

My mini pipeline set-up

by Yuditya Artha

The dataset and tools

Dataset (Kaggle):

- BTC: [Bitcoin Historical Dataset](https://www.kaggle.com/datasets/novandraanugrah/bitcoin-historical-datasets-2018-2024)
 - Gold: [Gold Price Dataset](https://www.kaggle.com/datasets/novandraanugrah/xauusd-gold-price-historical-data-2004-2024)
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Workflow:

Raw dataset (.csv) > PostgreSQL (SQL Query) > Railway (cloud-hosted DB) > Google Sheet (via Coefficient extension) > Tableau Public (data visualization)

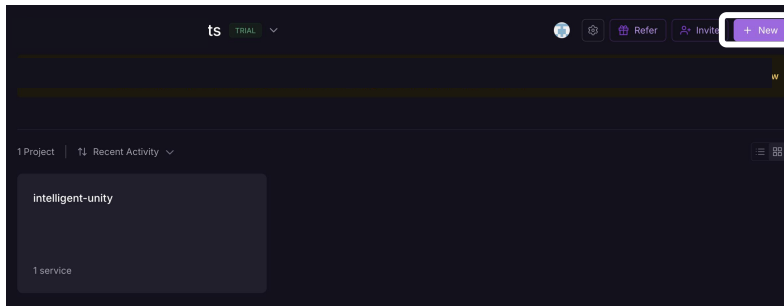
About Railway:

Railway is a developer-friendly platform for hosting databases in the cloud

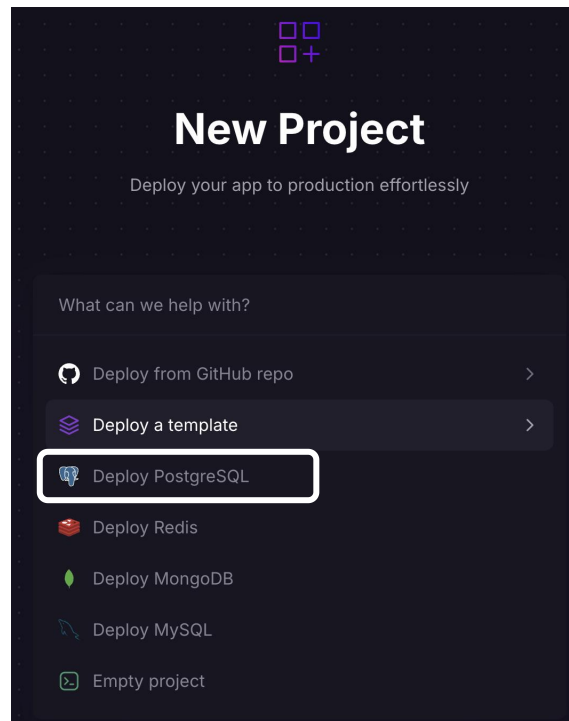
About Coefficient:

Coefficient allows seamless integration between your cloud databases and Google Sheets

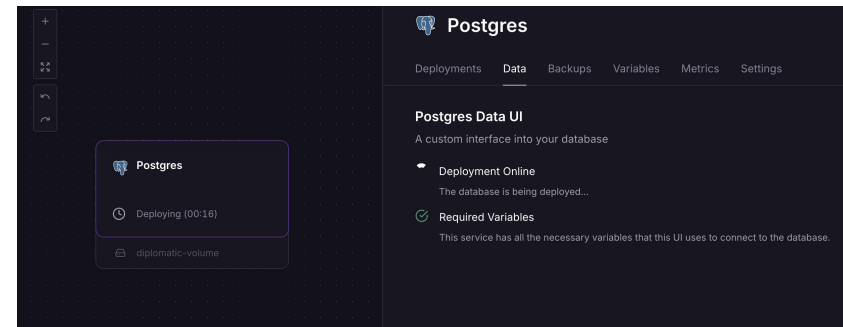
Setup Connection PostgreSQL Database - Railway #1 /2



