

Lesson 09 Demo 08

Setting up an Auto Scaling Group with a Launch Template

Objective: To set up an auto-scaling group using a launch template in AWS

Tools required: AWS account

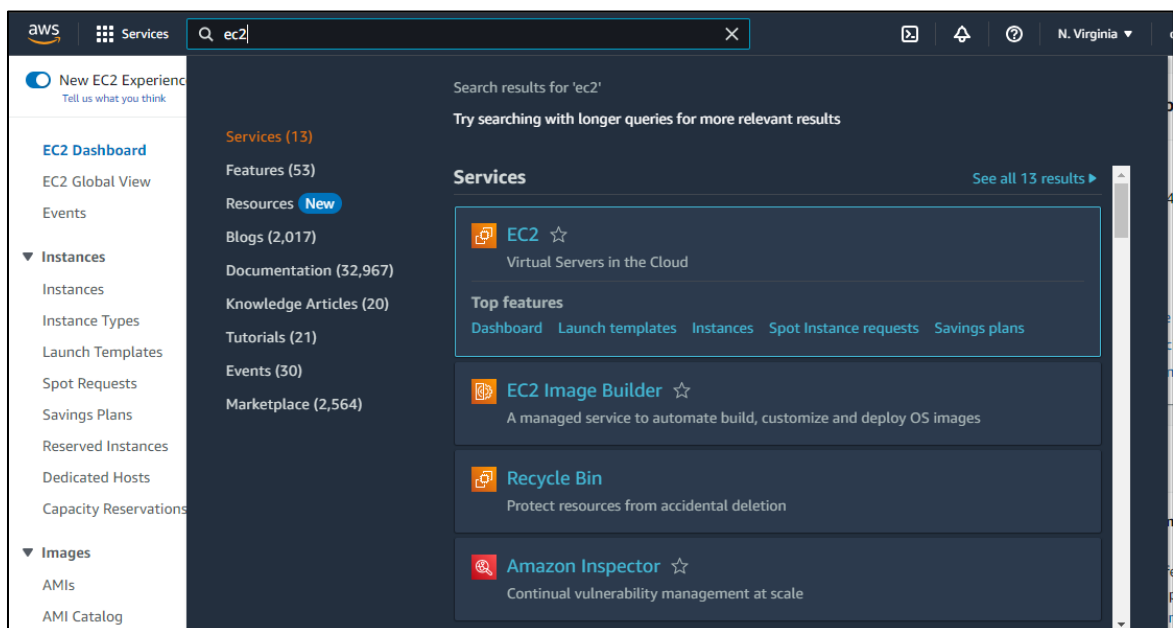
Prerequisites: None

Steps to be followed:

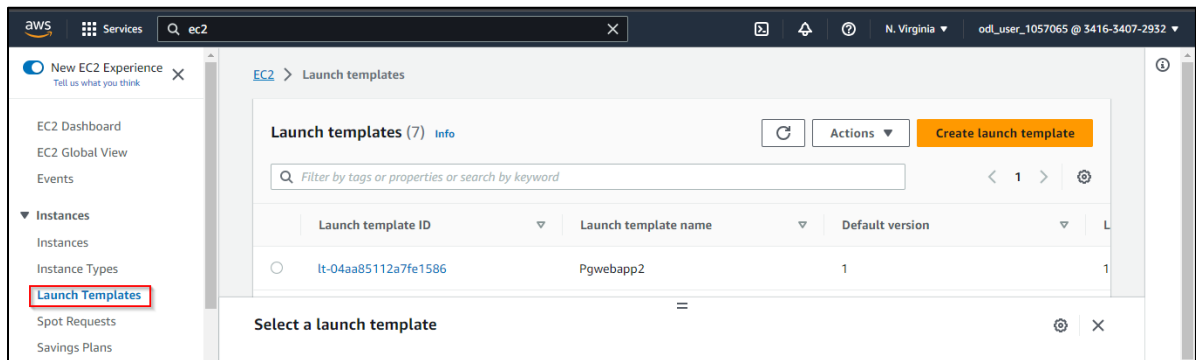
1. Create a launch template
2. Create an Auto Scaling group

