

CONFIGURATION GUIDE

**START
IT UP!**



NLSQL

chat with your database!

NLSQL CONFIGURATION GUIDE

STEPS TO BE COVERED

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NLSQL CONFIGURATION GUIDE

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NLSQL CONFIGURATION GUIDE

STEPS TO BE COVERED

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NLSQL OPENS THE DOOR TO A NEW ERA OF ANALYTICS,
WHERE THE POWER OF NATURAL LANGUAGE UNLOCKS
THE LIMITLESS POTENTIAL OF DATA-DRIVEN INSIGHTS.

EMBRACE THE FUTURE OF ANALYTICS WITH NLSQL,
WHERE UNDERSTANDING YOUR DATA IS AS SIMPLE AS
ASKING A QUESTION.

PREREQUISITES FOR NLSQL CONFIGURATION

1.a. Access to your database: Ensure that you have access to your full database and its tables, as well as the necessary permissions to read them.

1.b. Create a Google Spreadsheet for each table in your database. Ensure that the structure of these spreadsheets (column names, column formats, and text column format distinct values) corresponds to the structure of the respective tables in your database. These spreadsheets will be used for quick self-service setup, and later synchronized with the **NLSQL** customization API when transitioning to production mode.

DO NOT COPY-PASTE ALL THE DATA FROM YOUR DATABASE TO GOOGLE SPREADSHEET TABLES AS THE **NLSQL** MODEL EXPECTS ONLY TEXT DISTINCT FOR EACH TEXT FORMAT COLUMN YOU HAVE IN YOUR FULL DATABASE.

NLSQL DOESN'T REQUIRE ANY SENSITIVE OR CONFIDENTIAL INFORMATION TRANSFER OUTSIDE OF YOUR CORPORATE IT ECOSYSTEM.

PREREQUISITES FOR NLSQL CONFIGURATION

To quickly generate all the distinct values for your full database, you can refer to the following SQL:

```
SELECT  
distinct(yourDatabaseName.yourTableName.yourTextFormatColumnname) as yourTextFormatColumnname  
FROM yourDatabaseName.yourTableName;
```

Please note you need to replace `yourDatabaseName`, `yourTableName`, and `yourTextFormatColumnname` with your real data from your full database.

1.B. CREATE GOOGLE SPREADSHEET TABLES

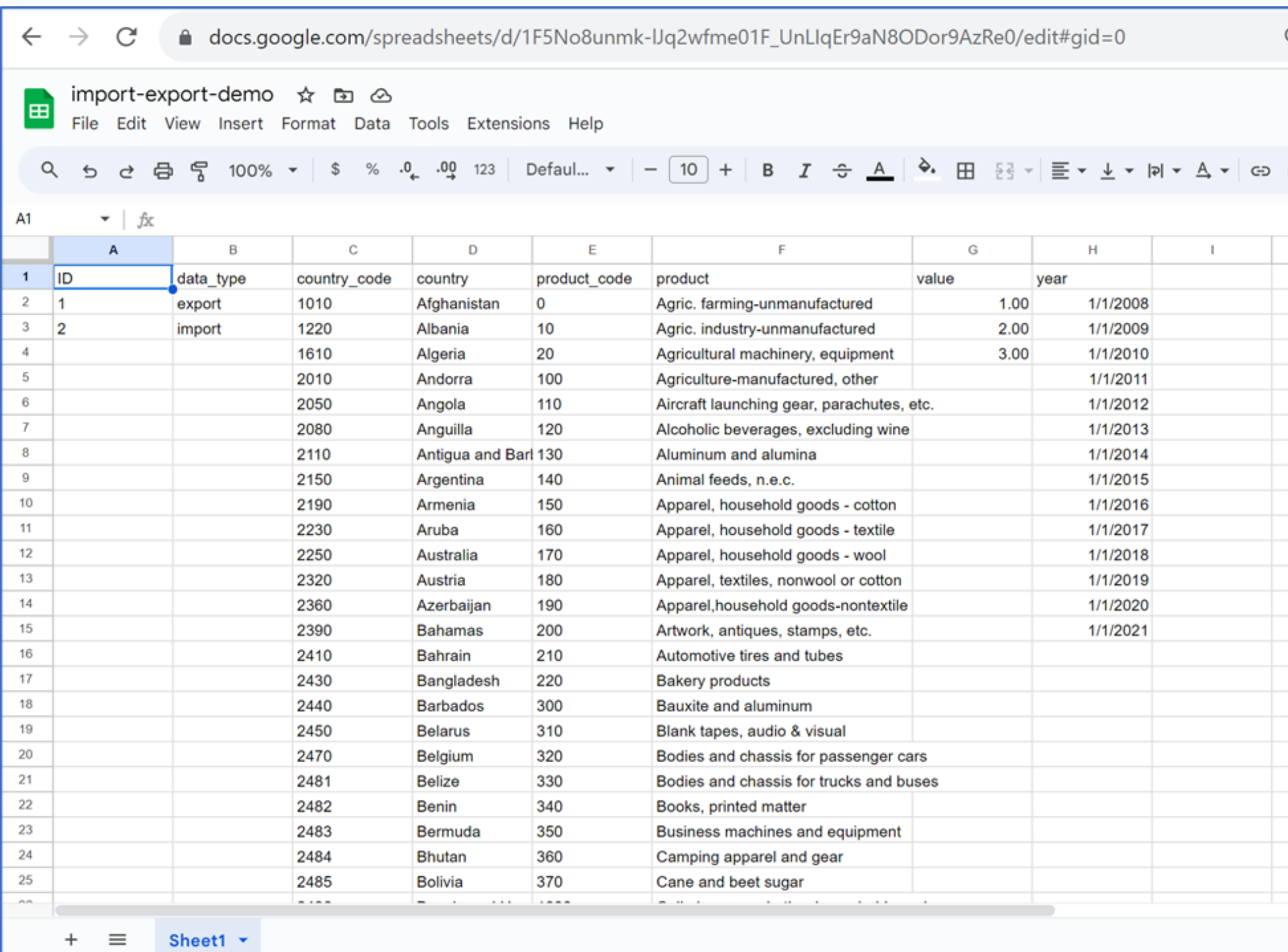
The screenshot shows a Google Sheets document titled 'import-export-demo'. The 'Format' menu is open, displaying various formatting options. The 'Number' option is selected, and a sub-menu is visible showing different number formats like 'Automatic', 'Plain text', 'Number', 'Percent', 'Scientific', 'Accounting', 'Financial', 'Currency', 'Currency rounded', 'Date', 'Time', 'Date time', and 'Duration'. The 'Number' option is checked. The spreadsheet data is as follows:

	A	B	G	H	I
1	ID	data_type	value	year	
2	1	export	1.00	1/1/2008	
3	2	import	2.00	1/1/2009	
4			3.00	1/1/2010	
5				1/1/2011	
6				1/1/2012	
7				1/1/2013	
8				1/1/2014	
9				1/1/2015	
10				1/1/2016	
11				1/1/2017	
12				1/1/2018	
13				1/1/2019	
14				1/1/2020	
15				1/1/2021	
16	2410	Bahrain	210		
17	2430	Bangladesh	220		
18	2440	Barbados	300		
19	2450	Bahrain	210		

For numbers and date column formats please make sure to change the automatic format to number or date format accordingly.

For this, you need to select a column -> Click Format -> Number -> Number for number formats columns and select a column -> Click Format -> Number -> Number for date formats columns in your database.

1.C. READY GOOGLE SPREADSHEET TABLES



ID	data_type	country_code	country	product_code	product	value	year
1	export	1010	Afghanistan	0	Agric. farming-unmanufactured	1.00	1/1/2008
2	import	1220	Albania	10	Agric. industry-unmanufactured	2.00	1/1/2009
		1610	Algeria	20	Agricultural machinery, equipment	3.00	1/1/2010
		2010	Andorra	100	Agriculture-manufactured, other		1/1/2011
		2050	Angola	110	Aircraft launching gear, parachutes, etc.		1/1/2012
		2080	Anguilla	120	Alcoholic beverages, excluding wine		1/1/2013
		2110	Antigua and Barb	130	Aluminum and alumina		1/1/2014
		2150	Argentina	140	Animal feeds, n.e.c.		1/1/2015
		2190	Armenia	150	Apparel, household goods - cotton		1/1/2016
		2230	Aruba	160	Apparel, household goods - textile		1/1/2017
		2250	Australia	170	Apparel, household goods - wool		1/1/2018
		2320	Austria	180	Apparel, textiles, nonwool or cotton		1/1/2019
		2360	Azerbaijan	190	Apparel,household goods-nontextile		1/1/2020
		2390	Bahamas	200	Artwork, antiques, stamps, etc.		1/1/2021
		2410	Bahrain	210	Automotive tires and tubes		
		2430	Bangladesh	220	Bakery products		
		2440	Barbados	300	Bauxite and aluminum		
		2450	Belarus	310	Blank tapes, audio & visual		
		2470	Belgium	320	Bodies and chassis for passenger cars		
		2481	Belize	330	Bodies and chassis for trucks and buses		
		2482	Benin	340	Books, printed matter		
		2483	Bermuda	350	Business machines and equipment		
		2484	Bhutan	360	Camping apparel and gear		
		2485	Bolivia	370	Cane and beet sugar		

Once the Google Spreadsheets are prepared with the complete table structure and unique values (distinct only for text format columns), kindly share it with the API by sharing the file with the following email address:

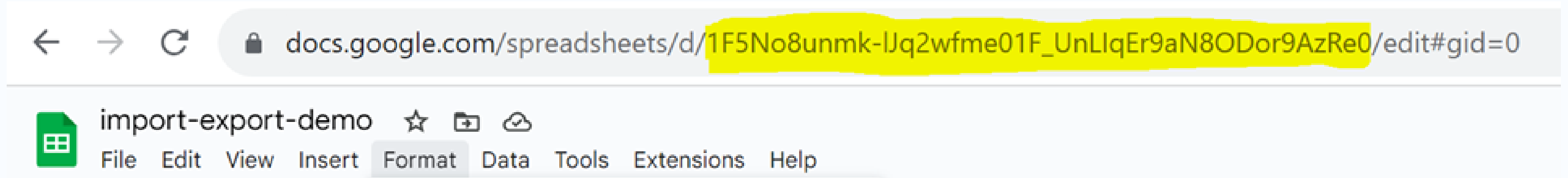
g-spreadsheet-account-name@spreadsheet-api-260114.iam.gserviceaccount.com

Please kindly note that there is no need to include all the data from your complete database. Instead, simply provide distinct values for text columns, and "1", "2", and "3" for all numeric format columns, and "1/12/2023" as an example for date format columns.



READY NOW!

1.d. Copy your TableID (yellow below), as it will be required for the next step



NLSQL Chat Bot | Profile

nlsql.com/profile

NLSQL

Text to SQL NLP API tutorial

Business users

Language User Interface (MS Teams, Slack, Web chat, Mobile App, etc.)

Internal corporate IT ecosystem

API web-services

Existing API 1

Existing API 2

Existing API 3

NLSQL (Unstructured to structured API) Support

AWS/Azure Marketplace

Посмотреть на YouTube

DW-1 DW-2 DW-n


GET API FOR YOUR DATA NOW

2. Get API token for your database

2.A. CLICK
"GET API FOR YOUR DATA NOW"
AT
[HTTPS://NLSQL.COM/PROFILE](https://nlsql.com/profile)

2.B CHOOSE YOUR DATABASE SYNTAX

← → ↻ nlsql.com/googlesheets/DataSource-1/

 Home How It Works API Docu

Edit DataSource

Name
DataSource-1

Platform
API

Db syntax
MySQL

Suggestion mode

SAVE

► Add table

trade_balance_usa

NewTable

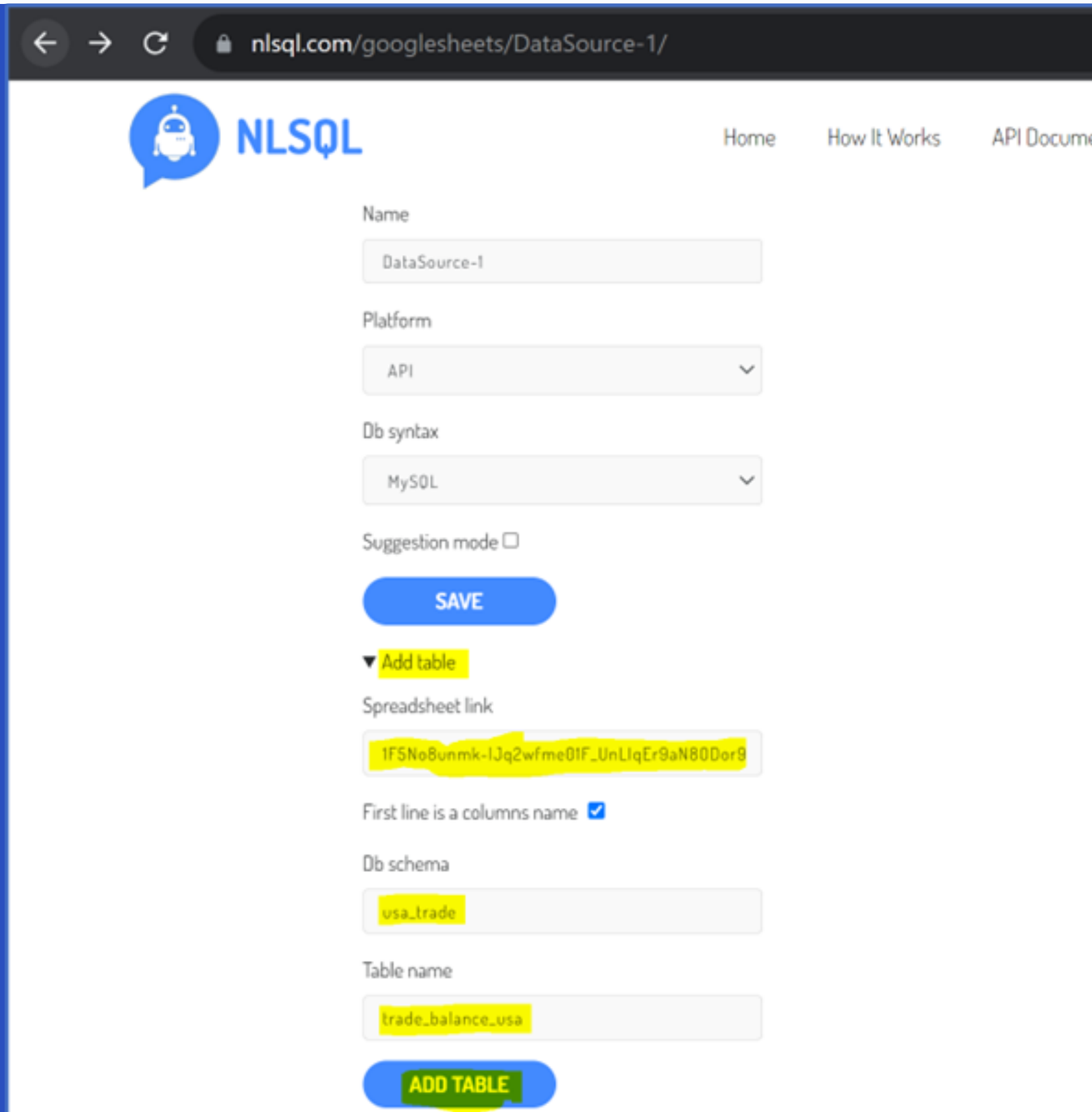
Go at <https://nlsql.com/googlesheets/DataSource-1/> page

You may keep your DataSource name as is, or you may rename it for your convenience.

