# Report: Working with VPNs

Objective

The objective of this task is to understand the role of Virtual Private Networks (VPNs) in protecting privacy and ensuring secure communication over the internet.

Tools Used

- **VPN Client:** ProtonVPN (Free Tier)

- **Verification Website:** whatismyipaddress.com

Steps Performed

1. **Account Creation** – Signed up for a free ProtonVPN account.

2. **Download & Installation** – Downloaded and installed the ProtonVPN client on my system.

3. **Connecting to VPN** – Logged into the VPN client and connected to a server located in *JAPAN*.

4. **Verifying IP Change** –

   o Checked original IP address before connecting. It is 157.35.105.158, **india**
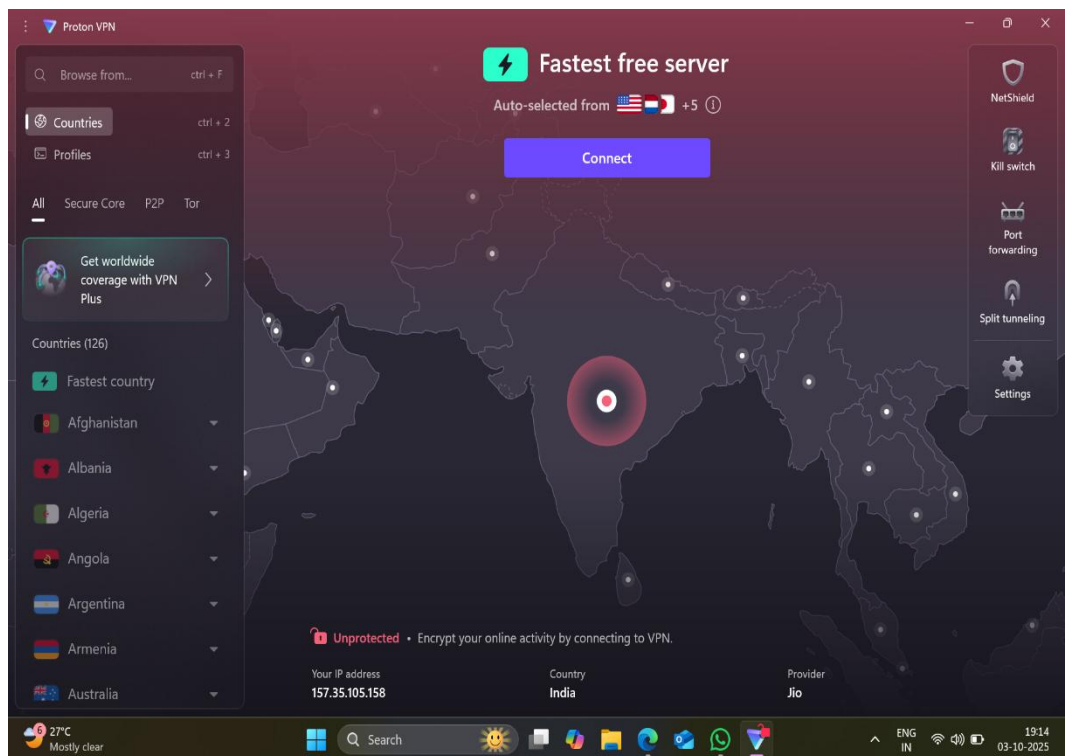
o After connecting, verified that the IP address changed using
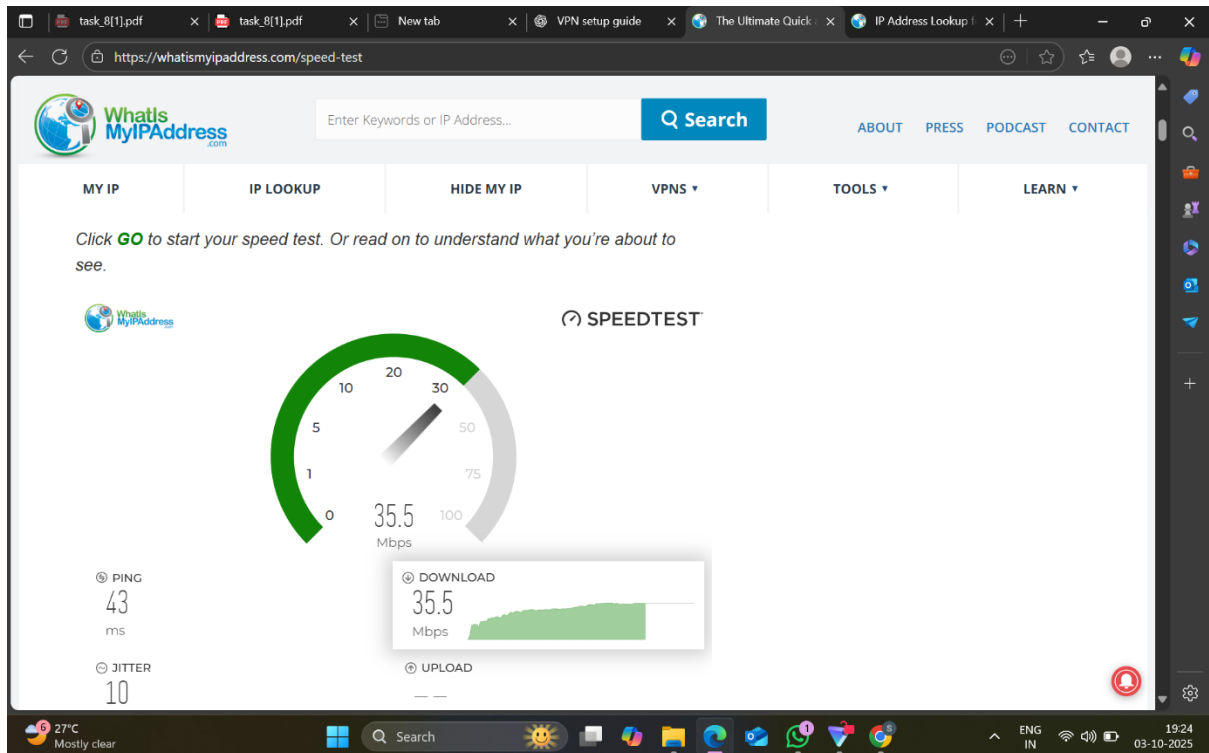 whatismyipaddress.com,ip is 212.102.51.117, **japan**
