Project

Set Up a WordPress Instance for Your Organization

Project agenda: You are hired as a cloud architect in a global media company. You have been asked to set up a WordPress instance to publish blogs for your company per the defined specifications.

Description: Your organization publishes blogs and provides documentation services for other businesses and technologies. You have been asked to:

- Set up a live WordPress instance to publish blogs
- Set up a WordPress instance that can be used for development and testing purposes so that any work done on this instance will not impact the live blog
- Configure the WordPress instance for development and testing purposes, which will be available only for the business hours (9 AM–6 PM)
- Monitor the health of the WordPress instance

Tools required: AWS account

Prerequisites: Create a key pair

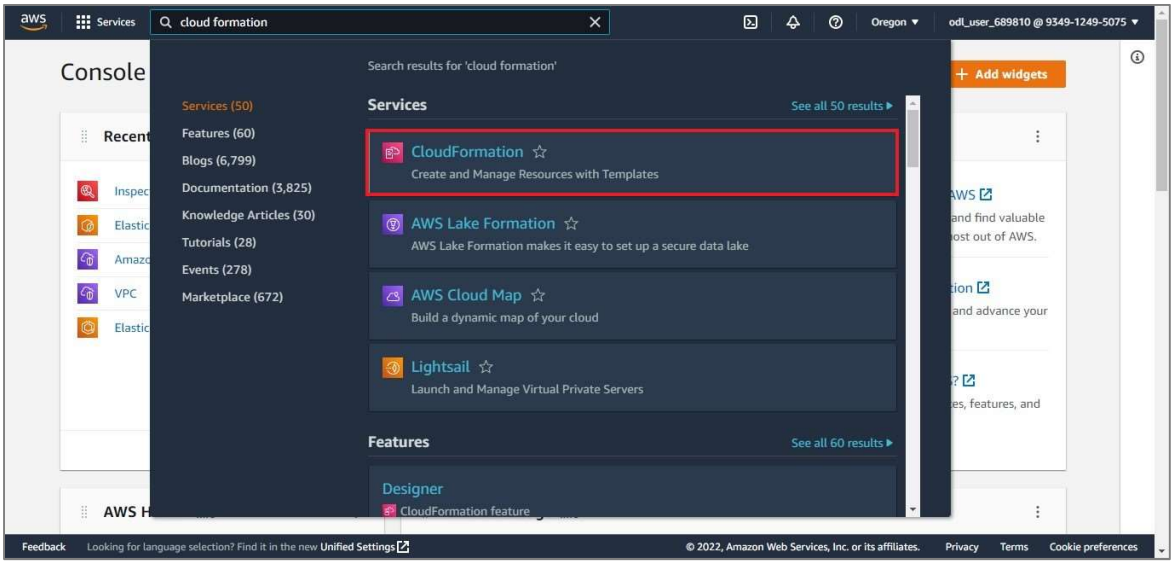
Expected Deliverables: WordPress instance that is operational between 9 AM-6 PM, and the instance health is continuously monitored.

Steps to be followed:

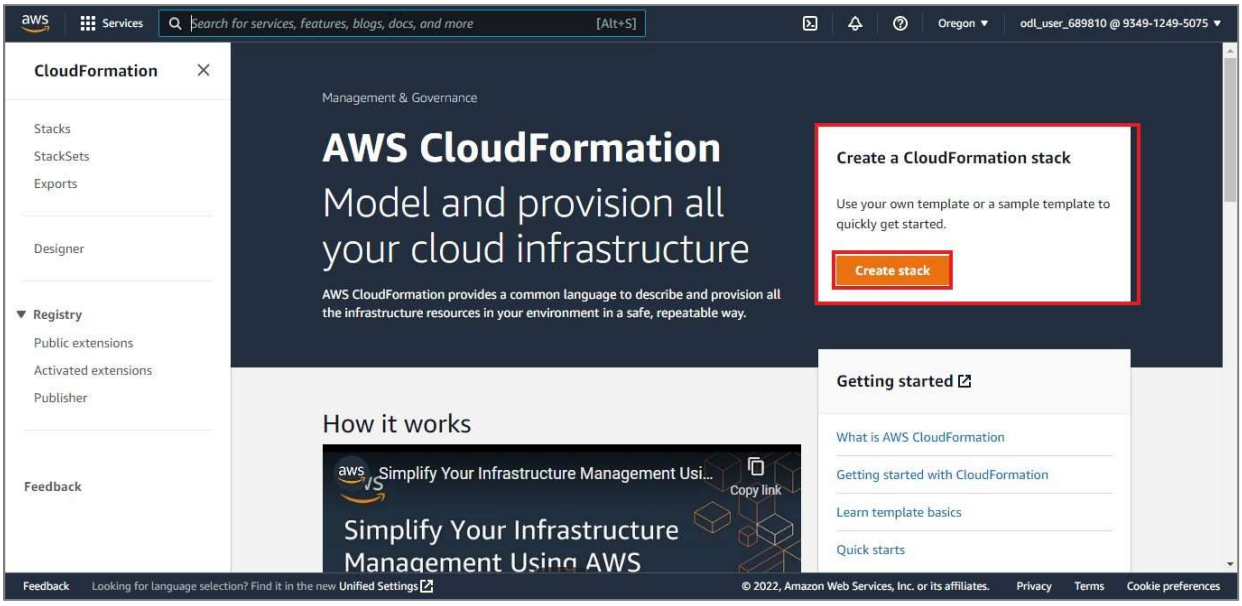
1. Create a CloudFormation stack
2. Create an AMI of the WordPress instance
3. Configure Auto Scaling to launch a new WordPress instance
4. Configure the new WordPress instance to shut down automatically
5. Monitor the instance using Availability Monitoring feature of the R53

Step 1: Create a CloudFormation new stack

1.1 From the AWS management console, search for **CloudFormation,** then click on **CloudFormation** from the search result

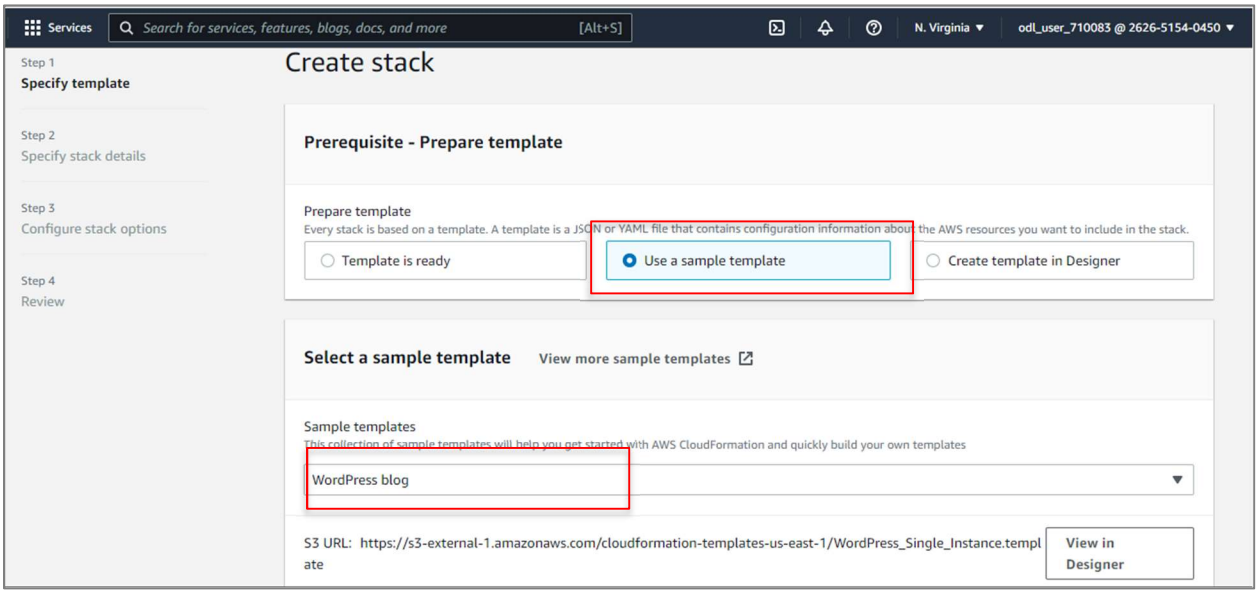


1.2 Select **Create New Stack**

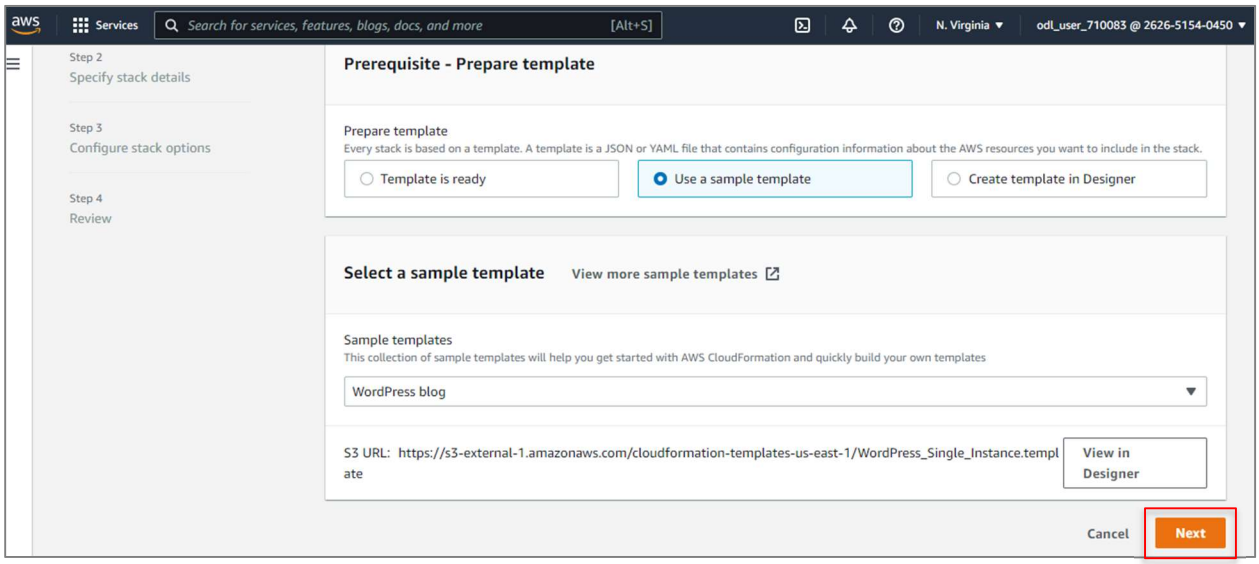


1.3 In the **Create stack** section do the following:

- Choose **Select a sample template**
- In **Sample templates** choose **WordPress blog** from the drop down

