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# Testing VPC Connectivity



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# Introducing Today's Project!

## What is Amazon VPC?

Amazon VPC is a service in AWS that lets you can create your own private cloud to enable you host your own resources in a secure and reliable manner

## How I used Amazon VPC in this project

I use it today to test connectivity between my private and public ec2 instances

## One thing I didn't expect in this project was...

This project is top to learn about connectivity

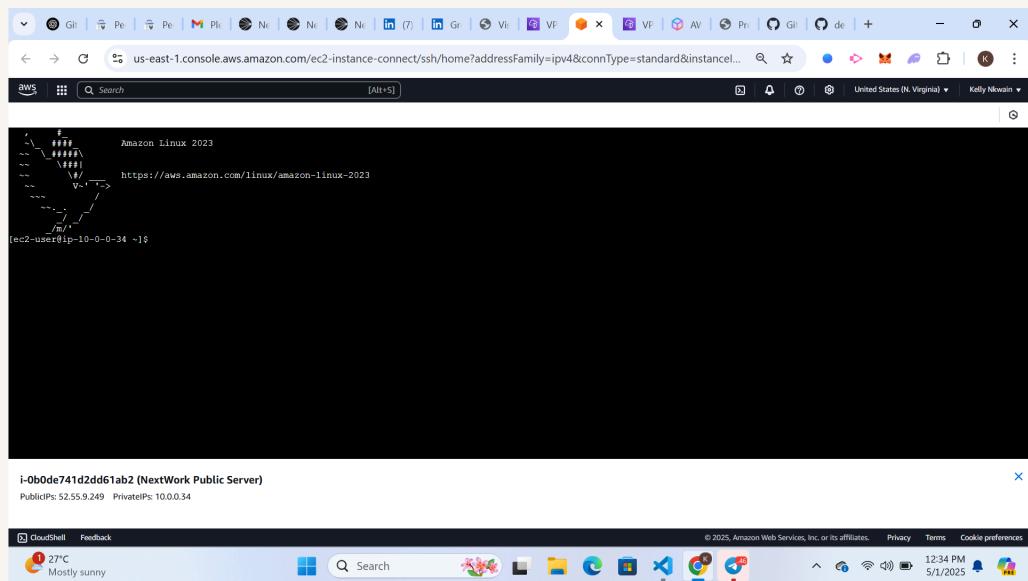
## This project took me...

This project took me about 1 hour 30 minutes

# Connecting to an EC2 Instance

Connectivity means how well different parts of your network talk to each other and with external networks

My first connectivity test was whether I could connect to my EC2 instance

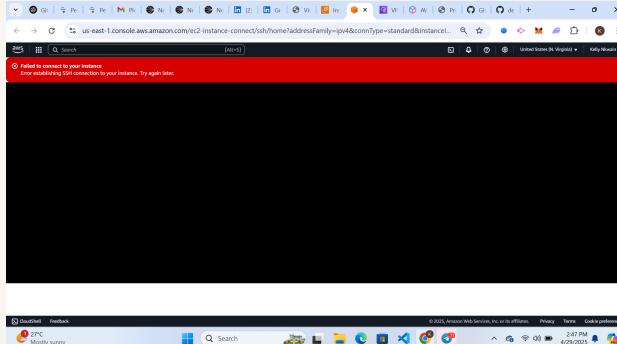


# EC2 Instance Connect

I connected to my EC2 instance using EC2 Instance Connect, which is a way of using a secure shell to connect and talk to your computer

My first attempt at getting direct access to my public server resulted in an error, because i was trying to connect via Ec2 connect using HTTP instead of SSH

I fixed this error by adding SSH in my inbound rule in Nextwork security group and i also allowed it to use any IPv4 address

