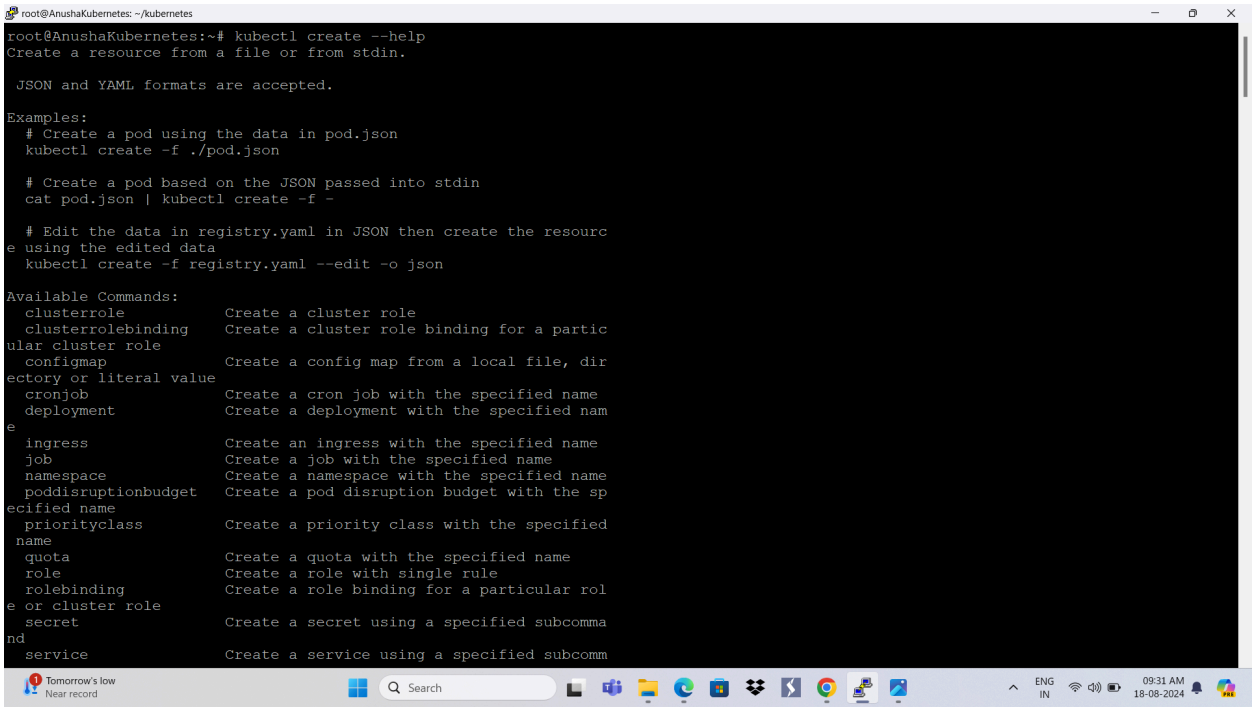
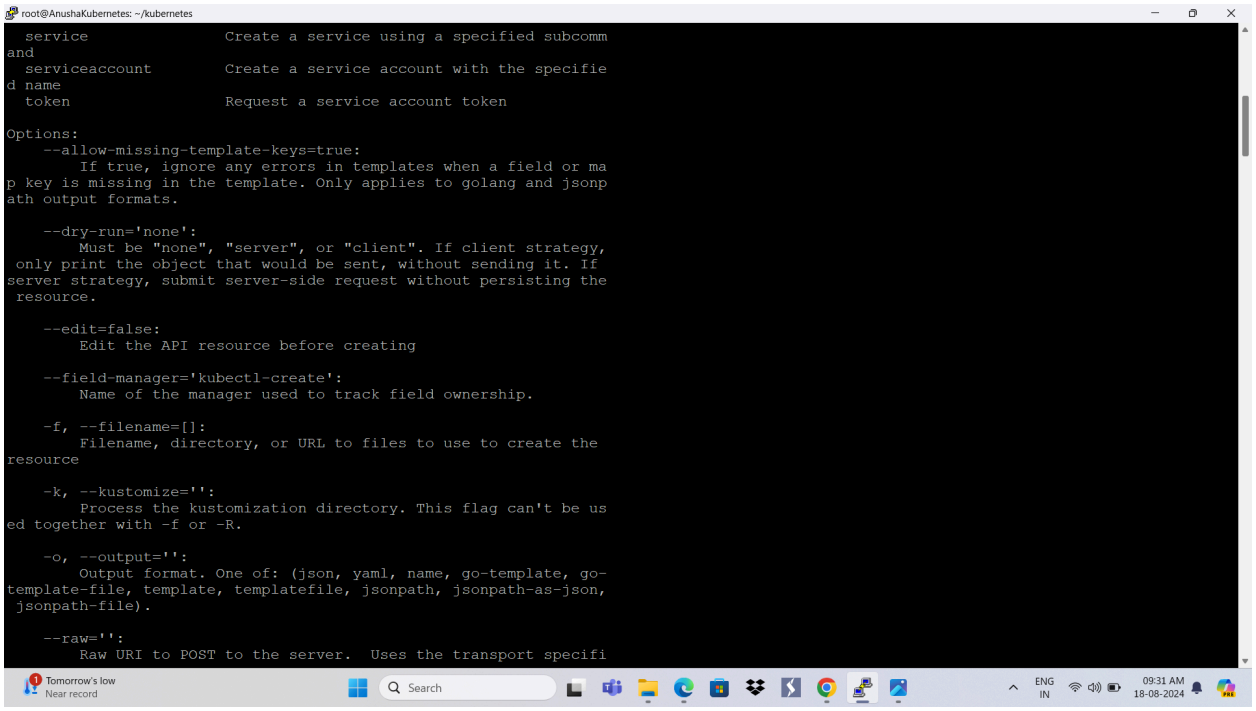
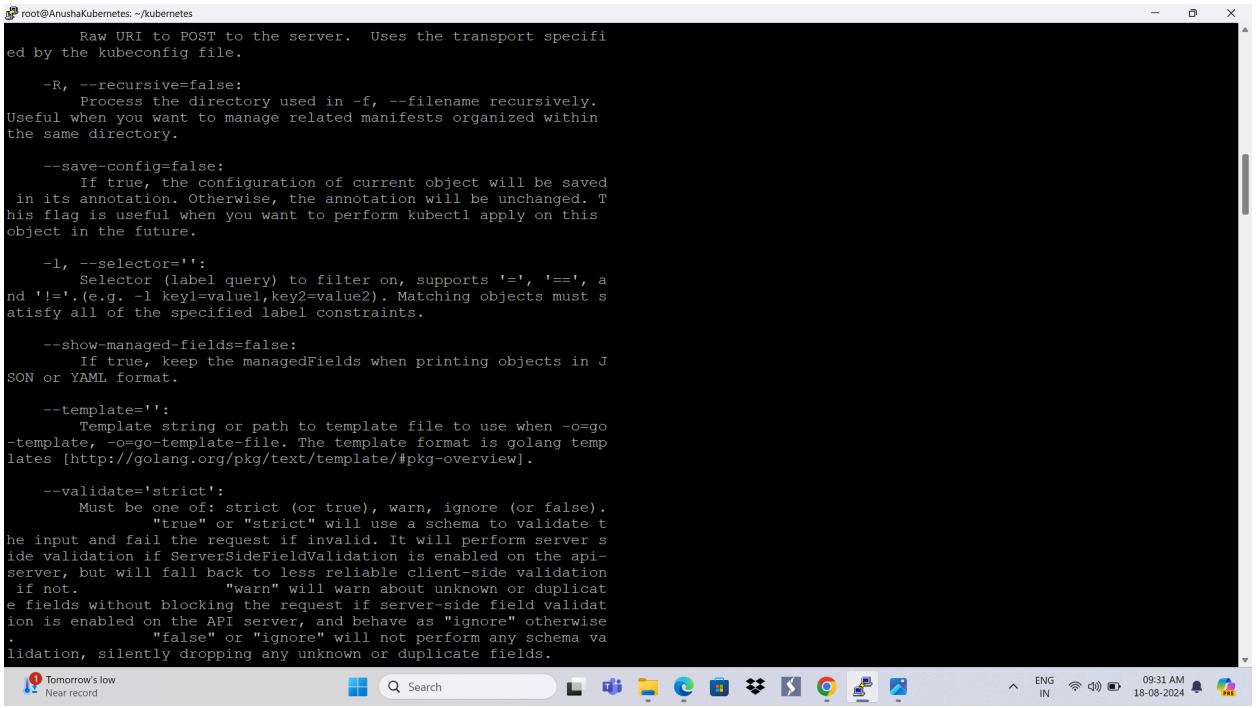
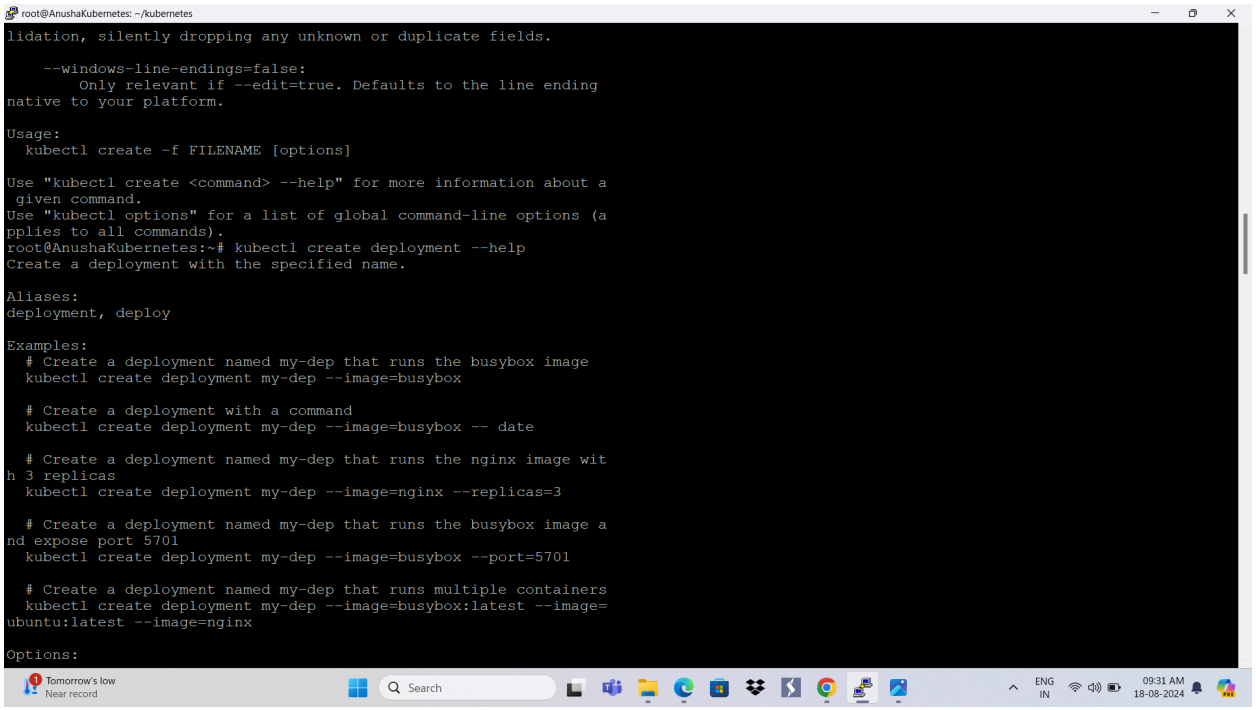
Lab: Working with Deployments






root@AnushaKubernetes: ~/kubernetes
Raw URI to POST to the server. Uses the transport specifi
ed by the kubeconfig file.