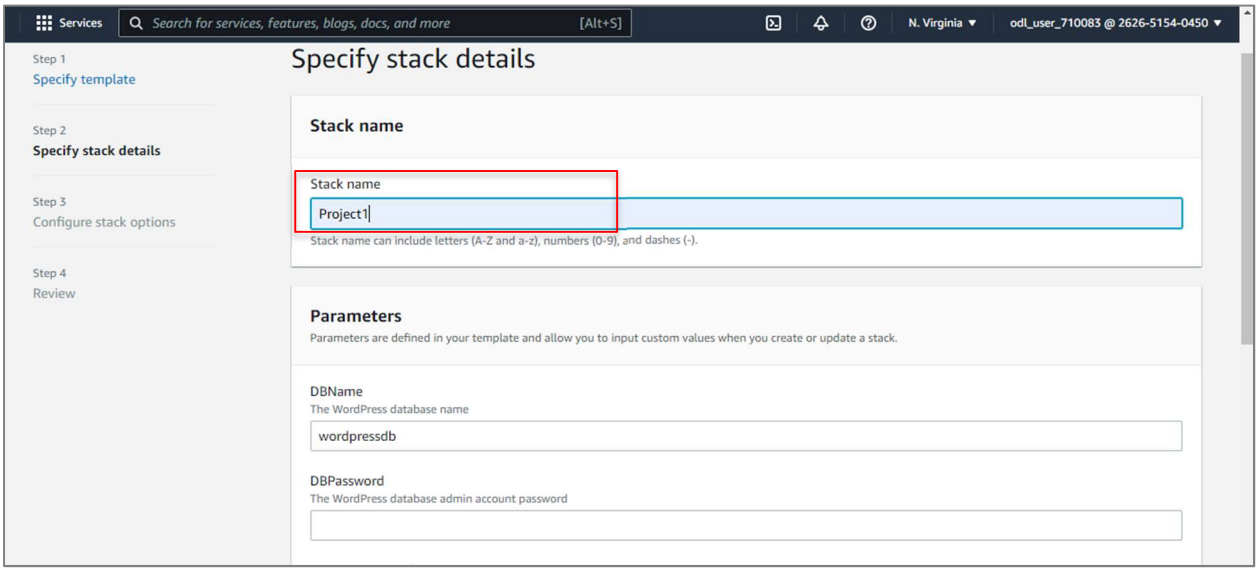


- Click on the **Next**

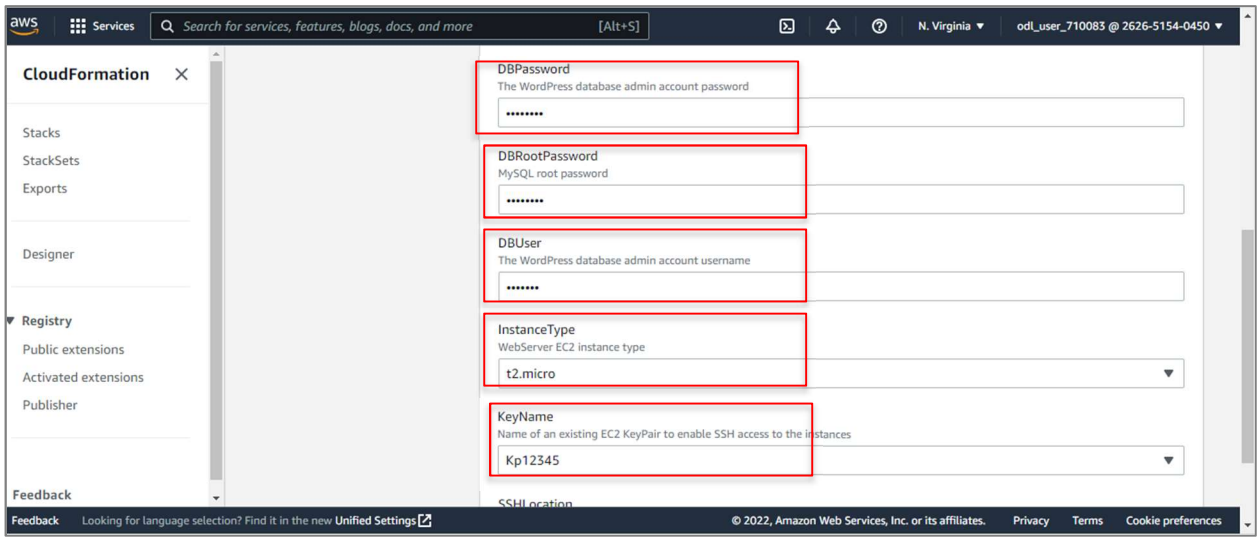


1.4 In the **Create stack** section do the following:

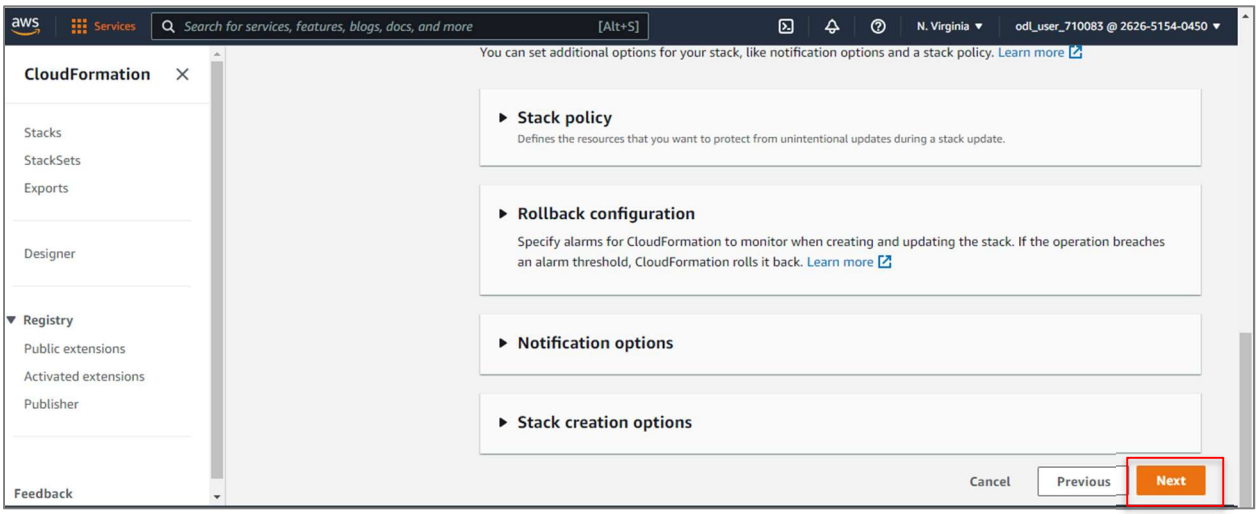
- Enter an arbitrary name in the **Stack Name** field



- Enter an arbitrary value for **DBPassword**, **DBRootPassword**, **DBUser**
- Change the **Instance Type** to **t2.micro**
- Select **KeyName** from the drop-down

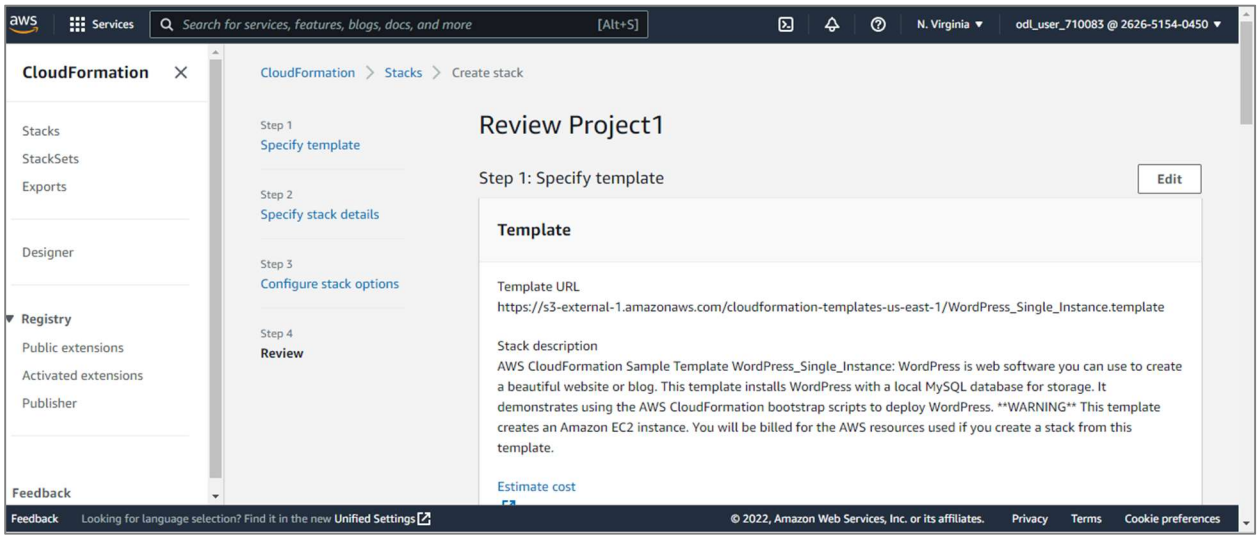


- Click on the **Next**

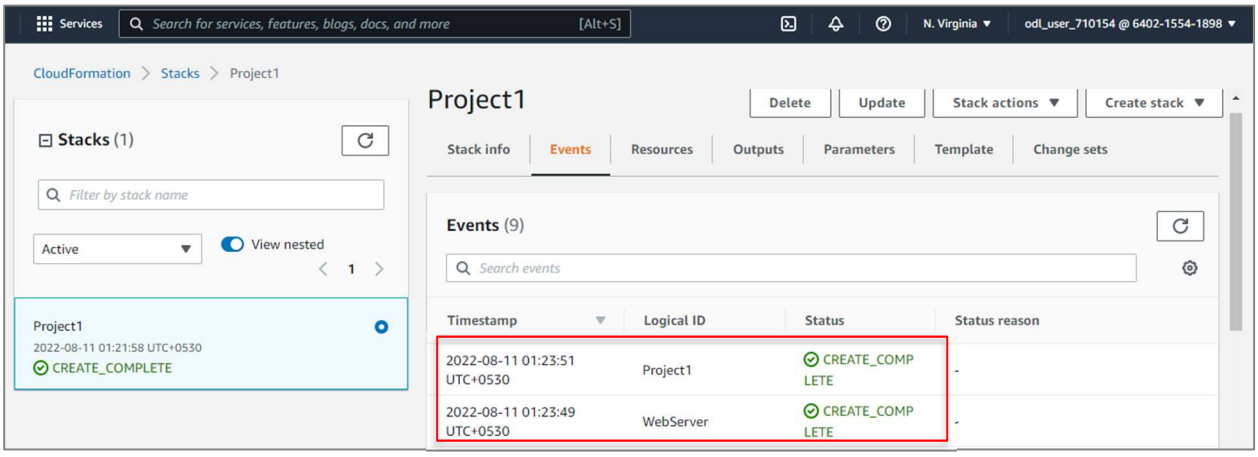


Similarly, click on Next in Configure stack options

1.5 Review the settings, and then click on the Create stack

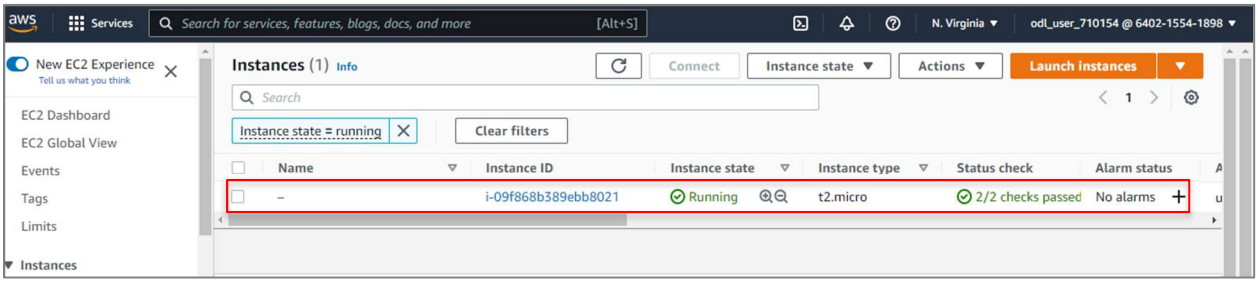


1.6 Wait until the status of the stack changes from **Pending** to **CREATE_COMPLETED**



Step 2: Create an AMI of the WordPress instance

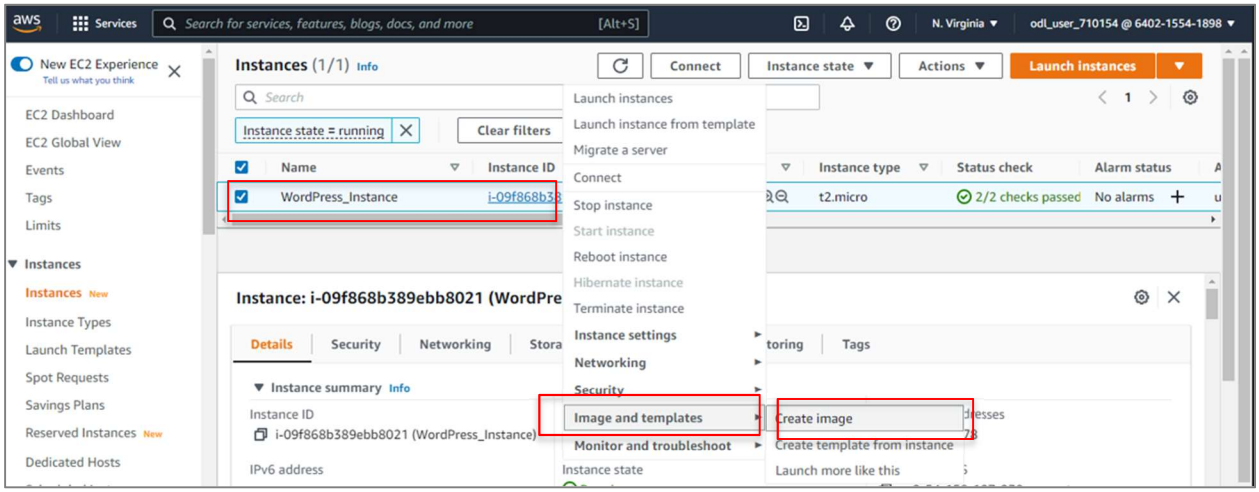
2.1 Switch to the **EC2 dashboard** and verify that your new instance is available for use



