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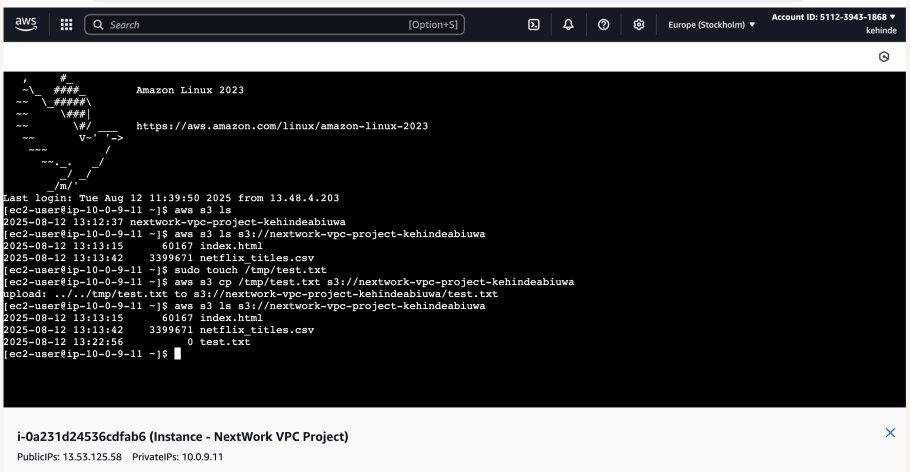
Access S3 from a VPC

Kehinde Abiuwa



Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a customizable virtual network in AWS that is useful because it lets you securely control, isolate, and manage how your AWS resources communicate with each other and the internet.

How I used Amazon VPC in this project

I used Amazon VPC in today's project by creating a new VPC and launching an EC2 instance inside it, then creating an S3 bucket (outside the VPC) and configuring the EC2 instance in my VPC to interact with the S3 bucket.

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

It was good

This project took me...

25mins

In the first part of my project...

Step 1 - Architecture set up

In this step I am going to create a VPC from scratch and then Launch an EC2 instance into your VPC.

Step 2 - Connect to my EC2 instance

In this step, I am going to Connect directly to the EC2 instance.

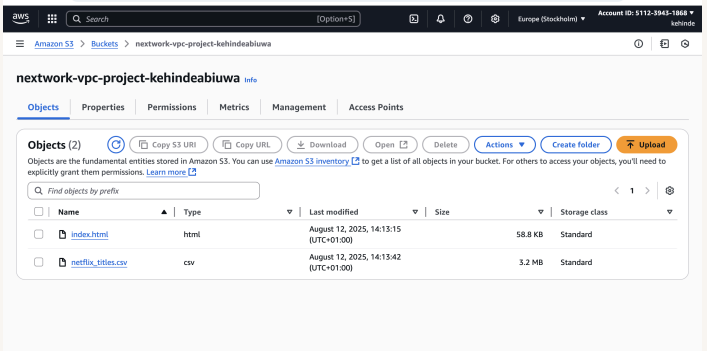
Step 3 - Set up access keys

In this step I am going to Give the EC2 instance access to my AWS environment.

Architecture set up

I started my project by launching a VPC and then launching an ec2 instance in the VPC

I also set up a S3 bucket and uploaded 2 files into it titled index.html and netflix_titles.csv



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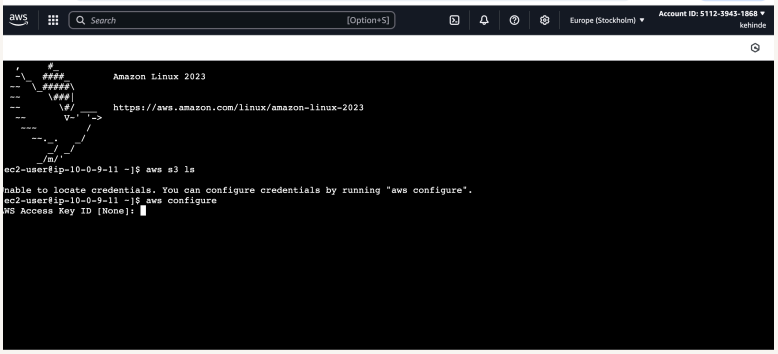
Running CLI commands

AWS CLI is a unified command-line tool that enables you to manage and interact with AWS services using simple commands. I have access to AWS CLI because it's preinstalled on my EC2 instance and automatically uses the credentials provided by the IAM role attached to that instance

The first command I ran was 'aws s3 ls'. This command is used to see a list of your account's S3 buckets.

