Name - Yash Lakhtariya
Enrollment number - 21162101012
Branch - CBA Batch - 61
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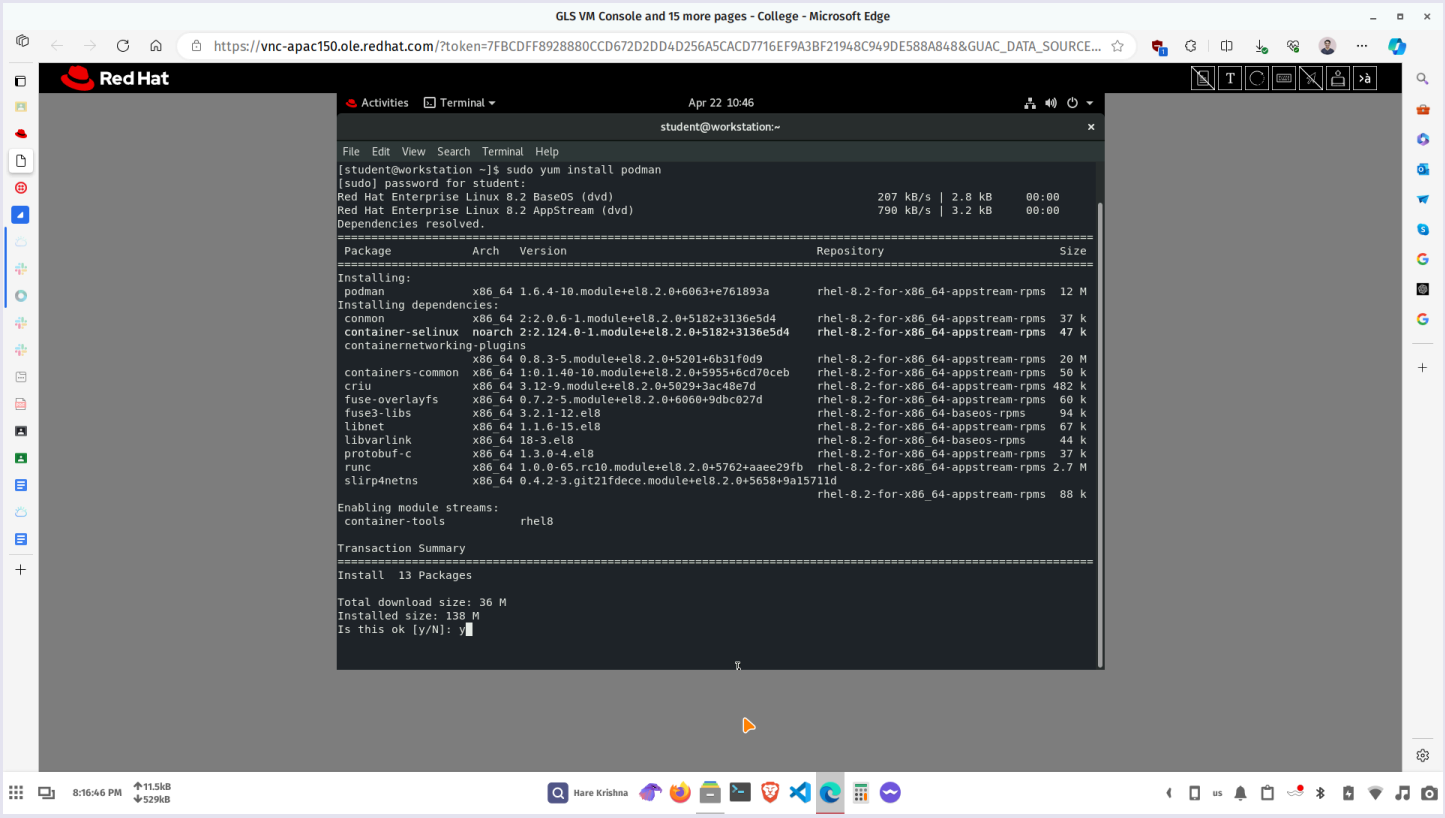
1) Task 1 :
- Perform from Web user
- pull a httpd image from registry.redhat.io
- Use your rhel id and password for login
- perform port forwarding
- perform persistent mounting
- container must be managed using systemctl comamnds

Steps and Screenshots :

1. Install podman using yum package manager



Command : ***sudo yum install podman***

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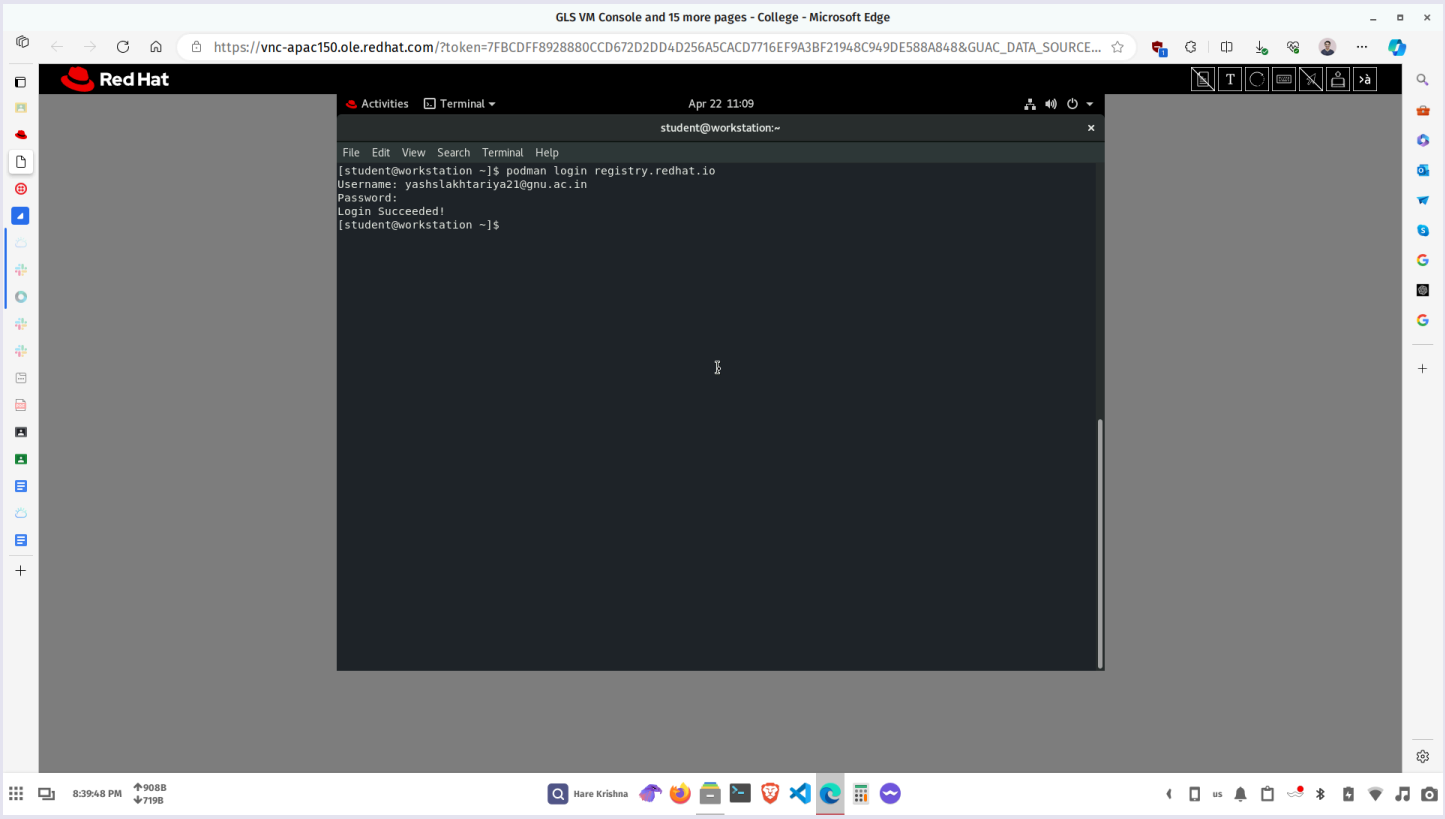
2. Login to podman registry using RHA credentials