Step 1: Create a launch template

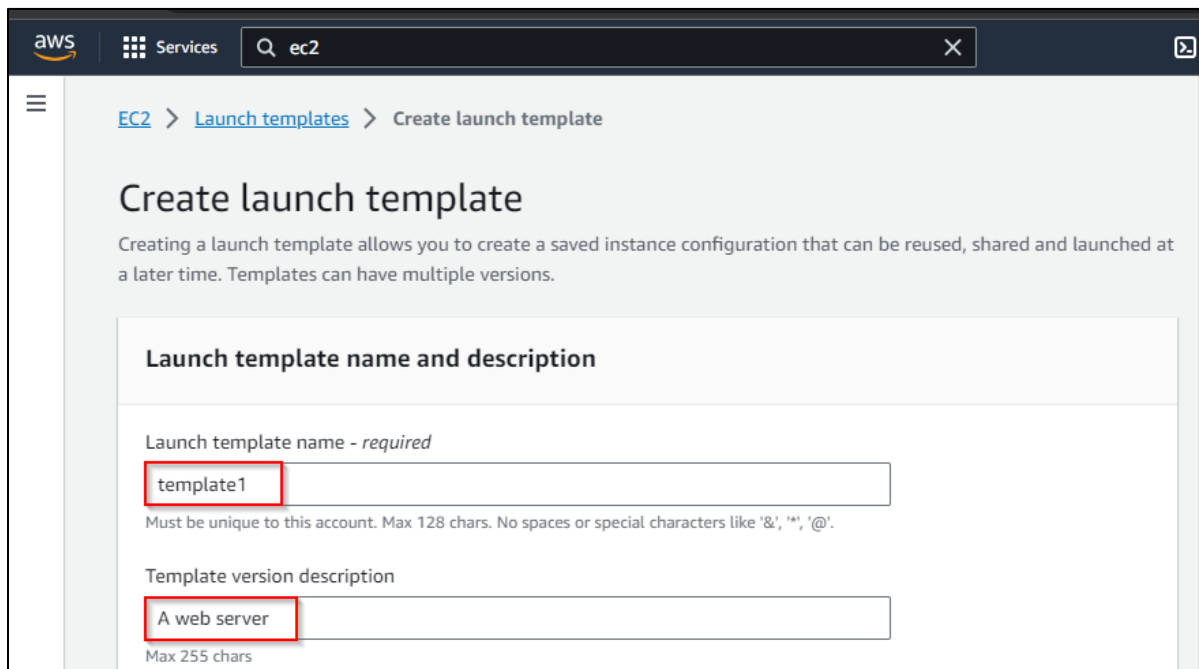
1.1 Navigate to the Amazon portal and search for and select **EC2**



