

1c. Query Data in a Lakehouse SQL Analytics Endpoint

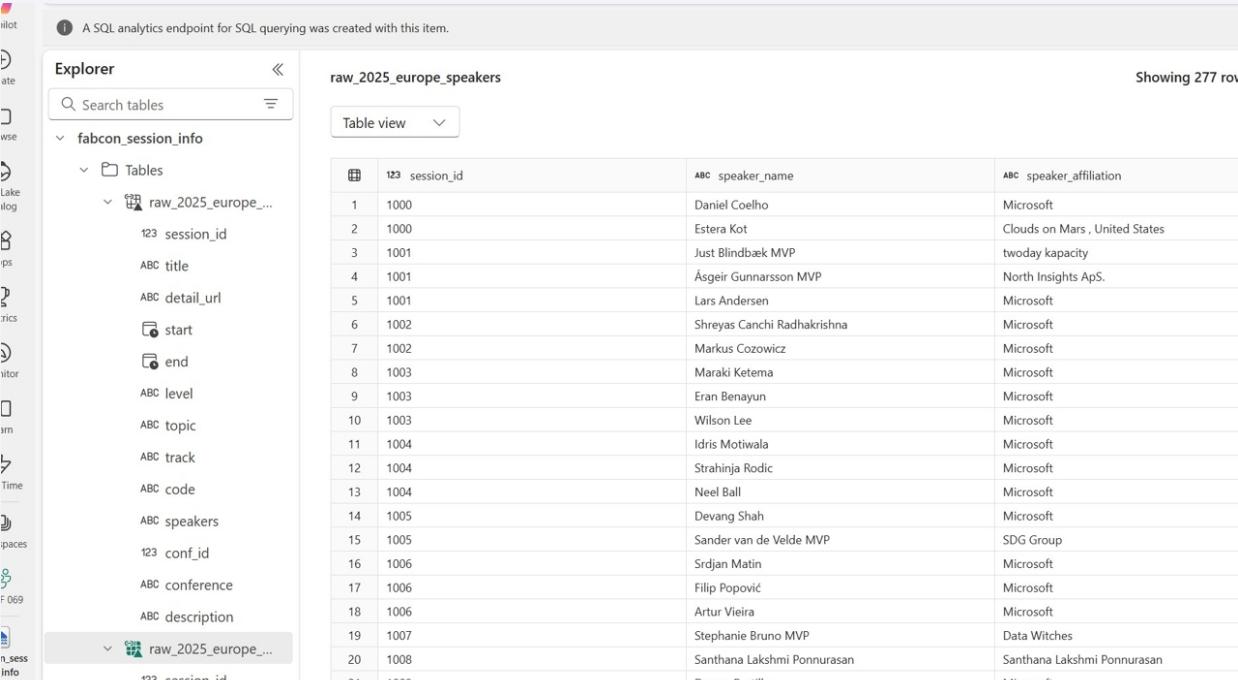
Training. 

The SQL Analytics Endpoint is a read-only SQL editor that provides an interface to query lakehouse data with T-SQL.

For this lab, we'll just explore the data. Feel free to write other queries if you like. The following labs do not depend on this lab.

Explore the environment

1 Start in your lakehouse



A SQL analytics endpoint for SQL querying was created with this item.

Explorer

raw_2025_europe_speakers

Showing 277 rows

Table view

session_id	speaker_name	speaker_affiliation
1000	Daniel Coelho	Microsoft
1000	Esteria Kot	Clouds on Mars , United States
1001	Just Blidbaek MVP	twoday kapacity
1001	Ásgeir Gunnarsson MVP	North Insights ApS.
1001	Lars Andersen	Microsoft
1002	Shreyas Canchi Radhakrishna	Microsoft
1002	Markus Cozowicz	Microsoft
1003	Marki Ketema	Microsoft
1003	Eran Benayun	Microsoft
1003	Wilson Lee	Microsoft
1004	Idris Motiwala	Microsoft
1004	Strahinja Rodic	Microsoft
1004	Neel Ball	Microsoft
1005	Devang Shah	Microsoft
1005	Sander van der Velde MVP	SDG Group
1006	Srdjan Matin	Microsoft
1006	Filip Popović	Microsoft
1006	Artur Vieira	Microsoft
1007	Stephanie Bruno MVP	Data Witches
1008	Santhana Lakshmi Ponnurasan	Santhana Lakshmi Ponnurasan
1009	Darren Portillo	Microsoft

2

Click the "Lakehouse" dropdown in the top-right of the screen to see your options. Click "SQL analytics endpoint" to go to the SQL analytics endpoint from the lakehouse.

