Orchestrate BigQuery Workloads with Dataform

Category: AI, Data & Analytics | **Vendor:** Google Cloud

Duration: 16.00 hours (2 days) **13.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

Dataform is a service for data analysts to develop, test, version control, and schedule complex SQL workflows for data transformation in BigQuery. In this course you will explore the components of Dataform core, learn how to define tables and dependencies in SQLX, document BigQuery tables and views, understand BigQuery security settings and how to manage these with Dataform, write assertions, execute SQL workflows, and explore additional advanced use cases.

About This Course

Dataform is a service for data analysts to develop, test, version control, and schedule complex SQL workflows for data transformation in BigQuery. In this course you will explore the components of Dataform core, learn how to define tables and dependencies in SQLX, document BigQuery tables and views, understand BigQuery security settings and how to manage these with Dataform, write assertions, execute SQL workflows, and explore additional advanced use cases.

Prerequisites & Entry Requirements

General Prerequisites:

Knowledge of SQL data analysis and BigQuery as discussed in BigQuery for Data Analysis.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

- Understand the components of Dataform core.
- Create tables and views in BigQuery using Dataform.
- Document BigQuery tables and views.
- Understand BigQuery security settings using Dataform.
- Use assertions to validate data in Dataform workflows.
- Execute Dataform SQL workflows in an automated fashion.

Detailed Course Outline

Module 1 - Dataform Core Components

Topics:

- SQL workflow
- Repositories and workspaces
- Default files and folders
- Compiled graphs

Objectives:

- Understand the components of Dataflow core.

Module 2 - Table Definitions and Dependencies

Topics:

- Declare a data source.
- Create a table.
- Create an incremental table.
- Set partitioning and clustering options.
- Create an empty table.
- Create an external BigLake table.
- Create views and materialized views.
- Define dependencies.

Objectives:

- Create tables and views in BigQuery using Dataform

Module 3 - Document BigQuery Tables and Views

Topics:

- Use column descriptions.
- Use globally defined JavaScript constants.
- Add labels.

Objectives:

- Document BigQuery tables and views.

Activities:

- Lab: Build SQL Workflows with Dependencies in Dataform

Module 4 - BigQuery Security Settings

Topics:

- IAM dataset and table/view access
- Column-level security
- Row-level security

Objectives:

- Understand BigQuery security settings using Dataform

Module 5 - Assertions

Topics:

- Use built-in assertions.
- Create manual assertions.

Objectives:

- Use assertions to validate data in Dataform workflows.

Activities:

- Lab: Work with Assertions and BigQuery Security Settings in Dataform.

Module 6 - SQL Workflow Executions

Topics:

- Dataform code lifecycle.
- What happens during compilation.
- Customize and schedule compilation results.
- Execute workflows (UI, Cloud Scheduler, Cloud Composer).
- Logging and monitoring.

Objectives:

- Execute Dataform SQL workflows in an automated fashion.

Activities:

- Lab: Automate and Monitor SQL Workflow Executions in Dataform

Module 7 - Advanced Use Cases

Topics:

- Create a BigLake table after file upload using Cloud Run functions.

- Build a Machine Learning pipeline with BigQuery ML.

- Work with Slowly Changing Dimensions Type 2.

Objectives:

- Explore additional use cases for Dataform.

Activities:

- Lab: Create a BigLake Table with Dataform Using Cloud Run Functions., Dataform Core Components, Table Definitions and Dependencies, Document BigQuery Tables and Views, BigQuery Security Settings, Assertions, SQL Workflow Executions, Advanced Use Cases

Skills You Will Learn:

- Understand the components of Dataform core.
- Create tables and views in BigQuery using Dataform.
- Document BigQuery tables and views.
- Understand BigQuery security settings using Dataform.
- Use assertions to validate data in Dataform workflows.
- Execute Dataform SQL workflows in an automated fashion.

Frequently Asked Questions

Q: What delivery options are available for Orchestrate BigQuery Workloads with Dataform?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 2-day Orchestrate BigQuery Workloads with Dataform course provides up to 13.0 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Orchestrate BigQuery Workloads with Dataform training?

The training takes place over 2 day(s), with each day lasting approximately 16.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Orchestrate BigQuery Workloads with Dataform?

Yes, we provide corporate training, dedicated training, and closed classes for Orchestrate BigQuery Workloads with Dataform. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Orchestrate BigQuery Workloads with Dataform, Data Analysis, OBWD, Google Cloud, vILT

Q: Why choose Nexus Human for Orchestrate BigQuery Workloads with Dataform?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Orchestrate BigQuery Workloads with Dataform training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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