

How to install and use Network Connect Client in Linux 32 bit

Operating System Compatibility:

- Ubuntu 12.04 LTS or greater(32 bit).
- Fedora operating system 15 or greater (32 bit).

Tested on above flavors of Linux. May work on other flavors of Linux also, users can make an attempt.

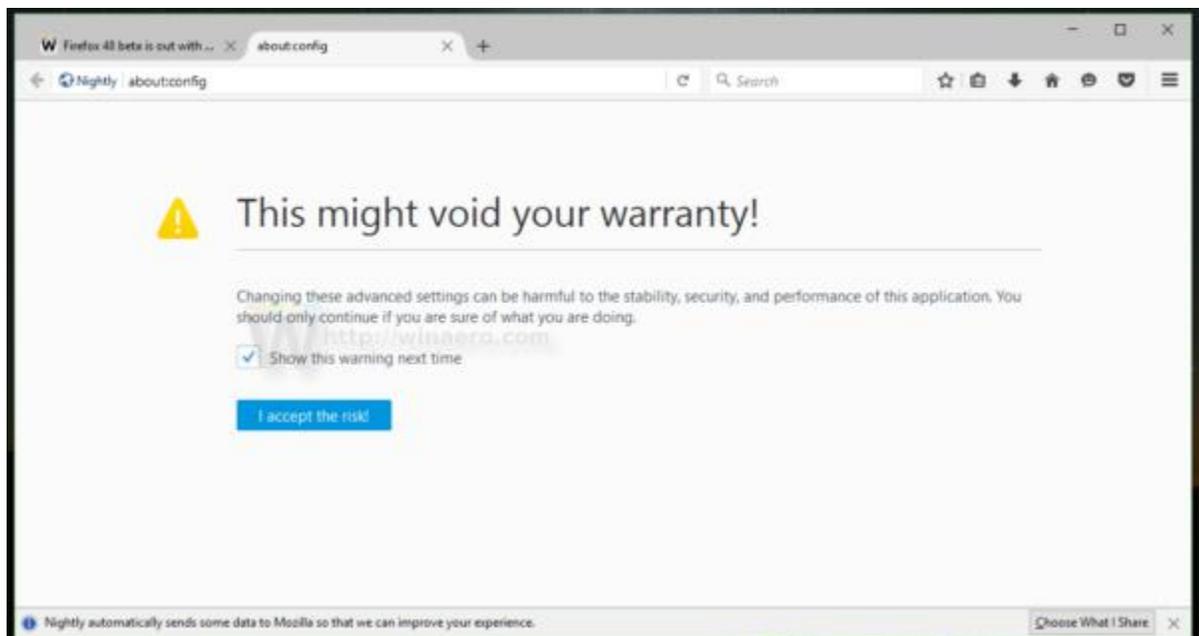
To complete the installation procedure disable proxy setting in the browser, if you have enabled it, whenever you are initializing the VPN connection.

Note: Browser recommended are Mozilla Firefox. New release of Mozilla Firefox 52.0 version are not allowing Java plugins to load. So configure the following settings to run the Java plugins in your browser.

