

MATERIAL DE APOIO

Google Cloud Skill Boost

**Laboratório 03 do Intermediate:
Analise dados com a ajuda do Gemini**

Sumário

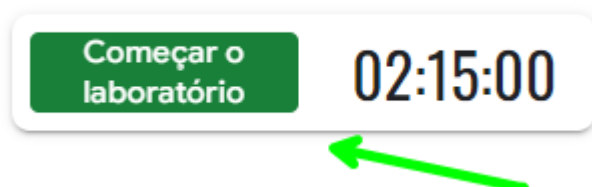
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1. Login no Console do Google Cloud

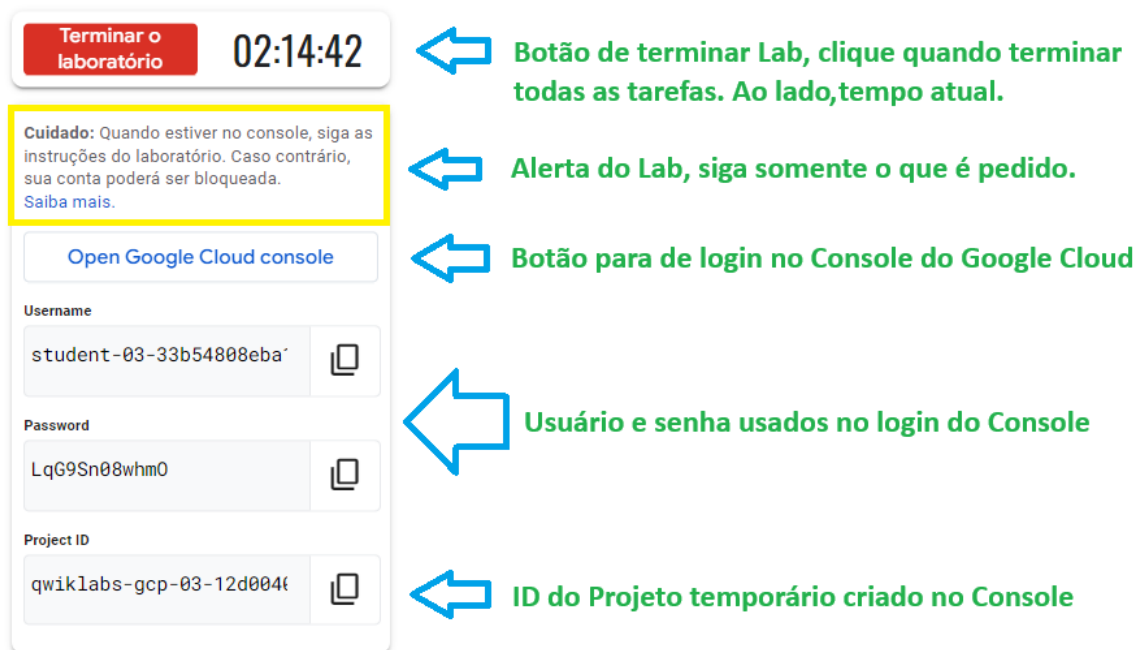
Link para o laboratório:

[https://www.cloudskillsboost.google/paths/236/course_templates/978/labs/488168?locale=pt_B
R](https://www.cloudskillsboost.google/paths/236/course_templates/978/labs/488168?locale=pt_BR)

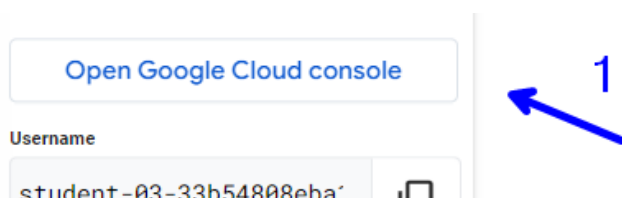
- 1) Primeiro passo é fazer login no Console do Google Cloud, clique no botão verde “Começar o laboratório”:

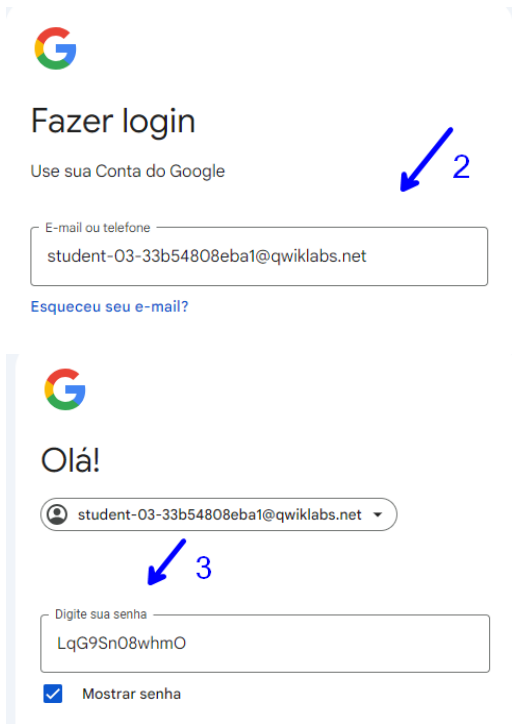


- 2) Após, irá abrir o Painel de login no Console:



