

## Course 3 overview

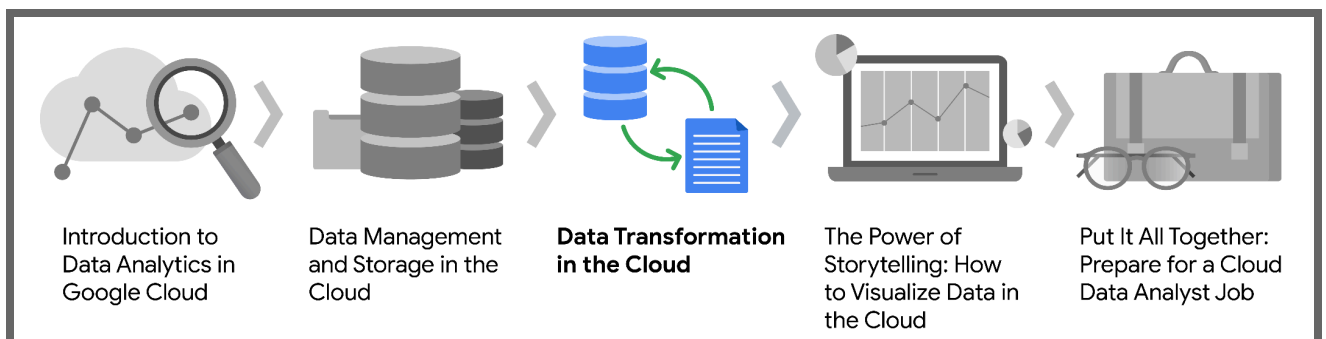
# to Course 3

Hello and welcome to **Data Transformation in the Cloud**, the third course in the Google Cloud Data Analytics Certificate.

In this course, you'll explore the journey that data undergoes as it's collected and eventually used to gather insights. Raw data is not always in a format that's easy to store or analyze. To be useful, it must be transformed. In this course, you'll learn how to transform raw data into a usable format. You'll also use SQL to transform raw data, and learn how to transform large volumes of data with a data pipeline. Finally, you'll gain experience applying transformation strategies to data sets to solve business needs.

### Certificate program progress

The Google Cloud Data Analytics Certificate program has five courses. **Data Transformation in the Cloud** is the third course.



1. Introduction to Data Analytics in Google Cloud — In this course, you'll explore the foundations of cloud data analysis practices. Then, you'll learn more about the roles and

responsibilities of a cloud data analyst, including data acquisition, storage, processing, and visualization.

2. **Data Management and Storage in the Cloud** — In this course, you'll learn more about how data is structured and organized. You'll also gain hands-on experience with data lakehouse architecture and cloud components like BigQuery, Google Cloud Storage, and DataProc to learn how to efficiently store, analyze, and process large datasets.
3. **Data Transformation in the Cloud** (current course) — In this course, you'll use data discovery and profiling methods to examine data quality and validity. You'll also use data mapping to establish relationships between different data sources, and explore transformation using various methods. Then, you'll apply data governance and security best practices to keep PII data safe, and learn how to implement a data transformation strategy for an organization.
4. **The Power of Storytelling: How to Visualize Data in the Cloud** — In this course, you'll develop skills in the five key stages of visualizing data in the cloud: storytelling, planning, exploring data, building visualizations, and collaborating with data. Then, you'll explore UI/UX skills to wireframe interactive and impactful cloud-native visualizations. You'll also work with cloud-native data visualization tools to explore data sets, create reports, and build dashboards that drive decisions and foster collaboration.
5. **Put It All Together: Prepare for a Cloud Data Analyst Job** — In this course, you'll combine and apply the foundational knowledge and skills from previous courses to create a capstone project that focuses on the full data lifecycle. You'll also practice using cloud-based tools to acquire, store, process, analyze, visualize, and communicate data insights effectively. Then, you'll update your resume and practice interview techniques to prepare to apply and interview for jobs.

## Course 3 content

Each course in this certificate program is broken into modules. You can complete courses at your own pace, but the breakdowns are designed to help you finish the entire Google Cloud Data Analytics Certificate in about 3-6 months if you complete about 1-2 modules per week.

What's to come? Here's a quick overview of the skills you'll learn in each module of this course.

### Module 1: Introduction to data transformation in the cloud

In this module, you'll be introduced to the data journey as a structured way for organizations to collect data to prepare for analysis and inform data-driven decision making. You'll also discover that the scope of data preparation and transformation is a key foundation for analysis. Then,

you'll learn how to identify the benefits and challenges of transforming data in the cloud, along with the common tools and methods used to collect, process, and store data.

## Module 2: Handle raw data with data pipelines

In this module, you'll learn about data pipelines and how they simplify working with large amounts of data. Then, you'll explore what a data pipeline is, the steps that data travels through in a data pipeline, and the methods used in each phase of the process. You'll also have an opportunity to gain practical experience building a simple SQL pipeline.

## Module 3: Cloud data optimization strategies

In this module, you'll learn about the key benefits and challenges of implementing a cloud data strategy. You'll also gain hands-on experience applying common data transformation strategies to a dataset to clean data, generate summary metrics, join data, and create derived data.

## What to expect

Each course offers many types of learning opportunities:

- **Videos** led by Google instructors teach new concepts, introduce the use of relevant tools, offer career support, and provide inspirational personal stories.
- **Readings** build on the topics discussed in the videos, introduce related concepts, share useful resources, and describe case studies.
- **Activities** and **labs** give you hands-on practice in applying the skills you're learning and allow you to assess your own work by comparing it to a completed example.
- **Glossaries** provide a list of key terms for you to review to prepare for quizzes.
- **Practice quizzes** allow you to check your understanding of key concepts, and provide you with valuable feedback.
- **Graded quizzes** allow you to demonstrate your understanding of the main concepts of a course. You must score 80% or higher on each graded quiz to obtain a certificate. You can take a graded quiz multiple times to achieve a passing score.

**Note:** Some learning item types may not be included in every course.

## Tips for success

- It's strongly recommended that you go through the items in each lesson in the order they appear because new information and concepts build on previous knowledge.
- Participate in all learning opportunities to gain as much knowledge and experience as possible.

- If something is confusing, don't hesitate to replay a video, review a reading, or repeat an activity.
- When you encounter useful links in this course, bookmark them so you can refer to the information later for study or review.