

Lesson 09 Demo 01

Automating EC2 Instance Shutdown with CloudWatch Alarm

Objective: To create a CloudWatch alarm to automatically stop an instance based on CPU utilization

Tools required: AWS Management Console

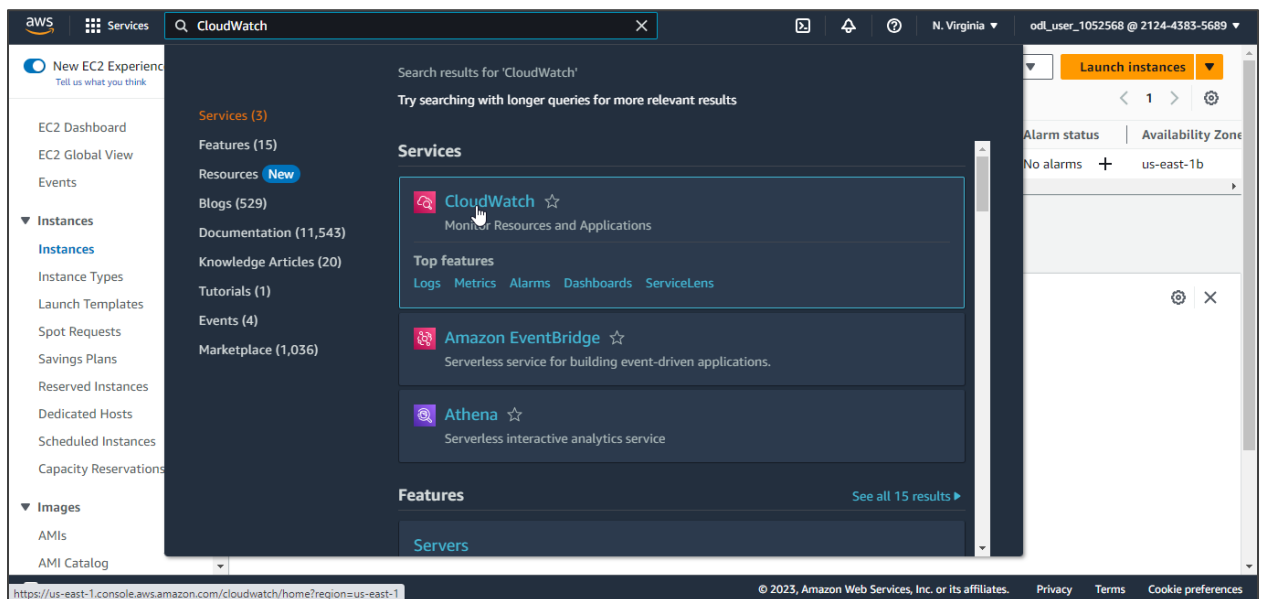
Prerequisites: An active EC2 instance

Steps to be followed:

