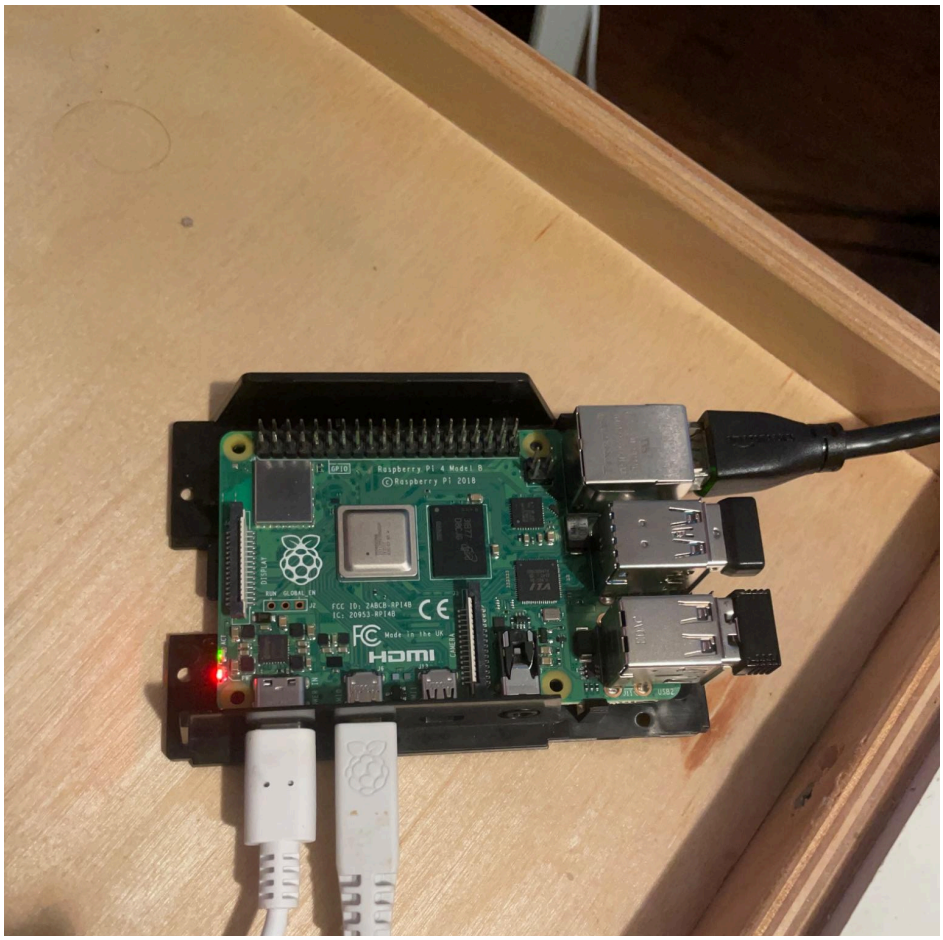
# We Have Pi at Home

**Objective:** The goal of this project was to set up a Raspberry Pi 4 to run Pi-hole and act as a network-wide DNS filter. I installed and configured Pi-hole on the Raspberry Pi so it could block ads and tracking domains by handling DNS requests. After getting Pi-hole up and running, I updated the DHCP settings on my router to point all connected devices to the Raspberry Pi as their primary DNS server. This way, any device that joins the network automatically uses Pi-hole for DNS, giving me better control over traffic and cutting down on unwanted content across the whole network.

