TASK 3,4

Step 1: Clone the Repository

1. Clone your Git repository:

```
git clone <your-repo-url>

cd <your-repo-folder>
```

Step 2: Build the Docker Image

2. Create a Docker image for your application:

```
docker build -t e-commerce-app .
```

Step 3: Start Minikube

3. Launch Minikube and check its status:

```
minikube start --force

minikube status
```

Step 4: Load the Docker Image into Minikube

4. Transfer the built Docker image to Minikube:

```
minikube image load e-commerce-app
```

5. Verify that the image is available:

```
minikube image list  # Ensure "e-commerce-app" appears in the list
```

Step 5: Deploy the Application

6. Apply the Kubernetes deployment configuration:

```
kubectl apply -f deployment.yml

kubectl get deployments

kubectl get pods
```

7. If a **NodePort** service is required, deploy it:

```
kubectl apply -f Nodeport.yaml
```

Step 6: Resolve Image Pull Issues (If Needed)

8. If Kubernetes attempts to pull the image from an external registry instead of using the local one, update the deployment:

```
kubectl patch deployment react-ecommerce-deployment --type='json' -p='[{"op": "replace", "path": "/spec/template/spec/containers/0/imagePullPolicy", "value": "Never"}]'
```

Step 7: Expose the Service & Access the Application

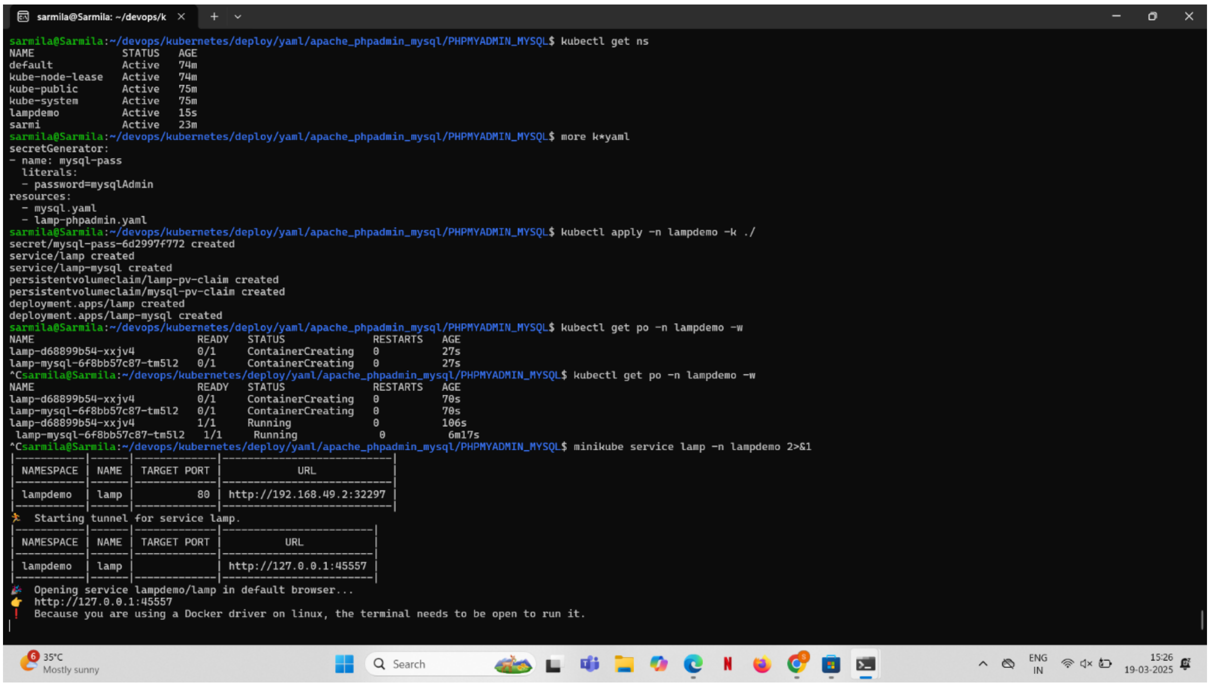
9. Retrieve the Minikube IP and expose the service:

```
minikube ip

minikube service react-ecommerce-service
```

