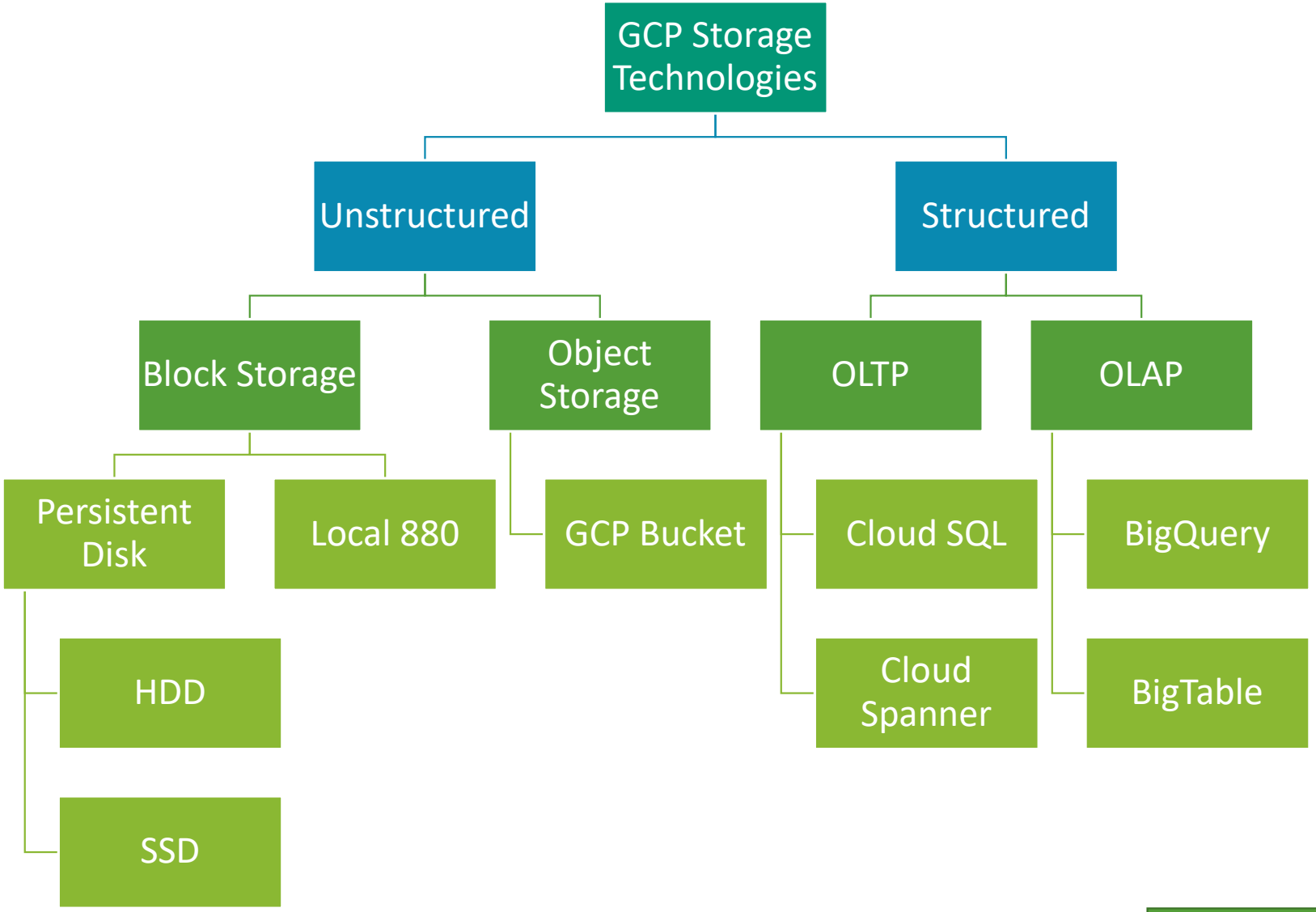
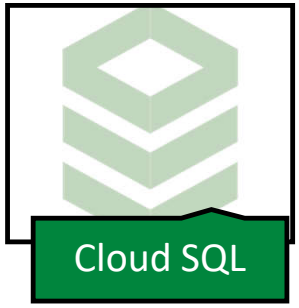
Google Cloud Platform Storage

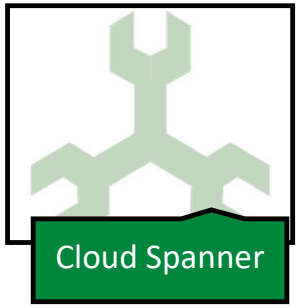
Harvesting, Storing, and Retrieving Data


GCP Storage Technologies
Unstructured
Structured
Block Storage
Object Storage
OLTP
OLAP
Persistent Disk
Local 880
GCP Bucket
Cloud SQL
BigQuery
HDD
Cloud Spanner
BigTable
SSD

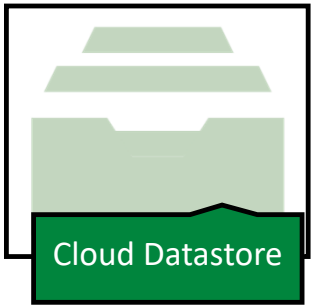
Different GCP Storage Services

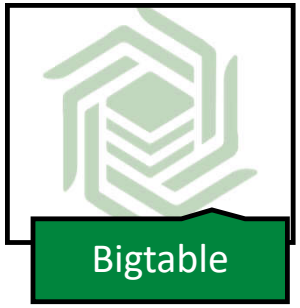
Relational Databases





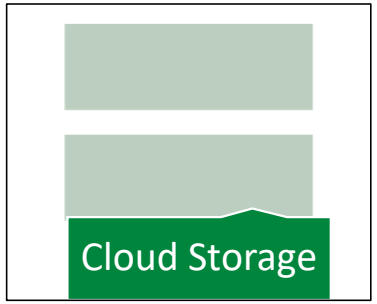
Non-Relational Databases





Data Warehousing

Object Storage



Understanding Cloud Storage: Unstructured:Object Storage

Infinite Memory Storage

Pay for What you Need

Files Accessible around the World

Low Maintenance

Bucket Locations & Considerations

For data consumers, a suitable location strikes a balance between latency, availability, and bandwidth costs.

