## 08. Developing Data Models with LookML

# [Looker and LookML](https://www.youtube.com/watch?v=kxgcj9T0G1Q)

# [The Looker user interface](https://www.youtube.com/watch?v=zHXoGKQJVBU&t=2s)

# [The Looker IDE](https://www.youtube.com/watch?v=H3uUR-xvA4o&t=1s)

# [LookML project version control](https://www.youtube.com/watch?v=Ehu6bU882Ac)

# [Example: Git workflow in Looker](https://www.youtube.com/watch?v=KnyeNVvIQ0Q)

# [How Looker writes SQL](https://www.youtube.com/watch?v=bob9A8vWVUQ&t=2s)

# [Anatomy of a LookML project](https://www.youtube.com/watch?v=HBV8HVDfK6k&t=1s)

# [Modeling dimensions](https://www.youtube.com/watch?v=oESmSlKyu9I&t=1s)

# [Example: Creating dimensions using LookML](https://www.youtube.com/watch?v=lkKKu9HE7dA)

# [Modeling measures](https://www.youtube.com/watch?v=KrQQvAZ7IHg&t=1s)

# [Example: Modeling measures using LookML](https://www.youtube.com/watch?v=utTR_QcIzNY)

# [Dimension + measure modeling logic](https://www.youtube.com/watch?v=0b-teC01CVI)

# [Lab: Creating Dimensions and Measures with LookML](https://www.cloudskillsboost.google/paths/28/course_templates/327/labs/460304)

# [LookML dashboards](https://www.youtube.com/watch?v=Irfr9_6w2uQ)

# [Modeling new Explores](https://www.youtube.com/watch?v=Go-fUUPUM50&t=2s)

# [Using LookML to filter Explores](https://www.youtube.com/watch?v=ZOV-CdQ8aBE)

# [Understanding symmetric aggregation](https://www.youtube.com/watch?v=7eYHIYoge2g&t=1s)

# [Introducing derived tables](https://www.youtube.com/watch?v=j572nvPAlP8)

# [Types of derived tables](https://www.youtube.com/watch?v=lGHDeWSQ1iE)

# [Using SQL derived tables](v)

# [Using native derived tables](https://www.youtube.com/watch?v=3R8KifmNNes)

# [Native derived table parameters](https://www.youtube.com/watch?v=ks0fQZDrZ2A)

# [Using persistent derived tables](https://www.youtube.com/watch?v=C-ionVddpss)

# [Lab: Creating Derived Tables with LookML](https://www.cloudskillsboost.google/paths/28/course_templates/327/labs/460317)

# [Caching and datagroups](https://www.youtube.com/watch?v=Npt-m9okNbM&t=13s)

# [Implementing datagroups in Looker](https://www.youtube.com/watch?v=tyHCmIkJwlo)

# Data Analyst Learning Path

## 05Prepare Data for ML APIs on Google Cloud

# [Lab: Vertex AI: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464837)

# [Dataprep: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464838)

# [Dataflow: Qwik Start - Templates](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464839)

# [Dataflow: Qwik Start - Python](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464840)

# [Dataproc: Qwik Start - Console](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464841)

# [Dataproc: Qwik Start - Command Line](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464842)

# [Cloud Natural Language API: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464843)

# [Speech-to-Text API: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464844)

# [Video Intelligence: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464845)

# [Prepare Data for ML APIs on Google Cloud: Challenge Lab](https://www.cloudskillsboost.google/paths/18/course_templates/631/labs/464846)

## 06Prepare Data for Looker Dashboards and Reports

# [Looker Data Explorer - Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/628/labs/469792)

# [Filtering and Sorting Data in Looker](https://www.cloudskillsboost.google/paths/18/course_templates/628/labs/469793)

# [Merging Results from Different Explores in Looker](https://www.cloudskillsboost.google/paths/18/course_templates/628/labs/469794)

# [Looker Functions and Operators](https://www.cloudskillsboost.google/paths/18/course_templates/628/labs/469795)

# [Prepare Data for Looker Dashboards and Reports: Challenge Lab](https://www.cloudskillsboost.google/paths/18/course_templates/628/labs/469796)

# [Derive Insights from BigQuery Data: Challenge Lab](https://www.cloudskillsboost.google/paths/18/course_templates/623/labs/464854)

## 08Create ML Models with BigQuery ML

# [Getting Started with BigQuery ML](https://www.cloudskillsboost.google/paths/18/course_templates/626/labs/464873)

# [Predict Visitor Purchases with a Classification Model in BigQuery ML](https://www.cloudskillsboost.google/paths/18/course_templates/626/labs/464874)