- 3) Clique no botão “Open Google Cloud Console” (1) com o botão direito do mouse e escolha para abrir em uma aba Anônima/InPrivate, depois preencha o usuário (2) e senha (3) na página de login:





Fazer login

Use sua Conta do Google

E-mail ou telefone
student-03-33b54808eba1@qwiklabs.net

[Esqueceu seu e-mail?](#)

Olá!

student-03-33b54808eba1@qwiklabs.net

Digite sua senha
LqG9Sn08whmO

☒ Mostrar senha

4) Aceite todos os termos e condições do Google Cloud (1-2):

em myaccount.google.com.

Seu uso dos Serviços do Google com esta conta também é regido por políticas internas da sua organização.

Entendi

Google Cloud

Welcome student fe2a879d!

Create and manage your Google Cloud instances, disks, networks, and other resources in one place.



student fe2a879d

student-03-33b54808eba1@qwiklabs.net

[SWITCH ACCOUNT](#)

Country

Brazil

Terms of Service


☒ I agree to the [Google Cloud Platform Terms of Service](#), and the terms of service of [any applicable services and APIs](#).

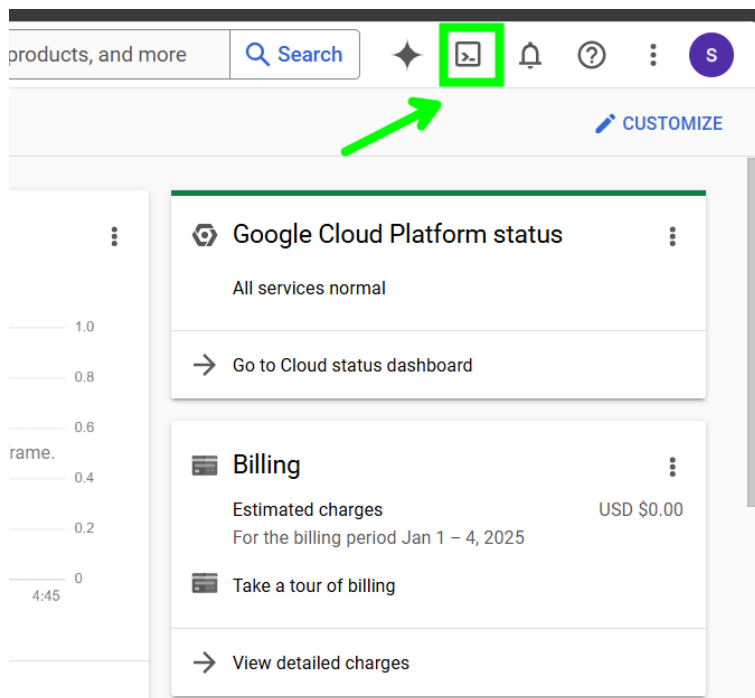
Email updates

☐ I would like to receive periodic emails on news, product updates and special offers from Google Cloud and Google Cloud Partners.

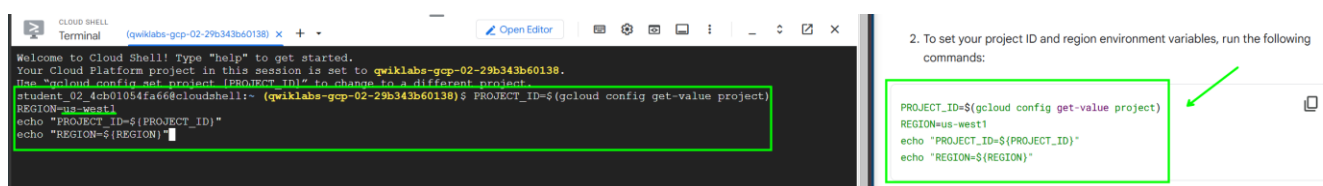
AGREE AND CONTINUE

2. Tarefa 1

1) Habilite o **Cloud Shell** no ícone do canto superior direito :



