Developing Applications with Google Cloud

Varighed: 3 Days **Kursus Kode: GO6593**

Beskrivelse:

In this course, application developers learn how to design, develop, and deploy applications that seamlessly integrate components of the Google Cloud ecosystem. Through a combination of presentations, demonstrations, and hands-on labs, participants learn how to use GCP services and pre-packaged machine learning APIs to create secure, scalable, and intelligent native cloud applications.

Målgruppe:

Application developers who want to create native cloud applications or redesign existing applications that will run on the Google Cloud.

Agenda:

- This course teaches participants the following skills:
- Use best practices for application development.
- Select the appropriate data storage option for the application data.
- Implementing Federated Identity Management
- Develop offline application components or microservices
- Integrate application components and data sources
- Debug, track, and monitor applications.
- Perform repeatable deployments with containers and deployment services
- Choose the right application runtime environment, use Google Kubernetes Engine as your runtime environment, and then move to a non-operational solution with Google App Engine Flex

Forudsætninger:

To get the maximum benefit from this course, participants should have the following prerequisites:

- Complete Google Cloud fundamentals or equivalent experience
- Practical knowledge of Node.js
- Basic command of command line tools and Linux operating system environments

Indhold:

The course includes presentations, demonstrations and hands-on labs.

Module 1: Best Practices for Application Development

Code and environmental management

Design and development of safe, scalable, reliable and non-connected 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 the Google Cloud Client Libraries, the Google Cloud SDK, and the Google Firebase SDK

- Lab: Set up Google client libraries, the Google Cloud SDK, and the Firebase SDK on a Linux instance and set up application credentials

Module 3: Overview of data storage options

Summary of options for storing 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 Google Cloud Datastore

Good practices related to the following:

Consultations

Integrated and composite indices

Inserting and Deleting Data (Batch Operations)

Transactions

Error handling

Consistency Model

- Error handling

Module 6: Best Practices for Using Google Cloud Storage

Naming cubes for static websites and other uses

Naming objects (from an access distribution perspective)

Performance considerations

Configuration and debugging of a CORS configuration in a cube

- Lab: Store files in cloud storage

Module 7: Handling of authentication and authorization

Cloud identity and access management (IAM) service accounts and features

Firebase Authentication

User authentication and authorization using the Cloud Identity-Aware Proxy

- Lab: User authentication using Firebase Authentication

Module 8: Using Google Cloud Pub/Sub to integrate components of your application

Themes, publishers and subscribers

Pull and push subscriptions

Use cases for Cloud Pub/Sub

- Lab: Developing a backend service to process messages in a message queue.

Module 9: Adding Intelligence to your Application

Overview of the pre-formed machine learning APIs, such as the Cloud Vision API and the Cloud Natural Language Processing API.

Development and deployment of functions

- Logging, error reporting and monitoring

Module 11: Managing APIs with Google Cloud Endpoints

Open API implementation settings

- Lab: Implement an API for your application

Module 12: Deploying an Application Using Google Cloud Container Builder, Google Cloud Container Registry, and Google Cloud Deployment Manager

Creating and storing container images

Repeatable implementations with implementation configuration and templates

- Lab: Use Deployment Manager to deploy a web application to flexible Google App Engine production and testing environments.

Module 13: Running environments for your application

Considerations for choosing an execution environment for your application or service:

Google Calculation Engine

Kubernetes Engine

Flexible App Engine environment

Cloud Features

Cloud data flow

- Lab: Implementing your application in a flexible App Engine environment

Module 14: Debugging, Monitoring and Tuning Performance Using Google Stackdriver

Stackdriver Debugger

Stackdriver Error Report

Massive data loading into the cloud data store using Google Cloud Dataflow

- Lab: Store application data in the Cloud Datastore

Module 5: Performing operations on cubes and objects

Operations that can be performed on cubes and objects

Module 10: Using Google Cloud Features for Event-Based Processing

Key concepts such as triggers, background functions, HTTP functions

Use cases

Lab: Debugging an application error using the Stackdriver Debugger and bug reporting

Stackdriver Registration

- Key concepts related to Stackdriver Trace and Stackdriver Monitoring.

Lab: Use Stackdriver monitoring and Stackdriver Trace to track a request across all services, observe and optimize performance.

Flere Informationer:

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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