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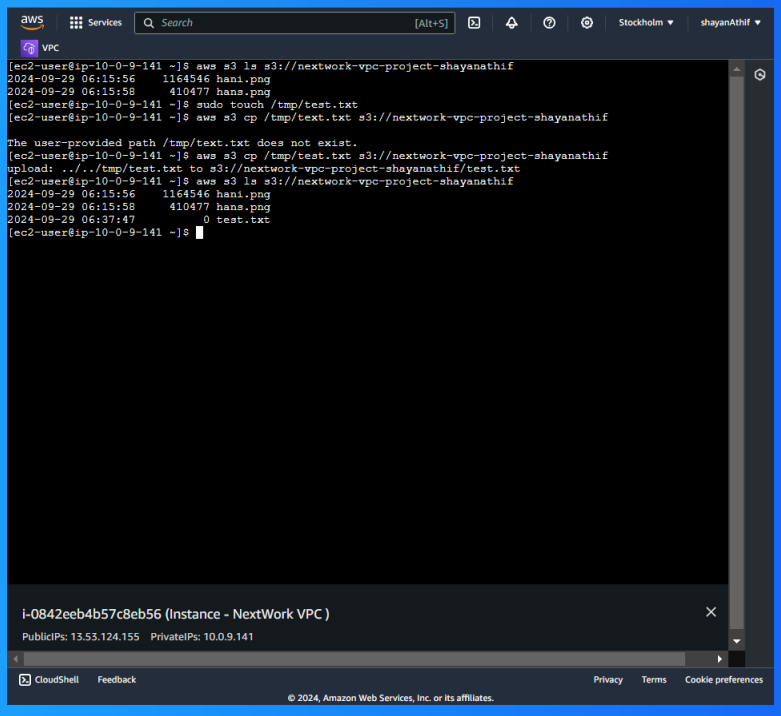
Access S3 from a VPC

sirajudeen athif



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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a service that allows users to create private networks within the AWS cloud. It provides enhanced security, customizable network configurations and easy scalability.

How I used Amazon VPC in this project

In today's project, I created a VPC, launched an EC2 instance, and accessed an S3 bucket through this instance. This involved setting up IAM roles for secure access, validating permissions, and using the AWS CLI to interact with the S3 bucket.

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

Using three different AWS services today felt manageable. I created a VPC, launched an EC2 instance, and accessed an S3 bucket.

This project took me...

Around a 100 minutes.

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In the first part of my project...

Step 1 - Architecture set up

We will set up the VPC and EC2 instance here, after which we will access Amazon S3 from this VPC without using the VPC endpoint.

Step 2 - Connect to my EC2 instance

In this step, we will connect to the EC2 instance and access an AWS service, specifically AWS S3. This involves ensuring the instance has the necessary IAM role and permissions to interact with S3 effectively.

Step 3 - Set up access keys

So far, we have learned that the EC2 instance requires credentials to access AWS services. In this step, we will set up access keys by creating an IAM user and generating the access key ID and secret access key.

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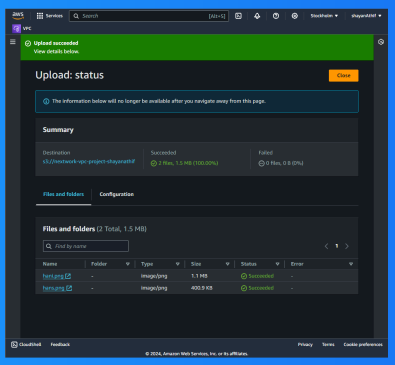
Architecture set up

I started my project by launching an EC2 instance named "Instance - NextWork VPC Project." This involved selecting the appropriate Amazon Machine Image (AMI) and configuring the instance settings to meet the project's requirements.

I also set up an S3 bucket and uploaded two images from my computer to the bucket. This process involved creating the bucket in the AWS Management Console and using the upload feature to transfer the images directly.



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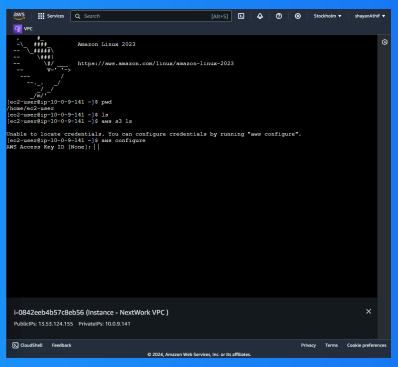
Running CLI commands

The AWS CLI is a powerful tool that you install on your computer to manage AWS services directly from the command line. It allows you to control multiple services and automate tasks through scripts.

The first command I ran was aws s3 ls. This command is used to list all the S3 buckets in the current account, providing an overview of the storage resources available.

The second command I ran was aws configure. This command is used to enter your credentials so you can access AWS services from the EC2 instance.



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Access keys

Credentials

To set up my EC2 instance to interact with my AWS environment, I configured an IAM role with the necessary permissions. This role allows the instance to access AWS services (like Amazon S3) securely.

Access keys are credentials that allow applications and servers to log into AWS and interact with your AWS services and resources.

