Lesson-End Project

Creating an Alarm Using CloudWatch

Project agenda: To create an alarm using CloudWatch that will allow you to watch CloudWatch metrics (CPU utilization) with a given threshold and receive notifications when the metrics fall outside the threshold levels that you configure.

Description: Launch 3 virtual machine instances (Linux), perform tasks on these VMs of your choice, and set up a dashboard with metrics showing CPU utilization of all 3 VMs.

Tools required: AWS account

Prerequisites: None

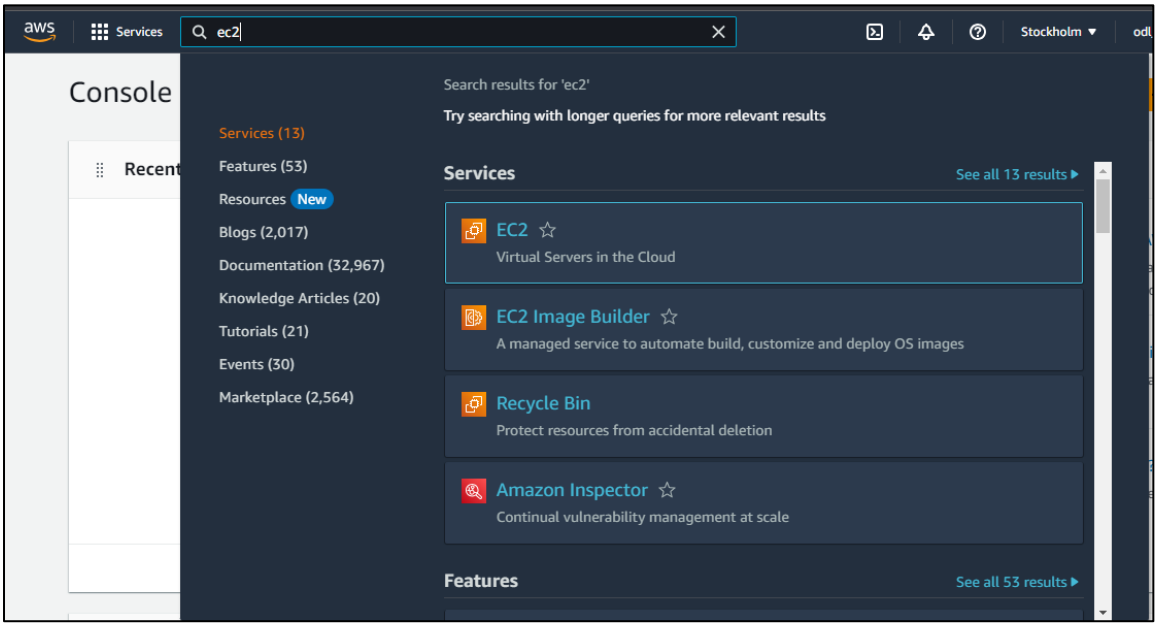
Expected deliverables: CloudWatch metrics

Steps to be followed:

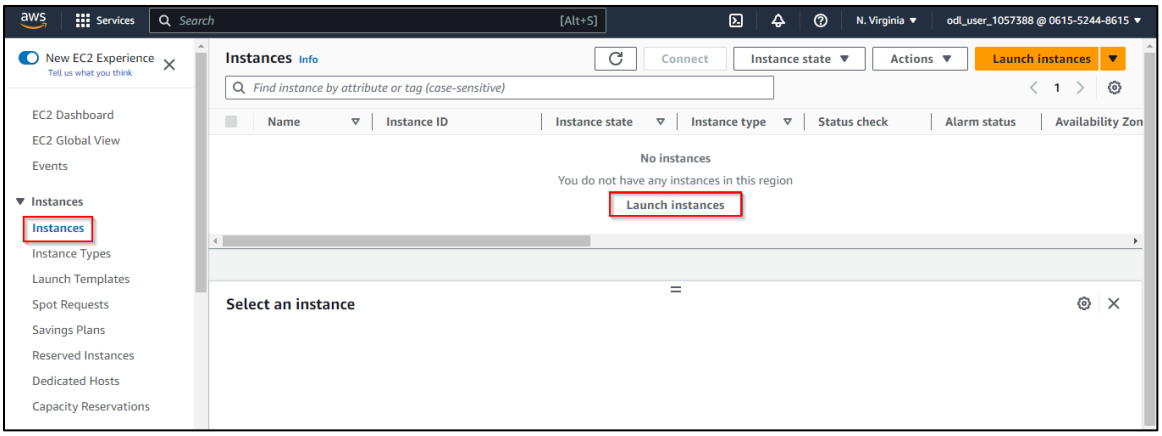
1. Launch Linux VMs
2. Connect SSH to VMs
3. Perform Linux-related tasks on the VMs
4. Configure the CloudWatch services
5. Create metrics for CPU utilization for all VMs
6. Create an alarm and send a notification through SNS

Step 1: Launch Linux VMs

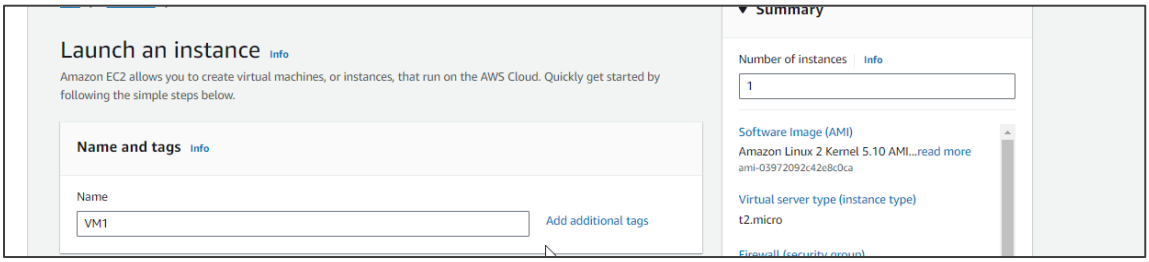
1.1 In the Amazon console, search for and select **EC2**

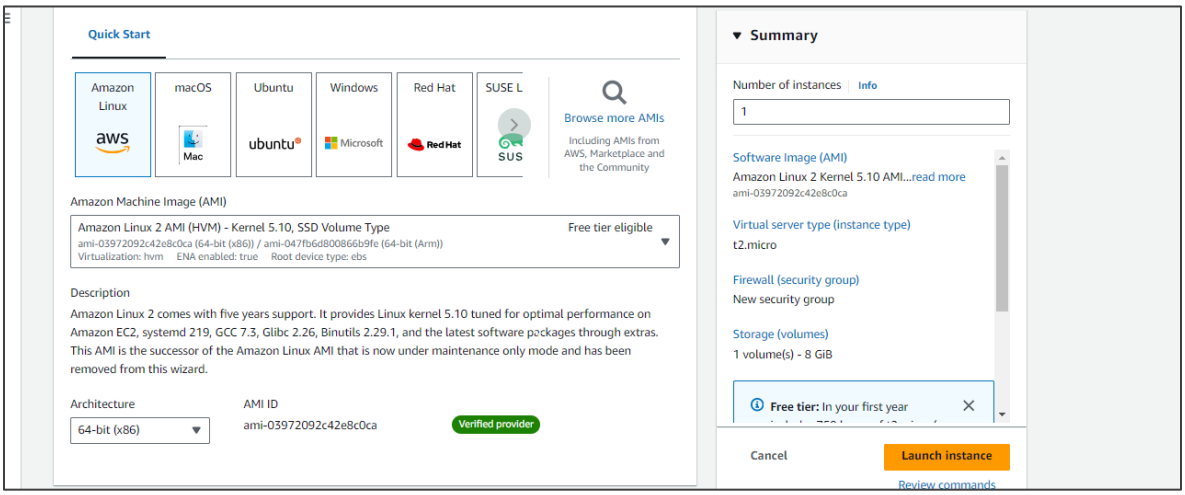


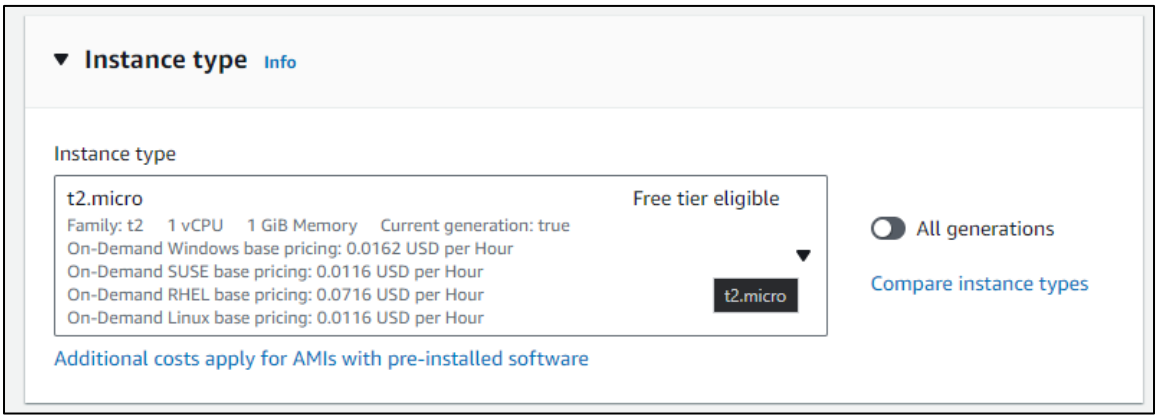
1.2 Select **Instances** and click **Launch instances**



