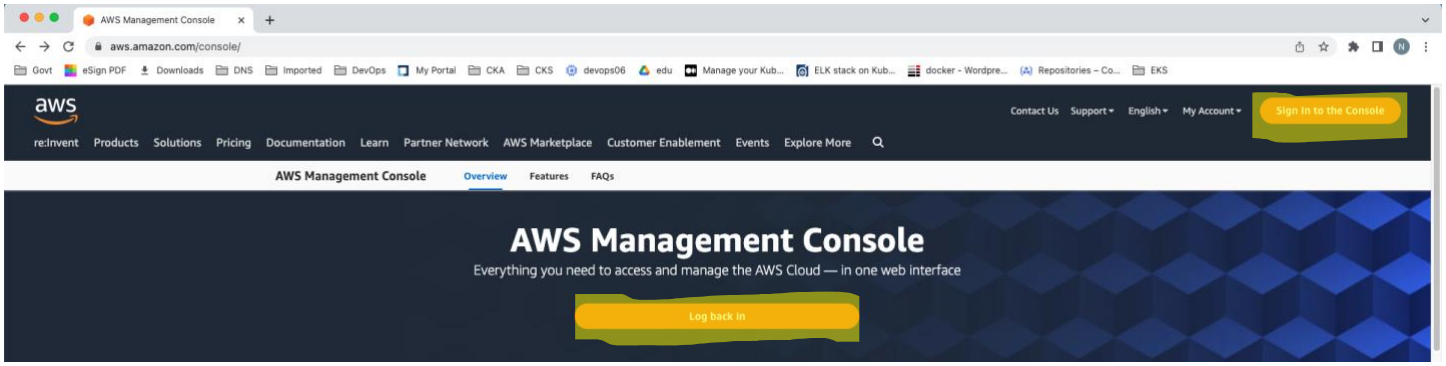
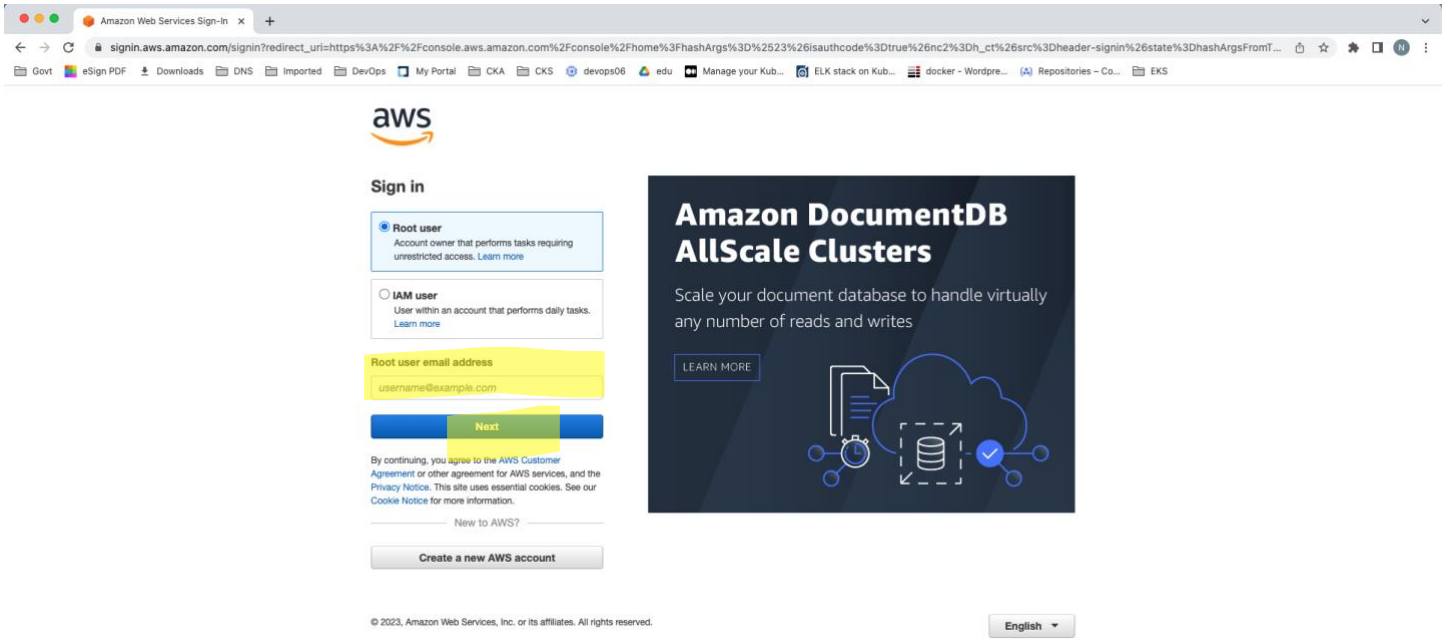
EKS Cluster Setup from Amazon Web Services (AWS) Console

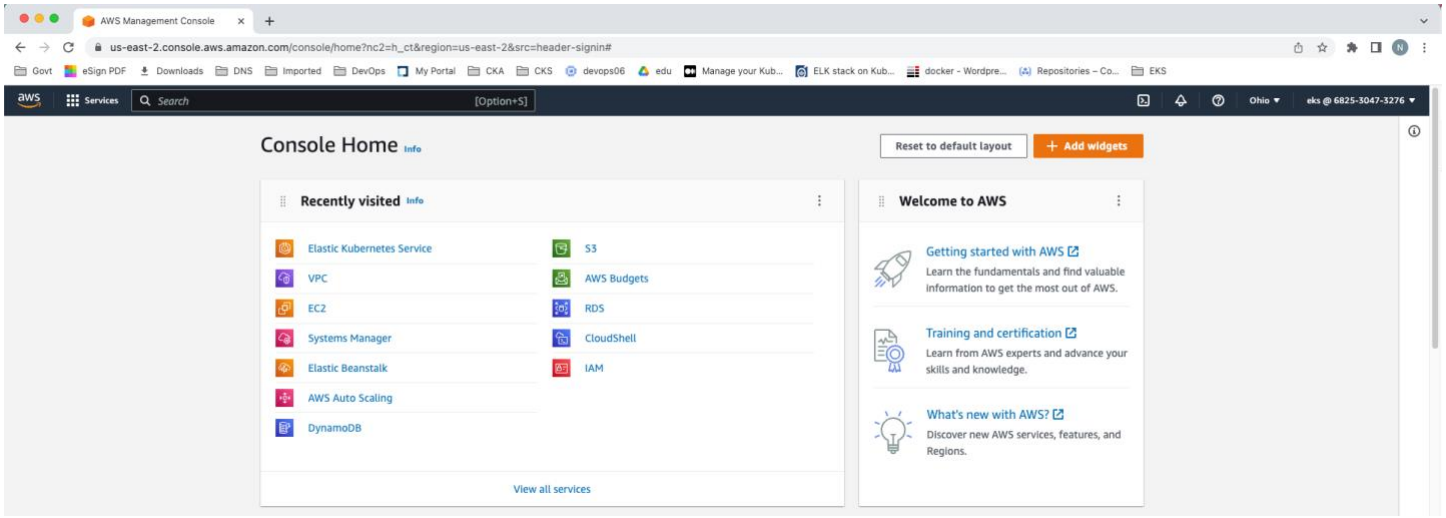
Open: https://aws.amazon.com/console/



Click on Sign into the Console & Login with "Root user" or "IAM User"



