

# Google Cloud Fundamentals: Core Infrastructure

Course code: GCPCF

Learn about, and compare, many of the computing and storage services available in Google Cloud, including Google App Engine, Google Compute Engine, Google Kubernetes Engine, Google Cloud Storage, Google Cloud SQL, and BigQuery. You learn about important resource and policy management tools, such as the Google Cloud Resource Manager hierarchy and Google Cloud Identity and Access Management.

## Who is the course for

- Individuals planning to deploy applications and create application environments on Google Cloud.
- Systems operations professionals, Solution Architects getting started with Google Cloud, and developers.
- Executives and business decision makers evaluating the potential of Google Cloud to address their business needs.

## What we teach you

- Identify the purpose and value of Google Cloud products and services.
- Choose among and use application deployment environments on Google Cloud: App Engine, Google Kubernetes Engine, and Compute Engine.
- Choose among and use Google Cloud storage options: Cloud Storage, Cloud SQL, Cloud Bigtable, and Firestore.
- Interact with Google Cloud services.
- Describe ways in which customers have used Google Cloud.

## Required skills

Familiarity with application development, systems operations, Linux operating systems is helpful in understanding the technologies covered.

## Products

- Google Compute Engine
- Google Cloud Storage
- Google Cloud Networking
- Google Kubernetes Engine
- App Engine
- Cloud Run
- Cloud Functions

## Not covered

- BigQuery (covered in other courses)
- Borg and Colossus (out of scope for this course)

## Course outline

### Module 1: Introducing Google Cloud

- Identify the advantages of Google Cloud.
- Define the components of Google's network infrastructure, including: Points of presence, data centers, regions, and zones.
- Classify the difference between Infrastructure-as-a-Service (IaaS) and Platform as-a-Service (PaaS).

### Module 2: Resources and Access in the Cloud

- Identify the purpose of projects on Google Cloud.
- Define the purpose of and use cases for Identity and Access Management..
- List the methods of interacting with Google Cloud.

### Module 3: Virtual Machines and Networks in the Cloud

#### GOPAS Praha

Kodáňská 1441/46  
101 00 Praha 10  
Tel.: +420 234 064 900-3  
[info@gopas.cz](mailto:info@gopas.cz)

#### GOPAS Brno

Nové sady 996/25  
602 00 Brno  
Tel.: +420 542 422 111  
[info@gopas.cz](mailto:info@gopas.cz)

#### GOPAS Bratislava

Dr. Vladimíra Clementisa 10  
Bratislava, 821 02  
Tel.: +421 248 282 701-2  
[info@gopas.sk](mailto:info@gopas.sk)



Copyright © 2020 GOPAS, a.s.,  
All rights reserved

# Google Cloud Fundamentals: Core Infrastructure

- Identify the purpose of and use cases for Google Compute Engine.
- Define the basics of networking in Google Cloud.

## Module 4: Storage in the Cloud

- Classify the purpose of and use cases for Cloud Storage, and database option available in Google Cloud
- Distinguish between Google Cloud's storage options

## Module 5: Containers in the Cloud

- Define the concept of a container and identify uses for containers.
- Identify the purpose of and use cases for Google Kubernetes Engine and Kubernetes.

## Module 6: Applications in the Cloud

- Identify the purpose of and use cases for Google App Engine
- Contrast the App Engine Standard environment with the App Engine Flexible environment.
- Identify the purpose of and use cases for Google Cloud Endpoints.
- Identify the purpose and use cases for Cloud Run.

## Module 7: Developing and Deploying in the Cloud

- Describe how Cloud Source Repositories and Cloud Functions can support application development on Google Cloud.
- Explain how template-based creation and management of resources leverages a template to produce efficient app deployment and management.

## Module 8: Logging and Monitoring in the Cloud

- Define SLIs, SLOs, and SLAs.
- Identify the purpose of integrated monitoring, alerting, and debugging.

## Module 9: Course Review and Summary

- Module 1–8 Review
- Additional Learning Paths

### GOPAS Praha

Kodářská 1441/46  
101 00 Praha 10  
Tel.: +420 234 064 900-3  
[info@gopas.cz](mailto:info@gopas.cz)

### GOPAS Brno

Nové sady 996/25  
602 00 Brno  
Tel.: +420 542 422 111  
[info@gopas.cz](mailto:info@gopas.cz)

### GOPAS Bratislava

Dr. Vladimíra Clementisa 10  
Bratislava, 821 02  
Tel.: +421 248 282 701-2  
[info@gopas.sk](mailto:info@gopas.sk)



Copyright © 2020 GOPAS, a.s.,  
All rights reserved