



# Testing VPC Connectivity



Ivan Delgadillo Fernandez

```
aws Services Search [Alt+S] N. Virginia idfree

VPC Billing and Cost Management EC2

x2d-user@ip-10-0-0-80 ~$ curl example.com
|doctype html>
|html>
|head>
<title>Example Domain</title>

<meta charset="utf-8" />
<meta http-equiv="Content-type" content="text/html; charset=utf-8" />
<meta name="viewport" content="width=device-width, initial-scale=1" />
<style type="text/css">
body {
    background-color: #f0f0f2;
    margin: 0;
    padding: 0;
    font-family: -apple-system, system-ui, BlinkMacSystemFont, "Segoe UI", "Open Sans", "Helvetica Neue", Helvetica, Arial, sans-serif;
}

div {
    width: 600px;
    margin: 5em auto;
    padding: 2em;
    background-color: #ffffdf;
    border-radius: 0.5em;
    box-shadow: 2px 3px 7px 2px rgba(0,0,0,0.02);
}

a:link, a:visited {
    color: #38488f;
    text-decoration: none;
}
@media (max-width: 700px) {
    div {
        margin: 0 auto;
        width: auto;
    }
}
</style>
</head>
```



Ivan Delgadillo Fernandez

NextWork Student

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# Introducing Today's Project!

## What is Amazon VPC?

Amazon Virtual Private Cloud (Amazon VPC) gives you full control over your virtual networking environment, including resource placement, connectivity, and security.

## How I used Amazon VPC in this project

I can launch AWS resources in a logically isolated virtual network that you've defined.

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

I didn't expect allowing other protocols

## This project took me...

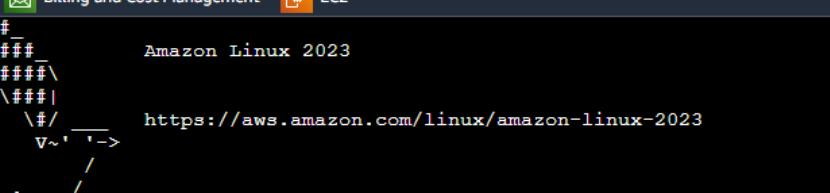
30 minutes



# 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.

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



```
aws Services Search [Alt+S]
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,      #
~\   #####
~~ \#####\
~~  \###|
~~      \#/   https://aws.amazon.com/linux/amazon-linux-2023
~~      V~'-->
~~~   /
~~~  / \
~~~ /  \
/m/ , -\

last login: Thu Aug 22 21:31:44 2024 from 18.206.107.28
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ 
[ec2-user@ip-10-0-0-80 ~]$ 
[ec2-user@ip-10-0-0-80 ~]$ 
```



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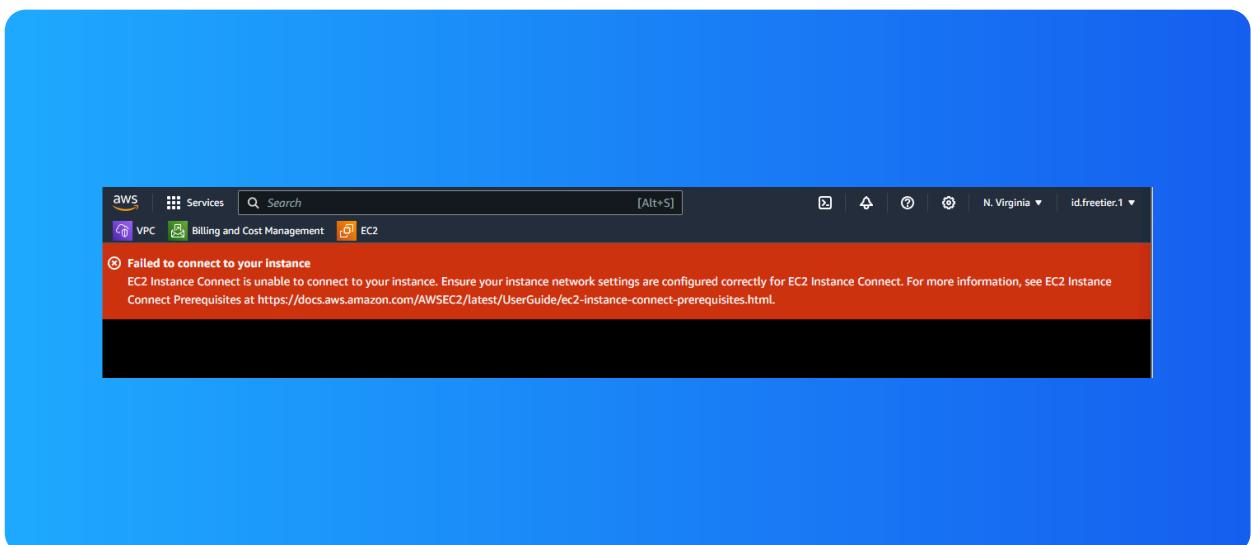
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# EC2 Instance Connect

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

My first attempt at getting direct access to my public server resulted in an error, because don't allow SSH in Security Group.

I fixed this error by allowing SSH protocol in a Secuity Group



A circular portrait of a man with dark hair, wearing a dark suit jacket over a light blue shirt.

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# Connectivity Between Servers

When you set a rule for All ICMP - IPv4, you're allowing all types of ICMP messages for IPv4 addresses.

The ping command I ran was 10.0.1.X

The first ping returned... This meant connectivity successfully