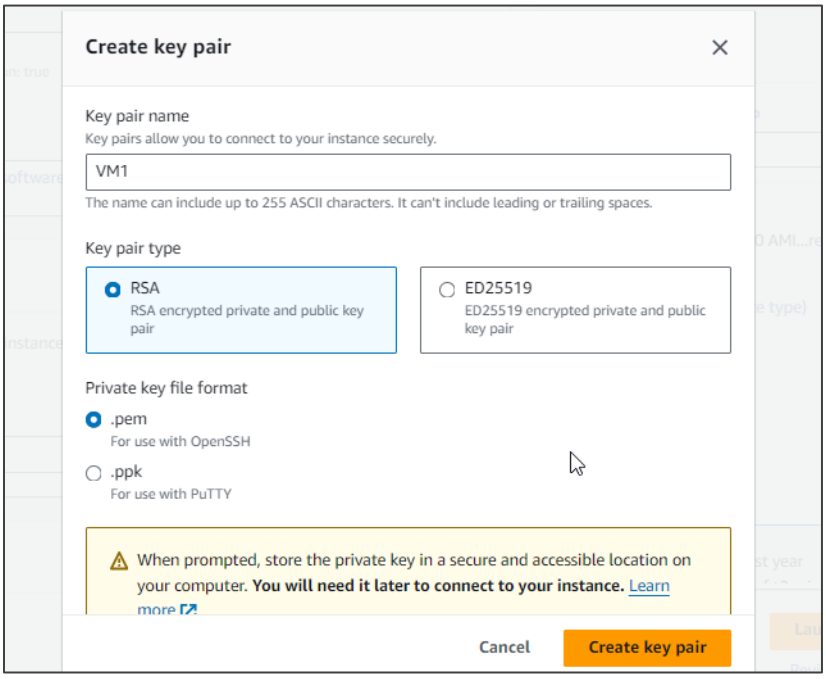
1.3 Provide a name, select **Amazon Linux** as the machine type, and opt for the **t2.micro** instance type



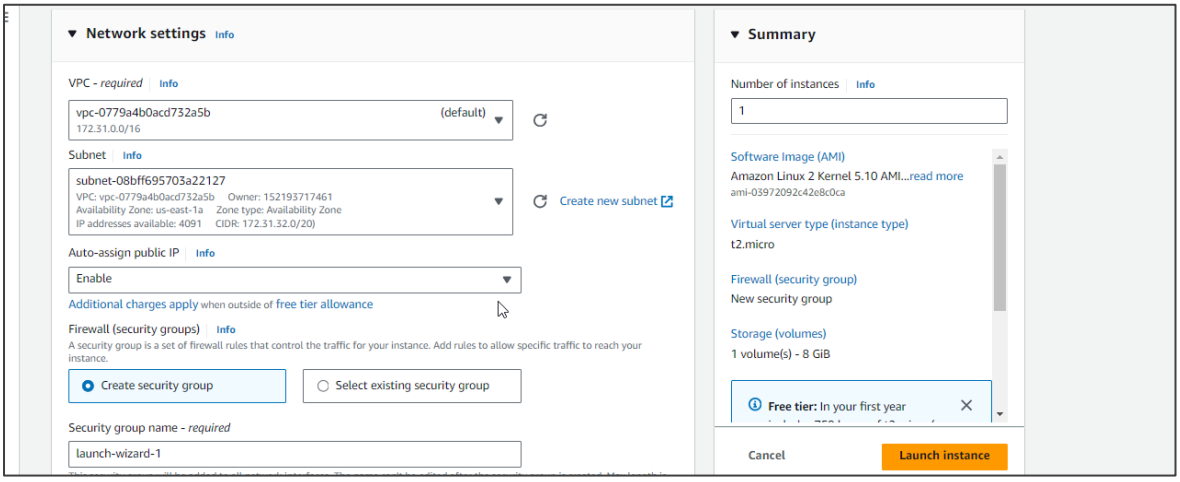




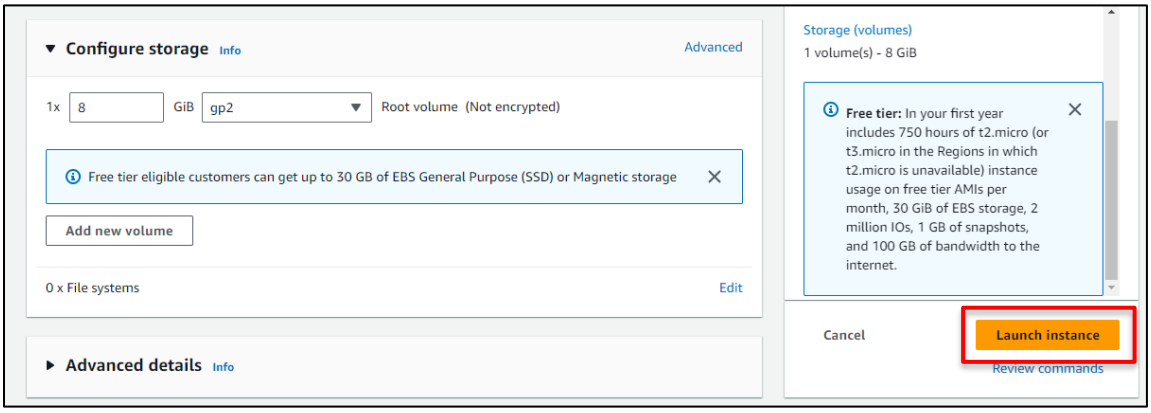
1.4 Specify the key pair name as **VM1** and click on **Create key pair**



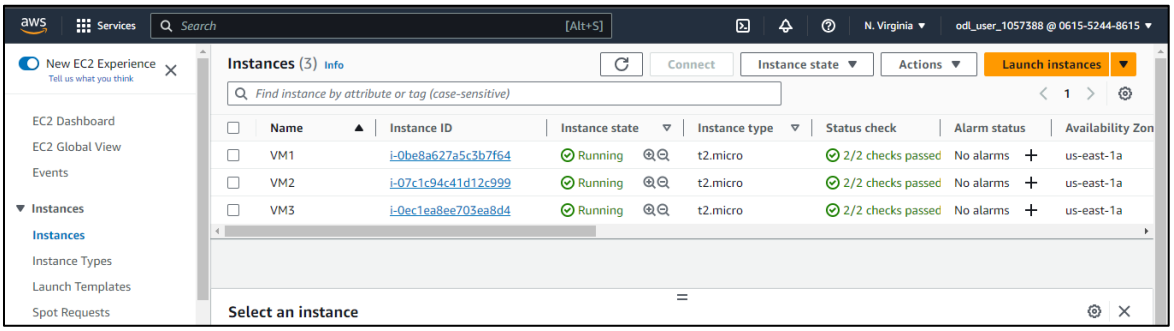
1.5 Set the Subnet zone to **us-east-1a**



