**Kubernetes - Deployment**

**Step-01: Introduction to Deployments**

* What is a Deployment?
* What all we can do using Deployment?
* Create a Deployment
* Scale the Deployment
* Expose the Deployment as a Service

**Step-02: Create Deployment**

* Create Deployment to rollout a ReplicaSet
* Verify Deployment, ReplicaSet & Pods
* **Docker Image Location:** <https://hub.docker.com/repository/docker/stacksimplify/kubenginx>

# Create Deployment

kubectl create deployment <Deplyment-Name> --image=<Container-Image>

kubectl create deployment my-first-deployment --image=stacksimplify/kubenginx:1.0.0

# Verify Deployment

kubectl get deployments

kubectl get deploy

# Describe Deployment

kubectl describe deployment <deployment-name>

kubectl describe deployment my-first-deployment

# Verify ReplicaSet

kubectl get rs

# Verify Pod

kubectl get po

**Step-03: Scaling a Deployment**

* Scale the deployment to increase the number of replicas (pods)

# Scale Up the Deployment

kubectl scale --replicas=10 deployment/<Deployment-Name>

kubectl scale --replicas=10 deployment/my-first-deployment

# Verify Deployment

kubectl get deploy

# Verify ReplicaSet

kubectl get rs

# Verify Pods

kubectl get po

# Scale Down the Deployment

kubectl scale --replicas=2 deployment/my-first-deployment

kubectl get deploy

**Step-04: Expose Deployment as a Service**

* Expose **Deployment** with a service (LoadBalancer Service) to access the application externally (from internet)

# Expose Deployment as a Service

kubectl expose deployment <Deployment-Name> --type=LoadBalancer --port=80 --target-port=80 --name=<Service-Name-To-Be-Created>

kubectl expose deployment my-first-deployment --type=LoadBalancer --port=80 --target-port=80 --name=my-first-deployment-service

# Get Service Info

kubectl get svc

* **Access the Application using Public IP**

http://<External-IP-from-get-service-output>