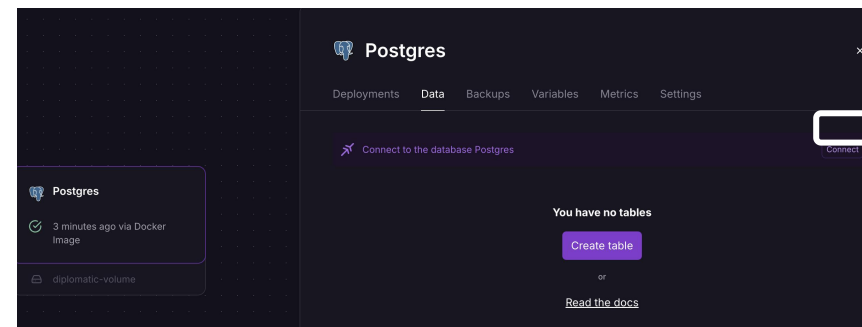
1. Set up New project on Railway



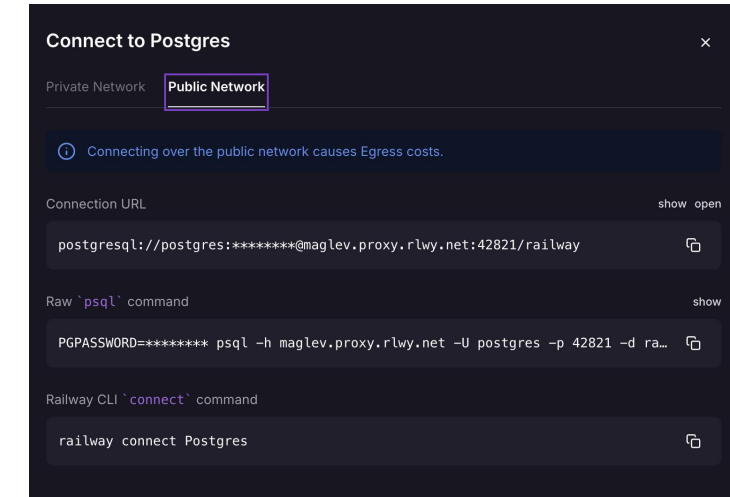
2. Deploy PostgreSQL



3. Railway initialize deployment



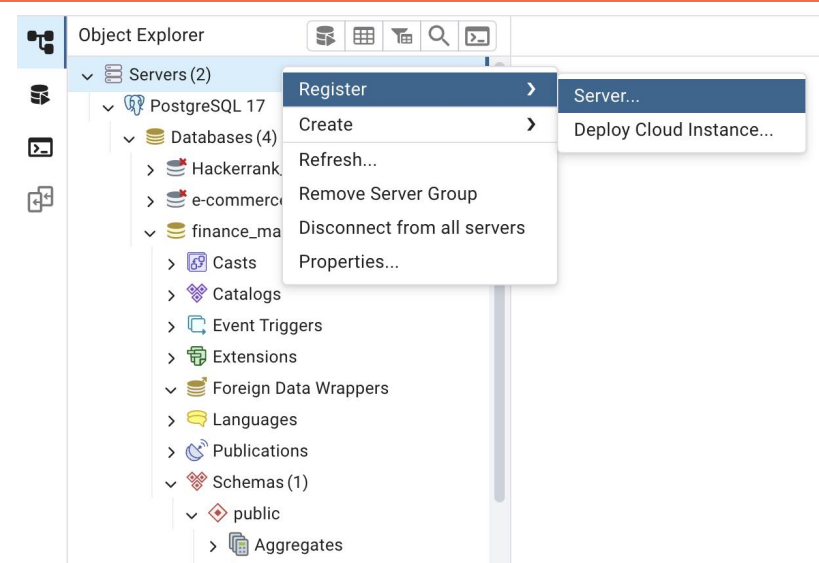
4. After the step 3 complete, click Connect



