



PADDYPOWER.

 betfair

# Data trecută...



Am povestit despre datele de test și am verificat corectitudinea lor.

```
SELECT
    s.stream_id,
    a.full_name,
    a.country,
    song.song_title,
    d.date
FROM
    `music-streaming-332016.star_schema.fact_streams` s
JOIN
    `music-streaming-332016.star_schema.dim_account` a
ON
    a.account_id = s.account_id
JOIN
    `music-streaming-332016.star_schema.dim_song` song
ON
    CAST (s.song_id AS integer) = song.song_id
JOIN
    `music-streaming-332016.star_schema.dim_date` d
ON
    s.stream_date_id = d.date_id
WHERE
    date = '2019-06-05'
    AND full_name = 'Karli Johnston';
```

Row	stream_id	full_name	country	song_title	date
1	51431	Karli Johnston	Romania	distinctio dolore et	2019-06-05
2	51431	Karli Johnston	Romania	distinctio dolore et	2019-06-05

# Raportarea în Tableau



streaming-reports

File Data Worksheet Dashboard Analysis Map Format Help

Publish Odette Duma

Tipuri de vizualizări Show Me

Drag & Drop

YoY Accounts & Streams

Count of dim\_account

Year of Quarter Start Date

Count of dim\_account

CNT(dim\_account)

CNT(fact\_streams)

Measure Names

Colour Size Label Detail Tooltip Path

Columns YEAR(Quarter Start Date)

Rows CNT(dim\_account) CNT(fact\_streams)

Pages

Tables

dim\_account

- # Account Id
- Address.Street Name
- # Address.Street Number
- country, address.city
- Date Of Birth
- Email Address
- Full Name
- Gender
- # dim\_account (Count)

dim\_date

- Date
- Date Id
- Datetime
- Month End Date
- Month Start Date
- Quarter End Date
- Quarter Start Date
- Week End Date
- Week Start Date
- # dim\_date (Count)

dim\_song

- Album Id
- Band Id
- Lyrics

Song Ratings + Stream

Search

Data Analytics

Tipuri de vizualizări

Shows various chart types including bar, line, area, scatter, and map charts.

Accounts per Country as Map

Ratings per Country

YoY Accounts & Streams

12 marks 1 row by 1 column SUM of CNT(dim\_account): 2,549

# Raportarea În Tableau



- În Tableau ne putem folosi de date din mai multe surse
- Acestea pot fi locale (extracturi de date încărcate sau o conexiune cu o bază de date locală), sau în Cloud (conexiune cu o bază de date în Cloud)
- Putem folosi atât tabele (datasets) întregi, cât și subseturi de date (Custom SQL / Custom Union)
- Pentru exemplul prezentat am folosit Tableau online
- Am creat un nou proiect căruia i-am adăugat o sursă de date folosind conectorul Google BigQuery

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the creation of a new project.

The browser address bar shows `dub01.online.tableau.com`. The search bar at the top right contains the text "Search for views, metrics, workbooks and more".

The left sidebar menu includes:

- Home
- Favourites
- Recents
- Shared with Me
- Recommendations
- Personal Space
- Collections
- Explore** (selected)
- Users
- Groups
- Schedules
- Jobs
- Tasks
- Site Status
- Settings

The main content area displays the "Explore" page with "Top-Level Projects". A modal window titled "New Project" is open, prompting for a project name. The input field contains "music-streaming-project". Below the input field is a "Description" section with a large empty text area and a character count indicator "4,000 characters remaining". At the bottom of the modal are "Cancel" and "Create" buttons.

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the creation of a new Published Data Source.

The browser address bar shows `dub01.online.tableau.com`. The left sidebar menu is open, with **Explore** selected. The main content area displays the **music-streaming-project** folder, owned by **Odette Duma**. A modal window titled **New** is open, showing options for creating a new item. The **Published Data Source** option is highlighted and selected. The status message at the bottom right of the workspace says **There is nothing here yet.**

- New ▾
- Select All
- Project
- Workbook
- Flow
- Published Data Source**
- Virtual Connection
- Upload Workbook

Content Type: All Sort By: Type

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the "New Data Source" page.

