

BigQuery 101

<https://cloud.google.com/bigquery/>

2022/9/25
Karen Hsieh

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Director of Platform Product @ ALPHA Camp

Moderator of dbt #local-taipei

A **product manager** builds company-wide data literacy and empowers the product team to create values for people and grow the company.

Agenda

- Why use BigQuery?
- How to get started?
- What do I use on BigQuery?
- What do you do?



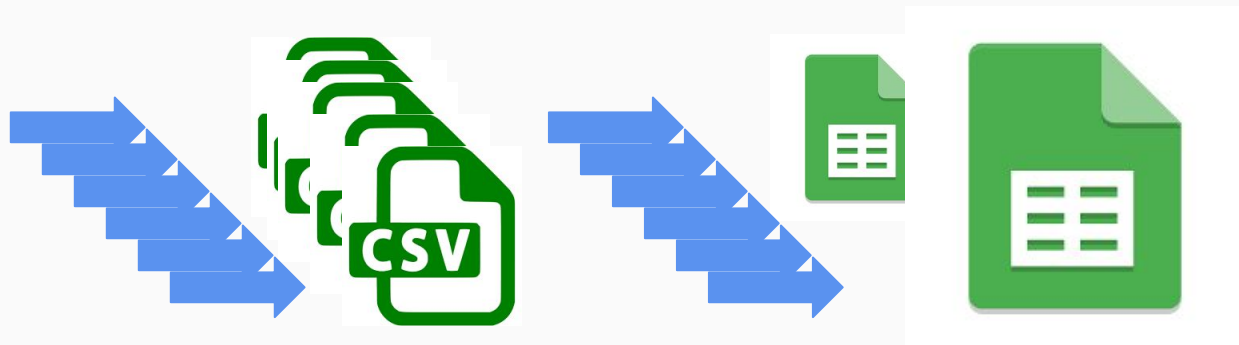
Why use BQ?



Check Data

Started from waiting too long....

When I needed to check few numbers, download csv from backstages.
It's easy but not FUN if repeated > 5 times.





```
SELECT
    month,
    SUM(revenue) AS revenue
FROM revenue_raw
GROUP BY 1
ORDER BY 1
```

It's easy. Just like a sentence.

Concept is similar to the pivot table.

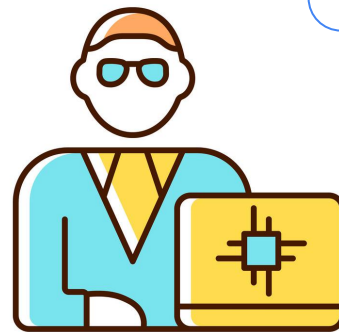
It's so FAST.

- <https://www.w3schools.com/sql/>
- <https://app.datacamp.com/learn/courses>
- [SQL 14 days \(Chinese\)](#)

How to use SQL?



Where is the data? How can I get?
Where can I use SQL?



CTO

Use BigQuery
as Data
warehouse

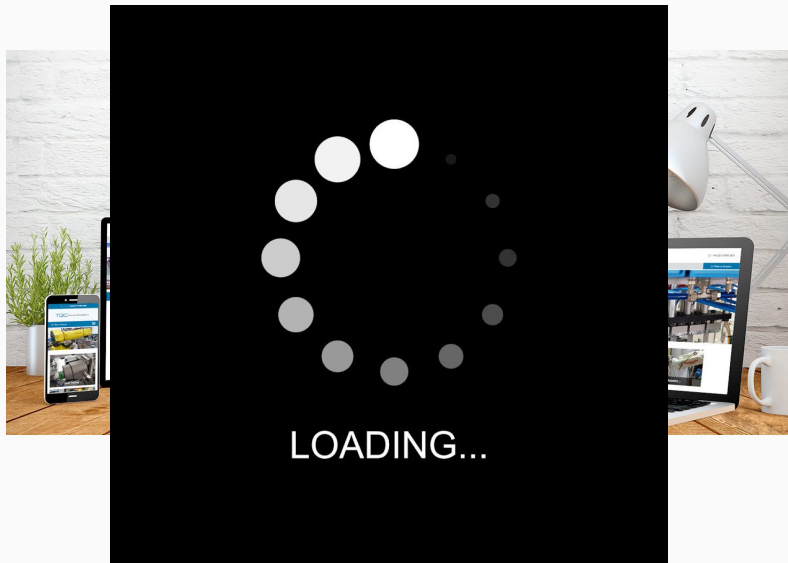
Since data is from our production, can I....

