

Cloud Architect

Course Outline

Module 1: Preparing for the Professional Cloud Architect Journey

- Welcome to Preparing for the Professional Cloud Architect Exam
- Sample Case Studies
- Designing and Implementing
- Optimizing and Operating
- Resources and next steps
- Configuring Access and Security

Module 2: Google Cloud Fundamentals: Core Infrastructure

- Introducing Google Cloud
- Resources and Access in the Cloud
- Virtual Machines and Networks in the Cloud
- Storage in the Cloud
- Containers in the Cloud
- Applications in the Cloud
- Developing and Deploying in the Cloud
- Logging and Monitoring in the Cloud

Hands-On:

- A Tour of Google Cloud Hands-on Labs
- Compute Engine: Qwik Start - Windows
- Getting Started with Cloud Shell and gcloud
- Kubernetes Engine: Qwik Start
- Cloud Storage: Qwik Start - Cloud Console
- Cloud IAM: Qwik Start

Module 3: Essential Google Cloud Infrastructure: Foundation

- Interacting with Google Cloud
- Virtual Networks
- Virtual Machines

Hands-On:

- Creating a Virtual Machine
- Hosting a Web App on Google Cloud Using Compute Engine

Module 4: Essential Google Cloud Infrastructure: Core Services

- Identity and Access Management (IAM)
- Storage and Database Services
- Resource Management
- Resource Monitoring

Hands-On:

- Introduction to SQL for BigQuery and Cloud SQL

Module 5: Elastic Google Cloud Infrastructure: Scaling and Automation

- Interconnecting Networks

- Load Balancing and Autoscaling
- Infrastructure Automation
- Managed Services

Hands-On:

- Multiple VPC Networks
- Set Up Network and HTTP Load Balancers

Module 6: Reliable Google Cloud Infrastructure: Design and Process

- Defining Services
- Microservice Design and Architecture
- DevOps Automation
- Choosing Storage Solutions
- Google Cloud and Hybrid Network Architecture
- Deploying Applications to Google Cloud
- Designing Reliable Systems
- Security
- Maintenance and Monitoring

Hands-On:

- Cloud Functions: Qwik Start - Console
- Google Cloud Pub/Sub: Qwik Start - Console
- Google Cloud Pub/Sub: Qwik Start - Python
- Deployment Manager - Full Production

Module 7: Getting Started with Google Kubernetes Engine

- Introduction to Google Cloud
- Introduction to Containers and Kubernetes
- Kubernetes Architecture
- Introduction to Kubernetes Workloads

Hands-On:

- Managing Deployments Using Kubernetes Engine
- Orchestrating the Cloud with Kubernetes
- Managing a GKE Multi-tenant Cluster with Namespaces
- Exploring Cost-optimization for GKE Virtual Machines
- Understanding and Combining GKE Autoscaling Strategies
- GKE Workload Optimization

Module 8: Logging, Monitoring and Observability in Google Cloud

- Introduction to Monitoring in Google Cloud
- Avoiding Customer Pain
- Alerting Policies
- Monitoring Critical Systems
- Configuring Google Cloud Services for Observability
- Advanced Logging and Analysis
- Monitoring Network Security and Audit Logs
- Managing Incidents
- Investigating Application Performance Issues
- Optimizing the Costs of Monitoring

Hands-On:

- Cloud Monitoring: Qwik Start

SpireTec Solutions