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Testing VPC Connectivity

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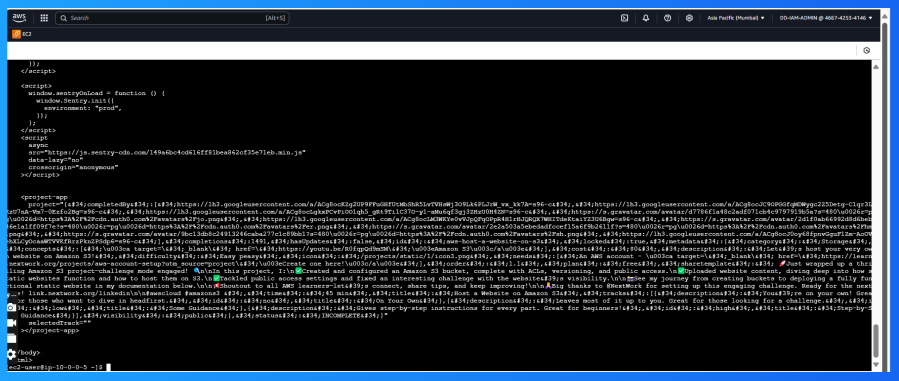


Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a virtual private cloud that allows you to create isolated networks in AWS. It's useful in this project for securely managing EC2 instances, controlling network traffic, and customizing configurations.

How I used Amazon VPC in this project

In today's project, I used Amazon VPC to create a network for my EC2 instances, configured a public subnet, and tested connectivity by connecting to the public server using SSH and curl for accessibility.

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

One thing I didn't expect in this project was the SSH connection. I updated the security group to permit ICMP requests from my IP address, allowing successful ping tests and ensuring network connectivity between my local machine and the EC2 instance.

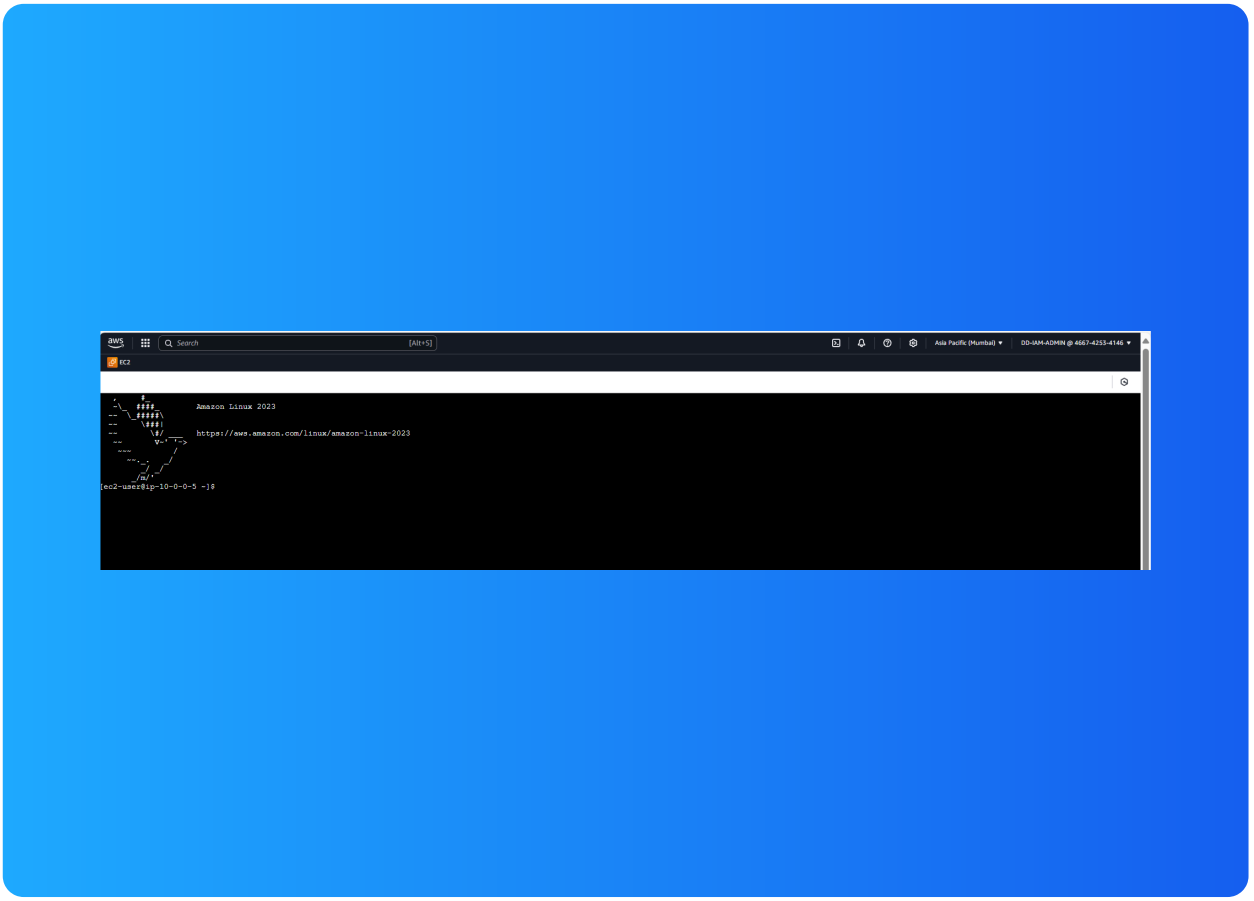
This project took me...