The screenshot shows the OneLake Data Access (preview) interface. At the top right, there is a dropdown menu labeled "Lakehouse". A sub-menu is open, showing two options: "Lakehouse" (selected, with a tooltip "Explore your data files and folders") and "SQL analytics endpoint" (with a tooltip "Query data using SQL"). The "SQL analytics endpoint" option is highlighted with a red oval. The main workspace shows a table named "raw_2025_europe_speakers" with 277 rows. The left sidebar shows the "Explorer" view with a tree structure of tables under "fabcon_session_info".

	session_id	speaker_name	speaker_affiliation
1	1000	Daniel Coelho	Microsoft
2	1000	Esteria Kot	Clouds on Mars , United States
3	1001	Just Blöndbæk MVP	twoday capacity
4	1001	Ásgeir Gunnarsson MVP	North Insights ApS.
5	1001	Lars Andersen	Microsoft
6	1002	Shreyas Canchi Radhakrishna	Microsoft
7	1002	Markus Cozowicz	Microsoft
8	1003	Maraki Ketema	Microsoft
9	1003	Eran Benayun	Microsoft
10	1003	Wilson Lee	Microsoft
11	1004	Idris Motiwala	Microsoft
12	1004	Strahinja Rodic	Microsoft
13	1004	Neel Ball	Microsoft
14	1005	Devang Shah	Microsoft
15	1005	Sander van de Velde MVP	SDG Group
16	1006	Srdjan Matin	Microsoft

3

Alternatively, go back to the workspace. If you're not already in the lakehouse, this is a good way to get to the SQL analytics endpoint.

The screenshot shows the OneLake Catalog interface. On the left, there is a sidebar with various navigation options: Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and Power BI. The "Workspaces" section is highlighted with a red oval. The main workspace shows a large circular icon with two overlapping squares. Below it, the text "Query, model, or preview your data" is displayed, followed by the instruction "To query your data, start a query. You can also open a table or view to preview your data." At the bottom right, there is a green button labeled "New SQL query".

- 4 Click the SQL analytics endpoint in the workspace.

The screenshot shows the Power BI workspace interface. On the left is a navigation sidebar with icons for Home, Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and a specific workspace named 'GSMF 069'. The main area displays a table titled 'fabcon_session_info' with the following columns: Name, Type, Task, Owner, Refreshed, Next refresh, Endorsement, and Reset. There are two rows: one for the dataset itself (Lakehouse type) and one for its 'fabcon_session_info' SQL analytics endpoint (SQL analytics endpoint type). The 'fabcon_session_info' row is highlighted with a red circle.

- 5 In the Explorer section, notice that it looks very similar to what we would see in SQL Server Management Studio. Expand "dbo" under "Schemas."

The screenshot shows the Power BI Explorer section. The left sidebar has icons for Home, Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and a workspace named 'GSMF 069'. The main area is titled 'fabcon_session_info' and shows the 'Explorer' pane. It lists 'Warehouses' and 'Schemas'. Under 'Schemas', there is a tree view with 'fabcon_session_info' expanded, showing 'Sch' (Schema) and 'dbo'. The 'dbo' node is highlighted with a red circle. Other nodes include 'INFORMATION...', 'queryinsights', 'sys', and 'Security'. Below the Explorer is a large circular placeholder image with the text 'Query, model, or preview your data'. At the bottom right is a button labeled 'New SQL query'.

6

Under the "dbo" schema, we have folders for Tables, Views, Functions, and Stored Procedures. Expand the "Tables" folder.

The screenshot shows the Snowflake UI interface. On the left, there's a sidebar with various icons for Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and a specific session named 'GSMF 069'. The main area is titled 'Explorer' and shows the database 'fabcon_session_info'. Under it, there's a 'Schemas' node with a 'dbo' entry. A folder icon with an orange circle around it is placed over the 'Tables' node under 'dbo'. Other nodes visible include 'Views', 'Functions', 'Stored Proce...', 'INFORMATION...', 'queryinsights', 'sys', and 'Security'. Below the schemas, there are 'Queries' sections for 'My queries' and 'Shared queries'. At the bottom right, there's a button for 'New SQL query'.

