

# Google Cloud Learning paths

Proprietary & Confidential

Cloud Learning Services 2025

Google Cloud

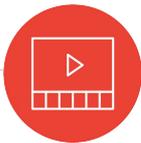


# Build Skills with Google Cloud Learning



## Instructor-led

Our Authorized training partners (ATPs) deliver high-quality content live or in a virtual classroom.



## On-demand

Learn anytime, anywhere with training developed and delivered for training at scale.



## Hands-on labs

Our robust portfolio of labs lets you practice a skill in a sandbox environment.

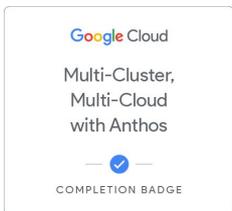


## Credentials and certifications

Our certifications and credentials are a benchmark to measure cloud skills proficiency.

Learn more at [cloud.google.com/training](https://cloud.google.com/training)

# Google Cloud Credentials & Certifications



## Completion Badges

Reward learner for engagement and completion of learning activities

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## Skill badges

Recognize learner's knowledge and hands-on skills with Google Cloud demonstrated by the completion of a learning and skills assessment

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## Certifications

Validate and mastered the knowledge and skills at performing an end-to-end job role using Google Cloud technology

# Pick your learning path

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Infrastructure Modernization



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Networking



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Security



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Application Modernization



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Database



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Data Analytics



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Artificial Intelligence



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Workspace



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Tech Adjacent



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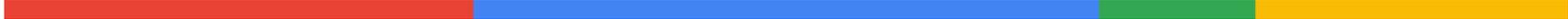
Product based paths



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Certification based paths





# 01 Solution & Role Based

Expanded Learning paths

# 01.1

# Infrastructure Modernization

Expanded Learning paths

## Infrastructure Modernization

# Cloud Engineer, Cloud Admin

### Overview

A cloud engineer configures, sets up, and deploys cloud solutions.

### What will you learn

- Google Compute Engine, Cloud Logging, Cloud Monitoring;
- Google Cloud Storage, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



Note: If switching public cloud providers, try Google Cloud Fundamentals for AWS or Azure Professionals.

Technical Foundations of FinOps on Google Cloud is not a required course in the learning path for the Associate Cloud Engineer.

## Infrastructure Modernization

# Cloud Architect, Cloud Engineer

### Overview

A Cloud Architect designs, develops, and manages robust, secure, scalable, and dynamic solutions.

### What will you learn

- Google Compute Engine, Cloud Logging, Cloud Monitoring;
- Terraform, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

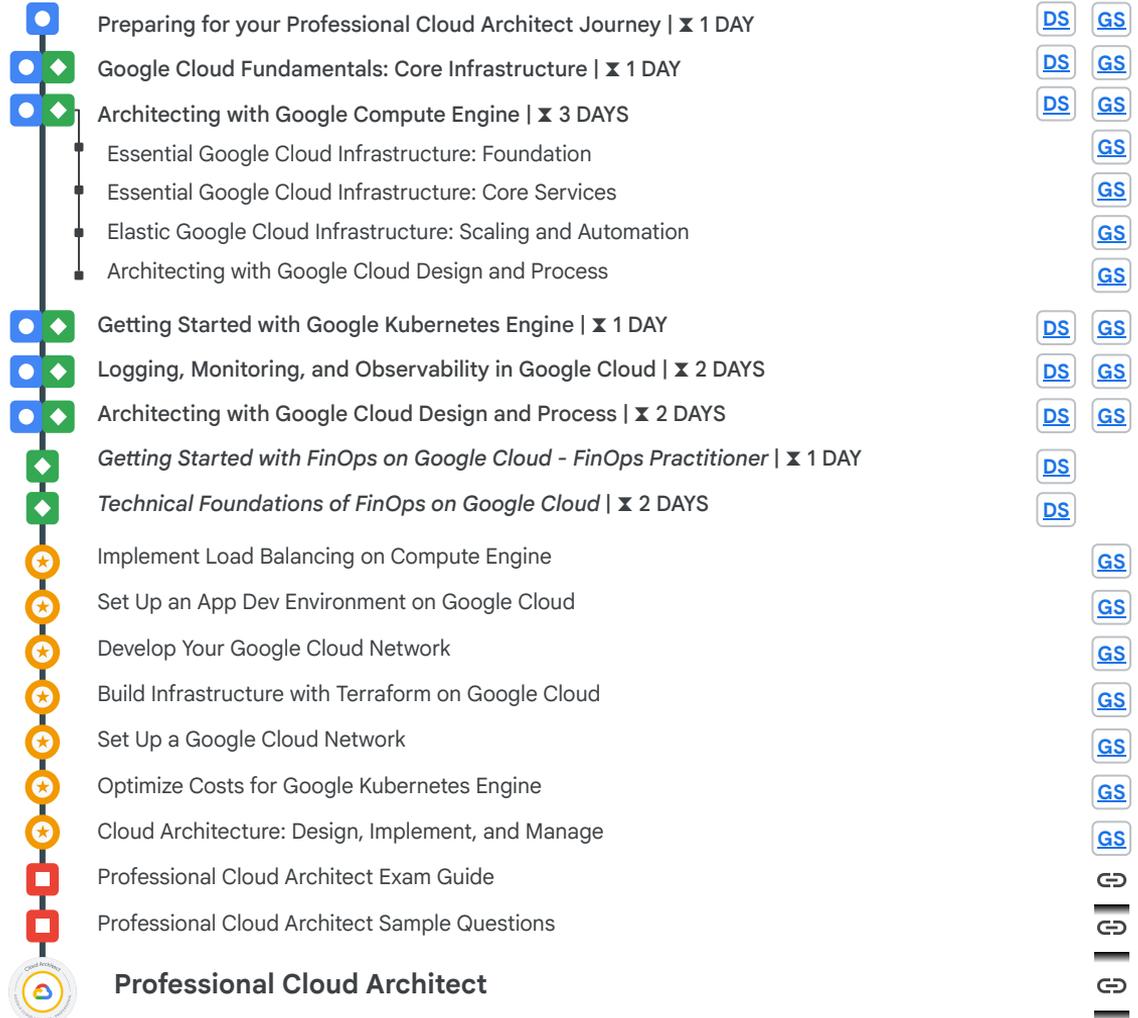
 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

Google Cloud



FinOps courses are not required courses in the learning path for the Professional Cloud Architect.

# Cloud Architect, DevOps Engineer

## Overview

Hybrid and Multi-Cloud Architects manage applications across multiple clouds, or between on-premises and cloud environments.

## What will you learn

- Containers, Google Kubernetes Engine (GKE), Google Cloud IAM;
- Docker, Cloud SDK, and more.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
- [Public Classroom Schedule](#)
- [DS](#) Data Sheet
- [GS](#) Google Skills

-   Google Cloud Fundamentals: Core Infrastructure | **1 DAY**
-   Getting Started with Google Kubernetes Engine | **1 DAY**
-   Architecting with Google Kubernetes Engine | **2 DAYS**
  - Architecting with Google Kubernetes Engine: Workloads
  - Architecting with Google Kubernetes Engine: Production
-  Implement Load Balancing on Compute Engine
-  Deploy Kubernetes Applications on Google Cloud
-  Optimize Costs for Google Kubernetes Engine
-  Manage Scalable Workloads in GKE Enterprise | **3 DAYS**

- [DS](#) [GS](#)
- [DS](#) [GS](#)
- [DS](#) [GS](#)
- [GS](#)
- [GS](#)
- [GS](#)
- [GS](#)
- [DS](#)

Google Cloud Infrastructure  
for AWS professionals

# Cloud Architect, Cloud Engineer

## Overview

In this path, you will apply the knowledge of concepts and technologies in AWS to see how they differ from Google Cloud. Learners will get hands-on practice building and managing Google Cloud resources.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

Google Cloud



Google Cloud Infrastructure for AWS Professionals | **2** DAYS



Logging, Monitoring, and Observability in Google Cloud | **2** DAYS



Architecting with Google Cloud Design and Process | **2** DAYS



Build Google Cloud Infrastructure for AWS Professionals





Implement Cloud Security Fundamentals on Google Cloud





Optimize Costs for Google Kubernetes Engine





Set Up an App Dev Environment on Google Cloud





Cloud Architecture: Design, Implement, and Manage





## Professional Cloud Architect





Google Cloud Infrastructure  
for Azure professionals

# Cloud Architect, Cloud Engineer

## Overview

In this path, you will apply the knowledge of concepts and technologies in Azure to see how they differ from Google Cloud. Learners will get hands-on practice building and managing Google Cloud resources.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

Google Cloud



Google Cloud Infrastructure for Azure Professionals | **2** DAYS



Logging, Monitoring, and Observability in Google Cloud | **2** DAYS



Architecting with Google Cloud Design and Process | **2** DAYS



Build Google Cloud Infrastructure for Azure Professionals



Implement Cloud Security Fundamentals on Google Cloud



Optimize Costs for Google Kubernetes Engine



Set Up an App Dev Environment on Google Cloud



Cloud Architecture: Design, Implement, and Manage



## Professional Cloud Architect



# Cloud Architect, Cloud Engineer

## Overview

This learning path, designed for intermediate to advanced technical learners, offers on-demand courses to specialize in AI Infrastructure on Google Cloud. You'll gain the knowledge and skills to design and deploy high-performance AI/ML solutions using Google Cloud's AI Hypercomputer, GPUs, TPUs, Compute, and Google Kubernetes Engine

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

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 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



AI Infrastructure: Introduction to AI Hypercomputer | **⌘** 1 HOUR

AI Infrastructure: Cloud GPUs | **⌘** 1 HOUR

AI Infrastructure: Cloud TPUs | **⌘** 1 HOUR



# 01.2

# Networking

Expanded Learning paths

## Networking

# Network Engineer, Network Operations

### Overview

A Network Engineer configures, maintains, and troubleshoots network components of their cloud-based infrastructure. This learning path prepares you for the PCNE.

