Developing Applications with Google Cloud (DAGCP)

ID DAGCP **Prix** CHF 2 220,– (Hors Taxe) **Durée** 3 jours

A qui s'adresse cette formation

Application developers who want to build cloud-native applications or redesign existing applications that will run on Google Cloud Platform.

Cette formation prépare à la/aux certifications

Google Cloud Certified Professional Cloud Developer (PCD)

Pré-requis

To get the most of out of this course, participants should have:

- Completed Google Cloud Platform Fundamentals or have equivalent experience
- Working knowledge of Node.js
- Basic proficiency with command-line tools and Linux operating system environments

Objectifs

This course teaches participants the following skills:

- Use best practices for application development
- Choose the appropriate data storage option for application data
- Implement federated identity management
- Develop loosely coupled application components or microservices
- Integrate application components and data sources
- Debug, trace, and monitor applications
- Perform repeatable deployments with containers and deployment services
- Choose the appropriate application runtime environment; use Google Container Engine as a runtime environment and later switch to a no-ops solution with Google App Engine Flex

Contenu

Module 1: Best Practices for Application Development

- Code and environment management
- Design and development of secure, scalable, reliable, loosely coupled application components and microservices
- Continuous integration and delivery
- Re-architecting applications for the cloud

Module 2: Google Cloud Client Libraries, Google Cloud SDK, and Google Firebase SDK

- How to set up and use Google Cloud Client Libraries, Google Cloud SDK, and Google Firebase SDK
- Lab: Set up Google Client Libraries, Google Cloud SDK, and Firebase SDK on a Linux instance and set up application credentials

Module 3: Overview of Data Storage Options

- Overview of options to store application data
- Use cases for Google Cloud Storage, Google Cloud Datastore, Cloud Bigtable, Google Cloud SQL, and Cloud Spanner

Module 4: Best Practices for Using Cloud Datastore

- Best practices related to the following:
  - Queries
  - Built-in and composite indexes
  - Inserting and deleting data (batch operations)
  - Transactions
  - Error handling
- Bulk-loading data into Cloud Datastore by using Google Cloud Dataflow
- Lab: Store application data in Cloud Datastore

Module 5: Performing Operations on Buckets and Objects

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

Module 6: Best Practices for Using Cloud Storage

- Naming buckets for static websites and other uses
- Naming objects (from an access distribution perspective)
- Performance considerations
- Setting up and debugging a CORS configuration on a bucket

- Lab: Store files in Cloud Storage

Module 7: Securing Your Application

- Cloud Identity and Access Management (IAM) roles and service accounts
- User authentication by using Firebase Authentication
- User authentication and authorization by using Cloud Identity-Aware Proxy
- Lab: Authenticate users by using Firebase Authentication

Module 8: Using Google Cloud Pub/Sub to Integrate Components of Your Application

- Topics, publishers, and subscribers
- Pull and push subscriptions
- Use cases for Cloud Pub/Sub
- Lab: Develop a backend service to process messages in a message queue

Module 9: Adding Intelligence to Your Application

- Overview of pre-trained machine learning APIs such as Cloud Vision API and Cloud Natural Language Processing API

Module 10: Using Cloud Functions for Event-Driven Processing

- Key concepts such as triggers, background functions, HTTP functions
- Use cases
- Developing and deploying functions
- Logging, error reporting, and monitoring

Module 11: Using Cloud Endpoints to Deploy APIs

- Open API deployment configuration
- Lab: Deploy an API for your application

Module 12: Debugging Your Application by Using Google Stackdriver

- Stackdriver Debugger
- Stackdriver Error Reporting
- Lab: Debugging an application error by using Stackdriver Debugger and Error Reporting

Module 13: Deploying an Application by Using Google Cloud Container Builder, Google Cloud Container Registry, and Google Cloud Deployment Manager

- Creating and storing container images
- Repeatable deployments with deployment configuration and templates
- Lab: Use Deployment Manager to deploy a web application into Google App Engine Flex test and production environments

