

# Create and Manage Cloud Spanner Instances: Challenge Lab

GSP381



- Corporate DBA creates Cloud Spanner instance for Banking Operations with specified table schemas and datasets.
- **Core Tasks:**
  - Provision Spanner instance → Create `banking-ops-db` database → Define tables (customers, accounts, transactions) with proper primary/interleaved keys.
  - Load datasets using DML, client libraries, or Dataflow bulk import per specifications.
  - Configure backups for point-in-time recovery and verify data integrity/scalability.
  - Essential for financial workloads requiring strong consistency at scale.

Welcome to Cloud Shell! Type "help" to get started, or type "gemini" to try prompting with Gemini CLI. Your Cloud Platform project in this session is set to `awiklabs-gcp-03-9d64160533ea`.

Your Cloud Platform project in this session is set to `qwiklabs-gcp-03-3d64100553ea`. Use `gcloud config set project [PROJECT_ID]` to change to a different project.

```
use gcloud config set account student_00_d7b47cf69e...  
Credentials loaded from account [student_00_d7b47cf69e...]
```

ACTIVE: \*

ACCOUNT: student-00-d7b47cf69e6a@gwiklabs.net

To set the active account, run

```
$ gcloud config set account `ACCOUNT`
```

```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud config list project  
[core]  
project = qwiklabs-qcp-03-9d64160533ea
```

Your active configuration is: [cloudshell-21443]

```
student 00 d7b47cf69e6a@cloudshell:~ (qwiklabs-qcp-03-9d64160533ea)$
```



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End Lab  
Time limit

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Username

student-00-d7b47cf69e6af



Password

2Vmqt3wLz1k



Project ID

qwiklabs-gcp-03-9d64160!



## Task 1. Create a Cloud Spanner instance

1. Your first task is to create an instance.
2. You may complete this step using the Cloud Console or the gcloud CLI.
3. Your instance must have following attributes:

Item	Value
Name	banking-ops-instance
Region	us-east1
Allocate Compute Capacity	Unit - Nodes // Quantity - 1

GSP381

Overview

Setup and requirements

Challenge Scenario

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An example gcloud CLI command to create an instance is as follows:

```
gcloud spanner instances create my-sample-instance \
--config=regional-us-east1 \
--description="Sample Instance" \
--nodes=1
```

4. Click **Check my progress** to verify the objective.

Create an instance

Check my progress

*Assessment Completed!*

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student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$ export REGION=us-east1  
student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$  
student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$ gcloud spanner instances create banking-ops-instance \  
--config=regional-\$REGION \  
--description="Dev\_Lab" \  
--nodes=1  
Creating instance...done.  
student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$  
student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$  
student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$ gcloud spanner databases create banking-ops-db --instance=banking-ops-instance  
Creating database...done.  
student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$

9+ 17°C Partly sunny

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End Lab  
02:07:32  
Time limit

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Project ID

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## Task 2. Create a Cloud Spanner database

- Your next task is to create a database.
- You may complete this step using the Cloud Console or the gcloud CLI.
- Your database must have following attribute:

Item	Value
Name	banking-ops-db

An example gcloud CLI command to create a database is as follows:

```
gcloud spanner databases create my-sample-db \
--instance=my-sample-instance
```

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Time limit

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An example gcloud CLI command to create a database is as follows:

```
gcloud spanner databases create my-sample-db \
--instance=my-sample-instance
```

4. Click **Check my progress** to verify the objective.

Create a database

[Check my progress](#)

Assessment Completed!

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## Task 3. Create tables in your database

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End Lab  
Time limit

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## Task 3. Create tables in your database

1. Your database must have a total of four (4) tables - **Portfolio**, **Category**, **Product**, and **Customer**.
2. The tables must be defined as listed below.

An example DDL command to create a table is as follows:

```
CREATE TABLE Sample (
    SampleId INT64 NOT NULL,
    SampleName STRING(MAX)
) PRIMARY KEY (SampleId);
```

Table: **Portfolio**

Primary Key: **PortfolioId**

Task 1. Create a Cloud Spanner instance

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Task 2. Create a Cloud Spanner database

