Placement Oriented Devops Program

Kubernetes practice questions

1. Simple Web Application Deployment

● Deploy a simple web application on Kubernetes and expose it to the internet.

Tasks

   a. Create a Dockerfile for your web application.
   b. Build the Docker image and push it to a container registry like Docker Hub.
   c. Create a YAML file to create a Deployment that uses your Docker image.
   d. Create a Service YAML to expose your Deployment

2.ConfigMap and Secret Management

● How can you manage configuration data and sensitive information in Kubernetes?

Tasks

   a. Write a YAML file for the ConfigMap.
   b. Write a YAML file for the Secret.
   c. Modify the Deployment to use the ConfigMap and Secret.

3. Horizontal Pod Autoscaling

● Automatically scale the number of pod replicas based on CPU usage?

Tasks

   a. Create a Deployment: Write a YAML file for the Deployment.
   b. Create an HPA (Horizontal Pod Autoscaler): Write a YAML file for the HPA.

4. Persistent Storage with PVC

- How can you use persistent storage in Kubernetes for data that needs to persist beyond the life of a pod?

   Tasks

   a. Create a PersistentVolume (PV): Write a YAML file for the PV.
   b. Create a PersistentVolumeClaim (PVC): Write a YAML file for the PVC.
   c. Update Deployment to Use PVC: Modify the Deployment to use the PVC.

5. Rolling Updates

- How can you update the application with zero downtime?

   Tasks

   a. Create a Deployment: Write a YAML file for the Deployment.
   b. Update the Deployment with a New Image: Apply the updated Deployment YAML to perform a rolling update.