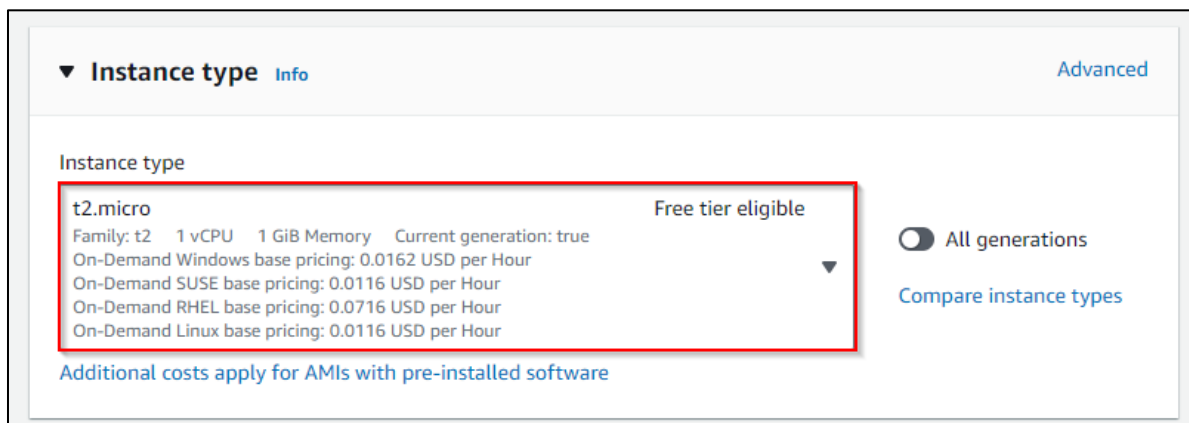
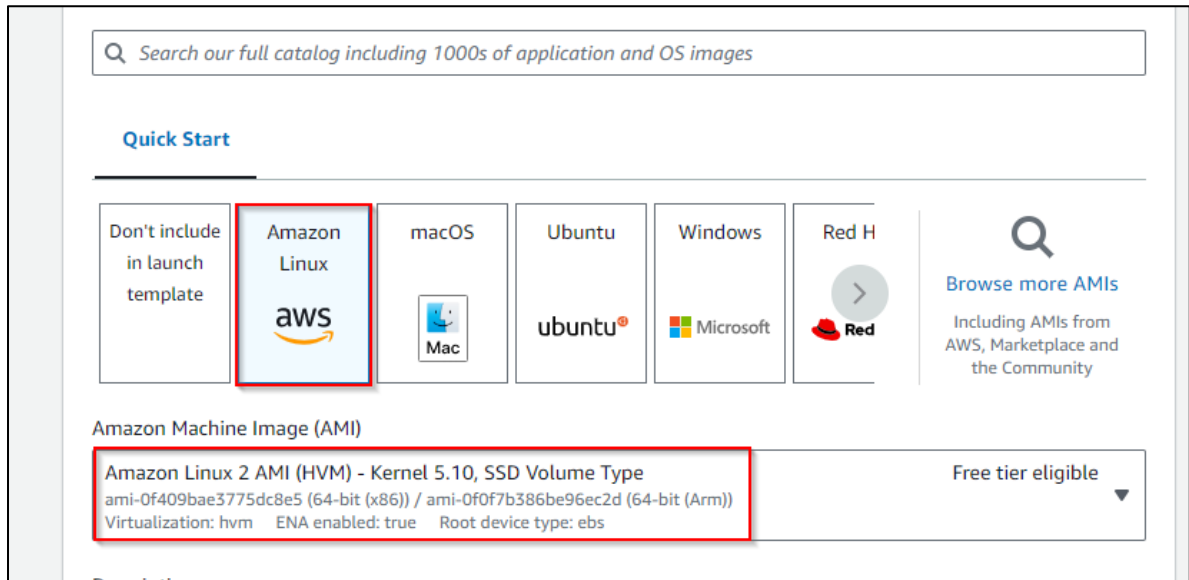
1.2 Select the **Launch Templates** tab and click **Create a launch template**



1.3 Provide a name and description to the **Launch** template



1.4 Choose **Amazon Linux-Kernel 5.10, SSD Volume Type** in the **Amazon Machine Image** section and set the instance type to **t2.micro**



1.5 Specify the **Key pair name** as **key** and click on **Create key pair**

Create key pair

Key pair name
Key pairs allow you to connect to your instance securely.

key

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA
RSA encrypted private and public key pair

☐ ED25519
ED25519 encrypted private and public key pair

Private key file format

☒ .pem
For use with OpenSSH

☐ .ppk
For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. [Learn more](#)

Cancel **Create key pair**

▼ **Key pair (login)** Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name

key

↻ Create new key pair

1.6 Keep the Security groups as **default**

▼ Network settings Info

Subnet Info

Don't include in launch template ▼

Create new subnet ↗

When you specify a subnet, a network interface is automatically added to your template.

