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## Setting Up for Google Cloud Spanner

🕒 117 Min. Remaining

📖 Beginner

Cancel Lab

Complete Lab

How was this lab?



### Credentials

How do I connect? ?

#### Google Labs Account

Username

cloud\_user\_p\_440eb3@linuxacademygclabs.com



Password

ufDHly7K



Open Google Console

### Tools

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## Setting Up for Google Cloud Spanner

In this hands-on lab, we'll walk through the process of establishing a Cloud Spanner instance and then creating a populated database to manage: from querying data to exporting it to Google Cloud Storage.

### How to Log in to Google Lab Accounts

On the lab page, right-click **Open GCP Console** and select the option to open it in a new private browser window (this option will read differently depending on your browser — e.g., in Chrome, it says "Open Link in Incognito Window"). Then, sign in to Google Cloud Platform using the credentials provided on the lab page.

On the **Welcome to your new account** screen, review the text, and click **Accept**. In the "Welcome L.A.!" pop-up once you're signed in, check to agree to the terms of service, choose your country of residence, and click **Agree and Continue**.

### Setting Up for Cloud Spanner

Now, on to the lab!

#### Enable APIs.

1. Navigate to **APIs & Services > Library**.
2. Search for "Cloud Spanner".
3. Select the **Cloud Spanner API** card.
4. Click **Enable**.
5. Head back to **APIs & Services > Library**.
6. Search for "dataflow".
7. Select the **Dataflow API** card.
8. Click **Enable**.
9. One last time, head to **APIs & Services > Library**.
10. Search for "storage".
11. Select the **Cloud Storage** card.
12. We should see it's already enabled. (If it isn't, click **Enable**.)

### Additional Information and Resources

You've been asked to get familiar with Cloud Spanner in advance of the company migrating a significant portion of its data to the service. To do so, you'll need to go through the steps of creating a Cloud Spanner instance and the various operations from creating a database with a sample populated table, running a query on the data, and then exporting it into Avro format.

To accomplish this task, you'll need to complete the following steps:

1. Enable the Cloud Spanner API.
2. Create a Cloud Spanner instance.
3. Create a database.
4. Create a schema for a database table.
5. Populate the table with data.
6. Edit the data.
7. Run a query on the data.
8. Export the data to Cloud Storage.

### Learning Objectives



#### Enable APIs

1. From the Google Cloud console navigation, choose **APIs & Libraries > Libraries**.
2. Search for **Cloud Spanner**.
3. Select the Cloud Spanner card.
4. Click **Enable** when the API page for Cloud Spanner appears.

## ✓ Create a Cloud Spanner Instance ^

1. From the main navigation, choose **Spanner** in the Storage section.
2. Click **Create instance**.
3. Provide the following details:
  - Name: la-spanner
  - Configuration: Regional - us-central1
  - Node: 1
4. Click **Create**.

## ✓ Create Database and Table ^

1. Click **Create database**.
2. Name the database.
3. Click **Continue**.
4. In the **Define the database schema** section, click **Edit as Text**.
5. Enter the following code:

```
CREATE TABLE Artists (  
  ArtistId INT64 NOT NULL,  
  FirstName STRING(1024),  
  LastName STRING(1024),  
  ArtistInfo BYTES(MAX),  
  BirthDate DATE )  
PRIMARY KEY(ArtistId);
```

6. Click **Create**.

## ✓ Populate Table ^

1. Select **Artists** in left sidebar.
2. Review the schema.
3. Click **Data**.
4. Click **Insert**.
5. Enter the following records, clicking **Save** after each one and then **Insert**:

```
ArtistId = 100  
FirstName = Paul  
LastName = Cezanne  
BirthDate = 1839-01-19  
  
ArtistId = 101  
FirstName = Ansel  
LastName = Adams  
BirthDate = 1902-02-20  
  
ArtistId = 102  
FirstName = Frida  
LastName = Kahloe  
BirthDate = 1907-07-06
```

## ✓ Edit Data ^

1. Select the checkbox in the **Frida Kahloe** record.
2. Choose **Edit**.
3. Change the LastName to **Kahlo**.
4. Click **Save**.

## ✓ Query Data ^

1. Choose the database from the left column.
2. Select **Query**.
3. In the **Query** field, enter:

```
SELECT * from Artists WHERE BirthDate >
'1900-01-01'
```

4. Click **Run query**.
5. Review results.



## Create Bucket and Export Data



1. Navigate to **Storage**.
2. Click **Create Bucket**.
3. Provide the following details:
  - **Name:** *la-spanner-export- (must be unique across all Cloud Storage)*
  - **Default storage class:** **Regional**
  - **Location:** **us-central1**
4. Click **Create**.
5. Navigate back to **Spanner**.
6. Choose instance from left sidebar.
7. Select **Export**.
8. Select bucket to store exported data.
9. Choose database to export.
10. Select region.
11. Click **Confirm Charges** checkbox.
12. Click **Export**
13. Visit Cloud Spanner to view progress of operation.
14. Visit Cloud Storage bucket to confirm operation.