

Step-by-Step VPN Setup and Testing

1. Choose a Reputable Free VPN Service

VPN Chosen

- Website:
- Known for its strong no-logs policy, open-source client, and good encryption even on the free tier.

2. Download and Install the VPN Client

- Installed the ProtonVPN client on Windows.
- Created a free account and logged in to the app.

3. Connect to a VPN Server

- Connected to the nearest available server (Netherlands in free tier).

4. Verify IP Address Change

- Visited <https://whatismyipaddress.com>
- Original IP: India-based
- VPN IP: Netherlands-based — ✓ IP successfully masked

5. Test Encrypted Browsing

- Browsed several websites, including YouTube and Reddit.
- Verified HTTPS encryption in browser (padlock icon in address bar).
- No DNS or IP leaks found using tools like <https://dnsleaktest.com>

6. Disconnect and Compare Speed & IP

- Disconnected VPN and rechecked IP (restored to original)
- Noticed ~25–40% speed drop when VPN was active, common on free plans

7. VPN Encryption and Privacy Features (ProtonVPN)

- **Encryption:** AES-256 with SHA384 authentication and 4096-bit RSA key
- **Protocols:** OpenVPN and WireGuard (only OpenVPN for free users)
- **Privacy:** No-logs policy, based in privacy-friendly Switzerland
- **Kill Switch** and **DNS Leak Protection** included

