

Google Cloud Certifications



Associate
Cloud
Engineer



Professional
Collaboration
Engineer



Professional
Cloud
Developer



Professional
Cloud Architect



Cloud
Network
Engineer



Professional
Data Engineer



Cloud
Security
Engineer

Associate
Recommended
6+ months hands-on
experience with GCP

Professional
Recommended
3+ years industry
experience &
1 year hands-on
experience with GCP

Google Cloud certification impact report



of Google Cloud certified individuals are **more confident** about their cloud skills.



of Google Cloud certified individuals report that becoming certified enabled or will enable their employer to **get more business**, increase work with existing customers, or help scale up their business.



of Google Cloud certified individuals **applied for a new role**.



of those applicants received **at least one job offer**.

1

Design and Plan a cloud solution architecture

- ✓ Meets business requirements
 - Business use case and product strategy
 - data transport and integration design
 - Build, buy, modify or deprecate
 - Success Measurement, Compliance and observability
- ✓ Meets technical requirements
 - High availability and failover design
 - Elasticity, Scalability, Performance and Latency
- ✓ Design network, storage and compute resources
- ✓ Creating a migration plan
 - Network planning, system migration and data transport
 - Integration and dependency management planning
- ✓ Envision future solution improvements
 - Evangelism and advocacy of change(technical/business)

2

Manage & Provision a solution infrastructure

- ✓ Configuring network topologies
 - Hybrid networking, multi-cloud environment
 - Security protection
- ✓ Configuring individual storage systems
 - Data lifecycle, Data storage & processing provisioning
 - Security and access management
- ✓ Configuring compute systems
 - Compute resource, volatility and network configuration
 - Infrastructure orchestration, resource configuration and patch management
 - Container orchestration

3

Design for security and compliance

- ✓ Designing for security
 - IAM, Resource Hierarchy
 - Data security, Separation of duties (SoD)
 - Security Controls, encryption keys, remote access
- ✓ Designing for compliance
 - Legislations, Commercial compliance
 - Industry certifications and Audits

4

Analyse and optimise technical and business processes

- ✓ Analysing and defining technical processes
 - ✓ SDLC, CICD
 - ✓ Business Continuity and disaster recovery
- ✓ Analysing and defining business processes
 - ✓ Customer success and change management
 - ✓ Capex / opex
 - ✓ Stakeholder and Team skill management

5

Managing implementation

- ✓ Advising development/operation teams
 - Application development, Testing frameworks
 - API best practices
 - Security Controls, encryption keys, remote access
- ✓ Interacting with Google Cloud programmatically
 - Google Cloud Shell, Cloud SDK
 - Cloud Emulators (e.g Cloud Bigtable, Datastore, Spanner, Pub/Sub, Firestore)

6

Ensuring Solution and Operations reliability

- ✓ Monitoring/logging/profiling/alerting solution
- ✓ Deployment and release management
- ✓ Assisting with the support of deployed solutions
- ✓ Evaluating quality control measures

GCP Docs (The BEST!!!)

<https://cloud.google.com/docs>

<https://cloud.google.com/products>

Qwiklabs

<https://www.qwiklabs.com/>

Google Cloud YouTube channel

<https://www.youtube.com/channel/UCTMRxtyHoE3LPcrl-kT4AQQ>

Reference Architectures

<https://showcase.withgoogle.com/solutions-architecture/>

GCP GitHub Repos

<https://github.com/GoogleCloudPlatform>

The Google Cloud Developer's Cheat Sheet

<https://github.com/gregsrabl/google-cloud-4-words>



The image is a comprehensive cheat sheet for Google Cloud services, organized into a grid of colored boxes. At the top left is the Google Cloud logo and the title "DEVELOPER'S CHEAT SHEET" with a version number "v2020.4.7" and a note "Created by the Google Developer Relations Team". The cheat sheet is divided into several main sections, each with a title and a list of services or features:

- COMPUTE**: Cloud Run, Cloud Functions, Compute Engine, Kubernetes Engine (GKE), App Engine, Bare Metal Solution, Short-lived compute instances, Shielded VMs, Sole-tenant nodes.
- STORAGE**: Managed NFS server, Cloud Storage, Multi-cloud multi-region object storage, Persistent Disk, Local SSD, VM locally attached SSDs.
- DATABASE**: Cloud Bigtable, Cloud Firestore, Cloud Spanner, Cloud SQL.
- DATA AND ANALYTICS**: BigQuery, BigQuery BI Engine, BigQuery ML, Cloud Composer, Cloud Data Fusion, Cloud Dataflow, Cloud Dataprep, Cloud Datastore, Cloud Pub/Sub, Cloud Catalog, Data Studio, Looker.
- HYBRID AND MULTI-CLOUD**: Anthos, Anthos GKE, Anthos Config Management, Anthos Service Mesh, Cloud Run for Anthos, GCP Marketplace for Anthos, Operations, Cloud Build, Traffic Director, Apigee API Management.
- AI/ML**: AI Hub, AI Platform Data Labeling, AI Platform Deep Learning VMs, AI Platform Deep Learning Containers, AI Platform Notebooks, AI Platform Pipelines, AI Platform Predictions, AI Platform Training, AI Platform, AutoML, Natural Language, AutoML Tables, AutoML Translation, AutoML Video Intelligence, AutoML Vision, Cloud Natural Language API, Cloud Speech-To-Text API, Cloud Text-to-Speech API, Cloud Vision API, Cloud Video Intelligence API, Cloud Vision AI, Contact Center AI, Dataflow, Document AI, Explainable AI, Recommendations AI, Vision Processor.
- NETWORKING**: Carrier Peering, Direct Peering, Dedicated private network connection, Partner Interconnect, Cloud Armor, Cloud CDN, Cloud Load Balancing, Cloud NAT, Cloud Router, Cloud VPN (HA), Network Service Tiers, Network Telemetry, Traffic Director, Google Cloud Service Mesh, Virtual Private Cloud, VPC Service Controls, Network Intelligence Center.
- GAMING**: Google Cloud Game Servers.
- INTERNET OF THINGS (IOT)**: Cloud IoT Core.
- IDENTITY AND SECURITY**: Access Transparency, Binary Authorization, Cloud Audit Logs, Cloud Data Loss Prevention API, Cloud IAM, Cloud Identity, Cloud Identity-Aware Proxy, Cloud KMS, Cloud Resource Manager, Cloud Security Command Center, Cloud Security Scanner, Container-Managed Access, Event Threat Detection, Managed Services for Microsoft Active Directory, Secret Manager, Security Key Enforcement, Shielded VMs.
- IDENTITY AND SECURITY (CONT.)**: Titan Security Key, VPC Service Controls, Two-factor authentication (2FA) device, VPC data controls.
- MANAGEMENT TOOLS**: Cloud APM, Cloud Billing API, Cloud Billing, Cloud Console, Cloud Deployment Manager, Cloud Mobile App, Private Catalog, Cloud Debugger, Error Reporting, Cloud Logging, Cloud Monitoring, Cloud Profiler, Cloud Trace, Transistor SLs.
- DEVELOPER TOOLS**: Cloud Build, Cloud Code for IntelliJ, Cloud Code for VS Code, Cloud Code, Cloud SDK, Cloud Shell, Cloud Source Repositories, Cloud Tasks, Cloud Tools for Eclipse, Cloud Tools for Visual Studio, Visual Studio Code, Visual Studio Code Tools, Automated security scanning, Private container registry/storage, Artifact Registry, Gradle App Engine Plugin, Maven App Engine Plugin.
- MIGRATION TO GCP**: BigQuery Data Transfer Service, Cloud Data Transfer, Google Transfer Appliance, Migrate for Anthos, Migrate for Compute Engine, Migrate from Amazon Redshift, Migrate from Teradata, Storage Transfer Service, VM Migration, Cloud Foundation Toolkit.
- API PLATFORM AND ECOSYSTEMS**: API Analytics, API Monetization, Apigee API Platform, Apigee Hybrid, Apigee Sense, Cloud Endpoints, Cloud Healthcare API, Developer Portal, GCP Marketplace.
- GOOGLE MAPS PLATFORM**: Directions API, Geocoding API, Location History API, Maps Embed API, Maps JavaScript API, Maps SDK for Android, Maps SDK for iOS, Maps Static API, Maps SDK for Unity, Maps URL, Places API.
- GOOGLE MAPS PLATFORM (CONT.)**: Places Library, Maps JS API, Places SDK for Android, Places SDK for iOS, Street View Static API, Street View Service, Time Zone API, Places features for web, Places features for Android, Places features for iOS, Static street view images, Street view for Android, Convert coordinates to timezone.
- G SUITE PLATFORM**: Admin SDK, AMP for Email, Apps Script, Calendar API, Classroom API, Cloud Search, Docs API, Drive Activity API, Drive API, Drive Picker, Email Markup, G Suite Add-ons, G Suite Marketplace, Gmail API, Hangouts Chat Bots, People API, Read and write spreadsheets, Sheets API, Slides API, Task API, Vault API.
- MOBILE (FIREBASE)**: Cloud Firestore, Cloud Functions for Firebase, Cloud Storage for Firebase, Crashlytics, Firebase A/B Testing, Firebase App Distribution, Firebase Authentication, Firebase Cloud Messaging, Firebase Dynamic Links, Firebase Extensions, Firebase Hosting, Firebase In-App Messaging, Firebase Performance Monitoring, Firebase Predictions, Firebase Realtime Database, Firebase Remote Config, Firebase Test Lab, Google Analytics for Firebase, ML Kit for Firebase.
- ADDITIONAL RESOURCES**: Google Cloud Home Page, Google Cloud Blog, Google Cloud Open Source, GCP Medium Publication, Apigee Blog, Firebase, G Suite Developers Blog, G Suite GitHub, G Suite Twitter, Google Cloud Certifications, Google Cloud System Status, Google Cloud Training, Google Developers Blog, Google Maps Platform Blog, Google Source Blog, Google Security Blog, Kaggle Home Page, Kubernetes Blog, Regions and Network Map.