**Lab Exercise 1**

**Performing CRUD Operation on Containers**

**Objective:** Performing CRUD Operation on Containers

**Tools required:** Docker Configuration

**Pre-requisites:** Ubuntu Configuration, Docker

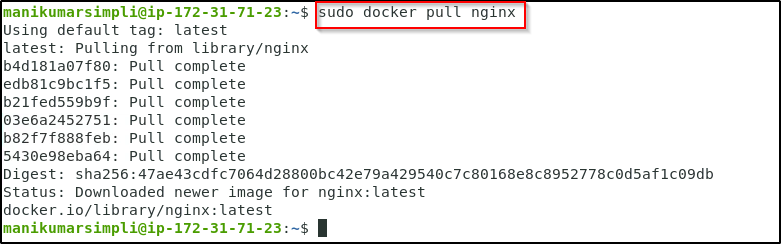
Steps to be followed:

1. Pulling a Docker image
2. Creating a new container
3. Stopping the container
4. Listing all the containers
5. Deleting the container
6. Removing the image

**Step 1: Pulling a Docker image**

1.1 Open the terminal and pull an image using the command:

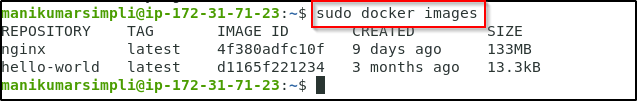
***sudo docker pull nginx***

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1.2 List all the docker images to check the newly pulled *nginx* image:

***sudo docker images***

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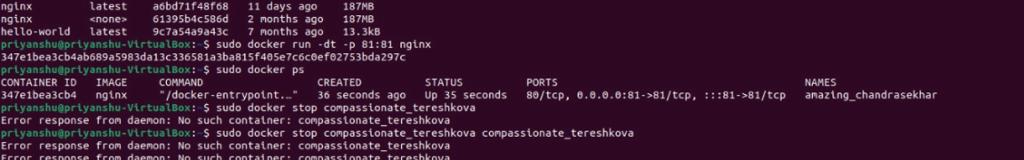


**Step 2: Creating a new container**

2.1 Create a new container from the *nginx* image:

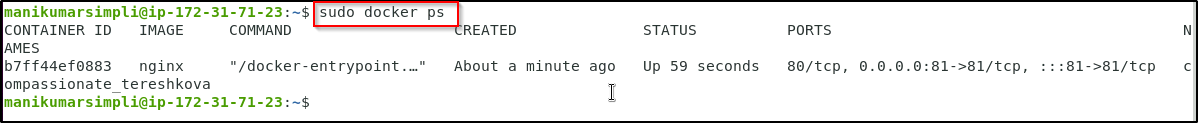
***sudo docker run -dt -p 81:81 nginx***

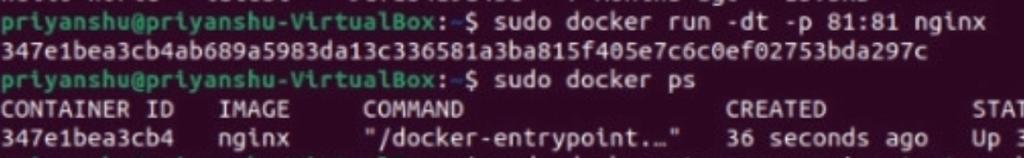
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2.2 List all the running containers to check the newly created container. You can find various details like port of container, it’s time of creation and ID.

***sudo docker ps***

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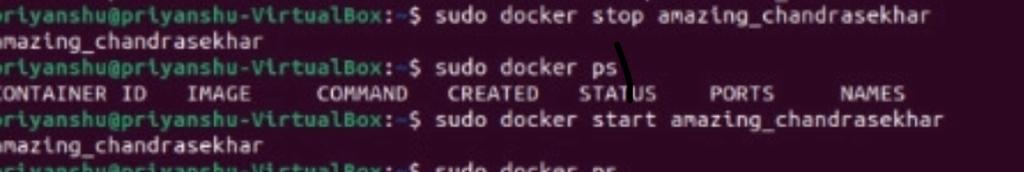
**Step 3: Stopping the container**

3.1 Use the following command to stop the running container. ***(***You can also us the container ID to stop the container: *sudo docker stop CONTAINER\_ID****)***

***sudo docker stop CONTAINER\_NAME***

**Note**: Replace CONTAINER\_NAME with the name of the newly created container. In this case CONTAINER\_NAME is stoic\_darwin. The container name may differ from the one shown in the image below.

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3.2 Use the following command to list all the running containers and verify if the container has stopped running:

***sudo docker ps***

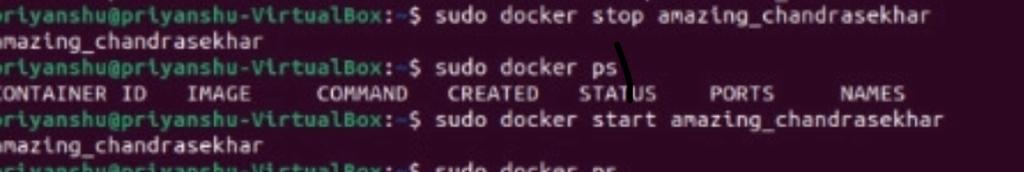
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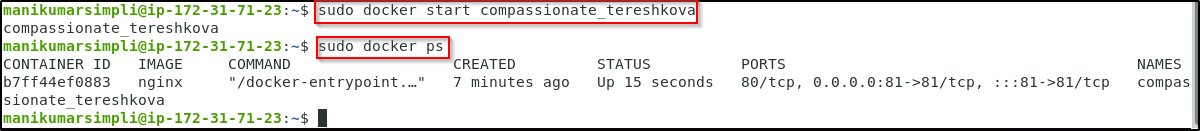
3.3 You can start the container again and check the running containers. ***(***You can also us the container ID to start the container: *sudo docker start CONTAINER\_ID****)***

