Deploying to Google Kubernetes Engine (GKE)

Craig Golightly
SENIOR SOFTWARE CONSULTANT

@seethatgo   www.seethatgo.com

Overview

Open a Google Cloud account

Deploy and update demo app on GKE
- Step-by-step
- Commands

Web console
- Monitoring
- Billing

Delete cluster

Opening a Google Cloud Account

cloud.google.com

Google account (Gmail or G Suite)

Name and address

Credit card information

Initialize Tooling

Enable Kubernetes Engine API

Install Google Cloud SDK

Configure gcloud

```
<hostname>/<project-id>/<image-name>:<tag>

docker build -t gcr.io/demo-project-123/demo:1.0 .

docker tag 8e2036e25863 gcr.io/demo-project-123/demo:1.0

gcloud auth configure-docker

docker push gcr.io/demo-project-123/demo:1.0
```

<hostname> - host for Google Container Registry that will store image

<project-id> - GCP project to use

<image-name> - name of the image

<tag> - tag for the image

```
gcloud container clusters create demo-cluster --num-nodes=3

kubectl create deployment demo-app --image=gcr.io/demo-project-123/demo:1.0

kubectl expose deployment demo-app \
--type=LoadBalancer --port 5000 --target-port 5000
```

Create Cluster and Service

gcloud to create cluster

kubectl to create and expose deployment

```
kubectl scale deployment demo-app --replicas=3

gcloud container clusters resize demo-cluster --num-nodes 5
```

Scale Pods and Nodes

kubectl to scale pods

gcloud to scale nodes

```
docker build -t gcr.io/demo-project-123/demo:2.0 .

docker push gcr.io/demo-project-123/demo:2.0

kubectl set image deployment/demo-app demo=gcr.io/demo-project-123/demo:2.0
```

Update Application

docker build, tag, and push new image

kubectl set image

Web Console

Monitoring
- Stackdriver

Cluster

Registry

Billing

```
kubectl delete service demo-app

gcloud container clusters delete demo-cluster

gcloud container images delete gcr.io/demo-project-123/demo:1.0

gcloud container images delete gcr.io/demo-project-123/demo:2.0
```

Cleanup

Delete service – kubectl

Delete cluster – gcloud

Delete images – gcloud

Summary

Use GKE service

Entire application lifecycle
- Create
- Scale
- Update
- Delete

Try it with your app

Check out all 3 cloud options