Computer Networks Lab

UE19CS255

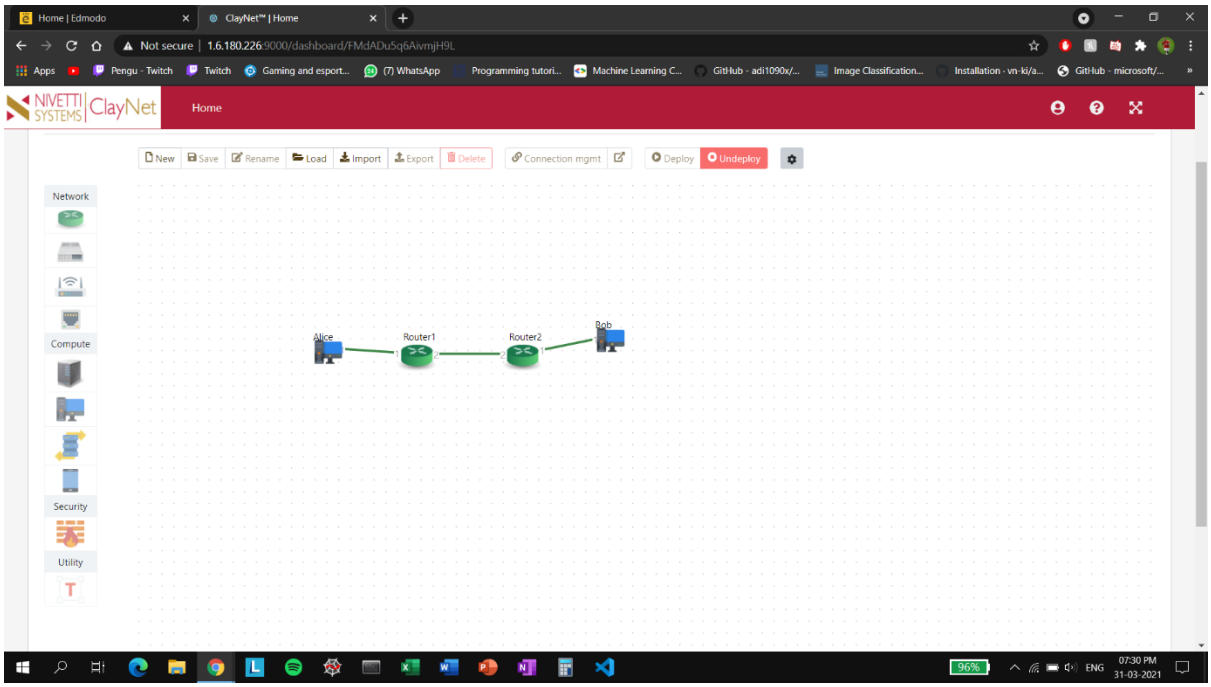
Week 9

Name: Sreenath Saikumar
Semester: 4 Section: G
SRN: PES2UG19CS406
Date: 06/04/21

Objectives:

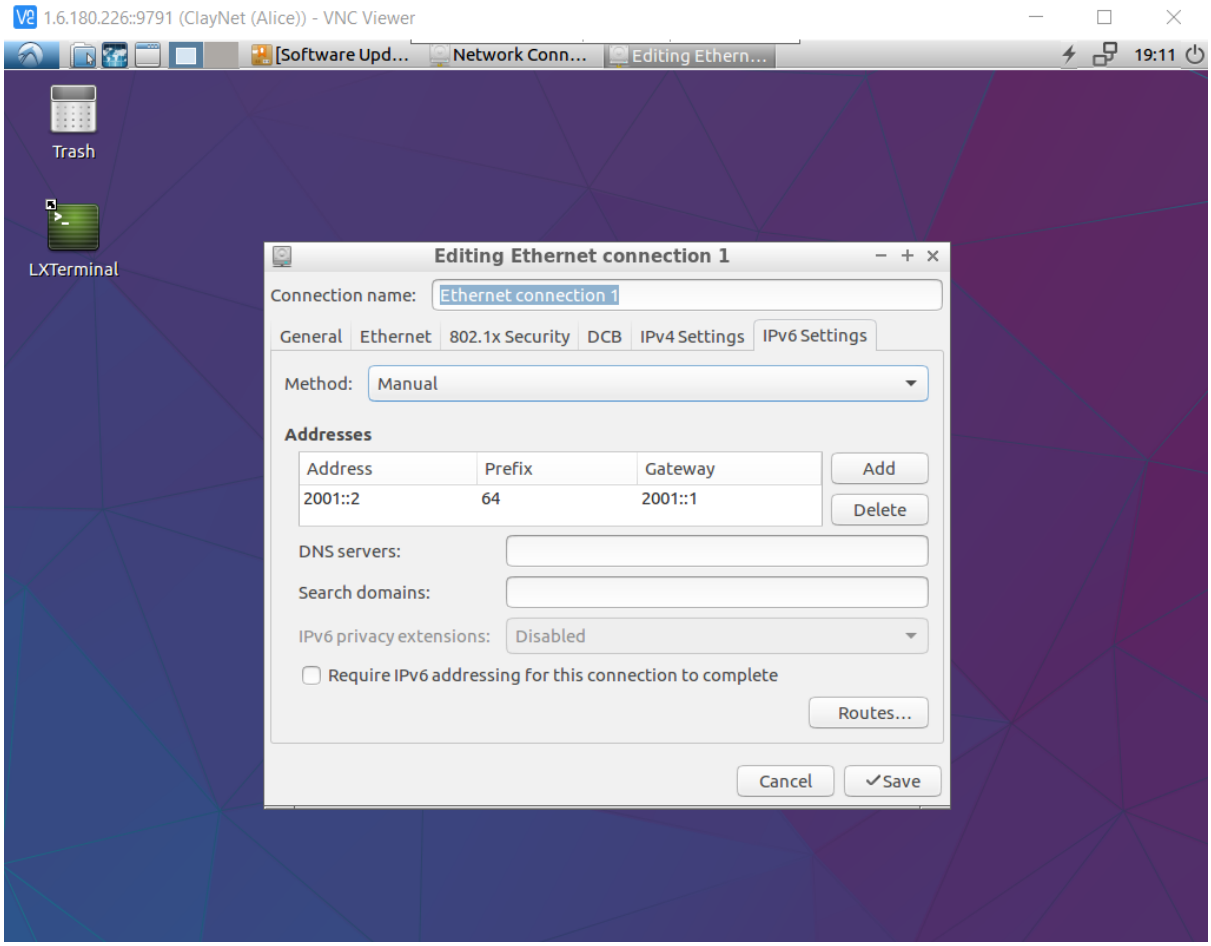
- Perform basic IPv6 configurations on a Desktop and Router.
- Distinguish between IPv4 and IPv6 addresses.
- Configure IPv6 static router in Router.
- Observe traffic flow using IPv6 static routers.
- IPv6 neighbour cache entries.
- Understanding IPv6 Link Local Address.
- Working with ping6 and tracepath6.