The browser address bar shows `dub01.online.tableau.com`. The page title is "music-streaming-project - Tableau Online". The top navigation bar includes "Edit | New Workbook" and "SQL workspace – BigQuery – music-streaming – Google Cloud Platform". The user is signed in as "Odette Duma".

The main content area is titled "Connect to Data" with the sub-instruction "Connect to the data you need to visualise. [Learn more](#)". Below this, there are tabs: "On This Site", "Files", "Connectors" (which is selected), and "Dashboard Starters".

The "Connectors" section lists various data sources in a grid:

Category	Source	Destination	Tool	
Cloud	Alibaba AnalyticDB for MySQL	Box	Google Drive	Presto
Cloud	Alibaba Data Lake Analytics	Cloudera Hadoop	Impala	Qubole Presto
Cloud	Amazon Athena	Databricks	Kyvos	Salesforce
Cloud	Amazon Aurora for MySQL	Datorama	Microsoft SQL Server	SharePoint Lists
Cloud	Amazon EMR Hadoop Hive	Denodo	MongoDB BI Connector	SingleStore
Cloud	Amazon Redshift	Dremio	MySQL	Snowflake
Cloud	Apache Drill	Dropbox	OData	Spark SQL
Cloud	Azure Data Lake Storage Gen2	Exasol	OneDrive	Teradata
Cloud	Azure SQL Database	Google BigQuery	Oracle	Vertica
Cloud	Azure Synapse Analytics	Google Cloud SQL	PostgreSQL	

The bottom navigation bar includes "Data Source", "Scratchpad", and other icons.

# Raportarea În Tableau



- Pentru a ne putea accesa datasetul din BigQuery, este necesar să permitem accesul din Tableau
- La fereastra Choose an account / Alegeti un cont, trebuie să alegem contul în care există proiectul în Google Cloud
- Odată accesul obținut, ar trebui ca datasetul să fie vizibil din Tableau
- Mai departe, am selectat un Billing Account, proiectul din Google Cloud și datasetul, apoi am publicat Data Source-ul pentru a putea fi folosit în workbook.

# Raportarea în Tableau



The screenshot shows the Tableau interface for setting up a new data source. The top navigation bar includes icons for file operations, a search bar with the URL `dub01.online.tableau.com`, and user information for Odette Duma. The main window is titled "New Data Source" and contains the following sections:

- Connections:** A list showing one connection named "BigQuery" under "Google BigQuery".
- Billing Project:** A dropdown menu labeled "Select Billing Project (Optional)".
- Project:** A dropdown menu labeled "Select Project".

In the center, there is a large, empty workspace area with a grid icon and the placeholder text "Drag tables here". At the bottom, there is a navigation bar with tabs for "Data Source" (which is selected), "Scratchpad", and other options.

# Raportarea în Tableau



New Data Source

File Data Help Publish As... Odette Duma X

Connections +

BigQuery Google BigQuery

Billing Project

music-streaming

Project

music-streaming

Dataset

Select Dataset

Search star\_schema

Drag tables here

Data Source Scratchpad

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the 'New Data Source' process for a 'music-streaming-project'.

The 'Connections' pane shows a selected 'BigQuery Google BigQuery' connection.

The 'dim\_song (star\_schema)' dataset is currently selected.

A context menu is open over the 'dim\_song' table, with the 'Convert to Custom SQL' option highlighted.

The 'Fields' section displays the schema for the 'dim\_song' table:

Type	Field Name	Physical Table	Remote ...
#	Song Id	dim_song	song_id
#	Band Id	dim_song	band_id
#	Album Id	dim_song	album_id

Buttons for 'Update Now' and 'Update Automatically' are visible at the bottom right of the Fields section.

