Kubernetes Installation

**Pre-requistes:**

This Lab is using Jenkins EC2 instance. Jenkins EC2 instance needs to have following configured:

* [**Install AWS CLI**](https://www.coachdevops.com/2020/10/install-aws-cli-version-2-on-linux-how.html) – Command line tools for working with AWS services, including Amazon

curl "https://awscli.amazonaws.com/awscli-exe-linux-x86\_64.zip" -o "awscliv2.zip"

unzip awscliv2.zip

sudo ./aws/install

* [**Install eksctl**](https://www.coachdevops.com/2020/10/install-eksctl-on-linux-instance-how-to.html)– A command line tool for working with EKS clusters that automates many

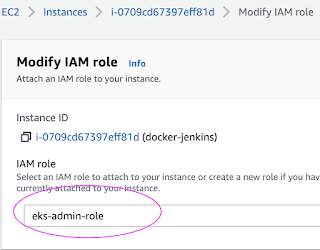
individual tasks.

curl --silent --location "https://github.com/weaveworks/eksctl/releases/latest/download/eksctl\_$(uname -s)\_amd64.tar.gz" | tar xz -C /tmp

sudo mv /tmp/eksctl /usr/local/bin

* [**Install kubectl** – A command line tool for working with Kubernetes clusters.](https://www.coachdevops.com/2022/05/install-kubectl-on-ubuntu-instance-how.html)

curl -o kubectl https://s3.us-west-2.amazonaws.com/amazon-eks/1.23.7/2022-06-29/bin/linux/amd64/kubectl

* Choose the role you have created from the dropdown.  
  Select the role and click on Apply.
* [](https://blogger.googleusercontent.com/img/a/AVvXsEjo5gCH18JVD1kdo_4L0wV6Ea49gLJim9C7MXSv62dwB5SPIKqUxl_jQSwexMg3kctMVK1i6iicjuS76UAOZv1vR55BaHbz6wdrz2JDgw3Je8cMIz3KCDtd5WPJ8o4U5vedJCqiL4qEu3_KLcQVr36XPo81JFQfKoHebcP9f8148lJjqSSusv_QUXl4ZQ=s860)
* [Graphical user interface, text, application

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* **Create EKS Cluster with two worker nodes using eksctl**
* eksctl create cluster --name demo-eks --region us-east-2 --nodegroup-name my-nodes --node-type t3.small --managed --nodes 2

the above command should create a EKS cluster in AWS, it might take 15 to 20 mins. The ***eksctl*** tool uses CloudFormation under the hood, creating one stack for the EKS master control plane and another stack for the worker nodes.

eksctl get cluster --name demo-eks --region us-east-2

This should confirm that EKS cluster is up and running.

Update Kube config by entering below command:

aws eks update-kubeconfig --name demo-eks --region us-east-2

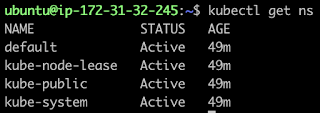
**Connect to EKS cluster using kubectl commands**

To view the list of worker nodes as part of EKS cluster.

kubectl get nodes

[](https://1.bp.blogspot.com/-8tpK_USt5_Q/X4ZPAONKEDI/AAAAAAAADFw/fzrvmYdOCX8mNl5dwJnIWCFT5_od-ftkQCLcBGAsYHQ/s1288/get%2Bnodes.png)

kubectl get ns

[](https://1.bp.blogspot.com/-MLd0BGAlQS8/X4ZPLe51nEI/AAAAAAAADF0/jEuj3m7hwZsGJs6XMsenwx7d48YMHSJ_QCLcBGAsYHQ/s594/get%2Bns.png)

**Deploy Nginx on a Kubernetes Cluster**  
Let us run some apps to make sure they are deployed to Kubernetes cluster. The below command will create deployment:  
  
kubectl create deployment nginx --image=nginx

[](https://1.bp.blogspot.com/-aK8HVBgJ4m8/Xt6G8XrUksI/AAAAAAAACe8/1qIRIm4u5E48W1WH-EY8O6RGqLE2LSURACLcBGAsYHQ/s1600/create%2Bdeployment.png)

**View Deployments**  
kubectl get deployments

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**Delete EKS Cluster using eksctl**

eksctl delete cluster --name demo-eks --region us-east-2

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the above command should delete the EKS cluster in AWS, it might take a few mins to clean up the cluster.