1.6 Click on **Launch Instance**



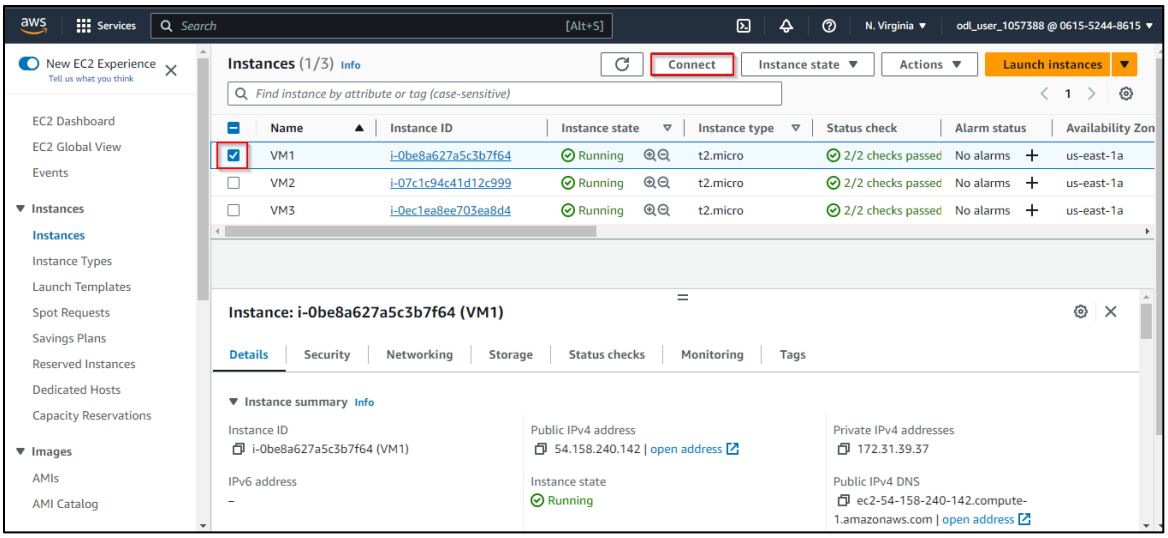
1.7 Repeat steps **1.1 to 1.6** to create two more instances



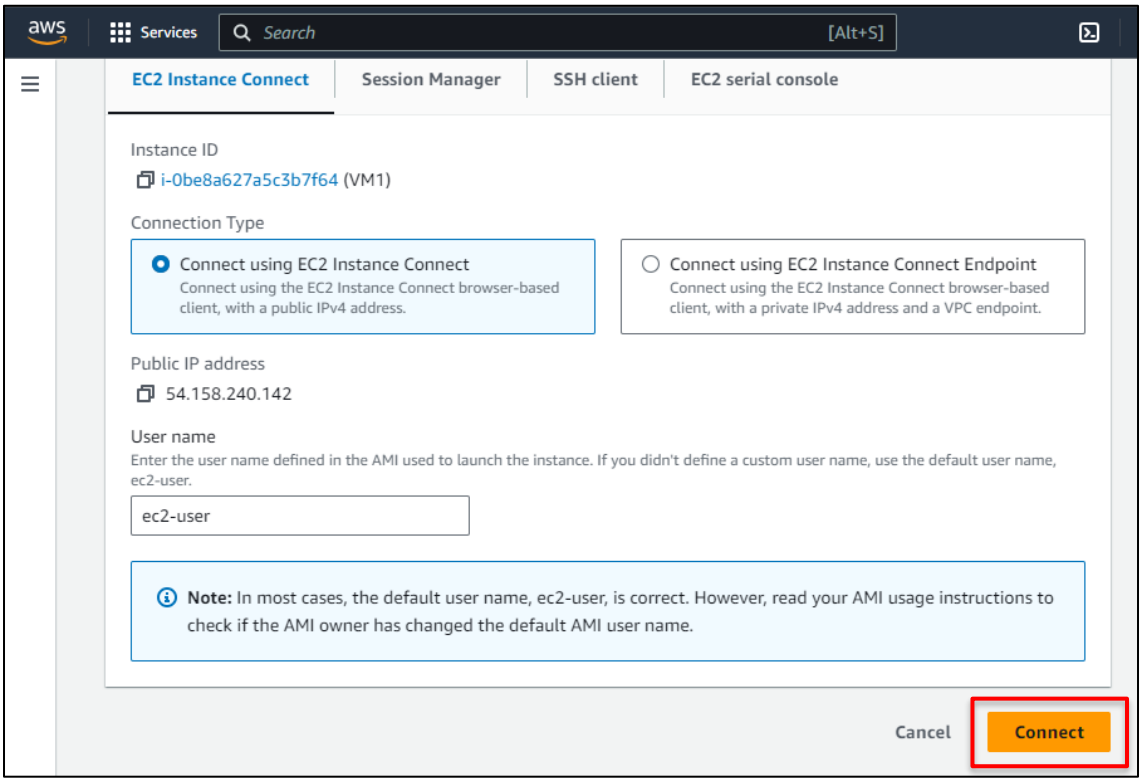
Three VMs have been created successfully.

Step 2: Connect SSH to VMs

2.1 Select the **VM1** instance and click on the **Connect** option

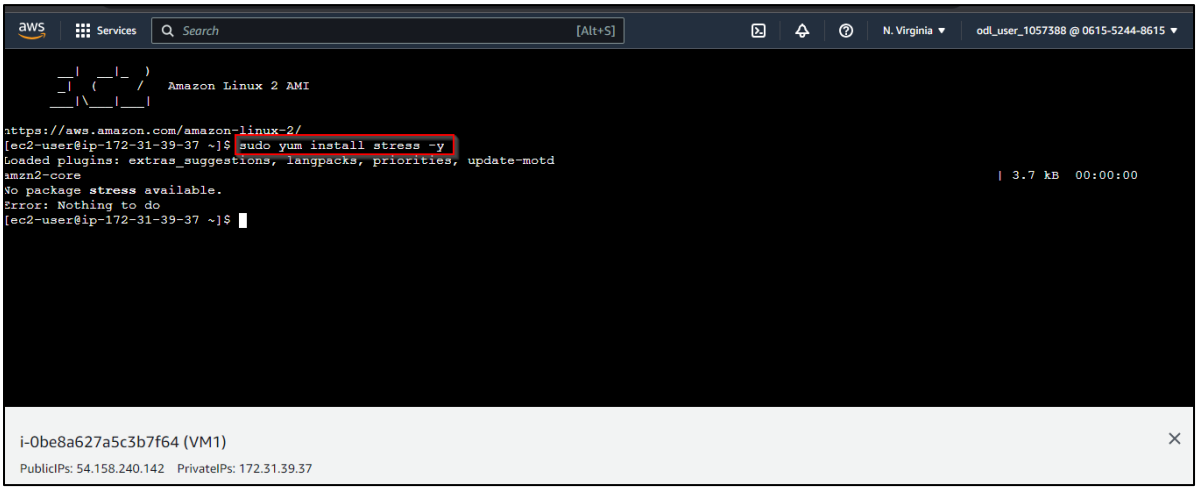


2.2 Click on **Connect**



Step 3: Perform Linux-related tasks on the VMs

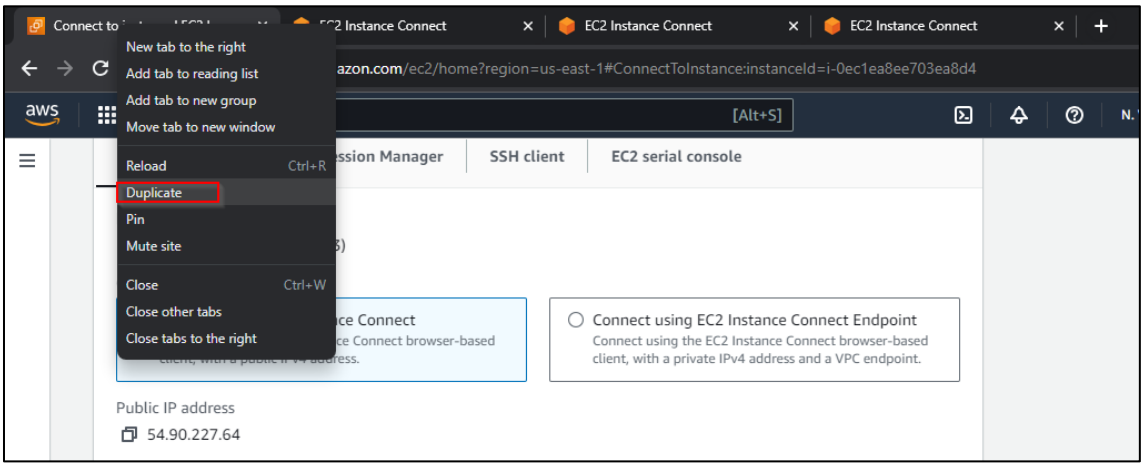
3.1 On clicking the **Connect button**, you will be directed to CloudShell. For instance, execute the following command:
sudo yum install stress -y