The top navigation bar includes tabs for 'File', 'Data', and 'Help', along with a 'Publish As...' button and user information for 'Odette Duma'.

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the 'New Data Source' setup for a 'music-streaming-project'.

The 'Connections' pane shows a selected 'BigQuery Google BigQuery' connection.

The 'dim\_song (star\_schema)' dataset is currently selected. A context menu is open over the 'dim\_song' table, with the 'Convert to Custom SQL' option highlighted.

The main workspace displays the schema for the 'dim\_song' table:

Name	Type	Physical Table	Remote ...
# Song Id	#	dim_song	song_id
# Band Id	#	dim_song	band_id
# Album Id	#	dim_song	album_id

Buttons for 'Update Now' and 'Update Automatically' are visible at the bottom right of the schema view.

The left sidebar includes sections for 'Connections', 'Billing Project', 'Project', 'Dataset', and 'Table' (listing 'dim\_account', 'dim\_date', 'dim\_song', 'fact\_streams', 'New Custom SQL', 'New Union', and 'Use Legacy SQL').

The top navigation bar shows the URL 'dub01.online.tableau.com', the title 'Edit | New Workbook', and the connection information 'SQL workspace – BigQuery – music-streaming – Google Cloud Platform'.

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the creation of a new data source from a BigQuery connection.

The interface includes:

- Connections:** BigQuery (Google BigQuery) selected.
- Billing Project:** music-streaming
- Project:** music-streaming
- Dataset:** star\_schema
- Table:** dim\_song selected.
- Fields:** Song Id, Band Id, Album Id.
- Preview Results:** Shows columns: Song Title, Lyrics, Ratings.Stars, Ratings.Comment.
- Convert to SQL:** A modal window displays the following SQL query:

```
SELECT `dim_song`.`album_id` AS `album_id`,  
       `dim_song`.`band_id` AS `band_id`,  
       `dim_song`.`lyrics` AS `lyrics`,  
       `ratings`.`comment` AS `ratings_comment`,  
       `ratings`.`stars` AS `ratings_stars`,  
       `dim_song`.`song_id` AS `song_id`,  
       `dim_song`.`song_title` AS `song_title`  
  FROM `music-streaming-332016.star_schema`.`dim_song` `dim_song`,  
       UNNEST(`ratings`) `ratings`
```
- Insert Parameter:** Create a New Parameter...
- Update Options:** Update Now, Update Automatically.

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the creation of a new data source from a BigQuery connection.

The interface includes:

- Connections:** BigQuery (Google BigQuery) selected.
- Billing Project:** music-streaming
- Project:** music-streaming
- Dataset:** star\_schema
- Table:** dim\_song (selected), dim\_account, dim\_date, fact\_streams, New Custom SQL, New Union, Use Legacy SQL.

The main workspace shows the creation of a new table named "dim\_song" based on the "dim\_song" schema. The "Convert to SQL" section displays the following query:

```
SELECT `dim_song`.`album_id` AS `dim_song`.`band_id` AS `band_id`, `dim_song`.`lyrics` AS `lyrics`, `ratings`.`comment` AS `ratings_comment`, `ratings`.`stars` AS `ratings_stars`, `dim_song`.`song_id` AS `song_id`, `dim_song`.`song_title` AS `song_title` FROM `music-streaming-332016.st` UNNEST(`ratings`) `ratings`
```

A preview window titled "View Data: Custom SQL" shows 1000 rows of sample data:

lyrics	ratings_comment	song_title	album_id
Facere inventore praesentium...	Et quia est iste officia reiciendi...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Possimus quia ullam tempore...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Nemo minus quam aut fuga...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Quia similique veniam numqu...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Est sequi amet est. Natus in re...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Ipsam necessitatibus tempor...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Blanditiis totam ratione volupt...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Blanditiis occaecati odio et. A...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Quos a earum porro commodi...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Ea explicabo culpa occaecati v...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Quos ipsa autem. Ut incidunt...	sit blanditiis voluptatem	42901
Facere inventore praesentium...	Quia tenetur minus minima au...	sit blanditiis voluptatem	42901

At the bottom, there are buttons for "Update Now" and "Update Automatically".