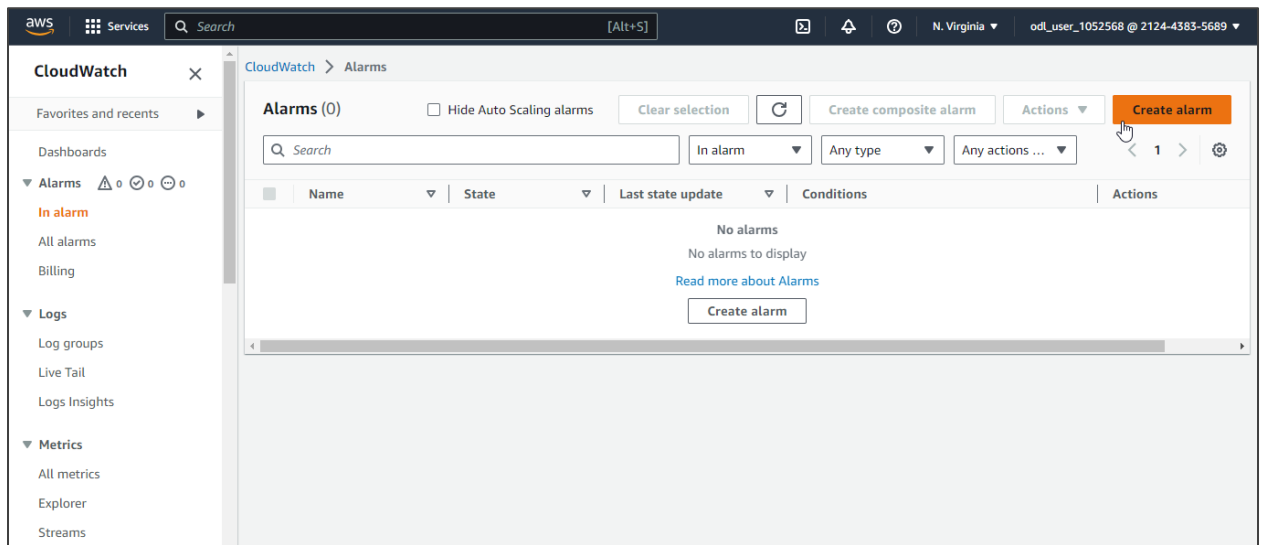
1. Create a CloudWatch alarm

Step 1: Create a CloudWatch alarm

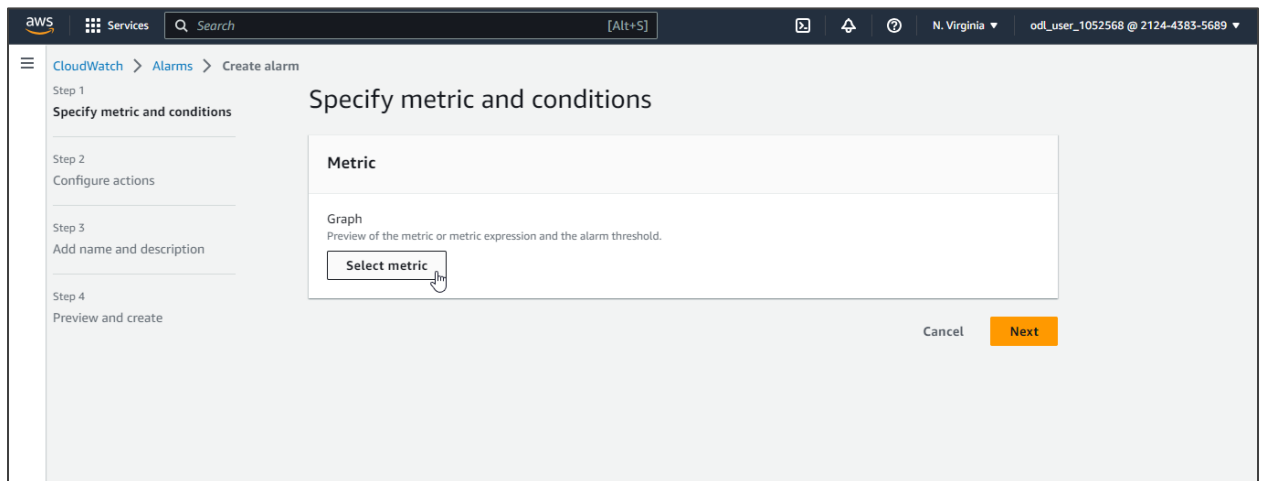
- 1.1 Open the AWS Management Console, and search for and click **CloudWatch**



1.2 In the CloudWatch menu, click **Create alarm**



1.3 Click on **Select metric**



1.4 Choose EC2 and select Per-Instance Metrics

The screenshot shows the AWS CloudWatch 'Select metric' dialog. The 'Browse' tab is active, displaying a list of metrics for 'N. Virginia' under the 'EC2' category. The 'Per-Instance Metrics' link is highlighted, showing 17 metrics. The 'Graphed metrics' tab is also visible.

1.5 In the Metric table, select the CPUUtilization of your instance and click Select metric

The screenshot shows the AWS CloudWatch 'Select metric' dialog. The 'Graphed metrics (1)' tab is active, displaying a table of metrics. The 'CPUUtilization' metric for 'Server1' is selected. The 'Select metric' button is highlighted.

Instance	Instance ID	Metric Name
Server1	i-04d75aa7f373bba9d	NetworkPacketsIn
Server1	i-04d75aa7f373bba9d	NetworkIn
<input checked="" type="checkbox"/> Server1	i-04d75aa7f373bba9d	CPUUtilization
Server1	i-04d75aa7f373bba9d	NetworkPacketsOut
Server1	i-04d75aa7f373bba9d	MetadataNoToken

1.6 Select **Static** for the Threshold type, set **Lower** for CPUUtilization, and enter **30** as the threshold value. Now, click **Next**.

