Lambda Function to Remove Unused EBS Volumes

Hungama company has used AWS for server and storage management since 2008.They deliver content to consumers in 47 countries across mobile, Internet, and Internet protocol television (IPTV) services. The company uses Amazon S3 to host more than 60 TB of content and Amazon EC2-EBS and Amazon RDS for server and storage management. As the company grew rapidly, more departments used AWS for development, causing an increase in monthly costs. Hungama reduced monthly costs by 33% by using AWS Trusted Advisor. The Underutilized Amazon EBS volumes check in AWS Trusted Advisor identified a number of unused EBS volumes that were often left over from previous test projects.

In this Lab, we are going to create a Lambda Function which deletes the EBS Volumes which are not-in-use and untagged. This is major aspect of the Well Architected Framework Pillar-Cost Optimization.

Below is the List of Tasks:

Task 1: Create Unused and Untagged EBS Volumes

Task 2: Create IAM Role

Task 3: Configure Lambda Function

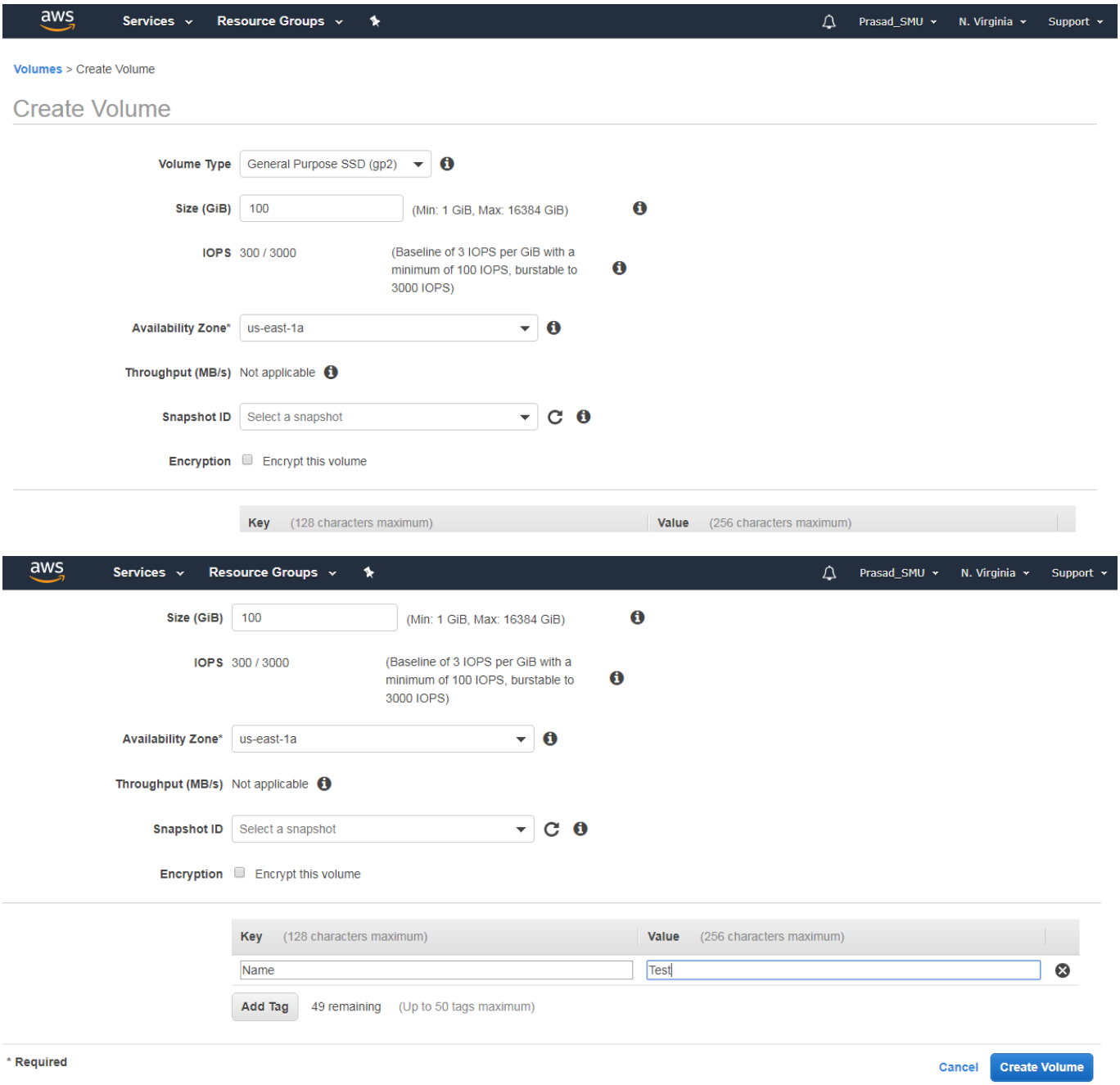
Task 4: Verify Execution of Lambda Function