-R, --recursive=false:
Process the directory used in -f, --filename recursively.
Useful when you want to manage related manifests organized within
the same directory.
--save-config=false:
If true, the configuration of current object will be saved
in its annotation. Otherwise, the annotation will be unchanged. T
his flag is useful when you want to perform kubectl apply on this
object in the future.
-l, --selector='':
Selector (label query) to filter on, supports '=', '==', a
nd '!='.(e.g. -l key1=value1,key2=value2). Matching objects must s
atisfy all of the specified label constraints.
--show-managed-fields=false:
If true, keep the managedFields when printing objects in J
SON or YAML format.
--template='':
Template string or path to template file to use when -o=go
-template, -o=go-template-file. The template format is golang temp
lates [http://golang.org/pkg/text/template/#pkg-overview].
--validate='strict':
Must be one of: strict (or true), warn, ignore (or false).
"true" or "strict" will use a schema to validate t
he input and fail the request if invalid. It will perform server s
ide validation if ServerSideFieldValidation is enabled on the api-
server, but will fall back to less reliable client-side validation
if not. "warn" will warn about unknown or duplicat
e fields without blocking the request if server-side field validat
ion is enabled on the API server, and behave as "ignore" otherwise
. "false" or "ignore" will not perform any schema va
lidation, silently dropping any unknown or duplicate fields.
Tomorrow's low
Near record
Search
ENG
IN
09:31 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
lidation, silently dropping any unknown or duplicate fields.
--windows-line-endings=false:
Only relevant if --edit=true. Defaults to the line ending
native to your platform.
Usage:
kubectl create -f FILENAME [options]
Use "kubectl create <command> --help" for more information about a
given command.
Use "kubectl options" for a list of global command-line options (a
pplies to all commands).
root@AnushaKubernetes:~# kubectl create deployment --help
Create a deployment with the specified name.
Aliases:
deployment, deploy
Examples:
Create a deployment named my-dep that runs the busybox image
kubectl create deployment my-dep --image=busybox
Create a deployment with a command
kubectl create deployment my-dep --image=busybox -- date
Create a deployment named my-dep that runs the nginx image wit
h 3 replicas
kubectl create deployment my-dep --image=nginx --replicas=3
Create a deployment named my-dep that runs the busybox image a
nd expose port 5701
kubectl create deployment my-dep --image=busybox --port=5701
Create a deployment named my-dep that runs multiple containers
kubectl create deployment my-dep --image=busybox:latest --image=
ubuntu:latest --image=nginx
Options:
Tomorrow's low
Near record
Search
ENG
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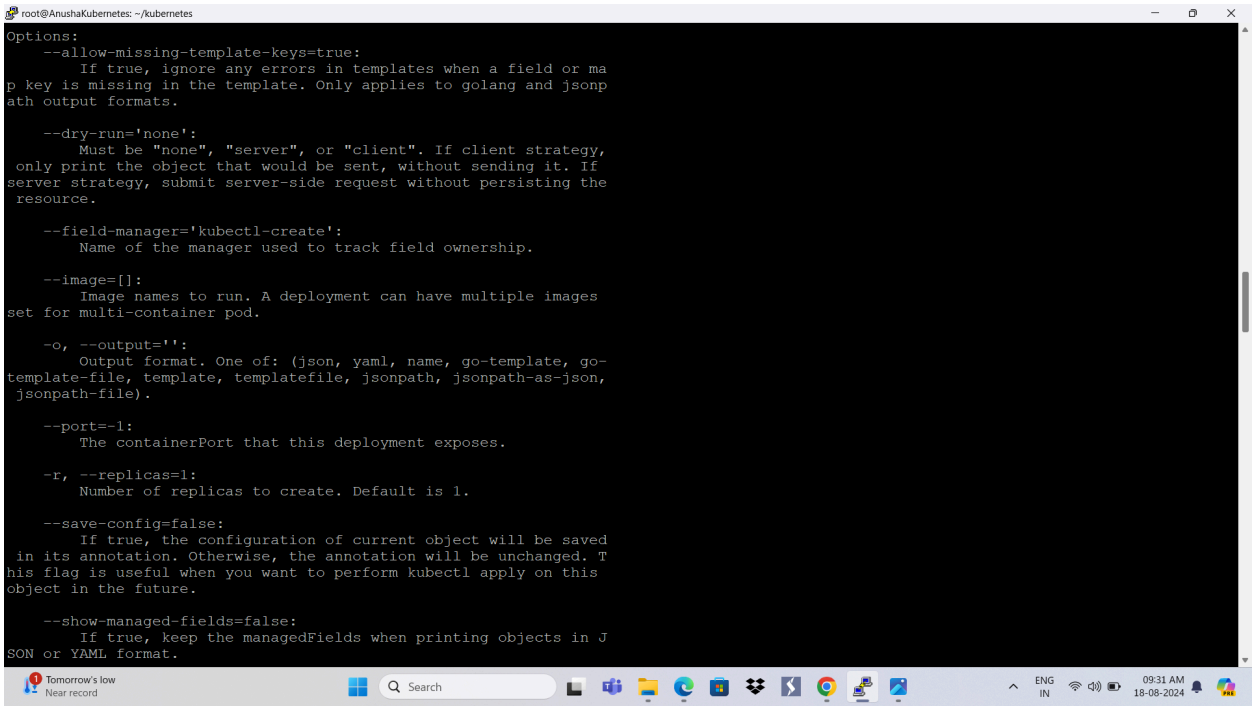
09:31 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
Options:
--allow-missing-template-keys=true:
If true, ignore any errors in templates when a field or map key is missing in the template. Only applies to golang and jsonpath output formats.
