Google Associate Cloud Engineer
자격증 과정

클라우드 자격증 소개(GCP)

Google Cloud Certification

기초 자격증

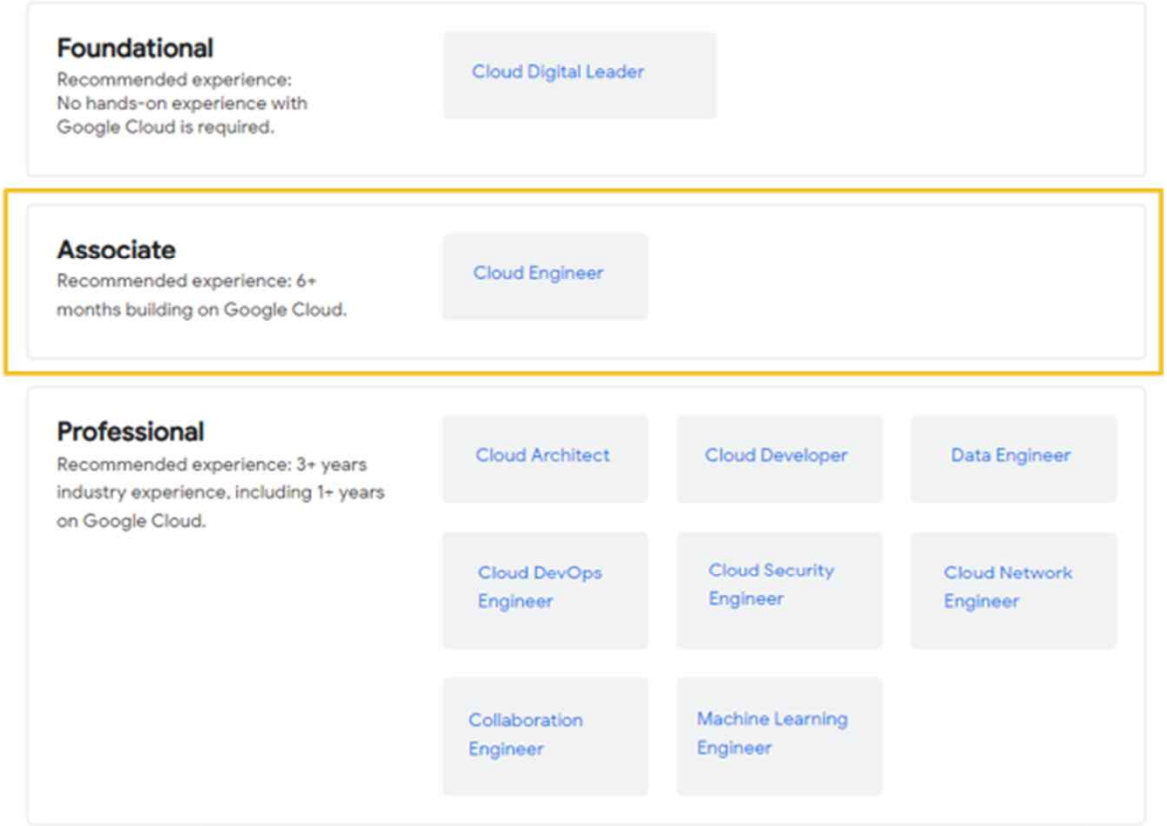
실무 경험이 거의 없는
비기술직 개인

어소시에이트 자격증

클라우드를 처음 접하지만
실무자로 거듭나고자 하는 개인

프로페셔널 자격증

업계 경력과 GCP 제품 및 솔루션
활용 가능한 현업 경력자



취업자 대상
인기 자격증

클라우드 자격증 소개(GCP)

Google Associate Cloud Engineer 과정 (초중급) 10일 80시간

● **교육대상** Google Cloud의 전반적인 이해와 실무자로서의 역량이 필요한 개인

● **교육내용** 구글 클라우드를 사용하면 새 앱을 신속하게 빌드하고 기존 앱을 현대화 하여 민첩성을 높이고 멀티 클라우드의 이점을 활용할 수 있습니다. 본 과정은 구글 GCP 클라우드의 구조와 핵심 기술을 습득하여 실무에 적용할 수 있으며 Google Associate Cloud Engineer 자격증 시험을 준비하는 데 도움이 됩니다.

