

Google Cloud Certification Training Course Content

Course Duration - 45-50 Hrs., 7-8 Weeks

Course Information

Batch Options

Weekday Batch
Mon - Fri - 1.5 Hr./Day

About the Trainer

Industry Expert Trainer with 15+ Years
Real Time Work Experience at Top US
Based Product and Consulting Firms

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Introduction To Google Cloud Training

Google Cloud Platform, offered by Google, is a suite of cloud computing services that runs on the same infrastructure that Google uses internally for its end-user products, such as Google Search, Gmail, file storage, and YouTube.

What you'll learn

- Understand cloud-computing platforms, and how GCP fits into them
- Learn GCP Core Skills - Networking, Computing, Storage, databases, & Security
- Use IAM, Security, and Networking Services
- Learn Compute, Storage and Database Services
- Master Containers, APIs and other various tools
- Manage security and design Identity solutions in GCP
- Architect Data Storage Solutions in GCP
- How to design resilient solutions in GCP
- How to monitor and optimize costs in GCP
- To prepare students for Google Professional Cloud Architect Certification Exam
- To teach Google Cloud concepts comprehensively and turn students into Cloud Gurus

Course Content

Module 1: Introduction to GCP and It's Services

- Introduction to Cloud Computing
- Cloud Computing Service Models
- Cloud Computing Deployment Models
- Service Comparison: AWS, Azure, and GCP
- Google Cloud Platform (GCP) Infrastructure
- GCP and its Benefits
- GCP Global Infrastructure and Regions
- Availability Zones and High Availability
- Different GCP Services

Module 2: GCP Account Creation and Setup

- Creating an GCP Free Tier Account
- GCP Account Activation Troubleshooting
- Different GCP Web Services
- GCP Architecture

Module 3: How to Manage GCP from CLI and Console

- Managing GCP environment with GCP console
- Control GCP environment using CLI
- GCP environment management using Cloud Shell
- GCP environment management using Gcloud
- GCP environment management using Gsutil
- Install and configure cloud SDK

Module 4: IAM and Security Services

- Understand Identity and Access Management (IAM)
- Understanding Organizations, Roles, Members, Service accounts, Policy
- Policy Hierarchy
- Understanding different role and permission
- Creating custom role
- Basic IAM APIs
- Best Practices
- Key Management Systems
- Data security
- Resource Sharing and Isolation
- Auditing
- Penetration testing
- Security controls

Module 5: Networking Services in GCP

- Cloud Virtual Network
- Virtual Private Network
- Virtual Private Cloud
- Proxies / Gateway and Endpoints
- Network/Subnetwork
- DNS Resolution
- Firewalls and Routes
- Cloud Router
- Interconnecting networks
- Security aspect

Module 6: Compute Services

- Understand GCP Computing Services
- Understand and implement Compute options (vCPU and Memory) specific to workload
- Creating and managing virtual machines in Google Cloud
- Launching VMs on-demand using Google Compute Engine
- Choosing the right computing solutions based on the workload like memory or CPU
- Persistent disk - HDD, SSD
- Load Balancing
- Common Compute Engine actions

Module 7: Load Balancing and Autoscaling

- Overview and features of GCP load balancer
- Types of load balancers
- Global and regional load balancers
- External and internal load balancers
- technology behind LB
- Internal/external https load balancing
- Internal TCP/UDP load balancing
- SSL/TCP proxy load balancing
- Components of LB
- Auto scaling
- Managed and unmanaged instance groups
- Create external http global load balancer with autoscaling (LAB)

Module 8: Database and Storage Services

- Understand Cloud Storage - Nearline, Coldline
- Cloud SQL
- Cloud Datastore
- Cloud Bigtable
- Pros and cons of storage option and how to choose
- Understanding Billing aspect of storage options
- Tradeoff of storage options
- Integration with on premises/multi-cloud environment