Command : ***podman login registry.redhat.io***

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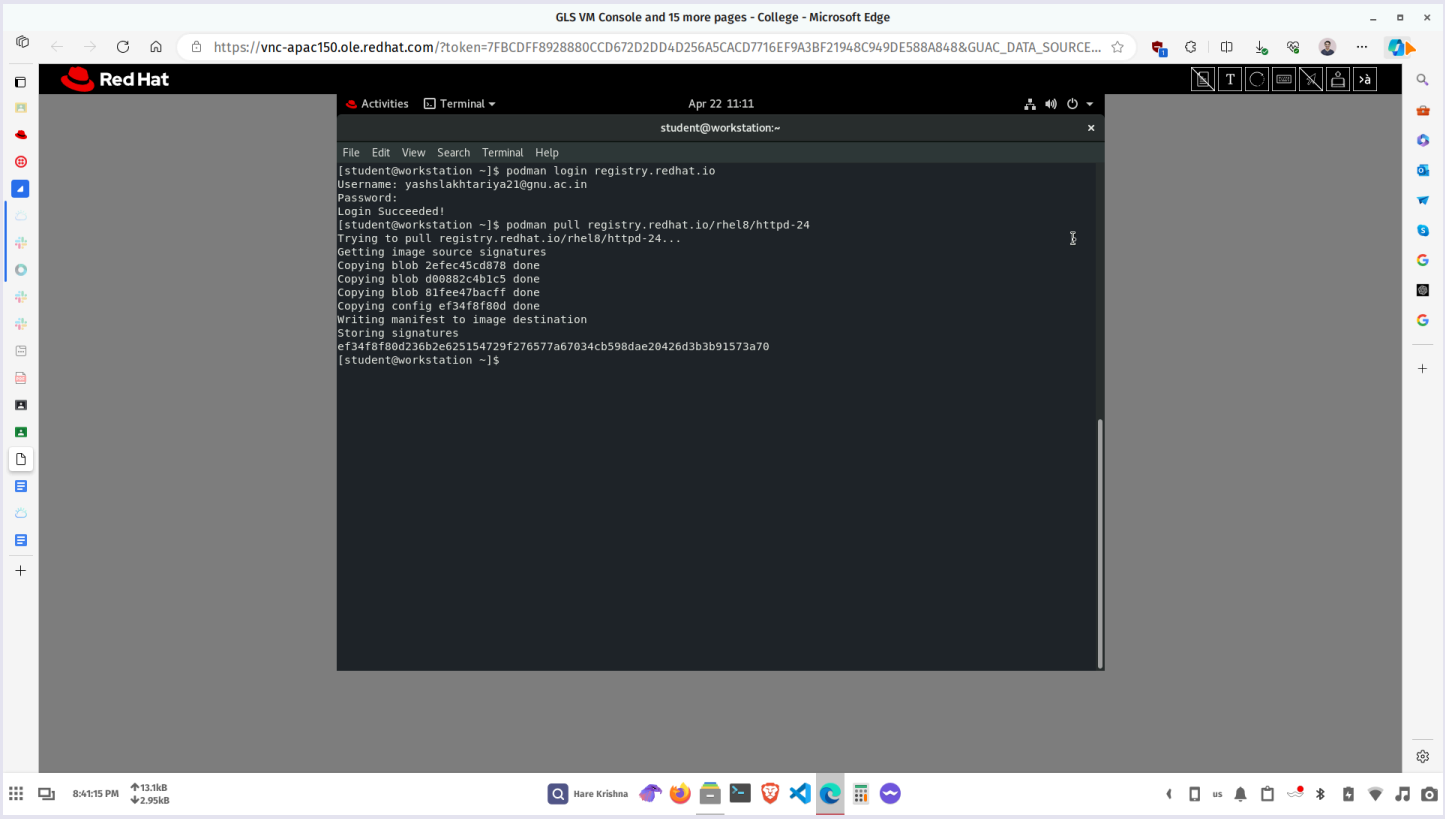
3. Pull the latest httpd image from registry



Command : ***podman pull registry.redhat.io/rhel8/httpd-24***

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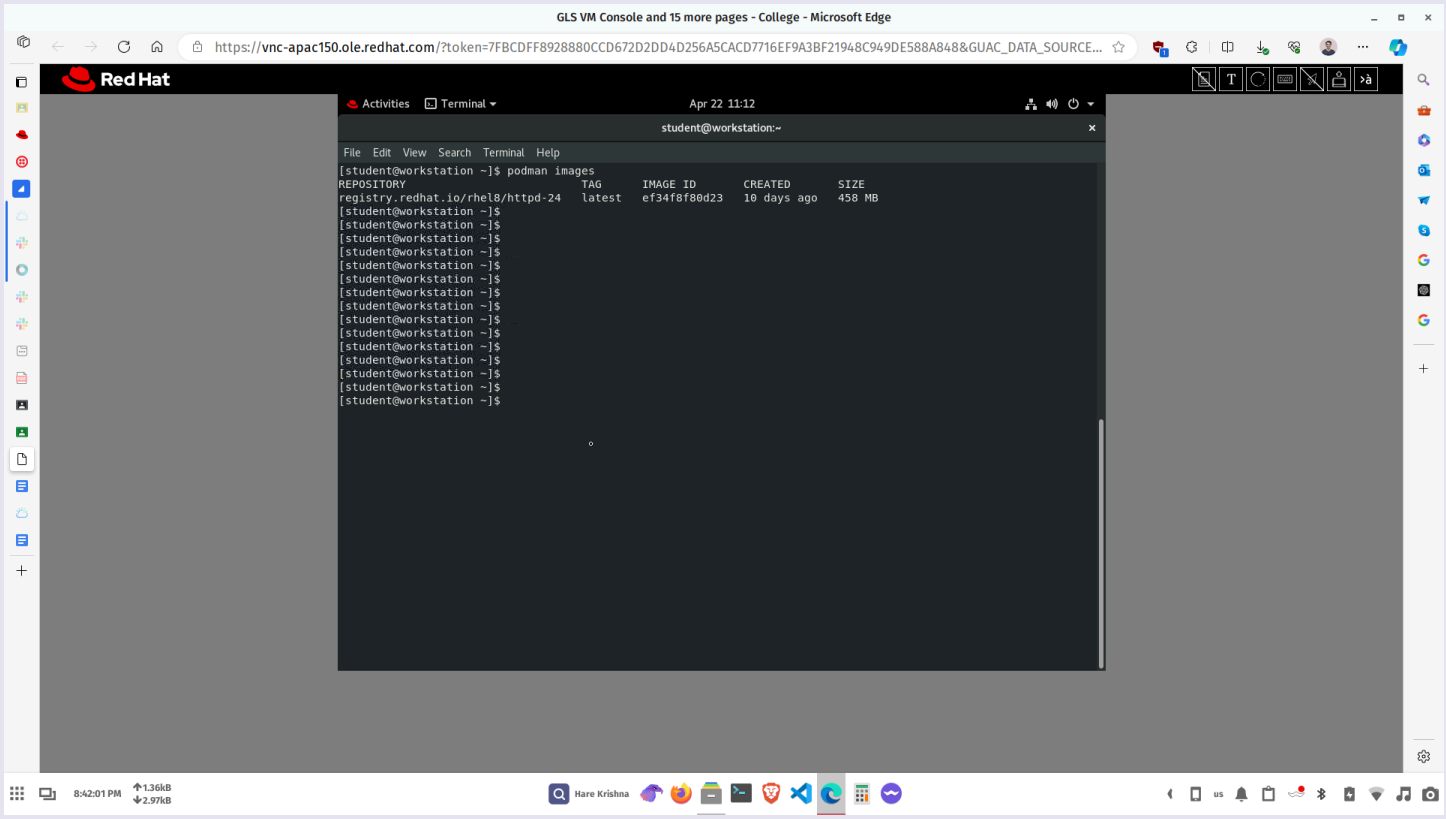
4. Check the existing image(s) in the system



Command : ***podman images***

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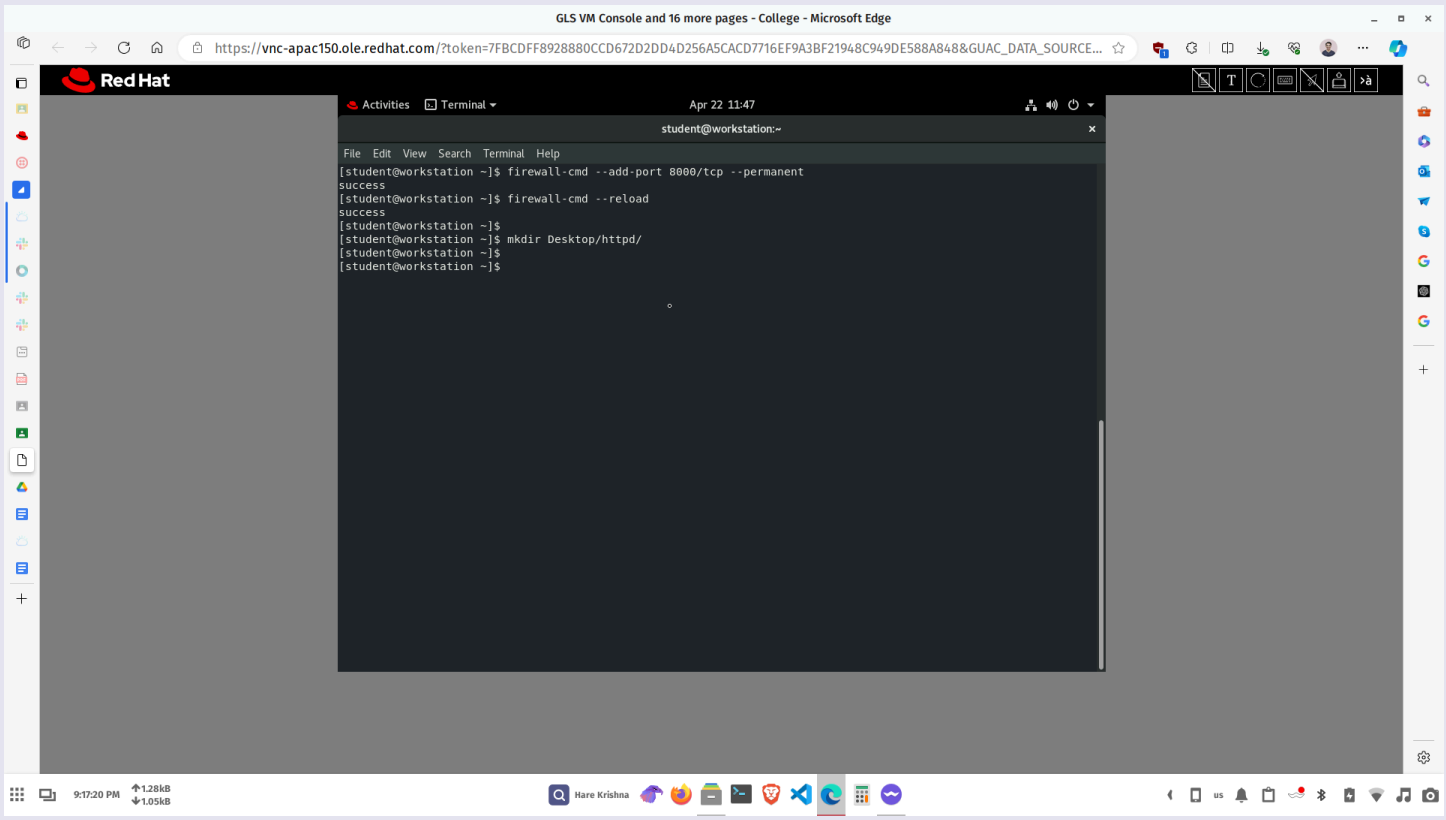
5. Add 8000 port via tcp to firewall to allow container connection and create directory to mount persistent changes of container



