

Linux SSL VPN (Checkpoint) Client Guide

Version-15-02-2023_v2

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This guide covers checkpoint SSL VPN client setup for Linux OS. Recommended and tested OS in this document :

- Ubuntu 22.04 LTS
- Ubuntu 20.04 LTS

Although steps in this document are based on Ubuntu 20.04 LTS and Ubuntu 22.04 LTS, similar steps should be applicable for other Linux Distro.

There are two methods to setup SSL VPN client:-

1. Manual Installation.
2. Using ChrootVPN – a 3rd-party wrapper for Checkpoint R80 VPN client.

Requirements:

- Terminal
- Web browser
- Sudo privilege

First Method: Manual Installation

This method consists of few parts as below:

1. Install Prerequisite (Install & update ubuntu packages).
2. Install Firefox
3. Install Java
4. Install SSL network extender and its dependencies.
5. Post Installation.
6. Connect to ASPIRE2A VPN via Checkpoint Mobile Access Portal.

1. Install Prerequisite

- a. Update the repo.

\$ sudo apt-get update && sudo apt-get upgrade

```
admin1@admin1-VirtualBox:~$ sudo apt-get update && sudo apt-get upgrade
[sudo] password for admin1:
Hit:1 http://sg.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://sg.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://sg.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Fetched 110 kB in 1s (93.9 kB/s)
```

- b. Install development package

\$ sudo apt-get install software-properties-common apt-transport-https
wget curl build-essential

```
admin1@admin1-VirtualBox:~$ sudo apt-get install software-properties-common apt-transport-https wget curl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
wget is already the newest version (1.21.2-2ubuntu1).
wget set to manually installed.
software-properties-common is already the newest version (0.99.22.2).
software-properties-common set to manually installed.
The following NEW packages will be installed:
  apt-transport-https curl
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 196 kB of archives.
After this operation, 622 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://sg.archive.ubuntu.com/ubuntu jammy/universe amd64 apt-transport-https all 2.4.5 [1,512 B]
Get:2 http://sg.archive.ubuntu.com/ubuntu jammy-updates/main amd64 curl amd64 7.81.0-1ubuntu1.3 [194 kB]
Fetched 196 kB in 0s (2,207 kB/s)
Selecting previously unselected package apt-transport-https.
(Reading database ... 195479 files and directories currently installed.)
Preparing to unpack .../apt-transport-https_2.4.5_all.deb ...
Unpacking apt-transport-https (2.4.5) ...
Selecting previously unselected package curl.
```

```

admin1@admin1-VirtualBox:~$ sudo apt-get install build-essential
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu dpkg-dev fakeroot g++
g++-11 gcc gcc-11 libalgorithm-diff-perl libalgorithm-diff-xs-perl
libalgorithm-merge-perl libasan6 libatomic1 libbinutils libc-dev-bin
libc-devtools libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0
libdpkg-perl libfakeroot libfile-fcntllock-perl libgcc-11-dev libitm1
liblsan0 libnsl-dev libquadmath0 libstdc++-11-dev libtirpc-dev libtsan0
libubsan1 linux-libc-dev lto-disabled-list make manpages-dev rpcsvc-proto
Suggested packages:
  binutils-doc debian-keyring g++-multilib g++-11-multilib gcc-11-doc
gcc-multilib autoconf automake libtool flex bison gcc-doc gcc-11-multilib
gcc-11-locales glibc-doc git bzr libstdc++-11-doc make-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential dpkg-
fakeroot g++ g++-11 gcc gcc-11 libalgorithm-diff-perl
libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan6 libatomic1
libbinutils libc-dev-bin libc-devtools libc6-dev libcc1-0 libcrypt-dev
libctf-nobfd0 libctf0 libdpkg-perl libfakeroot libfile-fcntllock-perl
libgcc-11-dev libitm1 liblsan0 libnsl-dev libquadmath0 libstdc++-11-dev
libtirpc-dev libtsan0 libubsan1 linux-libc-dev lto-disabled-list make
manpages-dev rpcsvc-proto
0 upgraded, 40 newly installed, 0 to remove and 0 not upgraded.
Need to get 53.9 MB/54.1 MB of archives.
After this operation, 186 MB of additional disk space will be used.
Do you want to continue? [Y/n]

```

2. Install Firefox

By default, most Linux OS come with firefox pre-installed, if firefox is not installed in your OS, you may install it using the command below:

```
$ sudo apt-get install firefox
```

3. Install Java

- a. Install SDKMAN! as a Java repository.

```

$ cd ~
$ curl -s "https://get.sdkman.io" | bash
$ source "$HOME/.sdkman/bin/sdkman-init.sh"

```

```

* Checking archive integrity...
* Extracting archive...
* Copying archive contents...
* Cleaning up...

Set version to 5.15.0 ...
Attempt update of interactive bash profile on regular UNIX...
Added sdkman init snippet to /home/admin1/.bashrc
Attempt update of zsh profile...
Updated existing /home/admin1/.zshrc

```

All done!

You are subscribed to the STABLE channel.

Please open a new terminal, or run the following in the existing one:

```
source "/home/admin1/.sdkman/bin/sdkman-init.sh"
```

Then issue the following command:

- b. List the available Java versions and select the Java oracle version.

```
$ sdk list java
```

		21.2.0.2	mandrel		21.2.0.2-mandrel
		20.3.3.0	mandrel		20.3.3.0-mandrel
Microsoft		17.0.3	ms		17.0.3-ms
		11.0.15	ms		11.0.15-ms
Oracle		18.0.2	oracle		18.0.2-oracle
		18.0.1	oracle		18.0.1-oracle
		17.0.4	oracle		17.0.4-oracle
		17.0.3	oracle		17.0.3-oracle
SapMachine		18.0.2	sapmchn		18.0.2-sapmchn
		18.0.1.1	sapmchn		18.0.1.1-sapmchn
		17.0.4	sapmchn		17.0.4-sapmchn
		17.0.3	sapmchn		17.0.3-sapmchn
		17.0.3.0.1	sapmchn		17.0.3.0.1-sapmchn
		17.0.2	sapmchn		17.0.2-sapmchn
:					

PRESS Q TO QUIT

```
$ sdk install java 18.0.2-oracle
```

```
admin1@admin1-VirtualBox:~$ sdk install java 18.0.2-oracle
Downloading: java 18.0.2-oracle
In progress...
##### 100.0%
Repackaging Java 18.0.2-oracle...
Done repackaging...
Installing: java 18.0.2-oracle
Done installing!
Setting java 18.0.2-oracle as default.
admin1@admin1-VirtualBox:~$
```

4. Install SSL Network Extender and its dependencies

a. Install xterm and libnss3-tools

```
$ sudo apt-get install xterm libnss3-tools
```

```
Preparing to unpack .../xterm_372-1ubuntu1_amd64.deb ...
Unpacking xterm (372-1ubuntu1) ...
Setting up libutempter0:amd64 (1.2.1-2build2) ...
Setting up xterm (372-1ubuntu1) ...
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for libc-bin (2.35-0ubuntu3) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...
admin1@admin1-VirtualBox:~$ sudo apt-get install libnss3-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  libnss3-tools
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 565 kB of archives.
After this operation, 2,195 kB of additional disk space will be used.
Get:1 http://sg.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 libnss3-
tools amd64 2:3.68.2-0ubuntu1.1 [565 kB]
Fetched 565 kB in 0s (4,168 kB/s)
Selecting previously unselected package libnss3-tools.
(Reading database ... 201324 files and directories currently installed.)
Preparing to unpack .../libnss3-tools_2%3a3.68.2-0ubuntu1.1_amd64.deb ...
Unpacking libnss3-tools (2:3.68.2-0ubuntu1.1) ...
Setting up libnss3-tools (2:3.68.2-0ubuntu1.1) ...
Processing triggers for man-db (2.10.2-1) ...
admin1@admin1-VirtualBox:~$
```