Task 1: Create Unused and Untagged EBS Volumes

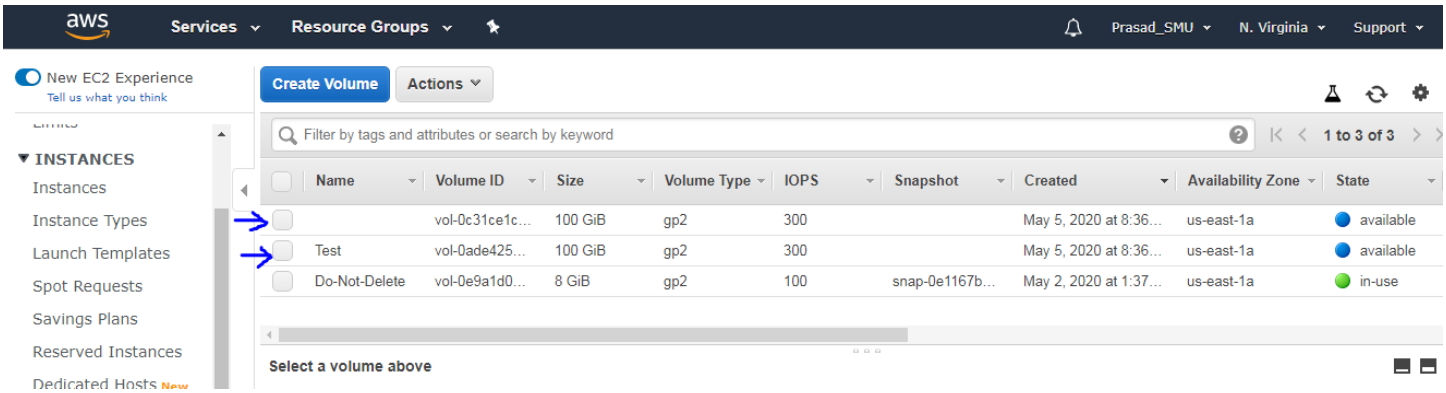
Login to AWS Console.

Navigate to EC2 Service and Click on Create Volume.

Create Two EBS Volumes, one without Tag and another one with Tag as Name: Test.

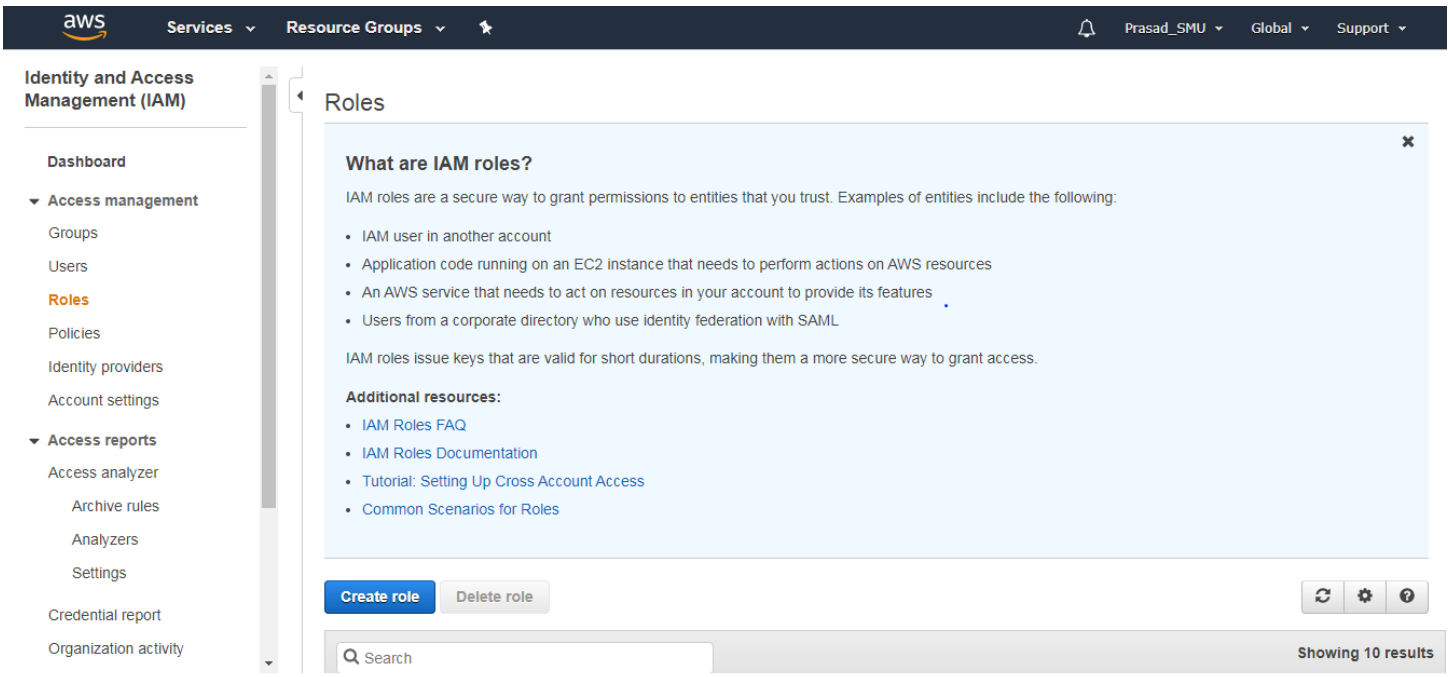


You can see that the EBS Volumes have been created and are in Available state not in in-use state, it means they are not assigned to any EC2 Instance. EBS Volume which is attached to EC2 Instance has been renamed to “Do-Not-Delete”.