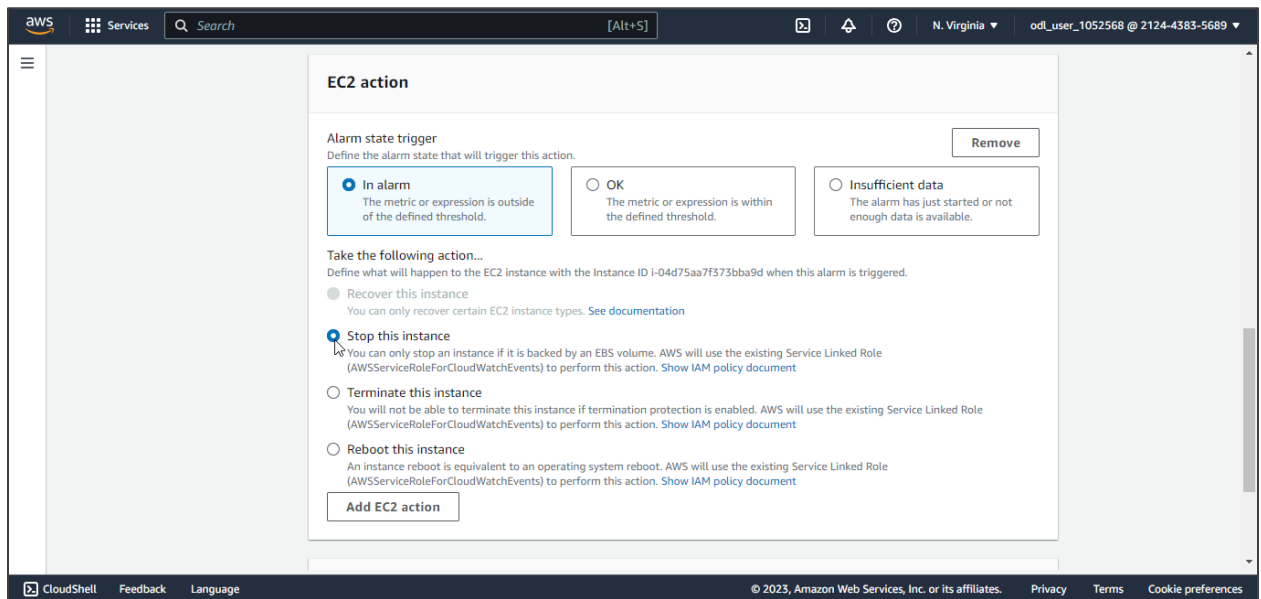
The screenshot shows the 'Conditions' configuration step in the AWS CloudWatch console. The 'Threshold type' is set to 'Static'. The condition is 'Whenever CPUUtilization is... Lower <= threshold'. The threshold value is '30'. The 'Next' button is highlighted.

1.7 Configure the **Alarm state trigger** as follows:

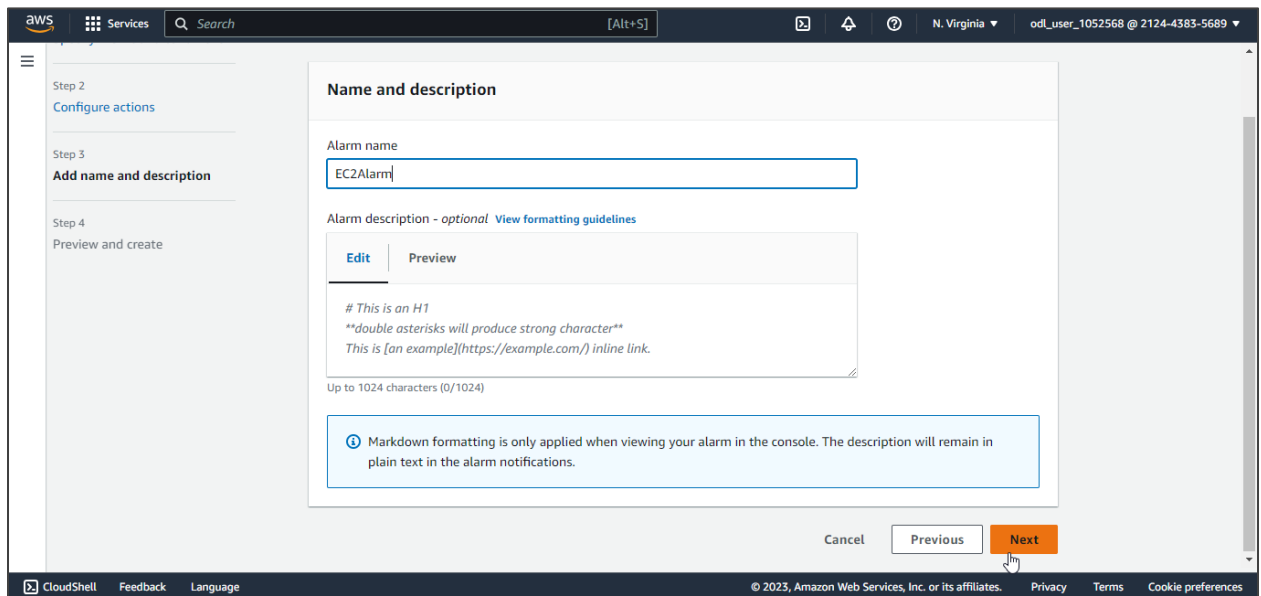
- Select **In alarm** and create a new topic
- Provide a topic name and your email address, and click **Create topic**