● **교육구성** 이론 60%, 실습 40%

● **교육목표**
- 기본 환경 설정과 GCP 사용법 습득
- GCP 클라우드 기반 리소스 관리 기법 습득
- GCP 클라우드 기반 데이터 처리 및 앱 배포방법 습득
- GCP 클라우드 솔루션의 보안과 네트워크 관리 기법 습득

Google Associate Cloud Engineer 시험 개요

Google Associate Cloud Engineer 시험

- **시험시간** 120분
- **시험형식** 50-60개의 객관식 및 객관식 문제
- **비용** 125 USD (약 170,500 KRW)
- **시험옵션** a. 원격 위치에서 온라인 감독 시험을 치르세요.
  b. 시험 센터에서 현장 감독 시험을 치르십시오.
- **시험 예약 링크** a. 원격 위치에서 온라인 감독 시험을 치르세요.
  b. 시험 센터에서 현장 감독 시험을 치르십시오.
- **제공언어** 영어, 일본어, 스페인어, 포르투갈어 (**한국어 지원 안함**)

https://cloud.google.com/learn/certification/cloud-engineer

Google Associate Cloud Engineer 시험 내용(요약)

Section 1: Setting up a cloud solution environment (~20% of the exam)

(1) Setting up cloud projects and accounts.
(2) Managing billing configuration.

Section 2: Planning and configuring a cloud solution (~17.5% of the exam)

(1) Planning and configuring compute resources.
(2) Planning and configuring data storage options.
(3) Planning and configuring network resources.

Google Associate Cloud Engineer 시험 내용(요약)

Section 3: Deploying and implementing a cloud solution (~25% of the exam)

(1) Deploying and implementing Compute Engine resources.
(2) Deploying and implementing Google Kubernetes Engine resources.
(3) Deploying and implementing Cloud Run and Cloud Functions resources.
(4) Deploying and implementing data solutions.
(5) Deploying and implementing networking resources.
(6) Implementing resources through infrastructure as code.

Google Associate Cloud Engineer 시험 내용(요약)

Section 4: Ensuring successful operation of a cloud solution (~20% of the exam)

(1) Managing Compute Engine resources.
(2) Managing Google Kubernetes Engine resources.
(3) Managing Cloud Run resources.
(4) Managing storage and database solutions.
(5) Managing networking resources.
(6) Monitoring and logging.

Google Associate Cloud Engineer 시험 내용(요약)

Section 5: Configuring access and security (~17.5% of the exam)

(1) Managing Identity and Access Management (IAM).
(2) Managing service accounts.

Google Associate Cloud Engineer 시험 세부 내용

Section 1: Setting up a cloud solution environment (~20% of the exam)

1.1 Setting up cloud projects and accounts. Considerations include:

- Creating a resource hierarchy
- Applying organizational policies to the resource hierarchy
- Granting members IAM roles within a project
- Managing users and groups in Cloud Identity (manually and automated)
- Enabling APIs within projects
- Provisioning and setting up products in Google Cloud's operations suite
- Assessing quotas and requesting increases

1.2 Managing billing configuration. Considerations include:

- Creating one or more billing accounts
- Linking projects to a billing account
- Establishing billing budgets and alerts
- Setting up billing exports

Google Associate Cloud Engineer 시험 세부 내용

Section 2: Planning and configuring a cloud solution (~17.5% of the exam)

2.1 Planning and configuring compute resources. Considerations include:

- Selecting appropriate compute choices for a given workload (e.g., Compute Engine, Google Kubernetes Engine, Cloud Run, Cloud Functions)
- Using Spot VM instances and custom machine types as appropriate