Get data from production!

“Are you querying data? 🤪

OLTP is very different from OLAP

[Cloud Data Warehouse Benchmark Redshift vs Snowflake vs BigQuery | Fivetran](#) explains more details by George Fraser





Google!

How to get started?

What is BigQuery?

What is Data Warehouse?

What is Google Cloud Platform?

.....
😊 more unknown



bigquery



<https://cloud.google.com> > bigquery

BigQuery: Cloud Data Warehouse

BigQuery is a serverless, cost-effective and multicloud data warehouse designed to help you turn big data into valuable business insights. Start free.

[Sign in](#) · [BigQuery documentation](#) · [Enable the BigQuery sandbox](#) · [Query](#)

People also ask

What is BigQuery used for?



Is BigQuery a SQL or NoSQL?



Is BigQuery same as SQL?



Does BigQuery use SQL?



[Feedback](#)

<https://console.cloud.google.com> > bigquery

Sign in - Google Cloud Platform

Google Cloud Platform lets you build, deploy, and scale applications, ...

<https://blog.cloud-ace.tw> > big-data · [Translate this page](#)

BigQuery 是什麼？大數據時代一定要認識的最強資料分析工具

Jul 21, 2021 — **BigQuery** 的最大優點是「速度」。**BigQuery** 以前在 Google 內部使用時叫做 Dremel，後來隨著 GCP 問世，它才以 **BigQuery** 為 ...

[BigQuery 為何適合大數據分析...](#) · [BigQuery 真的比傳統資料倉儲...](#)

Just do it 😏

Using BigQuery right
away

Google Cloud

Home

Paths

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🔍 bigquery

✕

Achieving Advanced Insights with BigQuery

Achieving Advanced Insights with BigQuery - Locales

Analyzing Billing Data with BigQuery

Analyzing Natality Data Using Vertex AI and BigQuery

Applying BigQuery ML's Classification, Regression, and Demand Forecasting for Retail Applications

Automating your BigQuery Data Pipeline with Cloud Dataprep

BigQuery

BigQuery Basics for Data Analysts



BigQuery Basics for Data Analysts | Google Cloud Skills Boost

- Clear guidance
- Try BigQuery
- Copy & Paste the SQL code

← Introduction to SQL for BigQuery and Cloud SQL

Start Lab

01:15:00

How to start your lab and sign in to the Google Cloud Console

1. Click the **Start Lab** button. If you need to pay for the lab, a pop-up opens for you to select your payment method. On the left is the **Lab Details** panel with the following:
 - The **Open Google Console** button
 - Time remaining
 - The temporary credentials that you must use for this lab
 - Other information, if needed, to step through this lab
2. Click **Open Google Console**. The lab spins up resources, and then opens another tab that shows the **Sign in** page.

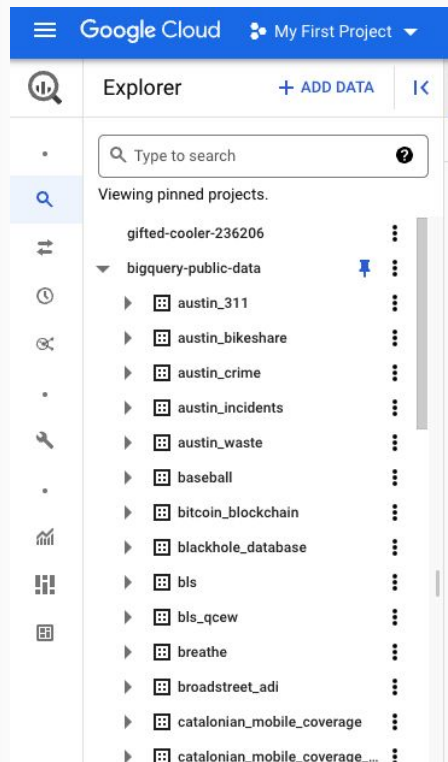
Tip: Arrange the tabs in separate windows, side-by-side.

