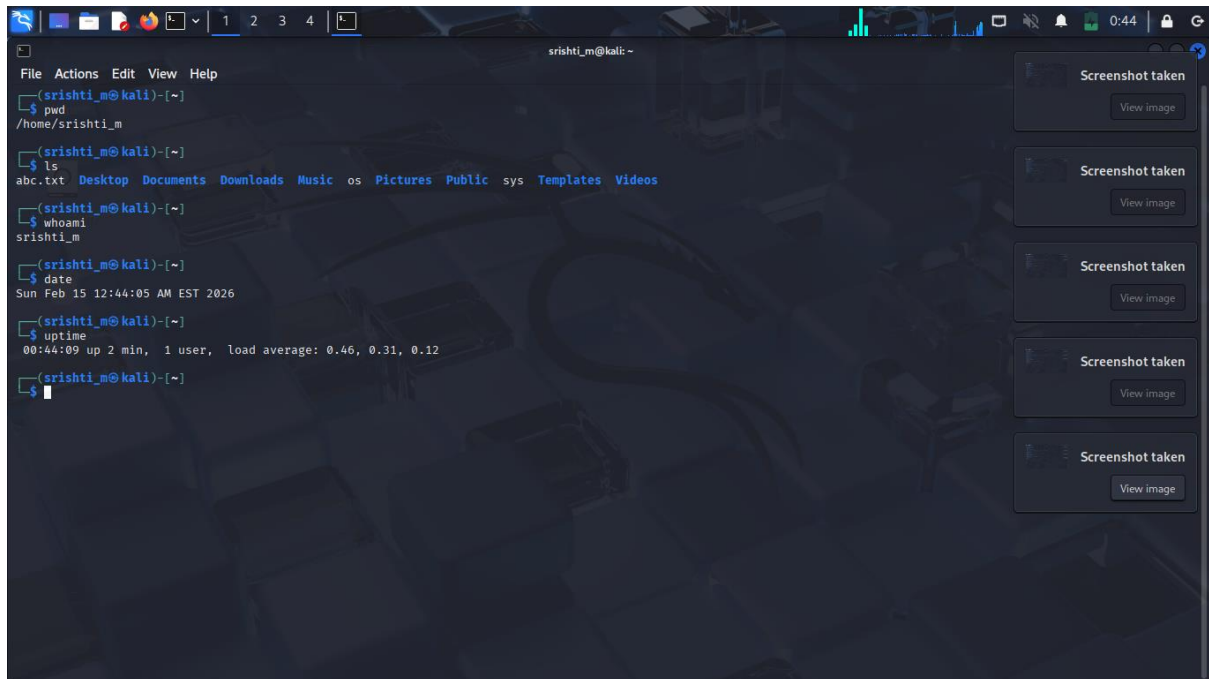


Experiment :- 1

Aim:-Exploring Linux System Commands, Run levels, And Help Utilities

1. Log in to the Linux virtual machine.
2. Open the Terminal.
3. Execute basic system commands.

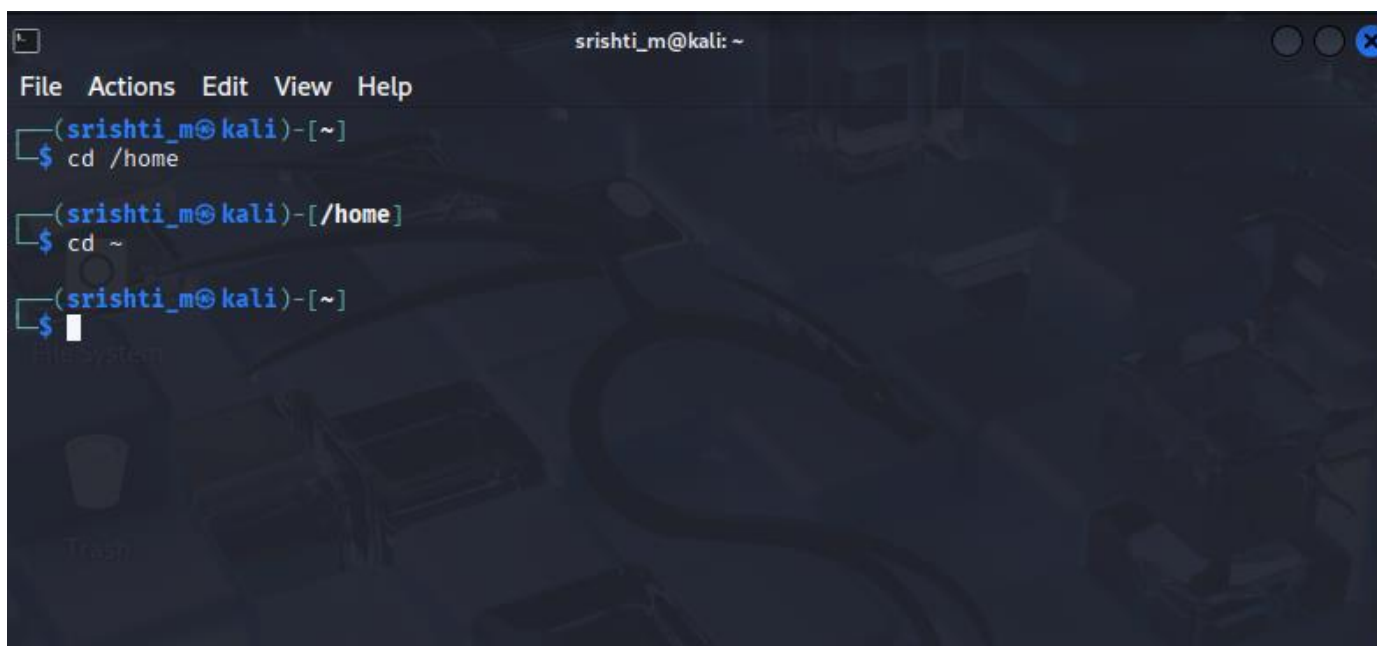


A screenshot of a Linux terminal window with a dark theme. The window title is 'srishti_m@kali: ~'. The terminal shows the following commands and their outputs:

```
(srishti_m@kali)-[~]  
$ pwd  
/home/srishti_m  
  
(srishti_m@kali)-[~]  
$ ls  
abc.txt Desktop Documents Downloads Music os Pictures Public sys Templates Videos  
  
(srishti_m@kali)-[~]  
$ whoami  
srishti_m  
  
(srishti_m@kali)-[~]  
$ date  
Sun Feb 15 12:44:05 AM EST 2026  
  
(srishti_m@kali)-[~]  
$ uptime  
00:44:09 up 2 min, 1 user, load average: 0.46, 0.31, 0.12  
  
(srishti_m@kali)-[~]  
$
```

On the right side of the terminal window, there are five 'Screenshot taken' notifications, each with a 'View image' button.

4. Navigate directories using.



A screenshot of a Linux terminal window with a dark theme. The window title is 'srishti_m@kali: ~'. The terminal shows the following commands and their outputs:

```
(srishti_m@kali)-[~]  
$ cd /home  
  
(srishti_m@kali)-[/home]  
$ cd ~  
  
(srishti_m@kali)-[~]  
$
```

The terminal background features a faint, stylized illustration of a cityscape with buildings and a bridge.

5. Use manual pages to understand commands.

```
(srishti_m@kali)-[~]  
$ man ls  
  
(srishti_m@kali)-[~]  
$ man cd  
No manual entry for cd  
  
(srishti_m@kali)-[~]  
$
```

6. Exit the manual using the q key

```
srishti_m@kali: ~  
File Actions Edit View Help  
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 al-  
    phabetically if none of -cftuvSUX nor --sort is specified.  
  
    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  
        with -l, print the author of each file  
  
    -b, --escape  
        print C-style escapes for nongraphic characters  
  
    --block-size=SIZE  
        with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE  
        format below  
  
Manual page ls(1) line 1 (press h for help or q to quit)
```

