# 1 Kubernetes Yaml Templates

CLOUD

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- PDF Link: kubernetes-yaml-templates.pdf, Category: Cloud
- Blog URL: https://cheatsheet.dennyzhang.com/kubernetes-yaml-templates
- $\bullet$ Related posts: Kubectl Cheat Sheet, Kubernetes Yaml, #denny-cheat<br/>sheets

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#### 1.1 Pod

| Yaml   | Summary  |
|--|--|
| pod/pod-dummy.yaml                                       | Start a dummy pod with a dead sleep loop                         |
| $\operatorname{pod/pod-nginx.yaml}$                      | Start a pod of sample app(nginx)                                 |
| ${\rm pod/pod\text{-}init} container\text{-}sysctl.yaml$ | Use initContainer to run sysctl, when starting a Pod             |
| ${\rm pod/pod\text{-}healthcheck\text{-}nginx.yaml}$     | Start pod with tcp and http healthcheck                          |
| $\operatorname{pod/pod-secrets.yaml}$                    | Pod use secrets as either volumes or environment variables       |
| $\operatorname{pod/pod-gitclone.yaml}$                   | Pod: use initContainer as sidecar to web host a git repo         |
| $\operatorname{pod/pod-hostaliases.yaml}$                | Pod: add alias to /etc/hosts                                     |
| $\operatorname{pod/pod-serviceaccount.yaml}$             | Start pod with serviceaccount, instead of default serviceaccount |
| $\operatorname{pod/pod-handlers.yaml}$                   | Pod's events whenever it get started or stoppped                 |
| Reference  | Link: kubectl cheatsheet   |

#### 1.2 Volume

| Yaml                                 | Summary  |
|--------------------------------------|--|
| volume/volume-manual-pv.yaml         | Create pv first, then pvc  |
| volume/volume-mount-local path.yaml  | Mount a local folder to pods   |
| volume/volume-emptydir.yaml          | Create a empty folder, then mount to pods                              |
| volume/volume-ebs.yaml               | Mount EBS volume to pod running in amazon instance with the same AZ    |
| volume/volume-nfs.yaml               | Create nfs pv  |
| volume/volume-gcePersistentDisk.yaml | Mount GCE disk to pod running in amazon instance with the same AZ      |
| volume/volume-digitalocean.yaml      | Create DigitalOcean volume for your kubernetes cluster in DigitalOcean |
| Reference                            | Link: kubectl cheatsheet, Link: volumes examples                       |

### 1.3 Service

| Yaml                                 | Summary                       |
|--------------------------------------|-------------------------------|
| service/service-loadbalancer.yaml    | Service: loadbalancer         |
| service/service-nodeport.yaml        | Service: nodeport             |
| service/service-ingress.yaml         | Service: ingress              |
| service/service-clusterip-nginx.yaml | Service: nginx with clusterip |
| service/service-cassandra.yaml       | Service: cassandra            |
| Reference                            | Link: kubectl cheatsheet      |

### 1.4 Configmap/Envs

| Yaml                            | Summary   |
|---------------------------------|---|
| config/pod-configmap.yaml       | Create configmap from file, then use it as a pod volume |
| config/pod-environment-var.yaml | Start a pod passing environment variables               |
| config/pod-env-metada.yaml      | Expose metadata to pods                                 |
| config/configmap-plaintext.yaml | Define configmap with plain text                        |

### 1.5 Security - RBAC

| Yaml                             | Summary                         |
|----------------------------------|---------------------------------|
| rbac/serviceaccount-default.yaml | Serviceaccount: basic usage     |
| m rbac/rbac-default.yaml         | Serviceaccount: concret example |
| Reference                        | Link: kubectl cheatsheet        |

# 1.6 Security - PodSecurityPolicy

| Yaml                                    | Summary   |
|---|---|
| podsecurity/securitycontext-user.yaml   | Configure userid, at both pod and container levels              |
| podsecurity/podsecurity-privileged.yaml | Create pod security with privileged access                      |
| podsecurity/podsecurity-restricted.yaml | Create pod security with restricted access, then apply it later |
| podsecurity/podsecurity-enforce.yaml    | Enforce policy security by defining role and cluster role       |
| podsecurity/podsecurity-advanced.yaml   | A more complicated definition of pod security policy            |
| podsecurity/podsecurity-example.yaml    | A full example with everything included                         |
| Links                                   | Link: kubectl cheatsheet  |

# 1.7 Security - NetworkPolicy

| Yaml  | Summary   |
|---|---|
| networksecurity/networksecurity-denyall-ingress.yaml      | Allow all ingress   |
| network security/network security-allowall-ingress. yaml  | Deny all ingress  |
| networksecurity/networksecurity-denyall.yaml              | Deny all ingress and egress                                     |
| networksecurity/networksecurity-pod.yaml                  | Whitelist traffic control                                       |
| network security/network security-complicated. yaml       | A comprehensive network policy example                          |
| networksecurity/networksecurity-port.yaml                 | Allow TCP 443 from one namespace                                |
| networksecurity/networksecurity-deny-othernamespaces.yaml | Deny all ingress traffic from other namespaces                  |
| networksecurity/networksecurity-denyegress-exceptdns.yaml | Deny all egress traffic except DNS                              |
| Reference   | Link: kubectl cheatsheet, GitHub: kubernetes-network-policy-rec |
|   |   |

# 1.8 Quota & Limits

| Yaml   | Summary   |
|--|---|
| quota/limitrange-pvc-size.yaml                                   | LimitRange: PVC size                                  |
| ${\bf quota/limit range-pvc\text{-}cumulative\text{-}size.yaml}$ | ResourceQuota: pvc count and storage size             |
| ${\it quota/limit range-mem-size.yaml}$                          | LimitRange: Pod ram usage. Then apply it to namespace |
| Reference  | Link: kubectl cheatsheet                              |

### 1.9 Deployment

| Yaml                             | Summary                      |
|----------------------------------|------------------------------|
| deployment/deployment-nginx.yaml | Deploy nginx with 2 replicas |
| deployment/deployment-mysql.yaml | Deploy mysql                 |
| Reference                        | Link: kubectl cheatsheet     |

### 1.10 Statefulset

| Yaml  | Summary                              |
|---|--------------------------------------|
| statefulset/statefulset-nginx.yaml                | Statefulset: nginx                   |
| statefulset/statefulset-single-mysql              | Statefulset: mysql                   |
| statefulset/statefulset-replicated-cassandra.yaml | Statefulset: single cassandra        |
| statefulset/statefulset-replicated-mysql          | Statefulset: cassandra with replicas |
| Reference   | Link: kubectl cheatsheet             |

### 1.11 General

| Yaml                    | Summary                  |
|-------------------------|--------------------------|
| namespace/ns-dummy.yaml | Create a dummy namespace |

### 1.12 Jobs & CronJob

| Yaml                  | Summary                         |
|-----------------------|---------------------------------|
| iob/iob-affinity.yaml | Deploy a job with node affinity |

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# 1.13 Related Tools

| Name                              | Summary   |
|-----------------------------------|---|
| GitHub: kubernetes-sigs/kustomize | Customization of kubernetes YAML configurations |

### 1.14 More Resources

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