**Assisted Practice: 5.2 Install Kubernetes on Cloud**

This section will guide you to:

* Install Kubernetes on AWS cloud
* Understand EKS service to create an EKS cluster

This lab has mainly three subsections, namely:

5.2.1 Creating an AWS EKS cluster

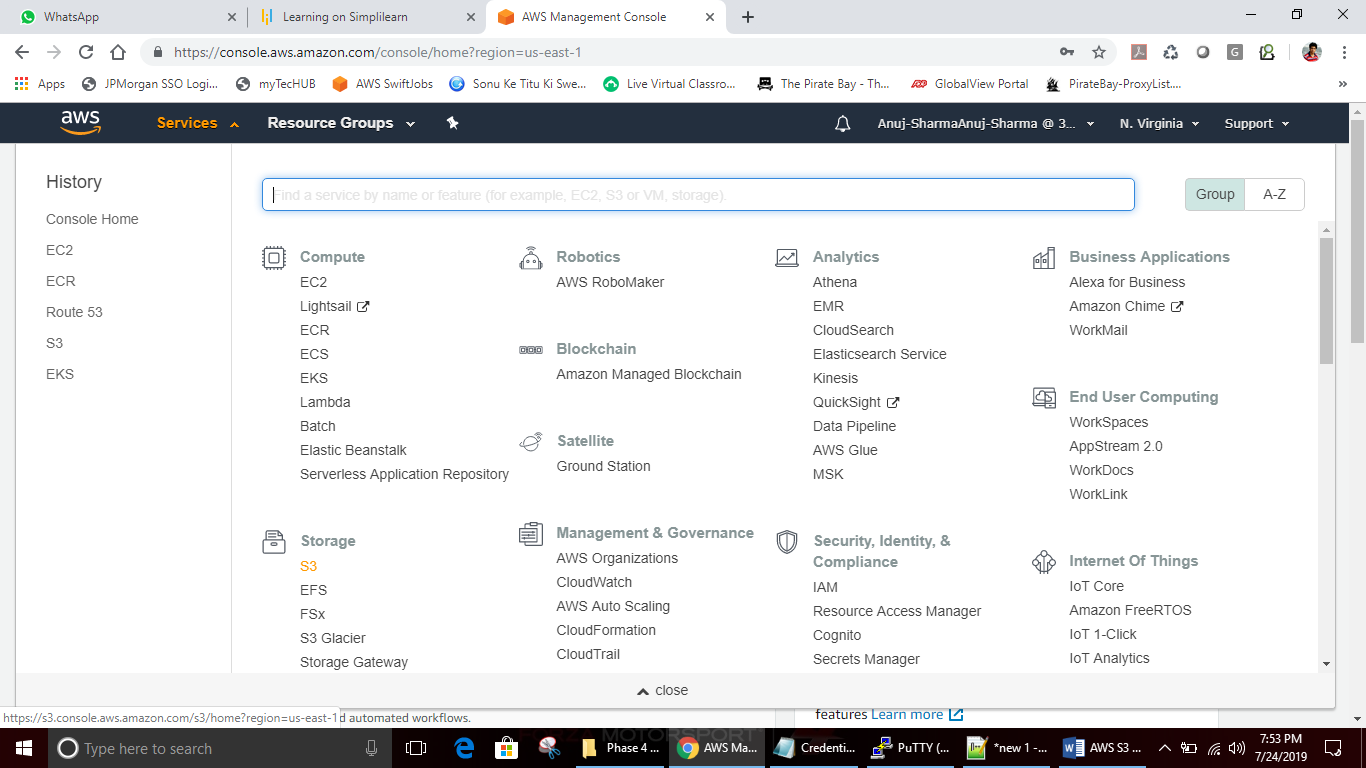
5.2.2 Setting up kubectl command line with EKS cluster

