

Yog Chaudhary
11727095

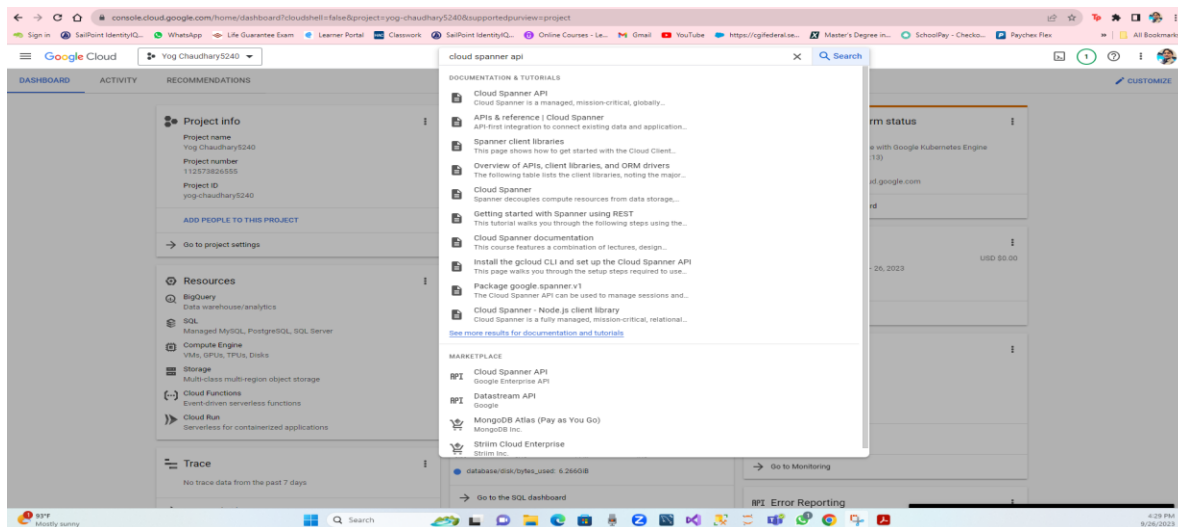
ADTA 5240 Week 6'th (harvesting, Storing, And Retrieving Data)

Professor: Dr. Zeynep Orhan
University Of North Texas

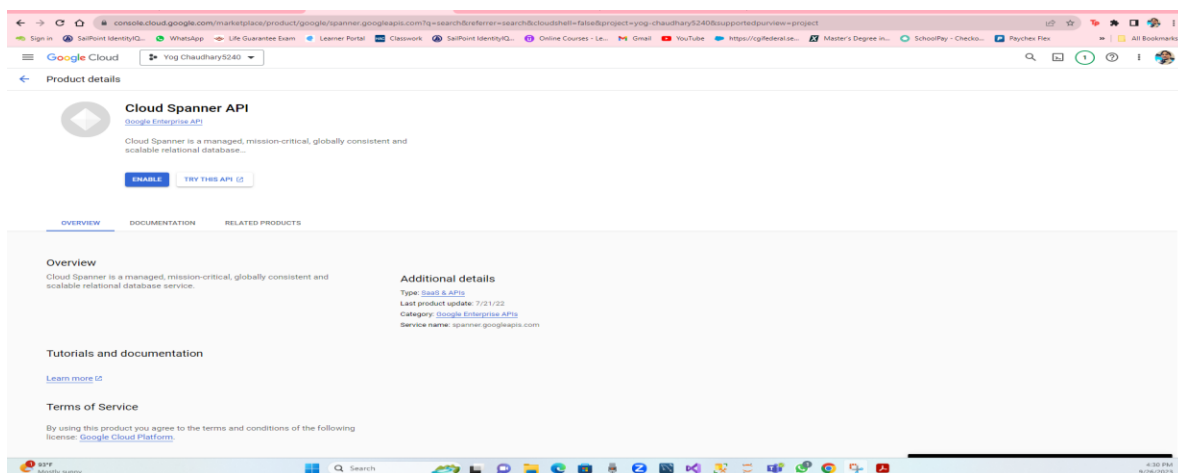
Sep 27, 2023

Create an instance, dataset, and tables, and insert data in Cloud Spanner PDF.

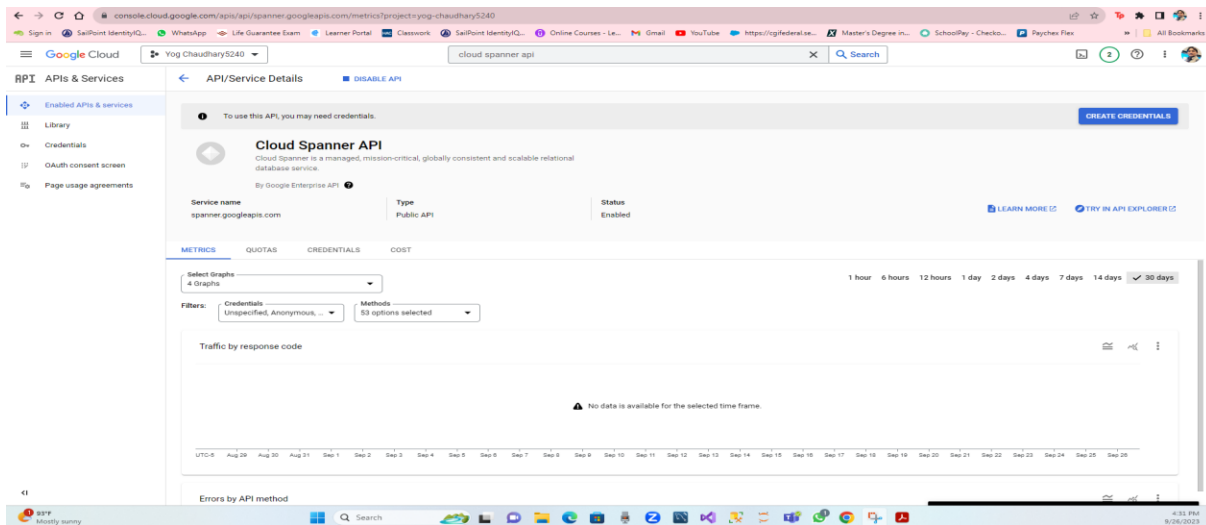
1. I opened the google cloud console and typed Cloud Spanner API in the search bar, Clicked on Cloud Spanner API



