# Build and Optimize Data Warehouses with BigQuery

cloudskillsboost.google/quests/147

7 hours Fundamental universal_currency_alt 10 Credits

Earn a **skill badge** by completing the **Build and Optimize Data Warehouses with BigQuery** quest, where you will learn how to transform your data warehouse using BigQuery, including how to: 1. Use a command line interface to query and load sample data. 2. Create new reporting tables using SQL, JOINS, and UNIONs. 3. Create dataset partitions that will reduce cost and improve query performance. 4. Create and troubleshoot joins. 5. Load, query, and un-nest semi-structured datasets. 6. Use Data Catalog.

A skill badge is an exclusive digital badge issued by Google Cloud in recognition of your proficiency with Google Cloud products and services and tests your ability to apply your knowledge in an interactive hands-on environment. Complete the skill badge quest, and final assessment challenge lab, to receive a digital badge that you can share with your network.

When you complete this activity, you can earn the badge displayed above! View all the badges you have earned by visiting your profile page. Boost your cloud career by showing the world the skills you have developed!

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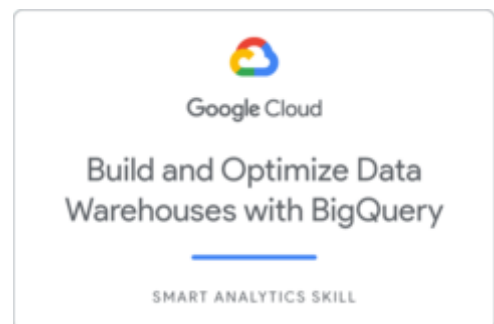
Lab

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.

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Lab

Creating a Data Warehouse Through Joins and Unions

This lab focuses on how to create new reporting tables using SQL JOINS and UNIONs.

- Lab

Creating Date-Partitioned Tables in BigQuery

This lab focuses on how to query partitioned datasets and how to create your own dataset partitions to improve query performance, which reduces cost.

- Lab

Troubleshooting and Solving Data Join Pitfalls

This lab focuses on how to reverse-engineer the relationships between data tables and the pitfalls to avoid when joining them together.

- Lab

Working with JSON, Arrays, and Structs in BigQuery

In this lab you will work with semi-structured data (ingesting JSON, Array data types) inside of BigQuery. You will practice loading, querying, troubleshooting, and unnesting various semi-structured datasets.

- Lab

Build and Execute MySQL, PostgreSQL, and SQLServer to Data Catalog Connectors

In this lab you will explore existing datasets with Data Catalog and mine the table and column metadata for insights.

- Lab

Build and Optimize Data Warehouses with BigQuery: Challenge Lab

This challenge labs tests your skills in building and optimizing your data warehouse using BigQuery.