7. Use help options

```
srishti_m@kali: ~  
File Actions Edit View Help  
(srishti_m@kali)-[~]  
$ man cd  
No manual entry for cd  
  
(srishti_m@kali)-[~]  
$ ls --help  
Usage: ls [OPTION]... [FILE]...  
List information about the FILES (the current directory by default).  
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.  
  
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          with -l, print the author of each file  
-b, --escape             print C-style escapes for nongraphic characters  
                        --block-size=SIZE with -l, scale sizes by SIZE when printing them;  
                        e.g., '--block-size=M'; see SIZE format below  
  
-B, --ignore-backups     do not list implied entries ending with ~  
-c                        with -lt: sort by, and show, ctime (time of last  
                        change of file status information);  
                        with -l: show ctime and sort by name;  
                        otherwise: sort by ctime, newest first  
  
-C                        list entries by columns  
                        --color[=WHEN]    color the output WHEN; more info below  
-d, --directory          list directories themselves, not their contents  
-D, --dired              generate output designed for Emacs' dired mode  
-f                        same as -a -U  
-F, --classify[=WHEN]   append indicator (one of */=>@|) to entries WHEN  
                        --file-type       likewise, except do not append '*'
```

```
File Actions Edit View Help

(srishti_m@kali)~$ systemctl --help
systemctl [OPTIONS... ] COMMAND ...

Query or send control commands to the system manager.

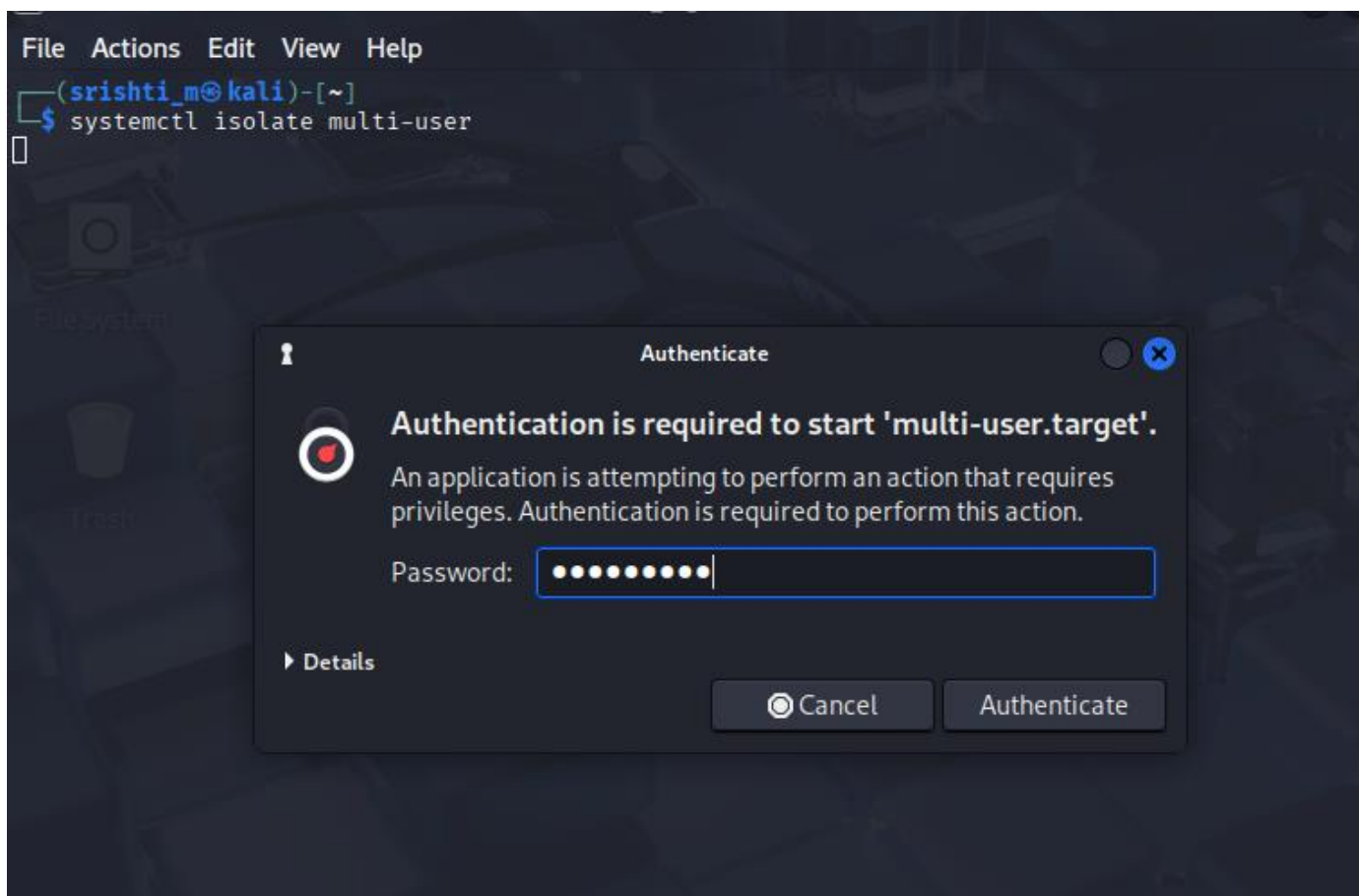
Unit Commands:
list-units [PATTERN... ]      List units currently in memory
list-automounts [PATTERN... ] List automount units currently in memory,
                                ordered by path
list-paths [PATTERN... ]      List path units currently in memory,
                                ordered by path
list-sockets [PATTERN... ]     List socket units currently in memory,
                                ordered by address
list-timers [PATTERN... ]      List timer units currently in memory,
                                ordered by next elapse
is-active PATTERN...           Check whether units are active
is-failed [PATTERN... ]        Check whether units are failed or
                                system is in degraded state
status [PATTERN... |PID... ]   Show runtime status of one or more units
show [PATTERN... |JOB... ]     Show properties of one or more
                                units/jobs or the manager
cat PATTERN...                 Show files and drop-ins of specified units
help PATTERN... |PID...        Show manual for one or more units
list-dependencies [UNIT... ]    Recursively show units which are required
                                or wanted by the units or by which those
                                units are required or wanted
start UNIT...                  Start (activate) one or more units
stop UNIT...                   Stop (deactivate) one or more units
reload UNIT...                 Reload one or more units
```