### What will you learn

- Design and implement networks in Google Cloud
- VPCs, Cloud DNS, Cloud IAM, Networking, Cloud Armor, Cloud Shell, Cloud Interconnect, Network Connectivity Center

 On-demand	 Data Sheet
 Virtual and in-person Classroom	 Google Skills
 Skill badge	
 Self-paced Labs	
 Resource	<a href="#">Public Classroom Schedule</a>

	Preparing for Your Professional Cloud Network Engineer Journey	✕ 1 Day	<a href="#">DS</a>	<a href="#">GS</a>
	Google Cloud Fundamentals: Core Infrastructure	✕ 1 Day	<a href="#">DS</a>	<a href="#">GS</a>
	Gemini for Network Engineers			<a href="#">GS</a>
	Networking in Google Cloud 3.0	✕ 3 Days	<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google Cloud: Fundamentals		<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google Cloud: Routing and Addressing		<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google Cloud: Load Balancing		<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google Cloud: Network Security		<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google Cloud: Network Architecture		<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google cloud: Hybrid and Multicloud		<a href="#">DS</a>	<a href="#">GS</a>
	Introduction to Cloud Next Generation Firewall		<a href="#">DS</a>	<a href="#">GS</a>
	Evaluate Your Cloud Next Generation Firewall Needs		<a href="#">DS</a>	<a href="#">GS</a>
	Logging, Monitoring, and Observability in Google Cloud	✕ 2 Days	<a href="#">DS</a>	<a href="#">GS</a>
	Implement Load Balancing on Compute Engine			<a href="#">GS</a>
	Configure Google Kubernetes Engine Networking			<a href="#">GS</a>
	Build a Secure Google Cloud Network			<a href="#">GS</a>
	Connecting Cloud Networks with Network Connectivity Center			<a href="#">GS</a>
	Professional Cloud Network Engineer Exam Guide			<a href="#">Link</a>
	Professional Cloud Network Engineer Sample Questions			<a href="#">Link</a>
	Professional Cloud Network Engineer Certification			<a href="#">Link</a>

## Networking

# Network Security

### Overview

The Network Security solutions provide cloud professionals with the skills to build, configure, and maintain the network security in their infrastructure.

### What will you learn

- Cloud NGFW, Cloud Armor, Securing VPC networks
- Cloud IDS, VPC Service Controls, and Cloud NAT

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

	Networking in Google Cloud: Network Security	<a href="#">DS</a>	<a href="#">GS</a>	
	Networking in Google Cloud: Network Architecture	<a href="#">DS</a>	<a href="#">GS</a>	
	Security in Google Cloud	✖ 3 Days	<a href="#">DS</a>	<a href="#">GS</a>
OR				
	Managing Security in Google Cloud		<a href="#">GS</a>	
	Security Best Practices in Google Cloud		<a href="#">GS</a>	
	Mitigating Security Vulnerabilities on Google Cloud Platform		<a href="#">GS</a>	
	Implement Cloud Security Fundamentals on Google Cloud		<a href="#">GS</a>	
	Migrate your VPC Firewall Policies to Cloud NGFW		<a href="#">GS</a>	
	Introduction to Cloud Next Generation Firewall	<a href="#">DS</a>	<a href="#">GS</a>	
	Evaluate Your Cloud Next Generation Firewall Needs	<a href="#">DS</a>	<a href="#">GS</a>	
	Secure VPC Networks with Cloud Next Generation Firewall	<a href="#">DS</a>	<a href="#">GS</a>	
	Secure GKE with Cloud Next Generation Firewall	<a href="#">DS</a>	<a href="#">GS</a>	
	Build a Secure Networks in Google Cloud		<a href="#">GS</a>	
	Securing your Network with Cloud Armor		<a href="#">GS</a>	
	Designing Network Security in Google Cloud		<a href="#">GS</a>	

# 01.3

# Security

Expanded Learning paths

## Security

# Security Engineer

### Overview

A Security Engineer develops, implements, and monitors their organization's security infrastructure to protect sensitive information.

### What will you learn

- Google Kubernetes Engine, Cloud Shell, virtual machines;
- Cloud Functions, IAM, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



## Security

# Security Operations

### Overview

This learning path guides you through the foundation and intermediate topics of security operations across Google Cloud. It covers numerous product stacks that are involved directly in proactive and reactive security operations.

### What will you learn

- Security operations;
- SecOps, SCC, GTI and modern security operations

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



Build a PSOE Certification Study Guide



Getting Started with Security Command Center Enterprise



Security Command Center Fundamentals



Security Command Center: Identify and Prioritize Risks



Google Threat Intelligence



Google Security Operations - Fundamentals



Google Security Operations - Deep Dive



Model Armor: Securing AI Deployments



Modern Security Operations



Navigate Security Decisions with Gemini



Explore false positives through incident detection



Mitigate Threats and Vulnerabilities with Security Command Center



Professional Security Operations Engineer Exam Guide



Professional Security Operations Engineer Sample Questions



## Professional Security Operations Engineer



## Security

# DevSecOps

### Overview

A DevSecOps develops, implements, and monitors their organization's security infrastructure to protect sensitive information.

### What will you learn

Google Kubernetes Engine (GKE), Google Cloud Security, DevOps, and CI/CD and how they all work together to secure containers and GKE in Google Cloud.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

  Google Cloud Fundamentals: Core Infrastructure | **1 DAY**

  Architecting with Google Kubernetes Engine | **2 DAYS**

 Getting Started with Google Kubernetes Engine



 Architecting with Google Kubernetes Engine: Workloads



 Architecting with Google Kubernetes Engine: Production



  Security in Google Cloud | **3 DAYS**

 Managing Security in Google Cloud



 Security Best Practices in Google Cloud



 Mitigating Security Vulnerabilities on Google Cloud Platform



  Getting Started with Terraform for Google Cloud | **1 DAY**

 Security and Identity fundamentals



 Implement CI/CD Pipelines on Google Cloud



 DevOps Essentials



 Google Kubernetes Engine Best Practices: Security



 Mitigate Threats and Vulnerabilities with Security Command Center



# 01.4

# Application Modernization

Expanded Learning paths

## Application Modernization

# Cloud Developer

### Overview

A Cloud Developer designs, builds, analyzes, and maintains cloud-native applications.

### What will you learn

- Google Compute Engine, Cloud Logging, Cloud Monitoring;
- Google Cloud Storage, and more.

- |  |   |
|--|---|
|  On-demand                       |  Data Sheet    |
|  Virtual and in-person Classroom |  Google Skills |
|  Skill badge                     |   |
|  Self-paced Labs                 |   |
|  Resource                        | <a href="#">Public Classroom Schedule</a>   |

-   Google Cloud Fundamentals: Core Infrastructure | ✕ 1 DAY
-   Developing Applications with Google Cloud | ✕ 3 DAYS
-   Application Development with Cloud Run | ✕ 1.5 DAYS
-   Getting started with Google Kubernetes Engine | ✕ 1 DAY

-  Develop Serverless Applications on Cloud Run
-  Develop Serverless Apps with Firebase
-  Deploy Kubernetes Applications on Google Cloud

-  Professional Cloud Developer Exam Guide
-  Professional Cloud Developer Sample Questions



## Professional Cloud Developer



# DevOps Engineer, SRE

## Overview

A DevOps Engineer is responsible for implementing best practices for efficient software delivery and infrastructure mgmt.

## What will you learn

- Google App Engine, Site Reliability Engineering (SRE);
- Google Kubernetes Engine, and more.

 On-demand

 Virtual and in-person Classroom

 Skill badge

 Self-paced Labs

 Resource

 Data Sheet

 Google Skills

[Public Classroom Schedule](#)



Google Cloud Fundamentals: Core Infrastructure | **1 DAY**



Developing a Google SRE Culture



Architecting with Google Cloud Design and Process | **2 DAYS**



Logging, Monitoring, and Observability in Google Cloud | **2 DAYS**



Getting Started with Terraform for Google Cloud | **1 DAY**



Reliable Google Cloud Infrastructure: Design and Process



Set Up an App Dev Environment on Google Cloud



Implement DevOps Workflows in Google Cloud



Monitor and Log with Google Cloud Operations Suite



Using DevSecOps in your Google Cloud Environment



Build Infrastructure with Terraform on Google Cloud



Professional Cloud DevOps Engineer Exam Guide



Professional Cloud DevOps Engineer Sample Questions



## Professional Cloud DevOps Engineer

# API Developer

## Overview

An API Developer designs and develops secure and efficient application programming interfaces on the Google Cloud Platform.

## What will you learn

- Apigee API Management Platform;
- Cloud business applications;
- Google Kubernetes Engine, and more.

 On-demand	 Data Sheet
 Virtual and in-person Classroom	 Google Skills
 Skill badge	
 Self-paced Labs	
 Resource	<a href="#">Public Classroom Schedule</a>



# API Architect / Engineer (hybrid)

## Overview

A Cloud Architect/Engineer on Apigee utilizes the Apigee API Platform to enhance their cloud architecture and enterprise solutions.

## What will you learn

- Apigee API Management Platform;
- Cloud business applications;
- Google Kubernetes Engine, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

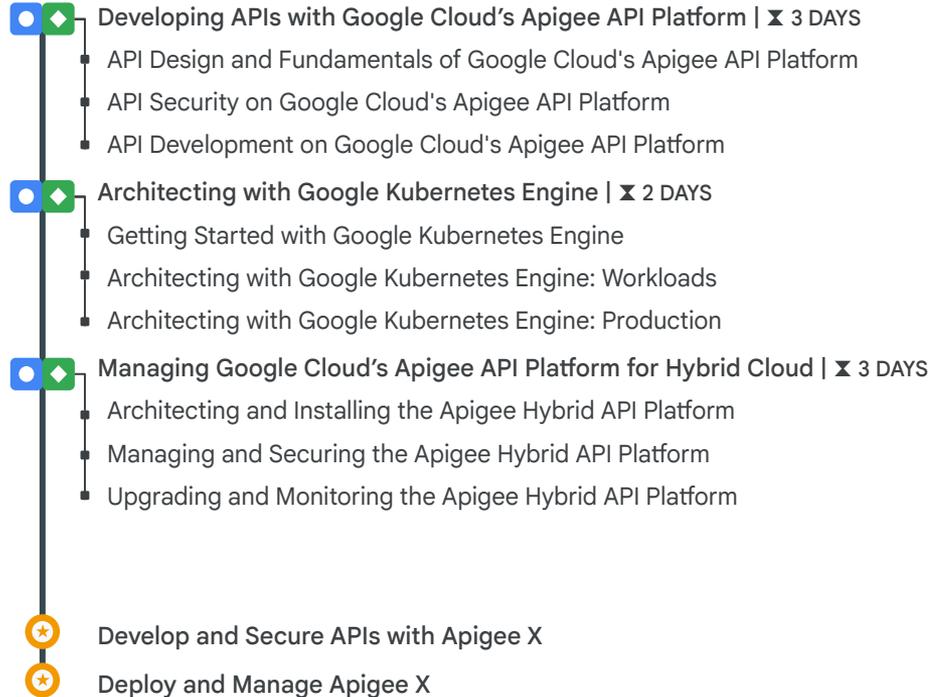
 Google Skills

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 Resource

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# API Architect / Engineer (private cloud)

