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# Testing VPC Connectivity



# Sayed Mahmeer Ali Shah



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# Introducing Today's Project!

## What is Amazon VPC?

Amazon Virtual Private Cloud (VPC) is a service that lets you provision a logically isolated section of the AWS Cloud where you can launch AWS resources in a virtual network that you define, providing control over your virtual networking environment.

## How I used Amazon VPC in this project

I used VPC to provide network connectivity to public and private EC2 instances.

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

I didn't expect this project to be this much interesting.

## This project took me...

It took me 40 minutes to complete the project.

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# Connecting to an EC2 Instance

Connectivity means an alternative way to use SSH - Instance Connect lets you securely connect to your EC2 instances directly using the AWS Management Console.

My first connectivity test was whether I could connect to NextWork Public Server.

```
          #  
         \###/  
        Amazon Linux 2023  
         \###/  
          \#/   https://aws.amazon.com/linux/amazon-linux-2023  
           V~'.'-->  
          /  
         /_/  
        /m/  
[ec2-user@ip-10-0-0-134 ~]$
```

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# EC2 Instance Connect

I connected to my EC2 instance using EC2 Instance Connect, which is a direct way to connect my Public server on the Internet.

My first attempt at getting direct access to my public server resulted in an error, because i didnt configure SSH in inbound rules.

I fixed this error by adding SSH to inbound rules.



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# Connectivity Between Servers

Ping is a command to check connectivity. I used ping to test the connectivity between public and private EC2.

The ping command I ran was private ping[private ipv4 of my private server/ec2]

The first ping returned bytes lost. This meant the connectivity failed.

A screenshot of a terminal window on an Amazon Linux 2023 system. The terminal interface includes a header bar with the AWS logo, a search bar, and a keybinding for [Alt+S]. The main terminal area displays a login banner with the Amazon logo and URL, followed by a standard Linux terminal prompt. The user has run a 'ping' command to an internal IP address (10.0.1.52), which resulted in a failure, indicated by the message 'bytes lost'.

```
aws | Search [Alt+S]
.
.
.
Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023
Last login: Tue May  6 10:10:58 2025 from 3.0.5.35
[ec2-user@ip-10-0-0-134 ~]$ ping 10.0.1.52
PING 10.0.1.52 (10.0.1.52) 56(84) bytes of data.
[]
```

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# Troubleshooting Connectivity

I troubleshooted this by checking my inbound and outbound rules of my security group.

The screenshot shows a terminal window with the AWS logo and search bar at the top. The main area displays a log of ICMP traffic from IP 10.0.1.52. Each log entry consists of 64 bytes sent, ICMP sequence number (seq), TTL, and time taken. The log entries are as follows:

```
64 bytes from 10.0.1.52: icmp_seq=476 ttl=127 time=0.953 ms
64 bytes from 10.0.1.52: icmp_seq=477 ttl=127 time=0.873 ms
64 bytes from 10.0.1.52: icmp_seq=478 ttl=127 time=0.588 ms
64 bytes from 10.0.1.52: icmp_seq=479 ttl=127 time=0.770 ms
64 bytes from 10.0.1.52: icmp_seq=480 ttl=127 time=0.706 ms
64 bytes from 10.0.1.52: icmp_seq=481 ttl=127 time=0.918 ms
64 bytes from 10.0.1.52: icmp_seq=482 ttl=127 time=0.785 ms
64 bytes from 10.0.1.52: icmp_seq=483 ttl=127 time=0.508 ms
64 bytes from 10.0.1.52: icmp_seq=484 ttl=127 time=0.284 ms
64 bytes from 10.0.1.52: icmp_seq=485 ttl=127 time=0.485 ms
64 bytes from 10.0.1.52: icmp_seq=486 ttl=127 time=0.454 ms
64 bytes from 10.0.1.52: icmp_seq=487 ttl=127 time=0.302 ms
64 bytes from 10.0.1.52: icmp_seq=488 ttl=127 time=0.302 ms
64 bytes from 10.0.1.52: icmp_seq=489 ttl=127 time=0.608 ms
64 bytes from 10.0.1.52: icmp_seq=490 ttl=127 time=0.509 ms
64 bytes from 10.0.1.52: icmp_seq=491 ttl=127 time=0.663 ms
64 bytes from 10.0.1.52: icmp_seq=492 ttl=127 time=0.637 ms
64 bytes from 10.0.1.52: icmp_seq=493 ttl=127 time=0.595 ms
64 bytes from 10.0.1.52: icmp_seq=494 ttl=127 time=0.408 ms
64 bytes from 10.0.1.52: icmp_seq=495 ttl=127 time=0.479 ms
64 bytes from 10.0.1.52: icmp_seq=496 ttl=127 time=0.273 ms
```

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# Connectivity to the Internet

Curl is to check the access to a website.

I used curl to test the connectivity between my server and example.com

## Ping vs Curl

Ping and curl are different because ping is to check connectivity and Curl is for access.



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# Connectivity to the Internet

I ran the curl command example.org which returned found.

```
/youitu.be/R0fqpQd9mSM\#34;\u003eAmazon S3\u003c/a\u003e{#34;}\u003econtent\#34;:\u0034;50\#34;,\u0034;description\#34;:\u0034;host your very own website on Amazon S3!\#34;,\u0034;difficulty\#34;:\u0034;Easy\#34;,\u0034;icon\#34;:\u0034;/projects/static/1/icon3.png\#34;,\u0034;model\#34;:\u0034;.js\#34;,\u0034;account - \u003cuu003e.u003ca target=_blank\#34; href=\#34;https://link.nextwork.org/projects/aws-account-setup?utm_source=project-app\#34;\u003c/u003eCreate one here!\u003c/a\u003e{\u003c/a\u003e{#34;}\u003c/a\#34;,\u0034;order\#34;:\u0034;1,\u0034;plan\#34;:\u0034;free\#34;,\u0034;shareTemplates\#34;:\u0034;,\u0034;that\#39;s a Day #1 of my AWS Projects Challenge done!\nToday I hosted my very own static website on Amazon S3:\nI created and configured an Amazon S3 bucket complete with ACLs, versioning, and public access.\nUploaded website content, diving deep into how static websites function and how to host them S3.\nTackled public access settings and fixed an interesting challenge with the website's visibility.\nSee my journey from creating buckets to deploying a fully functional static website in my documentation below.\n\n►Shoutout to all AWS learners-let's connect, share tips, and keep improving!\nBig thanks to @NextWork for setting up this engaging challenge. Ready for the next one! link.nextwork.org/linkedin\n#awscloud #aws #AWSBeginnersChallenge #NextWork #34;,\u0034;time\#34;:\u0034;45 min\#34;,\u0034;title\#34;:\u0034;Host a Website on Amazon S3\#34;,\u0034;tracks\#34;:[\u0034;,\u0034;description\#34;,\u0034;url\#34;]\u003c/u003e\nFor those who want to dive headfirst into AWS, check out the AWS Cloud Practitioner Challenge.\nIt's a great challenge for beginners that covers most of what you need to know. Great for those looking for a challenge.\nSome Guidance:\nStep-by-Step Guidance\nvariables\nselectedTrack=""\n><project-app>\n</body>\n</html>\nc2-user@ip-10-0-0-134 ~]$ [
```



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