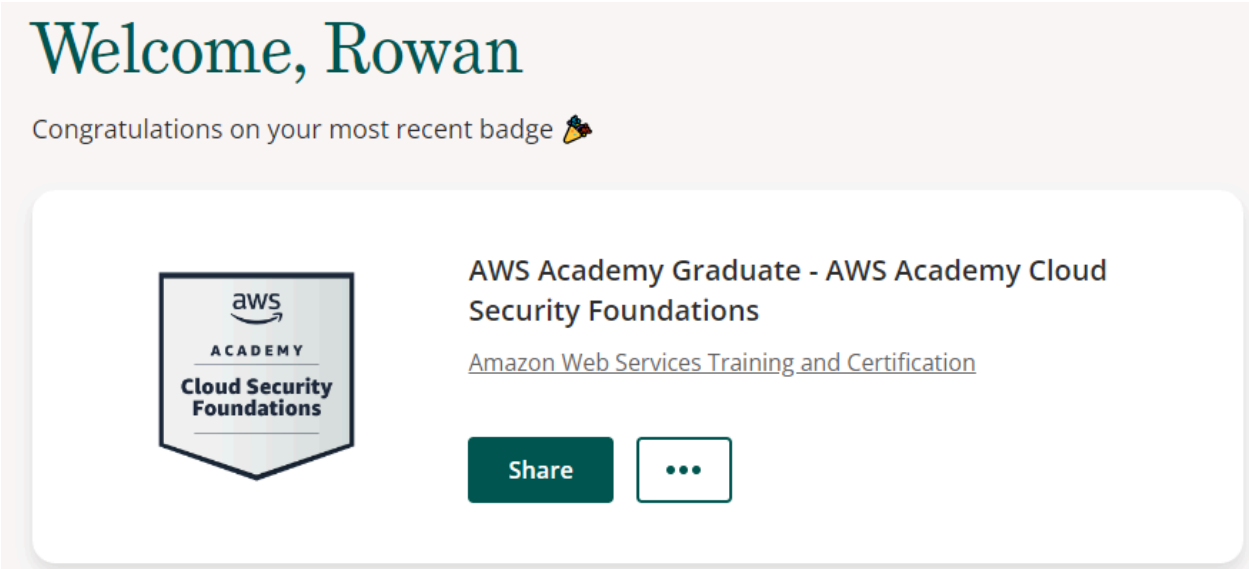
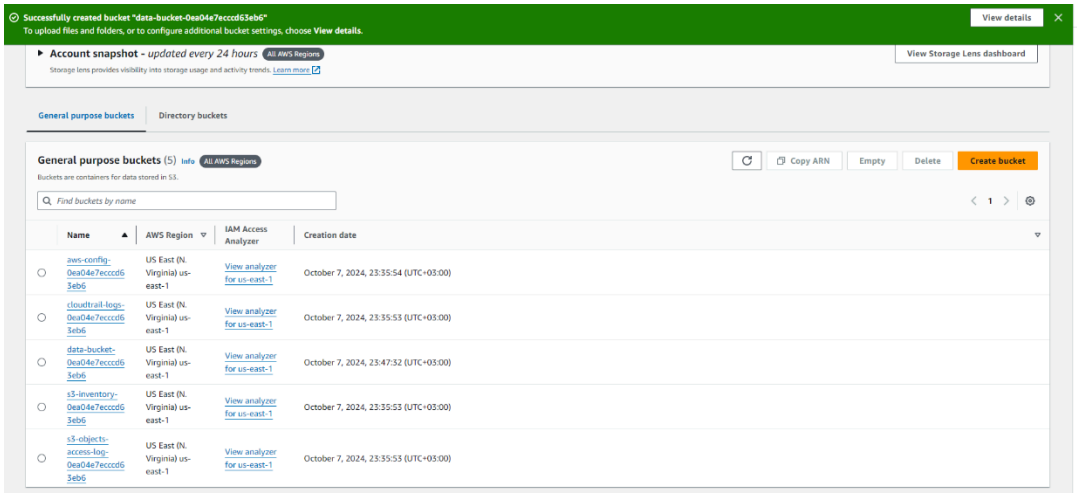
AWS Academy Lab Project - Cloud Security Builder

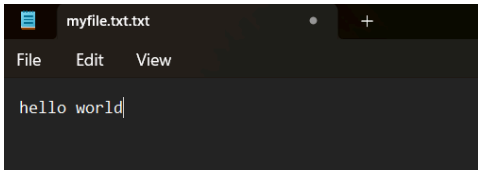


Phase 1: Securing data in Amazon S3

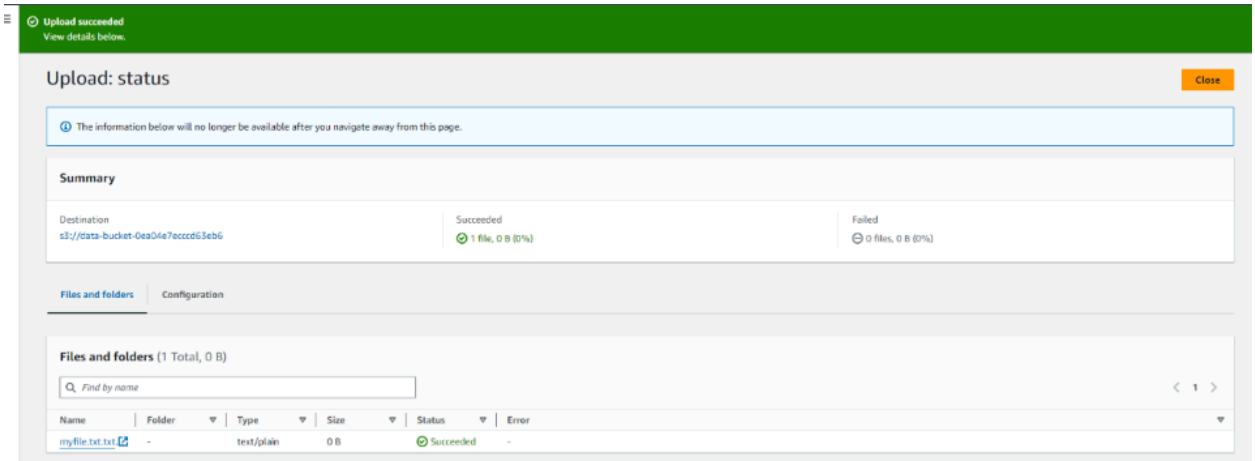
Task 1.1: Create a bucket, apply a bucket policy, and test access



Creating a text file contain “Hello World”