- By Clicking on Cloud Spanner API, I was taken to this page.
- Clicked on enable

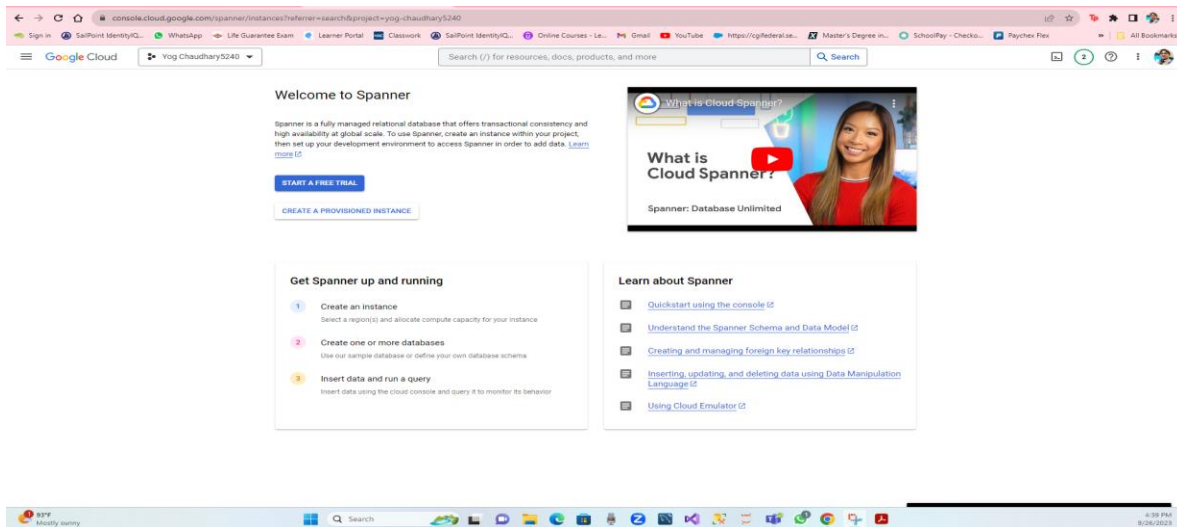


- After enabling I was taken to the page below.

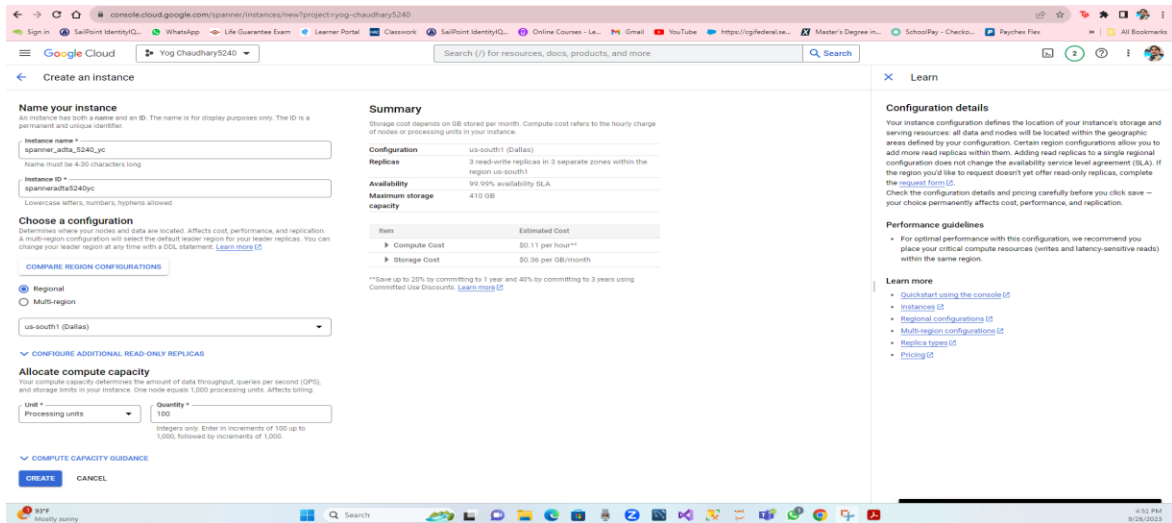


2. Then I have created a new instance from the cloud spanner overview.

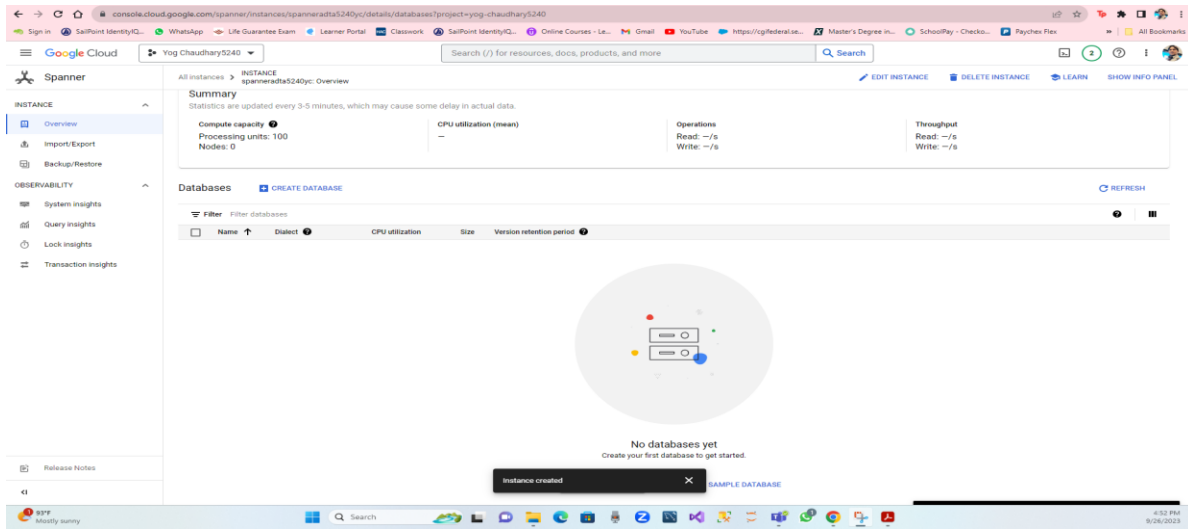
- I clicked on Create a provision instance.



