

# Notes for Raspberry Pi

Tips, hints, and tricks when working on Raspberry Pi

[#notes](#) [#pi](#)

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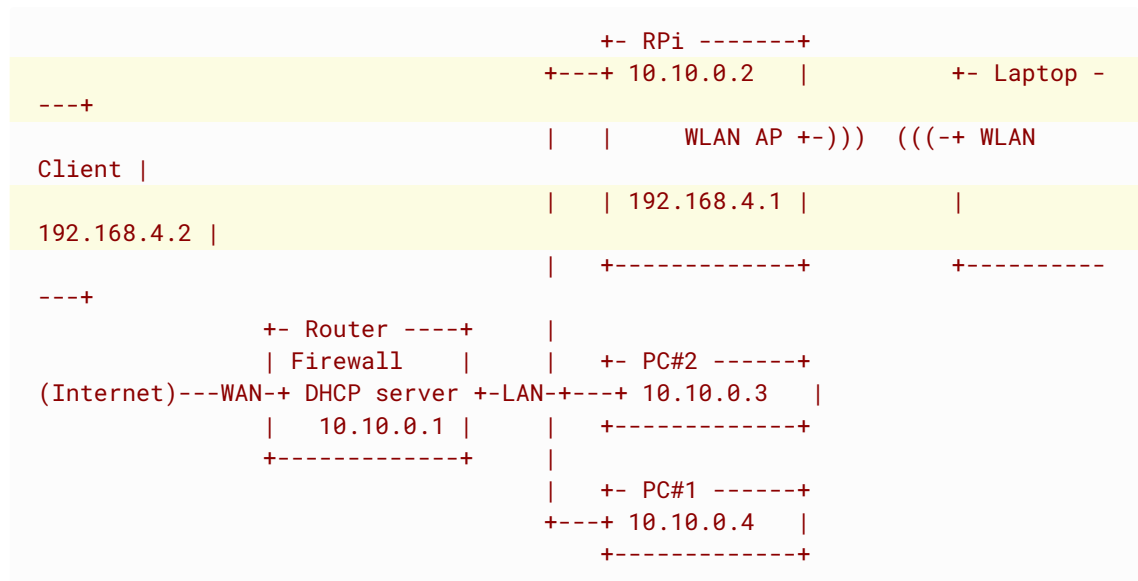
## Setup Wireless

Refer to the official guide at [Raspberry Pi Configuration](#).

Note that there are two type of access points:

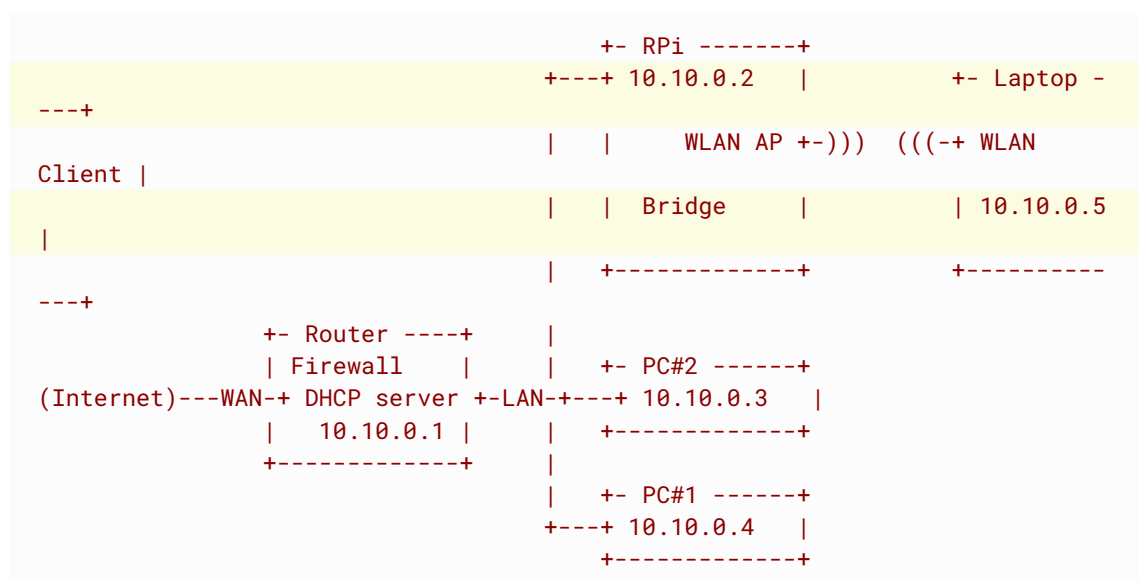
## Routed wireless access point

Create a new local network, which is not connected any other existing network



## Bridged wireless access point

Extend an existing Ethernet network to wireless computers and devices



## Python packages

Most packages can be installed using `sudo apt-get install` followed by `python-<packagename>` /\* for Python2 \*/ or `python3-<packagename>` .

In some cases, a package is not available on the OS package manager, so install that packages via `pip` from python package manager.

Install `pip` first:

```
sudo apt install python-pip python3-pip
```

Then install the target package. For example:

```
sudo apt install python-ws4py python3-ws4py
```

is equivalent to:

```
pip install ws4py # python2 package
pip3 install ws4py
```



## Who is logged on?

Use `w` command from `procps` package.

```
08:53:52 up 2:21, 2 users, load average: 0.02, 0.06, 0.07
USER      TTY      FROM          LOGIN@      IDLE   JCPU   PCPU WHAT
pi        pts/0    fe80::1936:b4d4: 06:34      0.00s   1.54s  0.05s w
```



## Save power

Save power when running on battery by turning off unused peripherals, or features.

### Turn OFF the USB chip:

```
echo '1-1' | sudo tee /sys/bus/usb/drivers/usb/unbind
```

Turn ON the USB chip:

```
echo '1-1' | sudo tee /sys/bus/usb/drivers/usb/bind
```

### Turn OFF the HDMI output:

```
sudo /opt/vc/bin/tvservice -o
```

Turn ON the HDMI output:

```
sudo /opt/vc/bin/tvservice -p
```

**Reduce the clock** of the core by changing some parameters in the `/boot/config.txt` file:

`/boot/config.txt`

```
arm_freq_min=250
core_freq_min=100
sdram_freq_min=150
over_voltage_min=0
```

## Disable Wi-Fi & Bluetooth

Starting from Raspberry Pi 3, WiFi and Bluetooth are added on hardware, so Raspbian has its method to control these signals in `/boot/config.txt` file:

`/boot/config.txt`

```
dtoverlay=pi3-disable-wifi
dtoverlay=pi3-disable-bt
```

 It's correct to use the word `pi3` in the params's value, for other version of RPi.

 The `rftkill` command can be used to soft-block the wireless connections:

```
rftkill list           # displays the state of the modules
rftkill block wifi
rftkill block bluetooth
```

but this does not completely turn off the hardware of the WiFi and the Bluetooth module. They will still draw a little power in the background.

## Disable on-board LEDs

Add below params to the `/boot/config.txt` file:

`/boot/config.txt`

```
dtparam=act_led_trigger=none
dtparam=act_led_activelow=on
```

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1. Add a form in markdown:

```
<form role="search" target="_blank" action="https://packages.debian.org/search">
<div>
  <input type="search" id="mySearch" name="keywords"
    placeholder="Enter package name..."
    aria-label="Search for a package name"
    style="border:1px solid gray; padding: .25em .5em;" >
  <button type="submit" class="md-button">Search</button>
</div>
</form>
```

