LAB 4

2147130

Q) 1. Why the Auto Scaling feature is significant in cloud computing?

Ans –

Auto-scaling enables cloud computing to deliver better and optimum performance. It basically allows the resources to set configuration by themselves without doing it manually. It helps the consumer in many aspects for example, On an e-commerce website there comes festival season, etc, for which they can expect more customers or traffic on their site than usual. For this particular reason, they have to set up their resources first and according to the requirement they have to distribute the traffic, which if we do manually it might affect the business. There is might be a chance that we have to interrupt the services for some time which can affect the business and may give a poor customer experience. So by autoscaling the resources we can schedule a particular time when we want our resources to be scaled up or down depending on the requirements. This will not only save our time and effort but will also save cost. In AWS autoscaling can create new instances which have to provide while doing the setup. Network bandwidth autoscaling is also possible which can set a launch configuration with a baseline amount of bandwidth and then set a policy that will enable the service to automatically scale it up to a specified maximum amount to meet demand.

Q) 2. Describe the following

a) Metric-based autoscaling

Ans –

Auto-scaling depends on various factors. It gives us various options to be configured such as to define the number of instances we want to create. What should be the minimum number of instances we want to proceed with and how many maximum resources do we want to scale up? It also provides us the option to scale the resources up based on how much CPU utilization. So, in metric-based autoscaling, if one instance is full based on the specification then automatically next instance will be turned on and the service will be continuing.

a) Schedule-based autoscaling

Ans –

Here we can schedule the autoscaling of resources based on our requirements. So, instances will be created automatically when there will be a peak time of sale in the case of e-commerce. We can even scale down the resources if there will be no requirements. So, the schedule auto-scale will not wait to full one instance. It will automatically create the number of instances that we had defined while making the auto-scaling group configuration in AWS.

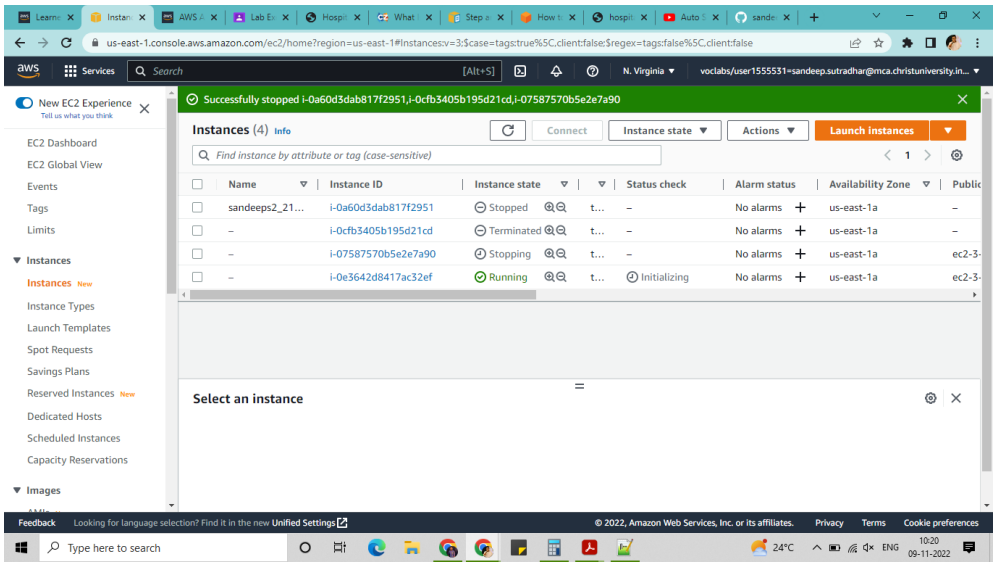
Q) 3. Demonstrate Metric based autoscaling or Schedule based auto-scaling to cater to your organization’s business requirements. (Specify the requirements)

