



# Top tools and resources for learning google cloud data analytics products

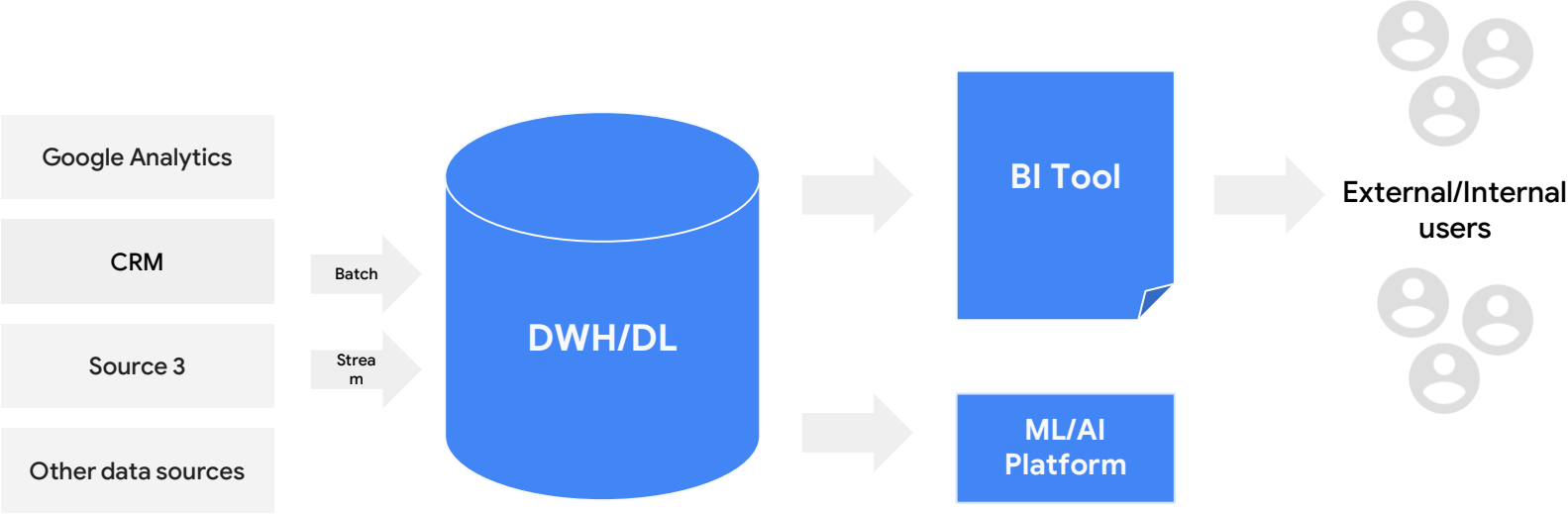
13/10/2022

Khrystyna Grynko, Customer Engineer, Google

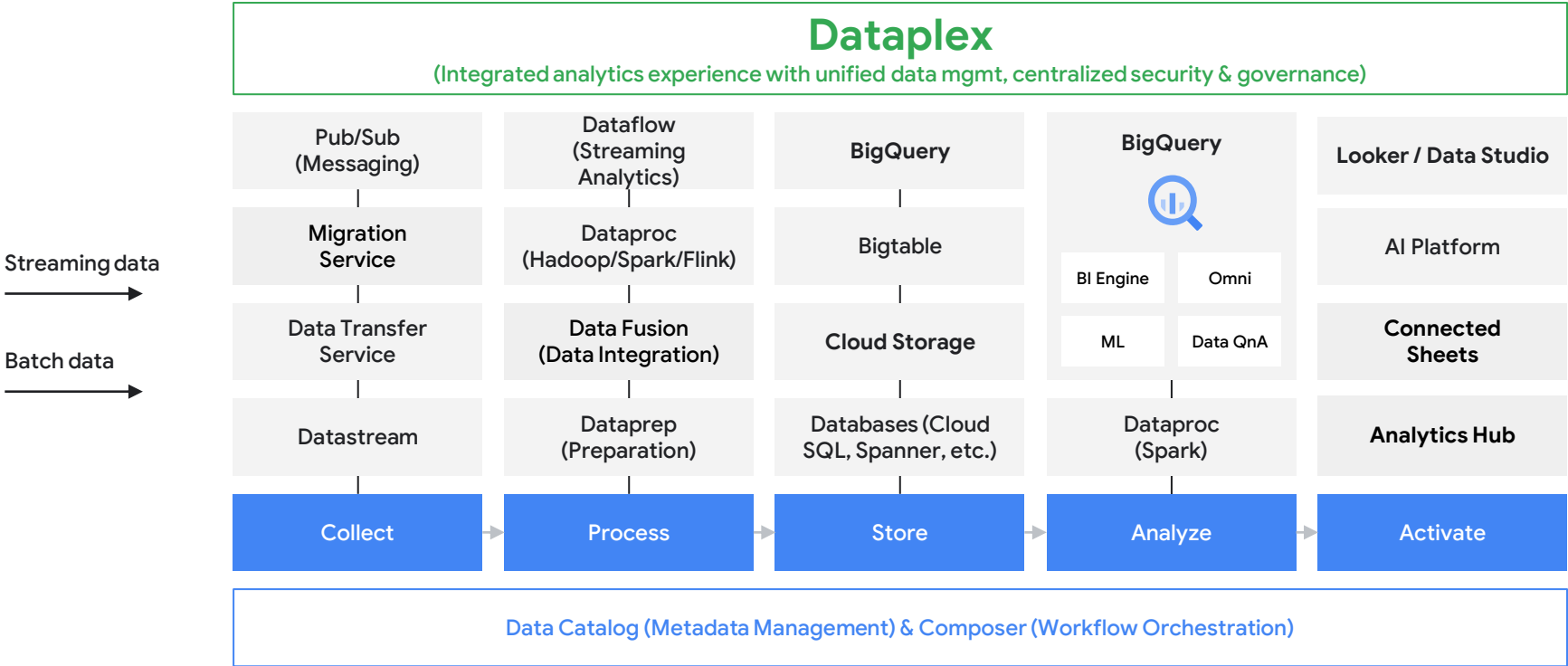


# Google Cloud Products for Data Analytics

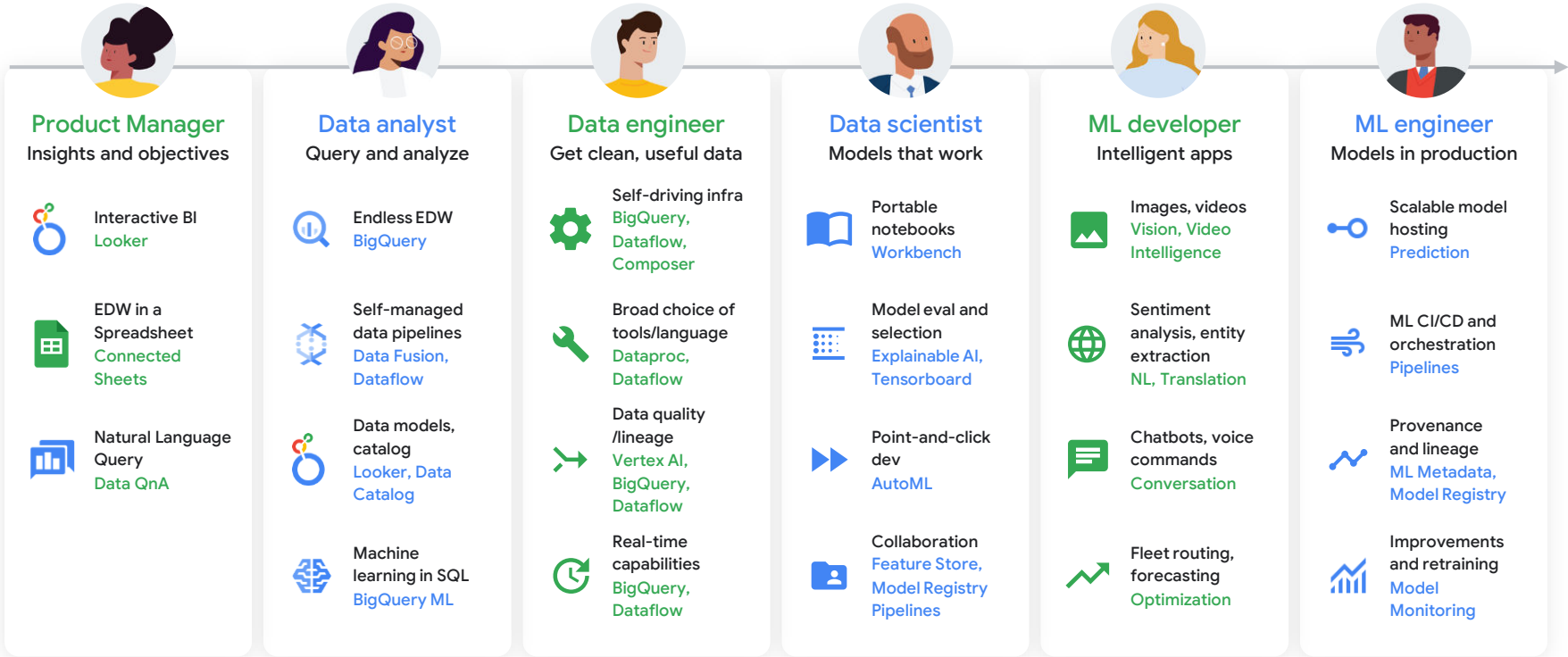
# Get your data together



# A service for every need



# A service for every team member



01

# Explore & Test

# Cloud Skills Boost

## Getting Started with Google Cloud Learning Path

Get started with Google Cloud training by completing this learning path that introduces you to the fundamentals of Google Cloud.

[Learn more](#)

**Lab**

A Tour of Google Cloud Hands-on Labs

[Begin](#)

**Quest**

Create and Manage Cloud Resources

[Begin](#)

**Course**

Google Cloud Fundamentals: Core Infrastructure

[Begin](#)