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the 'New Data Source' setup for a 'Custom SQL Query+ (star\_schema)'.

The interface includes:

- Connections:** BigQuery (Google BigQuery) selected.
- Billing Project:** music-streaming
- Project:** music-streaming
- Dataset:** star\_schema
- Table:** dim\_account, dim\_date, dim\_song, fact\_streams, New Custom SQL, New Union, Use Legacy SQL.

The main workspace displays a relationship between 'dim\_song' and 'fact\_streams'. A warning message states:  
Relationship: dim\_song to fact\_streams  
Cardinality: Many to Many (default)  
⚠ This relationship has no matching fields. Edit the relationship to select matching fields.

Below the workspace, a section titled 'How do relationships differ from joins?' provides instructions for creating relationships between 'dim\_song' and 'fact\_streams' using operators like '=', '<=' etc. It also notes 'Data preview unavailable' and 'Select matching fields to create this relationship.'

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the creation of a new data source from a Custom SQL Query.

The interface includes:

- Connections:** BigQuery (Google BigQuery) selected.
- Billing Project:** music-streaming
- Project:** music-streaming
- Dataset:** star\_schema
- Table:** dim\_account, dim\_date, dim\_song, fact\_streams, New Custom SQL, New Union, Use Legacy SQL.

The main workspace shows a relationship between **dim\_song** and **fact\_streams**. A warning icon is present on the relationship line.

A modal window titled "Relationship Calculation" displays the query: **STR([Song Id])**. It shows a warning message: "The calculation is valid." with buttons for **Apply** and **OK**.

At the bottom, a note states: "How do relationships differ from joins? [Learn more](#)". It shows the configuration for the relationship: **dim\_song** — Operator — **fact\_streams**, with fields **# Song Id** and **Abc Song Id (Fact Sti**. A warning message indicates a type mismatch: "⚠ Type mismatch between **# Song Id** and **Abc Song Id**". There is also a link to "Add more fields".

# Raportarea în Tableau



Screenshot of the Tableau Online interface showing the 'New Data Source' process for a 'Custom SQL Query+ (star\_schema)'.

The interface includes:

- Connections:** BigQuery (Google BigQuery) selected.
- Billing Project:** music-streaming
- Project:** music-streaming
- Dataset:** star\_schema
- Table:** dim\_account, dim\_date, dim\_song, fact\_streams, New Custom SQL, New Union, Use Legacy SQL.

The main workspace displays a schema diagram with three tables: dim\_song, dim\_account, and fact\_streams. A context menu is open over the fact\_streams table, showing options: Open..., Rename, Convert to Custom SQL, Remove, Move To, fact\_streams, and Convert to Union... . The 'Move To' option is highlighted.

A detailed view of the dim\_account table is shown in a modal window:

- Name:** dim\_account
- Fields:** Type, Field Name, Physical T..., Rem... (with rows for # Account Id, Abc Full Name, ...)
- Data preview unavailable**

At the bottom, the navigation bar includes: Data Source, Scratchpad, and various icons.