Commands :

- ***firewall-cmd --add-port=8000/tcp --permanent***
- ***firewall-cmd --reload***
- ***mkdir Desktop/httpd/***

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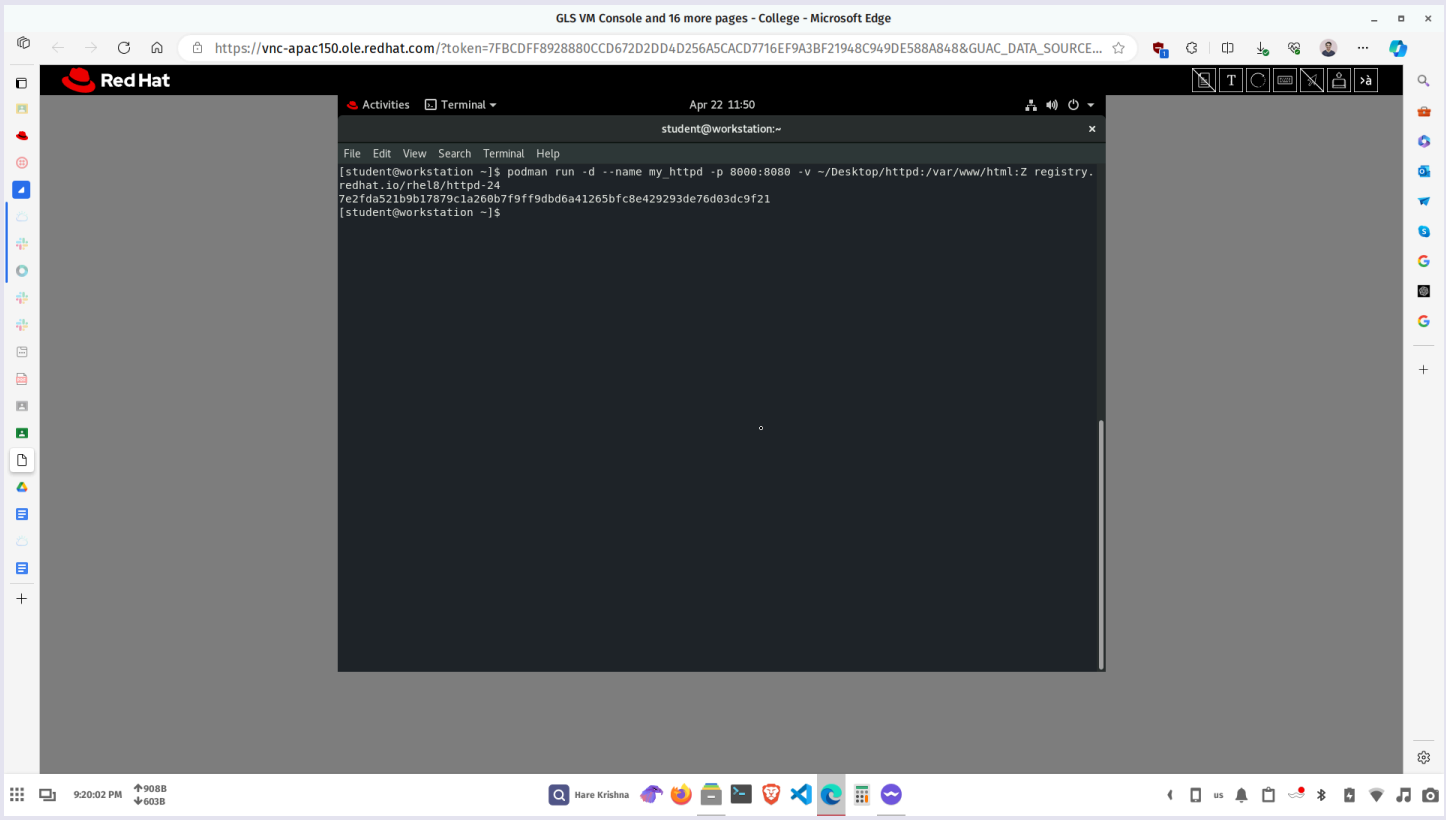
6. Run the podman container using downloaded image with port forwarding and persistent mount



Command : ***podman run -d --name my_httpd -p 8000:8080 -v ~/Desktop/httpd:/var/www/html:Z registry.redhat.io/rhel8/httpd-24***

(Here, host_path:container_path:drive_letter format is followed for mounting volume via option -v, -d is for detached container run, while -p stands for port forwarding from host 8000 to container 8080)

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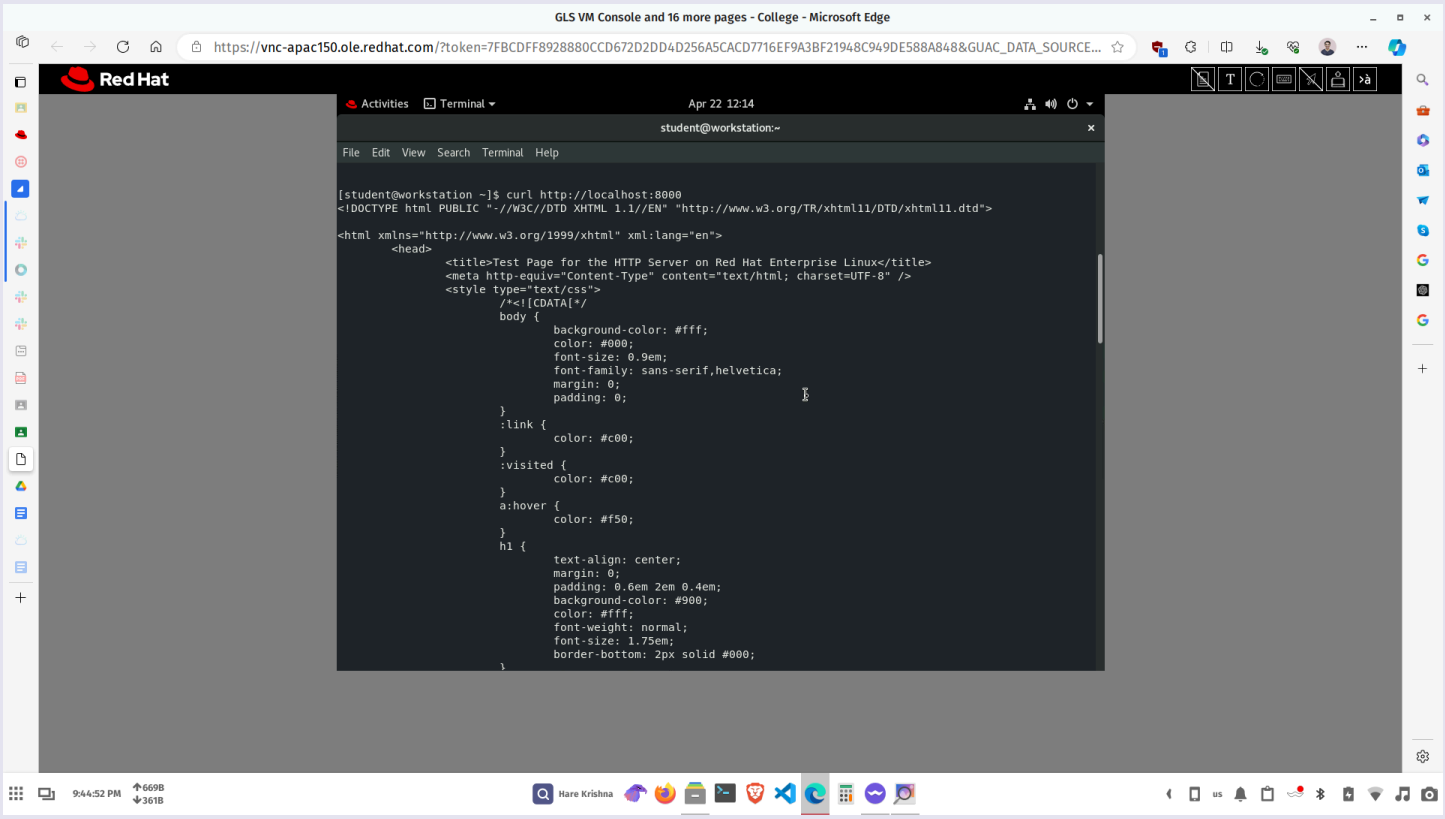
7. Now, test using curl on localhost if it returns html file