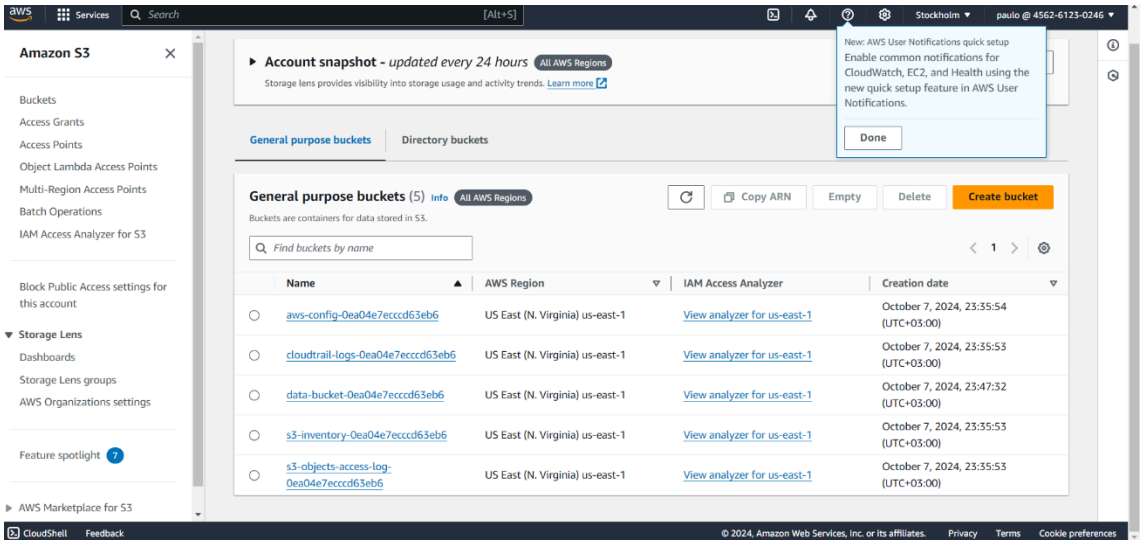


Uploading text file contains hello world

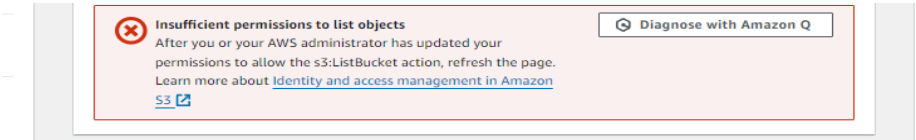


change policies

Verify 1 Paolo see our S3

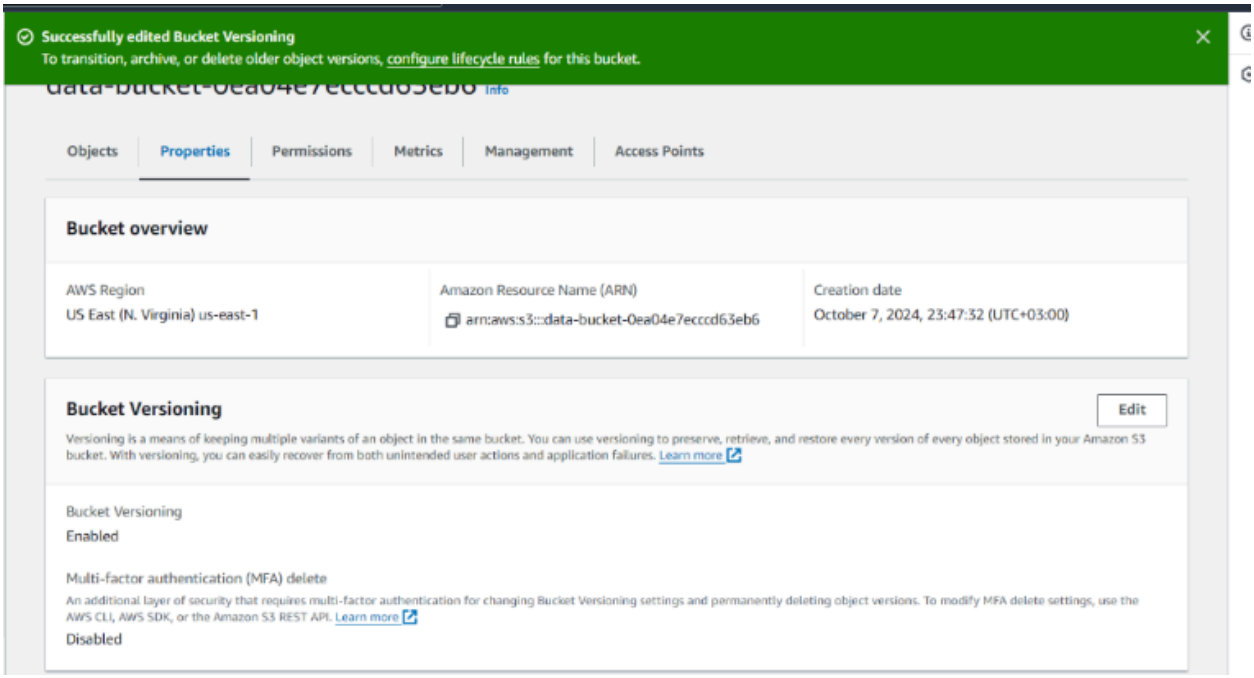


- Verification 2 Mary Denies



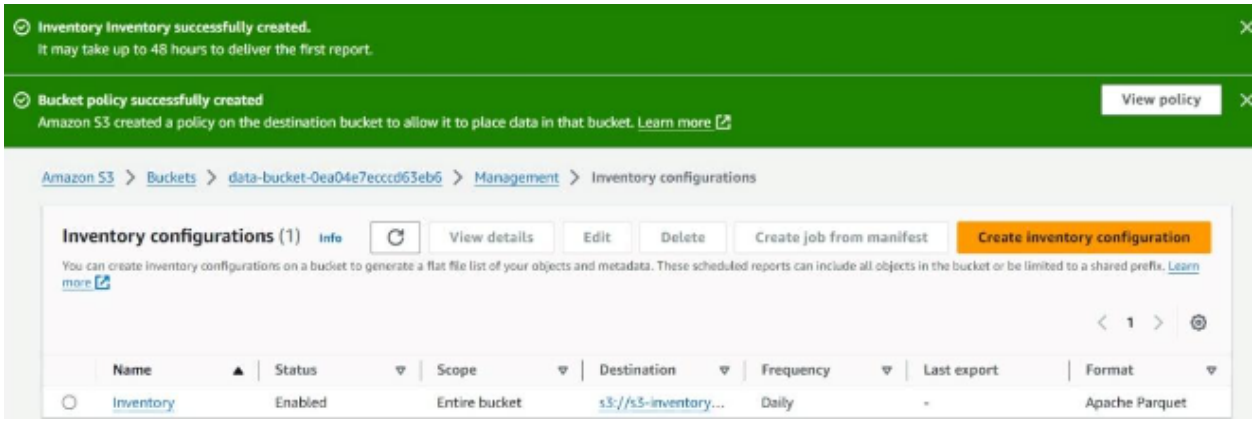
Task 1.2: Enable versioning and object-level logging on a bucket

Edit the bucket to be enabled



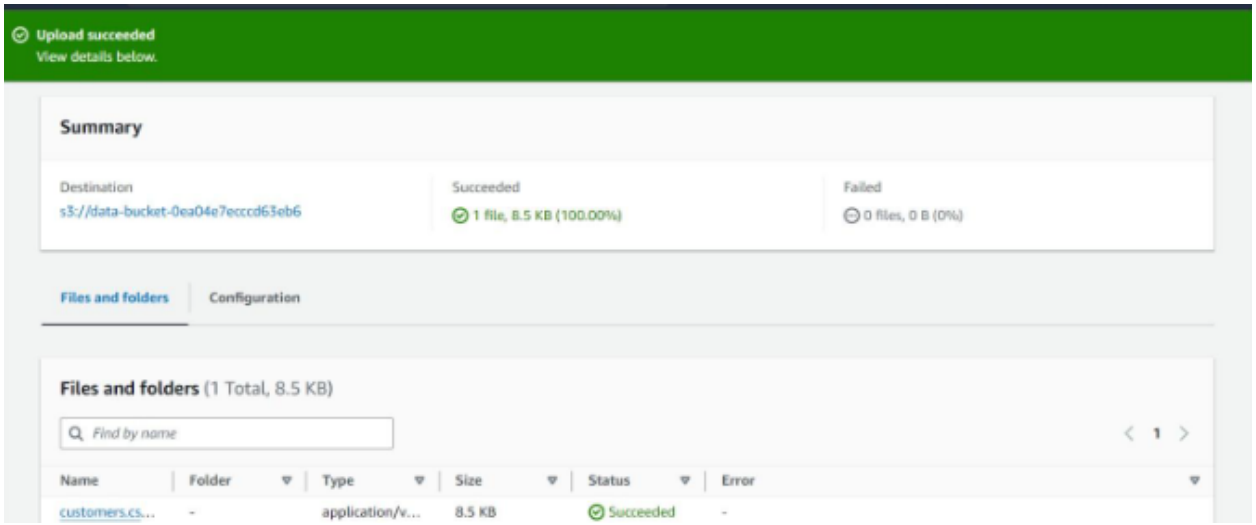
Task 1.3: Implement the S3 Inventory feature on a bucket

Creating Inventory

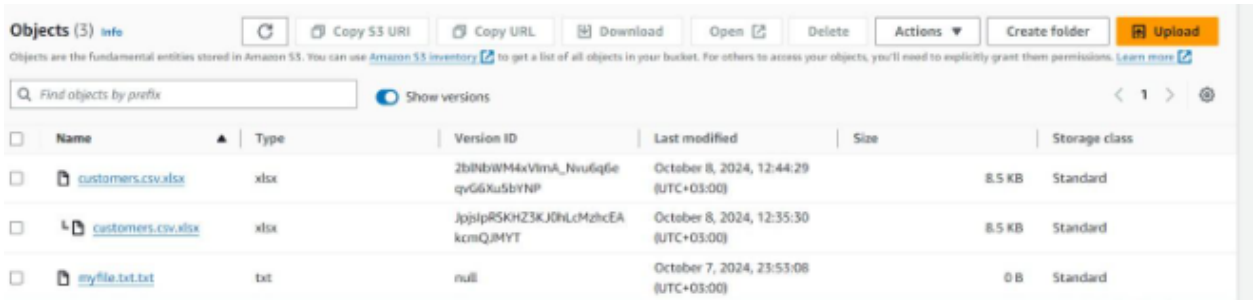


Task 1.4: Confirm that versioning works as intended

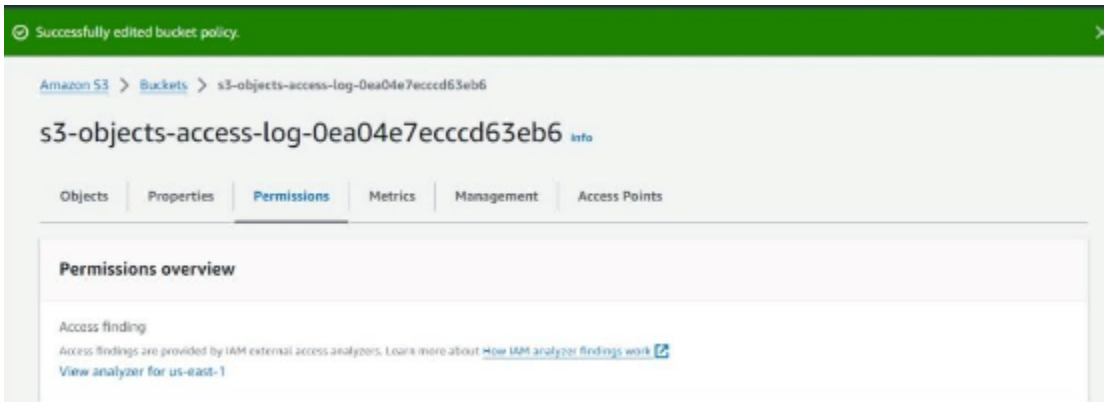
Upload Excel file update in the bucket from Paolo's account



