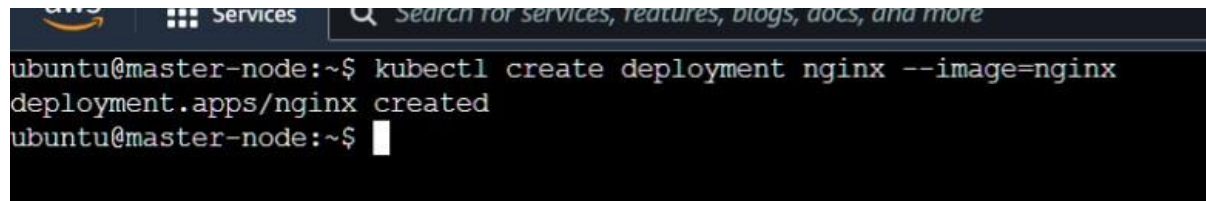


## ADVANCE DEVOPS EXP 4

Name :- Aditi Taksale/60

**Aim :-** To install Kubectl and execute Kubectl commands to manage the Kubernetes cluster and deploy Your First Kubernetes Application

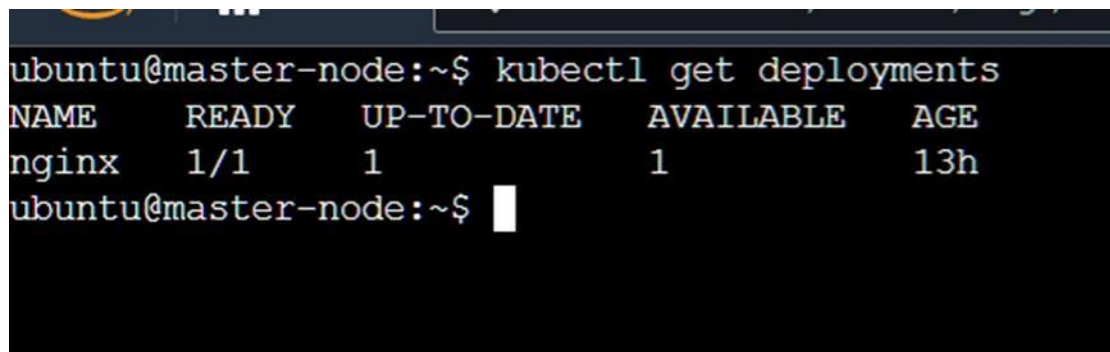
**Step 1:** As the cluster is up and running, we can deploy our nginx server on this cluster. Apply this deployment file using this command to create a deployment.

A terminal window with a dark background. At the top, there is a search bar with the text "Search for services, features, blogs, docs, and more". Below the search bar, the terminal shows the command "kubectl create deployment nginx --image=nginx" being executed. The output is "deployment.apps/nginx created". The prompt "ubuntu@master-node:~\$" is visible at the end of the line.

```
ubuntu@master-node:~$ kubectl create deployment nginx --image=nginx
deployment.apps/nginx created
ubuntu@master-node:~$
```

**Step 2: Verify the deployment using the command:**

\$kubectl get deployments

A terminal window with a dark background. At the top, there is a search bar with the text "Search for services, features, blogs, docs, and more". Below the search bar, the terminal shows the command "kubectl get deployments" being executed. The output is a table with 5 columns: NAME, READY, UP-TO-DATE, AVAILABLE, and AGE. The table has one row for the deployment named "nginx". The prompt "ubuntu@master-node:~\$" is visible at the end of the line.

```
ubuntu@master-node:~$ kubectl get deployments
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
nginx     1/1     1            1           13h
ubuntu@master-node:~$
```

**Step 3:** Next, run the following command to create a service named nginx that will expose the app publicly. It will do so through a NodePort, a scheme that will make the pod accessible through an arbitrary port opened on each node of the cluster