Command : ***curl http://localhost:8000***

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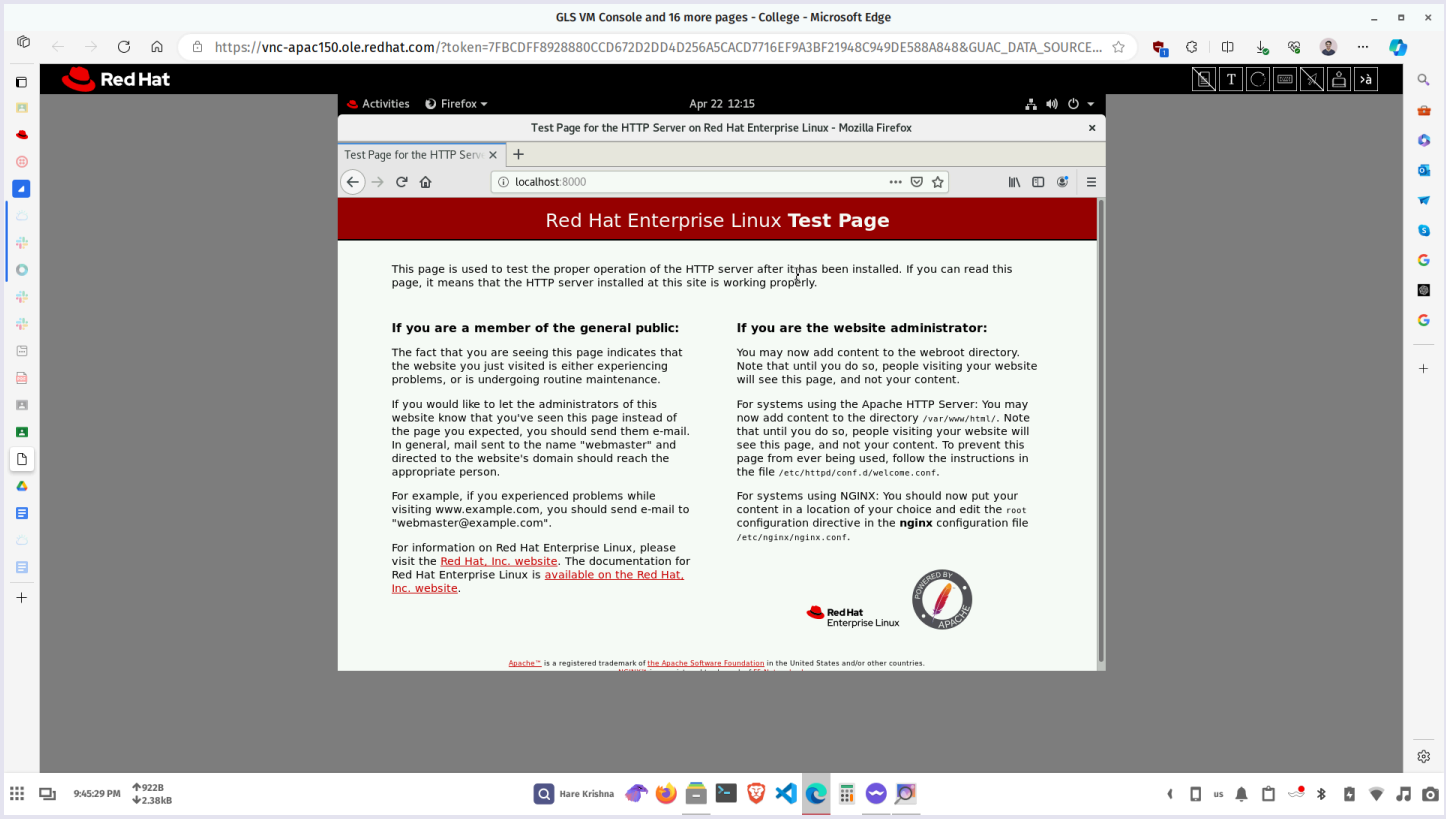
8. Check on browser also for viewing the html page



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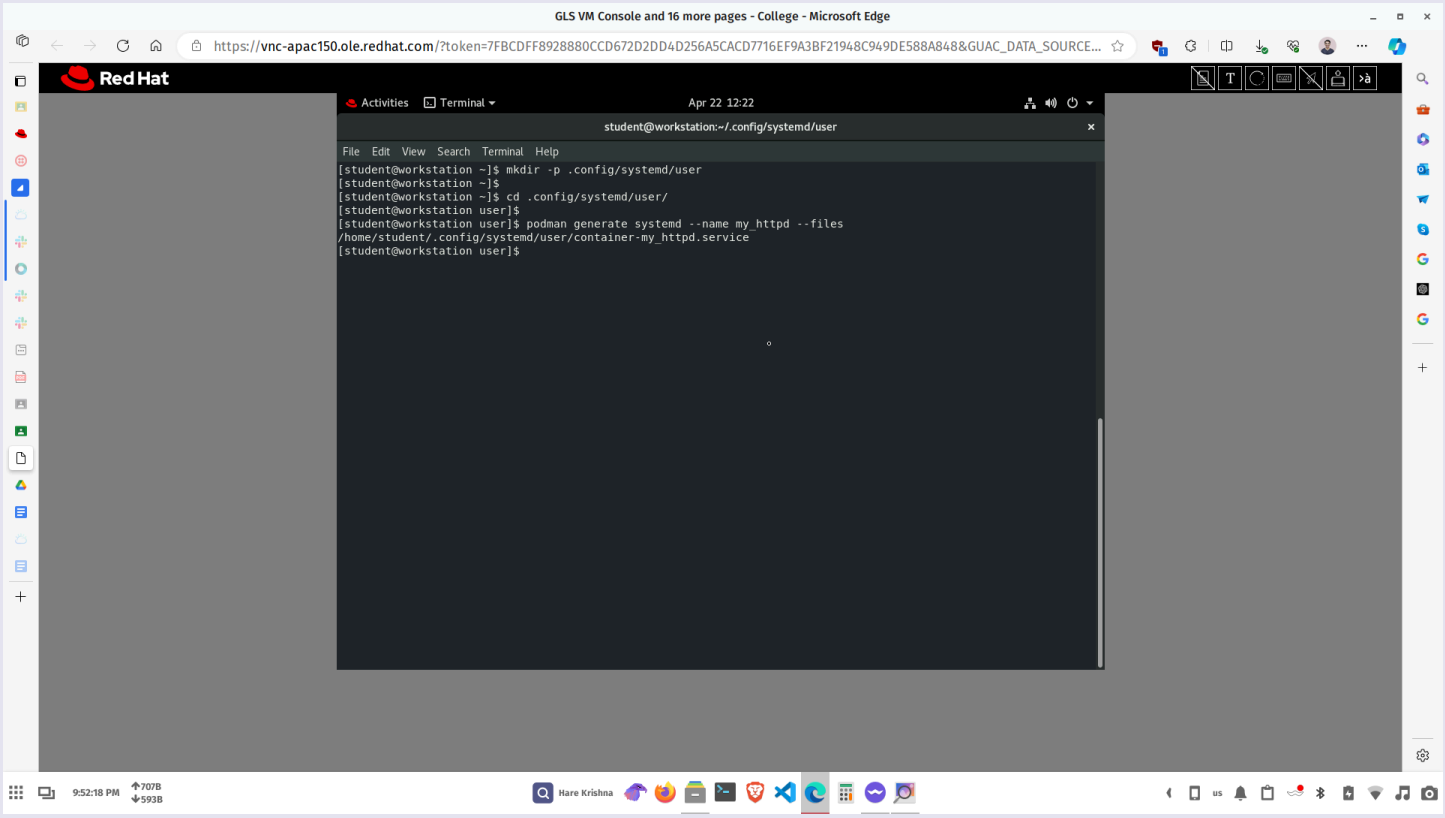
9. Create a systemd/user directories required in .config to store user services and use podman generate command to generate service files for our httpd container



Commands :

- ***mkdir .config/systemd/user***
- ***cd .config/systemd/user***
- ***podman generate systemd --name my_httpd --files***