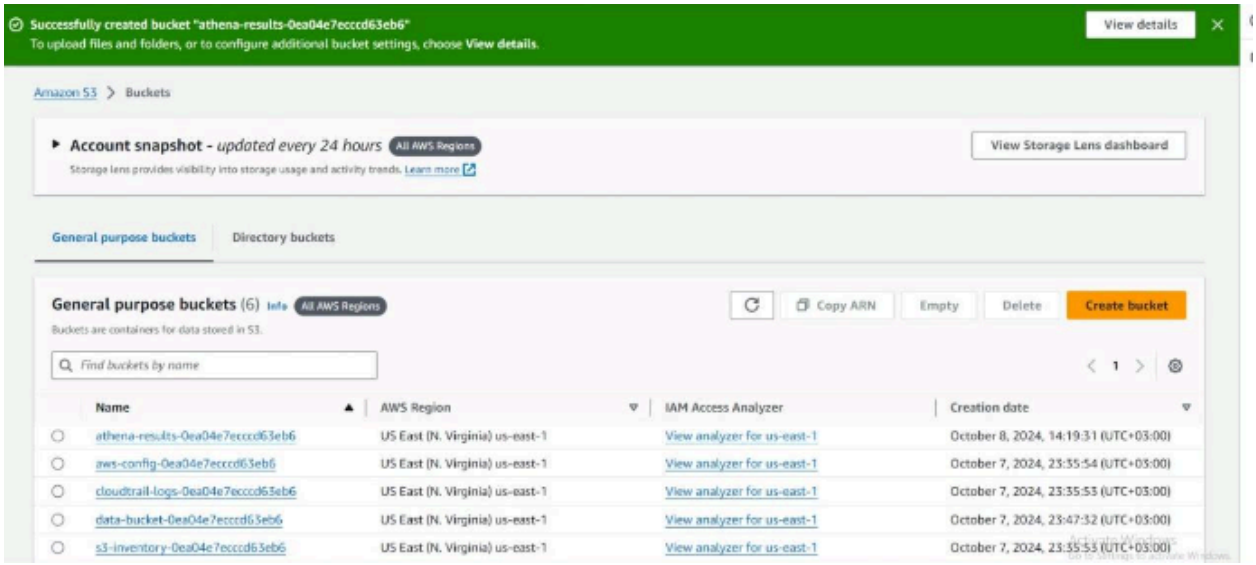
Testing the versioning working



Added access within the access bucket



Create Athena bucket



Task 1.4: Confirm that versioning works as intended

Creating new working group

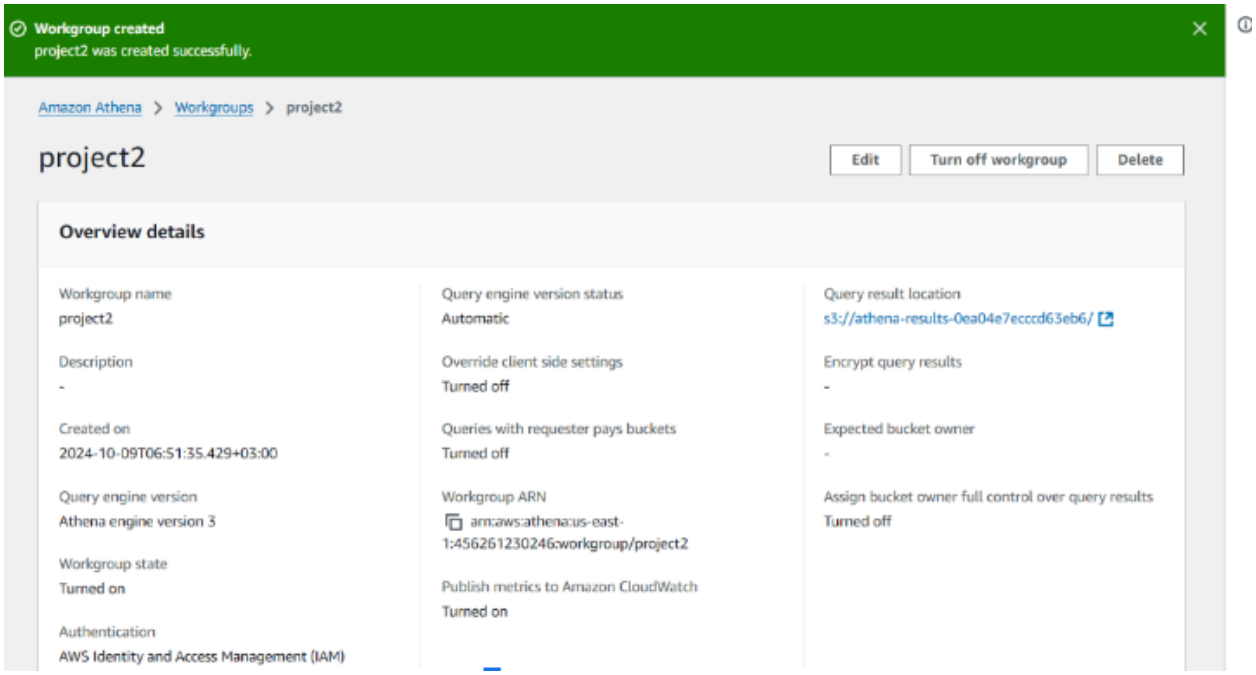
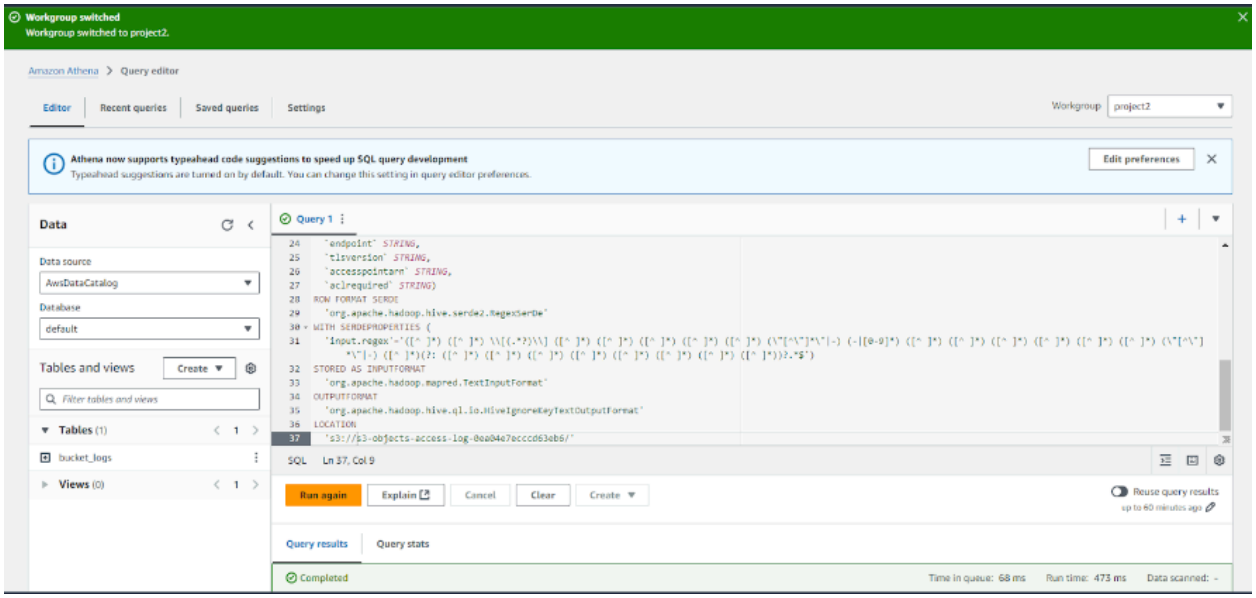
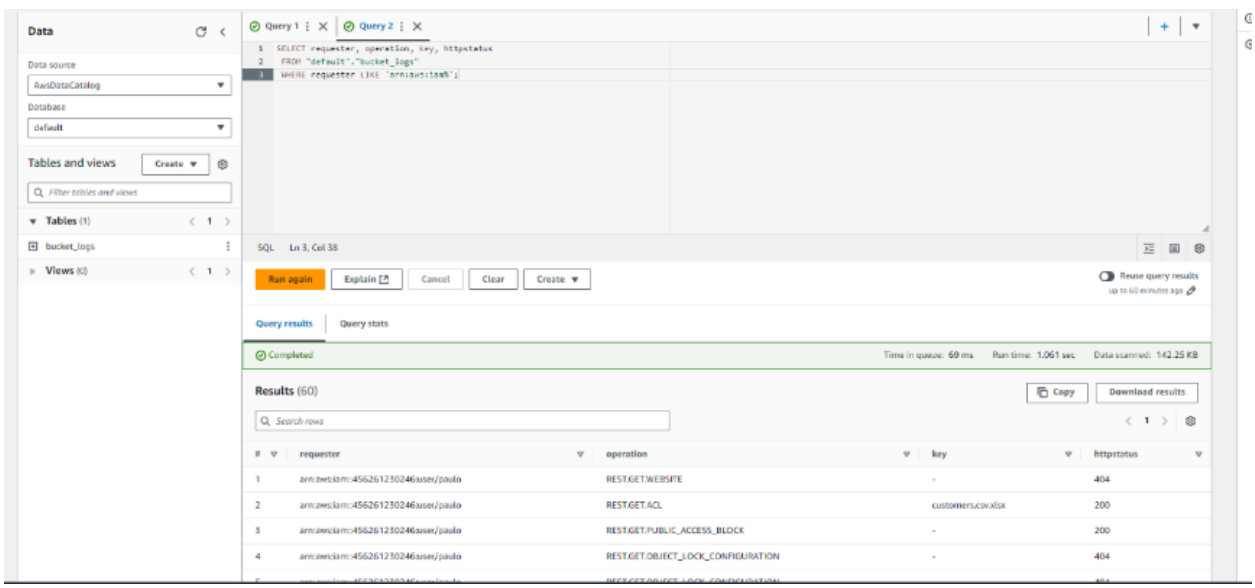