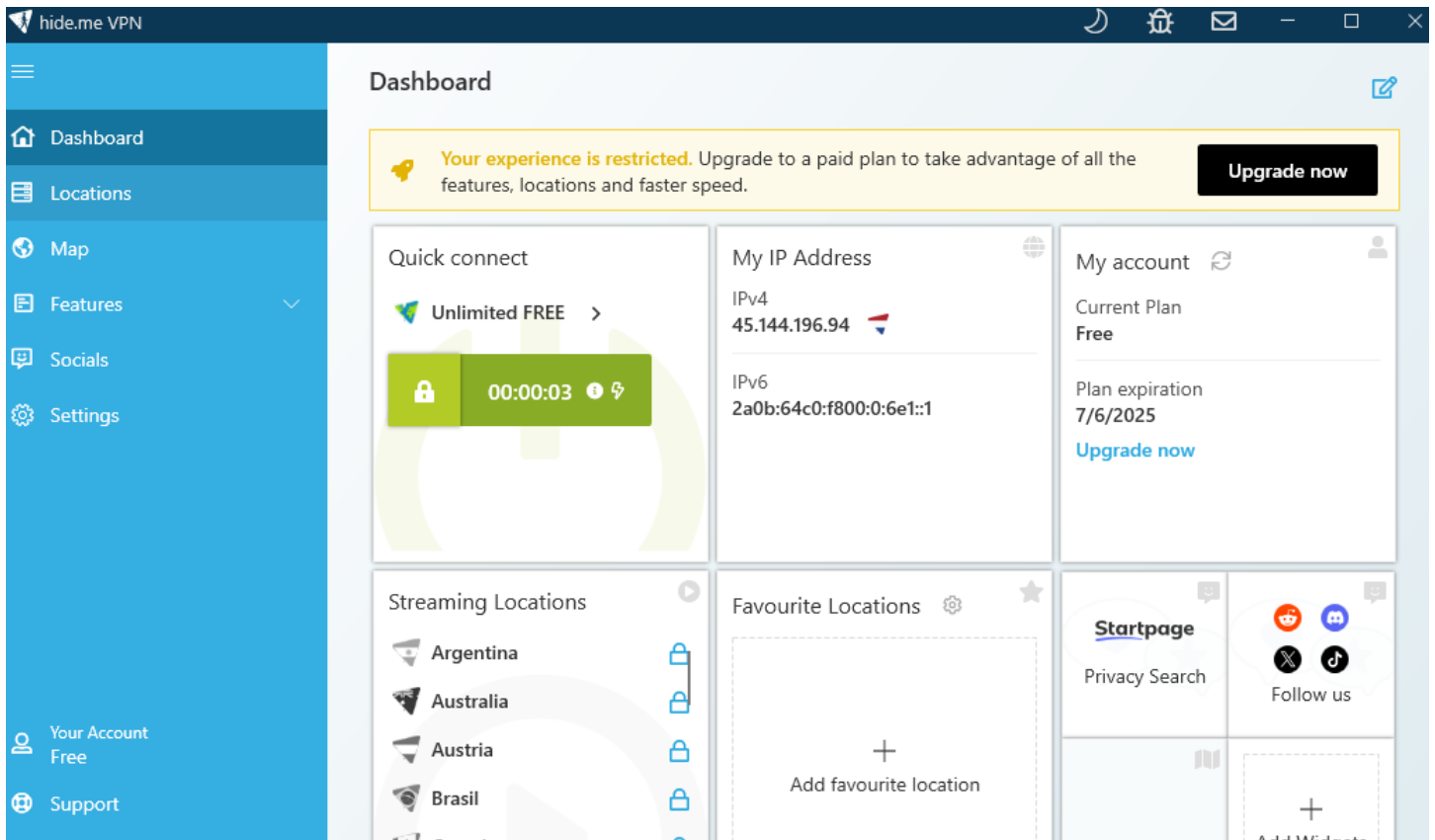
★ Summary: VPN Benefits and Limitations

Benefits

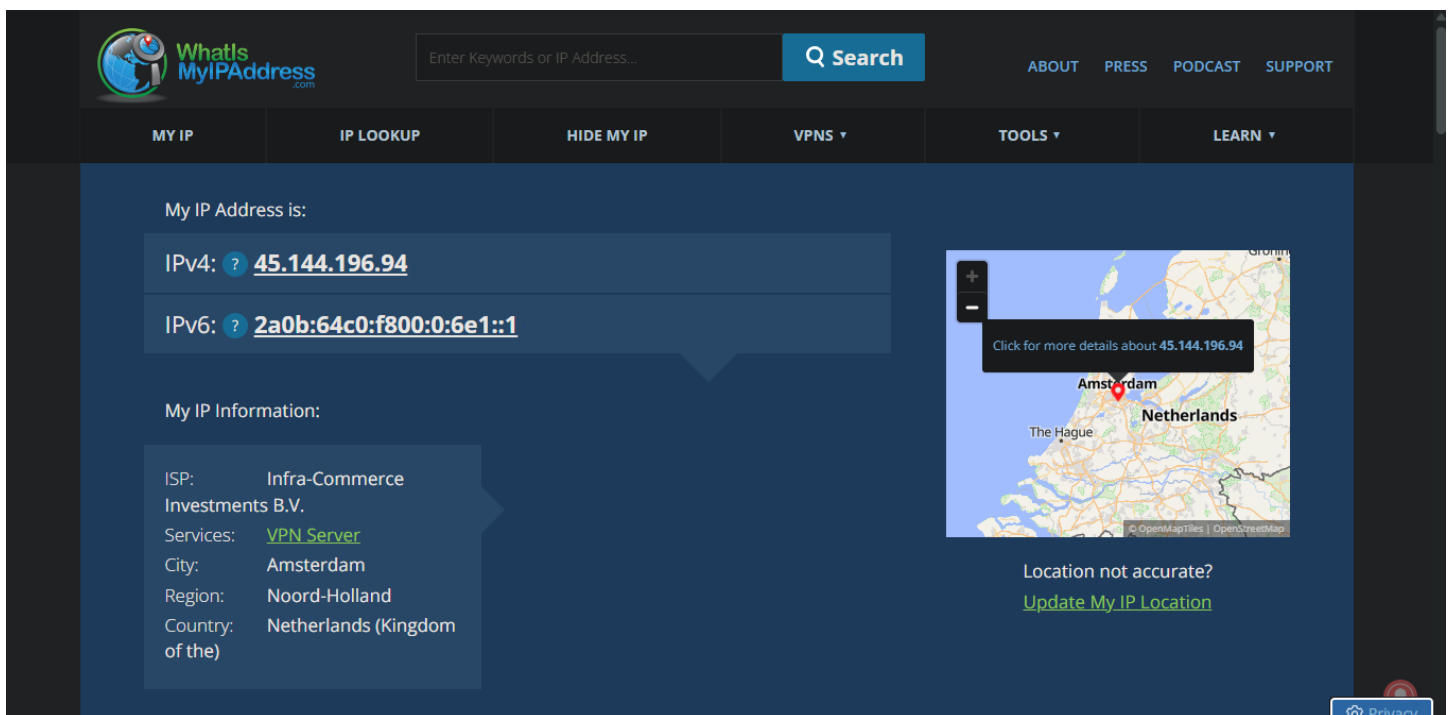
- ✓ **Privacy Protection:** Hides your IP and encrypts internet traffic, making it harder for ISPs, hackers, or governments to track you.
- ✓ **Bypass Geo-restrictions:** Access content from other countries by spoofing your location.
- ✓ **Secure Public Wi-Fi Usage:** Prevents man-in-the-middle attacks in unsecured networks.
- ✓ **No-logs (on reputable providers):** Ensures no history of your online activity is stored.