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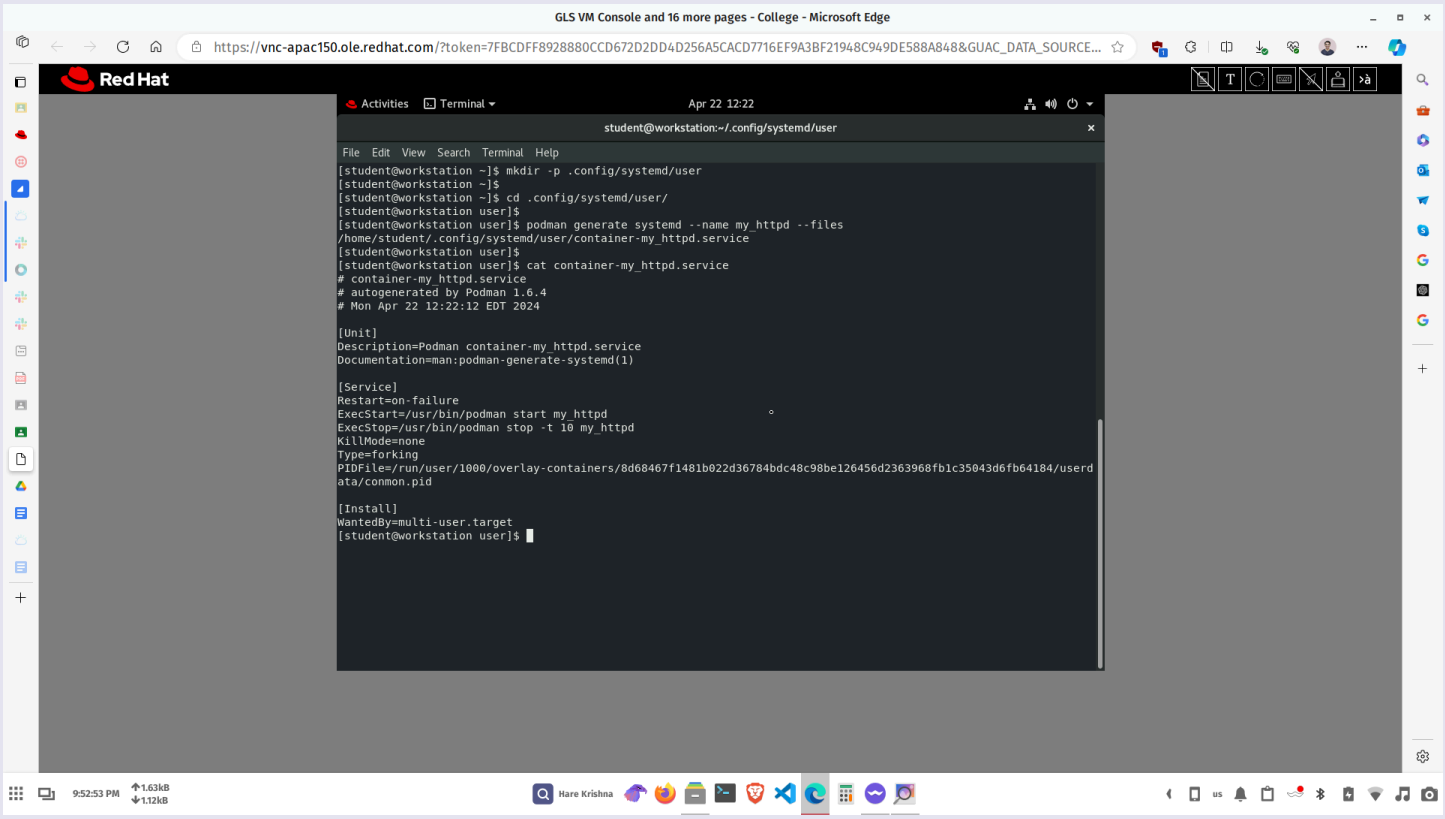
10. Check the contents of service file



Command : ***cat container-my_httpd.service***

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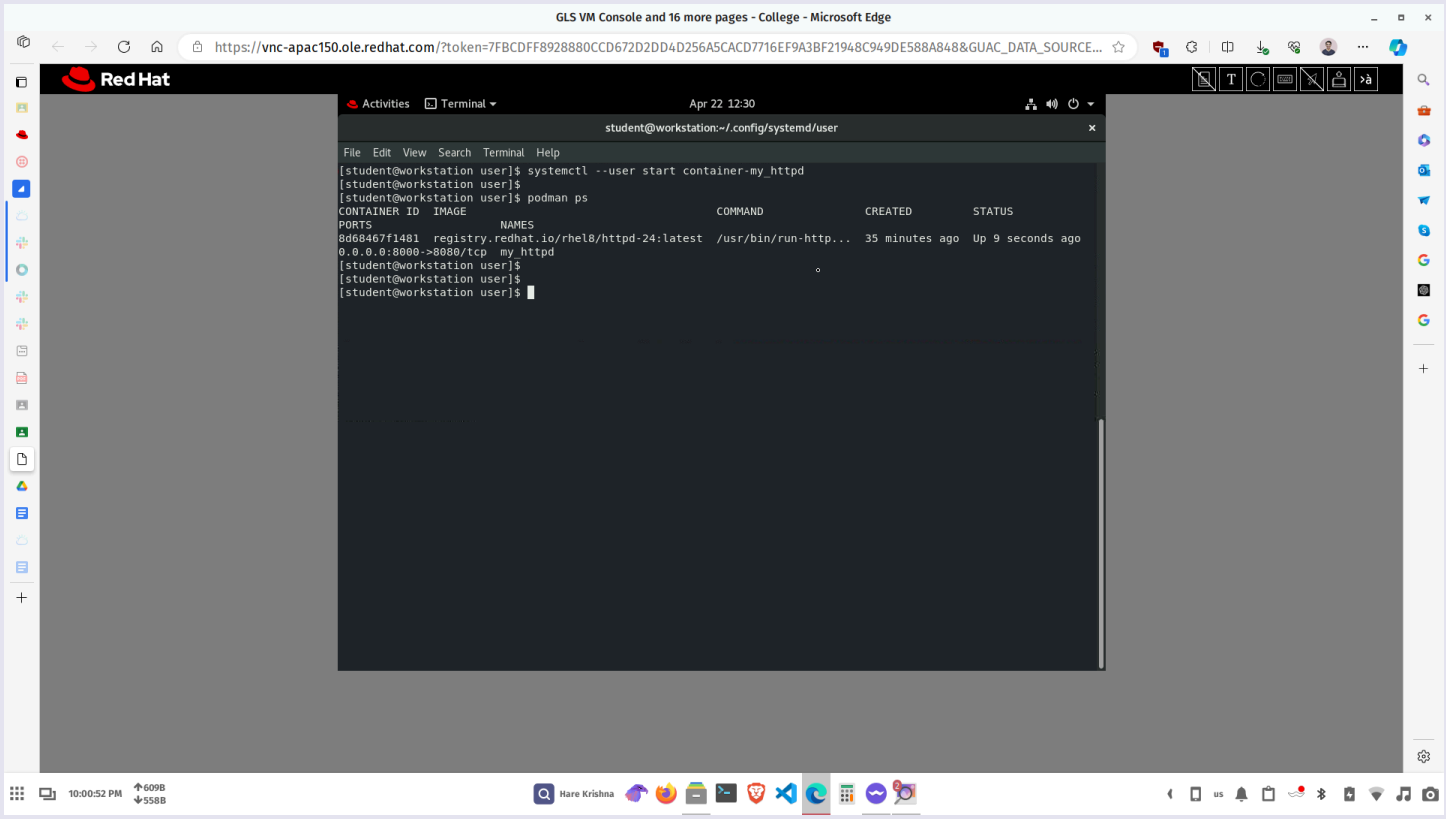
11. Now start the service and check if container comes in running state



Commands :

- ***systemctl --user start container-my_httpd.service***
- ***podman ps***

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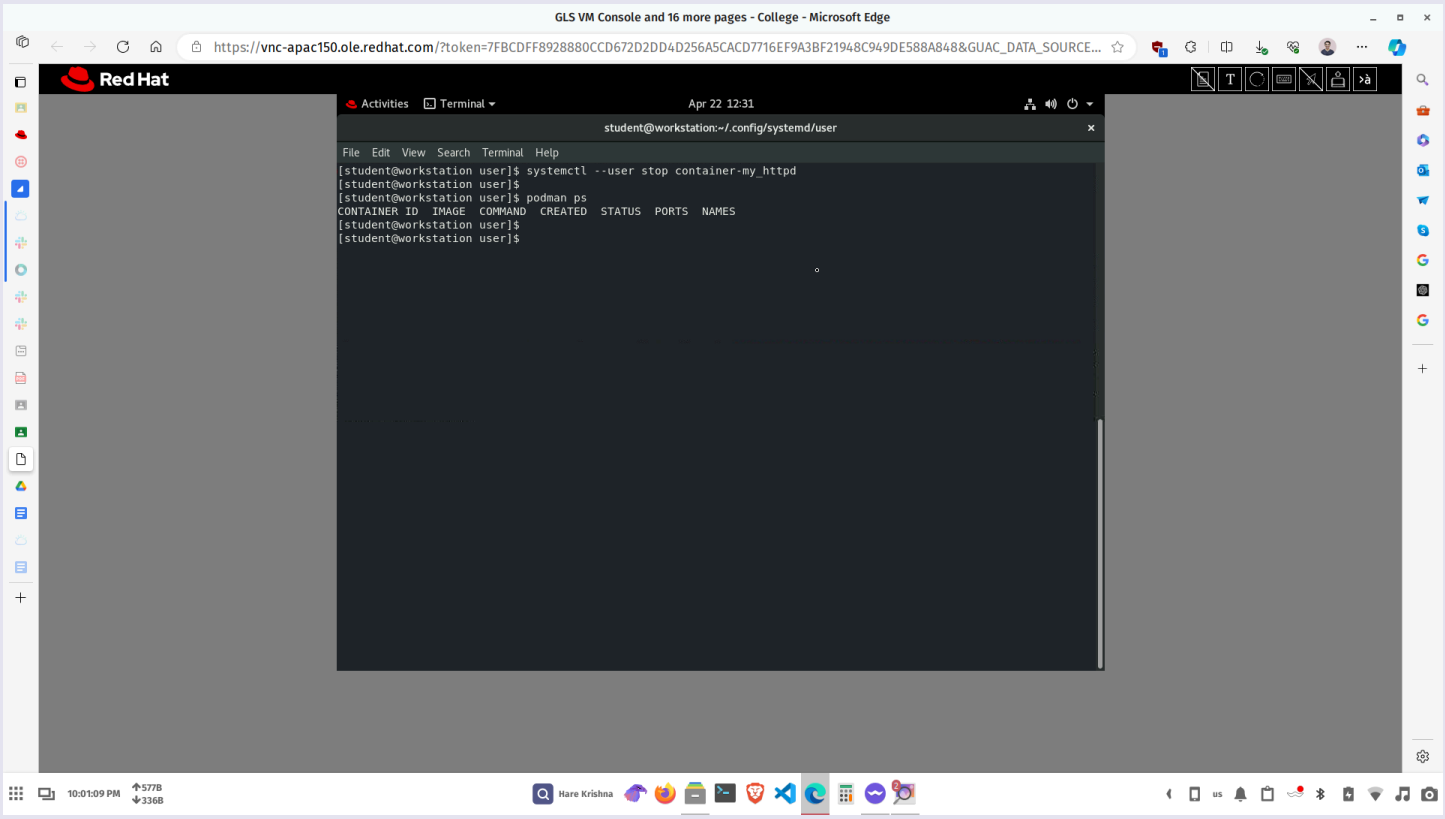
12. Try stopping the service and check if container is stopped



