

TASK 3 - Ingestion Airbyte

1. Ingest data from [local file json](#) to Postgresql with Airbyte.

Berikut adalah langkah-langkah untuk memasukkan data dari file lokal JSON ke PostgreSQL menggunakan Airbyte:

1. Instal Airbyte:

- Unduh dan instal Airbyte di sistem dengan mengikuti panduan instalasi resmi di [situs web Airbyte](#) atau gunakan airbyte di web.

2. Jalankan Airbyte:

- Setelah instalasi, jalankan Airbyte dengan perintah docker-compose up
- Airbyte akan berjalan di latar belakang dan dapat diakses melalui browser di <http://localhost:8000>.

3. Konfigurasi Sumber Data (Source):

- Buka Airbyte di browser dan masuk ke dashboard.
- Klik pada "Sources" dan pilih "New Source".
- Pilih tipe sumber data sebagai "Local JSON".
- Isi detail koneksi seperti:
 - Nama Sumber
 - Path file JSON lokal di sistem kita

4. Konfigurasi Tujuan Data (Destination):

- Klik pada "Destinations" dan pilih "New Destination".
- Pilih tipe tujuan data sebagai "PostgreSQL".
- Isi detail koneksi PostgreSQL seperti:
 - Host
 - Port
 - Nama Pengguna
 - Kata Sandi
 - Nama Database

5. Buat Koneksi:

- Setelah sumber dan tujuan dikonfigurasi, buat koneksi antara keduanya.
- Klik pada "Connections" dan pilih "New Connection".
- Pilih sumber data JSON yang telah kita konfigurasi.
- Pilih tujuan data PostgreSQL yang telah dikonfigurasi.
- Atur mode sinkronisasi (misalnya: Full Refresh, Incremental).

6. Jadwalkan Sinkronisasi:

- Atur jadwal sinkronisasi sesuai kebutuhan (misalnya, sinkronisasi harian, mingguan, atau manual).
- Simpan konfigurasi.




























7. Mulai Sinkronisasi:

- Setelah semua konfigurasi selesai, mulai proses sinkronisasi dengan mengklik tombol "Sync Now" pada halaman koneksi.
- Airbyte akan mulai memindahkan data dari file JSON ke database PostgreSQL sesuai dengan konfigurasi yang telah dibuat.

8. Monitor dan Verifikasi:

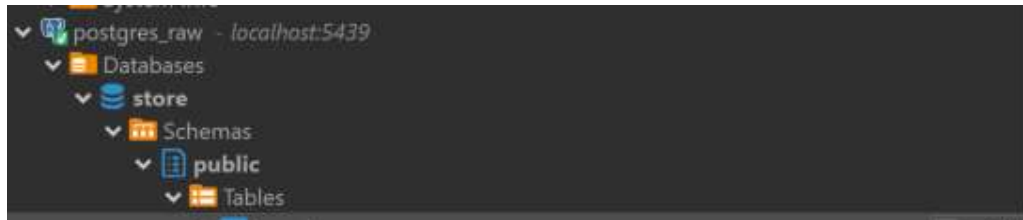
- Pantau proses sinkronisasi melalui dashboard Airbyte.
- Verifikasi data di PostgreSQL untuk memastikan bahwa data telah dimasukkan dengan benar

a. Jalankan dulu docker-compose.yml yang menjalankan container-container di citus dan airbyte

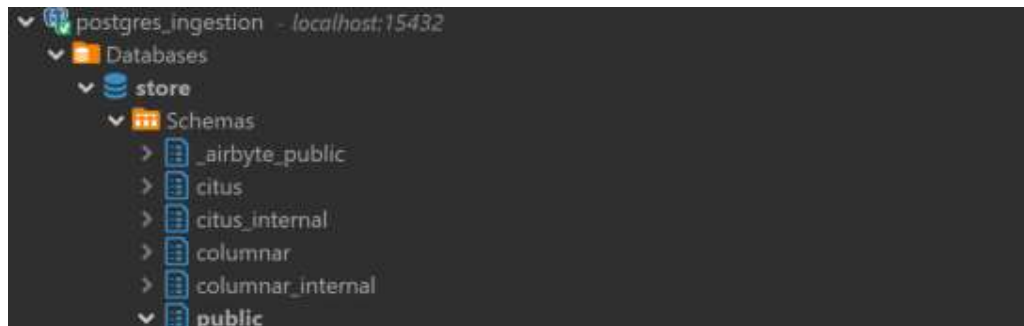
<input type="checkbox"/>	Name	Image	Status	Port(s)	CPU (%)	Last started
<input type="checkbox"/>	 ingestion_airbyte		Running (13/1)		7.28%	34 seconds ago
<input type="checkbox"/>	 airbyte-temporal 7c02541a9843 	airbyte/temporal:0.50.20	Running		2.53%	46 seconds ago
<input type="checkbox"/>	 ingestion_airbyte_mas 0738fa4ba013 	citusdata/citus:12.0.0	Running	15432:5432 	0.03%	46 seconds ago
<input type="checkbox"/>	 airbyte-db 04805a496ae0 	airbyte/db:0.50.20	Running		0.03%	46 seconds ago
<input type="checkbox"/>	 ingestion_airbyte bf6e5fa56c36 	postgres:12.16	Running	5439:5432 	0.05%	46 seconds ago
<input type="checkbox"/>	 init 527050b2e6fb 	airbyte/init:0.50.20	Exited		0%	46 seconds ago
<input type="checkbox"/>	 airbyte-bootloader 6ac6e7c291d4 	airbyte/bootloader:0.50.20	Exited		0%	45 seconds ago
<input type="checkbox"/>	 airbyte-api-server 8c711ce5bba8 	airbyte/airbyte-api-server:0.50.20	Running		0.11%	35 seconds ago
<input type="checkbox"/>	 airbyte-webapp e3a3371cb70f 	airbyte/webapp:0.50.20	Running		0%	35 seconds ago
<input type="checkbox"/>	 ingestion_airbyte_man 47d42d131e7f 	citusdata/membership-manager:0.3.0	Running		3.99%	45 seconds ago
<input type="checkbox"/>	 airbyte-connector-build adf93e4fddf8 	airbyte/connector-builder-server:0.50.20	Running	64224:80 	0.09%	35 seconds ago
<input type="checkbox"/>	 airbyte-server 54f31ead5a30 	airbyte/server:0.50.20	Running	64225:8001 	0.09%	35 seconds ago

