# Fast Lane

Google Cloud Partner

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# From Data to Insights with Google Cloud Platform (DIGCP)

**ID** DIGCP   **Prix** CHF 2 490,– (Hors Taxe)   **Durée** 3 jours

## A qui s'adresse cette formation

This class is intended for the following:

- Data Analysts, Business Analysts, Business Intelligence professionals
- Cloud Data Engineers who will be partnering with Data Analysts to build scalable data solutions on Google Cloud Platform

## Cette formation prépare à la/aux certifications

Google Cloud Certified Professional Data Engineer (PDE)

## Pré-requis

To get the most out of this course, participants should have:

- Basic proficiency with ANSI SQL

## Objectifs

This course teaches participants the following skills:

- Derive insights from data using the analysis and visualization tools on Google Cloud Platform
- Interactively query datasets using Google BigQuery
- Load, clean, and transform data at scale
- Visualize data using Google Data Studio and other third-party platforms
- Distinguish between exploratory and explanatory analytics and when to use each approach
- Explore new datasets and uncover hidden insights quickly and effectively
- Optimizing data models and queries for price and performance

## Contenu

### Module 1: Introduction to Data on the Google Cloud Platform

- Highlight Analytics Challenges Faced by Data Analysts
- Compare Big Data On-Premises vs on the Cloud
- Learn from Real-World Use Cases of Companies

Transformed through Analytics on the Cloud
- Navigate Google Cloud Platform Project Basics
- Lab: Getting started with Google Cloud Platform

### Module 2: Big Data Tools Overview

- Walkthrough Data Analyst Tasks, Challenges, and Introduce Google Cloud Platform Data Tools
- Demo: Analyze 10 Billion Records with Google BigQuery
- Explore 9 Fundamental Google BigQuery Features
- Compare GCP Tools for Analysts, Data Scientists, and Data Engineers
- Lab: Exploring Datasets with Google BigQuery

### Module 3: Exploring your Data with SQL

- Walkthrough of a BigQuery Job
- Calculate BigQuery Pricing: Storage, Querying, and Streaming Costs
- Optimize Queries for Cost
- Lab: Calculate Google BigQuery Pricing

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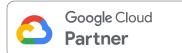
### Module 5: Cleaning and Transforming your Data

- Examine the 5 Principles of Dataset Integrity
- Characterize Dataset Shape and Skew
- Clean and Transform Data using SQL
- Clean and Transform Data using a new UI: Introducing Cloud Dataprep
- Lab: Explore and Shape Data with Cloud Dataprep

### Module 6: Storing and Exporting Data

- Compare Permanent vs Temporary Tables
- Save and Export Query Results
- Performance Preview: Query Cache
- Lab: Creating new Permanent Tables

### Module 7: Ingesting New Datasets into Google BigQuery

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# From Data to Insights with Google Cloud Platform (DIGCP)

- Query from External Data Sources
- Avoid Data Ingesting Pitfalls
- Ingest New Data into Permanent Tables
- Discuss Streaming Inserts
- Lab: Ingesting and Querying New Datasets

## Module 8: Data Visualization

- Overview of Data Visualization Principles
- Exploratory vs Explanatory Analysis Approaches
- Demo: Google Data Studio UI
- Connect Google Data Studio to Google BigQuery
- Lab: Exploring a Dataset in Google Data Studio

## Module 9: Joining and Merging Datasets

- Merge Historical Data Tables with UNION
- Introduce Table Wildcards for Easy Merges
- Review Data Schemas: Linking Data Across Multiple Tables
- Walkthrough JOIN Examples and Pitfalls
- Lab: Join and Union Data from Multiple Tables

## Module 10: Advanced Functions and Clauses

- Review SQL Case Statements
- Introduce Analytical Window Functions
- Safeguard Data with One-Way Field Encryption
- Discuss Effective Sub-query and CTE design
- Compare SQL and Javascript UDFs
- Lab: Deriving Insights with Advanced SQL Functions

## Module 11: Schema Design and Nested Data Structures

- Compare Google BigQuery vs Traditional RDBMS Data Architecture
- Normalization vs Denormalization: Performance Tradeoffs
- Schema Review: The Good, The Bad, and The Ugly
- Arrays and Nested Data in Google BigQuery
- Lab: Querying Nested and Repeated Data

## Module 12: More Visualization with Google Data Studio

- Create Case Statements and Calculated Fields
- Avoid Performance Pitfalls with Cache considerations
- Share Dashboards and Discuss Data Access considerations

## Module 13: Optimizing for Performance

- Avoid Google BigQuery Performance Pitfalls
- Prevent Hotspots in your Data
- Diagnose Performance Issues with the Query Explanation

map
- Lab: Optimizing and Troubleshooting Query Performance

## Module 14: Advanced Insights

- Introducing Cloud Datalab
- Cloud Datalab Notebooks and Cells
- Benefits of Cloud Datalab

## Module 15: Data Access

- Compare IAM and BigQuery Dataset Roles
- Avoid Access Pitfalls
- Review Members, Roles, Organizations, Account Administration, and Service Accounts

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