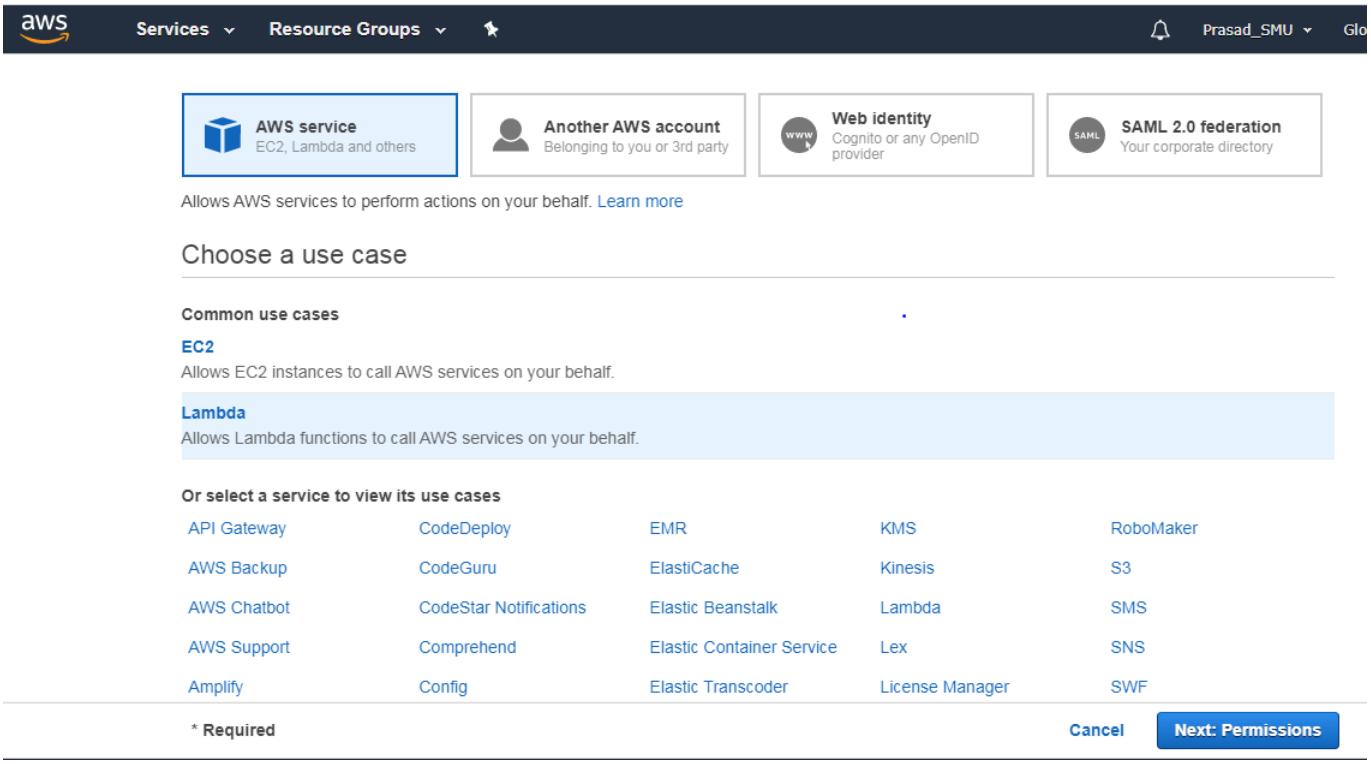


Task 2: Create IAM Role

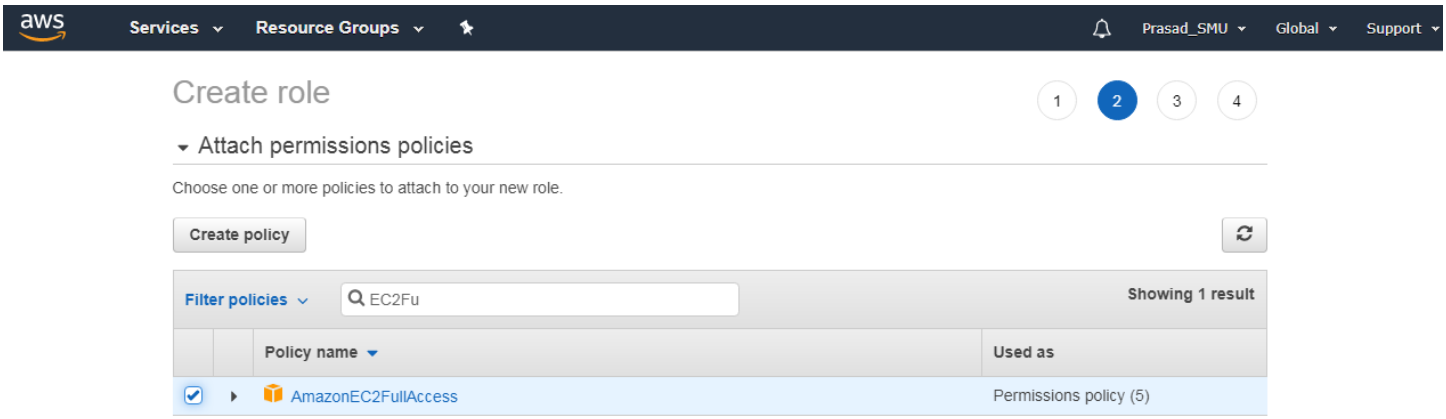
Navigate to IAM Service, click on Roles and click on Create Role.



