

Name – Anup Kore

Topic – kubectl commands

Date – 27-04-2023

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Command Prompt
Find more information at: https://kubernetes.io/docs/reference/kubectl/

Basic Commands (Beginner):
create      Create a resource from a file or from stdin
expose      Take a replication controller, service, deployment or pod and expose it as a new Kubernetes service
run         Run a particular image on the cluster
set         Set specific features on objects

Basic Commands (Intermediate):
explain     Get documentation for a resource
get         Display one or many resources
edit        Edit a resource on the server
delete      Delete resources by file names, stdin, resources and names, or by resources and label selector

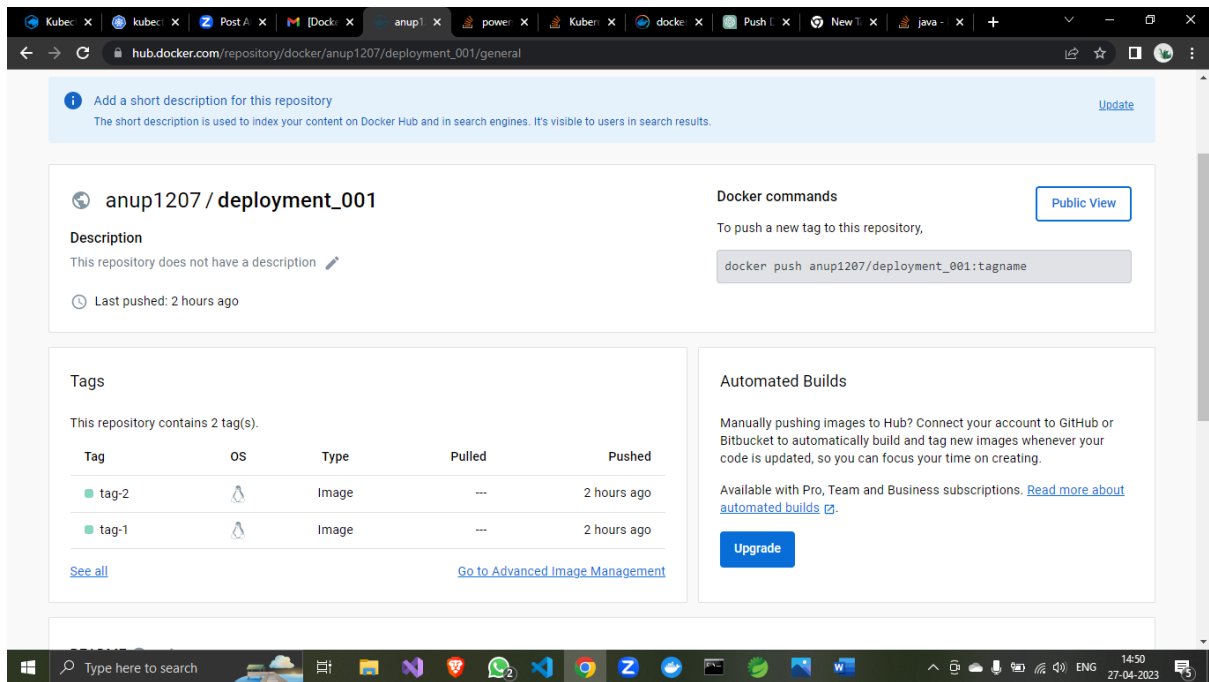
Deploy Commands:
rollout     Manage the rollout of a resource
scale       Set a new size for a deployment, replica set, or replication controller
autoscale   Auto-scale a deployment, replica set, stateful set, or replication controller

Cluster Management Commands:
certificate Modify certificate resources.
cluster-info Display cluster information
top         Display resource (CPU/memory) usage
cordon      Mark node as unschedulable
uncordon    Mark node as schedulable
drain       Drain node in preparation for maintenance
taint       Update the taints on one or more nodes

Troubleshooting and Debugging Commands:
describe    Show details of a specific resource or group of resources
logs        Print the logs for a container in a pod
attach      Attach to a running container
exec        Execute a command in a container
port-forward Forward one or more local ports to a pod
proxy       Run a proxy to the Kubernetes API server
cp          Copy files and directories to and from containers
auth        Inspect authorization
debug       Create debugging sessions for troubleshooting workloads and nodes
events      List events

