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MySQL 9.3 Command Line Cli  x  +  v

Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 17
Server version: 9.3.0 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> -- 1. Create a new database
Query OK, 0 rows affected (0.007 sec)

mysql> CREATE DATABASE ecommerce;
Query OK, 1 row affected (0.414 sec)

mysql>
mysql> -- 2. Switch to using the database
Query OK, 0 rows affected (0.004 sec)

mysql> USE ecommerce;
Database changed
mysql>
mysql> -- Now you can create tables, insert data, etc.
Query OK, 0 rows affected (0.003 sec)

mysql> -- Drop tables if they exist (optional, helps reset)
Query OK, 0 rows affected (0.006 sec)

mysql> DROP TABLE IF EXISTS order_items;
Query OK, 0 rows affected, 1 warning (0.112 sec)

mysql> DROP TABLE IF EXISTS orders;
Query OK, 0 rows affected, 1 warning (0.035 sec)

mysql> DROP TABLE IF EXISTS products;
Query OK, 0 rows affected, 1 warning (0.036 sec)

mysql> DROP TABLE IF EXISTS customers;
Query OK, 0 rows affected, 1 warning (0.037 sec)
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mysql>
mysql> -- Create customers table
Query OK, 0 rows affected (0.006 sec)

mysql> CREATE TABLE customers (
->  customer_id INT PRIMARY KEY,
->  name VARCHAR(50),
->  email VARCHAR(100),
->  country VARCHAR(50)
-> );
Query OK, 0 rows affected (0.329 sec)

mysql>
mysql> -- Insert data into customers
Query OK, 0 rows affected (0.006 sec)

mysql> INSERT INTO customers (customer_id, name, email, country) VALUES
-> (1, 'Alice', 'alice@email.com', 'USA'),
-> (2, 'Bob', 'bob@email.com', 'Canada'),
-> (3, 'Charlie', 'charlie@email.com', 'India');
Query OK, 3 rows affected (0.071 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql>
mysql> -- Create products table
Query OK, 0 rows affected (0.006 sec)

mysql> CREATE TABLE products (
->  product_id INT PRIMARY KEY,
->  product_name VARCHAR(100),
->  category VARCHAR(50),
->  price DECIMAL(10, 2)
-> );
Query OK, 0 rows affected (0.264 sec)

mysql>
mysql> -- Insert data into products
Query OK, 0 rows affected (0.004 sec)
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mysql> INSERT INTO products (product_id, product_name, category, price) VALUES
-> (101, 'Laptop', 'Electronics', 800.00),
-> (102, 'Smartphone', 'Electronics', 500.00),
-> (103, 'Book', 'Stationery', 30.00),
-> (104, 'Headphones', 'Accessories', 100.00);
Query OK, 4 rows affected (0.107 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql>
mysql> -- Create orders table
Query OK, 0 rows affected (0.005 sec)

mysql> CREATE TABLE orders (
-> order_id INT PRIMARY KEY,
-> customer_id INT,
-> order_date DATE,
-> total_amount DECIMAL(10, 2),
-> FOREIGN KEY (customer_id) REFERENCES customers(customer_id)
-> );
Query OK, 0 rows affected (0.571 sec)

mysql>
mysql> -- Insert data into orders
Query OK, 0 rows affected (0.005 sec)

mysql> INSERT INTO orders (order_id, customer_id, order_date, total_amount) VALUES
-> (1001, 1, '2024-06-01', 1300.00),
-> (1002, 2, '2024-06-02', 500.00),
-> (1003, 3, '2024-06-03', 30.00),
-> (1004, 1, '2024-06-04', 100.00);
Query OK, 4 rows affected (0.054 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql>
mysql> -- Create order_items table
Query OK, 0 rows affected (0.003 sec)
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mysql> CREATE TABLE order_items (
->   item_id INT PRIMARY KEY,
->   order_id INT,
->   product_id INT,
->   quantity INT,
->   price DECIMAL(10, 2),
->   FOREIGN KEY (order_id) REFERENCES orders(order_id),
->   FOREIGN KEY (product_id) REFERENCES products(product_id)
-> );
Query OK, 0 rows affected (0.665 sec)