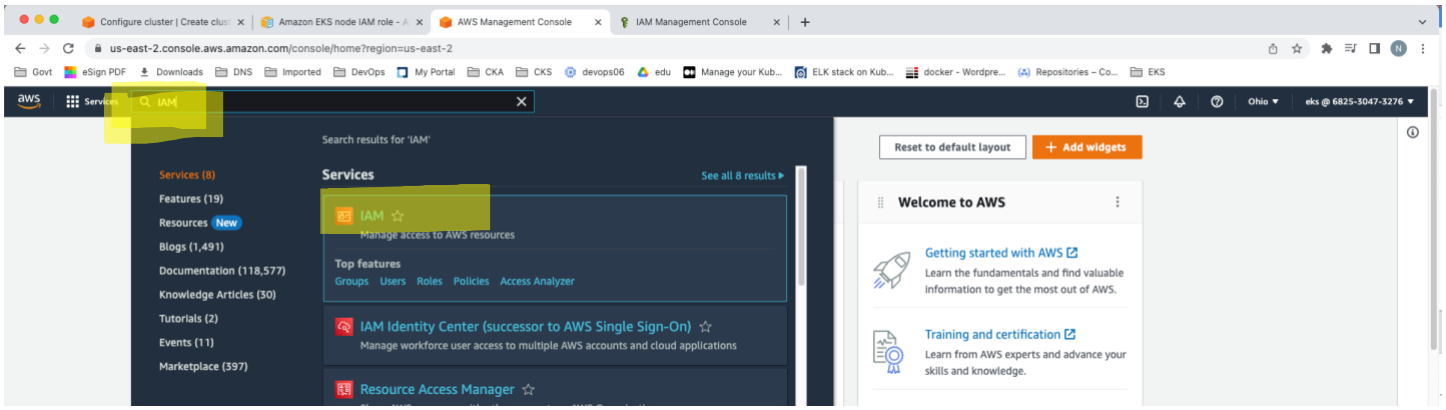
The default screen after login as below



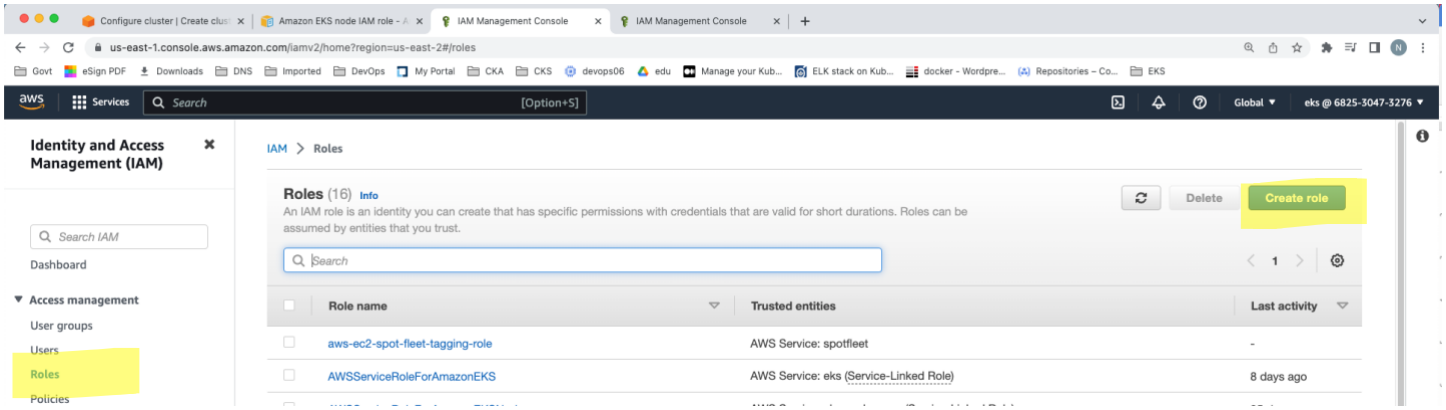
Before we create EKS Cluster we need to

- Create a IAM role with below for cluster(master) management
  - **AmazonEKSClusterPolicy**

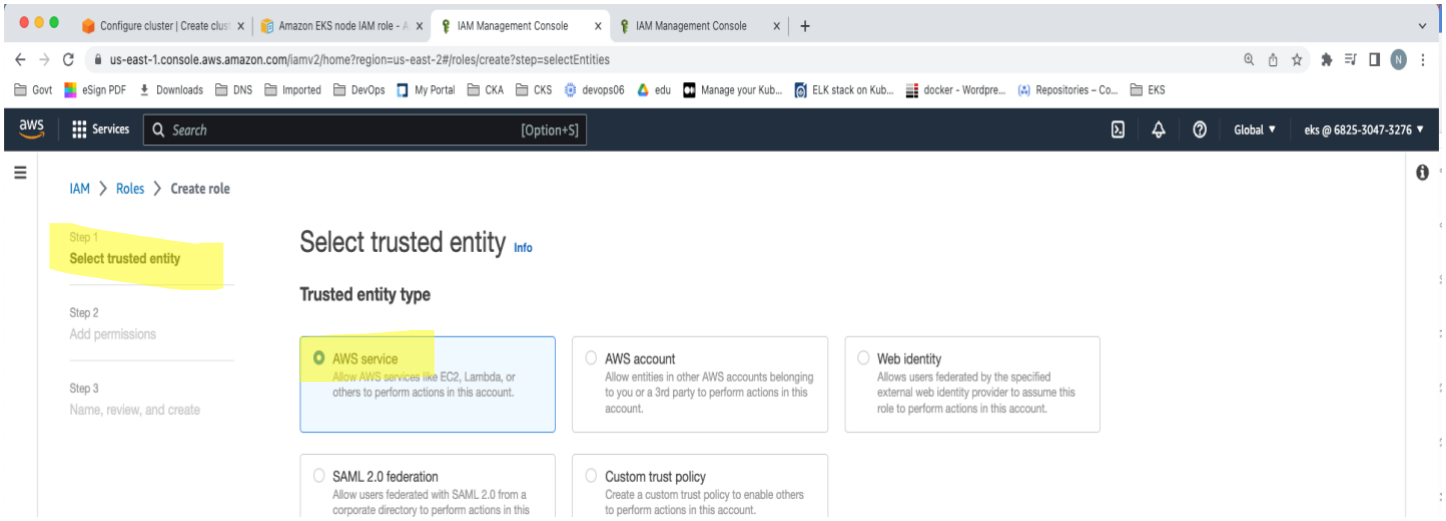
Search for IAM & Click on IAM from search results