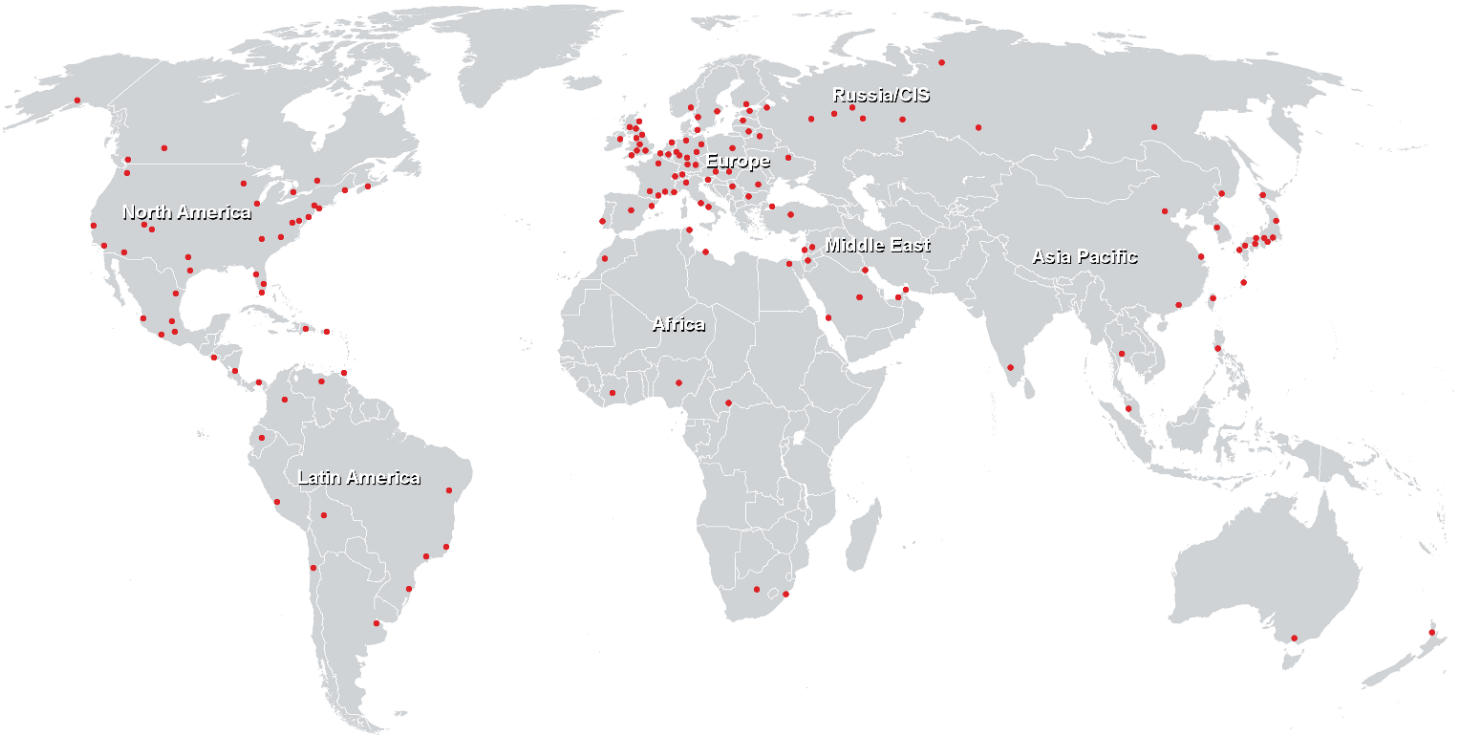
Module 14: Execution Environments for Your Application

- Considerations for choosing an execution environment for your application or service:
  - Google Compute Engine
  - Container Engine
  - App Engine Flex
  - Cloud Functions
  - Cloud Dataflow
- Lab: Deploying your application on App Engine Flex

Module 15: Monitoring and Tuning Performance

- Best practices and watchpoints for performance
- Key concepts related to Stackdriver Trace and Stackdriver Monitoring
- Detecting and resolving performance issues
- Lab: Use Stackdriver Monitoring and Stackdriver Trace to trace a request across services, observe, and optimize performance

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