--dry-run='none':
Must be "none", "server", or "client". If client strategy, only print the object that would be sent, without sending it. If server strategy, submit server-side request without persisting the resource.
--field-manager='kubectl-create':
Name of the manager used to track field ownership.
--image=[]:
Image names to run. A deployment can have multiple images set for multi-container pod.
-o, --output='':
Output format. One of: (json, yaml, name, go-template, go-template-file, template, templatefile, jsonpath, jsonpath-as-json, jsonpath-file).
--port=-1:
The containerPort that this deployment exposes.
-r, --replicas=1:
Number of replicas to create. Default is 1.
--save-config=false:
If true, the configuration of current object will be saved in its annotation. Otherwise, the annotation will be unchanged. This flag is useful when you want to perform kubectl apply on this object in the future.
--show-managed-fields=false:
If true, keep the managedFields when printing objects in JSON or YAML format.
Tomorrow's low
Near record
Search
ENG
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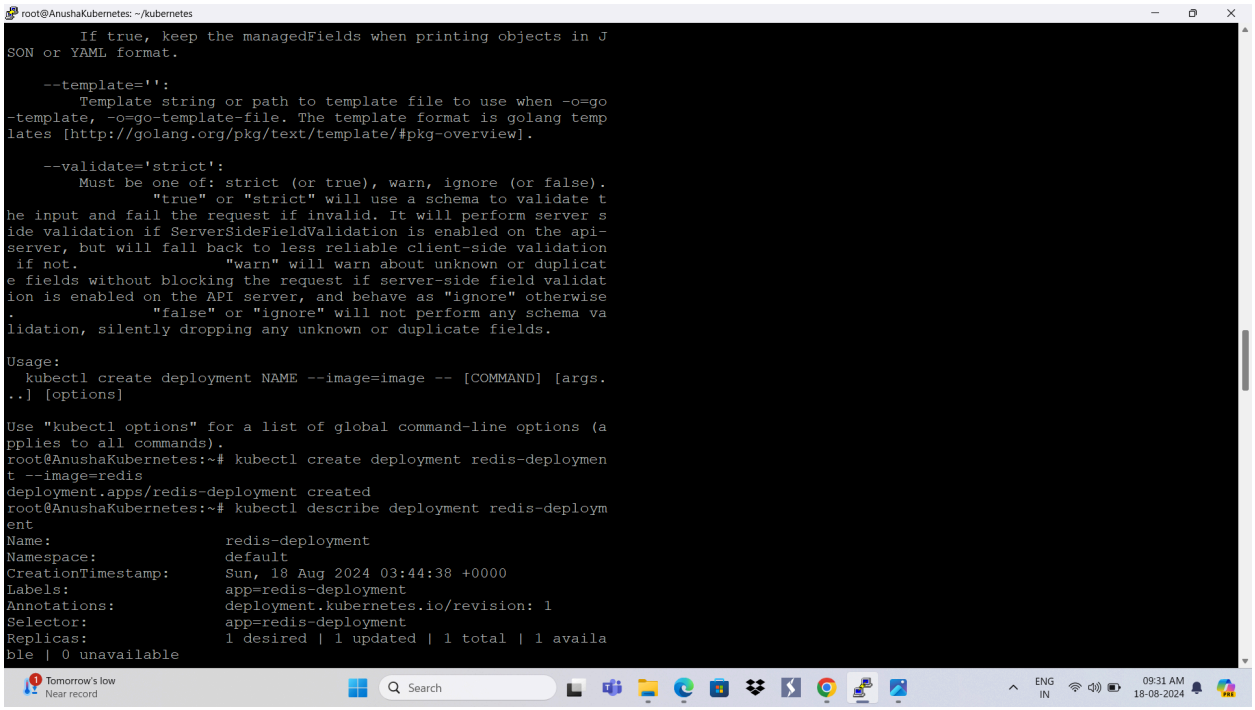
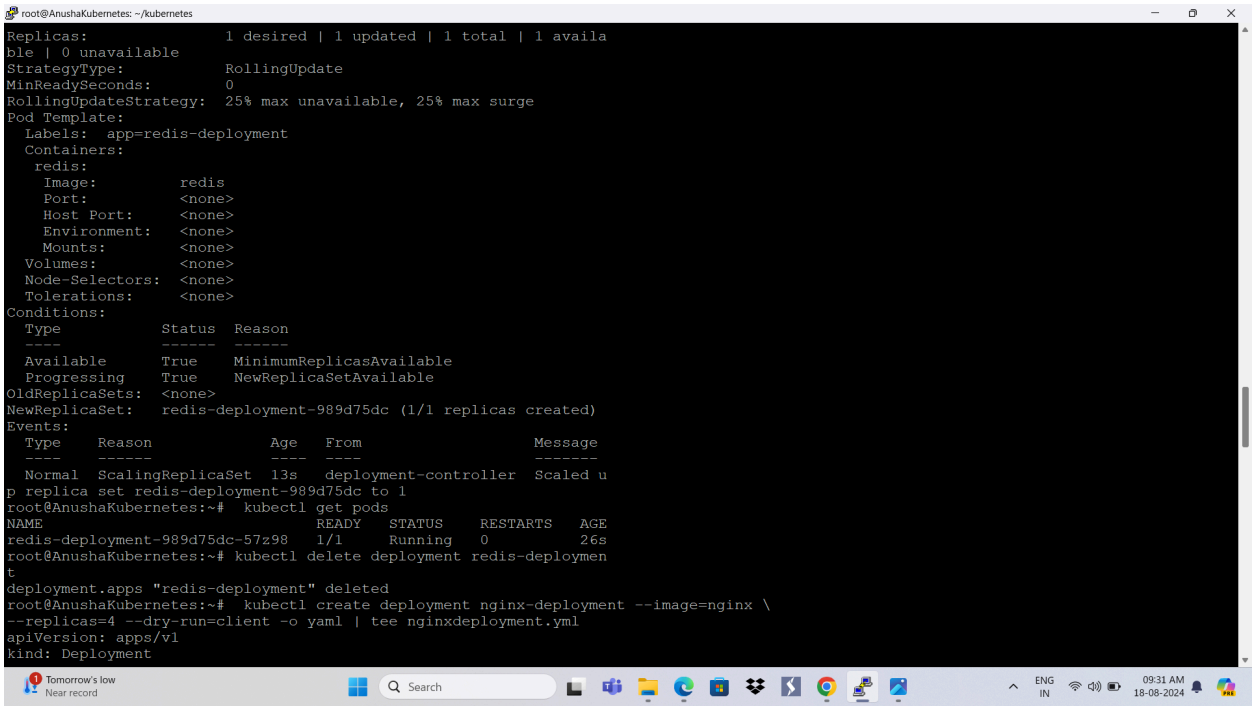
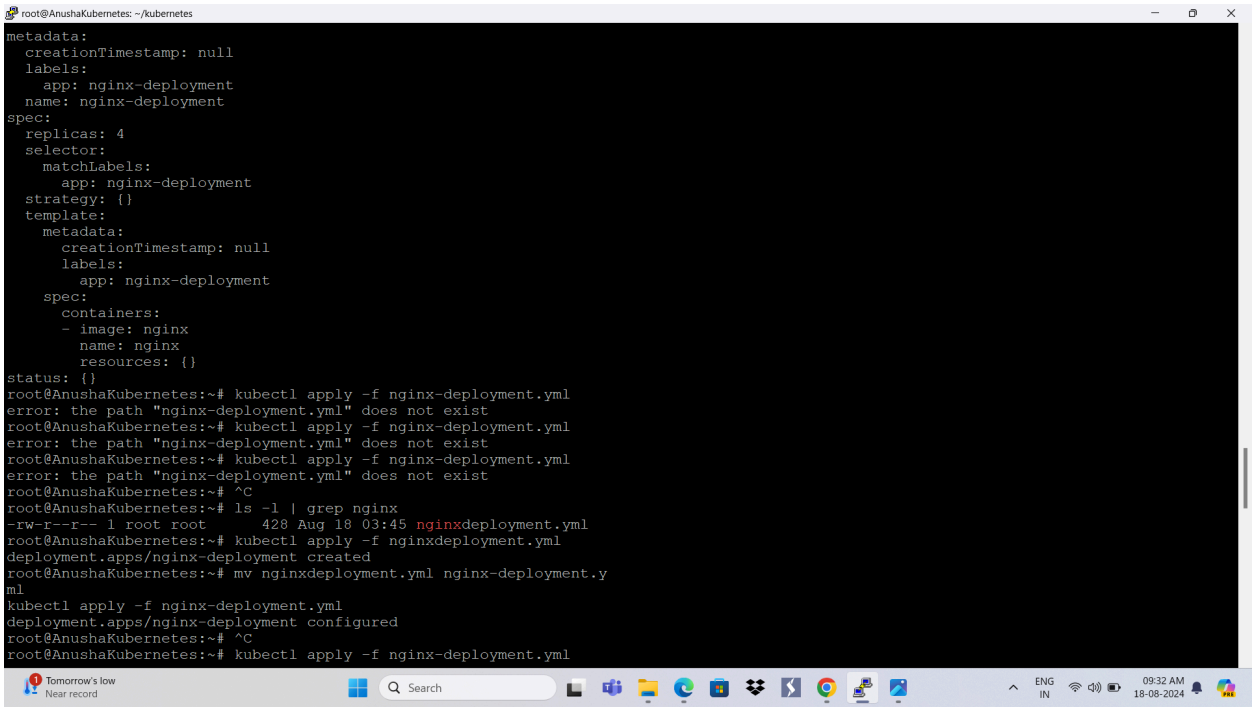
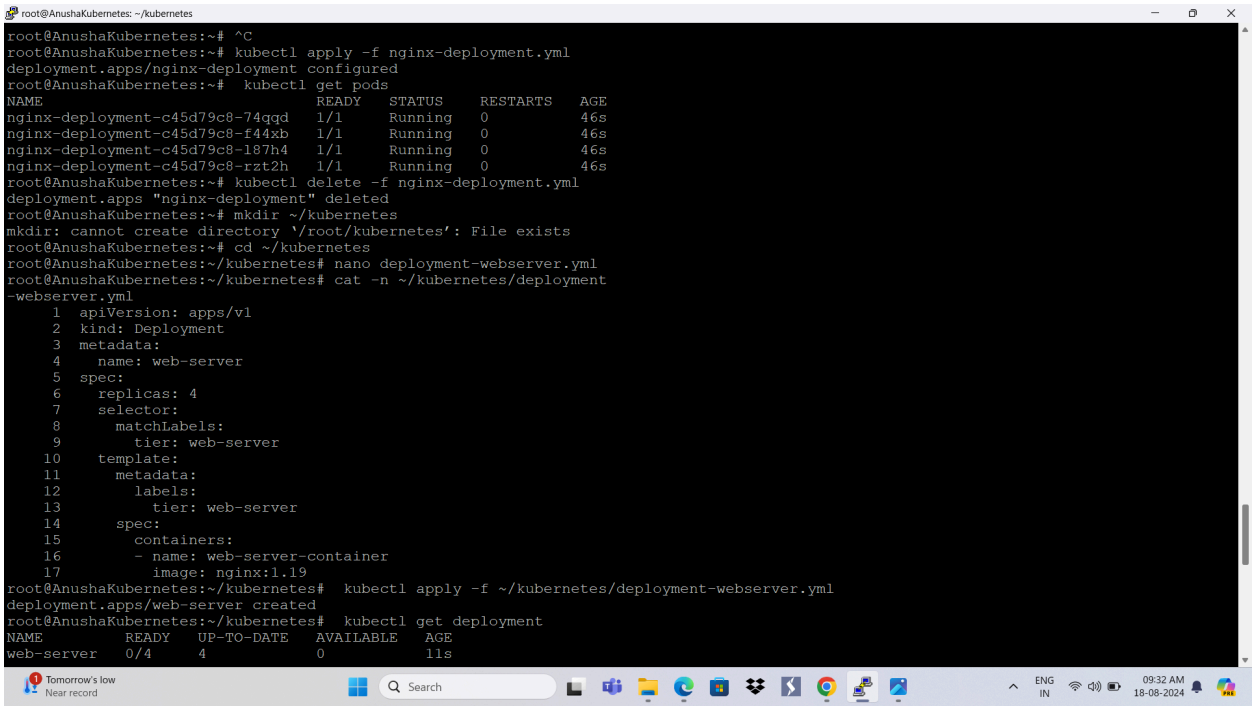
09:31 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
If true, keep the managedFields when printing objects in JSON or YAML format.