For multiple data source configurations within a single profile, please contact our Customer Success department at info@nlsql.com for further assistance.

The platform must be set to API, as we are configuring the NLP to SQL API to suit your database structure and business requirements.

2.C. Add Table



The screenshot shows the NLSQL web interface for adding a table. The browser address bar shows the URL `nlsq.com/googlesheets/DataSource-1/`. The page header includes the NLSQL logo and navigation links for Home, How It Works, and API Documents. The form contains the following fields and controls:

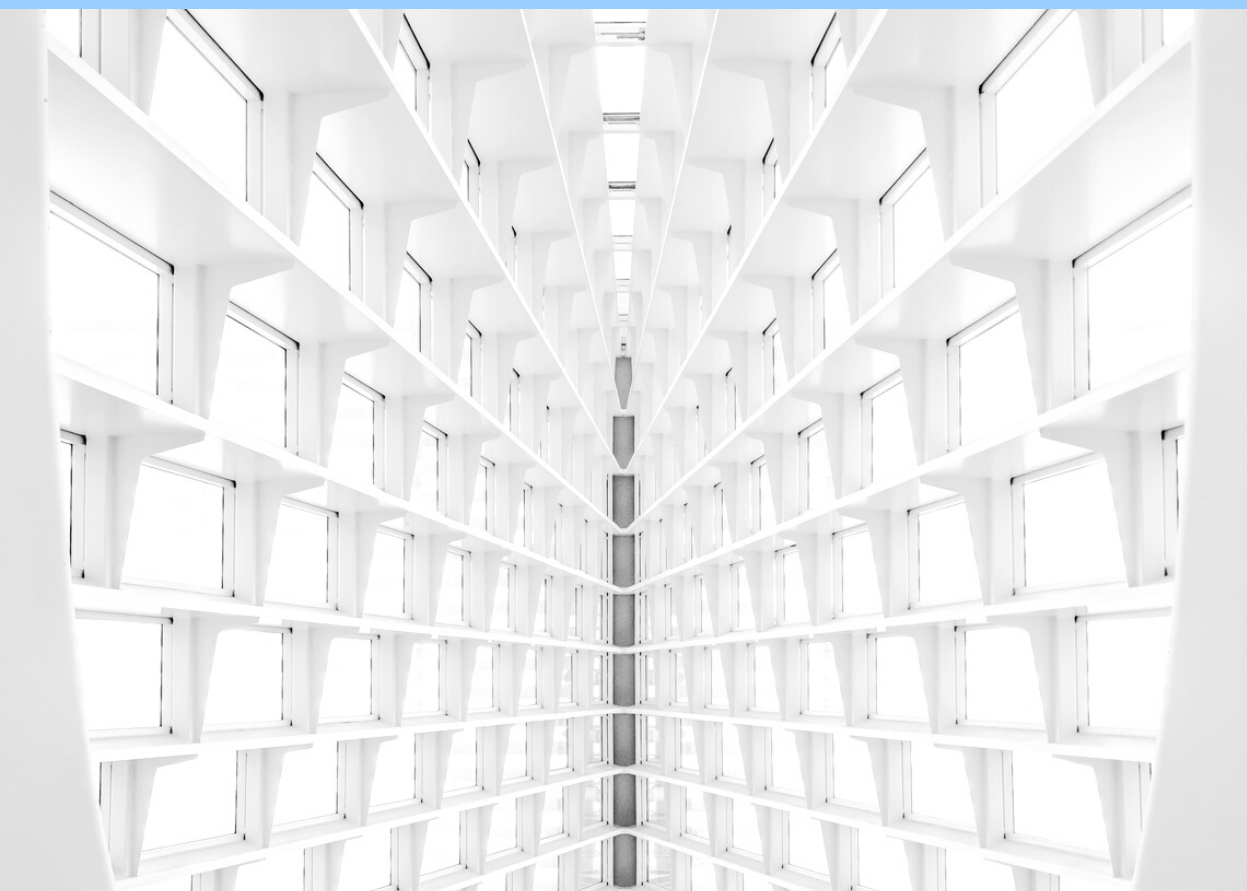
- Name:** A text input field containing "DataSource-1".
- Platform:** A dropdown menu with "API" selected.
- Db syntax:** A dropdown menu with "MySQL" selected.
- Suggestion mode:** An unchecked checkbox.
- SAVE:** A blue button.
- Add table:** A dropdown menu with a downward arrow.
- Spreadsheet link:** A text input field containing a Google Sheet link: `1F5No8unmk-lJq2wfm01F_UnLlqEr9aN80Dor9`.
- First line is a columns name:** A checked checkbox.
- Db schema:** A text input field containing "usa_trade".
- Table name:** A text input field containing "trade_balance_usa".
- ADD TABLE:** A green button.

Click "Add Table" and insert the spreadsheet link from [step 1.d](#), along with your database name/schema and table name.

Remember to tick the box labeled "First line is a column name".

Click the button "ADD TABLE" once ready.

3. Choosing the columns for NLP model



nlsq.com/googlesheets/DataSource-1/1F5No8unmk-Uq2wfme01F_UnLIqEr9aN8ODor9AzRe0/columns/

NLSQL

Home How It Works API Documentation About Us Blog Terms & Privacy Contact Us

<input checked="" type="checkbox"/> ID	<input checked="" type="checkbox"/> data_type	<input checked="" type="checkbox"/> country_code	<input checked="" type="checkbox"/> country	<input checked="" type="checkbox"/> product_code	<input checked="" type="checkbox"/> product	<input checked="" type="checkbox"/> value	<input checked="" type="checkbox"/> year
1	export	1010	Afghanistan	0	Agric. farming-unmanufactured	1.00	1/1/2008
2	import	1220	Albania	10	Agric. industry-unmanufactured	2.00	1/1/2009
- // -	- // -	1610	Algeria	20	Agricultural machinery, equipment	3.00	1/1/2010
- // -	- // -	2010	Andorra	100	Agriculture-manufactured, other	- // -	1/1/2011
- // -	- // -	2050	Angola	110	Aircraft launching gear, parachutes, etc.	- // -	1/1/2012
- // -	- // -	2080	Anguilla	120	Alcoholic beverages, excluding wine	- // -	1/1/2013
- // -	- // -	2110	Antigua and Barbuda	130	Aluminum and alumina	- // -	1/1/2014
- // -	- // -	2150	Argentina	140	Animal feeds, n.e.c.	- // -	1/1/2015
- // -	- // -	2190	Armenia	150	Apparel, household goods - cotton	- // -	1/1/2016

CONTINUE

Simply tick the columns you wish to use from the table

4. ADD ARGUMENTS: MAP BUSINESS INDICATORS TO COLUMNS

Argument: trade

Column: value

Operation: Total sum

Unit of measurement: mln. USD

CONTINUE

Your Arguments

Argument	Column	Operation	Unit	
trade	value	Total sum	mln. USD	✖

4.a. You must add at least one primary argument, which is related to your business logic.

Enter the name of your business indicator as text in the Argument field (in the screenshot above “trade”);

Select the appropriate column name from the drop-down list and specify the operation.

For main arguments, NLSQL supports the following operations: sum, average, number of rows (using distinct), value (as text without distinct), maximum value, and minimum value;

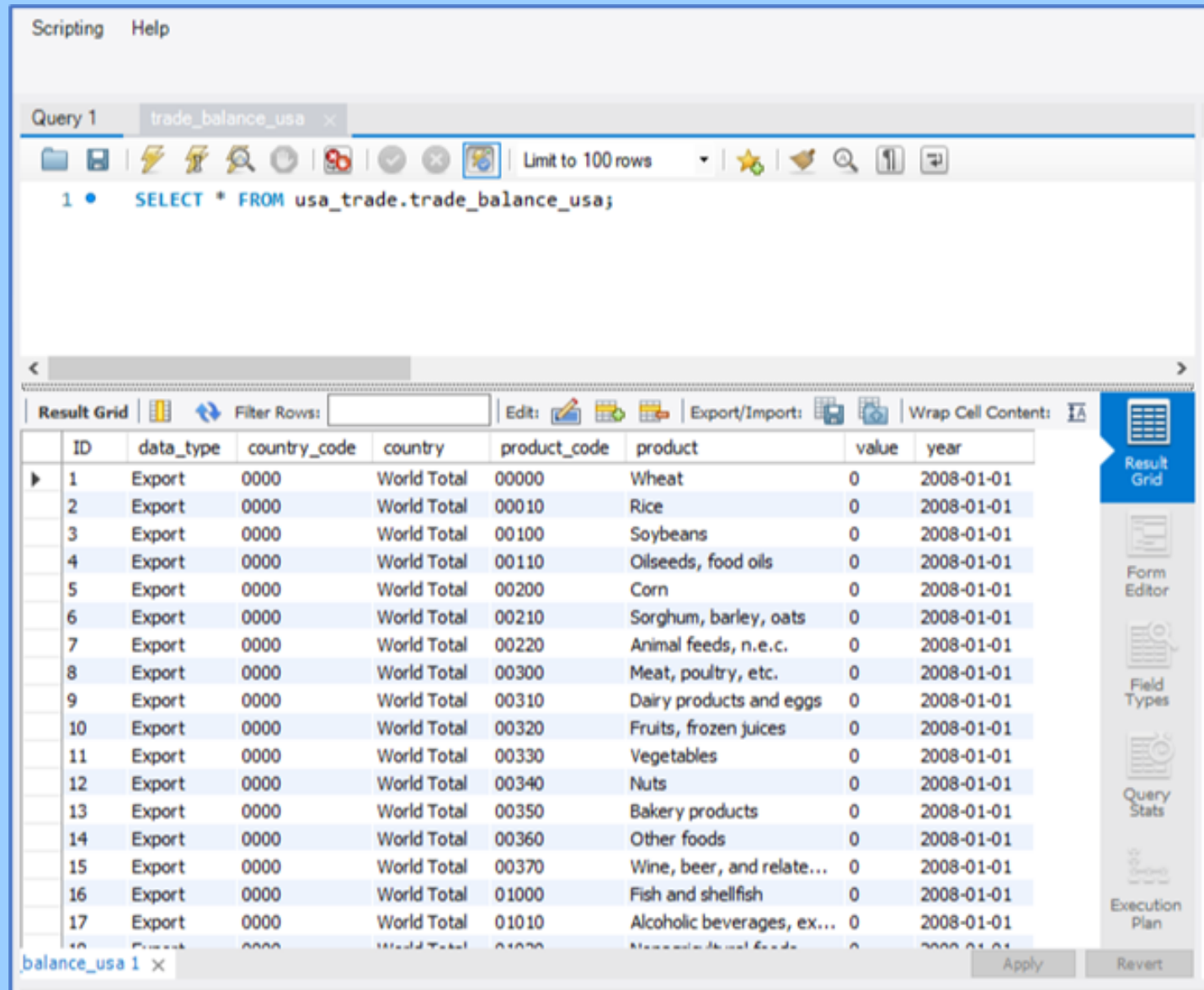
Include the units of measurement for this business indicator, relevant to your business logic.

Typical main arguments may include sales, cost, labor cost, turnover, revenue, profit, average price, number of patients, etc., or any other metric that can be calculated or retrieved from the table (used for the SELECT statement part).

In the **Complex Arguments step**, you can configure sophisticated calculations to support any business logic within your company.

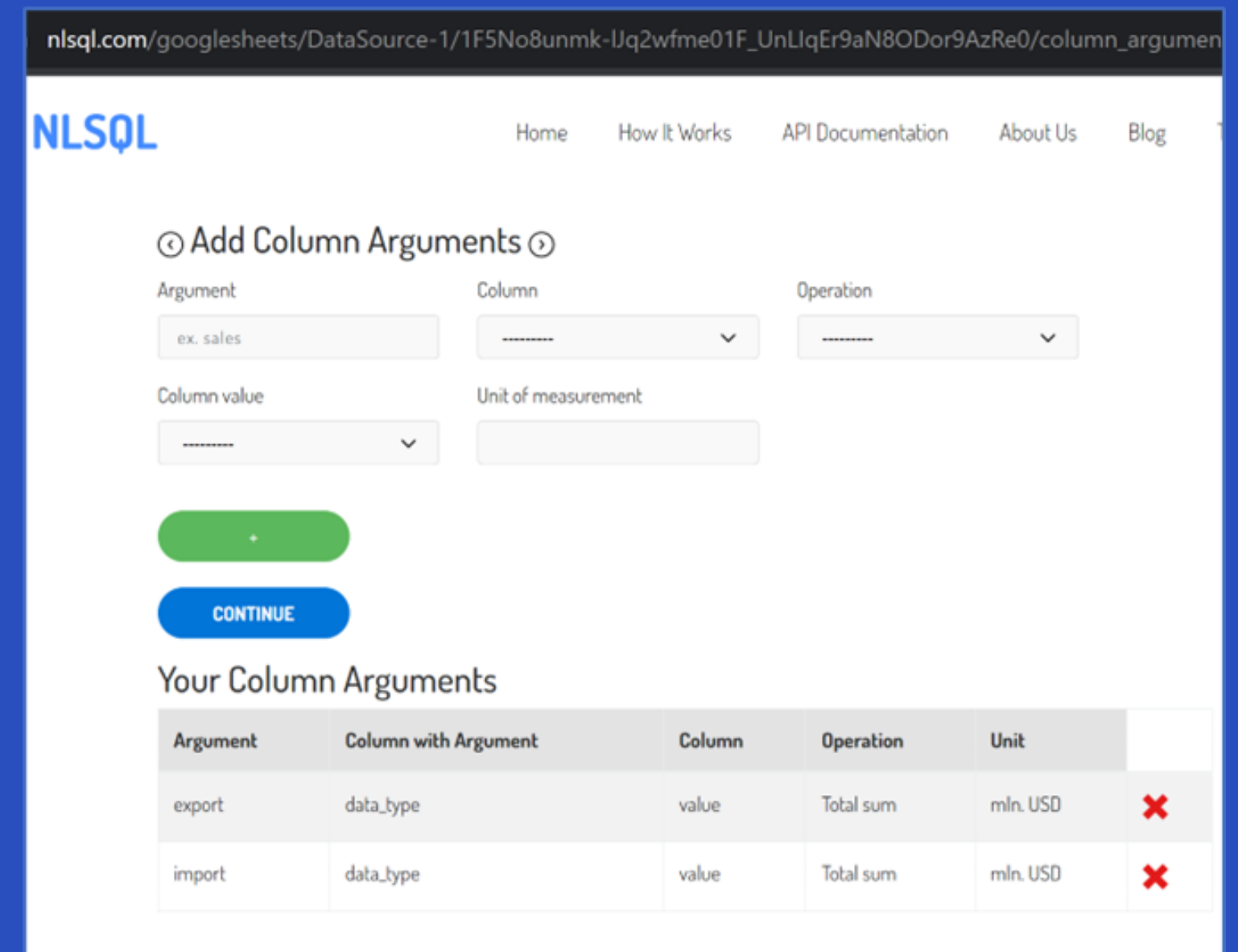
4.b. Once at least one argument is added -> **Click Continue**

5. ADD COLUMN ARGUMENTS



The screenshot shows a database query tool interface. At the top, there's a 'Scripting' menu and a 'Query 1' tab with the query: `SELECT * FROM usa_trade.trade_balance_usa;`. Below the query is a toolbar with icons for various actions and a 'Limit to 100 rows' dropdown. The main area displays a 'Result Grid' with columns: ID, data_type, country_code, country, product_code, product, value, and year. The data rows show various export products like Wheat, Rice, Soybeans, etc., with values of 0 and dates of 2008-01-01.