<input type="checkbox"/>	Name	Image	Status	Port(s)	CPU (%)	Last started
<input type="checkbox"/>	 ingestion_airbyte bf6e5fa56c36 	postgres:12.16	Running	5439:5432 	0.05%	1 minute ago
<input type="checkbox"/>	 init 527050b2e6fb 	airbyte/init:0.50.20	Exited		0%	1 minute ago
<input type="checkbox"/>	 airbyte-bootloader 6ac6e7c291d4 	airbyte/bootloader:0.50.20	Exited		0%	59 seconds ago
<input type="checkbox"/>	 airbyte-api-server 8c711ce5bba8 	airbyte/airbyte-api-server:0.50.20	Running		0.1%	50 seconds ago
<input type="checkbox"/>	 airbyte-webapp e3a3371cb70f 	airbyte/webapp:0.50.20	Running		0%	49 seconds ago
<input type="checkbox"/>	 ingestion_airbyte_manager 47d42d131e7f 	citustdata/membership-manager:0.3.0	Running		0.59%	1 minute ago
<input type="checkbox"/>	 airbyte-connector-builder adf93e4fddf8 	airbyte/connector-builder-server:0.50.20	Running	64224:80 	0.12%	49 seconds ago
<input type="checkbox"/>	 airbyte-server 54f31ead5a30 	airbyte/server:0.50.20	Running	64225:8001 	0.11%	49 seconds ago
<input type="checkbox"/>	 airbyte-cron 80fd6ccbd611 	airbyte/cron:0.50.20	Running		0.12%	49 seconds ago
<input type="checkbox"/>	 airbyte-proxy ff3768d1bd0b 	airbyte/proxy:0.50.20	Running	8000:8000  Show all ports (4)	0%	49 seconds ago
<input type="checkbox"/>	 airbyte-worker 912507cc36d3 	airbyte/worker:0.50.20	Running		0.17%	50 seconds ago
<input type="checkbox"/>	 citustdata-worker-1 9509fbd23d98 	citustdata/citustdata:12.0.0	Running		3.35%	59 seconds ago

- b. Buat database untuk data raw di postgres (contoh nama db = postgres_raw), sesuaikan portnya dengan yg sudah disetting di docker compose tadi



- c. Buat database untuk menampung data yg sudah diingest di postgres (contoh nama db = postgres_ingestion), dan juga sesuaikan portnya dengan yg sudah disetting di docker compose tadi



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Mentee: Yovina Silvia

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d. Gunakan airbyte untuk melakukan ingestion data dari database raw (postgres_raw) ke database untuk menampung hasil ingest (postgres_ingestion)

The screenshot shows the Airbyte web interface for configuring a replication job from a source Postgres database to a destination Postgres database. The interface is in dark mode.

Header: Connections / Postgres → Postgres. The job is titled "Postgres → Postgres" and is marked as "Enabled".

Navigation: Status, Job History, Replication (active), Transformation, Settings.

Configuration Section:

- Replication frequency: Manual
- Destination Namespace: Destination default
- Destination Stream Prefix: Mirror source name
- Detect and propagate schema changes: Ignore

Streams Section: "Activate the streams you want to sync". A search bar and a "Refresh source schema" button are present.

Stream List:

Sync	Data destination	Stream	Sync mode	Cursor field	Fields
<input checked="" type="checkbox"/>	<destination schema>	brands	Incremental / Append + Deduped	<source defined>	Primary key brand_id
<input checked="" type="checkbox"/>	<destination schema>	order_details	Full refresh / Append		
<input checked="" type="checkbox"/>	<destination schema>	orders	Full refresh / Append		
<input checked="" type="checkbox"/>	<destination schema>	products	Incremental / Append + Deduped	<source defined>	Primary key product_id

Buttons at the bottom: Cancel, Save changes.

Airbyte menawarkan beberapa mode sinkronisasi (sync mode) yang dapat digunakan untuk mengontrol bagaimana data dipindahkan dari sumber ke tujuan. Berikut adalah penjelasan mengenai mode-mode sinkronisasi yang tersedia di Airbyte:

1. **Full Refresh - Overwrite:**

- **Deskripsi:** Mode ini akan mengambil seluruh data dari sumber setiap kali sinkronisasi dijalankan dan menimpa semua data yang ada di tujuan.
- **Kelebihan:** Berguna untuk dataset yang relatif kecil dan ketika ingin memastikan bahwa data di tujuan selalu merupakan salinan terbaru dari sumber.
- **Kekurangan:** Tidak efisien untuk dataset yang besar karena semua data akan ditimpa setiap kali sinkronisasi dilakukan.

2. **Full Refresh - Append:**

- **Deskripsi:** Mode ini akan mengambil seluruh data dari sumber setiap kali sinkronisasi dijalankan dan menambahkan data tersebut ke tujuan tanpa menghapus data yang sudah ada.
- **Kelebihan:** Berguna ketika kita perlu menyimpan semua versi data sebelumnya di tujuan.
- **Kekurangan:** Ukuran data di tujuan akan terus bertambah seiring waktu, yang dapat menyebabkan masalah penyimpanan dan kinerja.

