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# Testing VPC Connectivity



Jonathan Nutsugah

```
});  
    
```

```js  
 window.SentryOnLoad = function () {  
 window.Sentry.intl("en-US", "en-US");  
 }  
};

```
</script>  
<script>  
    const environment = "prod";  
    const sentryDsn = "https://f9a604d0461ff8bea62cf35e71eb.main.js"  
    const sentryConfig = { dsn: sentryDsn, environment: environment }  
    if (environment === "prod") {  
        document.body.innerHTML = `<div id="sentry-error-reporting"><script>new Sentry.ErrorBoundary({ dsn: ${sentryDsn} })</script></div>`  
    }  
    
```

```html  
 <div id="sentry-error-reporting"><script>new Sentry.ErrorBoundary({ dsn: \${sentryDsn} })</script></div>

```
</body>  
</html>  
2023-05-15T15:15:15.157Z | i-0f2ecc2bb0d04fcf (Sentry Public Server)  
PublicIP: 52.35.29.169 PrivateIP: 192.168.1.5
```



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# Introducing Today's Project!

## What is Amazon VPC?

Amazon VPC (Virtual Private Cloud) lets you create a secure, isolated network in AWS where you control IP ranges, subnets, and traffic. It's useful for customizing network setup, enhancing security, and supporting hybrid cloud deployments.

## How I used Amazon VPC in this project

Through the management console, I used it to virtually isolate a space to keep my resources away from external access.

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

How easy it is to navigate AWS.

## This project took me...

40 minutes.



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# Connecting to an EC2 Instance

Connectivity means how well devices, systems, or networks can communicate and exchange data with each other. In my case, it refers to how things like EC2 instances, databases, or other services in my VPC are linked and able to interact.

My first connectivity test was whether I could connect to the public server.

The screenshot shows a terminal window with the AWS logo in the top left. The title bar reads "aws" and "Amazon Linux 2023". The main area of the terminal displays a stylized ASCII art logo followed by the URL "https://aws.amazon.com/linux/amazon-linux-2023". Below the URL, the text "[ec2-user@ip-192-168-1-5 ~] \$" is visible, indicating the user is logged in as ec2-user on a local host with IP 192.168.1.5. At the bottom of the terminal window, there is a footer with the text "i-0f2ecc28abb0d1cff (SacNet Public Server)" and "PublicIPs: 52.55.29.166 PrivateIPs: 192.168.1.5".

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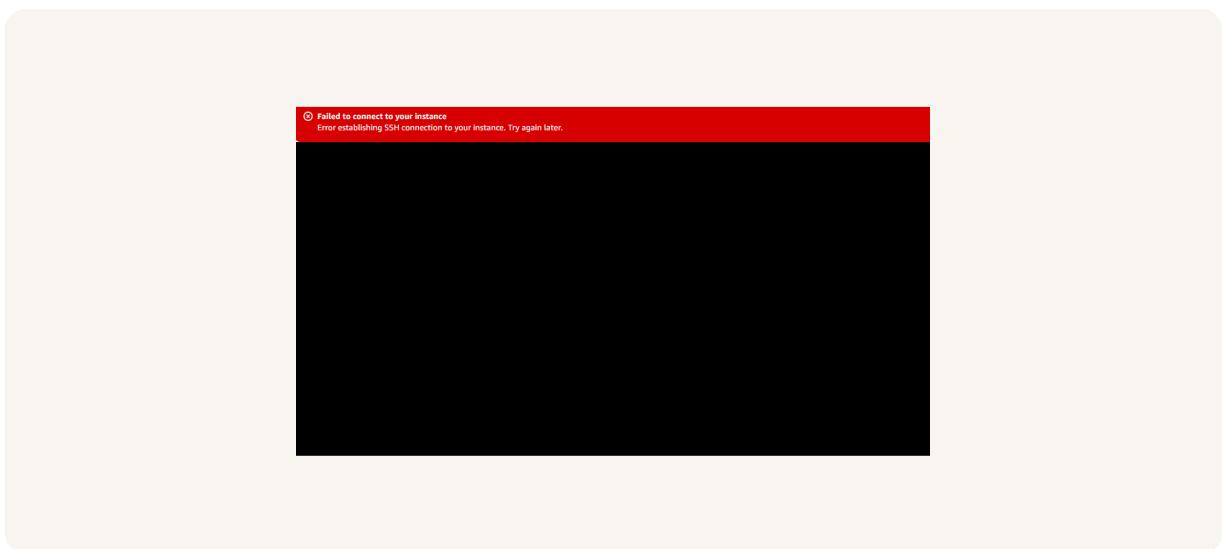
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# EC2 Instance Connect

I connected to my EC2 instance using EC2 Instance Connect, which is a feature in AWS that lets me securely connect to my EC2 instances using a web-based SSH client right from the AWS Console

My first attempt at getting direct access to my public server resulted in an error because my security group was not configured to allow SSH traffic.