Module 9: GKE (Google Kubernetes Engine) - Part 1

- Understand Containers and their benefits
- What is a microservice
- What is a container
- What is docker and docker images
- Container optimized OS and Container registry
- Run wordpress on docker (LAB)
- Create a Microservice, then image and run on docker (LAB)
- what is Kubernetes
- Kubernetes Architecture
- Understanding of nodes & cluster

Module 10: GKE (Google Kubernetes Engine) - Part 2

- Create Kubernetes cluster (LAB)
- Run wordpress on Kubernetes and expose outside (LAB)
- Understanding pods & services
- Understanding replication controllers
- Understanding deployments
- Understanding yaml files
- Understanding Kustomize
- Managing deployments using Kustomize
- Create guestbook application - frontend deployment, backed redis master and slave deployments
- Test scale up and scale down of pods
- Upgrade and downgrade pod version
- How to choose Kubernetes Engine, App Engine, or Containers on Compute Engine

Module 11: GCP Data Processing Patterns

- Dataflow services
- Stream and Batch processing
- Apache Beam SDK
- Monitoring using Stackdriver
- Data transformation with Cloud Data flow
- Working with Dataproc
- Creating Cluster
- Managing cluster
- Automation of jobs

Module 12: DevOps Services

- Setup CI/CD
- Setting up Jenkins on Container engine
- Deploy application on Jenkins
- Create deployment pipeline in Jenkins
- Create and deploy on cluster
- Deploy development and production environment
- Analysis & Troubleshooting

Module 13: API and Development Services

- Infrastructure automation, Images, Metadata,
- Scripts, Google Cloud API
- Cloud Pub/Sub, API Management
- Cloud Functions, Cloud Source Repositories, Specialty APIs
- App Engine
- Google Stack driver: Overview, Integration, Monitoring, Logging, Error reporting, Tracing

Module 14: Understand Migration in GCP

- Understanding how to migrate to Google Cloud
- Various criteria to be considered
- Choosing the right options as per the specific needs
- Managing a hybrid cloud model
- Complete migration from the on-premises model to the cloud
- Choosing an automation framework for resource provisioning

Module 15: Cloud Spanner

- Understanding how to migrate to Google Cloud
- Various criteria to be considered
- Choosing the right options as per the specific needs
- Managing a hybrid cloud model
- Complete migration from the on-premises model to the cloud
- Choosing an automation framework for resource provisioning

***** GCP Real Time Project Examples *****

Module 16: Real Time Project Example 1, 2

- Introduction to Realtime Project Examples 1, 2
- Build Project Examples 1, 2 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 17: Real Time Project Example 3, 4

- Introduction to Realtime Project Examples 3, 4
- Build Project Examples 3, 4 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 18: Real Time Project Example 5, 6

- Introduction to Realtime Project Examples 5, 6
- Build Project Examples 5, 6 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 19: Real Time Project Example 7, 8

- Introduction to Realtime Project Examples 7, 8
- Build Project Examples 7, 8 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 20: Real Time Project Example 9, 10

- Introduction to Realtime Project Examples 9, 10
- Build Project Examples 9, 10 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 21: Real Time Project Example 11, 12

- Introduction to Realtime Project Examples 11, 12
- Build Project Examples 11, 12 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 22: Real Time Project Example 13, 14

- Introduction to Realtime Project Examples 13, 14
- Build Project Examples 13, 14 for Realtime scenarios
- Test the Project Examples and debug the if required

Module 23: Real Time Project Example 15 + Course Revision

- Introduction to Realtime Project Example 15
- Build Report 15 for Realtime scenario
- Course Revision

Module 24: Google Professional Cloud Architect Certification Guidance

- Explain various GCP Certification Options
- Discuss 60+ Important Google Professional Cloud Architect Certification
- Practice GCP Professional Cloud Architect

Module 25: Resume Preparation, Interview and Job Assistance

- Prepare Crisp Resume as GCP Developer/Architect
- Discuss common interview questions in GCP
- Explain students what jobs they should target and how