Table query created in the project 2 workgroup



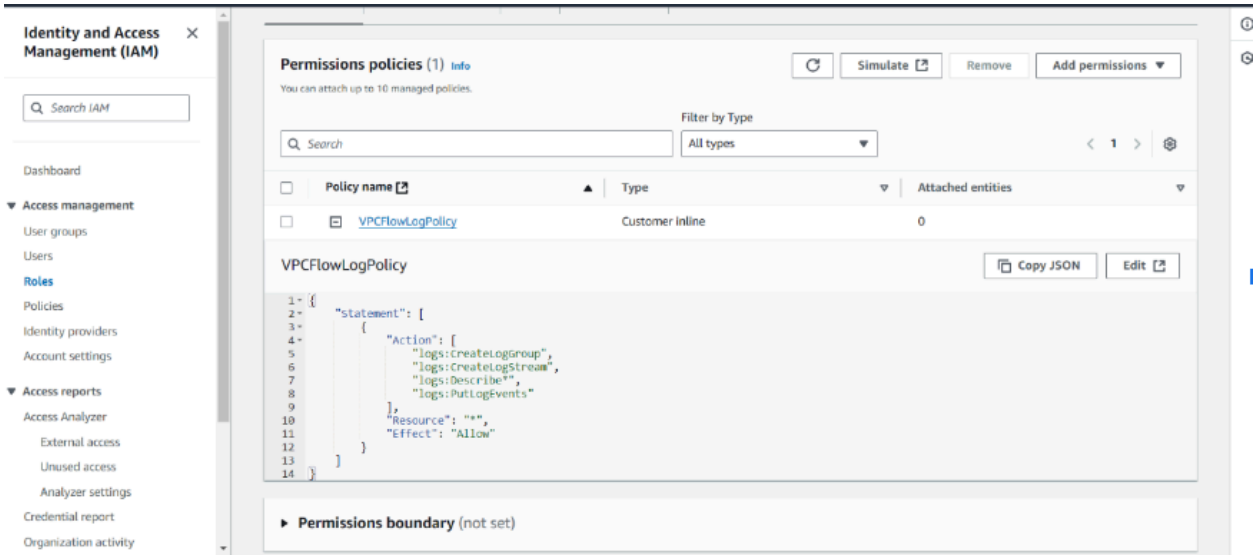
Running different queries



Phase 2: Securing VPCs

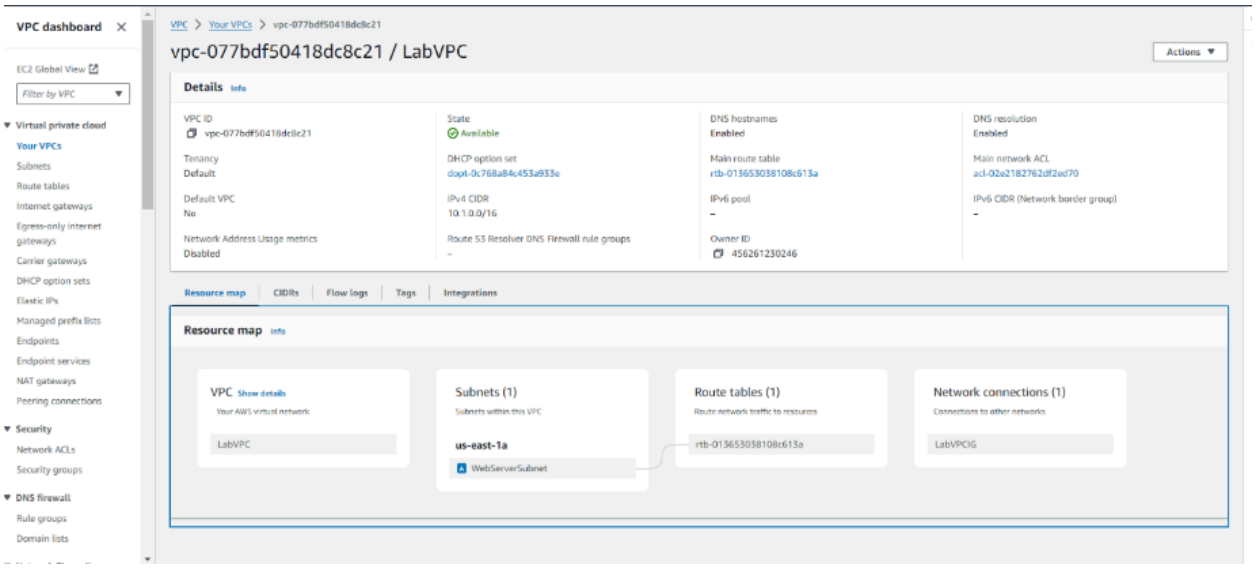
Task 2.1: Review LabVPC and its associated resources

VPC FlowLogs Role script IAM role 1



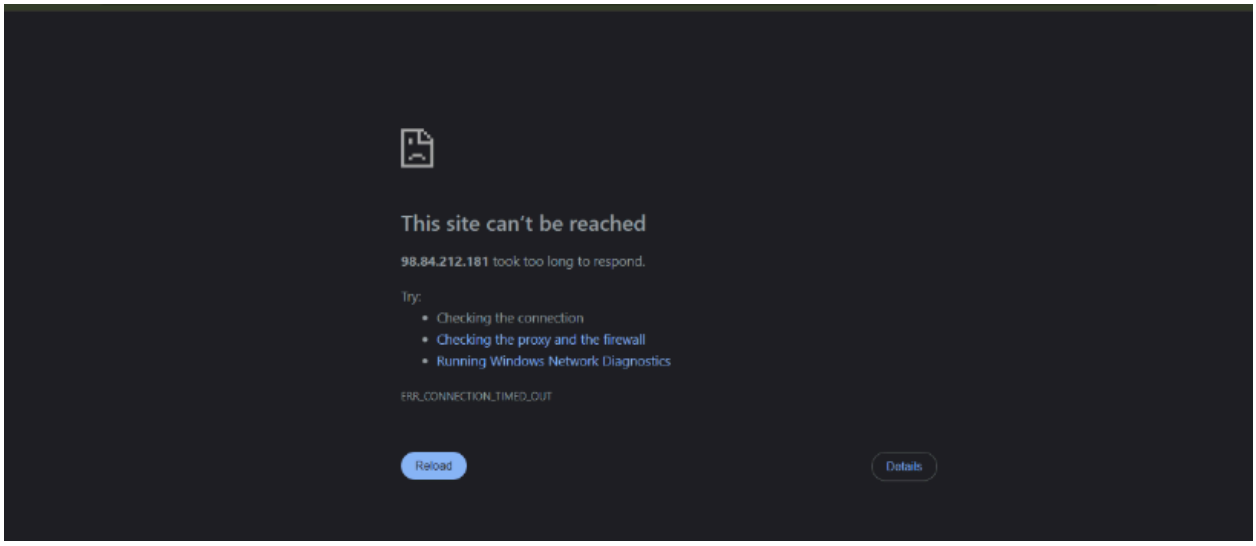
Task 2.2: Create a VPC flow log

Our VPC 1

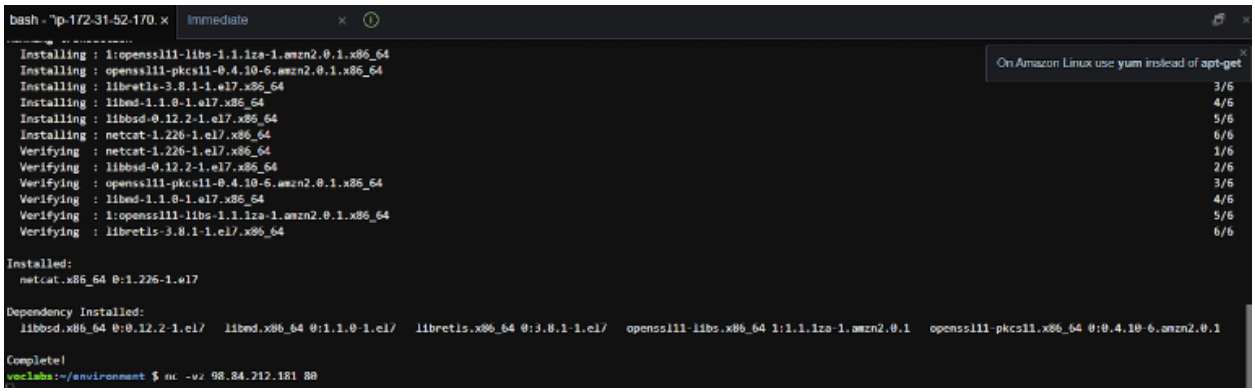


Task 2.3: Access the WebServer instance from the internet and review VPC flow logs in CloudWatch

