

Configuring IITD VPN and Connecting to CSC machine

Ansh Sapra

cs5160392@iitd.ac.in

Indian Institute of Technology, Delhi

March 1, 2021

Requesting your VPN credentials

Configuring IITD VPN

- Windows Configuration

- Linux Configuration

- Mac OS Configuration

- Android Configuration

Connecting to CSC machine

Requesting your VPN credentials

Please refer the following link for more information:

<https://csc.iitd.ac.in/services-network-vpn.php>

- ▶ Write an email to sysadm@cc.iitd.ac.in from your institute email id. Subject can be "VPN Request - entry number".
- ▶ Mention that you need it for the purposes of this course and send.
- ▶ You should get a reply within 24 hours with instructions for setup and use. Download the certificates and client depending on your OS:
- ▶ For Windows: Use [OpenVPN](#)
- ▶ For MacOS: Use [TunnelBlick](#)
- ▶ Linux users can configure settings using OpenVPN as explained
- ▶ Android users can use [OpenVPN](#)

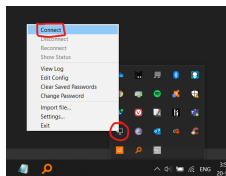
Configuration for Windows

Download <https://openvpn.net/community-downloads/> for windows on your desktop

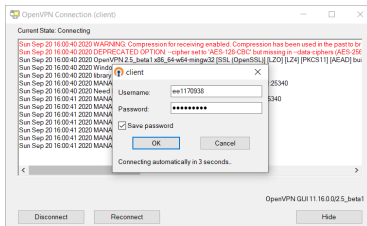
- ▶ Post installation, Download "yourID.crt", "yourID.key", Pre-shared server key "ta.key", client configuration file "client.ovpn" from the mailed link and IITD CA certificate "CCIITD_CA.crt" from [CSC website](#) to "C:\ProgramFiles\OpenVPN\config" directory (or your own installation directory)
- ▶ Right click on OpenVPN GUI and click run as administrator
- ▶ Open the GUI system tray and right click on the ovpn client, and click connect. Enter your kerberos credentials (same as moodle credentials) in the prompt.

That's it. Test your connection by visiting internal sites like <https://eadmin.iitd.ac.in/> or <https://ecertification.iitd.ac.in/>

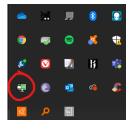
Configuration for Windows (cont.)



(a) Start the Client



(b) Enter your kerberos credentials



(c) Done!

Figure 1: Windows Configuration

- ▶ Install openvpn using following command

```
sudo apt install openvpn
```

- ▶ Download "yourID.crt", "yourID.key", Pre-shared server key "ta.key", client configuration file "client.ovpn" from the mailed link and IITD CA certificate "CCIITD_CA.crt" from [CSC website](#).
- ▶ Put all the files into one folder. On the same folder, right-click and open terminal and run the following commands one by one.

```
sudo wget https://raw.githubusercontent.com/jonathanio/update-systemd-resolved/master/update-systemd-resolved -P /etc/openvpn
sudo chmod 777 /etc/openvpn/update-systemd-resolved
sudo gedit client.ovpn
```

These commands are written in a file [here](#).

Linux Configuration (cont.)

- ▶ In the file that opens, add the following 2 lines at the end:

```
up /etc/openvpn/update-systemd-resolved
```

```
down /etc/openvpn/update-systemd-resolved
```

- ▶ Run the following command to connect to the VPN:

```
sudo openvpn --script-security 2 --config client.ovpn
```

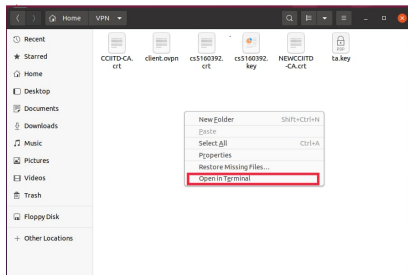
- ▶ Follow the steps shown in the figures below, finish setup by inputting your kerberos details.

That's it. Test your connection by visiting internal sites like

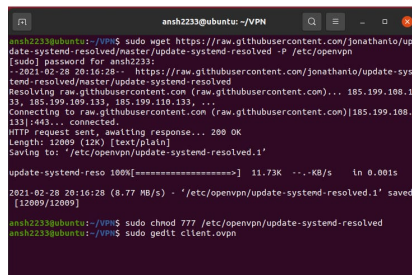
<https://eadmin.iitd.ac.in/> or

<https://ecertification.iitd.ac.in/>

Linux Configuration (cont.)