- By clicking on this I was taken to the page.
- I have given the instance name as spanneradta5240yc
- Quantity as 100
- Clicked on create

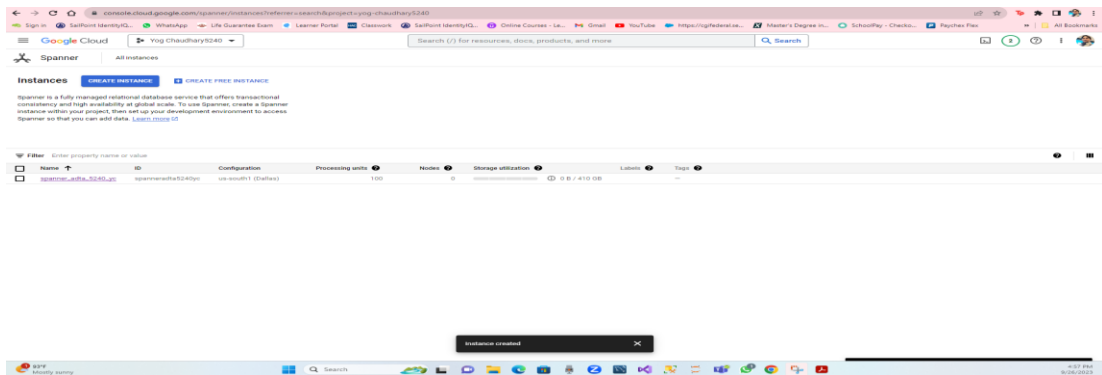


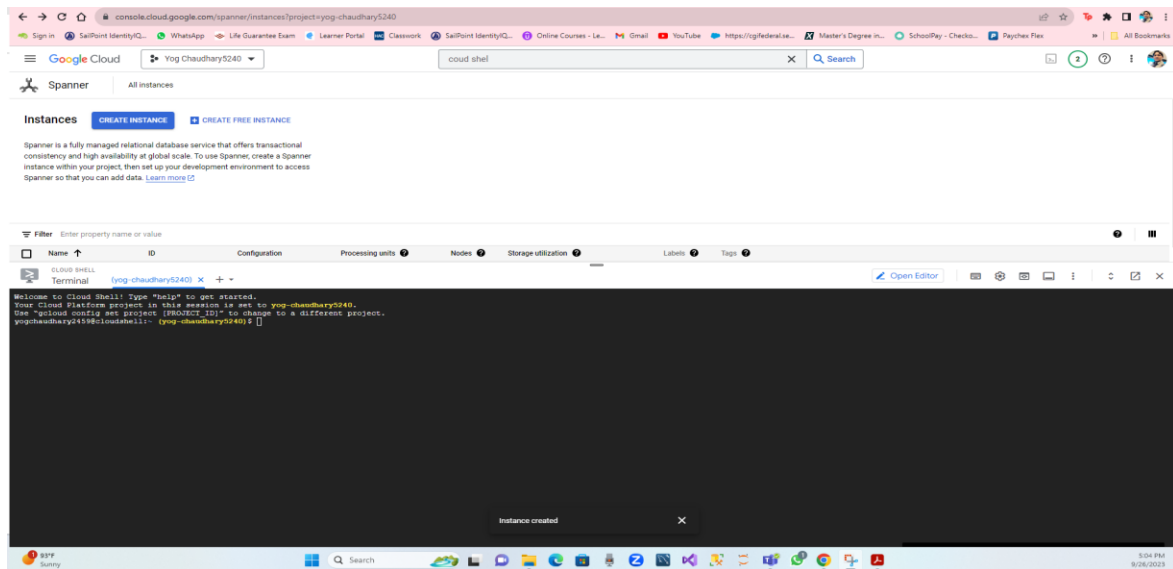
- Then I go through this page.



- Here the instance was successfully created.