--template='':
Template string or path to template file to use when -o=go-template, -o=go-template-file. The template format is golang templates [http://golang.org/pkg/text/template/#pkg-overview].
--validate='strict':
Must be one of: strict (or true), warn, ignore (or false).
"true" or "strict" will use a schema to validate the input and fail the request if invalid. It will perform server side validation if ServerSideFieldValidation is enabled on the api-server, but will fall back to less reliable client-side validation if not. "warn" will warn about unknown or duplicate fields without blocking the request if server-side field validation is enabled on the API server, and behave as "ignore" otherwise.
"false" or "ignore" will not perform any schema validation, silently dropping any unknown or duplicate fields.
Usage:
kubectl create deployment NAME --image=image -- [COMMAND] [args...] [options]
Use "kubectl options" for a list of global command-line options (applies to all commands).
root@AnushaKubernetes:~# kubectl create deployment redis-deployment --image=redis
deployment.apps/redis-deployment created
root@AnushaKubernetes:~# kubectl describe deployment redis-deployment
Name: redis-deployment
Namespace: default
CreationTimestamp: Sun, 18 Aug 2024 03:44:38 +0000
Labels: app=redis-deployment
Annotations: deployment.kubernetes.io/revision: 1
Selector: app=redis-deployment
Replicas: 1 desired | 1 updated | 1 total | 1 available | 0 unavailable
Tomorrow's low
Near record
Search
ENG
IN
09:31 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
Replicas: 1 desired | 1 updated | 1 total | 1 availa
ble | 0 unavailable
StrategyType: RollingUpdate
MinReadySeconds: 0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
Labels: app=redis-deployment
Containers:
redis:
Image: redis
Port: <none>
Host Port: <none>
Environment: <none>
Mounts: <none>
Volumes: <none>
Node-Selectors: <none>
Tolerations: <none>
Conditions:
Type Status Reason
Available True MinimumReplicasAvailable
Progressing True NewReplicaSetAvailable
OldReplicaSets: <none>
NewReplicaSet: redis-deployment-989d75dc (1/1 replicas created)
Events:
Type Reason Age From Message
Normal ScalingReplicaSet 13s deployment-controller Scaled u
p replica set redis-deployment-989d75dc to 1
root@AnushaKubernetes:~# kubectl get pods
NAME READY STATUS RESTARTS AGE
redis-deployment-989d75dc-57z98 1/1 Running 0 26s
root@AnushaKubernetes:~# kubectl delete deployment redis-deploymen
t
deployment.apps "redis-deployment" deleted
root@AnushaKubernetes:~# kubectl create deployment nginx-deployment --image=nginx \
--replicas=4 --dry-run=client -o yaml | tee nginxdeployment.yml
apiVersion: apps/v1
kind: Deployment
Tomorrow's low
Near record
Search
ENG
IN
09:31 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
metadata:
creationTimestamp: null
labels:
app: nginx-deployment
name: nginx-deployment
spec:
replicas: 4
selector:
matchLabels:
app: nginx-deployment
strategy: {}
template:
metadata:
creationTimestamp: null
labels:
app: nginx-deployment
spec:
containers:
- image: nginx
name: nginx
resources: {}
status: {}
root@AnushaKubernetes:~# kubectl apply -f nginx-deployment.yml
error: the path "nginx-deployment.yml" does not exist
root@AnushaKubernetes:~# kubectl apply -f nginx-deployment.yml
error: the path "nginx-deployment.yml" does not exist
root@AnushaKubernetes:~# kubectl apply -f nginx-deployment.yml