Topology 1:

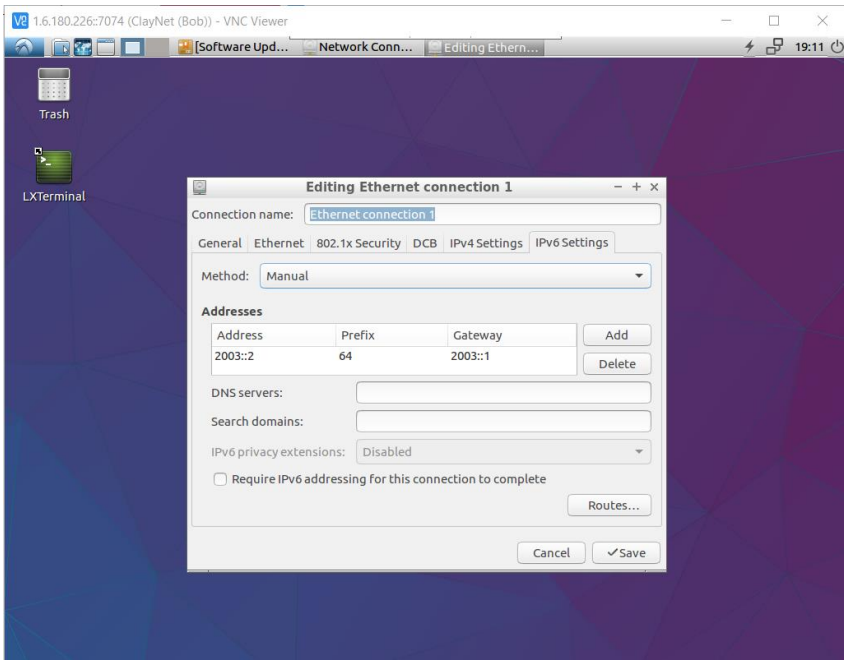


Topology Diagram

Setting up the IPv6 addresses on Alice and Bob's Systems:



Alice's IP – 2001::02/64

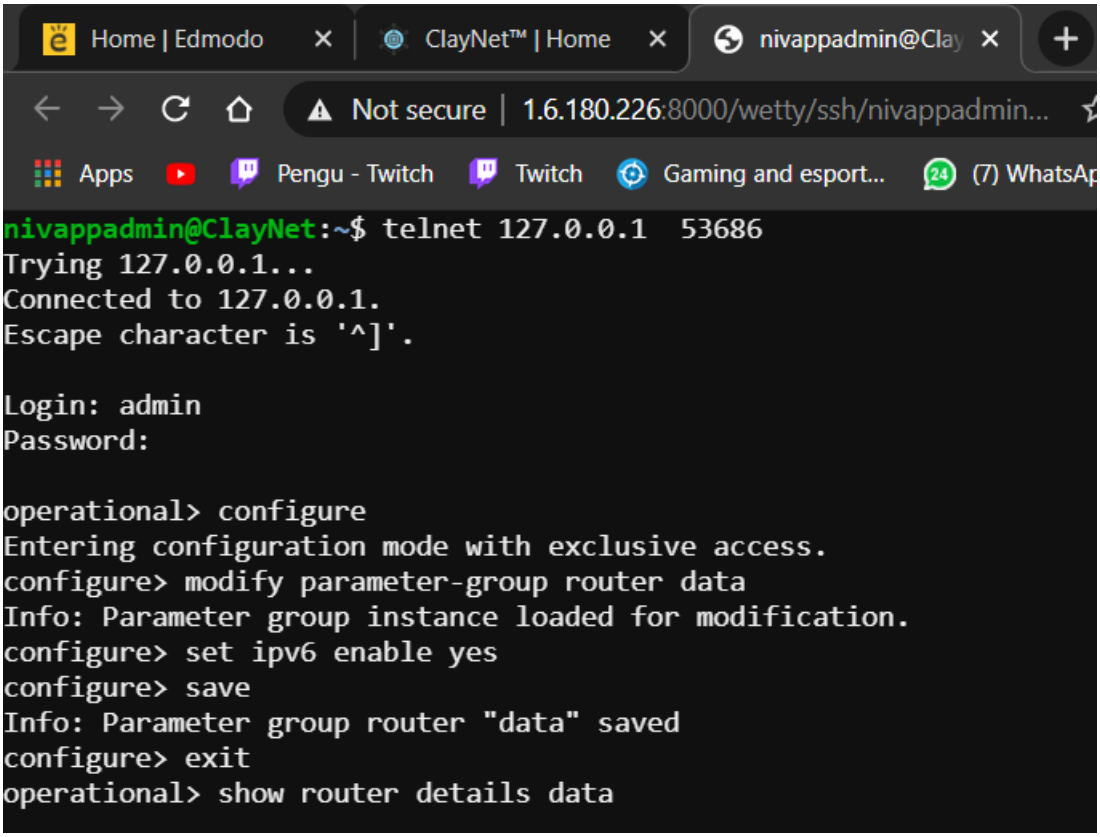


Bob's IP – 2003::02/64

Router Configuration:

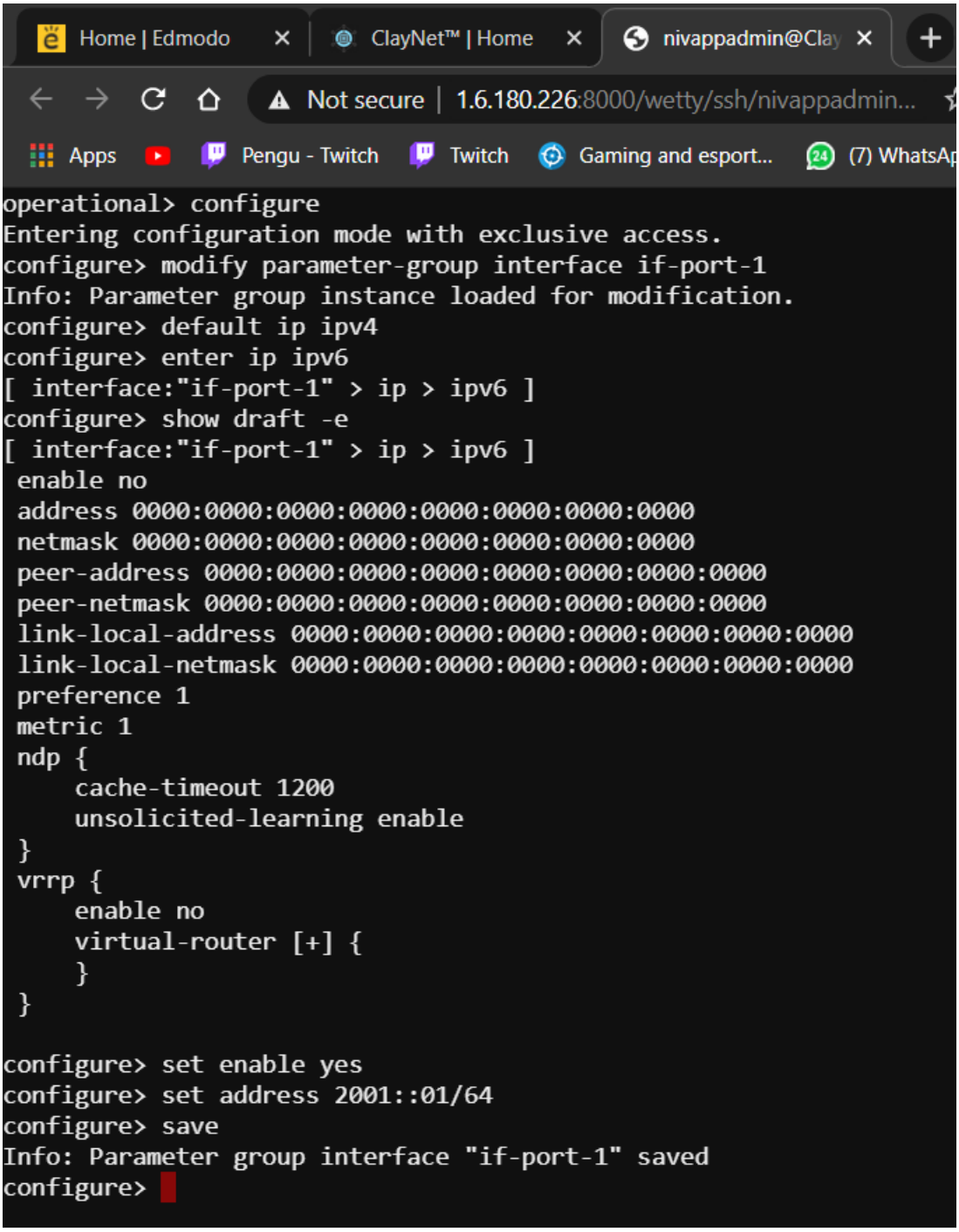
Router 1:

Enabling IPv6:

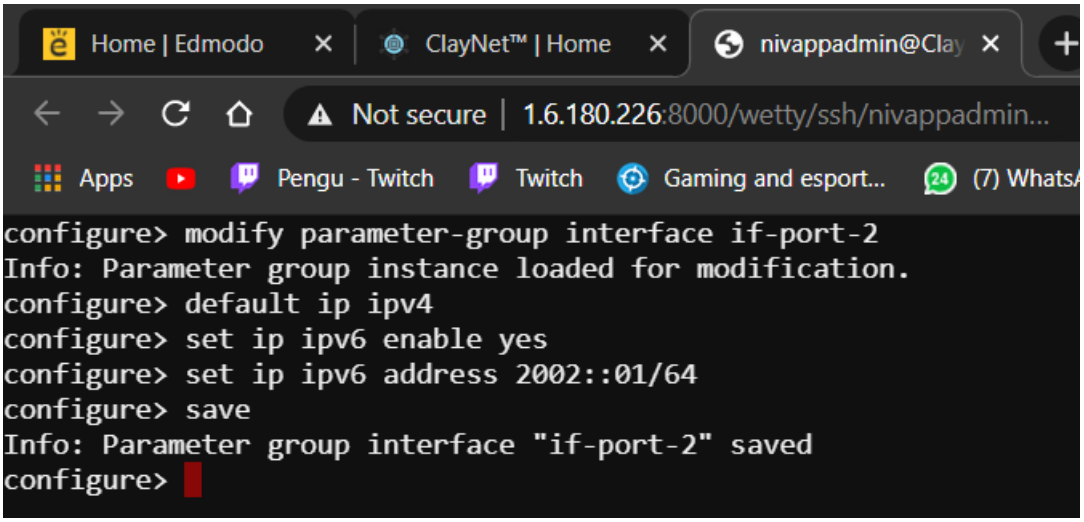


Enabling IPv6

Configuring IPv6 interfaces:

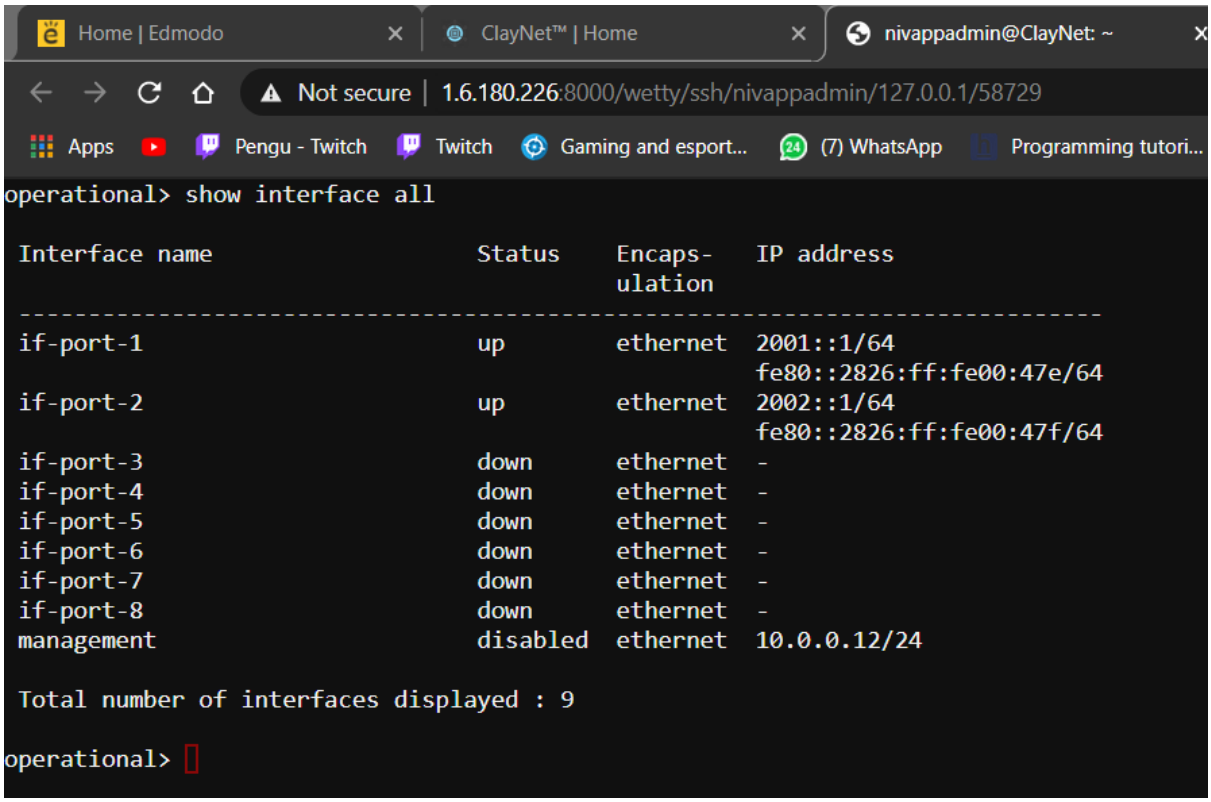


IP 2001::01/64 to interface if-port-1

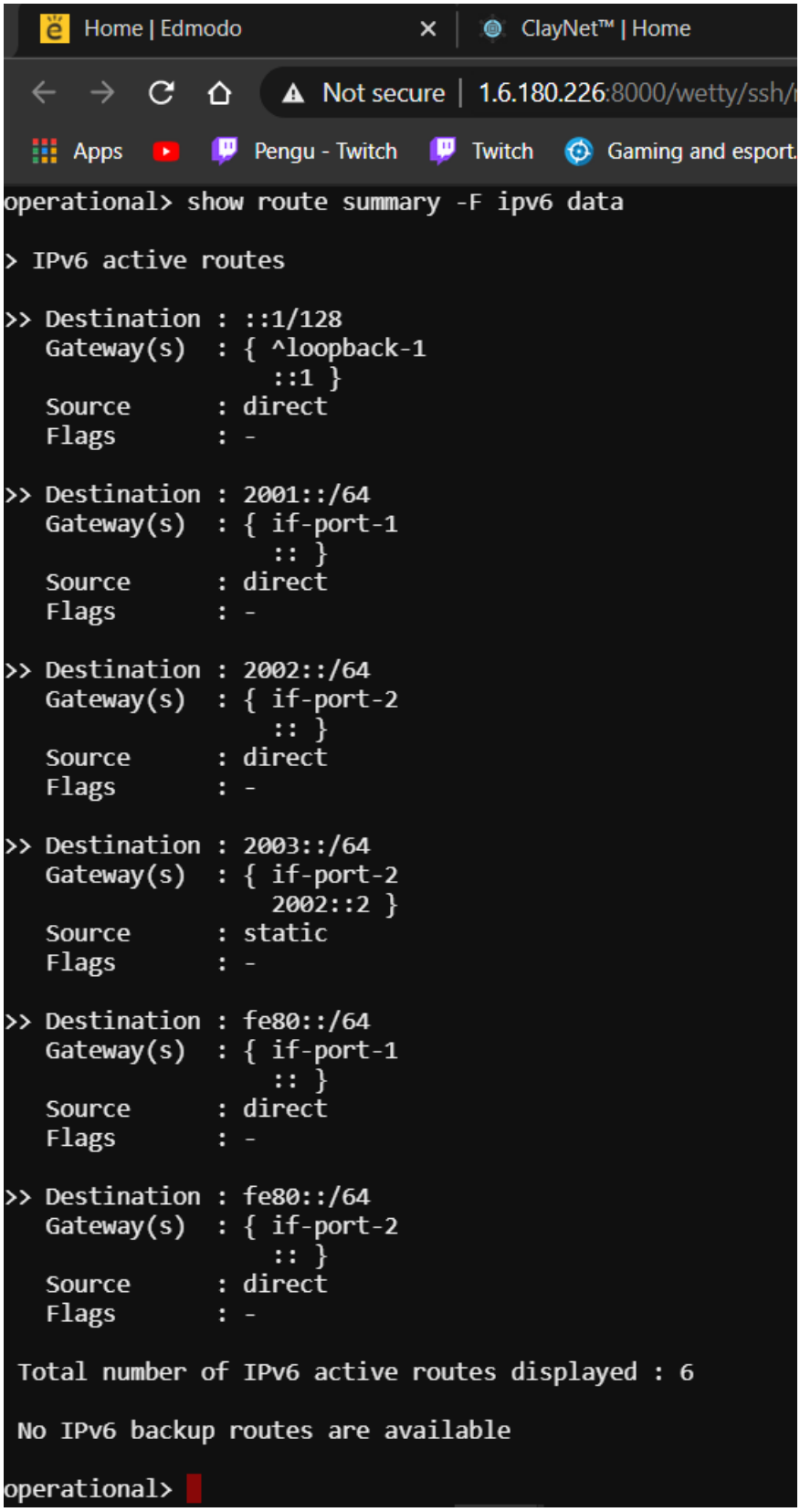


IP 2002::01/64to interface if-port-2

Verifying configuration:



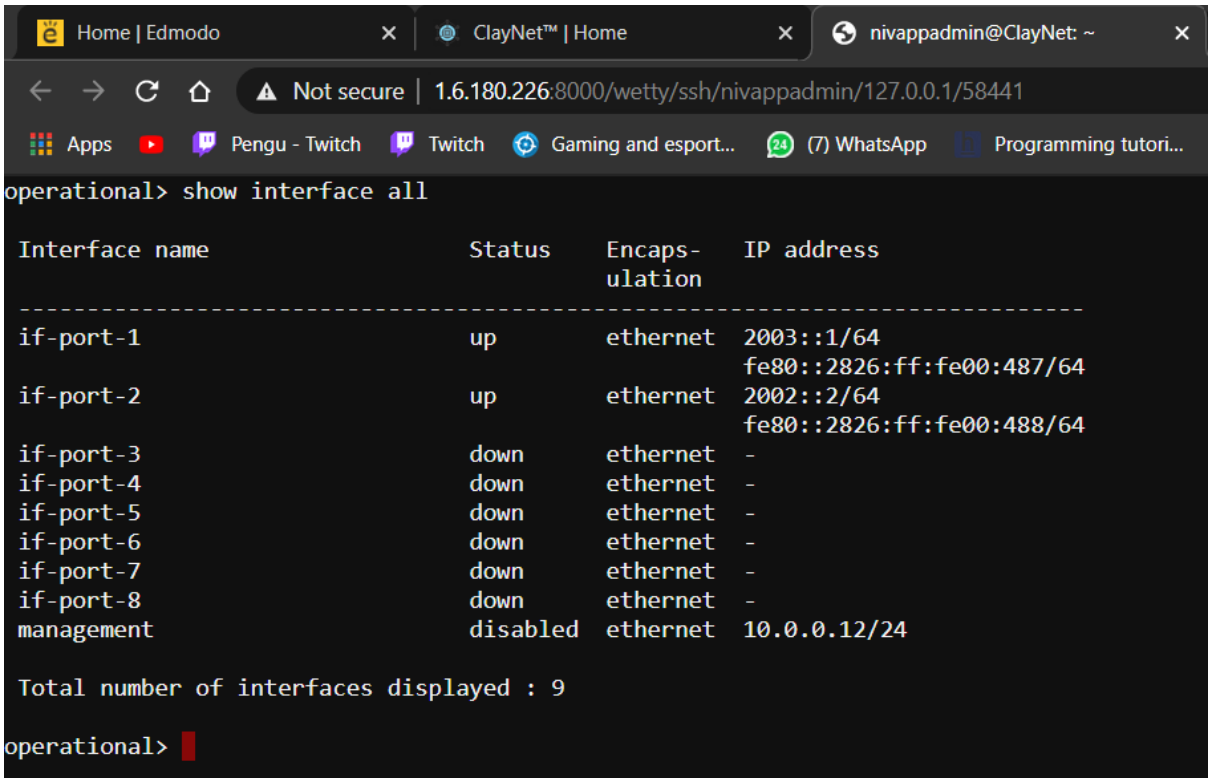
Routing – IPv6 static Routes:



After setting up a route to 2003::/64 via 2002::02

Router 2:

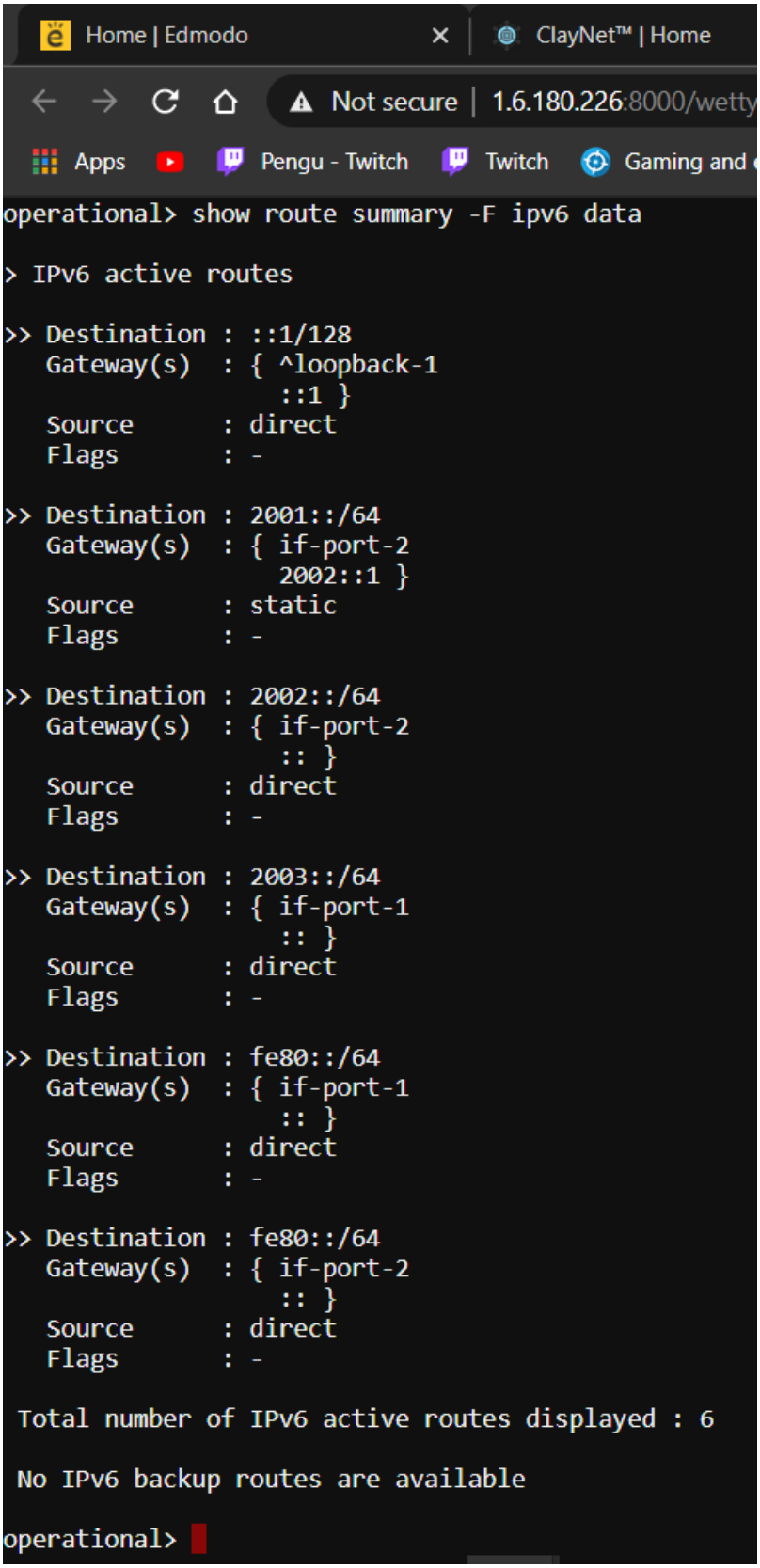
We follow the same steps as we did with router 1 and setup IPv6 on router 2