Choose the use case as **Lambda** and click Next.



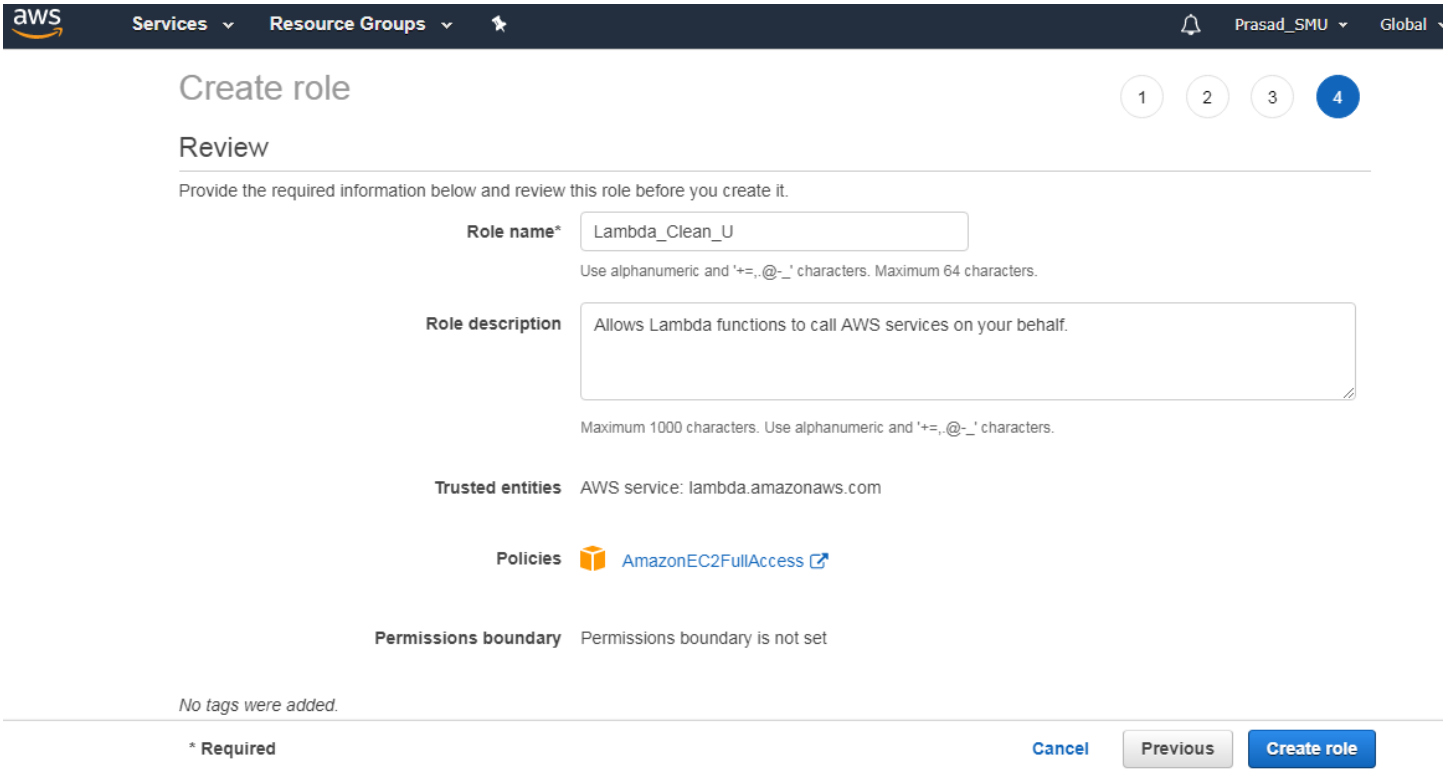
Now select the **AmazonEC2FullAccess** role to give Lambda access to the EC2-EBS.