8. Check current run level / target

```
(srishti_m@kali)~$ runlevel
unknown

(srishti_m@kali)~$ systemctl get-default
graphical.target
```

Switch to multi-user mode:-



```
File Actions Edit View Help

status [PATTERN... |PID... ]      Show runtime status of one or more units
show [PATTERN... |JOB... ]        Show properties of one or more
                                  units/jobs or the manager
cat PATTERN...                    Show files and drop-ins of specified units
help PATTERN... |PID...           Show manual for one or more units
list-dependencies [UNIT... ]      Recursively show units which are required
                                  or wanted by the units or by which those
                                  units are required or wanted
start UNIT...                     Start (activate) one or more units
stop UNIT...                      Stop (deactivate) one or more units
reload UNIT...                    Reload one or more units
restart UNIT...                   Start or restart one or more units
try-restart UNIT...               Restart one or more units if active
reload-or-restart UNIT...         Reload one or more units if possible,

(srishti_m@kali)-[~]
$ runlevel
unknown

(srishti_m@kali)-[~]
$ systemctl get-default
graphical.target

(srishti_m@kali)-[~]
$ systemctl isolate graphical.target

(srishti_m@kali)-[~]
$ systemctl isolate graphical.target

(srishti_m@kali)-[~]
$
```

9. Practice auto-completion by typing partial command names and pressing Tab.

10. Clear the terminal screen: Clear

```
srishti_m@kali: ~
File Actions Edit View Help

status [PATTERN... |PID... ]      Show runtime status of one or more units