Note: If you see the **Choose an account** dialog, click **Use Another Account**.

Free Trial + Public data

- [Free Trial](#)
- [BigQuery public datasets](#)

Almost \$0 even after trail according to my usage.



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Contact sales

Go to console

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UI friendly - view



Google Cloud My First Project

Search Products, resources, docs (/)

Explorer

taxi

Found 3 results. [Broaden search to all](#)

bigquery-public-data

chicago_taxi_trips

taxi_trips

taxi_trips

QUERY

SHARE COPY SNAPSHOT DELETE EXPORT

SCHEMA DETAILS PREVIEW

Filter Enter property name or value

Field name	Type	Mode	Collation	Default Value	Policy Tags	Description
<input type="checkbox"/> unique_key	STRING	REQUIRED				Unique identifier for the trip.
<input type="checkbox"/> taxi_id	STRING	REQUIRED				A unique identifier for the taxi.
<input type="checkbox"/> trip_start_timestamp	TIMESTAMP	NULLABLE				When the trip started, rounded to the nearest 15 minutes.
<input type="checkbox"/> trip_end_timestamp	TIMESTAMP	NULLABLE				When the trip ended, rounded to the nearest 15 minutes.
<input type="checkbox"/> trip_seconds	INTEGER	NULLABLE				Time of the trip in seconds.
<input type="checkbox"/> trip_miles	FLOAT	NULLABLE				Distance of the trip in miles.
<input type="checkbox"/> pickup_census_tract	INTEGER	NULLABLE				The Census Tract where the trip began. For privacy, this Census Tract is not shown for some trips.
<input type="checkbox"/> dropoff_census_tract	INTEGER	NULLABLE				The Census Tract where the trip ended. For privacy, this Census Tract is not shown for some trips.
<input type="checkbox"/> pickup_community_area	INTEGER	NULLABLE				The Community Area where the trip began.
<input type="checkbox"/> dropoff_community_area	INTEGER	NULLABLE				The Community Area where the trip ended.
<input type="checkbox"/> fare	FLOAT	NULLABLE				The fare for the trip.
<input type="checkbox"/> tips	FLOAT	NULLABLE				The tip for the trip. Cash tips generally will not be recorded.
<input type="checkbox"/> tolls	FLOAT	NULLABLE				The tolls for the trip.
<input type="checkbox"/> extras	FLOAT	NULLABLE				Extra charges for the trip.
<input type="checkbox"/> trip_total	FLOAT	NULLABLE				Total cost of the trip, the total of the fare, tips, tolls, and extras.
<input type="checkbox"/> payment_type	STRING	NULLABLE				Type of payment for the trip.
<input type="checkbox"/> company	STRING	NULLABLE				The taxi company.
<input type="checkbox"/> pickup_latitude	FLOAT	NULLABLE				The latitude of the center of the pickup census tract or the community area if the census tract has been hidden for privacy.

EDIT SCHEMA VIEW ROW ACCESS POLICIES

PERSONAL HISTORY PROJECT HISTORY

REFRESH

UI friendly - query



Google Cloud My First Project

Search Products, resources, docs (/)

taxi_trips

QUERY SHARE

SCHEMA DETAILS PREVIEW

Filter Enter property name or value

Field name	Type	Mode
<input type="checkbox"/> unique_key	STRING	REQUIRED
<input type="checkbox"/> taxi_id	STRING	REQUIRED
<input type="checkbox"/> trip_start_timestamp	TIMESTAMP	NULLABLE
<input type="checkbox"/> trip_end_timestamp	TIMESTAMP	NULLABLE
<input type="checkbox"/> trip_seconds	INTEGER	NULLABLE
<input type="checkbox"/> trip_miles	FLOAT	NULLABLE
<input type="checkbox"/> pickup_census_tract	INTEGER	NULLABLE
<input type="checkbox"/> dropoff_census_tract	INTEGER	NULLABLE

