Putting Wifi on RaspberryPi via Linux

**Using Raspberry Pi Imager (Pre-Boot Setup)**

* Download and open Raspberry Pi Imager (Windows/Linux/macOS).
* Select your OS and storage device.
* Open advanced settings (Ctrl+Shift+x).
* Fill in Wi-Fi SSID, password, and country code.
* Optionally enable SSH for remote access by ticking the "Enable SSH" box.
* Write the image to your SD card.
* Insert the SD card in the Raspberry Pi and power it on — it will auto-connect.

**GUI Desktop (Raspberry Pi OS)**

* After booting into Raspberry Pi OS Desktop, click the network icon in the upper-right menu.
* Select your Wi-Fi network and enter the password.
* You should be connected immediately.

**Command-Line Method (raspi-config Tool)**

1. Boot your Raspberry Pi and log into the shell (physical or SSH).
2. Run:

bash

sudo raspi-config

1. Navigate to Network Options → Wi-Fi (or System Options > Wireless LAN in new versions).
2. Enter your Wi-Fi SSID and password.
3. Save and exit; your Pi will connect automatically.

**Command-Line Method (Network Manager / nmtui – Pi OS Bookworm or later)**

1. Run the following command:

bash

sudo nmtui

1. Select "Activate a connection" and pick your Wi-Fi SSID.
2. Enter your password.
3. You will be connected when you see an asterisk next to the network.

**Headless Setup (No Monitor or Keyboard Required)**

For Raspberry Pi OS Bullseye or older:

* Insert the SD card into your computer.
* Create a file named wpa\_supplicant.conf with these contents:

text

country=US

ctrl\_interface=DIR=/var/run/wpa\_supplicant GROUP=netdev

update\_config=1

network={

ssid="YOURSSID"

scan\_ssid=1

psk="YOURPASSWORD"

key\_mgmt=WPA-PSK

}

* Place this file in the root of the SD card's boot partition.
* To enable SSH (optional), create an empty file named ssh (no extension) in the boot partition.
* Boot the Raspberry Pi; it connects to Wi-Fi and allows SSH remote access.

For Raspberry Pi OS Bookworm or newer:

* Use Raspberry Pi Imager's configuration options as described above or configure Wi-Fi via sudo nmtui after first boot.
* Manual configuration with wpa\_supplicant.conf is not supported on Bookworm and later — Network Manager must be used.

**Manual Advanced Configuration (Directly Editing Files)**

* Edit /etc/wpa\_supplicant/wpa\_supplicant.conf on a running system for persistent Wi-Fi changes.
* For Network Manager, connections are managed under /etc/NetworkManager/system-connections/ (advanced users).

SOURCES:

<https://raspberrytips.com/raspberry-pi-wifi-setup/>

<https://linuxconfig.org/connecting-your-raspberry-pi-to-wi-fi-a-how-to>

<https://umatechnology.org/how-to-setup-wi-fi-on-your-raspberry-pi-via-the-command-line/> (via command line)

<https://thelinuxcode.com/setup-wifi-raspberry-pi/>

<https://www.raspberrypi.com/documentation/computers/getting-started.html>