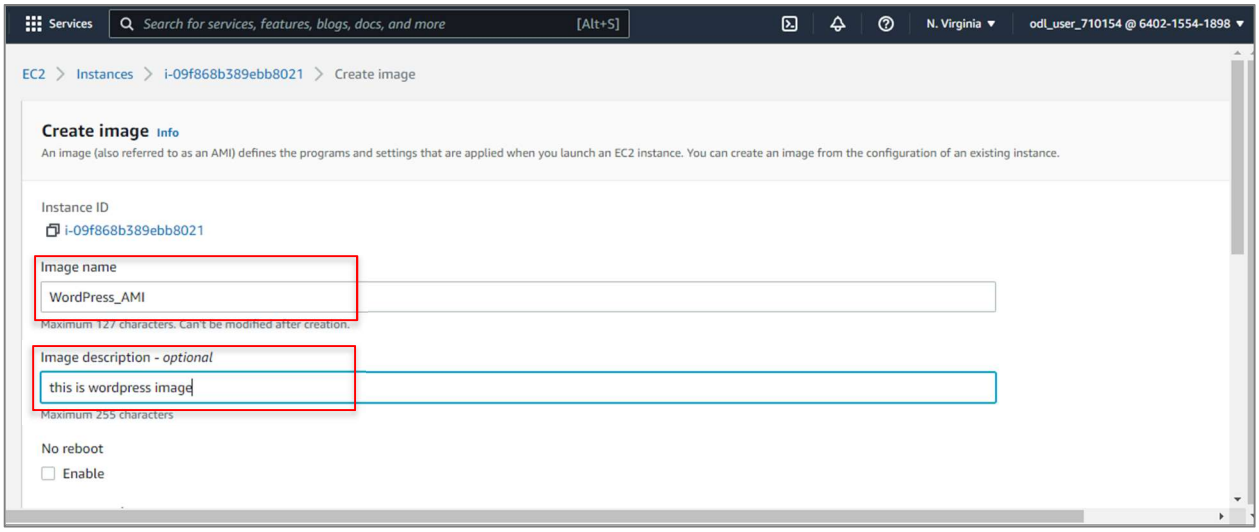
Note: Here we have renamed the instance created in step 1 to WordPress_Instance

2.2 Select the new instance then click on the **Actions** button and do the following:

- Go to **Image and templates** option
- Click on the **Create Image** button



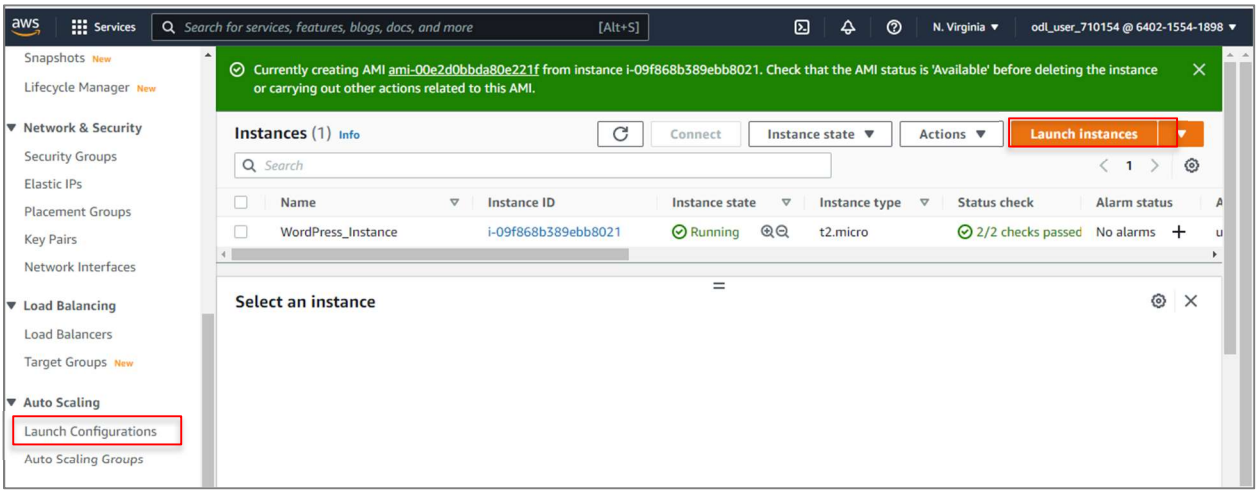
2.3 Enter an arbitrary **Image Name** and **Image description**, and then click on the Create Image



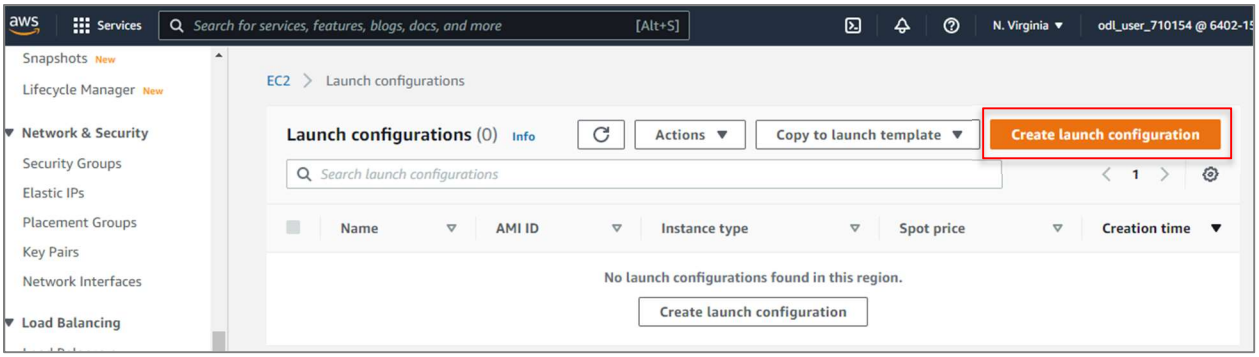
- Switch to the AMI dashboard and wait until the status of your new AMI changes from pending to available:

Step 3: Create launch configuration

3.1 Switch to **Launch Configurations**

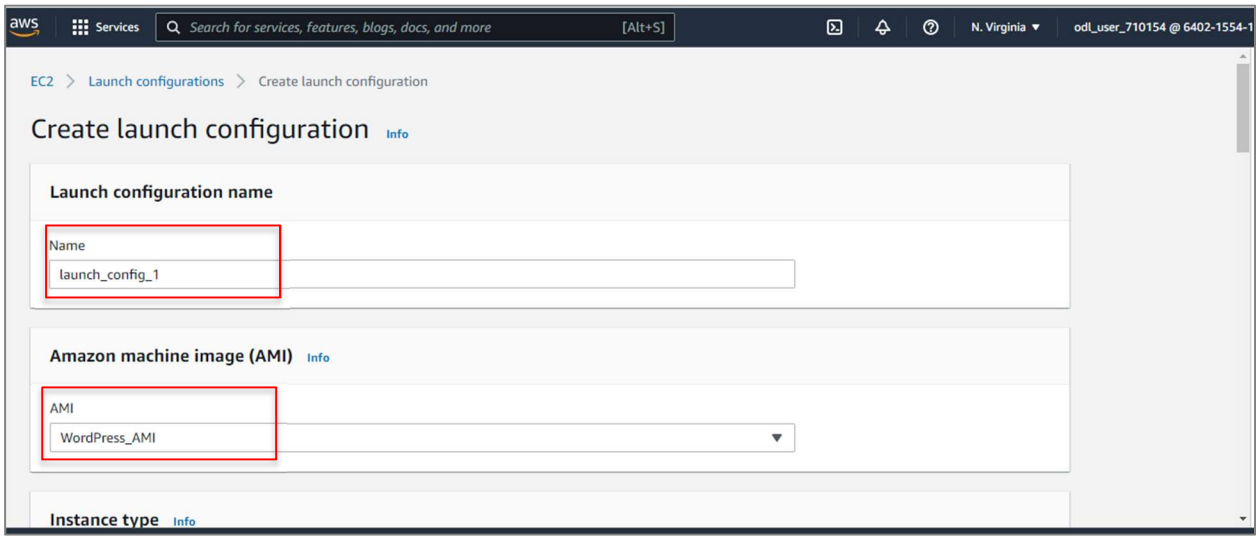


Click on the **Create launch configuration**

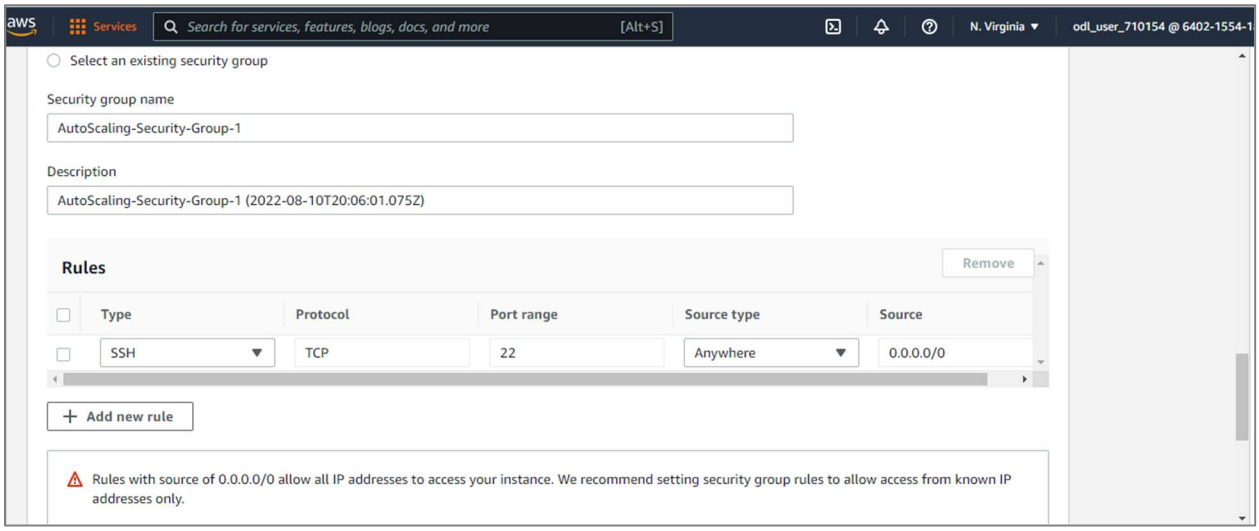


3.2 In the **Create launch configuration**, do the following:

- Enter an arbitrary name for the launch configuration
- In AMI field select the AMI created in step 2