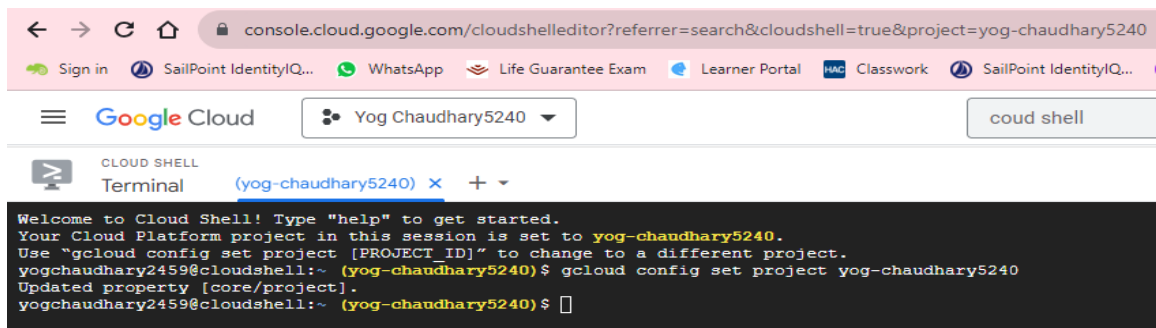
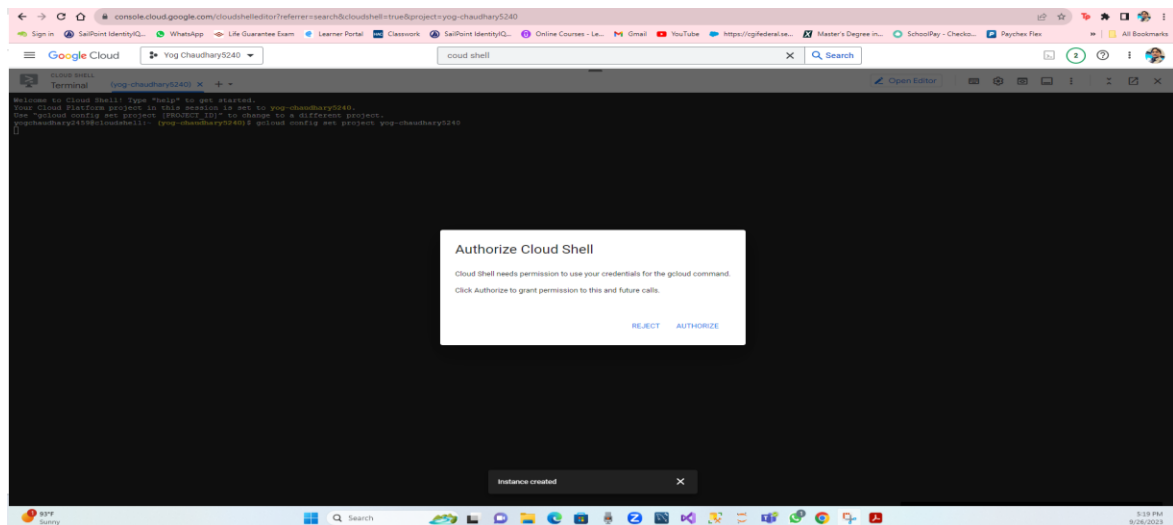
3. After this, I activated the cloud shell shown in the screenshot below.





4. I have set the id a Google Cloud Platform project as the default project for the gcloud command-line tool by using the command.

- (gcloud config set project yog-chaudhary5240)
- Click on Authorize.



5. For running code locally during development and testing, I have used this command.

- (gcloud auth application-default login)
- Then I clicked enter

console.cloud.google.com/cloudshelleditor?referrer=search&cloudshell=true&project=yog-chaudhar

Sign in SailPoint IdentityIQ... WhatsApp Life Guarantee Exam Learner Portal Classwork SailPoint Identity

Google Cloud Yog Chaudhary5240 coud shell

CLOUD SHELL Terminal (yog-chaudhary5240) X +

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to yog-chaudhary5240.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud config set project yog-chaudhary5240
Updated property [core/project].
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud auth application-default login

You are running on a Google Compute Engine virtual machine.
The service credentials associated with this virtual machine
will automatically be used by Application Default
Credentials, so it is not necessary to use this command.

If you decide to proceed anyway, your user credentials may be visible
to others with access to this virtual machine. Are you sure you want
to authenticate with your personal account?