mysql>
mysql> -- Insert data into order_items
Query OK, 0 rows affected (0.011 sec)

mysql> INSERT INTO order_items (item_id, order_id, product_id, quantity, price) VALUES
-> (1, 1001, 101, 1, 800.00),
-> (2, 1001, 102, 1, 500.00),
-> (3, 1002, 102, 1, 500.00),
-> (4, 1003, 103, 1, 30.00),
-> (5, 1004, 104, 1, 100.00);
Query OK, 5 rows affected (0.053 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
mysql> SHOW TABLES;
+-----+
| Tables_in_ecommerce |
+-----+
| customers            |
| order_items          |
| orders               |
| products              |
+-----+
4 rows in set (0.434 sec)
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mysql> SELECT * FROM customers
-> WHERE country = 'India';
+-----+-----+-----+-----+
| customer_id | name   | email           | country |
+-----+-----+-----+-----+
|          3 | Charlie | charlie@email.com | India   |
+-----+-----+-----+-----+
1 row in set (0.271 sec)

mysql>
mysql> -- b. List all products under Electronics category
Query OK, 0 rows affected (0.006 sec)

mysql> SELECT * FROM products
-> WHERE category = 'Electronics';
+-----+-----+-----+-----+
| product_id | product_name | category   | price |
+-----+-----+-----+-----+
|         101 | Laptop       | Electronics | 800.00 |
|         102 | Smartphone   | Electronics | 500.00 |
+-----+-----+-----+-----+
2 rows in set (0.033 sec)

mysql>
mysql> -- c. Get all orders placed after June 1, 2024
Query OK, 0 rows affected (0.006 sec)

mysql> SELECT * FROM orders
-> WHERE order_date > '2024-06-01'
-> ORDER BY order_date ASC;
+-----+-----+-----+-----+
| order_id | customer_id | order_date | total_amount |
+-----+-----+-----+-----+
|      1002 |          2 | 2024-06-02 |          500.00 |
|      1003 |          3 | 2024-06-03 |           30.00 |
|      1004 |          1 | 2024-06-04 |          100.00 |
+-----+-----+-----+-----+
3 rows in set (0.037 sec)
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mysql>
mysql>
mysql> -- a. Show orders with customer names
Query OK, 0 rows affected (0.015 sec)

mysql> SELECT o.order_id, c.name, o.order_date, o.total_amount
-> FROM orders o
-> INNER JOIN customers c ON o.customer_id = c.customer_id;
+-----+-----+-----+-----+
| order_id | name  | order_date | total_amount |
+-----+-----+-----+-----+
| 1001 | Alice | 2024-06-01 | 1300.00 |
| 1004 | Alice | 2024-06-04 | 100.00 |
| 1002 | Bob   | 2024-06-02 | 500.00 |
| 1003 | Charlie | 2024-06-03 | 30.00 |
+-----+-----+-----+-----+
4 rows in set (0.013 sec)

mysql>
mysql> -- b. Show order items with product names and customer names
Query OK, 0 rows affected (0.005 sec)

mysql> SELECT oi.item_id, c.name AS customer_name, p.product_name, oi.quantity, oi.price
-> FROM order_items oi
-> JOIN orders o ON oi.order_id = o.order_id
-> JOIN customers c ON o.customer_id = c.customer_id
-> JOIN products p ON oi.product_id = p.product_id;
+-----+-----+-----+-----+-----+
| item_id | customer_name | product_name | quantity | price |
+-----+-----+-----+-----+-----+
| 1 | Alice | Laptop | 1 | 800.00 |
| 2 | Alice | Smartphone | 1 | 500.00 |
| 5 | Alice | Headphones | 1 | 100.00 |
| 3 | Bob | Smartphone | 1 | 500.00 |
| 4 | Charlie | Book | 1 | 30.00 |
+-----+-----+-----+-----+-----+
5 rows in set (0.010 sec)