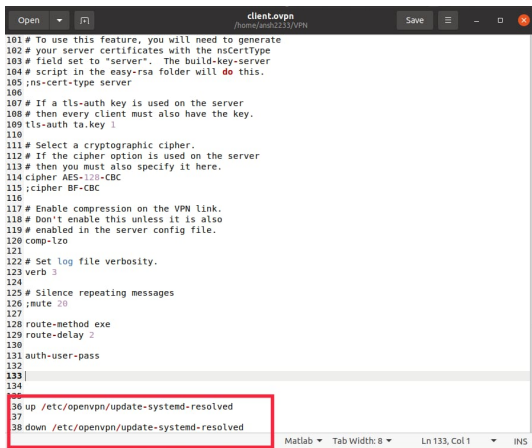
(a) Post installation of openvpn, open Terminal from directory



(b) Enter the commands

Figure 2: Linux Configuration

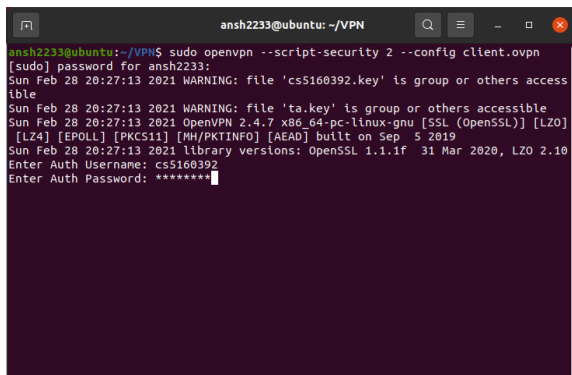
Linux Configuration (cont.)



```
101 # To use this feature, you will need to generate
102 # your server certificates with the nsCertType
103 # field set to "server". The build-key-server
104 # script in the easy-rsa folder will do this.
105 ;ns-cert-type server
106
107 # If a tls-auth key is used on the server
108 # then every client must also have the key.
109 tls-auth ta.key 1
110
111 # Select a cryptographic cipher.
112 # If the cipher option is used on the server
113 # then you must also specify it here.
114 cipher AES-128-CBC
115 ;cipher BF-CBC
116
117 # Enable compression on the VPN link.
118 # Don't enable this unless it is also
119 # enabled in the server config file.
120 comp-lzo
121
122 # Set log file verbosity.
123 verb 3
124
125 # Silence repeating messages
126 ;mute 20
127
128 route-method exe
129 route-delay 2
130
131 auth-user-pass
132
133 |
134
135
136 up /etc/openvpn/update-systemd-resolved
137
138 down /etc/openvpn/update-systemd-resolved
```

(a) Copy 2 lines at the end in the file opened

Linux Configuration (cont.)



```
ansh2233@ubuntu: ~/VPN
ansh2233@ubuntu:~/VPN$ sudo openvpn --script-security 2 --config client.ovpn
[sudo] password for ansh2233:
Sun Feb 28 20:27:13 2021 WARNING: file 'cs5160392.key' is group or others access
ible
Sun Feb 28 20:27:13 2021 WARNING: file 'ta.key' is group or others accessible
Sun Feb 28 20:27:13 2021 OpenVPN 2.4.7 x86_64-pc-linux-gnu [SSL (OpenSSL)] [LZO]
 [LZ4] [EPOLL] [PKCS11] [MH/PKTINFO] [AEAD] built on Sep  5 2019
Sun Feb 28 20:27:13 2021 library versions: OpenSSL 1.1.1f  31 Mar 2020, LZO 2.10
Enter Auth Username: cs5160392
Enter Auth Password: *****
```

Figure 4: Connect to VPN using kerberos details

Mac OS Configuration

Install tunnelblick from the link given in the mail, install the latest stable version

- ▶ Post installation, download `yourID.crt`, `yourID.key`, Pre-shared server key `ta.key`, client configuration file `client.ovpn` from the mailed link and IITD CA certificate `CCIITD_CA.crt` from [CSC website](#).
- ▶ Move all the 5 files into a single folder, and name the folder `client.tblk`
- ▶ Right-click on the `client.tblk` file → Open With → Tunnelblick (follow steps in the following pages for clarity)
- ▶ From the top right of the Taskbar. Select TunnelBlick and click Connect client. Enter your credentials when prompted.

That's it. Test your connection by visiting internal sites like

<https://eadmin.iitd.ac.in/> or

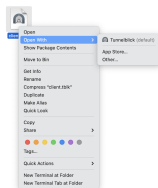
<https://ecertification.iitd.ac.in/>

Mac OS Configuration (cont.)



(a) Create a new folder

(b) Rename the folder



(c) Right-click client.tb1k, open with TunnelBlick (Will ask for your mac credentials)

Figure 5: Steps for Mac OS

Mac OS Configuration (cont.)

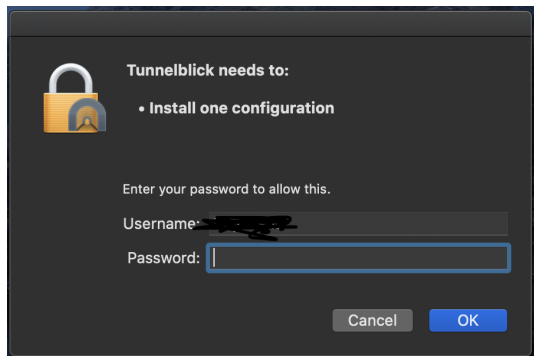


Figure 6: Enter your mac credentials

Mac OS Configuration (cont.)

