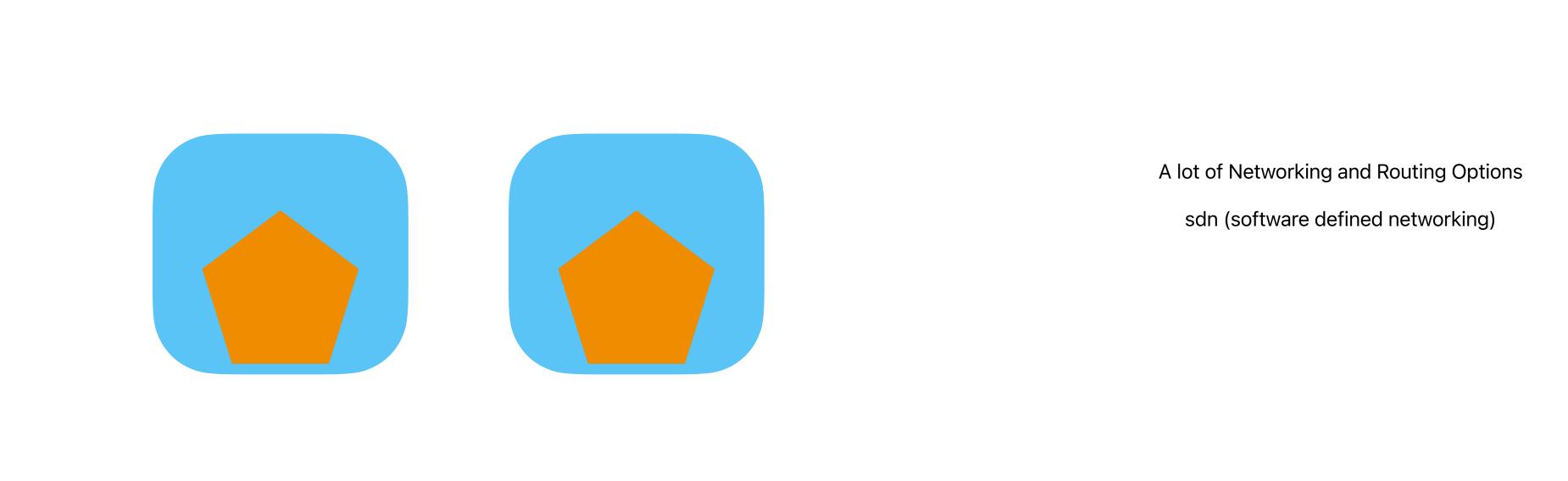


Problem 4



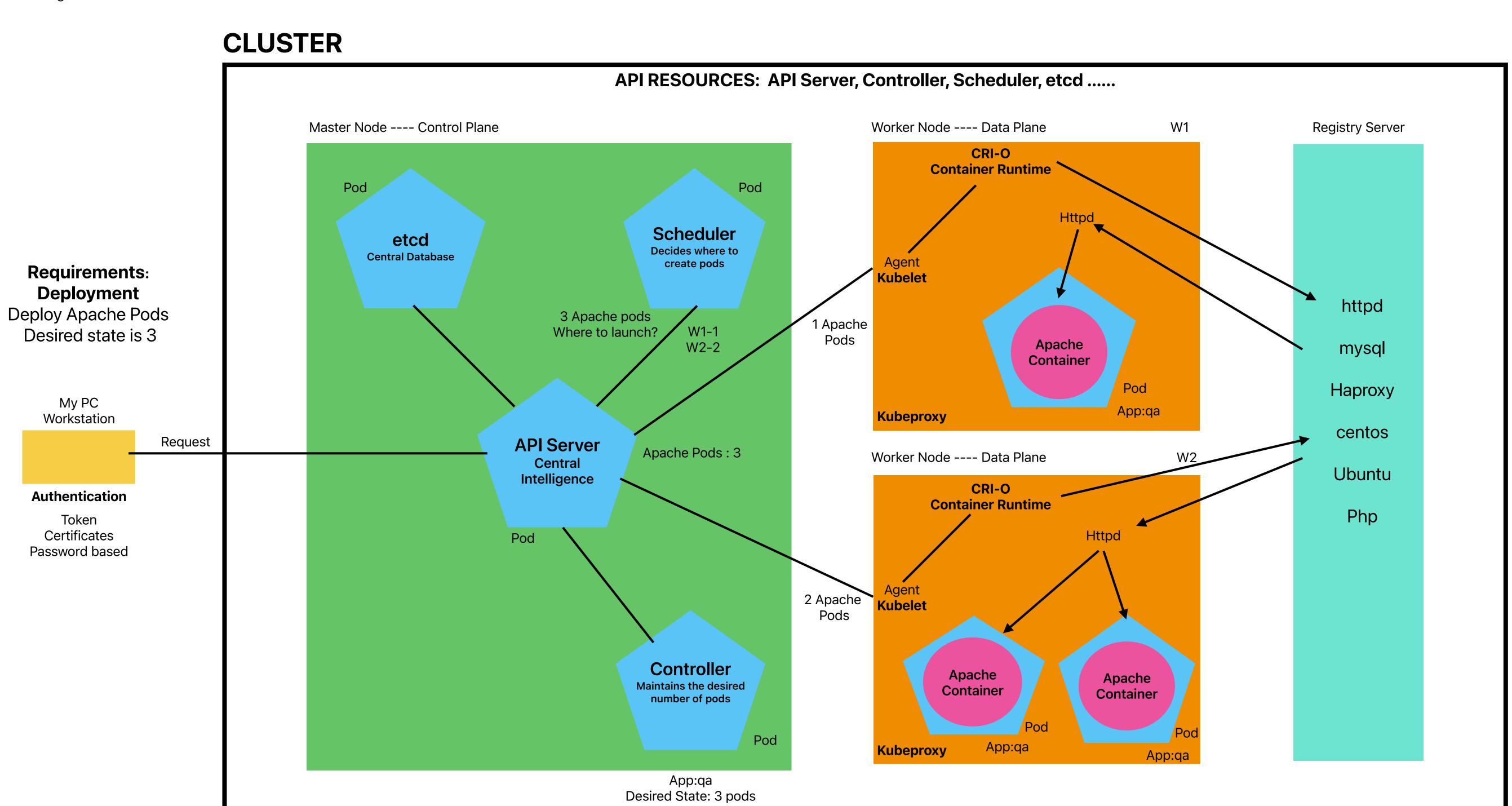
Kubernetes Architecture

Problem 5

No Container Autoscaling

No Node Autoscaling

Single Master Architecture



Current state: 3 pods

Pod Autoscaling : manual / automatic Node Autoscaling : Cluster Auto Scaler

OpenShift

5. OpenShift will create an image

9. Enjoy the Application

6. OpenShift Push it to a registry server

7. OpenShift creates the Deployment --- Pods

8. OpenShift will Setup the routing and networking

Developer ---- index.php and rest all content is available on a GitHub repository, he wants to deploy it on Kubernetes **Kubernetes** Create a ContainerFile --- package requirements, permissions, prerequisites
Create an image from ContainerFile 3. Pushes image to a Registry Server **Container as a Service** 4. Needs to create a Deployment --- Pods 5. Setup the routing and networking 6. Enjoy the Application **OpenShift** 1. Create a ContainerFile --- package requirements, permissions, prerequisites 2. Give the ContainerFile to OpenShift Platform as a Service 3. OpenShift will create an image 4. OpenShift Push it to a registry server 5. OpenShift creates the Deployment --- Pods 6. OpenShift will Setup the routing and networking 7. Enjoy the Application **OpenShift** 1. Put all contents related to application on GitHub Repository 2. Hand over that Repository to OpenShift 3. Analyse and find the index file and accordingly it will select a builder image which is preconfigured to run Applications 4. OpenShift will create a ContainerFile using the Builder Image