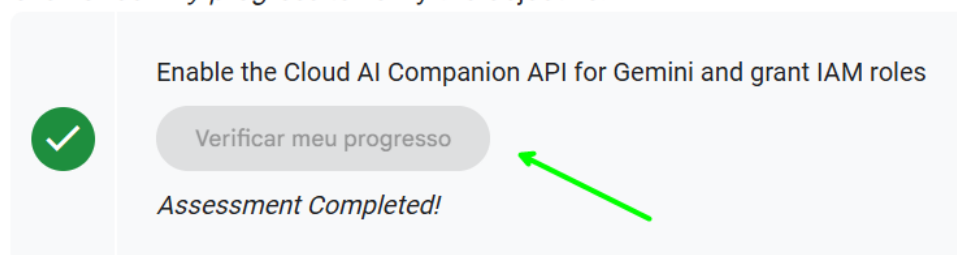
2) Quando terminal abrir, execute todos os comandos (Um por vez), indicados na **TASK 1**, do laboratório. Como no exemplo a seguir:



OBS: Para as próximas Tasks, utilize sempre a região que aparece no primeiro comando.

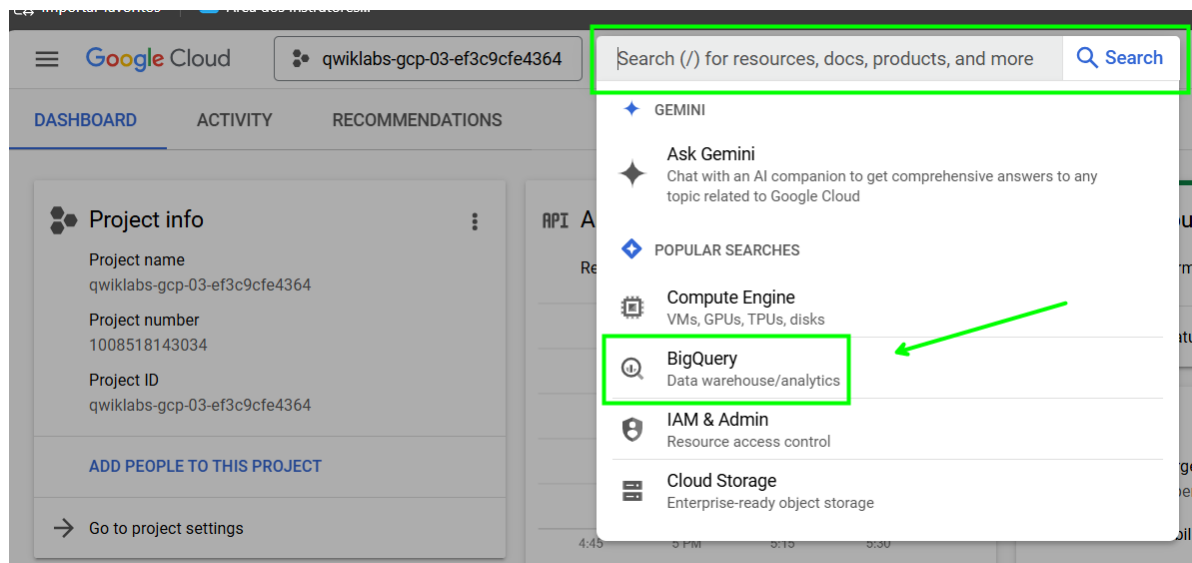
3) Depois, clique no botão do progresso (Se não ticar prontamente, clique novamente no botão):

Click *Check my progress* to verify the objective.

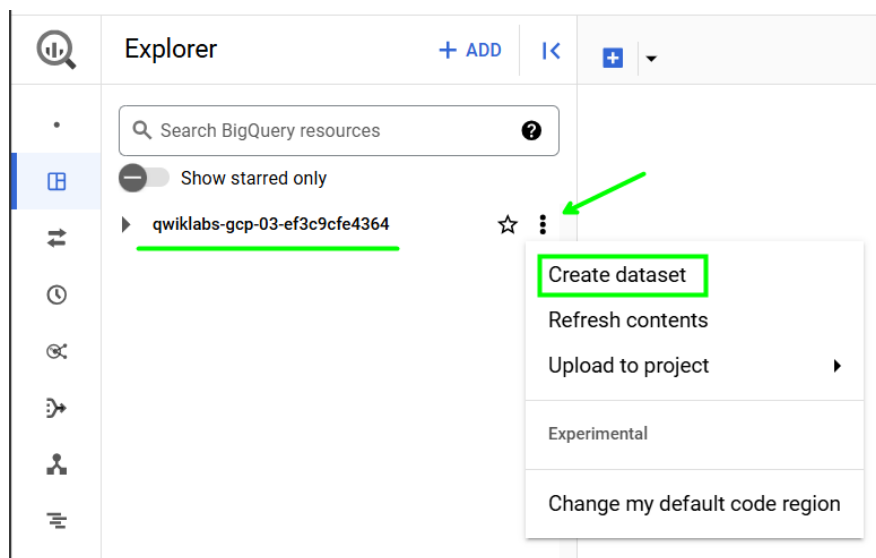


3. Tarefa 2

1) No campo de pesquisa, localizado acima na página inicial, procure na busca popular o serviço **BigQuery** e clique nele:



2) Assim que abrir o recurso, clique nos três pontos ao lado direito do seu projeto, e depois em **Create Dataset**:



3) No **Dataset ID**, coloque: bqml_tutorial. Garanta que a **Multi-Region** esteja selecionada, deixe tudo o restante como padrão e clique no botão azul embaixo **CREATE DATASET**:

Create dataset

Project ID *
qwiklabs-gcp-03-ef3c9cfe4364 [CHANGE](#)

Dataset ID *
bqml_tutorial
Letters, numbers, and underscores allowed

Location type ?

☐ Region
Specify a region to colocate your datasets with other Google Cloud services.

☒ **Multi-region**
Allow BigQuery to select a region within a group to achieve higher quota limits.

Multi-region *
US (multiple regions in United States) ▼

External Dataset
The selected region supports the following external dataset types: Cloud Spanner

☐ Link to an external dataset ?


Default table expiration


☐ Enable table expiration ?

Default maximum table age Days

Tags ▼

[CREATE DATASET](#) [CANCEL](#)

4) Selecione todas as opções que estiverem faltando ticar no ícone dos recursos do BigQuery , no canto superior direito:

Search 

Gemini in BigQuery is available at no cost through January 27, 2025. To continue to use these capabilities, contact your administrator about purchasing Gemini in BigQuery for this project. [Learn more](#)

Gemini in SQL query

- ✓ Auto-completion **PREVIEW**
- ✓ Auto-generation
- ✓ SQL generation tool
- ✓ Explanation

Gemini in Python notebook

- ✓ Code completion **PREVIEW**
- ✓ Code generation
Changes will not apply to open notebook tabs.

Share data to improve Gemini in BigQuery...

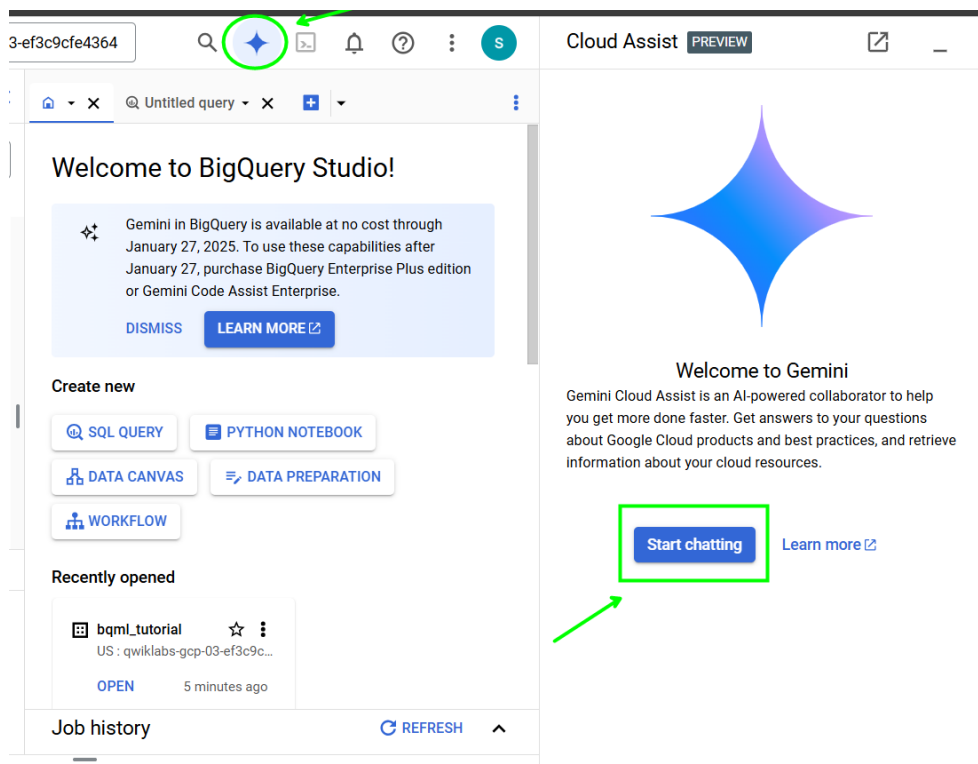
[Learn more](#)

[Send feedback](#)

5) Tique a **Task 2** no laboratório.

