

TASK 8: IDENTIFY AND REMOVE SUSPICIOUS BROWSER EXTENSIONS.

Objective:

To set up and test a free VPN service to understand how it protects user privacy, verify its effect on IP address and internet traffic, and analyze its benefits and limitations.

Tools Used:

- VPN Provider: **PrivadoVPN**
- Browser: **Microsoft Edge**
- IP Checker: <https://whatismyipaddress.com>

Procedure:

Step 1. Choose a Free VPN Service

- Online VPN Provider: PrivadoVPN
- Sign up for a free account on their official website.

Step 2. Download and Install the VPN Client

- Go to the VPN provider's official site.
- Install it and finish the setup for your PC.

Step 3. Connect to a VPN Server

- Open the VPN client and log in using your credentials.
- Select a server.
- Click "Connect."

Step 4. Verify Your IP Address Has Changed

- Open a browser and visit: <https://whatismyipaddress.com>
- Check if your IP address and location have changed to match the VPN server.

Step 5. Browse a website to Confirm Traffic Is Encrypted

- Visit any website for example, <https://yahoo.com>
- Check for the padlock symbol next to the URL to confirm HTTPS encryption.
- This indicates secure browsing through the VPN tunnel.

Step 6. Disconnect VPN and Compare Browsing Speed and IP

- Disconnect the VPN.
- Reload <https://whatismyipaddress.com> to see your real IP.

VPN Encryption and Privacy Features:

1. Encryption Protocols

- **AES-256 (Advanced Encryption Standard)**
 - Military-grade encryption used by most VPNs.
 - Very secure and nearly impossible to crack.
- **VPN Protocols**
 - OpenVPN: Very secure and open-source.
 - WireGuard: New, fast, and highly secure.
 - IKEv2/IPSec: Stable and good for mobile connections.

2. No-Logs Policy

- VPN providers with a no-logs policy don't store your activity or connection logs.
- Ensures your browsing history isn't recorded or shared.

3. DNS Leak Protection

- Prevents your device from using your ISP's DNS servers, which could reveal your activity.
- Ensures all DNS requests are securely routed through the VPN.

4. Kill Switch

- If the VPN connection drops, the kill switch automatically cuts off your internet.
- Prevents accidental exposure of your real IP and data.

5. IP Address Masking

- Replaces your real IP address with the VPN server's IP.
- Hides your location and identity from websites and trackers.

6. Split Tunneling

- Allows you to route some apps/websites through the VPN and others through your normal connection.
- Useful for multitasking with both local and international services.

7. Obfuscation/Stealth Mode

- Hides the fact that you're using a VPN.
- Helps bypass VPN blocks and firewalls (e.g., in restrictive countries).

