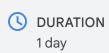


## Workflow Orchestration with Cloud Composer

Cloud Composer is a fully managed workflow orchestration service built on Apache Airflow. Composer enables you to create, schedule, monitor, and manage workflow pipelines that span across clouds and on-premises data centers.

In this course, you will learn about Apache Airflow and its implementation via Cloud Composer. You will learn how to provision Composer instances, create and manage Airflow DAGs on Composer, and perform tasks such as testing, debugging, and monitoring of Airflow DAGs.







## What you'll learn

- Explore Apache Airflow and Cloud Composer as workflow orchestration solutions.
- · Create and manage Airflow DAGs following best practices.
- Test and debug Airflow DAGs.
- Monitor and observe Airflow DAGs on Cloud Composer.





Overview 3 modules · 3 labs

Who this course is for

Customers

Products Cloud Composer

Prerequisites Completion of "Building Batch Data Pipelines on Google Cloud" or equivalent

knowledge of data analytics and engineering on Google Cloud.

## Module 01 Introduction to Cloud Composer

Data Engineer's need for Workflow Orchestration

• Introduction to Apache Airflow

Cloud Composer

Environment Setup

Using the Composer and Airflow

• Explore Apache Airflow and Cloud Composer.

Provision Cloud Composer instances.Explore the Airflow and Composer Uls.

Activities Lab: Provisioning Cloud Composer

## Module 02 Creating and managing DAGs

**Topics** • DAG structure and best practices

Common operators

Dependencies, trigger rules, and flow control

• Integration of Airflow and Google Cloud Services

Objectives • Write DAGs.

· Explore common Airflow operators.

• Manage triggers, dependencies, and flow control.

• Integrate Airflow with Google Cloud Services.

Activities Lab: Assembling a Data Processing Workflow





Module 03 Advanced Airflow techniques and best practices

**Topics** • Advanced Airflow features

• Debugging DAGs

Performance and scalability
Security and Access Control

Observability and monitoring

Objectives • Leverage advanced Airflow features.

• Debug DAGs.

• Observe and monitor your running DAGs.

Activities Lab: Extending and Monitoring DAGs