Advanced Commands:
diff        Diff the live version against a would-be applied version
apply       Apply a configuration to a resource by file name or stdin
patch       Update fields of a resource
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Command Prompt
C:\Users\LENOVO>kubectl config view
apiVersion: v1
clusters:
- cluster:
    certificate-authority-data: DATA+OMITTED
    server: https://kubernetes.docker.internal:6443
    name: docker-desktop
- cluster:
    certificate-authority: C:\Users\LENOVO\.minikube\ca.crt
    extensions:
    - extension:
        last-update: Thu, 27 Apr 2023 08:27:04 IST
        provider: minikube.sigs.k8s.io
        version: v1.30.1
      name: cluster_info
    server: https://127.0.0.1:55859
    name: minikube
contexts:
- context:
    cluster: docker-desktop
    user: docker-desktop
    name: docker-desktop
- context:
    cluster: minikube
    extensions:
    - extension:
        last-update: Thu, 27 Apr 2023 08:27:04 IST
        provider: minikube.sigs.k8s.io
        version: v1.30.1
      name: context_info
    namespace: default
    user: minikube
    name: minikube
current-context: minikube
kind: Config
preferences: {}
users:
- name: docker-desktop
  user:
    client-certificate-data: DATA+OMITTED
    client-key-data: DATA+OMITTED
- name: minikube
  user:
```



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Command Prompt

Push an image or a repository to a registry

C:\Users\LENOVO>docker tag <image-name> <username>/<repository-name>:<tag>
Error: 'tag' was unexpected at this time.

C:\Users\LENOVO>docker tag spring-compose-image Anup1207/deployment_001:tag-1
Error parsing reference: "Anup1207/deployment_001:tag-1" is not a valid repository/tag: invalid reference format: repository name must be lowercase

C:\Users\LENOVO>docker tag spring-compose-image anup1207/deployment_001:tag-1

C:\Users\LENOVO>
C:\Users\LENOVO>docker push <username>/<repository-name>:<tag>
The syntax of the command is incorrect.
C:\Users\LENOVO>
C:\Users\LENOVO>docker push anup1207/deployment_001:tag-1
The push refers to repository [docker.io/anup1207/deployment_001]
7c22c659a42f: Pushed
dc9fa3d8b576: Mounted from library/openjdk
27ee19dc88f2: Mounted from library/openjdk
c8dd97366670: Mounted from library/openjdk
tag-1: digest: sha256:dce9f9ae32b2ffca8fef48ff50c40464d37594969576d44436b6c488312afc0c size: 1166

C:\Users\LENOVO>
C:\Users\LENOVO>docker tag mysql anup1207/deployment_001:tag-2

C:\Users\LENOVO>
C:\Users\LENOVO>docker push anup1207/deployment_001:tag-2
The push refers to repository [docker.io/anup1207/deployment_001]
a4f094a19913: Mounted from library/mysql
ac2f3d433b8e: Mounted from library/mysql
44eaf2264b91: Mounted from library/mysql
82a375517098: Mounted from library/mysql
bd6b6a89e10a: Mounted from library/mysql
1c585109e67f: Mounted from library/mysql
08745f0c18ca: Mounted from library/mysql
3f772020efc1: Mounted from library/mysql
a9805d41c46a: Mounted from library/mysql
5ed69eb31cd7: Mounted from library/mysql
cae9a4e45110: Mounted from library/mysql
tag-2: digest: sha256:b45a7c3e6fb15326e8bf62ebb940cd460617e36f46155b8514fd9c9388231817 size: 2618

C:\Users\LENOVO>
C:\Users\LENOVO>
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Command Prompt
C:\Users\LENOVO>
C:\Users\LENOVO>kubectl create deployment test --image=spring-boot-app-for-compose
error: failed to create deployment: deployments.apps "test" already exists
C:\Users\LENOVO>kubectl create deployment demo --image=spring-boot-app-for-compose
deployment.apps/demo created
C:\Users\LENOVO>
C:\Users\LENOVO>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
demo-8f46746c4-qz19k  0/1     ErrImagePull  0          10s
test-6fb66dd845-8flsw  0/1     ImagePullBackOff  0          18m
C:\Users\LENOVO>
C:\Users\LENOVO>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
demo-8f46746c4-qz19k  0/1     ErrImagePull  0          69s
test-6fb66dd845-8flsw  0/1     ImagePullBackOff  0          19m
C:\Users\LENOVO>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
demo-8f46746c4-qz19k  0/1     ErrImagePull  0          78s
test-6fb66dd845-8flsw  0/1     ImagePullBackOff  0          19m
C:\Users\LENOVO>kubectl create deployment test2 --image=deployment_001
deployment.apps/test2 created
C:\Users\LENOVO>
C:\Users\LENOVO>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
demo-8f46746c4-qz19k  0/1     ImagePullBackOff  0          5m7s
test-6fb66dd845-8flsw  0/1     ImagePullBackOff  0          23m
test2-66c7dc9b79-np2cs  0/1     ContainerCreating  0          4s
C:\Users\LENOVO>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
demo-8f46746c4-qz19k  0/1     ImagePullBackOff  0          5m28s
test-6fb66dd845-8flsw  0/1     ImagePullBackOff  0          23m
test2-66c7dc9b79-np2cs  0/1     ImagePullBackOff  0          17s
C:\Users\LENOVO>
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Command Prompt
C:\Users\LENOVO>kubectl get all --all-namespaces
