

Exercise 3

Creating and Running Containers

Q1.

You are to create a container that should run in the background with the name “container1” using the official nginx image from hub.docker.com. List containers to verify.

Q2.

You are to create a container using such options that the terminal of container opens as soon as the container is launched. Use CentOS official image. Verify its existence after exiting from the container. Rectify if the container goes into exited state after we exit the container.

Q3.

You are to create a container that runs in the background and set it that on exit the container should be removed completely. Name the container as “container2” and use the official Ubuntu image. Define an environment variable “COMPANY=redhat”, and “TOOL=podman”.

Q4.

You are to create a container that should run in the background with the name “container3” using the official nginx image. Also bind the port 80 of the container with port 8081 of the host machine.

List containers to verify.

Q5.

You are to create a container using the MySQL latest image from Docker Hub. Make sure the container stays in running state after the command is executed.

Q6.

Stop the “container3”.

Remove the “container1” without stopping it.

Now, start the “container3”.

Check if “Container1” can be made alive again.

List containers after each command to verify the status.

Solutions

Q1.

```
[root@localhost ~]# podman run -d --name container1 docker.io/nginx
Trying to pull docker.io/library/nginx:latest...
Getting image source signatures
Copying blob 8b625c47d697 done
Copying blob 5fb9a81470f3 done
Copying blob 4d3239651a63 done
Copying blob 0f816efa513d done
Copying blob 01d159b8db2f done
Copying blob a803e7c4b030 skipped: already exists
Copying blob 9b1e1e7164db done
Copying config 61395b4c58 done
Writing manifest to image destination
Storing signatures
fba44daebb72a3e710e939016581b16f6c4b7ac1d5f46bb9b9ad5eca78131305
[root@localhost ~]# podman ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
fba44daebb72	docker.io/library/nginx:latest	nginx -g daemon o...	6 seconds ago	Up 5 seconds ago		container1

```
[root@localhost ~]#
```

Q2.

```
[root@localhost ~]# podman run -it centos
[root@c78e8471c6f1 /]# pwd
/
[root@c78e8471c6f1 /]# whoami
root
[root@c78e8471c6f1 /]# exit
exit
[root@localhost ~]# podman ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
c78e8471c6f1	docker.io/library/centos:latest	/bin/bash	14 seconds ago	Exited (0) 4 seconds ago	

```
gallant_mahavira
[root@localhost ~]# podman run -itd centos
5b95b306abd85c356d33ca8573164e9925219e9022b90bded2668f026fbb405b
[root@localhost ~]# podman ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
c78e8471c6f1	docker.io/library/centos:latest	/bin/bash	30 seconds ago	Exited (0) 21 seconds ago	
gallant_mahavira					
5b95b306abd8	docker.io/library/centos:latest	/bin/bash	3 seconds ago	Up 3 seconds ago	

```
romantic_jang
[root@localhost ~]#
```

Q3.

```
[root@localhost ~]# podman run --rm --name container3 -e COMPANY=redhat -e TOOL=podman docker.io/ubuntu
Trying to pull docker.io/library/ubuntu:latest...
Getting image source signatures
Copying blob 445a6a12be2b done
Copying config c6b84b685f done
Writing manifest to image destination
Storing signatures
[root@localhost ~]# podman ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
fba44daebb72	docker.io/library/nginx:latest	nginx -g daemon o...	8 minutes ago	Up 8 minutes ago	

```
container1
```

Q4.

```
[root@localhost ~]# podman run -d --name container3 -p 8081:80 docker.io/nginx
a4c6bf432f1132fb524c794e8cc707bb3ff1ff16d844e3e8058d89916991d748
[root@localhost ~]# podman ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
fba44daebb72	docker.io/library/nginx:latest	nginx -g daemon o...	12 minutes ago	Up 12 minutes ago	
a4c6bf432f11	docker.io/library/nginx:latest	nginx -g daemon o...	3 seconds ago	Up 3 seconds ago	0.0.0.0:8081->80/tcp

```
container3
[root@localhost ~]#
```

Q5.

```
[root@localhost ~]# podman run -d --name con1 -e MYSQL_ROOT_PASSWORD=redhat docker.io/mysql
Trying to pull docker.io/library/mysql:latest...
Getting image source signatures
Copying blob 6effcc6561c9 done
Copying blob 06e0c37837cf done
Copying blob c6f5d3670db7 done
Copying blob d5c567b29c3e done
Copying blob 5262579e8e45 done
Copying blob 741b767e25b7 done
Copying blob 1e1493d45d9c done
Copying blob 7101609fa7d9 done
Copying blob 432a1261dc2a done
Copying blob 865a24d6d1f2 done
Copying config b2013ac991 done
Writing manifest to image destination
Storing signatures
bbdec98af68c30a9d8a3129fbab67c6bd071f62560fe8f0b9b7e8016d7e246b4
[root@localhost ~]# podman ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
bbdec98af68c	docker.io/library/mysql:latest	mysqld	10 seconds ago	Up 9 seconds ago		con1

Q6.

```
[root@localhost ~]# podman stop container3
container3
[root@localhost ~]# podman ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED          STATUS              PORTS              NAMES
fba44daebb72   docker.io/library/nginx:latest      nginx -g daemon o...    15 minutes ago   Up 15 minutes ago   0.0.0.0:8081->80/tcp container1
a4c6bf432f11   docker.io/library/nginx:latest      nginx -g daemon o...    3 minutes ago    Exited (0) 3 seconds ago                                container3
[root@localhost ~]#
```

```
[root@localhost ~]# podman rm container1
Error: cannot remove container fba44daebb72a3e710e939016581b16f6c4b7ac1d5f46bb9b9ad5eca78131305 as it is running - running or paused containers cannot be removed without force: container state improper
[root@localhost ~]# podman rm -f container1
fba44daebb72a3e710e939016581b16f6c4b7ac1d5f46bb9b9ad5eca78131305
[root@localhost ~]# podman ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED          STATUS              PORTS              NAMES
a4c6bf432f11   docker.io/library/nginx:latest      nginx -g daemon o...    4 minutes ago    Exited (0) 54 seconds ago   0.0.0.0:8081->80/tcp container3
[root@localhost ~]#
```

```
[root@localhost ~]# podman start container3
container3
[root@localhost ~]# podman ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED          STATUS              PORTS              NAMES
a4c6bf432f11   docker.io/library/nginx:latest      nginx -g daemon o...    4 minutes ago    Up 2 seconds ago    0.0.0.0:8081->80/tcp container3
[root@localhost ~]#
```

```
[root@localhost ~]# podman rm -f container1
f12271ee3c282132df14fb714e1d1bd91b1743a5a80234e6a9acee67279bd9a5
[root@localhost ~]# podman ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED          STATUS              PORTS              NAMES
[root@localhost ~]# podman start container1
Error: no container with name or ID "container1" found: no such container
[root@localhost ~]#
```