This project took me a few hours to complete, including setting up the VPC, configuring the security groups, and troubleshooting connectivity issues with the public server.

Connecting to an EC2 Instance

Connectivity means the ability of devices, systems, or networks to communicate and exchange data with each other. In cloud environments, it refers to the network connections between resources like servers, subnets, and the internet.

My first connectivity test was whether I could connect to my EC2 instance in the public subnet using SSH, ensuring that the security groups and network settings were properly configured for external access.

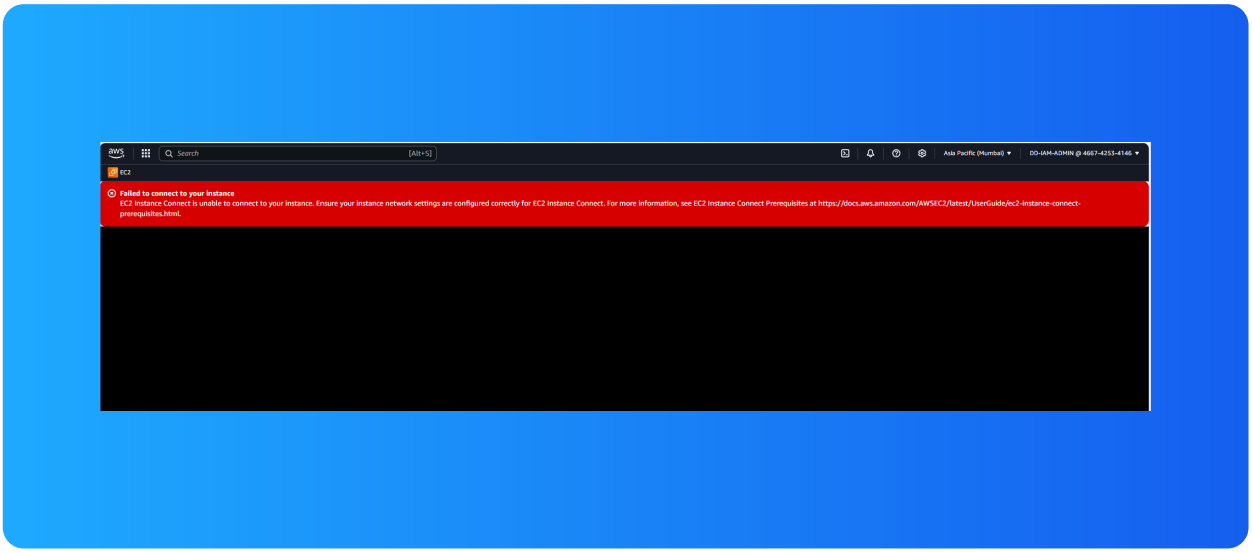


EC2 Instance Connect

I connected to my EC2 instance using EC2 Instance Connect, which is a browser-based SSH tool provided by AWS. It allows secure, keyless access to EC2 instances without needing to configure SSH clients.