Note: Establish connections to all three VMs and execute the same command on each

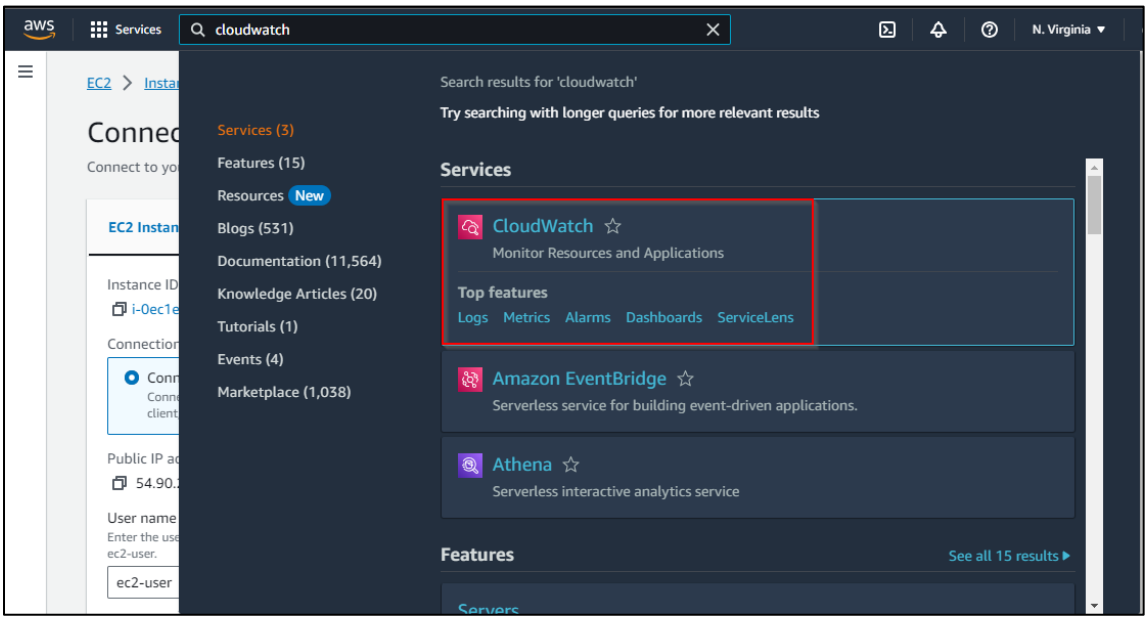
Step 4: Configure the CloudWatch services

4.1 Right-click on any tab and choose the **Duplicate** option

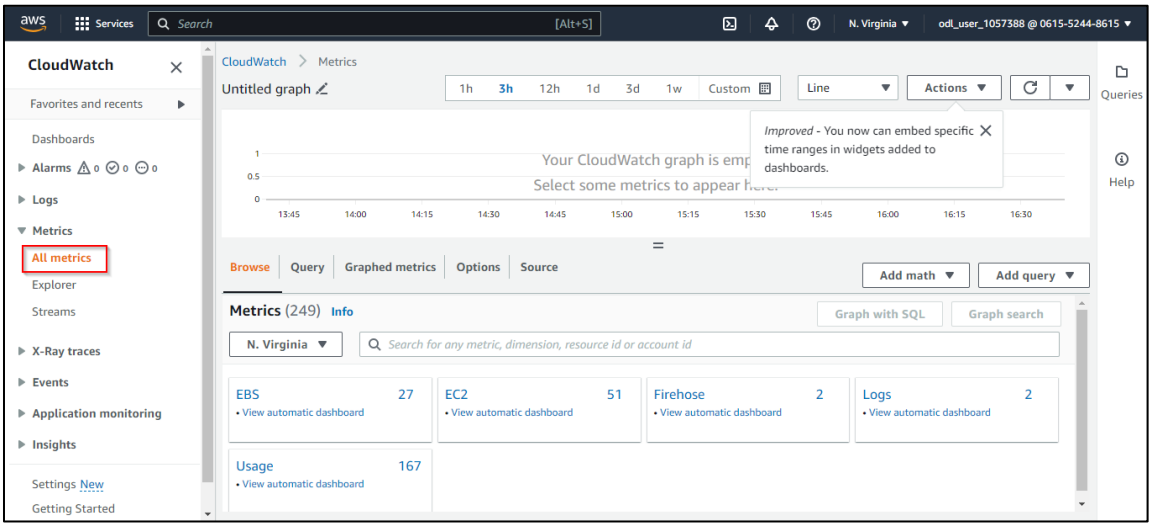


Step 5: Create metrics for CPU utilization for all VMs

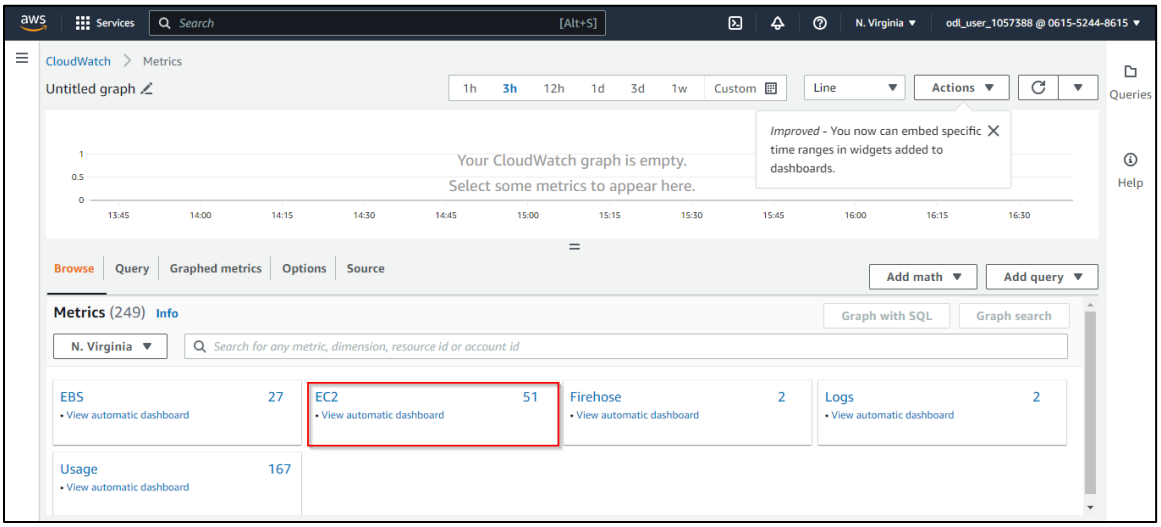
5.1 In the new tab, search for and select **CloudWatch**



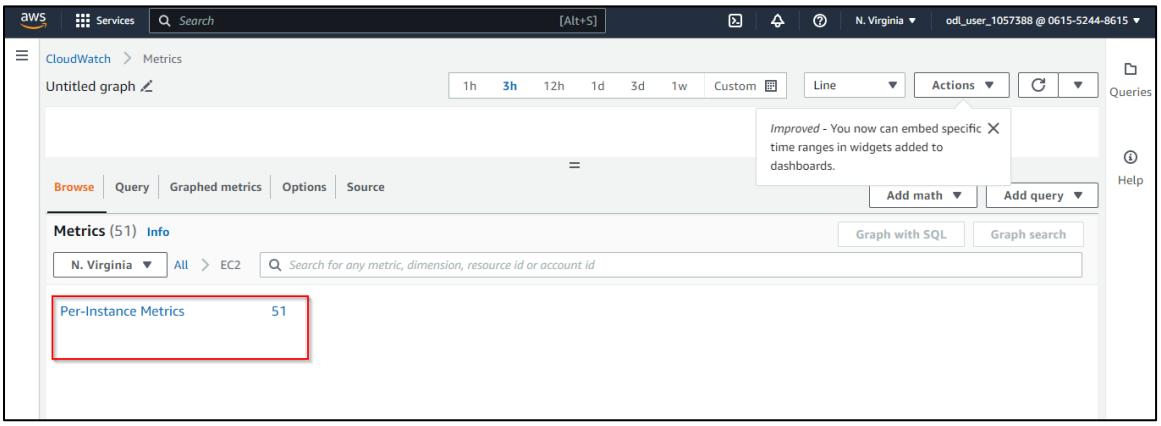
5.2 Navigate to **Metrics** and choose **All Metrics**