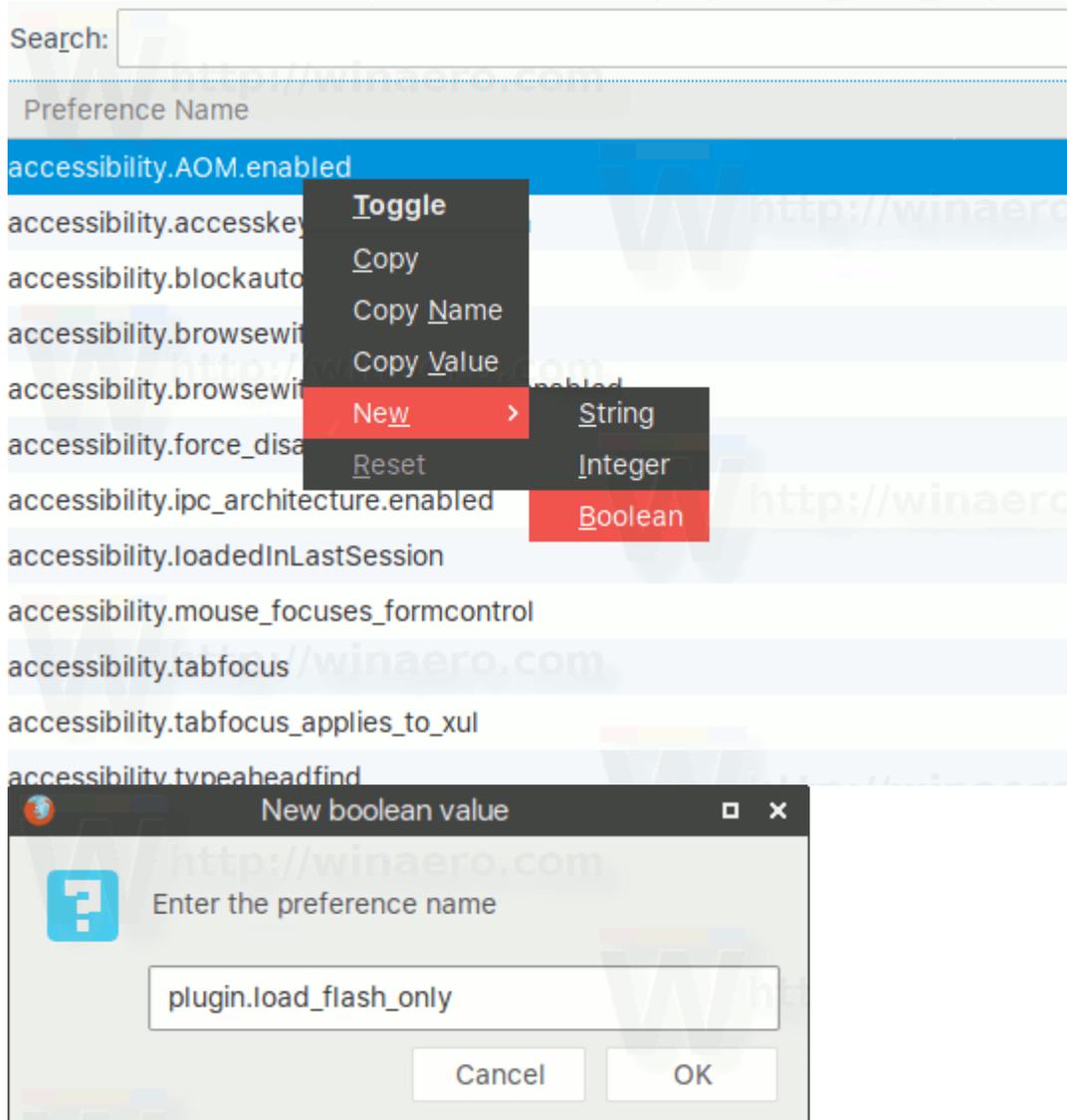
1. Open a new tab in Firefox and enter the following text in the address bar:

about:config

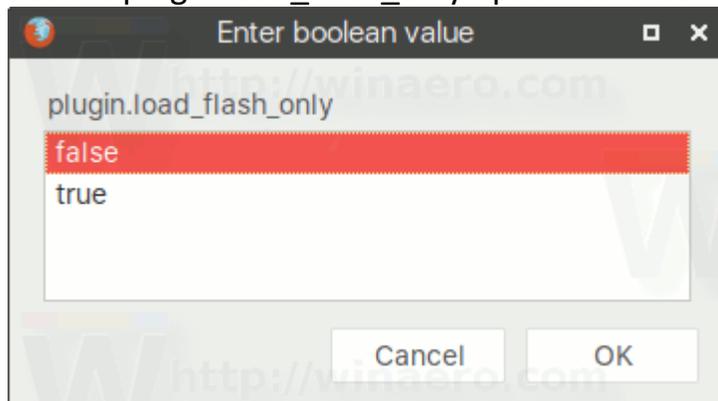
Confirm that you will be careful if a warning message appears for you.



