

layout	title	permalink	redirect_from	
default	Conversion	/conversion/	/docs/conversion.md/	/docs/conversion/

## Conversion Matrix

- TOC {::toc}

This document outlines all possible conversion details regarding `compose.yaml` values to Kubernetes / OpenShift artifacts.

## Version Support

Under the hood, we're using [compose-go](#), the reference library for parsing Compose files. We should be able to load all versions of Compose files. We're doing our best to keep it up to date as soon as possible in our releases to be compatible with the latest features defined in the [Compose specification](#). If you absolutely need a feature we don't support yet, please open a PR!

## Conversion Table

Glossary:

- ✓: Converts
- -: Not in this Compose Version
- n: Not yet implemented
- x: Not applicable / no 1-1 conversion

Keys	V1	V2	V3	Kubernetes / OpenShift	Notes
build	✓	✓	✓		Builds/Pushes to Docker repository. See <a href="#">user guide on build and push image</a>
build: context	✓	✓	✓		
build: dockerfile	✓	✓	✓		
build: args	n	n	n		
build: cache_from	-	-	n		
cap_add	✓	✓	✓	Container.SecurityContext.Capabilities.Add	
cap_drop	✓	✓	✓	Container.SecurityContext.Capabilities.Drop	
command	✓	✓	✓	Container.Args	
configs	n	n	✓		
configs: short-syntax	n	n	✓		Only create configMap
configs: long-syntax	n	n	✓		If target path is /, ignore this and only create configMap
cgroup_parent	x	x	x		Not supported within Kubernetes. See issue <a href="#">kubernetes/kubernetes#11986</a>
container_name	✓	✓	✓	Metadata.Name + Deployment.Spec.Containers.Name	
credential_spec	x	x	x		Only applicable to Windows containers
deploy	-	-	✓		
deploy: mode	-	-	✓		
deploy: replicas	-	-	✓	Deployment.Spec.Replicas / DeploymentConfig.Spec.Replicas	
deploy: placement	-	-	✓	Affinity	
deploy: update_config	-	-	✓	Workload.Spec.Strategy	Deployment / DeploymentConfig
deploy: resources	-	-	✓	Containers.Resources.Limits.Memory / Containers.Resources.Limits.CPU	Support for memory as well as cpu
deploy: restart_policy	-	-	✓	Pod generation	This generated a Pod, see the <a href="#">user guide on restart</a>
deploy: labels	-	-	✓	Workload.Metadata.Labels	Only applied to workload resource
devices	x	x	x		Not supported within Kubernetes, See issue <a href="#">kubernetes/kubernetes#5607</a>
depends_on	x	x	x		
dns	x	x	x		Not used within Kubernetes. Kubernetes uses a managed DNS server
dns_search	x	x	x		See <code>dns</code> key
domainname	✓	✓	✓	SubDomain	
tmpfs	✓	✓	✓	Containers.Volumes.EmptyDir	Creates emptyDirvolume with medium set to Memory & mounts given directory inside container
entrypoint	✓	✓	✓	Container.Command	
env_file	n	n	✓		
environment	✓	✓	✓	Container.Env	
expose	✓	✓	✓	Service.Spec.Ports	
endpoint_mode	n	n	✓		If endpoint_mode=vip, the created Service will be forced to set to NodePort type
extends	✓	✓	✓		Extends by utilizing the same image supplied
external_links	x	x	x		Kubernetes uses a flat-structure for all containers and thus external_links does not have a 1-1 conversion
extra_hosts	n	n	n		
group_add	✓	✓	✓		
healthcheck	-	n	✓		
hostname	✓	✓	✓	HostName	
image	✓	✓	✓	Deployment.Spec.Containers.Image	
isolation	x	x	x		Not applicable as this applies to Windows with HyperV support
labels	✓	✓	✓	Metadata.Annotations	
links	x	x	x		All containers in the same pod are accessible in Kubernetes
logging	x	x	x		Kubernetes has built-in logging support at the node-level
network_mode	x	x	x		Kubernetes uses its own cluster networking
networks	✓	✓	✓		See <code>networks</code> key
networks: aliases	x	x	x		See <code>networks</code> key
networks: addresses	x	x	x		See <code>networks</code> key
pid	✓	✓	✓	HostPID	
ports	✓	✓	✓	Service.Spec.Ports	
ports: short-syntax	✓	✓	✓	Service.Spec.Ports	
ports: long-syntax	-	-	✓	Service.Spec.Ports	
secrets	-	-	✓	Secret	External Secret is not Supported
secrets: short-syntax	-	-	✓	Secret	External Secret is not Supported
secrets: long-syntax	-	-	✓	Secret	External Secret is not Supported
security_opt	x	x	x		Kubernetes uses its own container naming scheme
stop_grace_period	✓	✓	✓	TerminationGracePeriodSeconds	
stop_signal	x	x	x		Not supported within Kubernetes. See issue <a href="#">kubernetes/kubernetes#30051</a>
sysctls	n	n	n		
ulimits	x	x	x		Not supported within Kubernetes. See issue <a href="#">kubernetes/kubernetes#3595</a>
usersns_mode	x	x	x		Not supported within Kubernetes and ignored in Compose Version 3
volumes	✓	✓	✓	PersistentVolumeClaim	Creates a PersistentVolumeClaim. Can only be created if there is already a PersistentVolume within the cluster
volumes: short-syntax	✓	✓	✓	PersistentVolumeClaim	Creates a PersistentVolumeClaim. Can only be created if there is already a PersistentVolume within the cluster
volumes: long-syntax	-	-	✓	PersistentVolumeClaim	Creates a PersistentVolumeClaim. Can only be created if there is already a PersistentVolume within the cluster
restart	✓	✓	✓		
<b>Volume</b>	x	x	x		
driver	x	x	x		
driver_opts	x	x	x		
external	x	x	x		
labels	x	x	x		
<b>Network</b>	x	x	x		
driver	x	x	x		
driver_opts	x	x	x		
enable_ipv6	x	x	x		
ipam	x	x	x		
internal	x	x	x		
labels	x	x	x		
external	x	x	x		
<b>Configs</b>	x	x	x		
environment	x	✓	✓		
file	✓	✓	✓		
content	x	✓	✓		
labels	x	x	x		
external	x	x	x		