mysql> |
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mysql>
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mysql>
mysql> -- a. List customers who spent more than 500 total
Query OK, 0 rows affected (0.008 sec)
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```
mysql> SELECT * FROM customers
-> WHERE customer_id IN (
->   SELECT customer_id
->   FROM orders
->   GROUP BY customer_id
->   HAVING SUM(total_amount) > 500
-> );
```

customer_id	name	email	country
1	Alice	alice@email.com	USA

```
1 row in set (0.277 sec)
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mysql> |
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mysql> -- a. Total revenue
Query OK, 0 rows affected (0.007 sec)

mysql> SELECT SUM(total_amount) AS total_revenue
-> FROM orders;
+-----+
| total_revenue |
+-----+
|      1930.00 |
+-----+
1 row in set (0.257 sec)

mysql>
mysql> -- b. Average order value
Query OK, 0 rows affected (0.004 sec)

mysql> SELECT AVG(total_amount) AS avg_order_value
-> FROM orders;
+-----+
| avg_order_value |
+-----+
|    482.500000 |
+-----+
1 row in set (0.013 sec)

mysql>
mysql> -- c. Revenue by category
Query OK, 0 rows affected (0.007 sec)

mysql> SELECT p.category, SUM(oi.quantity * oi.price) AS revenue
-> FROM order_items oi
-> JOIN products p ON oi.product_id = p.product_id
-> GROUP BY p.category;
+-----+-----+
| category | revenue |
+-----+-----+
| Electronics | 1800.00 |
| Stationery | 30.00 |
| Accessories | 100.00 |
+-----+-----+
3 rows in set (0.019 sec)

mysql>
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3 rows in set (0.019 sec)

mysql>
mysql>
mysql>
mysql> -- Create a view showing customer and their total spend
Query OK, 0 rows affected (0.008 sec)

mysql> CREATE VIEW customer_spending AS
-> SELECT c.customer_id, c.name, SUM(o.total_amount) AS total_spent
-> FROM customers c
-> JOIN orders o ON c.customer_id = o.customer_id
-> GROUP BY c.customer_id, c.name;
Query OK, 0 rows affected (0.326 sec)

mysql>
mysql> -- Query the view
Query OK, 0 rows affected (0.005 sec)

mysql> SELECT * FROM customer_spending;
+-----+-----+-----+
| customer_id | name  | total_spent |
+-----+-----+-----+
| 1           | Alice | 1400.00     |
| 2           | Bob   | 500.00      |
| 3           | Charlie | 30.00       |
+-----+-----+-----+
3 rows in set (0.034 sec)

mysql> |
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```
mysql> CREATE INDEX idx_orders_customer_id ON orders(customer_id);
Query OK, 0 rows affected (0.668 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> CREATE INDEX idx_order_items_order_id ON order_items(order_id);
Query OK, 0 rows affected (0.520 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> CREATE INDEX idx_order_items_product_id ON order_items(product_id);
Query OK, 0 rows affected (0.528 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> SHOW INDEXES FROM orders;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
Index_comment	Visible	Expression										
orders	0	PRIMARY	1	order_id	A	4				BTREE		
orders	1	idx_orders_customer_id	1	customer_id	A	3			YES	BTREE		

```
-----+-----+-----+
2 rows in set (0.182 sec)
```

```
mysql> SHOW INDEXES FROM order_items;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment
Index_comment	Visible	Expression									
order_items	0	PRIMARY	1	item_id	A	5		NULL	NULL	BTREE	
order_items	1	idx_order_items_order_id	1	order_id	A	4		NULL	NULL	BTREE	YES
order_items	1	idx_order_items_product_id	1	product_id	A	4		NULL	NULL	BTREE	YES

```
-----+-----+-----+
3 rows in set (0.113 sec)
```