Commands :

- ***systemctl --user stop container-my_httpd.service***
- ***podman ps***

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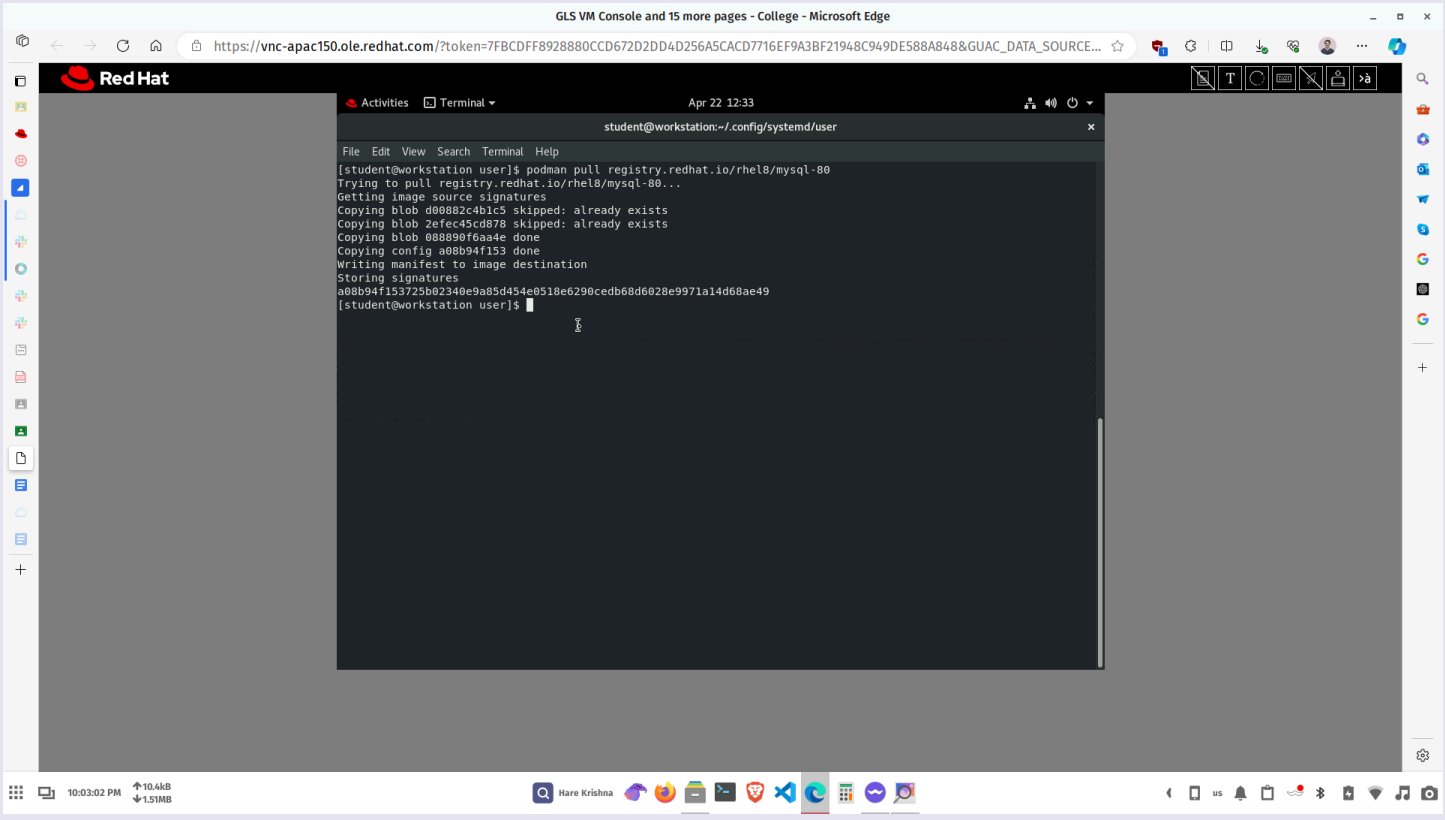
2) Task 2:
Create a container mysql-server from an image mysql on server a from registry
- perform the port forwarding
- create a database by your name
- create a table having the student details

Steps and Screenshots :

1. Pull the mysql image from registry



Command : ***podman pull registry.redhat.io/rhel8/mysql-80***

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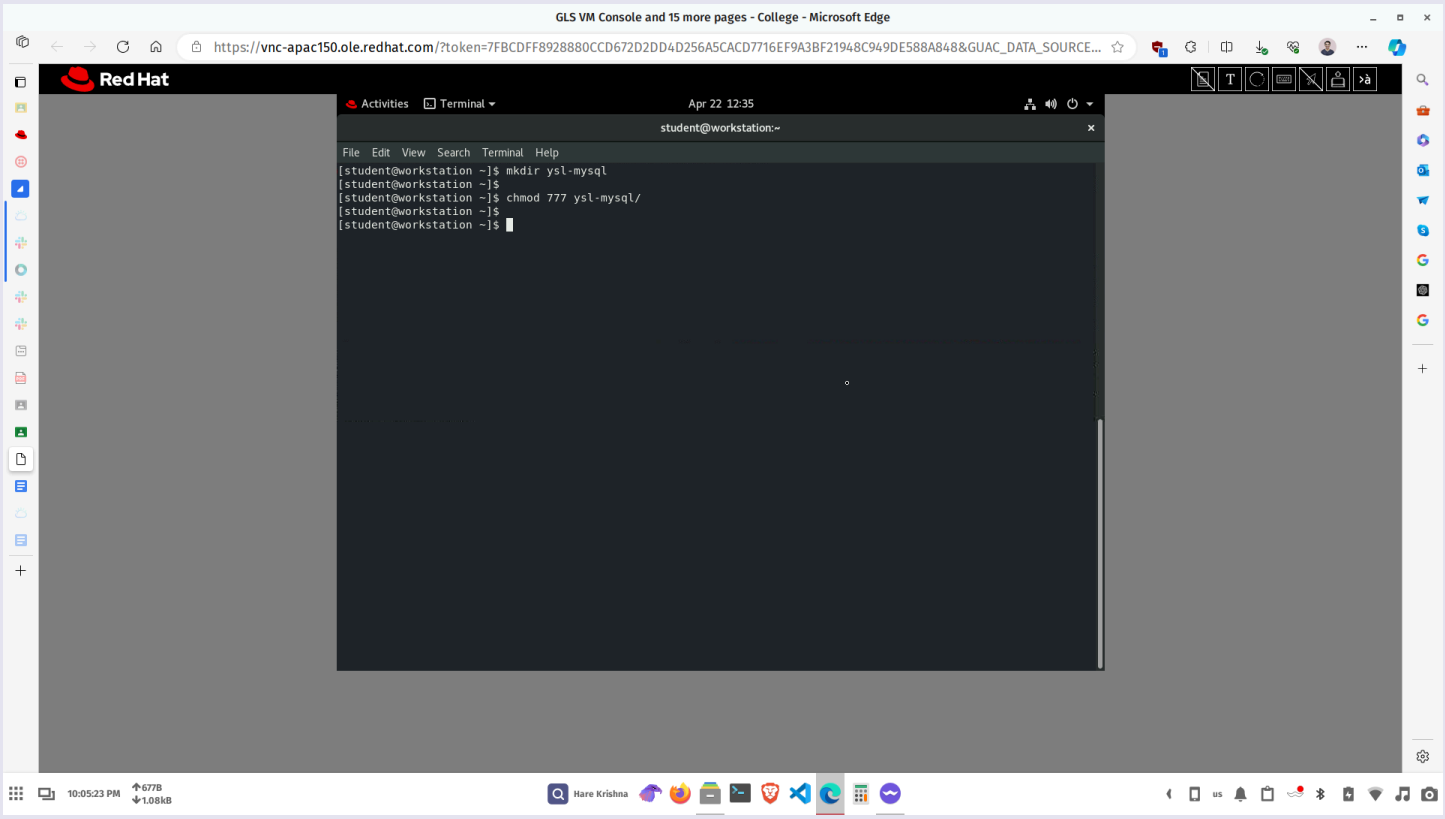
2. Create the directory for mounting mysql data on host



Commands :

- ***mkdir ysl-mysql***
- ***chmod 777 ysl-mysql*** (to give all r,w,x permissions to user, group and others)

