

# Testing VPC Connectivity

H

Harshada Kripal

```
[ec2-user@ip-10-0-0-114 ~]$ curl example.com
[HTTP/1.1 200 OK]
<!DOCTYPE html><html lang="en">
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>body{background:#e0e0e0; margin:15vh auto;font-family:system-ui,sans-serif}h1{font-size:1.5em}div{opacity:0.8}a{link,visited:color:#349}</style>
<body><h1>Example Domain</h1><p>This domain is for use in documentation examples without needing permission. Avoid use in operations.<p><a href="https://iana.org/domains/example">Learn more</a></p></body>
</html>
[ec2-user@ip-10-0-0-114 ~]$ curl curl learn.nextwork.org
curl: (6) Could not resolve host: curl
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<title>NextWork - Build your AI portfolio</title>
<meta content="For the next way of working" name="description" />
<meta content="NextWork - Build your AI portfolio" property="og:title" />
<meta content="For the next way of working" property="og:description" />
<meta content="NextWork - Build your AI portfolio" property="twitter:title" />
<meta content="For the next way of working" property="twitter:description" />
<meta content="/static/og-project.png" property="og:image" />
<meta content="/static/og-project.png" property="twitter:image" />

```

i-0a09455a354a5b875 (My Public Server)  
PublicIP: 18.217.235.32 PrivateIP: 10.0.0.114

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# Introducing Today's Project!

## What is Amazon VPC?

Amazon VPC is a Virtual Private Cloud that lets you create a private, isolated, and customizable network within AWS. It is useful because it gives you full control over networking, security, and traffic flow, allowing your cloud resources to communicate safely and efficiently.

## How I used Amazon VPC in this project

In today's project, I used Amazon VPC to check connectivity between the VPC and the internet.

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

One thing I didn't expect in this project was how much careful planning and configuration is required to make different parts of a VPC, such as public and private subnets, route tables, and security rules work together securely and correctly.



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**Harshada Kripal**  
NextWork Student

[nextwork.org](http://nextwork.org)

This project took me...

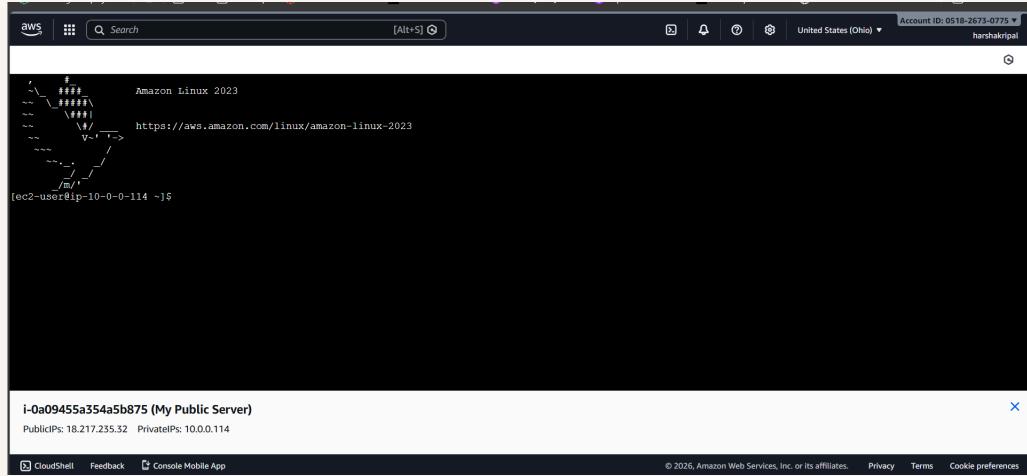
This project took me 1 hr to complete.



# Connecting to an EC2 Instance

Connectivity is all about how well different parts of your network talk to each other and with external networks. It's essential because connectivity is how data flows smoothly across your network, powering everything from simple web hosting on the Internet to complex operations e.g. Netflix using over 100,000 EC2 instances to power its streaming platform. Solid connectivity is the backbone of any system that relies on network interactions, making every communication and operation reliable and efficient.

My first connectivity test was whether I could connect to EC2 instance or not.



# EC2 Instance Connect

I connected to my EC2 instance using EC2 Instance Connect, which is a shortcut way to get direct SSH access to EC2 instance.

My first attempt at getting direct access to my public server resulted in an error, because the security group lets in all inbound HTTP traffic, but this is not how I was trying to access My EC2.

I fixed this error by updating my VPC's security group so it can let in SSH traffic. Choosing Anywhere-IPv4 as the source lets in SSH connections from any IPv4 address.



# Connectivity Between Servers

Ping is a common computer network tool used to check whether your computer can communicate with another computer or device on a network. which I used ping to test the connectivity between my EC2 instances.

The ping command I ran was \$ ping 10.0.1.233

The first ping returned This meant the single line indicates that my Public Server has sent out a ping message and that's about it.