My first attempt at getting direct access to my public server resulted in an error, because the security group wasn't configured to allow inbound SSH traffic on port 22, blocking the connection attempt.

I fixed this error by updating the security group to allow inbound SSH traffic on port 22 from my IP address, ensuring proper access to the EC2 instance for remote connections.

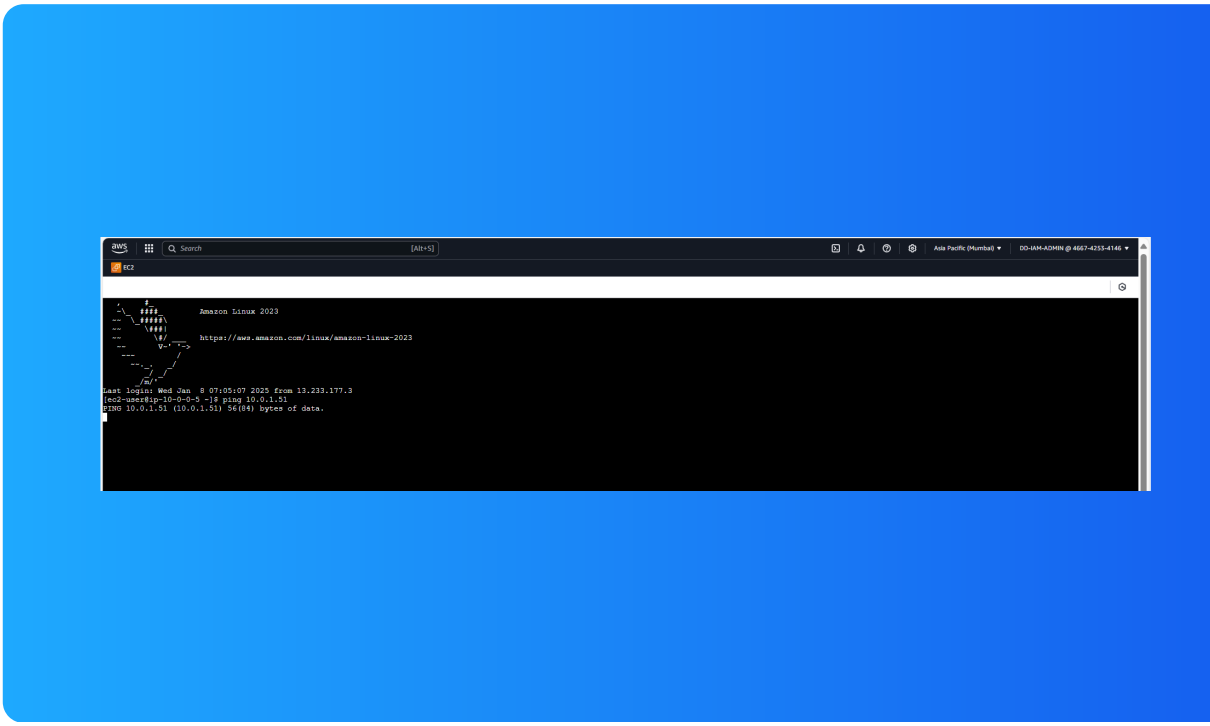


Connectivity Between Servers

Ping is a network utility that sends ICMP echo requests to check if a device is reachable and responding. I used ping to test the connectivity between my local machine and the EC2 instance to ensure network access.

