



Curso Developing Applications with Google Cloud

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CAS Training



Duración
21 horas



Modalidad
Aula Virtual



**Learning by
doing**



**Curso
Oficial**

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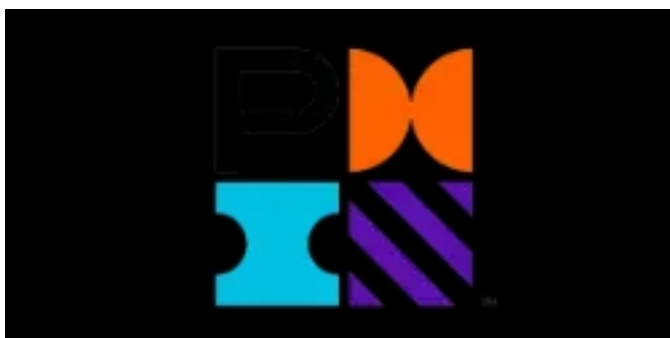
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Dirigido a:

Desarrolladores de aplicaciones que deseen crear aplicaciones nativas de la nube o rediseñar aplicaciones existentes que sean ejecutadas en Google Cloud.

Objetivos:

- Utilizar las mejores prácticas para el desarrollo de aplicaciones.
- Seleccionar la opción de almacenamiento de datos adecuada para los datos de la aplicación.
- Implementar la gestión de identidades federadas.
- Desarrollar microservicios o componentes de aplicación poco acoplados.
- Integrar componentes de aplicaciones y fuentes de datos.
- Depurar, rastrear y monitorear aplicaciones.
- Realizar implementaciones repetibles con contenedores y servicios de implementación.
- Seleccionar el entorno de tiempo de ejecución de la aplicación adecuado.

Requisitos:

- Haber completado el curso Google Cloud Fundamentals: Core Infrastructure o tener experiencia equivalente.
- Conocimiento práctico de Node.js, Python o Java.
- Competencia básica con herramientas de línea de comandos y entornos de sistema operativo Linux.

Material del curso:

Documentación oficial para el **curso Developing Applications with Google Cloud**.

Perfil del docente:

- Formador certificado por Google Cloud.
- Más de 5 años de experiencia profesional.
- Más de 4 años de experiencia docente.
- Profesional activo en empresas del sector IT.



Metodología:

- “Learning by doing” se centra en un contexto real y concreto, buscando un aprendizaje en equipo para la resolución de problemas en el sector empresarial.
- Aulas con grupos reducidos para que el profesional adquiriera la mejor atención por parte de nuestros instructores profesionales.
- El programa de estudios como partners oficiales es confeccionado por nuestro equipo de formación y revisado por las marcas de referencia en el sector.
- La impartición de las clases podrá ser realizada tanto en modalidad Presencial como Virtual.



Contenidos:

Módulo 1: Best Practices for Application Development Temas:

- 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

Objetivos:

- Design and develop secure, scalable, reliable, loosely coupled application components and microservices.
- Understand how to rearchitect applications for the cloud.

Módulo 2: Getting Started with Google Cloud Development Temas:

- Overview of Google Cloud services for apps and scripts:
 - Google Cloud APIs
 - Cloud SDK
 - Cloud Client Libraries
 - Cloud Shell
 - Cloud Code
- Demo: Google APIs Explorer
- Lab: Setting up a Development Environment

Objetivos: Identify different Google Cloud services for hosting applications and scripts. **Módulo 3: Overview of Data**

Storage Options Temas:

- Overview of options to store application data
- Use cases for Cloud Storage, Firestore, Cloud Bigtable, Cloud SQL, and Cloud Spanner
- Demo: Connecting Securely to a Cloud SQL Database

Objetivos: Choose the appropriate data storage option for application data. **Módulo 4: Best Practices for Using**

Datastore Temas:

- Best practices related to using Firestore in Datastore mode for:
 - Queries
 - Built-in and composite indexes
 - Inserting and deleting data (batch operations)
 - Transactions
 - Error handling
- Demo: Explore Datastore
- Demo: Use Dataflow to Bulk-load Data into Datastore
- Lab: Storing Application Data in Datastore

Objetivos:

- Bulk-load data into Firestore by using Dataflow.
- Understand best practices related to queries, built in and composite indexes, inserting and deleting data (batch operations), and transactions error handling.