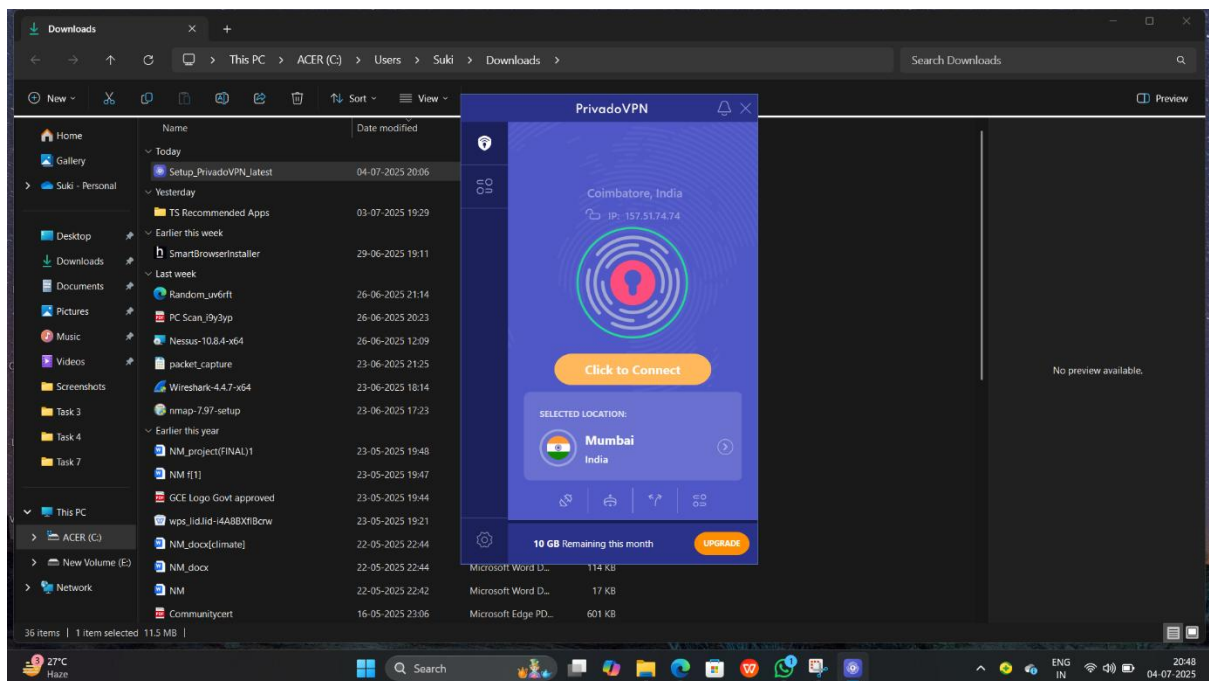
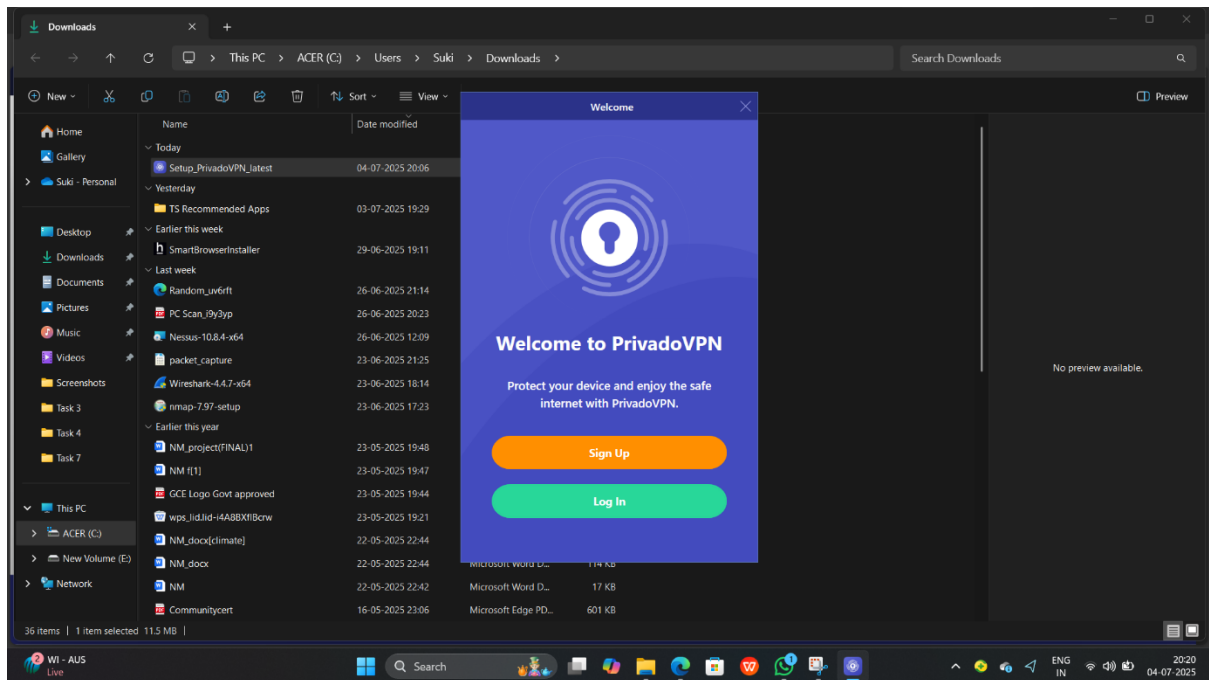
Benefits of Using a VPN:

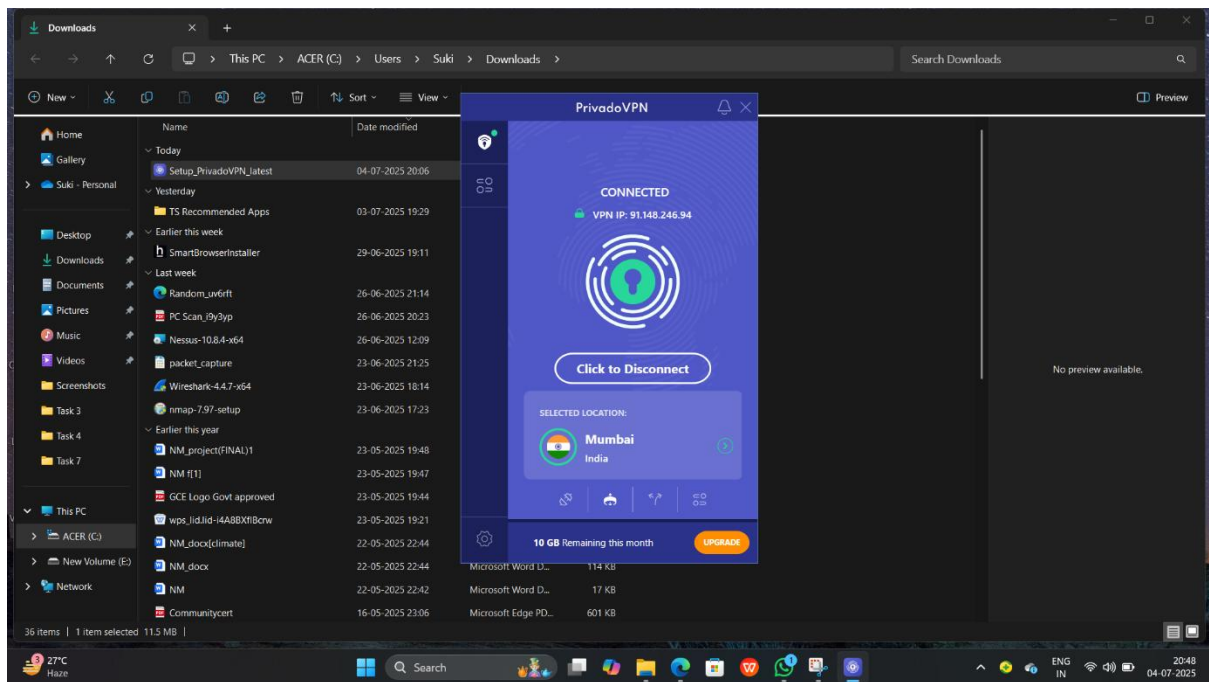
1. **Online Privacy**
 - Hides your real IP address and location from websites, ISPs, and trackers.
2. **Data Encryption**
 - Encrypts your internet traffic to protect it from hackers, especially on public Wi-Fi.
3. **Bypass Geo-Restrictions**
 - Access blocked or region-specific content (e.g., streaming services, websites).
4. **Avoid Censorship**
 - Helps users in restrictive countries access the open internet.
5. **Secure Remote Access**
 - Useful for securely accessing work or private networks from remote locations.
6. **Anonymity**
 - Prevents websites and apps from identifying or profiling you based on IP address.

