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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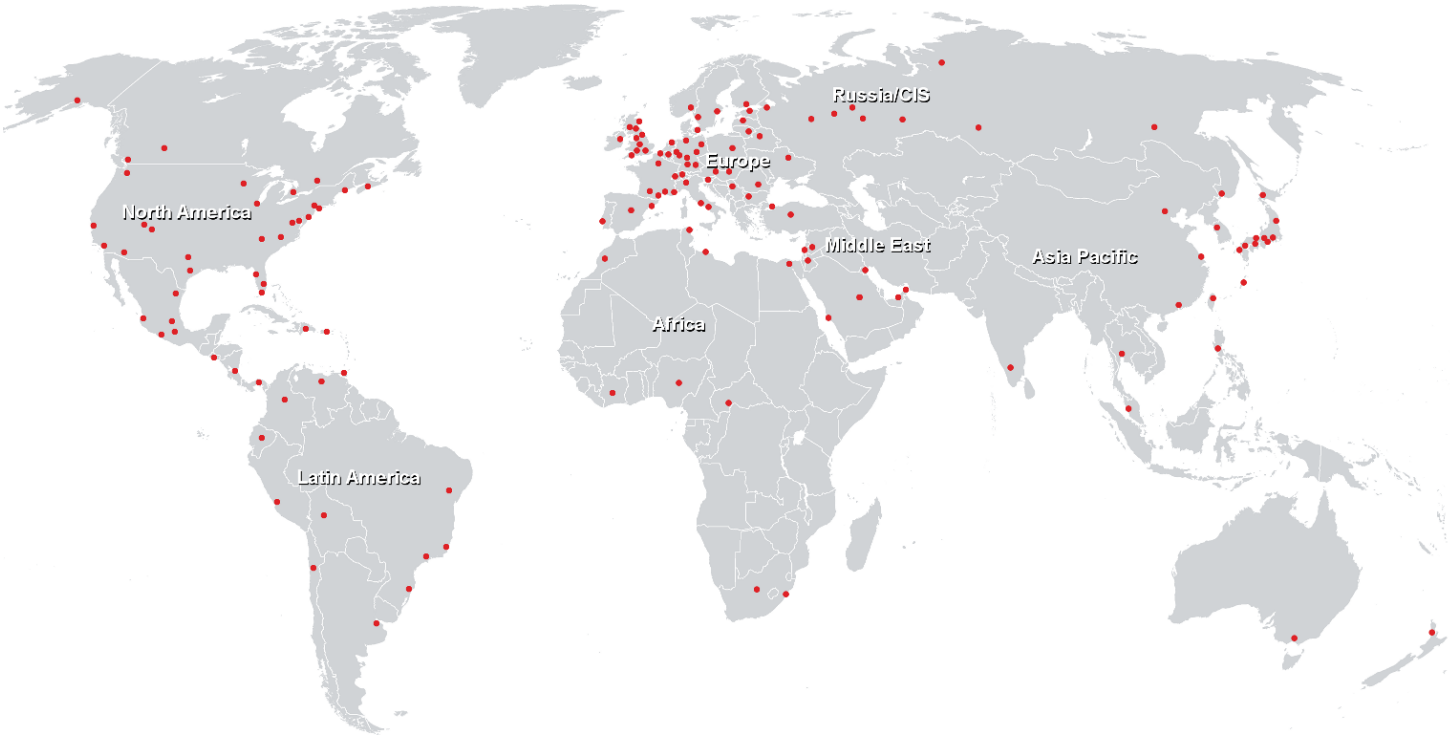

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