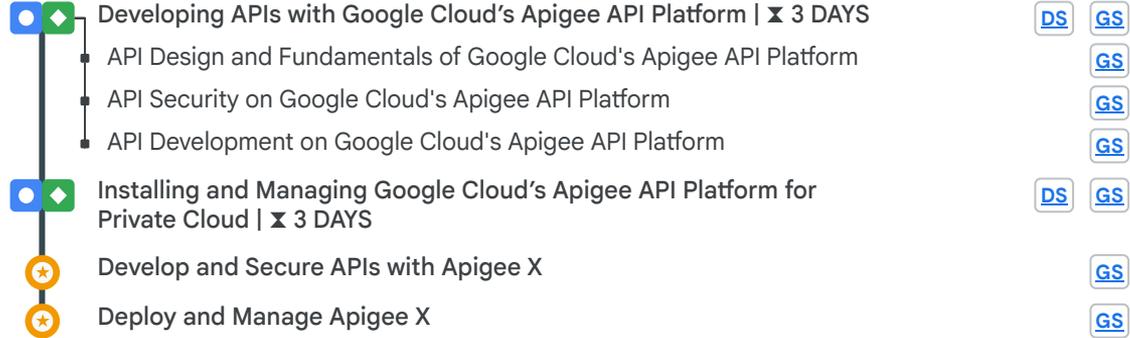
## Overview

A Cloud Architect/Engineer on Apigee utilizes the Apigee API Platform to enhance their cloud architecture and enterprise solutions.

## What will you learn

- Apigee API Management Platform;
- Cloud business applications;
- Google Kubernetes Engine, and more.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
- [Public Classroom Schedule](#)
- [DS](#) Data Sheet
- [GS](#) Google Skills



# 01.5 Database

Expanded Learning paths

## Database

# Database Engineer

### Overview

A Database Engineer designs, creates, manages, migrates, and troubleshoots databases used by applications to store and retrieve data.

### What will you learn

- Google Cloud storage and database services
- Data migration and replication strategies

 On-demand

 Data Sheet

 Virtual and in-person Classroom

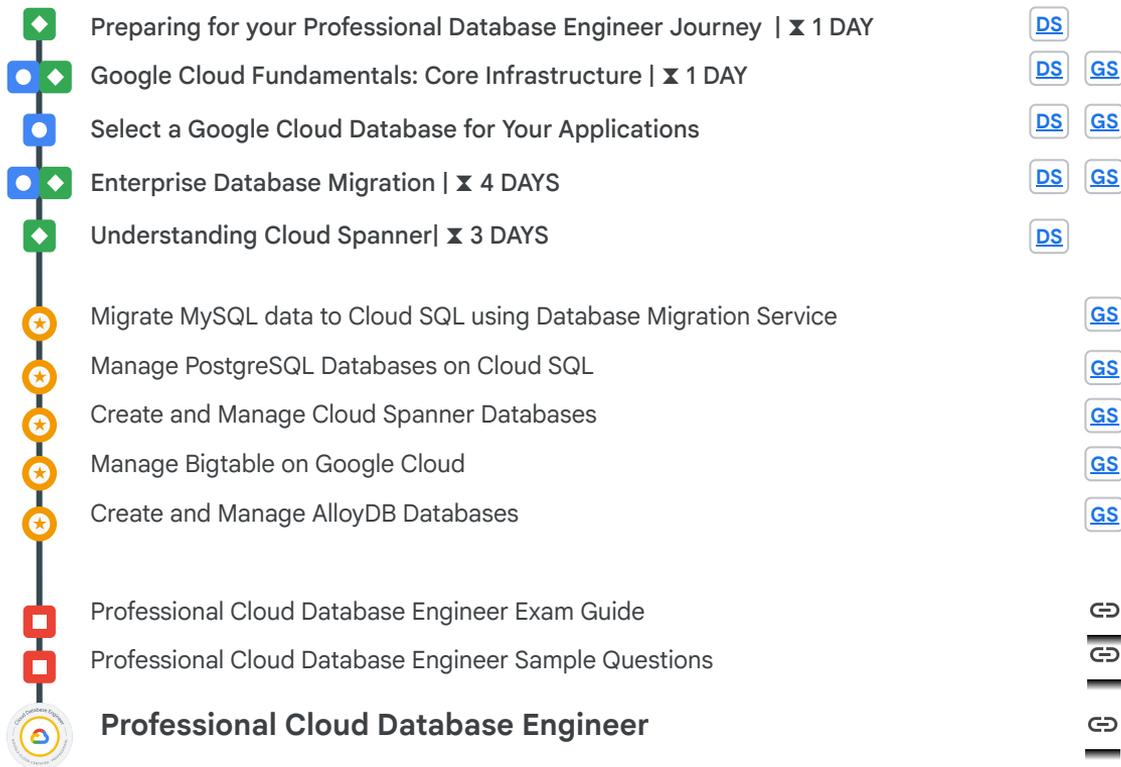
 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



# Data Practitioner

## Overview

A Data Practitioner possesses the digital skills to work collaboratively and productively in a professional environment.

## What will you learn

- Deriving insights from BigQuery & preparing data for Looker
- Cloud storage and key application services, Cloud Security Fundamentals

 On-demand	 Data Sheet
 Virtual and in-person Classroom	 Google Skills
 Skill badge	
 Self-paced Labs	
 Resource	<a href="#">Public Classroom Schedule</a>

		Introduction to Data Engineering on Google Cloud   x 1 DAY		
		Derive Insights from BigQuery Data		
		Prepare Data for Looker Dashboards and Reports		
		Introduction to AI and Machine Learning on Google Cloud   x 1 DAY		
		Baseline: Infrastructure		
		Implement Cloud Security Fundamentals on Google Cloud		
		Optimizing Cost with Google Cloud Storage		
		Associate Data Practitioner Exam Guide		
		Associate Data Practitioner Sample Questions		
		Associate Data Practitioner		

# 01.6

# Data Analytics

Expanded Learning paths

# Data Engineer

## Overview

A Data Engineer designs and builds systems that collect and transform the data used to inform business decisions.

## What will you learn

- BigQuery, Dataflow, Cloud Data Fusion, Cloud Composer, Pub/Sub, batch and stream processing;
- Dataproc, workload migration, and more.

 On-demand	 Data Sheet
 Virtual and in-person Classroom	 Google Skills
 Skill badge	
 Self-paced Labs	
 Resource	<a href="#">Public Classroom Schedule</a>



**Preparing for your Professional Data Engineer Journey**

- Data Engineering on Google Cloud | 4 DAYS**
  - Introduction to Data Engineering on Google Cloud
  - Modernizing Data Lakes and Data Warehouses with Google Cloud
  - Building Batch Data Pipelines on Google Cloud
  - Building Resilient Streaming Analytics Systems on Google Cloud
- Data Warehousing with BigQuery: Storage Design, Query Optimization, and Administrative | 3 DAYS**
- Serverless Data Processing with Dataflow | 3 DAYS**
  - Serverless Data Processing with Dataflow: Foundations
  - Serverless Data Processing with Dataflow: Develop Pipelines
  - Serverless Data Processing with Dataflow: Operations
- Data Integration with Cloud Data Fusion | 2 DAYS**
- Migrating Teradata Users to BigQuery | 1 DAY**
- Migrating Snowflake Users to BigQuery | 1 DAY**
- Migrating Amazon Redshift Users to BigQuery | 1 DAY**
- Managing a Data Mesh with Dataplex | 2 DAYS**
- Perform Foundational Data, ML, and AI Tasks in Google Cloud
- Build a Data Warehouse with BigQuery
- Engineer Data for Predictive Modeling with BigQuery ML
- Build a Data Mesh with Dataplex
- Boost Productivity with Gemini in BigQuery
- Professional Data Engineer Exam Guide**
- Professional Data Engineer Sample Questions**

**Professional Data Engineer**

## Data Analytics

# Data Analyst, BI Analyst

### Overview

A Data Analyst gathers and analyzes data to identify trends and develops valuable insights to help solve problems.

### What will you learn

- BigQuery, SQL, Data Visualization, BigQuery ML, Looker, Vertex AI;
- Cloud Data Fusion, Data Catalog, Cloud Dataprep, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

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Introduction to Data Analytics on Google Cloud | x 1 DAY



BigQuery for Data Analysts | x 2 DAYS



OR



Analyzing and Visualizing Data in Looker | x 1 DAY



Developing Data Models with LookML | x 1 DAY



Looker Developer Deep Dive | x 2 DAYS



Data Warehousing with BigQuery: Storage Design, Query Optimization, and Administration | x 3 DAYS



Perform Foundational Data, ML, and AI Tasks in Google Cloud



Analyzing and Visualizing Data in Looker



Derive Insights from BigQuery Data



Create ML Models with BigQuery ML



Manage Data Models in Looker



Applying Advanced LookML Concepts in Looker



Boost Productivity with Gemini in BigQuery



Work with Gemini Models in BigQuery



# 01.7

# Artificial Intelligence

Expanded Learning paths

## Artificial Intelligence

# ML Engineer

### Overview

A Machine Learning Engineer designs, builds, productionizes, optimizes, operates, and maintains ML systems.

### What will you learn

- Vertex AI, AutoML, BigQuery ML, Keras, TensorFlow, Dataflow;
- Vertex AI Studio, Model Garden, Vector Search, APIs, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

	Professional Machine Learning Engineer Study Guide	
	Introduction to AI and Machine Learning on Google Cloud	 
	Working with Notebooks in Vertex AI	 
	Feature Engineering	 
	Build, Train and Deploy ML Models with Keras on Google Cloud	 
	Production Machine Learning Systems	 
	Machine Learning Operations (MLOps): Getting Started	 
	Machine Learning Operations (MLOps) with Vertex AI: Manage Features	 
	Introduction to Generative AI	 
	Introduction to Large Language Models	 
	Machine Learning Operations (MLOps) for Generative AI	 
	Machine Learning Operations (MLOps) with Vertex AI: Model Evaluation	 
	Create Generative AI Apps on Google Cloud	 
	Responsible AI for Developers: Fairness & Bias	 
	Responsible AI for Developers: Interpretability & Transparency	 
	Responsible AI for Developers: Privacy & Safety	 
	Prepare Data for ML APIs on Google Cloud	
	Create ML Models with BigQuery ML	
	Engineer Data for Predictive Modeling with BigQuery ML	
	Professional Machine Learning Engineer Exam Guide and Sample Questions	
	Preparing for your Professional ML Engineer Journey	



## Professional Machine Learning Engineer

## Artificial Intelligence

# Data Scientist

### Overview

A Data Scientist analyzes, explores, and experiments with data and develops ML models.

