Assignment 3
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Vm setup

I used Virtual Box to set up a VM running Ubuntu-Server (Ubuntu 24.04.2 LTS)

Tor setup

```
sudo apt update
sudo apt install -y build-essential libevent-dev libssl-dev
zlib1g-dev libzstd-dev liblzma-dev \ pkg-config libsystemd-dev
libseccomp-dev git automake autoconf libtool
git clone https://git.torproject.org/tor.git
cd tor
./autogen.sh
./configure
make -j$(nproc)
sudo make install
tor --version
```

`sudo apt upgrade tor` (in retrospect directly installing tor using apt would have been more convenient)

`tor` (to make sure tor bootstraps till 100%)

Change the torrc file located in `/etc/tor/torrc` and uncomment the following

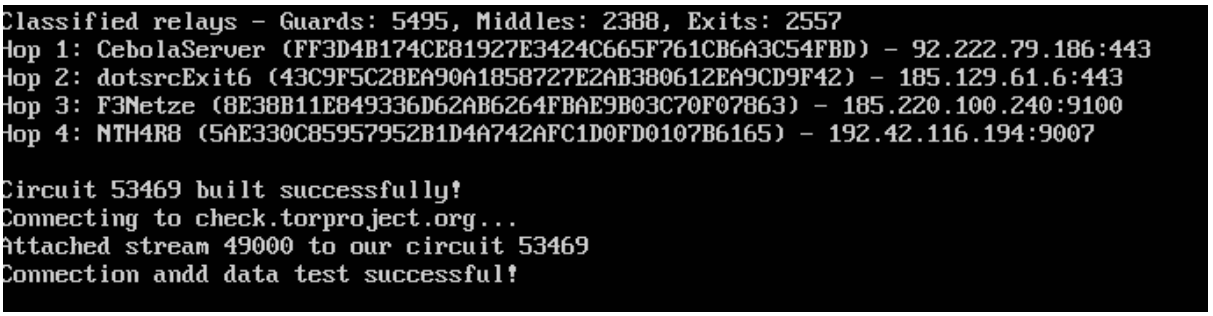
```
ControlPort 9051
CookieAuthentication 1
```

`Sudo service tor restart` (restart tor after changing torrc)

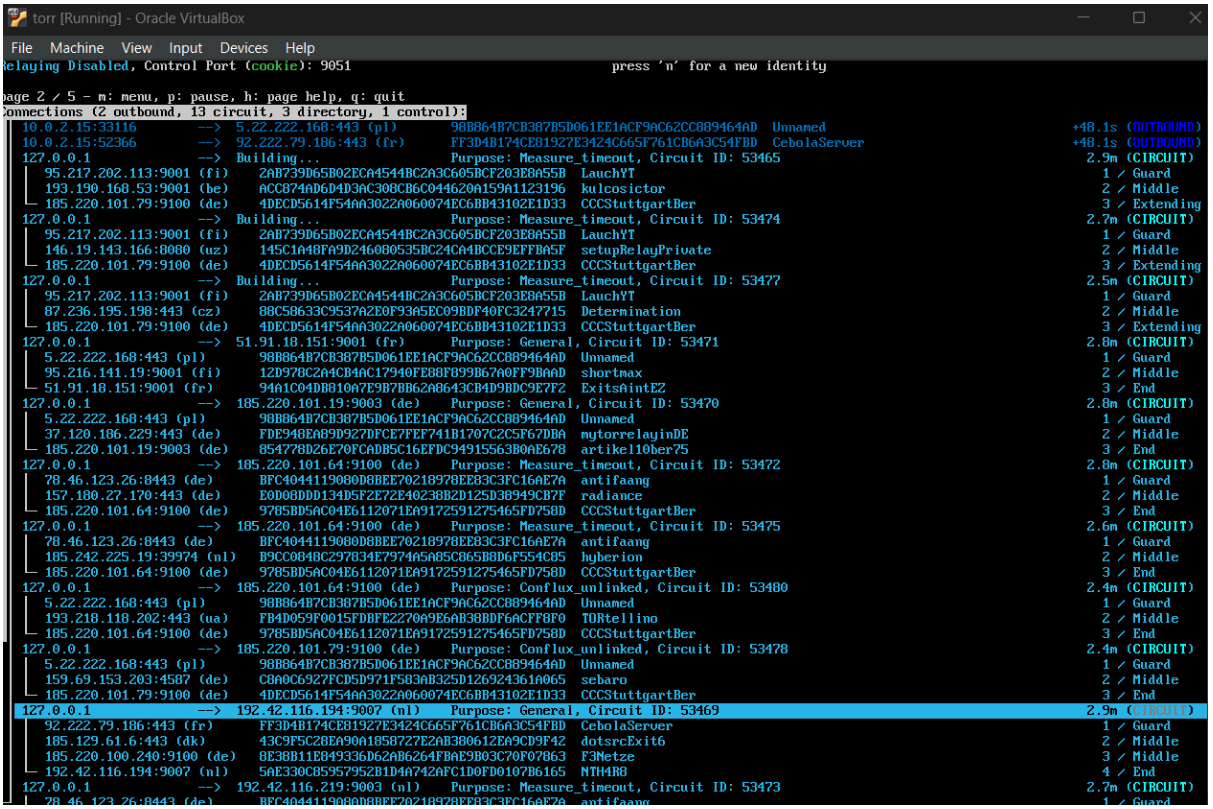
`Sudo apt install nyx` (if you want to use nyx, which I have)