Task 3. Create tables in your database

Task 4. Load simple datasets into tables

Task 5. Load a complex dataset

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```
Sampfield INT64 NOT NULL,  
SampleName STRING(MAX)  
) PRIMARY KEY (SampleId);
```

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Table: Portfolio

Primary Key: Portfoliod

Column	Datatype
Portfoliod	INT64 NOT NULL
Name	STRING(MAX)
ShortName	STRING(MAX)
PortfolioInfo	STRING(MAX)

Task 1. Create a Cloud Spanner instance

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## Table: Category

Primary Key: CategoryId

Column	Datatype
CategoryId	INT64 NOT NULL
PortfolioId	INT64 NOT NULL
CategoryName	STRING(MAX)
PortfolioInfo	STRING(MAX)

## Table: Product

Task 1. Create a Cloud Spanner instance

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Congratulations!

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## Table: Product

Primary Key: ProductId

Column	Datatype
ProductId	INT64 NOT NULL
CategoryId	INT64 NOT NULL
PortfolioId	INT64 NOT NULL
ProductName	STRING(MAX)
ProductAssetCode	STRING(25)
ProductClass	STRING(25)

## Table: Customer

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ProductClass

STRING(25)

## Table: Customer

## Primary Key: CustomerId

Column	Datatype
CustomerId	STRING(36) NOT NULL
Name	STRING(MAX) NOT NULL
Location	STRING(MAX) NOT NULL

Task 1. Create a Cloud Spanner instance

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```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Portfolio (
  PortfolioId INT64 NOT NULL,
  Name STRING(MAX),
  ShortName STRING(MAX),
  PortfolioInfo STRING(MAX) )
  PRIMARY KEY (PortfolioId)"
Schema updating...done.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Category (
  CategoryId INT64 NOT NULL,
  PortfolioId INT64 NOT NULL,
  CategoryName STRING(MAX),
  PortfolioInfo STRING(MAX) )
  PRIMARY KEY (CategoryId)"
gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Product (
  ProductId INT64 NOT NULL,
  CategoryId INT64 NOT NULL,
  PortfolioId INT64 NOT NULL,
  ProductName STRING(MAX),
  ProductAssetCode STRING(25),
  ProductClass STRING(25) )
  PRIMARY KEY (ProductId)"
gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Customer (
  CustomerId STRING(36) NOT NULL,
```

```
Schema updating...done.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Category (
    CategoryId INT64 NOT NULL,
    PortfolioId INT64 NOT NULL,
    CategoryName STRING(MAX),
    PortfolioInfo STRING(MAX))
    PRIMARY KEY (CategoryId)"

gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Product (
    ProductId INT64 NOT NULL,
    CategoryId INT64 NOT NULL,
    PortfolioId INT64 NOT NULL,
    ProductName STRING(MAX),
    ProductAssetCode STRING(25),
    ProductClass STRING(25))
    PRIMARY KEY (ProductId)"

gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl="CREATE TABLE Customer (
    CustomerId STRING(36) NOT NULL,
    Name STRING(MAX) NOT NULL,
    Location STRING(MAX) NOT NULL)
    PRIMARY KEY (CustomerId)"

Schema updating...done.
Schema updating...done.
Schema updating...done.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
```



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Project ID

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## Task 4. Load simple datasets into tables

- Three of your tables, **Portfolio**, **Category**, and **Product**, will be loaded with simple, low-volume datasets.
- You may employ any method to load these tables.

**Note:** The data elements provided are ordered to match the order of the columns of the corresponding table.

An example DML command to load a single row into a table is as follows:

```
INSERT INTO
  Sample (SampleId, SampleName)
VALUES
  (1, "Banking");
```

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Congratulations!



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## Create and Manage Cloud Spanner Instances: Cl

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**Note:** The data elements provided are ordered to match the order of the columns of the corresponding table.

An example DML command to load a single row into a table is as follows:

```
INSERT INTO
  Sample (SampleId, SampleName)
VALUES
  (1, "Banking");
```

Table: Portfolio

```
1, "Banking", "Bnkg", "All Banking Business"
2, "Asset Growth", "AsstGrwth", "All Asset Focused Products"
3, "Insurance", "Insurance", "All Insurance Focused Products"
```

Table: Category

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## Table: Category

- 1,1,"Cash"
- 2,2,"Investments - Short Return"
- 3,2,"Annuities"
- 4,3,"Life Insurance"

## Table: Product

- 1,1,1,"Checking Account","ChkAcct","Banking LOB"
- 2,2,2,"Mutual Fund Consumer Goods","MFundCG","Investment LOB"
- 3,3,2,"Annuity Early Retirement","AnnuFixed","Investment LOB"
- 4,4,3,"Term Life Insurance","TermLife","Insurance LOB"
- 5,1,1,"Savings Account","SavAcct","Banking LOB"
- 6,1,1,"Personal Loan","PersLn","Banking LOB"
- 7,1,1,"Auto Loan","AutLn","Banking LOB"
- 8,4,3."Permanent Life Insurance". "PermLife". "Insurance LOB"