b. Install 32-bit compatible libraries.

```
$ sudo apt-get install libx11-6
$ sudo dpkg --add-architecture i386
$ sudo apt-get update
$ sudo apt-get install libx11-6:i386 libc6:i386 libncurses5:i386
libstdc++6:i386 libstdc++5:i386 libpam0g:i386
```

```
admin1@admin1-VirtualBox:~$ sudo apt-get install libx11-6
[sudo] password for admin1:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
libx11-6 is already the newest version (2:1.7.5-1).
libx11-6 set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
admin1@admin1-VirtualBox:~$ sudo dpkg --add-architecture i386
admin1@admin1-VirtualBox:~$ sudo apt-get update
Hit:1 http://sg.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://sg.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://sg.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Fetched 110 kB in 1s (94.3 kB/s)
Reading package lists... Done
```

```

Setting up libmd0:i386 (1.0.4-1build1) ...
Setting up libstdc++5:i386 (1:3.3.6-30ubuntu2) ...
Setting up libbsd0:i386 (0.11.5-1) ...
Setting up libtinfo5:i386 (6.3-2) ...
Setting up libstdc++6:i386 (12-20220319-1ubuntu1) ...
Setting up libxau6:i386 (1:1.0.9-1build5) ...
Setting up libxdmcp6:i386 (1:1.1.3-0ubuntu5) ...
Setting up libkeyutils1:i386 (1.6.1-2ubuntu3) ...
Setting up libxcb1:i386 (1.14-3ubuntu3) ...
Setting up libgpm2:i386 (1.20.7-10build1) ...
Setting up libssl3:i386 (3.0.2-0ubuntu1.6) ...
Setting up libunistring2:i386 (1.0-1) ...
Setting up libidn2-0:i386 (2.3.2-2build1) ...
Setting up libcom-err2:i386 (1.46.5-2ubuntu1.1) ...
Setting up libncurses5:i386 (6.3-2) ...
Setting up libkrb5support0:i386 (1.19.2-2) ...
Setting up libcap-ng0:i386 (0.7.9-2.2build3) ...
Setting up libaudit1:i386 (1:3.0.7-1build1) ...
Setting up libk5crypto3:i386 (1.19.2-2) ...
Setting up libx11-6:i386 (2:1.7.5-1) ...
Setting up libkrb5-3:i386 (1.19.2-2) ...
Setting up libpam0g:i386 (1.4.0-11ubuntu2) ...
Setting up libgssapi-krb5-2:i386 (1.19.2-2) ...
Setting up libtirpc3:i386 (1.3.2-2ubuntu0.1) ...
Setting up libnsl2:i386 (1.3.0-2build2) ...
Setting up libnss-nisplus:i386 (1.3-0ubuntu6) ...
Setting up libnss-nis:i386 (3.1-0ubuntu6) ...
Processing triggers for libc-bin (2.35-0ubuntu3) ...
admin1@admin1-VirtualBox:~$

```

- c. Download and install SSL network extender and cshell. This step requires sudo privilege.

```
$ wget --no-check-certificate
https://103.72.192.1/sslvpn/SNX/INSTALL/snx\_install.sh
```

```
$ wget --no-check-certificate
https://103.72.192.1/sslvpn/SNX/INSTALL/cshell\_install.sh
```

```
$ chmod +x snx_install.sh
$ chmod +x cshell_install.sh
```

```

admin1@admin1-VirtualBox:~$ cd Downloads/
admin1@admin1-VirtualBox:~/Downloads$ ls
cshell_install.sh  firefox.tmp  snx_install.sh
admin1@admin1-VirtualBox:~/Downloads$ chmod +x cshell_install.sh
admin1@admin1-VirtualBox:~/Downloads$ chmod +x snx_install.sh
admin1@admin1-VirtualBox:~/Downloads$

```

```
$ sudo ./snx_install.sh
```

```

admin1@admin1-VirtualBox:~/Downloads$ sudo ./snx_install.sh
Installation successfull

```

```
$ sudo ./cshell_install.sh
```



```
Installation successful
admin1@admin1-VirtualBox:~/Downloads$ sudo ./cshell_install.sh
Start Check Point Mobile Access Portal Agent installation
Extracting Mobile Access Portal Agent... Done
Installing Mobile Access Portal Agent... Done
Installing certificate...
Firefox must be closed to proceed with Mobile Access Portal Agent installation.
Press [ENTER] key to continue...
Done
Starting Mobile Access Portal Agent... █
```

- d. It is expected that it will be stuck at “Starting Mobile Access Portal Agent.” Please do not use CTRL+C. Open the “System Monitor”, find the service name “launcher” and kill it.

Process Name	User	% CPU	ID	Memory	Disk read tot	Disk write to
gvfsd-fuse	admin1	0	1252	896.0 KiB	N/A	N/A
gvfsd-metadata	admin1	0	1620	660.0 KiB	N/A	384.0 KiB
gvfsd-trash	admin1	0	1638	1.3 MiB	63.0 KiB	N/A
gvfs-goa-volume-monitor	admin1	0	1283	528.0 KiB	N/A	N/A
gvfs-gphoto2-volume-monitor	admin1	0	1308	688.0 KiB	N/A	N/A
gvfs-mtp-volume-monitor	admin1	0	1279	584.0 KiB	N/A	N/A
gvfs-udisks2-volume-monitor	admin1	0	1267	1.6 MiB	N/A	N/A
ibus-daemon	admin1	0	1561	1.6 MiB	N/A	20.0 KiB
ibus-engine-simple	admin1	0	1793	876.0 KiB	N/A	N/A
ibus-extension-gtk3	admin1	0	1568	13.4 MiB	780.0 KiB	N/A
ibus-memconf	admin1	0	1567	880.0 KiB	N/A	N/A
ibus-portal	admin1	0	1575	884.0 KiB	N/A	N/A
ibus-x11	admin1	0	1572	9.8 MiB	N/A	N/A
launcher	admin1	0	47943	76.0 KiB	N/A	N/A
nautilus	admin1	0	47950	28.2 MiB	N/A	N/A
oosplash	admin1	0	45151	372.0 KiB	5.3 MiB	1.1 MiB
org.gnome.Characters.Backgrc	admin1	0	47954	14.1 MiB	N/A	N/A
pulseaudio	admin1	0	1233	4.6 MiB	84.0 KiB	40.0 KiB
(sd-pam)	admin1	0	1228	3.3 MiB	N/A	N/A
seahorse	admin1	0	2447	16.6 MiB	1.7 MiB	N/A
sh	admin1	0	47942	68.0 KiB	N/A	N/A