Ans –

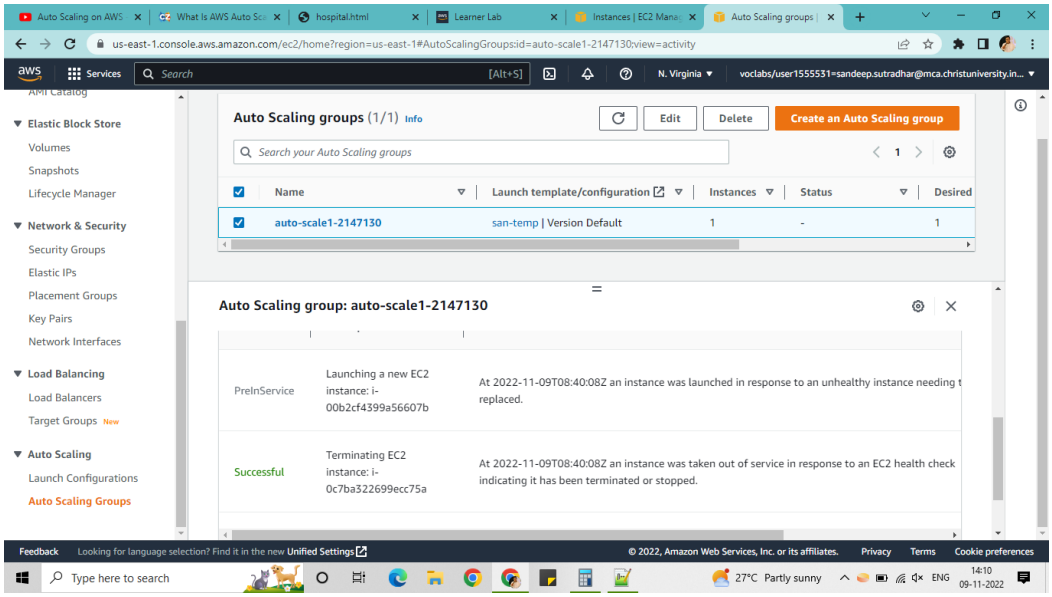
Step 1: After starting the AWS lab → (Left side options)Under Auto Scaling select auto scaling groups option → Select **Create an Auto Scaling group** → Give autoscaling group name (ex : **auto-scale1-2147130**) → Select Create a launch template under Launch Template

Step 2: Give Launch Template name (ex: san-temp) → Give template version description if you want (Note: It might require in real-time operation) → Under Application and OS Images (Amazon Machine Image) – required Select the application type (Ex: Ubuntu) → Select the instance type (ex: t2.micro) → Give key pair login(not required)→ In the network setting you may define Firewall (security groups) or may create a new one → Select the Availability Zones and subnets → Leave everything as default

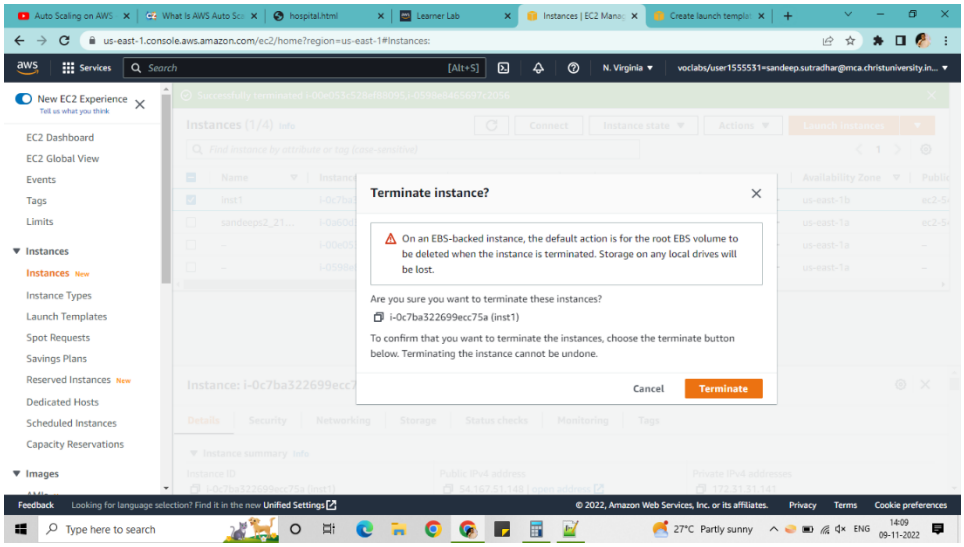
Step3: Select Create Launch Instance option