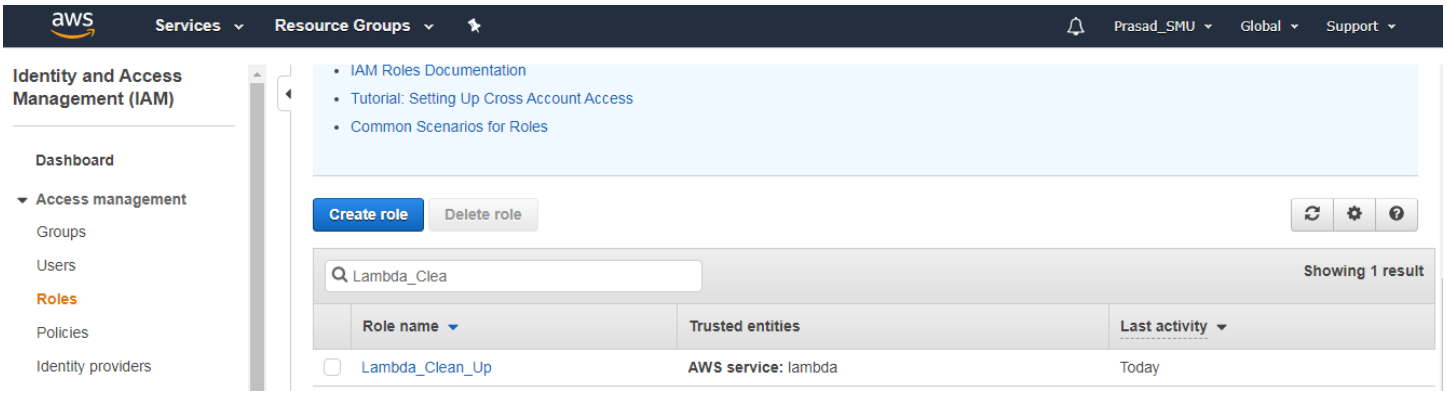
Specify Tags if you wish.

Click on Next: Review.

Give the Role Name as per your choice and click on Create Role.

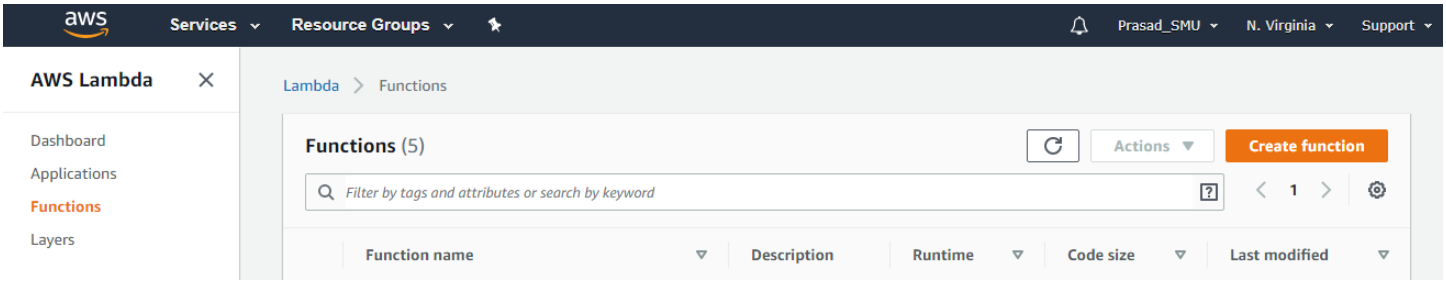


Role has been created successfully!!!!