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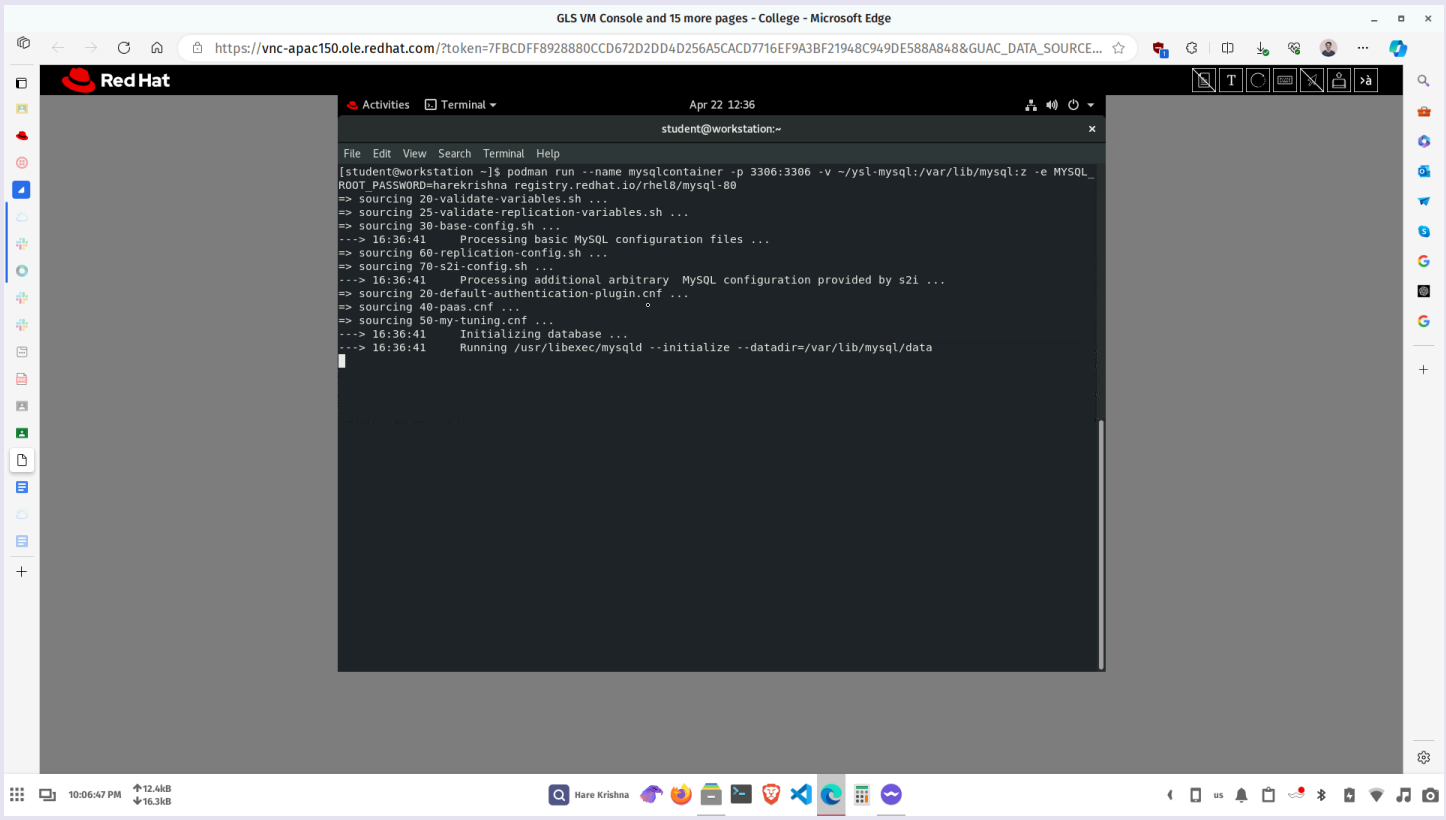
3. Run the mysql container with port forwarding and persistent mount and using option -e specify root password to set and use



Command : ***podman run --name mysqlcontainer -p 3306:3306 -v:~/ysl-mysql:/var/lib/mysql:z -e MYSQL_ROOT_PASSWORD=harekrishna registry.redhat.io/rhel8/mysql-80***

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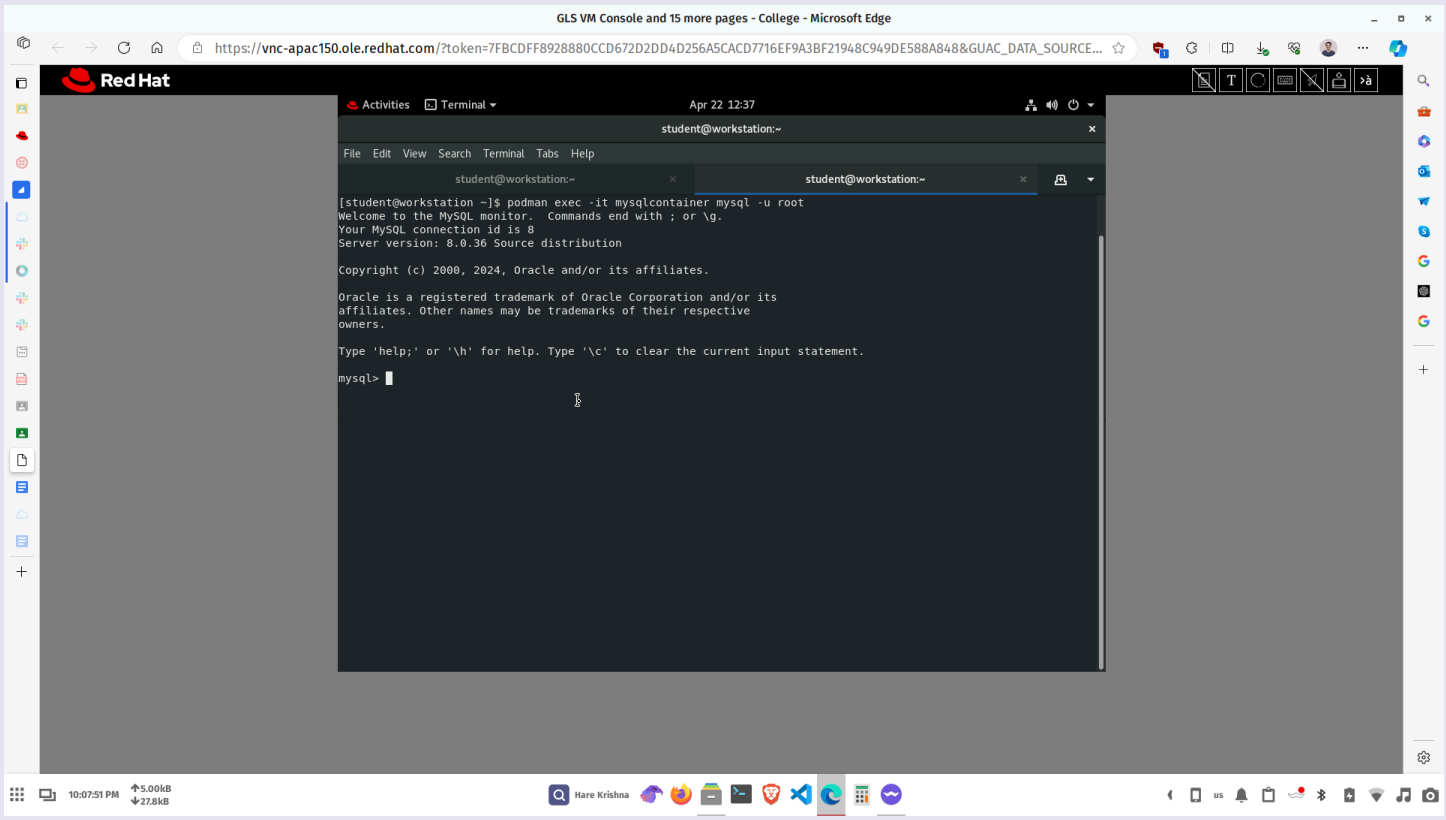
4. Now, as it was running in the terminal natively, in another tab or window, run mysql command in container and use interactive mode using -it option



Command : ***podman exec -it mysqlcontainer mysql -u root***

(Here, mysql -u root is the command to run in container)

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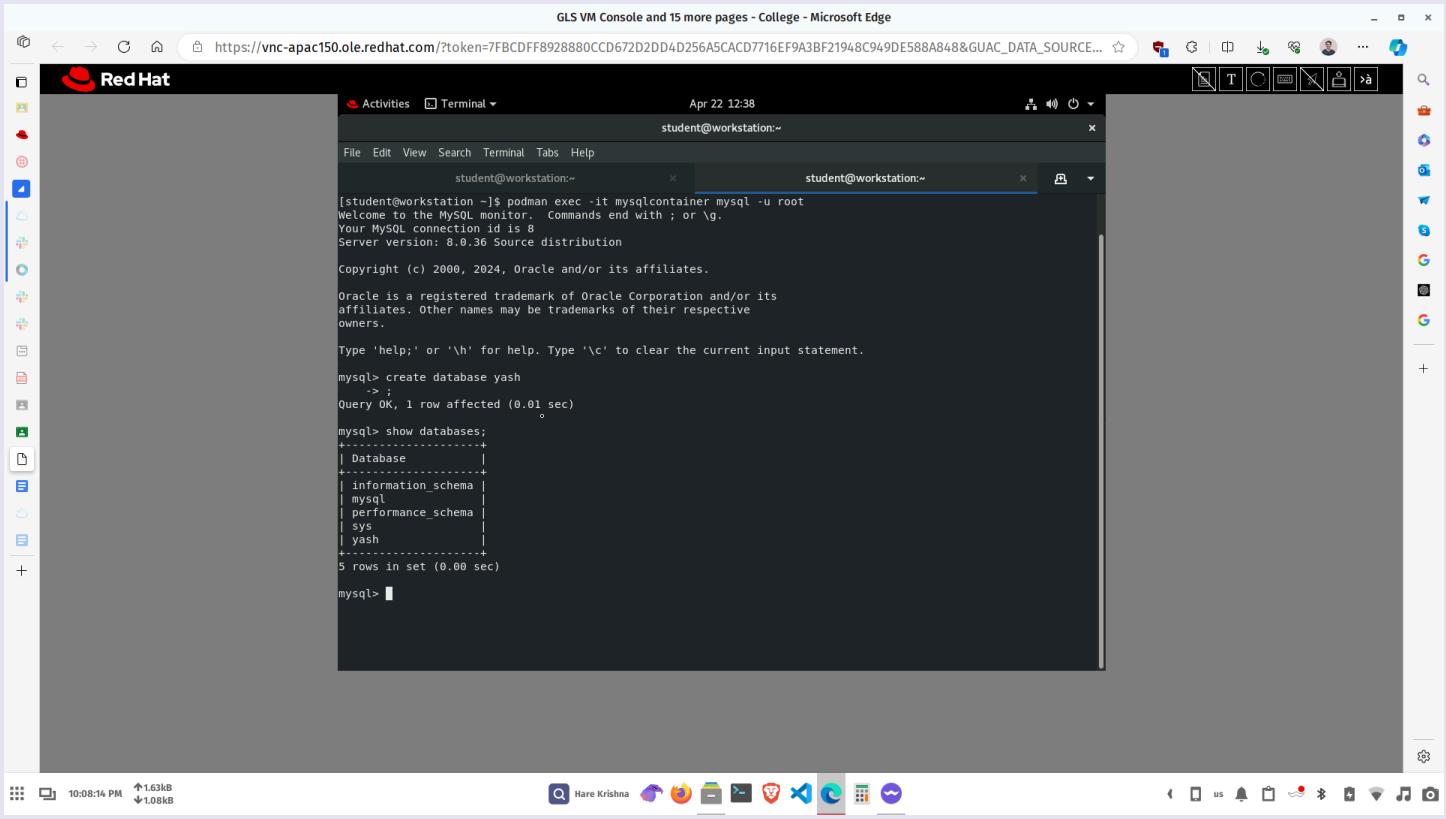
5. Create a database