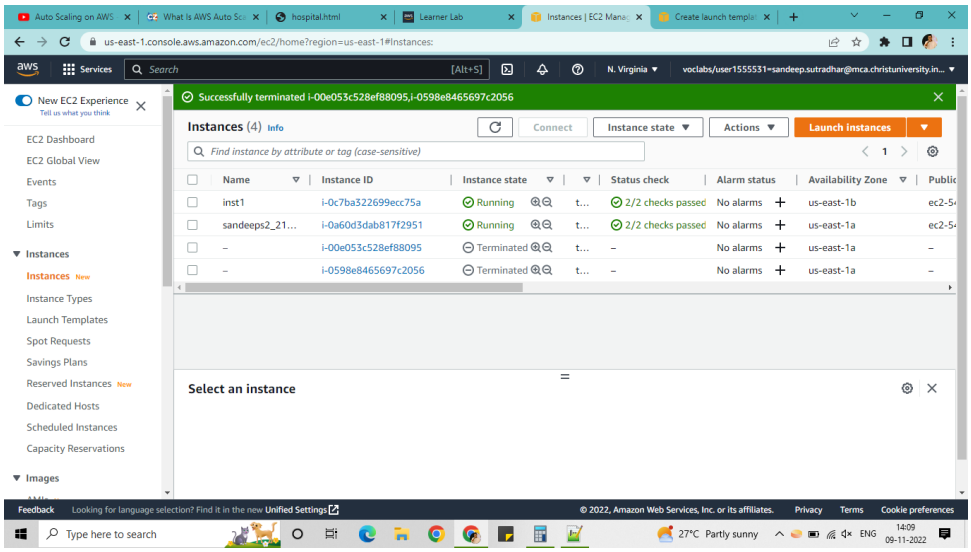


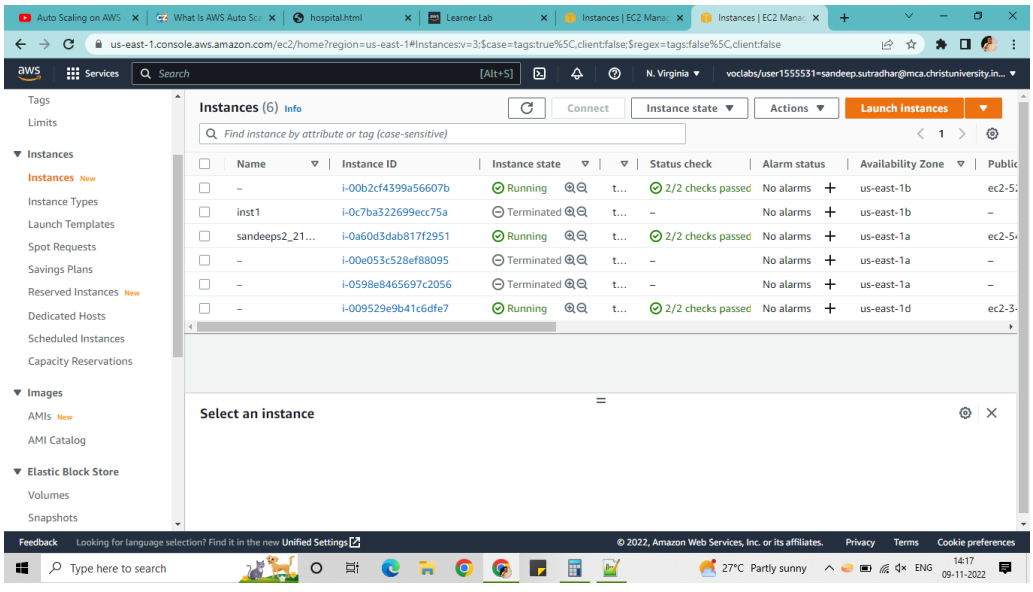
Step 4: Select the Auto Scaling Groups →Select the group which has been created in Step 2 → In the details You may edit the configuration like Desired Capacity (Which means this is the number of instance you want to run: 2) , Minimum capacity (This number of instance should run at a time : 1) , Maximum Capacity (Number of instance can be launched when there is need) →