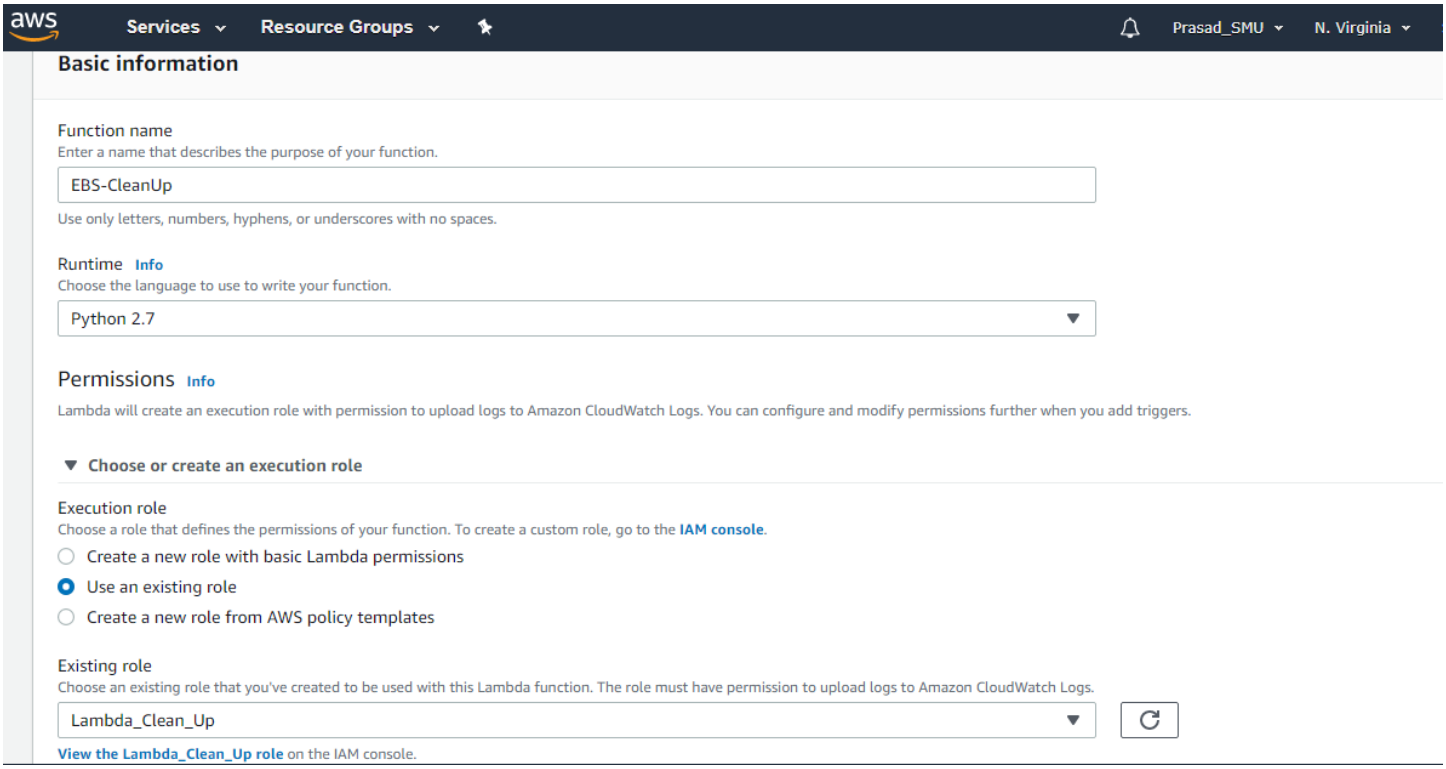


Task 3: Configure Lambda Function

Navigate to Lambda Service and click on Create Function.

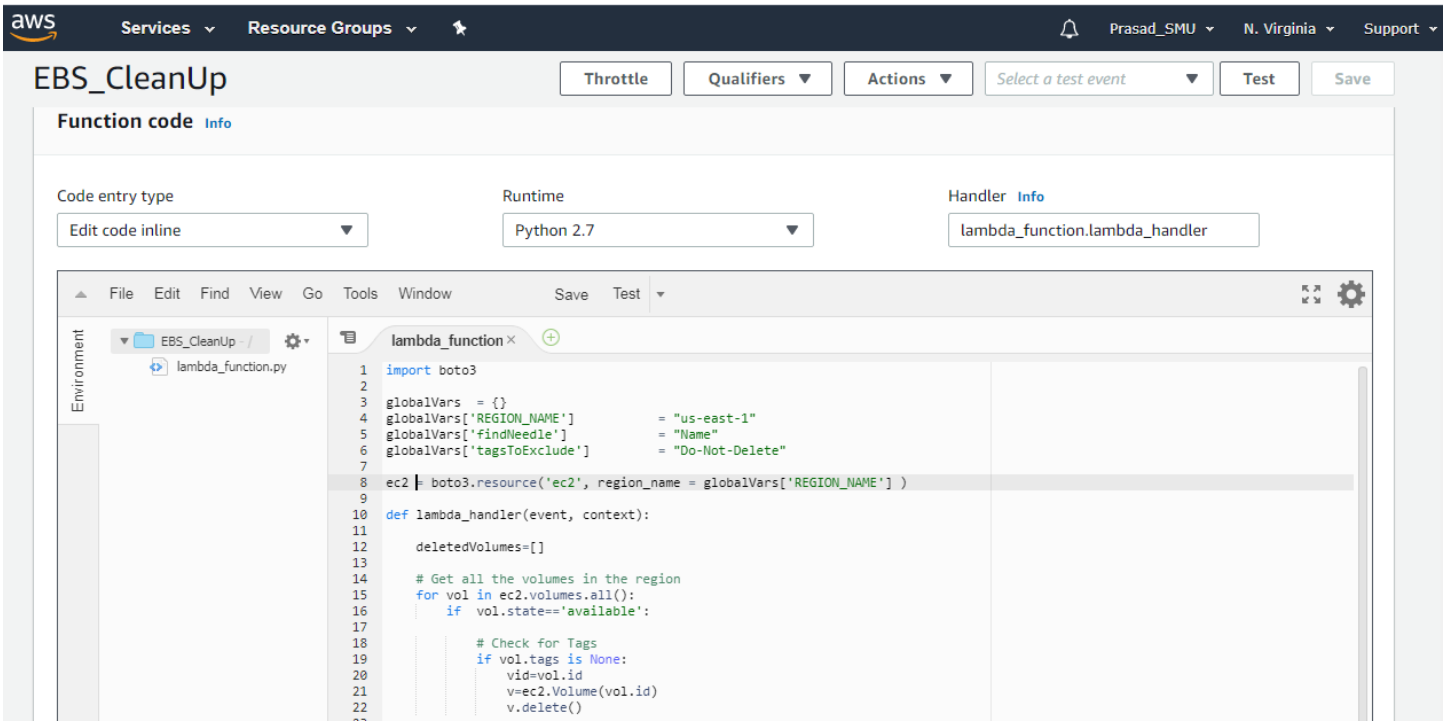


Give the Function Name as per your choice, select the Runtime as Python 2.7 and select the existing role as the role which you created in Task 2. Click on Create Function.



Under Function Code, paste the Python Code which I've provided.

Python Code will identify & remove untagged and unused EBS Volumes from N. Virginia (US-EAST-1) region.

