/Down:

root@kali:~# **ifconfig eth0 down**
root@kali:~# **ifconfig eth0 up**