ID	data_type	country_code	country	product_code	product	value	year
1	Export	0000	World Total	00000	Wheat	0	2008-01-01
2	Export	0000	World Total	00010	Rice	0	2008-01-01
3	Export	0000	World Total	00100	Soybeans	0	2008-01-01
4	Export	0000	World Total	00110	Oilseeds, food oils	0	2008-01-01
5	Export	0000	World Total	00200	Corn	0	2008-01-01
6	Export	0000	World Total	00210	Sorghum, barley, oats	0	2008-01-01
7	Export	0000	World Total	00220	Animal feeds, n.e.c.	0	2008-01-01
8	Export	0000	World Total	00300	Meat, poultry, etc.	0	2008-01-01
9	Export	0000	World Total	00310	Dairy products and eggs	0	2008-01-01
10	Export	0000	World Total	00320	Fruits, frozen juices	0	2008-01-01
11	Export	0000	World Total	00330	Vegetables	0	2008-01-01
12	Export	0000	World Total	00340	Nuts	0	2008-01-01
13	Export	0000	World Total	00350	Bakery products	0	2008-01-01
14	Export	0000	World Total	00360	Other foods	0	2008-01-01
15	Export	0000	World Total	00370	Wine, beer, and relate...	0	2008-01-01
16	Export	0000	World Total	01000	Fish and shellfish	0	2008-01-01
17	Export	0000	World Total	01010	Alcoholic beverages, ex...	0	2008-01-01



The screenshot shows the NLSQL 'Add Column Arguments' configuration page. It has a header with the NLSQL logo and navigation links: Home, How It Works, API Documentation, About Us, and Blog. The main section is titled 'Add Column Arguments' and contains several input fields: 'Argument' (with 'ex. sales' entered), 'Column' (a dropdown menu), 'Operation' (a dropdown menu), 'Column value' (a dropdown menu), and 'Unit of measurement' (a text input field). Below these fields are two buttons: a green '+' button and a blue 'CONTINUE' button. At the bottom, there is a table titled 'Your Column Arguments' with columns: Argument, Column with Argument, Column, Operation, Unit, and a red 'X' icon.

Argument	Column with Argument	Column	Operation	Unit	
export	data_type	value	Total sum	mln. USD	✗
import	data_type	value	Total sum	mln. USD	✗

Associate your column with any existing business indicators, if applicable. **5.a.** This is an optional step, specifically designed for certain database structures such as on picture below. In this structure, you will find a `data_type` column that contains business indicator names, such as Export or Import.

If your database has this type of structure, you simply need to inform NLSQL so that it can utilize it without the need to add each entry manually ([step 4.a.](#)). The appropriate configuration for such a data structure is as follows.

5. ADD COLUMN ARGUMENTS

FOR FINANCE P&L DATABASES, WITH THE FOLLOWING TABLE STRUCTURE

measure type	level 1	primary value	secondary value	360 value
Cost	CMI	-1.00	-1.00	-1.00
Revenue	COGS	0.00	0.00	0.00
Volume	Damage/Expiry	1.00	1.00	1.00
	EBITDA	2.00	2.00	2.00
or	Financial Charges	3.00	3.00	3.00
	Freight			
	Gross Contribution			
	Gross Margin			
Specialist	Gross Sales Revenue			
	Gross Sales Volume - MT			
	Gross Sales Volume - PUOM			
	GSR Net of Returns			
	GSR Net Single Price			
	Net Margin			
	Net Sales Revenue			
	Net Sales Volume - MT			
	Net Sales Volume - PUOM			
	Other Income			
And Far East	Overheads			
	Profit Before Tax			
Asian	Returns			
n	Sales Returns Volume - MT			
	Sales Returns Volume - PUOM			

THE PROPER COLUMN ARGUMENTS CONFIGURATIONS WILL LOOK LIKE

Your Column Arguments					
Argument	Column with Argument	Column	Operation	Unit	
cmi	level 1	secondary value	Total sum		✗
cogs	level 1	secondary value	Total sum		✗
damage/expiry	level 1	secondary value	Total sum		✗
ebitda	level 1	secondary value	Total sum		✗
financial charges	level 1	secondary value	Total sum		✗
freight	level 1	secondary value	Total sum		✗
gross contribution	level 1	secondary value	Total sum		✗
gross margin	level 1	secondary value	Total sum		✗
gross sales revenue	level 1	secondary value	Total sum		✗
gross sales volume - mt	level 1	secondary value	Total sum		✗
gross sales volume - puom	level 1	secondary value	Total sum		✗

IN CASE YOU HAVE STANDARD DATABASE STRUCTURE, OR YOU ARE NOT SURE ENOUGH, YOU CAN SKIP THIS STEP

6. Add Date arguments

MAP YOUR DATE COLUMNS FOR PERIOD INTENTS

The screenshot shows the NLSQL interface for adding date arguments. The form includes the following fields:

- Date argument:
- Column:
- Is default:

Below the form are a green '+' button and a blue 'CONTINUE' button. A table titled 'Your Date Arguments' displays the current configuration:

Date Argument	Column	Is default	
date	year	Default	✗

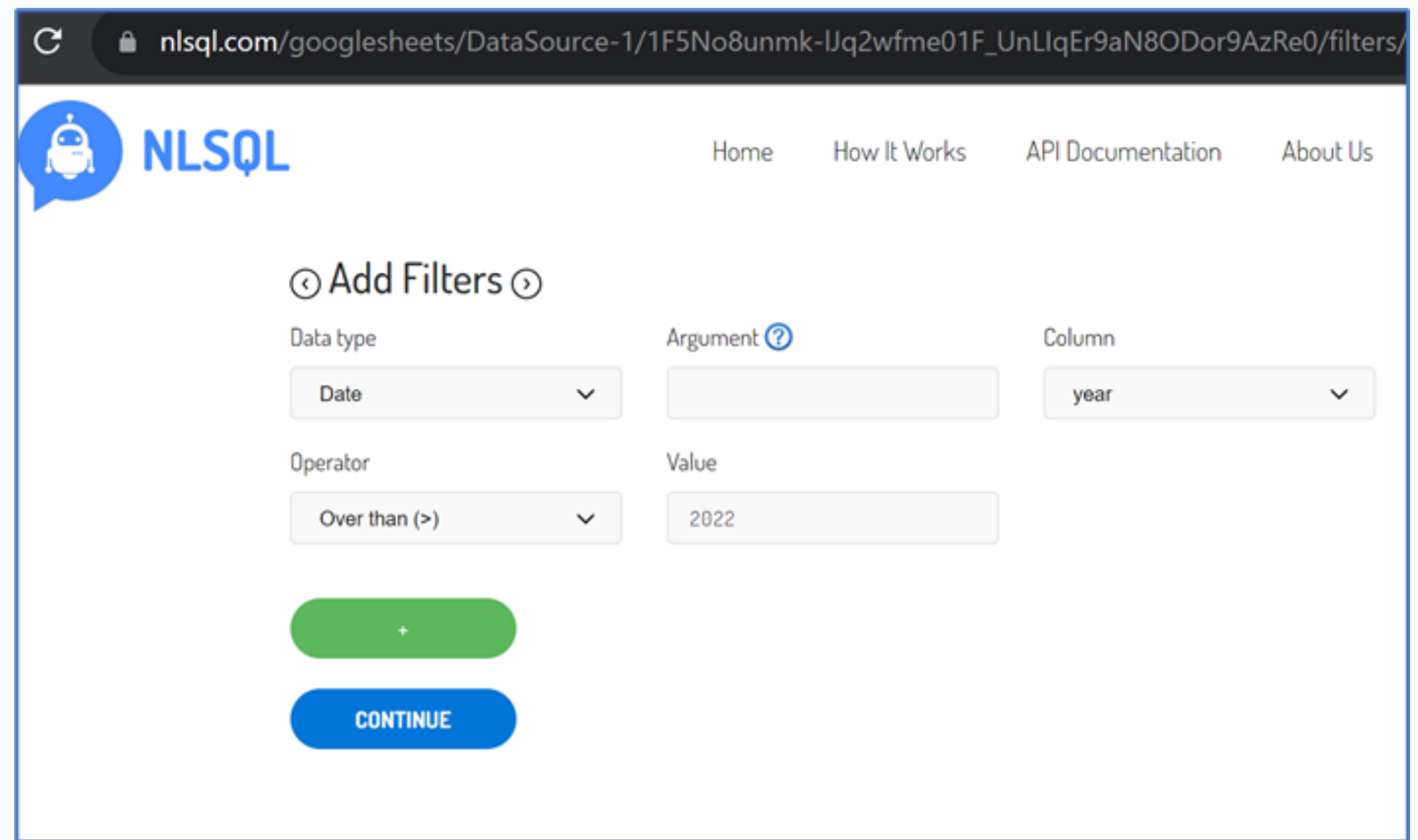
6.a. Simply input the date and select your default data column as shown.

This column will be utilized to apply all period intents such as last quarter, last month, June 2023, last 40 days, etc.

6.b. Feel free to add more than one date column, but we recommend having at least one default column. You might want to calculate the number of purchase orders based on the DUE date, which could differ from your default date. For such business logic, you can use multiple date arguments.

7. Add filters

RESTRICT ALL QUERIES TO THE
LAST 3 YEARS ONLY AND/OR
REMOVE UNCLEAR DATA



The screenshot shows the NLSQL web interface for configuring filters. The URL in the browser is `nlsql.com/googlesheets/DataSource-1/1F5No8unmk-Ij2wfme01F_UnLlqEr9aN8ODor9AzRe0/filters/`. The page features the NLSQL logo and navigation links for Home, How It Works, API Documentation, and About Us. The main section is titled "Add Filters" and contains the following fields:

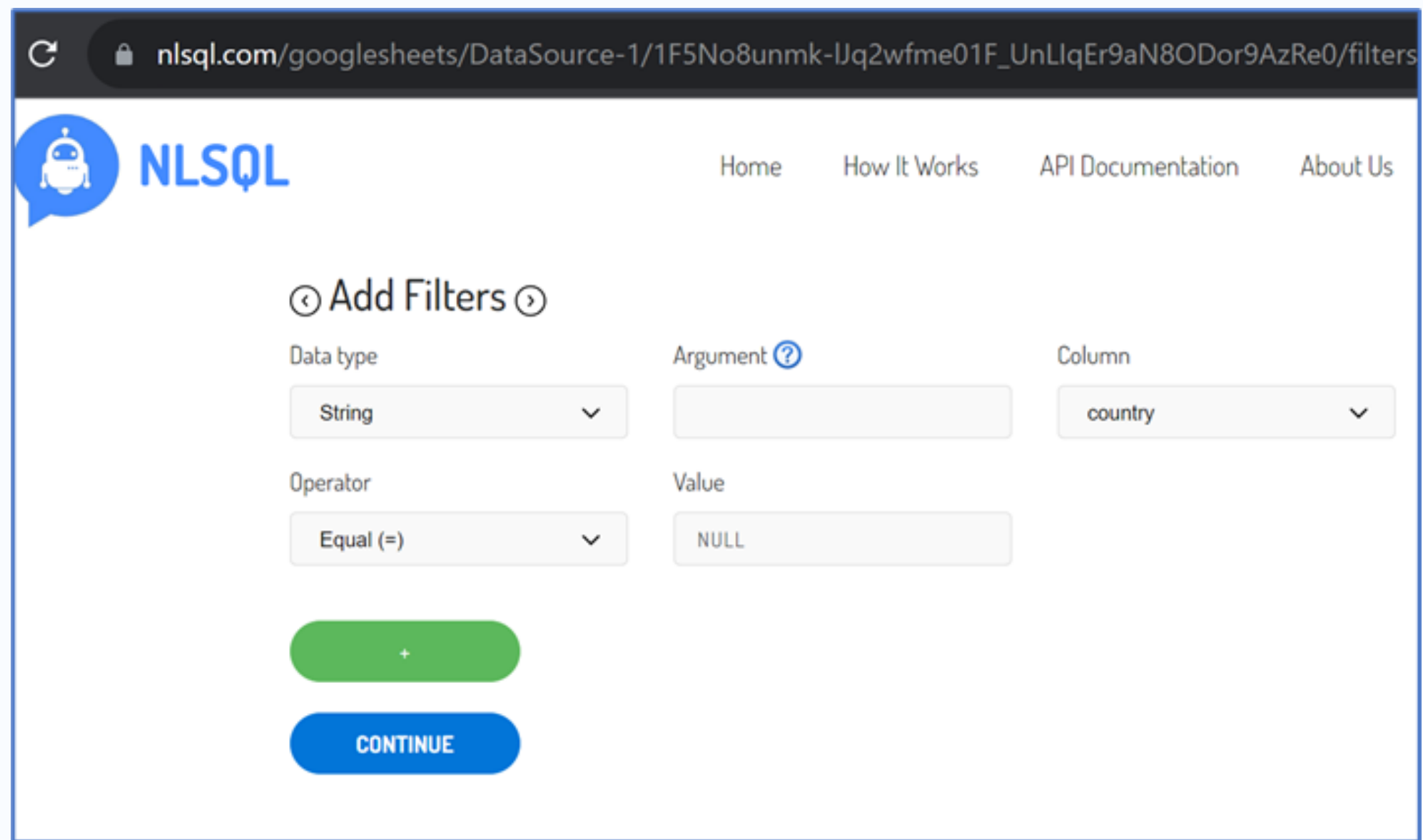
Data type	Argument	Column
Date		year
Operator	Value	
Over than (>)	2022	

Below the form are two buttons: a green button with a plus sign (+) and a blue button labeled "CONTINUE".

7.a. Most non-technical end-users, who lack knowledge of database structures and data science, will ask the system numerous questions like, "What are the sales of product X?" without specifying a time period. Suppose you have 20 years of sales history for product X, with tens of millions of records. **NLSQL** will generate SQL without any date limitations, which may overload your database engine. For this reason, for production use, we recommend applying a filter to create a limitation for at least the last 3 years of data, to increase the speed of response for non-technical business users.

The image illustrates an example setup on how to restrict all SQL queries to records later than 2022.