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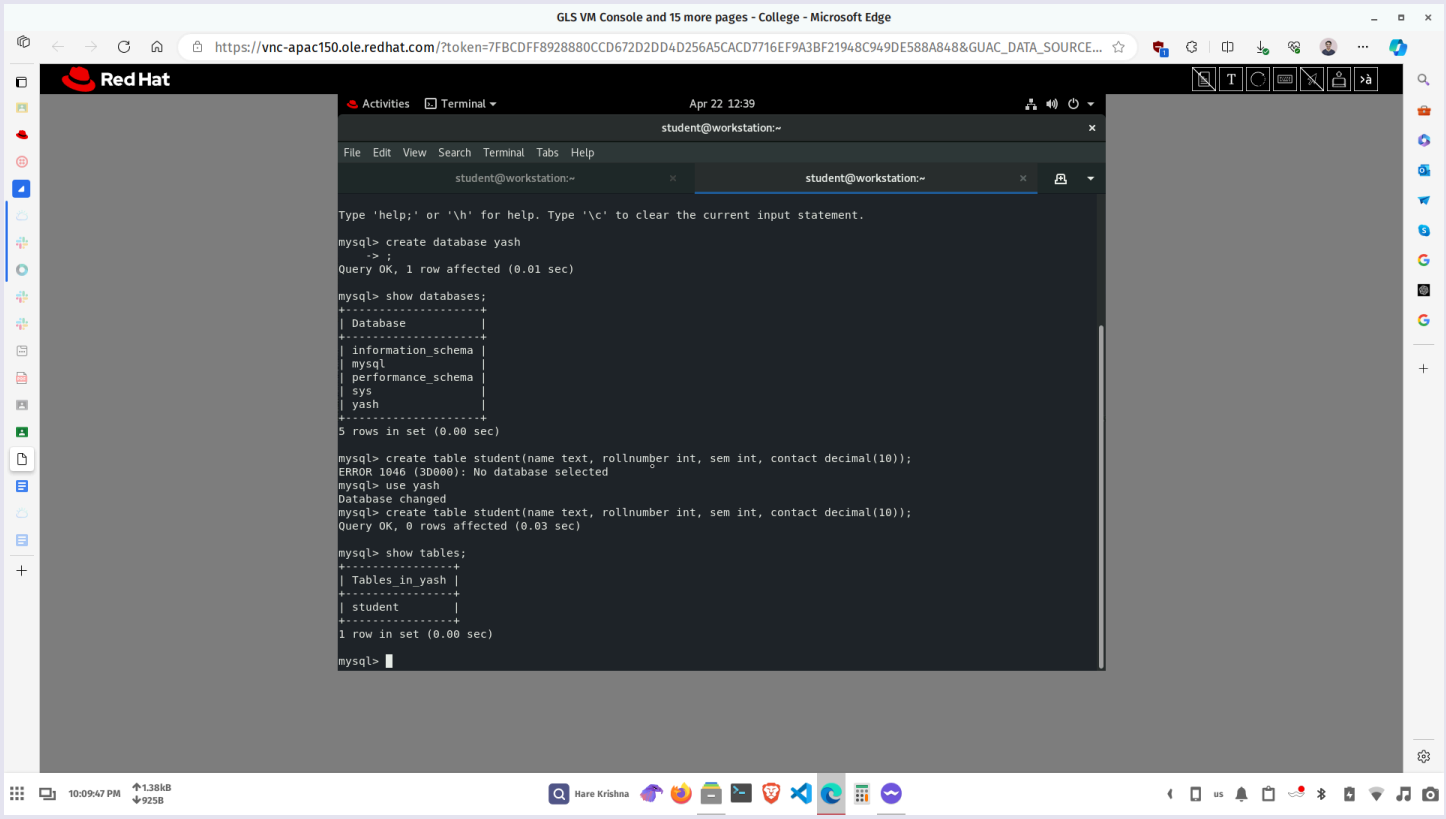
6. Create a student table to store student details



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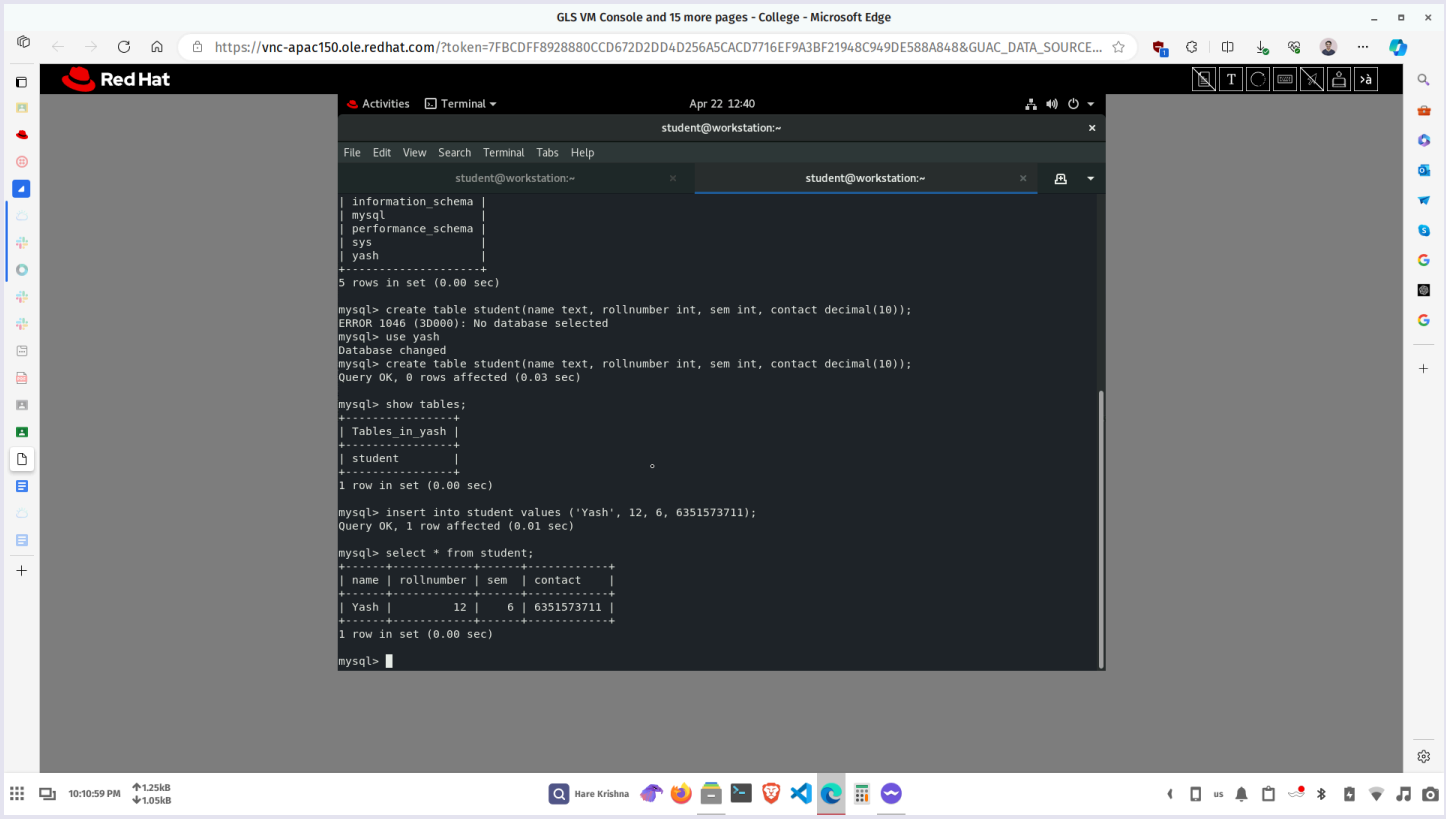
7. Insert some values and check if working successfully



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8. Type exit to exit from running command interactively in container