error: the path "nginx-deployment.yml" does not exist
root@AnushaKubernetes:~# ^C
root@AnushaKubernetes:~# ls -l | grep nginx
-rw-r--r-- 1 root root 428 Aug 18 03:45 nginxdeployment.yml
root@AnushaKubernetes:~# kubectl apply -f nginxdeployment.yml
deployment.apps/nginx-deployment created
root@AnushaKubernetes:~# mv nginxdeployment.yml nginx-deployment.y
ml
kubectl apply -f nginx-deployment.yml
deployment.apps/nginx-deployment configured
root@AnushaKubernetes:~# ^C
root@AnushaKubernetes:~# kubectl apply -f nginx-deployment.yml
Tomorrow's low
Near record
Search
ENG
IN
09:32 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
root@AnushaKubernetes:~# ^C
root@AnushaKubernetes:~# kubectl apply -f nginx-deployment.yml
deployment.apps/nginx-deployment configured
root@AnushaKubernetes:~# kubectl get pods
NAME   READY   STATUS   RESTARTS   AGE
nginx-deployment-c45d79c8-74qqd   1/1   Running   0   46s
nginx-deployment-c45d79c8-f44xb   1/1   Running   0   46s
nginx-deployment-c45d79c8-l87h4   1/1   Running   0   46s
nginx-deployment-c45d79c8-rzt2h   1/1   Running   0   46s
root@AnushaKubernetes:~# kubectl delete -f nginx-deployment.yml
deployment.apps "nginx-deployment" deleted
root@AnushaKubernetes:~# mkdir ~/kubernetes
mkdir: cannot create directory '/root/kubernetes': File exists
root@AnushaKubernetes:~# cd ~/kubernetes
root@AnushaKubernetes:~/kubernetes# nano deployment-webserver.yml
root@AnushaKubernetes:~/kubernetes# cat -n ~/kubernetes/deployment
-webserver.yml
1 apiVersion: apps/v1
2 kind: Deployment
3 metadata:
4 name: web-server
5 spec:
6 replicas: 4
7 selector:
8 matchLabels:
9 tier: web-server
10 template:
11 metadata:
12 labels:
13 tier: web-server
14 spec:
15 containers:
16 - name: web-server-container
17 image: nginx:1.19
root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-webserver.yml
deployment.apps/web-server created
root@AnushaKubernetes:~/kubernetes# kubectl get deployment
NAME   READY   UP-TO-DATE   AVAILABLE   AGE
web-server   0/4   4   0   11s
Tomorrow's low
Near record
Search
ENG
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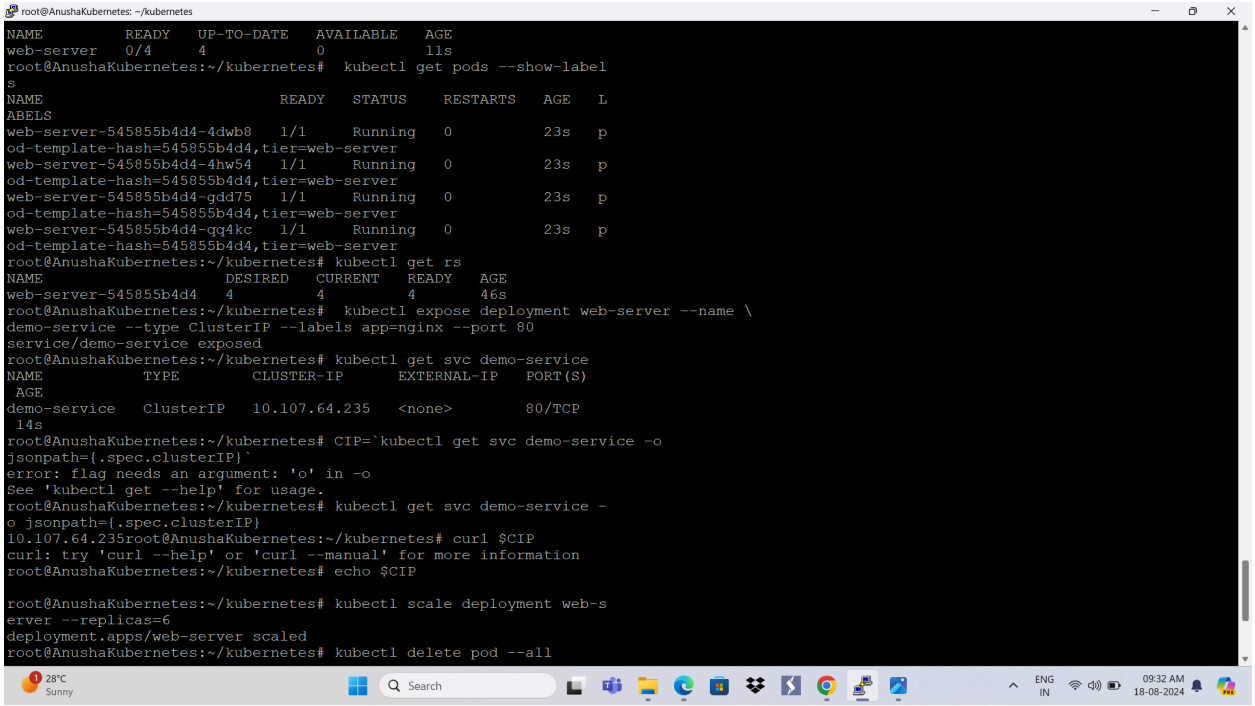
09:32 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
NAME   READY   UP-TO-DATE   AVAILABLE   AGE
web-server   0/4   4   0   11s
root@AnushaKubernetes:~/kubernetes# kubectl get pods --show-label
s
NAME   READY   STATUS   RESTARTS   AGE   L
ABELS
web-server-545855b4d4-4dwb8   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
web-server-545855b4d4-4hw54   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
web-server-545855b4d4-gdd75   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
web-server-545855b4d4-qq4kc   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
root@AnushaKubernetes:~/kubernetes# kubectl get rs
NAME   DESIRED   CURRENT   READY   AGE
web-server-545855b4d4   4   4   4   46s
root@AnushaKubernetes:~/kubernetes# kubectl expose deployment web-server --name \
demo-service --type ClusterIP --labels app=nginx --port 80
service/demo-service exposed
root@AnushaKubernetes:~/kubernetes# kubectl get svc demo-service
NAME   TYPE   CLUSTER-IP   EXTERNAL-IP   PORT(S)
 AGE
demo-service   ClusterIP   10.107.64.235   <none>   80/TCP
 14s
root@AnushaKubernetes:~/kubernetes# CIP=`kubectl get svc demo-service -o
jsonpath={.spec.clusterIP}`
error: flag needs an argument: 'o' in -o
See 'kubectl get --help' for usage.
