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How to Set up Amrita VPN Client on Linux

In this tutorial we will explain how to set up Amrita VPN Client on Linux but first let's see what are our requirements and recommendations.

Requirements

In order to set up the Amrita VPN you will need:

1. A VPN account – your Amrita Domain/CMS/Wifi account is sufficient.
2. Root privilege in your Linux installation
3. Basic knowledge on command line interface. This is needed to configure some routing instructions. Details command and instructions are given below.
4. After you make the routing configurations for VPN, you may lose your internet routing information in your computer. Hence, to continue accessing internet after you disconnect from VPN, you may have to undo the configurations (or reboot your PC).

Install SoftEther Amrita VPN client

Follow the following instructions to install the SoftEther AmritaVPN client on your Linux PC. Instructions to install from Package Manager is given below. Expert Linux users can also install using the Source install. Please refer to internet for instructions.

Instruction for installing SoftEther VPN client from package manager.

1. Ensure your system is up to date by giving the command (This step is not mandatory, though it is recommended.)

   ```
   apt update && apt -y full-upgrade
   ```

2. Add the CactusVPN repository to your package manager source list :

   ```
   sudo echo "deb [trusted=yes] https://repository.cactusvpn.com/softether/
   amd64/" > /etc/apt/sources.list.d/cactusvpn.list
   ```

3. Update the package manager cache:

   ```
   sudo apt update
   ```

   Important! If you get the following error,

   "E: The method driver /usr/lib/apt/methods/https could not be found.
   N: Is the package apt-transport-https installed?
   E: Failed to fetch https://repository.cactusvpn.com/softether/amd64/InRelease
   E: Some index files failed to download. They have been ignored, or old ones used instead."

   you need to install apt-transport-https on your device :

   ```
   sudo apt install -y apt-transport-https
   ```

   and run the first command again. If you do not see any errors just ignore this step.

4. Install the SoftEther VPN manager :

   ```
   sudo apt install -y softethervpn-stable
   ```

Configure SoftEther AmritaVPN client

1. Start the SoftEther VPN client:

   ```
   sudo vpnclient start
   ```

   If you see this message: *"The SoftEther VPN Client service has been started."* then the SoftEther VPN client has successfully started.

2. Give the following command to initiate the SoftEther Amrita VPN client

   ```
   vpncmd
   ```

3. You will get the vpncmd prompt : VPN Client >
4. From the menu, select "3" to enter *"Use of VPN Tools (certificate creation and Network Traffic Speed Test Tool)"*.
5. To test the SoftEther Amrita VPN Client installation give the command `check` on the vpncmd prompt. If all the checks are passed, you can go to the next step.

   Important! Do not go to the next step until you do not correct all the errors.

6. Press "Ctrl" + "C" or "Ctrl" + "D" to exit from the vpncmd prompt.
7. To set up SoftEther Amrita VPN client, restart the vpncmd by giving the command :

   ```
   vpncmd
   ```

8. Select "2" to enter *"Management of VPN Client"*.
9. Do not enter any addresses at "Hostname or IP Address of Destination". Just press "Enter".

10. At the vpncmd command prompt give :

    ```
    NicCreate vpn_se     (vpn_se is a user defined name.  You can use your own
                              word instead of vpn_se)
    ```

11. To create an account that will use this interface (vpn_se) for the VPN connection, run this command in the vpncmd command prompt :

    ```
    AccountCreate amritavpn    (amritavpn is a user defined name.  You can use
                                    your own word instead of vpn_se)
    ```