It's failed

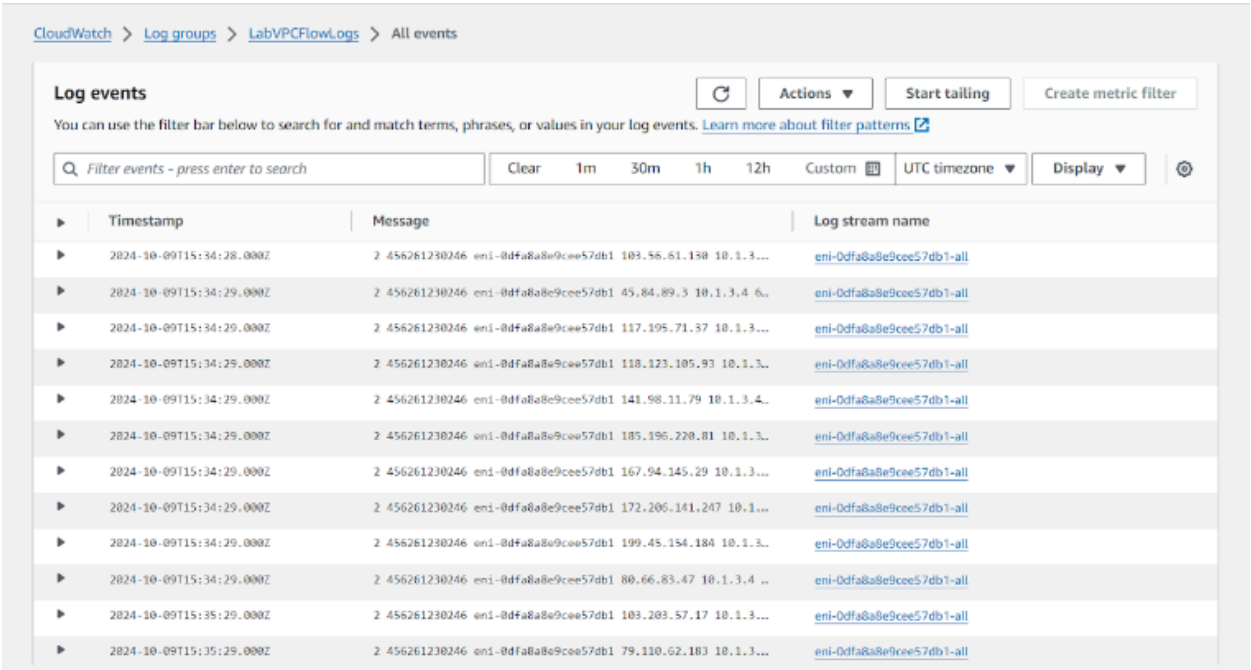


testing and can't access this instance on this port

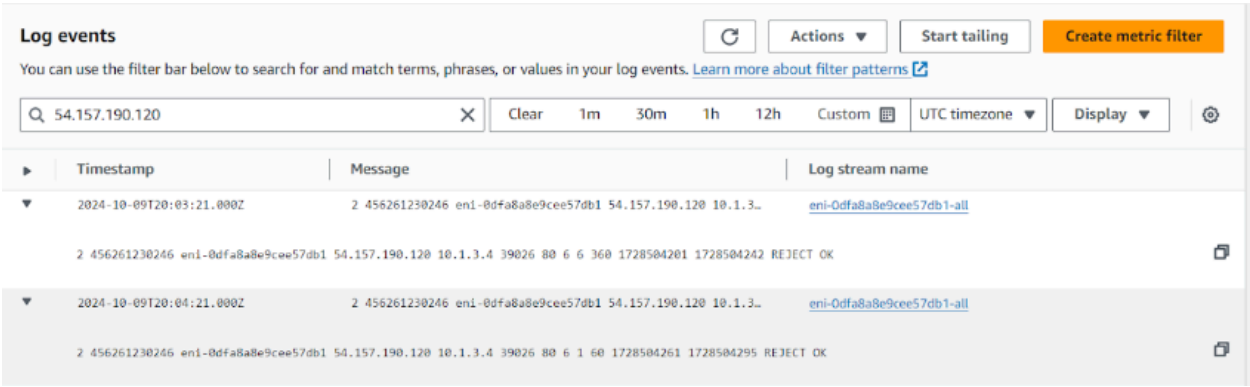


Task 2.4: Configure route table and security group settings

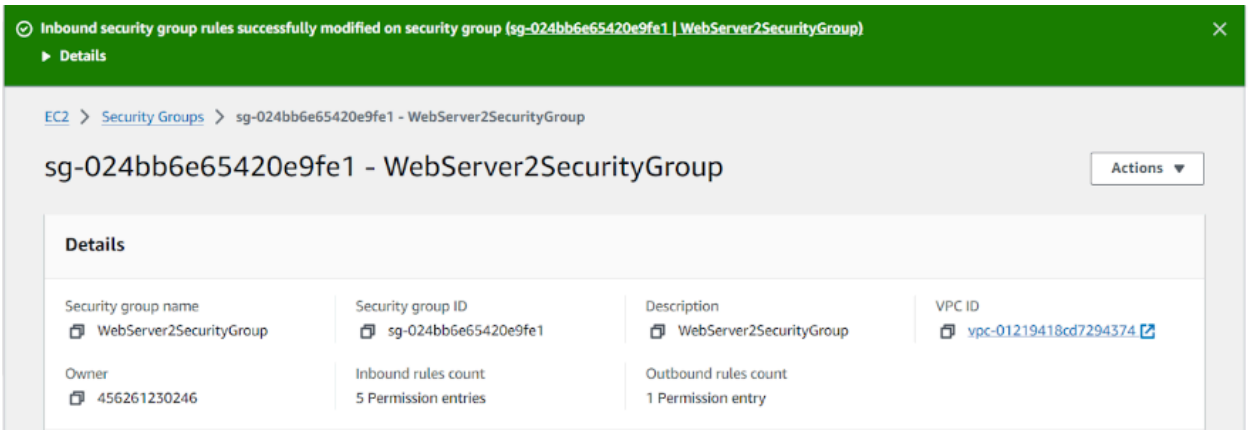
Logs in LabVPCFlowLogs



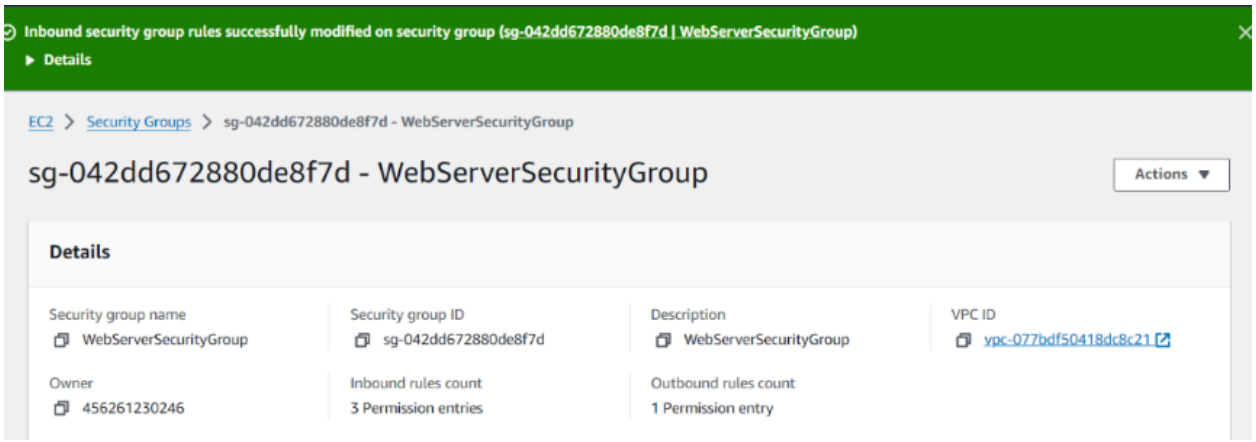
Searching about rejected logs



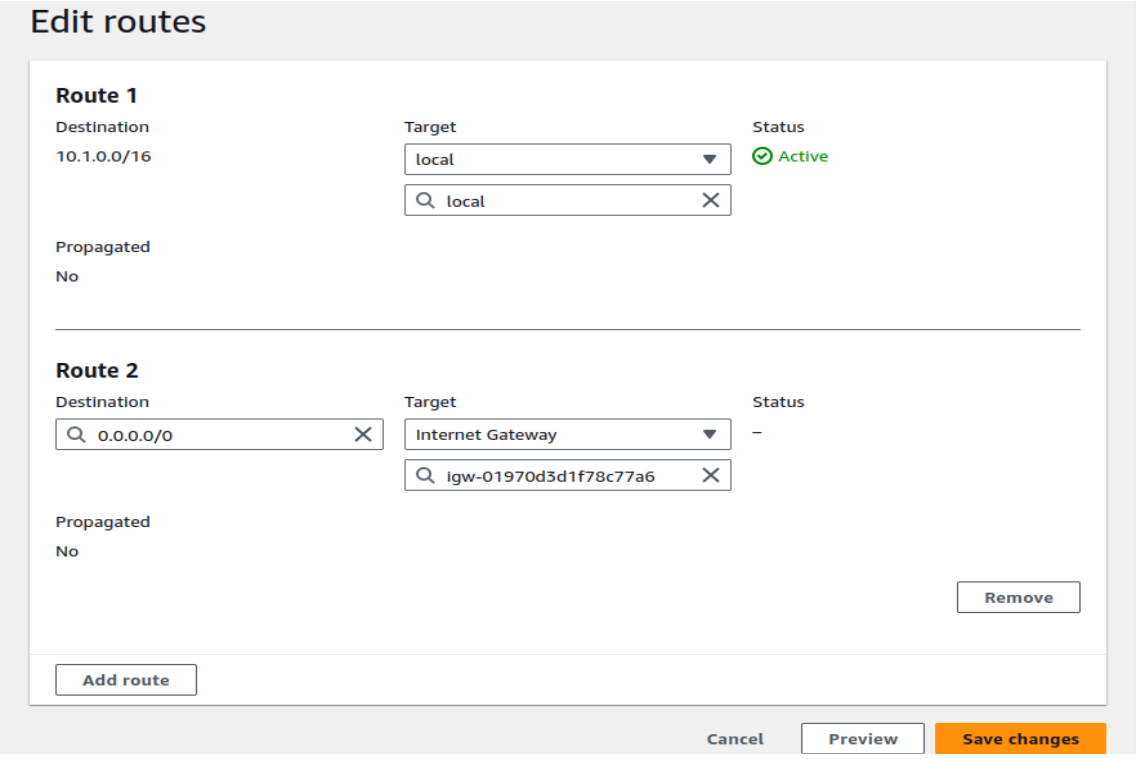
Add security group rules with ports



Edit Inbound



The routsin Web server

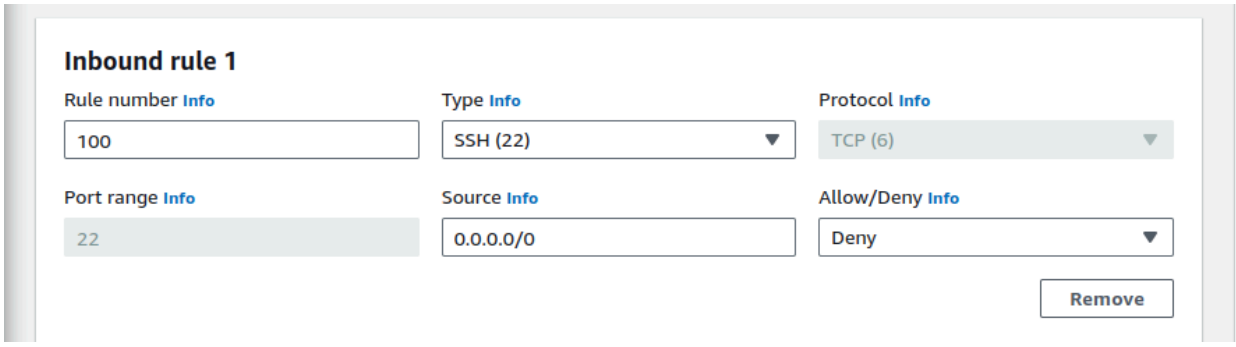


The port is successfully accessed

Hello world from WebServer!

