

Getting Started with Google Kubernetes Engine

Overview

Learn to containerize workloads in Docker containers, deploy them to Kubernetes clusters provided by Google Kubernetes Engine, and scale those workloads to handle increased traffic. Students will also learn how to continuously deploy new code in a Kubernetes cluster to provide application updates.

Prerequisite Comments

To get the most out of this course, participants should have:

Basic proficiency with command-line tools and Linux operating system environments, as well as Web server

Systems Operations experience including deploying and managing applications, either on-premises or in a public cloud environment.

Target Audience

This course is intended for the following participants:

Application developers, Cloud Solutions Architects, DevOps Engineers, IT managers.

Individuals using Google Cloud Platform to create new solutions or to integrate existing systems, application environments, and infrastructure with the Google Cloud Platform.

Course Objectives

At the end of the course, students will be able to:

Understand container basics.

Containerize an existing application.

Understand Kubernetes concepts and principles.

Deploy applications to Kubernetes using the CLI.

Set up a continuous delivery pipeline using Jenkins

Course Outline

1 - Introduction to Containers and Docker

Acquaint yourself with containers, Docker, and the Google Container Registry.

Create a container.

Package a container using Docker.

Store a container image in Google Container Registry.

Launch a Docker container.

2 - Kubernetes Basics

Deploy an application with microservices in a Kubernetes cluster.
Provision a complete Kubernetes cluster using Kubernetes Engine.
Deploy and manage Docker containers using kubectl.
Break an application into microservices using Kubernetes' Deployments and Services.

3 - Deploying to Kubernetes

Create and manage Kubernetes deployments.
Create a Kubernetes deployment.
Trigger, pause, resume, and rollback updates.
Understand and build canary deployments.

4 - Continuous Deployment with Jenkins

Build a continuous delivery pipeline.
Provision Jenkins in your Kubernetes cluster.
Create a Jenkins pipeline.
Implement a canary deployment using Jenkins.