12. In Destination Virtual Hub Name give :

    `AmritaVPN` **(this is case sensitive)**

13. In Destination VPN server Host Name and Port Number give :

    `vpn2.cb.amrita.edu:1194`

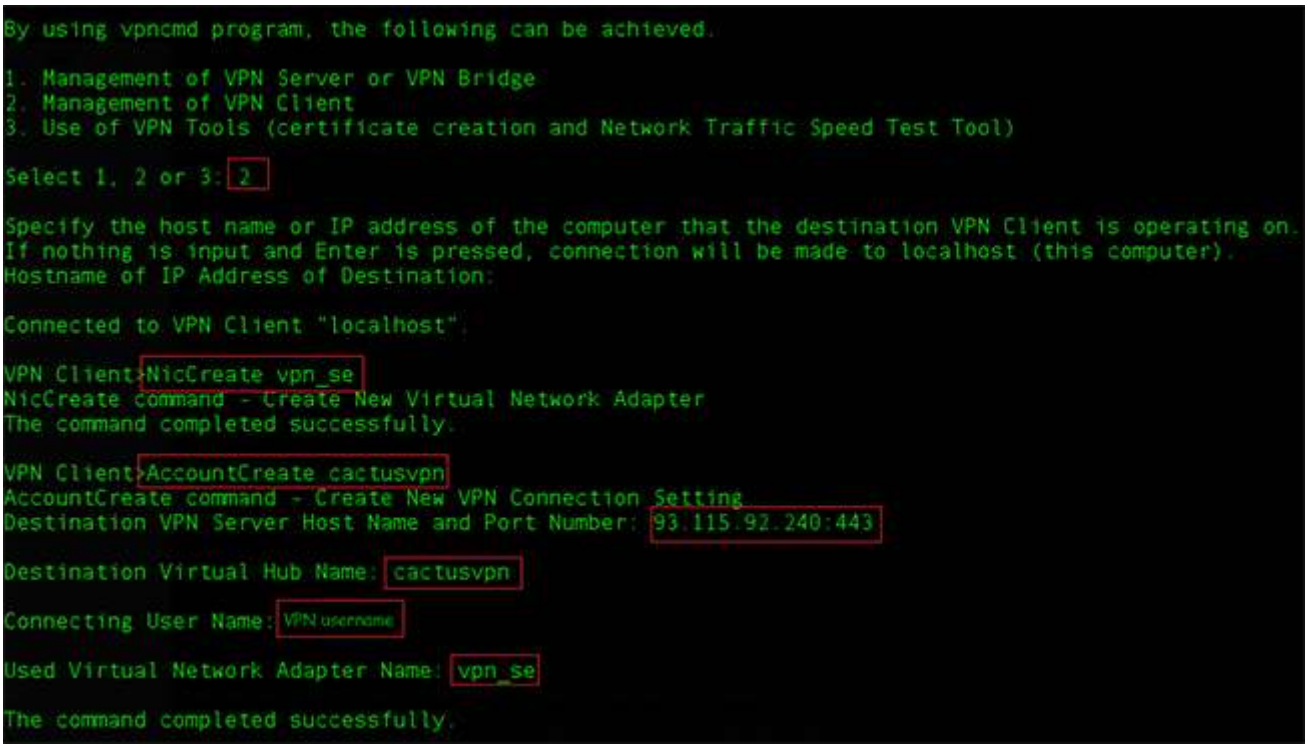
14. In Connecting User Name:

    {`your Amrita CMS/Wifi/Domain VPN username}`

15. In Used Virtual Network Adapter Name give :

    `vpn_se (Use the name of interface created earlier in step 10)`

    If you get the *"The command completed successfully."* message, it means that the account creation was successfully completed. As sample screenshot of the above process is given below.



16. To set up a password, at the vpncmd prompt give :

    ```
    AccountPassword amritavpn
    ```

    Enter your password as per your Amrita CMS/Wifi/Domain and confirm the same.

17. At “Specify standard or radius:” type

    ```
    Standard
    ```

18. To connect to the Amrita VPN client using the created account give the following command at vpncmd prompt :

    ```
    AccountConnect amritavpn
    ```

19. To test the connection to the VPN server give the following command at vpncmd prompt :

    ```
    AccountList
    ```

    If you see “Connected” you can go to the next step.

20. Press “Ctrl” + “C” or “Ctrl” + “D” to exit the SoftEther Amrita VPN Client manager.

IP and routing table (Note: Please be careful while giving the following command)

1. Check if the IP forward is enabled on your system by giving the command :

   ```
   cat /proc/sys/net/ipv4/ip_forward
   ```

   If you get “1” you can skip this step and go to the “Obtain an IP address from the VPN server” step.

   If you get “0”, it means IP forwarding is not enabled. You need to enable IP forwarding by giving the command :

   ```
   echo 1 > /proc/sys/net/ipv4/ip_forward
   ```

You can also make this configuration permanent by giving the following command :