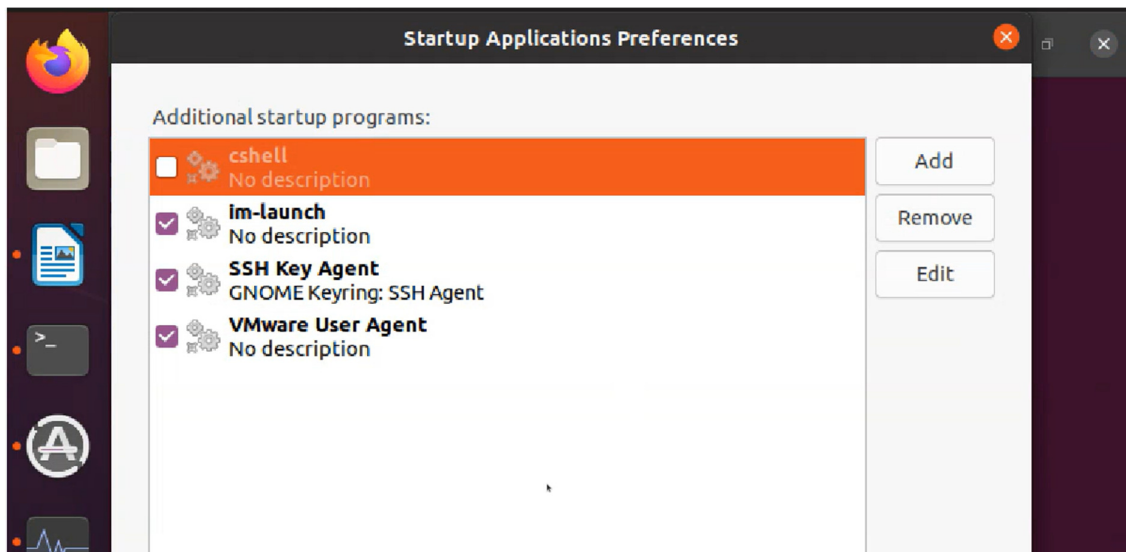
- e. Back to the terminal, the **Mobile Access Portal Agent** is terminated as shown below.

```
admin1@admin1-VirtualBox:~/Downloads$ sudo ./cshell_install.sh
Start Check Point Mobile Access Portal Agent installation
Extracting Mobile Access Portal Agent... Done
Installing Mobile Access Portal Agent... Done
Installing certificate...
Firefox must be closed to proceed with Mobile Access Portal Agent installation.
Press [ENTER] key to continue...
Done
Starting Mobile Access Portal Agent... Terminated

Cannot start Mobile Access Portal Agent. Installation aborted.
admin1@admin1-VirtualBox:~/Downloads$
```


5. Post Installation

Open “**Startup Application Preferences**”, uncheck the cshell.



Go back to Terminal, navigate to `/usr/bin/cshell`, run the script name “launcher” , and you should get the result as below.

```
admin1@admin1-VirtualBox:~/Downloads$ cd /usr/bin/cshell/
admin1@admin1-VirtualBox:/usr/bin/cshell$ ls
cert CShell.jar cshell_uninstall.sh launcher tmp
admin1@admin1-VirtualBox:/usr/bin/cshell$ ./launcher
LAUNCHER> Starting CShell...
LAUNCHER> CShell Started
admin1@admin1-VirtualBox:/usr/bin/cshell$
```

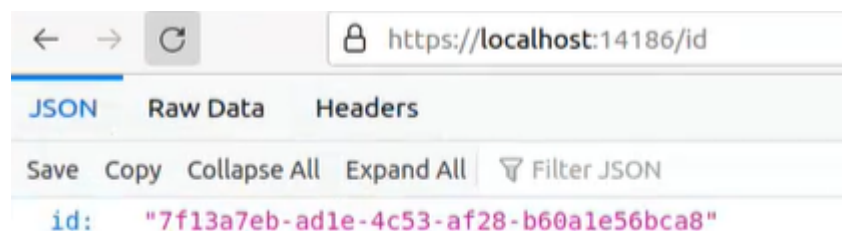
To verify cshell process:

```
$ ps -ef | grep -i cshell
```

```
cshell      3502      1721  1 21:06 ?        00:00:02 java -jar /usr/bin/cshell/CShell.jar
/tmp/cshell.fifo
```

```
3574      2333  0 21:09 pts/0    00:00:00 grep --color=auto -i cshell
```

In some cases, the self-signed SSL certificate is not recognized by the cshell. In this case, please open the web browser and go to <https://localhost:14186/id> to accept the certificate.



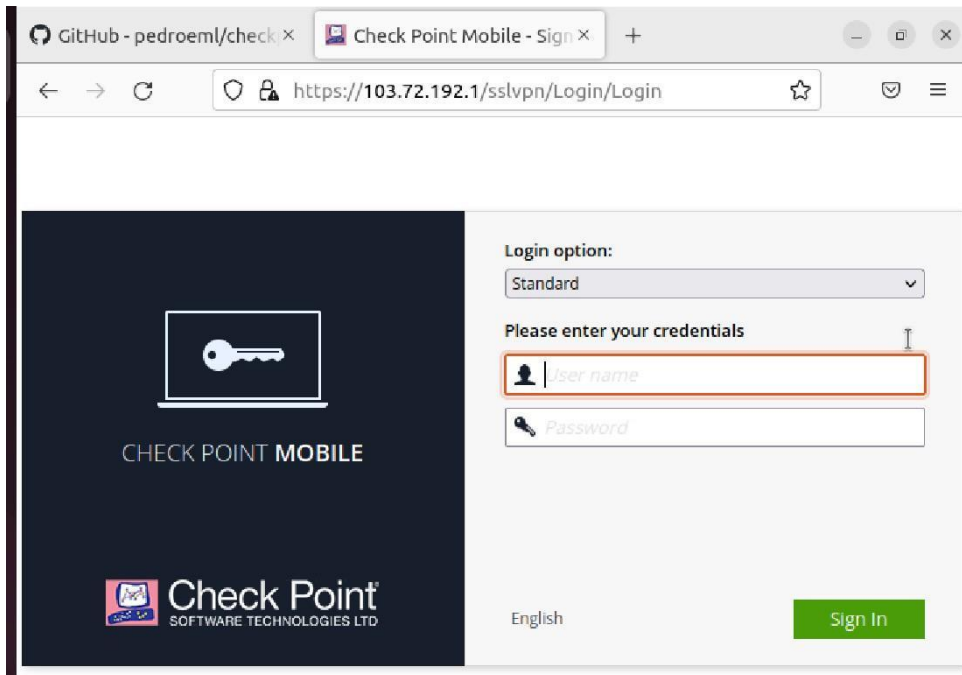
6. Connect to ASPIRE2A VPN via Checkpoint Mobile Access Portal.

NOTE: Please make sure the cshell is running before proceeding below instructions. Refer to step 4 to check and verify.

- a. Open the browser and go to the ASPIRE2A SSLVPN page.

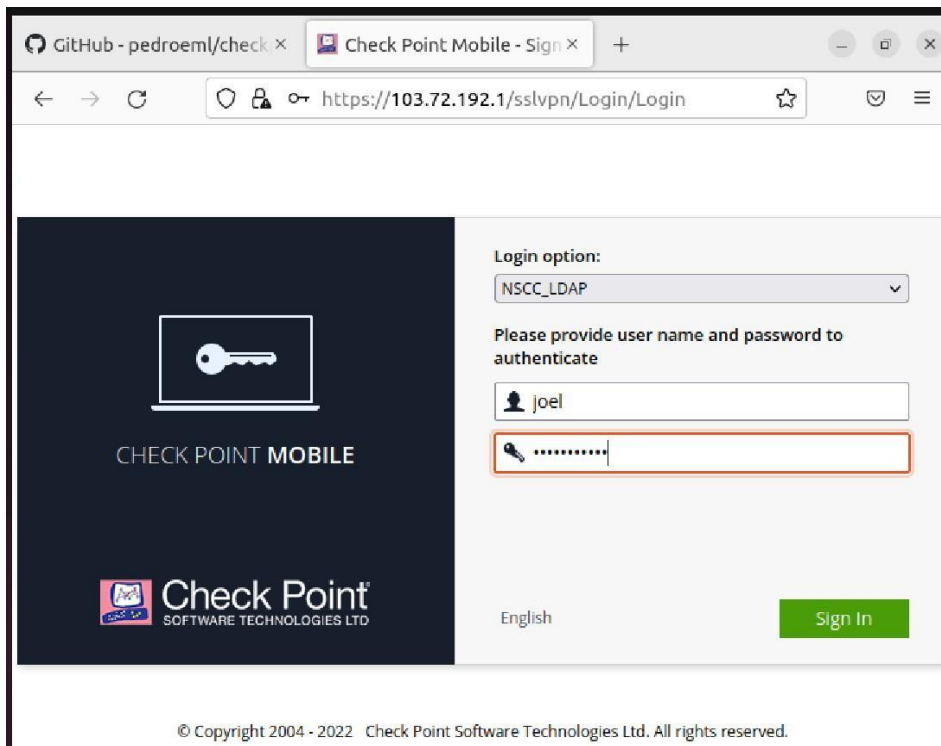
<https://103.72.192.1/sslvpn>

- b.