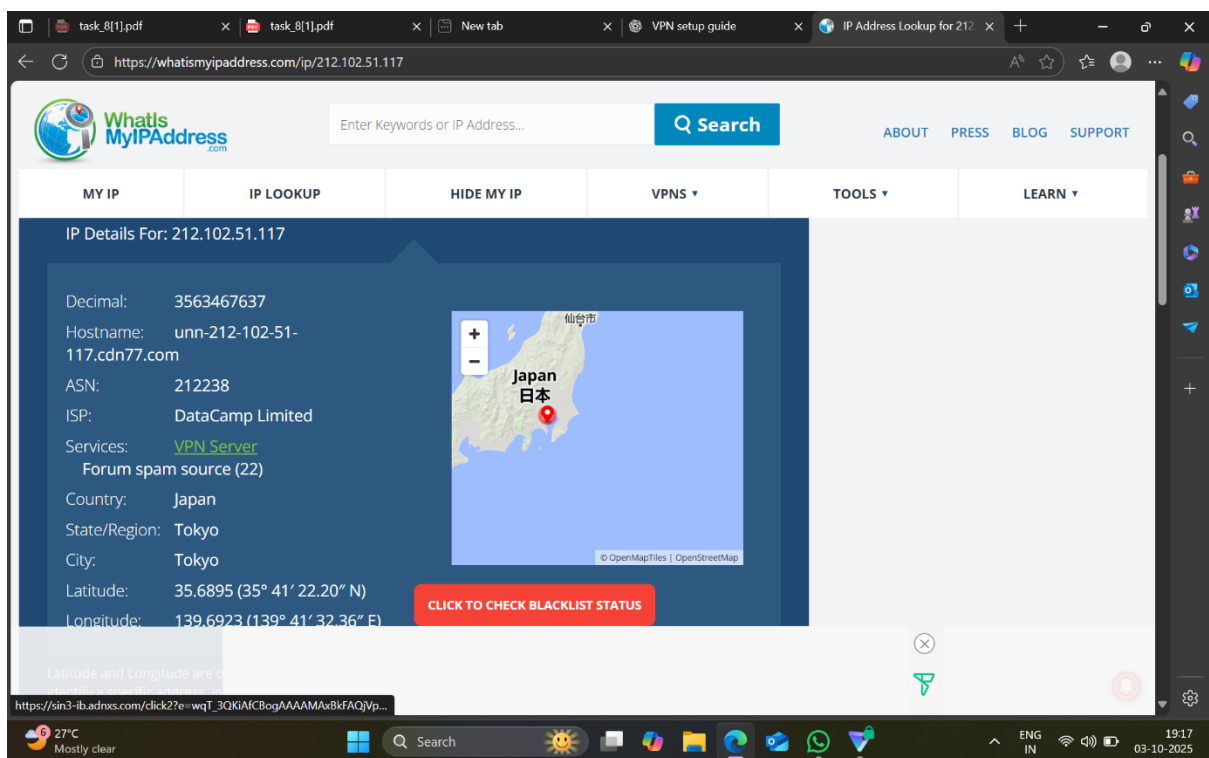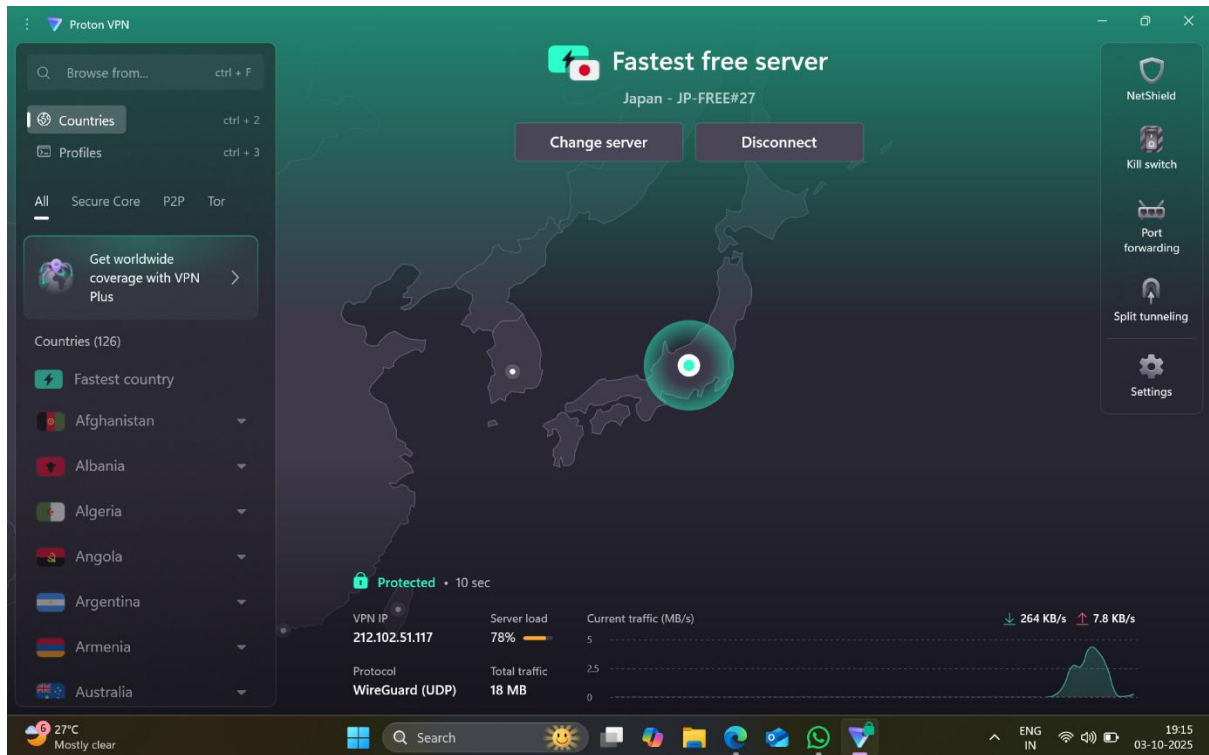
5. **Confirming Encrypted Traffic** – Accessed websites such as Google to ensure browsing worked with encrypted traffic.
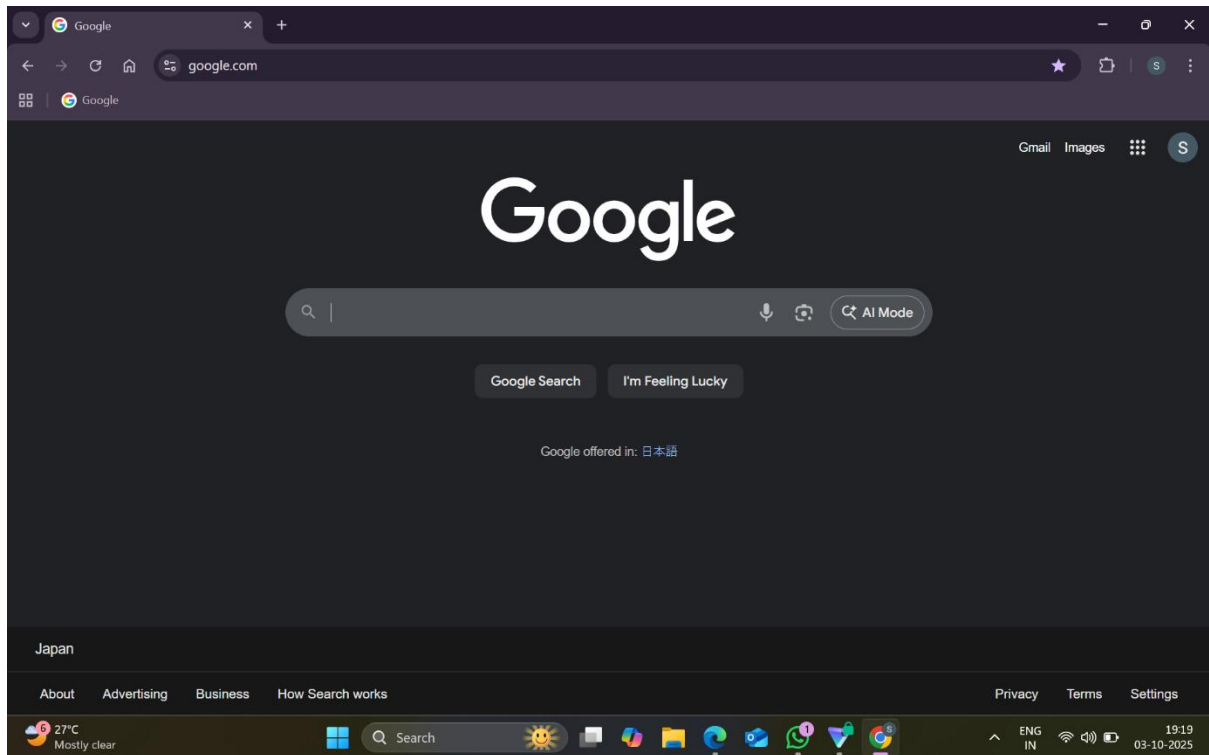
6. **Disconnect & Comparison** – Disconnected from VPN, checked real IP again in whatismyipaddress.com, and compared browsing speed of both.
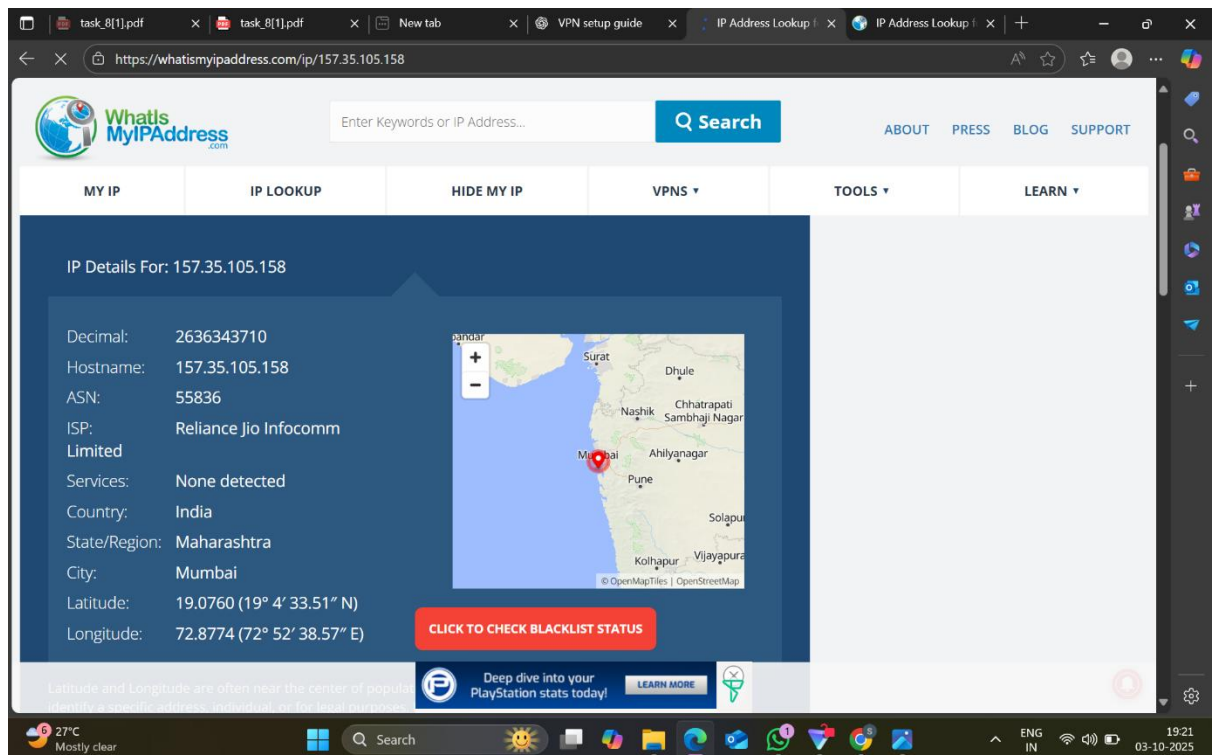
❖ Where as browsing speed is slow when vpn is connected to japan

Findings

- **Privacy Protection:** VPN successfully masked my real IP address and displayed a new location.

- **Encryption:** Internet traffic was encrypted, protecting data from ISP tracking and third-party monitoring.

- **Performance:** Browsing speed was slightly slower when VPN was active, which is expected due to encryption overhead and routing through servers.

- **Limitations of Free VPN:** Limited number of servers, possible speed throttling, and bandwidth restrictions.

Conclusion

VPNs are effective tools for protecting online privacy and securing communication by hiding real IP addresses and encrypting internet traffic. They provide anonymity, prevent tracking, and enhance security when browsing. However, free VPNs often come with limitations such as restricted server access, slower speeds, and data caps. For full protection and performance, premium VPN services are recommended.