**Equipment:** Raspberry Pi 4, CAT 6 Ethernet Cable and AT&T Modem

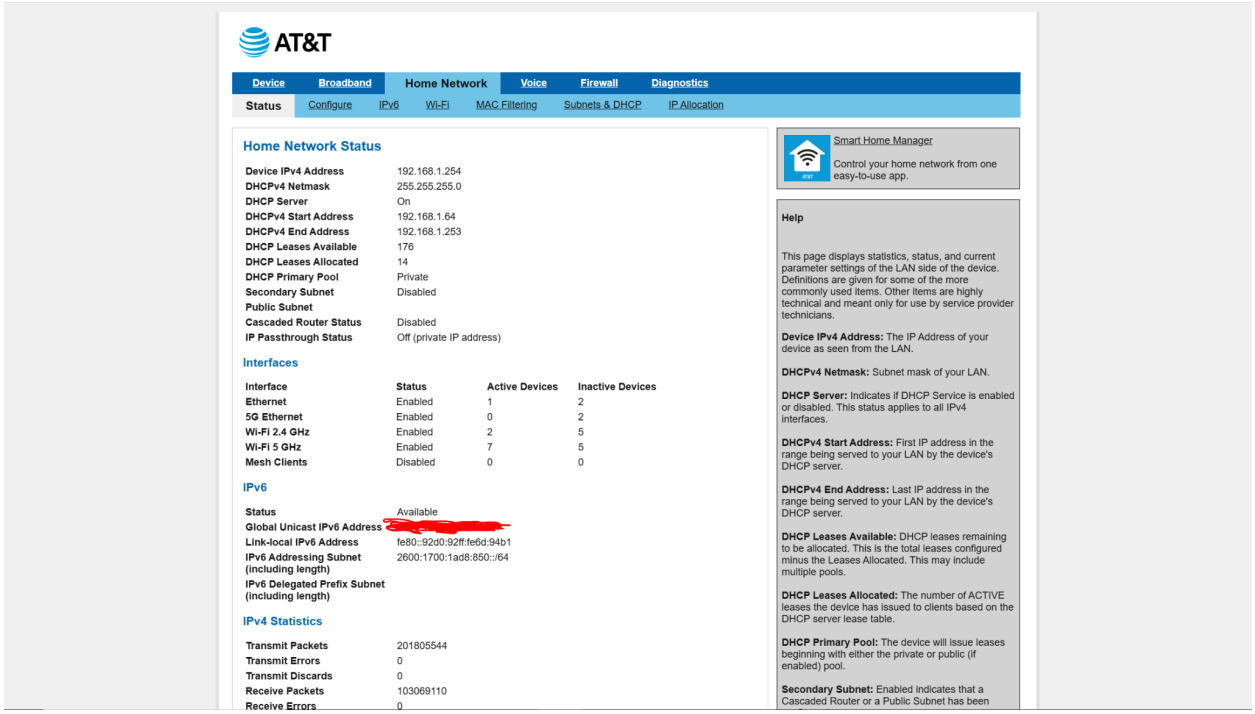
**Steps:**

1. First step of this project was to get my **Raspberry Pi 4** running on **Ubuntu version 22.04** for full compatibility with Pi-Hole

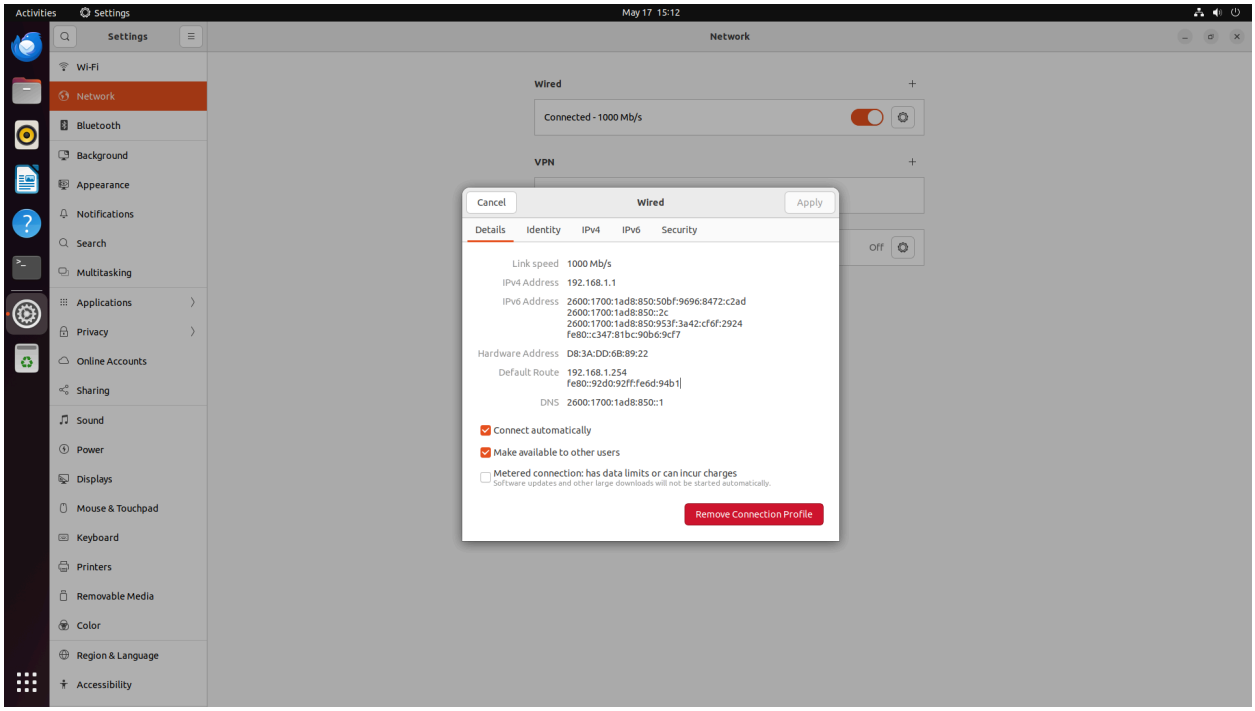


2. After installation and setting up the raspberry pi I ran the command **sudo apt update && sudo apt upgrade -y** to verify everything was up-to date
3. Upon verifying everything was up to date I made a **custom internet profile with a static IP address** since I want the **Raspberry Pi 4 to be the primary DNS Server**