Select Roles on IAM from left menu

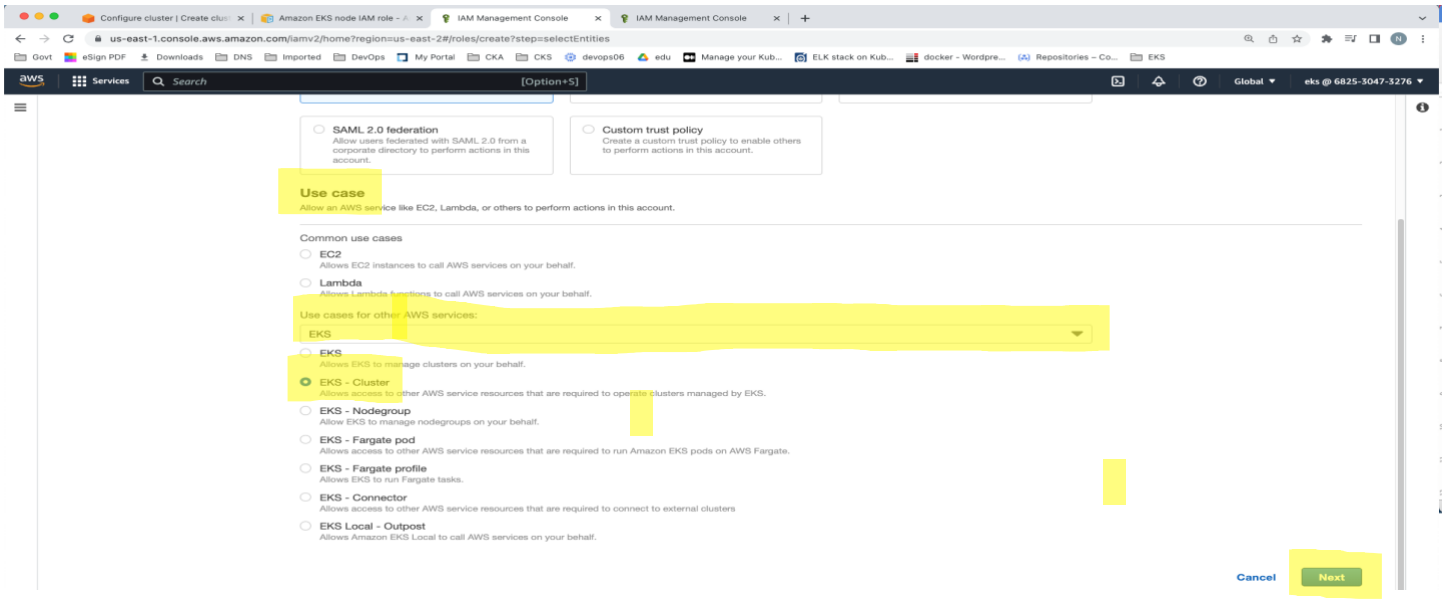


Create role & select the options as below

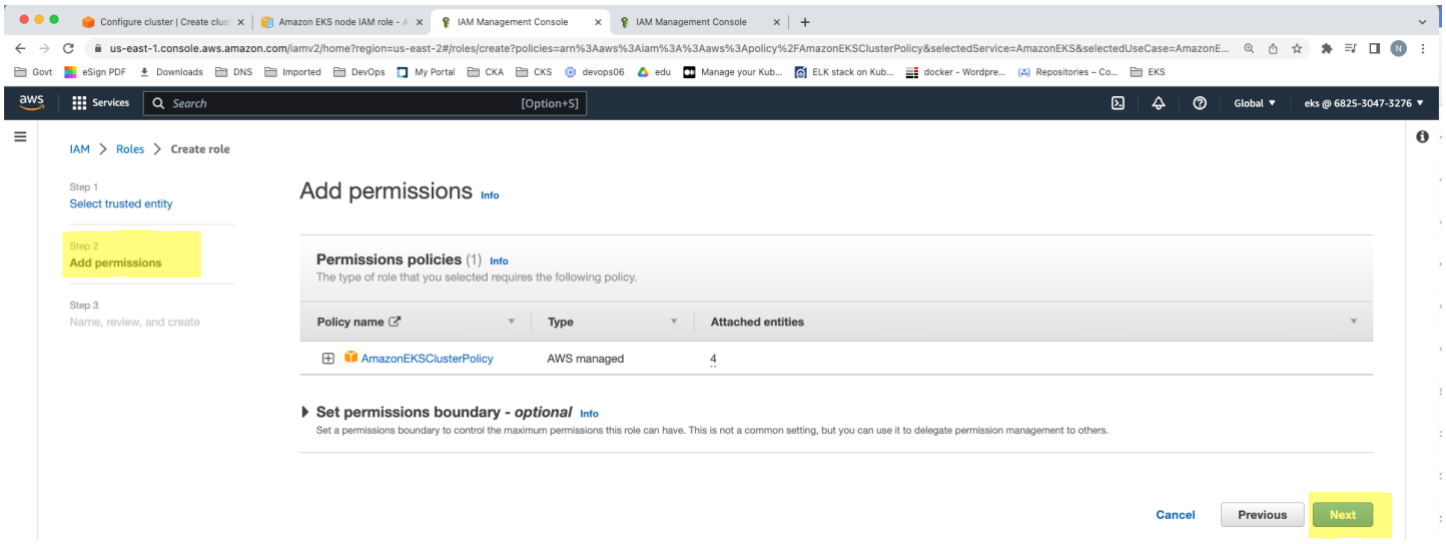


Use Case

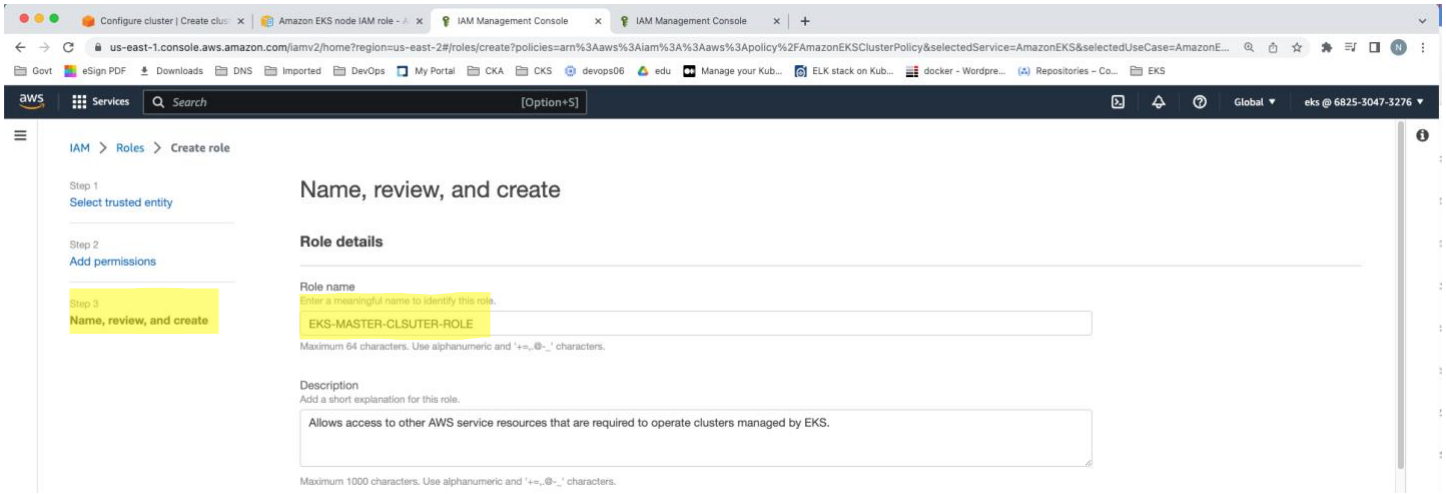
Select EKS from drop down
EKS – Cluster
then Click on Next button



Next Page leave the defaults

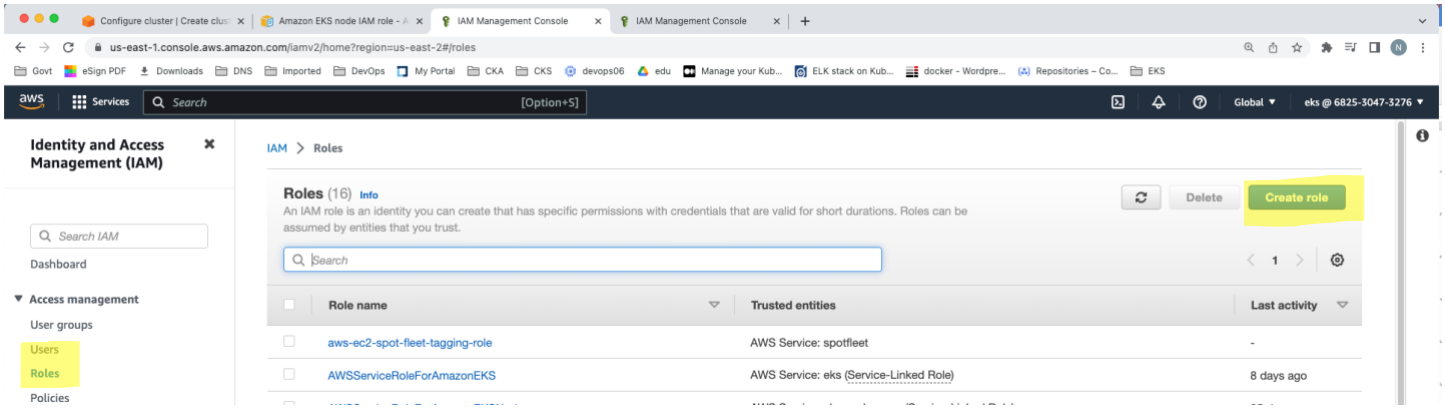


ENTER THE ROLE NAME & CREATE THE ROLE

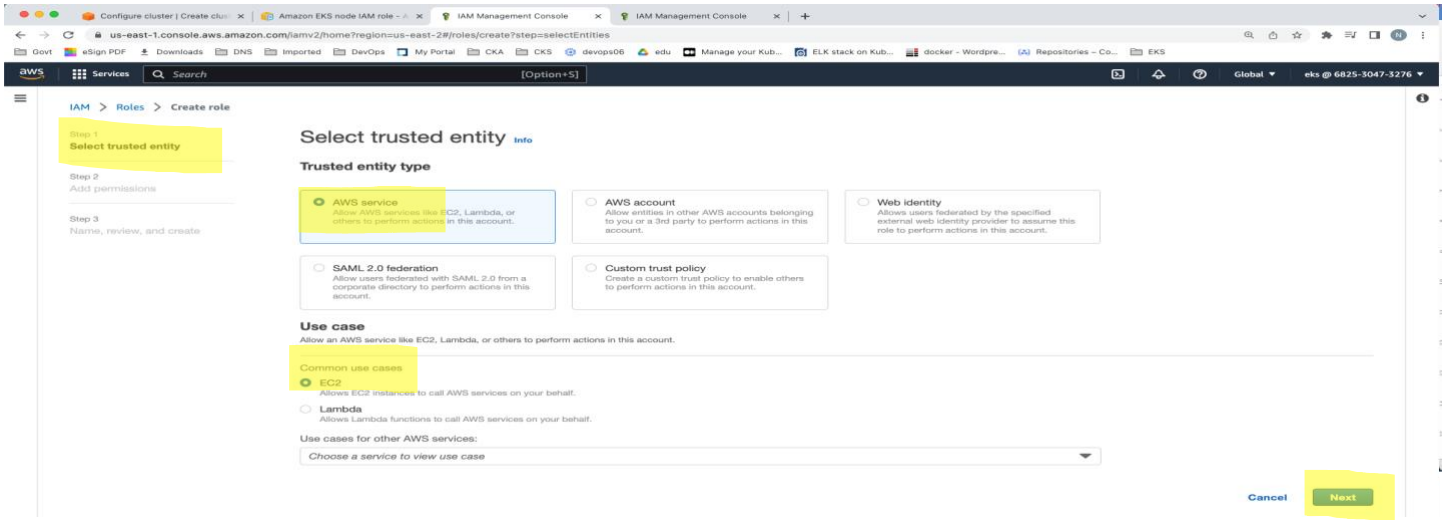


- Create a IAM role with below for worker node management
  - **AmazonEKSWorkerNodePolicy**
  - **AmazonEKS_CNI_Policy**
  - **AmazonEC2ContainerRegistryReadOnly**