Step 5: To check the configuration come to the instance → Stop the instance which has been turned on after step 4 has been completed or you may check the details in the Detail section of the Autoscaling group → A new instance will be created after stopping the already running instance



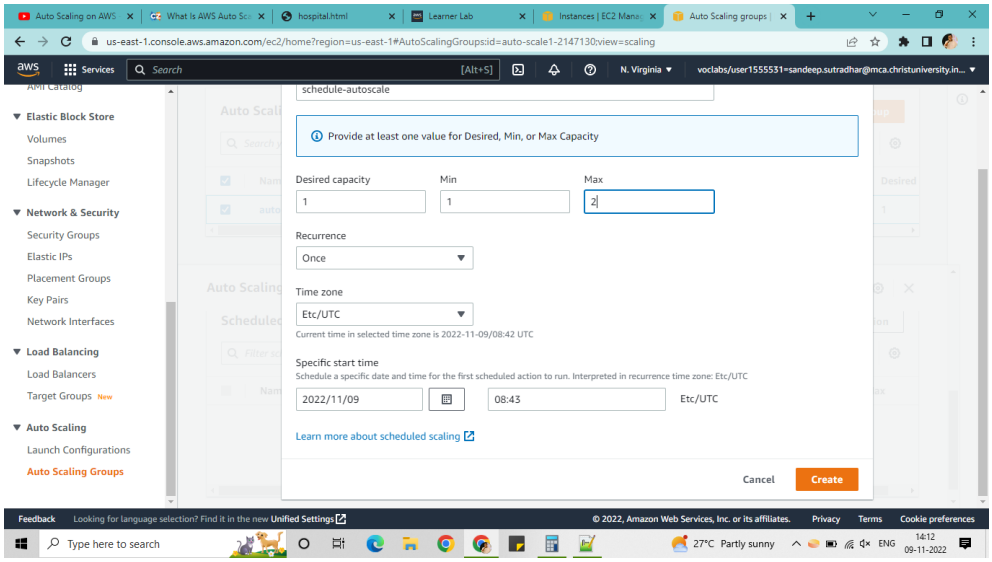




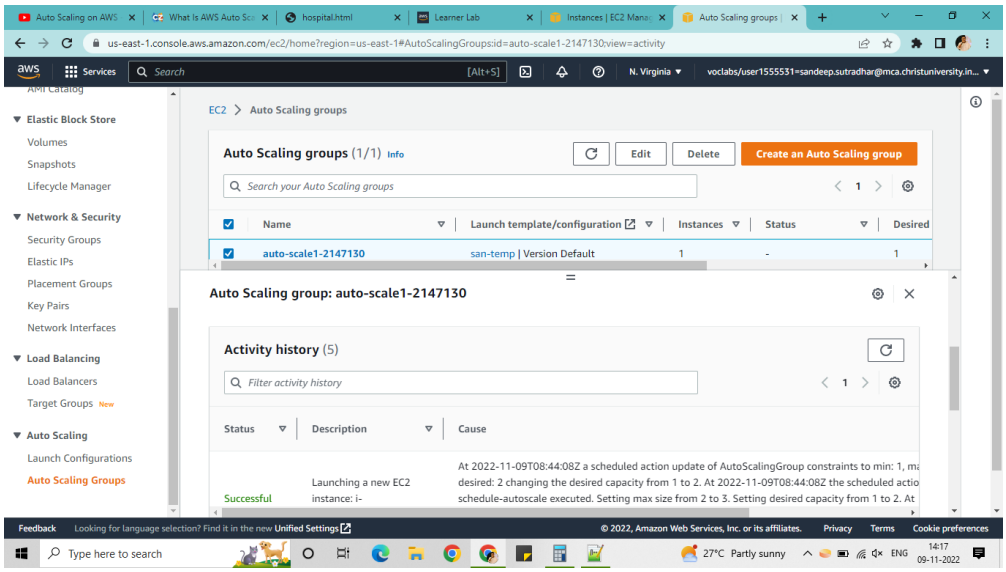
NOTE : TERMINATE ALL THE INSTANCES OR ELSE THE COST WILL BE CONTINUE INCREASING

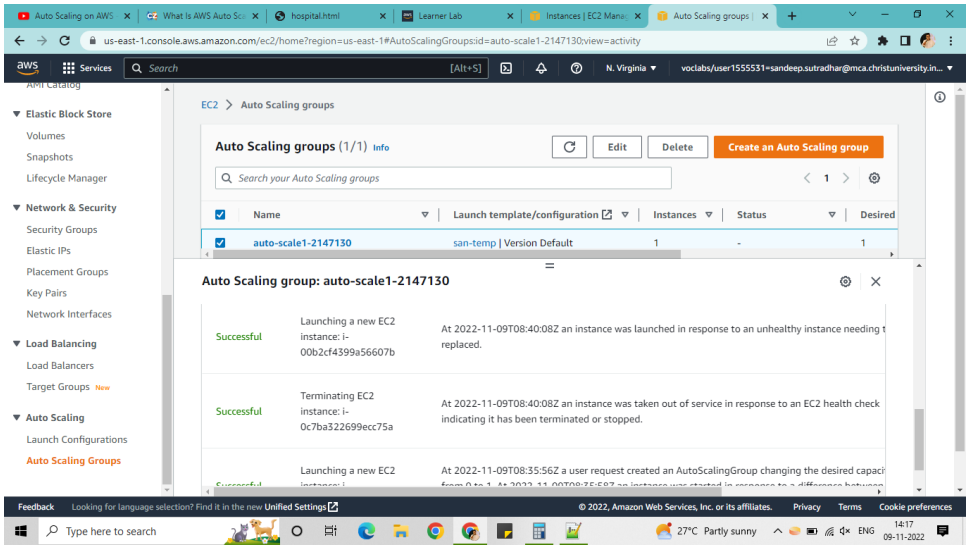
FOR Scheduling –

Step 6: Select the Automatic Scaling group which has been created in step2 → Click the Automatic scaling option below → Scroll down Select the scheduling option → Define the date and time when you want to schedule the automatic instance created which the number of nodes desired, minimum capacity and maximum capacity → Select create scheduling



→ Now check the details in an auto-scaling group or you may check the instances as well.




