

# VPN Setup Report

## Task 8: Understand and Set Up a VPN for Privacy Protection

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### Objective

To set up and test a free VPN service to understand how it helps protect user privacy, encrypt online traffic, and hide real IP addresses. The task includes documenting the setup process and analyzing the benefits and limitations of using a VPN.

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### Tools Used

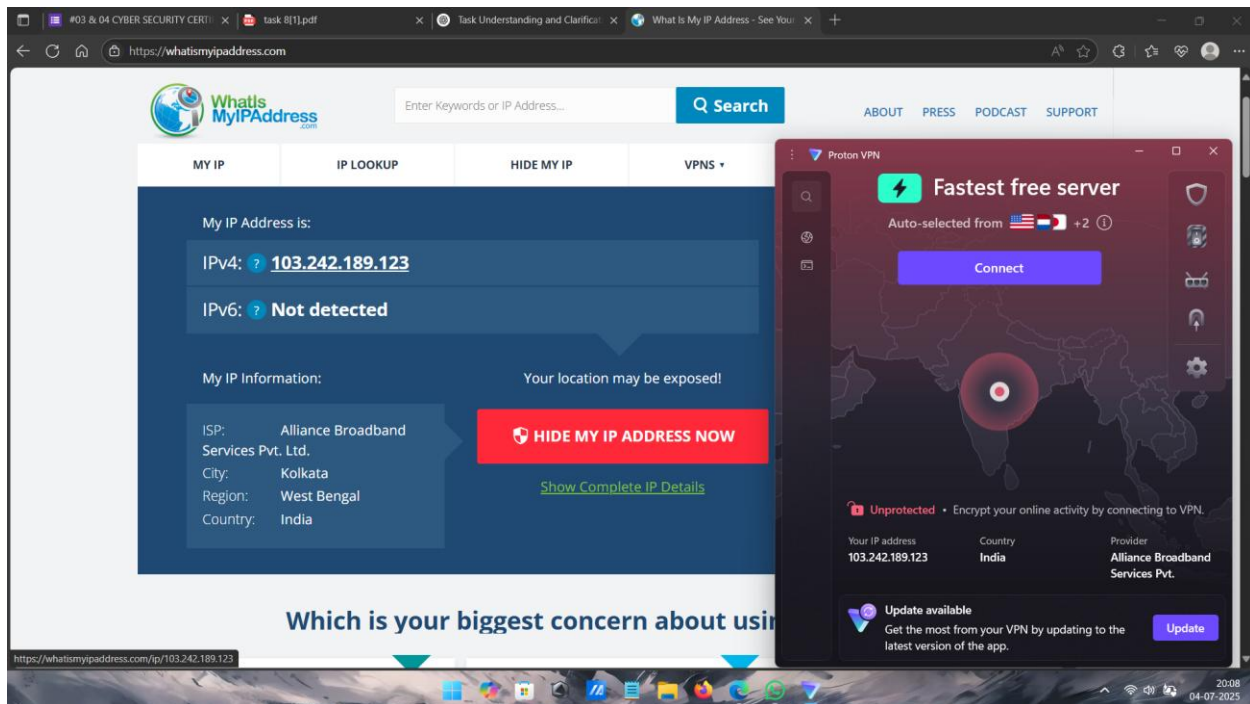
- VPN Service: ProtonVPN (Free Tier)
  - Operating System: [Specify your OS, e.g., Windows 10 / Ubuntu / macOS]
  - Browser: [Specify, e.g., Chrome / Firefox / Brave]
  - Website for IP check: <https://whatismyipaddress.com/>
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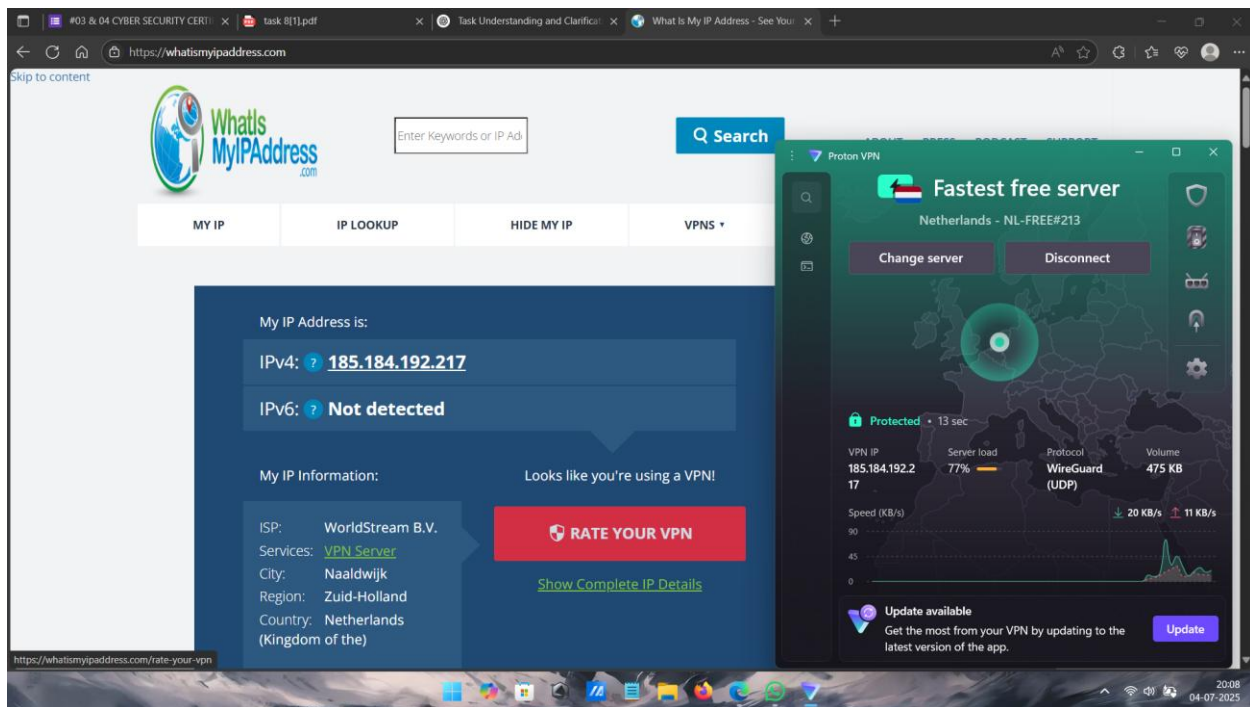
### VPN Setup Steps