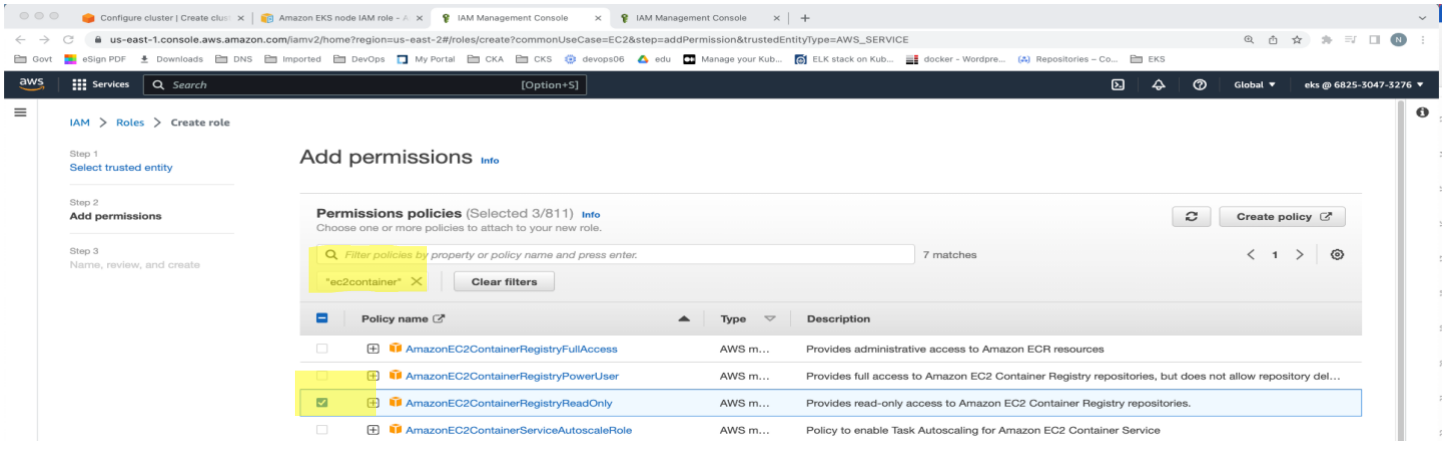
Select Roles on left menu from IAM Page

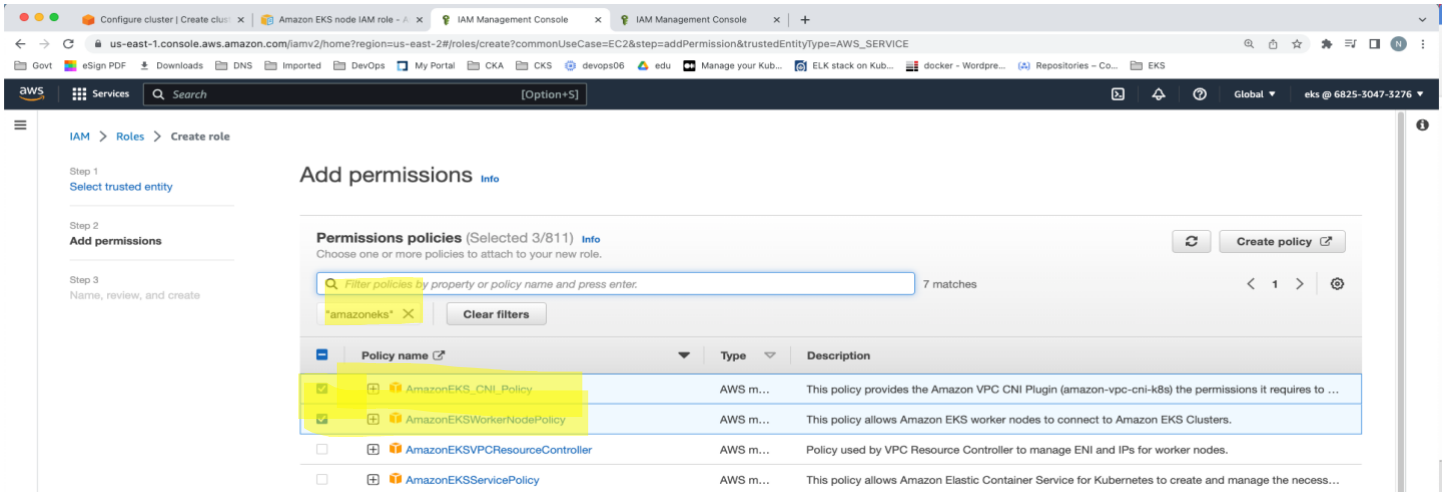


Click on Create role & select the options as below & Click on Next

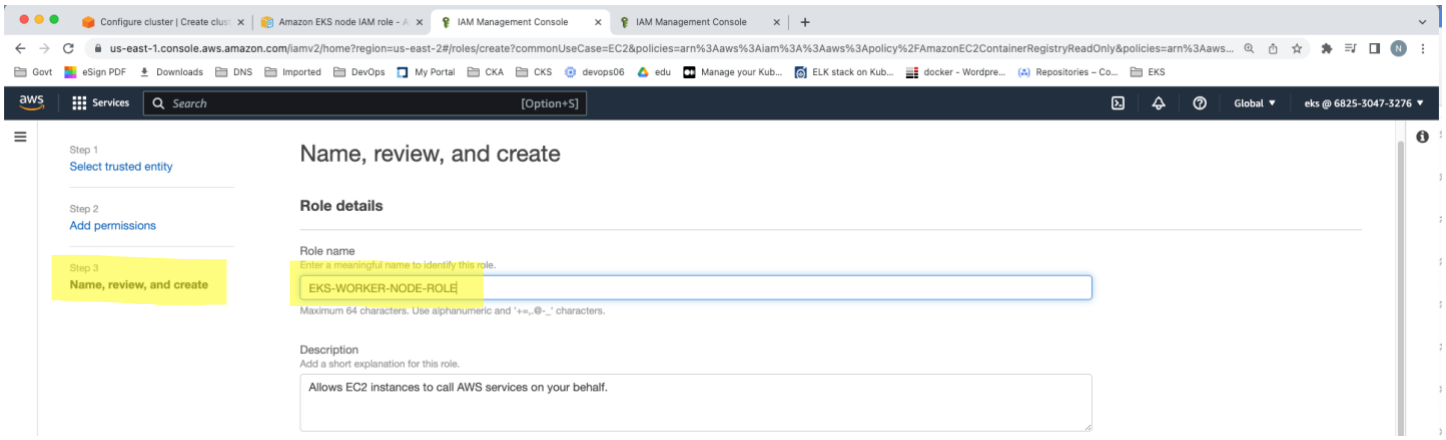


Add Permissions as Below & Click on Next button

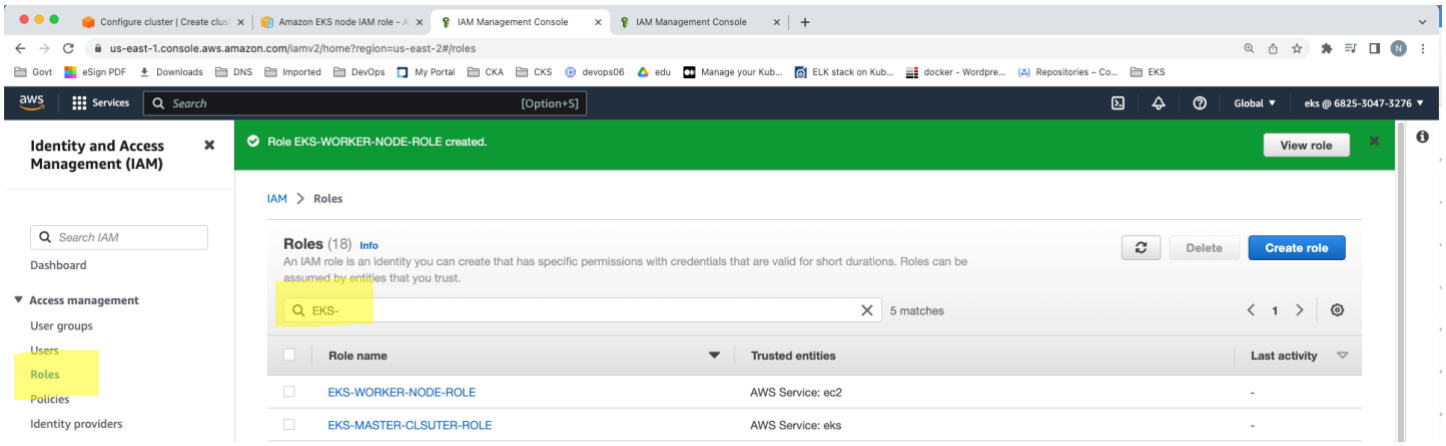




Enter a Role Name & Click on Create role

