



Training | Consulting | Development | Outsourcing



GCP Professional Cloud Architect

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GCP Professional Cloud Architect Course Contents

Course Overview:

A Professional Cloud Architect enables organizations to leverage Google Cloud technologies. With a thorough understanding of cloud architecture and Google Cloud Platform, this individual can design, develop, and manage robust, secure, scalable, highly available, and dynamic solutions to drive business objectives.

Course Outline:

1. Designing and planning cloud solution architecture

1.1 Designing a solution infrastructure that meets business requirements.

Considerations include:

- Business use cases and product strategy
- Cost optimization
- Supporting the application design
- Integration with external systems
- Movement of data
- Design decision trade-offs
- Build, buy, or modify
- Success measurements (e.g., key performance indicators [KPI], return on investment [ROI], metrics)
- Compliance and observability

1.2 Designing a solution infrastructure that meets technical requirements.

Considerations include:

- High availability and failover design
- Elasticity of cloud resources

- Scalability to meet growth requirements
- Performance and latency

1.3 Designing network, storage, and compute resources. Considerations include:

- Integration with on-premises/multi-cloud environments
- Cloud-native networking (VPC, peering, firewalls, container networking)
- Choosing data processing technologies
- Choosing appropriate storage types (e.g., object, file, RDBMS, NoSQL, NewSQL)
- Choosing compute resources (e.g., preemptible, custom machine type, specialized workload)
- Mapping compute needs to platform products

1.4 Creating a migration plan (i.e., documents and architectural diagrams).

Considerations include:

- Integrating solution with existing systems
- Migrating systems and data to support the solution
- Licensing mapping
- Network planning
- Testing and proof of concept
- Dependency management planning

1.5 Envisioning future solution improvements. Considerations include:

- Cloud and technology improvements
- Business needs evolution
- Evangelism and advocacy

2. Managing and provisioning a solution Infrastructure

2.1 Configuring network topologies. Considerations include:

- Extending to on-premises (hybrid networking)
- Extending to a multi-cloud environment that may include GCP to GCP communication

- Security and data protection

2.2 Configuring individual storage systems. Considerations include:

- Data storage allocation
- Data processing/compute provisioning
- Security and access management
- Network configuration for data transfer and latency
- Data retention and data life cycle management
- Data growth management

2.3 Configuring compute systems. Considerations include:

- Compute system provisioning
- Compute volatility configuration (preemptible vs. standard)
- Network configuration for compute nodes
- Infrastructure provisioning technology configuration (e.g. Chef/Puppet/Ansible/Terraform/Deployment Manager)
- Container orchestration with Kubernetes

3. Designing for security and compliance

3.1 Designing for security. Considerations include:

- Identity and access management (IAM)
- Resource hierarchy (organizations, folders, projects)
- Data security (key management, encryption)
- Penetration testing
- Separation of duties (SoD)
- Security controls (e.g., auditing, VPC Service Controls, organization policy)
- Managing customer-managed encryption keys with Cloud KMS

3.2 Designing for compliance. Considerations include:

- Legislation (e.g., health record privacy, children's privacy, data privacy, and ownership)

- Commercial (e.g., sensitive data such as credit card information handling, personally identifiable information [PII])
- Industry certifications (e.g., SOC 2)
- Audits (including logs)

4. Analyzing and optimizing technical and business processes

4.1 Analyzing and defining technical processes. Considerations include:

- Software development life cycle plan (SDLC)
- Continuous integration / continuous deployment
- Troubleshooting / post mortem analysis culture
- Testing and validation
- Service catalog and provisioning
- Business continuity and disaster recovery

4.2 Analyzing and defining business processes. Considerations include:

- Stakeholder management (e.g. influencing and facilitation)
- Change management
- Team assessment / skills readiness
- Decision-making process
- Customer success management
- Cost optimization / resource optimization (capex / opex)

4.3 Developing procedures to ensure resilience of solution in production (e.g., chaos engineering)

5. Managing implementation

5.1 Advising development/operation team(s) to ensure successful deployment of the solution. Considerations include:

- Application development
- API best practices

- Testing frameworks (load/unit/integration)
- Data and system migration tooling

5.2 Interacting with Google Cloud using GCP SDK (gcloud, gsutil, and bq).

Considerations include:

- Local installation
- Google Cloud Shell

6. Ensuring solution and operations reliability

6.1 Monitoring/logging/profiling/alerting solution

6.2 Deployment and release management

6.3 Assisting with the support of solutions in operation

6.4 Evaluating quality control measures

Prerequisites:

- Strong knowledge on GCP Associate Cloud Engineer

Who Should Attend:

- 3+ years of industry experience including 1+ years designing and managing solutions using GCP.

Number of Hours: 40hrs

Certification: GCP Professional Cloud Architect (GCP PCA)

Key Features:

- One to One Training
- Online Training
- Fastrack & Normal Track
- Resume Modification
- Mock Interviews

- Video Tutorials
- Training Materials
- Real Time Projects
- Virtual Live Experience
- Preparing for Certification
- Life time Access

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