

# ASSIGNMENT-1&2 (L3 DEVOPS ACADEMY)

## 1-Kind cluster creation

```
[HELP-DESK] [AD-3] x GlobalLogic DevOps x [AD-354264] Need x Subscription Detail: x Connect to instance: x EC2 Instance Conn: x +
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0879e9ea0e3edbc79&osUser=ubuntu&region=a...
aws Services Search for services, features, blogs, docs, and more [Alt+S] Mumbai gourab.routray@globallogic.com @ 0671-7044-8639

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
root@ip-172-31-13-144:~# curl -Lo ./kind https://kind.sigs.k8s.io/dl/v0.15.0/kind-linux-amd64
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 97 100 97 0 0 156 0 --:--:-- --:--:-- --:--:-- 156
0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0
100 6716k 100 6716k 0 0 2812k 0 0:00:02 0:00:02 --:--:-- 7971k
root@ip-172-31-13-144:~# chmod +x ./kind
root@ip-172-31-13-144:~# sudo mv ./kind /usr/local/bin/kind
root@ip-172-31-13-144:~# vi kind.yaml
root@ip-172-31-13-144:~# kind create cluster --config kind-config.yaml --name=demo
ERROR: failed to create cluster: error reading file: open kind-config.yaml: no such file or directory
root@ip-172-31-13-144:~# kind create cluster --config kind.yaml --name=demo
Creating cluster "demo" ...
✓ Ensuring node image (kindest/node:v1.25.0)
✓ Preparing nodes
✓ Writing configuration
✓ Starting control-plane
✓ Installing CNI
✓ Installing StorageClass
✓ Joining worker nodes
Set kubectl context to "kind-demo"
You can now use your cluster with:

kubectl cluster-info --context kind-demo

Have a question, bug, or feature request? Let us know! https://kind.sigs.k8s.io/#community
root@ip-172-31-13-144:~#
```

## 2-YAML file of 5Replicas

```
[HELP-DESK] [AD-3] x GlobalLogic DevOps x [AD-354264] Need x Subscription Detail: x Connect to instance: x EC2 Instance Conn: x +
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0879e9ea0e3edbc79&osUser=ubuntu&region=a...
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labels:
  app: webapp
  name: webapp
spec:
  replicas: 5
  selector:
    matchLabels:
      app: webapp
  strategy: {}
  template:
    metadata:
      creationTimestamp: null
    labels:
      app: webapp
    spec:
      containers:
        - image: nginx
          name: nginx
      resources: {}
status: {}
"deploy.yaml" 24L, 388B 24,10 Bot
```

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## 3-Nginx pod creation

```
[HELP-DESK] (AD-3) x GlobalLogic DevOps x [AD-354264] Need x Subscription Detail x Connect to instance x EC2 Instance Conn x +
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0879e9ea0e3edbc79&osUser=ubuntu&region=a...
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root@ip-172-31-13-144:~# kubectl run nginx --image=nginx
pod/nginx created
root@ip-172-31-13-144:~# kubectl run nginx --image=nginx --dry-run=client -o pod.yaml
error: unable to match a printer suitable for the output format "pod.yaml", allowed formats are: go-template,go-template-file,json,jsonpath,jsonp
ath-as-json,jsonpath-file,name,template,templatefile,yaml
root@ip-172-31-13-144:~# kubectl run nginx --image=nginx --dry-run=client -o yaml
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx
  name: nginx
spec:
  containers:
  - image: nginx
    name: nginx
    resources: {}
  dnsPolicy: ClusterFirst
  restartPolicy: Always
status: {}
root@ip-172-31-13-144:~#
```

## 4-Deployment web app created with 20 replicas

```
[HELP-DESK] (AD-3) x GlobalLogic DevOps x [AD-354264] Need x Subscription Detail x Connect to instance x EC2 Instance Conn x +
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0879e9ea0e3edbc79&osUser=ubuntu&region=a...
aws Services Search for services, features, blogs, docs, and more [Alt+S] Mumbai gourab.routray@globallogic.com @ 0671-7044-8639
root@ip-172-31-13-144:~# kubectl run nginx --image=nginx --dry-run=client -o yaml
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx
  name: nginx
spec:
  containers:
  - image: nginx
    name: nginx
    resources: {}
  dnsPolicy: ClusterFirst
  restartPolicy: Always
status: {}
root@ip-172-31-13-144:~# kubectl get pod
NAME READY STATUS RESTARTS AGE
nginx 1/1 Running 0 51s
root@ip-172-31-13-144:~# kubectl create deployment webapp --image=nginx --replicas=20
deployment.apps/webapp created
root@ip-172-31-13-144:~# kubectl get deployments
NAME READY UP-TO-DATE AVAILABLE AGE
webapp 8/20 20 8 13s
root@ip-172-31-13-144:~# kubectl get deployments
NAME READY UP-TO-DATE AVAILABLE AGE
webapp 20/20 20 20 36s
root@ip-172-31-13-144:~#
```

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## 5- 20 pods created in the deployment

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar, and various service icons. The main content area displays the output of a `kubectl get all` command executed on an EC2 instance. The output shows a list of 20 pods, all in a 'Running' state, with their respective names, types, cluster IPs, external IPs, ports, and ages. Below the pod list, the details for the 'service/kubernetes' are shown, including its type (ClusterIP), cluster IP (10.96.0.1), and port (443/TCP). The bottom of the screenshot shows the Windows taskbar with the search bar and various application icons.