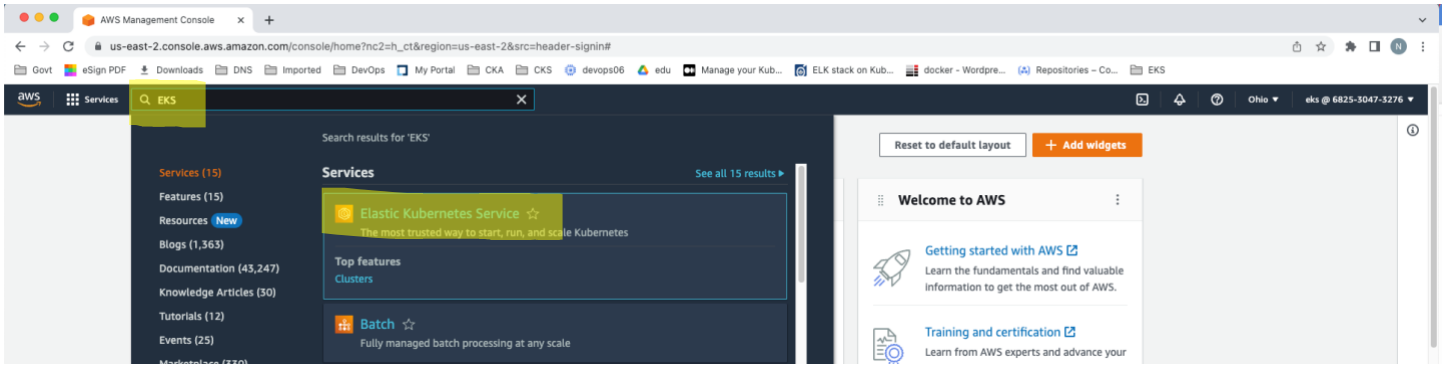


Ensure both roles are available as below

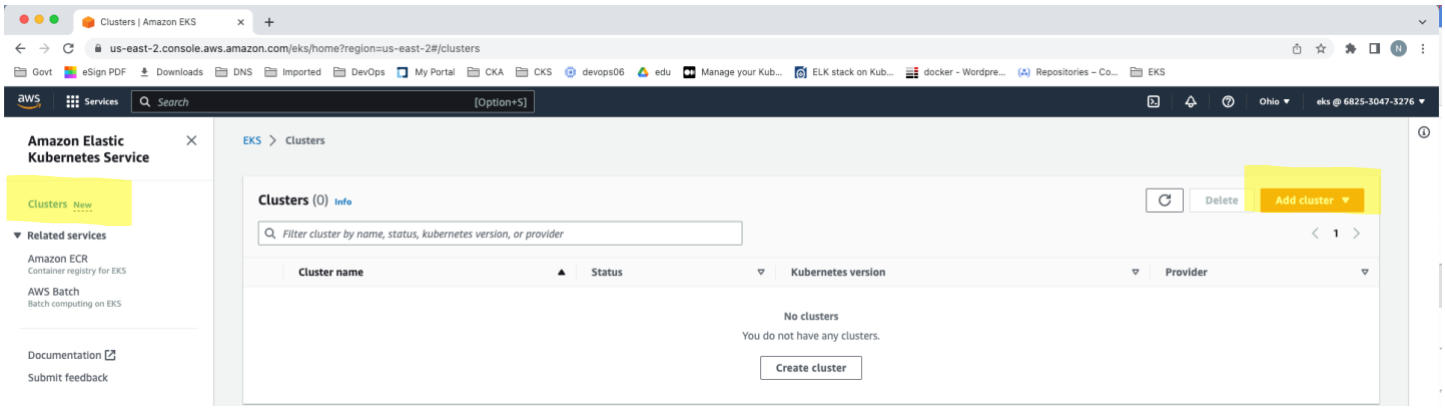


Now Let's Start Creating EKS Cluster

In the search box type "EKS" and select Elastic Kubernetes Service from the search results



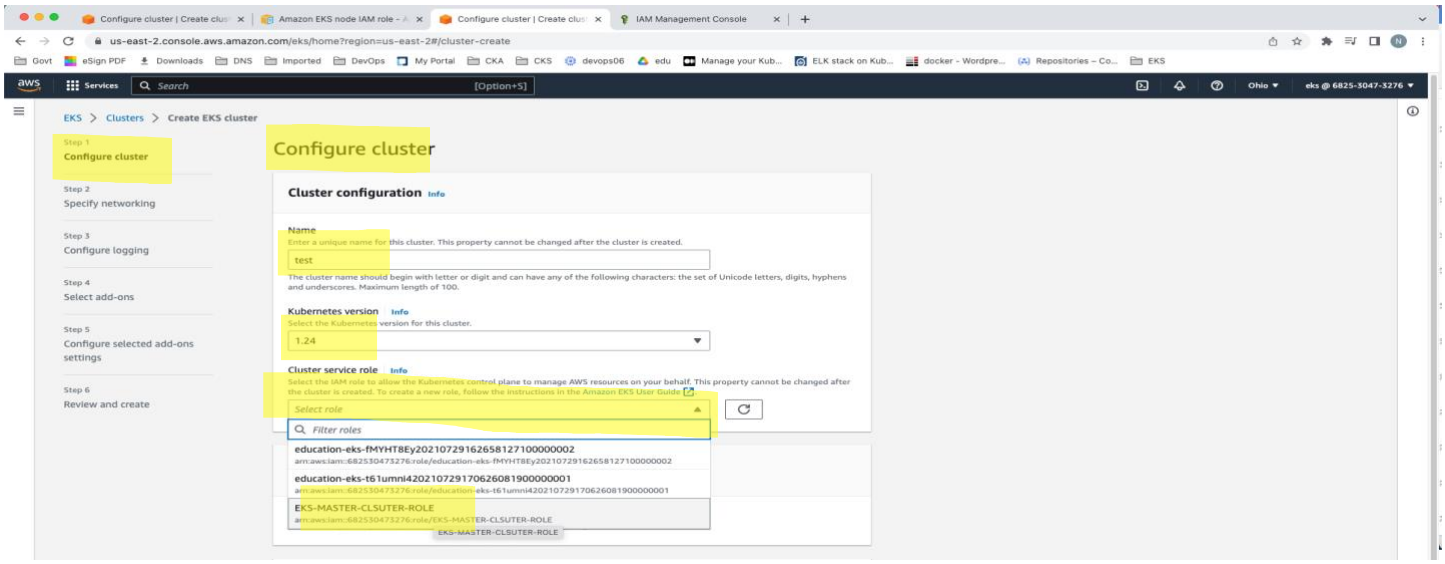
On next page select **"Clusters"** on the left menu & Click on **Add Cluster** drop down & **create**