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task 1. Create a Cloud Spanner instance 60/100

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Password  
2Vmqt3wLz1k

Project ID  
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## Table: Product

```
1,1,1,"Checking Account","ChkAcct","Banking LOB"  
2,2,2,"Mutual Fund Consumer Goods","MFundCG","Investment LOB"  
3,3,2,"Annuity Early Retirement","AnnuFixed","Investment LOB"  
4,4,3,"Term Life Insurance","TermLife","Insurance LOB"  
5,1,1,"Savings Account","SavAcct","Banking LOB"  
6,1,1,"Personal Loan","PersLn","Banking LOB"  
7,1,1,"Auto Loan","AutLn","Banking LOB"  
8,4,3,"Permanent Life Insurance","PermLife","Insurance LOB"  
9,2,2,"US Savings Bonds","USSavBond","Investment LOB"
```

3. Click each **Check my progress** to verify the objectives.

## Create and Load Tables

Check my progress

task 1. Create a Cloud Spanner instance  
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```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases execute-sql banking-ops-db --instance=banking-ops-instance \
--sql='INSERT INTO Portfolio (PortfolioId, Name, ShortName, PortfolioInfo)
VALUES
(1, "Banking", "Bnkg", "All Banking Business"),
(2, "Asset Growth", "AsstGrwth", "All Asset Focused Products"),
(3, "Insurance", "Insurance", "All Insurance Focused Products")'
Statement modified 3 rows
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases execute-sql banking-ops-db --instance=banking-ops-instance \
--sql='INSERT INTO Category (CategoryId, PortfolioId, CategoryName)
VALUES
(1, 1, "Cash"),
(2, 2, "Investments - Short Return"),
(3, 2, "Annuities"),
(4, 3, "Life Insurance")'
Statement modified 4 rows
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases execute-sql banking-ops-db --instance=banking-ops-instance \
--sql='INSERT INTO Product (ProductId, CategoryId, PortfolioId, ProductName, ProductAssetCode, ProductClass)
VALUES
(1, 1, 1, "Checking Account", "ChkAcct", "Banking LOB"),
(2, 2, 2, "Mutual Fund Consumer Goods", "MFundCG", "Investment LOB"),
(3, 3, 2, "Annuity Early Retirement", "AnnuFixed", "Investment LOB"),
(4, 4, 3, "Term Life Insurance", "TermLife", "Insurance LOB"),
(5, 1, 1, "Savings Account", "SavAcct", "Banking LOB"),
(6, 1, 1, "Personal Loan", "PersLn", "Banking LOB"),
(7, 1, 1, "Auto Loan", "AutLn", "Banking LOB"),
(8, 4, 3, "Permanent Life Insurance", "PermLife", "Insurance LOB"),
(9, 2, 2, "US Savings Bonds", "USSavBond", "Investment LOB")'
```

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Statement modified 3 rows

```
(1, "Banking", "Bnkg", "All Banking Business"),
(2, "Asset Growth", "AsstGrwth", "All Asset Focused Products"),
(3, "Insurance", "Insurance", "All Insurance Focused Products")'
```

Statement modified 4 rows

```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases execute-sql banking-ops-db --instance=banking-ops-instance \
--sql='INSERT INTO Category (CategoryId, PortfolioId, CategoryName)
VALUES
(1, 1, "Cash"),
(2, 2, "Investments - Short Return"),
(3, 2, "Annuities"),
(4, 3, "Life Insurance")'
```

Statement modified 9 rows