7. Add filters



The screenshot shows the NLSQL 'Add Filters' interface. The URL in the browser is nlsql.com/googlesheets/DataSource-1/1F5No8unmk-IJq2wfme01F_UnLlqEr9aN8ODor9AzRe0/filters. The NLSQL logo is in the top left, and navigation links for Home, How It Works, API Documentation, and About Us are in the top right. The main form is titled 'Add Filters' and contains the following fields:

Data type	Argument ?	Column
String		country
Operator	Value	
Equal (=)	NULL	

Below the form are two buttons: a green button with a '+' sign and a blue button labeled 'CONTINUE'.

7.b. Some production databases may contain inconsistent or inaccurate data, which should be removed to prevent confusion among end-users. Similarly, you can eliminate such data from all SQL queries based on your specific business criteria. For instance, remove all records with a NULL country name.

8. Add TOP/Bottom arguments

The screenshot shows the NLSQL interface for adding top arguments. The form includes a 'Top argument' text field, a 'Column' dropdown menu, and a 'Unit of measurement' text field. Below the form are a green '+' button and a blue 'SAVE' button. A table titled 'Your Top Arguments' lists several entries with red 'X' marks in the final column.

Argument	Column	Unit	
countries	country		✗
year	year		✗
country	country		✗
years	year		✗
product	product		✗
products	product		✗

Configure columns with text values such as countries, regions, product names, and customer names. This will enable functionality for filtering-related questions like *"Top 10 customers"* or *"Bottom 5 performing products."*

Typically, business logic involves analysing certain categories, such as *"Show me the top 10 customers by revenue"* or *"Display the bottom 5 products in terms of revenue."*

To cater to this type of business logic, you need to map columns at this step.

9. Add Complex arguments

ADVANCED BUSINESS LOGIC CONFIGURATION

Unit of measurement:

[CONTINUE](#)

Your Complex Arguments

Data Type	Argument	Argument Column 1	Operation 1	Argument Column 2	Operation 2	Operator	Filter Column 1	Value 1	Filter Column 2	Value 2	Unit		
	growth	value	Total sum	value	Total sum	Division (/)	year	Year(2021)	Year(2021)	year	Year(2022)	Year(2022)	x 100%

At some point, you may need to configure more advanced business indicator calculations. For this purpose, **NLSQL** offers a step for Complex Argument configuration. This provides the flexibility to use up to four different columns with various operations within the same SQL query calculations.

[Home](#)
[How It Works](#)
[API Documentation](#)
[About Us](#)
[Blog](#)

Join Columns

Table: 1HhnntcWPva4ohTAIwEGb
 Column master: ID-Customer
 Table join: SALES
 Column join: ID-Customer

SAVE

Your Join Columns

Master Table	Master Column	Join Table	Join Column	
CUSTOMERTABLE	ID-Customer	SALES	ID-Customer	✘

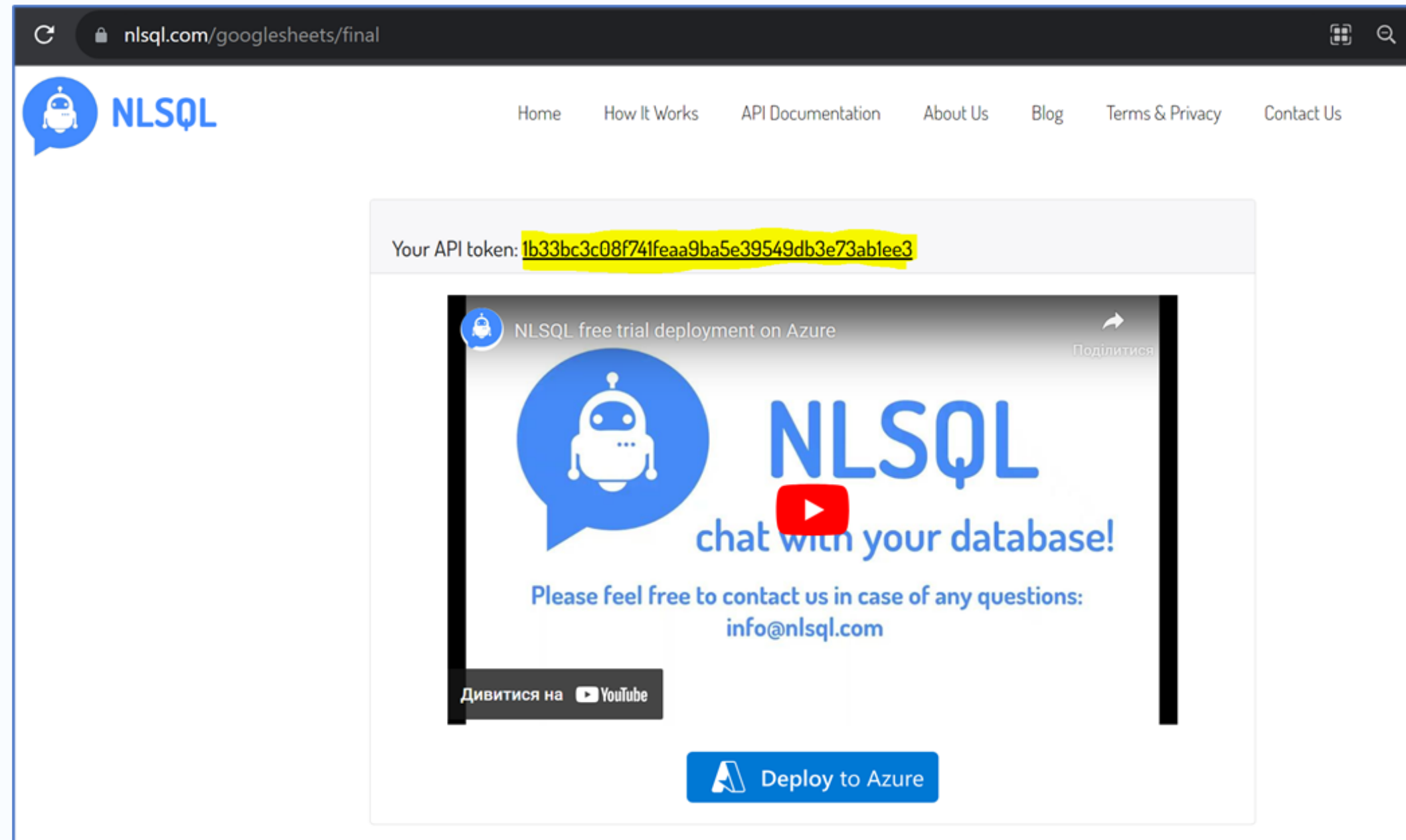
10. Add Joins

EMULATE DATABASE STRUCTURE
RELATIONSHIPS

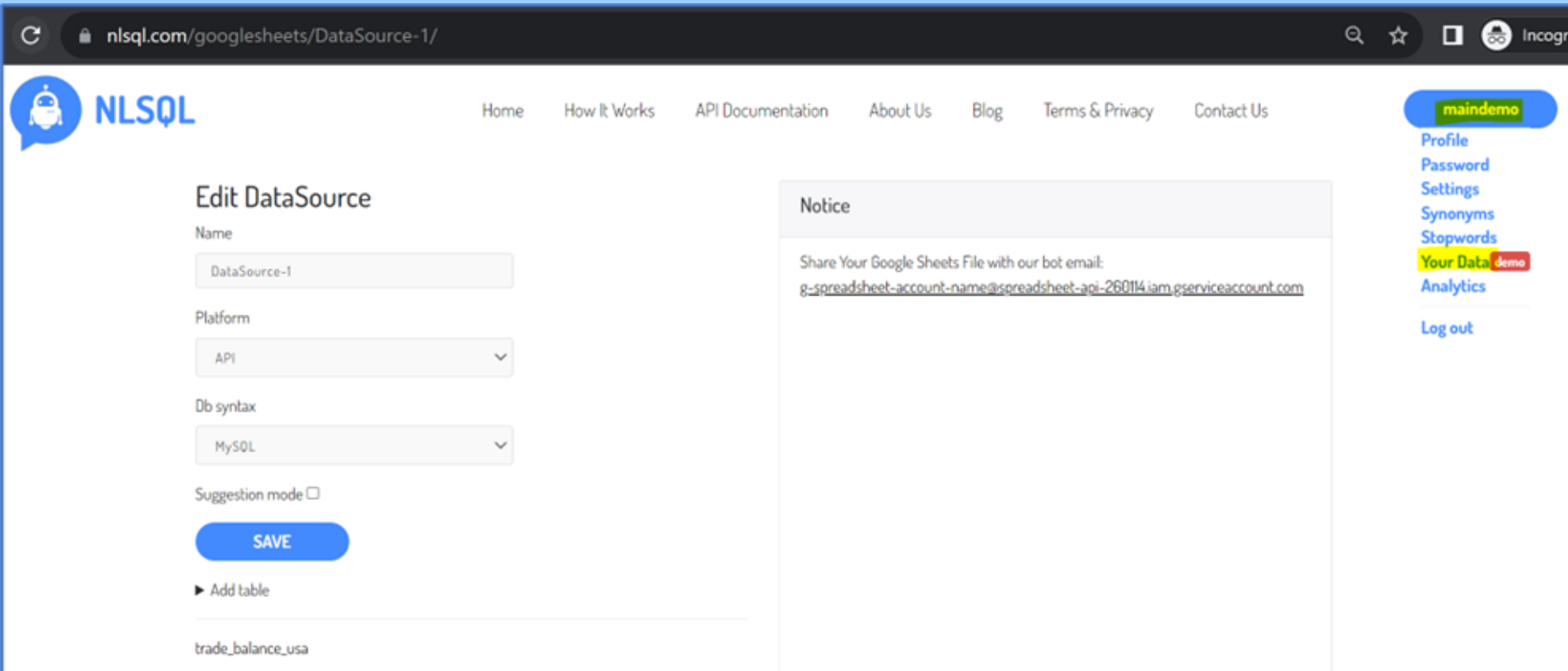
For the second table configuration, an additional step for adding JOINS will be presented.

From the drop-down list, you can select a table and columns to establish a JOIN connection emulation. Once completed, click save.

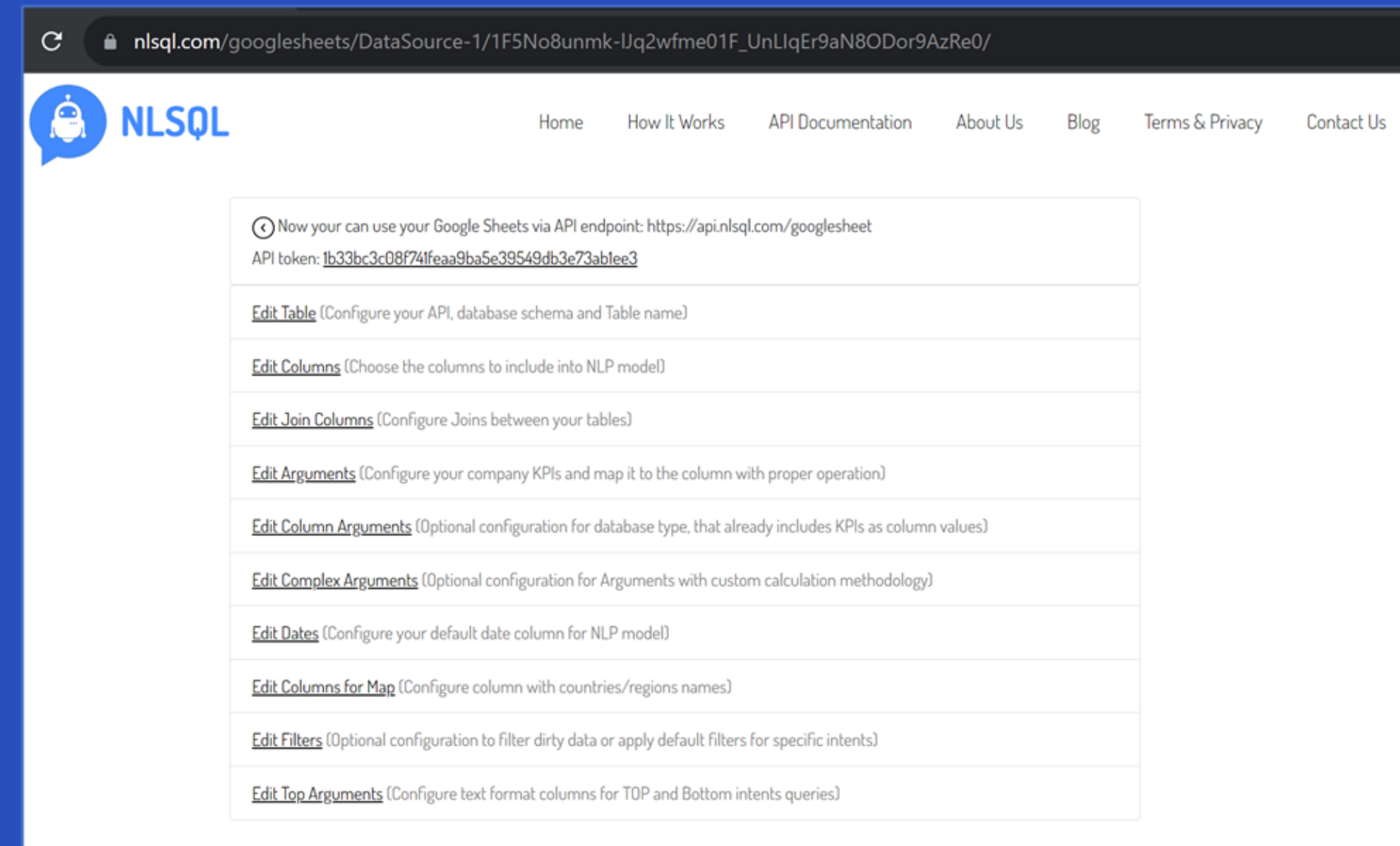
11. REPEAT STEPS 2.C-10 FOR EACH TABLE YOU ADD TO THE NLSQL MODEL.



Upon completion of these configurations, you will obtain a unique **API token** (found on the page <https://nlsq.com/googlesheets/final>) tailored to your company's requirements and database structure. This token allows you to deploy the **Azure offer**, and any subsequent integration with the primary **API** will be carried out automatically.