```
aws | Services | Search [Alt+S]
VPC Billing and Cost Management EC2

Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

Last login: Thu Aug 22 21:31:44 2024 from 18.206.107.28
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ ping 10.0.1.56
PING 10.0.1.56 (10.0.1.56) 56(84) bytes of data.
```



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# Troubleshooting Connectivity

I troubleshooted this by allowing ICMP protocol in NACL and Security Group

The screenshot shows a terminal window on an Amazon Linux 2023 instance. The user has run several commands to test connectivity:

```
Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

Last login: Thu Aug 22 21:31:44 2024 from 18.206.107.28
[ec2-user@ip-10-0-0-80 ~]$ ls
[ec2-user@ip-10-0-0-80 ~]$ ping 10.0.1.56
PING 10.0.1.56 (10.0.1.56) 56(84) bytes of data.

64 bytes from 10.0.1.56: icmp_seq=233 ttl=127 time=0.729 ms
64 bytes from 10.0.1.56: icmp_seq=234 ttl=127 time=1.06 ms
64 bytes from 10.0.1.56: icmp_seq=235 ttl=127 time=0.836 ms
64 bytes from 10.0.1.56: icmp_seq=236 ttl=127 time=1.68 ms
64 bytes from 10.0.1.56: icmp_seq=237 ttl=127 time=0.850 ms
64 bytes from 10.0.1.56: icmp_seq=238 ttl=127 time=0.623 ms
64 bytes from 10.0.1.56: icmp_seq=239 ttl=127 time=1.21 ms
64 bytes from 10.0.1.56: icmp_seq=240 ttl=127 time=0.865 ms
64 bytes from 10.0.1.56: icmp_seq=241 ttl=127 time=0.738 ms
64 bytes from 10.0.1.56: icmp_seq=242 ttl=127 time=0.675 ms
64 bytes from 10.0.1.56: icmp_seq=243 ttl=127 time=1.36 ms
64 bytes from 10.0.1.56: icmp_seq=244 ttl=127 time=0.474 ms
64 bytes from 10.0.1.56: icmp_seq=245 ttl=127 time=1.04 ms
64 bytes from 10.0.1.56: icmp_seq=246 ttl=127 time=0.893 ms
64 bytes from 10.0.1.56: icmp_seq=247 ttl=127 time=0.722 ms
64 bytes from 10.0.1.56: icmp_seq=248 ttl=127 time=1.09 ms
64 bytes from 10.0.1.56: icmp_seq=249 ttl=127 time=1.42 ms
64 bytes from 10.0.1.56: icmp_seq=250 ttl=127 time=1.33 ms
64 bytes from 10.0.1.56: icmp_seq=251 ttl=127 time=0.836 ms
```



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# Connectivity to the Internet

Just like ping, curl is a tool to test connectivity in a network. Where ping checks if one computer can contact another (and how long messages take to travel back and forth), curl is used to transfer data to or from a server.

I used curl to test the connectivity

## Ping vs Curl

curl is used to transfer data to or from a server. That means on top of checking connectivity, you can use curl to grab data from, or upload data into other servers on the internet!



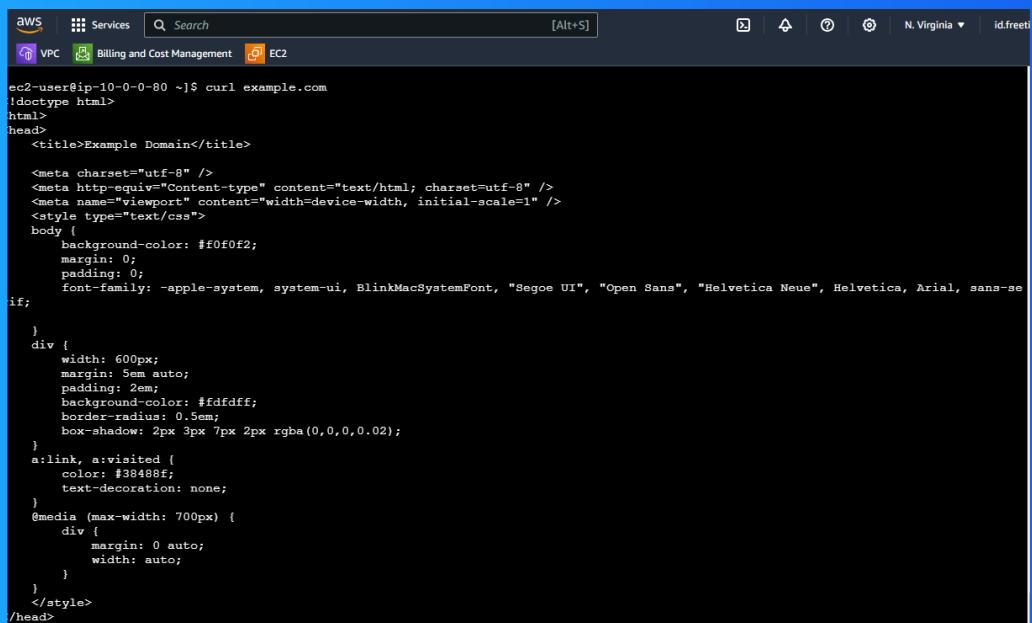
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# Connectivity to the Internet

I ran the curl command: \$ curl example.com



```
aws Services Search [Alt+S]
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ec2-user@ip-10-0-0-80 ~]$ curl example.com
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