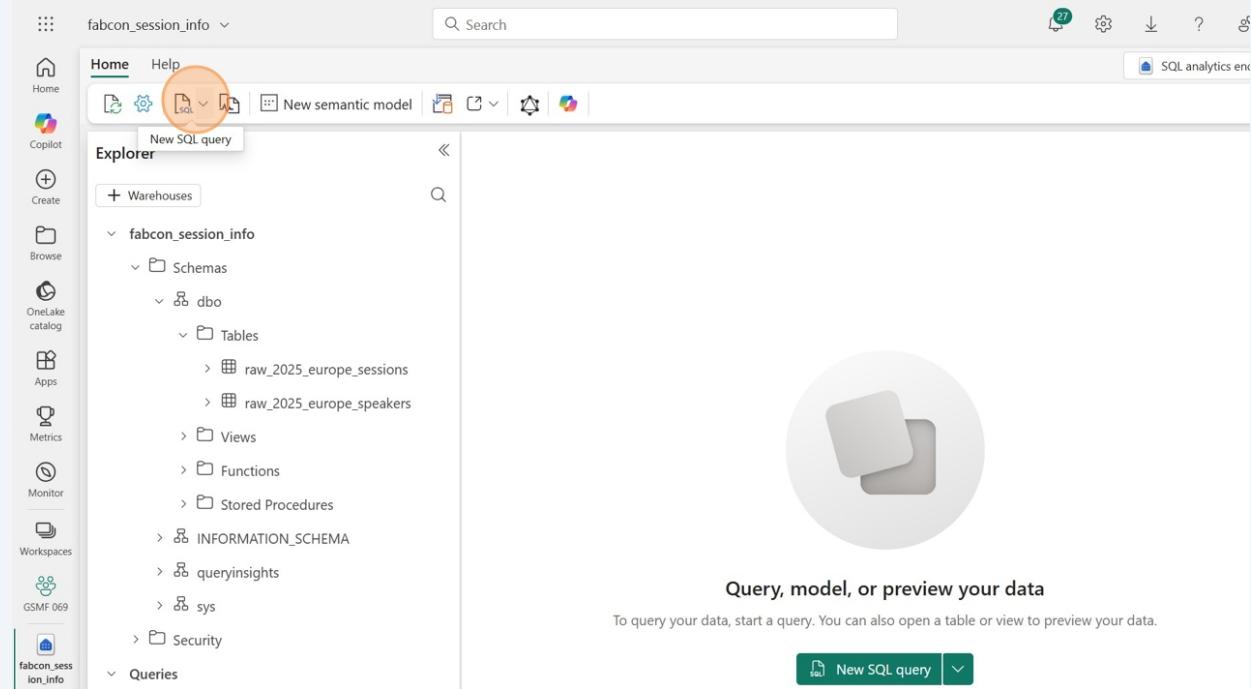
7

We see our two tables. Since it's hard to read the full table names, you might want to click and drag the horizontal bar to the right to see the full table names.

This screenshot is similar to the previous one but shows the 'Tables' folder under the 'dbo' schema fully expanded. Now, two table names are clearly visible: 'raw_2025_e' and 'raw_2025_e'. The rest of the schema structure and the 'Queries' section are the same as in the previous screenshot.