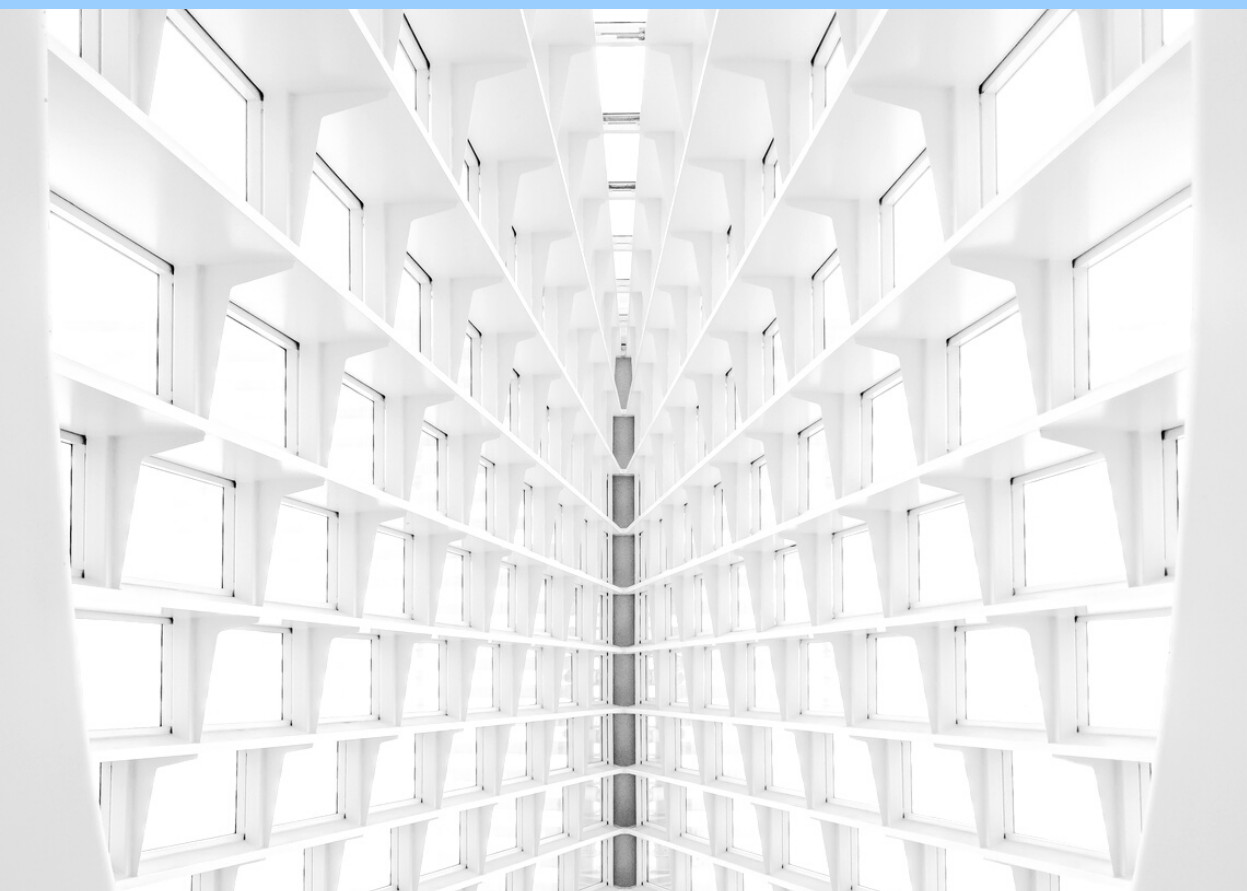


11.a. Additionally, you can locate and modify all your configurations by clicking on your username -> your data and subsequently selecting your table name from the list provided below.



11.b. The Graphic User Interface (GUI example) to edit your configurations

12. Deploy your NLSQL Team App within your company's ecosystem



portal.azure.com/#view/Microsoft_Azure_Marketplace/GalleryItemDetailsBladeNopdl/id/nlsq

Microsoft Azure Search resources, services, and docs (G+)

Home > NLSQL NLSQL

NLSQL | Azure Application

Plan NLSQL Create

Overview Plans + Pricing Usage Information + Support Ratings + Reviews

Offered under Microsoft Standard Contract.

NLSQL is B2B SaaS to empower employees with an intuitive text interface to inform and speed business decisions with significant benefits for enterprises.

NLSQL works as the first conversational based data inquiry Microsoft Teams App for your employees, which doesn't require any sensitive or confidential data transfer outside the corporate it ecosystem.

NLSQL supports integrations to all main database types and corporate messengers, which helps drive businesses forward faster with data-driven business decisions.

NLSQL conversational based data inquiry provides a google-like interface for corporate systems in order to allow anyone to make faster and more accurate business decisions, that drives businesses forward faster.

NLSQL equips every stakeholder in the organisations with the ability through real-time access to key data, to make more efficient decisions for better operational excellence and financial outcomes.

With the NLSQL, non-technical staff can inspect and interpret billions of rows of corporate information from any source, or your CRM/ERP databases.

NLSQL provides instantaneous search and analysis to identify proper business decisions in seconds rather than months.

Media

Germany and France and United Kingdom and Spain and Poland import to the

Germany and France and United Kingdom and Spain and Poland import to the

NLSQLBOT Chat

Give me 2023 Beer Import from Germany

RESPONSE: 10/11/2023 PM The import of wine, beer, and related products from Germany is valued at 160.07 million USD in 2023.

RESPONSE: 10/11/2023 PM One potential opportunity for the UK to increase its exports is to target the German market for wine, beer, and related products. By focusing on the preferences and tastes of German consumers, as well as establishing the unique quality and variety of American-produced beverages, the UK can potentially gain a larger share of the German import market. Also, increasing overall exports.

12.a. Click on “**Deploy to Azure**” at either <https://nlsql.com/googlesheets/final> or <https://nlsql.com>.

You will then be redirected to the Azure Offer deployment page at <https://portal.azure.com/#create/nlsql1606829442191.nlsqlbotsystemfreeplan30>

12. Deploy your NLSQL Team App within your company's ecosystem

portal.azure.com/#create/nlsq1606829442191.nlsqbotssystemfreeplan30

Microsoft Azure

Home > NLSQL >

Create NLSQL

Basics Database and Vnet Configurations JIT Configuration Review + create

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ 044a74d2-bde9-4562-a00a-4e50b9083e9b

Resource group * ⓘ nlsq-app-new-azure
Create new

Instance details

Region * ⓘ West Europe

NLSQL bot Services name * ⓘ NLSQLBOT

NLSQL API Token ⓘ 1b33bc3c08f741feaa9ba5e39549db3e73ab1ee3

Managed Application Details

Provide a name for your managed application, and its managed resource group. Your application's managed resource group holds all the resources that are required by the managed application.

Application Name * YourApplicationName

Managed Resource Group * ⓘ mrg-nlsqbotssystem-20230913123116

Previous Next Review + create

12.b. Click “Create” -> select a **Subscription** (please note that subscriptions with Azure free credits are not suitable for purchasing Azure Marketplace offers) -> choose **Resource group** (or create a new one) -> select **Region** (which should be the same as your full database location) -> feel free to modify the default NLSQLBOT name, if desired -> Proceed by copying and pasting your **API token** from **step 11**-> create a unique managed **Application name** of your choice -> click **Next**

12. Deploy your NLSQL Team App within your company's ecosystem

The screenshot shows the 'Create NLSQL' page in the Microsoft Azure portal. The page is titled 'Create NLSQL' and has a breadcrumb trail 'Home > NLSQL >'. The page is divided into four tabs: 'Basics', 'Database and Vnet Configurations', 'JIT Configuration', and 'Review + create'. The 'Database and Vnet Configurations' tab is active. The form contains the following fields:

- Your Database Type *
- Database Location
- Database Name
- Database Schema
- Database User Name
- Password
- Confirm password
- Warehouse for Snowflake, ProjectID for BigQuery
- DATABASE Resource Group
- DATABASE Vnet
- DATABASE Virtual Subnet

12.c. For databases accessible from the internet, please provide the following information: database type, database location, database name, database schema, read-only username, and read-only user password. Leave the **DATABASE** virtual network configurations blank, as shown in the image.

If you are using [Snowflake](#) or [BigQuery](#), please include the Snowflake warehouse name or BigQuery ProjectID in the corresponding field at this stage.

If your database is accessible via a [public network](#), we strongly recommend restricting [IP addresses](#). You can find the IP addresses used for the NLSQL App in the Network Section of your new Azure Web App after deployment. Copy and paste all outbound IP addresses and allow them in your database's Connection Security settings for added protection.

For [enterprise databases](#) that can only be accessed from an internal corporate network, please follow the instructions in the next step (12.d.).

12. Deploy your NLSQL Team App within your company's ecosystem

The screenshot shows the 'Create NLSQL' configuration page in the Microsoft Azure portal. The 'Database and Vnet Configurations' tab is selected. The configuration includes the following fields:

- Your Database Type: MySQL
- Database Location: 10.0.3.4
- Database Name: YourDatabaseName
- Database Schema: YourDatabaseSchema
- Database User Name: YourUserName
- Password: [Redacted]
- Confirm password: [Redacted]
- Warehouse for Snowflake, ProjectID for BigQuery: [Empty]
- DATABSE Resource Group: PMI
- DATABSE Vnet: pmitestvnet
- DATABSE Virtual Subnet: pmitestsubnet

Navigation buttons at the bottom are 'Previous', 'Next', and 'Review + create'.

12.d. For databases that are not accessible through the public network (internet), in addition to providing database credentials at step 12.c., you must also include:

- Database Resource Group
- Database Virtual Network name
- Database Virtual Subnet name

as shown in the image.

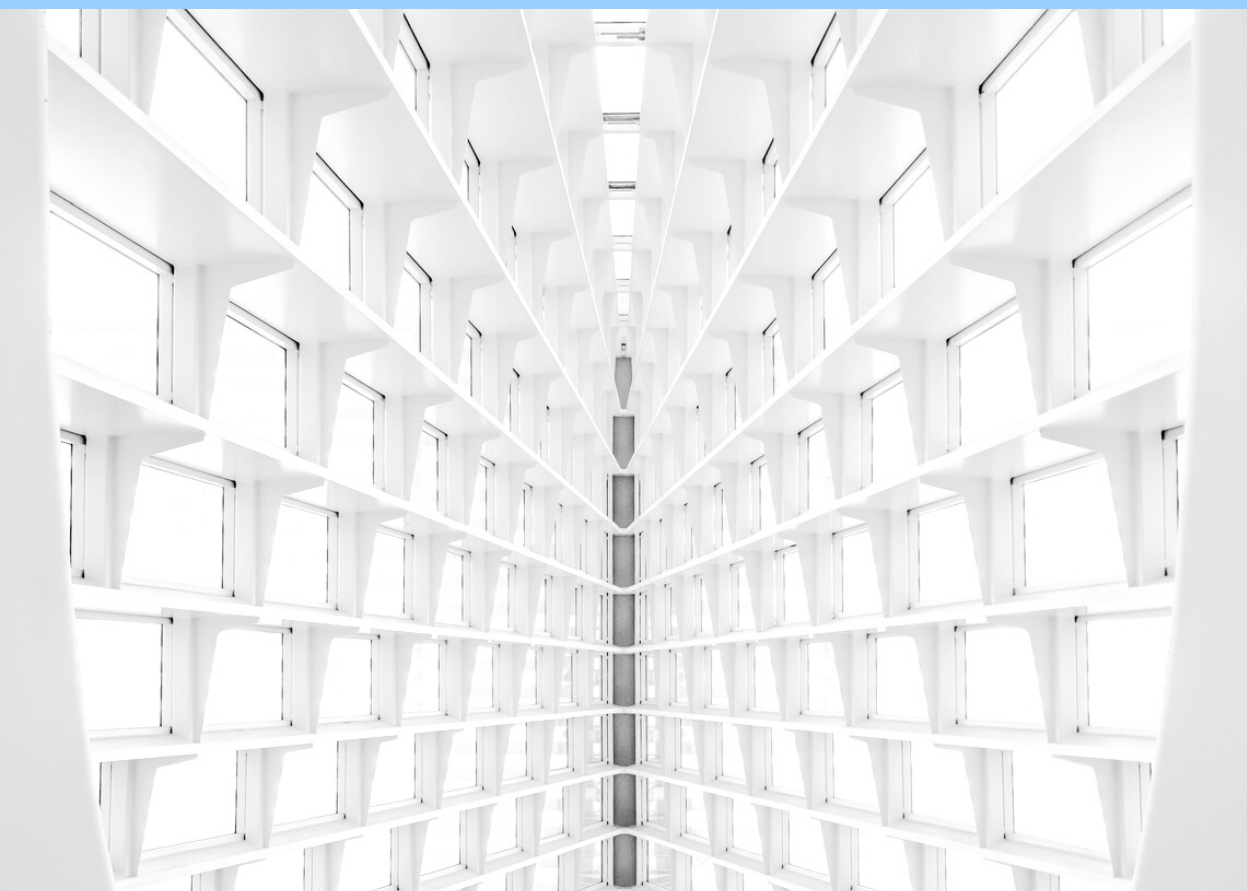
If your [database is deployed on Azure](#) -> all Virtual Network configurations will be available from the drop-down list. You simply need to create a separate subnetwork within your virtual network for the NLSQL App to connect to your dataset.

If your [database is deployed with a provider other than Azure](#) -> you will need to establish a site-to-site VPN tunnel between the Azure network and your provider's network (e.g., AWS, Google Cloud, etc.). Additionally, you will need to add a new subnet range in the site-to-site tunnel at both ends (Azure firewall and your provider's firewall, such as AWS or Google Cloud).

12.e. Once done -> Click [Next](#)

12.f. For the [Just-In-Time configuration](#), you have the option to select either "Yes" or "No". If you choose "Yes", [NLSQL](#) will gain access to your newly managed application for maintenance purposes. After making your selection, proceed to the next step.

12. Deploy your NLSQL Team App within your company's ecosystem



portal.azure.com/#create/nlsql1606829442191.nlsqlbotsystemfreeplan30

Microsoft Azure Search resources, services, and docs (G+)

Home > NLSQL > Create NLSQL ...

Basics Database and Vnet Configurations JIT Configuration Review + create

[View automation template](#)

Price

NLSQL by NLSQL [Terms of use](#) | [Privacy policy](#) Not covered by credits ⓘ **987.0000 USD/P1M**

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Name

Preferred e-mail address

Preferred phone number

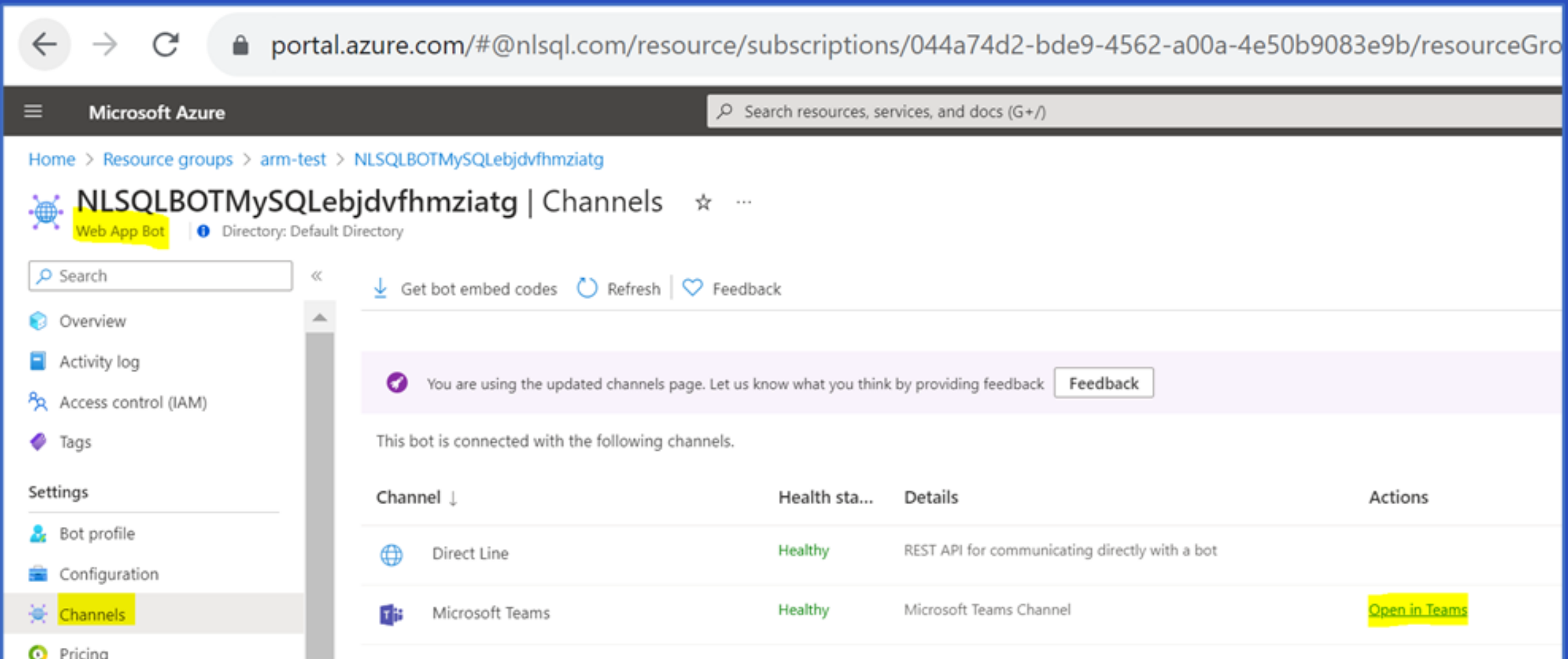
Co-Admin Access Permission

By checking the box and clicking "Create" I give permission for the template provider referenced above (the "Provider") to have Administrative-level access to one or more Azure resources in order to provide support and management services for the template. In the event of an issue arising from a Provider's services or failure to provide services, your sole recourse is with the Provider. Unless Microsoft is the Provider, Microsoft (i) does not approve, monitor or manage

12.g. Please review and accept the Terms and Conditions, verify the pricing details, and then click on "Create" to complete the process.