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Select existing security group

☐ Create security group

Security groups Info

Select security groups ▼

default sg-090c6af71d44a1c14 ✕

VPC: vpc-037faad87714ea311

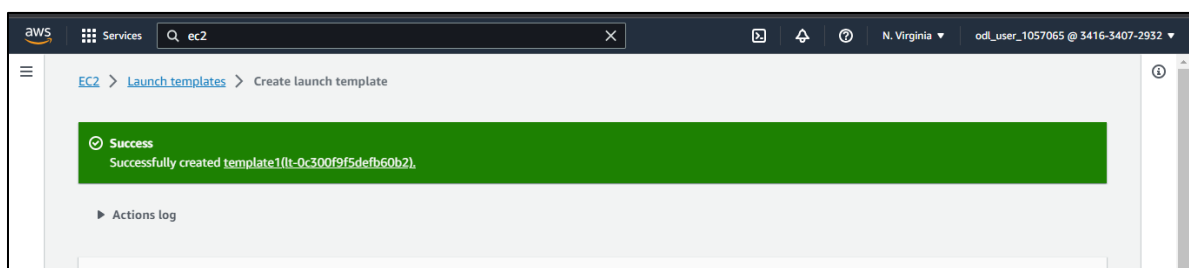
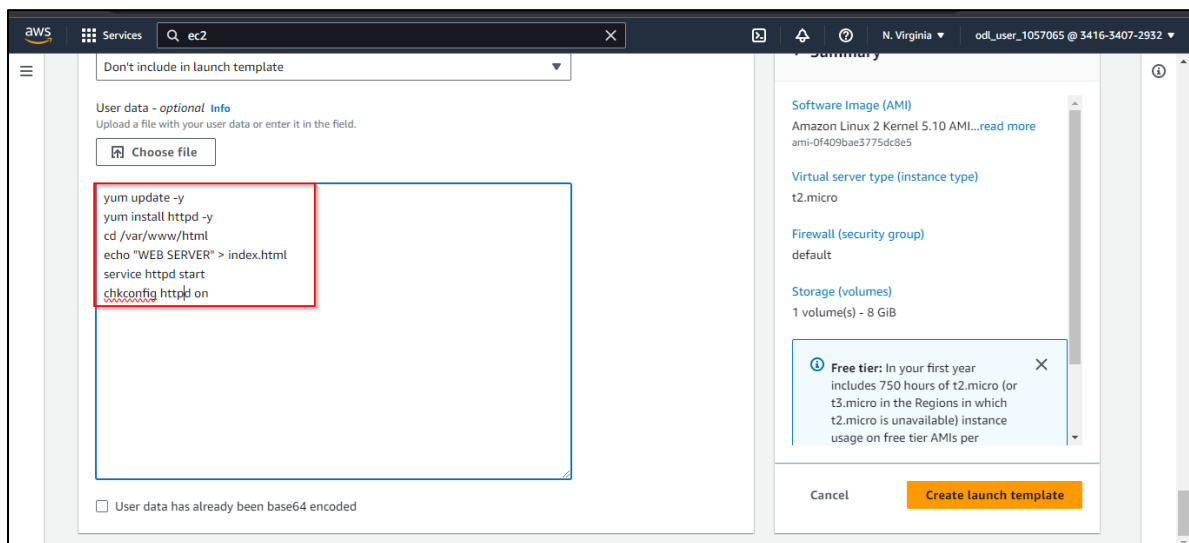
Compare security group rules ↻

► Advanced network configuration

1.7 In the **Advanced details** section, add the following code under **User data**:

```
yum update -y
yum install httpd -y
cd /var/www/html
echo "WEB SERVER" > index.html
service httpd start
chkconfig httpd on
```

