Kubernetes Cheat Sheet

What is Kubernetes?

Kubernetes is a platform for managing containerized workloads. Kubernetes orchestrates computing, networking and storage to provide a seamless portability across infrastructure providers.

Viewing Resource Information

Nodes

```
$ kubectl get no
$ kubectl get no -o wide
$ kubectl describe no
$ kubectl get no -o yaml
$ kubectl get node --selector=[label_name]
$ kubectl get nodes -o
jsonpath='{.items[*].status.addresses
[?(@.type=="ExternalIP")].address}'
$ kubectl top node [node_name]
```

Pods

```
$ kubectl get po
$ kubectl get po -o wide
$ kubectl describe po
$ kubectl get po --show-labels
$ kubectl get po -l app=nginx
$ kubectl get po -o yaml
$ kubectl get pod [pod_name] -o yaml
--export
$ kubectl get pod [pod_name] -o yaml
--export > nameoffile.yaml
$ kubectl get pods --field-selector
status.phase=Running
```

Namespaces

```
$ kubectl get ns
$ kubectl get ns -o yaml
$ kubectl describe ns
```

Deployments

```
$ kubectl get deploy
$ kubectl describe deploy
$ kubectl get deploy -o wide
$ kubectl get deploy -o yaml
```

Services

```
$ kubectl get svc
$ kubectl describe svc
$ kubectl get svc -o wide
$ kubectl get svc -o yaml
$ kubectl get svc --show-labels
```

DaemonSets

```
$ kubectl get ds
$ kubectl get ds --all-namespaces
$ kubectl describe ds [daemonset_name] -n
[namespace_name]
$ kubectl get ds [ds_name] -n [ns_name] -o
yaml
```

Events

```
$ kubectl get events
$ kubectl get events -n kube-system
$ kubectl get events -w
```

Logs

```
$ kubectl logs [pod_name]
$ kubectl logs --since=1h [pod_name]
$ kubectl logs --tail=20 [pod_name]
$ kubectl logs -f -c [container_name]
[pod_name]
$ kubectl logs [pod_name] > pod.log
```

Service Accounts

```
$ kubectl get sa
$ kubectl get sa -o yaml
$ kubectl get serviceaccounts default -o
yaml > ./sa.yaml
$ kubectl replace serviceaccount default -f
./sa.yaml
```

ReplicaSets

```
$ kubectl get rs
$ kubectl describe rs
$ kubectl get rs -o wide
$ kubectl get rs -o yaml
```

Roles

```
$ kubectl get roles --all-namespaces
$ kubectl get roles --all-namespaces -o yaml
```

Secrets

```
$ kubectl get secrets
$ kubectl get secrets --all-namespaces
$ kubectl get secrets -o yaml
```

ConfigMaps

```
$ kubectl get cm
$ kubectl get cm --all-namespaces
$ kubectl get cm --all-namespaces -o yaml
```

Ingress

```
$ kubectl get ing
$ kubectl get ing --all-namespaces
```

PersistentVolume

```
$ kubectl get pv
$ kubectl describe pv
```

PersistentVolumeClaim

```
$ kubectl get pvc
$ kubectl describe pvc
```

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Viewing Resource Information (cont.)

StorageClass

```
$ kubectl get sc
$ kubectl get sc -o yaml
```

Multiple Resources

```
$ kubectl get svc, po
$ kubectl get deploy, no
$ kubectl get all
$ kubectl get all --all-namespaces
```

Changing Resource Attributes

Taint

```
$ kubectl taint [node_name] [taint_name]
```

Labels

```
$ kubectl label [node_name] disktype=ssd
$ kubrectl label [pod_name] env=prod
```

Cordon/Uncordon

```
$ kubectl cordon [node_name]
$ kubectl uncordon [node_name]
```

Drain

```
$ kubectl drain [node_name]
```

Nodes/Pods

```
$ kubectl delete node [node_name]
$ kubectl delete pod [pod_name]
$ kubectl edit node [node_name]
$ kubectl edit pod [pod_name]
```

Deployments/Namespaces

```
$ kubectl edit deploy [deploy_name]
$ kubectl delete deploy [deploy_name]
$ kubectl expose deploy [deploy_name]
--port=80 --type=NodePort
$ kubectl scale deploy [deploy_name]
--replicas=5
$ kubectl delete ns
$ kubectl edit ns [ns_name]
```

Services

```
$ kubectl edit svc [svc_name]
$ kubectl delete svc [svc_name]
```

DaemonSets

```
$ kubectl edit ds [ds_name] -n kube-system
$ kubectl delete ds [ds_name]
```

Service Accounts

```
$ kubectl edit sa [sa_name]
$ kubectl delete sa [sa_name]
```

Annotate

```
$ kubectl annotate po [pod_name]
[annotation]
$ kubectl annotate no [node_name]
```

Adding Resources

Creating a Pod

```
$ kubectl create -f [name_of_file]
$ kubectl apply -f [name_of_file]
$ kubectl run [pod_name] --image=nginx
--restart=Never
$ kubectl run [pod_name]
--generator=run-pod/v1 --image=nginx
$ kubectl run [pod_name] --image=nginx
--restart=Never
```

Creating a Service

```
$ kubectl create svc nodeport [svc_name]
--tcp=8080:80
```

Creating a Deployment

```
$ kubectl create -f [name_of_file]
$ kubectl apply -f [name_of_file]
$ kubectl create deploy [deploy_name]
--image=nginx
```

Interactive Pod

```
$ kubectl run [pod_name] --image=busybox
--rm -it --restart=Never -- sh
```

Output YAML to a File

```
$ kubectl create deploy [deploy_name]
--image=nginx --dry-run -o yaml >
deploy.yaml
$ kubectl get po [pod_name] -o yaml --export
> pod.yaml
```

Getting Help

```
$ kubectl -h
$ kubectl create -h
$ kubectl run -h
$ kubectl explain deploy.spec
```

Requests

API Call

```
$ kubectl get --raw /apis/metrics.k8s.io/
```

Cluster Info

```
$ kubectl config
$ kubectl cluster-info
$ kubectl get componentstatuses
```