

Headless Raspberry PI 4 Setup Using Windows

1. Download Software

- 1.1. [PI Imager](#)
- 1.2. [Advanced IP Scanner](#)
- 1.3. [Putty](#)
- 1.4. [VNC Viewer](#)

2. Prepare SD Card

- 2.1. Insert Micro SD card into PC
- 2.2. Open [PI Imager](#)
- 2.3. Erase card
- 2.4. Writing PI OS 32 bit (default)
- 2.5. Reinsert Micro SD card
- 2.6. Go to **boot** drive
- 2.7. Create **ssh** file (no extension)
- 2.8. Create **wpa_supplicant.conf** file and write the following:

```
ctrl_interface=DIR=/var/run/wpa_supplicant GROUP=netdev
update_config=1
country=TH
```

```
network={
    scan_ssid=1
    ssid="<Name of your wireless LAN>"
    psk="<Password for your wireless LAN>"
    proto=RSN
    key_mgmt=WPA-PSK
    pairwise=CCMP
    auth_alg=OPEN
}
```

- 2.9. Remove SD card from PC
- 2.10. Insert SD card into RPI
- 2.11. Plugin adaptor
- 2.12. Wait 5 min at the maximum
3. Use [Advanced IP Scanner](#) to discover RPI IP address
4. Use [Putty](#) to **ssh** to RPI address
 - 4.1. user:pass pi:raspberry
 - 4.2. Type **\$sudo apt upgrade** in Terminal
 - 4.3. Type **\$sudo apt update** in Terminal
5. Configure RPI
 - 5.1. Type **\$sudo raspi-config** in Terminal
 - 5.2. Change password (1.S3)
 - 5.3. Change RPI Host name (1.S4)
 - 5.3.1. "rpi-" + "last 3 digit of student ID" e.g. **rpi-011** or **rpi-123**
 - 5.4. Set VNC Resolution (2.D5)
 - 5.5. Enable VNC (3.I3)
 - 5.6. Set Time zone to Asia-> Bangkok (5.L2)

- 5.7. Expand Filesystem (6.A1)
- 6. Reboot RPI
 - 6.1. Type `$sudo reboot` in Terminal
- 7. Connect to RPI using **VNC Viewer**
- 8. Turn off RPI
 - 8.1. Type `$sudo shutdown now` in Terminal

Note

1. short version of No. 2.8

```
ctrl_interface=DIR=/var/run/wpa_supplicant GROUP=netdev
country=TH
update_config=1

network={
    ssid="<Name of your wireless LAN>"
    psk="<Password for your wireless LAN>"
}
```

2. Multiple WiFi with Priority

```
network={
    ssid="HomeOneSSID"
    psk="passwordOne"
    priority=1
    id_str="homeOne"
}

network={
    ssid="HomeTwoSSID"
    psk="passwordTwo"
    priority=2
    id_str="homeTwo"
}
```

<https://www.raspberrypi.com/documentation/computers/configuration.html#setting-up-a-headless-raspberry-pi>