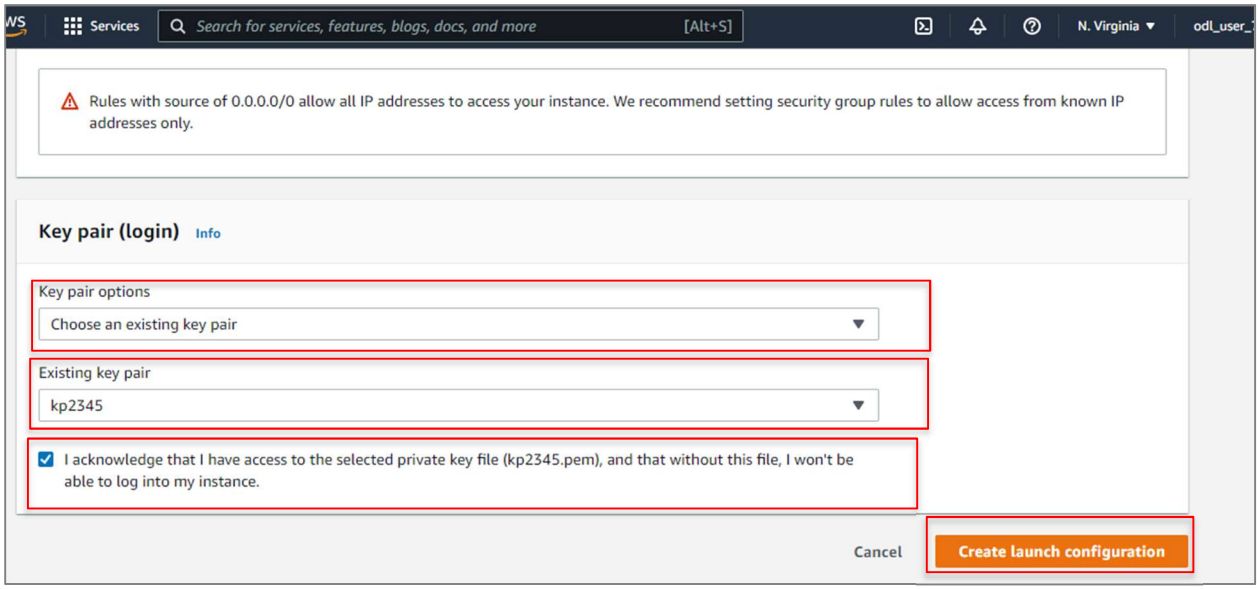


3.3 In the security group, select Create security group



3.4 In the **Key pair(login),** do the followings:

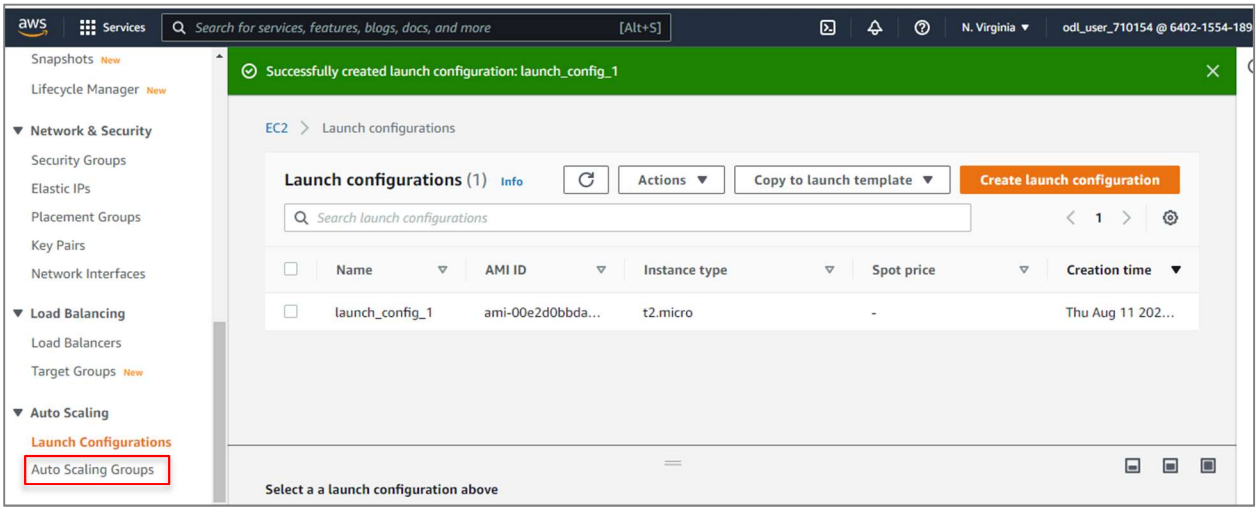
- Select **Choose an existing key pair** and select the **key pair**
- Click on the **Acknowledgement**
- Click in **Create launch configuration**



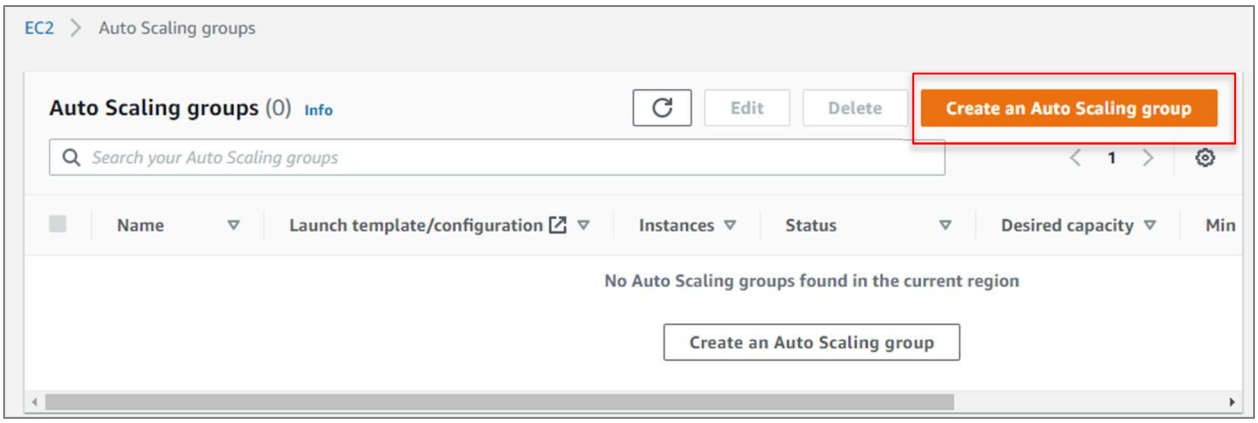
You can now use the new launch configuration to create a new WordPress instance during the working hours (9 AM - 6 PM)

Step 4: Configure the new WordPress instance to shut down automatically

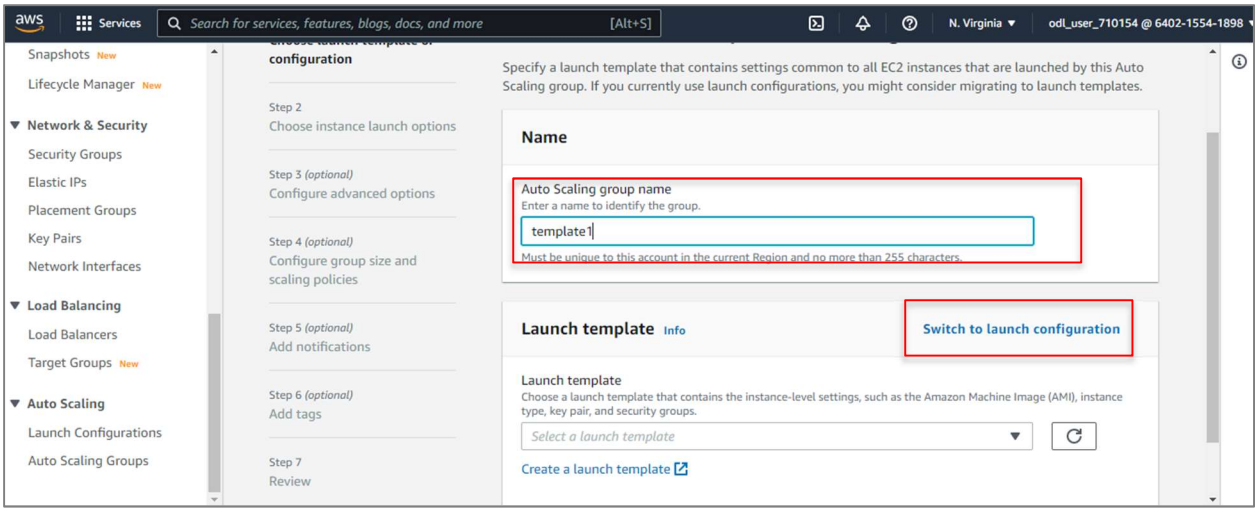
4.1 Click on **Create Auto Scaling group** from the left pane of the Launch configurations



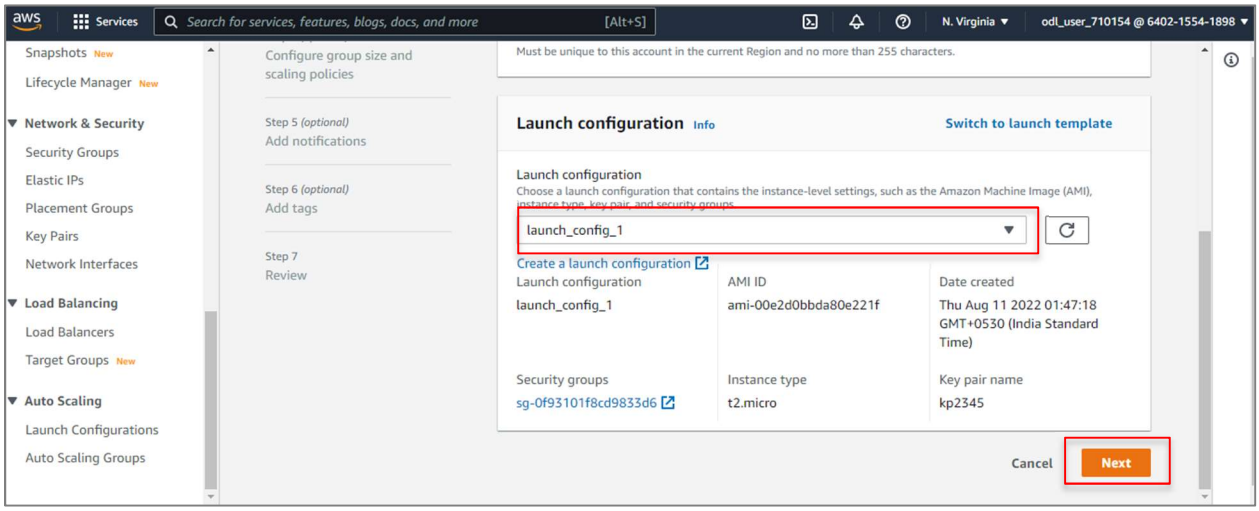
4.2 In the **Auto Scaling Dashboard** click on **Create an Auto Scaling group:**



4.3 In the **Create Auto Scaling group section** add an arbitrary name for the auto scaling Group, and click on **Switch to launch configuration**