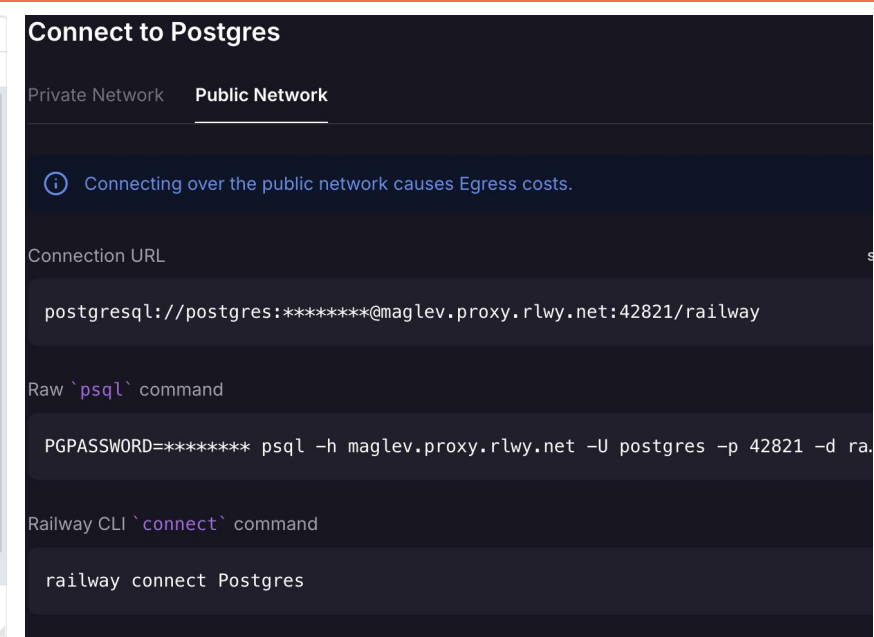
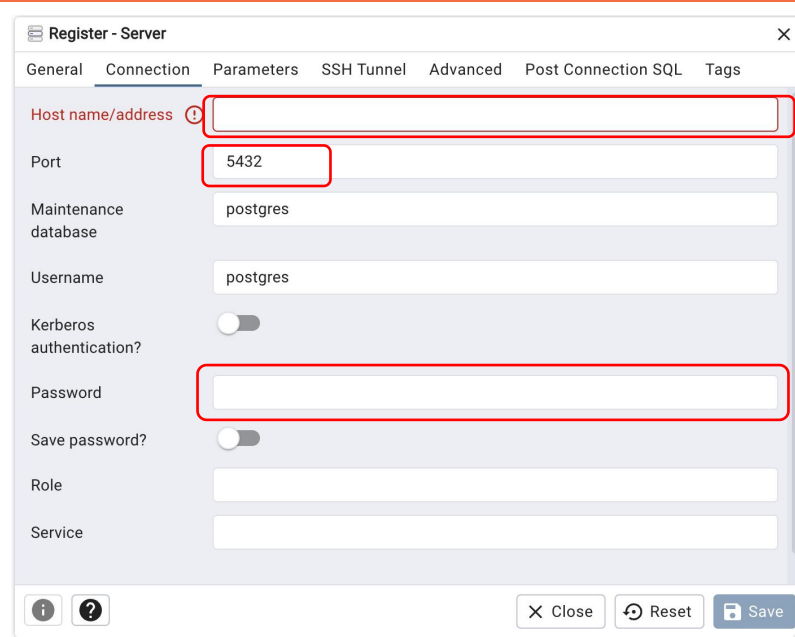
5. Choose public network

The information like connection URL, raw `psql` command are needed to complete step 7

Setup Connection PostgreSQL Database - Railway #2/2



6. On PostgreSQL, register new server



7. You will encounter this pop up window, which you fill using connection details provided by Railway (from step 5). If you show the asterisk part on railway (connection URL, raw `psql` command), the format will be similar to this,

Host name / address

Port

Connection URL:
postgresql://postgres:AbvOPSdsaGNuHnJgaDSVAAQnfhGAGIOb@maglev.proxy.rlwy.net:42821/railway

Raw `psql` command:
PGPASSWORD=AbvOPSdsaGNuHnJgaDSVAAQnfhGAGIOb psql -h maglev.proxy.rlwy.net -U postgres -p 42821 -d railway