Módulo 5: Performing Operations on Buckets and Objects Temas:

- Cloud Storage concepts
- Consistency model



- Demo: Explore Cloud Storage
- Request endpoints
- Composite objects and parallel uploads
- Truncated exponential backoff
- Demo: Enable CORS Configuration in Cloud Storage

Objetivos:

- Understand Cloud Storage concepts.
- Differentiate between strongly consistent and eventually consistent operations.
- Access Cloud Storage through request endpoints.
- Use object composition to upload an object in parallel.
- Use truncated exponential backoff to deal with network failures.

Módulo 6: Best Practices for Using Cloud StorageTemas:

- Naming buckets for static websites and other uses
- Naming objects (from an access distribution perspective)
- Performance considerations
- Lab: Storing Image and Video Files in Cloud Storage

Objetivos: Understand how to name buckets for static websites and other uses, how to name objects (from an access distribution perspective, and performance considerations. **Módulo 7: Handling Authentication and**

AuthorizationTemas:

- Identity and Access Management (IAM) roles and service accounts
- User authentication by using Firebase Authentication
- User authentication and authorization by using Identity-Aware Proxy
- Lab: Adding User Authentication to your Application

Objetivos: Implement federated identity management. **Módulo 8: Using Pub/Sub to Integrate Components of Your**

ApplicationTemas:

- Topics, publishers, and subscribers
- Pull and push subscriptions
- Use cases for Pub/Sub
- Lab: Developing a Backend Service

Objetivos:

- Understand Pub/Sub topics, publishers, and subscribers.
- Understand pull and push subscriptions.
- Explore use cases for Pub/Sub.

Módulo 9: Adding Intelligence to Your ApplicationTemas: Overview of pre-trained machine learning APIs such as the Vision API and the Cloud Natural Language Processing API. Objetivos: Explore pre-trained machine learning APIs such as Cloud Vision API and Cloud Natural Language API. **Módulo 10: Using Cloud Functions for Event-**

Driven ProcessingTemas:

- Key concepts such as triggers, background functions, HTTP functions
- Use cases
- Developing and deploying functions
- Logging, error reporting, and monitoring
- Demo: Invoke Cloud Functions Through Direct Request-response
- Lab: Processing Pub/Sub Data using Cloud Functions

Objetivos: Use Cloud Functions for event-driven processing. **Módulo 11: Managing APIs with Cloud**

EndpointsTemas:



- Open API deployment configuration
- Lab: Deploying an API for the Quiz Application

Objetivos: Understand OpenAPI deployment configuration. **Módulo 12: Deploying Applications**Temas:

- Creating and storing container images
- Repeatable deployments with deployment configuration and templates
- Demo: Exploring Cloud Build and Cloud Container Registry
- Lab: Deploying the Application into Kubernetes Engine

Objetivos:

- Understand how to create and store container images.
- Create repeatable deployments with deployment configuration and templates.

Módulo 13: Compute Options for Your ApplicationTemas:

- Considerations for choosing a compute option for your application or service:
 - Compute Engine
 - Google Kubernetes Engine (GKE)
 - Cloud Run
 - Cloud Functions
- Platform comparisons.
 - Comparing App Engine and Cloud Run

Objetivos: Explore considerations for choosing a compute option for your application or service. **Módulo**

14: Debugging, Monitoring, and Tuning PerformanceTemas:

- Google Cloud's operations suite
- Managing performance
- Lab: Debugging Application Errors
- Logging
- Monitoring and tuning performance
- Identifying and troubleshooting performance issues
- Lab: Harnessing Cloud Trace and Cloud Monitoring

Objetivos:

- Debug an application error by using Cloud Debugger and Error Reporting.
- Use Cloud Monitoring and Cloud Trace to trace a request across services, observe, and optimize performance.



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