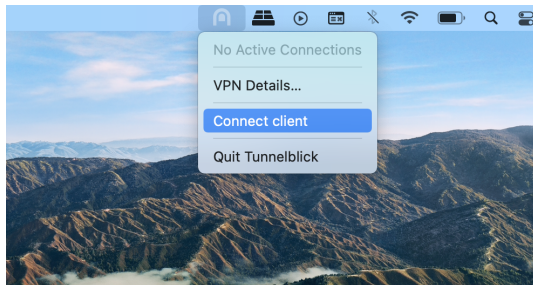


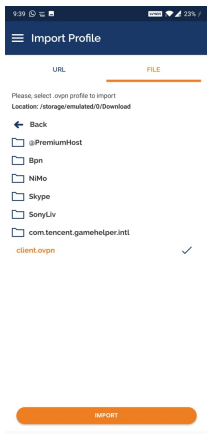
Figure 7: From the TunnelBlick icon select Connect client (will ask for your kerberos credentials for the first time)

Android Configuration

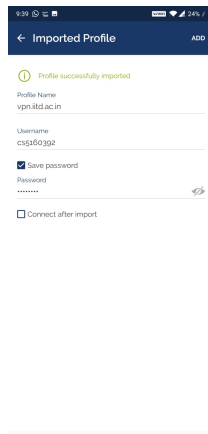
- ▶ Install **OpenVPN** from the PlayStore. Post installation,
- ▶ Post installation, Download "yourID.crt", "yourID.key", Pre-shared server key "ta.key", client configuration file "client.ovpn" from the mailed link and IITD CA certificate "CCIITD_CA.crt" from **CSC website**.
- ▶ Make sure to put all files in a single folder.
- ▶ Go to OpenVPN → Import Profile → File → Choose your client.ovpn file. (It should be in your Default Download Directory)
- ▶ Enter your kerberos credentials (same as moodle credentials) and connect to the VPN.

That's it. Test your connection by visiting internal sites like <https://eadmin.iitd.ac.in/> or <https://ecertification.iitd.ac.in/>

Android Configuration (cont.)

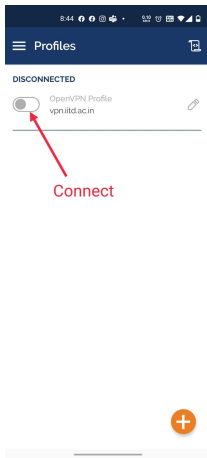


(a) Import your client.ovpn



(b) Enter kerberos details

Android Configuration (cont.)



(c) After import, connect

Figure 8: Android Configuration

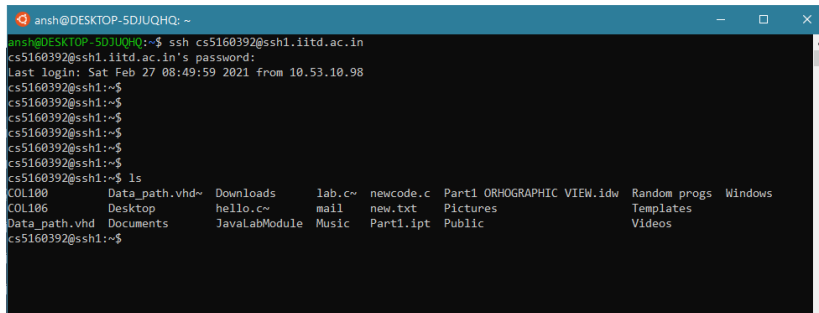
Connecting to CSC machine

- ▶ You have a dedicated account to be accessed in the Computer Services Center (CSC) at IITD. You can connect to it after connecting to the IITD VPN.
- ▶ After connecting to VPN on your machine go to the corresponding application eg. Terminal for Linux/Mac, cmd/PowerShell for Windows and Termux for Android.
- ▶ Run the command `ssh kerberosid@ssh1.iitd.ac.in`, example:

```
ssh cs5160392@ssh1.iitd.ac.in
```

That's it. The prompt should ask you for your password and then you should be connected to your IITD CSC account.

Connecting to CSC machine (cont.)



```
ansh@DESKTOP-5DJUQH: ~  
ansh@DESKTOP-5DJUQH:~$ ssh cs5160392@ssh1.iitd.ac.in  
cs5160392@ssh1.iitd.ac.in's password:  
Last login: Sat Feb 27 08:49:59 2021 from 10.53.10.98  
cs5160392@ssh1:~$  
cs5160392@ssh1:~$  
cs5160392@ssh1:~$  
cs5160392@ssh1:~$  
cs5160392@ssh1:~$  
cs5160392@ssh1:~$  
cs5160392@ssh1:~$ ls  
COL100      Data_path.vhd~ Downloads      lab.c~  newcode.c  Part1 ORHOGRAPHIC VIEW.idw  Random progs  Windows  
COL106      Desktop      hello.c~      mail    new.txt    Pictures      Templates  
Data_path.vhd Documents    JavaLabModule Music    Part1.ipt   Public        Videos  
cs5160392@ssh1:~$
```

Figure 9: Connecting to CSC account