Do you want to continue (Y/n)?
```

console.cloud.google.com/cloudshelleditor?referrer=search&clouds...

Sign in SailPoint IdentityIQ... WhatsApp Life Guarantee Exam Learner Portal Classwork All Bookmarks

Google Cloud Yog Chaudhary5240

(yog-chaudhary5240) X + Editor

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to yog-chaudhary5240.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud config set project yog-chaudhary5240
Updated property [core/project].
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud auth application-default login

You are running on a Google Compute Engine virtual machine.
The service credentials associated with this virtual machine
will automatically be used by Application Default
Credentials, so it is not necessary to use this command.

If you decide to proceed anyway, your user credentials may be visible
to others with access to this virtual machine. Are you sure you want
to authenticate with your personal account?

Do you want to continue (Y/n)? y

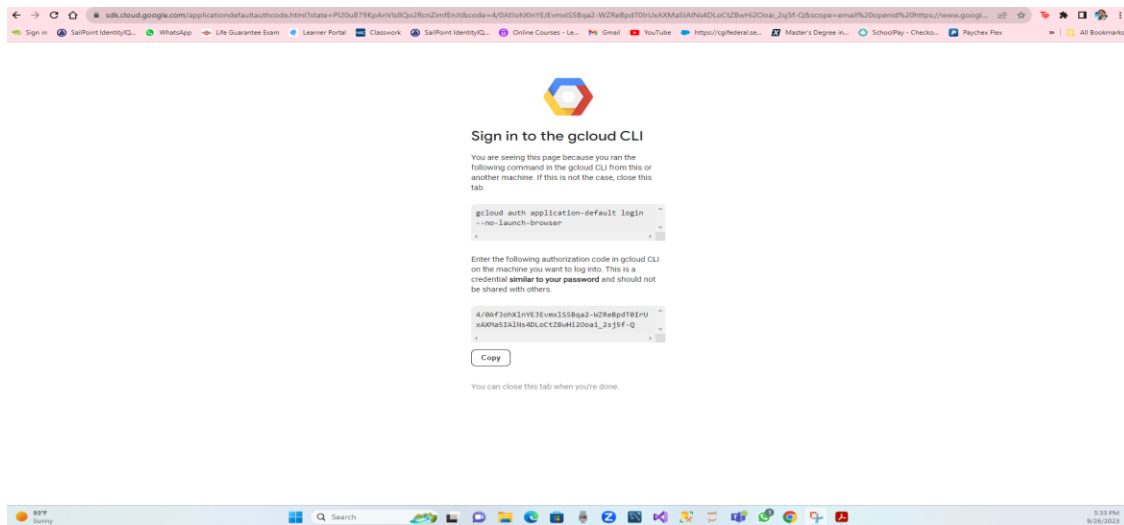
Go to the following link in your browser:

https://accounts.google.com/o/oauth2/auth?response_type=code&client_id=764086051850-6qr4p6gpi6hn506pt8ejuq83di341hur.apps.googleusercontent.com&redirect_uri=https%3A%2F%2Fsdk.cloud.google.com%2Fapplication-default-authcode.html&scope=openid+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fuserinfo.email+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloud-platform+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fsqlservice.login&state=P12OuB79KpAnV1s8Qo2RcnZimfEnJt&prompt=consent&access_type=offline&code_challenge=qt2UHBvCiaIkUNBURFGsRVNn7WwZwwChIx8o_j4fWQ&code_challenge_method=S256

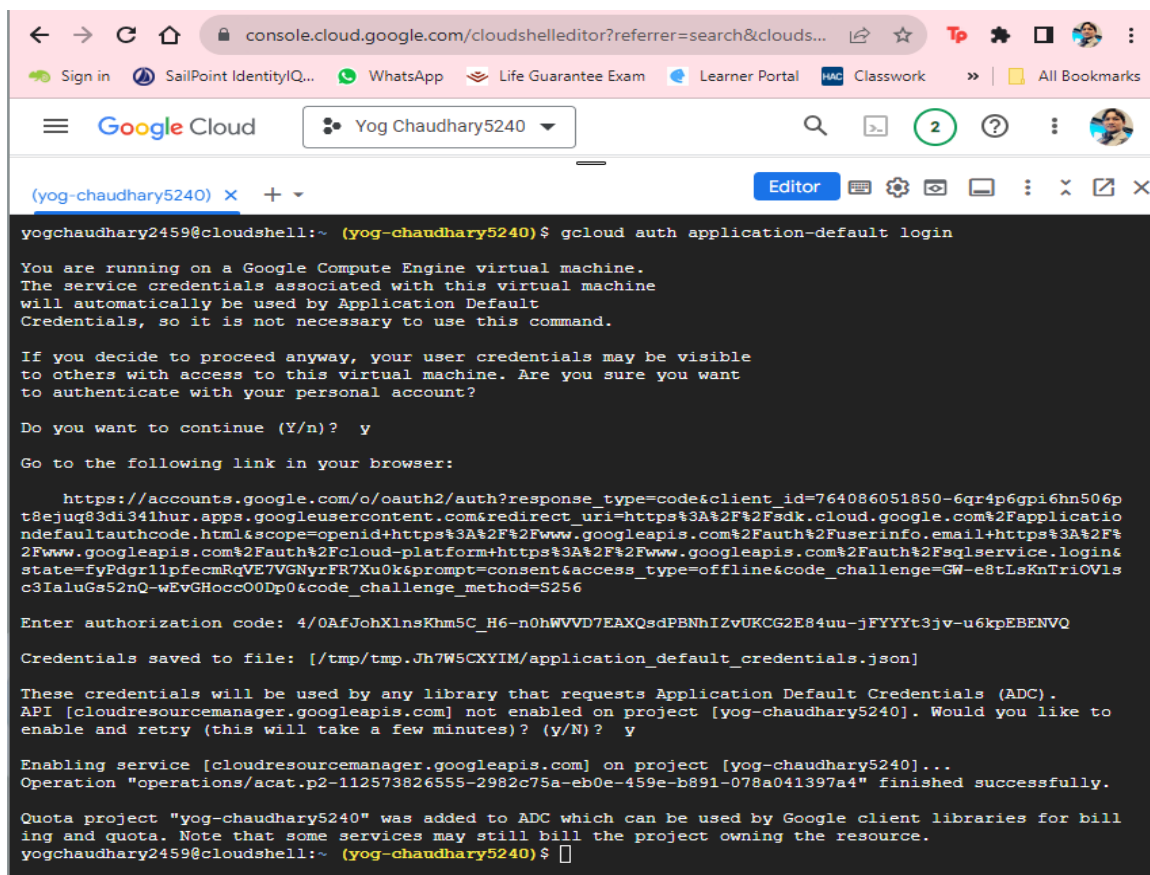
Enter authorization code:
```

Instance created X

- I clicked on the above link, then it took me to the screen below.
- There I copied the code.



- After that, I pasted that code in the cloud shell as shown below.



6. Now I must set up my development environment and authentication.

- For this I have used this command.
- (gcloud spanner instance-configs list)

```

These credentials will be used by any library that requests Application Default Credentials (ADC).
API [cloudresourcemanager.googleapis.com] not enabled on project [yog-chaudhary5240]. Would you like to enable and retry (this will take a few minutes)? (y/N)?
y

Enabling service [cloudresourcemanager.googleapis.com] on project [yog-chaudhary5240]...
Operation "operations/acet.p2-112573826555-2982c75a-eb0e-459e-b891-078a041397a4" finished successfully.

Quota project "yog-chaudhary5240" was added to ADC which can be used by Google client libraries for billing and quota. Note that some services may still bill th
e project owning the resource.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner instance-configs list
NAME: asia1
DISPLAY_NAME: Asia (Tokyo/Osaka/Seoul)
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: eur3
DISPLAY_NAME: Europe (Belgium/Netherlands)
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: eur5
DISPLAY_NAME: Europe (London/Belgium/Netherlands)
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: eur6
DISPLAY_NAME: Europe (Netherlands, Frankfurt)
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: nam-eur-asia1
DISPLAY_NAME: United States, Europe, and Asia (Iowa/Oklahoma/Belgium/Taiwan)
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

```

```

NAME: regional-us-east4
DISPLAY_NAME: us-east4
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: regional-us-east5
DISPLAY_NAME: us-east5
FREE_INSTANCE_AVAILABILITY: AVAILABLE

NAME: regional-us-south1
DISPLAY_NAME: us-south1
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: regional-us-west1
DISPLAY_NAME: us-west1
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: regional-us-west2
DISPLAY_NAME: us-west2
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: regional-us-west3
DISPLAY_NAME: us-west3
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED

NAME: regional-us-west4
DISPLAY_NAME: us-west4
FREE_INSTANCE_AVAILABILITY: UNSUPPORTED
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $

```

- This has given a list of the cloud spanner instance configurations which my project can access, including regional and multiregional configurations like in the screenshot below.

7. Creating an instance

A) After I got list of configurations, to create instance I have used the below command.

