

# PCSE: Google Professional Cloud Security Engineer

Design and run secure Google Cloud environments — identity, perimeters, data protection and detection — prepared for the PCSE exam.

**DURATION**

3 days · 24 hours

**LEVEL**

Advanced

**CURRICULUM**

9 modules · 6 labs

**DELIVERY**Live online, Onsite,  
Corporate

## Course overview

Securing Google Cloud means getting many layers right at once: who can access what, how networks are segmented, how data is encrypted and classified, and how threats are detected and handled. This three-day course gives security professionals a structured, hands-on route through those layers using the controls Google Cloud provides.

Day one covers configuring access: Cloud Identity, single sign-on, the resource hierarchy, IAM roles, conditions and deny policies, service accounts and workload identity federation, plus organisation policies as guardrails. Day two focuses on securing communications and establishing boundary protection — VPC design, firewall policies, Cloud Armor, Identity-Aware Proxy, Private Service Connect and VPC Service Controls — followed by data protection with Cloud KMS, customer-managed and external keys, Secret Manager and Sensitive Data Protection.

Day three covers managing operations and supporting compliance: Security Command Center, audit and access logs, log sinks to a central project, incident response, secure CI/CD and container security with Binary Authorization and Artifact Analysis. We also discuss compliance frameworks, data residency through Assured Workloads and evidence collection for audits.

Labs build a secure landing zone step by step and end with an investigation exercise using Security Command Center findings. This course is aligned to the Professional Cloud Security Engineer exam and prepares you for it; confirm the current exam guide on the Google Cloud certification site before booking.

### Highlights

- 24 hours of live, security-focused training
- Labs on IAM, VPC Service Controls and Cloud KMS
- Security Command Center and logging in practice
- Covers all Professional Cloud Security Engineer exam sections
- Scenario practice with detailed explanations

### What's included

- Secure landing zone built across the labs
- IAM conditions, deny policies and workload identity
- VPC Service Controls perimeter design
- Key management with Cloud KMS and CMEK
- Threat detection with Security Command Center
- Scenario-based practice questions
- Course completion certificate from Ace Skills Consulting

## Who this course is for

### Who should attend

- Cloud security engineers and architects
- Security operations professionals working with Google Cloud
- Cloud engineers taking on security responsibilities
- Compliance and governance specialists with technical backgrounds

### Prerequisites

- Associate Cloud Engineer or equivalent Google Cloud experience
- Security fundamentals: identity, encryption and network security
- Comfort with the gcloud CLI

## Detailed curriculum — 3 days, 24 hours, 9 modules, 6 hands-on labs

### Day 1 Configuring Access

8 hours

#### 1.1 Identity foundations

- Cloud Identity and Google Cloud Directory Sync
- Super administrator protection
- Single sign-on with third-party identity providers
- Groups-based access management

#### 1.2 IAM in depth

- Predefined and custom roles
- Service accounts, impersonation and short-lived credentials
- IAM conditions and deny policies
- Workload identity federation

**LAB** Replace service account keys with impersonation and workload identity · 50 min

#### 1.3 Guardrails

- Organisation policy constraints
- Policy Intelligence and IAM recommender
- Resource hierarchy design for security

**LAB** Apply organisation policies and review IAM recommendations · 35 min

### Day 2 Boundary Protection & Data Protection

8 hours

#### 2.1 Network security

- Hierarchical and network firewall policies
- Identity-Aware Proxy
- Cloud Armor and WAF rules
- Private Google Access and Private Service Connect

**LAB** Protect an application with Cloud Armor and IAP · 45 min

#### 2.2 VPC Service Controls

- Service perimeters and bridges
- Dry-run mode and troubleshooting
- Access levels with Access Context Manager

**LAB** Create a perimeter around BigQuery and Cloud Storage · 45 min

#### 2.3 Data protection

- Cloud KMS, CMEK and Cloud HSM
- Secret Manager
- External key management
- Sensitive Data Protection inspection and de-identification

**LAB** Encrypt a bucket with CMEK and rotate the key · 30 min

### Day 3 Operations, Compliance & Exam Readiness

8 hours

### 3.1 Security operations

- Security Command Center findings and posture
- Centralised log sinks
- Cloud Audit Logs and access transparency
- Incident response on Google Cloud

**LAB** Investigate a suspicious finding with Security Command Center and audit logs · 50 min

### 3.2 Secure delivery and workloads

- Binary Authorization
- GKE security hardening
- Artifact Analysis and vulnerability scanning
- Shielded and Confidential VMs

### 3.3 Compliance and exam readiness

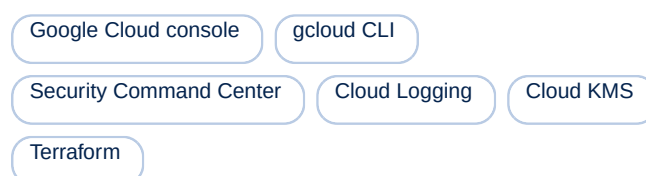
- Assured Workloads and data residency
- Timed practice set with review
- Mapping controls to frameworks

## Skills and tools

### Skills you will build



### Tools used in class



## 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 Security Engineer                                                                                           |
| Exam code     | PCSE                                                                                                                                                    |
| Questions     | 50–60                                                                                                                                                   |
| Duration      | 120 minutes                                                                                                                                             |
| Format        | Multiple choice, Multiple response                                                                                                                      |
| Delivery      | Online proctored, Test centre                                                                                                                           |
| Official page | <a href="https://cloud.google.com/learn/certification/cloud-security-engineer">https://cloud.google.com/learn/certification/cloud-security-engineer</a> |

### Exam skill areas covered

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

## Frequently asked questions

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### Do I need a security certification first?

No, but you should understand security fundamentals. Security+ or equivalent knowledge is a useful foundation.

### Is this course useful for AWS or Azure security engineers?

Yes. We map Google Cloud controls to familiar equivalents and focus on what is distinctive, such as VPC Service Controls.

### How much hands-on work is there?

Each day includes labs that together build a secure landing zone and end with an investigation exercise.

### How should I prepare after the course?

Repeat the labs, review the documentation for IAM, VPC Service Controls and KMS, and practise scenario questions.

### Can you run a private batch for our security team?

Yes. We can align scenarios with your organisation's Google Cloud policies and tooling.

### Book a batch or talk to an advisor

Course page: [aceskillsconsulting.com/course/pcse-google-professional-cloud-security-engineer](https://aceskillsconsulting.com/course/pcse-google-professional-cloud-security-engineer) · Email: [info@aceskillsconsulting.com](mailto:info@aceskillsconsulting.com)

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