The screenshot shows a web browser window with the URL <https://103.72.192.1/sslvpn/Login/Login>. The page features the Check Point Mobile logo on the left and a login form on the right. The 'Login option' dropdown is set to 'Standard'. The 'Please enter your credentials' section has a 'User name' field and a 'Password' field. The 'Sign In' button is visible.

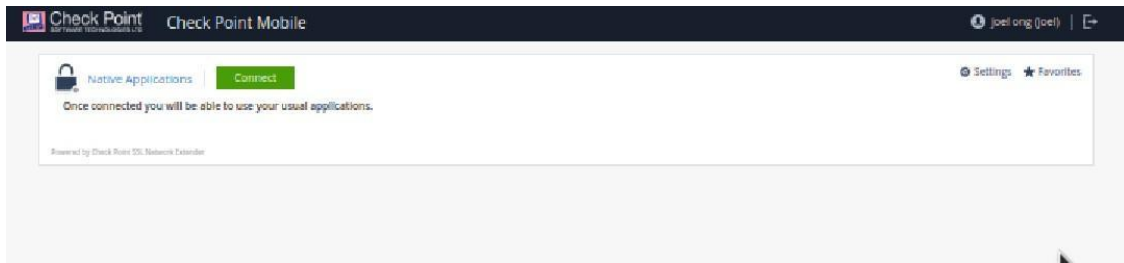
- c. Set the login option as “**NSCC_LDAP**” and login with your ASPIRE2A credentials. Approve the DUO 2FA notification in your mobile device.



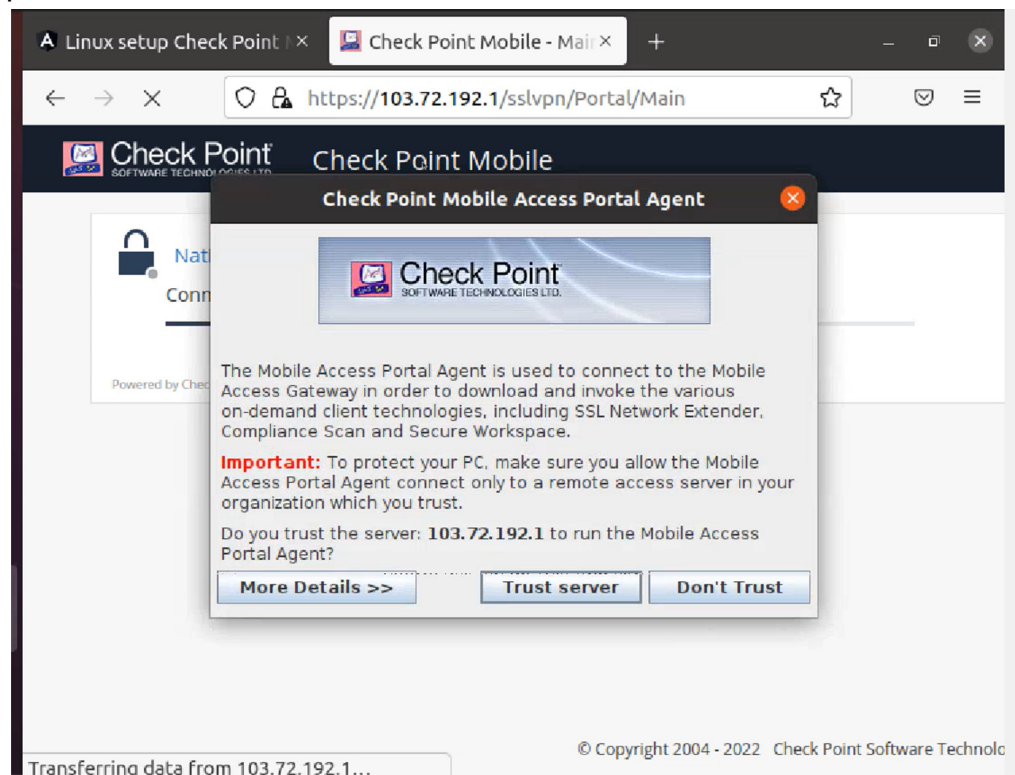
The screenshot shows the same web browser window with the URL <https://103.72.192.1/sslvpn/Login/Login>. The 'Login option' dropdown is now set to 'NSCC_LDAP'. The 'Please provide user name and password to authenticate' section has a 'User name' field with 'joel' and a 'Password' field. The 'Sign In' button is visible.

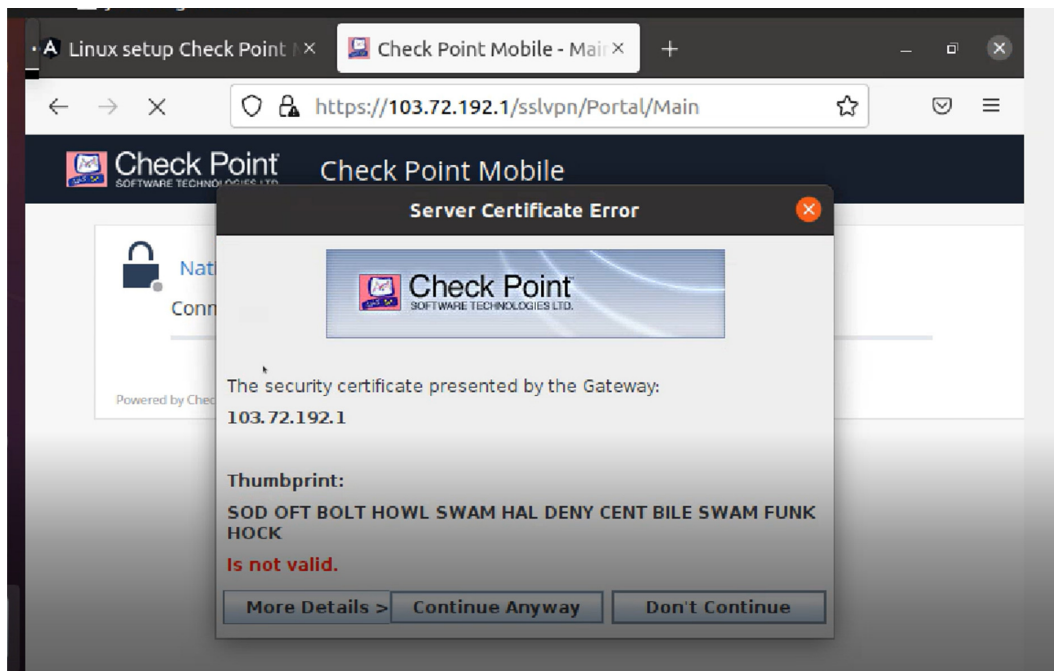
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- d. Click on **Connect** button.