- (gcloud spanner instances create test-instance --config=regional-us-central1 --description="My Instance" --nodes=1).
- Here I have given instance name as My Instance.

```

yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner instances create test-instance --config=regional-us-central1 --description="My Instance" --nod
es=1
Creating instance...done.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $

```


8. Setting the default instance:

- B) Then I set the default instance that cloud spanner uses when I have not specified an instance in my command.
- For this I have given the code below.
 - (gcloud config set spanner/instance test-instance)

```
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner instances create test-instance --config=regional-us-centrall --description="My Instance" --nodes=1
Creating instance...done.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud config set spanner/instance test-instance
Updated property [spanner/instance].
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $
```

9. Create a database:

- I have created a database named example-db.
- For Creating this I have used the below command
- (gcloud spanner databases create example-db)

```
updated property [spanner/instance].
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner databases create example-db
Creating database...done.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $
```

10. Creating a schema

- I used cloud spanners data definition language (DDL) for creating a schema.
- I am going to create two tables singer and albums.
- **Let us create two table:**
- **gcloud spanner databases ddl update example-db \ --ddl='CREATE TABLE Singers (SingerId INT64 NOT NULL, FirstName STRING(1024), LastName STRING (1024), SingerInfo BYTES(MAX)) PRIMARY KEY(SingerId)'**
- **gcloud spanner databases ddl update example-db \--ddl='CREATE TABLE Albums (SingerId INT64 NOT NULL, AlbumId INT64 NOT NULL, AlbumTitle STRING(MAX)) PRIMARY KEY (SingerId, AlbumId), INTERLEAVE IN PARENT Singers ON DELETE CASCADE'**

```
Google Cloud  Yog Chaudhary5240 cloud shell X Search
CLOUD SHELL
Terminal (yog-chaudhary5240) + -
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner databases ddl update example-db \
--ddl='CREATE TABLE Singers ( SingerId INT64 NOT NULL, FirstName STRING(1024), LastName STRING(1024), SingerInfo BYTES(MAX)) PRIMARY KEY
(SingerId)'
-bash: syntax error near unexpected token '('
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner databases ddl update example-db \
--ddl='CREATE TABLE Albums ( SingerId INT64 NOT NULL, AlbumId INT64 NOT NULL, AlbumTitle STRING(MAX)) PRIMARY KEY (SingerId, AlbumId), INTERLEAVE IN PARENT Singers ON DELETE CASCADE'
-bash: syntax error near unexpected token '('
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $
```


11. Write Data:

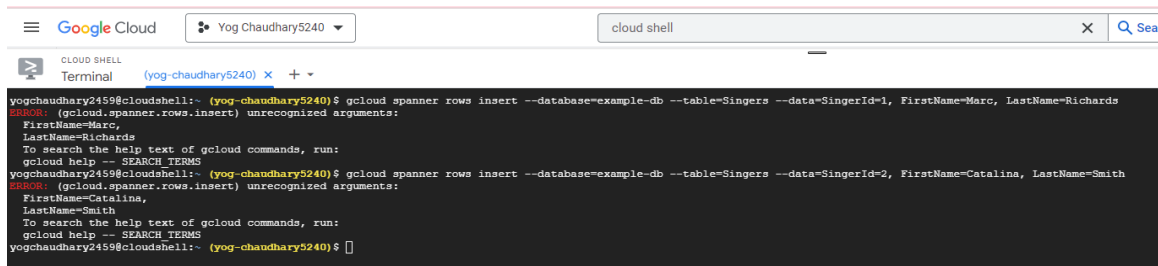
- Now I am writing data to my data set
- Let us singer Table:

Row 1

- **gcloud spanner rows insert --database=example-db --table=Singers --data=SingerId=1,FirstName='Marc',LastName='Richards'**
- **gcloud spanner rows insert --database=example-db --table=Singers --data=SingerId=2,FirstName='Catalina',LastName='Smith'**

Row 2

- **gcloud spanner rows insert --database=example-db --table=Singers --data=SingerId=2, FirstName=Catalina, LastName=Smith**



```
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner rows insert --database=example-db --table=Singers --data=SingerId=1, FirstName=Marc, LastName=Richards
ERROR: (gcloud.spanner.rows.insert) unrecognized arguments:
  FirstName=Marc,
  LastName=Richards
To search the help text of gcloud commands, run:
  gcloud help -- SEARCH_TERMS
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner rows insert --database=example-db --table=Singers --data=SingerId=2, FirstName=Catalina, LastName=Smith
ERROR: (gcloud.spanner.rows.insert) unrecognized arguments:
  FirstName=Catalina,
  LastName=Smith
To search the help text of gcloud commands, run:
  gcloud help -- SEARCH_TERMS
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $
```

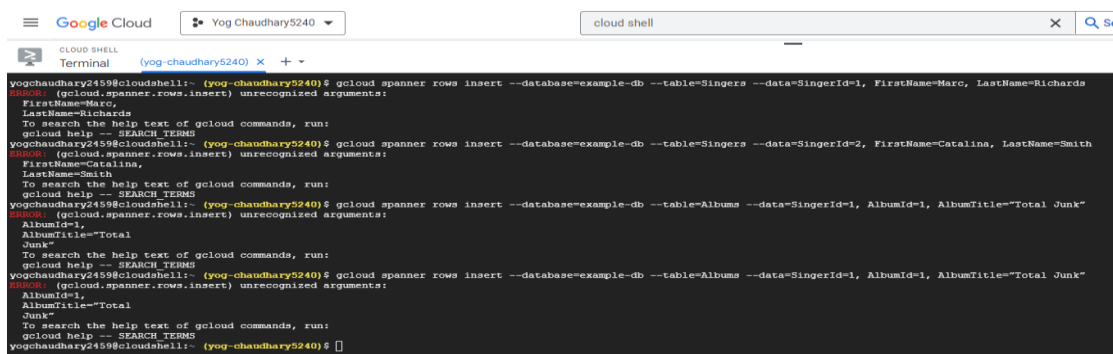
For album table:

Row 1

- **gcloud spanner rows insert --database=example-db --table=Albums --data=SingerId=1, AlbumId=1, AlbumTitle="Total Junk"**