The second command I ran was 'aws configure'. This command is used to setup credentials for the ec2 instance to be able to see resources in my s3 bucket



Access keys

Credentials

To set up my EC2 instance to interact with my AWS environment, I configured the AWS CLI using the aws configure command, which stores my access key ID, secret access key, default region, and preferred output format so the CLI can authenticate and run commands against AWS services

Access keys are a combination of an Access Key ID and a Secret Access Key that function like a username and password for programmatic access to your AWS account, allowing applications and CLI tools to authenticate and make API calls on your behalf.

Secret access keys are the confidential part of an AWS access key pair, used together with the access key ID to securely sign API requests, and must be kept private because anyone who has them can gain programmatic access to your AWS resources.

Best practice

Although I'm using access keys in this project, a best practice alternative is to use an IAM role attached to the EC2 instance, which automatically provides temporary credentials through the instance metadata service, removing the need to manually create, store, or rotate access keys

In the second part of my project...

Step 4 - Set up an S3 bucket

In this step I am going to launch a bucket in Amazon S3.

Step 5 - Connecting to my S3 bucket

In this step, I am going to go back to my EC2 instance and Get my EC2 instance to interact with your S3 bucket.

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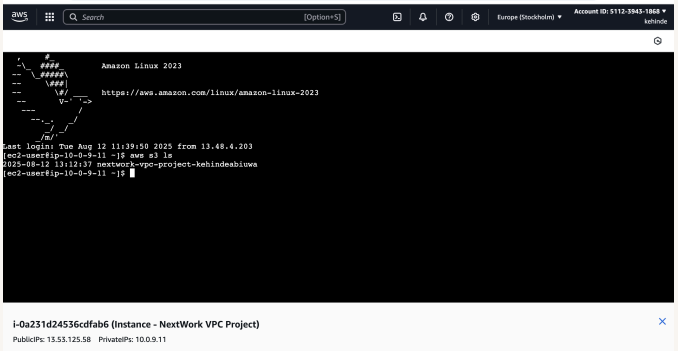
Connecting to my S3 bucket

The first command I ran was 'aws s3 ls'. This command is used to see a list of your account's S3 buckets.

When I ran the command 'aws s3 ls' again, the terminal responded with a list of my s3 buckets. This indicated that the ec2 instance is interacting with my s3 buckets



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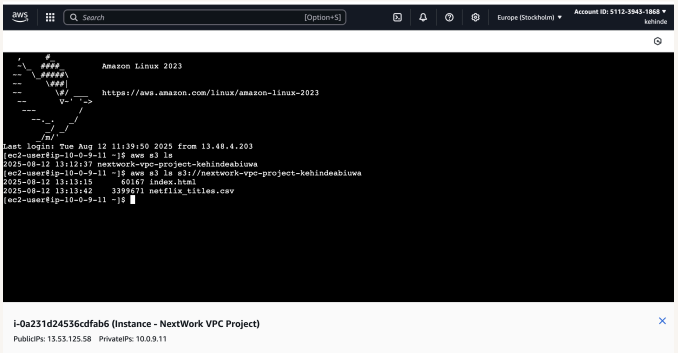
Connecting to my S3 bucket

Another CLI command I ran was 'aws s3 ls s3://nextwork-vpc-project-kehindeabiuwa'. Which returned a list of all the files stored in my s3 bucket.



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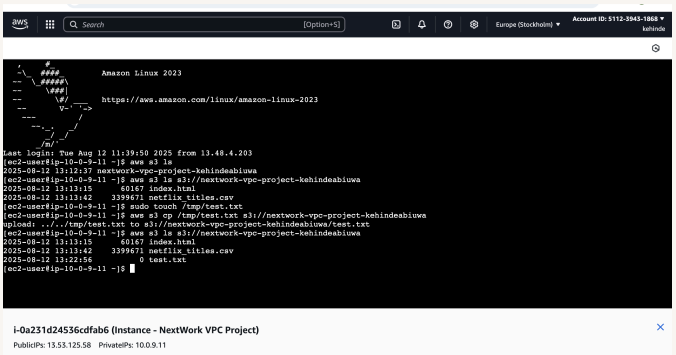
Uploading objects to S3

To upload a new file to my bucket, I first ran the command 'sudo touch /tmp/test.txt'. This command creates an empty file named test.txt in the /tmp folder with root-level permissions.

The second command I ran was 'aws s3 cp /tmp/test.txt s3://nextwork-vpc-project-kehindeabiuwa'. This command will upload the file /tmp/test.txt from my EC2 instance to my S3 bucket named nextwork-vpc-project-kehindeabiuwa.

The third command I ran was 'aws s3 ls s3://nextwork-vpc-project-kehindeabiuwa'. which validated that the test.txt file was succesfully uploaded to my s3 bucket from my ec2 instance



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