# Raportarea în Tableau



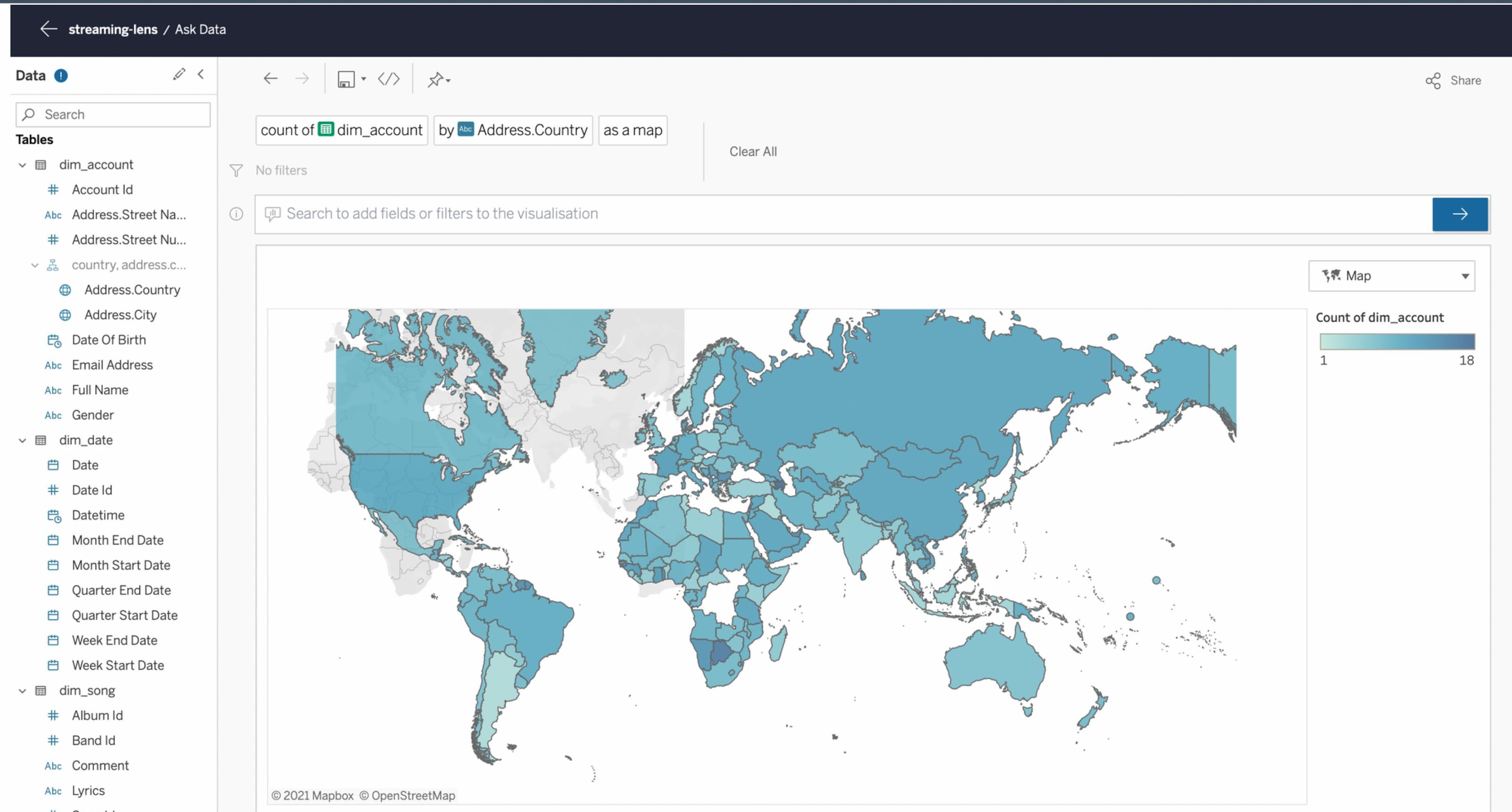
Screenshot of the Tableau Online interface showing the process of publishing a data source.

The main window shows the "New Data Source" interface for a "music-streaming-ratings" project. The "Data" tab is selected, displaying tables like "dim\_account" and "dim\_date". A "Scratchpad" tab is also visible at the bottom.