8

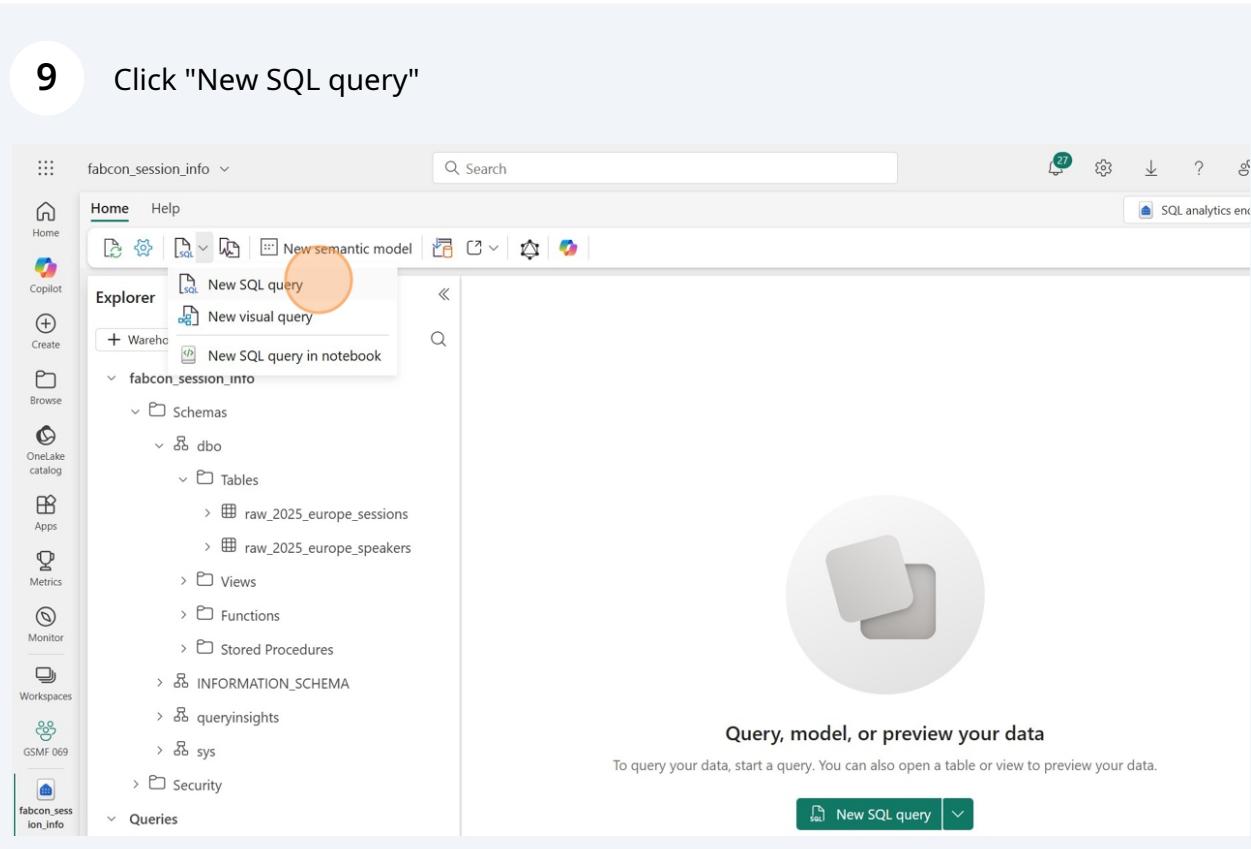
Now let's query the data. You can either click the big green "New SQL query" button in the middle of the canvas, or click the "SQL" dropdown in the ribbon under the Home tab.



Write a SQL query

9

Click "New SQL query"



10 Before we write our query, let's expand the table to see the column names.

The screenshot shows the Snowflake SQL interface. On the left, the Explorer sidebar displays a tree structure of databases, schemas, and tables. A specific table, 'raw_2025_europe_sessions', is highlighted with an orange circle. The main area is a SQL query editor titled 'SQL query 1' with the following text:

```
Start writing T-SQL and Copilot will suggest what comes next. Accept with Tab or keep typing to continue. Right click on editor to view command palette.
```

11

In the query editor, type or paste in the following sample query:

```
SELECT track, COUNT(*)
FROM raw_2025_europe_sessions
GROUP BY track
ORDER BY COUNT(*) DESC, track
```

The screenshot shows the Snowflake SQL interface. The left sidebar contains navigation links like Home, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and a specific workspace named 'GSMF 069'. The main area has tabs for Home, Help, and a SQL editor. The SQL editor window is titled 'SQL query 1' and contains the following code:

```
1 SELECT track, COUNT(*)
2 FROM raw_2025_europe_sessions
3 GROUP BY track
4 ORDER BY COUNT(*) DESC, track
```

12

Click "Run"

The screenshot shows the same Snowflake interface as the previous step, but with a visual cue: the 'Run' button in the toolbar above the query editor is highlighted with a large orange circle. This indicates where the user should click to execute the query.

13

In the output we can see that the Data Engineering track has the most sessions, followed by Admin & Governance.

The screenshot shows a data engineering tool interface with the following components:

- Left Sidebar:** Includes icons for Home, Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and Power BI.
- Central Area:** A tree view under "Explorer" shows a warehouse named "fabcon_session_info" containing a schema "dbo" which includes tables like "raw_2025_europe_sessions" and "raw_2025_europe_speakers".
- SQL Query Editor:** A tab labeled "SQL query 1" contains the following SQL code:

```
1 SELECT track, COUNT(*)
2 FROM raw_2025_europe_sessions
3 GROUP BY track
4 ORDER BY COUNT(*) DESC, track
```
- Results View:** A table titled "Results" displays the count of sessions per track. The table is highlighted with an orange border. The data is as follows:

track	untitled2
Data Engineering	31
Admin & Governance	17
Power BI	10
Azure AI Foundry	9
Data Integration	9
Azure SQL	8
Real-Time Intelligence	8
Ask Me Anything	6
DE&I	5
Data Warehousing	5
Developer Experiences	5

At the bottom of the interface, there are status indicators: "Succeeded (8 sec 862 ms)" and "Copilot completions: On" and "Copilot completions: Ready".