EDIT SCHEMA VIEW ROW ACCESS POLICIES

PERSONAL HISTORY PROJECT HISTORY

1 2 3 4 5

```
1 SELECT
2   payment_type,
3   AVG(fare) AS avg_fare
4
5 FROM `bigquery-public-data.chicago_taxi_trips.taxi_trips`
6
7 WHERE DATE(trip_start_timestamp) >= '2022-08-01'
8    AND DATE(trip_end_timestamp) <= '2022-08-31'
9 GROUP BY payment_type
```

Query results

Row	payment_type	avg_fare
1	Mobile	14.635
2	Cash	24.4025
3	Credit Card	31.75

Query completed.

SAVE RESULTS EXPLORE DATA

REFRESH

SQL in BigQuery

- Window function
- Array & Struct

The screenshot shows the Google Cloud BigQuery Reference documentation page. The left sidebar contains a navigation menu with categories like 'reference', 'BigQuery command-line tool', and 'SQL in BigQuery'. Under 'SQL in BigQuery', the 'Window function calls' link is highlighted. The main content area is titled 'Window function calls' and includes an introduction, a 'Send feedback' button, and a section for 'Window function syntax'. The syntax section contains a code block with the following structure:

```
function_name ( [ argument_list ] ) OVER over_clause

over_clause:
{ named_window | ( [ window_specification ] ) }

window_specification:
[ named_window ]
[ PARTITION BY partition_expression [, ...] ]
[ ORDER BY expression [ { ASC | DESC } ] [, ...] ]
[ window_frame_clause ]

window_frame_clause:
{ rows_range } { frame_start | frame_between }



rows_range:
{ RANGE | RANGE 
```


Keep Update

<https://cloud.google.com/bigquery/docs/release-notes>

- Easier to use
- More integrations
 - GA4
 - Google Spreadsheet
 - Data Studio
 - BQ ML
- Query functions

BigQuery > Documentation > Resources

Was this helpful?  

Send feedback

BigQuery | BigQuery ML

BigQuery release notes

This page documents production updates to BigQuery. We recommend that BigQuery developers periodically check this list for any new announcements.

You can see the latest product updates for all of Google Cloud on the [Google Cloud](#) page, browse and filter all release notes in the [Google Cloud console](#), or you can programmatically access release notes in [BigQuery](#).

To get the latest product updates delivered to you, add the URL of this page to your [feed reader](#), or add the feed URL directly: <https://cloud.google.com/feeds/bigquery-release-notes.xml>

August 19, 2022

FEATURE

The `ALTER TABLE RENAME COLUMN` DDL statement, which allows you to rename the columns of a table, is now in [preview](#).



August 17, 2022

FEATURE

You can now set [default values](#) on columns in your BigQuery tables. This feature is now in [preview](#).

FEATURE

Cloud console updates: You can now copy BigQuery metadata to your clipboard by using the following options:

- In the **Schema** view, to copy a table's schema, select any fields, and then click  **Copy**.
- In the **Explorer** pane, to copy the ID of a resource, click  **View actions**, and then click **Copy ID**.

FEATURE

Cloud console updates: Improvements include the following:

On this page

[August 19, 2022](#)
[August 17, 2022](#)
[August 16, 2022](#)
[August 15, 2022](#)
[August 10, 2022](#)
[August 09, 2022](#)
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[August 03, 2022](#)
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[July 28, 2022](#)
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[June 06, 2022](#)
[June 03, 2022](#)
[May 31, 2022](#)
[May 24, 2022](#)
[May 23, 2022](#)
[May 18, 2022](#)

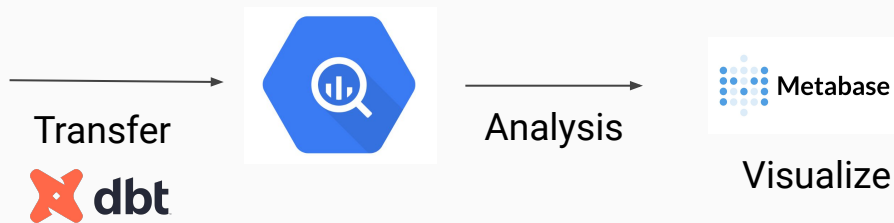


Data Analysis

What do I use on BQ?