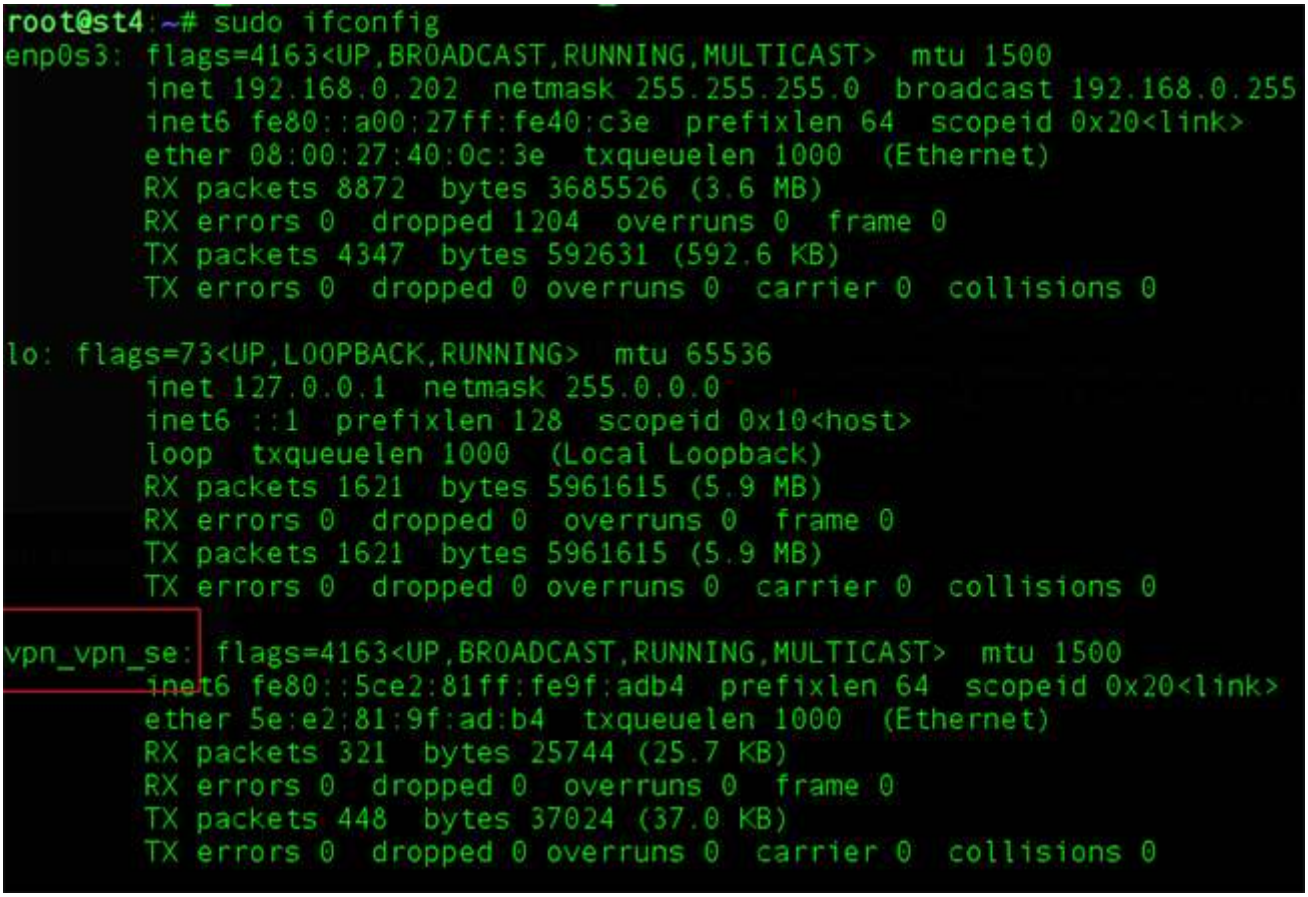
```
echo net.ipv4.ip_forward=1 >> /etc/sysctl.conf && sysctl -p
```

If you get “net.ipv4.ip_forward = 1” the IP forward is successfully enabled.

2. To obtain an IP address from the VPN server, start by giving :

```
sudo ifconfig
```

and you’ll see the virtual network “vpn_vpn_se” created with SoftEther Amrita VPN client tool.



To get an IP address from the VPN server, run the command below.

```
sudo dhclient vpn_vpn_se
```

After a few moments you should get an IP address from the 10.6.0.0/24 network. In the following example, the IP address received is 10.6.0.74. You need to take the IP that you have received to proceed to the next step.

3. Start with the following command to edit the routing table:

```
sudo ip route
```

Write down the IP address of the default route shown as “default via”. In the above example, the default gateway IP is 10.10.10.1

4. To make the VPN the default route :

   a. Get the current IP address of the VPN server, give the following command on your linux command prompt.

      ```
      ping vpn2.cb.amrita.edu
      ```

      It will resolve to one IP address, which is the current IP address of the VPN server you are connected to. Write downt that IP address. It will be 14.139.187.139, 103.5.112.89 or 117.240.224.14)

   b. Now, give the following command to add route. Use the VPN server IP and your default gateway IP in the command.

      ```
      sudo ip route add <address of VPN server>/32 via <IP address of your existing default gateway taken from Step 3>

      For Example: sudo ip route 14.139.187.139/32 via 10.10.10.1
      ```

In the above example, 14.139.187.139 is the IP address of the VPN server and 10.10.10.1 is the default gateway address

5. The existing default route has to be deleted. For this, give the command :

```
sudo ip route del <Your default IP address of your existing default
gateway taken from Step 3>
```

6. To check whether you are connected to the campus network and is on the VPN, open your browser and connect to http://scopus.com. If you are getting "Brought to you by AMRITA VISHWA VIDYAPEETHAM" at the top left corner, you are connected to the Amrita VPN.

Part IV. Disconnect from VPN

To turn the VPN connection OFF you need to close Amrita VPN Client manager and edit the routing table to get the access to the Internet via your router's gateway. The easiest way is to reboot your PC. This will disconnect the VPN and also reset your default gateway to the original settings. If you are familiar with linux, use the following commands :

1. To disconnect from VPN simply turn OFF the Amrita VPN Client manager by using the command :

   ```
   sudo vpnclient stop
   ```

2. Edit the routing table by deleting the route from your gateway to the VPN server (in our specific case 93.115.92.240/32):

   ```
   sudo ip route del <address of VPN server>/32 (Note: The ip address from Step
   4 of previous section)
   ```

3. Add a default route via your local gateway :

   ```
   sudo ip route add default via <IP address> (Note : The IP address of your
   previous default gateway taken from Step 3>
   ```