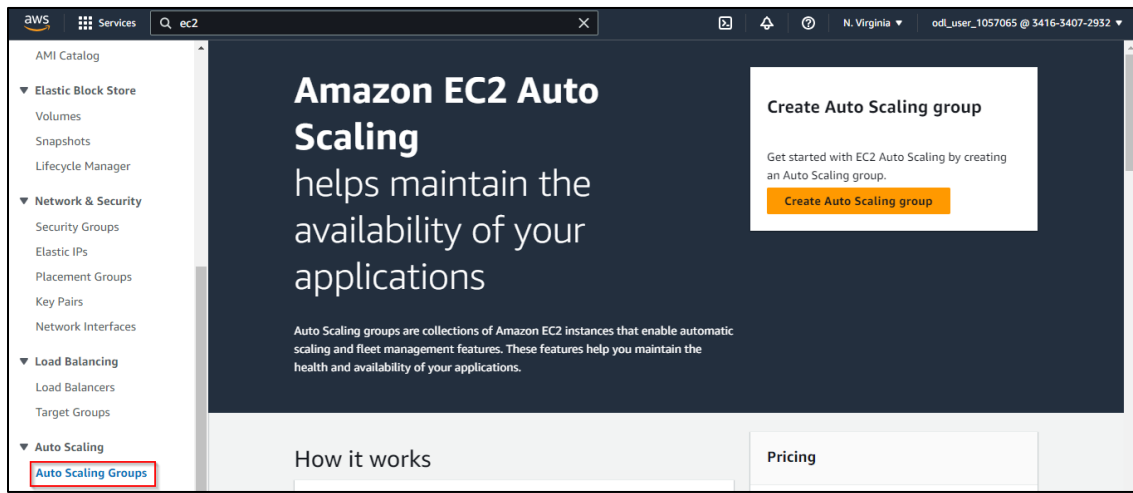
After adding the code, click **Create launch template**.



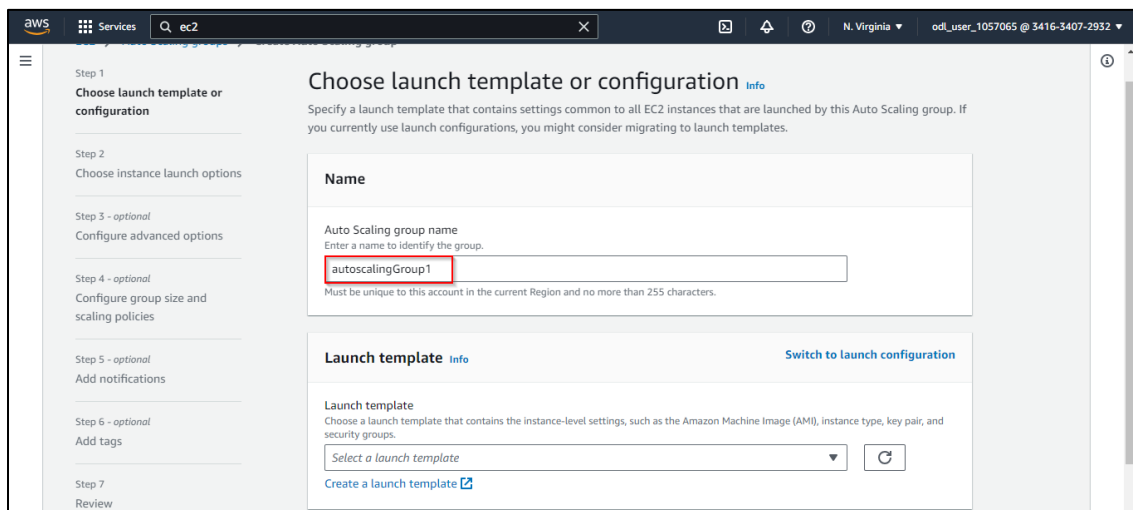
The template has been created successfully.

Step 2: Create an Auto Scaling group

2.1 In the EC2 dashboard on the left pane, click on **Create Auto Scaling group** under **Auto Scaling Groups**



2.2 Name the Auto Scaling group as **autoscalingGroup1**



2.3 Select Launch template as **template1** created in previous steps and click **Next**

The screenshot shows the AWS console interface for creating a new instance. The 'Launch configuration' section is active, and the 'Launch template' dropdown menu is open. The list of templates includes 'Pgwebapp2', 'template1', 'autoscalingtemplate', 'myTemplatekishan', 'ssutemp1jul31', 'proj1-launch-template', 'Webserver-LT', and 'mak-dbc-launchconfig'. The 'template1' option is highlighted with a red rectangular box. Below the list, there is a link 'Create a launch template' with an external link icon. At the bottom right, there are 'Cancel' and 'Next' buttons, with 'Next' being highlighted in orange.