### What will you learn

- Vertex AI, AutoML, BigQuery ML, Keras, TensorFlow, Dataflow;
- Vertex AI Studio, Model Garden, Vector Search, APIs, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

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  Introduction to AI and Machine Learning on Google Cloud

[DS](#)

[GS](#)

 Feature Engineering

[DS](#)

[GS](#)

 Build, Train and Deploy ML Models with Keras on Google Cloud

[DS](#)

[GS](#)

OR

 Machine Learning on Google Cloud

[DS](#)

Introduction to AI and Machine Learning on Google Cloud

Launching into Machine Learning

TensorFlow on Google Cloud

Feature Engineering

Machine Learning in the Enterprise

 Working with Notebooks in Vertex AI

[DS](#)

[GS](#)

  Introduction to Vertex Forecasting and Time Series in Practice

[DS](#)

[GS](#)

 Prepare Data for ML APIs on Google Cloud

[GS](#)

 Create ML Models with BigQuery ML

[GS](#)

 Engineer Data for Predictive Modeling with BigQuery ML

[GS](#)

 Advanced Solutions Lab (ASL)

[GS](#)

# Build and modernize applications with generative AI

## Overview

Learn how to enhance your projects and build end-to-end applications on Google Cloud with the power of generative AI. This path will guide you through essential techniques and tools to integrate gen AI capabilities seamlessly into your development workflow.

-  Gemini for Application Developers
-  Gemini for end-to-end SDLC
-  Create Generative AI Apps on Google Cloud
-  Website Modernization with Generative AI on Google Cloud
-  Build Generative AI Agents with Vertex AI and Flutter
-  Develop GenAI Apps with Gemini and Streamlit

-  GS
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-  DS  GS
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-  DS  GS
-  GS

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

Artificial Intelligence

# Integrate generative AI into your data workflow

## Overview

Learn how to use BigQuery Machine Learning for inference, work directly with Gemini models in BigQuery, and enhance your data team's efficiency with Gemini's assistance. This path features a brand new course on boosting productivity with Gemini in BigQuery to aid in the data-to-AI pipeline.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

-  Gemini for Data Scientists and Analysts
-  Using BigQuery Machine Learning for inference
-  Work with Gemini Models in BigQuery
-  Boost Productivity with Gemini in BigQuery
-  Create ML Models with BigQuery ML
-  Analyze and Reason on Multimodal Data with Gemini



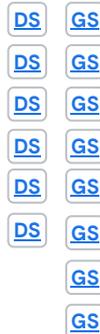
# Deploy and manage generative AI models

## Overview

Learn how to manage the entire lifecycle of generative AI models, from development and deployment to monitoring — including introductions to responsible AI for developers. This path features a brand new course on security for AI models.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

-  Machine Learning Operations (MLOps) for Generative AI
-  Machine Learning Operations (MLOps) with Vertex AI: Model Evaluation
-  Responsible AI for Developers: Fairness & Bias
-  Responsible AI for Developers: Interpretability & Transparency
-  Responsible AI for Developers: Privacy & Safety
-  Introduction to Security in the World of AI
-  Model Armor: Securing AI Deployments
-  Enhance Gemini Model Capabilities



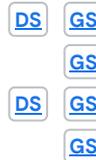
# Generate smarter generative AI outputs

## Overview

Learn how to build applications that generate text and visual content using generative AI. Develop an AI project on Google Cloud, use diffusion models for image generation, and build search applications with Vector Search and embeddings, then dive deeper into multimodal prompts and Multimodal RAG with Gemini.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

-  Introduction to AI and Machine Learning on Google Cloud
-  Introduction to Image Generation
-  Vector Search and Embeddings
-  Inspect Rich Documents with Gemini Multimodality and Multimodal RAG



# Introduction to Generative AI

## Overview

Learn how to build applications that generate text and visual content using generative AI.

-  Introduction to Generative AI
-  Introduction to Large Language Models
-  Introduction to Responsible AI
-  Responsible AI: Applying AI Principles with Google Cloud
-  Prompt Design in Vertex AI



-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

# Generative AI for Developers

## Overview

Learn how to build applications that generate text and visual content using generative AI. Develop an AI project on Google Cloud, use diffusion models for image generation, and build search applications with Vector Search and embeddings, then dive deeper into multimodal prompts and Multimodal RAG with Gemini.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

-  Introduction to Image Generation  
-  Attention Mechanism  
-  Encoder-Decoder Architecture  
-  Transformer Models and BERT Model  
-  Create Image Captioning Models  
-  Introduction to Vertex AI Studio  
-  Vector Search and Embeddings  
-  Inspect Rich Documents with Gemini Multimodality and Multimodal RAG  
-  Responsible AI for Developers: Fairness & Bias  
-  Responsible AI for Developers: Interpretability & Transparency  
-  Responsible AI for Developers: Privacy & Safety  
-  Machine Learning Operations (MLOps) for Generative AI  

## Artificial Intelligence

# Gemini for Government

### Overview

Learn how to enhance your projects and build AI powered applications on Google Cloud for the federal government. This path will guide you through essential techniques and tools to integrate gen AI capabilities seamlessly into your secure environments.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
- [Public Classroom Schedule](#)
- DS Data Sheet    GS Google Skills

-  Gemini Enterprise and NotebookLM Enterprise Essentials DS
-   Introduction to Gemini Enterprise DS GS
-  Introduction to Gemini Enterprise Lab GS
-  Accelerate Knowledge Exchange with Gemini Enterprise GS
-  Streamline App Development with Gemini Code Assist GS
-  Configure Gemini Code Assist for Organizations GS
-  Kickstarting Application Development with Gemini Code Assist GS
-   Model Armor: Securing AI Deployments DS GS

More coming soon...

# 01.8

# Workspace

Expanded Learning paths



## Workspace

# Workspace Administrator

### Overview

A Collaboration Engineer uses Workspace tools for managing applications and users, mail, and migrations.

### What will you learn

- Google Cloud products and service, digital transformation;
- IT modernization, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

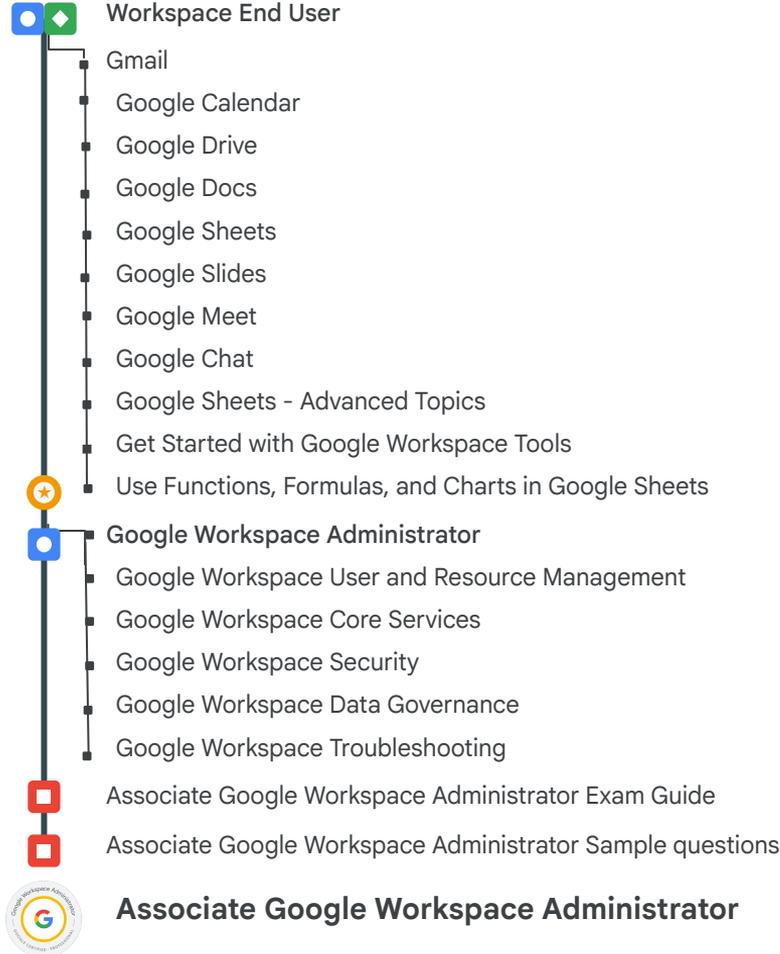
 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)













































# 01.9

# Tech Adjacent

Expanded Learning paths

# Generative AI Leader

## Overview

A Gen AI Leader can articulate the capabilities of generative AI and understand how they benefit organizations.

## What will you learn

- How to leverage Generative AI and Google Cloud for organizational transformation;
- How to use tools like Gemini Advanced, Notebook LM, and Google AI Studio.

 On-demand	 Data Sheet
 Virtual and in-person Classroom	 Google Skills
 Skill badge	
 Self-paced Labs	
 Resource	<a href="#">Public Classroom Schedule</a>

	Gen AI: Beyond the Chatbot		
	Gen AI: Unlock Foundational Concepts		
	Gen AI: Navigate the Landscape		
	Gen AI Apps: Transform Your Work		
	Gen AI Agents: Transform Your Organization		
OR			
	Generative AI Leader   x 2 DAYS		
	<b>Certify: Generative AI Leader</b>		

# Cloud Digital Leader

## Overview

A Cloud Digital Leader can articulate the capabilities of core cloud products/services and understand how they benefit organizations

## What will you learn

- Google Cloud products and services, digital transformation;
- IT modernization, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



Digital Transformation with Google Cloud | **2 HOURS**



Exploring Data Transformation with Google Cloud | **1.25 HOURS**



Innovating with Google Cloud Artificial Intelligence | **1 HOUR**



Modernize Infrastructure and Applications with Google Cloud | **1 HOUR**



Trust and Security with Google Cloud | **1.25 HOUR**



Scaling with Google Cloud Operations | **1 HOUR**

OR



Cloud Digital Leader training | **2 DAYS**



Cloud Digital Leader Exam Guide



Cloud Digital Leader Sample Questions



Cloud Digital Leader Study Guide



## Cloud Digital Leader



# Cloud Digital Leader add-ons

## Overview

A Cloud Digital Leader can articulate the capabilities of core cloud products/services and understand how they benefit organizations

## What will you learn

- Google Cloud products, services and digital transformation
- Apply new AI skills through interactive challenges to enhance productivity.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
-  Data Sheet
-  Google Skills
- [Public Classroom Schedule](#)

## Modernization



Managing Change when Moving to Google Cloud

Developing a Google SRE culture



## Finance



Understanding Google Cloud Costs

Optimizing Your Google Cloud Costs



Getting Started with FinOps on Google Cloud



## AI Tools



AI Boost Bites Video Series

Future-Proof Your AI Learning Strategy



# Citizen Developer

## Overview

This learning path guides you through the fundamentals of becoming a successful mobile and desktop application creator.