the address and password will be random,
the example above is just a dummy

↑ Password

Importing Dataset PostgreSQL

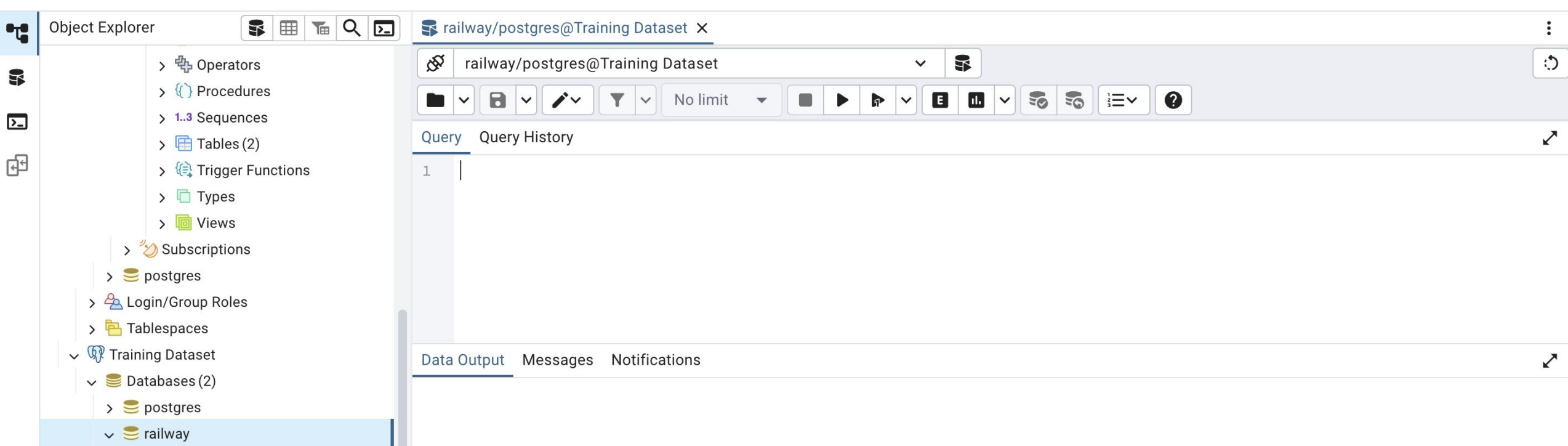
Load dataset to PostgreSQL

1. Create empty tables in PostgreSQL with column names matching your dataset
 2. Import both dataset to PostgreSQL to the blank tables
- On the right side, I attach the query code snippets

× Create Table Query

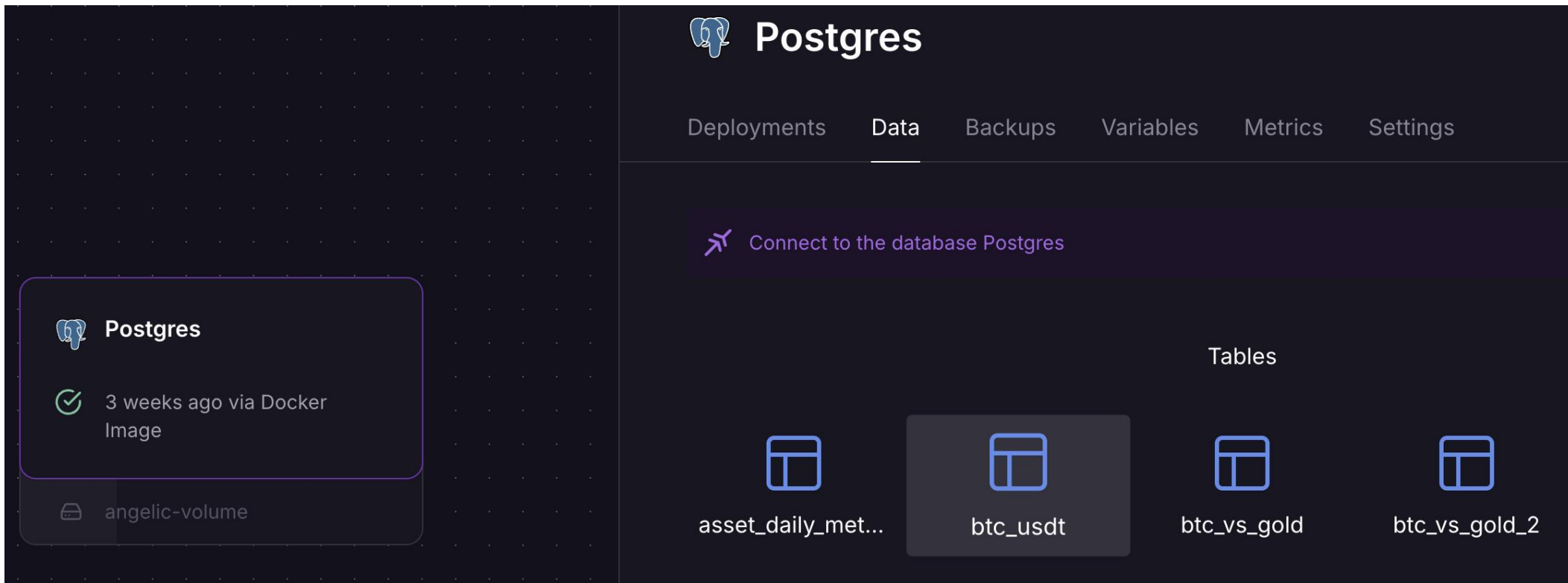
```
1  CREATE TABLE btc_usdt (  
2    date DATE,  
3    open_price INTEGER,  
4    high_price INTEGER,  
5    low_price INTEGER,  
6    close_price INTEGER,  
7    volume INTEGER,  
8    close_time INTEGER,  
9    quote_asset_volume INTEGER,  
10   number_of_trades INTEGER,  
11   taker_buy_base_asset_volume INTEGER,  
12   taker_buy_quote_asset_volume INTEGER  
13   );  
14  
15  CREATE TABLE xau_usdt (  
16    date DATE,  
17    open_price INTEGER,  
18    high_price INTEGER,  
19    low_price INTEGER,  
20    close_price INTEGER,  
21    volume INTEGER  
22   );
```