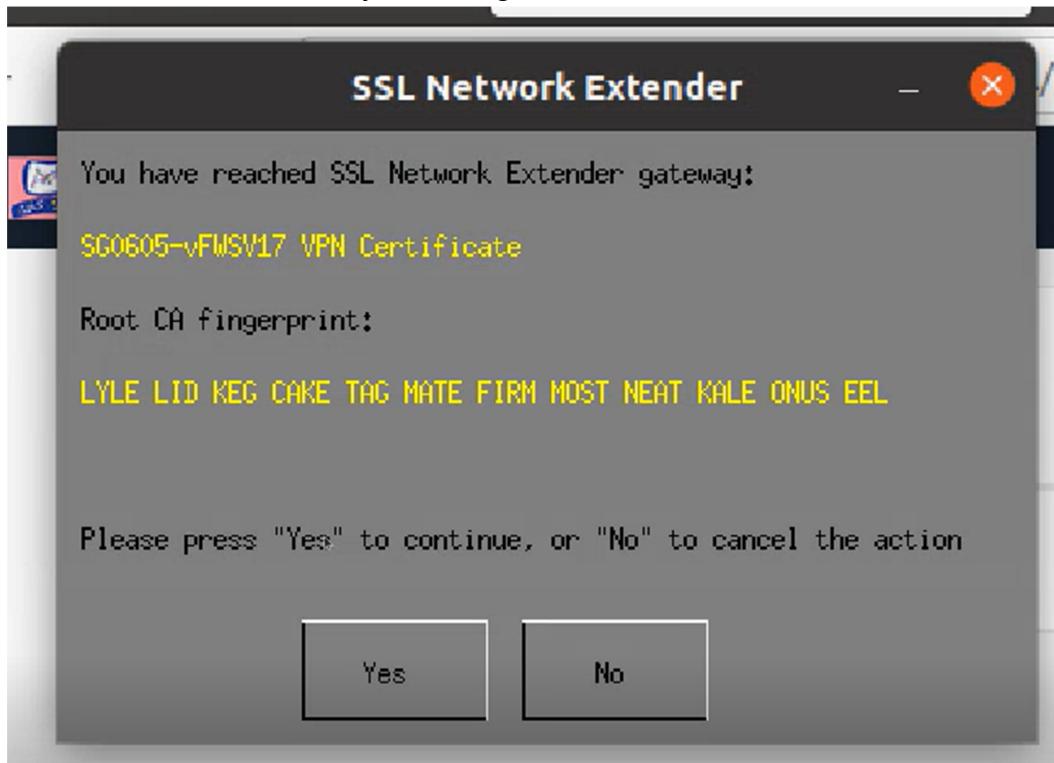


- e. Click on the **Trust server** button and follow with the **Continue Anyway** button to proceed.

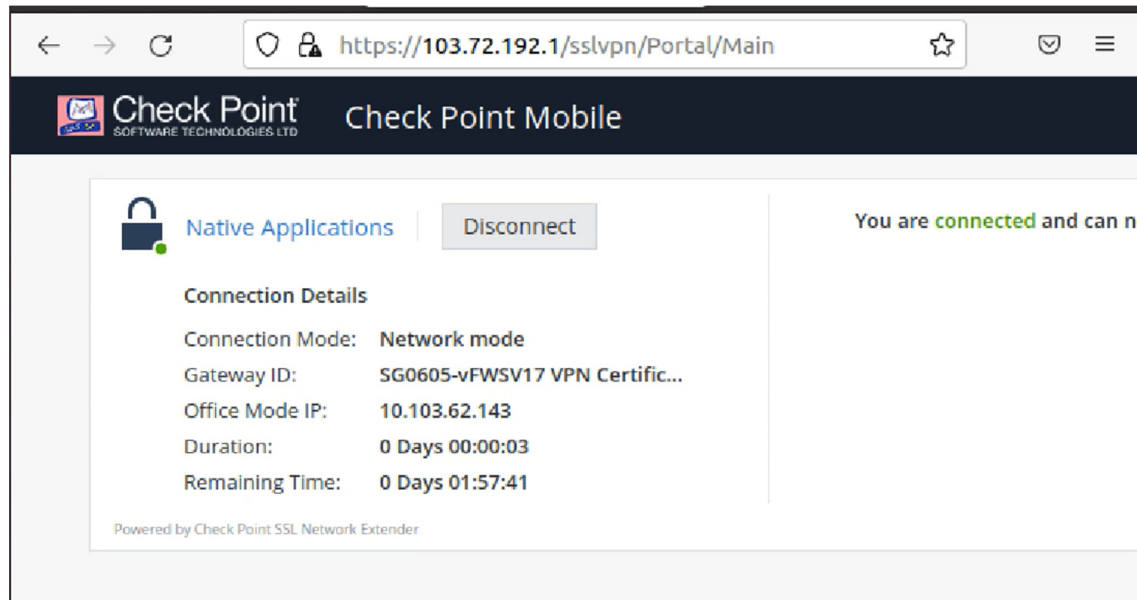




- f. Confirm the connection by selecting the **YES** button.



Connection is now established.

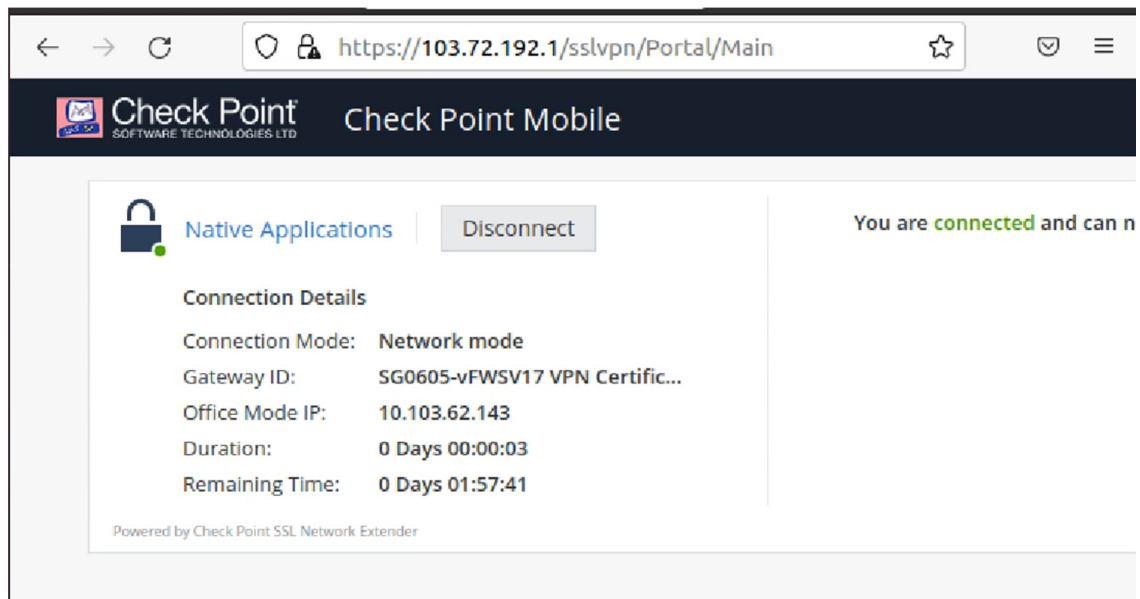


To disconnect the VPN:-

- Open the browser and go to the ASPIRE2A SSL VPN page.

<https://103.72.192.1/sslvpn>

- Click on disconnect.



Second Method: Using ChrootVPN

This method requires a script/wrapper maintained by a third-party. Please read our Disclaimer.