The secret access key acts like a password that pairs with your access key ID (your username). You need both to access AWS services securely. If you lose the secret key, you must create a new access key pair, as it cannot be retrieved later.

Best practice

Although I'm using access keys in this project, a best practice alternative is to use AWS CloudShell or AWS CLI V2.

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In the second part of my project...

Step 4 - Set up an S3 bucket

Here, we will launch a bucket in Amazon S3, which we will then access through the EC2 instance using the AWS CLI.

Step 5 - Connecting to my S3 bucket

Now, we will connect the EC2 instance to the S3 bucket.

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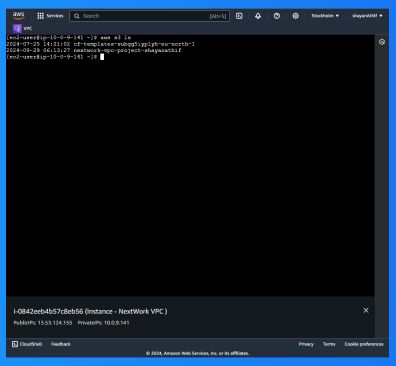
Connecting to my S3 bucket

The first command I ran was aws s3 ls. This command is used to list all the S3 buckets in the current account, providing an overview of the storage resources available.

When I ran the command "aws s3 ls" again, the terminal responded with 2024-07-25 14:21:02 cf-templates-subgg5iyp1yh-eu-north-1 2024-09-29 06:13:27 nextwork-vpc-project-shayanathif This indicated that I successfully listed the S3 buckets.



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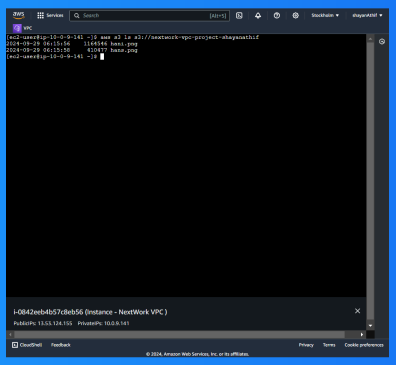
Connecting to my S3 bucket

Another CLI command I ran was aws s3 ls s3://nextwork-vpc-project-shayanathif, which returned: 2024-09-29 06:15:56 1164546 hani.png 2024-09-29 06:15:58 410477 hans.png This were the two images I initially uploaded to the S3 bucket.



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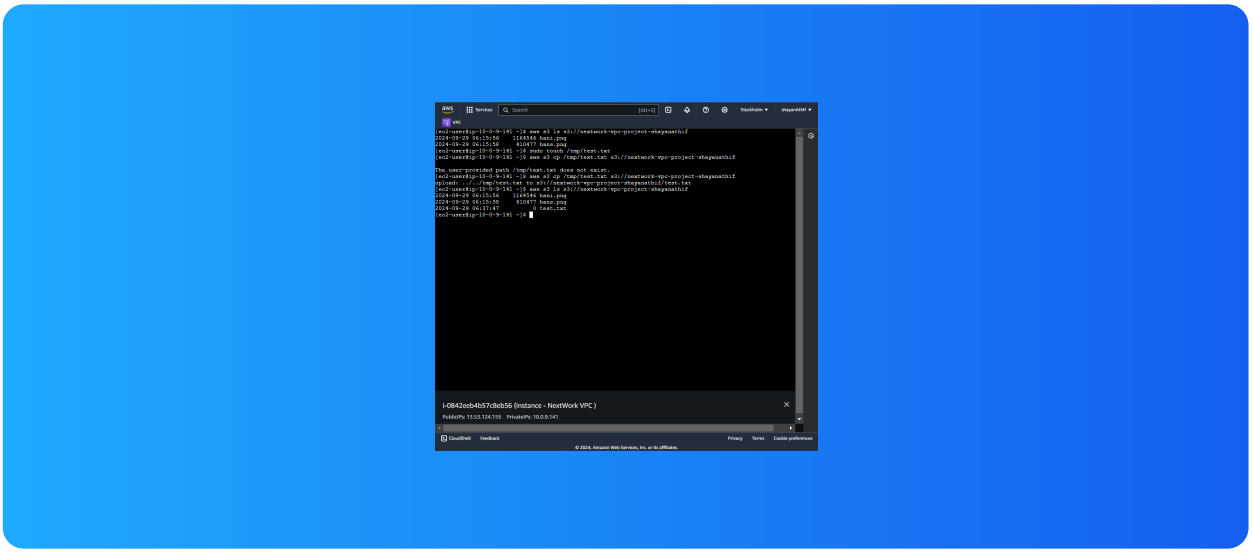
Uploading objects to S3

To upload a new file to my bucket, I first ran the command aws s3 cp /tmp/test.txt s3://nextwork-vpc-project-shayanathif. This command creates a blank .txt file in your EC2 instance.

The second command I ran was aws s3 cp /tmp/test.txt s3://nextwork-vpc-project-shayanathif. This command will upload the empty text file into your S3 bucket.

The third command I ran was aws s3 ls s3://nextwork-vpc-project-shayanathif, which validated that the text file was successfully uploaded to the S3 bucket.



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