ITTcert
BY ORSYS

Course : Developing Applications with Google Cloud Platform

Official course, preparation for Google Cloud certification exams

Practical course - 3d - 21h00 - Ref. DGP
Price : 2890 € E.T.

With this course, you'll learn how to design, develop and deploy applications that seamlessly integrate components from the Google Cloud ecosystem. Through extensive hands-on work, you'll discover how to create secure, scalable and intelligent native cloud applications using Google Cloud Platform (GCP) services and pre-trained machine learning APIs.

Teaching objectives

At the end of the training, the participant will be able to:

- Apply best practices in development and application architecture
- Manage identities and integrate application components and their data sources
- Design and deploy applications in a reproducible manner, in particular via containers
- Choose the most suitable runtime environments and storage solutions
- Develop, debug and monitor microservices and loosely coupled components

Intended audience

Application developers who want to create cloud-native applications or rethink existing ones that will run on Google Cloud Platform.

Prerequisites

Completion of [Google Cloud Fundamentals: Core Infrastructure " training or equivalent knowledge. Experience in application development.

Certification

We recommend you take this course if you want to prepare for the [Google Cloud Professional Cloud Developer " certification.
Comment passer votre examen ?

Practical details

Teaching methods

Training in French. Official course material in English.

Course schedule

(1) Best practices in application development

- Code and environment management.
- Design and develop secure, scalable, loosely coupled microservices and application components...
- Continuous integration and distribution.
- Modify application architecture for the cloud.

(2) Google Cloud client libraries

- Configure and use Google Cloud client libraries, the Google Cloud SDK and the Google Firebase SDK.

Hands-on work

Install Google Cloud, the Google Cloud SDK and the Firebase SDK client libraries on a Linux installation, then configure application credentials.

(3) Overview of data storage options

- Overview of application data storage options.
- Use cases for Google Cloud Storage, Cloud Firestore, Cloud Bigtable, Google Cloud SQL and Cloud Spanner.

(4) Best practices for using Cloud Datastore

- Best practices: queries, integrated and composite indexes, data insertion and deletion, transactions...
- Load grouped data into Cloud Datastore using Google Cloud Dataflow.

Hands-on work

Store application data in Cloud Datastore.

(5) Perform operations on buckets and objects

- Operations that can be performed on buckets and objects.
- Coherence model.
- Error handling.

(6) Best practices for using Cloud Storage

- Assign names to buckets for static websites and other uses.
- Assign names to objects (according to access distribution).
- Performance considerations.
- Define and debug a CORS configuration on a bucket.

Hands-on work

Store files in Cloud Storage.

(7) Manage authentication and authorizations

- Cloud IAM (Identity and Access Management) roles and service accounts.
- User authentication with Firebase Authentication.
- User authentication and authorization with Cloud Identity-Aware Proxy.

Hands-on work
Authenticate users with Firebase Authentication.

(8) Integrate application components using Google Cloud Pub/Sub

- Subjects, publishers and subscribers.
- Pull and push subscriptions.
- Cloud Pub/Sub use cases.

Hands-on work
Develop a back-end service to handle queued messages.

(9) Injecting artificial intelligence into an application

- Presentation of pre-trained machine learning APIs such as the Cloud Vision API and the Cloud NLP API.

(10) Google Cloud Functions for event-driven processes

- Key concepts such as triggers, background functions and HTTP functions.
- Use cases.
- Develop and deploy functions.
- Logging, error reporting and monitoring.

(11) Managing APIs with Google Cloud Endpoints

- Configure deployment of open APIs.

Hands-on work
Deploy an API for an application.

(12) Deploying an application

- Overview of Google Cloud Container Builder, Google Cloud Container Registry and Google Cloud Deployment Manager.
- Create and store container images.
- Reproducible deployments using deployment configuration and templates.

Hands-on work
Use Deployment Manager to deploy a web application on the flexible Google App Engine environment in test and production.

(13) Runtime environments for an application

- Introduction to Google Compute Engine, Kubernetes Engine, App Engine Flexible Environment, Cloud Functions...
- Choosing an execution environment for an application or service.

Hands-on work
Deploy an application in the flexible App Engine environment.

14 **Debug, monitor and tune performance with Google Stackdriver**

- Stackdriver.
- Discover Stackdriver (Debugger / Logging) and Stackdriver error reports
- Explore the key concepts behind Stackdriver Trace and Stackdriver Monitoring.

Hands-on work
Use Stackdriver Monitoring and Stackdriver Trace to track requests on different services, examine performance and optimize them.

Dates and locations

REMOTE CLASS
2026 : 21 Apr., 16 June, 18 Aug., 20 Oct., 8 Dec.

PARIS LA DÉFENSE
2026 : 21 Apr., 16 June, 18 Aug., 20 Oct., 8 Dec.