Task 2.5: Secure the WebServerSubnet with a network ACL

If we change the network access control It will fail (access control list is denied)

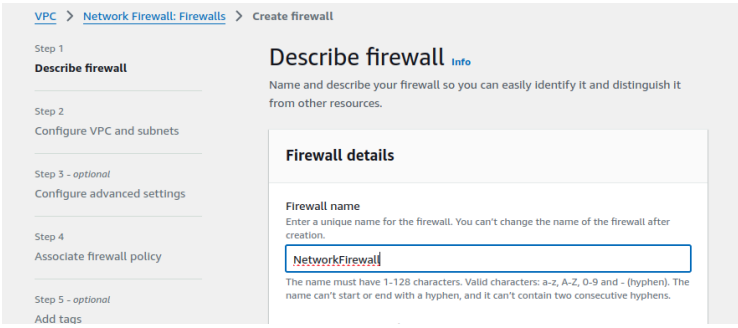


Task 2.6: Review NetworkFirewallVPC and its associated resources

The NetworkFirewallVPC

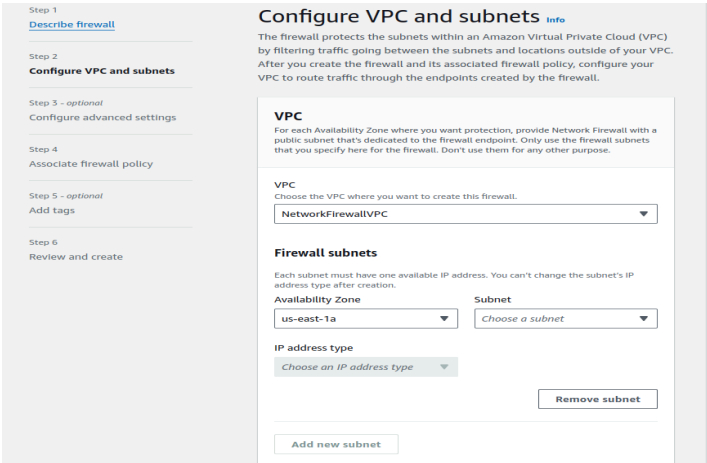
Task 2.7: Create a network firewall

Creating Firewall

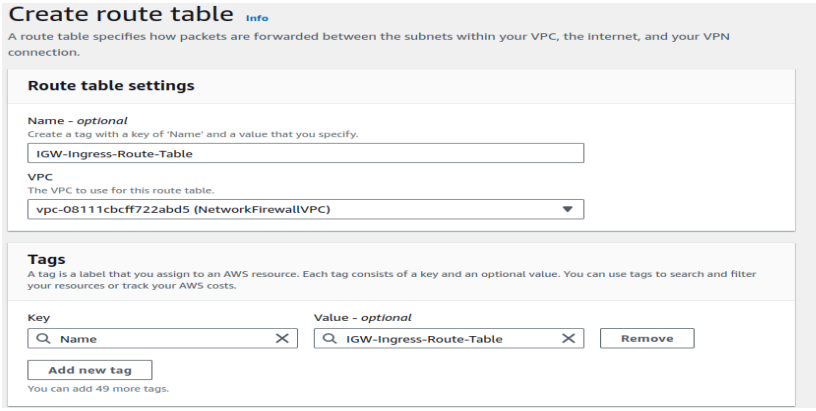


Task 2.8: Create route tables

Creating Route table

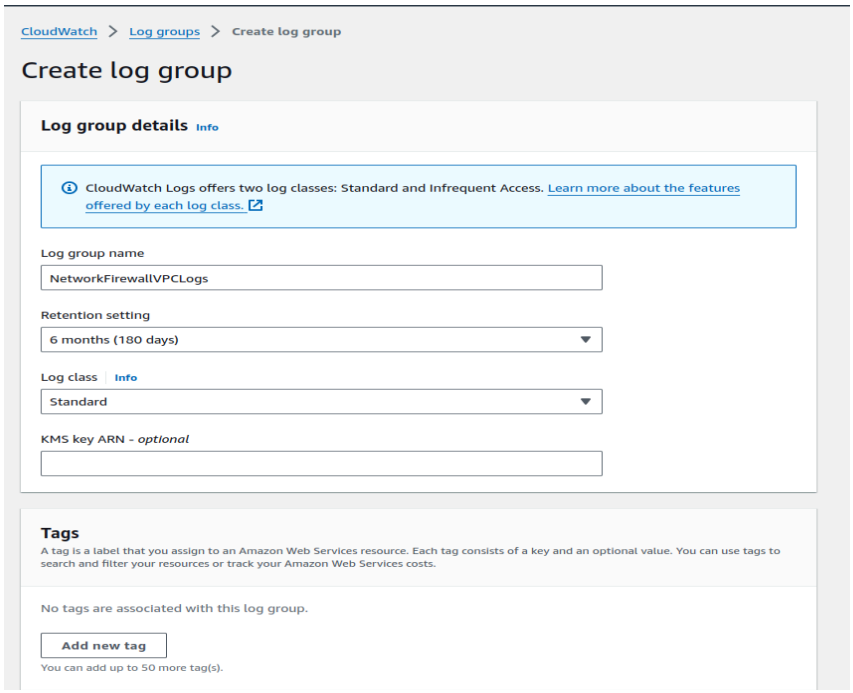


Adding new destination and change it in the route table

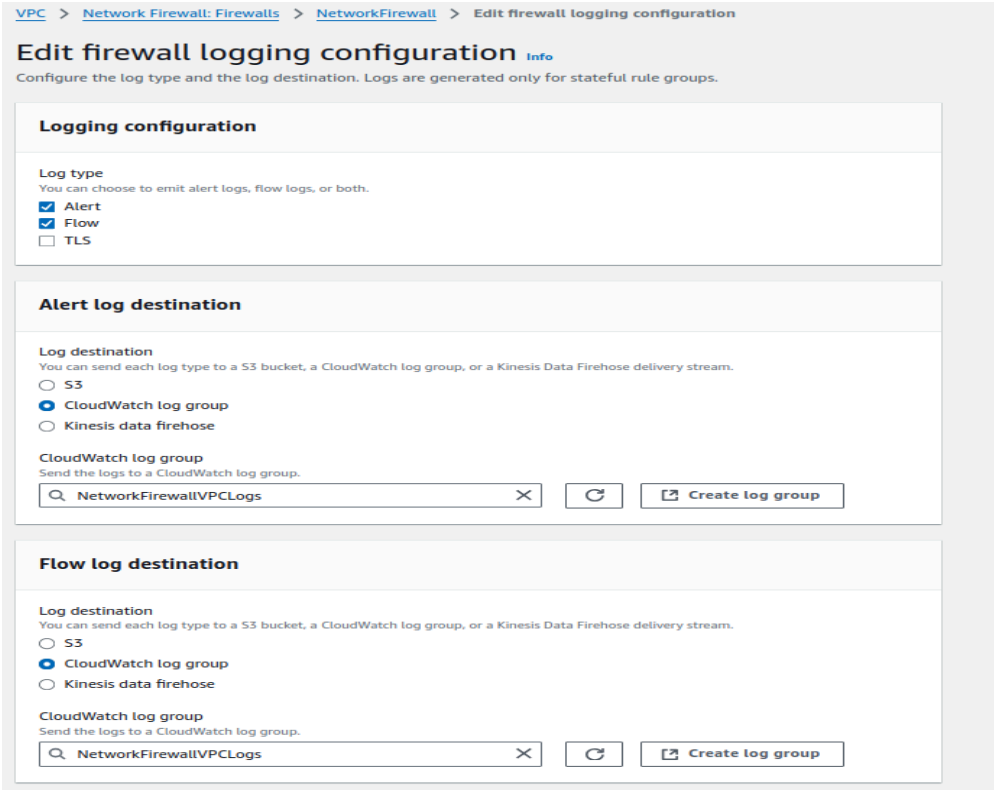


Task 2.9: Configure logging for the network firewall

Creating log group