**Quest**

Perform Foundational Infrastructure Tasks on Google Cloud

[>](#)

<https://www.cloudskillsboost.google/catalog>

# Cloud Skills Boost

Lab

## Introduction to SQL for BigQuery and Cloud SQL

In this lab you will learn fundamental SQL clauses and will get hands on practice running structured queries on BigQuery and Cloud SQL.



1 hour

Introductory

1 Credit



Lab

## BigQuery: Qwik Start - Command Line

This hands-on lab shows you how to query public tables and load sample data into BigQuery using the Command Line Interface. Watch the short videos Get Meaningful Insights with Google BigQuery and BigQuery: Qwik Start - Qwiklabs Preview.



30 minutes

Introductory

Free



Lab

## Weather Data in BigQuery

In this lab you analyze historical weather observations using BigQuery and use weather data in conjunction with other datasets. This lab is part of a series of labs on processing scientific data.



35 minutes

Introductory

Free





# Codelabs



Google Developers Codelabs provide a guided, tutorial, hands-on coding experience. Most codelabs will step you through the process of building a small application, or adding a new feature to an existing application. They cover a wide range of topics such as Android Wear, Google Compute Engine, ARCore, and Google APIs on iOS.

[Codelab tools on GitHub](#)

**FILTER BY**

Choose a topic

[Select all](#)

- Ads
- AI & Machine Learning
- Analytics
- Augmented Reality (AR)
- Cloud
- Data
- Design
- Gaming
- Internet of Things (IoT)
- Location
- Nest
- OpenSource

Data X

### Connect a Spring Boot app to Cloud SQL

16 minutes Updated September 16, 2022

Learn to connect your Spring Boot app to Cloud SQL.