1. Install and configure ChrootVPN wrapper.

- a. Download and extract the ChrootVPN wrapper package.

```
$ wget
```

```
https://github.com/ruyrybeyro/chrootvpn/archive/refs/heads/main.zip
```

```
$ unzip main.zip
```

- b. Setup the VPN client configuration. ASPIRE2A VPN Server is 103.72.192.1. This step requires sudo privilege.

```
$ cd chrootvpn-main
```

```
$ sudo ./vpn.sh -i --vpn=103.72.192.1
```

```
$ sudo ./vpn.sh -i --vpn=103.72.192.1
[sudo] password for user:
ID=ubuntu
ID_LIKE=debian
DEB=true
Debian family setup
Hit:1 http://sg.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://sg.archive.ubuntu.com/ubuntu jammy-updates InRelease
[114 kB]
Get:3 http://sg.archive.ubuntu.com/ubuntu jammy-backports
InRelease [106 kB]
Hit:4 https://download.docker.com/linux/ubuntu
..
..
chroot setup done.
..

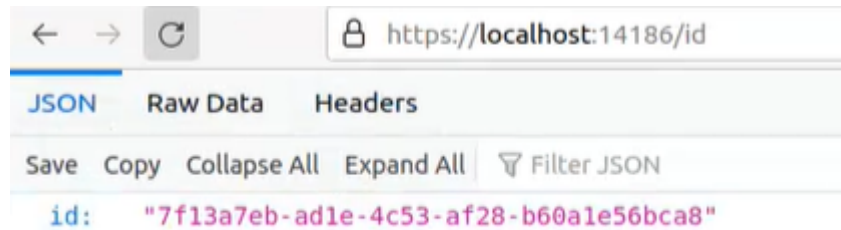
Policy installed: /etc/firefox/policies/policies.json
No Firefox policy installed
open browser with https://localhost:14186/id to accept new
localhost certificate

..
LAUNCHER> Starting CShell...
LAUNCHER> CShell Started

Accept localhost certificate anytime visiting
https://localhost:14186/id
If it does not work, launch vpn.sh in a terminal from the X11
console

open browser at https://103.72.192.1 to login/start VPN
```

- c. In some cases, the self-signed SSL certificate is not recognized by the cshell. In this case, please open the web browser and go to <https://localhost:14186/id> to accept the certificate.



- d. Check and verify that cshell is running.

```
$ ./vpn.sh status | grep -i cshell
```

```
$ ./vpn.sh status | grep -i cshell
CShell running
CShell - installed version      80,0,0070,42
CShell - available for download 80,0,0070,42
CShell localhost self-signed CA certificate
```

If the cshell process is not running, start the cshell.

```
$ ./vpn.sh status | grep -i cshell
```

```
$ ./vpn.sh status | grep -i cshell
argCommands->showStatus: CShell not running
```

```
$ ./vpn.sh start
```

```
$ ./vpn.sh start
non-network local connections being added to access control list
LAUNCHER> Starting CShell...
LAUNCHER> CShell Started

Accept localhost certificate anytime visiting
https://localhost:14186/id
If it does not work, launch vpn.sh in a terminal from the X11
console

open browser at https://103.72.192.1 to login/start VPN
```

```
$ ./vpn.sh stop
```

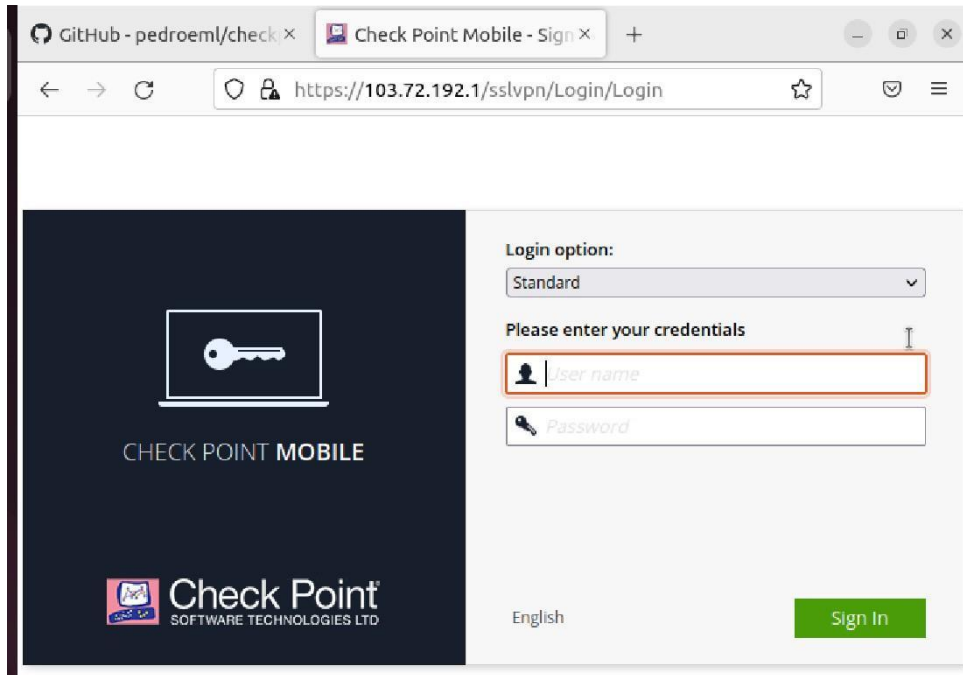
```
$ ./vpn.sh stop
CShell stopped
```

2. Connect to ASPIRE2A VPN via Checkpoint Mobile Access Portal.

NOTE: Please make sure the cshell is running before proceeding below instructions. Refer to step 1.d to check and verify.

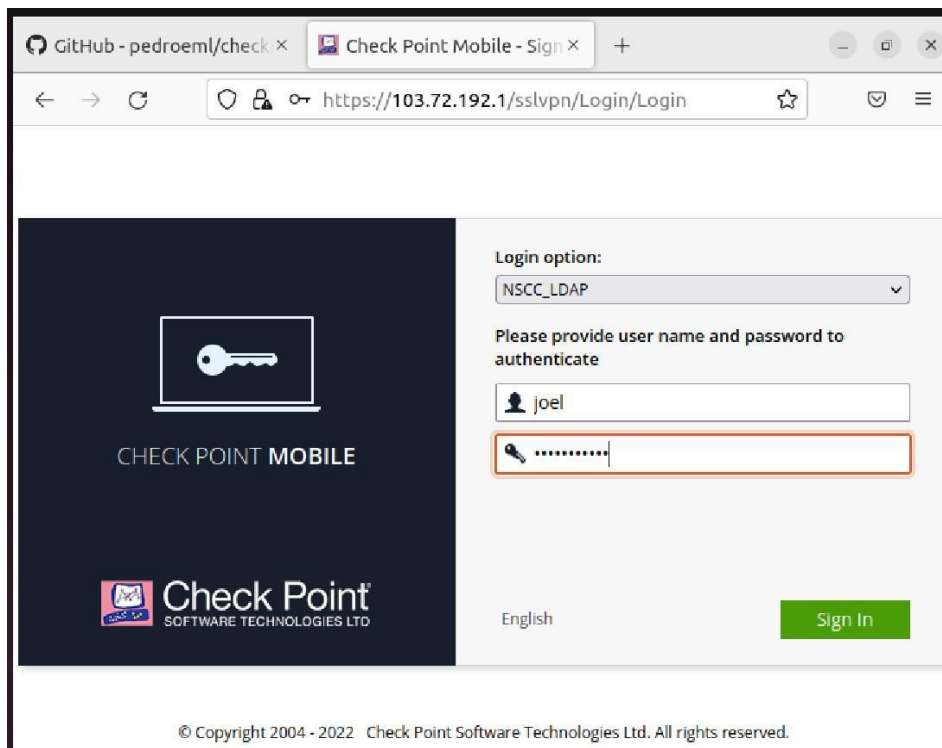
- a. Open the browser and go to the ASPIRE2A SSLVPN page.

<https://103.72.192.1/sslvpn>



The screenshot shows a web browser window with the URL <https://103.72.192.1/sslvpn/Login/Login>. The page features the Check Point Mobile logo on the left and a login form on the right. The 'Login option' dropdown is set to 'Standard'. The 'Please enter your credentials' section has fields for 'User name' and 'Password'. The 'Sign In' button is visible.

