



Access S3 from a VPC



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```
[ec2-user@ip-10-0-3-196 ~]$ aws s3 cp /tmp/test.txt s3://nextwork-vpc-project-nikhil
upload: ../../tmp/test.txt to s3://nextwork-vpc-project-nikhil/test.txt
[ec2-user@ip-10-0-3-196 ~]$ aws s3 ls s3://nextwork-vpc-project-nikhil
2024-11-03 16:04:23    2431554 ex1.png
2024-11-03 16:04:24    2399812 ex2.png
2024-11-03 16:36:51      0 test.txt
[ec2-user@ip-10-0-3-196 ~]$ █
```

Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a private isolated network in the cloud where you can securely run resources like servers and databases. It's useful because it gives full control over network settings, security and connectivity to the internet.

How I used Amazon VPC in this project

Today I used Amazon VPC to access S3 from a VPC.

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

One thing I didnt expect was I can upload files from my local file to S3 bucket in just 1 command line through CLI.

This project took me...

I took around 1 and a half hour in this project.

In the first part of my project...

Step 1 - Architecture set up

In this step I will create a VPC from scratch and then launch an EC2 instance into my VPC.

Step 2 - Connect to my EC2 instance

Next step is to connect directly to your EC2 instance.

Step 3 - Set up access keys

In this step I will give my EC2 instance access to my AWS environment.

Architecture set up

I started my project by launching a VPC and an EC2.

I also set up an S3 bucket and added 2 files as an example.

Files and folders (2 Total, 4.6 MB)						
<input type="text"/> Find by name						
Name	Folder	Type	Size	Status	Error	Actions
ex1.png	-	image/png	2.3 MB	Success Succeeded	-	
ex2.png	-	image/png	2.3 MB	Success Succeeded	-	

Running CLI commands

AWS CLI is to control AWS services directly from the command line i.e. terminal. I have access to AWS CLI because all EC2 instances come with it already installed.

The first command I ran was "aws s3 ls" This command is used to list all S3 buckets in my account.

The second command I ran was "aws configure" This command is used to configure credentials.

```
A newer release of "Amazon Linux" is available.
  Version 2023.6.20241028:
  Version 2023.6.20241031:
Run "/usr/bin/dnf check-release-update" for full release and version update info
      #_
      _###_
      _###\ Amazon Linux 2023
      \###|
      \#/
      V~,->
      ~~~
      /\
      /_/
      /_/
      /_/
[ec2-user@ip-10-0-3-196 ~]$ aws s3 ls

Unable to locate credentials. You can configure credentials by running "aws configure".
[ec2-user@ip-10-0-3-196 ~]$ aws configure
AWS Access Key ID [None]: 
```

Access keys

Credentials

To set up my EC2 instance to interact with my AWS environment, I configured an access and secret key to have the credentials to list S3 buckets in my account.

Access keys are credentials for my applications and other servers to log into AWS and talk to my AWS services and resources.

Secret access keys are like the password that pairs with your access key ID (your username). You need both to access AWS services.

Best practice

Although I'm using access keys in this project, a best practice alternative is to use IAM roles for secure and temporary access.

In the second part of my project...

Step 4 - Set up an S3 bucket

Next thing to do is launch a bucket in Amazon S3.

Step 5 - Connecting to my S3 bucket

Now I will head back to my EC2 instance and get my EC2 instance to interact with my S3 bucket.

Connecting to my S3 bucket

The first command I ran was "aws s3 ls" This command is used to list all S3 buckets in my account.

When I ran the command "aws s3 ls" again, the terminal responded with the s3 buckets I have in my account. This indicated that credentials were accepted with the access/secret key.

```
[ec2-user@ip-10-0-3-196 ~]$ aws s3 ls
2024-11-03 16:01:18 nextwork-vpc-project-nikhil
[ec2-user@ip-10-0-3-196 ~]$ █
```

Connecting to my S3 bucket

Another CLI command I ran was "aws s3 ls s3://nextwork-vpc-project-nikhil" which returned the list of the objects stored inside the s3 bucket.

```
[ec2-user@ip-10-0-3-196 ~]$ aws s3 ls s3://nextwork-vpc-project-nikhil
2024-11-03 16:04:23    2431554 ex1.png
2024-11-03 16:04:24    2399812 ex2.png
[ec2-user@ip-10-0-3-196 ~]$ █
```

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 a blank .txt file in your EC2 instance.

The second command I ran was "aws s3 cp /tmp/test.txt s3://nextwork-vpc-project-nikhil". This command will upload the txt. file to the s3 bucket.

The third command I ran was "aws s3 ls s3://nextwork-vpc-project-nikhil" which validated that the .txt file was correctly uploaded.

```
[ec2-user@ip-10-0-3-196 ~]$ aws s3 cp /tmp/test.txt s3://nextwork-vpc-project-nikhil
upload: ../../tmp/test.txt to s3://nextwork-vpc-project-nikhil/test.txt
[ec2-user@ip-10-0-3-196 ~]$ aws s3 ls s3://nextwork-vpc-project-nikhil
2024-11-03 16:04:23      2431554 ex1.png
2024-11-03 16:04:24      2399812 ex2.png
2024-11-03 16:36:51          0 test.txt
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