Course : Introduction to Data Engineering on Google Cloud

Official course, preparation for Google Cloud certification exams

Practical course - 1d - 7h00 - Ref. GDE
Price : 850 € E.T.

NEW

With this training, you'll gain the fundamental knowledge and skills in data engineering on Google Cloud Platform (GCP) to understand, design and implement efficient data pipelines. You'll learn how to use GCP's core services for data ingestion, storage, transformation and analysis, while adopting best practices for data performance, security and governance.

Teaching objectives

At the end of the training, the participant will be able to:

- Understanding the role of a data engineer
- Identify data engineering tasks and the main components used on Google Cloud
- Understand how to create and deploy data pipelines of different models on Google Cloud
- Identify and use various automation techniques on Google Cloud

Intended audience

Data engineers, database administrators, system administrators.

Prerequisites

Basic knowledge of the Google Cloud environment. Basic command of a common query language. Experience in data modeling, ETL activities and application development.

Certification

We recommend you take this course if you want to prepare for certification as a "Google Cloud Professional Data Engineer".
Comment passer votre examen ?

PARTICIPANTS

Data engineers, database administrators, system administrators.

PREREQUISITES

Basic knowledge of the Google Cloud environment. Basic command of a common query language. Experience in data modeling, ETL activities and application development.

TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

ASSESSMENT TERMS

Assessment of targeted skills prior to training.
Assessment by the participant, at the end of the training course, of the skills acquired during the training course.
Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.
At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.
An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.

Practical details

Teaching methods

Training in French. Official course material in digital format and in English. Good understanding of written English.

Course schedule

1 Data engineering tasks and components

- Understand the role of a data engineer.
- Understand the differences between a data source and a data sink.
- Discover the different types of data formats.
- Explain Google Cloud storage solution options.
- Discover metadata management options on Google Cloud.
- Discover how to easily share data sets using Analytics Hub.
- Discover how to load data into BigQuery using the Google Cloud Console or the gcloud CLI.

Hands-on work

Lab: loading data into BigQuery.

2 Data replication and migration

- Discover Google Cloud's basic replication and data migration architecture.
- Understand the options and use cases of the gcloud command line tool.
- Discover the features and use cases of Storage Transfer Service.
- Discover Transfer Appliance features and use cases.
- Discover Datastream functionalities and deployment.

Hands-on work

Lab: PostgreSQL to BigQuery replication.

3 The Extract and Load pipeline model

- Extract and load architecture.
- Understand the bq command line tool options.
- Discover the features and use cases of the BigQuery data transfer service.
- Discover the features and use cases of BigLake as a non-extraction loading model.

Hands-on work

Lab: Introduction to BigLake.

4 The Extract, Load and Transform pipeline model

- Explain the basic extraction, loading and transformation architecture diagram.
- Understand a common ELT pipeline on Google Cloud.
- Discover BigQuery's programming and SQL scripting features.
- Explain Dataform functionalities and use cases.

Hands-on work

Lab: Create and run a SQL workflow in Dataform.

TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

5 Extract, Transform and Load pipeline model

- Discover the basic extraction, transformation and loading architecture diagram.
- Discover the graphical user interface tools on Google Cloud used for ETL data pipelines.
- Explain batch data processing with Dataproc.
- Using Dataproc Serverless for Spark for ETL...
- Explore streaming data processing options.
- Understand Bigtable's role in data pipelines.

Hands-on work
Lab: Using Dataproc Serverless for Spark to load BigQuery. Lab: Create a continuous data pipeline for a real-time dashboard with Dataflow.

6 Automation techniques

- Discover the automation models and options available for pipelines.
- Discover Cloud Scheduler and Workflows.
- Discover Cloud Composer.
- Discover Cloud Run functions.
- Discover use cases for Eventarc functionalities and automation.

Hands-on work
Lab : Utiliser les fonctions Cloud Run pour charger BigQuery.

Dates and locations

REMOTE CLASS
2026 : 26 Mar., 18 June, 1 Oct., 10 Dec.

PARIS LA DÉFENSE
2026 : 26 Mar., 18 June, 1 Oct., 10 Dec.