2.2 Planning and configuring data storage options. Considerations include:

- Product choice (e.g., Cloud SQL, BigQuery, Firestore, Spanner, Bigtable)
- Choosing storage options (e.g., zonal Persistent Disk, regional Persistent Disk, Standard, Nearline, Coldline, Archive)

2.3 Planning and configuring network resources. Considerations include:

- Load balancing
- Availability of resource locations in a network
- Network Service Tiers

Google Associate Cloud Engineer 시험 세부 내용

Section 3: Deploying and implementing a cloud solution (~25% of the exam)

3.1 Deploying and implementing Compute Engine resources. Considerations include:

- Launching a compute instance (e.g., assign disks, availability policy, SSH keys)
- Creating an autoscaled managed instance group by using an instance template
- Configuring OS Login
- Configuring VM Manager

3.2 Deploying and implementing Google Kubernetes Engine resources. Considerations include:

- Installing and configuring the command line interface (CLI) for Kubernetes (kubectl)
- Deploying a Google Kubernetes Engine cluster with different configurations (e.g., Autopilot, regional clusters, private clusters, GKE Enterprise)
- Deploying a containerized application to Google Kubernetes Engine

3.3 Deploying and implementing Cloud Run and Cloud Functions resources. Considerations include:

- Deploying an application
- Deploying an application for receiving Google Cloud events (e.g., Pub/Sub events, Cloud Storage object change notification events, Eventarc)
- Determining where to deploy an application by using Cloud Run (fully managed), Cloud Run for Anthos, or Cloud Functions

Google Associate Cloud Engineer 시험 세부 내용

3.4 Deploying and implementing data solutions. Considerations include:

- Deploying data products (e.g., Cloud SQL, Firestore, BigQuery, Spanner, Pub/Sub, Dataflow, Cloud Storage, AlloyDB)
- Loading data (e.g., command line upload, load data from Cloud Storage, Storage Transfer Service)

3.5 Deploying and implementing networking resources. Considerations include:

- Creating a VPC with subnets (e.g., custom mode VPC, Shared VPC)
- Creating ingress and egress firewall rules and policies (e.g., IP subnets, network tags, service accounts)
- Peering external networks (e.g., Cloud VPN, VPC Network Peering)

3.6 Implementing resources through infrastructure as code. Considerations include:

- Infrastructure as code tooling (e.g., Cloud Foundation Toolkit, Config Connector, Terraform, Helm)

Google Associate Cloud Engineer 시험 세부 내용

Section 4: Ensuring successful operation of a cloud solution (~20% of the exam)

4.1 Managing Compute Engine resources. Considerations include:

- Remotely connecting to the instance
- Viewing current running VM inventory (e.g., instance IDs, details)
- Working with snapshots (e.g., create a snapshot from a VM, view snapshots, delete a snapshot, schedule a snapshot)
- Working with images (e.g., create an image from a VM or a snapshot, view images, delete an image)

4.2 Managing Google Kubernetes Engine resources. Considerations include:

- Viewing current running cluster inventory (e.g., nodes, Pods, Services)
- Configuring Google Kubernetes Engine to access Artifact Registry
- Working with node pools (e.g., add, edit, or remove a node pool)
- Working with Kubernetes resources (e.g., Pods, Services, Statefulsets)
- Managing Horizontal and Vertical autoscaling configurations

4.3 Managing Cloud Run resources. Considerations include:

- Deploying new versions of an application
- Adjusting application traffic splitting parameters
- Setting scaling parameters for autoscaling instances

Google Associate Cloud Engineer 시험 세부 내용

4.3 Managing Cloud Run resources. Considerations include:

- Deploying new versions of an application
- Adjusting application traffic splitting parameters
- Setting scaling parameters for autoscaling instances

