

## ADVANCE DEVOPS EXP 4

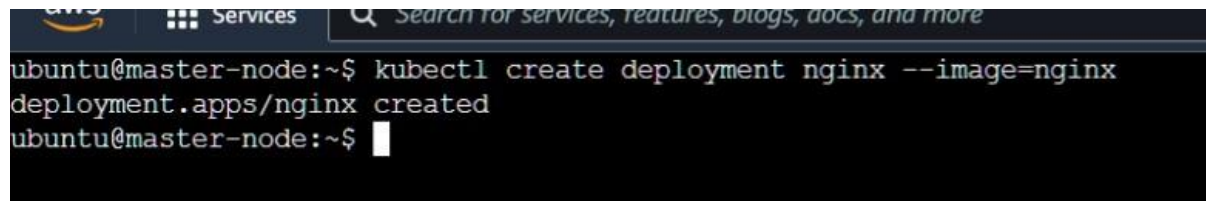
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**Aim :-** To install Kubectl and execute Kubectl commands to manage the Kubernetes cluster and deploy Your First Kubernetes Application

**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.

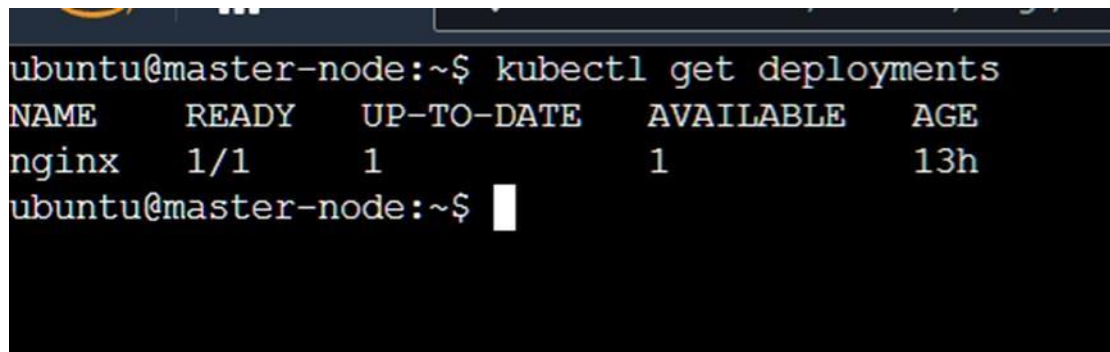
\$kubectl create deployment nginx --image=nginx



```
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



```
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.

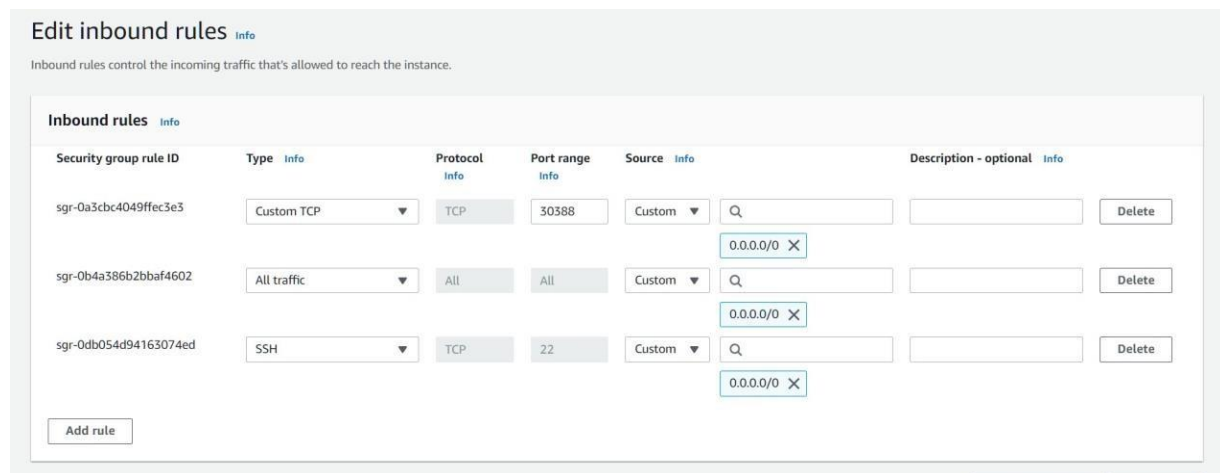
\$kubectl expose deploy nginx --port 80 --target-port 80 --type NodePort

```
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.

```
aws Services Search for services, features, blogs, docs, and more [Alt+S]
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:~$
```

```
ubuntu@master-node:~$ sudo -i
root@master-node:~# curl master-node:30388
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
root@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](http://worker_1_ip:nginx_port) or [http://worker\\_2\\_ip:nginx\\_port](http://worker_2_ip:nginx_port) through a browser on your local machine. You will see Nginx’s familiar welcome page.

<http://52.90.129.234:30388>

### Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

*Thank you for using nginx.*