Training: Google Cloud
Developing Applications with Google Cloud Platform

<table>
<thead>
<tr>
<th>FORM OF TRAINING</th>
<th>MATERIALS</th>
<th>PRICE</th>
<th>DURATION</th>
</tr>
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<tbody>
<tr>
<td>Traditional</td>
<td>Digital materials</td>
<td>1100 EUR</td>
<td>3 days</td>
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<td>Traditional</td>
<td>CTAB Tablet</td>
<td>1200 EUR</td>
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LOCATIONS

Krakow - 5 Tatarska Street, II floor, hours: 9:00 am - 4:00 pm
Warsaw - 17 Bielska Street, hours: 9:00 am - 4:00 pm

TRAINING GOALS:

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

Audience:

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

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

CONSPECT:

- 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
- 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

- 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

- Best Practices for Using Google Cloud Datastore
  - Best practices related to the following: Queries, built-in and composite indexes, inserting and deleting data (batch operations), transactions, error handling
  - 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: Set up Google Cloud Datastore

- Lab: Store application data in Cloud Datastore

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

- Best Practices for Using Google 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

- Handling Authentication and Authorization
  - 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

- 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

- Adding Intelligence to Your Application
  - Overview of pre-trained machine learning APIs such as Cloud Vision API and Cloud Natural
Language Processing API

- Using Google 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

- Managing APIs with Google Cloud Endpoints
  - Open API deployment configuration
  - Lab: Deploy an API for your application

- Deploying an Application by Using Google Cloud Cloud Build, 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 flexible environment test and production environments

- Execution Environments for Your Application
  - Considerations for choosing an execution environment for your application or service:
    - Google Compute Engine
    - Kubernetes Engine
    - App Engine flexible environment
    - Cloud Functions
    - Cloud Dataflow
  - Lab: Deploying your application on App Engine flexible environment

- Debugging, Monitoring, and Tuning Performance by Using Google Stackdriver
  - Stackdriver Debugger
  - Stackdriver Error Reporting
  - Lab: Debugging an application error by using Stackdriver Debugger and Error Reporting
  - Stackdriver Logging
  - Key concepts related to Stackdriver Trace and Stackdriver Monitoring. Lab: Use Stackdriver Monitoring and Stackdriver Trace to trace a request across services, observe, and optimize performance

REQUIREMENTS:

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

- 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

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Google Cloud Platform.

This course additionally prepares you for Professional Cloud Developer certification exam available at Kryterion test centers.

TRAINER:

Authorized Google Cloud Platform Trainer.