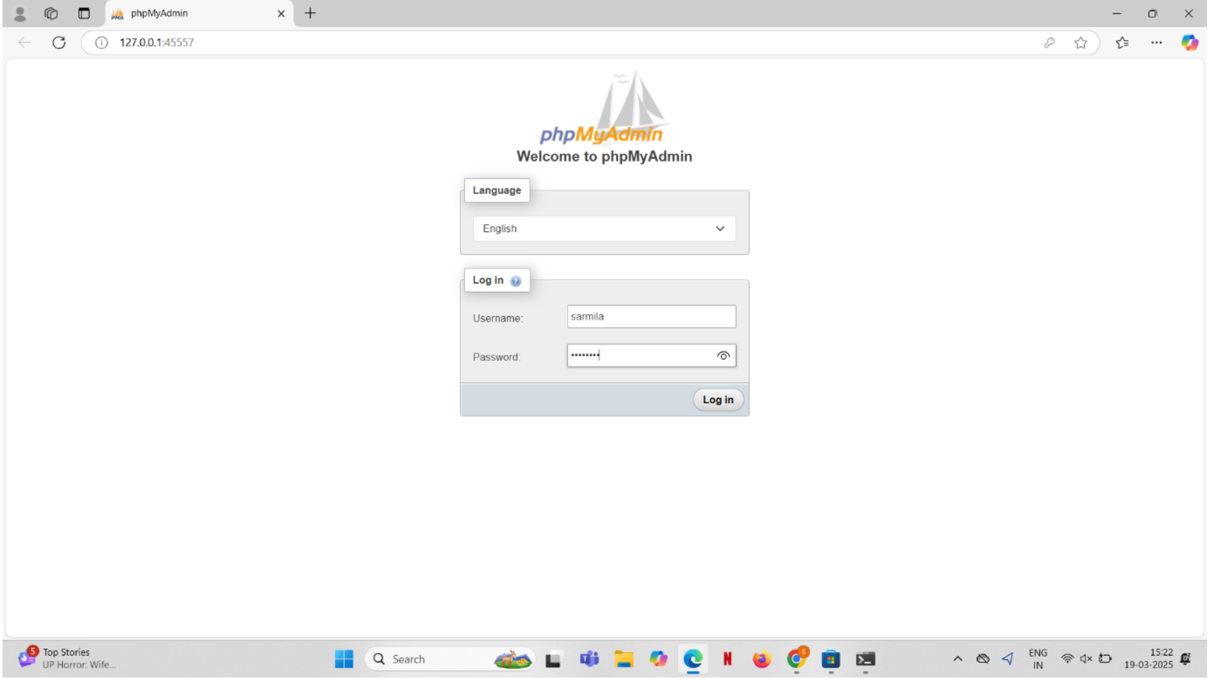
Step 8: Push to GitHub

10. Initialize and push your changes to GitHub:

```
git init  # If not already initialized

git add Dockerfile deployment.yml Nodeport.yaml

git commit -m "Kubernetes deployment for React e-commerce app"

git remote add origin <your-repo-url>

git branch -M main

git push -u origin main
```



```
sarmila@Sarmila:~/devops/kubernetes/deploy/yaml/apache_phpadmin_mysql/PHPMYADMIN_MYSQL$ kubectl get ns
NAME              STATUS   AGE
default           Active   74m
kube-node-lease   Active   74m
kube-public       Active   75m
kube-system       Active   75m
lampdemo          Active   15s
sarmi             Active   23m
sarmila@Sarmila:~/devops/kubernetes/deploy/yaml/apache_phpadmin_mysql/PHPMYADMIN_MYSQL$ more k*yaml
secretGenerator:
- name: mysql-pass
  literals:
  - password=mysqlAdmin
resources:
  - mysql.yaml
  - lamp-phpadmin.yaml
sarmila@Sarmila:~/devops/kubernetes/deploy/yaml/apache_phpadmin_mysql/PHPMYADMIN_MYSQL$ kubectl apply -n lampdemo -k ./
secret/mysql-pass-6d2997f772 created
service/lamp created
service/lamp-mysql created
persistentvolumeclaim/lamp-pv-claim created
persistentvolumeclaim/mysql-pv-claim created
deployment.apps/lamp created
deployment.apps/lamp-mysql created
sarmila@Sarmila:~/devops/kubernetes/deploy/yaml/apache_phpadmin_mysql/PHPMYADMIN_MYSQL$ kubectl get po -n lampdemo -w
NAME                            READY   STATUS              RESTARTS   AGE
lamp-d68899b54-xxjv4            0/1     ContainerCreating   0          27s
lamp-mysql-6f8bb57c87-tm5l2     0/1     ContainerCreating   0          27s
^Csarmila@Sarmila:~/devops/kubernetes/deploy/yaml/apache_phpadmin_mysql/PHPMYADMIN_MYSQL$ kubectl get po -n lampdemo -w
NAME                            READY   STATUS              RESTARTS   AGE
lamp-d68899b54-xxjv4            0/1     ContainerCreating   0          70s
lamp-mysql-6f8bb57c87-tm5l2     0/1     ContainerCreating   0          70s