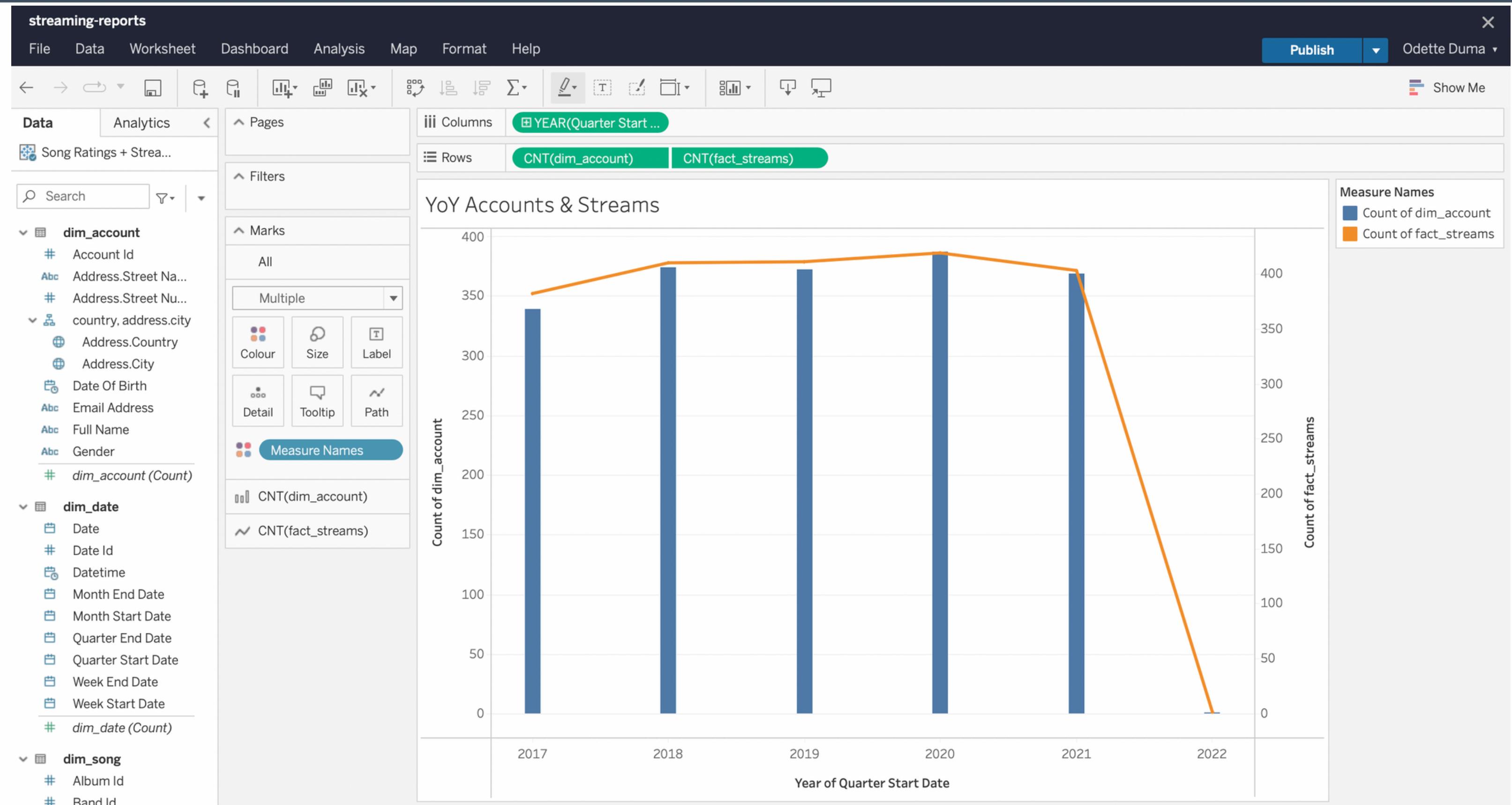
A "Publish Data Source" dialog box is open, titled "Edit and Publish Data Source".

- Name:** Song Ratings + Streams + Countries
- Project:** music-streaming-project (selected under Projects)
- Drop field here:** An empty area where fields can be dropped.
- Embed credentials:** An unchecked checkbox.
- Buttons:** Publish and Cancel.

# Raportarea în Tableau



# Raportarea în Tableau



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