[Start](#)

### Add Recommendations to your app with TensorFlow Lite and Firebase - iOS Codelab

56 minutes Updated August 29, 2022

In this codelab, you'll learn how to create a content recommendation engine for your app using Tensorflow and Firebase

[Start](#)

### Image archiving, analysis, and report generation Google Workspace & Google Cloud

1 hour Updated August 27, 2022

In this codelab, developers build a cloud-based image processing workflow in Python using both Google Workspace (formerly G Suite) & Google Cloud APIs. Specifically, you'll be downloading an image

### Query the Wikipedia dataset in BigQuery

27 minutes Updated August 18, 2022

In this code lab, you'll learn the basics of BigQuery and how to use it to query terabytes of data, like the Wikipedia dataset.

<https://codelabs.developers.google.com/>

Google Cloud

# BigQuery Cookbook

This article is about Universal Analytics properties, which will [stop processing data](#) on July 1, 2023 (October 1, 2023 for Analytics 360 properties). If you haven't already, [start using a Google Analytics 4 property](#).

## BigQuery cookbook



*This feature is only available in Analytics 360, part of Google Marketing Platform.  
[Learn more about Google Marketing Platform](#).*

This article contains examples of how to construct queries of the Analytics data you export to BigQuery. We have made available [a sample dataset](#) so you can practice with some of the queries in this article.

### *In this article:*

#### Query optimization

##### Tips and best practices

- [Using the sample dataset](#)
- [Using Standard SQL](#)
- [Query multiple tables](#)
  - [3 Days](#)
  - [Last 1095 Days](#)
  - [Last 36 Months](#)
  - [Last 3 Years](#)
  - [Specific date range](#)
  - [Last 3 years plus today's data \(intraday\)](#)

#### Basic query examples

### BigQuery Export

- [BigQuery Export for Analytics](#)
- [Set up BigQuery Export](#)
- [Localize your BigQuery Export in the EU](#)
- [Google Analytics sample dataset for BigQuery](#)
- [\[UA\] BigQuery Export schema](#)
- [BigQuery streaming export](#)
- [BigQuery cookbook](#)
- [Export error messages](#)

# BigQuery Sandbox

Start your Free Trial with \$300 in credit. Don't worry—you won't be charged if you run out of credits. [Learn more](#)

DISMISS **ACTIVATE**

Google Cloud My First Project Search Products, resources, docs (/)

SANDBOX Set up billing to upgrade to the full BigQuery experience. [Learn more](#)

DISMISS **UPGRADE**

Explorer + ADD DATA

Type to search

Viewing pinned projects.

- ▶ fast-fire-262114
- ▶ bigquery-public-data
- ▶ data-to-insights

## Welcome to your SQL Workspace!

### Google Trends - Demo Query

Get started with an example query that generates the top search terms in the US from the Google Trends public dataset.

**OPEN THIS QUERY** VIEW DATASET

# BigQuery Public Datasets

The screenshot displays the Google Cloud BigQuery interface. On the left, the Explorer pane shows a search bar with 'Type to search' and a list of pinned projects, including 'bigquery-public-data'. A dropdown menu is open over the Explorer, listing options like 'Pin a project', 'Explore public datasets', and 'External data source'. The main Marketplace area has a search bar containing 'google analytics'. Below the search bar, the breadcrumb path is 'Marketplace > "google analytics" > Datasets'. A filter section is visible with the text 'Filter Type to filter'. The 'Datasets' section shows '51 results' and a card for 'Google Analytics Sample', which is described as 'Obfuscated Google Analytics 360 data' and provides a detailed description of the dataset's content and availability.