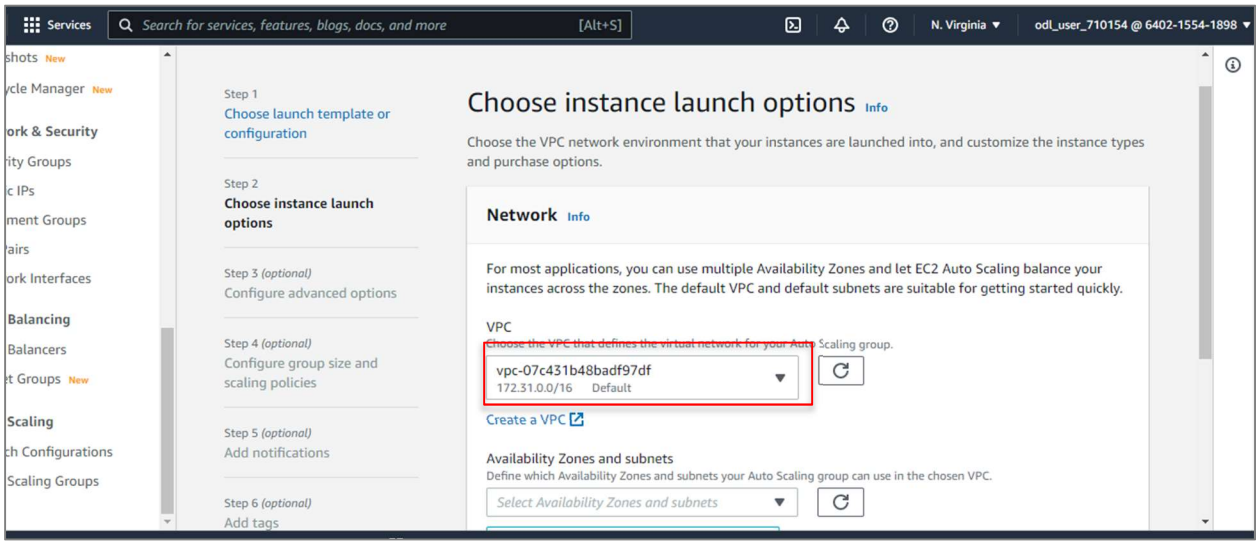


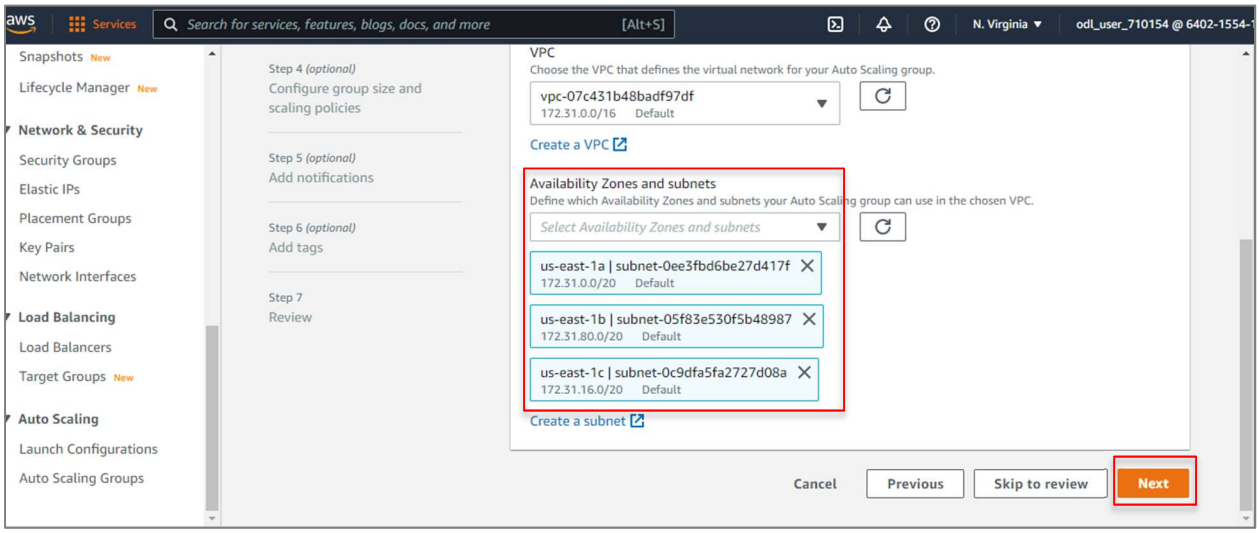
- Select the launch configuration created in step 3
- Click on **Next**



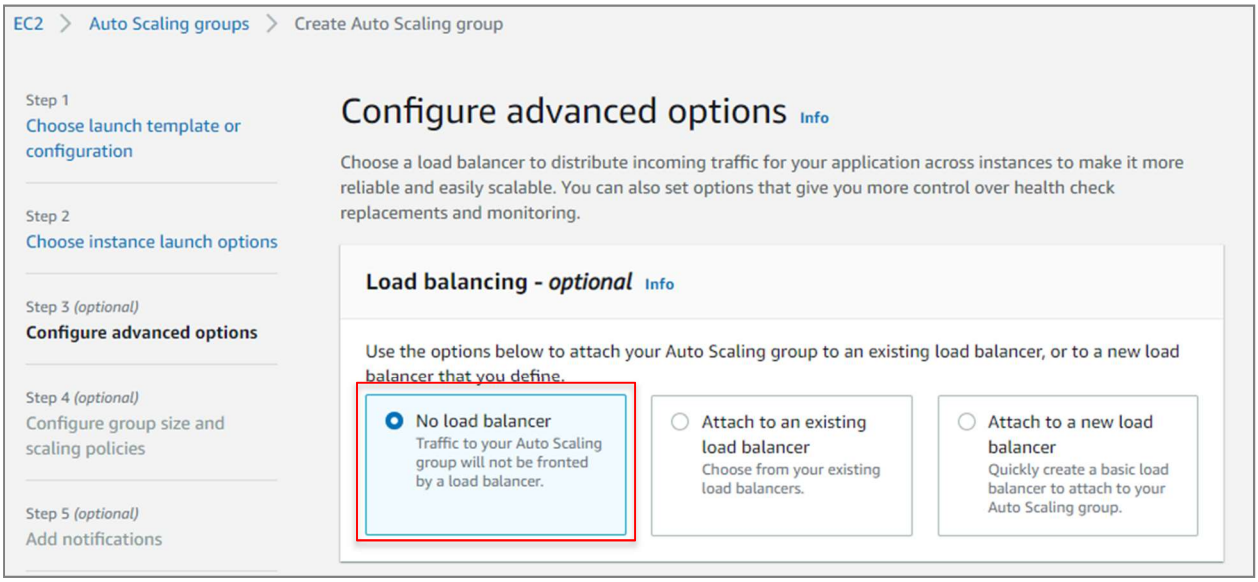
4.4 In the **Choose instance launch options** do the following:

- Select the **default VPC**
- Select all the **availability zones and subnets** then click on **Next**
- Again, click on **Next:**



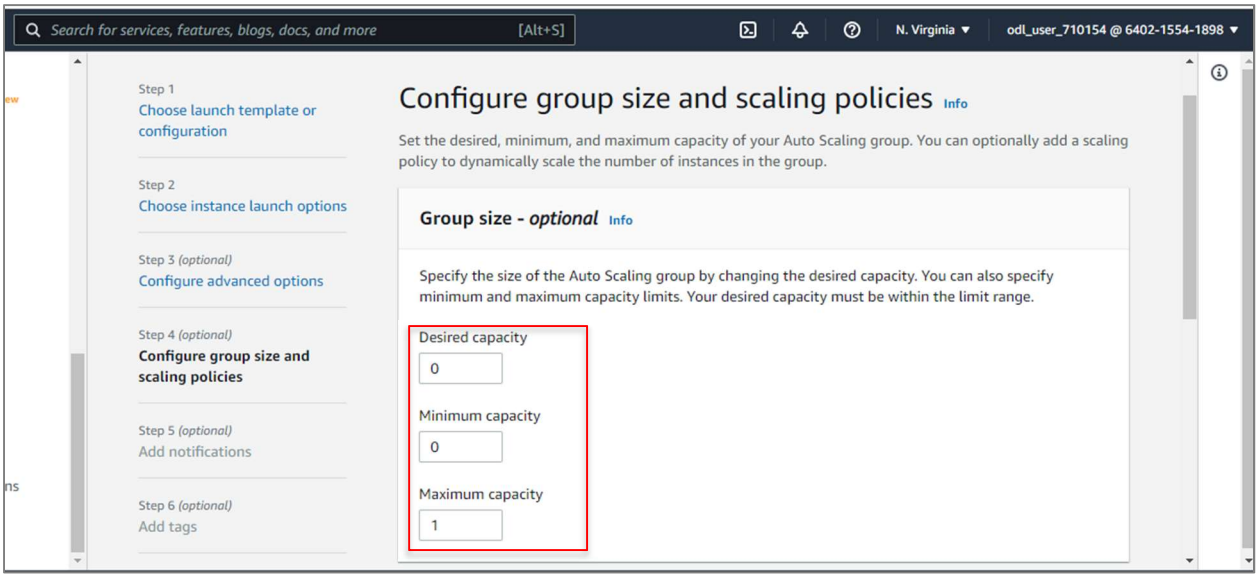


4.5 In the **Configure advanced options** select **No load balancer:**

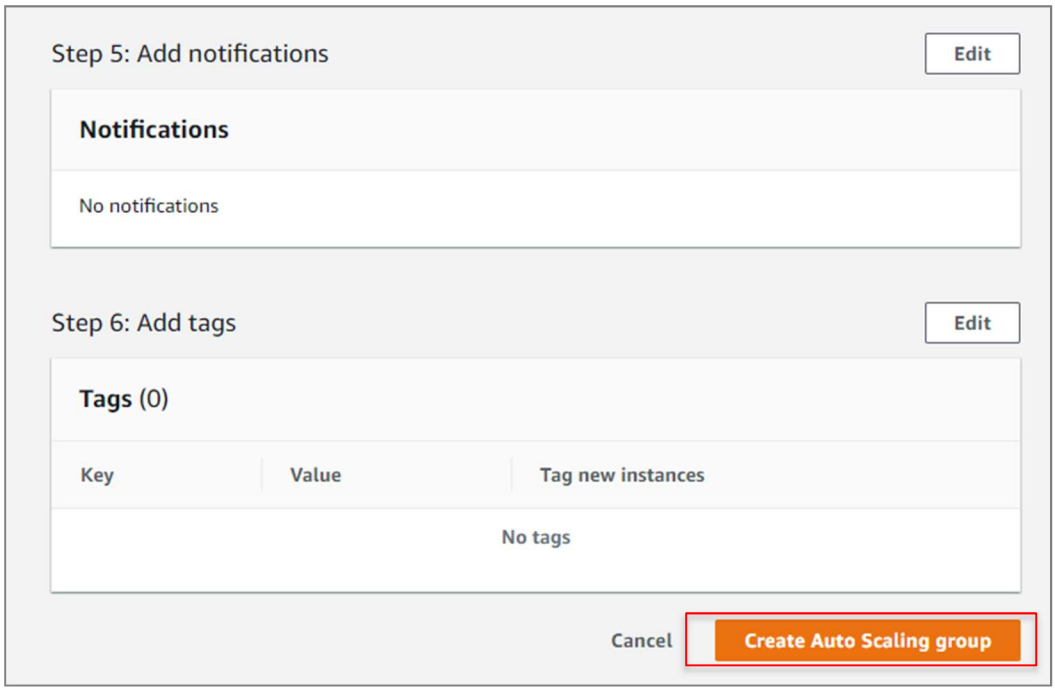


4.6 In the **Configure group size and scaling policies** do the following:

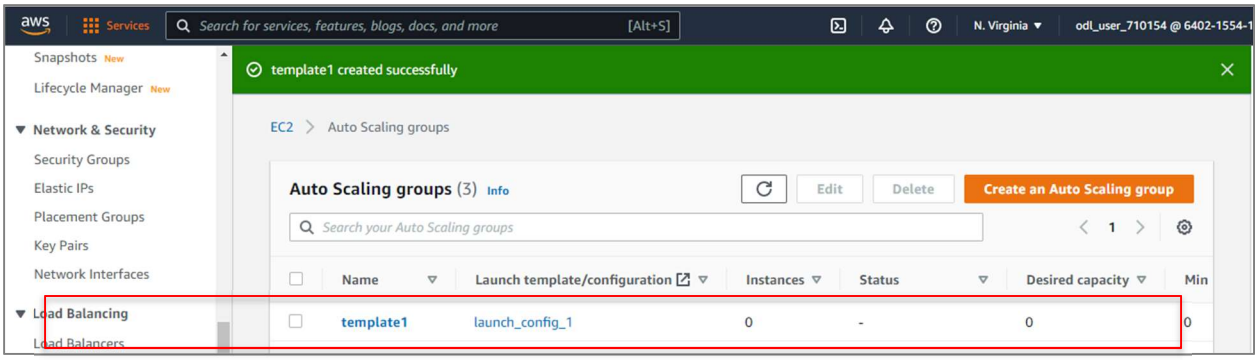
Desired capacity = **0**, **Minimum capacity** = **0** and, **Maximum capacity = 1** then click on **Next:**