Search launch templates

Pgwebapp2

template1

autoscalingtemplate

myTemplatekishan

ssutemp1jul31

proj1-launch-template

Webserver-LT

mak-dbc-launchconfig

Select a launch template

Create a launch template [↗](#)

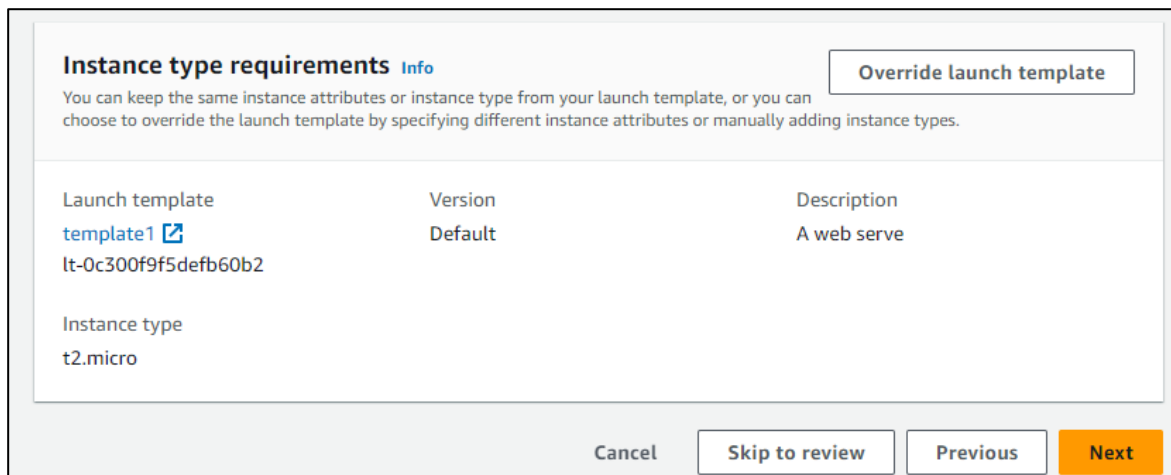
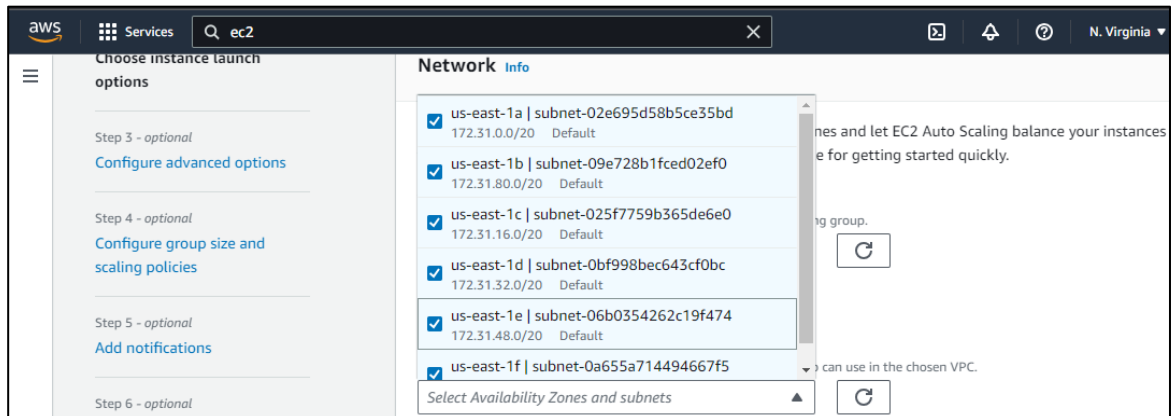
Launch configuration

Instance type, key pair, and

Cancel Next

2.4 In the **Choose instance launch options**, follow these steps:

- Select the **default VPC**
- Select all the **Availability Zones and subnets** and click **Next**



2.5 Select **No load balancer** for the **Load balancing** option

Load balancing [Info](#)

Use the options below to attach your Auto Scaling group to an existing load balancer, or to a new load balancer that you define.