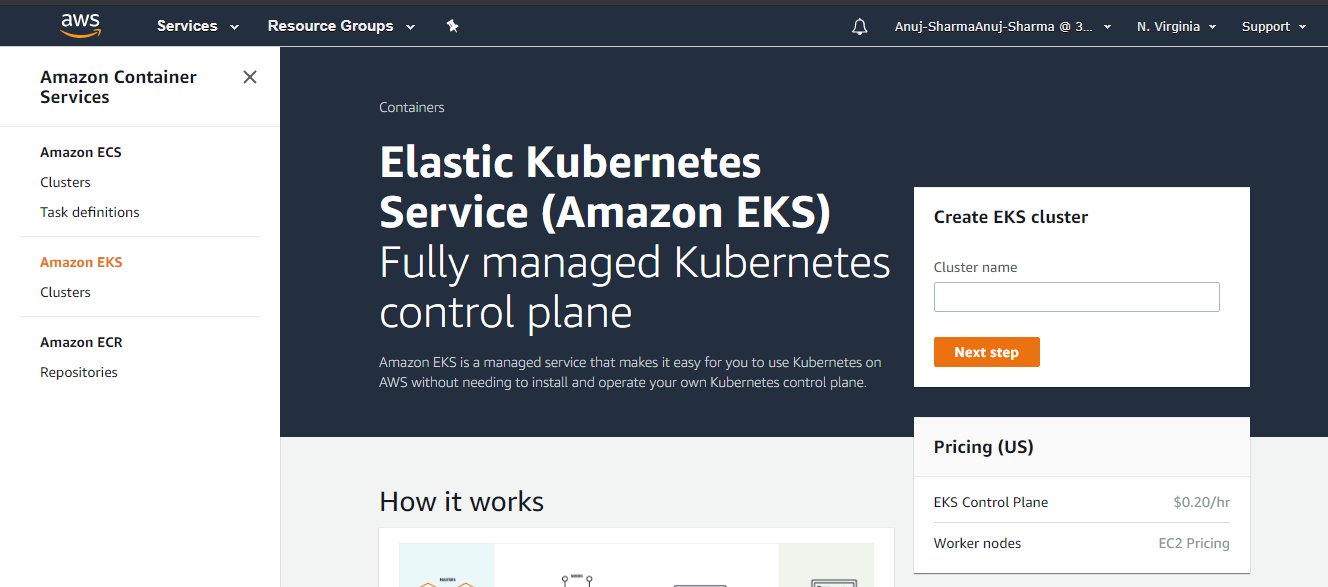
5.2.3 Pushing the code to GitHub repositories

* Kubernetes is already installed in your practice lab. (Refer FSD: Lab Guide - Phase 5)

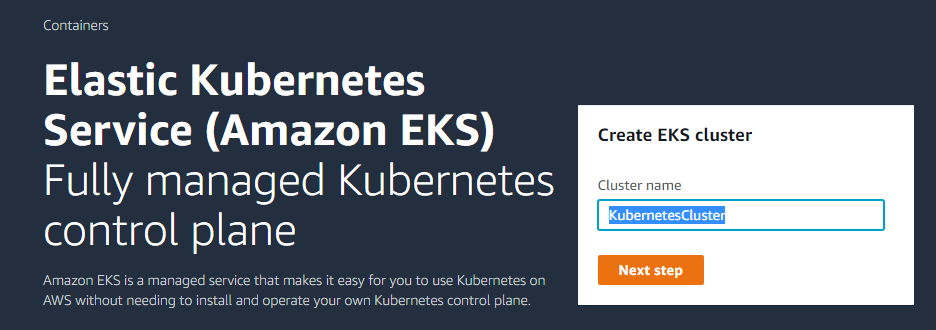
**Step 5.2.1:** Creating an AWS EKS cluster

* Connect to AWS console and navigate to EKS service to create an EKS cluster.

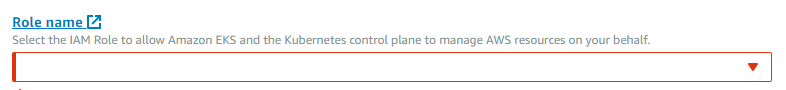




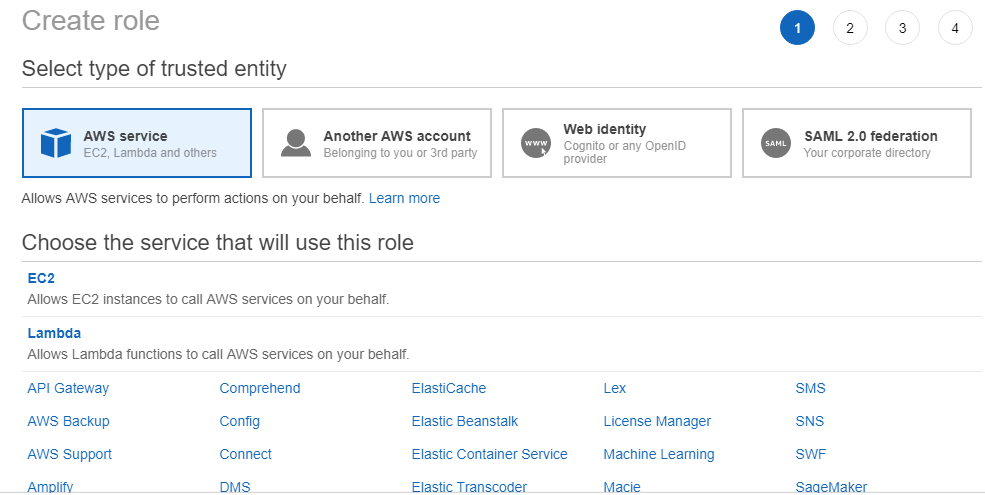
* Provide a cluster name and click on **Next Step**.