14

Let's do another query to see sessions by topic. Copy the first query and paste it below the first query. Change "track" to "topic" on the SELECT, GROUP BY, and ORDER BY lines. Or, just paste in the following:

```
SELECT topic, COUNT(*)  
FROM raw_2025_europe_sessions  
GROUP BY topic  
ORDER BY COUNT(*) DESC, topic
```

The screenshot shows the Snowflake SQL interface. On the left is the Explorer sidebar with a tree view of databases, schemas, and tables. The 'raw_2025_europe_sessions' table is selected. On the right is the SQL query editor titled 'SQL query 1'. It contains two queries. The first query is the original one provided in the text above. The second query, which is highlighted with an orange box, is the modified version where 'track' is replaced by 'topic'. Below the queries is the results pane, which displays a table with two columns: 'track' and 'untitled2'. The data in the table is as follows:

track	untitled2
Data Engineering	31
Admin & Governance	17
Power BI	10
Azure AI Foundry	9
Data Integration	9
Azure SQL	8
Real-Time Intelligence	8
Ask Me Anything	6

15 Click "Run"

The screenshot shows the Databricks SQL interface. On the left is the sidebar with various navigation options like Home, Help, Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and a specific workspace named 'GSMF 069'. The main area has tabs for Home and Help. Below the tabs is the Explorer sidebar which lists Warehouses, fabcon_session_info (selected), Schemas (dbo), and Tables (raw_2025_europe_sessions). The raw_2025_europe_sessions table contains columns: session_id, title, detail_url, start, end, level, topic, track, and code. To the right of the Explorer is the SQL editor titled 'SQL query 1'. The query is highlighted with a red circle around the 'Run' button:

```
1 SELECT track, COUNT(*)  
2 FROM raw_2025_europe_sessions  
3 GROUP BY track  
4 ORDER BY COUNT(*) DESC, track  
5  
6 SELECT topic, COUNT(*)  
7 FROM raw_2025_europe_sessions  
8 GROUP BY topic  
9 ORDER BY COUNT(*) DESC, topic
```

Below the SQL editor is the Results tab, which displays the following data:

topic	untitled2
Power BI	20
Data Engineering	14
Real-Time Intelligence	14

16

Now that we have two queries, we will get two results below. We have a dropdown to go back and forth between the two results. Right now we see the results of the first query. Click the dropdown.

The screenshot shows the Databricks interface with the following details:

- Left Sidebar:** Shows the workspace navigation with sections like Home, Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and Power BI.
- Top Bar:** Includes a search bar, a "SQL analytics endpoint" dropdown, and various icons for help and account.
- Central Area:**
 - Explorer:** Displays the database schema for the "fabcon_session_info" warehouse, specifically the "dbo" schema which contains the "raw_2025_europe_sessions" table.
 - SQL query 1:** Contains the following SQL code:

```
1 SELECT track, COUNT(*)
2 FROM raw_2025_europe_sessions
3 GROUP BY track
4 ORDER BY COUNT(*) DESC, track
5
6 SELECT topic, COUNT(*)
7 FROM raw_2025_europe_sessions
8 GROUP BY topic
9 ORDER BY COUNT(*) DESC, topic
```
 - Results:** A table showing the count of sessions by track. The data is:

track	untitled2
Data Engineering	31
Admin & Governance	17
Power BI	10
Azure AI Foundry	9
Data Integration	9
Azure SQL	8
Real-Time Intelligence	8
Ask Me Anything	6
DE&I	5
Data Warehousing	5
Developer Experiences	5
Innorta Stacks	4

17

Click "Result: 2" to see the results of the topic query.