IP 2003::1/64 on if-port-1 and

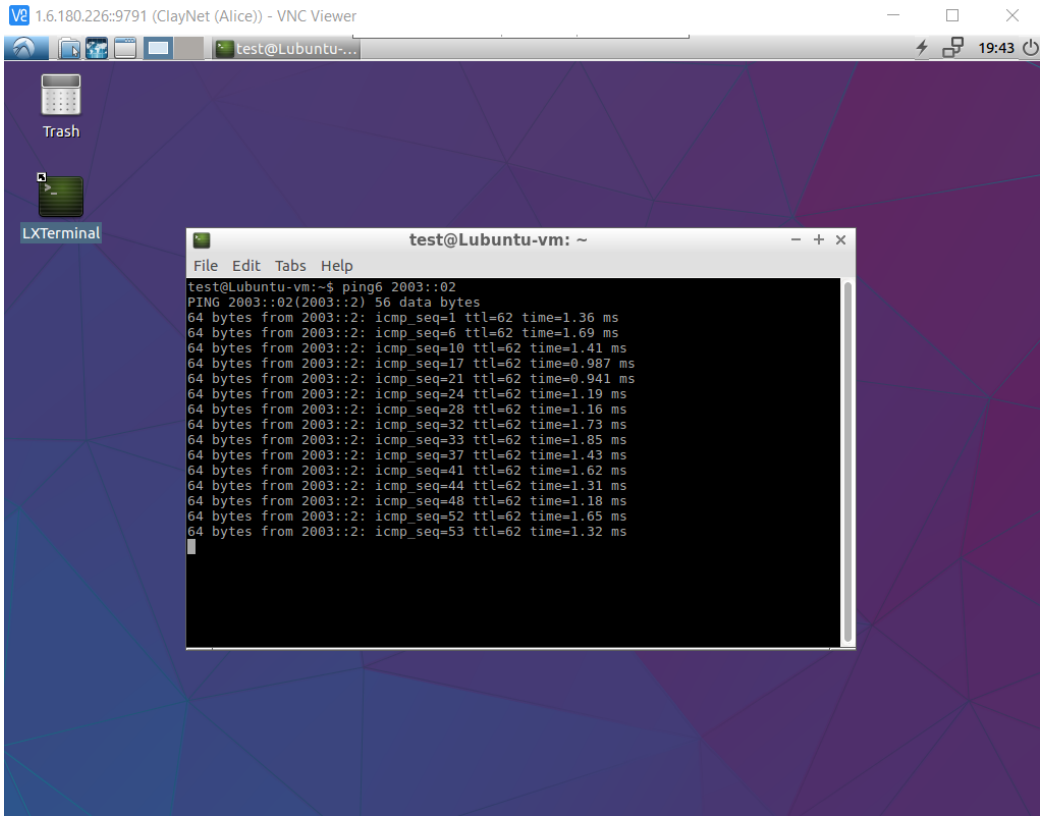
IP 2002::2/64 on if-port-2 of Router 2

Routing:

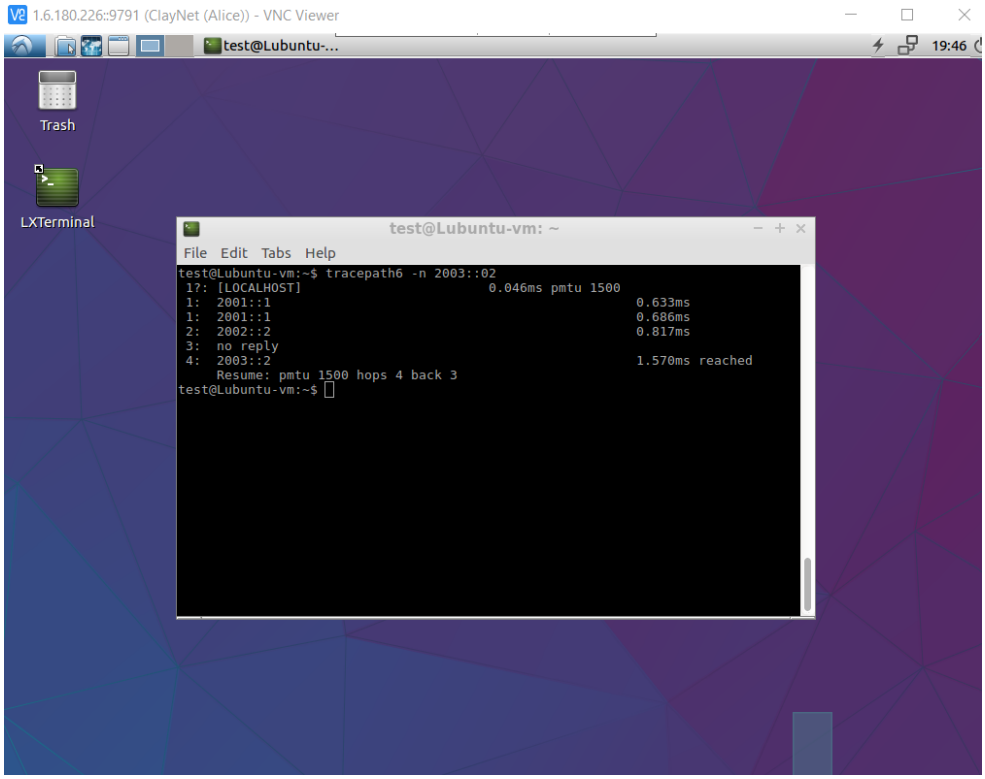


After setting up a route to 2001::/64 via 2002::1

Verifying Traffic Flow between Alice and Bob:

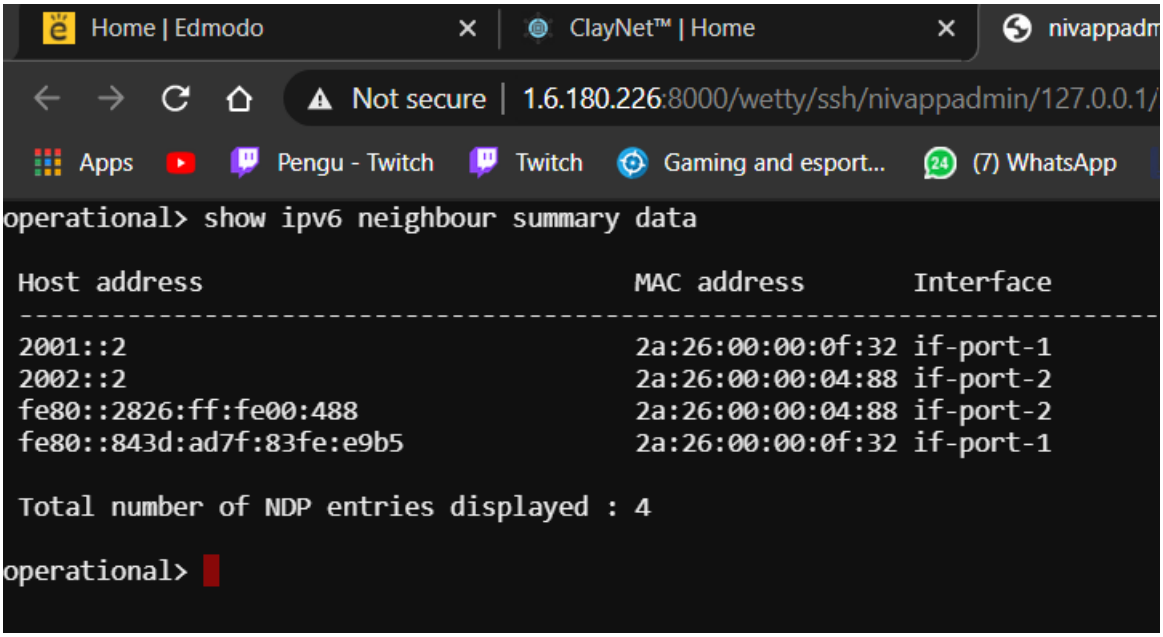


Pinging Bob's system from Alice using Ping6

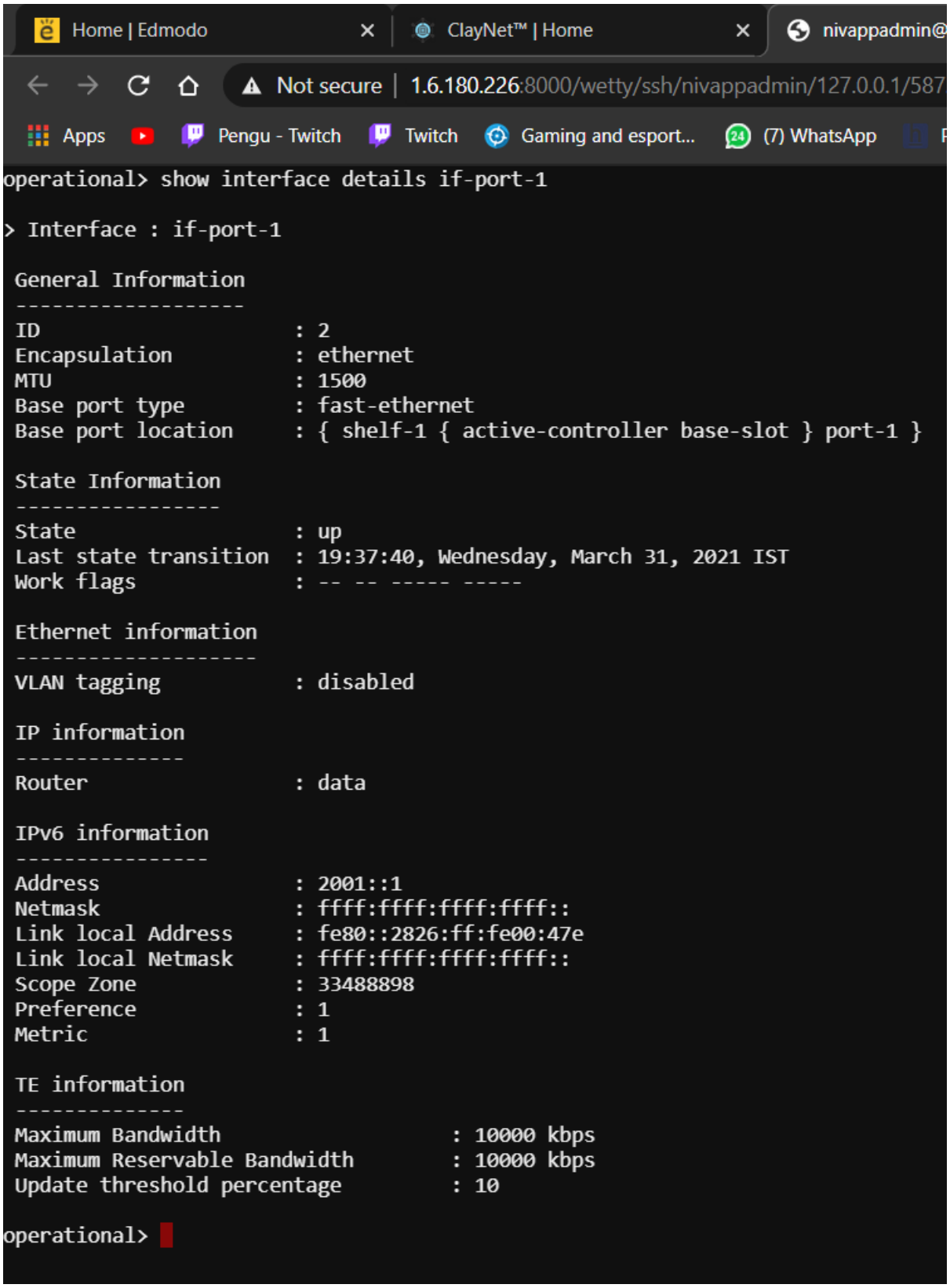


Using tracepath6 from Alice's system to Bob's

Checking IPv6 NDP table on Router-1



Verifying auto-configured Link Local Address on IPv6 interfaces:



Checking Connectivity between Router's 1 and 2 using Link Local Address:

After obtaining the Link Local Address of Router 2, use that address to ping it from Router 1.