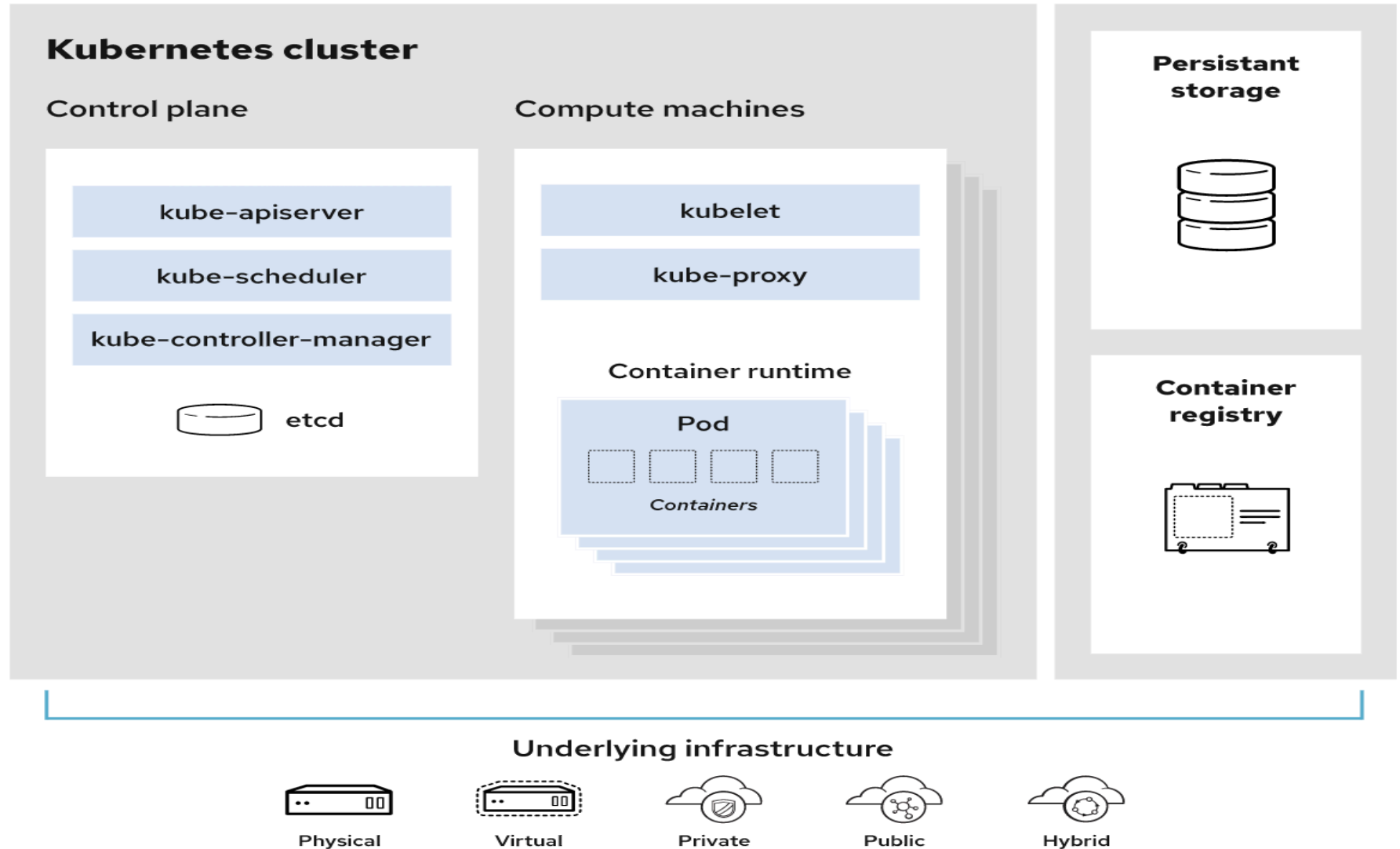




GKE: Serverless Practical

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Kubernetes : Architecture



GKE : Google Kubernetes Engine



Google **Kubernetes** Engine (**GKE**) provides a managed environment for deploying, managing, and scaling your containerized applications using Google infrastructure. The **GKE** environment consists of multiple machines (specifically, Compute Engine instances) grouped together to form a cluster.

Deploying a containerized web application in GKE

Objectives :

Create and package a sample application into a docker image.

Run it on local machine with docker.

Upload the docker image to container registry.

Create a GKE cluster

Deploy our application to the cluster.

Expose the Deployment to internet.

Inspecting and viewing the application

GKE : Google Kubernetes Engine



Create simple website using nginx docker container

```
docker run -p 8080:80 nginx:latest
```

```
docker cp index.html {container-id}:/usr/share/nginx/html/
```

```
docker commit {container-id} my-web:V1
```

```
docker tag my-web:V1 asia.gcr.io/{project-name}/my-web:V1
```

```
docker push asia.gcr.io/{project-name}/my-web:V1
```

Deploy GKE via UI

GKE : Google Kubernetes Engine



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```

Deploy GKE via UI

GKE : Cluster via cmdline



Set project-id and zone

```
gcloud config set project webserver-demo-gke  
gcloud config set compute/zone asia-southeast1
```

Create GKE Cluster

```
gcloud container clusters create webserver-gke-cluster --num-nodes=1  
gcloud container clusters get-credentials webserver-gke-cluster  
** above cmd configures kubectl to use the cluster **
```

Deploy Application to Cluster

```
kubectl create deployment web-server --image=asia.gcr.io/ {project-name}/my-web:V1
```

GKE :



Expose application deployed

```
kubectl expose deployment web-server --type LoadBalancer --port 80 --target-port 80
```

Inspecting application deployed

```
kubectl get pods
```

```
kubectl get service web-server
```

```
Kubectl logs -f {pod}
```

Kubernetes Cheat sheet link for reference:

<https://kubernetes.io/docs/reference/kubectl/cheatsheet/>



Thank You