4.4 Managing storage and database solutions. Considerations include:

- Managing and securing objects in Cloud Storage buckets
- Setting object lifecycle management policies for Cloud Storage buckets
- Executing queries to retrieve data from data instances (e.g., Cloud SQL, BigQuery, Spanner, Firestore, AlloyDB)
- Estimating costs of data storage resources
- Backing up and restoring database instances (e.g., Cloud SQL, Firestore)
- Reviewing job status (e.g., Dataflow, BigQuery)

4.5 Managing networking resources. Considerations include:

- Adding a subnet to an existing VPC
- Expanding a subnet to have more IP addresses
- Reserving static external or internal IP addresses
- Working with Cloud DNS and Cloud NAT

Google Associate Cloud Engineer 시험 세부 내용

4.6 Monitoring and logging. Considerations include:

- Creating Cloud Monitoring alerts based on resource metrics
- Creating and ingesting Cloud Monitoring custom metrics (e.g., from applications or logs)
- Exporting logs to external systems (e.g., on-premises, BigQuery)
- Configuring log buckets, log analytics, and log routers
- Viewing and filtering logs in Cloud Logging
- Viewing specific log message details in Cloud Logging
- Using cloud diagnostics to research an application issue
- Viewing Google Cloud status
- Configuring and deploying Ops Agent
- Deploying Managed Service for Prometheus
- Configuring audit logs

Google Associate Cloud Engineer 시험 세부 내용

Section 5: Configuring access and security (~17.5% of the exam)

5.1 Managing Identity and Access Management (IAM). Considerations include:

- Viewing and creating IAM policies
- Managing the various role types and defining custom IAM roles (e.g., basic, predefined, custom)

5.2 Managing service accounts. Considerations include:

- Creating service accounts
- Using service accounts in IAM policies with minimum permissions
- Assigning service accounts to resources
- Managing IAM of a service account
- Managing service account impersonation
- Creating and managing short-lived service account credentials

과정 일정표

Google Associate Cloud Engineer 과정 (중급, 아키텍트) 4일 24시간

	1일차	2일차	3일차	4일차
오전 (1~3교시)	- Associate Cloud Engineer 자격시험 소개 - Google Cloud 콘솔 탐색 - Cloud Storage 개요 - 버킷과 객체 생성 및 관리 - Compute Engine 구조 - VM 인스턴스 생성 및 관리 - 관련 기출 문제 풀이	- IAM 권한 관리 - IAM 역할 설정 및 사용자 추가 - IAM 정책 설정 - Cloud SDK 설치 및 구성 - gcloud로 GCP 자원 관리 - 관련 기출 문제 풀이	- Google Cloud Monitoring 서비스 소개 - 모니터링 대시보드 설정 - Cloud Logging 및 알림 설정 - Cloud Logging을 통한 로그 수집 및 모니터링 - 관련 기출 문제 풀이	- 보안 및 비용 최적화 - 보안 정책 설정 (VPC 방화벽, IAM 보안) - 리소스 비용 관리 및 최적화 전략 - 비용 분석 도구를 사용한 비용 최적화 - 관련 기출 문제 풀이
오후 (4~6교시)	- VPC 네트워킹 설정 - VPN, Cloud Router 개념 - 네트워크와 서브넷 설정 - 인터넷 게이트웨이 및 NAT 설정 - 방화벽 규칙 설정 - 관련 기출 문제 풀이	- Kubernetes Engine (GKE) 클러스터 생성 - Kubernetes 애플리케이션 배포 - App Engine 개요 - 애플리케이션 배포 - Cloud Functions 개요 및 이벤트 처리 - 관련 기출 문제 풀이	- Google Cloud의 데이터베이스 서비스 소개 - Cloud SQL 및 Cloud Spanner 사용 사례 - 데이터베이스 생성 및 관리 - 데이터베이스 백업 및 복원 - 관련 기출 문제 풀이	- 최종 모의 시험 실시 (실전 대비) - 오답 리뷰 및 중요 개념 복습 - 최종 복습 및 Q&A - 자격 시험 유의 사항 및 준비 방법 - 부족한 부분 추가 질문

Thank You!!