

Task 8 - VPN Hands-On: Setup, Usage, and Privacy Analysis

What is a VPN?

A Virtual Private Network (VPN) is a secure tunnel between your device and the internet. It encrypts your internet traffic and hides your IP address, ensuring privacy and security, especially on public networks.

VPN Used

- VPN Service: Windscribe (Free Tier)
- Method: Chrome Extension
- Servers Tried: United States and Canada

Setup & Connection Steps

1. Registered a free account on Windscribe.
2. Installed the Windscribe VPN Chrome extension.
3. Logged in and connected to different servers (USA, Canada).
4. Verified IP change using whatismyipaddress.com.
5. Captured screenshots before and after connecting.

Screenshots (Attached in Images Folder)

1. IP Address Without VPN: ip_without_vpn.png
2. Connected to United States Server: ip_us_vpn1.png
3. Connected to United States Server: ip_us_vpn2.png
4. Connected to Canada Server: ip_canada_vpn.png

VPN Encryption & Protocols (Windscribe)

- Encryption: AES-256 with SHA-512 auth
- Protocol (Extension): Uses HTTPS proxy tunneling

Windscribe encrypts your traffic and hides your IP while browsing, protecting you on unsecured Wi-Fi.

Benefits of VPN

- Masks IP address and hides real location
- Encrypts traffic to prevent surveillance
- Helps bypass geo-blocked websites or apps

Limitations of VPN

- Free version has limited data (10 GB/month)
- Speed is slightly reduced due to encryption overhead
- Doesn't guarantee 100% anonymity (browser fingerprinting etc. still possible)

Outcome / Result

- Successfully set up and used Windscribe VPN via Chrome extension.
- Tested VPN connections with servers in USA, Germany, and Canada.
- Verified IP address change and encryption of traffic.
- Understood how VPNs enhance privacy by masking real IP.
- Learned about VPN encryption (AES-256) and tunneling protocols.
- Observed limitations like slower speed and data limits in free plans.
- Gained practical knowledge useful for real-world cybersecurity scenarios.

Status

✓Task Completed Successfully