1. **Choosing a VPN Service**
  - ProtonVPN was selected for this task due to its reliable free tier, no data limits, and a strong privacy policy.
2. **Account Registration**
  - Signed up at <https://protonvpn.com/> using a valid email address.
3. **Downloading and Installing the VPN Client**
  - Downloaded the official ProtonVPN application for the appropriate operating system.
  - Completed the installation using the default settings.
4. **Launching and Logging In**
  - Launched the ProtonVPN client and logged in with the created credentials.
5. **Connecting to a VPN Server**
  - Selected a free server (automatically suggested based on proximity and load).
  - Waited for the connection status to indicate "Connected."
6. **Verifying IP Address Change**
  - Visited <https://whatismyipaddress.com/> before and after connecting to the VPN.
  - Observed that the IP address changed successfully, indicating VPN is active and traffic is routed through the VPN server.
7. **Testing Secure Browsing**

- Accessed a few websites to verify that browsing was normal and encrypted.
  - Noted that the websites loaded successfully and content was accessible.
8. **Disconnecting and Comparing**
- Disconnected the VPN and rechecked the IP address and browsing speed.
  - Observed that the original IP was restored, and browsing speed increased slightly after disconnection.

## VPN Connection Status Screenshot





## VPN Features and Privacy Research

- ProtonVPN uses strong AES-256 encryption with secure VPN protocols like OpenVPN and WireGuard.
- It has a no-logs policy, meaning it does not track or store user activity.
- DNS leak protection and kill-switch features ensure data is not accidentally exposed.
- The free version includes access to a limited number of servers but offers unlimited bandwidth.

## Summary: Benefits and Limitations of VPNs

### Benefits:

- Encrypts internet traffic to protect against surveillance and tracking
- Masks original IP address, enhancing anonymity
- Useful on public Wi-Fi networks to prevent interception
- Bypasses geo-restrictions for some services

### Limitations:

- Free plans may have limited speed or server locations
- Some websites may block VPN IPs

- Does not provide full anonymity if other tracking methods (cookies, fingerprinting) are in use
  - Trust in VPN provider is essential, as they route all traffic
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**Conclusion:**

Using a VPN like ProtonVPN significantly improves online privacy by encrypting traffic and masking your IP address. While it is not a complete solution for anonymity, it is an essential tool for secure communication and private browsing.