Row 2

- **gcloud spanner rows insert --database=example-db --table=Albums --data=SingerId=1, AlbumId=1, AlbumTitle="Total Junk"**

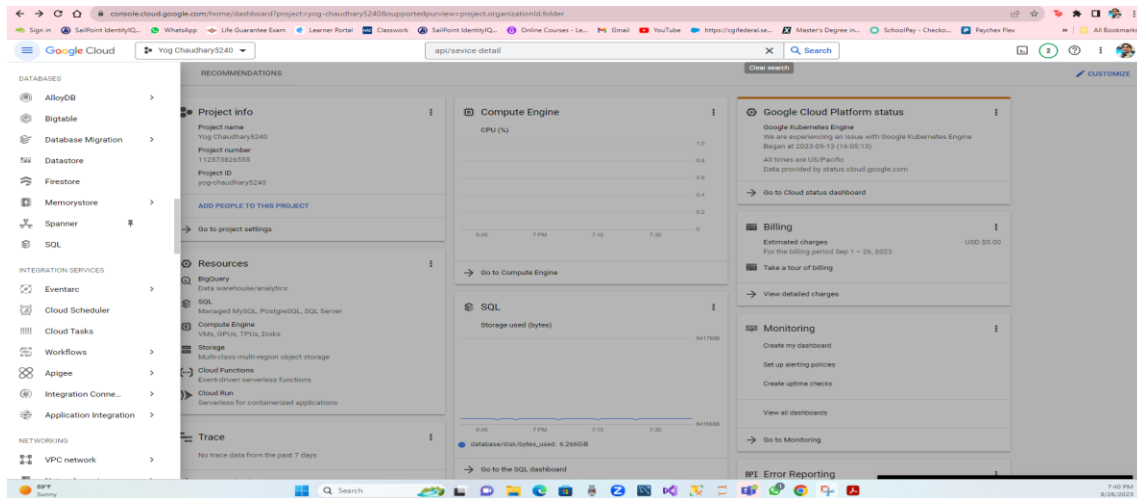


```
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner rows insert --database=example-db --table=Albums --data=SingerId=1, AlbumId=1, AlbumTitle="Total Junk"
ERROR: (gcloud.spanner.rows.insert) unrecognized arguments:
  AlbumId=1,
  AlbumTitle="Total
  Junk"
To search the help text of gcloud commands, run:
  gcloud help -- SEARCH_TERMS
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $ gcloud spanner rows insert --database=example-db --table=Albums --data=SingerId=1, AlbumId=1, AlbumTitle="Total Junk"
ERROR: (gcloud.spanner.rows.insert) unrecognized arguments:
  AlbumId=1,
  AlbumTitle="Total
  Junk"
To search the help text of gcloud commands, run:
  gcloud help -- SEARCH_TERMS
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240) $
```

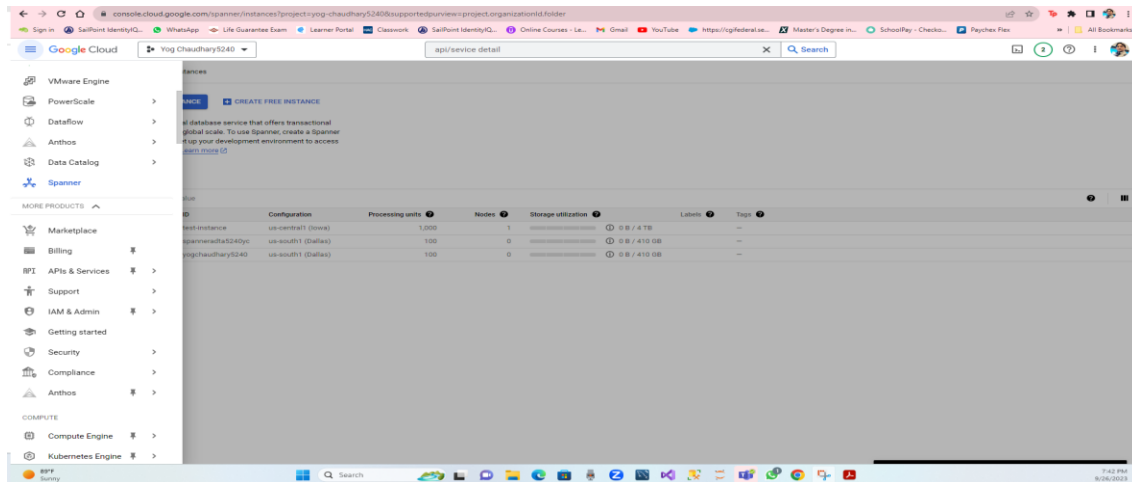
- Now I have closed shell.

12. Query data using SQL:

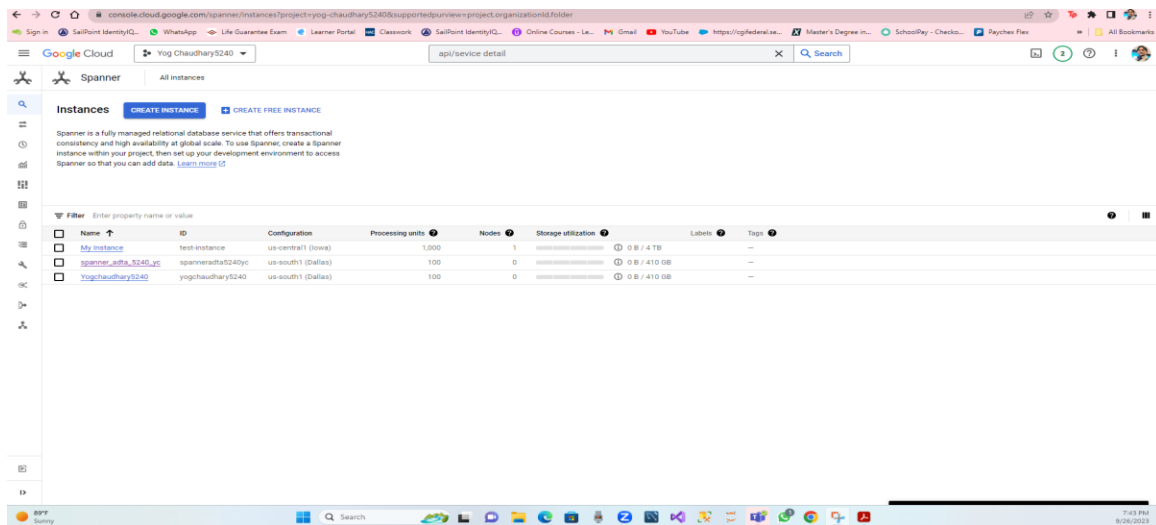
1. After closing the cloud shell, I clicked on the navigation panel.
2. Then I clicked on the spanner.