12.h. It may take approximately 20-30 minutes for the automatic deployment, integration, and training to complete, based on your database emulation.

13. Deployment of Azure Marketplace Offer



PLEASE ALLOW 20-30 MINUTES FOR THE DEPLOYMENT OF OUR OFFER AND THE CREATION OF A BRAND-NEW MICROSOFT TEAMS APP TAILORED FOR YOUR COMPANY.

13.a. The **NLSQL** Offer will seamlessly connect to your database and establish: an Azure Web App, App Service, Managed Identity, and an Azure Bot App, all integrated with the new Microsoft Teams App, enabling you and your colleagues to utilize and share it effectively.

To test the new Microsoft Teams App, locate the Azure Web Service within your new Azure resource group. Navigate to the new Azure Bot Service and select Channels -> Microsoft Teams -> Microsoft Teams

13. Deployment of Azure Marketplace Offer

13.b. Now you can begin asking your brand-new Microsoft Teams App questions

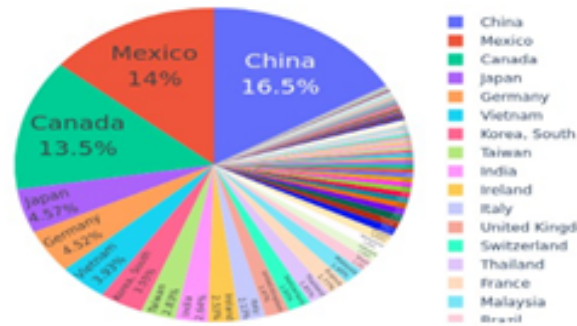
To enhance your overall configurations, feel free to return to your user profile on the nlsql.com platform

<https://nlsql.com/googlesheets/DataSource-1/>

NLSQLBOT Chat

give me pie chart of import to the USA by countries last year?

NLSQLBOT Yesterday 10:15 AM



Country	Percentage
China	16.5%
Mexico	14%
Canada	13.5%
Japan	4.57%
Germany	4.52%
United Kingdom	3.3%
France	2.2%
Italy	2.1%
Spain	1.9%
India	1.8%
South Korea	1.7%
China, Hong Kong	1.6%
China, Taiwan	1.5%
China, Singapore	1.4%
China, Macao	1.3%
China, Australia	1.2%
China, New Zealand	1.1%
China, South Africa	1.0%
China, Brazil	0.9%
China, Russia	0.8%
China, Mexico	0.7%
China, Canada	0.6%
China, Japan	0.5%
China, Germany	0.4%
China, United Kingdom	0.3%
China, France	0.2%
China, Italy	0.1%
China, Spain	0.1%
China, India	0.1%
China, South Korea	0.1%
China, China, Hong Kong	0.1%
China, China, Taiwan	0.1%
China, China, Singapore	0.1%
China, China, Macao	0.1%
China, China, Australia	0.1%
China, China, New Zealand	0.1%
China, China, South Africa	0.1%
China, China, Brazil	0.1%
China, China, Russia	0.1%

Your chart

Open Chart

Yesterday 10:16 AM

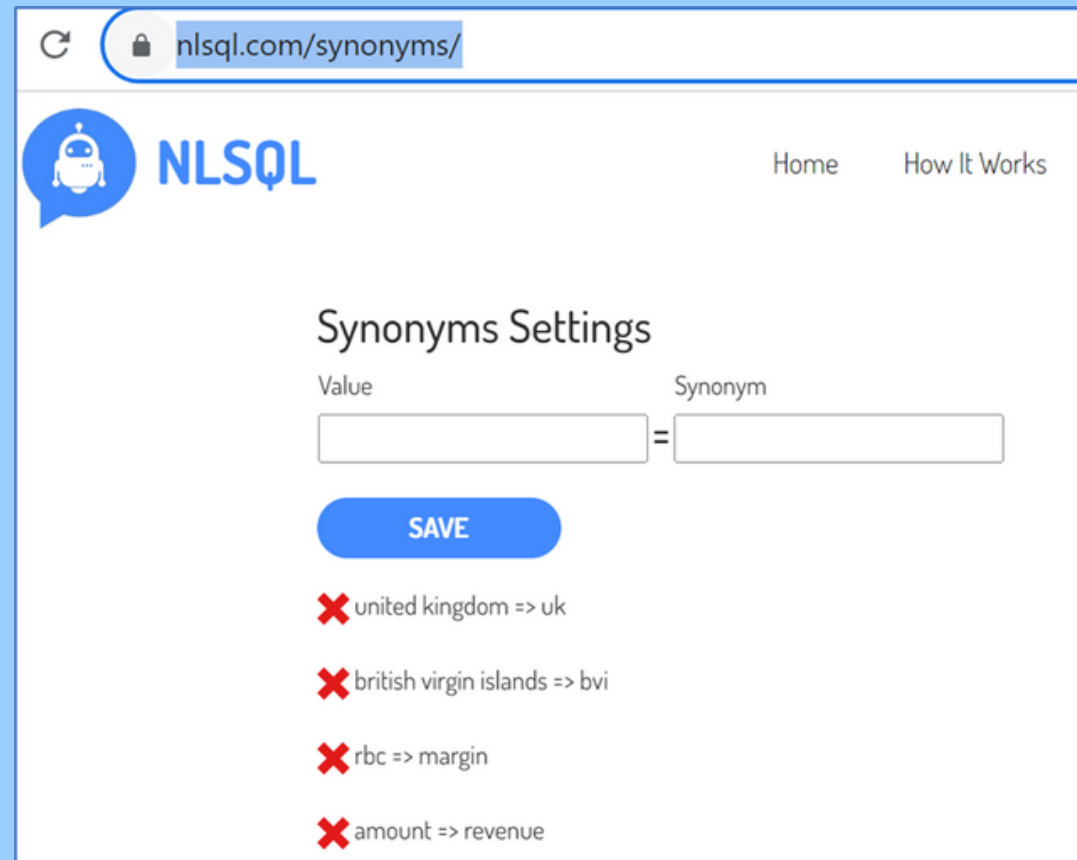
give me chart of import to the USA by countries

NLSQLBOT Yesterday 10:16 AM

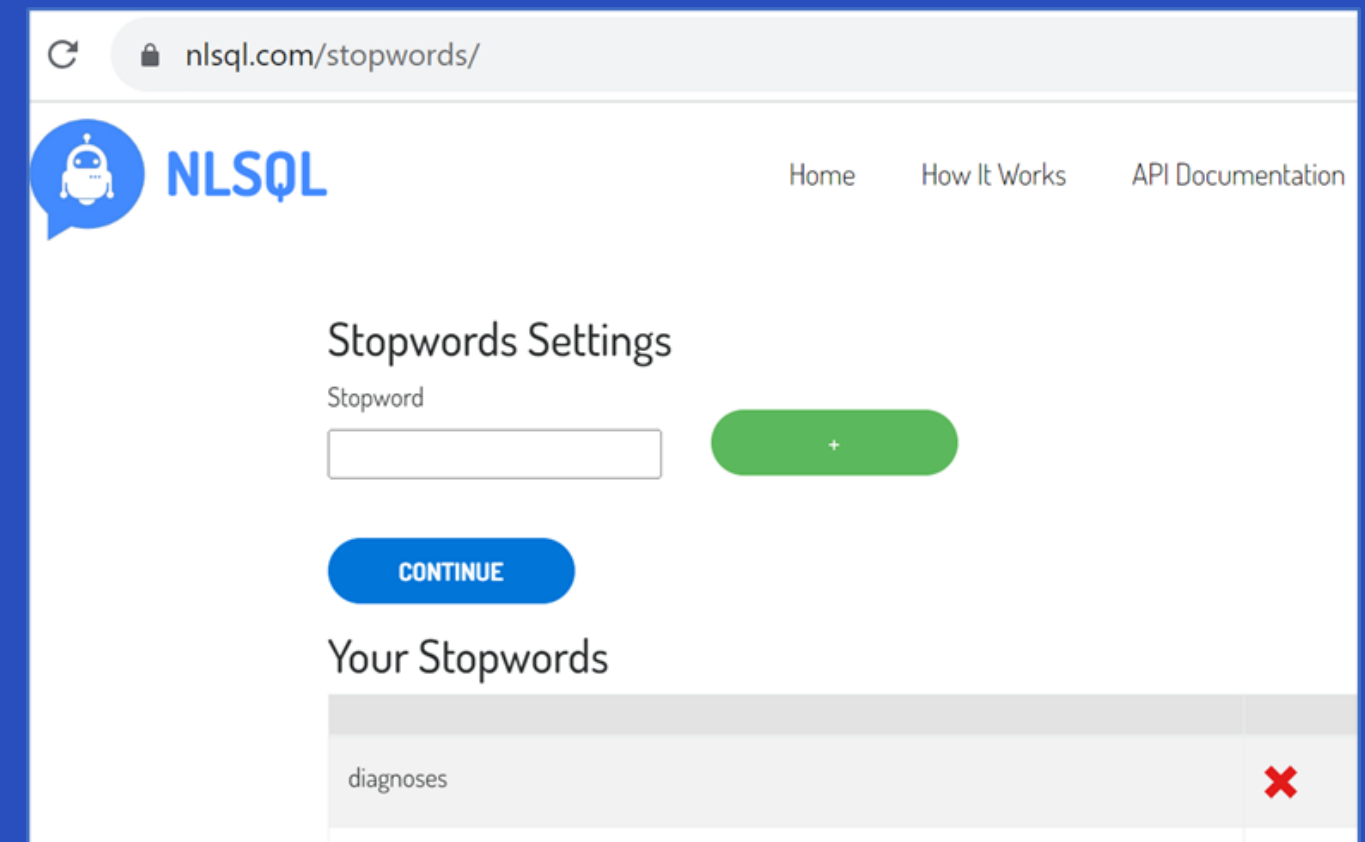
import by `country`

Type a new message

14. Additional configurations (Custom Synonyms, Custom Stopwords, AI model configurations and Analytics)



14.a. Custom Synonyms at <https://nlsq.com/synonyms/>
This feature allows you to configure abbreviations as synonyms for existing database values. The system will replace all configured synonyms with their corresponding values in end-user questions.



14.b. Custom Stopwords at <https://www.nlsq.com/stopwords/>
Custom stopwords will not be considered by the NLP model. If the NLP model is confused by certain buzzwords, you can eliminate them from all questions.

14. Additional configurations

14.c. AI configurations at <https://www.nlsql.com/settings/>

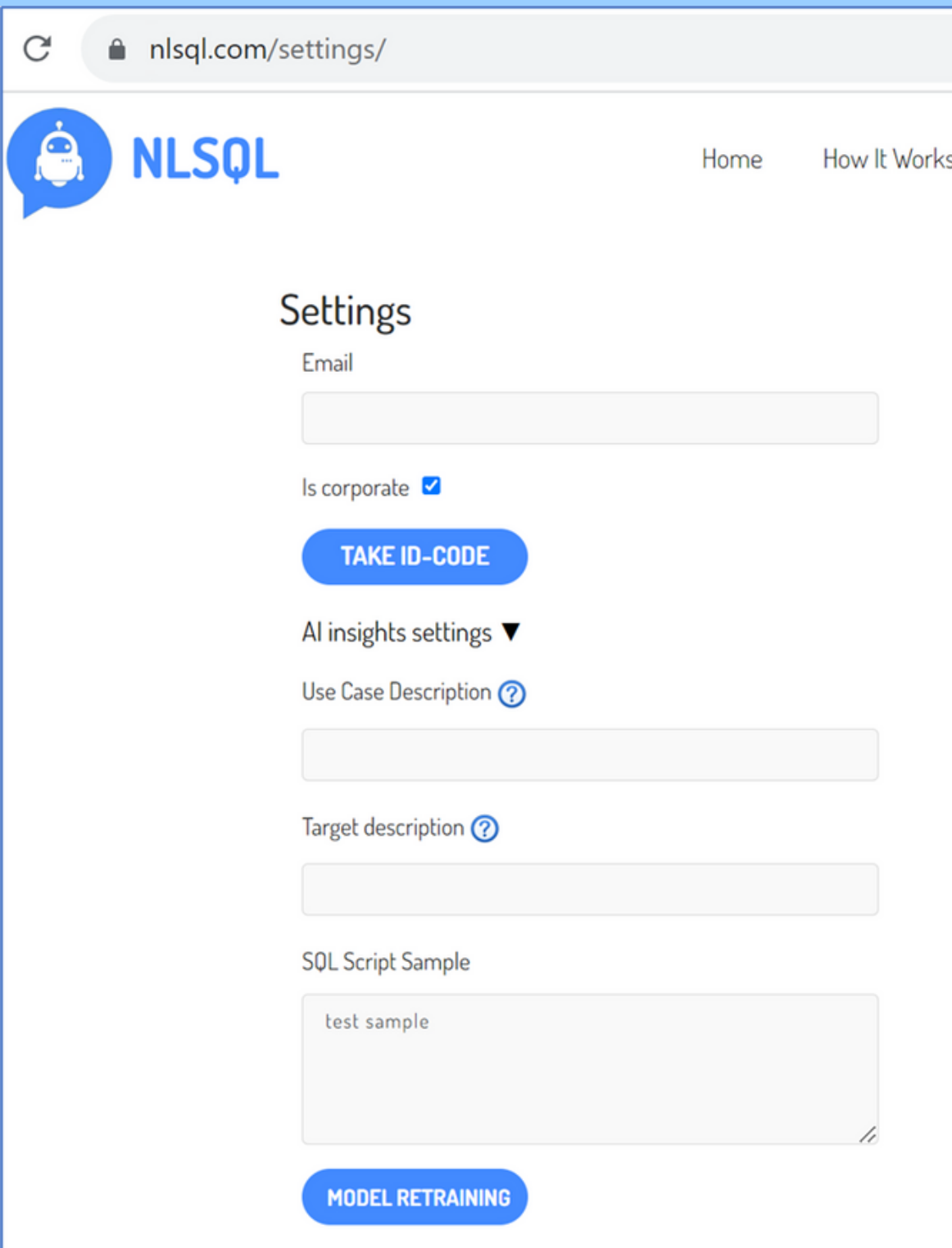
For Use Case Description, the AI model expects a brief scenario illustrating how this use case addresses a specific business problem.

