

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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