## What will you learn

- AppSheet
- BigQuery Data in Connected Sheets

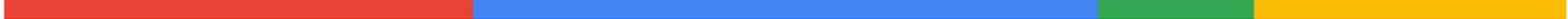
-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

## AppSheet Developer

-  Building No-Code Apps with AppSheet: Foundations | ⌘ 6 HOURS  
-  Building No-Code Apps with AppSheet: Implementation | ⌘ 12 HOURS  
-  Building No-Code Apps with AppSheet: Automation | ⌘ 6 HOURS  
-  Building No-Code Apps with AppSheet: Challenge Lab 

## BigQuery in Connected Sheets

-  Analyze BigQuery Data in Connected Sheets: Challenge Lab 



# 02 Product Based

Expanded Learning paths

# Compute Engine

## Overview

Secure and customizable compute service that lets you create and run virtual machines on Google's infrastructure.

## What will you learn

- Google Compute Engine;
- Google Cloud Storage, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

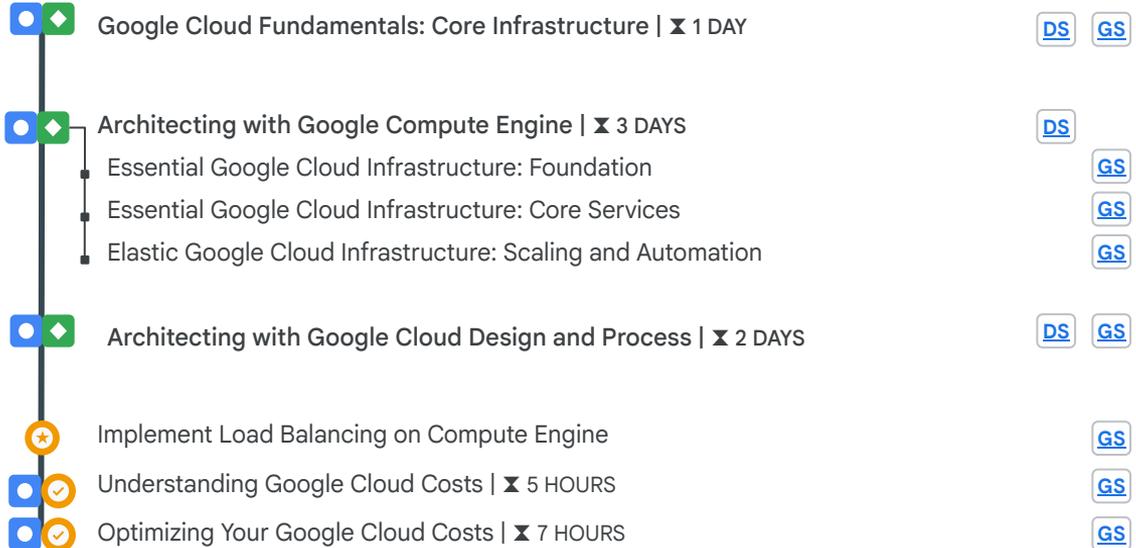
 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



# Google Kubernetes Engine

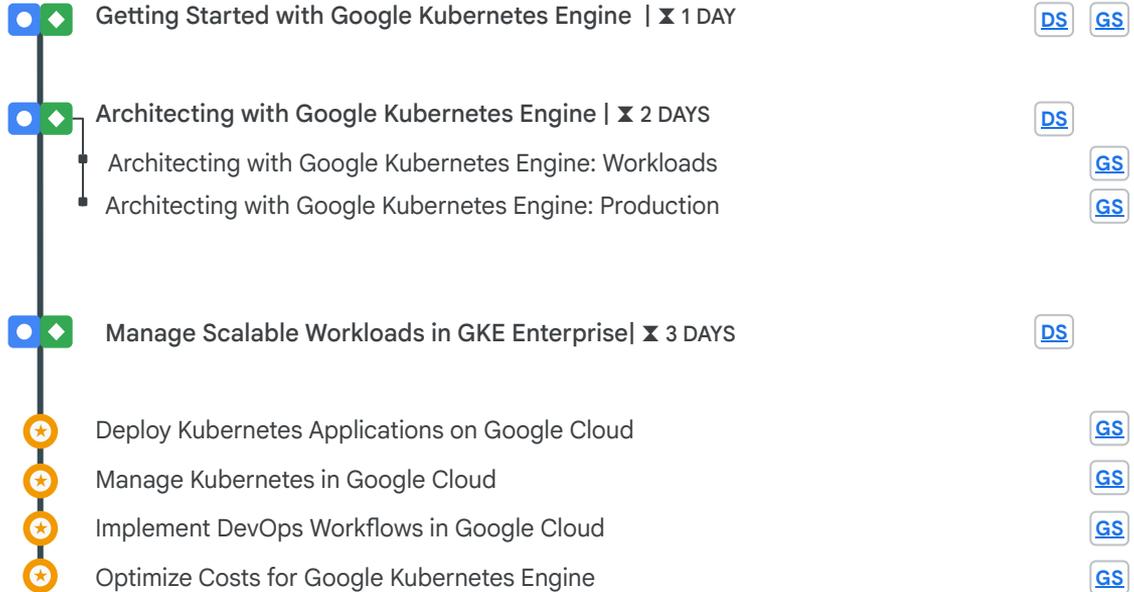
## Overview

Deploy, manage, and scale containerized applications using Kubernetes orchestration platform, on Google's infrastructure.

## What will you learn

- Google Kubernetes Engine;
- Scaling deployments on Google Kubernetes Engine and more.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
- [Public Classroom Schedule](#)
- [DS](#) Data Sheet
- [GS](#) Google Skills



# Operations

## Overview

Integrated monitoring, logging, and trace managed services for applications and systems running on Google Cloud & beyond.

## What will you learn

- Cloud Logging;
- Cloud Monitoring, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)

-  Developing a Google SRE Culture  
-   Architecting with Google Cloud: Design and Process |  2 DAYS  
-   Logging, Monitoring, and Observability in Google Cloud |  2 DAYS  
-  Google Cloud's Operations Suite 
-  Google Cloud's Operations Suite on GKE 
-  Monitor and Log with Google Cloud Operations Suite 
-  Implement DevOps Workflows in Google Cloud 

# Cloud Run

## Overview

Develop and deploy highly scalable containerized applications on a fully managed serverless platform.

## What will you learn

- Google Cloud IAM, • Compute Engine;
- BigQuery, and more.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
- [Data Sheet](#) [Google Skills](#) [Public Classroom Schedule](#)



Google Cloud products learning paths

# Cloud Identity

## Overview

A unified identity, access, app, and endpoint management (IAM/EMM) platform on Google's infrastructure.

## What will you learn

- Fundamentals of Cloud Identity
- Cloud Identity administrative tasks

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)



Introduction to Cloud Identity



Implement Cloud Security Fundamentals on Google Cloud



# BigQuery

## Overview

Serverless, highly scalable, and cost-effective multicloud data warehouse designed for business agility.

## What will you learn

- BigQuery ML;
- BigQuery BI Engine, and more.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

-  Data Warehousing with BigQuery: Storage Design, Query Optimization, and Administration |  3 DAYS 
-  Orchestrate BigQuery Workloads using Dataform 
-  Gemini in BigQuery 
-  BigQuery for Machine Learning 
-  Derive Insights from BigQuery Data 
-  BigQuery Basics for Data Analysts 
-  Create ML Models with BigQuery ML 
-  Build a Data Warehouse with BigQuery 

# Looker

## Overview

Master how to use Looker - a modern business intelligence, embedded analytics, and data application platform.

## What will you learn

- LookML;
- Looker API, and more.

-  On-demand
  -  Virtual and in-person Classroom
  -  Skill badge
  -  Self-paced Labs
  -  Resource
-  Data Sheet
-  Google Skills
- [Public Classroom Schedule](#)

-   Analyzing and Visualizing Data in Looker | **1 DAY**
-   Developing Data Models with LookML | **1 DAY**
-  Looker Developer Deep Dive | **2 DAYS**
-  Analyze and Visualize Looker Data
-  Understanding LookML in Looker
-  Applying Advanced LookML Concepts in Looker
-  Build LookML Objects in Looker
-  Manage Data Models in Looker

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# Dataflow

## Overview

Serverless, fast, and cost-effective streaming analytics for stream and batch data processing.

## What will you learn

- SQL, DataFrames, BigQuery IO, Pub/Sub;
- Kafka IO, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

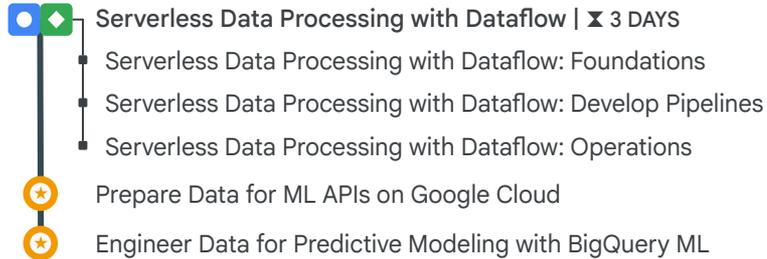
 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



 DS

 GS

 GS

 GS

 GS

 GS

# Cloud Data Fusion

## Overview

Data integration created for building and managing data pipelines. Fully managed, cloud-native data integration at any scale. Data Fusion is built using open source project CDAP, and this open core ensures data pipeline portability for users.