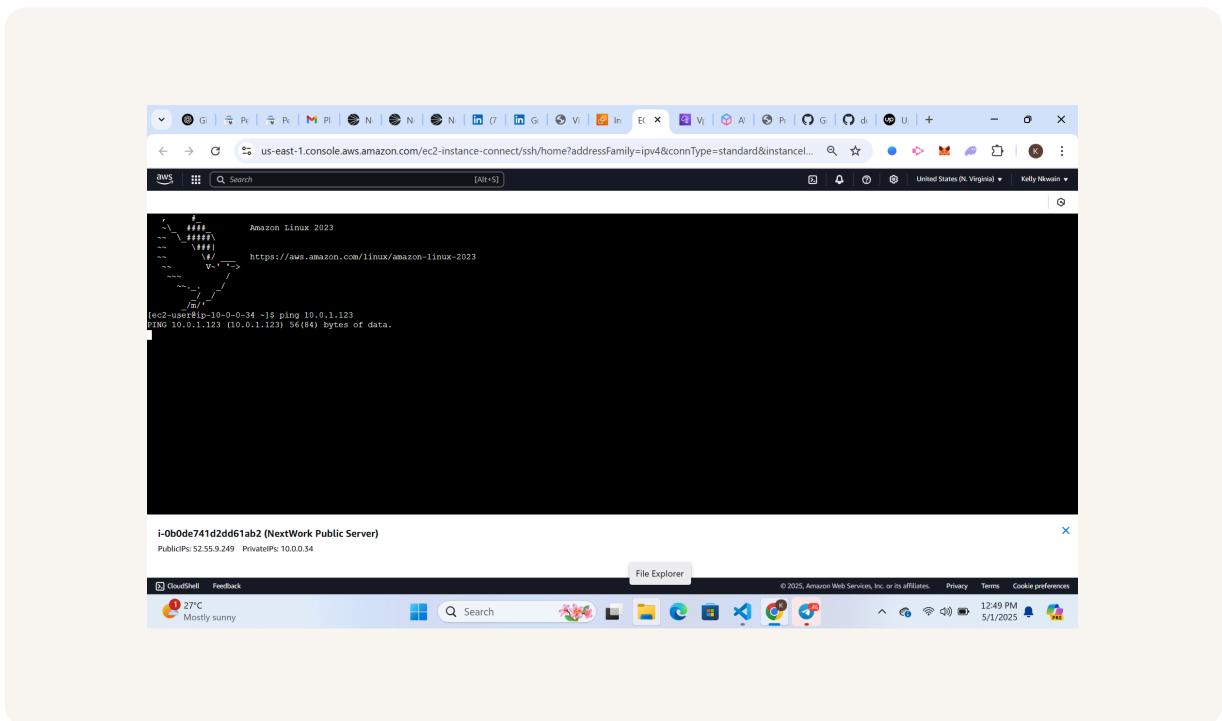


# Connectivity Between Servers

Ping is like a message to communicate between servers I used ping to test the connectivity between my public and private ec2 instances

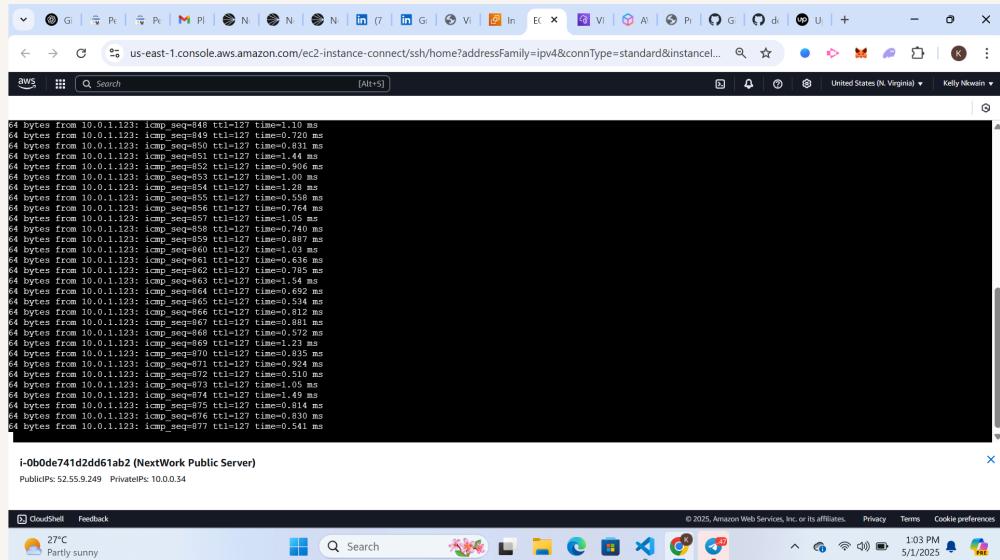
The ping command I ran was ping (private ec2 ipv4 address)