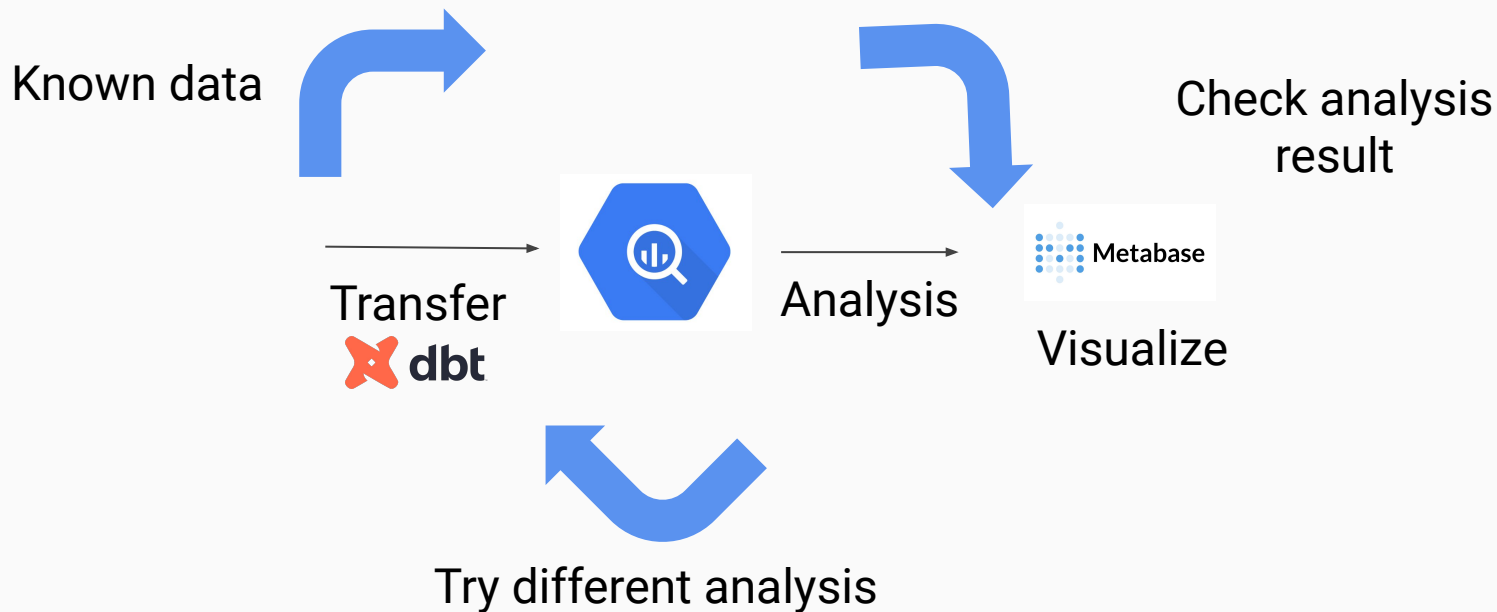
Data warehouse + computing

It's ok to be a black box.
I don't need to understand.



It's fast ⚡ for exploring data

Insights



What do you do?

Start Now



Google Cloud Training

- [Google Cloud Courses and Training](#)
- [Google Cloud Training on Coursera](#)
- [Tutorials | BigQuery | Google Cloud](#)
- [Data Cloud Summit](#)

Thank you

Welcome connect 🙌
[linkedin.com/in/karenhsieh](https://www.linkedin.com/in/karenhsieh)

Q&A

Raise your hand 🙋🙋🙋

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Karen Hsieh

She/Her

Director of Platform Product, ALPHA Camp

COALESCE ONLINE

How to build data accessibility for everyone

Thank you

Welcome connect 🙌
[linkedin.com/in/karenhsieh](https://www.linkedin.com/in/karenhsieh)

Q&A

Raise your hand 🙋🙋🙋