Professional Cloud DevOps Engineer

Course Overview

A Professional Cloud DevOps Engineer curriculum trains learners to build reliable software delivery pipelines, automate infrastructure deployments, and apply Site Reliability Engineering (SRE) principles. The course typically spans several modules to align with the official Google Cloud Professional Cloud DevOps Engineer Certification exam objectives.

Course Description

This course provides the technical skills needed to automate infrastructure, manage code deployments, and ensure system reliability on cloud platforms. It focuses heavily on the balance between rapid feature deployment and system stability using modern DevOps and Site Reliability Engineering (SRE) methodologies.Target Audience :Cloud Engineers and System Administrators moving into automation roles.Software Developers wanting to manage their own deployment pipelines.IT Professionals preparing for professional cloud DevOps certification exams

Learning Curriculum

Module 1

Core Module Breakdown

.Site Reliability Engineering (SRE) Principles
Service Level Indicators & Objectives: Defining meaningful SLIs, SLOs, and SLAs.Error Budgets: Balancing change velocity with system stability.Incident Response & Postmortems: Managing on-call rotations, root cause analysis (RCA), and blameless postmortems

Module 2

Building CI/CD Pipelines

Source Control Management: Using Cloud Source Repositories or external Git platforms.Automated Builds: Setting up pipelines with Cloud Build and container scanning using Artifact Registry.Deployment Strategies: Implementing blue/green deployments, canary releases, and rolling updates

Module 3

Containerization and Orchestration

Google Kubernetes Engine (GKE): Creating and managing GKE clusters (zonal and regional).Kubernetes Configuration: Managing node pools, workload identity, and scaling.Manifest Management: Using Helm and Skaffold for template management

Module 4

Infrastructure as Code (IaC) and Configuration Management

Resource Provisioning: Automating environment creation using Terraform.Configuration Drift: Managing state files and drift control

Module 5

Monitoring, Logging, and Observability

Google Cloud Operations Suite: Designing dashboards and configuring metrics and uptime checks in Cloud Monitoring.Log Sinks & Routing: Exporting logs to Pub/Sub, BigQuery, or Cloud Storage for compliance and analytics

Module 6

Security and Compliance

Access Control: Implementing Identity and Access Management (IAM) and Service Accounts.Secret Management: Safeguarding credentials using Secret Manager

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