show [PATTERN... |JOB... ]        Show properties of one or more
                                  units/jobs or the manager
cat PATTERN...                    Show files and drop-ins of specified units
help PATTERN... |PID...           Show manual for one or more units
list-dependencies [UNIT... ]      Recursively show units which are required
                                  or wanted by the units or by which those
                                  units are required or wanted
start UNIT...                     Start (activate) one or more units
stop UNIT...                      Stop (deactivate) one or more units
reload UNIT...                    Reload one or more units
restart UNIT...                   Start or restart one or more units
try-restart UNIT...               Restart one or more units if active
reload-or-restart UNIT...         Reload one or more units if possible,

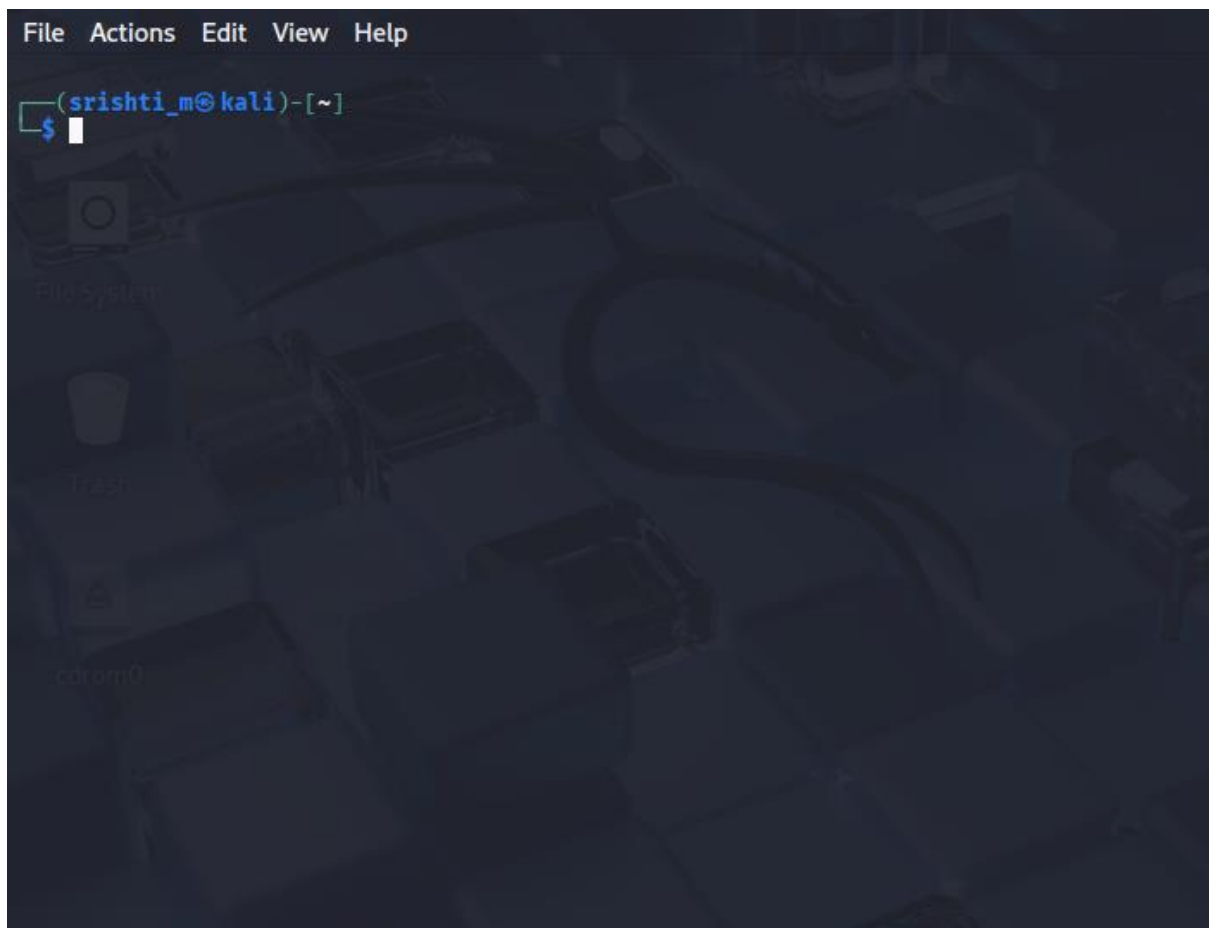
(srishti_m@kali)-[~]
$ runlevel
unknown

(srishti_m@kali)-[~]
$ systemctl get-default
graphical.target

(srishti_m@kali)-[~]
$ systemctl isolate graphical.target

(srishti_m@kali)-[~]
$ systemctl isolate graphical.target

(srishti_m@kali)-[~]
$ clear
```



Expected Output

- Successful execution of basic Linux commands.
- Display of manual pages and help documentation.
- Identification of current system run level / target.
- Improved familiarity with Linux command usage.

Result :- Basic Linux system commands, run levels, and help utilities were successfully explored and executed. The student gained practical understanding of Linux command-line interaction and documentation mechanisms.