4. Tarefa 3

1) Recarregue a página do **BigQuery** (F5), e agora clique no símbolo do Gemini no canto superior direito ✨. Você poderá agora começar o chat com o Gemini:

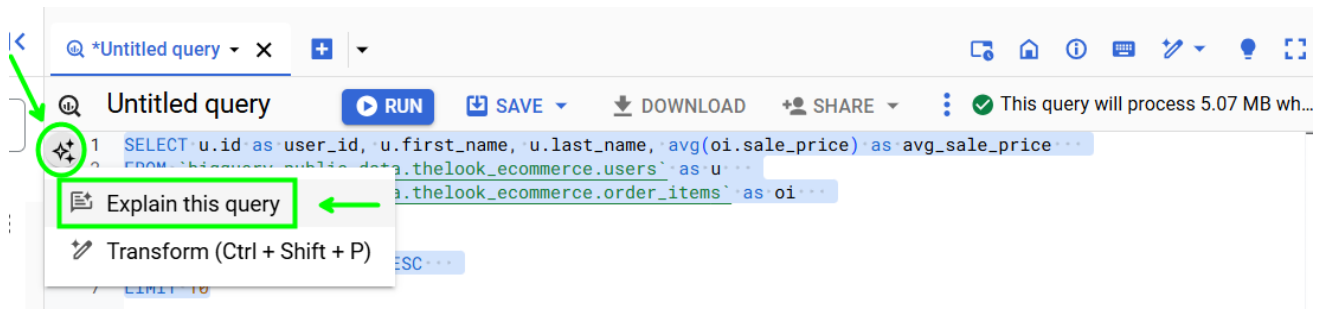


2) Interaja inicialmente, pedindo um tipo de informação como o prompt a seguir:
Como posso saber quais conjuntos de dados e tabelas estão disponíveis para mim no BigQuery?

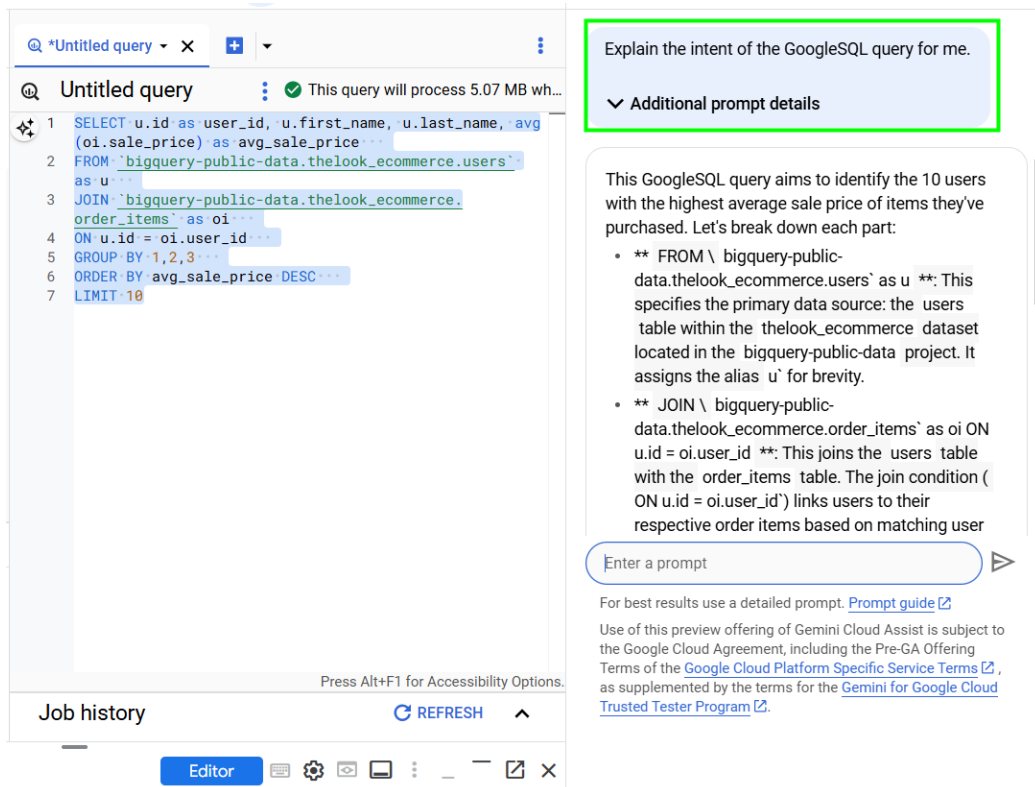
3) Coloque o código indicado no laboratório em um novo **Editor de SQL**:



4) Selecione todo o código, e clique no ícone de estrela que aparece agora ao lado esquerdo, e clique em **Explain this query**:



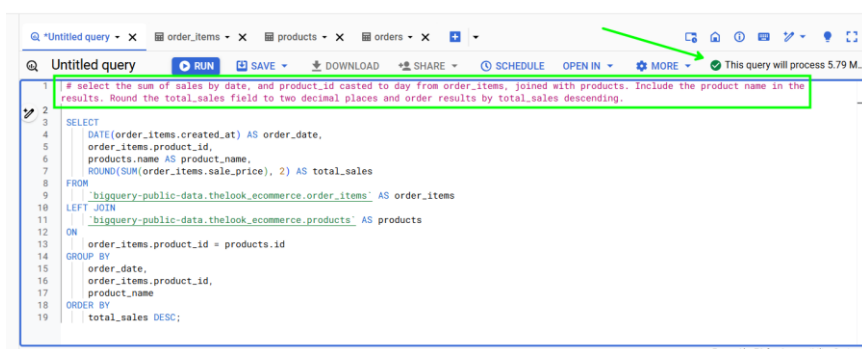
5) O chat irá então explicar a consulta SQL que foi selecionada:



6) Clique no botão de progresso da **Task 3** no laboratório.

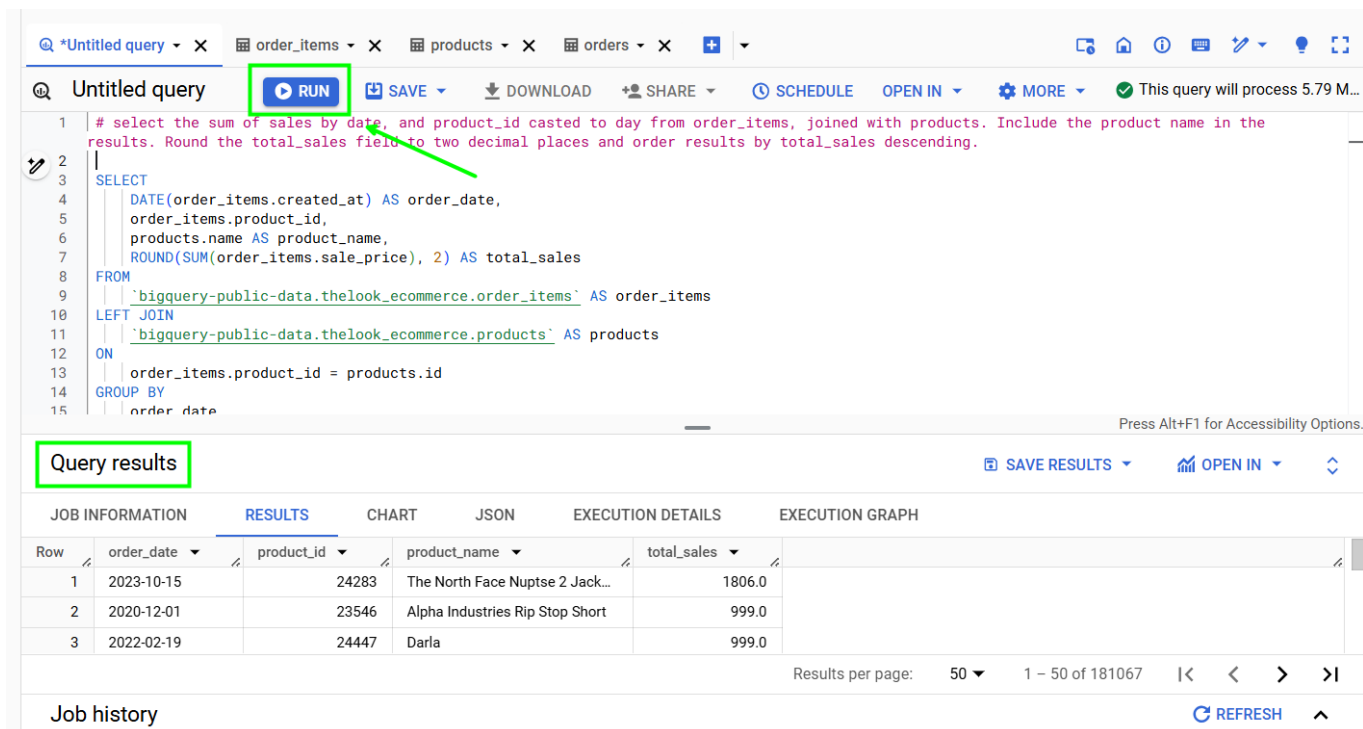
5. Tarefa 4

1) Limpe o Editor de Consultas SQL, e coloque o texto sugerido para geração de códigos pelo laboratório, em seguida clique **Enter**:



OBS: Se necessário, use a **Versão em Inglês** do laboratório para o comando correto.