NAMESPACE NAME          READY   STATUS    RESTARTS   AGE
default   pod/demo-8f46746c4-qz19k  0/1     ImagePullBackOff  0          109m
default   pod/test-6fb66dd845-8flsw  0/1     ImagePullBackOff  0          127m
default   pod/test2-66c7dc9b79-np2cs  0/1     ImagePullBackOff  0          104m
kube-system pod/coredns-787d4945fb-9xp75  1/1     Running      1 (3h56m ago)  6h25m
kube-system pod/etcd-minikube  1/1     Running      1 (3h56m ago)  6h25m
kube-system pod/kube-apiserver-minikube  1/1     Running      1 (177m ago)  6h25m
kube-system pod/kube-controller-manager-minikube  1/1     Running      1 (3h56m ago)  6h25m
kube-system pod/kube-proxy-tzjgr  1/1     Running      1 (3h56m ago)  6h25m
kube-system pod/kube-scheduler-minikube  1/1     Running      1 (3h56m ago)  6h25m
kube-system pod/storage-provisioner  1/1     Running      3 (128m ago)  6h25m

NAMESPACE NAME          TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
default   service/kubenetes  ClusterIP    10.96.0.1     <none>         443/TCP          6h25m
kube-system service/kube-dns  ClusterIP    10.96.0.10    <none>         53/UDP,53/TCP,9153/TCP  6h25m

NAMESPACE NAME          DESIRED   CURRENT   READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR   AGE
kube-system daemonset.apps/kube-proxy  1          1          1          1              1          kubernetes.io/os=linux  6h25m

NAMESPACE NAME          READY   UP-TO-DATE   AVAILABLE   AGE
default   deployment.apps/demo  0/1      1              0          109m
default   deployment.apps/test  0/1      1              0          127m
default   deployment.apps/test2  0/1      1              0          104m
kube-system deployment.apps/coredns  1/1      1              1          6h25m

NAMESPACE NAME          DESIRED   CURRENT   READY   AGE
default   replicaset.apps/demo-8f46746c4  1          1          0          109m
default   replicaset.apps/test-6fb66dd845  1          1          0          127m
default   replicaset.apps/test2-66c7dc9b79  1          1          0          104m
kube-system replicaset.apps/coredns-787d4945fb  1          1          1          6h25m
C:\Users\LENOVO>
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Command Prompt

C:\Users\LENOVO>kubectl get deployment
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
demo      0/1     1             0           112m
test      0/1     1             0           131m
test2     0/1     1             0           107m

C:\Users\LENOVO>
C:\Users\LENOVO>kubectl describe deployment test2
Name:      test2
Namespace: default
CreationTimestamp: Thu, 27 Apr 2023 13:08:35 +0530
Labels:    app=test2
Annotations: deployment.kubernetes.io/revision: 1
Selector:  app=test2
Replicas:  1 desired | 1 updated | 1 total | 0 available | 1 unavailable
StrategyType: RollingUpdate
MinReadySeconds: 0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=test2
  Containers:
    deployment-001-ssvls:
      Image:      deployment_001
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:      <none>
      Volumes:     <none>
  Conditions:
    Type           Status  Reason
    ----           -
    Available       False   MinimumReplicasUnavailable
    Progressing     False   ProgressDeadlineExceeded
OldReplicaSets: <none>
NewReplicaSet:  test2-66c7dc9b79 (1/1 replicas created)
Events:          <none>

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Command Prompt - kubectl edit deployment test2

C:\Users\LENOVO>kubectl edit deployment test2

kubectl-edit-1533231350 - Notepad
File Edit Format View Help
# Please edit the object below. Lines beginning with a '#' will be ignored,
# and an empty file will abort the edit. If an error occurs while saving this file will be
# reopened with the relevant failures.
#
apiVersion: apps/v1
kind: Deployment
metadata:
  annotations:
    deployment.kubernetes.io/revision: "1"
    creationTimestamp: "2023-04-27T07:38:35Z"
    generation: 1
  labels:
    app: test2
  name: test2
  namespace: default
  resourceVersion: "9376"
  uid: 500515d8-3523-478f-8357-2a89434b069a
spec:
  progressDeadlineSeconds: 600
  replicas: 1
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: test2
```

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Command Prompt

C:\Users\LENOVO>kubectl edit deployment test2
Edit cancelled, no changes made.

C:\Users\LENOVO>kubectl get deployment
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
demo      0/1     1            0           136m
test      0/1     1            0           155m
test2     0/1     1            0           131m

C:\Users\LENOVO>
C:\Users\LENOVO>kubectl delete deployment test
deployment.apps "test" deleted

C:\Users\LENOVO>
C:\Users\LENOVO>kubectl get deployment
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
demo      0/1     1            0           136m
test2     0/1     1            0           131m

C:\Users\LENOVO>
C:\Users\LENOVO>
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