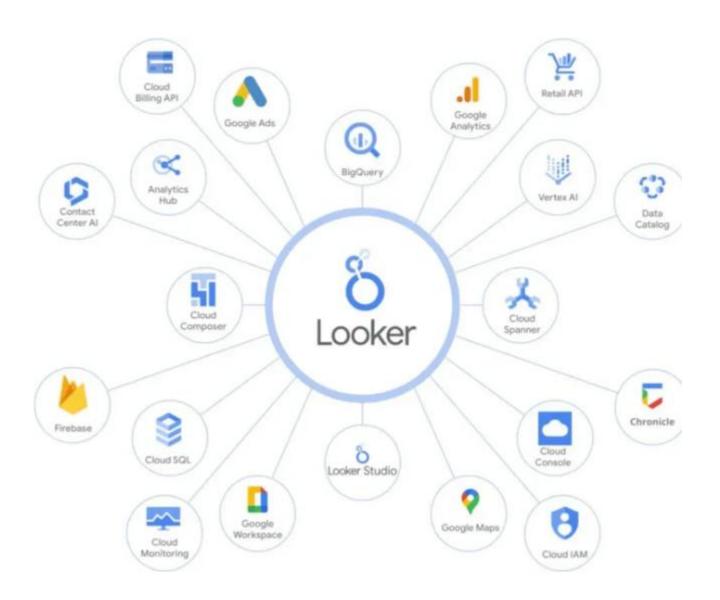# Looker

What is Looker?

- Looker is a business intelligence and analytics platform designed for data exploration, embedded analytics, and building data applications.

- It offers a modelling interface (IDE) for data teams and a dashboarding UI for end users.

- In-database architecture means data stays in your warehouse (like BigQuery, Redshift) and isn't copied elsewhere.

- It's "API-first," means that every functionality in the UI — like running a query, scheduling a dashboard, or managing users — is also available through an API calls.

What is Looker?

- Looker is a data platform that enables businesses to develop dashboards and visualizations on top of their data, analyse data, and connect to the data warehouse(s).

Why API-first matters?

- APIs treated as first-class citizens; design begins with the API.

- **Automation –** You can automate repetitive tasks like refreshing dashboards, user provisioning, or triggering alerts.

- **Integration –** Looker can easily plug into other systems (like Slack, custom apps, or workflows).

- **Extensibility –** Developers can build custom data applications on top of Looker using its APIs.

- **Scalability –** Instead of manually creating 100 dashboards, you could script them with APIs in seconds.

Benefits of Looker

- **Consistent Metrics & Governance –** Centralized definitions using LookML ensure a single source of truth.

- **Scalability & Performance –** Cloud-native design supports enterprise scale and high concurrency.

- **Embedded Analytics –** Easily embed dashboards and visualizations into portals, apps, or products.

- **Collaboration & Sharing –** Share insights across teams with real-time dashboards and scheduled reports.

- **Advanced Analytics Ready –** Supports machine learning, predictive modeling, and custom applications.

Looker Terminologies

Fields

- Fields are the basic building blocks in Looker that represent pieces of data—these include dimensions, measures, or calculated values.

- Fields are what users choose when building queries in an Explore.

- Explores and views contain fields – mostly dimensions and measures, which are the fundamental building blocks for Looker queries.

Looker Terminologies

Dimensions

- Qualitative fields representing attributes like dates, names, or IDs. They can be used to group or filter data.

- Dimensions allow you to ask who, what, when, and where in your data.

- A dimension is a field that represents an attribute... Common dimensions include such attributes as dates, names, and IDs.

Looker Terminologies

Measures

- Quantitative fields calculated using aggregation functions like COUNT, SUM, or AVG.

- Measures answer questions like how many or how much.

- A measure is a field that uses a SQL aggregate function, such as COUNT, SUM, AVG... Measures can be used to filter grouped values.

Looker Terminologies

Explores

- Starting point in Looker to build and run queries. Users select dimensions and measures here.

- Explores serve as interactive query builders within Looker.

- Explores are where users build and run data queries in Looker by filtering, selecting, and pivoting Dimensions and Measures.

Looker Terminologies

Looks

- Saved query results—either tables or visualizations, that can be shared or embedded.

- Enables reusability and consistent data delivery.

- A Look is a single query table or visualization that is saved. Looks can be added to dashboards, scheduled, shared, and made public.

Looker Terminologies

Dashboards

- Collections of Looks or visual tiles organized into a single interface.

- Dashboards help present a cohesive set of metrics or stories to stakeholders.

- Explores & Looks combined to provide an answer to a particular business question.

Looker Terminologies

Boards

• High-level organizational units within Looker used to group dashboards.

• Useful for navigating and curating dashboards by team or topic.

• A method of organizing dashboards by teams or functional areas.

Looker Terminologies

Folders

- Containers that hold Looks, dashboards, and boards—used for organizing and managing access.

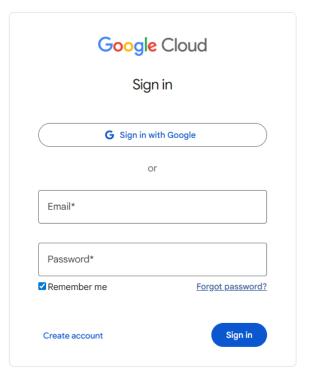- Helps apply permissions and maintain governance across content.

Looker Terminologies

LookML

- LookML **(Looker Modeling Language)** is a declarative, dependency-based language used in Looker to define semantic data models.

- It is used to describe dimensions, aggregations, calculations, and table relationships in a centralized project.

- In LookML, the data structure is defined in model files, while business logic is maintained in view files.

- By applying the DRY (Don't Repeat Yourself) principle, LookML avoids redundant definitions, ensuring that queries built in the Explore UI can be executed without manually writing SQL.

- LookML separates structure from content, so the query structure (how tables are joined) is independent of the query content (the columns to access, derived fields, aggregate functions to compute, and filtering expressions to apply).

Looker Terminologies

LookML projects

- A LookML project is the central place in Looker where all LookML code is stored, organized, and version-controlled.

- Contains the definitions of models, views, and other configuration files that together describe how data should be queried and presented in Looker.

- Looker queries are based on LookML project files.

Looker Sandbox

- Signup to

  https://www.cloudskillsboost.
  google/

- Search for Looker learning
  resources.

- Ex. Analyzing and Visualizing
  Data in Looker

Start the Lab

For each lab, you get a new project and set of resources for a fixed time at no cost.

Start Lab `01:30:00`

1. Make sure you signed into Qwiklabs using an **incognito window**.

2. Note the lab's access time (for example, **2:00:00** hrs) and make sure you can finish in that time block.

> **Note:** There is no pause feature. You can restart the lab if needed, but you will start at the beginning of the lab.

3. When ready, click **Start Lab**.

A new panel will appear with the temporary credentials that you must use for this lab.

If you need to pay for the lab, a pop-up will open for you to select your payment method.

4. Note your lab credentials. You will use them to sign in to the Looker instance for this lab.

Open Looker

Username

`looker-developer@qwiklab` 📋

Password

`KDK4i1AM/Q/Yos3uE4O2jpyO` 📋