The screenshot shows the Azure Data Studio interface. On the left, the 'Schemas' tree view displays a 'dbo' schema containing 'Tables' like 'raw_2025_europe_sessions' and 'Views'. The 'raw_2025_europe_sessions' table has columns such as 'session_id', 'title', 'detail_url', 'start', 'end', 'level', 'topic', 'track', 'code', 'speakers', 'conf_id', 'conference', 'description', and 'Incentive_Status'. A copy of the 'raw_2025_europe_sessions' table is also listed under 'Views'. On the right, a code editor window contains the following SQL query:

```
3 GROUP BY track
4 ORDER BY COUNT(*) DESC, track
5
6 SELECT topic, COUNT(*)
7 FROM raw_2025_europe_sessions
8 GROUP BY topic
9 ORDER BY COUNT(*) DESC, topic
```

The results pane shows a table with two rows of data:

ABC topic	untitled2
Power BI	20
Data Engineering	14
Real-Time Intelligence	14

A dropdown menu in the results pane is open, showing 'Result: 1' and 'Result: 2'. The 'Result: 2' option is highlighted with an orange circle. The status bar at the bottom indicates 'Copilot completions: Ready'.

Create a Visual Query

18

Another way to explore the data is with a visual query. This is really helpful for people who don't know how to write SQL queries because it gives them a visual editor. Click the "SQL" button in the ribbon and then "New visual query."

The screenshot shows the Azure Data Studio interface with a 'fabcon_session_info' database selected. The left sidebar includes icons for Copilot, Create, Browse, OneLake catalog, Apps, Metrics, Monitor, Workspaces, and a specific item 'GSMF 069'. The main area features a ribbon with 'Home', 'Help', 'New semantic model', 'New SQL query' (which is highlighted with an orange circle), and 'New visual query'. The 'Explorer' panel shows the database schema with 'fabcon_session_info' expanded, revealing 'Schemas' and 'Tables' like 'raw_2025_europe_sessions'. The 'SQL query 1' editor window contains the same SQL query as the previous screenshot:

```
1 SELECT track, COUNT(*)
2 FROM raw_2025_europe_sessions
3 GROUP BY track
4 ORDER BY COUNT(*) DESC, track
5
6 SELECT topic, COUNT(*)
7 FROM raw_2025_europe_sessions
8 GROUP BY topic
9 ORDER BY COUNT(*) DESC, topic
```

The results pane shows a table with three rows of data:

ABC topic	untitled2
Power BI	20
Data Engineering	14
Real-Time Intelligence	14

19 Click "raw_2025_europe_speakers" and drag it onto the canvas.

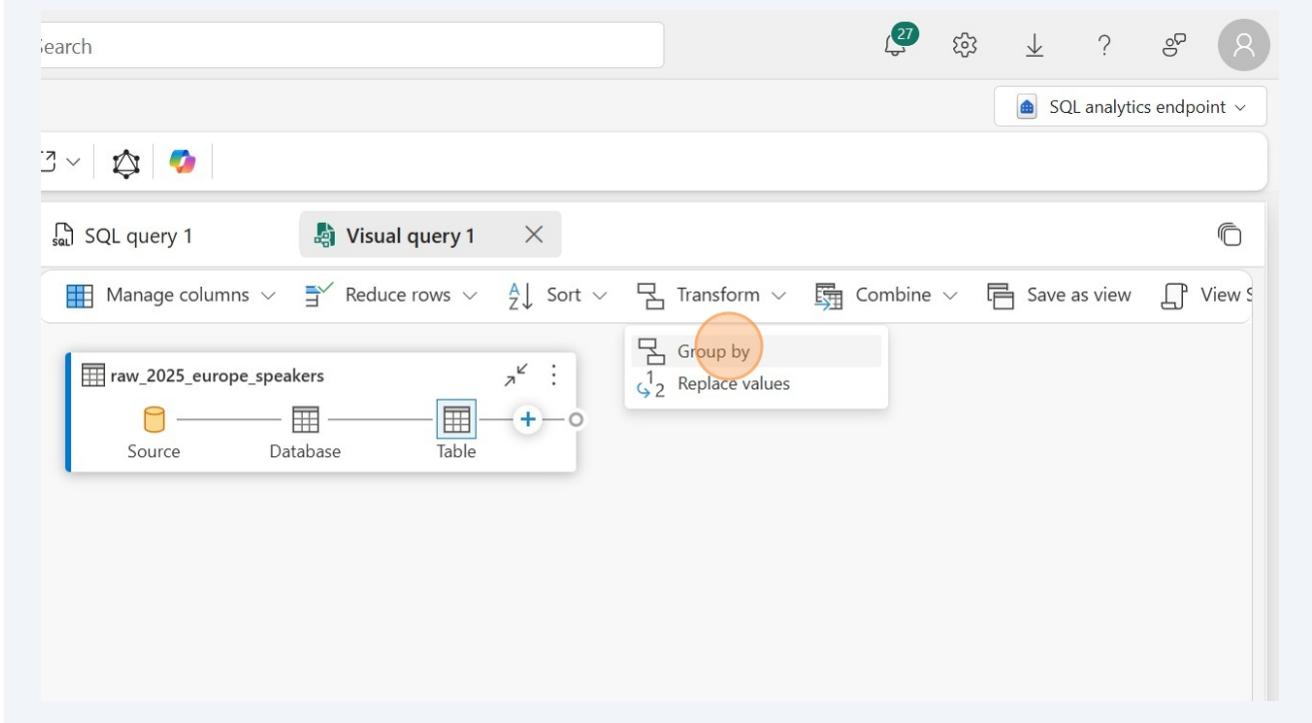
The screenshot shows the Snowflake interface. On the left, the sidebar includes 'Browse', 'Schemas', 'dbo', 'Tables', 'raw_2025_europe_sessions', and 'raw_2025_europe_speakers'. The 'raw_2025_europe_speakers' table is highlighted with an orange circle. A callout box points to the table with the text '[fabcon_session_info].[dbo].[raw_2025_europe_speakers]'. To the right, a query builder window displays a table structure with a dashed border and a cursor icon. Below the table is the text 'To build a query, drag your tables here.'