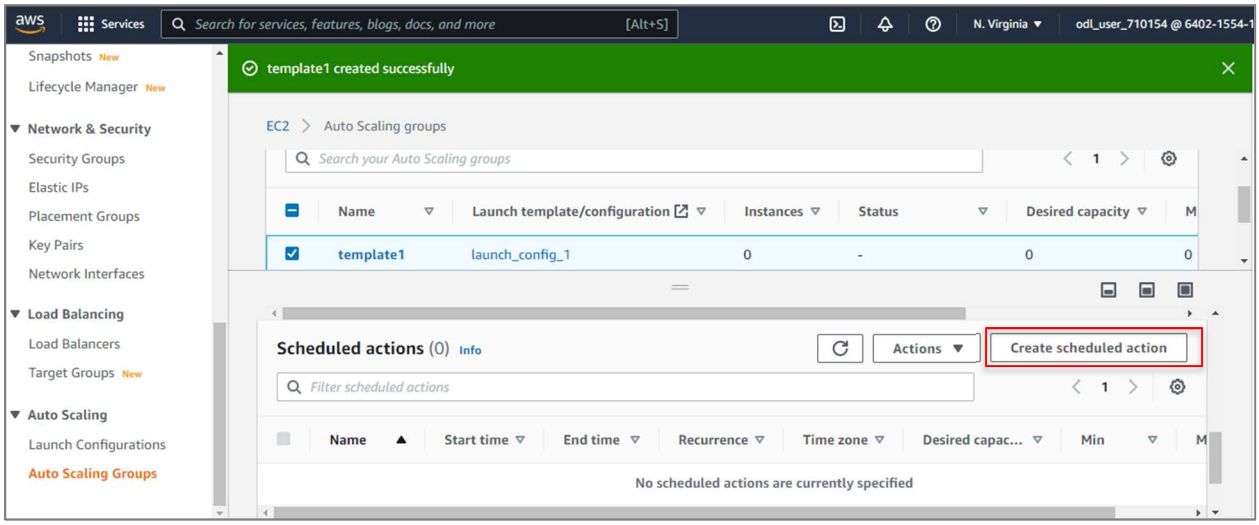
4.7 Now skip all the section by clicking on **Next** and then finally click on **Create Auto Scaling group:**



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

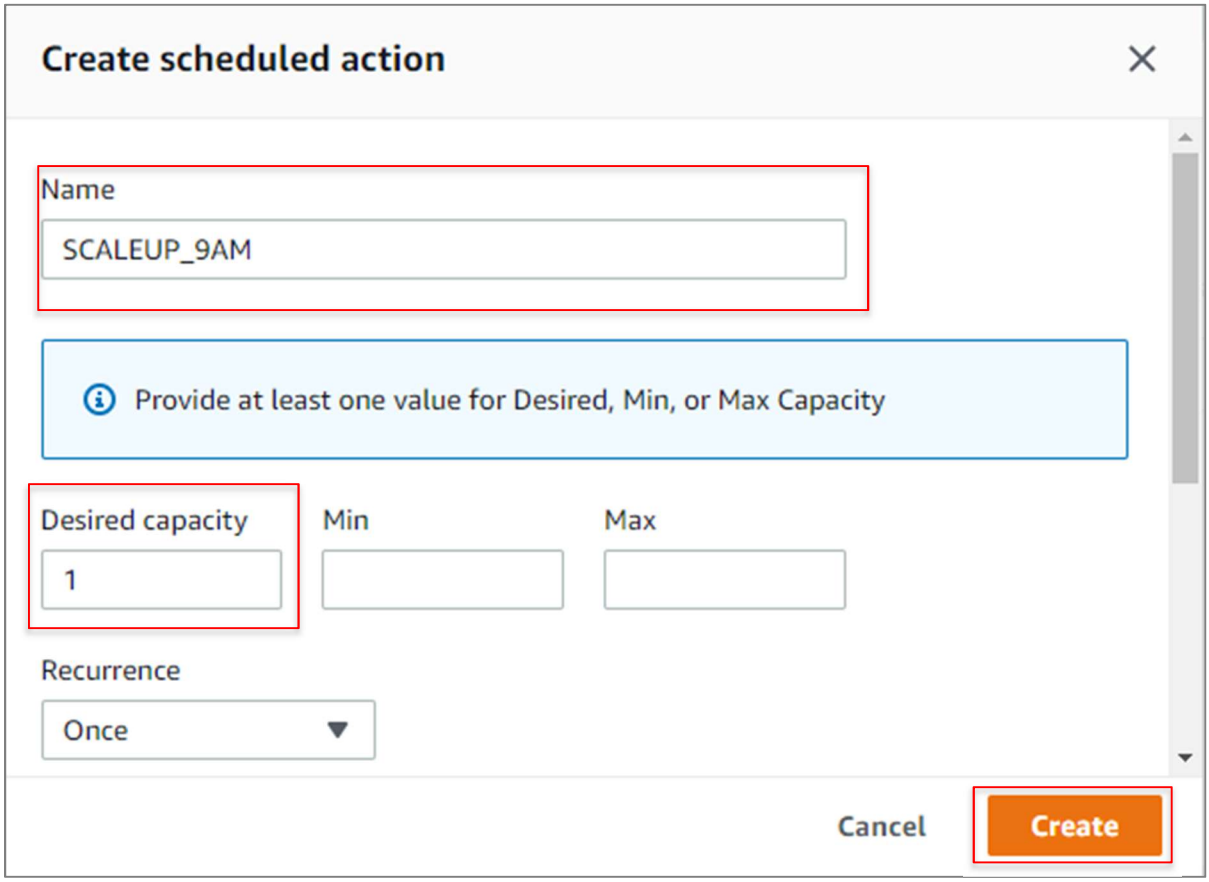


4.8 In the auto scaling group dashboard, click on the **Scheduled Actions** tab, and then click on **Create Scheduled Action** to create the scheduled actions

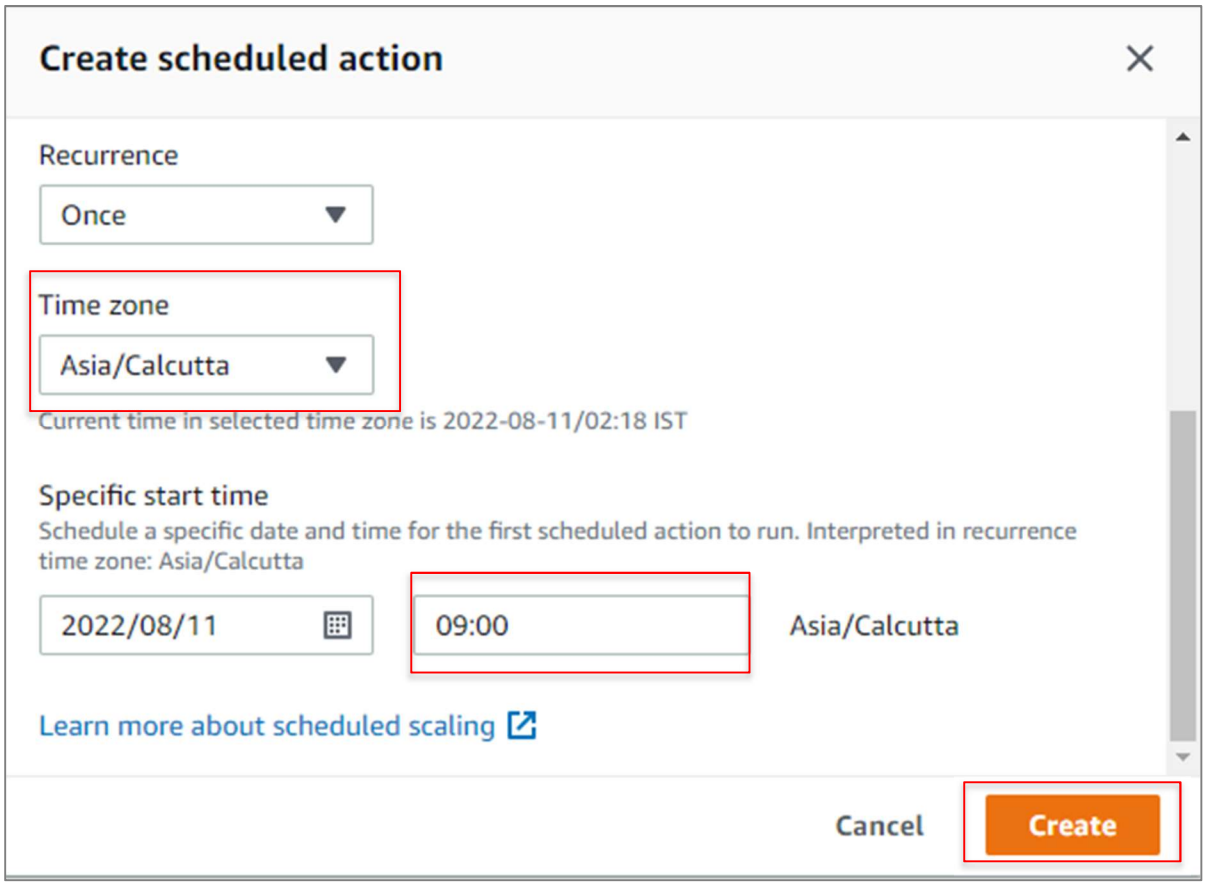


4.9 In the Create schedule action do the following

- Enter a **Name**, for example, **SCALEUP_9AM**
- set the **Desired Capacity** as **one**, and then set the time when you want the job to run



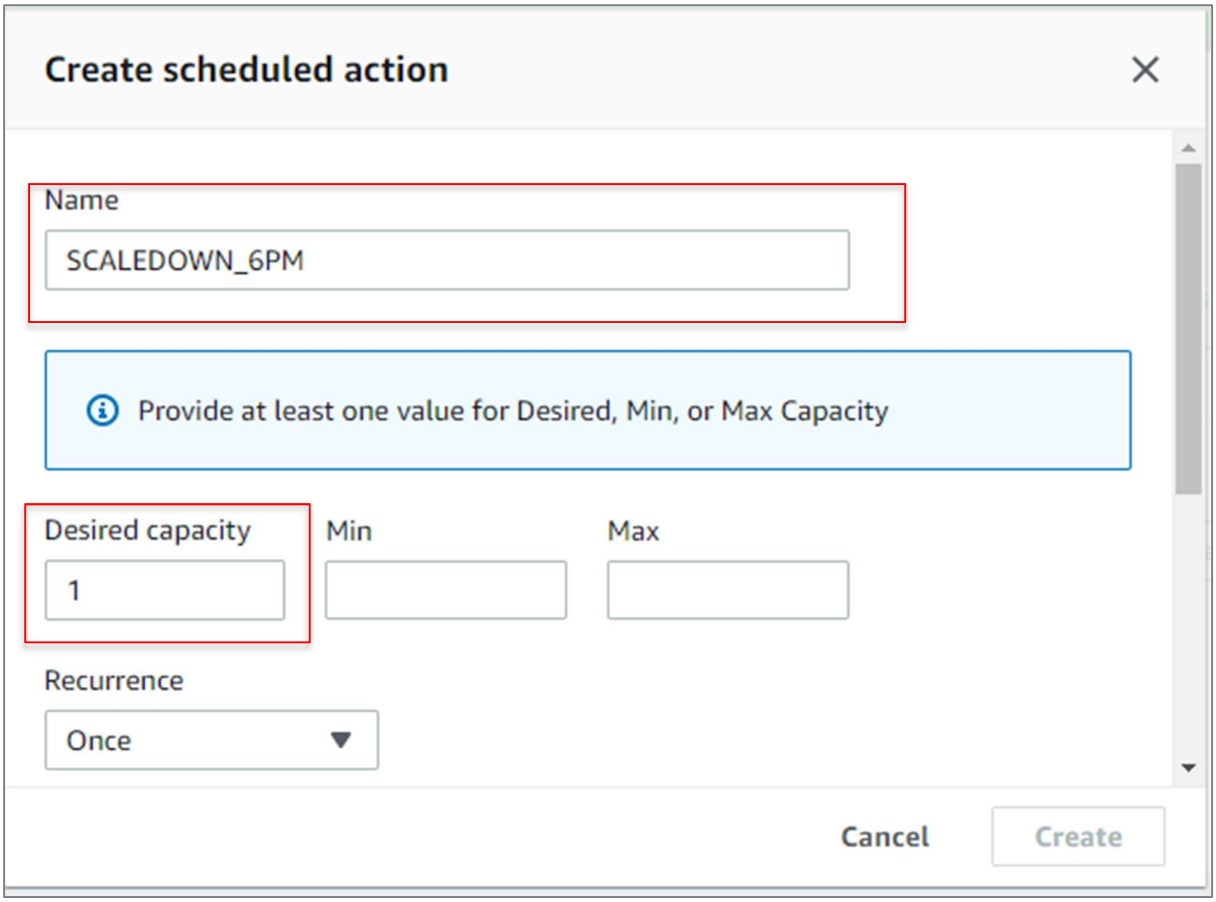
- Change the time zone to **Asia/Calcutta**
- Once complete, click on the **Create**