I fixed this error by adding an inbound rule that allows SSH traffic from anywhere.



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# Connectivity Between Servers

Ping is a networking utility used to test reachability. I used ping to test the connectivity between my public and private servers.

The ping command I ran was ping 192.168.1.28

The first ping returned nothing. This meant the private server was not reachable.

A screenshot of a terminal window on an Amazon Linux 2023 system. The terminal shows a decorative ASCII logo at the top, followed by the text "Amazon Linux 2023" and a URL "https://aws.amazon.com/linux/amazon-linux-2023". Below this, a command line is shown: "[ec2-user@ip-192-168-1-5 ~]\$ ping 192.168.1.28". The terminal then displays the output of the ping command: "PING 192.168.1.28 (192.168.1.28) 56(84) bytes of data." A single vertical bar character is visible at the end of the line, indicating the command is still running or has just finished.



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# Troubleshooting Connectivity

I troubleshooted this by checking the NACLs and security groups to see if any rules were denying my ICMP packets.

The screenshot shows a terminal window titled "Amazon Linux 2023" with the URL "https://aws.amazon.com/linux/amazon-linux-2023" visible in the address bar. The terminal output displays the results of a ping command:

```
[ec2-user@ip-192-168-1-5 ~]$ ping 192.168.1.28
PING 192.168.1.28 (192.168.1.28) 56(84) bytes of data.
64 bytes from 192.168.1.28: icmp_seq=901 ttl=127 time=1.92 ms
64 bytes from 192.168.1.28: icmp_seq=902 ttl=127 time=0.774 ms
64 bytes from 192.168.1.28: icmp_seq=903 ttl=127 time=1.49 ms
64 bytes from 192.168.1.28: icmp_seq=904 ttl=127 time=0.983 ms
64 bytes from 192.168.1.28: icmp_seq=905 ttl=127 time=1.44 ms
64 bytes from 192.168.1.28: icmp_seq=906 ttl=127 time=1.22 ms
64 bytes from 192.168.1.28: icmp_seq=907 ttl=127 time=0.821 ms
64 bytes from 192.168.1.28: icmp_seq=908 ttl=127 time=1.06 ms
64 bytes from 192.168.1.28: icmp_seq=909 ttl=127 time=0.769 ms
64 bytes from 192.168.1.28: icmp_seq=910 ttl=127 time=1.34 ms
64 bytes from 192.168.1.28: icmp_seq=911 ttl=127 time=1.33 ms
64 bytes from 192.168.1.28: icmp_seq=912 ttl=127 time=1.60 ms
64 bytes from 192.168.1.28: icmp_seq=913 ttl=127 time=1.35 ms
64 bytes from 192.168.1.28: icmp_seq=914 ttl=127 time=1.06 ms
64 bytes from 192.168.1.28: icmp_seq=915 ttl=127 time=1.26 ms
64 bytes from 192.168.1.28: icmp_seq=916 ttl=127 time=1.65 ms
64 bytes from 192.168.1.28: icmp_seq=917 ttl=127 time=0.822 ms
64 bytes from 192.168.1.28: icmp_seq=918 ttl=127 time=1.39 ms
64 bytes from 192.168.1.28: icmp_seq=919 ttl=127 time=1.37 ms
64 bytes from 192.168.1.28: icmp_seq=920 ttl=127 time=0.789 ms
64 bytes from 192.168.1.28: icmp_seq=921 ttl=127 time=1.01 ms
64 bytes from 192.168.1.28: icmp_seq=922 ttl=127 time=1.59 ms
64 bytes from 192.168.1.28: icmp_seq=923 ttl=127 time=1.15 ms
64 bytes from 192.168.1.28: icmp_seq=924 ttl=127 time=1.81 ms
64 bytes from 192.168.1.28: icmp_seq=925 ttl=127 time=0.92 ms
64 bytes from 192.168.1.28: icmp_seq=926 ttl=127 time=1.21 ms
64 bytes from 192.168.1.28: icmp_seq=927 ttl=127 time=1.40 ms
64 bytes from 192.168.1.28: icmp_seq=928 ttl=127 time=2.05 ms
64 bytes from 192.168.1.28: icmp_seq=929 ttl=127 time=0.924 ms
64 bytes from 192.168.1.28: icmp_seq=930 ttl=127 time=1.18 ms
64 bytes from 192.168.1.28: icmp_seq=931 ttl=127 time=1.29 ms
64 bytes from 192.168.1.28: icmp_seq=932 ttl=127 time=0.814 ms
```

At the bottom of the terminal window, the text "i-0f2ecc28abb0d1cff (SacNet Public Server)" and "PublicIPs: 52.55.29.166 PrivateIPs: 192.168.1.5" is displayed.