Limitations of a VPN:

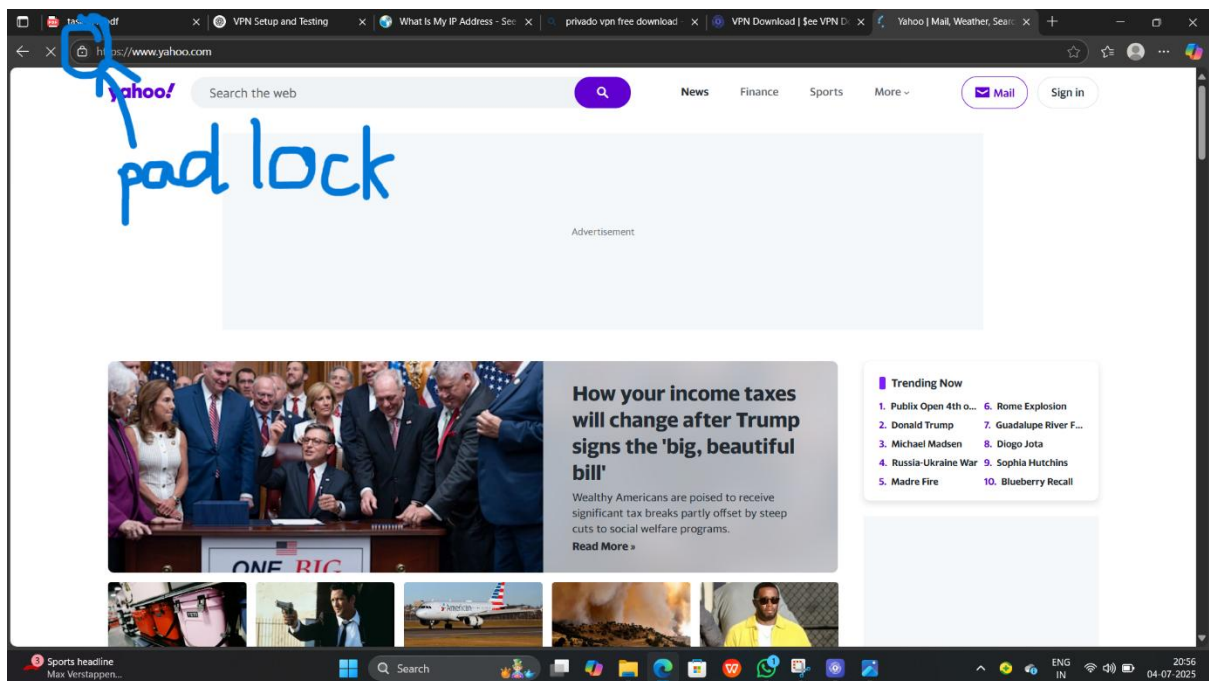
1. **Slower Internet Speeds**
 - Encryption and server distance can reduce browsing or download speeds.
2. **Free VPN Limitations**
 - May offer limited data, few servers, or display ads.
3. **Not Full Anonymity**
 - VPNs don't protect you from malware, phishing, or bad browser habits.
4. **Potential Logging**
 - Some VPN providers might log data despite claiming otherwise—always choose trusted services.
5. **Blocked by Some Services**
 - Some websites and apps (like Netflix or banking apps) may block VPN usage.

Screenshots:





Visiting the website yahoo.com



The padlock symbol ensures secure browsing.

MY PC IP Address before and after connecting to PrivadoVPN:

Before connection	After connection
157.51.78.86	91.148.246.94

Conclusion:

Using a reputable VPN like PrivadoVPN helps protect your privacy and encrypt your internet traffic. While free plans have certain limitations, they are sufficient for basic anonymity and security needs. However, users should carefully choose trusted VPN services and understand their features and limitations.