



Google Cloud Course (Associate Cloud Engineers) Overview

This course provides skills required by the ACE certification—namely deploying applications, managing enterprise solutions, and monitoring operations. Google Cloud requires aspirants should be able to operate both the command-line and the GCP console to perform several common platform-based tasks, but no formal prerequisite or experience is recommended to candidates.

About the Training

Google Cloud is also designed to provide candidates the strong base of GCP capability that they will need to later build toward the Google Certified Professional Cloud Architect (PCA) certification.

About the training

- **Study Material:-** Online Instructor-led Training, Recorded Videos of Live Training, Online Lab Workbook, and Remote Virtual Lab access.
- **Duration:-** 1 Month

Certification

This course will help you to pass Associate Cloud Engineer certification which is basic level certification of Google cloud.

What you will learn

- Understand how to Set up a Google Cloud environment including security, billing access, project tools, and account.
- Configure, deploy, implement, manage, plan and monitor solutions in the Google Cloud.
- How to operate Google Cloud through both the command and the console-line.
- Enhance and upgrade knowledge for other GCP certification exams.

Requirements

- Candidates should have basic concepts of Cloud Computing
- Coding experience is not required. Code is provided for use in labs where necessary

Who can pursue this course

- System administration
- Developers who want to leverage Google Cloud for the applications they build
- Architects
- Technical managers

Course Content

- **Setting up a cloud solution environment**
 - Setting up cloud projects and accounts
 - Creating projects
 - Assigning users to predefined IAM roles within a project
 - Managing users in Cloud Identity
 - Enabling APIs within projects
 - Provisioning one or more Stack driver workspaces
 - Managing billing configuration
 - Creating one or more billing accounts
 - Linking projects to a billing account
 - Establishing billing budgets and alerts
 - Setting up billing exports to estimate daily/monthly charges
 - Installing and configuring the CLI, specifically the Cloud SDK

- **Planning and configuring a cloud solution**

- Planning and estimating Google Cloud product use using the Pricing Calculator
- Planning and configuring compute resources
 - Selecting appropriate compute choices for a given workload
 - Using preemptible VMs and custom machine types as appropriate
- Planning and configuring data storage options
 - Product choice
 - Choosing storage options
- Planning and configuring network resources
 - Differentiating load balancing options
 - Identifying resource locations in a network for availability
 - Configuring Cloud DNS

- **Deploying and implementing a cloud solution**

- Deploying and implementing Compute Engine resources
 - Launching a compute instance using Cloud Console and Cloud SDK
 - Creating an autoscaled managed instance group using an instance template
 - Generating a custom SSH key for instances
 - Configuring a VM for Stackdriver monitoring and logging
 - Assessing compute quotas and requesting increases
 - Installing the Stackdriver Agent for monitoring and logging
- Deploying and implementing Google Kubernetes Engine resources
 - Deploying a Google Kubernetes Engine cluster
 - Deploying a container application to Google Kubernetes Engine using pods

- Configuring Google Kubernetes Engine application monitoring and logging
- Deploying and implementing App Engine, Cloud Run, and Cloud Functions resources
 - How to deploy an application, updating scaling configuration, versions, and traffic splitting
 - How to deploy an application that receives Google Cloud events
- Deploying and implementing data solutions
 - Initializing data systems with product
 - Loading data
- Deploying and implementing networking resources
 - Creating a VPC with subnets
 - Launching a Compute Engine instance with custom network configuration
 - Creating ingress and egress firewall rules for a VPC
 - Creating a VPN between a Google VPC and an external network using Cloud VPN
 - Creating a load balancer to distribute application network traffic
- Deploying a solution using Cloud Marketplace
 - Browsing Cloud Marketplace catalog and viewing solution details
 - Deploying a Cloud Marketplace solution
- Deploying application infrastructure using Cloud Deployment Manager
 - Developing Deployment Manager templates
 - Launching a Deployment Manager template
- **Ensuring successful operation of a cloud solution**
 - Managing Compute Engine resources
 - Managing a single VM instance

- SSH/RDP to the instance
- Attaching a GPU to a new instance and installing CUDA libraries
- Viewing current running VM inventory
- Working with snapshots
- Working with images
- Working with instance groups
- Working with management interfaces
- Managing Google Kubernetes Engine resources
 - Viewing current running cluster inventory
 - Browsing the container image repository and viewing container image details
 - Working with node pools
 - Working with pods
 - Working with services
 - Working with stateful applications
 - Working with management interfaces
- Managing App Engine and Cloud Run resources. Tasks include
 - Adjusting application traffic splitting parameters
 - Setting scaling parameters for autoscaling instances
 - Working with management interfaces
- Managing storage and database solution
 - Moving objects between Cloud Storage buckets
 - Converting Cloud Storage buckets between storage classes
 - Setting object life cycle management policies for Cloud Storage buckets

- Executing queries to retrieve data from data instances
- Estimating costs of a BigQuery query
- Backing up and restoring data instances
- Reviewing job status in Cloud Dataproc, Cloud Dataflow, or BigQuery
- Working with management interfaces
- Managing networking resources
 - Adding a subnet to an existing VPC
 - Expanding a subnet to have more IP addresses
 - Reserving static external or internal IP addresses
 - Working with management interfaces
- Monitoring and logging
 - Creating Stackdriver alerts based on resource metrics
 - Creating Stackdriver custom metrics
 - Configuring log sinks to export logs to external systems
 - Viewing and filtering logs in Stackdriver
 - Viewing specific log message details in Stackdriver
 - Using cloud diagnostics to research an application issue
 - Viewing Google Cloud Platform status
 - Working with management interfaces
- **Configuring access and security**
 - Managing identity and access management (IAM)
 - Viewing IAM role assignments
 - Assigning IAM roles to accounts or Google Groups

- Defining custom IAM roles
- Managing service accounts
 - Managing service accounts with limited privileges
 - Assigning a service account to VM instances
 - Granting access to a service account in another project
- Viewing audit logs for project and managed services

Note: ***Most of the course topics are covered with hands-on lab exercises and others are theoretical

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