Explorer + ADD DATA | < | Home

Marketplace

Marketplace > "google analytics" > Datasets

Filter Type to filter

Category ^

- Big data (21)
- Analytics (33)
- Databases (1)
- Machine learning (2)
- Developer tools (1)

51 results

**Google Analytics Sample**  
Obfuscated Google Analytics 360 data

The dataset provides 12 months (August 2016 to August 2017) of obfuscated Google Analytics 360 data from the Google Merchant real ecommerce store that sells Google-branded merchandise, in BigQuery. It's a great way analyze business data and learn the benefits of BigQuery to analyze Analytics 360 data. Learn more about the data. The data includes The data is typical of what an ecommerce website would generate.

# Google Cloud Free Trial

## Solve real business challenges on Google Cloud

Contact sales

[Go to console](#)

### Run workloads for free

#### 20+ free products for all customers

All customers get free hands-on experience with popular products, including Compute Engine and Cloud Storage, [up to monthly limits](#).

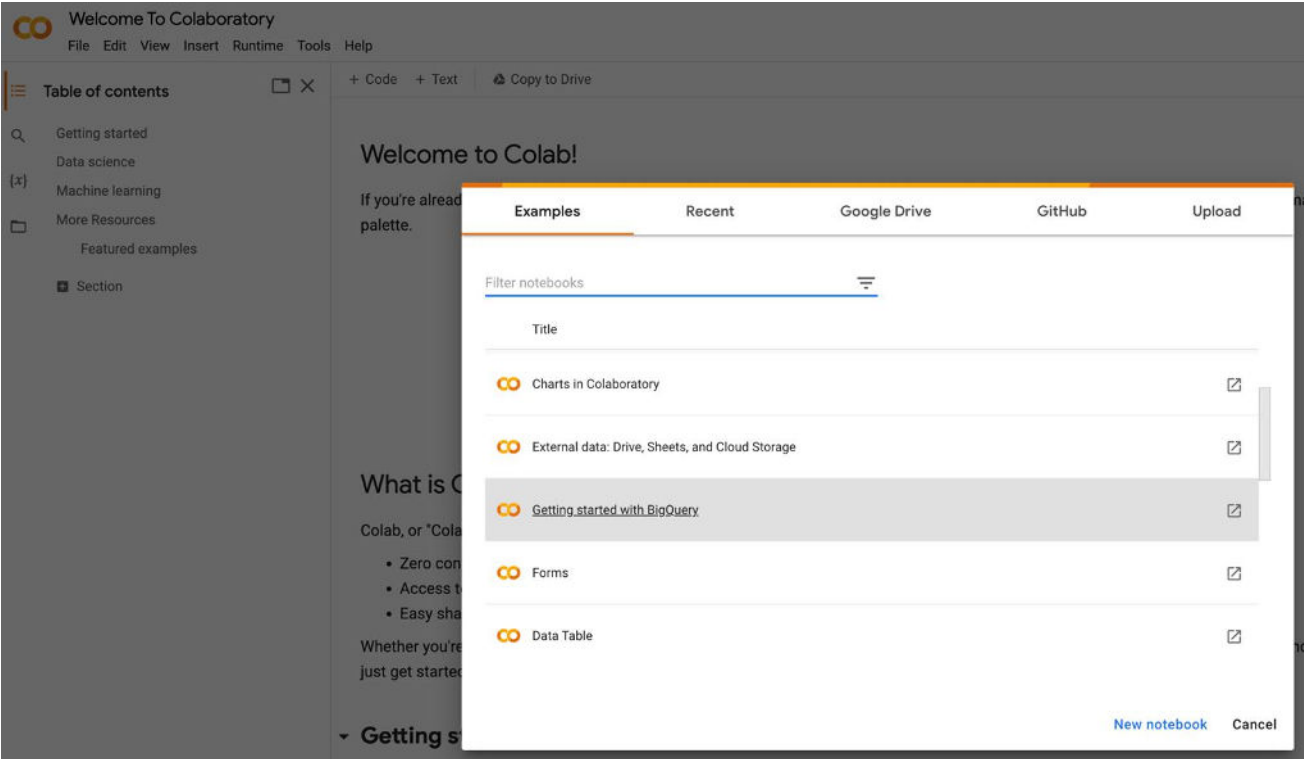
#### \$300 in free credits for new customers

New customers get [\\$300 in free credits](#) to fully explore and conduct an assessment of Google Cloud. You won't be charged until you upgrade.