```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases execute-sql banking-ops-db --instance=banking-ops-instance \
--sql='INSERT INTO Product (ProductId, CategoryId, PortfolioId, ProductName, ProductAssetCode, ProductClass)
VALUES
(1, 1, 1, "Checking Account", "ChkAcct", "Banking LOB"),
(2, 2, 2, "Mutual Fund Consumer Goods", "MFundCG", "Investment LOB"),
(3, 3, 2, "Annuity Early Retirement", "AnnuFixed", "Investment LOB"),
(4, 4, 3, "Term Life Insurance", "TermLife", "Insurance LOB"),
(5, 1, 1, "Savings Account", "SavAcct", "Banking LOB"),
(6, 1, 1, "Personal Loan", "PersLn", "Banking LOB"),
(7, 1, 1, "Auto Loan", "AutLn", "Banking LOB"),
(8, 4, 3, "Permanent Life Insurance", "PermLife", "Insurance LOB"),
(9, 2, 2, "US Savings Bonds", "USSavBond", "Investment LOB")'
```

Air: Severe Tomorrow

Search

03:39 PM 20-12-2025



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Create and Manage Cloud Spanner Instances: Cl

Dashboard

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End Lab

00:54:58

? Time limit

**Caution:** When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked.

[Learn more.](#)

[Open Google Cloud console](#)

Username

student-00-d7b47cf69e6af



Password

2VmqtM3wLz1k



Project ID

qwiklabs-gcp-03-9d64160!



## Task 5. Load a complex dataset

1. You will load the **Customer** table with a much larger set of data.
2. A file named **Customer\_List\_500.csv** contains 500 rows of data and is located in the following public Cloud Storage bucket. You may reference or download it as necessary.

gsutil URI

gs://splst/gsp381/Customer\_List\_500.csv



HTTP URL

[https://storage.googleapis.com/splst/gsp381/Customer\\_List\\_500.csv](https://storage.googleapis.com/splst/gsp381/Customer_List_500.csv)[Previous](#)[Next](#)

task 1. Create a Cloud Spanner instance 100/100

Task 2. Create a Cloud Spanner database

Task 3. Create tables in your database

Task 4. Load simple datasets into tables

Task 5. Load a complex dataset

Task 6. Add a new column to an existing table

Congratulations!



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## Create and Manage Cloud Spanner Instances: Cl

00:54:48

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**Caution:** When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked.

[Learn more.](#)

[Open Google Cloud console](#)

Username

student-00-d7b47cf69e6af



Password

2VmqtM3wLz1k



Project ID

qwiklabs-gcp-03-9d64160!



gs://spl/spl/gsp381/Customer\_List\_500.csv



## HTTP URL

https://storage.googleapis.com/spl/spl/gsp381/Customer\_List\_500.csv



3. You may recall from the lab **Cloud Spanner - Loading Data and Performing Backups** that a few options exist to load larger datasets. These include using Dataflow or a client library in Batch mode. You may choose to create simple insert statements. The decision is yours but you **must** load all 500 rows.
4. Utilize any method that you prefer to load the 500 row datafile. Some methods will require edits to the datafile which will require downloading it to your local machine. Please be sure to make a backup file if you choose that option.
5. **Note:** If you use Dataflow, ensure that you specify the **us-east1** Regional Endpoint and reset the Dataflow API via the following gcloud command:

task 1. Create a Cloud Spanner instance  
100/100

Task 2. Create a Cloud Spanner database

Task 3. Create tables in your database

Task 4. Load simple datasets into tables

Task 5. Load a complex dataset

Task 6. Add a new column to an existing table

Congratulations!

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## Create and Manage Cloud Spanner Instances: Cl

00:54:41

Time limit

**Caution:** When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked.

[Learn more.](#)

Open Google Cloud console

Username  
student-00-d7b47cf69e6afPassword  
2VmqtM3wLz1kProject ID  
qwiklabs-gcp-03-9d64160!

4. Utilize any method that you prefer to load the 500 row datafile. Some methods will require edits to the datafile which will require downloading it to your local machine. Please be sure to make a backup file if you choose that option.

5. **Note:** If you use Dataflow, ensure that you specify the **us-east1** Regional Endpoint and reset the Dataflow API via the following gcloud command:

```
gcloud services disable dataflow.googleapis.com --force  
gcloud services enable dataflow.googleapis.com
```

6. Also if you use a Dataflow template you will be required to provide a manifest file named **manifest.json**. Below is a sample **manifest.json** that you can use to guide creation of a file appropriate for loading the **Customer** table.

**Note:** This sample **cannot be used as is**, you must update it accordingly.

Note:

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task 1. Create a Cloud Spanner instance 100/100

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Congratulations!



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## Create and Manage Cloud Spanner Instances: Cl

00:54:34

Time limit

End Lab

**Caution:** When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked.

[Learn more.](#)

[Open Google Cloud console](#)

Username

student-00-d7b47cf69e6af



Password

2VmqtM3wLz1k



Project ID

qwiklabs-gcp-03-9d64160!



