Objective

Understand the role of VPNs in protecting privacy and securing communication using free VPN clients (ProtonVPN free tier and Windscribe free).

Tools

- ProtonVPN Free Tier
- Windscribe Free

Deliverables

- Report describing VPN setup steps.
- Connection status screenshot.

VPN Setup Steps

1. Choose a Reputable Free VPN Service and Sign Up

- ProtonVPN: Visit <u>protonvpn.com</u> and sign up for the free tier (requires an email, no payment).
- **Windscribe**: Go to <u>windscribe.com</u> and create a free account (10GB/month with email verification, 2GB without).

2. Download and Install the VPN Client

- **ProtonVPN**: Download the client for your OS (Windows, macOS, Linux, Android, iOS) from the official website and follow the installation prompts.
- Windscribe: Download the app from the website or app store, then install it on your device.

3. Connect to a VPN Server

- **ProtonVPN**: Open the app, log in, and select a server (e.g., Netherlands or US) from the free tier options (five countries available).
- **Windscribe**: Launch the app, log in, and connect to a nearby server (e.g., US, Canada, or UK) from the free server list.

4. Verify Your IP Address Has Changed

- Visit whatismyipaddress.com before and after connecting.
- Result: IP changes to the VPN server's location (e.g., from India to Netherlands), confirming the connection.

5. Browse a Website to Confirm Traffic Is Encrypted

- Open a site like google.com or bbc.com.
- **Observation**: Pages load securely, and no unencrypted traffic alerts appear (e.g., HTTPS lock icon present).

6. Disconnect VPN and Compare Browsing Speed and IP

Working With VPNs

- Disconnect from the VPN in the app.
- **Result**: IP reverts to your original (e.g., Indian ISP IP), and browsing speed may increase slightly (e.g., 5-10% faster without encryption overhead).

7. Research VPN Encryption and Privacy Features

- ProtonVPN: Uses AES-256 encryption, OpenVPN/WireGuard protocols, no-logs policy, and Swiss privacy laws.
- **Windscribe**: Employs AES-256, IKEv2/OpenVPN, no-logs policy, and offers a kill switch on free tier.
- Note: Both mask IP addresses and encrypt traffic, enhancing privacy on public Wi-Fi.

8. Write a Summary on VPN Benefits and Limitations

• Benefits:

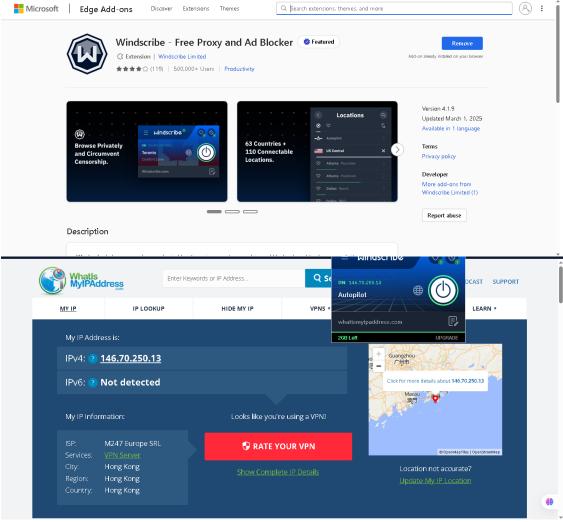
- o Protects privacy by hiding your IP and encrypting data.
- o Secures communication on public networks (e.g., cafes, airports).
- Bypasses geo-restrictions for limited content access.

• Limitations:

- Free tiers have data caps (10GB for Windscribe, unlimited but server-limited for ProtonVPN).
- Slower speeds due to encryption (5-25% drop).
- Limited server options may affect performance or access.
- o No guarantee of full anonymity (relies on VPN provider trust).

Connection Status Screenshot





Notes

• Use VPNs responsibly and with permission for educational purposes only.