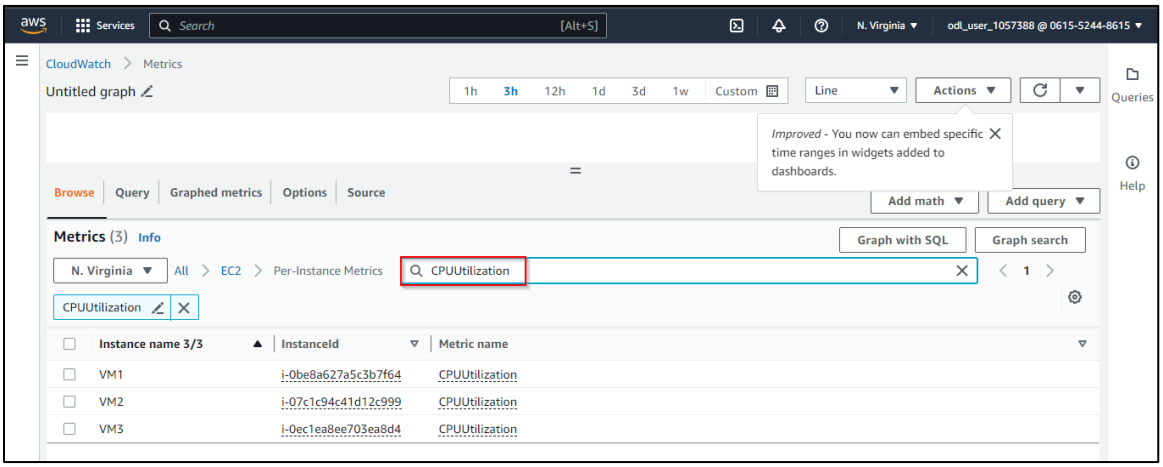


5.3 Select the **EC2** option

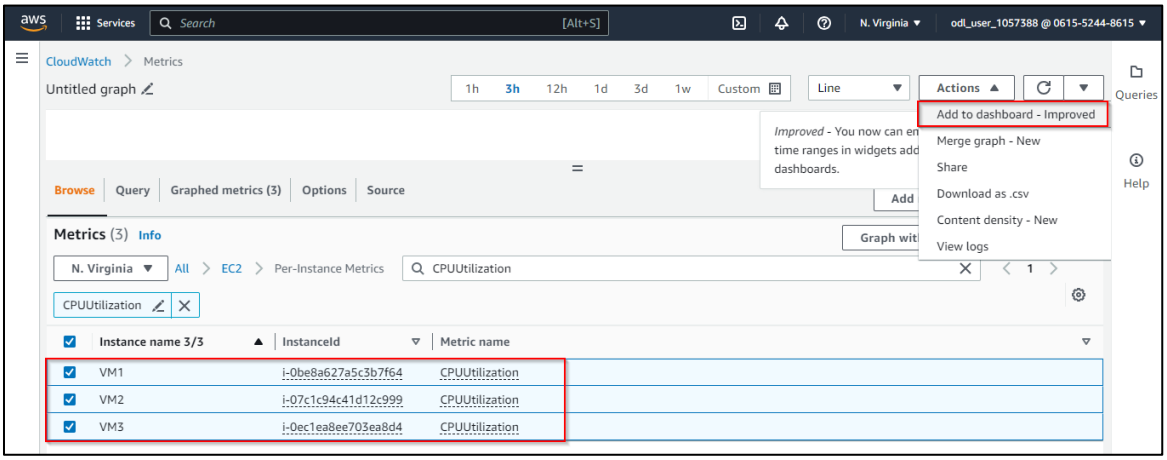


5.4 Under **Per-Instance Metrics,** search for **CPUUtilization** in the search bar

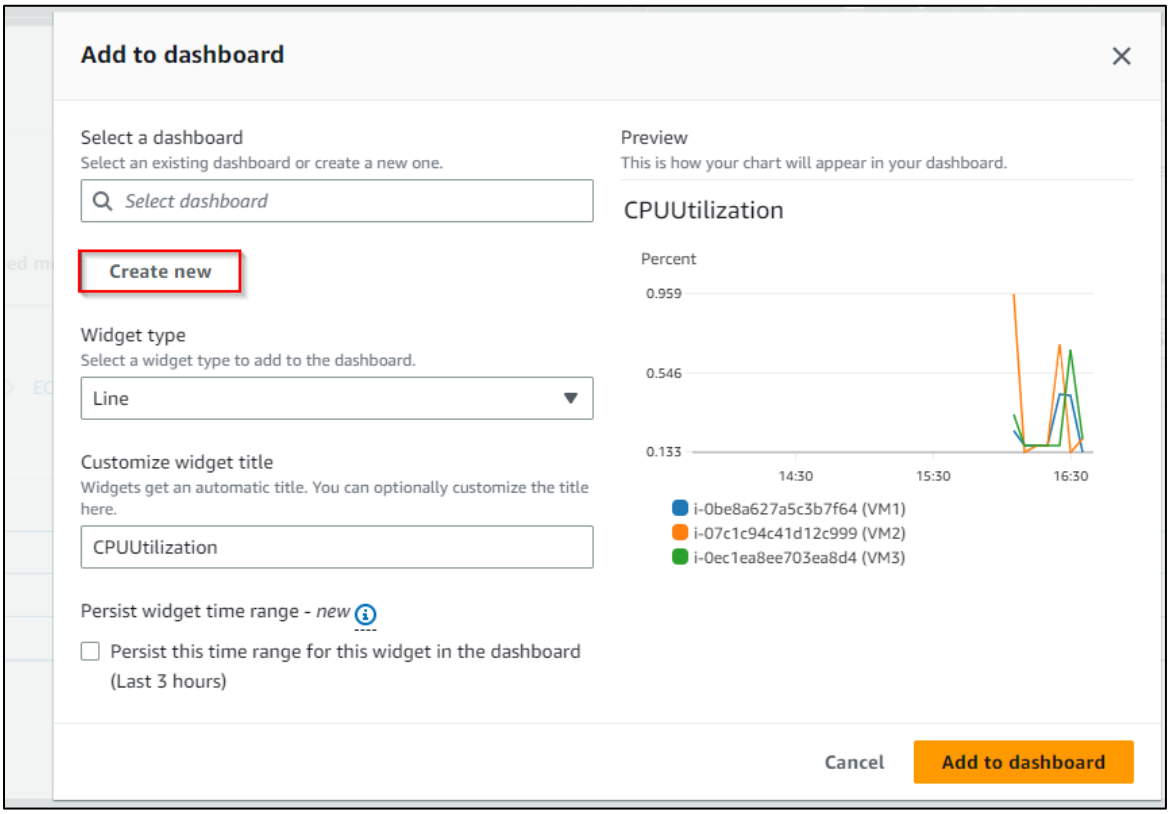




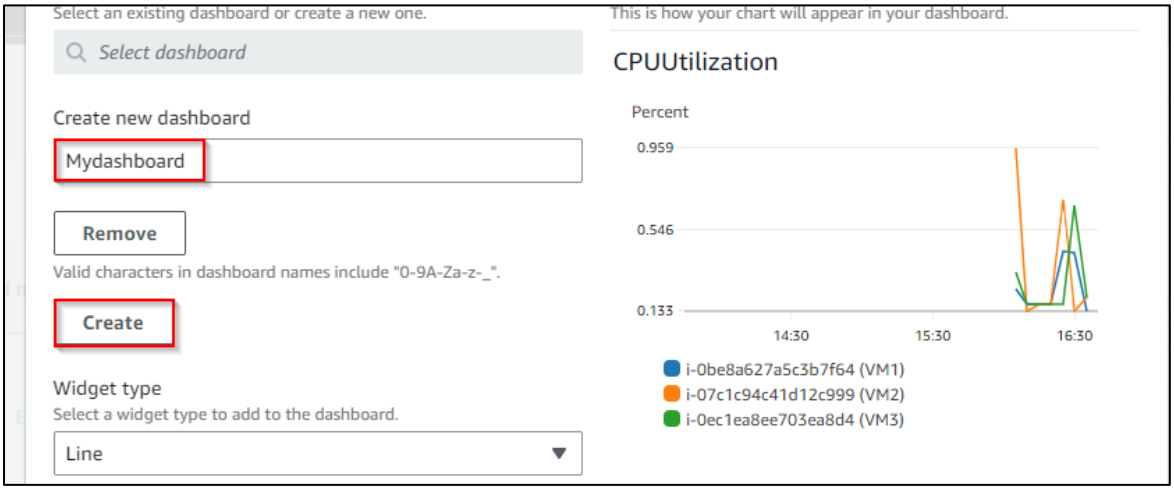
5.5 Choose all the VMs, click on **Actions**, and select **Add to dashboard**



