

OS setup in Raspberry Pi Zero 2W

Setup and Remote login to Raspberry Pi Zero

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Estimated Time to Complete: 2 hrs

Objectives

Upon completion of this tutorial, you will be able to:

- **Setup a headless (without any monitor) Raspberry Pi Zero 2W**
- **Communicate with the RPi using remote SSH**

Materials & Prerequisites

- **Materials/Equipment:**
 - Raspberry Pi Zero 2 W with the power adapter
 - Micro SD card
 - A computer
 - Putty Software
- **Prerequisite Knowledge/Skills:**
 - Knowledge of SSH and basic Linux Commands preferred but not required

Procedure: Step-by-Step Instructions

- Step 1: Download and install the Raspberry Pi Imager
- Step 2: Download and install the Putty Software
- Step 3: Open the Raspberry Pi Imager and select the RPi Zero 2 W model as device
- Step 4: Select other OS option and choose the Legacy 32 bit BookWorm version with desktop environment
- Step 5: Choose the micro SD Card
- Step 6: Put the Wi-Fi credentials, hostname, username and password when prompted
- Step 7: Burn the image to the SD Card.
- Step 8: When completed, unplug it from the computer, insert it into the SD card slot of the Pi. Power up the Pi and wait for a few minutes. Observe the green LED.
- Step 9: Open the Putty. Put the hostname and open the connection. A black terminal will pop up if everything is alright.
- Step 10: Login using the username and password.

OS Setup and Remote Connection

- Expected outcome
 - Students will be able to setup a headless RPi system and perform SSH for remote login

Results

- Students get familiar with the idea of SSH, remote login and OS setup in Single Board Computer (SBC) like Raspberry Pi Zero 2 W
- They can extend their knowledge to other Linux or SBC based systems.

Summary & Inference

In this lab the students gather the knowledge of setting up a SBC without a monitor and booting it up. Finally, they communicate with the remote system using SSH.