3. **Incremental - Append:**

- **Deskripsi:** Mode ini hanya mengambil data baru atau data yang diubah sejak sinkronisasi terakhir dan menambahkannya ke tujuan.
- **Kelebihan:** Efisien dalam hal penggunaan sumber daya karena hanya data yang berubah yang dipindahkan. Cocok untuk dataset yang besar.
- **Kekurangan:** Memerlukan sumber data yang mendukung penelusuran perubahan atau timestamp untuk mendeteksi data baru atau yang diubah.

4. **Incremental - Deduped + History:**

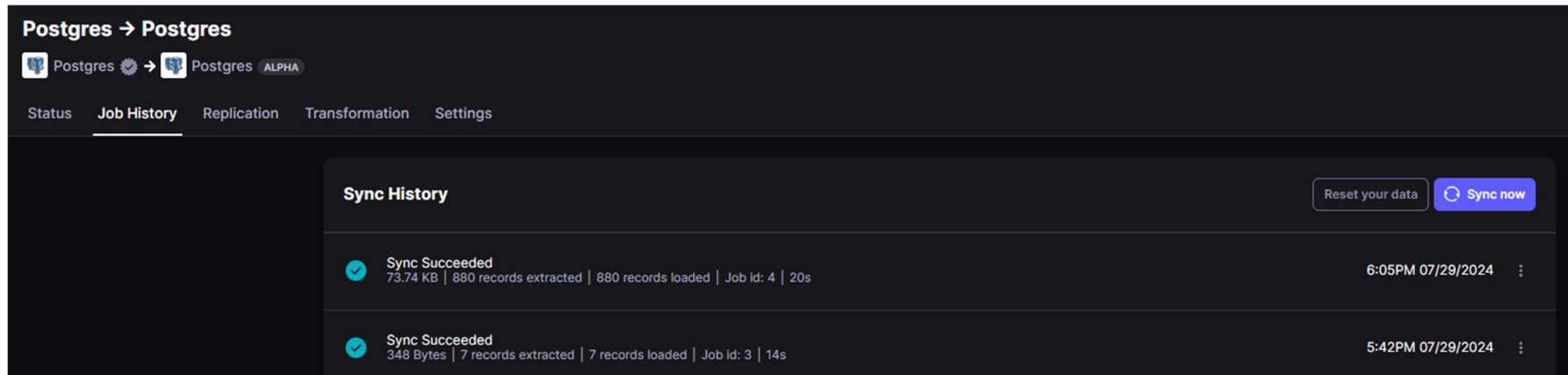
- **Deskripsi:** Mode ini juga hanya mengambil data baru atau data yang diubah sejak sinkronisasi terakhir, tetapi menyimpan riwayat perubahan di tujuan.
- **Kelebihan:** Selain efisien, mode ini memungkinkan kita untuk melacak perubahan data dari waktu ke waktu di tujuan.
- **Kekurangan:** Memerlukan penyimpanan lebih besar di tujuan untuk menyimpan riwayat perubahan.

Memilih Mode Sinkronisasi:

- **Full Refresh - Overwrite** cocok untuk dataset yang tidak terlalu besar dan ketika kita selalu ingin data di tujuan merupakan salinan terbaru dari sumber.
- **Full Refresh - Append** cocok untuk situasi di mana kita perlu menyimpan semua versi data sebelumnya.
- **Incremental - Append** sangat berguna untuk dataset yang besar atau ketika hanya sedikit data yang berubah setiap kali sinkronisasi.
- **Incremental - Deduped + History** ideal untuk pelacakan perubahan data dari waktu ke waktu dan analisis historis.

Memilih mode sinkronisasi yang tepat tergantung pada kebutuhan spesifik kita terkait dengan ukuran dataset, frekuensi perubahan data, dan kebutuhan pelacakan historis.