For example: *"You are an AI Data Analytics Assistant, helping YourCompany's sales employees with Sales History analytics."*

For Target description, the AI model expects a company's aim to help our AI model understand and generate relevant insights using natural language queries.

For instance: *"Increase YourCompany's sales for high-margin products, improve market share, enhance patient outcomes, develop personalized treatment plans, identify new drug ideas, or boost YourCompany's profitability."*

For SQL Script Sample, the AI model expects a broad view sample of your desired SQL, allowing it to adopt your best practices for your database.



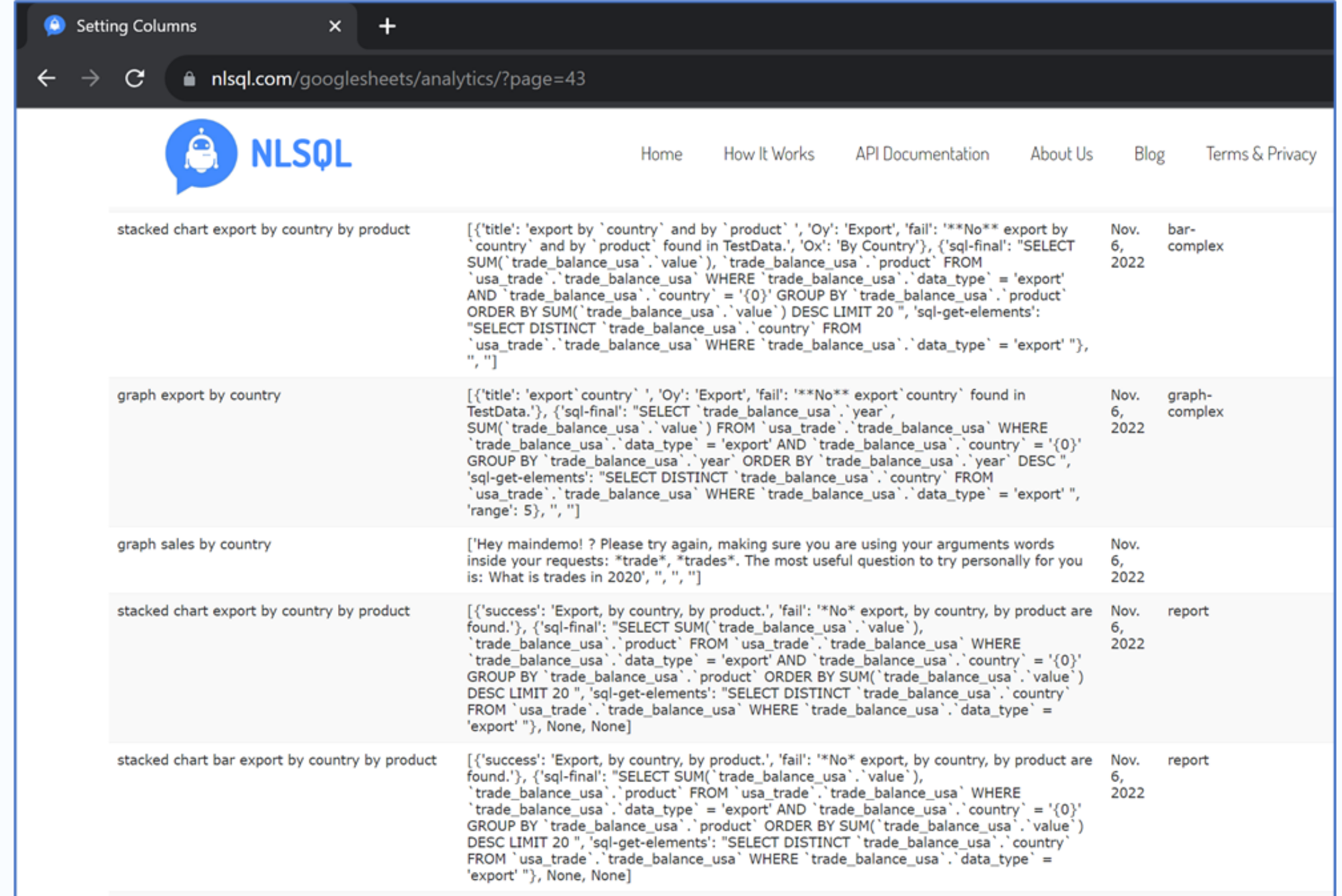
The screenshot shows the NLSQL settings page at <https://www.nlsql.com/settings/>. The page includes a navigation bar with the NLSQL logo and links for Home and How It Works. The main content area is titled "Settings" and contains several sections:

- Email:** A text input field.
- Is corporate:** A checkbox that is currently checked.
- TAKE ID-CODE:** A blue button.
- AI insights settings:** A dropdown menu.
- Use Case Description:** A text input field with a help icon.
- Target description:** A text input field with a help icon.
- SQL Script Sample:** A text area containing the text "test sample".
- MODEL RETRAINING:** A blue button at the bottom.

14. Additional configurations

14.D. ANALYTICS AT

[HTTPS://WWW.NLSQL.COM/GOOGLE-SHEETS/ANALYTICS/](https://www.nlsql.com/google-sheets/analytics/)



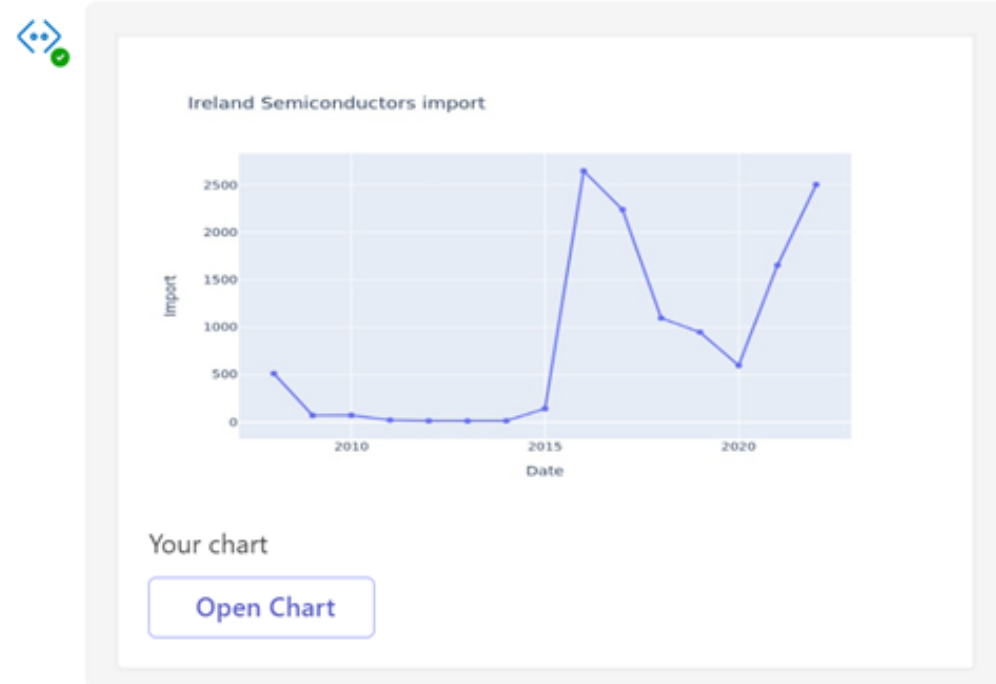
The screenshot shows the NLSQL Analytics interface. At the top, there is a navigation bar with the NLSQL logo and links for Home, How It Works, API Documentation, About Us, Blog, and Terms & Privacy. Below the navigation bar, there is a table listing various queries and their configurations. The table has five rows, each representing a different query configuration.

Query Name	Configuration	Date	Chart Type
stacked chart export by country by product	<pre>[{'title': 'export by `country` and by `product` ', 'Oy': 'Export', 'fail': '**No** export by `country` and by `product` found in TestData.', 'Ox': 'By Country'}, {'sql-final': "SELECT SUM(`trade_balance_usa`.`value`), `trade_balance_usa`.`product` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' AND `trade_balance_usa`.`country` = '{0}' GROUP BY `trade_balance_usa`.`product` ORDER BY SUM(`trade_balance_usa`.`value`) DESC LIMIT 20 ", 'sql-get-elements': "SELECT DISTINCT `trade_balance_usa`.`country` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' ", ", "}]</pre>	Nov. 6, 2022	bar-complex
graph export by country	<pre>[{'title': 'export `country` ', 'Oy': 'Export', 'fail': '**No** export `country` found in TestData.'}, {'sql-final': "SELECT `trade_balance_usa`.`year`, SUM(`trade_balance_usa`.`value`) FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' AND `trade_balance_usa`.`country` = '{0}' GROUP BY `trade_balance_usa`.`year` ORDER BY `trade_balance_usa`.`year` DESC ", 'sql-get-elements': "SELECT DISTINCT `trade_balance_usa`.`country` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' ", 'range': 5}, ", "}]</pre>	Nov. 6, 2022	graph-complex
graph sales by country	[Hey maindemo! ? Please try again, making sure you are using your arguments words inside your requests: *trade*, *trades*. The most useful question to try personally for you is: What is trades in 2020', ", "]]	Nov. 6, 2022	
stacked chart export by country by product	<pre>[{'success': 'Export, by country, by product.', 'fail': '**No* export, by country, by product are found.'}, {'sql-final': "SELECT SUM(`trade_balance_usa`.`value`), `trade_balance_usa`.`product` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' AND `trade_balance_usa`.`country` = '{0}' GROUP BY `trade_balance_usa`.`product` ORDER BY SUM(`trade_balance_usa`.`value`) DESC LIMIT 20 ", 'sql-get-elements': "SELECT DISTINCT `trade_balance_usa`.`country` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' ", None, None}]</pre>	Nov. 6, 2022	report
stacked chart bar export by country by product	<pre>[{'success': 'Export, by country, by product.', 'fail': '**No* export, by country, by product are found.'}, {'sql-final': "SELECT SUM(`trade_balance_usa`.`value`), `trade_balance_usa`.`product` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' AND `trade_balance_usa`.`country` = '{0}' GROUP BY `trade_balance_usa`.`product` ORDER BY SUM(`trade_balance_usa`.`value`) DESC LIMIT 20 ", 'sql-get-elements': "SELECT DISTINCT `trade_balance_usa`.`country` FROM `usa_trade`.`trade_balance_usa` WHERE `trade_balance_usa`.`data_type` = 'export' ", None, None}]</pre>	Nov. 6, 2022	report

Analytics encompasses all questions from end-users, providing insights into what truly matters to them, and allowing you to incorporate these aspects into your model. Additionally, analytics are monitored to assess **NLSQL** performance, identify errors, and verify calculated results. As an **NLSQL** administrator, you can oversee all questions daily, ensuring your colleagues receive the support they need. You have the ability to add more tables, incorporate additional data sources, or even create separate bots for distinct departments to address specific requirements. Analytics App Management and QC checks are essential for optimizing end-user experience.

Show me graph for Ireland semiconductors import

NLSQLBOT Yesterday 10:37 AM



Yesterday 10:38 AM

Chatgpt where semiconductors produced in Ireland?

NLSQLBOT Yesterday 10:38 AM

Semiconductors are produced in Ireland by several companies such as Intel, Analog Devices, and On Semiconductor. Ireland has a strong semiconductor industry with a highly skilled workforce and a favorable business environment.

Type a new message



15. LLM questions utilize a global AI knowledge base.

NLSQL employs LLM to generate text based on a global AI knowledge base, which can be useful for users seeking information not available in your data.

The combination of real-time, accurate business indicators and AI knowledge base creates a powerful tool that equips your company's employees with AI capabilities for more data-driven business decisions. Data-driven decisions propel businesses forward at a faster pace. For such questions, you just need to include the keyword "**Chatgpt**" in your questions.

16. NLSQL DATA VISUALIZATIONS



LINE CHART

A simple yet powerful visualization to display data trends over time

PIE CHART

A circular chart divided into sectors, representing proportions of the whole

BAR CHART

A versatile chart type that uses rectangular bars to represent data values

MAP DATA VISUALIZATION

Geographical representations of data for the World and the USA states

STACKED BAR CHART

A variation of the bar chart, where data values are stacked on top of each other

BUBBLE CHART

A unique chart type that uses bubbles of varying sizes to represent data points

NLSQLBOT Chat

Do you want to split values per segments on the graph?

Yes No

Yesterday 9:57 AM

graph import Semiconductors Malaysia Vietnam China Taiwan Thailand [[[trade_balance_usa`country`Korea, South]]] [[[isSplit:Yes]]]

NLSQLBOT Yesterday 9:58 AM

Semiconductors Vietnam and Malaysia and China and Taiwan and Thailand an

Your chart

Open Chart

Type a new message

NLSQL offers a variety of data visualization options to help you better understand and present your data.

Each visualization type comes with an interactive web version, accessible through a provided link.

NLSQLBOT Chat

Today

4:25 PM

show me bar chart for France wine import by year

Last read

NLSQLBOT 4:26 PM

A few options are found, please choose what you need

- Alcoholic beverages, excluding wine | `trade_balance_usa`...
- Wine, beer, and related products | `trade_balance_usa`.p...
- All options from `trade_balance_usa`.product`

4:26 PM

bar chart import by year France [[[trade_balance_usa`.product`Wine, beer, and related products]]]

NLSQLBOT 4:26 PM

France Wine, beer, and related products import by `year`

Your chart

Open Chart

Type a new message

NLSQLBOT Chat

Yesterday 10:08 AM

give me pie chart for Mexico import by product to the USA last year

NLSQLBOT Yesterday 10:08 AM

Mexico import in last year by `product`

- Other parts and accessories of vehicles
- Trucks, buses, and special purpose vehicles
- Computers
- Passenger cars, new and used
- Crude oil
- Electric apparatus
- Telecommunications equipment
- Televisions and video equipment
- Engines and engine parts (carburetors, pistons, rings, and valves)
- Medicinal equipment
- Fruits, frozen juices
- Household appliances
- Industrial machines, other
- Vegetables
- Generators, accessories
- Industrial supplies, other
- 11 C 20000 200000 and 2000000

Your chart

Open Chart

Yesterday 10:13 AM

give me pie chart of import to the USA by countries?

