Application Development with Cloud Run (ADCR)

ID ADCR **Prix** CHF 2 550,– (Hors Taxe) **Durée** 3 jours

A qui s'adresse cette formation

Cloud Developers, API Developers

Pré-requis

- Familiarity with Linux commands and command line interface.
- Basic understanding of Google Cloud.
- Basic understanding of networking.
- Basic understanding of one or more programming languages like Go, Python, Java, Ruby, or Node.js.
- Basic understanding of shell scripts, YAML, JSON, HTTP, and TLS.

Objectifs

- Gain detailed understanding of Cloud Run, Google Cloud's fully managed compute platform for deploying and scaling containerized applications quickly and securely.
- Write and migrate code your way using your favorite languages (Go, Python, Java, Ruby, Node.js, and more).
- Secure service to service communication based on service identities and grant applications only the permissions they need.
- Learn how to build highly available applications with low end-user latency, globally.
- Learn how to connect to, and persist data in the managed database offerings on Google Cloud.
- Understand how abstracting away all infrastructure management creates a simple developer experience.

Contenu

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

Module 1: Introducing Application Development with Cloud Run

- A general understanding of Cloud Run
- Understand how how high availability, low end-user latency

and developer productivity are important architectural drivers for web based applications today.
- Understand the advantages of serverless on Google Cloud.

Module 2: Understanding Cloud Run

- Understand Container Images and Containers.
- Understand how Cloud Run is different from an always-on server.
- Implement the deployment of a container image to Cloud Run.
- Understand auto-scaling and on-demand containers.

Module 3: Building Container Images

- Deeply understand what is inside a container image.
- Package an application into a container image with Buildpacks.
- Understand that Dockerfiles are a lower-level and more transparent alternative to Buildpacks.

Module 4: Building Container Images

- Understand the advantages of the shutdown lifecycle hook.
- Understand how to avoid request queuing.
- Implement new versions of an application.
- Implement gradual traffic migration.

Module 5: Configuring Service Identity and Authorization

- Understand that every action on a Cloud resource is actually an API call.
- Understand how and why to limit the permissions in your Cloud Run service to only specific and necessary API calls.
- Understand the process needed to make the default permissions of a Cloud API more secure.
- Use the client libraries to call other Google Cloud services.

Module 6: Serving Requests

- Use Cloud CDN to improve the reliability and performance of an application.
- Use path-based routing to combine multiple applications on one domain.
- Route incoming requests to the Cloud Run service closest

to clients.

Module 7: Using Inbound and Outbound Access Control

- Connecting your project to resources with a private IP.
- Implementing controls to prevent outbound traffic to dangerous or unwanted hosts.
- Implementing filters for inbound traffic using content-based rules.
- Implementing controlled access to only specific service accounts.
- Implement dialogs using input and output contexts.

Module 8: Persisting Data

- Understand how to connect your application with Cloud SQL to store relational data.
- Use a VPC Connector to reach a private Memorystore instance.
- Understand how to connect with Cloud Storage, Spanner and Firestore.

Module 9: Implementing Service-to-Service Communication

- Using Cloud Pub/Sub to send messages between services.
- Discovering the URL of other Cloud Run services.
- Receiving events from other Google Cloud services.
- Processing background tasks asynchronously.

Module 10: Orchestrating and Automating Serverless Workflows

- Understand the capabilities of Cloud Workflows.
- Learn how to model a simple workflow with steps and conditional jumps.
- Integrating Cloud Run with Cloud Workflows.
- Understand how to invoke workflows.

Centres de formation dans le monde entier

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