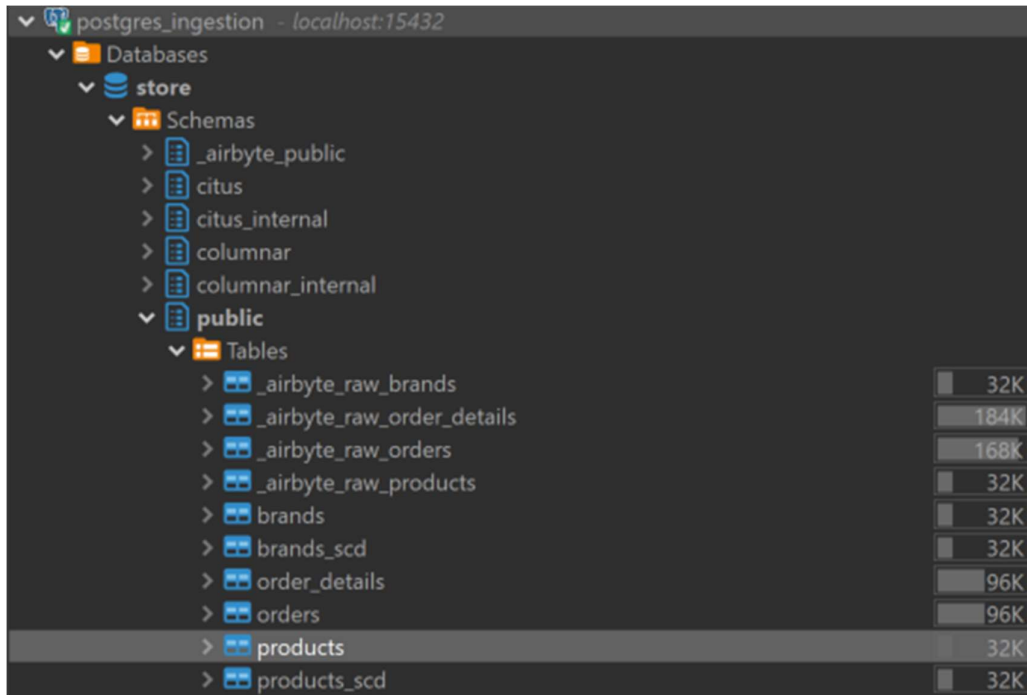
Tampilan Sync History



Sync history pada Airbyte mencakup berbagai informasi penting yang membantu melacak dan mengelola proses sinkronisasi data. Berikut adalah beberapa informasi yang biasanya ditemukan dalam sync history Airbyte:

1. **Waktu Sinkronisasi:** Timestamp menunjukkan kapan sinkronisasi dimulai dan selesai.
2. **Status Sinkronisasi:** Apakah sinkronisasi berhasil atau gagal.
3. **Durasi Sinkronisasi:** Berapa lama waktu yang diperlukan untuk menyelesaikan sinkronisasi.
4. **Jumlah Data yang Diproses:** Berapa banyak record atau baris data yang telah diproses selama sinkronisasi.
5. **Error Messages:** Jika ada kegagalan, pesan error atau log yang terkait dengan kegagalan tersebut.
6. **Sumber dan Tujuan:** Informasi tentang sumber data (misalnya, database atau API) dan tujuan data (misalnya, data warehouse atau sistem analitik).
7. **Versi Konfigurasi:** Versi dari konfigurasi atau konektor yang digunakan selama sinkronisasi.
8. **Pengguna yang Memulai Sinkronisasi:** Informasi tentang pengguna atau sistem yang memulai sinkronisasi.
9. **Perubahan pada Konfigurasi:** Log atau catatan tentang perubahan pada konfigurasi sinkronisasi.

e. Lalu cek pada database postgres_ingestion apakah data sudah berhasil diingest oleh airbyte



postgres_ingestion - localhost:15432	
Databases	
store	
Schemas	
> _airbyte_public	
> citus	
> citus_internal	
> columnar	
> columnar_internal	
> public	
Tables	
> _airbyte_raw_brands	32K
> _airbyte_raw_order_details	184K
> _airbyte_raw_orders	168K
> _airbyte_raw_products	32K
> brands	32K
> brands_scd	32K
> order_details	96K
> orders	96K
> products	32K
> products_scd	32K

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f. Table brands

Grid	abc name	brand_id	abc_airbyte_ab_id	_airbyte_emitted_at	_airbyte_normalized_at	abc_airbyte_brands_hashid	abc_airbyte_unique_key
1	Apple	1	ef488a96-4f0c-4051-9a66-7aafad1fa39d	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	4bea7f78f74f9684166c73ecc0d6765b	c4ca4238a0b923820dcc509a6f75849b
2	Samsung	2	06dfc9b7-a749-4f04-9b6a-8cb24c33445d	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	20b70ad977adcfca0a12eca583a7414	c81e728d9d4c2f636f067f89cc14862c
3	Sony	3	6dc67563-e651-4d86-9f9b-ebd3b8169f4f	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	b5de8154ca6ac857aa938d45c724bbdc	eccbc87e4b5ce2fe28308fd9f2a7baf3

g. Table products

Grid	price	product_id	abc name	brand_id	abc_airbyte_ab_id	_airbyte_emitted_at	_airbyte_normalized_at	abc_airbyte_products_hashid	abc_airbyte_unique_key
1	499.99	4	PlayStation 5	3	744dd33b-b82e-4c7b-b2bc-c28284574ea1	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	19d884ecbc7833d76517ce7aaa9dea4a	a87ff679a2f3e71d9181a67b7542122c
2	799.99	1	iPhone 13	1	a630f120-bb49-4358-8de7-7114b0574fe0	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	58ea4709af7f18bf1387492f32874a3d	c4ca4238a0b923820dcc509a6f75849b
3	1,299.99	2	MacBook Pro	1	cf8c2c77-dff6-4fae-93a0-3fa3cd0f5a88	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	a863b05644a05dce22b4f1a6b3d8dfa	c81e728d9d4c2f636f067f89cc14862c
4	699.99	3	Galaxy S21	2	e1483eff-4c0e-4af9-a1e9-6cfb377dd12d	2024-07-29 17:42:41.808 +0700	2024-07-29 17:42:52.253 +0700	42d321fe09f68317a47c6f61025f3a8c	eccbc87e4b5ce2fe28308fd9f2a7baf3