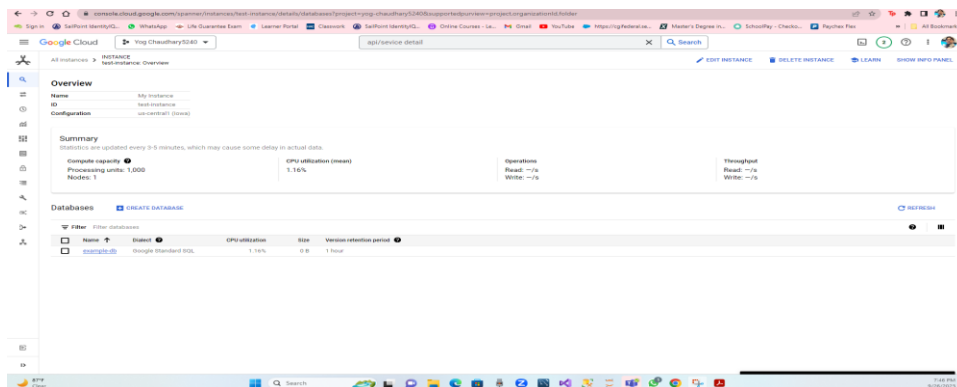
- After clicking on spanner, I was taken to this page below.



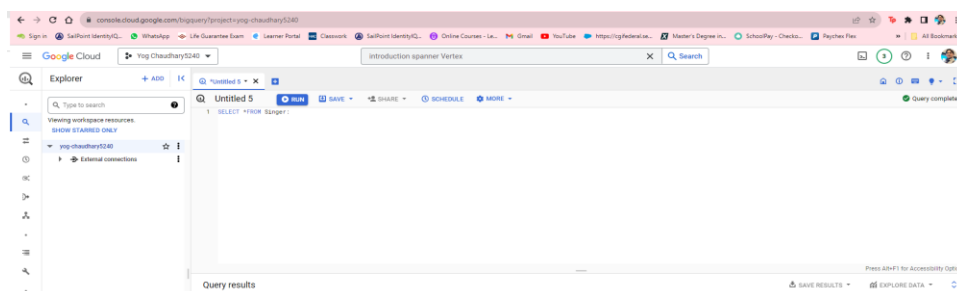
- Clicked on my instance



- After Clicking on that gone through the page.



- Then I clicked on my database(example-db).
- In database(example-db) I clicked on singer after that I clicked on query.
- After clicking on query, I was redirected to the below page.
- I typed (SELECT * FROM Singers;)
- Then I clicked on run.ss

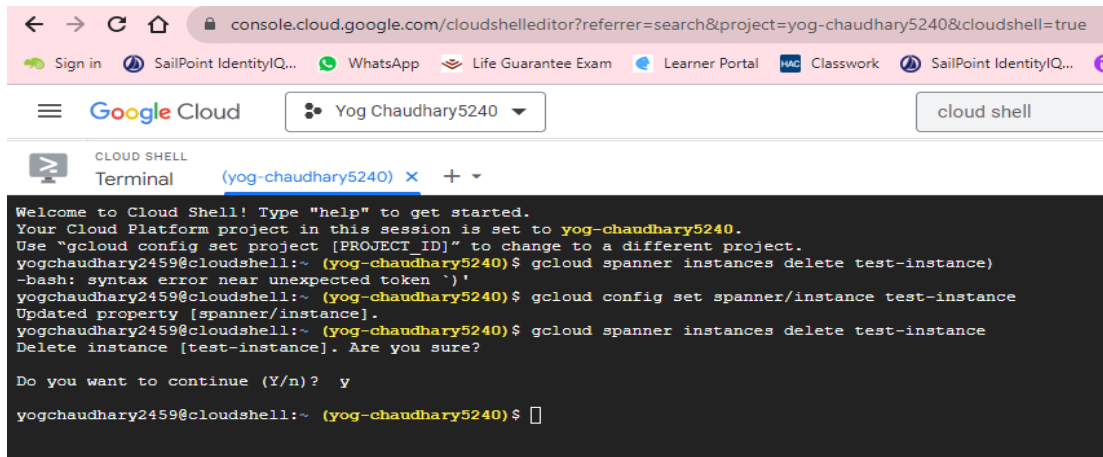


- Hence it shows that I have successfully entered data into the table singer
- Here is the screenshot of that

13. Clean and delete an instance:

- For avoiding additional charge to me google cloud account I have deleted the instance.

- (gcloud spanner instances delete test-instance)



The screenshot shows a web browser window with the Google Cloud console. The address bar shows the URL `console.cloud.google.com/cloudshelleditor?referrer=search&project=yog-chaudhary5240&cloudshell=true`. The page header includes the Google Cloud logo, the project name "Yog Chaudhary5240", and a "cloud shell" button. Below the header, the "CLOUD SHELL" tab is active, showing a terminal window. The terminal output is as follows:

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to yog-chaudhary5240.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud spanner instances delete test-instance)
-bash: syntax error near unexpected token `)'
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud config set spanner/instance test-instance
Updated property [spanner/instance].
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$ gcloud spanner instances delete test-instance
Delete instance [test-instance]. Are you sure?

Do you want to continue (Y/n)? y
yogchaudhary2459@cloudshell:~ (yog-chaudhary5240)$
```