Hands-on Lab: Informational Commands

Learning Objectives

After completing this lab, you will be able to use commands to display:

- System and user information
- User and group identity info
- Information about running processes and system resource usage
- Custom messages
- The current date and time
- The reference manual for a command

Exercise 1 - Informational Commands

In this exercise, you will familiarize yourself with useful commands for providing system and user information.

1.1. Display the name of the current user

`whoami`

Enter the `whoami` command to return your current username.

```
1  whoami
```

It will display the user name as `theia` because you are logged into this lab as `theia` .

You can get a list of currently logged in users using the command `who` , but this command doesn't work in the Theia environment yet.

1.2. Get basic information about the operating system

`uname`

By default the command prints the kernel name. The `u` in `uname` refers to "unix-like OS".

```
1  uname
```

If you enter the command `uname` , you will see `Linux` printed in the output.

Using the `-a` option prints all the system information.

```
1  uname -a
```

You will see system information listed in the following order:

- Kernel name
- Network node hostname
- Kernel release date
- Kernel version
- Machine hardware name
- Hardware platform
- Operating system

1.3. Obtain the user and group identity information

`id`

This command displays the user id and group id information of the current user.

```
1  id
```

It will display the `uid` (user id) and `gid` (group id) for the user `theia` .

1.4 Get available disk space

`df`

The `df` command is used to display available disk space.

```
1  df
```

This command will display available disk space in 512-byte blocks. To get available disk space in a "human-readable" format, enter:

```
1  df -h
```

This will return the available disk space in units like gigabytes and terabytes.

1.5. View currently running processes

`ps`

The `ps` command lists each process that is currently running and its `PID` (process id).

```
1  ps
```

However, the output only contains the processes that are owned by you.

By using the `-e` option, you can display all of the processes running on the system. The includes processes owned by other users.

```
1  ps -e
```

1.6. Get information on the running processes and system resources

`top`

The `top` or "table of processes" command provides a dynamic, real-time view of your system.

```
top
```

The `top` command displays a table of detailed information related to the processes or threads which are currently running and managed by the kernel. Additionally, it also provides information related to CPU and memory usage per process.

When you start `top`, you'll be presented with the following elements on the main `top` screen:

- Summary area - shows information like system uptime, number of users, load average, and overall memory usage
- Column header - attribute names
- Task area - displays the data for each process, or `PID`

The output keeps refreshing until you press `q` or `Ctrl` + `c`.

If you want to exit automatically after a specified number of repetitions, use the `-n` option as follows:

```
top -n 10
```

You can press the following keys with `Shift` while `top` is running to sort the table:

Key	Sorts by
`m`	Memory Usage
`p`	CPU Usage
`n`	Process ID (PID)
`t`	Running Time

For example, you can find out which process is consuming the most memory by entering `Shift` + `m`.

1.7. Display Messages

`echo`

The `echo` command displays the given text on the screen. For example, entering:

```
echo "Welcome to the linux lab"
```

prints:

```
Welcome to the linux lab.
```

These special characters help you better format your output:

Special Character	Effect
`\n`	Start a new line
`\t`	Insert a tab

Use the `-e` option of the `echo` command when working with special characters. For example:

```
echo -e "This will be printed \nin two lines"
```

will print:

```
This will be printed
in two lines
```

1.8. Display date and time

`date`

The `date` command displays the current date and time.

```
date
```

It has several options which allow you to display the current date and time in different formats.

For example, the following command displays the current date in `mm/dd/yy` format:

```
date "+%D"
```

Here are some popular format specifiers that you can try out:

Specifier	Explanation
`%d`	Displays the day of the month (01 to 31)
`%h`	Displays the abbreviated month name (Jan to Dec)
`%m`	Displays the month of year (01 to 12)
`%Y`	Displays the four-digit year
`%T`	Displays the time in 24 hour format as HH:MM:SS
`%H`	Displays the hour

1.9. View the Reference Manual For a Command

`man`

The `man` command displays the user manual for any command that you provide as its argument.

For example, to see the manual page for the `ls` command, enter:

```
man ls
```

Scroll through the command's manual to find any info you may need. When you're done, press `q` to quit.

You will sometimes encounter a command that does not have a man page avaible on your system. To see all available `man` pages with a brief description of each command, enter:

```
man -k .
```

```
theia@theia-naimbenalaya:/home/project$ whoami
theia
theia@theia-naimbenalaya:/home/project$ uname
Linux
theia@theia-naimbenalaya:/home/project$ uname -a
Linux theia-naimbenalaya 6.8.0-60-generic #63-Ubuntu SMP PREEMPT_DYNAMIC Tue
 Apr 15 19:04:15 UTC 2025 x86_64 x86_64 x86_64 GNU/Linux
theia@theia-naimbenalaya:/home/project$ id
uid=1000(theia) gid=1000(theia) groups=1000(theia),27(sudo),100(users)
theia@theia-naimbenalaya:/home/project$ ps
    PID TTY          TIME CMD
     84 pts/0    00:00:00 bash
    451 pts/0    00:00:00 ps
theia@theia-naimbenalaya:/home/project$ echo "Welcome to the linux lab"
Welcome to the linux lab
theia@theia-naimbenalaya:/home/project$ echo -e "This will be printed \nin t
wo lines"
This will be printed
in two lines
theia@theia-naimbenalaya:/home/project$ date
Mon Jun 30 12:24:47 EDT 2025
theia@theia-naimbenalaya:/home/project$ date "+%D"
06/30/25
theia@theia-naimbenalaya:/home/project$
```

Summary

In this lab, you learned that you can use the commands:

- `whoami` to return your username
- `uname` to print the kernel name

- `id` to display the user and group id
- `df` to print available disk space
- `ps` to list running processes and their process id
- `top` to view a real-time table of processes
- `echo` to print given text
- `date` to display the current time and date
- `man` to get the user manual for a command