4. I went to my AT&T modem settings and **excluded addresses 192.168.1.1-192.168.1.63**

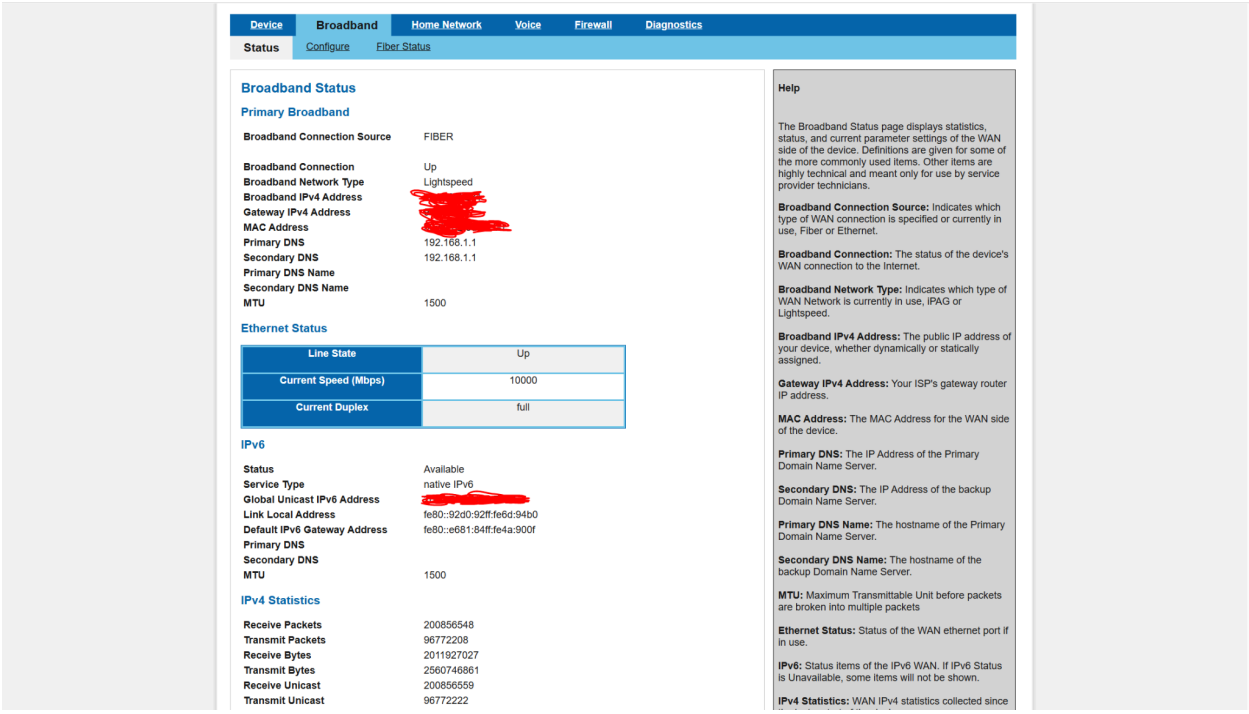



5. I assigned **192.168.1.1/24** to my Raspberry Pi 4




6. I ran the command **sudo apt install curl -y**
7. To install Pi-Hole I ran the command **curl sSL - https://install.pi-hole.net | bash**

8. After the command finishes installing Pi-Hole a setup wizard appeared and continued with the process
9. I selected **Cloudflare (DNSSEC)** as my upstream DNS provider
10. After setting up my Pi-Hole with the wizard and logging into the dashboard, I turn to my AT&T modem to change my DNS Server




11. I verify that my devices that request DHCP get the updated DNS Servers

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ireless LAN adapter Wi-Fi:

  Connection-specific DNS Suffix  . : attlocal.net
  Description . . . . . . . . . . . : Marvell AVASTAR Wireless-AC Network Controller
  Physical Address. . . . . . . . . : 70-BC-10-63-CC-82
  DHCP Enabled. . . . . . . . . . . : No
  Autoconfiguration Enabled . . . . : Yes
  IPv6 Address. . . . . . . . . . . : 2600:1700:1ad8:850::30(Preferred)
  Lease Obtained. . . . . . . . . . : Saturday, May 17, 2025 7:46:13 PM
  Lease Expires . . . . . . . . . . : Saturday, May 17, 2025 8:46:14 PM
  IPv6 Address. . . . . . . . . . . : 2600:1700:1ad8:850:9bd9:e0cd:5c50:c288(Preferred)
  Temporary IPv6 Address. . . . . . : 2600:1700:1ad8:850:98fc:9879:d488:491f(Preferred)
  Link-local IPv6 Address . . . . . : fe80::49e8:b1b0:4ad4:fcd5%8(Preferred)
  IPv4 Address. . . . . . . . . . . : 192.168.1.2(Preferred)
  Subnet Mask . . . . . . . . . . . : 255.255.255.0
  Default Gateway . . . . . . . . . : fe80::92d0:92ff:fe6d:94b1%8
                                      192.168.1.254
  DHCPv6 IAID . . . . . . . . . . . : 108051472
  DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-25-F1-F3-EE-70-BC-10-63-CC-82
  DNS Servers . . . . . . . . . . . : 2600:1700:1ad8:850::1
                                      192.168.1.1
  NetBIOS over Tcpip. . . . . . . . : Enabled
  Connection-specific DNS Suffix Search List :
                                      attlocal.net
```

12. Last but not least I verify that Pi-Hole is functioning properly