#### Additional free credits for businesses

New customers who [verify their business email](#) will get additional free credits to use while exploring and evaluating Google Cloud.

# Colab



# Colab

## ▼ Provide your credentials to the runtime

```
[ ] from google.colab import auth
    auth.authenticate_user()
    print('Authenticated')
```

## ▼ Optional: Enable data table display

Colab includes the `google.colab.data_table` package that can be used to display large pandas dataframes as an interactive data table. It can be enabled with:

```
[ ] %load_ext google.colab.data_table
```

If you would prefer to return to the classic Pandas dataframe display, you can disable this by running:

```
%unload_ext google.colab.data_table
```

## ▼ Use BigQuery via magics

The `google.cloud.bigquery` library also includes a magic command which runs a query and either displays the result or saves it to a variable as a `DataFrame`.

```
[ ] # Display query output immediately

%%bigquery --project yourprojectid
SELECT
  COUNT(*) as total_rows
FROM `bigquery-public-data.samples.gsod`
```

# Quickstarts

Google Cloud [Overview](#) [Solutions](#) [Products](#) [Pricing](#) [Resources](#)

BigQuery [Overview](#) [Guides](#) [Reference](#) [Samples](#) [Support](#) [Resources](#)

Filter

Discover

- What is BigQuery?
- How does BigQuery work?

Get started

- Use the BigQuery sandbox
- Quickstarts
  - All quickstarts
  - Try the Cloud console
  - Try the command-line tool
    - Try the client library
  - Learn more about the console

Migrate

- Overview
- Migrate a data warehouse
- Migration guides

Design

- Organize resources
- Manage datasets
- Manage tables
- Work with routines

Load

- Introduction
- BigQuery Data Transfer Service
- Batch load data

Analyze

- Introduction
- Query BigQuery data
- Query data with SQL
- Query external data sources
- Work with sessions

BigQuery > Documentation > Guides

Was this helpful? [👍](#) [👎](#)

## Quickstarts [📄](#)

[Send feedback](#)

**Query a public dataset with the Google Cloud console**  
Learn how to locate and query public datasets in BigQuery by using the Google Cloud console.

**Load and query data with the Google Cloud console**  
Learn how to use the Google Cloud console to create a dataset, load sample data into a BigQuery table, and query tables.

**Explore the Google Cloud console**  
Learn more about how to use the Google Cloud console.

**Query a public dataset with the bq command-line tool**  
Learn how to examine and query public datasets in BigQuery by using the `bq` tool.

**Load and query data with the bq command-line tool**  
Learn how to use the `bq` tool to create a dataset, load sample data into a BigQuery table, and query tables.

**Explore the bq command-line tool**  
Learn more about how to use the `bq` tool.

**Try the client library**  
Get started with the BigQuery API in your favorite programming language.



# Looker

The image shows a navigation menu at the top with three options: 'DATA CONSUMER' (with a person icon), 'LOOKML DEVELOPER' (with a wrench icon and a blue underline), and 'ADMIN' (with a person icon). Below the menu is a horizontal list of four lesson topics: '1. Introducing Looker and LookML' (highlighted with a blue border), '2. Data modeling using LookML', '3. Modeling Explores for your users', and '4. Working with derived tables' (with a right-pointing arrow). The main content area displays 'MODULE 1 Introducing Looker and LookML' and a wavy blue line representing a course path with five lesson stops. Lesson 1 is the current position, with a 'Start lesson' button below it. The other lessons are: Lesson 2 (The Looker user interface), Lesson 3 (The Looker IDE), Lesson 4 (Looker project version control), and Lesson 5 (How Looker writes SQL).