***sudo docker start CONTAINER\_NAME***

***sudo docker ps***

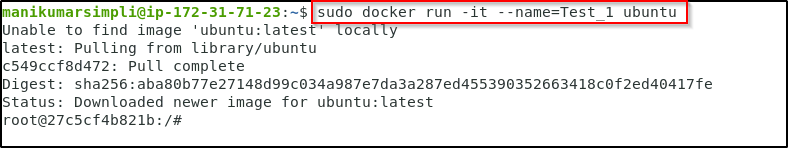
**Note**: Replace CONTAINER\_NAME with the name of the newly created container. In this case CONTAINER\_NAME is stoic\_darwin. The container name may differ from the one shown in the image below.

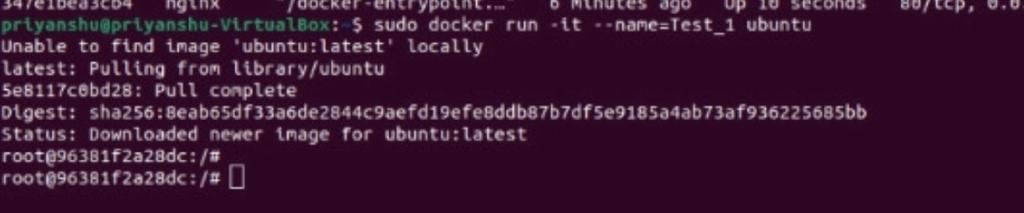


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3.4 To start the container in interactive mode, use the –i and –t options.

***sudo docker run -it --name=Test\_1 ubuntu***

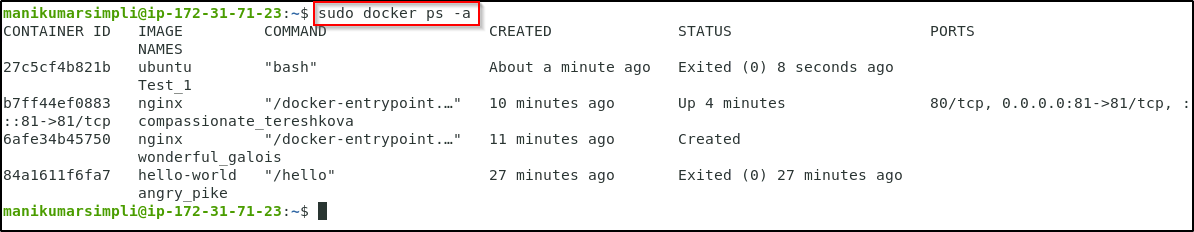
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**Step 4: Listing all the containers**

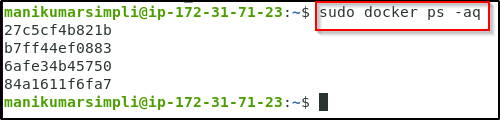
4.1 Use the below command to list all the containers started and the once which are stopped:

***sudo docker ps -a***

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4.2 To list the containers by their ID, use the below command

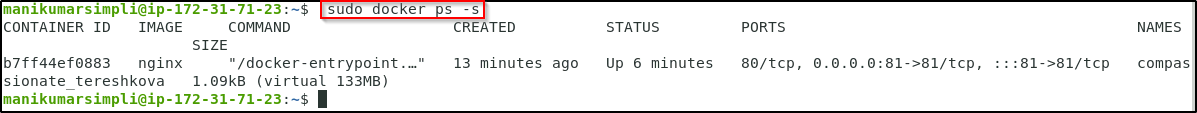
***sudo docker ps -aq***



You can see the containers with ID are listed.

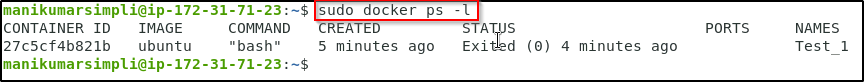
4.3 To list the total file size of each container, use the below command:

***sudo docker ps -s***

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4.4 To list the latest created containers, use the following command:

***sudo docker ps -l***

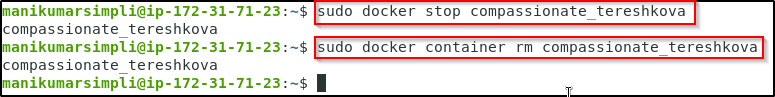
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**Step 5: Deleting the container**

5.1 Stop the running container and remove it using the following commands:

***sudo docker stop CONTAINER\_NAME***

***sudo docker container rm CONTAINER\_NAME***



**Note**: Replace CONTAINER\_NAME with the name of the newly created container. In this case CONTAINER\_NAME is sweet\_brown. The container name may differ from the one shown in the image below.

**Step 6: Removing the image**

6.1 Remove the image using the command:

***sudo* *docker image rm nginx***

