Testing VPC Connectivity

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Introducing Today's Project!

What is Amazon VPC?

A VPC enables users to launch AWS resources, such as EC2 instances, RDS databases, and other services, in a virtual network that they define.

How I used Amazon VPC in this project

I use Amazon VPC to test the connectivity between how to communication between public and private server and how to make it secure.

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

I didn't expect this project to be so good. I learned a lot and it was difficult. Which makes me feel like I leveled up with confidence, knowledge, and practical experience.

This project took me…

This project took me about 2 hours and 30 mins to complete.

Connecting to an EC2 Instance

Connectivity means getting resources in our network to communicate with each other, and how well they can communicate/deliver data to each other. Without connectivity, resources in our network cannot communicate e.g. users can't access our app.

My first connectivity test was whether I could connect to my network's Public Server (an EC2 instance).
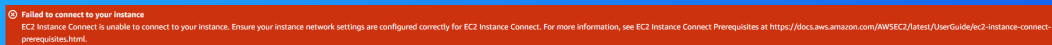
EC2 Instance Connect

I connected to my EC2 instance using EC2 Instance Connect, which is a tool that allows us to directly access an EC2 instance using the AWS Management Console. We no longer need to manage key pairs or use SSH client to connect to our EC2 instance.

My first attempt at getting direct access to my public server resulted in an error, because my Private Server had a security group that did not allow SSH traffic - it only allow HTTP traffic i.e. a different protocol.

I fixed this error by adding a new inbound rule in my Private Server's security group that allows SSH traffic from anywhere.

Connectivity Between Servers

Ping is... I used ping to test the connectivity between two servers and also the response times. I used ping to test the connectivity between my Public and Private Servers.

The ping command I ran was ping followed by the private IPV4 address.

The first ping returned no replies from the Private Server. This meant security settings with my private server was blocking inbound ICMP traffic, which is the traffic type of ping messages.

Troubleshooting Connectivity

I troubleshooted this by enabling ICMP traffic in my private server's network ACLs and security groups!

Connectivity to the Internet

Curl is a tool to test connectivity in a network. 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!

I used curl to test the connectivity between my Public Server and the internet.

Ping vs Curl

Ping and curl are different because they return different responses to my Public Server's terminal. Ping responds with a report on the performance of connectivity with my Private Server, and Curl responded with Html data from another public server!

Connectivity to the Internet

I ran the curl command `curl https://learn.nextwork.org/projects/aws-host-a-website-on-s3` which returned the HTML content of NextWork's first project guide.

Everyone should be in a job they love.

Check out nextwork.org for more projects