Final Project - CCN
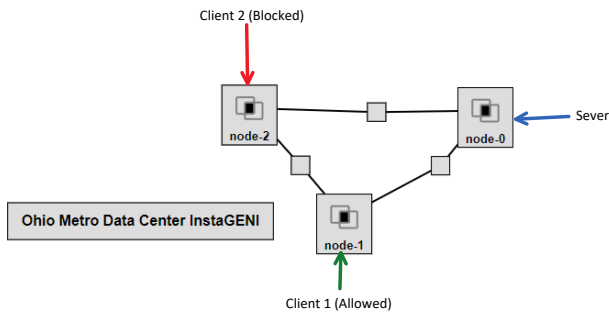
Monday, November 29, 2021   3:43 PM

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Topology Of Network simulated:

Client 2 (Blocked)

node-2

Sever

node-0

Ohio Metro Data Center InstaGENI

node-1

Client 1 (Allowed)

Practical application for only allowing certain host connections:

The practical application is it can provide a basic firewall to a server. This process can be applied for security reasons to protect the integrity of data on the server.

GitHub Repo:

https://github.com/dbrooks24/CCN_IP-Blocking_FinalProject

Network Information:

Running the code (Client and Server Interaction):

```
dbrook23@node-0:~/CNN_IP-Blocking_FinalProject$ cd C\ files/
dbrook23@node-0:~/CNN_IP-Blocking_FinalProject/C files$ ./ServerBin

Server code for timerServer C.N.N. Project:
Step 1 started...asking kernel for socket.
        socket access was given by kernel...
Step 1 ended...

Step 2 started...binding socket to PID port Addr.
        socket bounded with port, assigned name to socket using sys call
Step 2 ended...

Step 3 started...assign LISTENING status to port.
Step 3 ended...

SERVER's INFO 172.17.2.11:13000
Server is now listening on socket/port...

Wow! got a call!
CLIENT's INFO 172.17.2.17:56250
Checking file to see if client is allowed to connect fully...
-> Client IP is allowed to connect :) ...

Wow! got a call!
CLIENT's INFO 172.17.2.18:34342
Checking file to see if client is allowed to connect fully...
-> Client IP is NOT allowed to connect :( ...

^C
dbrook23@node-0:~/CNN_IP-Blocking_FinalProject/C files$
```

```
dbrook23@node-1:~/CNN_IP-Blocking_FinalProject/C files$ ./ClientBin 172.17.2.11 13000

Client code for timerServer C.N.N. Project:
Step 1 started...asking kernel for socket.
IP that was passed: 172.17.2.11
Step 1 ended...

Step 2 started...parse server info passed.
Step 2 ended...

dialing server...
Step 3 started...Read data sent from server.
The time here is ..Mon Nov 29 15:29:32 2021
Step 3 ended, closed socket/connection...
dbrook23@node-1:~/CNN_IP-Blocking_FinalProject/C files$
```

```
dbrook23@node-2:~/CNN_IP-Blocking_FinalProject$ cd C\ files/
dbrook23@node-2:~/CNN_IP-Blocking_FinalProject/C files$ ./ClientBin 172.17.2.11 13000

Client code for timerServer C.N.N. Project:
Step 1 started...asking kernel for socket.
IP that was passed: 172.17.2.11
Step 1 ended...

Step 2 started...parse server info passed.
Step 2 ended...

dialing server...
Step 3 started...Read data sent from server.
ACCESS DENIED, your IP is not permitted...
Step 3 ended, closed socket/connection...
dbrook23@node-2:~/CNN_IP-Blocking_FinalProject/C files$
```