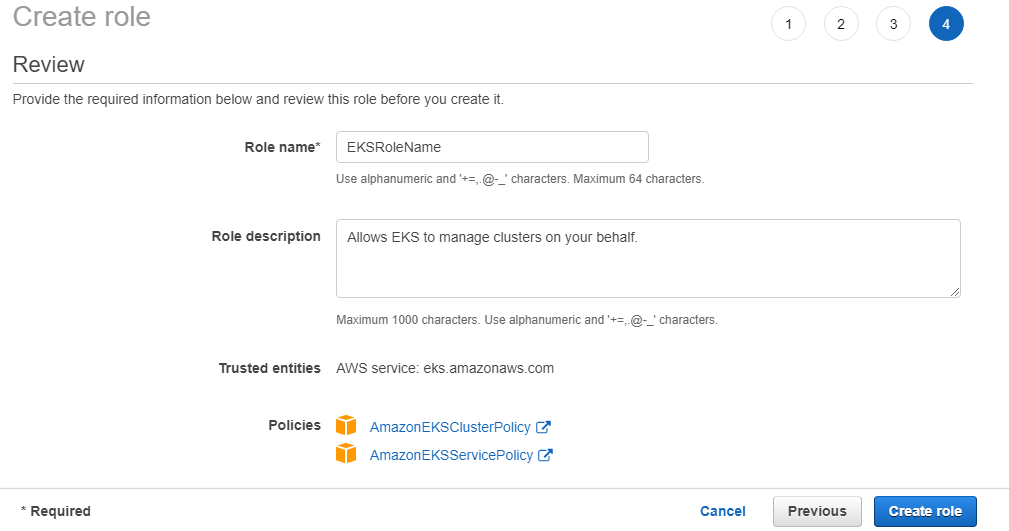
* Configure **Role name** used by EKS rest.



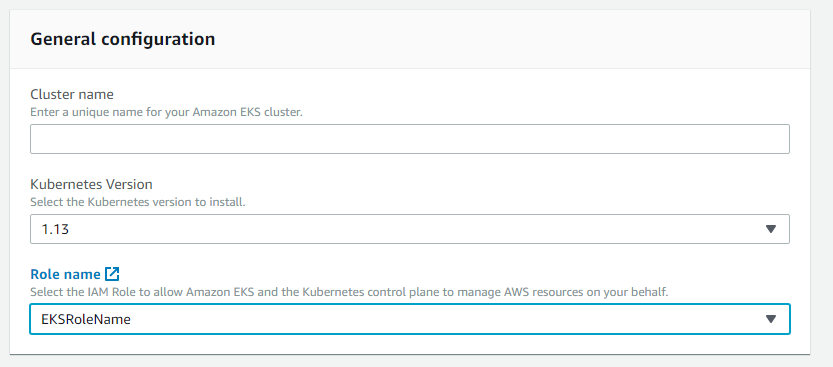
* Click on **Create Role** and provide the policy details. Select **EKS** from the service list.