Screenshots

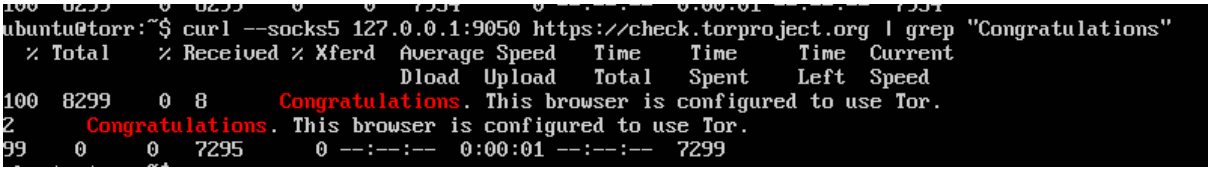
Tor 4 hop circuit creation using the script -



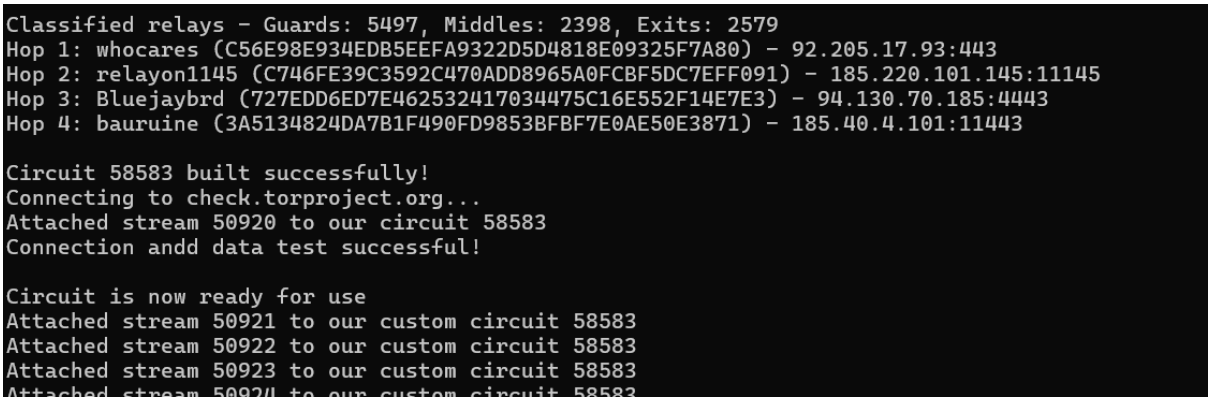
Nyx view of the 4 hop circuit(note that this has the same circuit ID) -



Performing curl on check.torproject to confirm that the circuit works for browsing and that we are using tor



Attachment of new stream to the circuit when curl command is used, demonstrating the use of the circuit by curl -



To run the script

```
sudo make install
```

```
Sudo make run
```

To use the circuit in curl

```
 curl --socks5 127.0.0.1:9050 <domain>
```

Script explanation, methodology and assumptions are in the README