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h. Table orders

DBeever Sample Database (SQLite) products brands orders order_details									
Properties Data ER Diagram postgres_ingestion Datab...									
Enter a SQL expression to filter results (use Ctrl+Space)									
Grid	order_date	customer_phone	order_id	airbyte_ab_id	airbyte_emitted_at	airbyte_normalized_at	airbyte_orders_hashid		
1	2024-07-14 10:25:40.539	912058175507		567d4335-5293-4f96-b93e-bd1ea73ac4c9	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	fc66d8739ae33499a842b2a8b95201bc		
2	2024-07-14 08:50:17.541	912058175507		431f2892-e3a9-47cd-8d72-a5e5054dea7a	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	c369e0017d2e2f9900182e0908a94f63		
3	2024-07-14 21:46:18.335	912058175507		576587f4-69a9-43fe-8383-0ae2a5fbd71	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	7aac8b393874ee65da3114b87a36b621		
4	2024-07-14 18:01:20.936	912058175507		7911a449-bf1f-406a-b70e-8daa95f97b1	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	5723e827ecbd8ce29b8a88af35054303		
5	2024-07-14 08:35:57.418	912058175507		33715371-b580-4da2-9894-deae3a4a4e96	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	4e822f69a8dda76ba0173892a72a706c		
6	2024-07-14 23:21:09.391	912058175507		3784317e-2f98-43ad-bd5a-95699d2e79cf	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	fb40b5fda5b1dbde17c1697e5bb3b8		
7	2024-07-14 10:39:42.547	912058175507		233206d5-69b9-4dee-a80f-c263f8e5604b	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	afc9bc98e159d4506581e8cce948c54e		
8	2024-07-14 01:16:17.138	912058175507		c1da8e53-5804-46ff-a16-540c6682143e	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	509d76b3463ba9414bdeb5f4257067e4		
9	2024-07-14 06:55:12.905	912058175507		827c5d61-098c-4a8f-b0e8-e44be1c3c1f6	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	6fac867be4bac4e8967ef6da3874720f		
10	2024-07-14 03:32:09.556	912058175507		2946607c-c31a-4bd2-9381-1df8a7471d3c	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	7b06edb973741a55500c345d3a986892		
11	2024-07-14 07:13:23.717	912058175507		de54ab75-4391-4b49-a252-6491bb4b4a4e	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	bfe49d2248c8b05f65c21ba9f98159e4		
12	2024-07-14 01:32:56.574	912058175507		81a37064-b486-49b2-af7a-39647376519	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	688a55bbdbdab47017f5a682ed8b90da		
13	2024-07-14 01:50:58.099	912058175507		d510ba80-cb63-464a-ae9a-af7a42a1d3b	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	f7d4a9971027c513e01d5f2688c05cc		
14	2024-07-14 00:25:32.328	912058175507		462531f8-1f27-4cf9-b342-eee65fcb7267	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	c74bfab8f25133413a3489f46328725		
15	2024-07-14 14:16:44.134	912058175507		f1aa13dc-edc4-47f2-aaaa-8672a5a9ed53	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	e2f3078bdfdd8c688a16659e2d61e9125		
16	2024-07-14 13:18:21.203	912058175507		e572e76c-aa16-48ac-a16b-83e6805894a5	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	54b22e5051492ab2f0aaaaabff962737		
17	2024-07-14 00:56:57.041	912058175507		320ee990-35c3-4ad6-bcc9-2b4cd08ba5dc	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	97db07e2e411660a3a162a1efcc2286		
18	2024-07-14 23:46:52.017	912058175507		5bd43d17-1c29-4d22-8077-02b29d458bd3	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	4041a549eddd86cd0dd39dc7b4e0ac		
19	2024-07-14 12:58:20.913	912058175507		ee133fb1-104a-45f6-9483-c9f773a3a143	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	f0bd89c161ca82be2dc2c59d6525bca1		
20	2024-07-14 10:18:23.920	912058175507		0a890a3d-1bc9-42f9-b636-57a655dfa35e	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	44b216c2ecb948dad3eb6bc1a83ef58d		
21	2024-07-14 13:17:41.949	912058175507		3e321514-2273-4f76-a2ec-a48383223a1	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	2f13a76e403d7034c17661a5100cb785		
22	2024-07-15 00:21:12.463	+918285200452		881d723a-34ba-4dcf-9360-a897ef6e1e4b	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	942519d4e285610270812a4f72722cf0		
23	2024-07-15 04:39:56.449	+918285200452		c2917c09-90b5-4d6e-a5e1-c069a176310	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	df0fa10310adb5e6f74e284acfc442a8		
24	2024-07-15 22:14:40.684	+918285200452		4f5bd200-c2af-44fd-896f-797eb277060c	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	3f7992ad7e271f61cb5b72f555c8fbaf		
25	2024-07-15 22:18:23.307	+918285200452		d814968a-6e44-4e10-ac7d-4630a3d927c5	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	9dc40d5ee27e78087d9ce0c90f0f73a8		
26	2024-07-15 15:59:12.083	+918285200452		724716a4-5101-44e8-98d8-71b84671d598	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	b88e914f013ad85c0591729b6f4d0642c		
27	2024-07-15 21:14:12.189	+918285200452		143453c0-c563-4dff-a597-c0a2d9e33c87	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	01c67ef49d74ef2d0903cf8ade66609		
28	2024-07-15 19:16:31.449	+918285200452		c2b591ec-1c0a-4a74-8c32-79afd52d7347	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	52f4647f2892e9b3ff7fb43f2fe41005		
29	2024-07-15 18:56:05.249	+918285200452		608ed216-ebc3-4614-8b35-d037711898ec	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	168e653280bf5058275a80438a0c9336		
30	2024-07-15 01:32:45.630	+918285200452		d886fec5-2262-47ea-8bcd-atc03b08d015	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	bba919921646ea1581b2183d538cbec3		
31	2024-07-15 22:01:28.086	+918285200452		a19e54a8-b382-4704-81bf-b215831d2056	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	e0fd9bb019ad258b8a8adac3118da0ef		
32	2024-07-15 07:30:57.060	+918285200452		a73318a1-77d7-4b70-9e55-2746ca7ce646	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	ac8dc11050ecba197fd7e84cae119d4		
33	2024-07-15 17:29:54.270	+918285200452		ddd56252-f1ce-4b41-9775-69e7a8fb29c	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	211efaf8a70aa252de39e4170c101967		
34	2024-07-15 06:41:11.929	+918285200452		5414ad02-bb96-4adb-8cfe-364a1034c31c	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	2a9a3cf374e70df4bd259cc7fa068f6		
35	2024-07-15 07:12:11.879	+918285200452		046509b7-6064-406a-80eb-d07d38c61a98	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	2a734b281ef95abe5da923450f45d2a		
36	2024-07-15 09:53:58.674	+918285200452		0d92cd2a-7faf-4279-a0a5-148238b096f6	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	14e3eedceeb1315b3d12a27b5dcd7b38		
37	2024-07-15 16:37:28.783	+918285200452		bceeb19c-6c25-435b-931d-2631a1c94804	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	67150ba13a8d7f3903c8bf65712064c3		
38	2024-07-15 21:06:11.416	+918285200452		5ad1ba2c-807b-4421-b6b0-606ab09cd82	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	088448cddb16279deac23ca788e78d9f		
39	2024-07-15 19:44:36.292	+918285200452		9f5296bc-a4bc-48fb-b7a7-5149797929e4	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	114376637b486f7f99b6cd5bc8d669f		
40	2024-07-15 12:36:42.808	+918285200452		9536ba7c-d00b-40ee-986d-da0da6b5172	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	87fb7ed3ae37ed3686741601e5a5717		