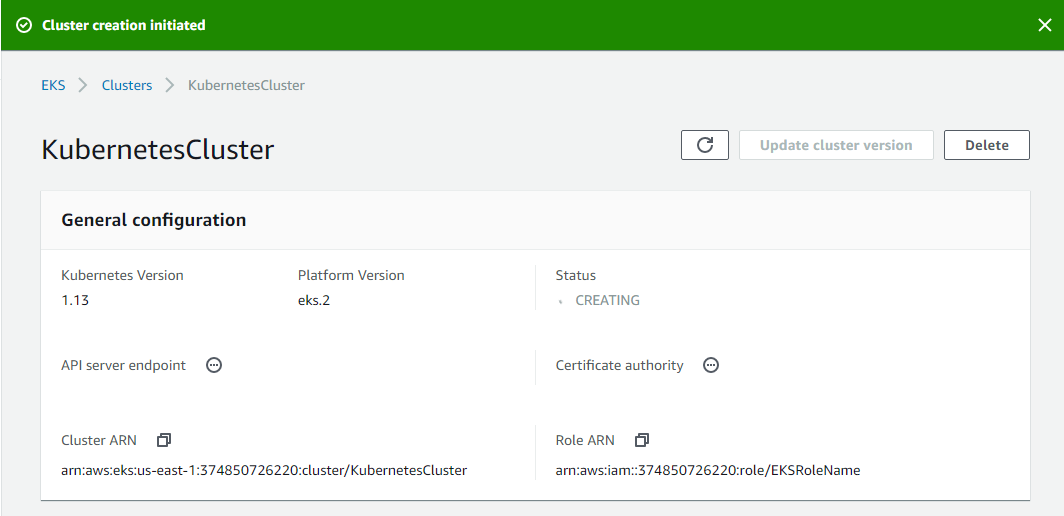


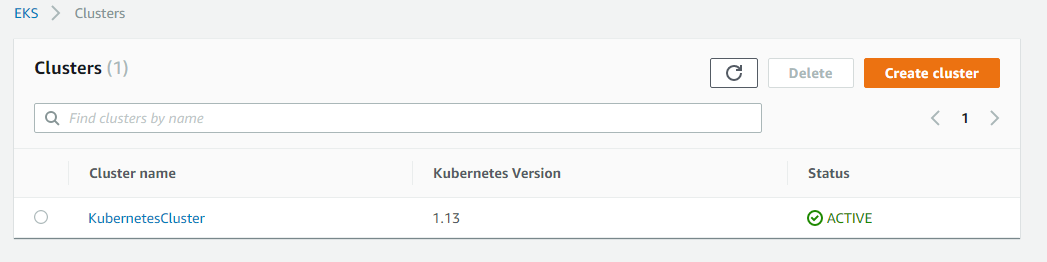


* Select the newly created role name from the list while creating the EKS cluster.



**Please Note:** Once configurations are saved and the EKS cluster is created, it may take some time to bring the cluster online. Configure **kubectl** command line only when EKS will be completely online.





**Step 5.2.2:** Setting up kubectl command line with EKS cluster

**Please Note:** Amazon EKS clusters require kubectl and kubelet binaries and the AWS IAM Authenticator for Kubernetes to allow IAM authentication for our Kubernetes cluster.

* Download the Amazon EKS-vended kubectl binary from Amazon S3:

Linux: <https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/kubectl>

* Follow steps as shown in the screenshot below.

**wget https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/kubectl**

**chmod +x kubectl**

**./kubectl**



* Configure **kubectl** in **PATH** variable to call **kubectl** command globally. Follow the set of commands mentioned below to configure **PATH** variable.

**mkdir bin**

**cp ./kubectl $HOME/bin/kubectl && export PATH=$HOME/bin:$PATH**

**kubectl version**

**kubectl version --short --client**



* Configure AWS CLI and **aws-iam-authenticator**. Download the Amazon EKS-vended aws-iam-authenticator binary from Amazon S3:

Linux: <https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/aws-iam-authenticator>

**wget https://amazon-eks.s3-us-west-2.amazonaws.com/1.10.3/2018-07-26/bin/linux/amd64/aws-iam-authenticator**

**chmod +x ./aws-iam-authenticator**

**cp ./aws-iam-authenticator $HOME/bin/aws-iam-authenticator && export PATH=$HOME/bin:$PATH**

**aws-iam-authenticator help**



* Install AWS CLI using the sequence of commands mentioned below.

**apt-get update**

**apt install python3-pip**

**pip install awscli**

**aws --version**

* Create **Access keys** in AWS IAM Console.
* Create IAM user with Access key to generate access key and secret key



**Please Note:** Create Access keys and keep them saved in a document.



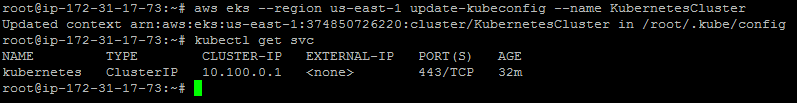
* Configure AWS CLI and provide **Access Keys** and **Secret Access Keys** while configuring it.



* Update the local **kubeconfig** to configure locally installed **kubectl** with EKS configurations.

**aws eks --region us-east-1 update-kubeconfig --name KubernetesCluster**

**kubectl get svc**



**Step 5.2.3:** Pushing the code to your GitHub repositories

* Open your command prompt and navigate to the folder where you have created your files.

**cd <folder path>**

* Initialize your repository using the following command:

**git init**

* Add all the files to your git repository using the following command:

**git add .**

* Commit the changes using the following command:

**git commit . -m “Changes have been committed.”**

* Push the files to the folder you initially created using the following command:

**git push -u origin master**