



Raspberry Pi 5

Quick Start Guide

Hackathons UK

Powered by Arm

Default Credentials
Username: student
Password: hackathonsuk

Keep this guide handy throughout the hackathon!

1. Getting Started

Follow these steps to connect to your Raspberry Pi for the first time.

Step 1: Power Up

Connect the Raspberry Pi to power using the provided USB-C power adapter.

NOTE: Wait 30 seconds for the Pi to fully boot up before proceeding.

Step 2: Connect Ethernet

Connect an Ethernet cable between the Raspberry Pi and your laptop. Use the provided USB-to-Ethernet adapter if your laptop doesn't have an Ethernet port.

TIP: Your laptop will automatically receive an IP address (192.168.137.x) from the Pi.

Step 3: Open Terminal

Open a terminal application on your laptop:

- **Windows:** PowerShell, Command Prompt, or Windows Terminal
- **macOS:** Terminal (Applications → Utilities → Terminal)
- **Linux:** Your preferred terminal emulator

Step 4: Connect via SSH

Type the following command and press Enter:

```
ssh student@raspberrypi.local
```

If that doesn't work after a few attempts, try using the direct IP address:

```
ssh student@192.168.137.1
```

Step 5: Enter Password

When prompted, enter the password: **hackathonsuk**

NOTE: The password won't appear as you type - this is normal for security reasons.

Step 6: Success!

SUCCESS! Congratulations! You now have SSH access to your Raspberry Pi.

You should see a welcome message with helpful commands.

2. Connecting to WiFi

Once connected via SSH, you can set up WiFi to disconnect the Ethernet cable.

Standard WiFi Networks

For most networks (including personal hotspots), use the built-in helper:

```
wifi
```

This will:

1. Scan for available networks
2. Show you the command to connect
3. Display your IP address once connected

TIP: Easiest Method - Create a mobile hotspot on your phone and connect to it!

Eduroam (University WiFi)

Eduroam requires a special configuration script. Follow these steps:

Step 1: On your laptop, go to: <https://cat.eduroam.org/>

Step 2: Select your institution from the list

Step 3: Click 'Choose another installer to download'

Step 4: Download the **Linux** installer

Step 5: Copy the file to your Pi using SCP:

```
scp eduroam-linux-*.py student@192.168.137.1:~
```

TIP: Windows users can use WinSCP (winscp.net) for a graphical interface

NOTE: The filename will vary by institution (e.g., eduroam-linux-Oxford.py)

Step 6: SSH into your Pi and run the installer with sudo:

```
sudo python3 eduroam-linux-*.py
```

Step 7: Connect to eduroam using:

```
sudo nmcli device wifi connect "eduroam" --ask
```

Step 8: Enter your university credentials when prompted

3. Remote Desktop (VNC)

Access the Raspberry Pi's graphical desktop remotely using VNC.

Step 1: Start VNC Server

While connected via SSH, run:

```
vnc-start
```

The command will display the connection addresses for VNC.

Step 2: Install VNC Client

If you don't have a VNC client installed, download one:

- **TigerVNC:** <https://tigervnc.org> (recommended)
- **RealVNC Viewer:** <https://www.realvnc.com/download/viewer/>

Step 3: Connect

In your VNC client, connect to:

```
192.168.137.1:5900
```

Or if on WiFi, use the WiFi IP address displayed by vnc-start.

Step 4: View Desktop

SUCCESS! You should now see the Raspberry Pi desktop!

Enable VNC on Startup (Optional)

To have VNC start automatically when the Pi boots:

```
sudo systemctl enable wayvnc
```

4. Helpful Commands

Your Raspberry Pi comes with several helper commands:

Command	Description
wifi	Setup WiFi connection and scan for networks
vnc-start	Start the VNC remote desktop server
vnc-stop	Stop the VNC server
status	Show system status, IPs, and services
readme	Display the full README with all instructions

5. Troubleshooting

[X] raspberrypi.local doesn't work

Solution: Use the direct IP address instead:

```
ssh student@192.168.137.1
```

On Windows, you may need to install Bonjour Print Services from Apple.

[X] My laptop didn't get an IP address

Solutions:

- Wait 15-20 seconds after plugging in the cable
- Disconnect and reconnect the Ethernet cable
- On Windows: run `ipconfig /renew`
- On Linux/Mac: run `sudo dhclient -r && sudo dhclient`

[X] VNC shows a black screen

Solutions:

- Try restarting VNC: `sudo systemctl restart wayvnc`
- Check VNC status: `sudo systemctl status wayvnc`
- Make sure the desktop environment is running

[X] WiFi won't connect

Solutions:

- Double-check the network name (it's case-sensitive!)
- Verify the password is correct
- Try using a mobile hotspot instead
- Run `wifi` again to rescan networks

[X] Nothing works / Need to start fresh

Last Resort: If you have the equipment, you can reflash the Pi with our image:

Visit: hackuk.org/raspi-image

This will restore the Pi to its original hackathon configuration.

6. What's Installed

Your Raspberry Pi comes pre-configured with:

Python 3	Programming language with pip and venv
Git	Version control system
Build Tools	gcc, make, and development libraries
Network Manager	Easy WiFi and network configuration
VNC Server	wayvnc for remote desktop access
SSH	Secure remote access (pre-enabled)

Recommended Laptop Tools

These tools will make working with your Pi easier:

Tool	Purpose	Download
WinSCP	GUI file transfer (Windows)	winscp.net
TigerVNC	Remote desktop access	tigervnc.org
PuTTY	SSH client (Windows)	putty.org
VS Code	Code editor with Remote-SSH	code.visualstudio.com
FileZilla	Alternative file transfer (all platforms)	filezilla-project.org

Quick Tips

[+] The Pi's ethernet IP is always **192.168.137.1** - easy to remember!

[+] Run **status** anytime to see all your connection details

[+] Use **Tab** to autocomplete commands and filenames

[+] Press **Ctrl+C** to stop a running program

[+] Use **sudo** before commands that need admin privileges

7. Getting Help

During the Hackathon

- Ask a **Hackathons UK representative** for assistance
- Check the full README on the Pi by running: `readme`

Online Resources

- Hackathons UK: <https://hackathons.org.uk/>
- Raspberry Pi Documentation: <https://www.raspberrypi.com/documentation/>

Have an amazing hackathon!

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