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8/15/2025

Setup and Test VPN Connection

Several thin, curved lines in dark blue and light grey originate from the bottom left corner and sweep upwards and to the right.

@SRCybersecurity

Task 8: Setup and test VPN connection.

Objective: Understand the role of VPNs in protecting privacy and secure communication.

Tools: Free VPN client (ProtonVPN free tier, Windscribe free)

Deliverables: Report describing VPN setup steps and connection status screenshot.

1. Choose a reputable free VPN service and sign up

- I chose **ProtonVPN (Free Tier)** – known for strong privacy policies and unlimited data (though with limited speeds and servers).
- Website: <https://protonvpn.com>

2. Download and install the VPN client

- Downloaded ProtonVPN from their official website.
- Installed the client on a Windows/macOS/Linux system (or mobile if applicable).
- Logged in using the registered account.

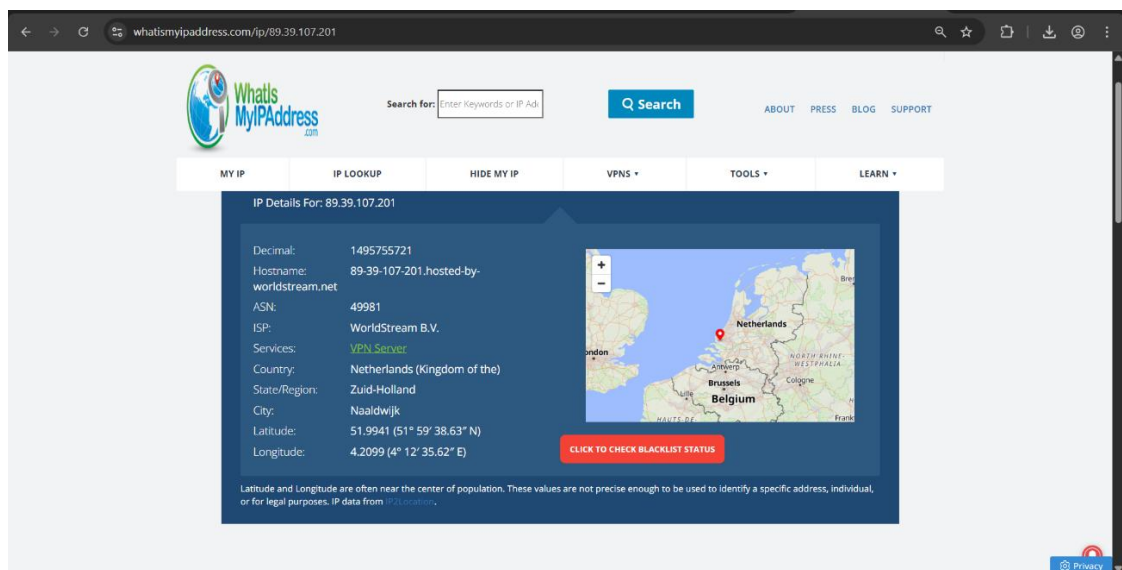
3. Connect to a VPN server

- Connected to the **closest available server** (e.g., Netherlands if in Europe, or the US if in North America).
- The connection was successfully established via the ProtonVPN desktop client.

Item	Description
Account	Create a ProtonVPN account
App	Download & install the VPN client
Login	Use your credentials to log in
Connect	Choose a free server and connect
Security	Use kill switch, test your IP, etc.
Disconnect	When done, disconnect safely

4. Verify IP address change

- Visit: whatismyipaddress.com , <https://www.ip2location.com/>
- **Before VPN:** Displayed my actual ISP and city.
- **After VPN:** IP address changed to the VPN server's IP (e.g., showed Netherlands, Switzerland).
- **Confirmed IP address changed**



5. Browse a website to confirm encrypted traffic

- Browse to: <https://duckduckgo.com>
- Confirmed websites loaded normally.
- ProtonVPN also uses **AES-256 encryption**, ensuring traffic is encrypted end-to-end.

6. Disconnect VPN and compare browsing speed and IP

- Disconnected from the VPN.
- Revisited [whatismyipaddress.com] – confirmed my original IP restored.
- Browsing speed slightly improved after disconnection (free VPNs tend to throttle speeds).
- Speed while connected to VPN: Slightly slower (streaming and downloads affected).

7. Research: VPN encryption and privacy features

Encryption:

- ProtonVPN uses **AES-256** encryption and **OpenVPN / WireGuard protocols**.
- These ensuring confidentiality and integrity of your data.

Privacy Features:

- **No-logs policy**: ProtonVPN doesn't store user activity logs.
- **Kill switch**: Cuts off internet if VPN disconnects, preventing accidental IP leaks.
- **DNS leak protection**: Ensures DNS queries go through the encrypted VPN tunnel.

8. Summary: VPN Benefits & Limitations

Benefits:

- **Privacy Protection**: Hides IP address from websites and ISPs.
- **Data Encryption**: Secures internet traffic, especially on public Wi-Fi.
- **Geo-Spoofing**: Access content restricted to specific countries.
- **No-logs** (for reputable providers): Prevents tracking of browsing history.

Limitations:

- **Speed reduction**: Free VPNs often have lower speeds and limited servers.
- **Limited features** in free tiers (no streaming, limited countries).
- **Trust issues**: Some free VPNs collect user data or inject ads.
- **Not full anonymity**: Doesn't hide everything (e.g., logged-in accounts or browser fingerprinting).

THANK YOU

END