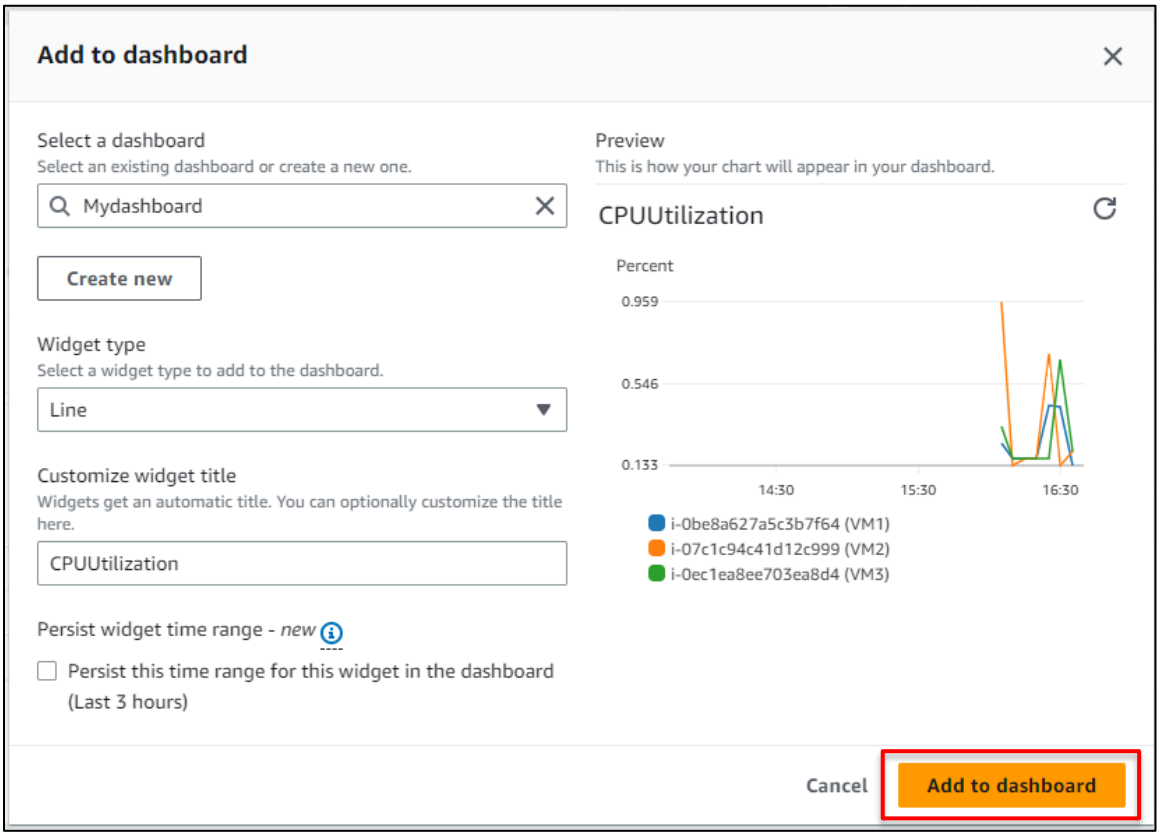
5.6 Click on **Create new**



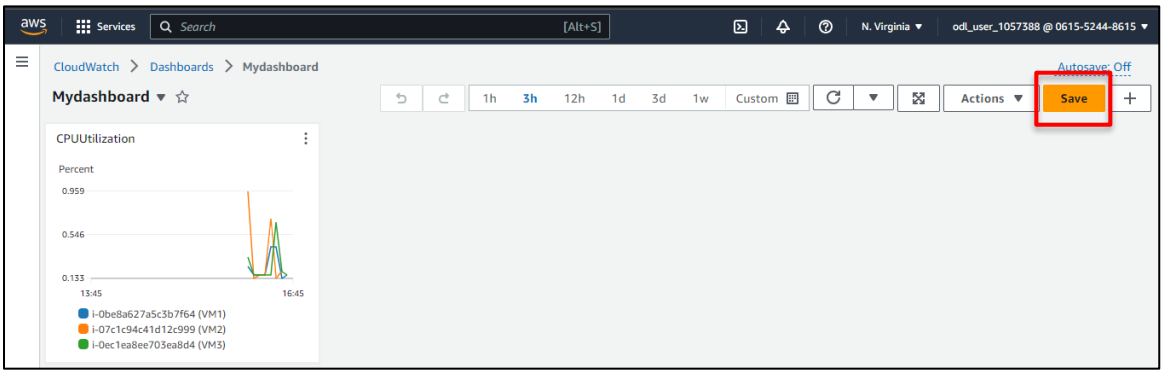
5.7 Provide a name for the dashboard and click **Create**



