

# Google Cloud Professional Database Engineer

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**Duration:** 05 days (40 hours)

**Pre-requisites:** Google Cloud Associate Engineer certification.

**Courseware:** Unofficial ppt/pdf

**Applicable Certifications:** Google Professional Cloud Database Engineer

## Course Outcomes:

This course aims to guide you through a curated collection of on-demand courses, labs, and skill badges that provide you with real-world, hands-on experience using Google Cloud technologies essential to the Database Engineer role. You will learn how to design, create, manage, migrate, and troubleshoot GCP databases used by applications to store and retrieve data

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## Course Modules

### Module 01: Google Cloud Fundamentals: Core Infrastructure

- Introduction to Google Cloud
- Resources and Access in the Cloud
- Virtual Machines and Networks in the Cloud
- Storage in the Cloud
- Containers in the Cloud
- Applications in the Cloud
- Prompt Engineering

### Module 02: Enterprise Database Migration

- Migrating Enterprise Databases to the Cloud
- Google Cloud Data Migration Solutions
- Google Implementation Methodology
- Migration Strategies
- Networking for Secure Database Connectivity
- Migrating SQL Server Databases to Google Cloud
- Migrating Oracle Databases to Google Cloud
- Testing and Monitoring SQL Server Databases in Google Cloud
- Google Cloud Data Migration Services

### Module 03: Migrate MySQL data to Cloud SQL using Database Migration Service

- Migrating MySQL data to Cloud SQL using Database Migration Service
- Cloud SQL for MySQL: Qwik Start
- Migrating to Cloud SQL from Amazon RDS for MySQL Using Database Migration Service
- Migrating On-premises MySQL Using a Continuous Database Migration Service Job
- Migrating MySQL User Data When Running Database Migration Service Jobs
- Migrate MySQL Data to Cloud SQL using Database Migration Service

#### **Module 04: Create and Manage Cloud SQL for PostgreSQL Instances**

- Manage PostgreSQL Databases on Cloud SQL
- Migrate to Cloud SQL for PostgreSQL using Database Migration Service
- Connect an App to a Cloud SQL for PostgreSQL Instance
- Securing a Cloud SQL for PostgreSQL Instance
- Configure Replication and Enable Point-in-Time-Recovery for Cloud SQL for PostgreSQL

#### **Module 05: Create and Manage Cloud Spanner Instances**

- Create and Manage Cloud Spanner Databases
- Cloud Spanner - Database Fundamentals
- Cloud Spanner - Loading Data and Performing Backups
- Cloud Spanner - Defining Schemas and Understanding Query Plans
- Deploy a Modern Web App connected to a Cloud Spanner Instance

#### **Module 06: Create and Manage Bigtable Instances**

- Manage Bigtable on Google Cloud
- Designing and Querying Bigtable Schemas
- Creating and Populating a Bigtable Instance
- Streaming Data to Bigtable
- Monitoring and Managing Bigtable Health and Performance

#### **Module 07: Create and Manage AlloyDB Instances**

- Create and Manage AlloyDB Databases
  - AlloyDB - Database Fundamentals
  - Migrating to AlloyDB from PostgreSQL Using Database Migration Service
  - Migrating to AlloyDB from PostgreSQL Using PostgreSQL Tools
  - Administering an AlloyDB Database
  - Accelerating Analytical Queries using the AlloyDB Columnar Engine
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