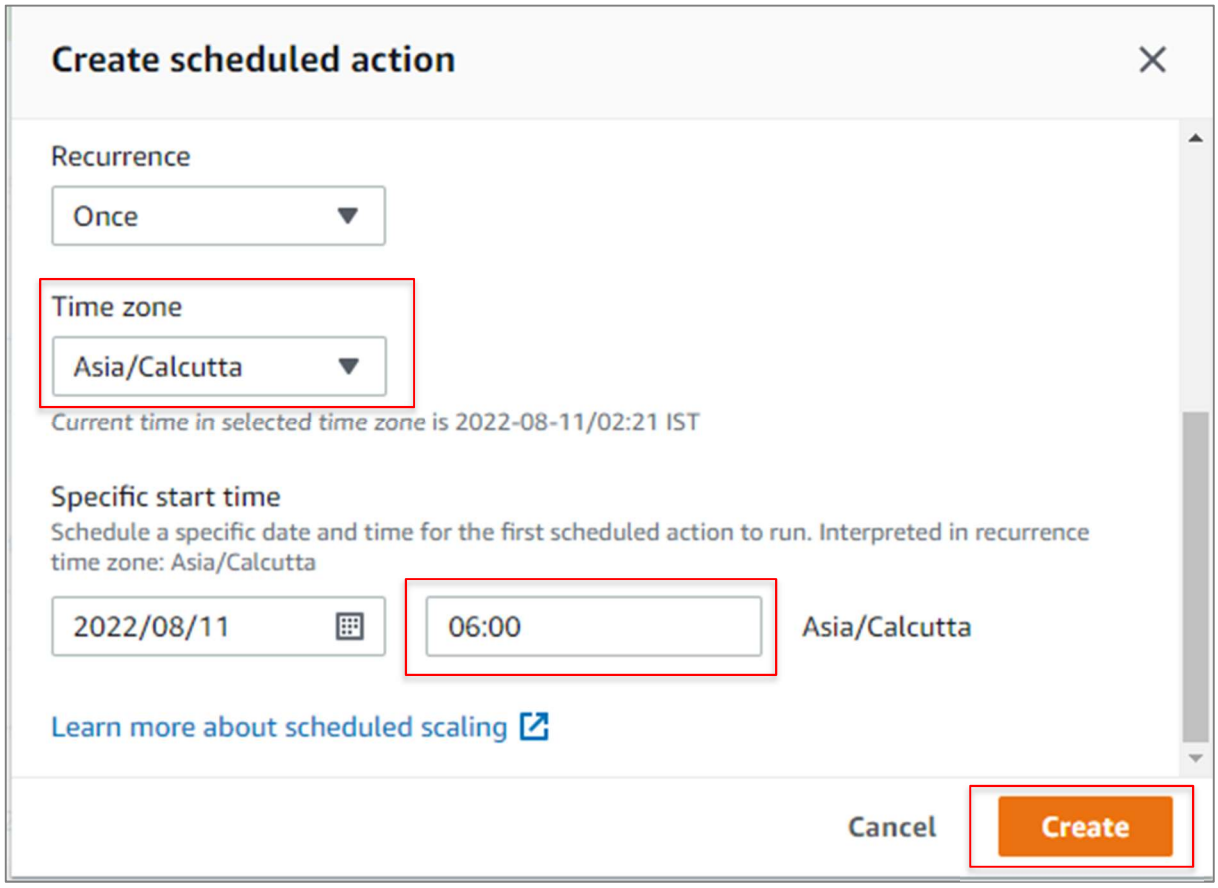
Similarly, create another schedule action.

4.10 In the Create schedule action do the following

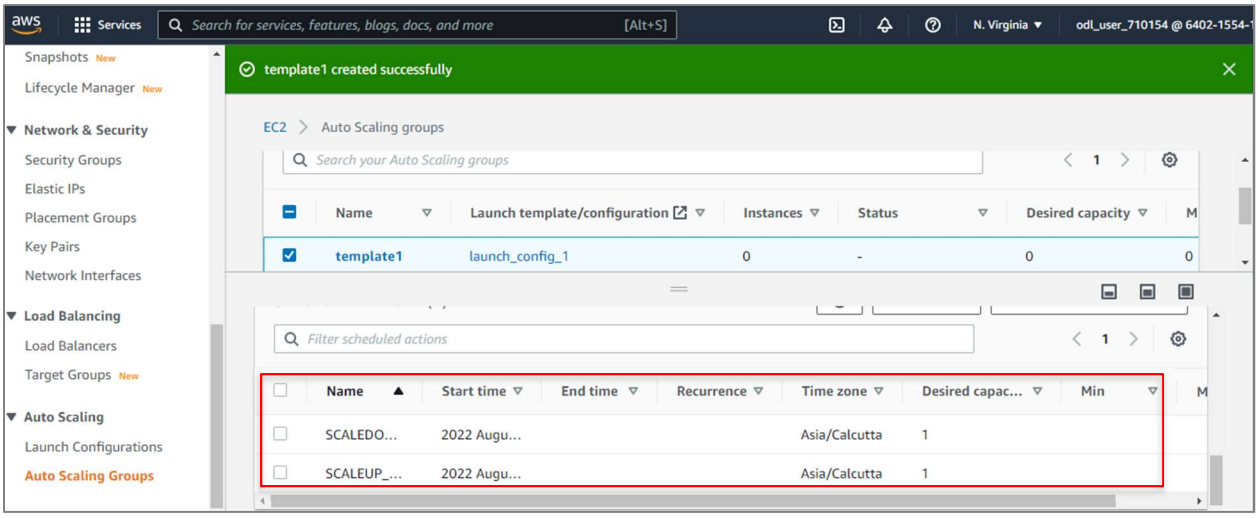
- Enter a **Name**, for example, **SCALEDOWN_6PM**
- set the **Desired Capacity** as **one**, and then set the time when you want the job to run



- Change the time zone to **Asia/Calcutta**
- Once complete, click on the **Create**

