Docker Case Study

Problem Description:

Creating individual workspaces for users in IT training support classes.

Requirements:

1. Dynamic Allocation of Linux systems to users.
2. Each user should have an independent Linux System.
3. Specific training environment should be created in the container.
4. Users should not be able to access other containers or images or even the docker command.
5. Monitor users' containers.
6. Automate container creation and deletion.

Creating the container image:

1. Create a new container from a base image.
   For ubuntu run the following command:
   sudo docker create -it --name temp ubuntu /bin/bash

2. Start and attach to the container:
   sudo docker start temp
   sudo docker attach temp

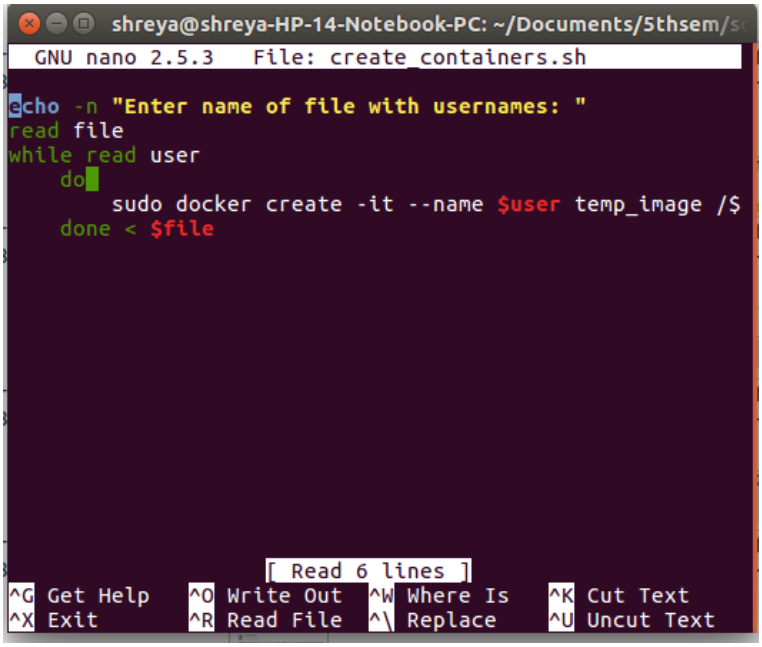
3. Install all the required packages:
   apt update
   apt install nano
   apt install gcc

4. Use **exit** command to exit the container.

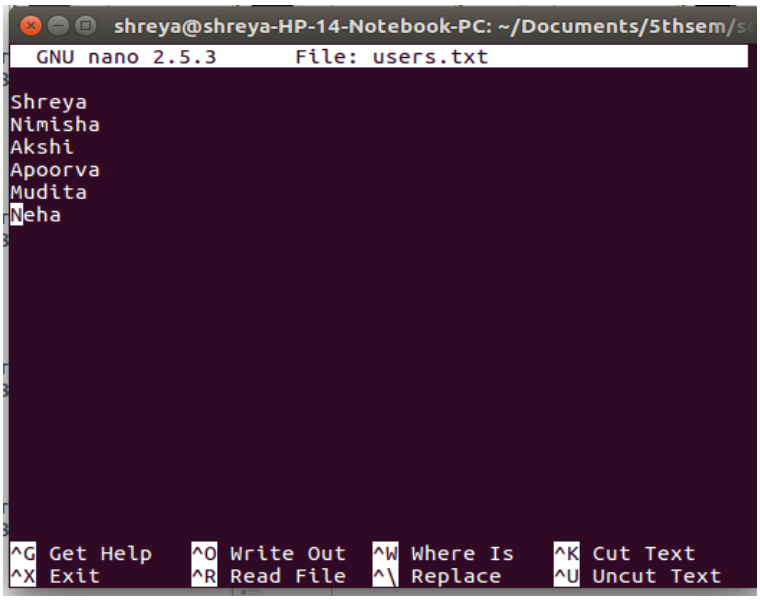
5. Commit the changes to the container using the command:
   sudo docker commit -a "Shreya" 3619fb2d90b6 cont_image

Allocating containers to Users:

1. The shell script create_containers.sh will automatically create a container for every user present in the users.txt file.



2. Fill in the entries in the file users.txt with usernames.



Then run the shell script create_containers.sh by the command:

sh create_containers.sh -x

Now we have a container corresponding to each user present in users.txt.

3. The container can be started by the user using the command:

   sudo docker start <container_name>

   sudo docker attach <container_name>

Deleting the containers:

For deleting the containers, we can use the shell script delete_containers.sh.