Auto Scaling groups (1/1) Info
Edit
Delete
Create an Auto Scaling group
Search your Auto Scaling groups
Name
Launch template/configuration
Instances
Status
Desired
auto-scale1-2147130
san-temp | Version Default
1
1
Auto Scaling group: auto-scale1-2147130
Successful
Launching a new EC2 instance: i-00b2cf4399a56607b
At 2022-11-09T08:40:08Z an instance was launched in response to an unhealthy instance needing t replaced.
Successful
Terminating EC2 instance: i-0c7ba322699ecc75a
At 2022-11-09T08:40:08Z an instance was taken out of service in response to an EC2 health check indicating it has been terminated or stopped.
Launching a new EC2
At 2022-11-09T08:35:56Z a user request created an AutoScalingGroup changing the desired capaci
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
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Target Groups
Auto Scaling
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Auto Scaling Groups
Feedback
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Type here to search
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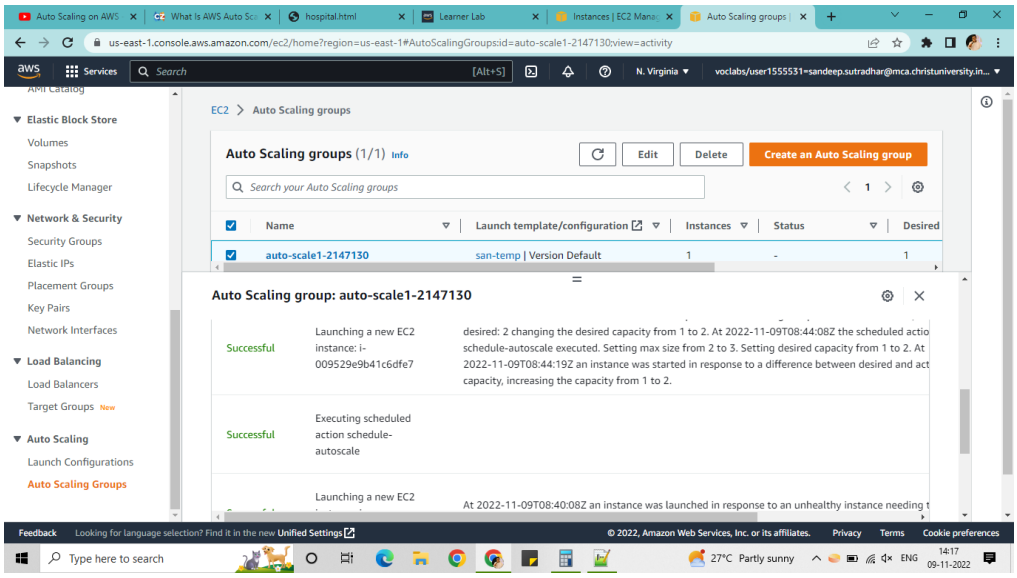
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Successful
Launching a new EC2 instance: i-009529e9b41c6dfe7
desired: 2 changing the desired capacity from 1 to 2. At 2022-11-09T08:44:08Z the scheduled actio schedule-autoscale executed. Setting max size from 2 to 3. Setting desired capacity from 1 to 2. At 2022-11-09T08:44:19Z an instance was started in response to a difference between desired and act capacity, increasing the capacity from 1 to 2.
Successful
Executing scheduled action schedule-autoscale
Launching a new EC2
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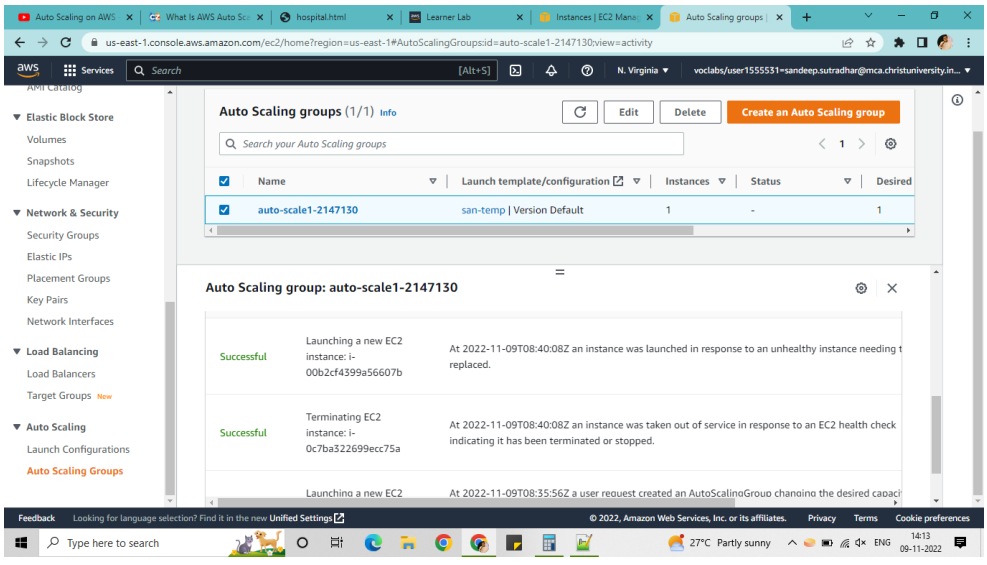
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