2. Create a new boolean option and name it "*plugin.load_flash_only*".



3. Set the plugin.load_flash_only option to false.



places.frecency.unvisitedTypedBonus	default	integer	200
places.history.enabled	default	boolean	true
places.history.expiration.transient_current_max_pages	user set	integer	125686
plain_text.wrap_long_lines	default	boolean	true
plugin.default.state	default	integer	1
plugin.defaultXpi.state	default	integer	2
plugin.disable_full_page_plugin_for_types	user set	string	application/pdf
plugin.importedState	user set	boolean	true
plugin.java.mime	default	string	application/x-java-vm
plugin.load_flash_only	user set	boolean	false
plugin.override_internal_types	default	boolean	false
plugin.persistentPermissionAlways.intervalInDays	default	integer	90
plugin.sessionPermissionNow.intervalInMinutes	default	integer	60
plugin.state.flash	default	integer	2
plugin.state.java	default	integer	1
plugin.state.libgnome-shell-browser-plugin	user set	integer	2

4. Restart Firefox.

Note: With Firefox 53, the ability to restore Java plugin support will be removed completely.

To use SSL-VPN in Linux, two things are required

- Java to be installed configured with its proper security settings and must enable in the browser.
- Network Connect Client to be installed.

How to install java in your machine (Open terminal window to complete the following steps)

1. Create a directory named "java" using below command

```
sudo mkdir -p /usr/local/java
```
2. Download the latest jdk from the internet .
3. In most cases, downloaded to: /home/"your_user_name"/Downloads.
4. Perform following steps to proceed further

```
cd /home/"your_user_name"/Downloads
sudo cp -r jdk-xxxxx.version.tar.gz /usr/local/java/
cd /usr/local/java
sudo tar xvzf "jdk-xxxxx.version.tar.gz"
```

5. Edit the system PATH file /etc/profile and add the following system variables to your system path.

```
sudo gedit /etc/profile

JAVA_HOME=/usr/local/java/jdk.version
PATH=$PATH:$HOME/bin:$JAVA_HOME/bin
export JAVA_HOME
export PATH
```

6. Save the /etc/profile file and exit.
7. Inform your Linux system where your Oracle Java JDK /JRE is located.

```
sudo update-alternatives --install "/usr/bin/java" "java"
"/usr/local/java/jdk.version/bin/java" 1
```

Note: Above command notifies the system that Oracle Java JRE is available for use.

```
sudo update-alternatives --install "/usr/bin/javac" "javac"
"/usr/local/java/jdk.version/bin/javac" 1
```

Note: Above command notifies the system that Oracle Java JDK is available for use.

8. Inform your Linux system that Oracle Java JDK/JRE must be the default Java.

```
sudo update-alternatives --set java /usr/local/java/jdk.version/bin/java
```

Note: Above command will set the java runtime environment for the system

```
sudo update-alternatives --set javac /usr/local/java/jdk.version/bin/javac
```

Note: Above command will set the javac compiler for the system

9. Reload your system wide PATH /etc/profile by typing the following command:

```
source /etc/profile
```

Note: Your system-wide PATH /etc/profile file will reload after reboot of your Linux system

10. Test to see if Oracle Java was installed correctly on your system. Run the following commands and note the version of Java:

```
java -version
```

This command displays the version of java running on your system.

You should receive a message which displays:

```
java version "XXXXX"
```

```
Java(TM) SE Runtime Environment (build "XXXXX")
```

```
javac -version
```

This command lets you know that you are now able to compile Java programs from the terminal.

You should receive a message which displays:

```
javac "XXXXX"
```

Note: "XXXXX" is the java version installed.

Security Settings for java:

Issue the following commands.

- `cd /usr/local/java/jdk.version/bin`
- `./ControlPanel`
- Go to the Security tab, tick mark on “Enable java content in the browser” and select the Security level as High.
- Click on Edit Site List Button and Add the site as `https://sslvpn.tifr.res.in`
- Click on Apply button to save the settings.
- Below is the screen shot as per above setting.