lamp-d68899b54-xxjv4            1/1     Running             0          106s
 lamp-mysql-6f8bb57c87-tm5l2     1/1     Running             0          6m17s
^Csarmila@Sarmila:~/devops/kubernetes/deploy/yaml/apache_phpadmin_mysql/PHPMYADMIN_MYSQL$ minikube service lamp -n lampdemo 2>&1
|-----------|------|-------------|---------------------------|
| NAMESPACE | NAME | TARGET PORT |            URL            |
|-----------|------|-------------|---------------------------|
| lampdemo  | lamp |          80 | http://192.168.49.2:32297 |
|-----------|------|-------------|---------------------------|
🏃  Starting tunnel for service lamp.
|-----------|------|-------------|------------------------|
| NAMESPACE | NAME | TARGET PORT |          URL           |
|-----------|------|-------------|------------------------|
| lampdemo  | lamp |             | http://127.0.0.1:45557 |
|-----------|------|-------------|------------------------|
🎉  Opening service lampdemo/lamp in default browser...
👉  http://127.0.0.1:45557
❗  Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```



Welcome to phpMyAdmin

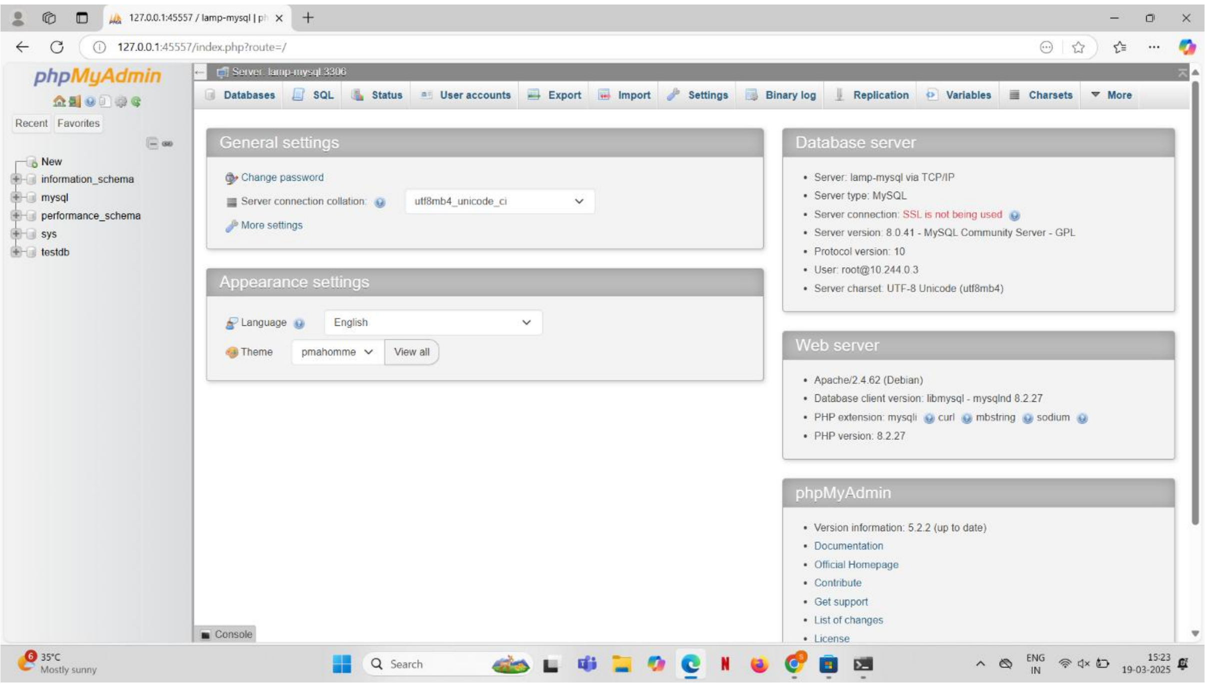
Language

English

Log in

Username: sarmila

Password: ••••••••



General settings

- Change password
- Server connection collation: utf8mb4_unicode_ci
- More settings

Appearance settings

- Language: English
- Theme: pmahomme View all

Database server

- Server: lamp-mysql via TCP/IP
- Server type: MySQL
- Server connection: SSL is not being used
- Server version: 8.0.41 - MySQL Community Server - GPL
- Protocol version: 10
- User: root@10.244.0.3
- Server charset: UTF-8 Unicode (utf8mb4)

Web server

- Apache/2.4.62 (Debian)
- Database client version: libmysql - mysqlnd 8.2.27
- PHP extension: mysqli curl mbstring sodium
- PHP version: 8.2.27

phpMyAdmin

- Version information: 5.2.2 (up to date)
- Documentation
- Official Homepage
- Contribute
- Get support
- List of changes
- License