root@AnushaKubernetes:~/kubernetes# kubectl get svc demo-service -
o jsonpath={.spec.clusterIP}
10.107.64.235root@AnushaKubernetes:~/kubernetes# curl $CIP
curl: try 'curl --help' or 'curl --manual' for more information
root@AnushaKubernetes:~/kubernetes# echo $CIP

root@AnushaKubernetes:~/kubernetes# kubectl scale deployment web-s
erver --replicas=6
deployment.apps/web-server scaled
root@AnushaKubernetes:~/kubernetes# kubectl delete pod --all
28°C
Sunny
Search
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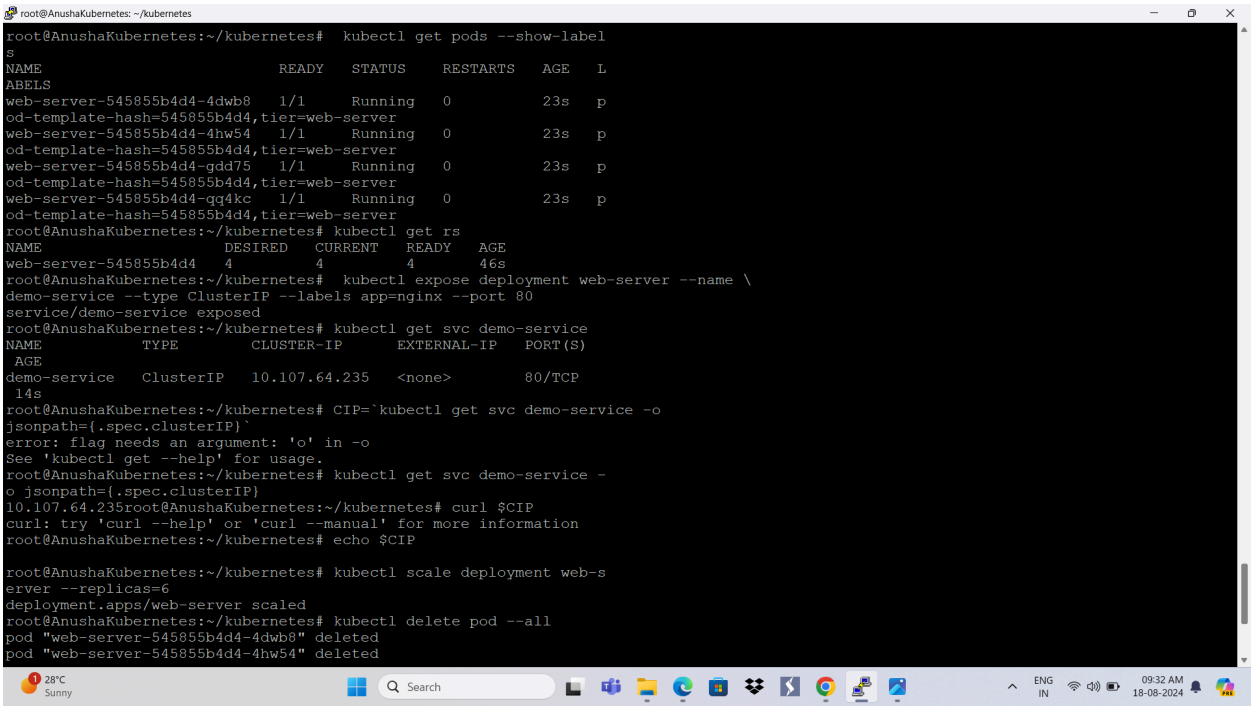
09:32 AM
18-08-2024


root@AnushaKubernetes: ~/kubernetes
root@AnushaKubernetes:~/kubernetes# kubectl get pods --show-label
s
NAME   READY   STATUS   RESTARTS   AGE   L
ABELS
web-server-545855b4d4-4dwb8   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
web-server-545855b4d4-4hw54   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
web-server-545855b4d4-gdd75   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
web-server-545855b4d4-qq4kc   1/1   Running   0   23s   p
od-template-hash=545855b4d4,tier=web-server
root@AnushaKubernetes:~/kubernetes# kubectl get rs
NAME   DESIRED   CURRENT   READY   AGE
web-server-545855b4d4   4   4   4   46s
root@AnushaKubernetes:~/kubernetes# kubectl expose deployment web-server --name \
demo-service --type ClusterIP --labels app=nginx --port 80
service/demo-service exposed
root@AnushaKubernetes:~/kubernetes# kubectl get svc demo-service
NAME   TYPE   CLUSTER-IP   EXTERNAL-IP   PORT(S)
 AGE
demo-service   ClusterIP   10.107.64.235   <none>   80/TCP
 14s
root@AnushaKubernetes:~/kubernetes# CIP=`kubectl get svc demo-service -o
jsonpath={.spec.clusterIP}`
error: flag needs an argument: 'o' in -o
See 'kubectl get --help' for usage.
root@AnushaKubernetes:~/kubernetes# kubectl get svc demo-service -
o jsonpath={.spec.clusterIP}
10.107.64.235root@AnushaKubernetes:~/kubernetes# curl $CIP
curl: try 'curl --help' or 'curl --manual' for more information
root@AnushaKubernetes:~/kubernetes# echo $CIP

root@AnushaKubernetes:~/kubernetes# kubectl scale deployment web-s
erver --replicas=6
deployment.apps/web-server scaled
root@AnushaKubernetes:~/kubernetes# kubectl delete pod --all
pod "web-server-545855b4d4-4dwb8" deleted
pod "web-server-545855b4d4-4hw54" deleted
28°C
Sunny
Search
ENG
IN
09:32 AM
18-08-2024