5.8 Click on **Add to dashboard**

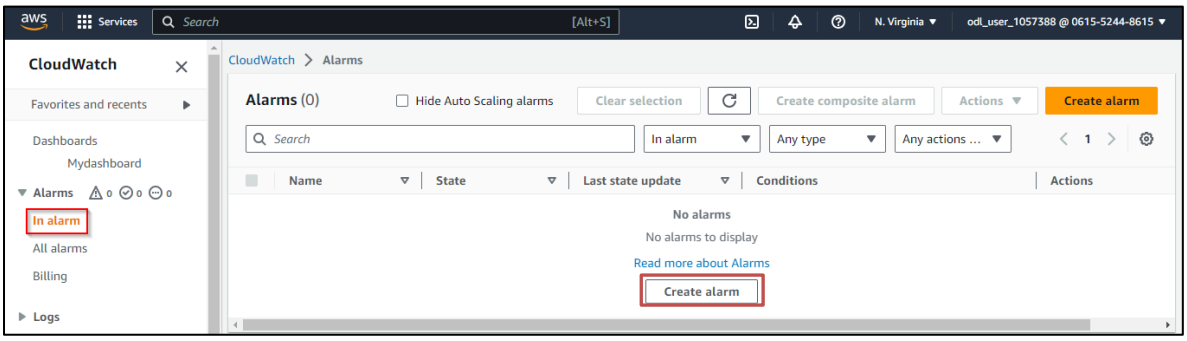


5.9 Click the **Save** button

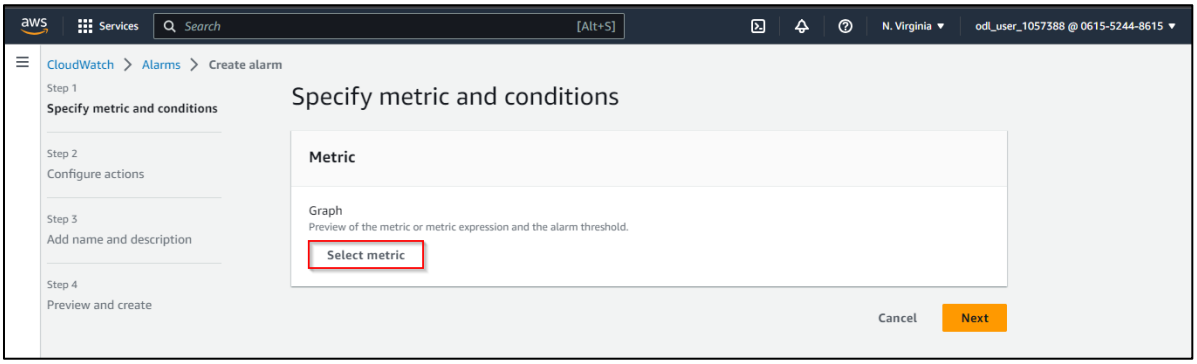


Step 6: Create an alarm and send a notification through SNS

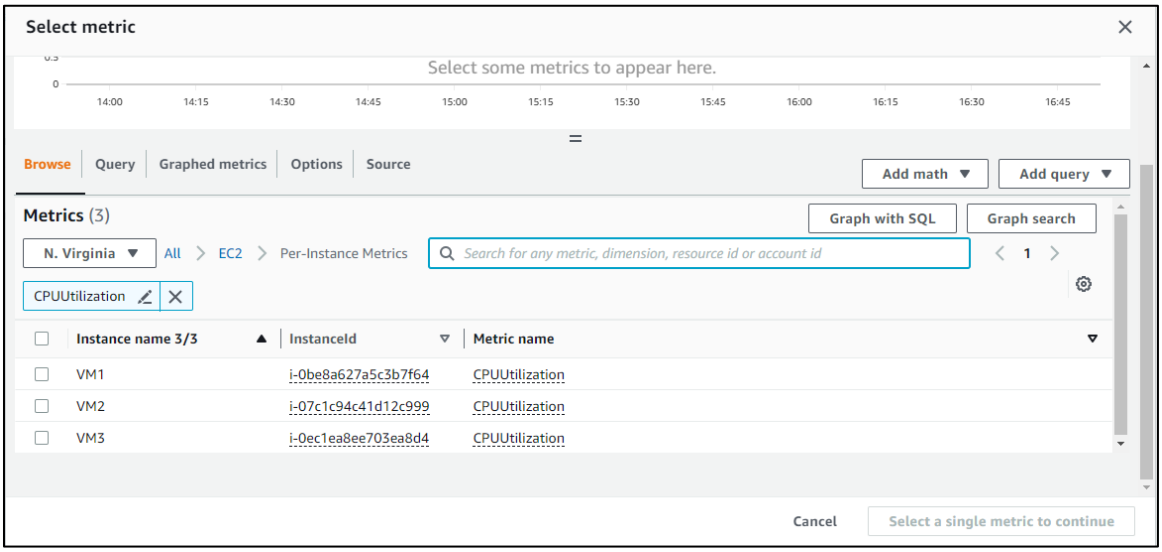
6.1 Navigate to **Alarms**, select **In alarm**, and click **Create alarm**



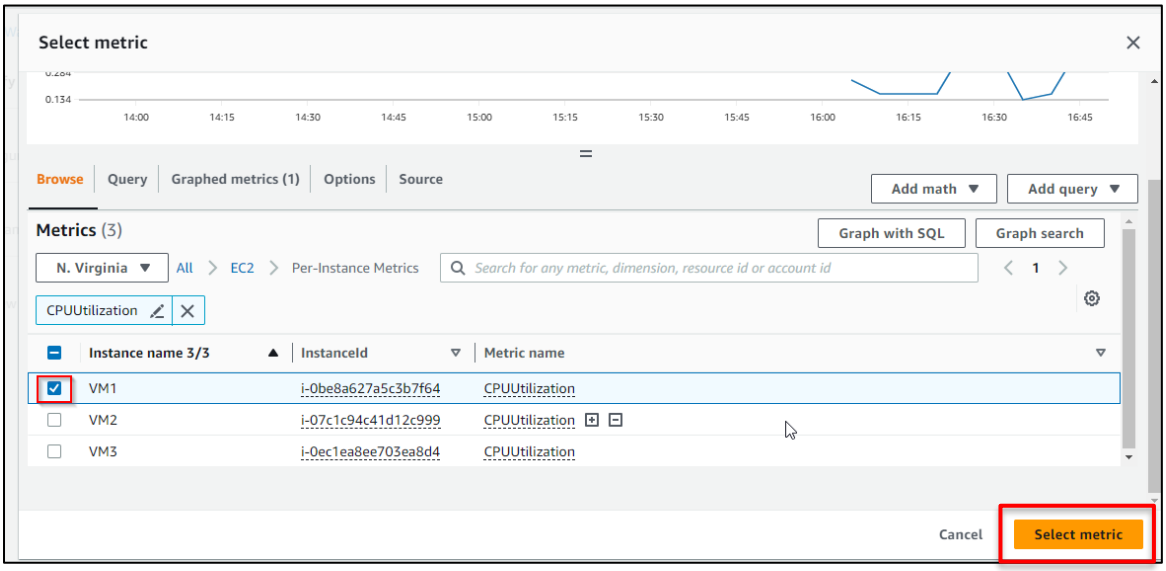
6.2 Click on **Select metric** and on **Next**



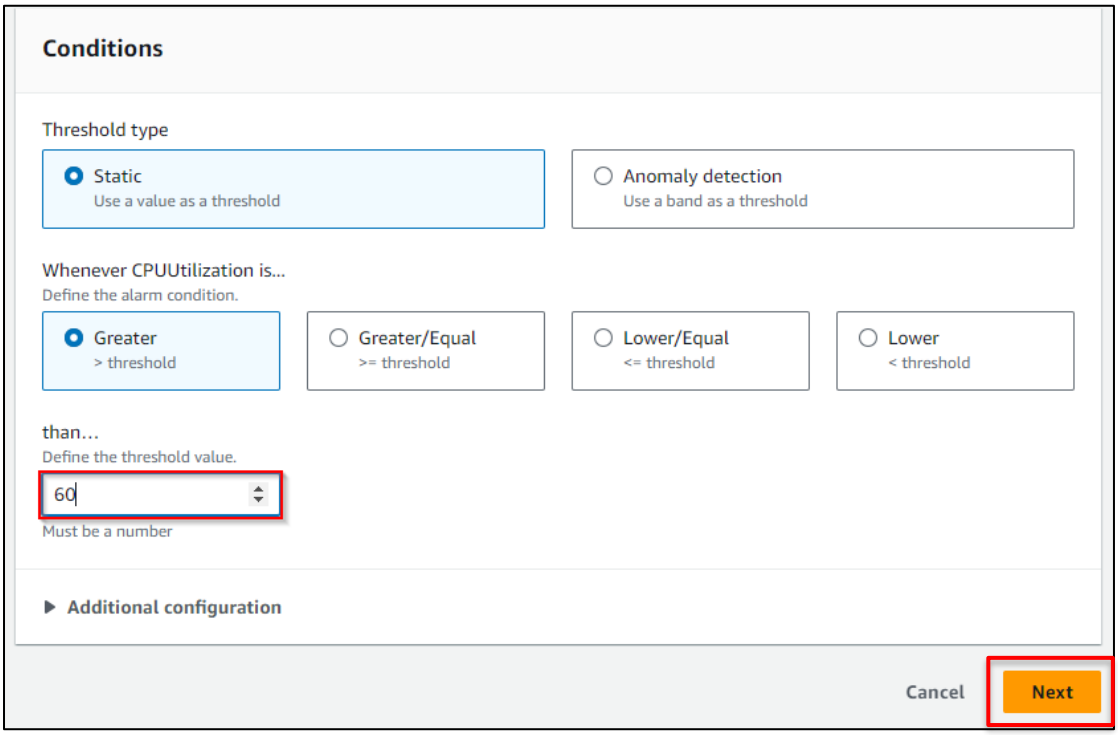
6.3 Choose **EC2**, select **Per-Instance Metrics**, and search for **CPUUtilization** in the search bar



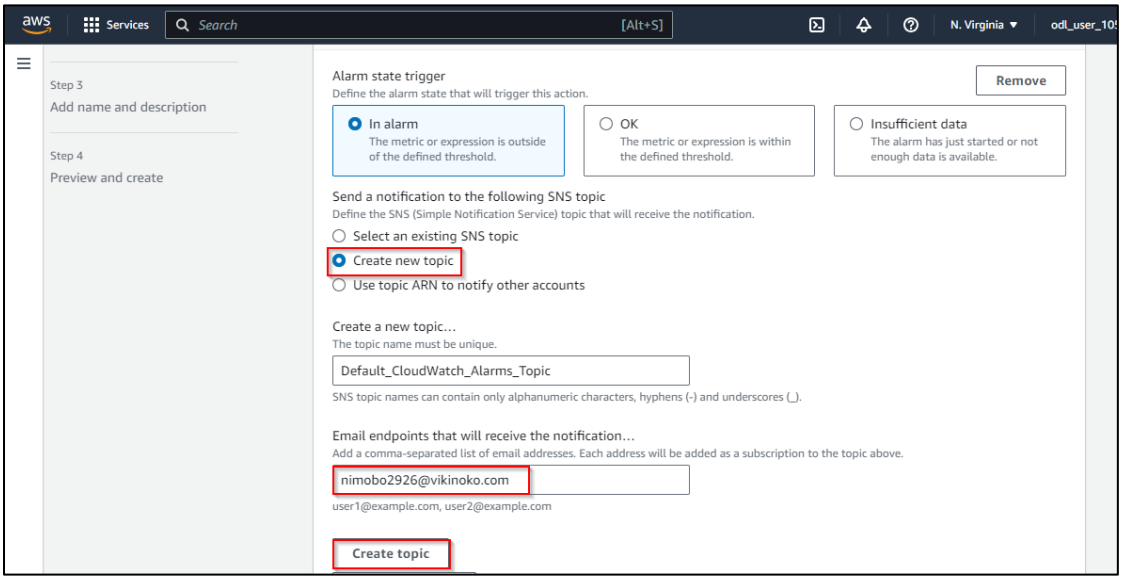
6.4 Select one metric at a time and click **Select Metric**