# [Predict Taxi Fare with a BigQuery ML Forecasting Model](https://www.cloudskillsboost.google/paths/18/course_templates/626/labs/464875)

# [Bracketology with Google Machine Learning](https://www.cloudskillsboost.google/paths/18/course_templates/626/labs/464876)

# [Create ML Models with BigQuery ML: Challenge Lab](https://www.cloudskillsboost.google/paths/18/course_templates/626/labs/464877)

## 09Applying Advanced LookML Concepts in Looker

# [Getting Started with Liquid to Customize the Looker User Experience](https://www.cloudskillsboost.google/paths/18/course_templates/665/labs/413305)

# [Enhancing User Interactivity in Looker with Liquid](https://www.cloudskillsboost.google/paths/18/course_templates/665/labs/413306)

# [Creating dynamic SQL derived tables with LookML and Liquid](https://www.cloudskillsboost.google/paths/18/course_templates/665/labs/413307)

# [Answering Complex Questions Using Native Derived Tables with LookML](https://www.cloudskillsboost.google/paths/18/course_templates/665/labs/413308)

# [Modularizing LookML Code with Extends](https://www.cloudskillsboost.google/paths/18/course_templates/665/labs/413309)

## 10

# Data Catalog Fundamentals

# [Introduction to SQL for BigQuery and Cloud SQL](https://www.cloudskillsboost.google/paths/18/course_templates/709/labs/408117)

# [Using BigQuery in the Google Cloud Console](https://www.cloudskillsboost.google/paths/18/course_templates/709/labs/408118)

# [Data Catalog: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/709/labs/408119)

# [Exploring Dataset Metadata Between Projects with Data Catalog](https://www.cloudskillsboost.google/paths/18/course_templates/709/labs/408120)

# [Build and Execute MySQL, PostgreSQL, and SQLServer to Data Catalog Connectors](https://www.cloudskillsboost.google/paths/18/course_templates/709/labs/408121)

## 11

# Build LookML Objects in Looker

# [Looker Developer: Qwik Start](https://www.cloudskillsboost.google/paths/18/course_templates/639/labs/468837)v

# [Creating Measures and Dimensions Using LookML](https://www.cloudskillsboost.google/paths/18/course_templates/639/labs/468838)

# [Creating Derived Tables Using LookML](https://www.cloudskillsboost.google/paths/18/course_templates/639/labs/468839)

# [Filtering Explores with LookML](https://www.cloudskillsboost.google/paths/18/course_templates/639/labs/468840)

# [Build LookML Objects in Looker: Challenge Lab](https://www.cloudskillsboost.google/paths/18/course_templates/639/labs/468841)

## 12

# Manage Data Models in Looker

# [Modularizing LookML Code with Extends](https://www.cloudskillsboost.google/paths/18/course_templates/651/labs/469565)

# [Troubleshooting Data Models in Looker](https://www.cloudskillsboost.google/paths/18/course_templates/651/labs/469566)

# [Employing Best Practices for Improving the Usability of LookML Projects](https://www.cloudskillsboost.google/paths/18/course_templates/651/labs/469567)

# [Caching and Datagroups with LookML](https://www.cloudskillsboost.google/paths/18/course_templates/651/labs/469568)

# [Optimizing Performance of LookML Queries](https://www.cloudskillsboost.google/paths/18/course_templates/651/labs/469569)

# [Manage Data Models in Looker: Challenge Lab](https://www.cloudskillsboost.google/paths/18/course_templates/651/labs/469570)

