**Google Cloud Platform – Professional Cloud Architect**

**(Lab commands & screenshots)**

Kubernetes

* **Commands:**

**gcloud config list**

**gcloud config set project $PROJECT\_ID**

**gcloud config set compute/zone australia-southeast1-a**

**gcloud config list**

**mkdir git\_k8lab**

**cd git\_k8lab**

**git clone https://github.com/googlecloudplatform/kubernetes-engine-samples**

**cd kubernetes-engine-samples**

**cd hello-app**

**export PROJECT\_ID=gcp-pca-301410**

**#Golang app – Build docker image**

**docker build -t gcr.io/${PROJECT\_ID}/hello-app:v1 .**

**docker images**

**#Run locally**

**docker run --rm -p 8080:8080 gcr.io/${PROJECT\_ID}/hello-app:v1**

**docker run --rm -p 8080:8080 gcr.io/${PROJECT\_ID}/hello-app:v1**

**curl http://localhost:8080**

**#build Kubernetes Cluster**

**gcloud container clusters create hello-cluster**

**gcloud compute instances list**

**#Enable Container Registry API**

**gcloud services enable containerregistry.googleapis.com**

**gcloud auth configure-docker**

**#Push docker image to Container registry**

**docker push gcr.io/${PROJECT\_ID}/hello-app:v1**

**kubectl create deployment hello-app -–image= gcr.io/${PROJECT\_ID}/hello-app:v1**

**kubectl scale deployment hello-app –-replicas=3**

**kubectl autoscale deployment hello-app -–cpu-percent=80 –-min=1 –-max=5**

**kubectl get pods**

**kubectl expose deployment hello-app –-name=hello-app-service –-type=LoadBalancer –-port 80 –-target-port 8080**

**kubectl get service**

**curl http://<loadBalancer>**

**Build v2:**

**docker build -t gcr.io/${PROJECT\_ID}/hello-app:v2 .**

**docker push gcr.io/${PROJECT\_ID}/hello-app:v2**

**kubectl set image deployment/hello-app hello-app=gcr.io/${PROJECT\_ID}/hello-app:v2**

**curl http://<loadBalancer>**

**Screenshots:**

* **Docker Build**

Text

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Graphical user interface, text, application

Description automatically generated

* Kubernetes Cluster

Graphical user interface, text

Description automatically generated

* Deploying App

Graphical user interface, text, application, email, website

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Graphical user interface, text, application

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