```
        }
        {
            "column_name" : "UPDATE_COLUMN2", "type_name" :
            "UPDATE_DATATYPE" },
            {
                "column_name" : "UPDATE_COLUMN3", "type_name" :
                "UPDATE_DATATYPE" }
        ]
    }
}
```

7. Click **Check my progress** to verify the objective.

Load Customer table

[Check my progress](#)*Assessment Completed!*

task 1. Create a Cloud Spanner instance 100/100

Task 2. Create a Cloud Spanner database

Task 3. Create tables in your database

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Congratulations!

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Dashboard – qwiklabs-gcp-03-9d64160533ea ✘ banking-ops-instance – Overview – q +

https://console.cloud.google.com/home/dashboard?project=qwiklabs-gcp-03-9d64160533ea&pli=1&cloudshell=true

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Google Cloud qwiklabs-gcp-03-9d64160533ea Search (/) for resources, docs, products, and more Search

CLOUD SHELL Terminal (qwiklabs-gcp-03-9d64160533ea) + Open Editor

Gemini CLI is available in Cloud Shell terminal! Type gemini to try it. [Learn more](#)

student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$ curl -LO https://raw.githubusercontent.com/dev23-extremis/csv-data/main/Customer\_List\_500.csv

% Total	% Received	% Xferd	Average Speed	Time Dload	Time Upload	Time Total	Spent	Time Left	Current Speed
100	34900	100	34900	0	0	105k	0	--:--:--	--:--:-- 105k

student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$ gcloud services disable dataflow.googleapis.com --force

gcloud services enable dataflow.googleapis.com

Provide the --force flag if you wish to force disable services.

ERROR: (gcloud.services.disable) INVALID\_ARGUMENT: Service 'dataflow.googleapis.com' cannot be disabled because it is not enabled in the project, it is enabled in one of the resource's ancestors. Please use Service Usage v2 APIs to identify the ancestor or change its policy.

Help Token: Aa5MgsVl30u1ahUbLtp0B5IstV2JZ5Alog471Fs7UkmECA65ddb4Y8WVruAXOXb11gf\_hWFV45Im9kyFdjWXenaHSkC3rT0NbqLdPxA3LSyL\_xm

- '@type': type.googleapis.com/google.rpc.PreconditionFailure

violations:

- subject: ?error\_code=908055&service=dataflow.googleapis.com
- type: googleapis.com

- '@type': type.googleapis.com/google.rpc.ErrorInfo

domain: serviceusage.googleapis.com

metadata:

service: dataflow.googleapis.com

reason: SU\_CANNOT\_DISABLE\_IF\_ENABLED\_HIERARCHICALLY

Operation "operations/acf.p2-697503030034-ee6ceb29-afd6-4c01-a1b9-cd65725a1213" finished successfully.

student\_00\_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)\$

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04:42 PM 20-12-2025 ENG IN

Dashboard – qwiklabs-gcp-03-9d6... | banking-ops-instance – Overview – q | Buckets – Cloud Storage – qwikla X +

https://console.cloud.google.com/storage/browser?referrer=search&project=qwiklabs-gcp-03-9d64160533ea&prefix=&forceOnBucketsSortingFi... | 1

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Google Cloud qwiklabs-gcp-03-9d64160533ea bucket X Search

Cloud Storage Cloud Storage Bucket Overview Buckets + Create Refresh Filter Filter buckets View options

Name	Created	Location type	Location	Default storage class	Last modified	Public ac
<a href="#">dataflow-staging-us-east1-69750303...</a>	Dec 20, 2025, 3:50:56 PM	Region	us-east1	Standard	Dec 20, 2025, 3:50:56 PM	Subject to
<a href="#">qwiklabs-gcp-03-9d64160533ea</a>	Dec 20, 2025, 3:45:10 PM	Multi-region	us	Standard	Dec 20, 2025, 3:45:10 PM	Subject to

Buckets Monitoring Settings Storage Intelligence Insights datasets Configuration Marketplace Release Notes

Air: Severe Tomorrow 9+ ENG IN 04:42 PM 20-12-2025

Dashboard – qwiklabs-gcp-03-9d6... | banking-ops-instance – Overview – q | qwiklabs-g...4160533ea – Cloud | +

https://console.cloud.google.com/storage/browser/qwiklabs-gcp-03-9d64160533ea;tab=objects?forceOnBucketsSortingFiltering=true&project=qwiklabs-gcp-03-9d64160533ea

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Google Cloud qwiklabs-gcp-03-9d64160533ea bucket X Search

Cloud Storage Bucket details Edit bucket Go to path Refresh

console.cloud.google.com wants to open

Overview Buckets Monitoring Settings Storage Intelligence Insights datasets Configuration Marketplace Release Notes

Bucket details

Organize New folder

Name Date modified Type Size

month-3

Build a Data Mesh with Dataplex Challen... 19-12-2025 04:22 PM File folder

Create and Manage Cloud Spanner Insta... 19-12-2025 08:49 PM File folder

Create and Manage Cloud SQL for Postgr... 18-12-2025 05:48 PM File folder

Implement DevOps Workflows in Google... 16-12-2025 05:37 PM File folder

Create and Run ML Pipelines with Vertex ... 17-12-2025 03:51 PM Microsoft PowerPo... 10,016 KB

manifest 20-12-2025 04:22 PM JSON Source File 1 KB

File name: manifest Open Cancel

Live objects only

Storage class

— 1:54PM Standard

— 1:58PM Standard

Manifest file details

File name: manifest

File type: JSON Source File

Last modified: 20-12-2025 04:22 PM

Size: 1 KB

Content:

```
[{"id": "1", "name": "Build a Data Mesh with Dataplex Challenge", "type": "File", "size": 10000000}, {"id": "2", "name": "Create and Manage Cloud Spanner Instances", "type": "File", "size": 10000000}, {"id": "3", "name": "Create and Manage Cloud SQL for PostgreSQL", "type": "File", "size": 10000000}, {"id": "4", "name": "Implement DevOps Workflows in Google Cloud", "type": "File", "size": 10000000}, {"id": "5", "name": "Create and Run ML Pipelines with Vertex AI", "type": "File", "size": 10000000}, {"id": "6", "name": "manifest", "type": "File", "size": 1000000}
```

Air: Severe Tomorrow

Search

04:43 PM 20-12-2025 ENG IN

Dashboard – qwiklabs-gcp-03-9d6... | banking-ops-instance – Overview – Cloud | qwiklabs-g...4160533ea – Cloud | +

https://console.cloud.google.com/storage/browser/qwiklabs-gcp-03-9d64160533ea;tab=objects?forceOnBucketsSortingFiltering=true&project=qwiklabs-gcp-03-9d64160533ea

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Google Cloud qwiklabs-gcp-03-9d64160533ea bucket X Search

Cloud Storage Bucket details Edit bucket Go to path Refresh

Overview Buckets Monitoring Settings

Storage Intelligence Insights datasets Configuration

Marketplace Release Notes

Bucket details for qwiklabs-gcp-03-9d64160533ea

Location: us (multiple regions in United States) Storage class: Standard Public access: Subject to object ACLs Protection: Soft Delete

Objects Configuration Permissions Protection Lifecycle Observability New Inventory Reports Operations

Folder browser Buckets > qwiklabs-gcp-03-9d64160533ea Create folder Upload Transfer data Other services Learn

Filter by name prefix only Filter objects and folders Show Live objects only

Name	Size	Type	Created	Storage class
/	–	Folder	–	–
Customer_List_500.csv	34.9 KB	text/csv	Dec 20, 2025, 4:31:54PM	Standard
manifest.json	379 B	application/json	Dec 20, 2025, 4:31:58PM	Standard
tmp/	–	Folder	–	–

Air: Severe Tomorrow 04:43 PM 20-12-2025 ENG IN

```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ curl -LO https://raw.githubusercontent.com/dev23-extremis/csv-data/main/Customer_List_500.csv
% Total    % Received % Xferd  Average Speed   Time     Time      Time  Current
          Dload  Upload   Total Spent   Left  Speed
100 34900  100 34900    0     0  105k      0 --::-- --::-- --::--  105k
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud services disable dataflow.googleapis.com --force
gcloud services enable dataflow.googleapis.com
Provide the --force flag if you wish to force disable services.
ERROR: (gcloud.services.disable) INVALID_ARGUMENT: Service 'dataflow.googleapis.com' cannot be disabled because it is not enabled in the project, it is enabled in one of the resource's ancestors. Please use Service Usage v2 APIs to identify the ancestor or change its policy.
Help Token: Aa5MgsVl30ullahUbLtp0B5IstV2JZ5A1og471Fs7UkmECA65ddB4Y8WVruAXOXb11gf_hWFV45Im9kyFdjWXenaHSkC3rT0NbqlDPxA3LSyL_xm
- '@type': type.googleapis.com/google.rpc.PreconditionFailure
  violations:
  - subject: ?error_code=908055&service=dataflow.googleapis.com
    type: googleapis.com
- '@type': type.googleapis.com/google.rpc.ErrorInfo
  domain: serviceusage.googleapis.com
  metadata:
    service: dataflow.googleapis.com
  reason: SU_CANNOT_DISABLE_IF_ENABLED_HIERARCHICALLY
Operation "operations/acf.p2-697503030034-ee6ceb29-afd6-4c01-a1b9-cd65725a1213" finished successfully.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gsutil mb gs://$DEVSHELL_PROJECT_ID
Creating gs://qwiklabs-gcp-03-9d64160533ea/...
ServiceException: 409 A Cloud Storage bucket named 'qwiklabs-gcp-03-9d64160533ea' already exists. Try another name. Bucket names must be globally unique across all Google Cloud projects, including those outside of your organization.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
```

Dashboard – qwiklabs-gcp-03-9d64160533ea X banking-ops-instance – Overview – q qwiklabs-g..4160533ea – Cloud Store +

https://console.cloud.google.com/home/dashboard?project=qwiklabs-gcp-03-9d64160533ea&pli=1&cloudshell=true

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CLOUD SHELL Terminal (qwiklabs-gcp-03-9d64160533ea) + Open Editor

Gemini CLI is available in Cloud Shell terminal! Type gemini to try it. [Learn more](#)

Don't show again Dismiss