Perform your query



1. To make sure connection, perform simple `SELECT * FROM btc_usdt` or `xau_usdt`.
2. For the next step, connect the tables generated in PostgreSQL (hosted via Railway) to Google Sheets using the Coefficient add-on

Cloud Database (Railway)



Here is the screenshot of sample tables I generated in my PostgreSQL, which are being hosted by Railway

Coefficient as database integration

btc_vs_gold

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File Edit View Insert Format Data Tools Extensions Help

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fx date

A	B
date	btc_close_price
2020-01-01	7200.85
2020-01-02	6965.71
2020-01-03	7344.96
2020-01-04	7354.11
2020-01-05	7358.75
2020-01-06	7758
2020-01-07	8145.28
2020-01-08	8055.98
2020-01-09	7817.76
2020-01-10	8197.02
2020-01-11	8020.01
2020-01-12	8184.98
2020-01-13	8110.34
2020-01-14	8810.01
2020-01-15	8821.41

Add-ons

Macros

Apps Script

AppSheet

Looker Studio

Coefficient: Salesforce, HubSpot Data Connector

Volatility_7d

btc_previous_close

166.27

720

191.44

696

Launch

Create a new import

Chat with support

Refresh all imports

Refresh Custom Formulas

Help

Download Coefficient from Google Sheet (Extension > add-ons > Coefficient) and launch it

Import the generated tables

Coefficient	
Import from...	
Export to...	
Automations	
AI Sheets Assistant BETA	
Imports	
asset_daily_metrics	Refreshed Monday at 2:58 PM
btc_vs_gold	Refreshed 14 days ago

1. Select import from

Coefficient	
Import from...	
Connected sources	
PostgreSQL	
PostgreSQL	
My Datasets	
Files	Google Sheets, Excel & CSV
API	Connect Any API
Add Connection	
Suggested Sources	
Salesforce	

2. Select PostgreSQL

Coefficient	
Import PostgreSQL	
From Tables & Columns	
Custom SQL Query	
GPT SQL Builder	
MY IMPORT TEMPLATES	
PostgreSQL Import	Used Friday at 5:45 PM

3. Select From Tables & Columns

Coefficient as database integration

Import Preview



Close dialog



Choose table...

public

- ☐ asset_daily_metrics
- ☐ btc_usdt
- ☐ btc_vs_gold
- ☐ btc_vs_gold_2



There you can generate sheets (to you google sheets file) from all the tables you have create via PostgreSQL This sheets will be the data source for tableau visualization later

Coefficient as database integration

btc_vs_gold

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A1 ▾ | fx date

	A	B	C	D	E	F
1	date	btc_close_price	btc_normal	Open Sidebar	Refresh	btc_rolling_volatility_7d
2	2020-01-01	7200.85	100		7200.85	
3	2020-01-02	6965.71	96.73		7083.28	166.27
4	2020-01-03	7344.96	102		7170.51	191.44
5	2020-01-04	7354.11	102.13		7216.41	181.27
6	2020-01-05	7358.75	102.19		7244.88	169.4
7	2020-01-06	7758	107.74		7330.4	258.53
8	2020-01-07	8145.28	113.12		7446.81	388.02
9	2020-01-08	8055.98	111.88		7568.97	430.02
10	2020-01-09	7817.76	108.57		7690.69	342.48
11	2020-01-10	8197.02	113.83		7812.41	350.45
12	2020-01-11	8020.01	111.38		7907.54	290.57
13	2020-01-12	8184.98	113.67		8025.58	175.53
14	2020-01-13	8110.34	112.63		8075.91	130.85
15	2020-01-14	8810.01	122.35		8170.87	309.22
16	2020-01-15	8821.41	122.51		8280.22	387.3
17	2020-01-16	8720.01	121.1		8409.11	356.66
18	2020-01-17	8913.28	123.78		8511.43	387.12
19	2020-01-18	8915.96	123.82		8639.43	343.18
20	2020-01-19	8701.7	120.84		8713.24	278.64
21	2020-01-20	8642.35	120.02		8789.25	105.63
22	2020-01-21	8736.03	121.32		8778.68	106.9
23	2020-01-22	8682.36	120.57		8758.81	110.49
24	2020-01-23	8404.52	116.72		8713.74	174.67
25	2020-01-24	8439	117.19		8645.99	176.34
26	2020-01-25	8340.58	115.83		8563.79	163.14

Coefficient

< Import from...