On the next page

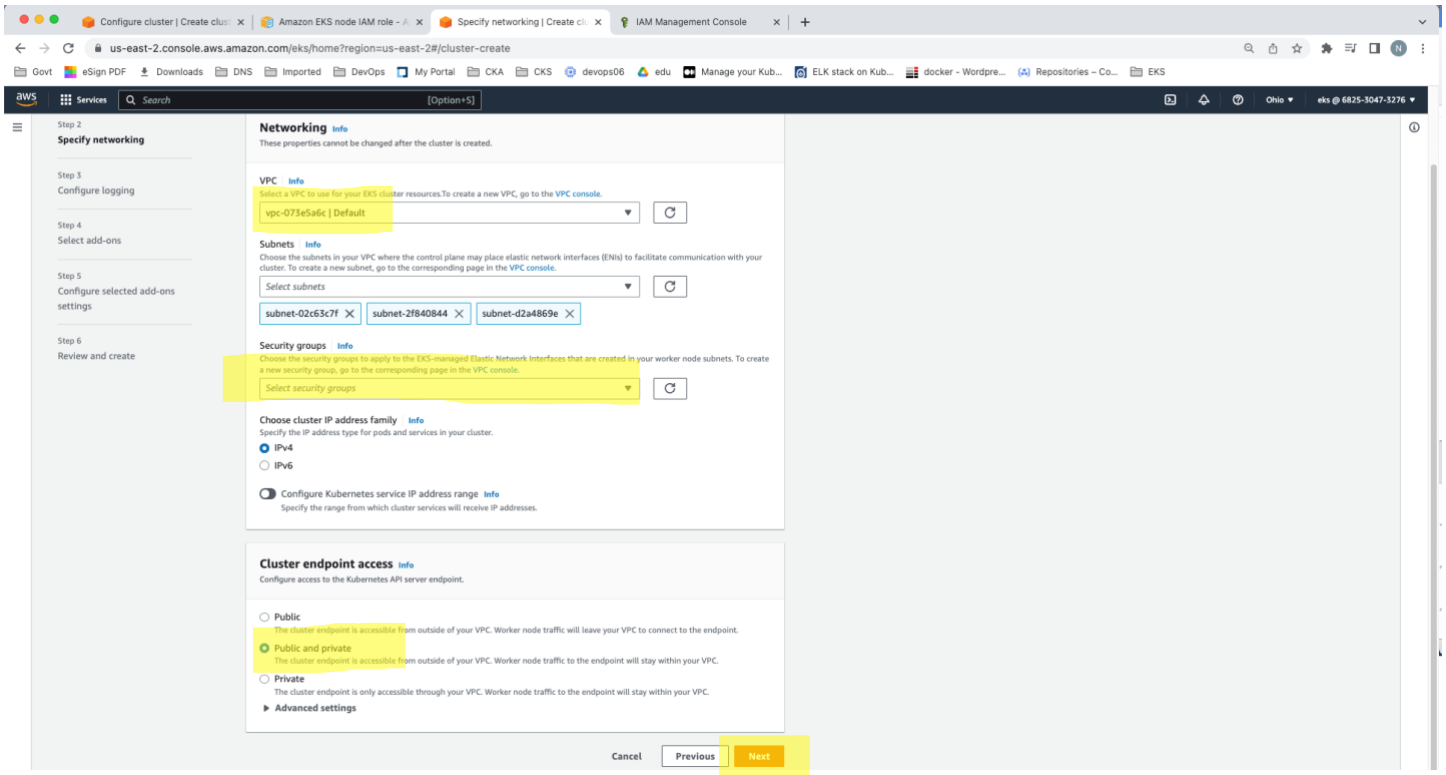
Step1: Configure Cluster

Enter name
Choose Kubernetes version
Choose the cluster service role as below

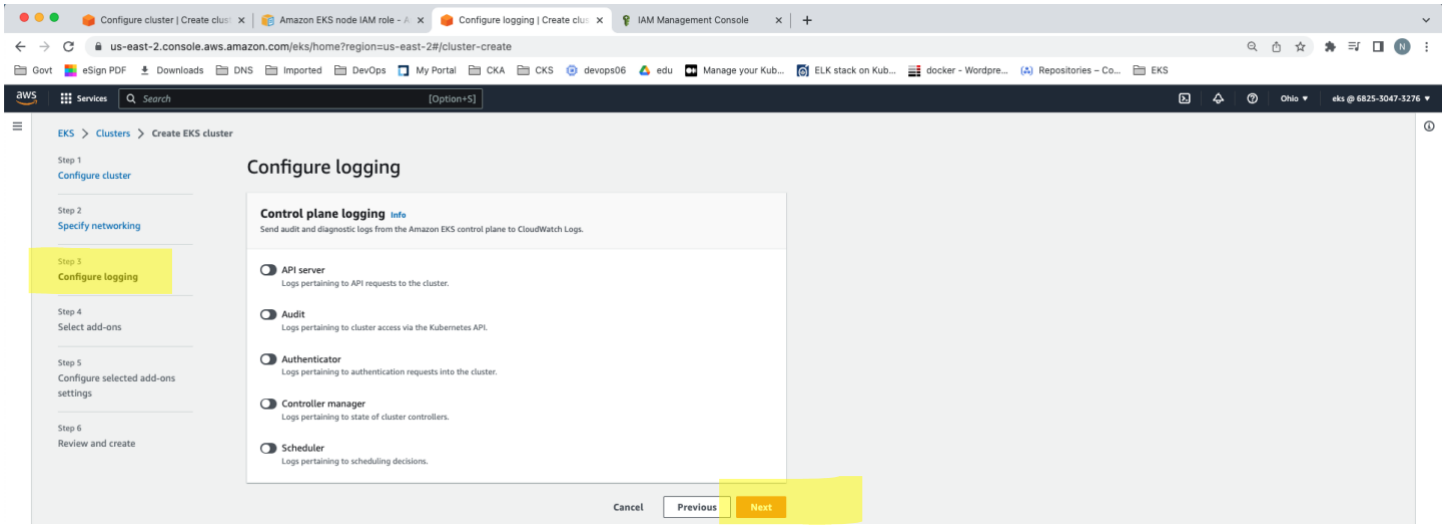


Step2: networking – choose the options as below

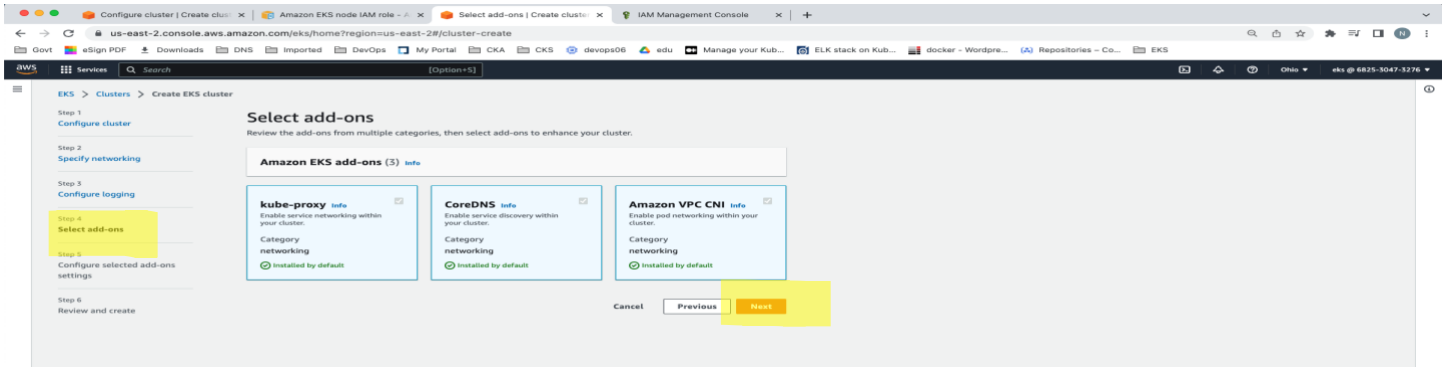
Note: Ensure to Select a Security Group with necessary access



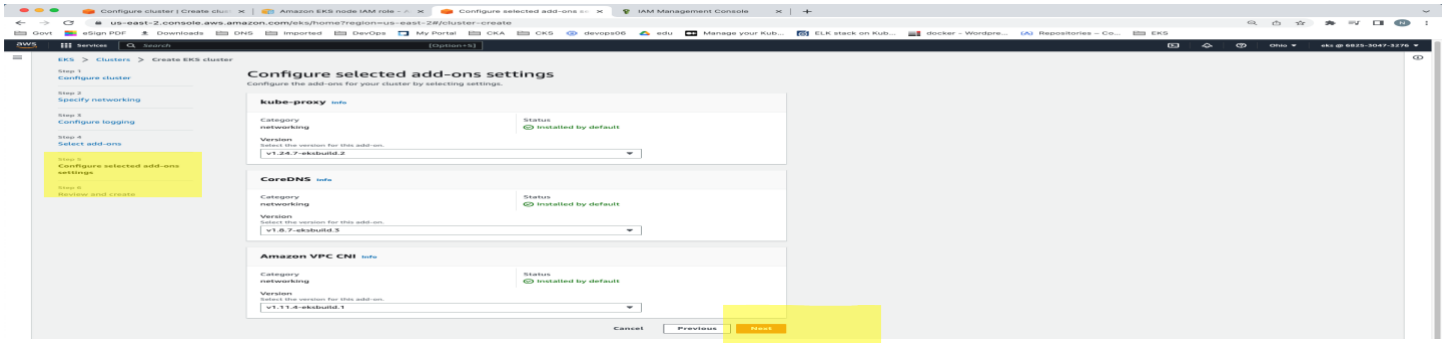
Step3: Configure logging – leave the defaults as below



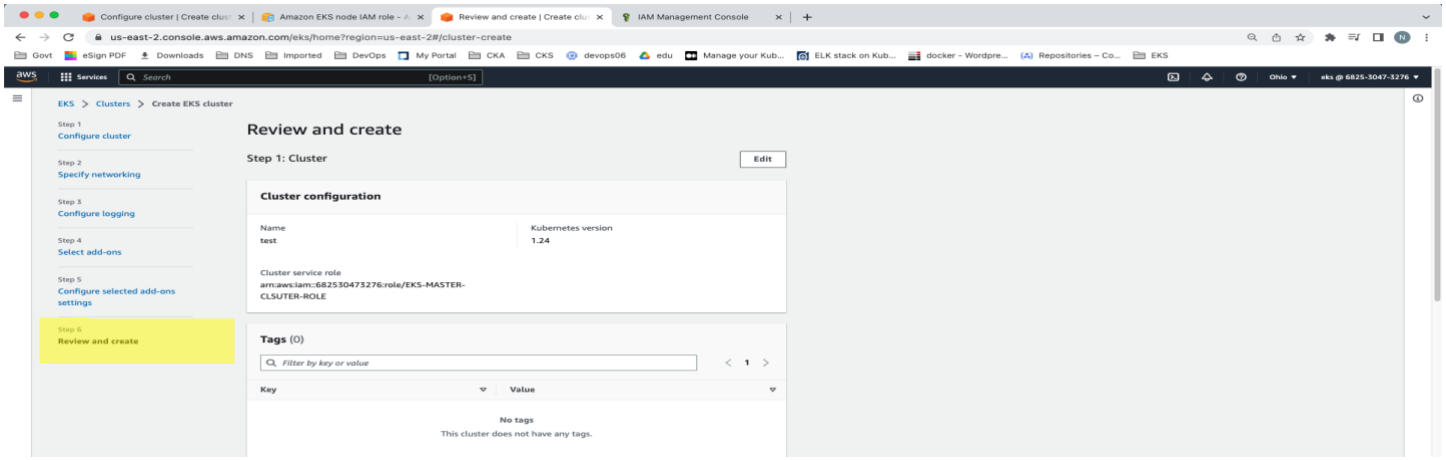
Step4: Select add-ons – leave the defaults as below