DATA CONSUMER

LOOKML DEVELOPER

ADMIN

1. Introducing Looker and LookML

2. Data modeling using LookML

3. Modeling Explores for your users

4. Working with derived tables >

MODULE 1  
Introducing Looker and LookML

LESSON 1  
Introducing Looker and LookML  
Start lesson

LESSON 2  
The Looker user interface

LESSON 3  
The Looker IDE

LESSON 4  
Looker project version control

LESSON 5  
How Looker writes SQL

# Google Next 2022

Watch the Google Next for free and discover the latest announcements!

# Catalog

Solve tomorrow's biggest challenges today by exploring the sessions available at Google Cloud Next '22. You can also browse our collection of playlists especially curated by Google experts.

[Explore expert playlists](#)

Browse by track

★ Featured <> Build **Analyze** Design Modernize Operate Secure Collaborate Innovate View All

Filter

**Customer Innovation**  
ANALYZE - CIS03

Putting renewable power in the hands of the consumer

Coming soon

**Breakout**  
ANALYZE - ANA112

How startup Acclinate uses a data cloud for competitive advantage

Coming soon

**Breakout**  
ANALYZE - ANA109

Increase the speed and inclusivity of global communications with Google's zero code translation...

Coming soon

**Breakout**  
ANALYZE - ANA200

How TelevisaUnivision uses Analytics Hub to securely share and exchange data

Coming soon

02

# Learn to be certified

# Professional Data Engineer certification

## Professional Data Engineer

Professional Data Engineers enable data-driven decision making by collecting, transforming, and publishing data. A Data Engineer should be able to design, build, operationalize, secure, and monitor data processing systems with a particular emphasis on security and compliance; scalability and efficiency; reliability and fidelity; and flexibility and portability. A Data Engineer should also be able to leverage, deploy, and continuously train pre-existing machine learning models.

The Professional Data Engineer exam assesses your ability to:

- ✓ Design data processing systems
- ✓ Operationalize machine learning models
- ✓ Ensure solution quality
- ✓ Build and operationalize data processing systems

[Register](#)[View FAQs](#)

Also available in [Japanese](#).

Quick links

[Exam guide](#)

[Train for the exam](#)

[Review sample questions](#)

[Google Cloud Free Tier](#)

[Community: Learning & Certification Hub](#)

## About this certification exam

**Length:** 2 hours

**Registration fee:** \$200 (plus tax where applicable)

**Languages:** English, Japanese.

**Exam format:** Multiple choice and multiple select taken remotely or in person at a test center. [Locate a test center near you.](#)

**Exam Delivery Method:**

- Take the [online-proctored exam](#) from a remote location
- Take the onsite-proctored exam at a [testing center](#)

**Prerequisites:** None

**Recommended experience:** 3+ years of industry experience including 1+ years designing and managing solutions using Google Cloud.







# Professional Data Engineer certification

How to prepare?

- Official Google Cloud Certified Professional Data Engineer Study Guide
- Documentation on [Smart Analytics](#)
- Coursera courses
- Everything we mentioned before to explore and test - qwiklabs, codelabs, etc.

# Google Analytics Academy

Analytics Academy Courses

 <b>Google Analytics for Beginners</b> <p>Learn the basic features of Google Analytics including how to create an account, implement tracking code, analyze basic reports, and set up goals and campaign tracking.</p> <p>→</p>	 <b>Advanced Google Analytics</b> <p>Learn about advanced Google Analytics features including data collection, processing and configuration, and more complex analysis and marketing tools.</p> <p>→</p>	 <b>Google Analytics for Power Users</b> <p>After you're familiar with the range of features Analytics offers, learn and practice actionable analyses to track business performance and identify areas for business improvement.</p> <p>→</p>	 <b>Getting Started With Google Analytics 360</b> <p>Learn about powerful Google Analytics 360 features that are not available in the standard product, and gain insight into how you can benefit from integrations with BigQuery, Google Marketing Platform products, and Google Ad Manager.</p> <p>→</p>
 <b>Introduction to Data Studio</b> <p>Introduction to Data Studio helps you learn and practice beginner steps in connecting your data and building Data Studio reports.</p> <p>→</p>	 <b>Google Tag Manager Fundamentals</b> <p>Discover how Google Tag Manager can simplify the tag implementation and management process for marketers, analysts, and developers.</p> <p>→</p>		