- 2) Execute o comando através do botão azul **RUN**, na parte de cima do editor, os resultados aparecerão embaixo:



The screenshot shows the BigQuery interface with a query editor and results table. The query is a SELECT statement that joins order_items and products tables, calculates the total sales for each product, and orders the results by total sales descending. The results table shows three rows of data.

Query:

```

1 # select the sum of sales by date, and product_id casted to day from order_items, joined with products. Include the product name in the
2 results. Round the total_sales field to two decimal places and order results by total_sales descending.
3
4 SELECT
5     DATE(order_items.created_at) AS order_date,
6     order_items.product_id,
7     products.name AS product_name,
8     ROUND(SUM(order_items.sale_price), 2) AS total_sales
9 FROM
10     `bigquery-public-data.thelook_ecommerce.order_items` AS order_items
11 LEFT JOIN
12     `bigquery-public-data.thelook_ecommerce.products` AS products
13 ON
14     order_items.product_id = products.id
15 GROUP BY
16     order_date
  
```

Query results:

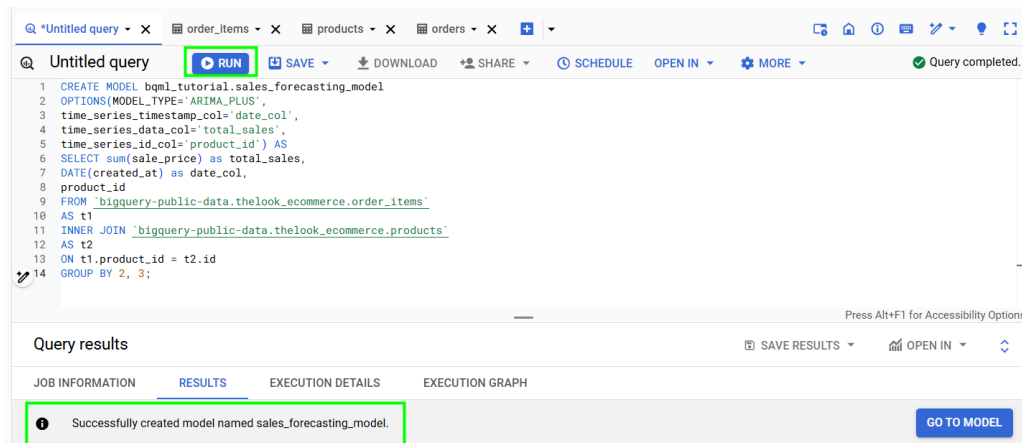
Row	order_date	product_id	product_name	total_sales
1	2023-10-15	24283	The North Face Nuptse 2 Jack...	1806.0
2	2020-12-01	23546	Alpha Industries Rip Stop Short	999.0
3	2022-02-19	24447	Darla	999.0

Results per page: 50 | 1 - 50 of 181067

- 3) Tique a **Task 4** no laboratório.

6. Tarefa 5

- 1) Limpe novamente o Editor de Consultas SQL, e execute o comando indicado no laboratório para a criação do modelo de forecasting, clicando no botão RUN. Como o exemplo a seguir:



The screenshot shows the BigQuery interface with a query editor and a message indicating the successful creation of a forecasting model. The query is a CREATE MODEL statement that uses the ARIMA_PLUS model type to create a forecasting model named sales_forecasting_model. The results section shows a message: "Successfully created model named sales_forecasting_model."

Query:

```

1 CREATE MODEL bqml_tutorial.sales_forecasting_model
2 OPTIONS(MODEL_TYPE='ARIMA_PLUS',
3 time_series_timestamp_col='date_col',
4 time_series_data_col='total_sales',
5 time_series_id_col='product_id') AS
6 SELECT sum(sale_price) as total_sales,
7 DATE(created_at) as date_col,
8 product_id
9 FROM `bigquery-public-data.thelook_ecommerce.order_items`
10 AS t1
11 INNER JOIN `bigquery-public-data.thelook_ecommerce.products`
12 AS t2
13 ON t1.product_id = t2.id
14 GROUP BY 2, 3;
  