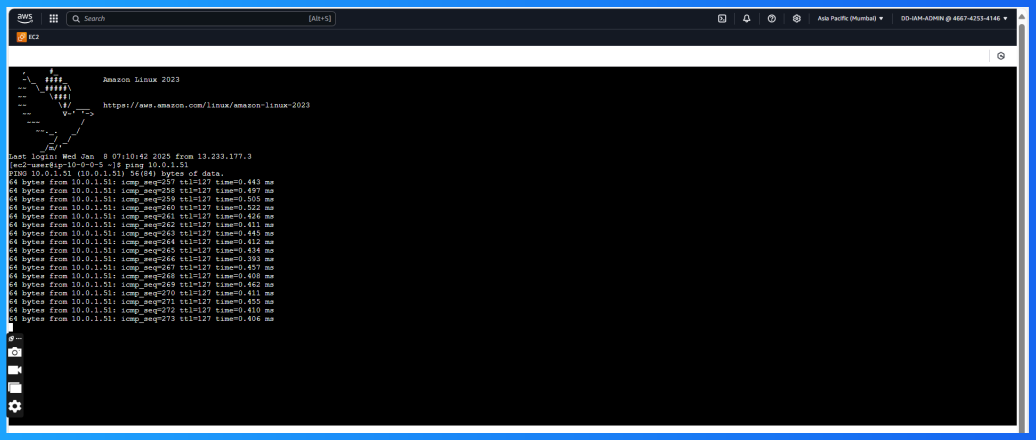
The ping command I ran was ping <EC2-instance-public-IP>, where I replaced <EC2-instance-public-IP> with the actual public IP address of my EC2 instance to check its network connectivity.

The first ping returned a timeout error. This meant that the EC2 instance was unreachable, likely due to network or security group configuration issues preventing inbound ICMP traffic.



Troubleshooting Connectivity

I troubleshooted this by reviewing the security group settings and confirming that ICMP traffic was allowed for inbound connections. I then updated the security group to permit ICMP requests from my IP address.



Connectivity to the Internet

Curl is a command-line tool used to transfer data to or from a server using various protocols, such as HTTP, HTTPS, FTP, and more. It is commonly used to test web servers and APIs by sending requests and receiving responses.

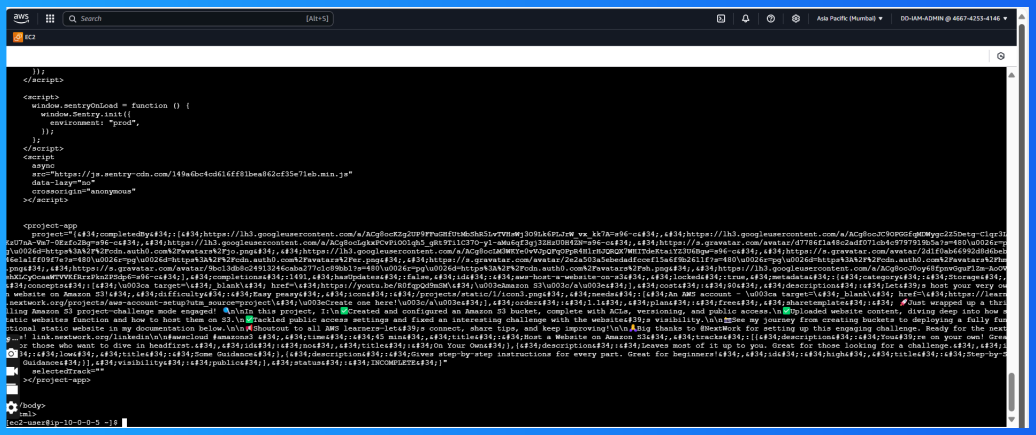
I used curl to test the connectivity between my local machine and the web server running on my EC2 instance, verifying if the HTTP service was accessible and responding to requests properly.

Ping vs Curl

Ping and curl are different because ping tests network connectivity using ICMP requests, while curl is used to send and receive data over protocols like HTTP/HTTPS, testing server responses, not just network reachability.

Connectivity to the Internet

I ran the curl command curl curl <https://learn.nextwork.org/projects/aws-host-a-website-on-s3> which returned the HTML content of the default webpage served by the EC2 instance, confirming that the web server was accessible and responding.



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