DATA ENGINEER BATCH 4

Mentee: Yovina Silvia

Mentor: Bilal Benefit



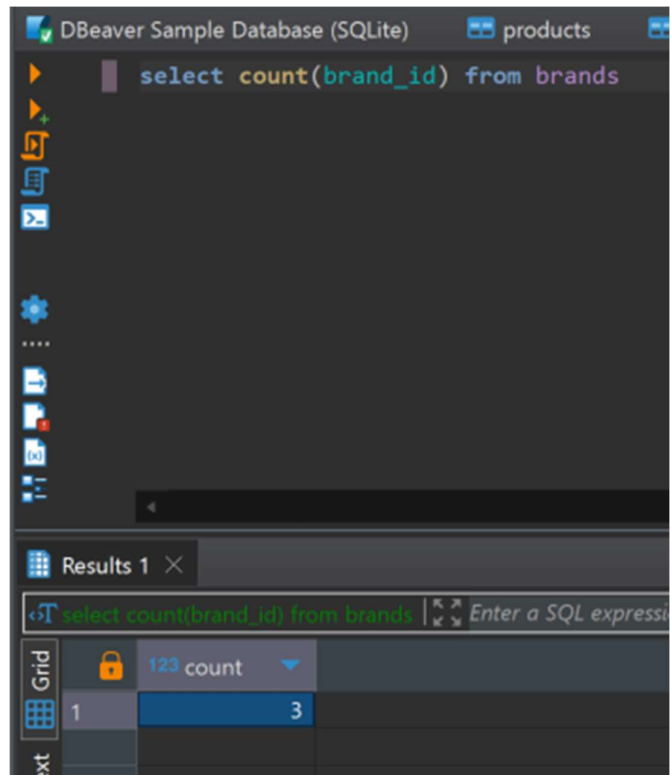
i. Table order_details

DBeaver Sample Database (SQLite) products brands orders order_details										
Properties Data ER Diagram postgres_ingestion Databases store Schemas										
order_details: Enter a SQL expression to filter results (use Ctrl+Space)										
Grid	123 order_detail_id	123 quantity	123 price	123 product_id	123 order_id	123 airbyte_ab_id	123 airbyte_emitted_at	123 airbyte_normalized_at	123 airbyte_order_details_hashid	
1	1	2	1,599.98	1	1	6786e697-a1cc-4370-995b-7fac40a06ad	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	475476d7d5e83e697e8e72849974081a	
2	2	1	699.99	3	2	fd7ee6f0-625a-4ead-8888-c254eae642e6	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	7beaeaa5a1b3394a3ac2d7508efffb4	
3	3	4	3,199.96	1	3	8747305a-5aca-4373-bc20-d45c9192932e	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	1578cf8da36da5ef1099b78e2fc71250	
4	4	2	1,399.98	3	4	1e7a5227-fb05-46f0-a6cd-5d865b39b47d	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	b1bf09ba8a598826a95ed67e302ac54	
5	5	3	2,399.97	1	5	d774b6b7-37d0-4325-9633-456952e400e1	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	06969bcb3a06460438fef521a0a0a59c	
6	6	1	699.99	3	6	906671eb-d78e-4203-8225-9a3d7a316fbb	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	3fef5b8a5e300511b45b29e182c75a98	
7	7	3	1,499.97	4	7	45f65b73-fe52-44c3-a20c-1942dc4b3bfb	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	26a91a66d9d433fc385fc3989a1858a	
8	8	10	6,999.9	3	8	90b9a73a-526f-4246-9c58-aaf4129f7aae	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	a5463f5106150f18c78a3b89a160303e	
9	9	3	2,099.97	3	9	1924f001-4352-4b66-895e-8c38d2f90214	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	7dc384ea22f8c5d7d339207e7e58592e	
10	10	5	3,999.95	1	10	8741915b-fb05-482b-9e21-7f69cc69854f	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	8d7bd0186db7c3a3a6f6e0672c531bed	
11	11	8	3,999.92	4	11	82b3a063-b748-46d6-b2f8-07d89e55b897	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	6f120d9d7bd796c57df08f4d5df0c7aa	
12	12	3	1,499.97	4	12	c0a6e71d-3b9c-421a-acda-e230aee6e36f	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	3614e0e117954ad3cd43c8ddfbef68a22	
13	13	10	4,999.9	4	13	03c39b32-520e-473e-a09a-6e56153f05c8	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	f9ff28396fab6c04c6249d81df0bd304	
14	14	3	3,899.97	2	14	a5f0fae-f483-4e9c-86d5-acf0141718f6	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	e3a8929a450117a64d2abba8494fe8f5	
15	15	4	5,199.96	2	15	a7e27efe-b54c-4aec-9984-eb4c21a27f11	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	6317205b7b31c632457cbf112edf3033	
16	16	9	7,199.91	1	16	49f61e44-7687-41cb-b95c-9fa2f358f716	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	4a111283f4e953ad1687d8ff4812b02f	
17	17	6	4,199.94	3	17	f3d8c553-7738-4616-b2cb-d791effab72f	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	02c89e4bb0b091dfb3a120386be02beb	
18	18	2	1,399.98	3	18	61ecf68b-b22b-45a3-ad79-1270455ff7f7	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	a472e4c13b9e1ec8d016a781d70a37b	