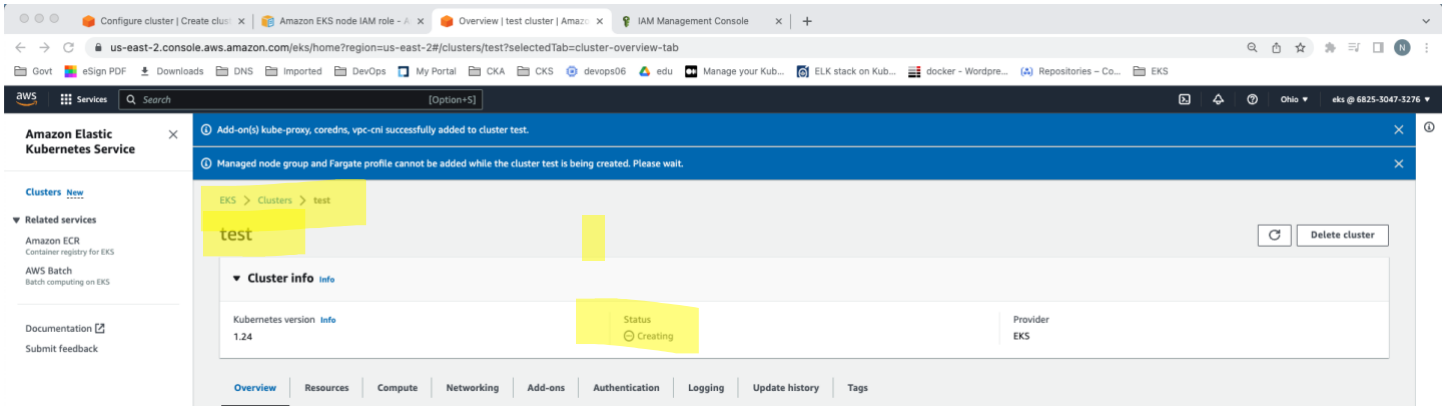
Step5: Configure selected add-ons settings – leave the defaults as below



Step6: review & Click on Create button

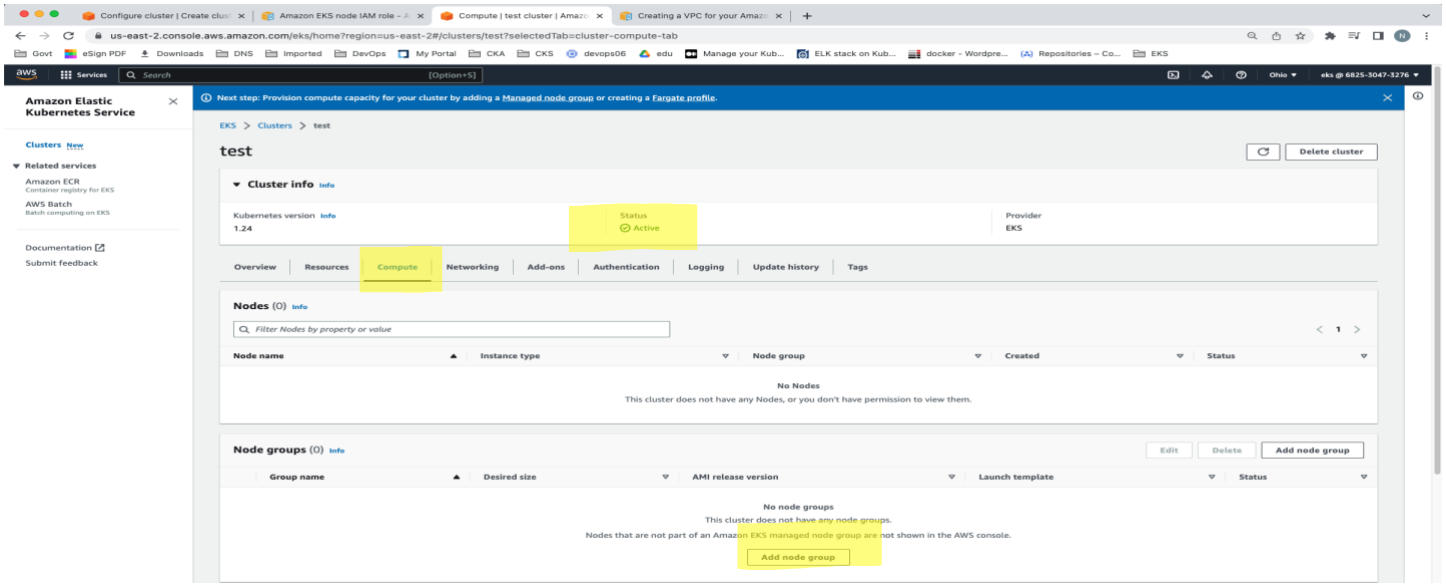


Cluster will take 10 – 15 min to create



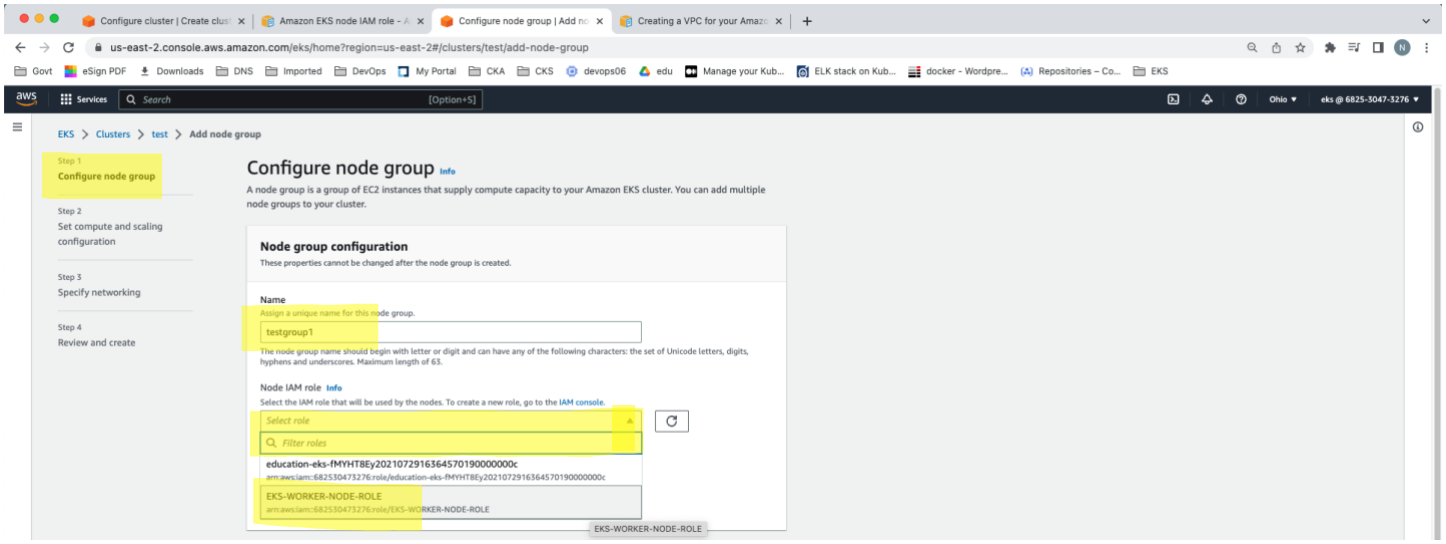
Now Add Worker Nodes to Master (called eks cluster managed by aws)

Once the cluster is “Active” we can add the Node Groups (worker nodes)