# Google Skillshop

< Google Analytics

## Google Analytics 4

+ FOLLOW

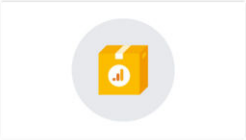
Find out how the latest generation of Google Analytics can take your measurement strategy to the next level.

🔍 Search Topic

### Discover the Next Generation of Google Analytics

Find out how the latest generation of Google Analytics can take your measurement strategy to the next level, and learn how to set up a Google Analytics 4 property for your business.

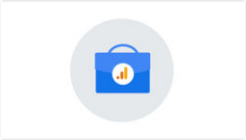
☰ 49m ★ 4.5 Beginner



### Use Google Analytics to Meet Your Business Objectives

Find out how the latest generation of Google Analytics can take your measurement strategy to the next level. Learn how to set up an Analytics account and gain the insights you need to meet your business objectives.

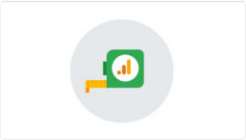
☰ 1.7h ★ 4.6 Beginner



### Measure Your Marketing with Google Analytics

Find out how Google Analytics can give you the insights you need to help meet your marketing objectives. Learn key measurement features in Analytics that can show the effectiveness of your online marketing efforts and help you get more return. After...

☰ 50m ★ 4.6 Beginner



03

# Teach (sources for education)



# Google Cloud for Faculty

## Access resources

Prepare your students for careers with the cloud. Access cloud credits for hands-on learning, the Cloud Computing Foundations curriculum, and the Career Readiness program.

### Credits

Apply for cloud credits for your students. Eligible faculty can apply to receive up to \$100 in Google Cloud credits per teaching staff, up to \$50 in Cloud credits per student, up to 5,000 Google Cloud Skills Boost credits, certification discounts, and more.

---

[Apply for teaching credits](#)

[Apply for training credits](#)

### Curriculum

Apply to use the Cloud Computing Foundations curriculum to teach students who have little to no experience in cloud at no cost. The 40 hour curriculum covers critical concepts to prepare learners.

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[Learn about the curriculum](#)

### Coaching

Coach students through one of three tracks as part of an on-demand learning program designed to help prepare your students for certification and careers in cloud.

---

[Facilitate the Career Readiness Program](#)

<https://cloud.google.com/edu/faculty>

# Google Cloud for Faculty

## Apply for Google Cloud research credits

Google Cloud research credits can advance your research by giving you access to computing power that will make the next big thing possible. Learn more about our [programs for researchers](#).

### Program overview

#### Academic Research Grants

Eligibility for research grants is limited to faculty, PhD students and postdoctoral researchers from accredited higher education institutions and eligible nonprofit research institutions in approved countries. Review [program FAQs](#) to learn more.

<https://edu.google.com/programs/credits/research/>

# Hey, student



## Hey, student.

Build Google Cloud skills. Classroom not required.

1m-EDUCR-GCCF-482 [Copy code](#)

[New to Qwiklabs? Take the tour →](#)



### Google Cloud Computing Foundations

Complete this **four-course** series in order. The series is designed for students with **little to no experience** in cloud computing and is an ideal foundation for diverse career paths. **Build your cloud skills and demonstrate your proficiency** by earning badges along the way.

Before attending this course, students should:

- Have basic IT knowledge and be interested in learning more about Cloud and ML.
- Have competency in at least one language (such as Python, Java).
- Be familiar with the basics of shell scripting, SQL.

<https://go.qwiklabs.com/hey-student>



**Thank you.**