Show me food oils import map to the USA?

NLSQLBOT 4:30 PM

A few options are found, please choose what you need

Food oils, oilseeds | 'trade_balance_usa';product'

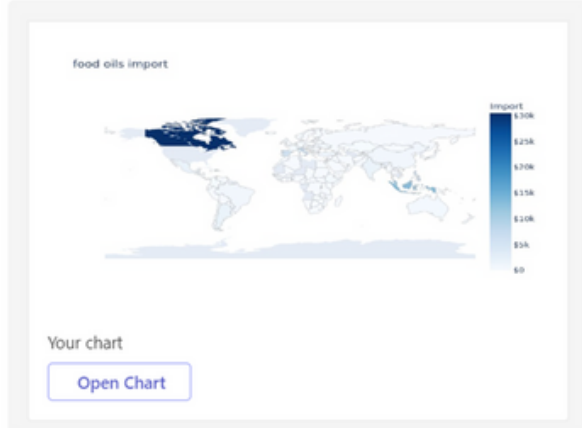
Oilseeds, food oils | 'trade_balance_usa';product'

All options from 'trade_balance_usa';product'

4:30 PM

map import [%['trade_balance_usa';product':food oils]%

NLSQLBOT 4:30 PM



Type a new message



These interactive visualizations offer enhanced customization options, allowing you to modify the charts to suit your needs.

give me sales bubble chart by year by countries

8:31 PM

8:31 PM



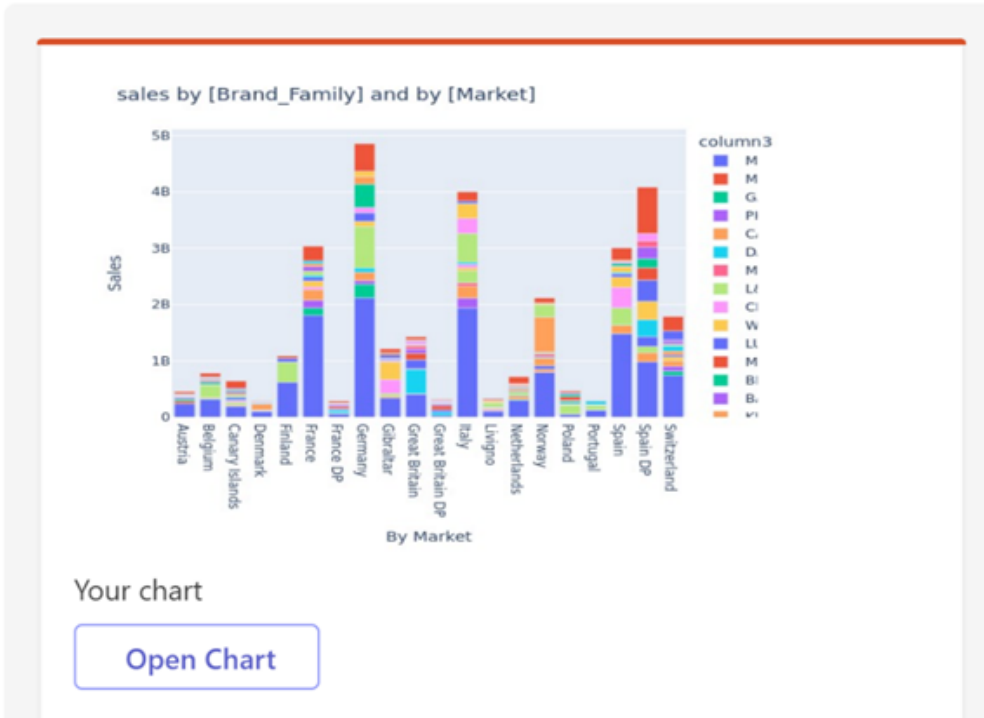
Type a new message



give me sales stacked bar chart by brand_family by countries



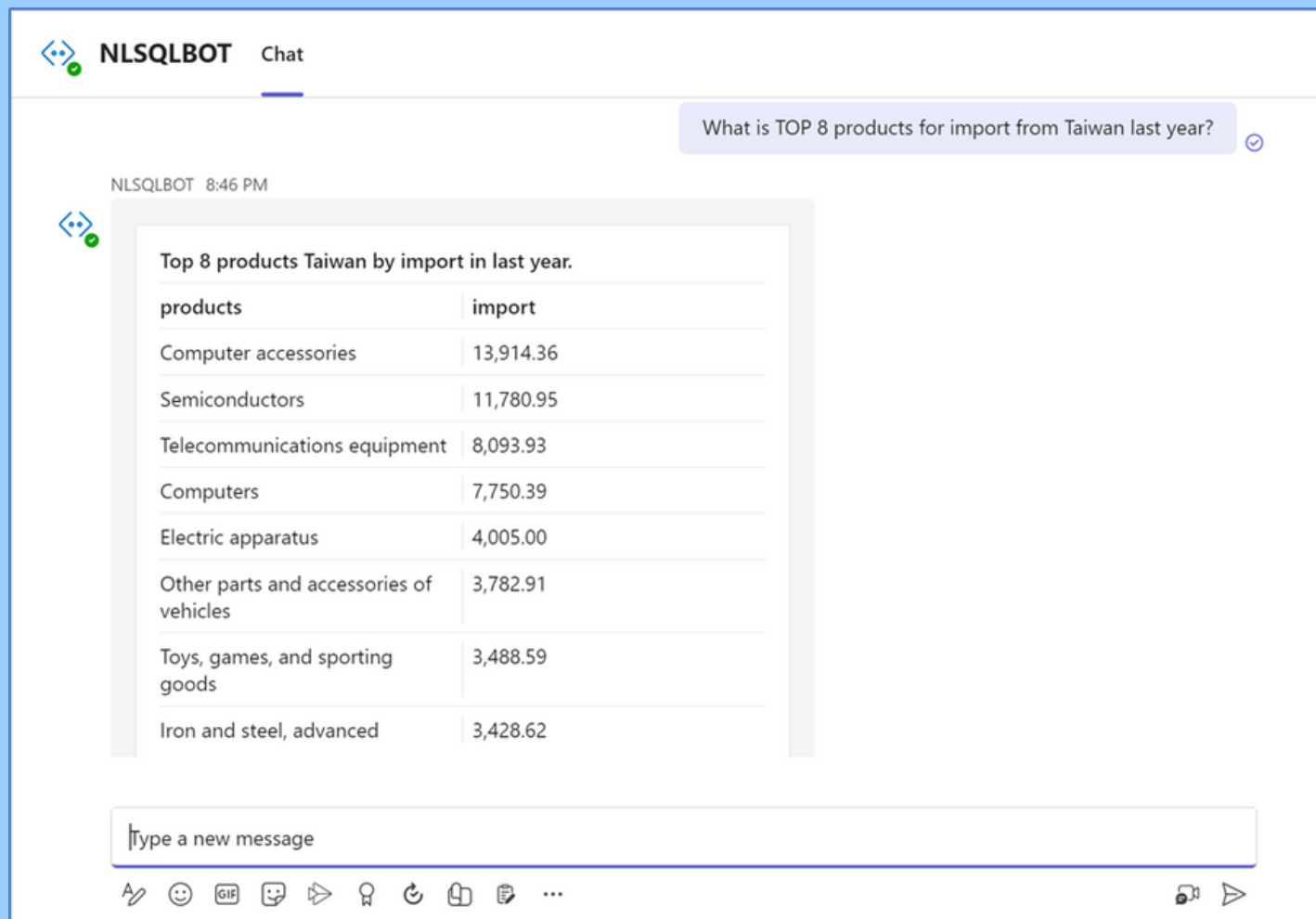
8:07 PM



Type a new message



17. NLSQL REPORTS GENERATIONS

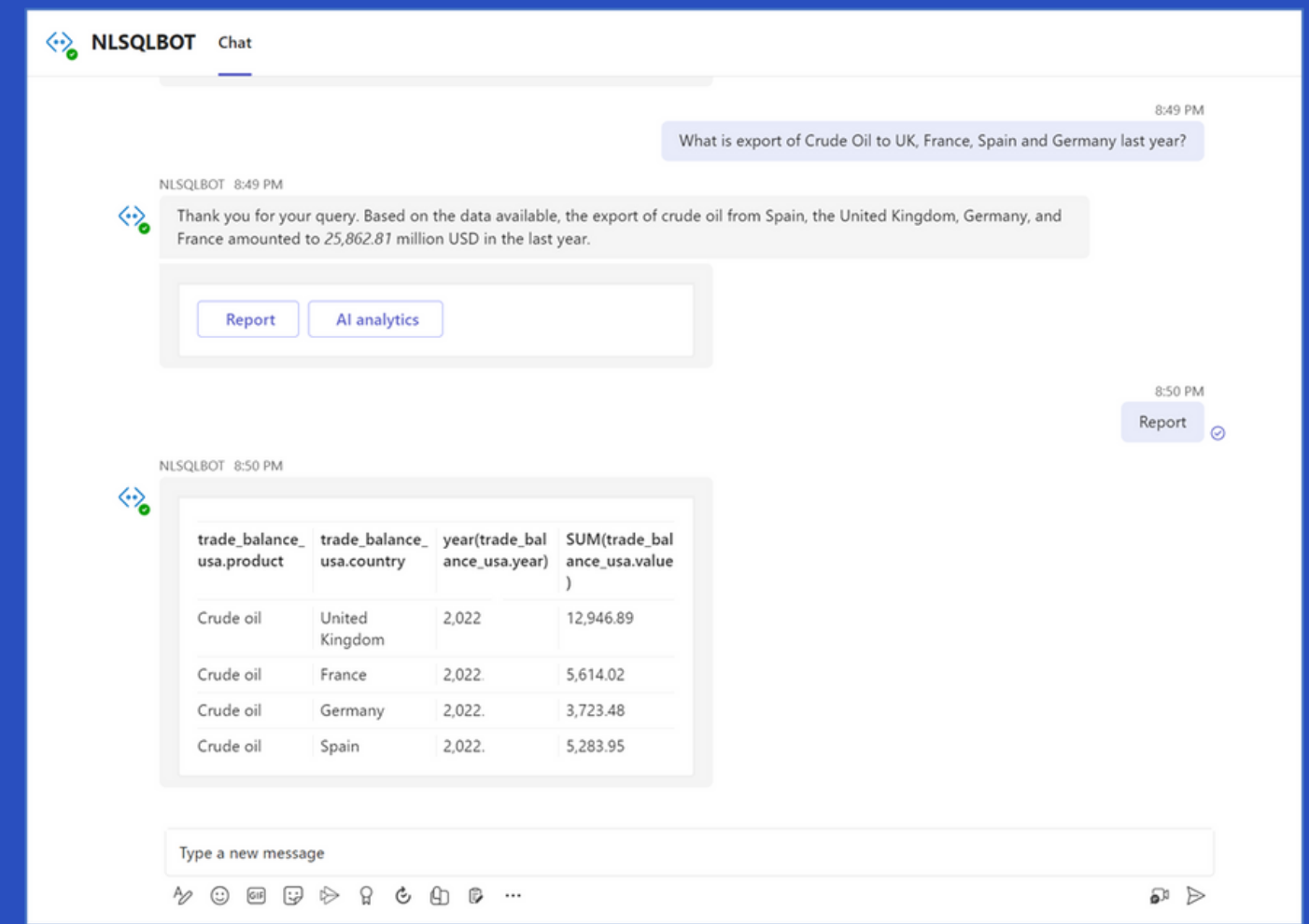


The screenshot shows a chat window titled "NLSQLBOT Chat". A user message asks, "What is TOP 8 products for import from Taiwan last year?". The bot's response at 8:46 PM includes a table titled "Top 8 products Taiwan by import in last year." with two columns: "products" and "import".

products	import
Computer accessories	13,914.36
Semiconductors	11,780.95
Telecommunications equipment	8,093.93
Computers	7,750.39
Electric apparatus	4,005.00
Other parts and accessories of vehicles	3,782.91
Toys, games, and sporting goods	3,488.59
Iron and steel, advanced	3,428.62

Below the table is a text input field with the placeholder "Type a new message" and a row of icons for emojis, GIFs, voice, and other chat functions.

17.a. Table generation for TOP/Bottom questions:
To create a table that displays the TOP/Bottom results, you can simply ask questions like on picture



The screenshot shows a chat window titled "NLSQLBOT Chat". A user message asks, "What is export of Crude Oil to UK, France, Spain and Germany last year?". The bot's response at 8:49 PM includes a text message: "Thank you for your query. Based on the data available, the export of crude oil from Spain, the United Kingdom, Germany, and France amounted to 25,862.87 million USD in the last year." Below this is a "Report" button and an "AI analytics" button. At 8:50 PM, the bot provides a table with columns: "trade_balance_usa.product", "trade_balance_usa.country", "year(trade_balance_usa.year)", and "SUM(trade_balance_usa.value)".

trade_balance_usa.product	trade_balance_usa.country	year(trade_balance_usa.year)	SUM(trade_balance_usa.value)
Crude oil	United Kingdom	2,022	12,946.89
Crude oil	France	2,022	5,614.02
Crude oil	Germany	2,022	3,723.48
Crude oil	Spain	2,022	5,283.95

Below the table is a text input field with the placeholder "Type a new message" and a row of icons for emojis, GIFs, voice, and other chat functions.

17. b. A table as a report after the question. End-users can create a comprehensive report that includes the table. To do this, simply ask a question like on picture

i need oil export by countries last year?

NLSQLBOT 8:58 PM

A few options are found, please choose what you need

Fuel oil | `trade_balance_usa`.`product`

Crude oil | `trade_balance_usa`.`product`

All options from `trade_balance_usa`.`product`

8:58 PM

export by country in last year [[[`trade_balance_usa`.`product`:Fuel oil]]]

NLSQLBOT 8:58 PM

Fuel oil export, by country in last year.

Open

Type a new message



17. NLSQL Reports generations

17.c. Excel table response for the question with a group by: To generate an Excel table response for a question that includes a group by clause

18. AI ANALYTICS

AI analytics with personalized end-users insights to build an action plan for business indicators improvements: To leverage AI analytics for personalized insights and action plans, consider click on AI analytics

The screenshot shows a chat interface for 'NLSQLBOT'. The user asks: "What is export of Crude Oil to UK, France, Spain and Germany last year?". The bot responds: "According to the data, the export value of crude oil from the USA to Spain, France, Germany, and the United Kingdom was 25,862.81 million USD in the last year." Below the response are two buttons: "Report" and "AI analytics". A second bot message provides strategic advice: "To increase export from the USA, it is crucial to identify the top export destinations and the products that have the highest demand in those countries. The data on crude oil export to Spain, France, Germany, and the United Kingdom can be used to analyze the potential for growth in this sector and to develop strategies to increase the export of crude oil to these countries. Additionally, it may be beneficial to explore other products that have a high demand in these countries and to develop trade agreements that facilitate the export of these products from the USA." The interface includes a text input field at the bottom with the placeholder "Type a new message" and a row of icons for editing, emojis, GIFs, voice, location, attachments, and a menu. A "AI analytics" button with a checkmark is also visible on the right side of the chat area.