S2I ---- Source to Image

Kubernetes	OpenShift
CaaS Container as a Service	PaaS Platform as a Service
OpenSource	Enterprise OpenSource okd Origin Kubernetes Distribution
Install OS: CentOS, Ubuntu	Master Node: rhelcoreos Worker Node: rhel/rhelcoreos
No Console (No GUI)	We do have a Console, it is preconfigured
No monitoring tools are reconfigured	Monitoring Tools are preconfigured
No Logging Tools are preconfigured	Logging Tools are preconfigured
No Ingress Controller is preconfigured	Ingress Controller is preconfigured
No Registry Server is preconfigured	Registry Server is preconfigured
SELinux is OFF and not configured	SELinux is ON and configured
Main Command: kubectl	Main Command: oc (OpenShift Client)

Key Terminology

1. Pod: Smallest Unit of a Kubernetes Environment. A pod contains one or more Containers. 2. Deployment: An Operational Unit providing us with the management of the application. 3. Project: A Kubernetes namespace 4. Routes: The Networking Configurations used to expose your Application and Services to Outside World 5. Operators: Packaged Kubernetes Packages that help in establishing the Kubernetes architecture

Two Different Perspectives in OpenShift

Workflow 1. Administrator 2. Developer

2 Users

Username: admin Password: redhatocp **Username: developer**

password: developer

RedHat ---- 3 Pods Amazon ---- 1 Pod Google ---- 5 Pods

Desired States