The screenshot shows the 'Alarm state trigger' configuration step in the AWS CloudWatch console. The 'In alarm' option is selected. A new SNS topic is being created with the name 'Default_CloudWatch_Alarms_Topic'. The email address 'jawad.pasha@simplilearn.net' is entered. The 'Create topic' button is highlighted.

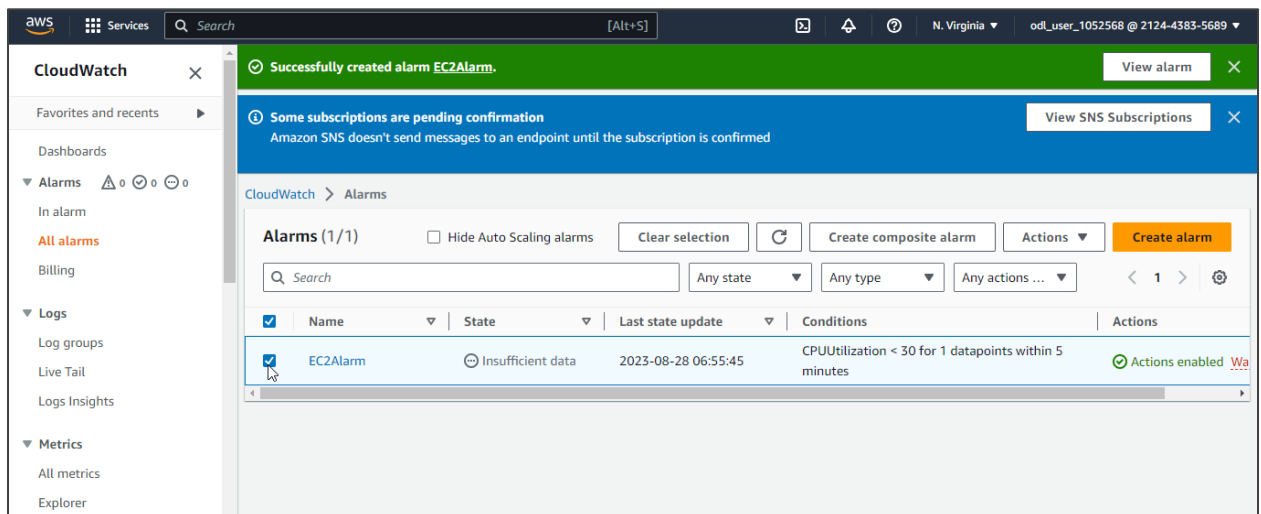
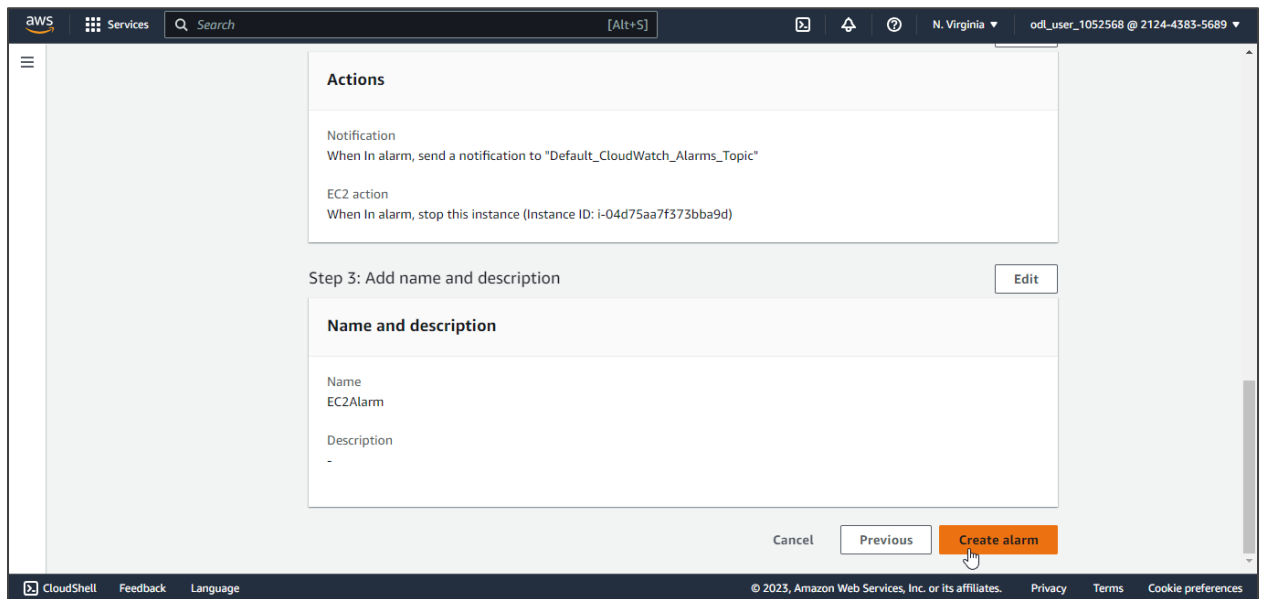
1.8 Under EC2 action, choose to **Stop this instance**