19	19	10	6,999.9	3	19	075a0945-4d5b-450f-951a-3c9dc3ac9f54	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	72d25467f519512a1983acb7388dbc79	
20	20	10	4,999.9	4	20	b13d3043-fc4b-4079-b549-e4f419c248de	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	3a044be1101ecc0a68fde4c2f22a7a14	
21	21	5	3,999.95	1	21	389d80c4-6dc9-4c4f-960c-3be9fa37fd9f	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	916891413abdec8b4d0a175ddbbe0877	
22	22	5	3,499.95	3	22	d59f121d-f225-43b6-98bb-d72011beeda3	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	70cc26adca5d95f1f627a008e7c0f63	
23	23	10	7,999.9	1	23	789e7570-00b9-4910-972f-336b27fa23cb	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	74f676aa689412df25731ba2df55a246	
24	24	4	5,199.96	2	24	6d938fed-92c6-4a8e-b9b6-63c071ed3e39	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	f32b64f886887d446cc4efaca817f42	
25	25	7	9,099.93	2	25	fa3bb59d-eb98-4e50-b66c-c0f47767eca9	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	45e980c253a4f5f0a3d53554a586af81	
26	26	6	4,199.94	3	26	cec3e8b2-1ba7-4905-a5ab-8d65bbd3d2ef	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	f62b26426e6a646f751568f37e56493f	
27	27	8	3,999.92	4	27	20419eee-7235-4811-8653-2bf19f9f1df2	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	da5fe27af075d011734a9895b2102b74	
28	28	3	1,499.97	4	28	0edb2b61-4a8a-44d2-8c2d-32b510dae44a	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	c26c44bb3b9bb00ac7d3d4d328374c2d	
29	29	6	2,999.94	4	29	05aaf2a8-1829-4568-9092-29dabb16ef7a	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	33daba992b9ce1270edd1668ca4e02d0	
30	30	2	2,599.98	2	30	3c49867a-65e1-4045-9936-31d40fa32299	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	c94da447444a411f6ee3add9f15046a2c	
31	31	3	3,899.97	2	31	c8c65872-d50a-4d98-909e-10089a445a44	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	f70ca52fead50cdeb2b359482f45432b	
32	32	4	5,199.96	2	32	db11d40e-ab03-4463-bf80-94fce7bd103f	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	3f004ae9fa7ee8c23093672df25a166a	
33	33	6	2,999.94	4	33	ee910871-b6a1-408b-b3df-267f976a77e1	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	955655b9dda16aede6292e7741c7282	
34	34	10	4,999.9	4	34	365f3255-43d4-42db-8f0d-3aef9af77828	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	68df8b4220f61a6d6e6fd3168fe24f3d	
35	35	5	3,499.95	3	35	fa597c7e-8866-441f-b6f4-473b74b1da73	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	bbfb1ffffc6c17ae0ad0b9970bee5690	
36	36	9	7,199.91	1	36	ec597290-e80b-438e-9dbc-27ad76f706a0	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	cb4f75cac63185541d6f3bc9c4edbcf8	
37	37	3	2,399.97	1	37	b24fcf12-004f-4351-825c-c1791d7222b2	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	0665f731fa13f3f544a77d8e438b4a05	
38	38	8	5,599.92	3	38	1f21bd59-be0d-43e9-8c67-4ee163735ca8	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	ae42f56f7ce9a03ab52ab8007f8a621f	
39	39	4	1,999.96	4	39	45c241e3-cc41-48cd-a40c-52db0d183070	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	d0d165daca43fe05f649694cb07af2d7	
40	40	7	5,599.93	1	40	b3b7b2d3-c55f-489d-845c-e43de9b49301	2024-07-29 18:05:26.136 +0700	2024-07-29 18:05:39.006 +0700	4851004e1edf101b8adf367a2aacbc47	