NAME	READY	STATUS	RESTARTS	AGE
pod/nginx	1/1	Running	0	10m
pod/webapp-6684ccd7b8-5ntps	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-bkv9n	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-bvrlr	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-bxn9n	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-dwxsx	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-fblkw	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-fkmtt	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-frjqj	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-hpqbd	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-mnh2r	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-mwblr	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-ngv6d	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-q8889	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-s96lv	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-vjqxc	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-vz4dj	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-x7gv4	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-xdmdp	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-xkzjt	1/1	Running	0	6m59s
pod/webapp-6684ccd7b8-zpkpg	1/1	Running	0	6m59s

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	32m

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/webapp	20/20	20	20	6m59s

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/webapp-6684ccd7b8	20	20	20	6m59s

root@ip-172-31-13-144:~# kubectl rollout history deploy webapp

REVISION	CHANGE-CAUSE
1	<none>

## 6-Details of the replicaset and pods

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar, and various service icons. The main content area displays the output of a `kubectl rollout history deploy webapp` command executed on an EC2 instance. The output shows the rollout history for the 'webapp' deployment, including the revision number and the change cause. Below the rollout history, the details for the 'replicaset.apps/webapp-6684ccd7b8' are shown, including its desired, current, and ready counts. The bottom of the screenshot shows the Windows taskbar with the search bar and various application icons.

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/webapp-6684ccd7b8	20	20	20	6m59s

root@ip-172-31-13-144:~# kubectl rollout history deploy webapp

REVISION	CHANGE-CAUSE
1	<none>

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## 7-Rollout status for the deployment

```
[HELP-DESK] / x GlobalLogic D x [AD-354264] N x Subscription D x Connect to ins x EC2 Instance C x delete deploy x +
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0879e9ea0e3edbc79&osUser=ubuntu&region=a...
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pod/webapp-6684ccd7b8-gs889 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-s961v 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-vjqxc 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-vz4dj 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-x7qv4 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-xdmdp 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-xkzjt 1/1 Running 0 6m59s
pod/webapp-6684ccd7b8-zpkpg 1/1 Running 0 6m59s

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
service/kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 32m

NAME READY UP-TO-DATE AVAILABLE AGE
deployment.apps/webapp 20/20 20 20 6m59s

NAME DESIRED CURRENT READY AGE
replicaset.apps/webapp-6684ccd7b8 20 20 20 6m59s
root@ip-172-31-13-144:~# kubectl rollout history deploy webapp
deployment.apps/webapp
REVISION CHANGE-CAUSE
1 <none>

root@ip-172-31-13-144:~# kubectl get replicaset
NAME DESIRED CURRENT READY AGE
webapp-6684ccd7b8 20 20 20 7m41s
root@ip-172-31-13-144:~# kubectl delete deploy webapp
deployment.apps "webapp" deleted
root@ip-172-31-13-144:~#
```

## 8-Yaml of replicaset

```
[HELP-DESK] (AD-3 x GlobalLogic DevOp x [AD-354264] Need x Subscription Detail x Connect to instanc x EC2 Instance Conn x +
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0879e9ea0e3edbc79&osUser=ubuntu&region=a...
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labels:
  app: webapp
  name: webapp
spec:
  replicas: 20
  selector:
    matchLabels:
      app: webapp
  strategy: {}
  template:
    metadata:
      creationTimestamp: null
    labels:
      app: webapp
    spec:
      containers:
        - image: nginx
          name: nginx
          resources: {}
status: {}
"deploy.yaml" 24L, 389B 24, 10 Bot

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Type here to search 33°C Cloudy 1:48 PM 10/7/2022
```

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### 9-Deleted the deployment and no pods present after deletion

The screenshot shows a terminal window connected to an AWS EC2 instance. The terminal displays the output of several Kubernetes commands. At the top, there are two tables showing the status of the Kubernetes service and the deployment. The first table shows the service is running. The second table shows the deployment is ready. The terminal then shows the user running a series of commands to delete the deployment. The output shows that the deployment was successfully deleted. The terminal also shows the user running a command to get the pods, which returns no results, confirming that no pods are present after deletion. The terminal window is titled 'root@ip-172-31-13-144:~#'. The AWS console is visible in the background, showing the 'delete deployment' button.

```
NAME                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
service/kubernetes  ClusterIP    10.96.0.1     <none>          443/TCP    32m

NAME                READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/webapp  20/20    20            20           6m59s

NAME                DESIRED    CURRENT    READY    AGE
replicaset.apps/webapp-6684ccd7b8  20        20        20      6m59s
root@ip-172-31-13-144:~# kubectl rollout history deploy webapp
deployment.apps/webapp
REVISION  CHANGE-CAUSE
1         <none>

root@ip-172-31-13-144:~# kubectl get replicaset
NAME                DESIRED    CURRENT    READY    AGE
webapp-6684ccd7b8  20        20        20      7m41s
root@ip-172-31-13-144:~# kubectl delete deploy webapp
deployment.apps "webapp" deleted
root@ip-172-31-13-144:~# kubectl get deployments
No resources found in default namespace.
root@ip-172-31-13-144:~# kubectl get all
NAME                READY    STATUS    RESTARTS    AGE
pod/nginx           1/1      Running   0           12m

NAME                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
service/kubernetes  ClusterIP    10.96.0.1     <none>          443/TCP    34m
root@ip-172-31-13-144:~#
```