## What will you learn

- Core components of Cloud Data Fusion
- Wrangler, connectors, and configuring execution environment

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)



Data Integration with Cloud Data Fusion | x 2 DAYS

Building Codeless Pipelines on Cloud Data Fusion



# Cloud SQL

## Overview

Utilize Google Cloud tools to fully manage relational database service for MySQL, PostgreSQL, and SQL Server.

## What will you learn

- Google Compute Engine;
- Google Cloud Storage, and more.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)



## Enterprise Database Migration



Migrate MySQL data to Cloud SQL using Database Migration Service



Cloud SQL



Create and Manage PostgreSQL Databases on Cloud SQL



Google Cloud products learning paths

# Gemini Enterprise & NotebookLM

## Overview

Gemini Enterprise is an AI-powered enterprise platform that unifies search, intelligent agents, and your company's data to accelerate workflow and automate complex tasks.

## What will you learn

- Gemini Enterprise;
- NotebookLM, and more.

 On-demand

 Data Sheet

 Virtual and in-person Classroom

 Google Skills

 Skill badge

 Self-paced Labs

 Resource

[Public Classroom Schedule](#)



Gemini Enterprise and NotebookLM Enterprise Essentials

Introduction to Gemini Enterprise

Introduction to Gemini Enterprise Lab

Accelerate Knowledge Exchange with Gemini Enterprise











# Google Distributed Cloud air-gapped

## Overview

Google Distributed Cloud (GDC) air-gapped is a fully isolated, on-premises cloud solution that allows to host and manage Google Cloud infrastructure and services without any connectivity to Google Cloud ensuring complete data sovereignty and helps meet stringent regulatory and security requirements for highly sensitive workloads.

## What will you learn

- Google Distributed Cloud (GDC) air-gapped
- SOC Processes & Tools for GDC air-gapped

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)



GDC Air-Gapped Practitioner Fundamentals

GDC Air-Gapped Security Operator Fundamentals

Introduction to Google Distributed Cloud Sandbox



# Vertex AI

## Overview

Build, deploy, and scale ML models faster, with pre-trained and custom tooling within a unified artificial intelligence platform.

## What will you learn

- Dataproc, Cloud SQL, BigQuery;
- BigQuery ML, Pub/Sub, and more.

-  On-demand  Data Sheet
-  Virtual and in-person Classroom  Google Skills
-  Skill badge
-  Self-paced Labs
-  Resource [Public Classroom Schedule](#)

## Virtual and in-person classroom

-  Introduction to AI and Machine Learning on Google Cloud | **1 DAY**
-  Machine learning on Google Cloud | **5 DAYS**
-  Vertex Forecasting and Time Series in Practice | **1 DAY**
-  Advanced Solutions Lab (ASL)

[DS](#)

[DS](#)

[DS](#)

[↔](#)

## On-demand

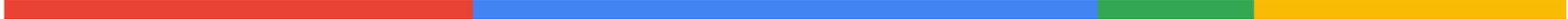
-  Introduction to AI and Machine Learning on Google Cloud
-  Working with Notebooks in Vertex AI
-  Feature Engineering
-  Vector Search and Embeddings
-  Machine Learning Operations (MLOps): Getting Started
-  Machine Learning Operations (MLOps) with Vertex AI: Manage Features
-  Machine Learning Operations (MLOps) with Vertex AI: Model Evaluation
-  Introduction to Vertex Forecasting and Time Series in Practice
-  Build and Deploy ML Solutions on Vertex AI

[DS](#)

[GS](#)

[GS](#)

[GS](#)



# 03 Certification Based

Learning paths

# 03.1

# Infrastructure Modernization

Certification learning paths



# Infrastructure Modernization

Video ▶

Roles: Cloud Engineer, Cloud Admin		Links	
<b>Get ready</b>	Preparing for Your Associate Cloud Engineer Journey	● DS GS	
<b>Learn</b>	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊● DS GS	
	Architecting with Google Compute Engine   3 DAYS	◊● DS GS <sup>1</sup>	
	Getting Started with Google Kubernetes Engine * *   1 DAY	◊● DS GS	
	Architecting with Google Kubernetes Engine   2 DAYS	◊● DS GS <sup>1</sup>	
	Logging, Monitoring, and Observability in Google Cloud   2 DAYS	◊● DS GS <sup>1</sup>	
	Getting Started with Terraform for Google Cloud   1 DAY	◊● DS GS	
<b>Practice</b>	Implement Load Balancing on Compute Engine	★ GS	
	Set Up an App Dev Environment on Google Cloud	★ GS	
	Develop Your Google Cloud Network	★ GS	
	Build Infrastructure with Terraform on Google Cloud	★ GS	
<b>Resources</b>	Associate Cloud Engineer Exam Guide	■	↔
	Associate Cloud Engineer Sample Questions	■	↔
<b>Certify</b>	<a href="#">Associate Cloud Engineer</a>	○	↔

Roles: Cloud Architect, Cloud Engineer		Links	
<b>Get ready</b>	Preparing for Your Professional Cloud Architect Journey   1 DAY	◊● DS GS	
<b>Learn</b>	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊● DS GS	
	Architecting with Google Compute Engine   3 DAYS	◊● DS GS <sup>1</sup>	
	Getting Started with Google Kubernetes Engine * *   1 DAY	◊● DS GS	
	Logging and Monitoring in Google Cloud   2 DAYS	◊● DS GS	
	Architecting with Google Cloud Design and Process   2 DAYS	◊● DS GS	
	<b>Practice</b>	Implement Load Balancing on Compute Engine	★ GS
Set Up an App Dev Environment on Google Cloud		★ GS	
Develop Your Google Cloud Network		★ GS	
Build Infrastructure with Terraform on Google Cloud		★ GS	
Set Up a Google Cloud Network		★ GS	
Optimize Costs for Google Kubernetes Engine		★ GS	
Cloud Architecture: Design, Implement, and Manage		✓ GS	
<b>Resources</b>	Professional Cloud Architect Exam Guide	■	↔
	Professional Cloud Architect Sample Questions	■	↔
<b>Certify</b>	<a href="#">Professional Cloud Architect</a>	○	↔

1 - This is a specialization. || \* If switching public cloud providers, try Google Cloud Fundamentals for AWS or Azure Professionals. | \* \* For more on Kubernetes, try Architecting with Google Kubernetes Engine.  
 Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.



## Google Cloud Infrastructure for AWS professionals



Video ▶

**Roles:** Cloud Engineer, Cloud Architect

		Links
<b>Learn</b>	Google Cloud IAM and Networking for AWS Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Google Cloud Compute and Scalability for AWS Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Google Cloud Storage and Containers for AWS Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Deploy and Monitor in Google Cloud for AWS Professionals	● <a href="#">DS</a> <a href="#">GS</a>
<b>Practice</b>	Build Google Cloud Infrastructure for AWS Professionals	★ <a href="#">GS</a>

**Roles:** Cloud Architect, Cloud Engineer

		Links
<b>Learn</b>	Google Cloud IAM and Networking for AWS Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Logging, Monitoring, and Observability in Google Cloud   2 DAYS	◇ ● <a href="#">DS</a> <a href="#">GS</a>
	Architecting with Google Cloud Design and Process   2 DAYS	◇ ● <a href="#">DS</a> <a href="#">GS</a>
	Google Cloud Infrastructure for AWS Professionals   2 DAYS	◇ ● <a href="#">DS</a> <a href="#">GS</a>
<b>Practice</b>	Build Google Cloud Infrastructure for AWS Professionals	★ <a href="#">GS</a>
	Implement Cloud Security Fundamentals on Google Cloud	★ <a href="#">GS</a>
	Optimize Costs for Google Kubernetes Engine	★ <a href="#">GS</a>
	Set Up an App Dev Environment on Google Cloud	✓ <a href="#">GS</a>
	Cloud Architecture: Design, Implement, and Manage	★ <a href="#">GS</a>
<b>Resources</b>	Professional Cloud Architect Exam Guide	■ <a href="#">↔</a>
	Professional Cloud Architect Sample Questions	■ <a href="#">↔</a>
<b>Certify</b>	<a href="#">Professional Cloud Architect</a>	○ <a href="#">↔</a>



## Google Cloud Infrastructure for Azure professionals

Video ▶

**Roles:** Cloud Engineer, Cloud Architect

		Links
<b>Learn</b>	Google Cloud IAM and Networking for Azure Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Google Cloud Compute and Scalability for Azure Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Google Cloud Storage and Containers for Azure Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Deploy and Monitor in Google Cloud for Azure Professionals	● <a href="#">DS</a> <a href="#">GS</a>
<b>Practice</b>	Build Google Cloud Infrastructure for Azure Professionals	★ <a href="#">GS</a>

**Roles:** Cloud Architect, Cloud Engineer

		Links
<b>Learn</b>	Google Cloud IAM and Networking for Azure Professionals	● <a href="#">DS</a> <a href="#">GS</a>
	Logging and Monitoring in Google Cloud   2 DAYS	◊● <a href="#">DS</a> <a href="#">GS</a>
	Architecting with Google Cloud Design and Process   2 DAYS	◊● <a href="#">DS</a> <a href="#">GS</a>
<b>Practice</b>	Build Google Cloud Infrastructure for Azure Professionals	★ <a href="#">GS</a>
	Implement Cloud Security Fundamentals on Google Cloud	★ <a href="#">GS</a>
	Optimize Costs for Google Kubernetes Engine	★ <a href="#">GS</a>
	Set Up an App Dev Environment on Google Cloud	✓ <a href="#">GS</a>
	Cloud Architecture: Design, Implement, and Manage	★ <a href="#">GS</a>
<b>Resources</b>	Professional Cloud Architect Exam Guide	■ <a href="#">↔</a>
	Professional Cloud Architect Sample Questions	<a href="#">↔</a>
<b>Certify</b>	 <a href="#">Professional Cloud Architect</a>	○ <a href="#">↔</a>



## Hybrid and Multi-Cloud

Video ▶

Roles: Cloud Architect, DevOps Engineer

		Links
Learn	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊● <a href="#">DS</a> <a href="#">GS</a>
	Getting Started with Google Kubernetes Engine   1 DAYS	◊● <a href="#">DS</a> <a href="#">GS</a>
	Architecting with Google Kubernetes Engine   2 DAYS	◊● <a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Architecting with Google Kubernetes Engine: Workloads   6 HOURS 30 MINUTES	◊● <a href="#">GS</a>
	Architecting with Google Kubernetes Engine: Production   6 HOURS 30 MINUTES	◊● <a href="#">GS</a>
Practice	Deploy Kubernetes Applications on Google Cloud	★ <a href="#">GS</a>
	Manage Kubernetes in Google Cloud	★ <a href="#">GS</a>
	Google Kubernetes Engine Best Practices: Security	★ <a href="#">GS</a>
	Optimize Costs for Google Kubernetes Engine	★ <a href="#">GS</a>

## Data Management

Roles: Database Engineer

		Links
Learn	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊● <a href="#">DS</a> <a href="#">GS</a>
	Select a Google Cloud Database for Your Applications	● <a href="#">DS</a> <a href="#">GS</a>
	Enterprise Database Migration   4 DAYS	◊● <a href="#">DS</a> <a href="#">GS</a>
	Understanding Cloud Spanner	◊ <a href="#">DS</a>
Practice	Migrate MySQL data to Cloud SQL using Database Migration Service	★ <a href="#">GS</a>
	Create and Manage Cloud SQL for PostgreSQL Instances	★ <a href="#">GS</a>
	Create and Manage Cloud Spanner Databases	★ <a href="#">GS</a>
	Manage Bigtable on Google Cloud	★ <a href="#">GS</a>
	Create and Manage AlloyDB Databases	★ <a href="#">GS</a>
Resources	Professional Cloud Database Engineer Exam Guide	■ <a href="#">↔</a>
	Professional Cloud Database Engineer Sample Questions	■ <a href="#">↔</a>
Certify	 <a href="#">Professional Cloud Database Engineer</a>	○ <a href="#">↔</a>

\* If switching public cloud providers, try Google Cloud Fundamentals for AWS or Azure Professionals.

Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.

# 03.2

# Networking

Certification learning paths



# Networking



Video ▶

## Roles: Network Engineer, Network Operations

### Links

Get ready	Preparing for Your Professional Cloud Network Engineer Journey	◊ ●	<a href="#">DS</a>	<a href="#">GS</a>
	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊ ●	<a href="#">DS</a>	<a href="#">GS</a>
	Networking in Google Cloud 3.0   3 DAYS	◊	<a href="#">DS</a>	<a href="#">GS</a>
Learn & Practice	Networking in Google Cloud: Fundamentals	●		<a href="#">GS</a>
	Networking in Google Cloud: Routing and Addressing	●		<a href="#">GS</a>
	Networking in Google Cloud: Cloud Load Balancing	●		<a href="#">GS</a>
	Networking in Google Cloud: Network Security	●		<a href="#">GS</a>
	Networking in Google Cloud: Network Architecture	●		<a href="#">GS</a>
	Networking in Google Cloud: Hybrid and Multicloud	●		<a href="#">GS</a>
	Logging, Monitoring and Observability in Google Cloud   2 DAYS	◊ ●	<a href="#">DS</a>	<a href="#">GS</a>

OR

Automate Deployment and Manage Traffic on a Google Cloud Network	✓	<a href="#">GS</a>
Implement Load Balancing on Compute Engine	★	<a href="#">GS</a>
Configure Google Kubernetes Engine Networking	★	<a href="#">GS</a>
Set Up an App Dev Environment on Google Cloud	★	<a href="#">GS</a>
Build a Secure Google Cloud Network	★	<a href="#">GS</a>
Implement Cloud Security Fundamentals on Google Cloud	★	<a href="#">GS</a>

### Resources

Professional Cloud Network Engineer Exam Guide	■	<a href="#">↔</a>
Professional Cloud Network Engineer Sample Questions	■	<a href="#">↔</a>

### Certify



[Professional Cloud Network Engineer](#)

○	<a href="#">↔</a>
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# 03.3

# Security

Certification learning paths

# Security



Video ▶

## Roles: Security Engineer, Security Operations

		Links	
<b>Get ready</b>	Preparing for Your Professional Cloud Security Engineer Journey   1 DAY	◊ ●	<a href="#">DS</a> <a href="#">GS</a>
<b>Learn</b>	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊ ●	<a href="#">DS</a> <a href="#">GS</a>
	Introduction to Security in the World of AI	●	<a href="#">DS</a> <a href="#">GS</a>
	Networking in Google Cloud 3.0   3 DAYS	◊ ●	<a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Security in Google Cloud   3 DAYS	◊ ●	<a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Logging and Monitoring in Google Cloud   2 DAYS	◊ ●	<a href="#">DS</a> <a href="#">GS</a>
<b>Practice</b>	Build a Secure Google Cloud Network	★	<a href="#">GS</a>
	Implement Cloud Security Fundamentals on Google Cloud	★	<a href="#">GS</a>
	Google Kubernetes Engine Best Practices: Security	✓	<a href="#">GS</a>
	Securing your Network with Cloud Armor	✓	<a href="#">GS</a>
	Mitigate Threats and Vulnerabilities with Security Command Center	★	<a href="#">GS</a>
<b>Resources</b>	Professional Cloud Security Engineer Exam Guide	■	↔
	Professional Cloud Security Engineer Sample Questions	■	↔
<b>Certify</b>	<a href="#">Professional Cloud Security Engineer</a>	○	↔

## Roles: DevSecOps Engineer

		Links	
<b>Learn</b>	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊ ●	<a href="#">DS</a> <a href="#">GS</a>
	Architecting with Google Kubernetes Engine   2 DAYS	◊ ●	<a href="#">DS</a> <a href="#">GS</a>
	Security in Google Cloud   3 DAYS	◊ ●	<a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Getting Started with Terraform for Google Cloud   1 DAY	◊ ●	<a href="#">DS</a> <a href="#">GS</a>
<b>Practice</b>	Security and Identity fundamentals	★	<a href="#">GS</a>
	Implement CI/CD Pipeline on Google Cloud	★	<a href="#">GS</a>
	DevOps Essentials	★	<a href="#">GS</a>
	Google Kubernetes Engine Best Practices: Security	★	<a href="#">GS</a>
	Mitigate Threats and Vulnerabilities with Security Command Center	★	<a href="#">GS</a>

1 - This is a specialization. | \* If switching public cloud providers, try Google Cloud Fundamentals for AWS or Azure Professionals. | \*\* For more on Kubernetes, try Architecting with Google Kubernetes Engine.  
 Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.



## Security



### Roles: Security Operations

		Links	
<b>Learn</b>	Getting Started with Security Command Center Enterprise	●	<a href="#">DS</a> <a href="#">GS</a>
	Security Command Center Fundamentals	●	<a href="#">GS</a>
	Google Threat Intelligence	●	<a href="#">DS</a> <a href="#">GS</a>
	Google Security Operations - Fundamentals	●	<a href="#">GS</a>
	Google Security Operations - Deep Dive	●	<a href="#">GS</a>
	Introduction to SecOps on GDC	●	<a href="#">DS</a> <a href="#">GS</a>
	SecOps on GDC for Tier 1 and Tier 2 Analysts	●	<a href="#">DS</a> <a href="#">GS</a>
	Modern Security Operations	●	<a href="#">GS</a>
<b>Practice</b>	Navigate Security Decisions with Gemini	✓	<a href="#">GS</a>
	Explore false positives through incident detection	✓	<a href="#">GS</a>
	Mitigate Threats and Vulnerabilities with Security Command Center	★	<a href="#">GS</a>

# 03.4

# Application Modernization

Certification learning paths



Application Modernization <>

Video ▶

Roles: Cloud Developer

		Links
Learn	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Developing Applications with Google Cloud   3 DAYS	◊ ● <a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Application Development with Cloud Run   1.5 DAYS	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Getting Started with Google Kubernetes Engine   1 DAY	◊ ● <a href="#">DS</a> <a href="#">GS</a>
Practice	Develop Serverless Applications on Cloud Run	★ <a href="#">GS</a>
	Develop Serverless Apps with Firebase	★ <a href="#">GS</a>
	Deploy Kubernetes Applications on Google Cloud	★ <a href="#">GS</a>
Resources	Professional Cloud Developer Exam Guide	■ <a href="#">↔</a>
	Professional Cloud Developer Sample Questions	■ <a href="#">↔</a>
Certify	<a href="#">Professional Cloud Developer</a>	○ <a href="#">↔</a>

Roles: SRE, DevOps Engineer

		Links
Learn	Google Cloud Fundamentals: Core Infrastructure *   1 DAY	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Developing a Google SRE Culture	● <a href="#">DS</a> <a href="#">GS</a>
	Architecting with Google Cloud Design and Process   2 DAYS	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Logging and Monitoring in Google Cloud   2 DAYS	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Getting Started with Terraform for Google Cloud   1 DAY	◊ ● <a href="#">DS</a> <a href="#">GS</a>
Practice	Reliable Google Cloud Infrastructure: Design and Process	● <a href="#">GS</a>
	Set Up an App Dev Environment on Google Cloud	★ <a href="#">GS</a>
	Implement DevOps Workflows in Google Cloud	★ <a href="#">GS</a>
	Monitor and Log with Google Cloud Operations Suite	★ <a href="#">GS</a>
	Using DevSecOps in your Google Cloud Environment	★ <a href="#">GS</a>
Resources	Build Infrastructure with Terraform on Google Cloud	★ <a href="#">GS</a>
	Professional Cloud DevOps Engineer Exam Guide	■ <a href="#">↔</a>
Resources	Professional Cloud DevOps Engineer Sample Questions	■ <a href="#">↔</a>
	Certify	<a href="#">Professional Cloud DevOps Engineer</a>

1 - This is a specialization. || \* If switching public cloud providers, try Google Cloud Fundamentals for AWS or Azure Professionals.

Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.