Limitations

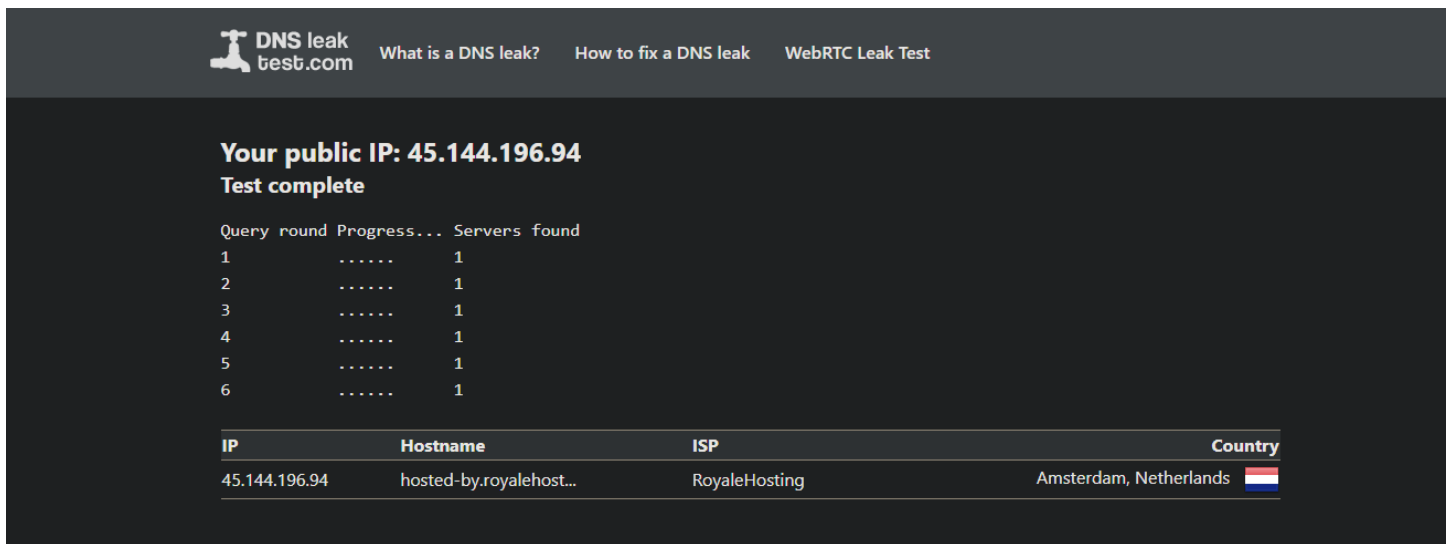
- ✗ **Reduced Speed:** Encryption and long-distance server routing can slow down browsing and streaming.
- ✗ **Limited Features on Free Plans:** Fewer servers, no streaming/torrent support, slower speeds.
- ✗ **Trust Factor:** Some free VPNs log user data or inject ads — always choose a reputable provider.
- ✗ **May Not Bypass All Blocks:** Some services (e.g., Netflix, banking apps) detect and block VPN traffic.



Changed Ip address



website to confirm traffic is encrypted.



Vpn connected speed



Disconnect VPN and compare browsing speed and IP.