How to enable Oracle Java in your Web Browsers:

Issue the following commands.

```
cd /usr/lib/mozilla/plugins
```

Note: This will change you into the directory /usr/lib/mozilla/plugins, create this directory if you do not have it

```
sudo mkdir -p /usr/lib/mozilla/plugins
```

Note: This will create the directory /usr/lib/mozilla/plugins, make sure you are in this directory before you make the symbolic link

```
sudo ln -s /usr/local/java/jdk.version/jre/lib/i386/libnpp2.so
```

Note: This will create a symbolic link from java plugin **libnpp2.so** to your Mozilla Firefox web browser

Note: Sometimes when you issue the above command you may receive a message which states:

```
ln: creating symbolic link `./libnpp2.so': File exists
```

To correct this issue simply remove the previous symbolic link using the following command:

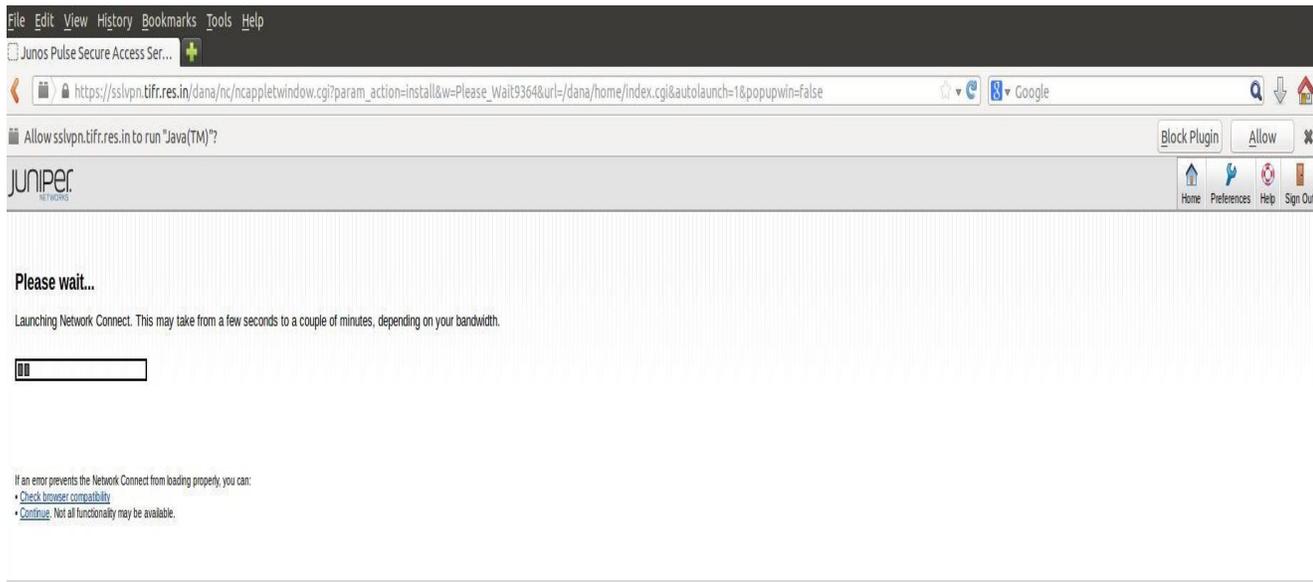
```
cd /usr/lib/mozilla/plugins  
sudo rm -rf libnpp2.so
```

Make sure you are in the /usr/lib/mozilla/plugins directory before you issue the command.

Restart your web browser.

How to use Network Connect in your machine

1. Type the following URL in the browser.
<https://sslvpn.tifr.res.in/linuxuser>
2. Log on to it with your credentials.
3. After successful login, Network Connect will be automatically launched and connection be established as shown below.
4. Click to Allow 'JAVA(TM)' Plugin. If asked you can click on Allow and Remember Button.



5. Following screen is displayed. Click on Continue button to proceed.



6. The Network Connect Client will be downloaded. Please click on Always button to proceed.



7. Installation process will ask you for the root permission. Enter your root credentials as shown below.



8. Your Session will be established and you will get IP address in the range on 158.144.38.x as per shown below.



9. To maintain the VPN connectivity, do not kill the browser. Minimize the browser as well as Network Connect Client and you can proceed. To Sign out from the VPN session Click on either of the SignOut button of Network Connect Client or from the Browser.