

Notes 3

What is a graphical user interface (GUI)?

A **graphical user interface** (GUI) is a set of programs that allow a user to interact with the computer system via icons, windows, and various other visual elements.

What is a desktop environment?

A **desktop environment** is an implementation of the desktop metaphor made of a bundle of programs running on top of a computer operating system, which shares a common GUI, sometimes described as a graphical shell.

What is the command line interface (CLI)?

The **command line interface** is a text-based interface where the user interacts with the computer by inputting commands instead of using mouse or graphical icons.

How do I access the command line interface (CLI)?

There are two ways to access the CLI:

- **Terminal Emulator:** A **terminal emulator** is a software program that allows us to access the Linux Command Line Interface (CLI) when using the Graphical User Interface (GUI).
- **Linux Console:** The **linux console** is a text based interface that does not require the desktop or graphics at all.

What is a virtual console?

A **virtual console** is a terminal session that runs in Linux system memory.

What is a terminal emulator?

A **terminal emulator** is a software program that allows us to access the Linux Command Line Interface (CLI) when using the Graphical User Interface (GUI).

Some terminal emulators are:

- GNOME
- Konsole
- Terminology
- RXVT-Unicode
- TILIX
- Kitty

What is bash?

The **bash shell** is a program that provides interactive access to the Linux system which runs as a regular program and is started whenever a user logs in.

What is the shell prompt?

A **shell prompt** is the text that appears in a command-line interface(CLI) indicating that the system is ready to accept a command from user. It includes the **username@machinename**, followed by the current working directory and a dollar sign.

Basic Commands:

clear

- **Definition:** clears the terminal screen
 - **Usage:** `clear`
 - **Examples:**
 - To clear the screen:
 - `clear`
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echo

- **Definition:** Displays or prints text on the screen
 - **Usage:** `echo + options + string to display`
 - **Examples:**
 - To display **a line** of text:
 - `echo "Hello!"`
 - To display **two lines** of text:
 - `echo -e "Hello\nWorld"`
 - To display a line of text **without the new line**:
 - `echo -n "Hello There!"`
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date

- **Definition:** Prints current date and time
 - **Usage:** `date+ options`
 - **Examples:**
 - To display current date
 - `date`
 - To display current time in rfc 5322 format
 - `date -R`
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free

- **Definition:** Displays amount of free and used memory in the system
- **Usage:** `free + options`
- **Examples:**

- To display memory utilization
 - `free`
 - To display memory utilization in **human readable** format
 - `free -h`
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uname

- **Definition:** Prints system information
 - **Usage:** `uname + options`
 - **Examples:**
 - To print **all** information
 - `uname -a`
 - To print **kernel** information
 - `uname -s`
 - To print **hostname**
 - `uname -n`
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history

- **Definition:** Shows command line history
 - **Usage:** `history + options`
 - **Examples:**
 - To display session history
 - `history`
 - To clear session history
 - `history -c`
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man

- **Definition:** Shows or displays the manual page for a given command
 - **Usage:** `man + options + command`
 - **Examples:**
 - To open the man page of echo command
 - `man echo`
 - To open a specific man page
 - `man 5 passwd`
 - To show all available man page
 - `man -f passwd`
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tldr

- **Definition:** Shows simplified and community-contributed examples for commands
- **Usage:** `tldr + options + command`
- **Examples:**

- To update the tldr local cache
 - `tldr -u`
 - To view the simplified documentation of echo command
 - `tldr echo`
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cheat

- **Definition:** Shows cheat sheets for commands
 - **Usage:** `cheat + options + command`
 - **Examples:**
 - To view cheat sheets for the git command
 - `cheat git`
 - To view the cheat sheets of find command in **colorize** mode
 - `cheat --colorize find`
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hostname

- **Definition:** Shows or set the system's hostname or computer name
 - **Usage:** `hostname + options`
 - **Examples:**
 - To view current host name
 - `hostname`
 - To display **all addresses** for the host
 - `hostname -I`
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df

- **Definition:** Displays the amount of disk space available/used on entire file systems/partitions
 - **Usage:** `df + options`
 - **Examples:**
 - To show disk usage
 - `df`
 - To display the amount of disk space in **human readable** format
 - `df -h`
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du

- **Definition:** Displays the amount of space used by specific files or directories
 - **Usage:** `du + options + file/directory`
 - **Examples:**
 - To display or **summarize** the size of current directory in **human-readable** form
 - `du -sh`
 - To display the size of a specific file in **human-readable** form
 - `du -h wr3.png`
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figlet

- **Definition:** Displays text in large ASCII letters
- **Usage:** `figlet + text`
- **Examples:**
 - To display or create ASCII letters
 - `figlet Hello!`