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## From Data to Insights with Google Cloud

Varighed: 2 Days    Kursus Kode: GO6589    Leveringsmetode: Virtuel deltagelse

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### Beskrivelse:

Want to know how to query and process petabytes of data in seconds? Curious about data analysis that scales automatically as your data grows?

Welcome to the Data Insights course! This two-day instructor-led class teaches course participants how to derive insights through data analysis and visualization using the Google Cloud Platform. The course features interactive scenarios and hands-on labs where participants explore, mine, load, visualize, and extract insights from diverse Google BigQuery datasets. The course covers data loading, querying, schema modeling, optimizing performance, query pricing, and data visualization.

### Virtuel deltagelse

Et V&C Select kursus indholder nøjagtig det samme som et almindeligt kursus. Før kursusstart modtager man kursusmaterialet. Dernæst logger man på kurset via internettet og ser via sin pc den selvsamme præsentation som de øvrige deltagere, man kommunikerer via chat med underviseren og de øvrige deltagere på kurset. Denne uddannelsesmodel er både tids-og omkostningsbesparende og kan være et oplagt alternativ til almindelig klasseundervisning, hvis man f.eks. har et begrænset rejsebudget.

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### Målgruppe:

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

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### Agenda:

- 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
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### Forudsætninger:

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

- Basic proficiency with ANSI SQL
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### Yderligere Kurser:

Gain a wider view of Google Cloud Platform using Big Data and ML Fundamentals (GO8325)

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## Indhold:

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

Before and Now: Scalable Data Analysis in the Cloud

#### Topics Covered

- Highlight Analytics Challenges Faced by Data Analysts
- Compare Big Data On-Premise 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
- 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
- Compare Common Data Exploration Techniques
- Learn How to Code High Quality Standard SQL
- Explore Google BigQuery Public Datasets
- Visualization Preview: Google Data Studio
- Lab: Troubleshoot Common SQL Errors
- Walkthrough of a BigQuery Job
- Calculate BigQuery Pricing: Storage, Querying, and Streaming Costs
- Optimize Queries for Cost
- Lab: Calculate Google BigQuery Pricing
- 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
- Compare Permanent vs Temporary Tables
- Save and Export Query Results
- Performance Preview: Query Cache
- Lab: Creating new Permanent Tables
- Query from External Data Sources
- Avoid Data Ingesting Pitfalls
- Ingest New Data into Permanent Tables
- Discuss Streaming Inserts
- Lab: Ingesting and Querying New Datasets
- Overview of Data Visualization Principles
- Exploratory vs Explanatory Analysis Approaches

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- Demo: Google Data Studio UI
- Connect Google Data Studio to Google BigQuery

### Module 12: Advanced Visualization with Google Data Studio

Create Pixel-Perfect Dashboards

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- Lab: Querying Nested and Repeated Data
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- Discuss Effective Sub-query and CTE design
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- Lab: Deriving Insights with Advanced SQL Functions
- Avoid Google BigQuery Performance Pitfalls
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- Diagnose Performance Issues with the Query Explanation map
- Lab: Optimizing and Troubleshooting Query Performance
- Distill Complex Queries
- Brainstorm Data-Driven Hypotheses
- Think like a Data Scientist
- Introducing Cloud Datalab
- Lab: Reading a Google Cloud Datalab notebook
- Compare IAM and BigQuery Dataset Roles
- Avoid Access Pitfalls
- Review Members, Roles, Organizations, Account Administration, and Service Accounts

Module 2: Big Data Tools Overview

Sharpen the Tools in your Data Analyst toolkit

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Module 7: Ingesting New Datasets into

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## Google BigQuery

### Bring your Data into the Cloud

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## Module 13: Advanced Functions and Clauses

### Dive Deeper into Advanced Query Writing with Google BigQuery

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- Demo: Google Data Studio UI
- Connect Google Data Studio to Google

## Multiple Tables

- Walkthrough JOIN Examples and Pitfalls
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## Module 3: Exploring your Data with SQL