**with this service-type, Kubernetes will assign this service on ports on the 30000+ range.**

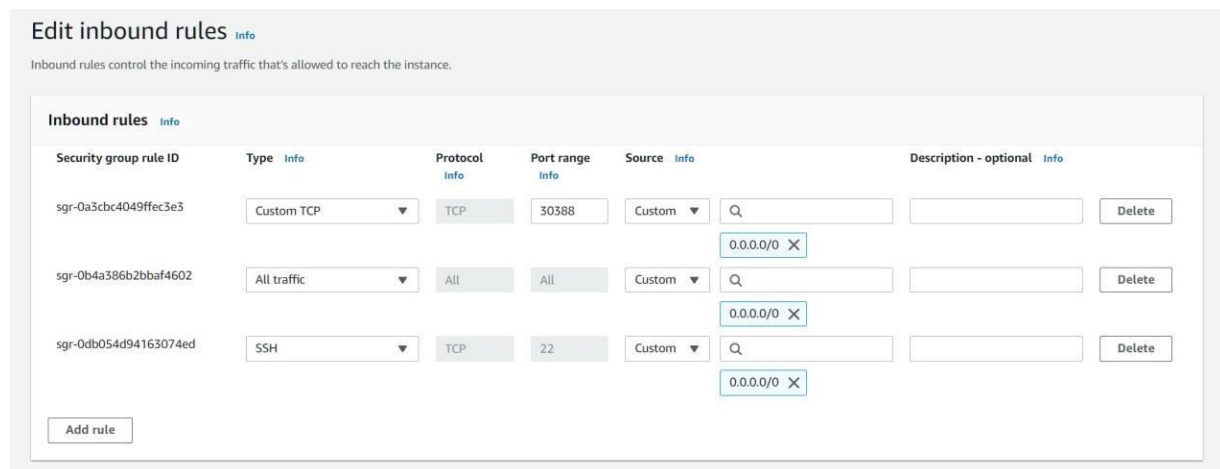
`$kubectl expose deploy nginx --port 80 --target-port 80 --type NodePort`

```
aws Services Search for services, features, blogs, docs, and more [Alt+S]
ubuntu@master-node:~$ kubectl expose deploy nginx --port 80 --target-port 80 --type NodePort
service/nginx exposed
ubuntu@master-node:~$
```

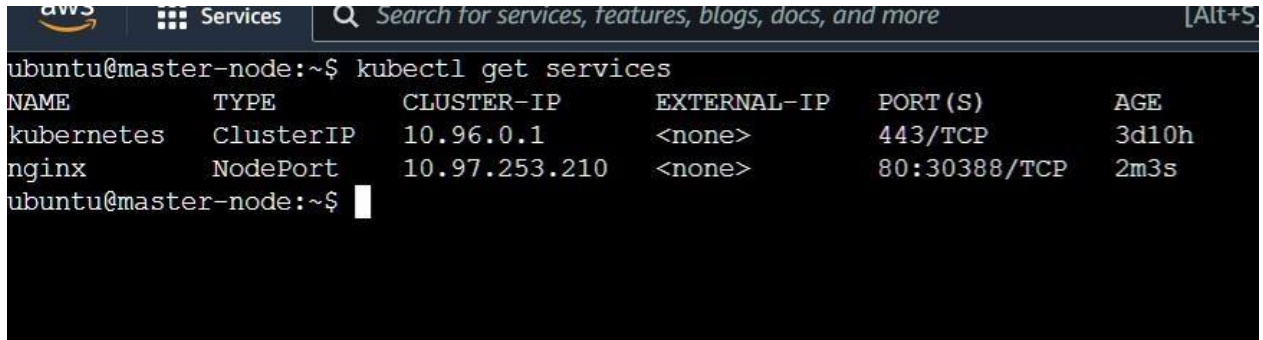
**Step 4: Run this command to see a summary of the service and the ports exposed.**

`$kubectl get services`

**Step 5: Add the port which is displayed i.e. 30388 (in our case ) in the inbound rules of the security group.**



**Step 6:** Now you can verify that the Nginx page is reachable on all nodes using the `curl` command.



```
ubuntu@master-node:~$ kubectl get services
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	3d10h
nginx	NodePort	10.97.253.210	<none>	80:30388/TCP	2m3s

```
ubuntu@master-node:~$
```

As you can see, the “**WELCOME TO NGINX!**” page can be reached.

**Step 7:** To test that everything is working, visit `http://worker_1_ip:nginx_port` or [http://worker\\_2\\_ip:nginx\\_port](http://worker_2_ip:nginx_port)

<http://52.90.129.234:30388>