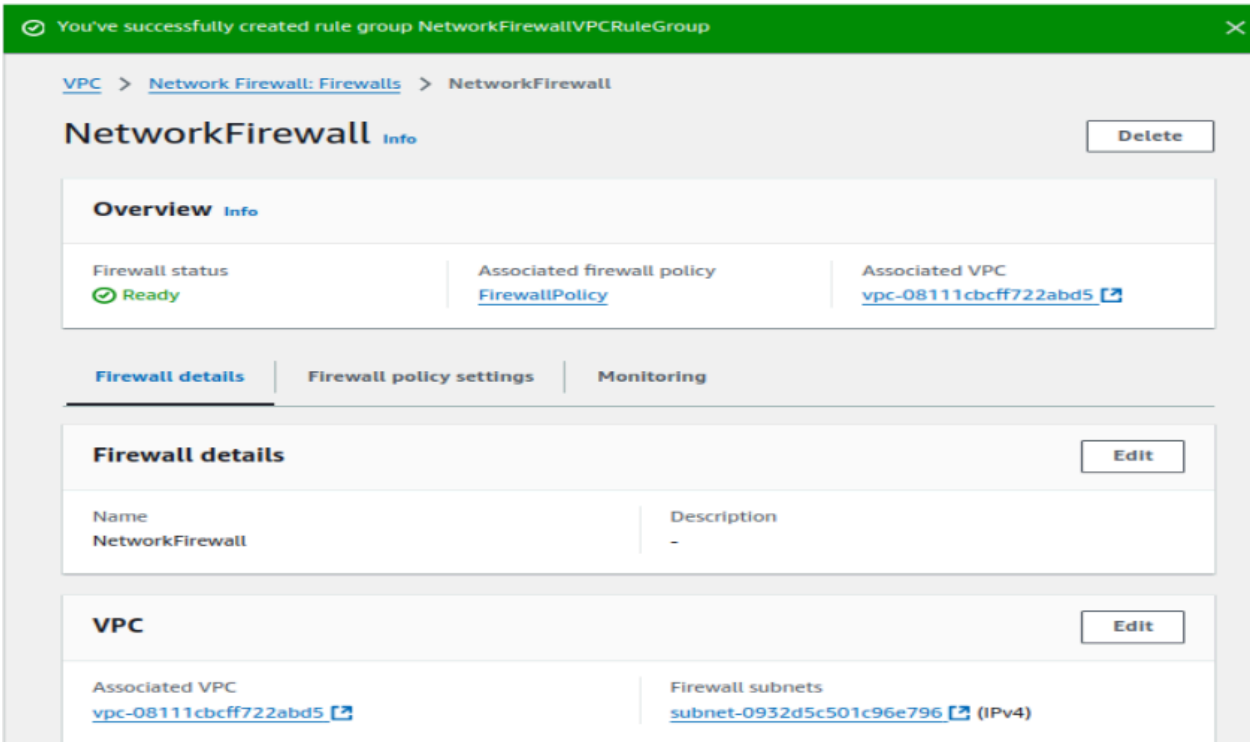


Editing the logging of NetworkFireWall



Task 2.10: Configure the firewall policy and test access

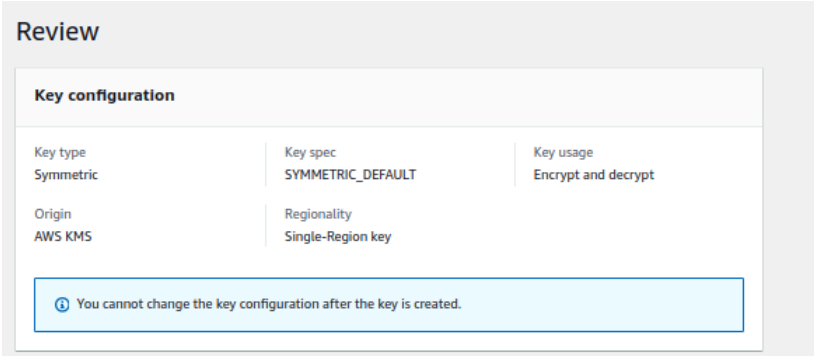
Creating NetworkFirewall



Phase 3: Securing AWS resources by using AWS KMS

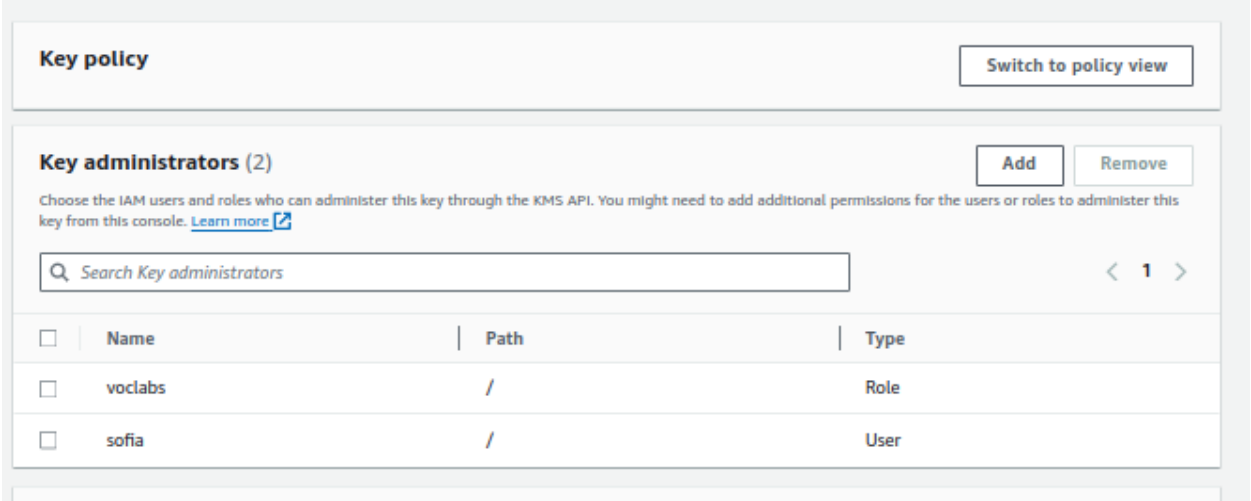
Task 3.1: Create a customer managed key and configure key rotation

Creating Key



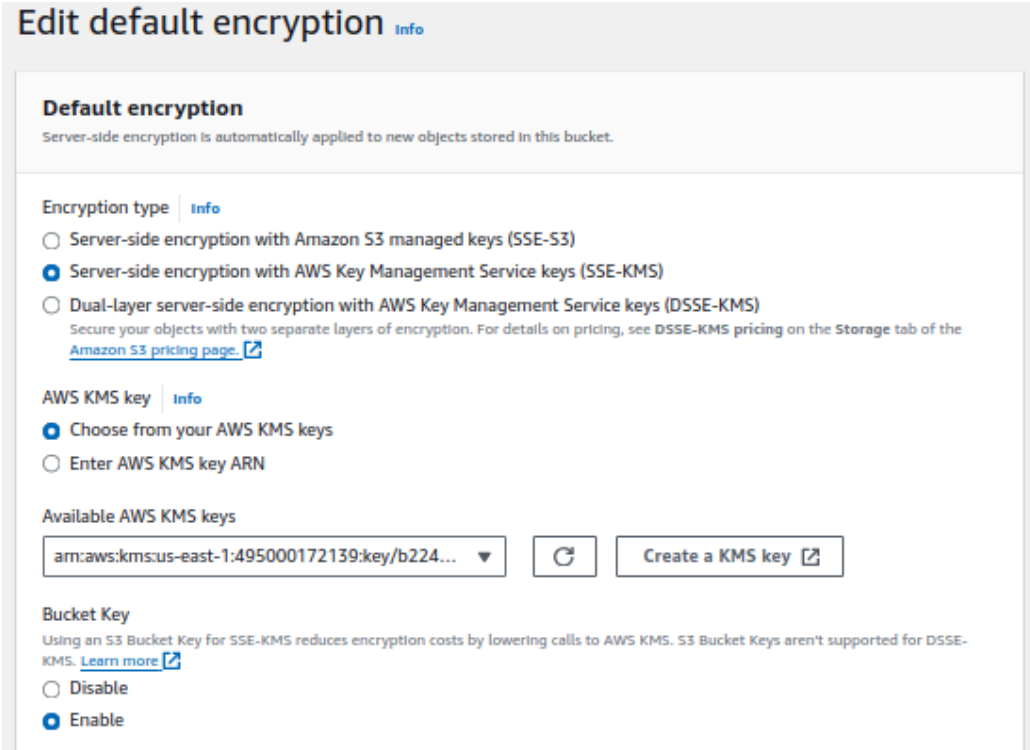
Task 3.2: Update the AWS KMS key policy and analyze an IAM policy

Adding Sofia Policy

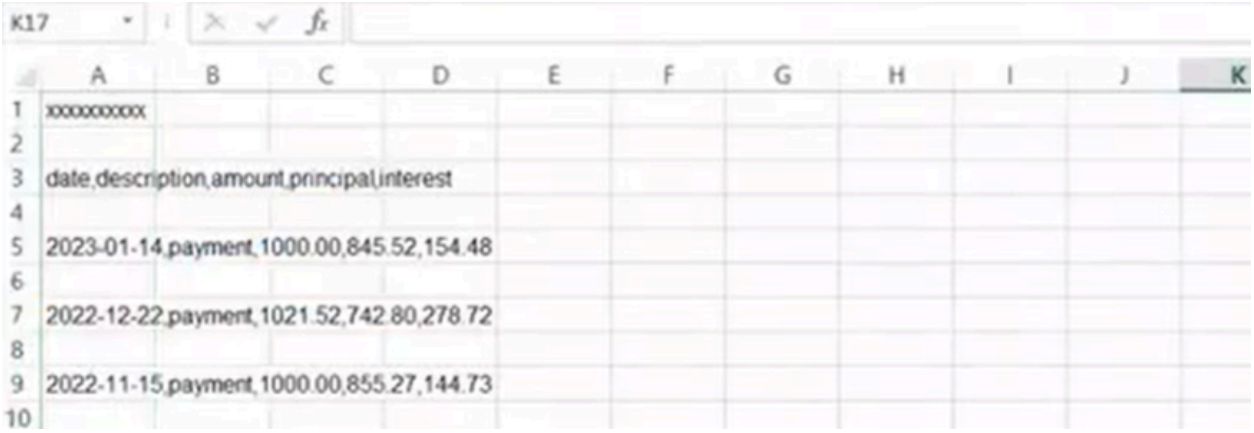


Task 3.3: Use AWS KMS to encrypt data in Amazon S3

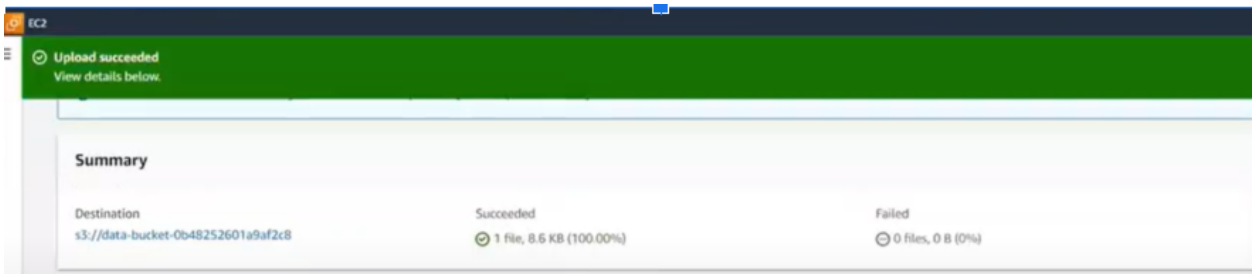
Editing the S3 bucket and add KMS for the encryption



