

PCA: Google Professional Cloud Architect

Design Google Cloud solutions that meet business and technical requirements — and prepare for the Professional Cloud Architect exam.

DURATION

3 days · 24 hours

LEVEL

Advanced

CURRICULUM

9 modules · 5 labs

DELIVERYLive online, Onsite,
Corporate

Course overview

A cloud architect translates business goals into a design that is secure, reliable, scalable and affordable, then guides teams through building and operating it. The Professional Cloud Architect exam tests that translation, using case studies of fictional companies with competing requirements. This three-day course develops the same skill through design sessions, labs and structured case-study practice.

Day one covers designing and planning a solution architecture: gathering requirements, choosing compute, storage and data services, designing networks with Shared VPC and hybrid connectivity, and planning migrations. Day two focuses on managing and provisioning infrastructure, designing for security and compliance, and building in reliability with regional design, load balancing, SRE practices and disaster recovery planning.

Day three addresses analysing and optimising technical and business processes, managing implementation through infrastructure as code and CI/CD, and ensuring operational reliability with monitoring, logging and incident response. Throughout the course, the trainer works through case-study scenarios on the whiteboard, asking how a design should change when cost, latency, compliance or availability requirements shift.

Labs give you hands-on grounding in the services that appear most often in designs, such as VPC networking, GKE, Cloud Run, Cloud SQL and IAM. The final session reviews how to approach case-study questions. This course is aligned to the Professional Cloud Architect exam and prepares you for it; confirm the current exam guide and case studies on the Google Cloud certification site before booking.

Highlights

- 24 hours of live, design-focused training
- Case-study driven architecture sessions
- Hands-on labs for networking, GKE and reliability
- Covers every Professional Cloud Architect exam section
- Scenario practice with whiteboard reviews

What's included

- Case-study driven design sessions
- Requirement-to-architecture frameworks
- Hands-on labs for core architecture services
- Reliability and SRE practices
- Security and compliance design patterns
- Case-study question practice with reviews
- Course completion certificate from Ace Skills Consulting

Who this course is for

Who should attend

- Cloud architects and solution designers
- Associate Cloud Engineers progressing to architecture
- Architects from AWS or Azure adding Google Cloud
- Technical consultants and pre-sales architects

Prerequisites

- Associate Cloud Engineer or equivalent hands-on Google Cloud experience
- Understanding of networking, security and application architecture
- Experience designing or operating production systems

Detailed curriculum — 3 days, 24 hours, 9 modules, 5 hands-on labs

Day 1 Designing and Planning a Cloud Solution

8 hours

1.1 Requirements and design principles

- Business and technical requirements
- Choosing compute: Compute Engine, GKE, Cloud Run
- Well-Architected Framework for Google Cloud
- Choosing data stores

1.2 Network design

- Shared VPC and VPC design
- Load balancing options
- Hybrid connectivity: Cloud VPN and Interconnect
- Private Service Connect

LAB Build a Shared VPC with a global external load balancer · 60 min

1.3 Migration planning

- Assessing workloads for migration
- Data migration approaches
- Migration tooling
- Licensing and cost considerations

LAB Estimate and compare costs for three design options · 30 min

Day 2 Infrastructure, Security & Reliability

8 hours

2.1 Managing and provisioning infrastructure

- Infrastructure as code with Terraform
- Autoscaling strategies
- GKE cluster design
- Storage provisioning

LAB Provision a regional GKE cluster with Terraform · 50 min

2.2 Security and compliance

- IAM design and organisation policies
- Encryption and Cloud KMS
- VPC Service Controls
- Compliance and data residency

LAB Apply organisation policies and a VPC Service Controls perimeter · 40 min

2.3 Reliability design

- SLIs, SLOs and error budgets
- Backup and disaster recovery
- Regional and multi-regional patterns
- Chaos and load testing concepts

Day 3 Optimisation, Implementation, Operations & Exam Readiness

8 hours

3.1 Optimising processes

- Cost optimisation and committed use discounts
- Business continuity planning
- Stakeholder and change management

3.2 Implementation and operations

- CI/CD with Cloud Build and Cloud Deploy
 - Incident response and postmortems
- Cloud Monitoring and Logging strategy
 - API management

LAB Deploy with Cloud Build and Cloud Deploy, then set SLO alerts · 50 min

3.3 Case-study exam readiness

- Reading a case study effectively
 - Timed practice set with review
- Mapping requirements to answers

Skills and tools

Skills you will build

Solution architecture

Google Cloud networking

Shared VPC

Hybrid connectivity

GKE

Cloud Run

Terraform

Cloud IAM

VPC Service Controls

Site reliability engineering

Disaster recovery

Cost optimisation

Tools used in class

Google Cloud console

gcloud CLI

Terraform

Cloud Build

Cloud Deploy

Google Cloud Pricing Calculator

draw.io

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

Exam	Google Cloud Certified – Professional Cloud Architect
Exam code	PCA
Questions	50–60
Duration	120 minutes
Format	Multiple choice, Multiple response, Case study
Delivery	Online proctored, Test centre
Official page	https://cloud.google.com/learn/certification/cloud-architect

Exam skill areas covered
Designing and deploying cloud solution architecture
Managing and automating cloud infrastructure and business processes

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

Frequently asked questions

Should I complete Associate Cloud Engineer first?

It is not mandatory, but hands-on Google Cloud experience at that level is strongly recommended.

Do you cover the exam case studies?

Yes. We practise with the published case-study format and teach a method for mapping requirements to answers. Check the current exam guide for the latest case studies.

I am an AWS architect. Is this course right for me?

Yes. Many learners join with AWS or Azure experience; we highlight the key differences in Google Cloud design.

How long should I prepare after the course?

Most learners revise for four to six weeks, focusing on case studies and the documentation for core services.

Can you run this for our architecture team?

Yes. Corporate batches can use your own design challenges as case material.

Book a batch or talk to an advisor

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