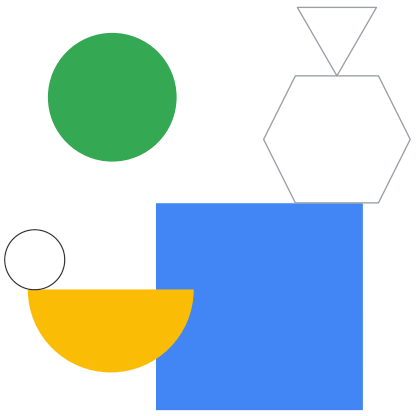
Google Cloud

Building Resilient Streaming Analytics Systems on Google Cloud



Course Summary

You've reached the end of this course on building resilient streaming analytics systems on Google Cloud. Let's recap what you've learned.

Course summary

- Streaming is data processing for unbounded data sets.
- Pub/Sub is a messaging service used as a starting point to process streaming data.
- Dataflow provides a serverless service for processing batch and streaming data.
- BigQuery allows you to stream records into a table.
- Cloud BigTable can handle NoSQL queries over large datasets (petabytes) in milliseconds.

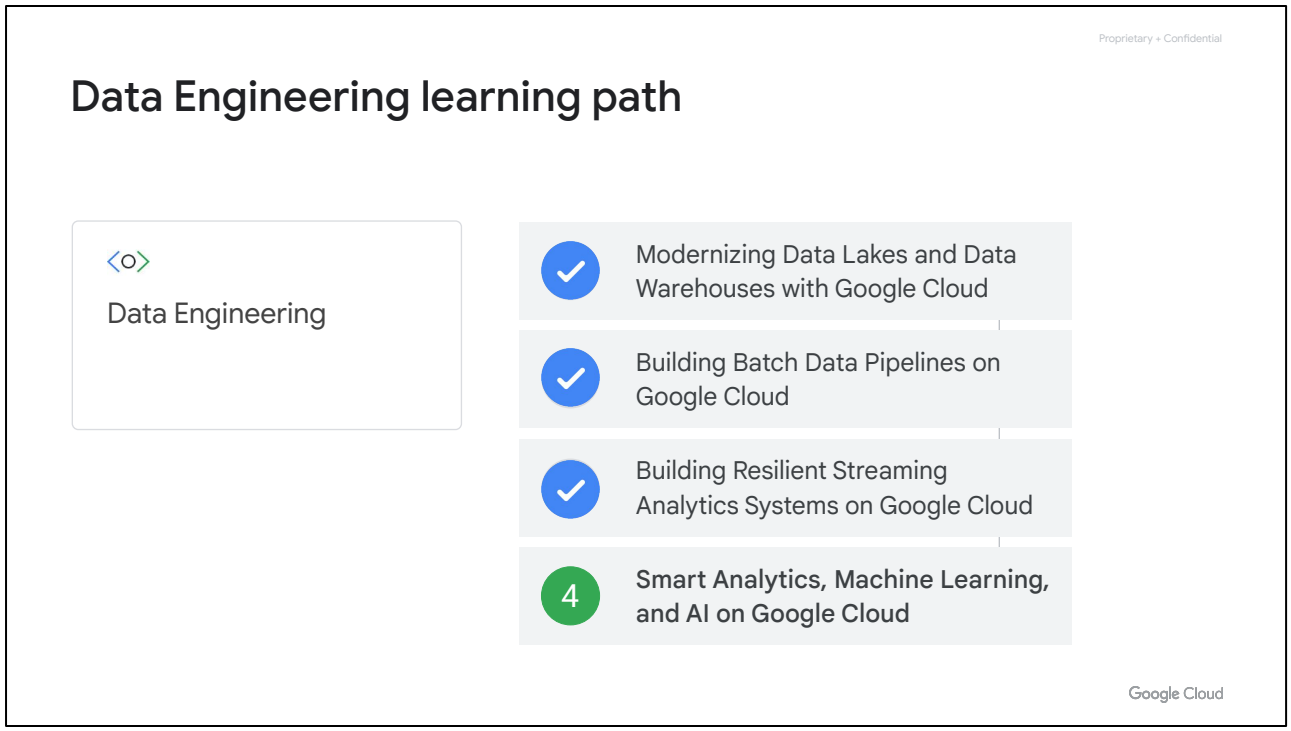
We started off with what streaming data is and the challenges associated with processing streaming data. We said it was important to be able to ingest varying amounts of data because you could have spikes in your data. It is important to be able to deal with unexpected delays because latency is a fact of life.

We want to be able to derive real-time insights from the data even as the data is streaming in. In order to do that, we look at the architecture that consisted of ingesting the data with Pub/Sub, processing the data in stream using Dataflow, and streaming it into BigQuery for durable storage and interactive analysis. We also spent time talking about how Bigtable is a better solution when a much higher throughput is desired.

Course summary

- Use BigQuery's analytic window functions for advanced analysis.
- BigQuery has built in GIS functionality.
- Use BigQuery's WITH clause to help modularize your queries.
- There are many ways to optimize your query performance.

And finally, we went back to BigQuery to look at some of its advanced analysis capabilities with window functions and GIS functionalities, as well as reviewed ways to optimize query performance.



Congratulations on completing **Building Resilient Streaming Analytics Systems on Google Cloud**.

Smart Analytics, Machine Learning, and AI on Google Cloud is the fourth and final course of the Data Engineering on Google Cloud course series and is covered next. We hope to see you there!