Data Engineer path

## 03

# Modernizing Data Lakes and Data Warehouses with Google Cloud

# [Transactional databases versus data warehouses](https://www.youtube.com/watch?v=2EAOL1Y2XRI)

# [Partner effectively with other data teams](https://www.youtube.com/watch?v=s8UA2ui2q04)

# [Manage data access and governance](https://www.youtube.com/watch?v=3kW8m_nbSt0&t=1s)

# [Demo: Finding PII in your dataset with the DLP API](https://www.youtube.com/watch?v=NROXkWE9lGE&t=1s)

# [Build production-ready pipelines](https://www.youtube.com/watch?v=Lk0lO_zShRY)

# [Google Cloud customer case study](https://www.youtube.com/watch?v=-VBB9RiqrHw)

# [Recap](https://www.youtube.com/watch?v=KhpR-mw763c)

## 04Building Batch Data Pipelines on Google Cloud

# [Module introduction](https://www.youtube.com/watch?v=HNexh_eHTZs&t=2s)

# [EL, ELT, ETL](https://www.youtube.com/watch?v=wc1ZHzQMBWQ)

# [Quality considerations](https://www.youtube.com/watch?v=zJu2JjfsCNE&t=1s)

# [How to carry out operations in BigQuery](https://www.youtube.com/watch?v=yf4VFnMm7KM)

# [Shortcomings](https://www.youtube.com/watch?v=auMoeczFxBM)

# [ETL to solve data quality issues](https://www.youtube.com/watch?v=tUIhRcjp6Nw&t=1s)

# [The Hadoop ecosystem](https://www.youtube.com/watch?v=IJOAT3p4X4A&t=4s)

# [Running Hadoop on Dataproc](https://www.youtube.com/watch?v=qctzBJtUgIQ)

# [Cloud Storage instead of HDFS](https://www.youtube.com/watch?v=O44KC-BIZTc)

# [Optimizing Dataproc](https://www.youtube.com/watch?v=-_E5rdwcSAo&t=1s)

# [Optimizing Dataproc storage](https://www.youtube.com/watch?v=1q8GWWvksoM&t=1s)

# [Optimizing Dataproc templates and autoscaling](https://www.youtube.com/watch?v=AVFPLPjSE20&t=1s)

# [Optimizing Dataproc monitoring](https://www.youtube.com/watch?v=otWZSXREhV4)

# [Lab: Running Apache Spark jobs on Cloud Dataproc](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459482)

# [Summary](https://www.youtube.com/watch?v=scT9YWRELko)

# [Introduction to Dataflow](https://www.youtube.com/watch?v=qFoYF-VARQo)

# [Why customers value Dataflow](https://www.youtube.com/watch?v=CZYcEYj1zwg)

# [Building Dataflow pipelines in code](https://www.youtube.com/watch?v=TTtl-h7y0jg)

# [Key considerations with designing pipelines](https://www.youtube.com/watch?v=803SB_xs-DU&t=1s)

[Transforming data with PTransforms](https://www.youtube.com/watch?v=o8nfhWZ1fd4)

# [Lab: A Simple Dataflow Pipeline (Python) 2.5](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459492)

# [Lab: Serverless Data Analysis with Dataflow: A Simple Dataflow Pipeline (Java)](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459493)

# [Aggregate with GroupByKey and Combine](https://www.youtube.com/watch?v=Sjc5AxUWm4A)

# [Lab: MapReduce in Beam (Python) 2.5](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459496)

# [Lab: Serverless Data Analysis with Beam: MapReduce in Beam (Java)](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459497)

# [Side inputs and windows of data](https://www.youtube.com/watch?v=VB_NQJGjPk0)

# [Lab: Serverless Data Analysis with Dataflow: Side Inputs (Python)](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459500)

# [Lab: Serverless Data Analysis with Dataflow: Side Inputs (Java)](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459501)

# [Creating and re-using pipeline templates](https://www.youtube.com/watch?v=MxFxa2MUG7A)

# [Summary](https://www.youtube.com/watch?v=qXOXH7GelWU&t=1s)

# [Introduction to Cloud Data Fusion](https://www.youtube.com/watch?v=sKP9ACWUUUg)

# [Components of Cloud Data Fusion](https://www.youtube.com/watch?v=130K-Pc2VjQ)

# [Cloud Data Fusion UI](https://www.youtube.com/watch?v=YUfhAan9z8Y&t=2s)

# [Build a pipeline](https://www.youtube.com/watch?v=Pv2LPlAaixs)v

# [Explore data using wrangler](https://www.youtube.com/watch?v=MpkqVec7F6Q)

# [Lab: Building and Executing a Pipeline Graph with Data Fusion 2.5](https://www.cloudskillsboost.google/paths/16/course_templates/53/labs/459512)

# [Orchestrate work between Google Cloud services with Cloud Composer](https://www.youtube.com/watch?v=oU_g-_RWfro)

# [Apache Airflow environment](https://www.youtube.com/watch?v=7blDDS8BqDU)

# [DAGs and Operators](https://www.youtube.com/watch?v=32rPE4kq6TQ&t=1s)

# [Workflow scheduling](https://www.youtube.com/watch?v=JIg6KFisCFM&t=1s)

# [Monitoring and Logging](https://www.youtube.com/watch?v=iL1S0G1jFmE)

# [Course Summary](https://www.youtube.com/watch?v=nBgzJ9UA7Mo)v