Conversion Matrix

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

Version Table

Supported	Compose Version	Docker Engine Version
N	3.8	19.03.0+
N	3.7	18.06.0+
N	3.6	18.02.0+
N	3.5	17.12.0+
N	3.4	17.09.0+
Y	3.3	17.06.0+
Y	3.2	17.04.0+
Y	3.1	1.13.1+
Y	3.0	1.13.0+
Y	2.4	17.12.0+
Y	2.3	17.06.0+
Y	2.2	1.13.0+
Y	2.1	1.12.0+
Y	2.0	1.10.0+

Note: We don't support anything 3.4 and above at the moment. It is reccomended to specify `version: "3.3"` in your `docker-compose.yaml` and converting. We use a library called libcompose that supports up to version `3.3` . If you are interested in adding additional support, please open up a PR!

Conversion Table

Glossary:

✓ : Converts

-: Not in this Docker 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 build and push image
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 crea
cgroup_parent	x	x	x		Not supported within Kubernetes. See iss https://github.com/kubernetes/kubernetes
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 user guide
deploy: labels	-	-	✓	Workload.Metadata.Labels	Only applied to workload resource
devices	x	x	x		Not supported within Kubernetes, See iss https://github.com/kubernetes/kubernetes
depends_on	x	x	x		
dns	x	x	x		Not used within Kubernetes. Kubernetes managed DNS server
dns_search	x	x	x		See dns key
domainname	✓	✓	✓	SubDomain	
tmpfs	✓	✓	✓	Containers.Volumes.EmptyDir	Creates emptyDirvolume with medium se 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 Servic forced to set to NodePort type
extends	✓	✓	✓		Extends by utilizing the same image supp

external_links	x	x	x		Kubernetes uses a flat-structure for all co... thus external_links does not have a 1-1 c...
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... support
labels	✓	✓	✓	Metadata.Annotations	
links	x	x	x		All containers in the same pod are access... Kubernetes
logging	x	x	x		Kubernetes has built-in logging support a... level
network_mode	x	x	x		Kubernetes uses its own cluster networki...
networks	✓	✓	✓		See `networks` key
networks: aliases	x	x	x		See `networks` key
networks: addresses	x	x	x		See `networks` 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 namin...
stop_grace_period	✓	✓	✓	TerminationGracePeriodSeconds	
stop_signal	x	x	x		Not supported within Kubernetes. See iss... https://github.com/kubernetes/kubernetes...
sysctls	n	n	n		
ulimits	x	x	x		Not supported within Kubernetes. See iss... https://github.com/kubernetes/kubernetes...
userns_mode	x	x	x		Not supported within Kubernetes and ign... Docker Compose Version 3
volumes	✓	✓	✓	PersistentVolumeClaim	Creates a PersistentVolumeClaim. Can o... if there is already a PersistentVolume wit...
volumes: short-syntax	✓	✓	✓	PersistentVolumeClaim	Creates a PersistentVolumeClaim. Can o... if there is already a PersistentVolume wit...
volumes: long-syntax	-	-	✓	PersistentVolumeClaim	Creates a PersistentVolumeClaim. Can o... if there is already a PersistentVolume wit...
restart	✓	✓	✓		

Volume	x	x	x
driver	x	x	x
driver_opts	x	x	x
external	x	x	x
labels	x	x	x
Network	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