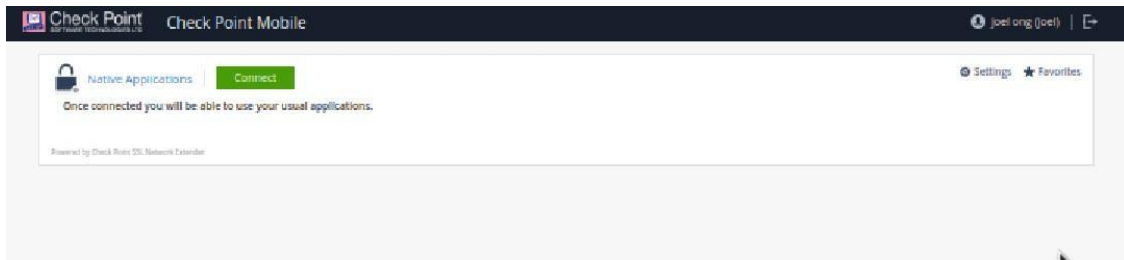
- b. Set the login option as “NSCC_LDAP” and login with your ASPIRE2A credentials. Approve the DUO 2FA notification in your mobile device.



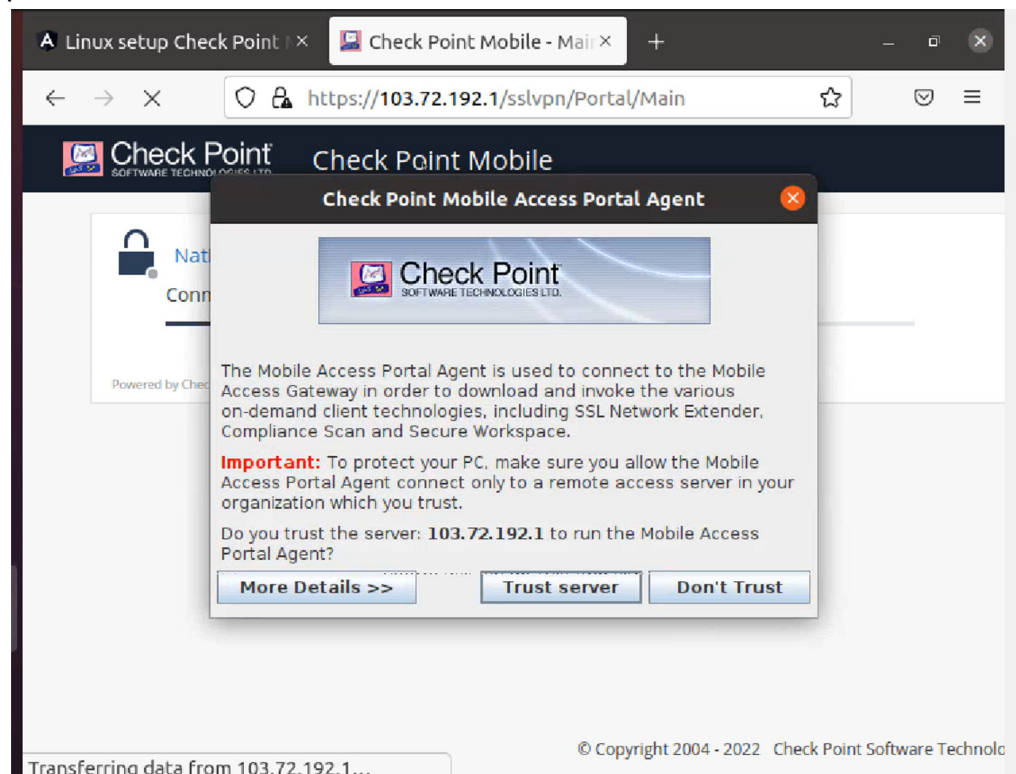
The screenshot shows the same web browser window with the URL <https://103.72.192.1/sslvpn/Login/Login>. The 'Login option' dropdown is now set to 'NSCC_LDAP'. The 'Please provide user name and password to authenticate' section has fields for 'User name' (containing 'joel') and 'Password' (containing masked characters). The 'Sign In' button is visible.

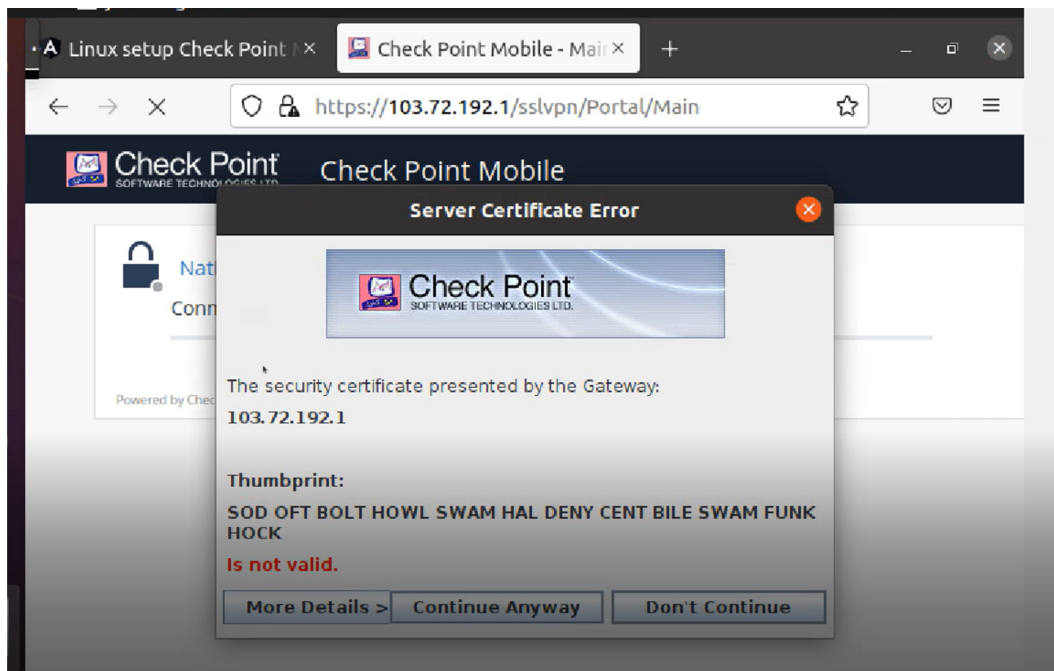
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- c. Click on **Connect** button.

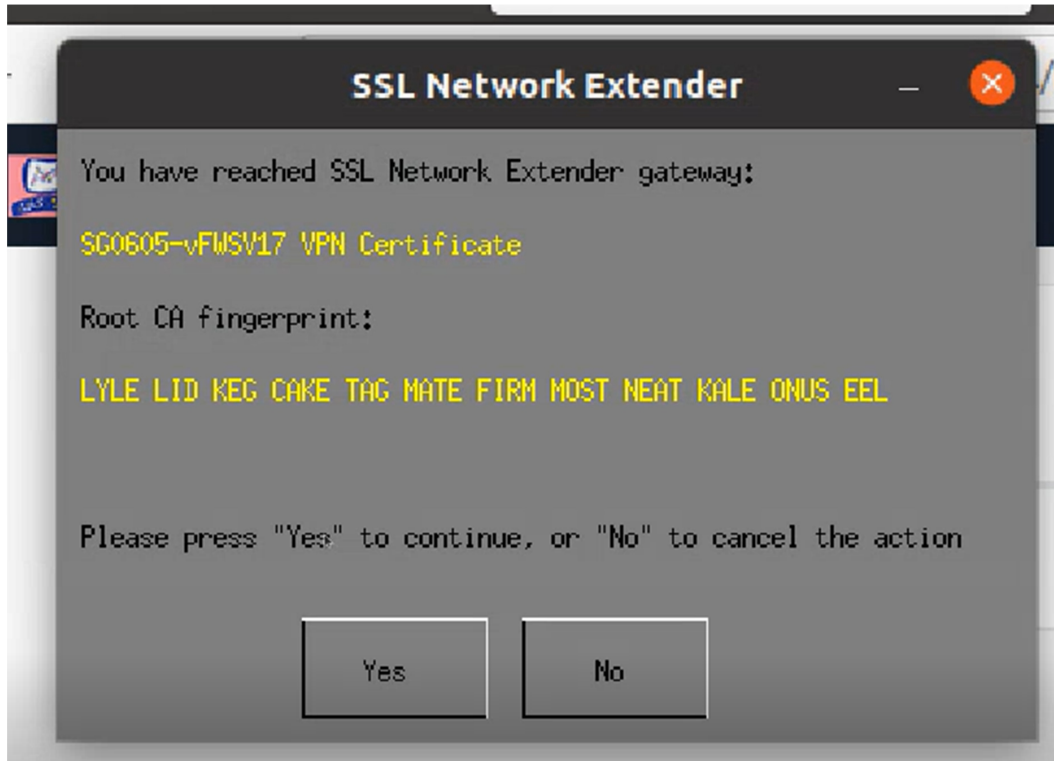


- d. Click on the **Trust server** button and follow with the **Continue Anyway** button to proceed.

