

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 protonvpn.com and sign up for the free tier (requires an email, no payment).
- **Windscribe:** Go to windscribe.com 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

- 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:**
 - Protects privacy by hiding your IP and encrypting data.
 - 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.
 - No guarantee of full anonymity (relies on VPN provider trust).

Connection Status Screenshot

Working With VPNs

The screenshot displays a Microsoft Edge browser window. The top portion shows the Windscribe VPN extension interface, which is active and displays the IP address 146.70.250.28. The interface includes a power button icon, a globe icon, and a status bar at the bottom indicating '2GB Left' and an 'UPGRADE' button. Below the extension interface, the Microsoft Edge Add-ons page for 'Windscribe - Free Proxy and Ad Blocker' is visible. The page shows the extension's rating (4.5 stars), user count (500,000+), and a 'Remove' button. The description section is partially visible, mentioning 'Browse Privately and Circumvent Censorship' and '63 Countries + 110 Connectable Locations'.

The bottom portion of the screenshot shows the WhatIsMyIPAddress.com website. The site displays the user's IP address as 146.70.250.13 and identifies the location as Hong Kong. A red button labeled 'RATE YOUR VPN' is prominently displayed. The site also provides information about the ISP (M247 Europe SRL) and services (VPN Server). A map on the right side of the page shows the location of the IP address, with a red pin indicating the location in Hong Kong. The map includes labels for Guangzhou and Macau.

Notes

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