2. Count the number of rows ingested.

a. Row ingested on table brands

```
select count(brand_id) from brands
```



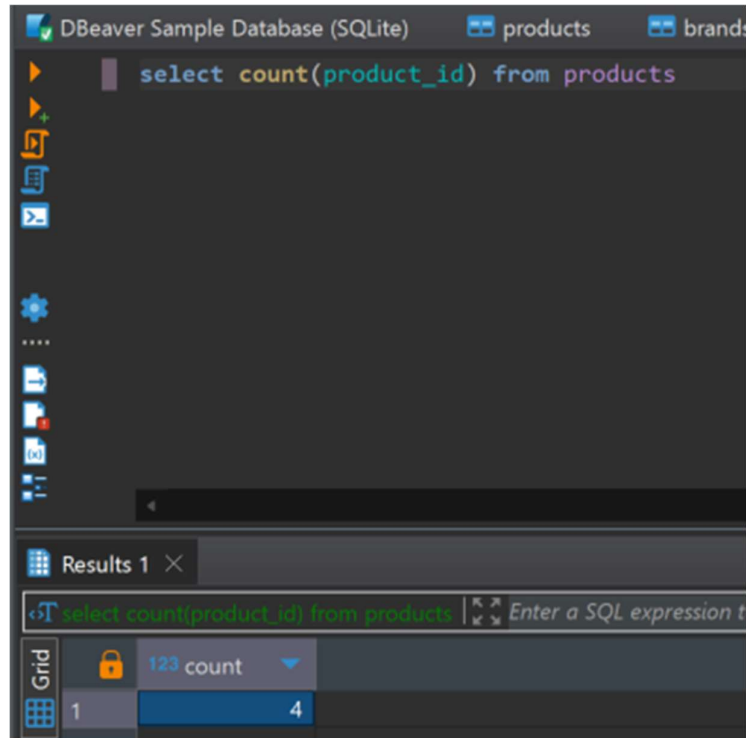
DATA ENGINEER BATCH 4

Mentee: Yovina Silvia

Mentor: Bilal Benefit

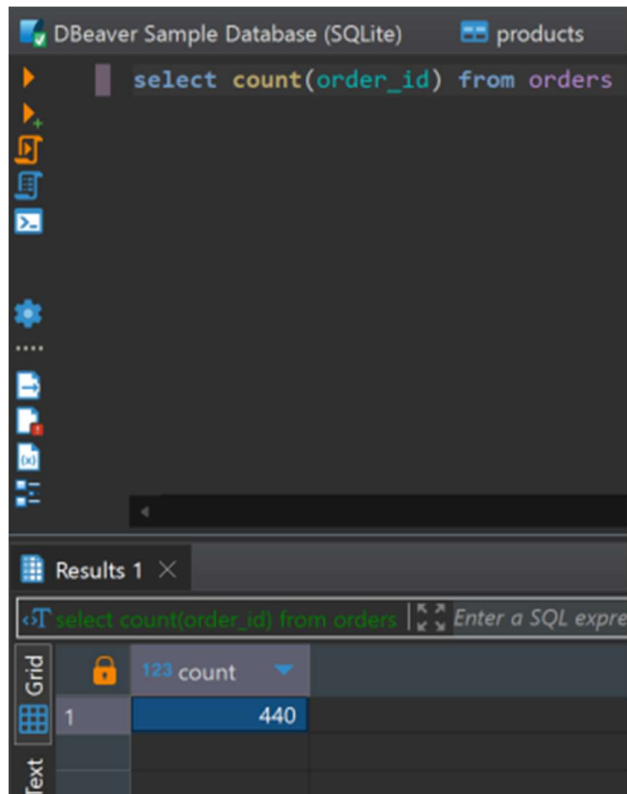
b. Row ingested on table products

```
select count(product_id) from products
```



c. Row ingested on table orders

```
select count(order_id) from orders
```

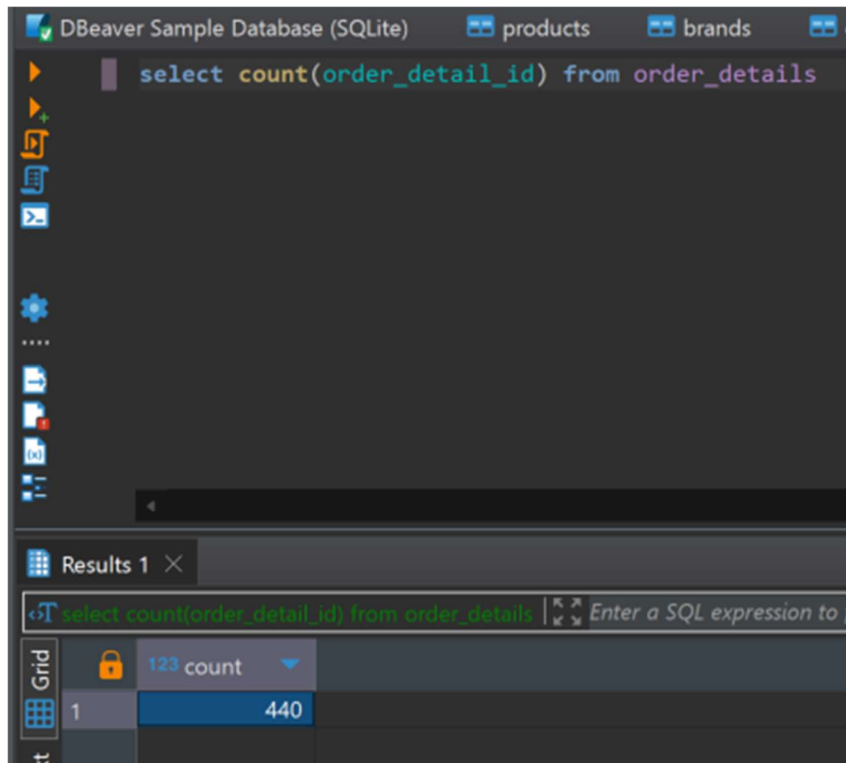


The screenshot shows the DBeaver SQL editor interface. The top toolbar includes icons for running queries, saving, and other database actions. The main editor area contains the SQL query: `select count(order_id) from orders`. Below the editor, the 'Results' panel is visible, showing the execution of the query. The results are displayed in a table with one row and one column, showing the count of rows in the 'orders' table.

Grid	123 count
1	440

d. Row ingested on table order_details

```
select count(order_detail_id) from order_details
```



The screenshot shows the DBeaver SQL editor interface. The top toolbar includes icons for running queries, saving, and other database operations. The SQL editor contains the query: `select count(order_detail_id) from order_details`. Below the editor, the 'Results 1' pane displays the query results in a grid format. The grid has two columns: 'count' and '440'. The first row shows the result of the count query.

Grid	count
1	440