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# Connectivity to the Internet

curl is a command-line tool used to transfer data to or from a server using various protocols like HTTP, HTTPS, FTP, and more. It's commonly used to make API requests, download files, or test server responses.

I used curl to test the connectivity between my public server and the internet.

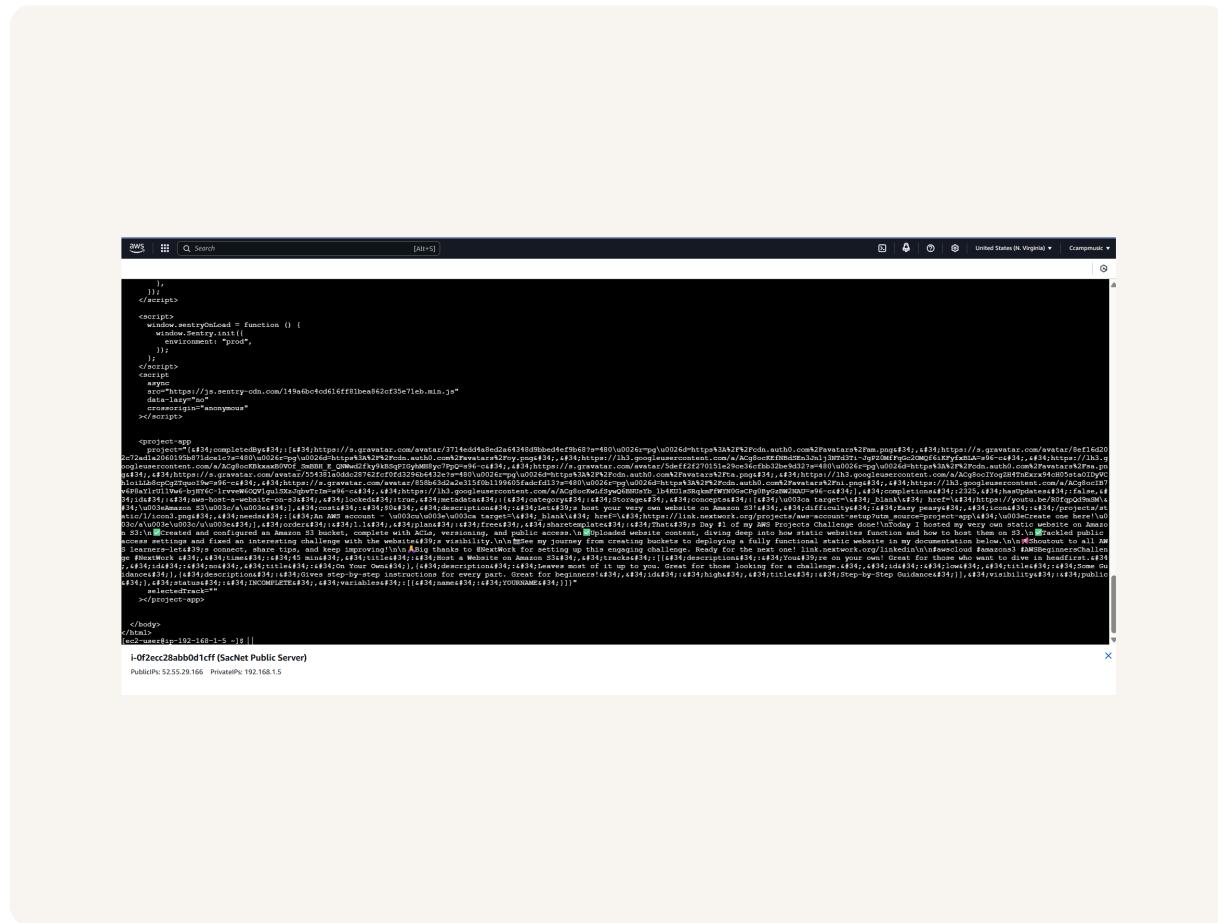
## Ping vs Curl

Ping and curl are different because ping checks if a server is reachable (network connection), while curl interacts with the server's applications (like websites or APIs).



# Connectivity to the Internet

I ran the curl command curl https://learn.nextwork.org/projects/aws-host-a-website-on-s3, which returned the website.





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