Get Familiar with Google BigQuery and Learn SQL Best Practices

### Topics Covered

- Highlight Analytics Challenges Faced by Data Analysts
- Compare Big Data On-Premise vs on the

## Approaches

- Demo: Google Data Studio UI
- Connect Google Data Studio to Google BigQuery
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## BigQuery

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- Examine Logical Views, Date-Partitioned

## Account Administration, and Service Accounts

### Module 8: Data Visualization

- Effectively Explore and Explain your Data through Visualization

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## Troubleshoot and Solve Query Performance Problems

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#### Module 4: Google BigQuery Pricing

- Calculate Google BigQuery Storage and Query Costs

#### Topics Covered

- Highlight Analytics Challenges Faced by Data Analysts
- Compare Big Data On-Premise 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
- Walkthrough Data Analyst Tasks,

- 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
- Merge Historical Data Tables with UNION
- Introduce Table Wildcards for Easy Merges
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- Walkthrough JOIN Examples and Pitfalls
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- Deep-dive into Column-Oriented Storage
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- 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
- Create Case Statements and Calculated Fields
- Avoid Performance Pitfalls with Cache considerations
- Share Dashboards and Discuss Data Access considerations
- Lab: Visualizing Insights with Google Data Studio
- 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
- Avoid Google BigQuery Performance Pitfalls
- Prevent Hotspots in your Data
- Diagnose Performance Issues with the Query Explanation map
- Lab: Optimizing and Troubleshooting Query Performance
- Distill Complex Queries
- Brainstorm Data-Driven Hypotheses
- Think like a Data Scientist
- Introducing Cloud Datalab
- Lab: Reading a Google Cloud Datalab notebook
- Compare IAM and BigQuery Dataset Roles

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  - Lab: Reading a Google Cloud Datalab notebook
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- Module 15: Advanced Insights
- Think, Analyze, and Share Insights like a Data Scientist

- Challenges, and Introduce Googl 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
- Compare Common Data Exploration Techniques
- Learn How to Code High Quality Standard SQL
- Explore Google BigQuery Public Datasets
- Visualization Preview: Google Data Studio
- Lab: Troubleshoot Common SQL Errors
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- Avoid Access Pitfalls
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- Module 9: Joining and Merging Datasets
- Combine and Enrich your Datasets with more Data
- Topics Covered
- Highlight Analytics Challenges Faced by Data Analysts
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  - Query from External Data Sources
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- Lab: Reading a Google Cloud Datalab notebook
- Compare IAM and BigQuery Dataset Roles
- Avoid Access Pitfalls
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## Module 5: Cleaning and Transforming your Data

### Wrangle your Raw Data into a Cleaner and Richer Dataset

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- Lab: Reading a Google Cloud Datalab notebook
- Compare IAM and BigQuery Dataset Roles
- Avoid Access Pitfalls
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## Module 16: Data Access

- Keep Data Security top-of-mind in the Cloud

#### Topics Covered

- Highlight Analytics Challenges Faced by

- Compare GCP Tools for Analysts, Data Scientists, and Data Engineers
- Lab: Exploring Datasets with Google BigQuery
- Compare Common Data Exploration Techniques
- Learn How to Code High Quality Standard SQL
- Explore Google BigQuery Public Datasets
- Visualization Preview: Google Data Studio
- Lab: Troubleshoot Common SQL Errors
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- Lab: Reading a Google Cloud Datalab notebook
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## Module 10: Google BigQuery Table Deep Dive

What sets Cloud Architecture apart?

### Topics Covered

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- Learn from Real-World Use Cases of Companies Transformed through Analytics on the Cloud
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### Data Analysts

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#### Module 6: Storing and Exporting Data

- Create new Tables and Exporting Results

- Performance Preview: Query Cache
- Lab: Creating new Permanent Tables
- Query from External Data Sources
- Avoid Data Ingesting Pitfalls
- Ingest New Data into Permanent Tables
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## Module 11: Schema Design and Nested Data Structures

### Model your Datasets for Scale in Google BigQuery

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### Flere Informationer:

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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