



# Google Data Engineer

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OFFICIAL ACADEMIC PROSPECTUS & CURRICULUM GUIDE

**NQF Level:** Industry Certification | **Credits:** N/A

**Delivery:** Online

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## PROGRAMME OVERVIEW

PROGRAMME DURATION	5 Days
ACADEMIC LEVEL	Industry Certification
TOTAL CREDITS	N/A
SAQA REGISTRATION	Pending
MODE OF DELIVERY	Online
TOTAL INVESTMENT	<b>R 4,800</b> (Registration Deposit: R 799)

### Executive Introduction

Google Cloud Platform (GCP) natively powers some of the absolute most incredibly data-intensive, massive businesses on earth, and our elite Google Data Engineer programme is your definitive, high-level guide to completely managing that extreme power. This is an incredibly elite, highly technical track specifically designed for the top-tier engineers who deeply want to perfectly architect massive streaming and incredibly complex batch-processing pipelines. We focus entirely on the highly advanced, incredibly high-performance tools that effortlessly allow massive data to flow seamlessly at the absolute speed of light.

Participants will deeply master Google BigQuery for truly massive-scale global analytics, highly advanced Dataflow for instant streaming data, and massive Pub/Sub for incredibly complex asynchronous messaging. The highly intense curriculum is deeply rooted in 'Infinite Scalable Architecture,' strictly teaching you exactly how to flawlessly build massive data lakes and colossal warehouses that can easily handle hundreds of petabytes of sensitive information with absolute millisecond latency. You will deeply explore the extreme intricacies of Cloud Composer and massive Apache Airflow, totally ensuring your complex data pipelines are heavily automated and completely fault-tolerant.

Through incredibly complex, hands-on architectural projects, you will physically build and heavily secure live, massive data infrastructures natively on the powerful Google Cloud. You will confidently graduate as an

absolute elite Data Engineer completely ready to instantly join the incredibly high-performance engineering teams at massive tech giants and highly funded startups. You will fully possess the incredibly specialized, highly sought-after technical skills that are at the absolute very core of highly modern AI and incredibly fast real-time analytics.

## PURPOSE OF THE LEARNING PROGRAMME

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To perfectly produce absolute world-class data engineers strictly for the massive Google Cloud ecosystem. The primary purpose is to completely equip elite engineers with the highly specific, incredibly deep technical skills strictly required to flawlessly build extremely high-performance data platforms that effortlessly scale globally.

To completely master the incredibly complex art of 'Real-Time Data Orchestration.' We aim to firmly teach highly ambitious students exactly how to flawlessly build massive streaming pipelines that perfectly allow massive global organizations to instantly react to sudden market changes and complex user behavior in absolute milliseconds, providing a massive competitive advantage.

To strongly promote absolute 'Data-Security-by-Design' securely within the massive cloud environment. The objective is to firmly ensure that every single graduate can flawlessly implement incredibly robust military-grade encryption, highly complex identity management, and strict audit logging to perfectly protect highly sensitive enterprise data at an incredibly massive global scale.

To heavily support the massive global demand for highly elite Google-certified engineering talent. This intense programme is strictly and proudly aligned with the incredibly rigorous Google Cloud certification blueprint, absolutely ensuring that our elite students fully possess the specific elite credentials the highly demanding global industry absolutely demands.

To perfectly bridge the massive technical gap between raw, complex infrastructure and highly intelligent applications. The deep purpose is to absolutely ensure that elite data engineers truly understand exactly how to flawlessly provide incredibly high-quality, perfectly clean data to massive AI models, totally ensuring the massive success of highly complex corporate machine learning initiatives.

# MODULE BREAKDOWN

## Module 01: Big Data Fundamentals

Hadoop and BigQuery intro.

## Module 02: Data Lakes & Warehouses

Storage design on GCP.

## Module 03: Data Pipelines

Using Dataflow and Pub/Sub.

## Module 04: Data Analytics

BigQuery analytics.

## Module 05: Machine Learning Ops

Deploying ML models.

# PRACTICAL LAB ENVIRONMENTS

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This programme includes intensive hands-on practical labs designed to bridge the gap between theoretical knowledge and real-world industrial application.

## Lab 1: BigQuery Dataset Setup

Create datasets, tables, and load sample data. Deliverable: BigQuery schema + load script.

## Lab 2: SQL Query Optimisation

Write efficient queries using partitioning/clustering. Deliverable: Query plan analysis + optimised SQL.

## Lab 3: Data Pipeline with Cloud Composer

Orchestrate ETL workflow using Airflow. Deliverable: DAG file + execution log.

## Lab 4: Streaming Data Lab (Pub/Sub + Dataflow)

Process real-time data streams. Deliverable: Streaming pipeline config + sample output.

## CAREER FIELDS & OPPORTUNITIES

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Graduates of this learning programme are aggressively equipped with the specialized competencies required to pursue the following elite professional roles within the global industry:

<b>DATA ENGINEER (GOOGLE CLOUD)</b>	Advance your career as a Data Engineer (Google Cloud) in the industry.
<b>BIG DATA SPECIALIST</b>	Advance your career as a Big Data Specialist in the industry.
<b>ETL DEVELOPER</b>	Advance your career as a ETL Developer in the industry.
<b>CLOUD DATA ARCHITECT</b>	Advance your career as a Cloud Data Architect in the industry.
<b>DATA PIPELINE ENGINEER</b>	Advance your career as a Data Pipeline Engineer in the industry.
<b>STREAMING DATA TECHNICIAN</b>	Advance your career as a Streaming Data Technician in the industry.
<b>DATA PLATFORM ADMINISTRATOR</b>	Advance your career as a Data Platform Administrator in the industry.

## NEXT STEPS & APPLICATION

Ready to definitively advance your professional trajectory? Formal applications are currently open for the upcoming academic cycle. To securely guarantee your placement in the next intake for **Google Data Engineer**, please complete our online application process or contact our admissions advisory team directly.

### CONTACT ADMISSIONS

**Official Email:** [apply@softkingsacademy.co.za](mailto:apply@softkingsacademy.co.za)

**Academy Website:** [www.skacademy.co.za](http://www.skacademy.co.za)

**WhatsApp:** +27 69 271 9901

**Tel:** +27 21 1097 366 | +27 12 004 3732 | +27 70 5422 373

### DIGITAL STUDENT PORTALS

**Studentzone:** [portal.skacademy.co.za](http://portal.skacademy.co.za)

**Exam Centre:** [exams.skacademy.co.za](http://exams.skacademy.co.za)

**Verify Certificate:** [skacademy.co.za/verify-certificate](http://skacademy.co.za/verify-certificate)

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