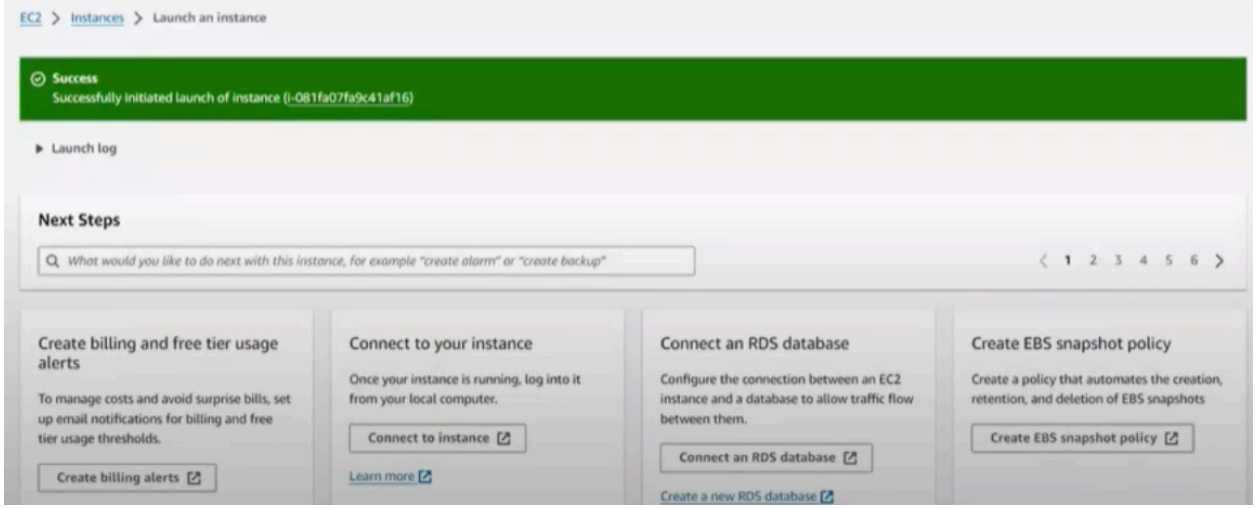
The uploaded Excel



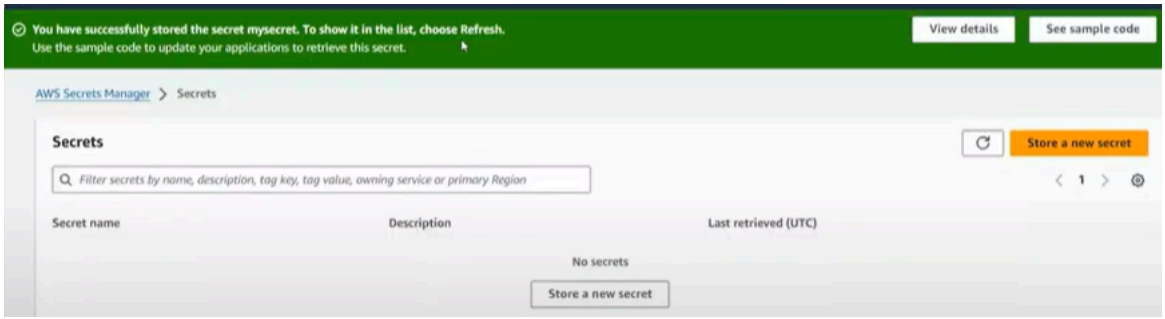
Success



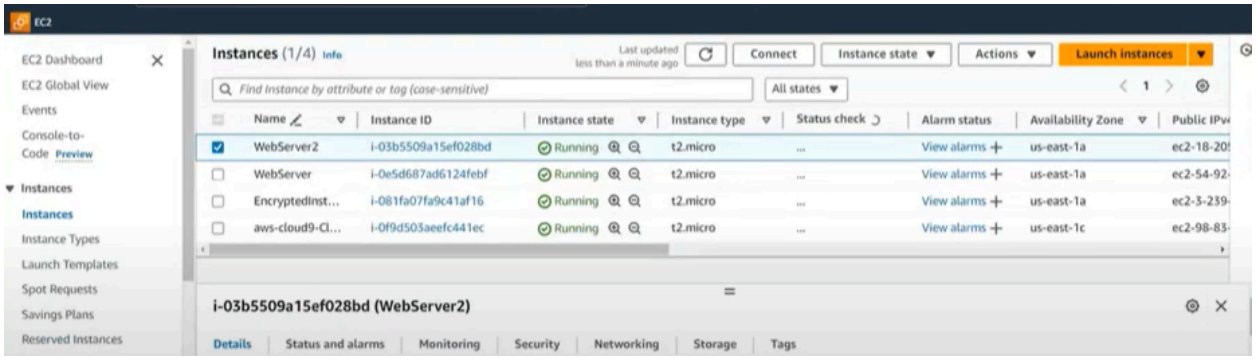
Lunch Instance



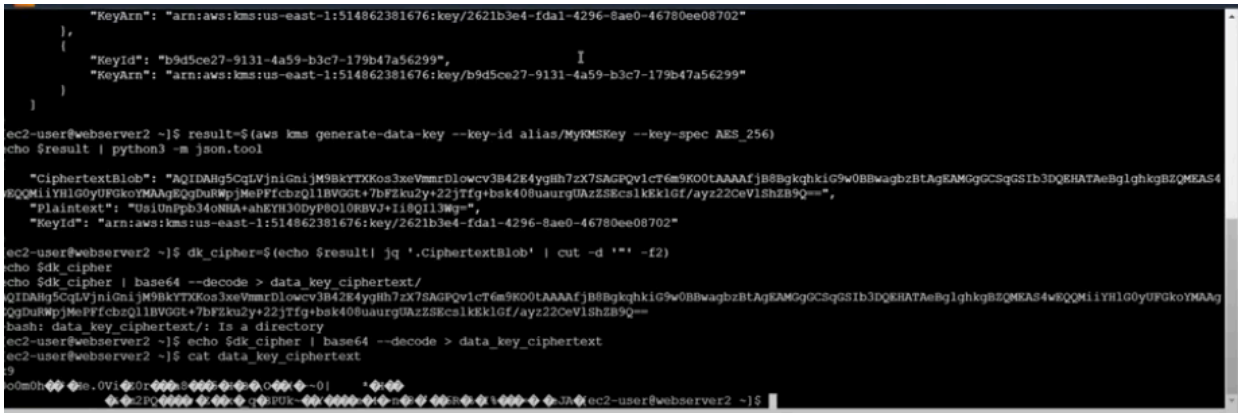
Task 3.4: Use AWS KMS to encrypt the root volume of an EC2 instance

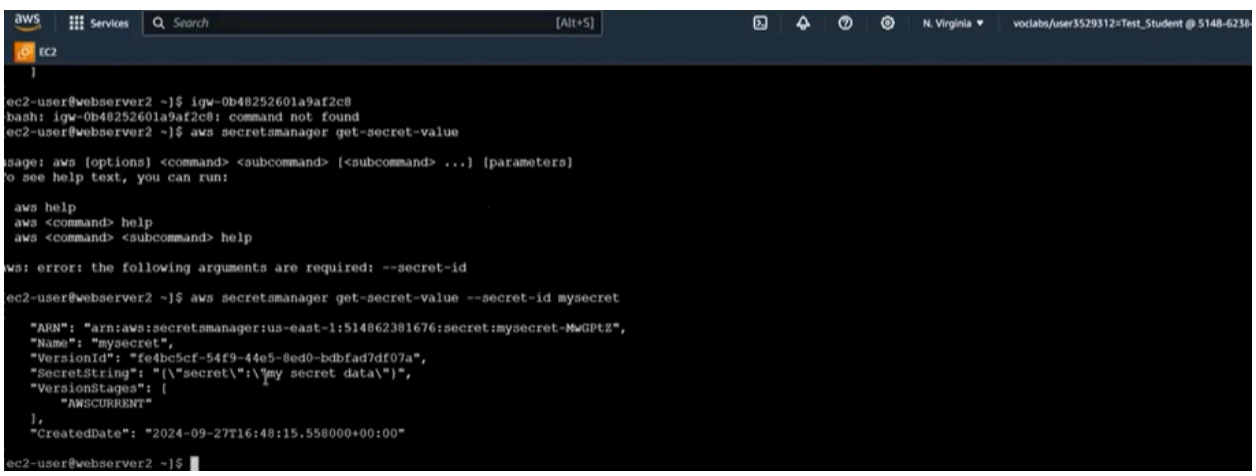


Task 3.5: Use AWS KMS envelope encryption to encrypt data in place



Task 3.6: Use AWS KMS to encrypt a Secrets Manager secret





Phase 4: Monitoring and logging

Cost

Successfully deleted Amazon Virtual Private Cloud (VPC)estimate.

AWS Pricing Calculator > My Estimate

My Estimate Edit

Export Share

Estimate summary Info

Upfront cost	Monthly cost	Total 12 months cost
0.00 USD	24.38 USD	292.56 USD Includes upfront cost

Getting Started with AWS

Get started for free | Contact Sales

My Estimate

Duplicate | Delete | Move to | Create group | Add support | Add service

Find resources

1

Service Name	Status	Upfront cost	Monthly cost	Description	Region	Config Summary
Amazon EC2	-	0.00 USD	24.38 USD	-	Oman (Muscat)	Tenancy (Shared Instances), Operating system (L...
Amazon Virtual Priva...	-	0.00 USD	0.00 USD	-	Oman (Muscat)	