Google BigQuery

12 hours

Course Overview:

BigQuery course aims to provide the participants the theoretical knowledge and practical experience to get started quickly and efficiently with BigQuery. From understanding GCP BigQuery as a BigData DWH managed service to compose efficient analytics queries applying BigQuery best practices.

The course will cover BigQuery core topics such as:

- Architecture
- Data transition (export/import)
- Advanced analytics (Arrays, Struct, Unset, functions, CTEs and more)
- Tables optimization such as: partitioning, clustering, materialized views
- Cost optimization
- Performance optimization (understanding and analyzing execution plans)
- Data vizualisation with GCP DataStudio

Who should attend:

- Data Analysts
- BI Developers
- Data engineers
- Data Scientists

Required skills:

- RDBMS basic understanding
- SQL knowledge

Course Contents:

- A General Introduction to GCP and Cloud Storage
- Introduction to BigQuery and to the Core Use-Cases
- High-Level Architecture and main Components
- BigQuery Work Structure :
    - Project
    - Dataset
    - Tables
    - Jobs
- Introduction to BigQuery Sandbox/Public Datasets + Labs
- Working with SQL and BigQuery overview + Labs
    - SQL Vs Legacy
    - Standard SELECT/FROM Statements
    - Aggregation Functions
    - Scalar Functions
    - Join Statements
    - SubQueries
    - Data Sorting
- BigQuery Data Exporting/Importing/Storing + labs
    - Importing sample data into BigQuery (basic)

  - Storing Results into a User Created Table
  - Exporting Table Data from BigQuery
- Understanding and Working with Partitioned Tables + labs
- Understanding and Working with Clustered Tables + labs
- Working with BigQuery Materialized Views + labs
- Understanding BigQuery Pricing
- Understanding BigQuery Execution Plans + Labs
- BigQuery Advanced Analytics Using + Labs:
  - Analytical Functions (Window)
  - Common Table Expression (CTE)
  - ARRAYs
  - UNNEST
  - STRUCT
  - Array Functions
- BigQuery Performance Best-Practices and Cost Optimization + Labs
- Working with Google DataStudio and BigQuery + Labs