

Play with Kube using Podman

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Agenda

- Podman
- Kubernetes Pod
- podman kube play
- podman kube generate
- Supported Kubernetes Objects
- More Awesomeness
- Resources

Podman

Podman

■ First release in 2018

■ Mostly Red Hat maintainers until now

■ Recently accepted as a CNCF Project

```
podman rm --force --all
```

[finished]

```
podman run -d -p 8080:80 httpd
```

[running]

```
Resolving "httpd" using unqualified-search registries
(/etc/containers/registries.conf.d/999-podman-machine.conf)
Trying to pull docker.io/library/httpd:latest...
Getting image source signatures
Copying blob
sha256:a4b933536e8f34783251318ac12a8bc5d61021a0c9664dabeff5056527489a45
Copying blob
sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0cdb5577484a6d75e68dc38e8acc1
Copying blob
sha256:7ce705000c390df8b2edde0e8b9c65a6677da4503a8f8fd89b355a3f827a275f
Copying blob
sha256:3b5fef47b0fc0817c64aa8618ec3f267a3f00b74d662bb3e87e9a811417614a7
Copying blob
sha256:6414596ca3b354de184bbbf8921398cf55e72e3235842444a91e3562b57cc02
Copying blob
sha256:3bece81f7c46399813b613ff707c26cfccea56964a5e7631a488163d81296da1
```

```
curl -s localhost:8080
```

[finished with error]

Kubernetes Pod

Kubernetes Pod

```
1 ---
2 apiVersion: v1
3 kind: Pod
4 metadata:
5   labels:
6     app: webapp
7   name: webapp
8 spec:
9   containers:
10  - name: redis
11    image: docker.io/library/redis:alpine
12    args: ["redis-server", "--appendonly", "yes",
13          "--notify-keyspace-events", "Ex"]
14    securityContext:
15      readOnlyRootFilesystem: true
16    volumeMounts:
17    - mountPath: /data
18      name: webapp_redis-pvc
19  - name: web
20    image: localhost/hello-py-aioweb:latest
21    ports:
22    - containerPort: 8080
23      hostPort: 8080
24    securityContext:
25      readOnlyRootFilesystem: true
26  volumes:
27  - name: webapp_redis-pvc
28    persistentVolumeClaim:
29      claimName: webapp_redis
30
```

```
podman kube play
```

podman kube play

```
podman rm --force --all && \  
podman volume rm --all
```

————— [finished with error] —————

```
Error: no such volume  
Error: volume webapp_redis is being used by the  
following container(s):  
569919b638531a98b141a8cdce00efc4b673d4cbf574fbcf857764  
ff822f5af9: volume is being used
```

```
podman kube play ./pod.yaml
```

————— [finished with error] —————

```
Error: playing YAML file: initializing source  
docker://localhost/hello-py-aioweb:latest: pinging  
container registry localhost: Get  
"https://localhost/v2/": dial tcp [::1]:443: connect:  
connection refused
```

```
podman ps --format "{{.Image}}"
```

————— [finished] —————

```
podman volume ls
```

————— [finished with error] —————

```
Cannot connect to Podman. Please verify your  
connection to the Linux system using `podman system  
connection list`, or try `podman machine init` and  
`podman machine start` to manage a new Linux VM  
Error: unable to connect to Podman socket: failed to  
connect: ssh: handshake failed: EOF
```

```
curl -s localhost:8080
```

————— [finished with error] —————

```
curl -s localhost:8080
```

————— [finished with error] —————


```
podman kube play --build
```

```
podman rm --force --all && \  
podman volume rm --all
```

————— [finished with error] —————

```
podman-cli_redis
```

```
Error: volume webapp_redis is being used by the following container(s):
```

```
569919b638531a98b141a8cdce00efc4b673d4cbf574fbcf857764ff822f5af9: volume is being used
```

```
podman rmi localhost/hello-py-aioweb:latest
```

————— [finished] —————

```
Untagged: localhost/hello-py-aioweb:latest
```

```
podman kube play --build
```

```
podman kube play ./pod.yaml --build
```

```
----- [finished with error] -----
```

```
Error: unknown flag: --build  
See 'podman kube play --help'
```

```
podman kube play --build
```

```
podman images localhost/hello-py-aioweb:latest
```

```
[finished]
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
docker.io/library/hello-py-aioweb	latest	2520a8cfc52f	39 hours ago	75.8 MB
localhost/hello-py-aioweb	latest	2520a8cfc52f	39 hours ago	75.8 MB

```
podman ps --format "{{.Image}}"
```

```
[finished]
```

```
podman volume ls
```

```
[finished]
```

DRIVER	VOLUME NAME
local	podman-cli_redis

```
curl -s localhost:8080
```

```
[finished with error]
```

podman kube generate

```
podman rm --force --all
```

————— [finished] —————

```
podman run -d -p 8080:80 httpd
```

————— [running] —————

```
Resolving "httpd" using unqualified-search registries (/etc/containers/registries.conf.d/999-podman-machine.conf)
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Copying blob sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0cdb5577484a6d75e68dc38e8acc1
Copying blob sha256:7ce705000c390df8b2edde0e8b9c65a6677da4503a8f8fd89b355a3f827a275f
Copying blob sha256:6414596ca3b354de184bbbfe8921398cf55e72e3235842444a91e3562b57cc02
Copying blob sha256:3b5fef47b0fc0817c64aa8618ec3f267a3f00b74d662bb3e87e9a811417614a7
Copying blob sha256:3bece81f7c46399813b613ff707c26cfcea56964a5e7631a488163d81296da1
```

```
podman ps --format "{{.Image}}"
```

————— [finished] —————

```
podman kube generate
```

```
ID=$(podman ps --last 1 -q)  
podman kube generate ${ID}
```


```
[finished with error]
```


```
Error: requires at least 1 arg(s), only received 0
```


Supported Kubernetes Objects


- Pods
- Deployments
- PersistentVolumeClaims
- ConfigMaps
- Secrets
- DaemonSets
- Jobs

More (Podman) Awesomeness

 `Rootless and Daemonless`

 `Build Farms`

 `Image Volumes`

 `Quadlet`

 `Podmansh`

Resources To Learn More

podman.io (<https://podman.io>)

github.com/containers/ (<https://github.com/container/>)

Axel Talk about Quadlets at 3:30pm

presenterm (<https://github.com/mfontanini/presenterm>)

this deck (<https://github.com/l0rd/talks/tree/gh-pages/podman-kube-play>)