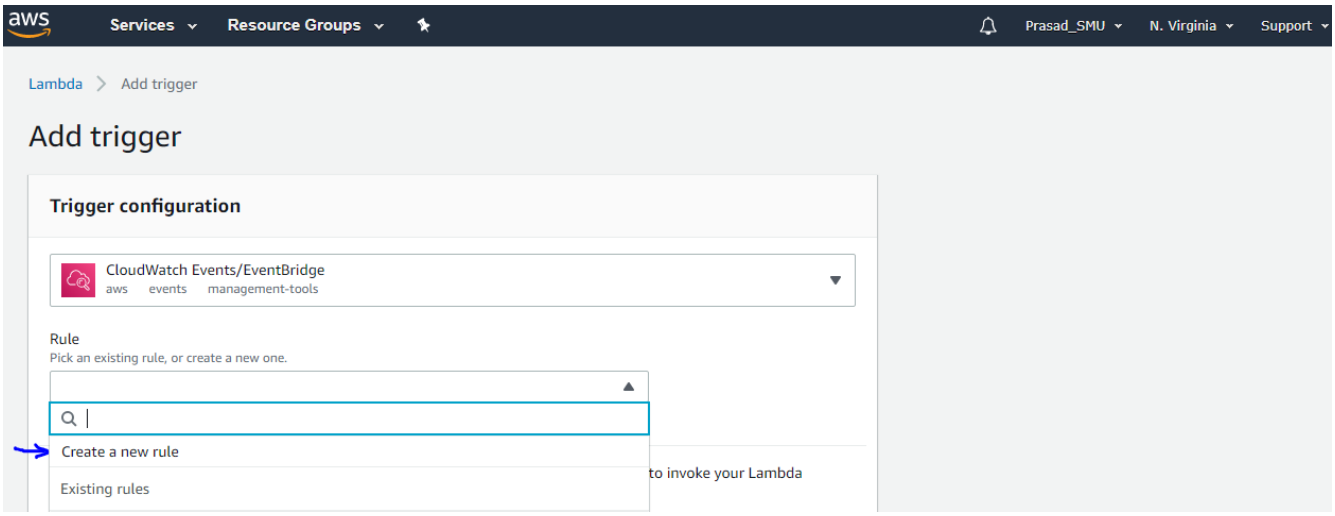


Click on SAVE.

On the Top Left corner, click on Add Trigger.

Under Trigger Configuration, from dropdown select CloudWatch.

Under Rule, click on Create Rule.



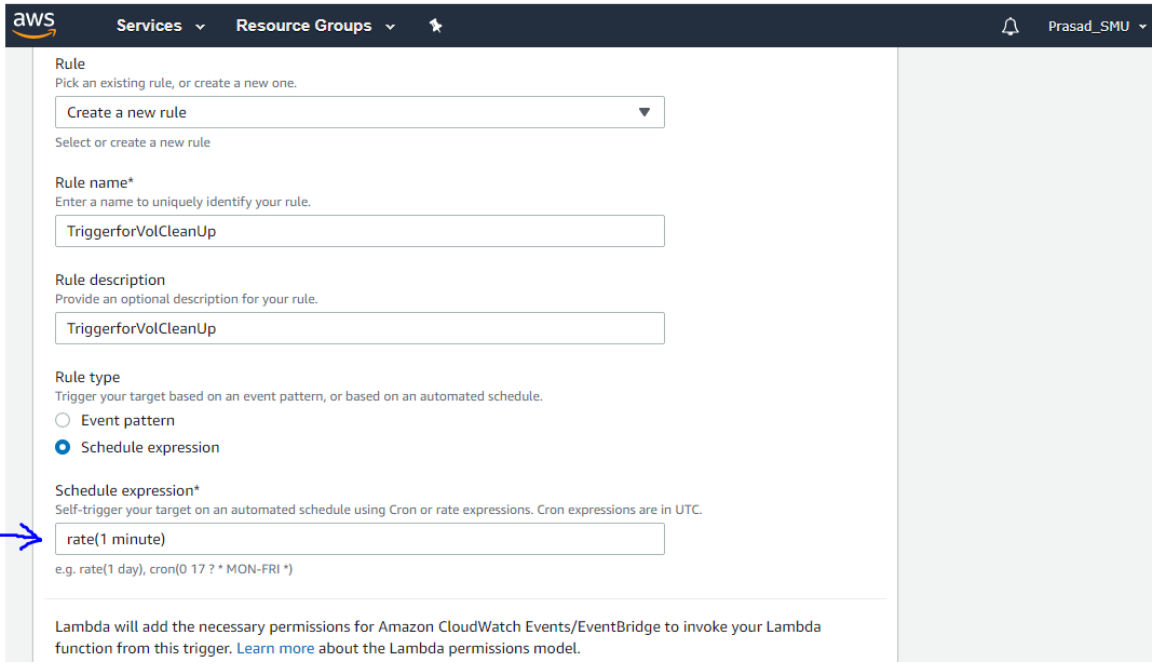
Create the Rule as follows.

Give Rule Name & Description Name as per your choice.