```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ touch dev_lab
gsutil cp dev_lab gs://$DEVSHELL_PROJECT_ID/tmp/dev_lab
Copying file://dev_lab [Content-Type=application/octet-stream]...
/ [1 files] [ 0.0 B/ 0.0 B]
Operation completed over 1 objects.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gsutil cp Customer_List_500.csv gs://$DEVSHELL_PROJECT_ID
gsutil cp manifest.json gs://$DEVSHELL_PROJECT_ID
Copying file://Customer_List_500.csv [Content-Type=text/csv]...
/ [1 files] [ 34.1 KiB/ 34.1 KiB]
Operation completed over 1 objects/34.1 KiB.
Copying file://manifest.json [Content-Type=application/json]...
/ [1 files] [ 379.0 B/ 379.0 B]
Operation completed over 1 objects/379.0 B.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
```

Air: Severe Tomorrow 9+ Search

ENG IN 04:44 PM 20-12-2025

>Create and Manage Cloud Spanner

gcloud dataflow jobs run dev\_lab \ +

https://partner.skills.google/course\_templates/643/labs/612221

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Google Skills Partner

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Create and Manage Cloud Spanner Instances: Challenge Lab

End Lab 00:56:16 ? Time limit

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

Open Google Cloud console

Username: student-00-d7b47cf69e6af

Password: 2VmqtM3wLz1k

Project ID: qwiklabs-gcp-03-9d64160!

task 1. Create a Cloud Spanner instance 100/100

Task 2. Create a Cloud Spanner database

Task 3. Create tables in your database

Task 4. Load simple datasets into tables

Task 5. Load a complex dataset

Task 6. Add a new column to an existing table

Congratulations!

## Task 6. Add a new column to an existing table

- As part of your DBA responsibilities you are required to add a new column called **MarketingBudget** to the **Category** table.
- The column **MarketingBudget** must have a datatype of **INT64**.
- Adding a new column is accomplished by a DDL command. You may issue the DDL via a gcloud command, the Cloud Console, or client library call.

An example gcloud CLI command to add a column to a table is as follows:

```
gcloud spanner databases ddl update my-sample-db \
--instance=my-sample-instance \
--ddl='ALTER TABLE Sample ADD COLUMN SampleValue INT64;'
```

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Google Cloud Spanner Create and Manage Cloud Spanner Instances

https://partner.skills.google/course\_templates/643/labs/612221

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Contents

Create and Manage Cloud Spanner Instances: Challenge Lab

End Lab 00:56:05 Time limit

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

Open Google Cloud console

Username: student-00-d7b47cf69e6af  
Password: 2VmqtM3wLz1k  
Project ID: qwiklabs-gcp-03-9d64160!

An example gcloud CLI command to add a column to a table is as follows:

```
gcloud spanner databases ddl update my-sample-db \
--instance=my-sample-instance \
--ddl='ALTER TABLE Sample ADD COLUMN SampleValue INT64;'
```

4. Click Check my progress to verify the objective.

Add Column

Check my progress

Assessment Completed!

task 1. Create a Cloud Spanner instance 100/100

Task 2. Create a Cloud Spanner database

Task 3. Create tables in your database

Task 4. Load simple datasets into tables

Task 5. Load a complex dataset

Task 6. Add a new column to an existing table

Congratulations!

Conratulations!

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9+ 17°C Partly sunny

Search

04:39 PM 20-12-2025 ENG IN

Dashboard - qwiklabs-gcp-03-9d64160533ea X banking-ops-instance - Overview - q +

https://console.cloud.google.com/home/dashboard?project=qwiklabs-gcp-03-9d64160533ea&pli=1&cloudshell=true

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CLOUD SHELL Terminal (qwiklabs-gcp-03-9d64160533ea) + Open Editor

Gemini CLI is available in Cloud Shell terminal! Type gemini to try it. [Learn more](#)

Don't show again Dismiss

```
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud dataflow jobs run dev_lab \
--gcs-location gs://dataflow-templates-"$REGION"/latest/GCS_Text_to_Cloud_Spanner \
--region="$REGION" \
--staging-location gs://$DEVSHELL_PROJECT_ID/tmp/ \
--parameters instanceId=banking-ops-instance, databaseId=banking-ops-db, importManifest=gs://$DEVSHELL_PROJECT_ID/manifest.json
WARNING: `--region` not set; defaulting to 'us-central1'. In an upcoming release, users must specify a region explicitly. See https://cloud.google.com/dataflow/docs/concepts/regional-endpoints for additional details.
ERROR: (gcloud.dataflow.jobs.run) INVALID_ARGUMENT: (8dde0ae0044b1ce0): Bad file name: gs://dataflow-templates-/latest/GCS_Text_to_Cloud_Spanner, expected
'gs://<bucket>/<path>'

student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ ^C
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ REGION=us-east1
gcloud dataflow jobs run dev_lab \
--gcs-location gs://dataflow-templates-us-east1/latest/GCS_Text_to_Cloud_Spanner \
--region=us-east1 \
--staging-location gs://$DEVSHELL_PROJECT_ID/tmp/ \
--parameters instanceId=banking-ops-instance, databaseId=banking-ops-db, importManifest=gs://$DEVSHELL_PROJECT_ID/manifest.json
createTime: '2025-12-20T11:07:39.525393Z'
currentStateTime: '1970-01-01T00:00:00Z'
id: 2025-12-20_03_07_38-16908603113404783310
location: us-east1
name: dev_lab
projectId: qwiklabs-gcp-03-9d64160533ea
startTime: '2025-12-20T11:07:39.525393Z'
type: JOB_TYPE_BATCH
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
--ddl='ALTER TABLE Category ADD COLUMN MarketingBudget INT64;'
```

9+ 17°C ENG IN 04:39 PM  
Partly sunny

Search

04:39 PM 20-12-2025

```
--region="$REGION" \
--staging-location gs://$DEVSHELL_PROJECT_ID/tmp/ \
--parameters instanceId=banking-ops-instance, databaseId=banking-ops-db, importManifest=gs://$DEVSHELL_PROJECT_ID/manifest.json
WARNING: `--region` not set; defaulting to 'us-central1'. In an upcoming release, users must specify a region explicitly. See https://cloud.google.com/dataflow/docs/concepts/regional-endpoints for additional details.
ERROR: (gcloud.dataflow.jobs.run) INVALID_ARGUMENT: (8dde0ae0044b1ce0): Bad file name: gs://dataflow-templates-/latest/GCS_Text_to_Cloud_Spanner, expected
'gs://<bucket>/<path>'
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ ^C
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ REGION=us-east1
gcloud dataflow jobs run dev_lab \
  --gcs-location gs://dataflow-templates-us-east1/latest/GCS_Text_to_Cloud_Spanner \
  --region=us-east1 \
  --staging-location gs://$DEVSHELL_PROJECT_ID/tmp/ \
  --parameters instanceId=banking-ops-instance, databaseId=banking-ops-db, importManifest=gs://$DEVSHELL_PROJECT_ID/manifest.json
createTime: '2025-12-20T11:07:39.525393Z'
currentStateTime: '1970-01-01T00:00:00Z'
id: 2025-12-20_03_07_38-16908603113404783310
location: us-east1
name: dev_lab
projectId: qwiklabs-gcp-03-9d64160533ea
startTime: '2025-12-20T11:07:39.525393Z'
type: JOB_TYPE_BATCH
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$ gcloud spanner databases ddl update banking-ops-db --instance=banking-ops-instance \
  --ddl='ALTER TABLE Category ADD COLUMN MarketingBudget INT64;'
Schema updating...done.
student_00_d7b47cf69e6a@cloudshell:~ (qwiklabs-gcp-03-9d64160533ea)$
```