1.9 In the **Add name and description** section, assign a name to your alarm, and click **Next**

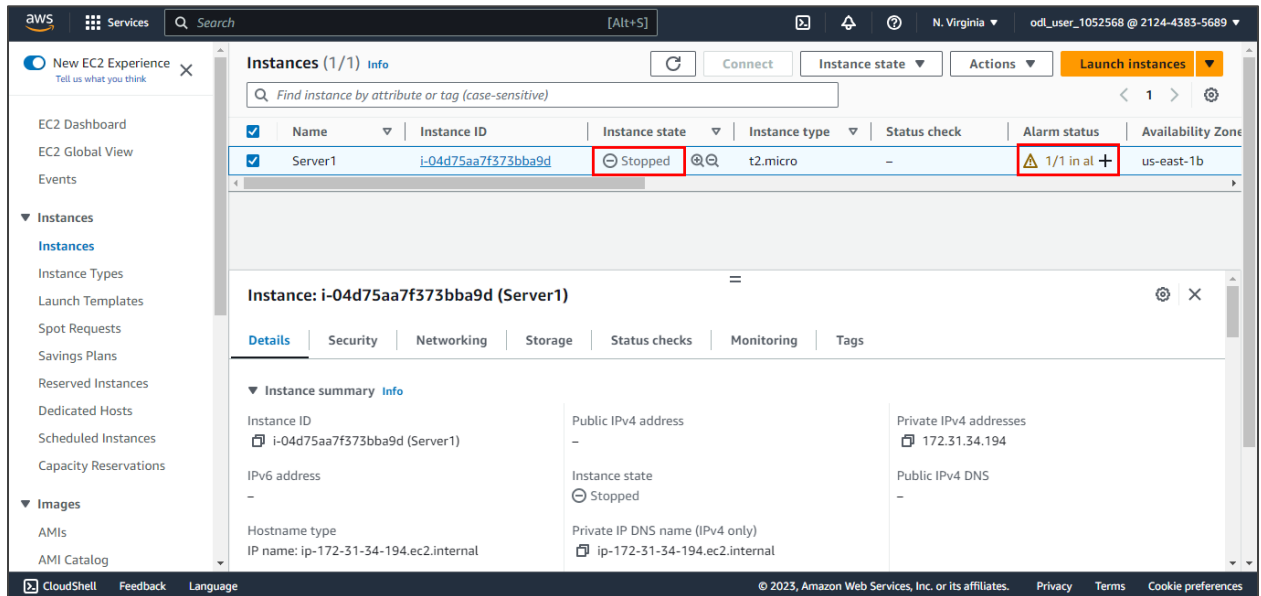


1.10 Click on **Create alarm**



Once the alarm has been created, it will be visible on the Alarms dashboard.

1.11 Navigate to the EC2 dashboard to check the instance state and alarm status. After a while, you will notice that the alarm triggers, causing the instance to stop.



By following these steps, you have successfully created a CloudWatch alarm that monitors the CPU utilization of your EC2 instance. When the CPU utilization falls below the specified threshold of 30%, the alarm triggers and sends a notification to the specified email address.