The first ping returned PING 10.0.1.123 (10.0.1.123) 56(84) bytes of data This meant connection is not reached the private server since there is no communication back



# Troubleshooting Connectivity

I troubleshooted this by allowing ICMP IPv4 address in my Network ACL and also for security groups but now for security groups i specified nextwork public ec2 ip address only



The screenshot shows a terminal window with a scrollable text area containing ICMP echo request and reply logs. The logs show multiple packets being sent from 10.0.1.123 to 10.0.1.123, with sequence numbers ranging from 848 to 971. The time for each packet ranges from 0.44 ms to 0.941 ms. Below the terminal window, there is a status bar with the text "i-0b0de741d2dd61ab2 (NextWork Public Server)" and "PublicIP: 52.55.9.249 PrivateIP: 10.0.0.34". At the bottom of the screen, there is a taskbar with various icons and a weather widget showing "27°C Partly sunny".

```
64 bytes from 10.0.1.123: icmp_seq=848 ttl=127 time=1.10 ms
64 bytes from 10.0.1.123: icmp_seq=849 ttl=127 time=0.720 ms
64 bytes from 10.0.1.123: icmp_seq=850 ttl=127 time=0.739 ms
64 bytes from 10.0.1.123: icmp_seq=851 ttl=127 time=1.44 ms
64 bytes from 10.0.1.123: icmp_seq=852 ttl=127 time=0.906 ms
64 bytes from 10.0.1.123: icmp_seq=853 ttl=127 time=1.00 ms
64 bytes from 10.0.1.123: icmp_seq=854 ttl=127 time=0.743 ms
64 bytes from 10.0.1.123: icmp_seq=855 ttl=127 time=0.558 ms
64 bytes from 10.0.1.123: icmp_seq=856 ttl=127 time=0.764 ms
64 bytes from 10.0.1.123: icmp_seq=857 ttl=127 time=1.05 ms
64 bytes from 10.0.1.123: icmp_seq=858 ttl=127 time=0.739 ms
64 bytes from 10.0.1.123: icmp_seq=859 ttl=127 time=0.887 ms
64 bytes from 10.0.1.123: icmp_seq=860 ttl=127 time=1.03 ms
64 bytes from 10.0.1.123: icmp_seq=861 ttl=127 time=0.636 ms
64 bytes from 10.0.1.123: icmp_seq=862 ttl=127 time=0.725 ms
64 bytes from 10.0.1.123: icmp_seq=863 ttl=127 time=1.54 ms
64 bytes from 10.0.1.123: icmp_seq=864 ttl=127 time=0.692 ms
64 bytes from 10.0.1.123: icmp_seq=865 ttl=127 time=0.655 ms
64 bytes from 10.0.1.123: icmp_seq=866 ttl=127 time=0.812 ms
64 bytes from 10.0.1.123: icmp_seq=867 ttl=127 time=0.881 ms
64 bytes from 10.0.1.123: icmp_seq=868 ttl=127 time=0.572 ms
64 bytes from 10.0.1.123: icmp_seq=869 ttl=127 time=1.041 ms
64 bytes from 10.0.1.123: icmp_seq=870 ttl=127 time=0.835 ms
64 bytes from 10.0.1.123: icmp_seq=871 ttl=127 time=0.924 ms
64 bytes from 10.0.1.123: icmp_seq=872 ttl=127 time=0.510 ms
64 bytes from 10.0.1.123: icmp_seq=873 ttl=127 time=0.735 ms
64 bytes from 10.0.1.123: icmp_seq=874 ttl=127 time=1.49 ms
64 bytes from 10.0.1.123: icmp_seq=875 ttl=127 time=0.814 ms
64 bytes from 10.0.1.123: icmp_seq=876 ttl=127 time=0.830 ms
64 bytes from 10.0.1.123: icmp_seq=877 ttl=127 time=0.541 ms
```

# Connectivity to the Internet

Curl is a tool to test connectivity in a network you can use curl to grab data from, or upload data into other servers on the internet

I used curl to test the connectivity between my two servers that is my public server and nextwork server

## Ping vs Curl

Ping and curl are different because ping checks connectivity by sending messages and receiving replies while curl retrieves data from another server



# Connectivity to the Internet

I ran the curl command on nextwork web link which returned the home page project



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