Connected sources

Add

🐘 PostgreSQL

🐘 PostgreSQL

📦 My Datasets

📁 Files
Google Sheets, Excel & CSV


API Connect Any API

+ Add Connection

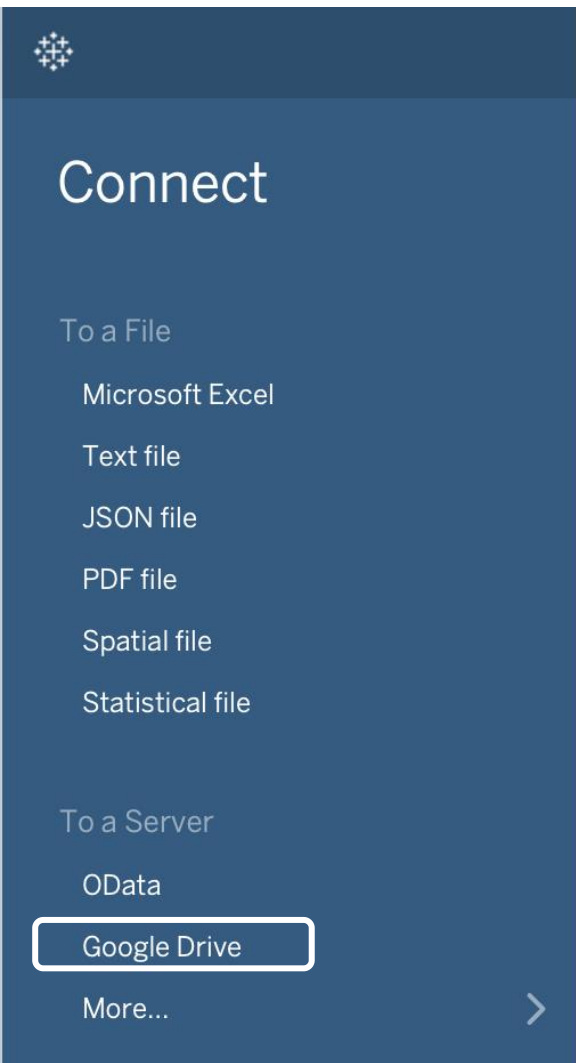
Suggested Sources

📊 Salesforce

Here is the sample, imported tables from PostgreSQL to google sheet

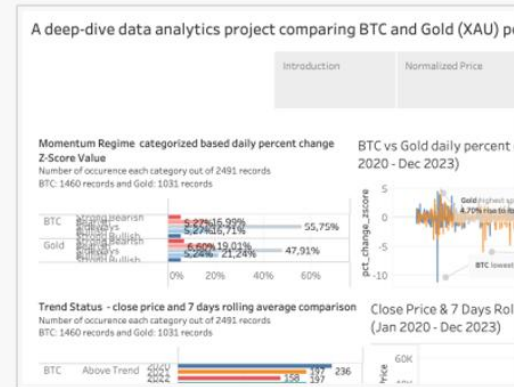
 <https://linkedin.com/in/yuditya-artha>

Connect the Google Sheet to Tableau Public

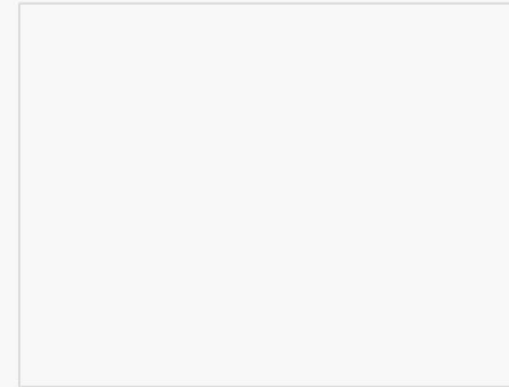


Open

Open from Tableau Public



BTC and Gold Performance on COVID-1...



BTC and Gold Performance on COVID-1...



BTC and Gold Performance on COVID-1...








Choose Google Drive as your data source in Tableau, and select the sheet you have just created using Coefficient.

Finally, craft your visual and find those insights!

Thank you!

I hope you find this useful! 😊

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