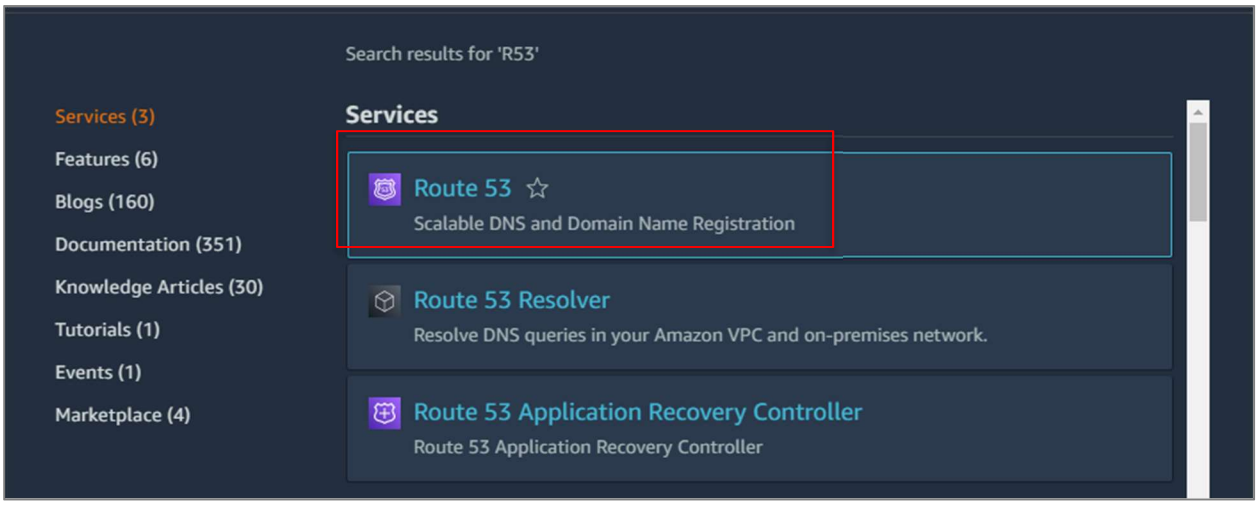


4.11 Verify that the actions have been created successfully

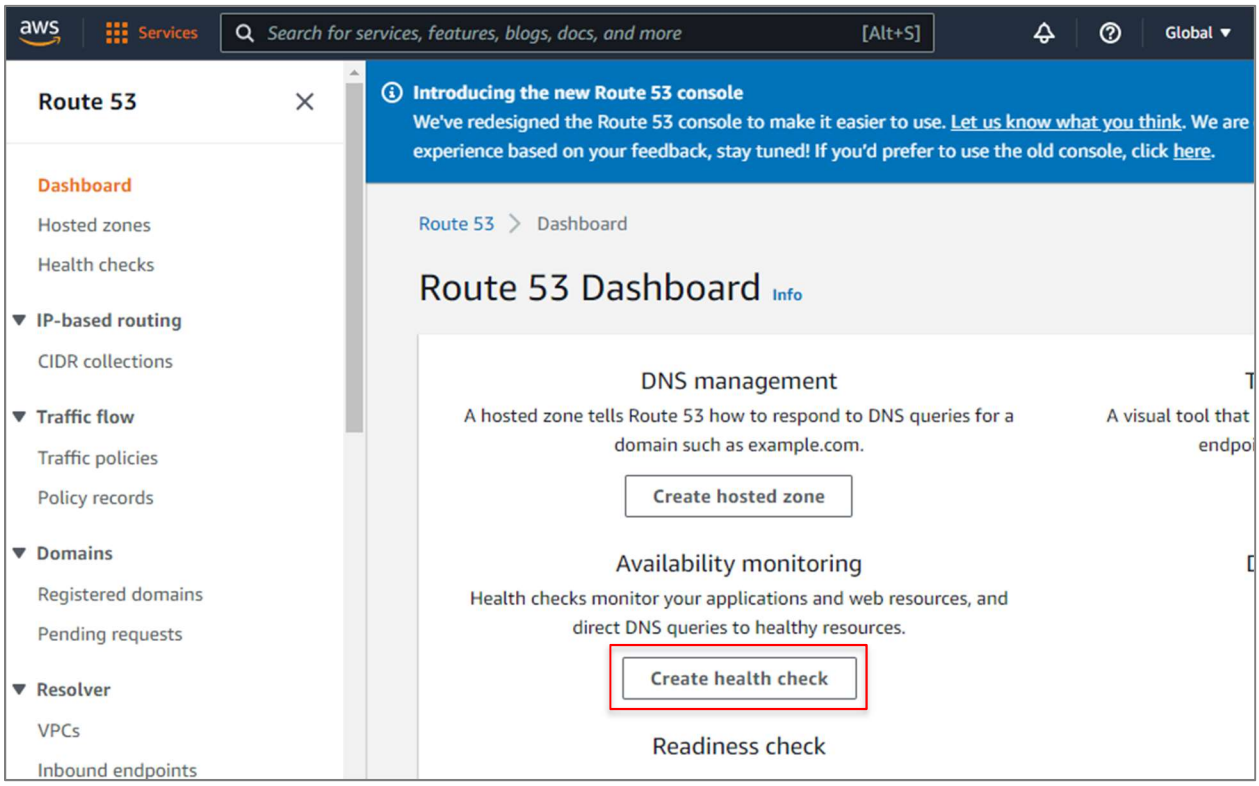


Step 5: Monitoring the Solution using Availability Monitoring feature of the R53

5.1 In the AWS management console search for Route and then click on **Route 53** from the search results:



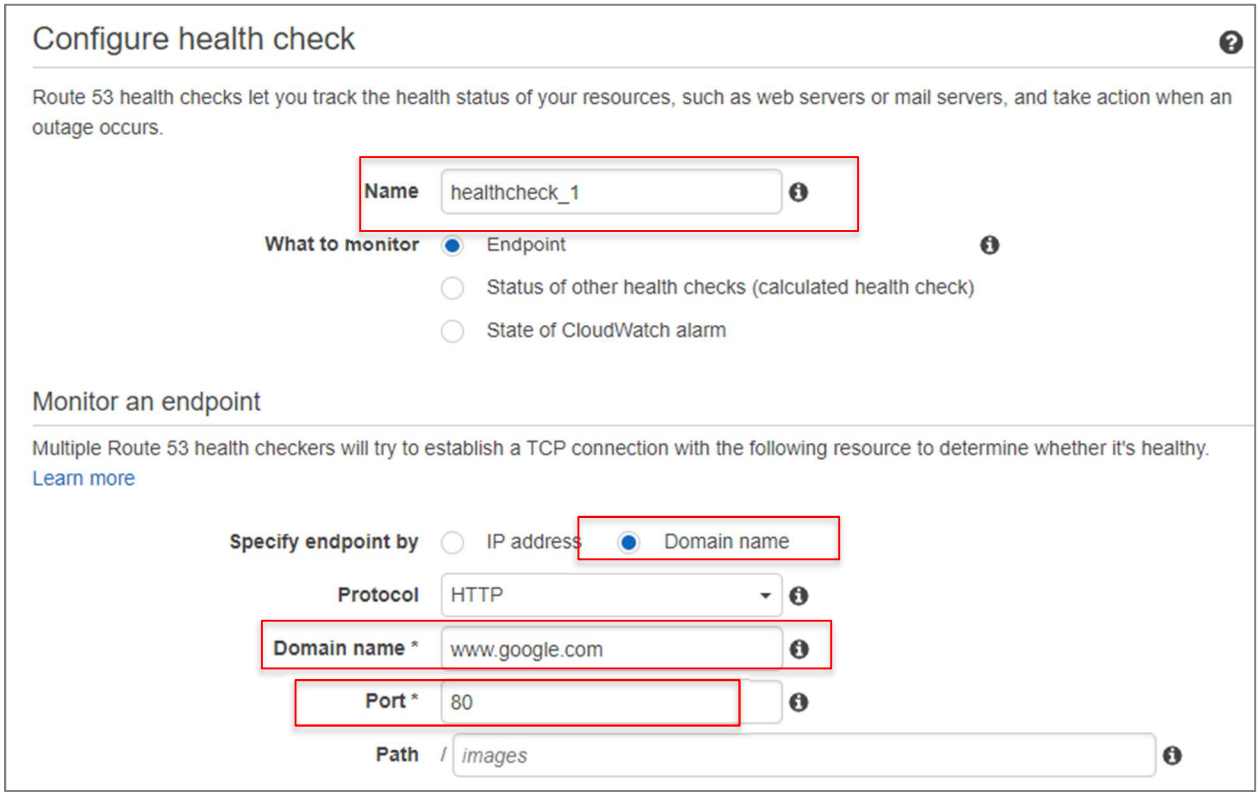
5.2 In the **Route 53 Dashboard** click on **Create health check** under **Availability monitoring:**



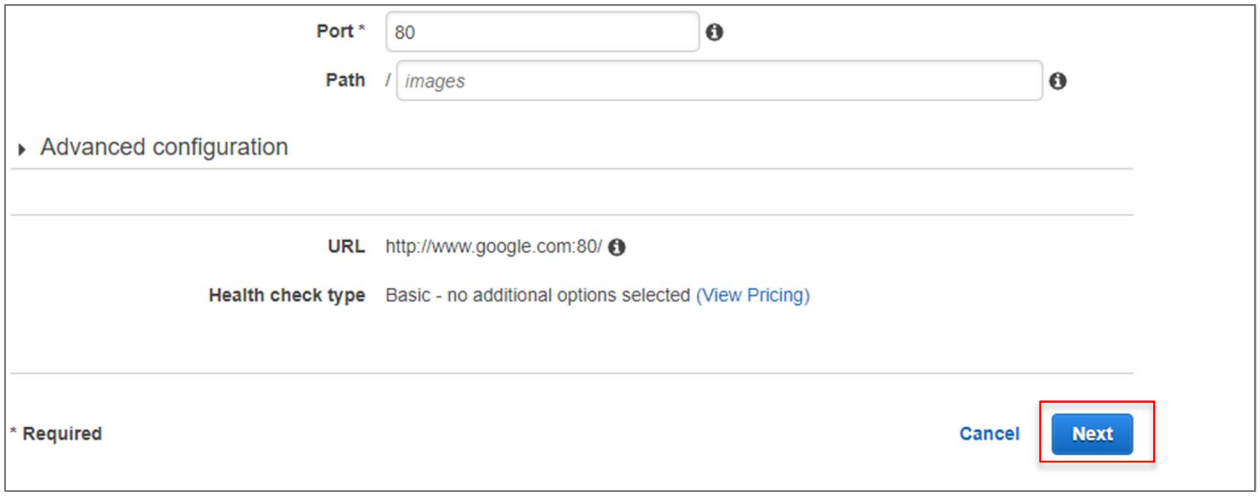
5.3 In the **Configure health check** console do the following:

- Enter an **arbitrary name** in the **Name** column
- Select **Domain name** in **Specify endpoint by**
- Enter the **Domain name** of your website
- Enter **80** in **Port:**

Note: User's can add their own website domain name if they have and we have used **www.google.com** for this course end project.

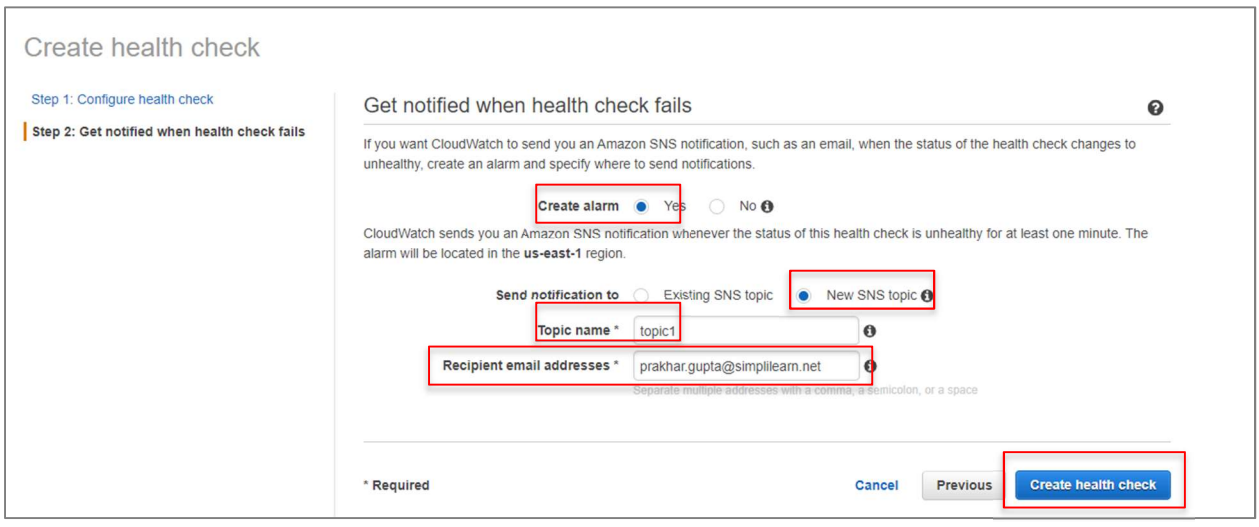


- Now click on **Next:**



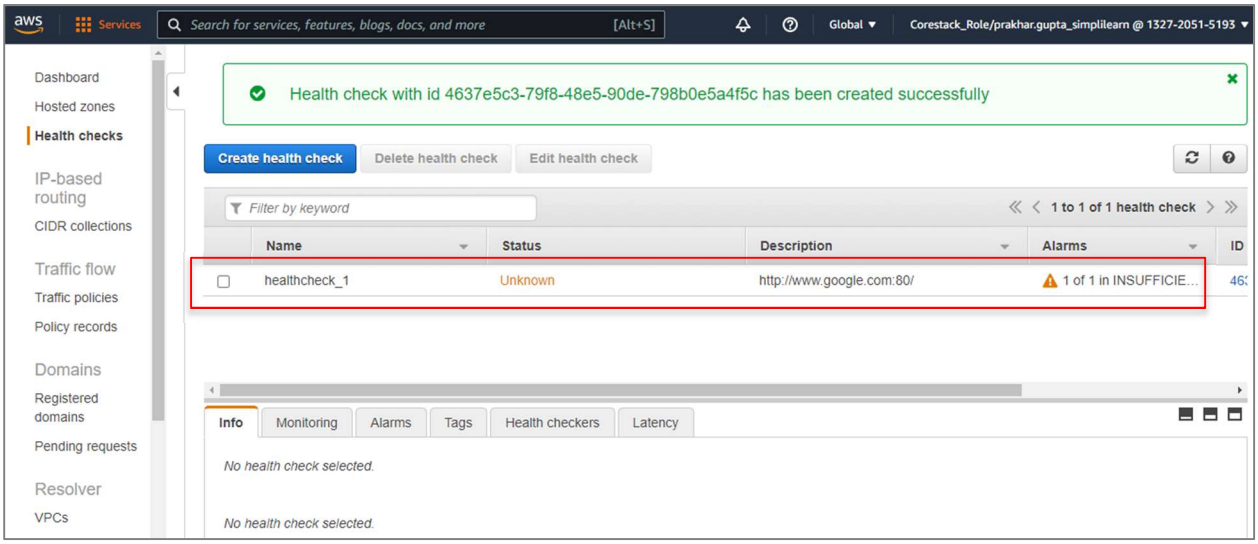
5.4 In **Get notified when health check fails** section do the following:

- Select **Yes** for **Create alarm**
- Select **New SNS topic** in **Send notification to**
- Enter an arbitrary name in Topic name
- Enter your email address where you want to receive the notification in **Recipient email address**
- Click on **Create health check:**



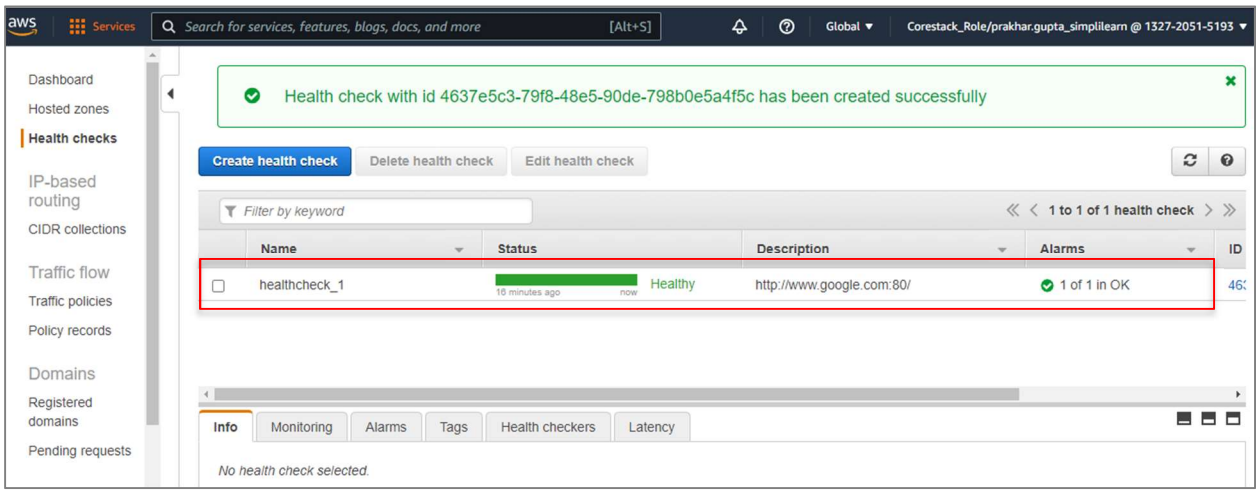
After Successful creation of the health check, you will see it in your health check

Dashboard:



Initially the **Status** of the health check will be unknown, then refresh it after 2 mins the

Status will change:



The above image shows that the domain www.google.com is healthy, similarly you can check for your domain also.