☒ **No load balancer**
Traffic to your Auto Scaling group will not be fronted by a load balancer.

☐ **Attach to an existing load balancer**
Choose from your existing load balancers.

☐ **Attach to a new load balancer**
Quickly create a basic load balancer to attach to your Auto Scaling group.

Note: The users can create or attach an existing load balancer if they want.

2.6 In the **Configure group size and scaling policies**, make the following changes:

- **Desired capacity = 9,**
- **Minimum capacity = 1**
- **Maximum capacity = 13** and click **Next**

Group size - *optional* [Info](#)

Specify the size of the Auto Scaling group by changing the desired capacity. You can also specify minimum and maximum capacity limits. Your desired capacity must be within the limit range.

Desired capacity

Minimum capacity

Maximum capacity

Instance scale-in protection - *optional*

Instance scale-in protection
If protect from scale in is enabled, newly launched instances will be protected from scale in by default.

☐ Enable instance scale-in protection

[Cancel](#)
[Skip to review](#)
[Previous](#)
[Next](#)

2.7 Skip all the remaining sections by clicking **Next**. Now, click **Create Auto Scaling group**

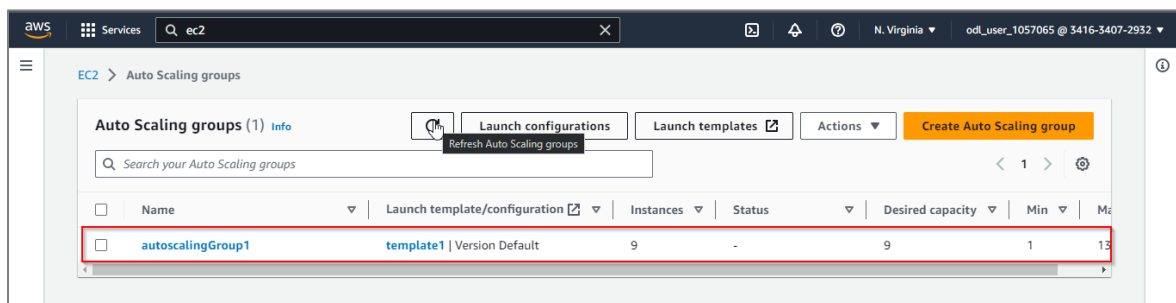
Step 6: Add tags

[Edit](#)

Tags (0)

Key	Value	Tag new instances
No tags		

[Cancel](#)
[Previous](#)
[Create Auto Scaling group](#)



The screenshot shows the AWS Management Console interface for the 'Auto Scaling groups' dashboard. The top navigation bar includes the AWS logo, 'Services', a search bar with 'ec2', and the current region 'N. Virginia'. The dashboard title is 'Auto Scaling groups (1) Info'. Below the title, there are buttons for 'Launch configurations', 'Launch templates', 'Actions', and 'Create Auto Scaling group'. A search bar is present with the text 'Search your Auto Scaling groups'. A table lists the Auto Scaling groups, with the first group 'autoscalingGroup1' highlighted by a red box. The table columns are Name, Launch template/configuration, Instances, Status, Desired capacity, Min, and Max. The 'autoscalingGroup1' row shows 'template1 | Version Default' as the launch template, 9 instances, a status of '-', a desired capacity of 9, and a minimum of 1.

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max
autoscalingGroup1	template1 Version Default	9	-	9	1	13

Finally, you will see **AutoScalingGroup1** in the **Auto Scaling group Dashboard**, which indicates that the Auto Scaling group has been launched successfully.

By following these steps, you have successfully implemented dynamic and efficient auto-scaling solutions, enhancing the availability and performance of your AWS-based applications.