Instructions:

Using the Etcher app, flash the image to the sd card. The light is with no desktop, so, using the other is better.

After doing that and plugging the sd card again, open the terminal and create the ssh file using the command touch ssh after going to the sd card (cd /volumes then cd /boot, can always check the list of files in each directory by hitting ls). All this is explained in the following video, although we do not need most of it such as creating the file for connecting to the network.

<https://www.youtube.com/watch?v=Ct9XwyYvmbU>

Boot the pi and connect manually to the network.

Give the pi a static ip:

<https://www.ionos.com/digitalguide/server/configuration/provide-raspberry-pi-with-a-static-ip-address/>

<https://www.youtube.com/watch?v=D1eD60_jhKI>

Auto run script at boot, links to help:

<http://nelsoj.uk/automatically-start-a-nodejs-application-at-boot-on-a-raspberry-pi/>

<https://www.youtube.com/watch?v=1nEJvN778j4>

Actual commands helped in doing it:

pm2 start app.js

pm2 save

pm2 list

pm2 logs

when you run pm2 startup systemd -u pi, does nothing after reboot

then tried pm2 startup, which gives:

To setup the Startup Script, copy/paste the following command:

sudo env PATH=$PATH:/usr/local/bin /usr/local/lib/node\_modules/pm2/bin/pm2 startup systemd -u pi --hp /home/pi

Hence copied and pasted it and it worked After reboot.

To remove it I tried pm2 unstartup, but it gave me:

To setup the Startup Script, copy/paste the following command:

sudo env PATH=$PATH:/usr/local/bin /usr/local/lib/node\_modules/pm2/bin/pm2 unstartup systemd -u pi --hp /home/pi

Which now contains unstartup instead of startup, copied/pasted it, worked!

The following are instructions from the smartbuildings internship:

**Username is pi**

**Password is raspberry**

**Can download the operating system RASPBIAN JESSIE WITH PIXEL from** [**https://www.raspberrypi.org/downloads/raspbian/**](https://www.raspberrypi.org/downloads/raspbian/) **then use the etcher to flash the image to the sd card with aid of the following video. Note that the image is the one downloaded from the website that is in zip format** [**https://www.youtube.com/watch?v=PijX8GDco-g**](https://www.youtube.com/watch?v=PijX8GDco-g)

**To install node js, follow the steps described in the link** [**http://www.instructables.com/id/Install-Nodejs-and-Npm-on-Raspberry-Pi/**](http://www.instructables.com/id/Install-Nodejs-and-Npm-on-Raspberry-Pi/) **which is easy to follow. You can also get something from this** [**https://blog.wia.io/installing-node-js-v4-0-0-on-a-raspberry-pi**](https://blog.wia.io/installing-node-js-v4-0-0-on-a-raspberry-pi) **but you will find the first one very helpful, I just put this because it is the first link I used in the past, but then found this. You have commands to run in the terminal that enable you to download node.js make sure you change the version number to the one you want, as well as the corresponding hardware related code “armv6l or armv7l etc.”**

**To access the pi vie the terminal use the commands below:**

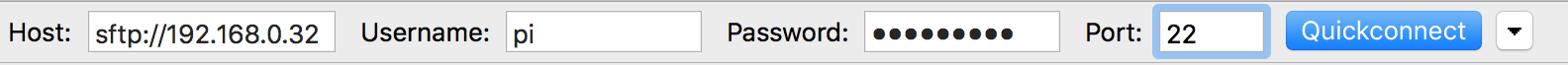
**ssh pi@IPaddress**

**is for first time use the link below**

[**https://www.raspberrypi.org/documentation/remote-access/ssh/unix.md**](https://www.raspberrypi.org/documentation/remote-access/ssh/unix.md)

**To access the pi desktop need to login using the vnc programme by typing the ip address of the pi**

**Filezilla is used to transfer files from computer to the pi and it’s straight forward. It is important to know that the hostname is the one you can change and appears in the IP scanning software. However, the username that’s required in Filezilla is (pi) and not the hostname. The password is the same as the one that you can change through the configurations.**

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**Atom is used to write the code, need to save file with extension .js. we do not even need the terminal as we have installed a terminal inside the atom by going to preferences, then installing the following terminal platformio-ide-terminal.**

**Some commands I might need:**

**Ls to list all files**

**Cd to change directory**

**Sudo raspi-config to go to settings**

**Ifconfig to view ip address along with other information**

**To check in short the hostname and IP address:**

**For hostname type: hostname**

**For IP address type: hostname -I**

**Node –v to view what version is being used**

**Node “name of file” to execute the file you are at, might need to write the extension as well**

The instructions from smartbuildings internship finish here.

The following are videos I used for installing python packages I need on pi:

<https://www.youtube.com/watch?v=wvcaEe0g_W8>