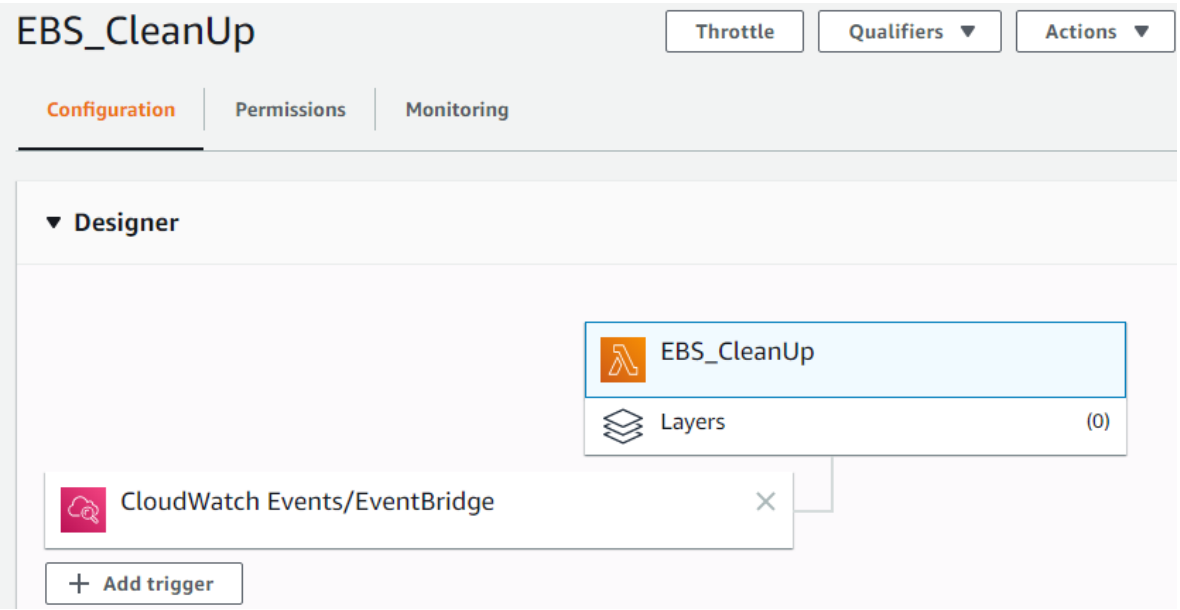
Select the Rule Type as Schedule Expression & specify Schedule Expression as **rate(1 minute).**

It means CloudWatch will continuously trigger the Lambda Function for every 1 Minute.

Click on Add.



CloudWatch Trigger to the Lambda Function has been added successfully.

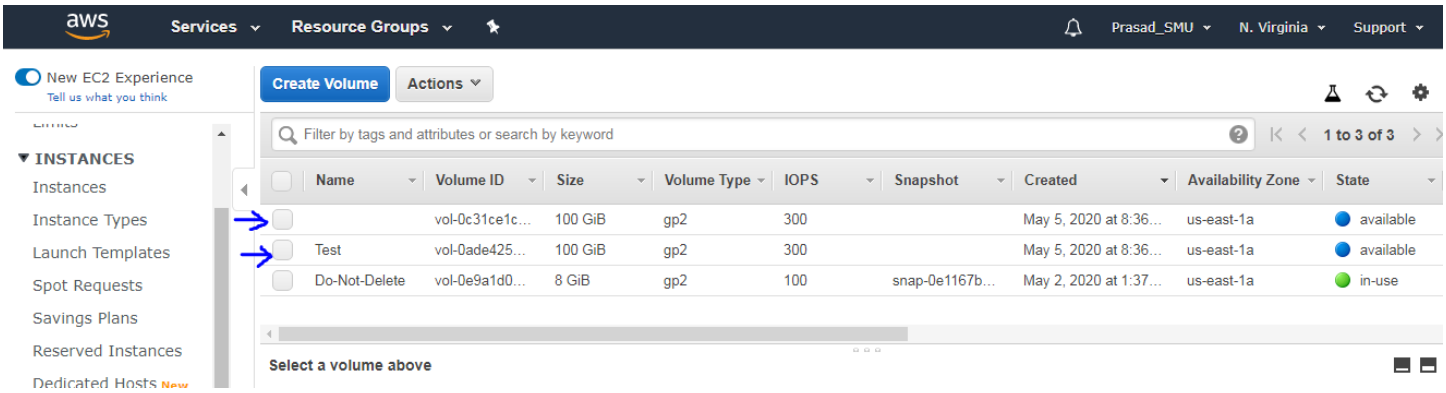


Task 4: Verify Execution of Lambda Function

Save the Lambda Function.

Navigate to EC2 Service and click on Volumes.

Two Volumes which we created in Task1 are still exist.



Wait for One Minute.

After One Minute, CloudWatch will trigger the Lambda Function.

Lambda Function will identify & remove untagged and unused EBS Volumes from N. Virginia (US-EAST-1) region.

Refresh the EBS Volumes.

You'll notice the untagged and unused volumes have been deleted.

This completes the Lab on Lambda Function to Remove Unused EBS Volumes.

For Questions, contact me on pbhavsar@smu.edu .