A screenshot of a terminal window on Amazon Linux 2023. The window title bar says "aws". The terminal shows a logo consisting of a stylized tree or mountain made of '#' characters, followed by "Amazon Linux 2023", a URL "https://aws.amazon.com/linux/amazon-linux-2023", and a small icon. Below the logo, the command "[ec2-user@ip-10-0-0-114 ~]\$ ping 10.0.1.233" is entered, followed by the output "PING 10.0.1.233 (10.0.1.233) 56(84) bytes of data.".



## Troubleshooting Connectivity

I troubleshooted this by updating the Network ACL's inbound rules so that it can let the ICMP4 traffic in.

The screenshot shows a terminal window titled "Amazon Linux 2023" running on an AWS Lambda function. The window displays a ping session between two Amazon Linux 2023 instances. The command used was "ping 10.0.1.233". The output shows multiple ICMP echo requests being sent to the target IP at TTL=127, with round-trip times ranging from approximately 0.876 ms to 1.01 ms. The terminal also shows the user's last login information and the AWS Lambda environment details.

```
Last login: Sat Jan 10 00:32:36 2026 from 3.16.146.3
[ec2-user@ip-10-0-0-114 ~]$ ping 10.0.1.233
PING 10.0.1.233 (10.0.1.233) 56(84) bytes of data.
64 bytes from 10.0.1.233: icmp_seq=61 ttl=127 time=0.883 ms
64 bytes from 10.0.1.233: icmp_seq=62 ttl=127 time=0.876 ms
64 bytes from 10.0.1.233: icmp_seq=63 ttl=127 time=0.871 ms
64 bytes from 10.0.1.233: icmp_seq=64 ttl=127 time=0.994 ms
64 bytes from 10.0.1.233: icmp_seq=65 ttl=127 time=1.63 ms
64 bytes from 10.0.1.233: icmp_seq=66 ttl=127 time=0.991 ms
64 bytes from 10.0.1.233: icmp_seq=67 ttl=127 time=0.991 ms
64 bytes from 10.0.1.233: icmp_seq=68 ttl=127 time=0.983 ms
64 bytes from 10.0.1.233: icmp_seq=69 ttl=127 time=0.964 ms
64 bytes from 10.0.1.233: icmp_seq=70 ttl=127 time=0.957 ms
64 bytes from 10.0.1.233: icmp_seq=71 ttl=127 time=0.973 ms
64 bytes from 10.0.1.233: icmp_seq=72 ttl=127 time=0.973 ms
64 bytes from 10.0.1.233: icmp_seq=73 ttl=127 time=0.972 ms
64 bytes from 10.0.1.233: icmp_seq=74 ttl=127 time=1.01 ms

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```

# Connectivity to the Internet

Curl is a tool used to test network connectivity and transfer data between systems. While ping checks whether one computer can reach another and measures response time, curl is used to send and receive data from a server. This means curl not only verifies connectivity but also allows you to download data from or upload data to other servers on the internet.

I used curl to test the connectivity between VPC and the internet.

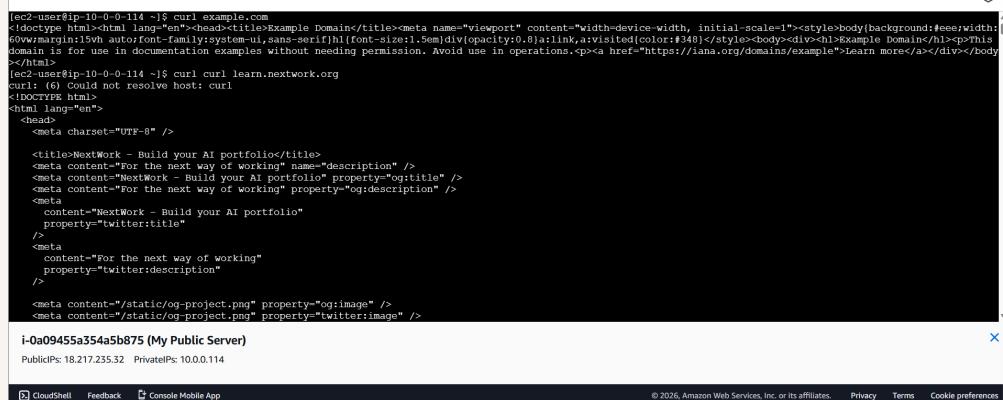
## Ping vs Curl

Ping and curl are different because ping only checks whether a system can be reached and how long it takes to respond, while curl actually sends and receives data, allowing you to test real communication with a server such as downloading or uploading information.



## Connectivity to the Internet

I ran the curl command curl example.com which returned a complete HTML content of an Nextwork's web app.



```
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<!DOCTYPE html><html lang="en"><head><title>Example domain</title><meta name="viewport" content="width=device-width, initial-scale=1"><style>body{background:#eee;width:100%;margin:15vh auto;font-family:sans-serif}h1{font-size:1.5em}div{opacity:0.8}a:link,a:visited{color:#349}</style><body><div><h1>Example domain</h1><p>This domain is for use in documentation examples without needing permission. Avoid use in operations.<a href="https://iana.org/domains/example">Learn more</a></div></body>
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```

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