



Introduction to Data Analytics on Google Cloud

Course description

In this course, you will gain a comprehensive introduction to the core concepts and practical applications of data analytics using Google Cloud Platform (GCP). You will learn how Google Cloud services can be leveraged across the entire data lifecycle, from ingestion and storage to processing, analysis, and visualization. This course provides a solid foundation for understanding the capabilities of GCP for building scalable, robust, and cost-effective data analytics solutions, empowering you to make data-driven decisions.

- Course level: Fundamental
- Duration: 2 days

Activities

This course includes presentations, hands-on labs, demonstrations, and conceptual discussions to reinforce learning.

Course objectives

In this course, you will learn to:

- Summarize the fundamental concepts of data analytics and its importance in modern businesses

- Identify key Google Cloud services for each stage of the data analytics pipeline
- Describe how to ingest and store various types of data efficiently on Google Cloud
- Explain the processes for transforming and processing data using managed services like Dataflow and Dataproc
- Utilize BigQuery for interactive analysis and building scalable data warehouses
- Create basic data visualizations and reports using Google Cloud's reporting tools
- Discuss best practices for data governance, security, and cost optimization on Google Cloud

Intended audience

This course is intended for professionals who want to understand and leverage Google Cloud for data analytics, with limited prior experience in GCP:

- Data Analysts
- Business Intelligence Developers
- Aspiring Data Engineers
- Database Administrators
- IT Professionals
- Project Managers overseeing data initiatives
- Business stakeholders interested in data-driven decision making

Prerequisites

We recommend that attendees of this course have:

- Basic understanding of relational databases and SQL concepts
- Familiarity with general data concepts (e.g., ETL, data warehousing)
- Basic understanding of cloud computing concepts is beneficial but not required

Course outline

Module 1: Introduction to Data Analytics and Google Cloud

- What is Data Analytics? Overview and Lifecycle
- The Google Cloud Platform Ecosystem for Data Analytics

- Navigating the Google Cloud Console and Project Setup
- Key Google Cloud Services for Data Analytics: An Overview
- Demo: Exploring the Google Cloud Console

Module 2: Data Ingestion and Storage on Google Cloud

- Data Ingestion Strategies: Batch vs. Streaming
- Storing Structured Data: Cloud SQL and Cloud Spanner
- Storing Unstructured Data: Cloud Storage and its classes
- Managed NoSQL Databases: Cloud Datastore and Firestore
- Hands-on Lab: Setting up Cloud Storage Buckets and Uploading Data

Module 3: Data Processing and Transformation

- Overview of Data Processing Paradigms
- Batch Processing with Cloud Dataflow (Apache Beam)
- Managed Hadoop/Spark with Cloud Dataproc
- ELT with BigQuery: Introduction to SQL and DDL
- Hands-on Lab: Basic Data Transformation with BigQuery SQL

Module 4: Data Warehousing with BigQuery

- Introduction to Data Warehousing Concepts
- BigQuery Architecture and Core Capabilities
- Querying and Analyzing Data in BigQuery
- BigQuery Best Practices: Cost Optimization and Performance
- Hands-on Lab: Advanced Querying and Data Exploration in BigQuery

Module 5: Data Visualization and Reporting

- The Importance of Data Visualization
- Introduction to Looker Studio (formerly Google Data Studio)
- Connecting Data Sources to Looker Studio
- Building Basic Reports and Dashboards
- Overview of Looker for Enterprise BI
- Hands-on Lab: Creating a Dashboard with Looker Studio

Module 6: Introduction to Machine Learning on Google Cloud

- What is Machine Learning? An Overview
- Role of ML in the Data Analytics Pipeline
- Introduction to Vertex AI (brief overview)
- Pre-trained APIs for common ML tasks
- Demo: Using BigQuery ML for simple predictive analytics

Module 7: Data Governance, Security, and Operations

- Data Governance Principles on Google Cloud
- Identity and Access Management (IAM) for Data Analytics
- Data Security and Compliance Considerations
- Monitoring and Logging with Cloud Monitoring and Logging
- Cost Management and Optimization for Data Analytics Services

Module 8: Course Wrap-up

- Review of Key Concepts and Services
- Common Data Analytics Use Cases on Google Cloud
- Next Steps: Advanced Learning Paths and Certifications
- Q&A and Course Feedback

Your course overview ends here.
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About CloudThat

Established in 2012, CloudThat is an award-winning company and the first in India to offer cloud training and consulting services for individuals and enterprises worldwide. Recently, it won Google Cloud's New Training Partner of the Year Award for 2025, becoming the first company in the world in 2025 to hold awards from all three major cloud giants: AWS, Microsoft, and Google. CloudThat notably won consecutive AWS Training Partner of the Year (APJ) awards in 2023 and 2024 and the Microsoft Training Services Partner of the Year Award in 2024, bringing its total award count to an impressive 12 awards in the last 8 years.

CloudThat specializes in Cloud Migration, Data Platforms, DevOps, IoT, and cutting-edge technologies like Gen AI & AI/ML. As a Microsoft Solutions Partner, AWS Premier Tier Training Partner, Google Cloud Platform Partner, and collaborator with leading organizations like HPE, Oracle, Nvidia and Databricks, CloudThat has trained over 850,000 professionals across 600+ cloud certifications, empowering students and professionals worldwide to advance their skills and careers.

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