

# Installing and Setting up Ubuntu

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## Installation

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1. Download the Ubuntu Server image from <https://ubuntu.com/download/iot/raspberry-pi-2-3>

```
$ wget -P /tmp/ http://cdimage.ubuntu.com/releases/bionic/release/ubuntu-18.04.3-preinstalled-server-arm64+raspi3.img.xz
```

2. Then write the disk image to your SD card

```
$ xzcat /tmp/ubuntu-18.04.3-preinstalled-server-arm64+raspi3.img.xz | sudo dd of=/dev/mmcblk0 bs=32M
```

Be careful when using **dd**, if you specify the wrong output (**of=**. . .), it'll overwrite everything on that device, so it's easy to accidentally destroy your computer.

3. Install the SD card into the Raspberry Pi, connect it to a network using Ethernet, and power it up.  
If you don't have an Ethernet network to connect the Pi to, you can configure the WiFi first, as explained here: [WiFi Setup](#)
4. Use your favorite method to find its IP address. You can find it in your router's settings, with an app like Fing, or by using a command line tool like **nmap**.
5. Connect to the Raspberry Pi over SSH

```
$ ssh ubuntu@192.168.1.100
```

Replace the IP address with the one you found in the previous step.  
You'll be prompted a password, the default one is **ubuntu**.

6. Follow the instructions to change the default password and connect again.

## SSH Configuration

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1. Set the hostname:

```
pi $ sudo hostnamectl set-hostname rpi3
```

2. Install the **avahi-daemon** package to enable mDNS:

```
pi $ sudo apt install avahi-daemon
```

3. If you already had the **avahi-daemon** installed, you have to restart it to use the new hostname:

```
pi $ sudo service avahi-daemon restart
```

4. Close the SSH connection:

```
pi $ exit
```

5. You should now be able to reach the Pi using its mDNS hostname:

```
$ ping rpi3.local -c3
```

6. Create an SSH configuration for the Pi on your computer, so you can connect to it without having to specify the hostname or username:

```
$ cat >> ~/.ssh/config << 'EOF'
Host RPi3
  HostName rpi3.local
  User ubuntu
EOF
```

7. Add your public key to the Pi's **authorized\_keys**, so you can connect to it without entering the password each time:

```
$ ssh-copy-id -i ~/.ssh/id_rsa.pub RPi3
```

If you don't have an SSH key pair yet, you can follow these instructions on how to create one:  
<https://www.digitalocean.com/community/tutorials/how-to-set-up-ssh-keys-on-ubuntu-1804>.

8. You can now try to connect to it without having to specify the hostname or username, and without having to enter your password:

```
$ ssh RPi3
```

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