

Google Kubernetes Engine for Developers - Essentials

This course provides a comprehensive introduction to Google Kubernetes Engine (GKE) and its essential concepts for cloud developers. Participants will explore containerization with Docker, Kubernetes architecture, and GKE deployment best practices. The course includes hands-on activities and demos to facilitate practical understanding and skill development in deploying and managing containerized applications on Google Cloud.

**DURATION**

2-3 hours

**LEVEL**

200 - Intermediate

**FORMAT**

Instructor-led

**SCALABLE**

1-50, scaled to 1000

What you'll learn

- Understand the fundamentals of containers and Kubernetes.
- Learn to build Docker images and apply best practices.
- Gain knowledge of Kubernetes architecture and object management.
- Master Kubernetes deployment strategies and best practices on GKE.

Overview	2 modules
Who this course is for	• Cloud developers seeking to deploy and manage containerized applications on Google Cloud.
Products	• Google Kubernetes Engine
Prerequisites	• Basic cloud computing concepts, software development experience.

Module 01 [Introduction to Containers and Kubernetes](#)

Topics	• What are containers and why use them? • Containerization vs. Virtualization • Benefits of using containers • What is Docker and its components? • Docker images and containers • Dockerfile basics and instructions • Hands-on: Building a Docker image with Python • Hands-on: Building a Docker image with Java using Maven
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Module 02 [Kubernetes Deployments and Best Practices](#)

Topics	• Kubernetes cluster components • Pods, Deployments, Services, and Namespaces • Kubernetes object management • Creating and managing Deployments • Rolling updates and rollbacks • Health checks and probes (Liveness, Readiness, Startup) • Kubernetes security best practices
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