

Google Cloud Professional Architect Outline

Duration: (10 days, 8 hrs/day)

Pre-requisites: None

Course Overview:

Professional Cloud Architects enable organizations to leverage Google Cloud technologies. With a thorough understanding of cloud architecture and Google Cloud, they design, develop, and manage robust, secure, scalable, highly available, and dynamic solutions to drive business objectives.

After completing this course, participants will be able to:

1. Acquire knowledge to proficient in all aspects of enterprise cloud strategy, solution design, software development and architectural best practices in a multicloud or hybrid environments.
2. Attain skills required to clear the GCP Professional Cloud Architect Certification Exam

Module No	Module Name
1	Preparing for the Professional Cloud Architect Journey
	1 Welcome to Preparing for the Professional Cloud Architect Exam
	2 Sample Case Studies
	3 Designing and Implementing
	4 Optimizing and Operating
	5 Resources and next steps
	6 Configuring Access and Security

Module No	Module Name
2	Google Cloud Fundamentals: Core Infrastructure
	1 Introducing Google Cloud
	2 Resources and Access in the Cloud
	3 Virtual Machines and Networks in the Cloud
	4 Storage in the Cloud
	5 Containers in the Cloud
	6 Applications in the Cloud
	7 Developing and Deploying in the Cloud
	8 Logging and Monitoring in the Cloud
	Hands-on
	1 A Tour of Google Cloud Hands-on Labs
	2 Compute Engine: Qwik Start - Windows
	3 Getting Started with Cloud Shell and gcloud
	4 Kubernetes Engine: Qwik Start
5 Cloud Storage: Qwik Start - Cloud Console	
6 Cloud IAM: Qwik Start	
3	Essential Google Cloud Infrastructure: Foundation
	1 Interacting with Google Cloud
	2 Virtual Networks
	3 Virtual Machines
	Hands-on
	1 Creating a Virtual Machine
2 Hosting a Web App on Google Cloud Using Compute Engine	

Module No	Module Name
4	Essential Google Cloud Infrastructure: Core Services
	<ol style="list-style-type: none"> 1 Identity and Access Management (IAM) 2 Storage and Database Services 3 Resource Management 4 Resource Monitoring
	Hands-on
	<ol style="list-style-type: none"> 1 Introduction to SQL for BigQuery and Cloud SQL
5	Elastic Google Cloud Infrastructure: Scaling and Automation
	<ol style="list-style-type: none"> 1 Interconnecting Networks 2 Load Balancing and Autoscaling 3 Infrastructure Automation 4 Managed Services
	Hands-on
	<ol style="list-style-type: none"> 1 Multiple VPC Networks 2 Set Up Network and HTTP Load Balancers
6	Reliable Google Cloud Infrastructure: Design and Process
	<ol style="list-style-type: none"> 1 Defining Services 2 Microservice Design and Architecture 3 DevOps Automation 4 Choosing Storage Solutions 5 Google Cloud and Hybrid Network Architecture 6 Deploying Applications to Google Cloud 7 Designing Reliable Systems 8 Security 9 Maintenance and Monitoring

Module No	Module Name
6	Hands-on
	1 Cloud Functions: Qwik Start - Console
	2 Google Cloud Pub/Sub: Qwik Start - Console
	3 Google Cloud Pub/Sub: Qwik Start - Python
	4 Deployment Manager - Full Production
7	Getting Started with Google Kubernetes Engine
	1 Introduction to Google Cloud
	2 Introduction to Containers and Kubernetes
	3 Kubernetes Architecture
	4 Introduction to Kubernetes Workloads
	Hands-on
	1 Managing Deployments Using Kubernetes Engine
	2 Orchestrating the Cloud with Kubernetes
	3 Managing a GKE Multi-tenant Cluster with Namespaces
	4 Exploring Cost-optimization for GKE Virtual Machines
5 Understanding and Combining GKE Autoscaling Strategies	
6 GKE Workload Optimization	
8	Logging, Monitoring and Observability in Google Cloud
	1 Introduction to Monitoring in Google Cloud
	2 Avoiding Customer Pain
	3 Alerting Policies
	4 Monitoring Critical Systems
	5 Configuring Google Cloud Services for Observability
	6 Advanced Logging and Analysis
	7 Monitoring Network Security and Audit Logs



Module No		Module Name
8	8	Managing Incidents
	9	Investigating Application Performance Issues
	10	Optimizing the Costs of Monitoring
	Hands-on	
	1	Cloud Monitoring: Qwik Start