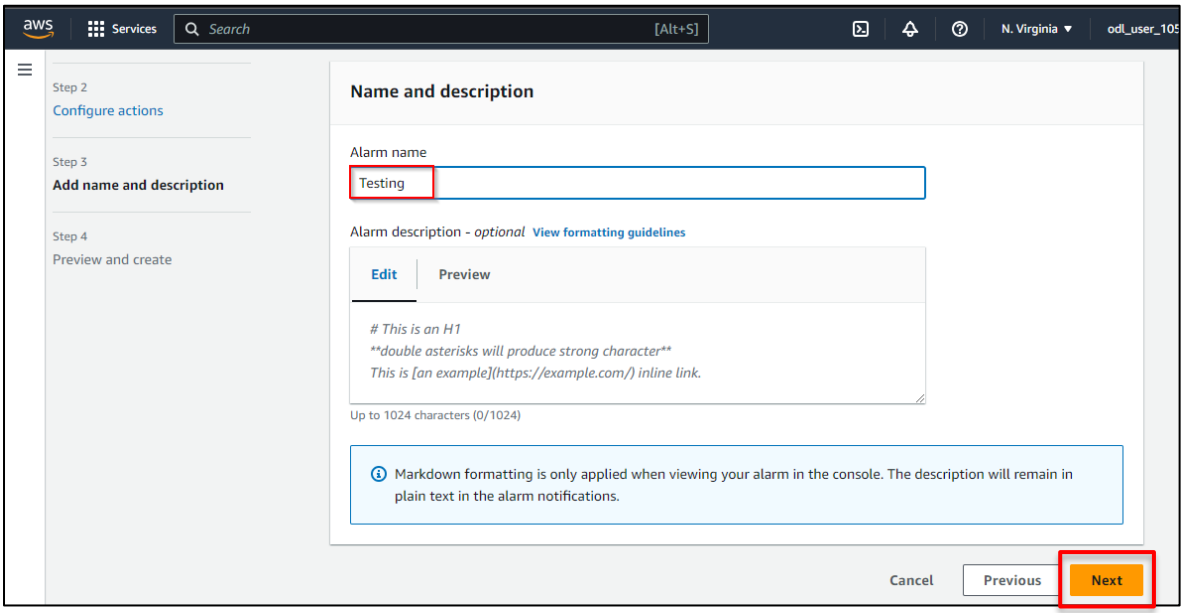
6.5 Set the threshold value to **60** and click **Next**



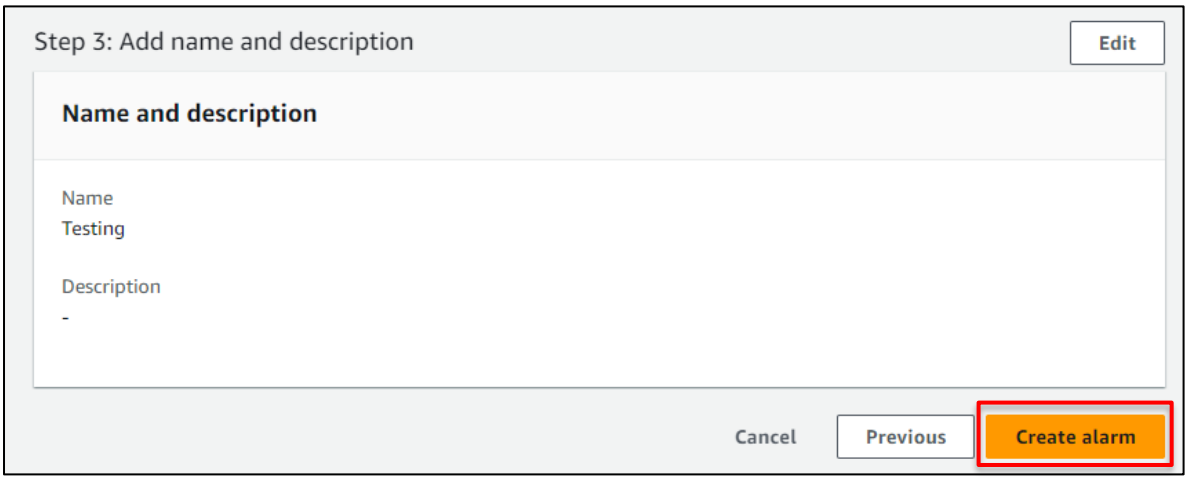
6.6 Select **Create new topic**, add an email address, and click **Create topic**

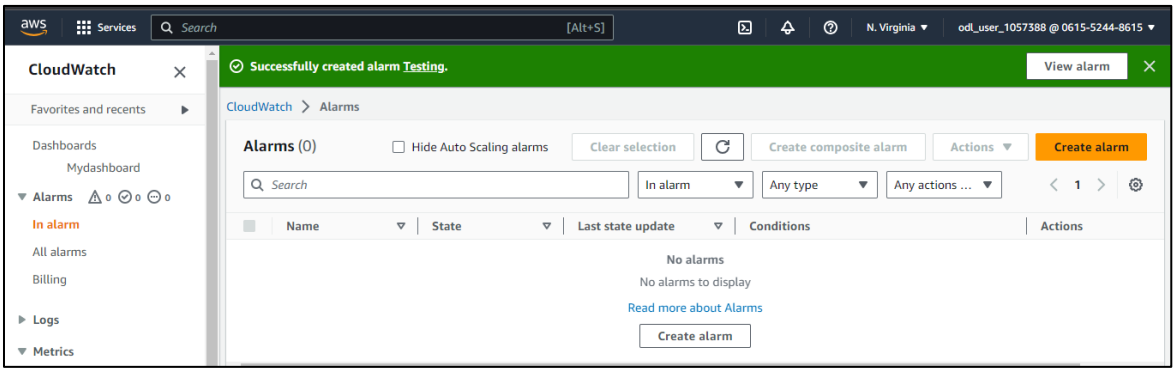


6.7 Provide a name for the alarm and click **Next**

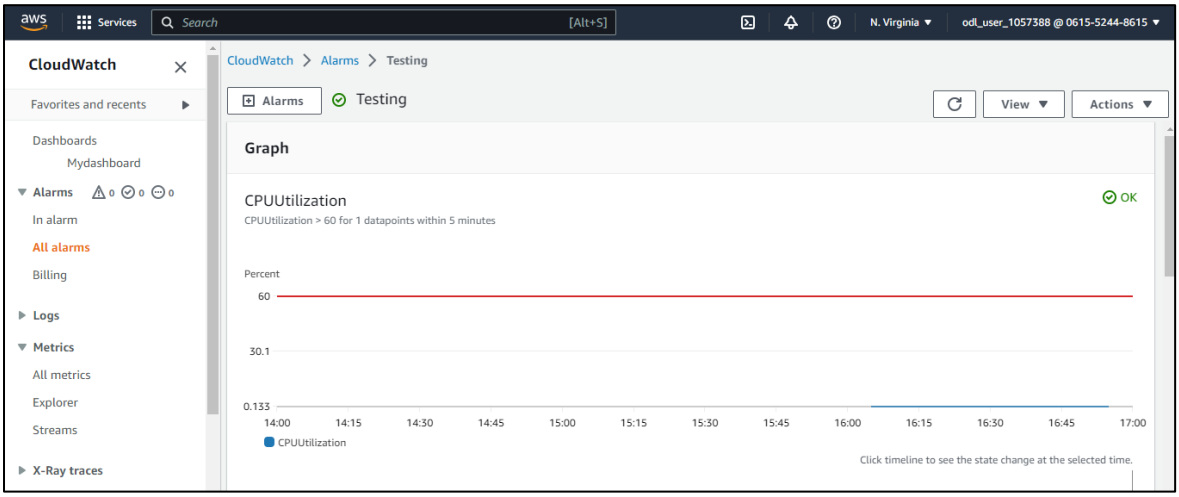


6.8 Click on **Create alarm**





The alarm has been successfully created with the expected result.



By following these steps, you have successfully gained hands-on experience in setting up, monitoring, and alerting systems for CPU utilization.