

Exercise 10

Podman Volumes

Q1.

Create volume named “vol1”.

Create volume named “vol2”.

Create volume named “vol3”.

You can go ahead and inspect all the created volumes.

Q2.

Create a folder /data and inside it a 2 files “a.txt” and “b.txt”

Enter and add random content inside both the files.

Now launch a new container using an ubi9 image and bind this directory to the “/content” directory in the container. The parameter should be set to read-only.

Verify the success by checking it manually.

Now create a new file inside the same directory as “c.txt” from the host machine and check if the same file is now available inside the container as well or not.

And then try creating a file in the /content directory from inside the container.

Q3.

Create a folder /myfiles and inside it a 2 files “new1.txt” and “new2.txt”

Enter and add random content inside both the files.

Now launch a new container using an Httpd image and make sure to bind this directory to the /root/important in the container.

Verify the success by checking it manually.

Now create a new file inside the same directory as “new3.txt” from the host machine and check if the same file is now available inside the container as well or not. And then try creating a file in the /important directory from inside the container.

Q4.

Create a new container “con1” using the latest httpd image.

Attach the volume “vol1” with this container at “/volume”.

Now enter the container and create some files inside the directory.

You can verify the changes made by visiting the location where volumes are stored in the host machine.

Now delete the con1.

Now create the 2nd container “con2” and attach “vol1” with this container at “/data”.

On reading the directory you should find all the data created in “con1” now persists in this “con2”.

Solutions

Q1.

```
[root@localhost ~]# podman volume create vol1
vol1
[root@localhost ~]# podman volume create vol2
vol2
[root@localhost ~]# podman volume create vol3
vol3
[root@localhost ~]#
```

```
[root@localhost ~]# podman volume inspect vol1
[
  {
    "Name": "vol1",
    "Driver": "local",
    "Mountpoint": "/var/lib/containers/storage/volumes/vol1/_data",
    "CreatedAt": "2023-09-30T23:43:57.048030992+05:30",
    "Labels": {},
    "Scope": "local",
    "Options": {},
    "MountCount": 0,
    "NeedsCopyUp": true,
    "NeedsChown": true
  }
]
[root@localhost ~]# podman volume inspect vol2
[
  {
    "Name": "vol2",
    "Driver": "local",
    "Mountpoint": "/var/lib/containers/storage/volumes/vol2/_data",
    "CreatedAt": "2023-09-30T23:43:58.839519836+05:30",
    "Labels": {},
    "Scope": "local",
    "Options": {},
    "MountCount": 0,
    "NeedsCopyUp": true,
```

Q2.

```
[root@localhost ~]# mkdir /data
[root@localhost ~]# cd /data/
[root@localhost data]# touch a.txt
[root@localhost data]# touch b.txt
[root@localhost data]# echo "HELLO EVERYONE" > a.txt
[root@localhost data]# echo "THIS IS PODMAN" > b.txt
[root@localhost data]# cat a.txt
HELLO EVERYONE
[root@localhost data]# cat b.txt
THIS IS PODMAN
[root@localhost data]#
```

```
[root@localhost ~]# podman run -dit --name con1 -v /data:/content:ro,Z docker.io/redhat/ubi9:latest
74129a2144b0c2af92d10b6433a14b2163af68c1729cb8bca99f427fc86a280b
```

```
[root@localhost ~]# podman exec -it con1 bash
[root@74129a2144b0 /]# cd /
[root@74129a2144b0 /]# ls
afs  boot      dev  home  lib64      media  opt   root  sbin  sys  usr
bin  content  etc  lib   lost+found mnt    proc  run   srv   tmp  var
[root@74129a2144b0 /]# cd content/
[root@74129a2144b0 content]# ls
a.txt  b.txt
[root@74129a2144b0 content]# cat a.txt
HELLO EVERYONE
[root@74129a2144b0 content]# cat b.txt
THIS IS PODMAN
```

```
[root@74129a2144b0 content]# touch c.txt
touch: cannot touch 'c.txt': Read-only file system
[root@74129a2144b0 content]#
```

Q3.

```
[root@localhost ~]# mkdir /myfiles
[root@localhost ~]# cd /myfiles/
[root@localhost myfiles]# touch new1.txt
[root@localhost myfiles]# touch new2.txt
[root@localhost myfiles]# echo "STORAGE CONCEPTS" > new1.txt
[root@localhost myfiles]# echo "TRAINING OF PODMAN" > new2.txt
[root@localhost myfiles]# cat new1.txt
STORAGE CONCEPTS
[root@localhost myfiles]# cat new2.txt
TRAINING OF PODMAN
```

```
[root@localhost myfiles]# podman run -d --name con2 -v /myfiles:/root/important:Z docker.io/httpd
efa23fc0cde07806cf5066bc89936d1d49837ea724775cbb6a7f3b9dc446bde7
```

```
[root@localhost myfiles]# podman exec -it con2 bash
root@efa23fc0cde0:/usr/local/apache2# cd /root
root@efa23fc0cde0:~# ls
important
root@efa23fc0cde0:~# cd important/
root@efa23fc0cde0:~/important# ls
new1.txt  new2.txt
root@efa23fc0cde0:~/important# touch new3.txt
root@efa23fc0cde0:~/important# echo "WE CAN MAKE CHANGES!" > new3.txt
root@efa23fc0cde0:~/important# cat new3.txt
WE CAN MAKE CHANGES!
```

```
root@efa23fc0cde0:~/important# exit
exit
[root@localhost myfiles]# ls
new1.txt  new2.txt  new3.txt
[root@localhost myfiles]# cat new3.txt
WE CAN MAKE CHANGES!
```

Q4.

```
[root@localhost ~]# podman run -d --name con1 -v vol1:/volume:Z docker.io/httpd
1f466d42ad2600f6a0725e6944432d3915d32bdefdeb8b88cb4eb3dae9e13375
```

```
[root@localhost ~]# podman exec -it con1 bash
root@f5a87400b342:/usr/local/apache2# cd /volume/
root@f5a87400b342:/volume# mkdir {a..e}
root@f5a87400b342:/volume# ls
a  b  c  d  e
root@f5a87400b342:/volume# exit
exit
```

```
[root@localhost ~]# cd /var/lib/containers/storage/volumes/
[root@localhost volumes]# ls
316dce920c5966592f6f2bd67a41551d2cc1d1cb1b4d566cda8c21b3b5d06c70 Desktop root_db_data vol2
5875073c0e1439feec678186a5cb81b438d17c85ea790c42ac290cc2658326e1 new root_wp_data vol3
backingFsBlockDev new1 vol1
[root@localhost volumes]# cd vol1
[root@localhost vol1]# ls
_data
[root@localhost vol1]# cd _data/
[root@localhost _data]# ls
a  b  c  d  e
```

```
[root@localhost ~]# podman rm -f con1
con1
```

```
[root@localhost ~]# podman run -d --name con2 -v vol1:/data:Z docker.io/httpd
ddfc879dabb9bf4b2484c3abf96a7530eb423c6af08f19219c0ea949e26bdbcb0
[root@localhost ~]# podman exec -it con2 bash
root@ddfc879dabb9:/usr/local/apache2# cd /data/
root@ddfc879dabb9:/data# ls
a  b  c  d  e
```