Kompose Compose to Kubernetes

CONCEPTS

Kompose turns a Compose file into Kubernetes manifests; it generates files and never talks to a cluster. Review the output, then apply it with kubectl.

Compose services
↓ convert
Manifests Deployment, Service, PVC
↓ apply
Cluster running pods

Labels under a service's labels: key in the Compose file (kompose.service.type and friends) steer the output without extra flags.

Generated manifests are a starting point: check ports, volume sizes and probes before production.

CONVERT

kompose convert
Convert compose.yaml in this directory

kompose convert -f *<file>*
Convert a specific Compose file

kompose -f *<a>* **-f** *<b>* **convert**
Merge several files, later wins

kompose convert -o *<path>*
Save to a file or directory

kompose convert --stdout
Print objects instead of writing

kompose convert --json
Output JSON instead of YAML

kompose convert -n *<namespace>*
Set namespace on generated objects

kompose convert --provider openshift
Target OpenShift instead

kompose convert --profile *<name>*
Include services of a Compose profile

kompose convert --no-interpolate
Keep ${VAR} names as written

CONVERT (cont.)

kompose convert --with-kompose-annotation=false
Drop kompose.* annotations

WORKLOADS

kompose convert --controller deployment
Generate Deployments

kompose convert --controller daemonSet
Generate DaemonSets

kompose convert --replicas *<n>*
Replica count in generated specs

kompose convert --service-group-mode label
Group services into one pod

kompose convert --generate-network-policies
Also emit NetworkPolicy objects

Compose restart: to Kubernetes

restart	Object	Pod restartPolicy
unset / always	controller	Always
unless-stopped	controller	Always
on-failure	Pod or CronJob	OnFailure
no	Pod or CronJob	Never

VOLUMES & SECRETS

kompose convert --volumes persistentVolumeClaim
Volumes become PVCs (default)

kompose convert --volumes emptyDir
Use emptyDir volumes

kompose convert --volumes hostPath
Use hostPath volumes

kompose convert --pvc-request-size *<size>*
Storage size of each PVC

kompose convert --secrets-as-files
Mount secrets as plain files

IMAGES

kompose convert --build local
Build images for build: services

IMAGES (cont.)

kompose convert --build local --push-image
Build and push the images

kompose convert --push-image-registry *<registry>*
Push to another registry

HELM

kompose convert -c
Generate a Helm chart

kompose convert -c -o *<dir>*
Chart into a chosen directory

LABELS

kompose.* labels

Label	Effect
service.type	nodeport, clusterip, loadbalancer, headless
service.expose	Make an Ingress (true or host)
service.nodeport.port	Fixed NodePort
controller.type	deployment, daemonset, ...
volume.type	PVC, emptyDir, hostPath, configMap
volume.size	PVC size, e.g. 1Gi
image-pull-policy	Always, IfNotPresent, Never
service.group	Share one pod

RECIPES

Convert and deploy

```
kompose convert -o k8s/
kubectl apply -f k8s/
kubectl get pods
```

Preview one controller kind

```
kompose convert --stdout --
controller statefulset \
  -f compose.yaml | less
```

Chart with a namespace

```
kompose convert -c -n shop -o
chart/
helm install shop chart/
```

HELP

kompose --help
Top-level help

kompose version
Print the version