

Raspberry Pi - Notes, tips and tricks

Tips, hints, and tricks when working on Raspberry Pi

[#notes](#) [#raspberry-pi](#)

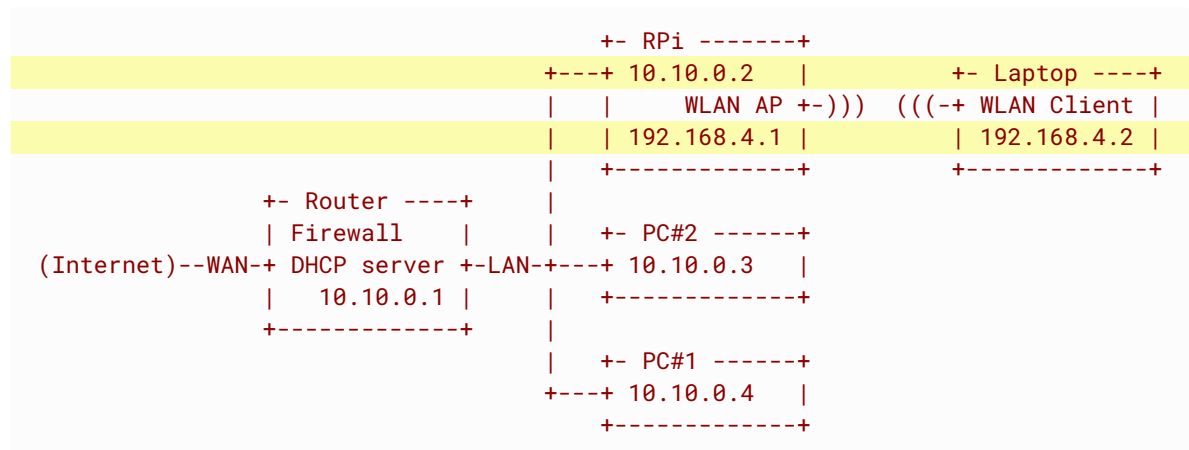
Last update: 2021-08-10 16:50:49

1. Setup Wireless
2. Python packages
3. Who is logged on?
4. Save power
 - 4.1. Turn off USB
 - 4.2. Turn off HDMI
 - 4.3. Throttle CPU
 - 4.4. Disable Wi-Fi & Bluetooth
 - 4.5. Disable on-board LEDs

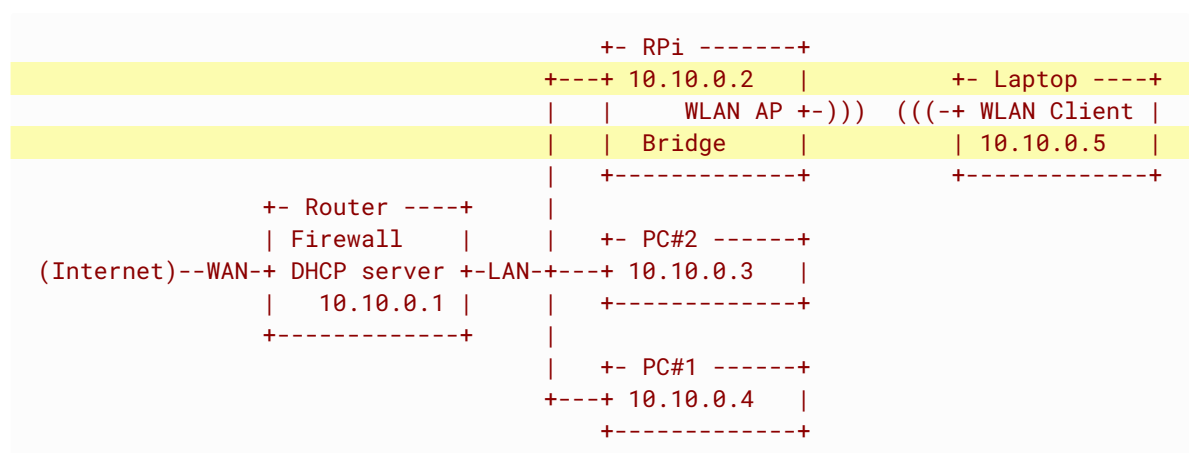
Setup Wireless

Refer to the official guide at [Raspberry Pi Configuration](#). Note that there are two types 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 -y python-pip python3-pip
```

Then install the target package. For example:

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

is equivalent to:

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

and

```
pip3 install ws4py # python3 package
```

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 Raspberry Pi.

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

```
rfkill list          # displays the state of the modules
rfkill block wifi
rfkill 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
```

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>
```

