

Imagine that, you are part of Development team. And your management asked you to develop containerized app

Unfortunately, the budget and duration given for this project is very limited

So, now, how can you develop and host that containerized app with all that load balancing, scalability and fault tolerance features within that short duration and budget



Google Kubernetes Engine

Concept

Objectives

Concept

- a. Overview of GKE

Review Demo

- a. Creating Kubernetes cluster on GKE
- b. Test

GKE

Provides managed environment

GKE takes care of:

- Creating VMs
- Managing Kubernetes master
- ETCD
- Container Networking
- OS Built for Containers
- Auto Scale
- Auto upgrade
- Auto Repair
- Integrated Logging & Monitoring
- Fully Managed

Review Demo

Google Cloud Platform

My First Project

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COMPUTE

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Kubernetes Engine

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Google Cloud Platform

My First Project

Kubernetes clusters

Kubernetes Engine

Kubernetes clusters

Containers package an application so it can be easily deployed to run in its own isolated environment. Containers are managed in clusters that automate VM creation and maintenance. [Learn more](#)

Create cluster

Deploy container

Take the quickstart

Create a Kubernetes cluster

Name

cluster-1

Location type

☒ Zonal

☐ Regional

Zone ?

us-central1-a

Master version

1.9.7-gke.6 (default)

Node pools

default-pool

Number of nodes

3

Machine type

Customize to select cores, memory and GPUs

1 vCPU

3.75 GB memory

[Customize](#)

[Upgrade your account](#) to create instances with up to 96 cores

[Advanced edit](#)

[+ Add node pool](#)

[Advanced options](#)

You will be billed for the 3 nodes (VM instances) in your cluster. [Learn more](#)

Create

Cancel



Kubernetes clusters

[+ CREATE CLUSTER](#)

[+ DEPLOY](#)

[REFRESH](#)

[DELETE](#)

A Kubernetes cluster is a managed group of uniform VM instances for running Kubernetes. [Learn more](#)

Filter by label or name

<input type="checkbox"/> Name ^	Location	Cluster size	Total cores	Total memory	Notifications	Labels
<input type="checkbox"/> cluster-1	us-central1-a	3	3 vCPUs	11.25 GB		Connect

Connect to the cluster

You can connect to your cluster via command-line or using a dashboard.

Command-line access

Configure [kubectl](#) command line access by running the following command:

```
$ gcloud container clusters get-credentials cluster-1 --zone us-central1-a --project keen-goods-180623
```

[Run in Cloud Shell](#)

```
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
challa_jobs@cloudshell:~ (keen-goods-180623)$ gcloud container clusters get-credentials cluster-1 --zone us-central1-a --project keen-goods-180623
Fetching cluster endpoint and auth data.
kubeconfig entry generated for cluster-1.
```


Testing

```
srinath@master:~ $ kubectl get nodes
```

NAME	STATUS	ROLES	AGE	VERSION
gke-cluster-1-default-pool-cdfb523f-7hhz	Ready	<none>	8m	v1.9.7-gke.6
gke-cluster-1-default-pool-cdfb523f-dsfv	Ready	<none>	8m	v1.9.7-gke.6
gke-cluster-1-default-pool-cdfb523f-wjtv	Ready	<none>	8m	v1.9.7-gke.6

```
srinath@master:~ $ kubectl run kubernetes-bootcamp --image=gcr.io/google-samples/kubernetes-bootcamp:v1  
--port=8080  
deployment "kubernetes-bootcamp" created
```

```
srinath@master:~ $ kubectl get po
```

NAME	READY	STATUS	RESTARTS	AGE
kubernetes-bootcamp-5dbf48f7d4-qzppc	1/1	Running	0	23s

Summary

Concept

- a. GKE is the Kubernetes Service on Google Cloud Platform
- b. Advantages of GKE

Review Demo

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GKE Demo