- If possible, choose the region that is convenient for your customers.
- If you need higher availability, consider using dual region.
- If the majority of your customers are geographically dispersed, use a multi-region.

Continent	Region	
North America	NORTHAMERICA-NORTHEAST1	Monreal
	US-CENTRAL1	Iowa
	US-EAST1	South Carolina
	US-EAST4	Northern Virginia
	US-WEST1	Oregon
	US-WEST2	Los Angeles
	US-WEST3	Salt Lake City
	US-WEST4	Las Vega

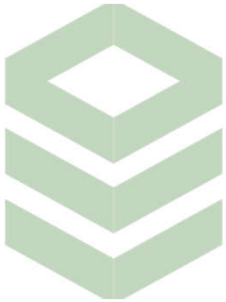
Bucket Locations & Considerations

Multi-Region Name	Multi-Region Description
Asia	Data centers in Asia
EU	Data centers within member state of the European Union
US	Data centers in the United States

Dual-Region Name	Dual-Region Description
ASIA1	ASIA-NORTHEAST1 and ASIA-NORTHEAST2
EUR4	EUROPE-NORTH1 and EUROPE-WEST4
NAM4	US-CENTRA1 and US-EAST1

Introduction to SQL

- Programming language created to manage data stored in relational database management system (RDMS).
- One of the first commercial database languages since 1970.
- There are many SQL dialects in various database products.
  - Procedural language/SQL (PL/SQL) – Oracle Database
  - Transact-SQL (T-SQL) – Microsoft SQL Server
  - MySQL – has its own procedural language – acquired by Oracle
- We will create an instance, database, and table using CREATE
- We will enter data into a table using INSERT
- We will use the DELETE statement to delete tables, databases, and instances.
- See SQL Cheat Sheet in Additional Resources for this Module.



Understanding Cloud SQL: Structured: OLTP

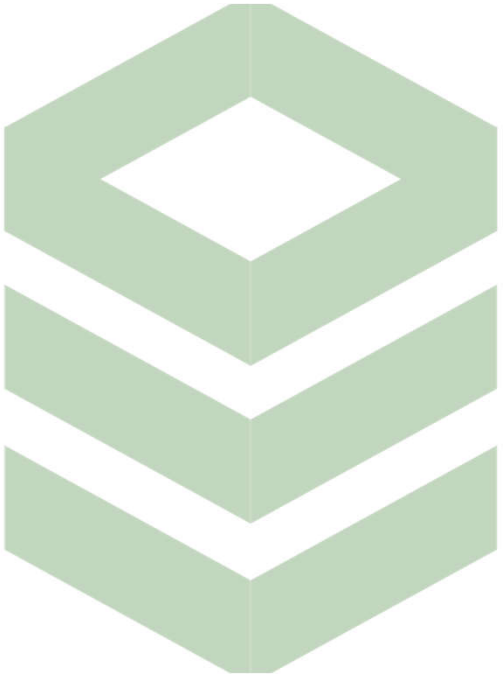
Fully Managed

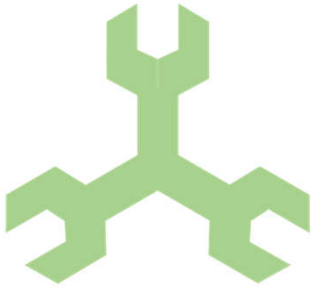
Performance and Scalability

Reliability and Security

Compatibility

Creating Cloud SQL Instance, Creating a Table, Loading Data





Understanding Cloud Spanner: Structured: OLTP

Fully Managed

Strong External Consistency

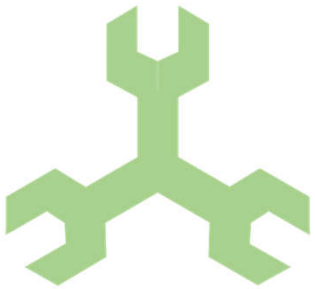
Scales to Very Large Databases

Enterprise grade security

Horizontal Scaling

Low latency, high availability

Creating Cloud Spanner



Understanding BigQuery: Structured: OLAP

Fully Managed

Strong External Consistency

Scales to Very Large Databases

Enterprise grade security

Horizontal Scaling

Low latency, high availability

Creating Cloud BigQuery

GCP Storage

- You have created a bucket and folders in Cloud Storage to store objects. You then uploaded .csv files into the folders. You did this all in the console.
- You have created an instance, database, and table in MySQL. You then and then entered data into the table. You did this in the console and with the gcloud command-line in Cloud Shell terminal. (OLTP)
- You have created an instance. Database, schema, and table in Cloud Spanner. You then inserted data into the table. You did this all using the gcloud command-line in Cloud Shell terminal. (OLTP)
- You have created a dataset and table in BigQuery. You then loaded a .csv file into the table and previewed the table. You did this all in the console. (OALP Storage)