20 Let's group by speaker name to see which speakers are presenting the most sessions. Click the Transform button.

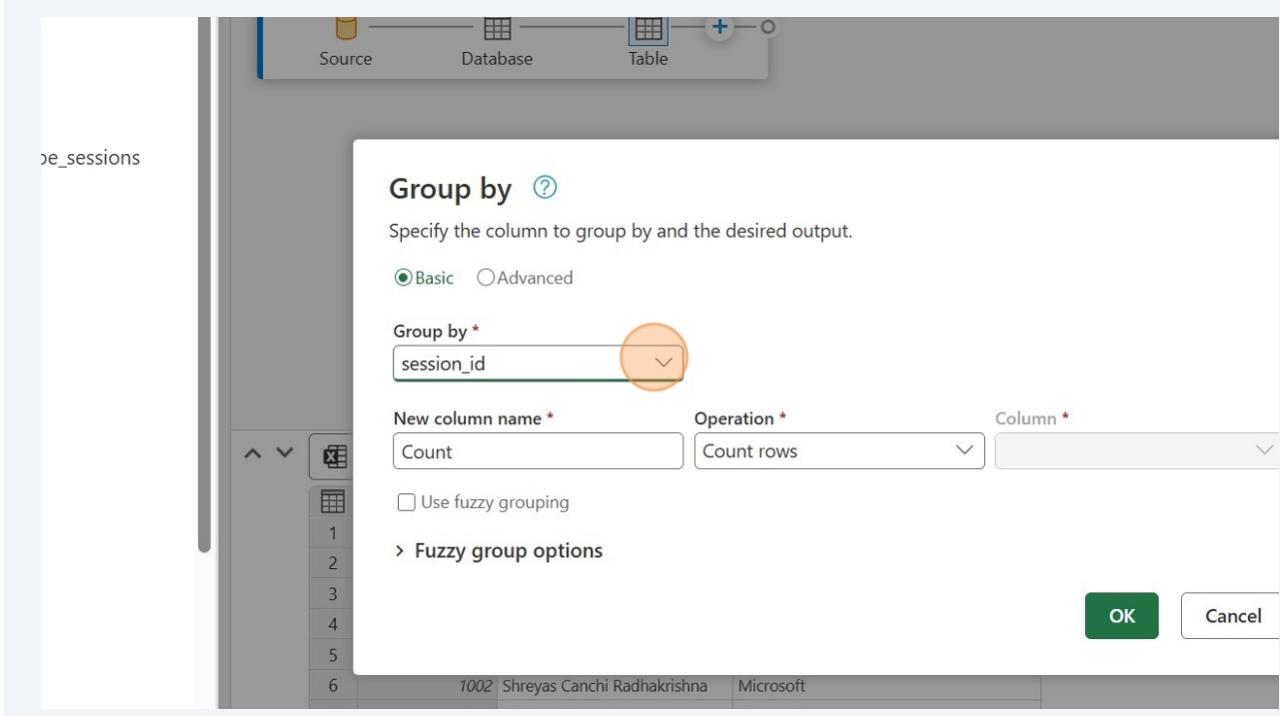
The screenshot shows the Snowflake interface with the 'fabcon_session_info' warehouse selected. The 'Transform' button in the top navigation bar is highlighted with an orange circle. The main area shows a data preview for the 'raw_2025_europe_speakers' table, displaying columns: session_id, speaker_name, and speaker_affiliation. The data table lists six rows:

	session_id	speaker_name	speaker_affiliation
1	1000	Daniel Coelho	Microsoft
2	1000	Ester Kot	Clouds on Mars, United States
3	1001	Just Blidbaek MVP	two day capacity
4	1001	Ásgeir Gunnarsson MVP	North Insights ApS.
5	1001	Lars Andersen	Microsoft
6	1002	Shreyas Canchi Radhakrishna	Microsoft

21 Click "Group by"



22 Click the "Group by" dropdown and choose "speaker_name."



23 Click "OK"

The screenshot shows a data processing interface with a modal dialog box in the foreground. The dialog box has the following settings:

- Group by ***: speaker_name
- New column name ***: Count
- Operation ***: Count rows
- Column ***: (empty dropdown)
- Use fuzzy grouping
- Fuzzy group options** (link)

The "OK" button at the bottom left of the dialog box is highlighted with a green circle. In the background, there is a table with columns and rows of data, and a status bar at the bottom indicates "Completed (2.26 s) Columns: 3 Rows: 99+".

24

We have the results, but it's sorted by speaker. Click the "Sort" button.

The screenshot shows the Snowflake UI interface. On the left, the Explorer sidebar displays a warehouse named 'fabcon_session_info' containing a schema 'dbo' with tables like 'raw_2025_europe_sessions' and 'raw_2025_europe_speakers'. In the center, a 'SQL query 1' tab is active, showing a data flow from a 'Source' (raw_2025_europe_speakers) through a 'Database' and 'Table' to 'Grouped rows'. Below this, a 'Visual query 1' tab is open, displaying a table titled 'Speaker Name' with 12 rows. The first column is 'speaker_name' and the second is 'Count'. The rows are listed as follows:

speaker_name	Count
Artur Vieira	1
Damon Buono	1
Traci Sewell	2
Josh Caplan	1
Barney Lawrence	1
Stuly Taber	1
Eric Reyhle	1
Daniel Hidalgo	1
Mathias Halljær	1
Cristian Petcucescu	1
Abhinav Jayanty	1
Javier Villejas	1

A large orange circle highlights the 'Sort' button in the top right corner of the visual query interface. The bottom status bar indicates 'Completed (1.12 s) Columns: 2 Rows: 99+'.

25 Click "Sort descending"

The screenshot shows the Snowflake UI interface. At the top, there's a search bar and a 'SQL analytics endpoint' button. Below the header, there are several icons and a tab labeled 'Visual query 1'. The main area contains a data flow diagram for 'SQL query 1'. The flow starts with a 'Source' node ('raw_2025_europe_speakers') connected to a 'Database' node, which then connects to a 'Table' node. From the 'Table' node, the flow goes to a 'Grouped rows' node, then to a 'Sorted rows' node, and finally to a 'Visual query 1' node. A context menu is open over the 'Sorted rows' node, with the 'Sort descending' option highlighted and circled in orange. Other options in the menu include 'Sort ascending' and 'Reduce rows'.

26 We can see that Bob Ward is presenting four sessions.

The screenshot shows the Snowflake UI with the 'Visual query 1' results displayed. On the left, the 'Explorer' sidebar shows a tree structure of databases, schemas, and tables. The 'fabcon_session_info' database is expanded, showing its schemas ('dbo'), tables ('raw_2025_europe_sessions'), and columns ('session_id', 'title', 'detail_url', 'start', 'end', 'level', 'topic', 'track', 'code', 'speakers', 'conf_id', 'conference', 'description'). The 'raw_2025_europe_sessions' table is selected. The main workspace shows the data flow from the source table to 'Sorted rows', with the results being visualized as a table. The table has a header row with 'speaker_name' and 'Count'. The data below shows 10 rows, with Bob Ward having a count of 4, and the other speakers having counts of 3 or less. The entire table area is highlighted with an orange border.

speaker_name	Count
Bob Ward	4
Sid Jayadeva	3
Idris Motiwala	3
Erin Stellato	3
Priya Sathy	3
Kasper de Jonge	2
Shabnam Watson MVP	2
Yaron Canari	2
Arthi Ramasubramanian Iyer	2
Strahinja Rodic	2