

## Commands

- `apt-get update`: Synchronizes the list of packages on your system to the list in the repositories. Use it before installing new packages to make sure you are installing the latest version.
- `apt-get upgrade`: Upgrades all of the software packages you have installed.
- `clear`: Clears previously run commands and text from the terminal screen.
- `date`: Prints the current date.
- `find / -name example.txt`: Searches the whole system for the file `example.txt` and outputs a list of all directories that contain the file.
- `nano example.txt`: Opens the file `example.txt` in the Linux text editor Nano.
- `poweroff`: To shutdown immediately.
- `raspi-config`: Opens the configuration settings menu.
- `reboot`: To reboot immediately.
- `shutdown -h now`: To shutdown immediately.
- `shutdown -h 01:22`: To shutdown at 1:22 AM.
- `startx`: Opens the GUI (Graphical User Interface).

## File and Directory Commands

- `cat example.txt`: Displays the contents of the file `example.txt`.
- `cd /abc/xyz`: Changes the current directory to the `/abc/xyz` directory.
- `cp XXX`: Copies the file or directory `XXX` and pastes it to a specified location; i.e. `cp examplefile.txt /home/pi/office/` copies `examplefile.txt` in the current directory and pastes it into the `/home/pi/` directory. If the file is not in the current directory, add the path of the file's location (i.e. `cp /home/pi/documents/examplefile.txt /home/pi/office/` copies the file from the `documents` directory to the `office` directory).
- `ls -l`: Lists files in the current directory, along with file size, date modified, and permissions.
- `mkdir example_directory`: Creates a new directory named `example_directory` inside the current directory.
- `mv XXX`: Moves the file or directory named `XXX` to a specified location. For example, `mv examplefile.txt /home/pi/office/` moves `examplefile.txt` in the current directory to the `/home/pi/office` directory. If the file is not in the current directory, add the path of the file's location (i.e. `cp /home/pi/documents/examplefile.txt /home/pi/office/` moves the file from the `documents` directory to the `office` directory). This command can also be used to rename files (but only within the same directory). For example, `mv examplefile.txt newfile.txt` renames `examplefile.txt` to `newfile.txt`, and keeps it in the same directory.
- `rm example.txt`: Deletes the file `example.txt`.
- `rmdir example_directory`: Deletes the directory `example_directory` (only if it is empty).
- `scp user@10.0.0.32:/some/path/file.txt`: Copies a file over SSH. Can be used to download a file from a PC to the Raspberry Pi. `user@10.0.0.32` is the username and local IP address of the PC, and `/some/path/file.txt` is the path and file name of the file on the PC.
- `touch example.txt`: Creates a new, empty file named `example.txt` in the current directory.

## Networking and Internet Commands

- `ifconfig`: To check the status of the wireless connection you are using (to see if wlan0 has acquired an IP address).
- `iwconfig`: To check which network the wireless adapter is using.
- `iwlist wlan0 scan`: Prints a list of the currently available wireless networks.
- `iwlist wlan0 scan | grep ESSID`: Use `grep` along with the name of a field to list only the fields you need (for example to just list the ESSIDs).
- `nmap`: Scans your network and lists connected devices, port number, protocol, state (open or closed) operating system, MAC addresses, and other information.
- `ping`: Tests connectivity between two devices connected on a network. For example, `ping 10.0.0.32` will send a packet to the device at IP 10.0.0.32 and wait for a response. It also works with website addresses.
- `wget http://www.website.com/example.txt`: Downloads the file `example.txt` from the web and saves it to the current directory.

## System Information Commands

- `cat /proc/meminfo`: Shows details about your memory.
- `cat /proc/partitions`: Shows the size and number of partitions on your SD card or hard drive.
- `cat /proc/version`: Shows you which version of the Raspberry Pi you are using.
- `df -h`: Shows information about the available disk space.
- `df /`: Shows how much free disk space is available.
- `dpkg --get-selections | grep XXX`: Shows all of the installed packages that are related to XXX.
- `dpkg --get-selections`: Shows all of your installed packages.
- `free`: Shows how much free memory is available.
- `hostname -I`: Shows the IP address of your Raspberry Pi.
- `lsusb`: Lists USB hardware connected to your Raspberry Pi.
- `UP` key: Pressing the `UP` key will print the last command entered into the command prompt. This is a quick way to repeat previous commands or make corrections to commands.
- `vccencmd measure_temp`: Shows the temperature of the CPU.
- `vccencmd get_mem arm && vccencmd get_mem gpu`: Shows the memory split between the CPU and GPU.