# 03.5

# Artificial Intelligence

Certification learning paths



# Artificial Intelligence



Video ▶

## Role: ML Engineer

### Learn

		Links
	Professional Machine Learning Engineer Study Guide	● <a href="#">DS</a> <a href="#">GS</a>
	Introduction to AI and Machine Learning on Google Cloud	◊● <a href="#">DS</a> <a href="#">GS</a>
	Working with Notebooks in Vertex AI	● <a href="#">DS</a> <a href="#">GS</a>
	Feature Engineering	● <a href="#">DS</a> <a href="#">GS</a>
	Build, Train and Deploy ML Models with Keras on Google Cloud	● <a href="#">GS</a>
	Production Machine Learning Systems	● <a href="#">DS</a> <a href="#">GS</a>
	Machine Learning Operations (MLOps): Getting Started	● <a href="#">DS</a> <a href="#">GS</a>
	Machine Learning Operations with Vertex AI: Manage Features	● <a href="#">DS</a> <a href="#">GS</a>
	Introduction to Generative AI	● <a href="#">DS</a> <a href="#">GS</a>
	Introduction to Large Language Models	● <a href="#">DS</a> <a href="#">GS</a>
	Machine Learning Operations (MLOps) for Generative AI	● <a href="#">DS</a> <a href="#">GS</a>
	Machine Learning Operations with Vertex AI: Model Evaluation	● <a href="#">DS</a> <a href="#">GS</a>
	Create Generative AI Apps on Google Cloud	● <a href="#">DS</a> <a href="#">GS</a>
	Responsible AI for Developers: Fairness & Bias	● <a href="#">DS</a> <a href="#">GS</a>
	Responsible AI for Developers: Interpretability & Transparency	● <a href="#">DS</a> <a href="#">GS</a>
	Responsible AI for Developers: Privacy & Safety	● <a href="#">DS</a> <a href="#">GS</a>

### Practice

	Prepare Data for ML APIs on Google Cloud	★ <a href="#">GS</a>
	Create ML Models with BigQuery ML	★ <a href="#">GS</a>
	Engineer Data for Predictive Modeling with BigQuery ML	★ <a href="#">GS</a>
	Build and Deploy Machine Learning Solutions on Vertex AI	★ <a href="#">GS</a>

### Resources

	Professional Machine Learning Engineer Exam Guide	■ <a href="#">↔</a>
	Professional Machine Learning Engineer Sample Questions	■ <a href="#">↔</a>

### Certify



	<a href="#">Professional Machine Learning Engineer</a>	○ <a href="#">↔</a>
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# 03.6

# Data Analytics

Certification learning paths



## Data Analytics



Video ▶

### Roles: Data Engineer

		Links
Get ready	Preparing for your Professional Data Engineer Journey	● <a href="#">DS</a> <a href="#">GS</a>
	Data Engineering on Google Cloud   4 DAYS	◊ ● <a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Data Warehousing with BigQuery: Storage Design, Query Optimization, and Administrative   3 DAYS	◊ <a href="#">DS</a>
	Serverless Data Processing with Dataflow   3 DAYS	◊ ● <a href="#">DS</a> <a href="#">GS</a> <sup>1</sup>
	Data Integration with Cloud Data Fusion   2 DAYS	◊ <a href="#">DS</a>
	Migrating Teradata Users to BigQuery	◊ <a href="#">DS</a>
	Migrating Snowflake Users to BigQuery	◊ <a href="#">DS</a>
	Migrating Amazon Redshift Users to BigQuery	◊ <a href="#">DS</a>
	Managing a Data Mesh with Dataplex	◊ <a href="#">DS</a>
Practice	Perform Foundational Data, ML, and AI Tasks in Google Cloud	★ <a href="#">GS</a>
	Build a Data Warehouse with BigQuery	★ <a href="#">GS</a>
	Engineer Data for Predictive Modeling with BigQuery ML	★ <a href="#">GS</a>
	Build a Data Mesh with Dataplex	★ <a href="#">GS</a>
	Boost Productivity with Gemini in BigQuery	★ <a href="#">GS</a>
Resources	Professional Cloud Data Engineer Exam Guide	■ <a href="#">↔</a>
	Professional Cloud Data Engineer Sample Questions	■ <a href="#">↔</a>
Certify	<a href="#">Professional Data Engineer</a>	○ <a href="#">↔</a>

### Roles: Data Analyst / BI Analyst

		Links
Learn	Introduction to Data Analytics on Google Cloud	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	BigQuery for Data Analysts	◊ ● <a href="#">DS</a> <a href="#">GS</a>
OR		
	Analyzing and Visualizing Data in Looker   1 DAY	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Developing Data Models with LookML   1 DAY	◊ ● <a href="#">DS</a> <a href="#">GS</a>
	Google Cloud Fundamentals for Researchers	◊ <a href="#">DS</a>
	Looker Developer Deep Dive	◊ <a href="#">DS</a>
	Data Warehousing with BigQuery: Storage Design, Query Optimization, and Administration   3 DAYS	◊ <a href="#">DS</a>
Practice	Prepare Data for ML APIs on Google Cloud	★ <a href="#">GS</a>
	Analyzing and Visualizing Data in Looker	★ <a href="#">GS</a>
	Derive Insights from BigQuery Data	★ <a href="#">GS</a>
	Create ML Models with BigQuery ML	★ <a href="#">GS</a>
	Manage Data Models in Looker	✓ <a href="#">GS</a>
	Applying Advanced LookML Concepts in Looker	✓ <a href="#">GS</a>
	Boost Productivity with Gemini in BigQuery	★ <a href="#">GS</a>
	Work with Gemini Models in BigQuery	★ <a href="#">GS</a>



# Data Management



Video ▶

## Roles: Data Practitioner

### Links

Learn	Introduction to Data Engineering on Google Cloud	◊ ●	<a href="#">DS</a>	<a href="#">GS</a>
	Derive Insights from BigQuery Data	●		<a href="#">GS</a>
	Prepare Data for Looker Dashboards and Reports	●		<a href="#">GS</a>
	Introduction to AI and Machine Learning on Google Cloud	◊ ●	<a href="#">DS</a>	<a href="#">GS</a>
	Baseline: Infrastructure	●		<a href="#">GS</a>
	Implement Cloud Security Fundamentals on Google Cloud	●		<a href="#">GS</a>
Practice	Optimizing Cost with Google Cloud Storage	✓		<a href="#">GS</a>
Certify	Associate Data Practitioner	○		

# 01.7

# Workspace

Certification learning paths



## Productivity and Collaboration

### Roles: Workspace End User

		Links	
Optional	Getting Started with Google Workspace Path *	<a href="#">DS</a>	<a href="#">GS</a>
Learn	Gmail	●	<a href="#">GS</a>
	Google Calendar	●	<a href="#">GS</a>
	Google Drive	●	<a href="#">GS</a>
	Google Docs	●	<a href="#">GS</a>
	Google Sheets	●	<a href="#">GS</a>
	Google Slides	●	<a href="#">GS</a>
	Google Meet	●	<a href="#">GS</a>
	Google Chat	●	<a href="#">GS</a>
	Google Sheets – Advanced Topics	●	<a href="#">GS</a>
	Get Started with Google Workspace Tools	●	<a href="#">GS</a>
Practice	Use Functions, Formulas, and Charts in Google Sheets	★	<a href="#">GS</a>
	Google Workspace: Essentials	★	<a href="#">GS</a>

### Roles: Workspace End User

		Links	
Optional	Gemini for Google Workspace Path *	<a href="#">DS</a>	<a href="#">GS</a>
Learn	Introduction to Gemini for Google Workspace	●	<a href="#">GS</a>
	Gemini in Gmail	●	<a href="#">GS</a>
	Gemini in Google Docs	●	<a href="#">GS</a>
	Gemini in Google Slides	●	<a href="#">GS</a>
	Gemini in Google Sheets	●	<a href="#">GS</a>
	Gemini in Google Meet	●	<a href="#">GS</a>
	Gemini in Google Drive	●	<a href="#">GS</a>

1 - This is a specialization. || \* Available at no cost at Google Skills.

Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.



## Productivity and Collaboration

### Roles: Workspace Administrator

Links

Prerequisite	Complete End User learning path		
Learn	Google Workspace Administrator *   4-6 WEEKS	●	<a href="#">DS</a> <a href="#">GS</a>
Resources	Associate Google Workspace Administrator Exam Guide	■	⇄
	Associate Google Workspace Administrator Sample Questions	■	⇄
Certify	 <a href="#">Associate Google Workspace Administrator</a>	○	⇄

### Roles: Citizen Developer

Links

Learn	Building No-Code Apps with AppSheet: Foundations *	●	<a href="#">DS</a> <a href="#">GS</a>
	Building No-Code Apps with AppSheet: Implementation *	●	<a href="#">DS</a> <a href="#">GS</a>
	Building No-Code Apps with AppSheet: Automation *	●	<a href="#">DS</a> <a href="#">GS</a>
Practice	Building No-Code Apps with AppSheet (1 lab)	✓	<a href="#">GS</a>

1 - This is a specialization. || \* Available at no cost at Google Skills.

Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.

# 03.8

# Tech Adjacent

Certification learning paths



## Cloud Digital Leader



		Links
Learn	Digital Transformation with Google Cloud *   2 HOURS	● <a href="#">DS</a> <a href="#">GS</a>
	Exploring Data Transformation with Google Cloud *   1.5 HOURS	● <a href="#">DS</a> <a href="#">GS</a>
	Innovating with Google Cloud Artificial Intelligence *   1.5 HOURS	● <a href="#">DS</a> <a href="#">GS</a>
	Modernize Infrastructure and Applications with Google Cloud *   2.5 HOURS	● <a href="#">DS</a> <a href="#">GS</a>
	Trust and Security with Google Cloud *   1 HOUR	● <a href="#">DS</a> <a href="#">GS</a>
	Scaling with Google Cloud Operations *   1 HOUR	● <a href="#">DS</a> <a href="#">GS</a>
OR		
	Cloud Digital Leader training **	◊ <a href="#">DS</a>
Resources	Cloud Digital Leader Exam Guide	■ ⇄
	Cloud Digital Leader Sample Questions	■ ⇄
	Cloud Digital Leader Study Guide	■ ⇄
Certify	 <a href="#">Cloud Digital Leader</a>	○ ⇄

1 - This is a specialization. | \* Available at no cost at Google Skills. | \*\* Two-day ILT training covers all four on-demand courses.

Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.



# Generative AI Leader



Roles: All

Links

Learn			
	Gen AI: Beyond the Chatbot   1.5 HOURS	●	<a href="#">DS</a> <a href="#">GS</a>
	Gen AI: Unlock Foundational Concepts   1 HOUR	●	<a href="#">DS</a> <a href="#">GS</a>
	Gen AI: Navigate the Landscape   1.25 HOURS	●	<a href="#">DS</a> <a href="#">GS</a>
	Gen AI Apps: Transform Your Work   1.75 HOURS	●	<a href="#">DS</a> <a href="#">GS</a>
	Gen AI Agents: Transform Your Organization   2.25 HOURS	●	<a href="#">DS</a> <a href="#">GS</a>

OR

	Generative AI Leader   2 DAYS	◇	<a href="#">DS</a>
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Certify			
	<a href="#">Generative AI Leader</a>	○	<a href="#">⇄</a>

Note: When a course is offered as both on-demand and in a classroom, the duration reflects the classroom experience. Additional custom training options are available on request.

# Thank you

Google Cloud