```

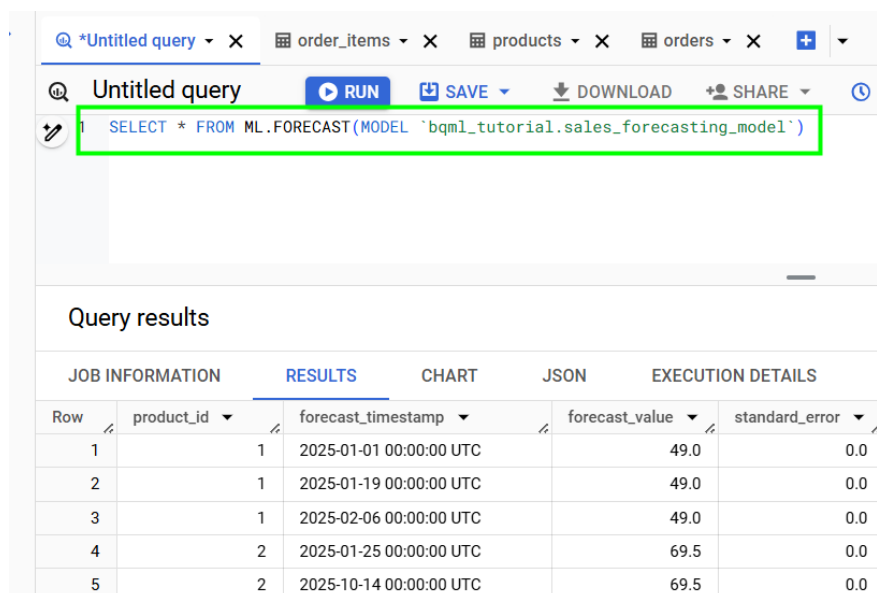
Query results:

Successfully created model named sales_forecasting_model.

GO TO MODEL

OBS: A criação pode demorar alguns minutos, depois que criado aparecerá a mensagem "Successfully created model named sales_forecasting_model" no campo de resultados abaixo, como indicado na figura.

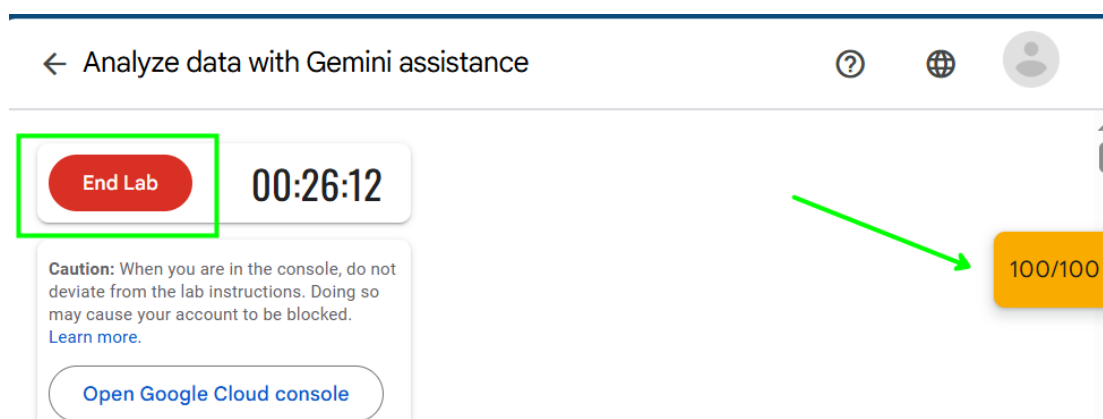
- 2) Depois que o modelo for criado, limpe o Editor e execute o seguinte comando:
`SELECT * FROM ML.FORECAST(MODEL `bqml_tutorial.sales_forecasting_model`)`



The screenshot shows the Google Cloud BigQuery console. At the top, there's a query editor with the text "SELECT * FROM ML.FORECAST(MODEL `bqml_tutorial.sales_forecasting_model`)" highlighted in a green box. Below the editor, the "Query results" section is visible, showing a table with 5 rows and 5 columns: Row, product_id, forecast_timestamp, forecast_value, and standard_error.

Row	product_id	forecast_timestamp	forecast_value	standard_error
1	1	2025-01-01 00:00:00 UTC	49.0	0.0
2	1	2025-01-19 00:00:00 UTC	49.0	0.0
3	1	2025-02-06 00:00:00 UTC	49.0	0.0
4	2	2025-01-25 00:00:00 UTC	69.5	0.0
5	2	2025-10-14 00:00:00 UTC	69.5	0.0

- 3) Tique o último botão de progresso, garanta que todos estejam ticados no quadrado amarelo do lado esquerdo da página. Após, termine o laboratório.



The screenshot shows the Google Cloud Lab interface. At the top, there's a navigation bar with a back arrow, the text "Analyze data with Gemini assistance", and icons for help, globe, and user. Below the navigation bar, there's a section with a red "End Lab" button highlighted in a green box, a timer showing "00:26:12", and a "Caution" message. To the right, there's a yellow progress bar showing "100/100" with a green arrow pointing to it.

← Analyze data with Gemini assistance

End Lab 00:26:12

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

100/100