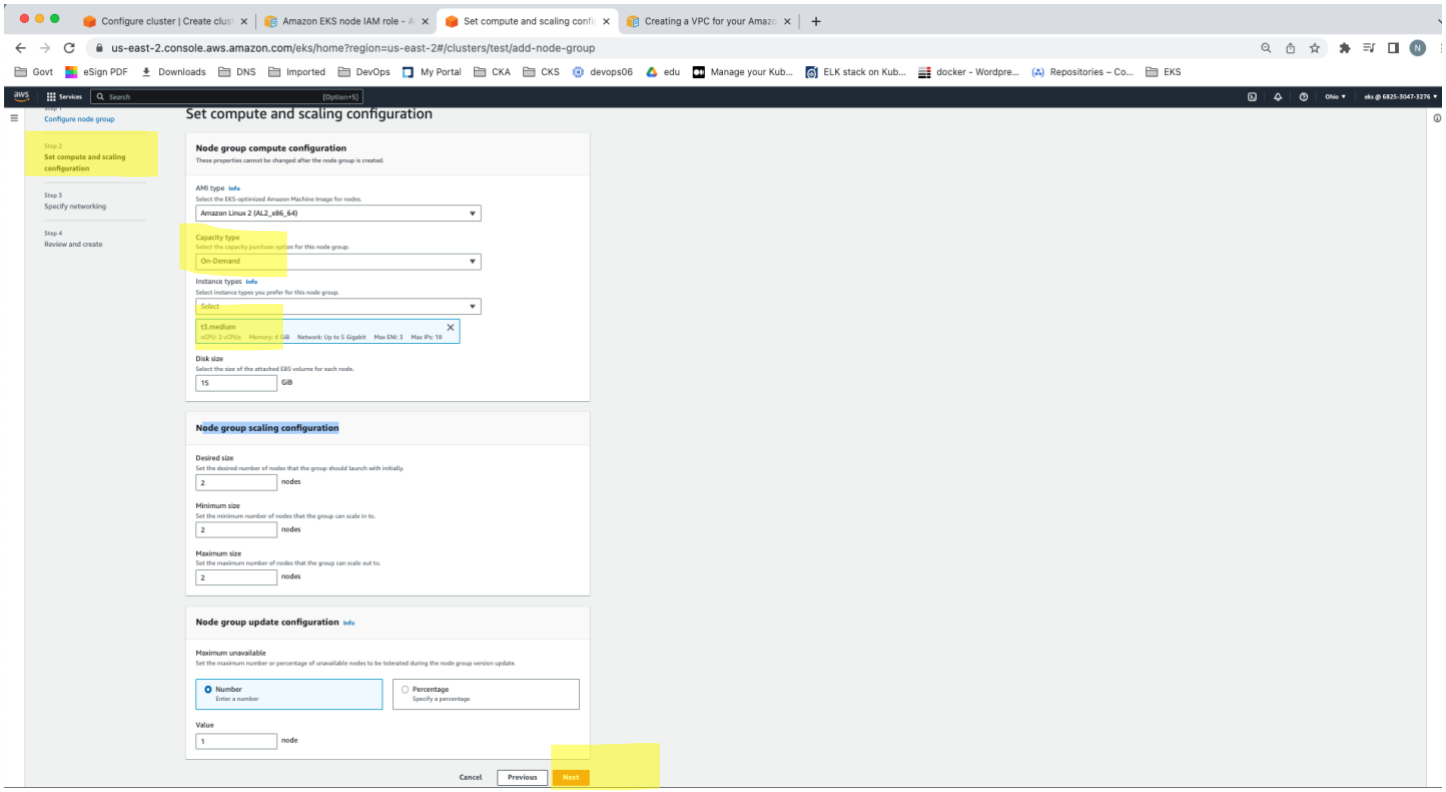


Click on “Add node group” & On Next Page

Step1: Configure node group, choose options as below click on next button

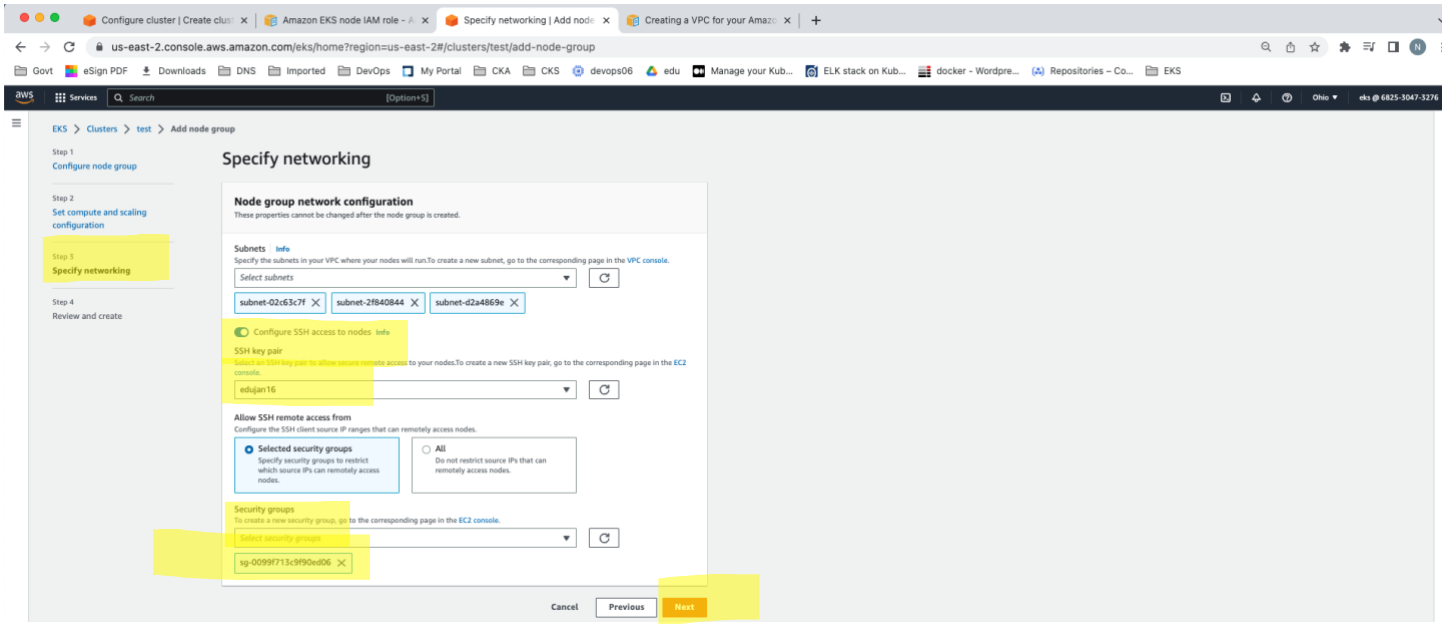


Step2: Set Compute and scaling configuration

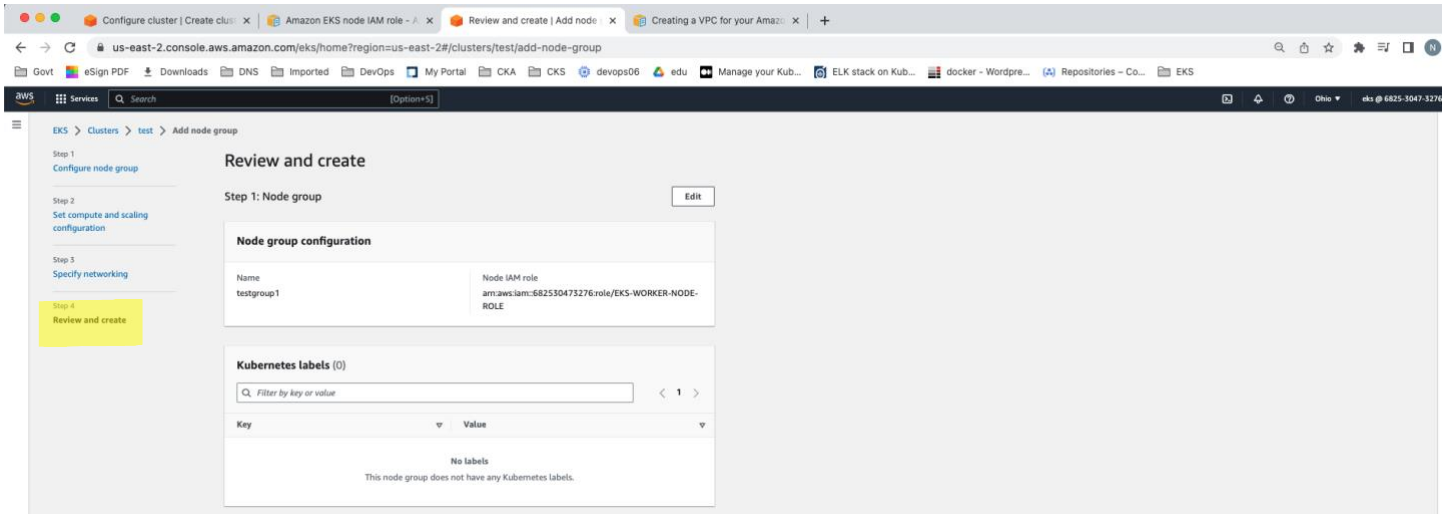


Step3: Specify Networking -- Ensure to Choose

SSH Key, so that we can login to EC2 Instances later
Configure the Security Groups for proper traffic routing



Step4: Review & Click on Create Button



Note: The nodes will take another 10-15 min for complete setup

How to Connect to EKS Cluster ?

Ans: We need to install aws cli & kubectl cli tools on a machine

To setup the above tools we may use

- Use AWS Cloud Shell – here you will see both aws cli & kubectl already installed
- Create a EC2 VM & install
- install on your own laptops/desktops (windows or mac)

install AWS CLI:

https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html

install kubectl CLI:

https://kubernetes.io/docs/tasks/tools/

Connect to EKS Cluster using AWS Cloud Shell:

https://github.com/lerndevops/eks/blob/main/01-setup/Connect-to-EKS-Cluster-Using-AWS-CloudShell.pdf