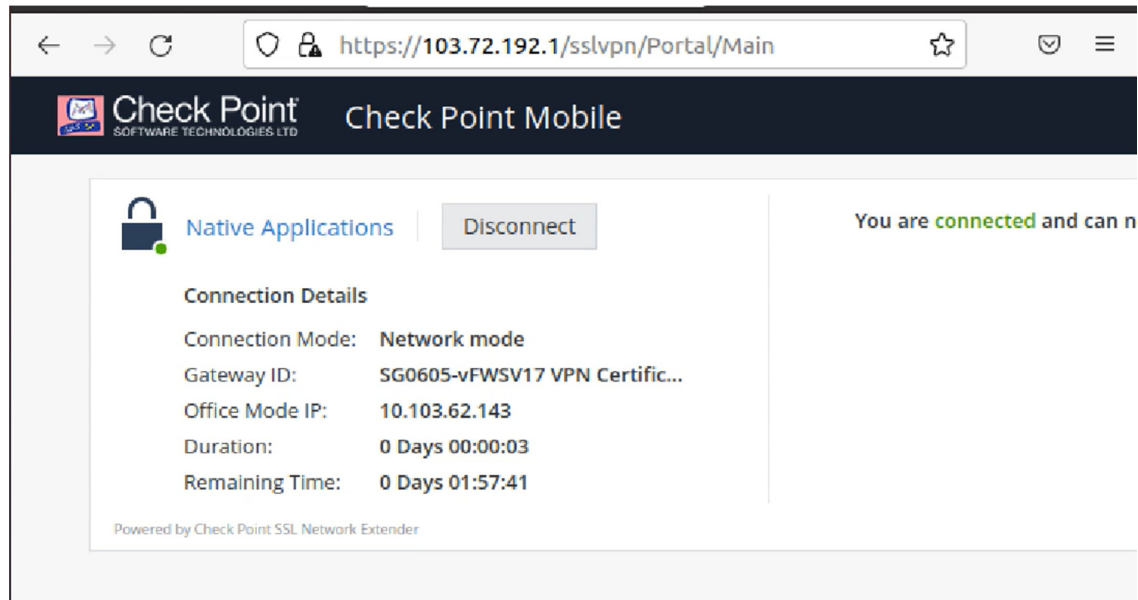




- e. Confirm the connection by selecting the **YES** button.



Connection is now established.

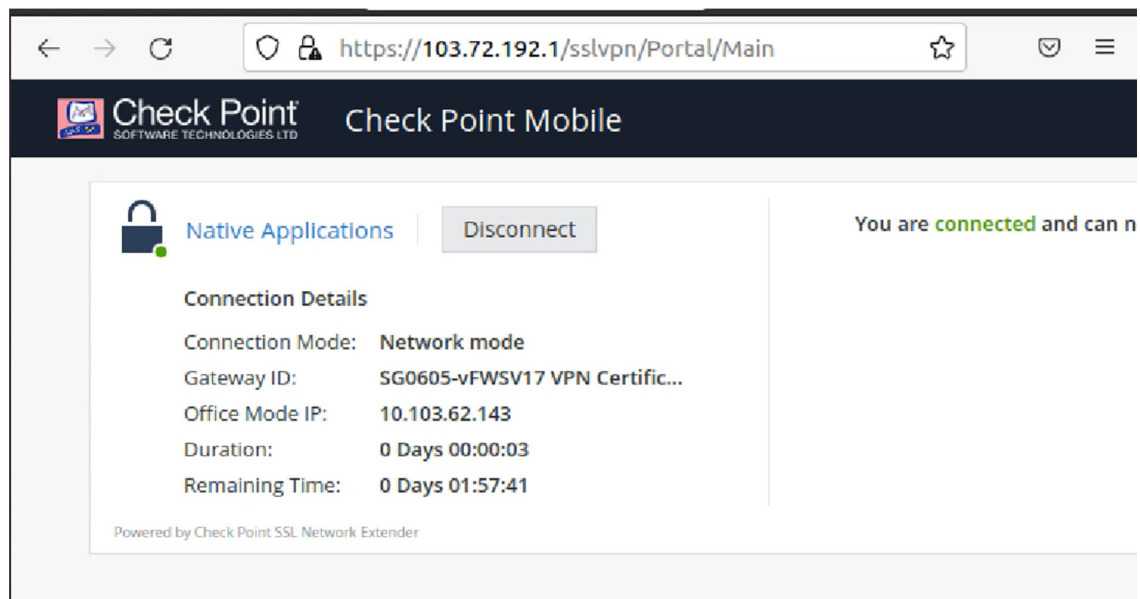


To disconnect the VPN:-

c) Open the browser and go to the ASPIRE2A SSL VPN page.

<https://103.72.192.1/sslvpn>

d) Click on disconnect.



Troubleshooting Advice

1. The snx error (Ubuntu-20.04)

```
$ sudo ./snx_install.sh
```

Installation successful

snx: error while loading shared libraries: libpam.so.0: cannot open shared object file: No such file or directory

Solution - Install below packages and rerun snx_install script.

To resolve this, run the following:

```
$ sudo apt-get install libstdc++5:i386 libpam0g:i386
```

Rerun snx =>

```
$ sudo ./snx_install.sh
```

Installation successful

Refresh the VPN URL and now it opens the extender.

```
$ sudo ldd /usr/bin/snx
```

2. Steps to start cshell automatically with system startup.

To start it automatically without sudo, run it in the .bashrc file, which will run with your normal permissions every time you open a terminal. Alternatively, you could run it once when you log in by placing it in your .profile file because everything in .profile runs as sudo, so the launcher is going to get stuck.

Create a simple log file to determine whether the launcher should be launched each time a terminal window is opened. To remove the log file each time you log in, add the following lines to the .profile file.

```
if [ -f "/home/[MY-USER-NAME]/cshell_launcher.log" ]; then
    rm /home/[MY-USER-NAME]/cshell_launcher.log
fi
```

On the .bashrc file should contain the following lines to check whether the launcher file should be run every time you open a terminal:

```
if [ ! -f "/home/[MY-USER-NAME]/cshell_launcher.log" ]; then
    /usr/bin/cshell_launcher >
    /home/[MY-USER-NAME]/cshell_launcher.log
fi
```


Check if the log file we created is in your home directory by restarting your computer, logging in to your user account and typing:

```
$ ls | grep cshell
```

```
cshell_launcher.log
```

Then show its contents by using `cat` and it should be displayed as the following:

```
$ cat cshell_launcher.log
```

```
LAUNCHER> Starting CShell...
```

```
LAUNCHER> CShell Started
```

Now you should be all set. You should be able to connect every time you log on to your computer if you open your company's Check Point Mobile Access page. Don't forget to open a terminal window first.