```
    -> SET end_date = '2024-12-31', is_current = 'N'
    -> WHERE product_id = 'P001' AND is_current = 'Y';
Query OK, 1 row affected (0.017 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> INSERT INTO dim_product (product_id, product_name, category, brand, price, start_date, end_date, is_current)
    -> VALUES ('P001', 'Laptop A', 'Electronics', 'Dell', 750.00, '2025-01-01', NULL, 'Y');
Query OK, 1 row affected (0.002 sec)

mysql> UPDATE dim_customer
    -> SET end_date = '2025-02-28', is_current = 'N'
    -> WHERE customer_id = 'C001' AND is_current = 'Y';
Query OK, 1 row affected (0.001 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> INSERT INTO dim_customer (customer_id, first_name, last_name, city, state, country, start_date, end_date, is_current)
    -> VALUES ('C001', 'John', 'Doe', 'Los Angeles', 'CA', 'USA', '2025-03-01', NULL, 'Y');
Query OK, 1 row affected (0.001 sec)

mysql> INSERT INTO fact_sales (date_key, product_key, customer_key, store_key, quantity_sold, sales_amount, discount_amount)
    -> VALUES (20250305, 3, 2, 1, 1, 750.00, 0.00);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`hospitaldb`.`fact_sales`, CONSTRAINT `fact_sales_ibfk_1
 FOREIGN KEY (`date_key`) REFERENCES `dim_date` (`date_key`))
mysql> SELECT product_id, product_name, price, start_date, end_date, is_current
    -> FROM dim_product
    -> WHERE product_id = 'P001';
+------------+--------------+--------+------------+------------+------------+
| product_id | product_name | price  | start_date | end_date   | is_current |
+------------+--------------+--------+------------+------------+------------+
| P001       | Laptop A     | 800.00 | 2024-01-01 | 2024-12-31 | N          |
| P001       | Laptop A     | 750.00 | 2025-01-01 | 2024-12-31 | N          |
| P001       | Laptop A     | 750.00 | 2025-01-01 | NULL       | Y          |
+------------+--------------+--------+------------+------------+------------+
3 rows in set (0.003 sec)

mysql>
```

```
mysql> SELECT * FROM dim_customer;
+-------------+-------------+------------+-----------+----------+-------+---------+------------+------------+---
| customer_key | customer_id | first_name | last_name | city     | state | country | start_date | end_date   | i
+-------------+-------------+------------+-----------+----------+-------+---------+------------+------------+---
|           1 | C001        | John       | Doe       | New York | NY    | USA     | 2024-01-01 | NULL       | Y
+-------------+-------------+------------+-----------+----------+-------+---------+------------+------------+---
1 row in set (0.000 sec)

mysql> SELECT * FROM dim_store;
+-----------+----------+----------------+----------+-------+--------+
| store_key | store_id | store_name     | city     | state | region |
+-----------+----------+----------------+----------+-------+--------+
|         1 | S001     | Downtown Store | New York | NY    | East   |
+-----------+----------+----------------+----------+-------+--------+
1 row in set (0.000 sec)

mysql> INSERT INTO fact_sales (date_key, product_key, customer_key, store_key, quantity_sold, sales_amount, di
    -> VALUES (20250101, 2, 1, 1, 2, 1500.00, 50.00);
Query OK, 1 row affected (0.002 sec)

mysql> SELECT f.sales_id, d.full_date, p.product_name, c.first_name, s.store_name,
    ->            f.quantity_sold, f.sales_amount, f.discount_amount
    -> FROM fact_sales f
    -> JOIN dim_date d ON f.date_key = d.date_key
    -> JOIN dim_product p ON f.product_key = p.product_key
    -> JOIN dim_customer c ON f.customer_key = c.customer_key
    -> JOIN dim_store s ON f.store_key = s.store_key;
+----------+------------+--------------+------------+----------------+---------------+--------------+---------
| sales_id | full_date  | product_name | first_name | store_name     | quantity_sold | sales_amount | discount
+----------+------------+--------------+------------+----------------+---------------+--------------+---------
|        3 | 2025-01-01 | Laptop A     | John       | Downtown Store |             2 |      1500.00 |
+----------+------------+--------------+------------+----------------+---------------+--------------+---------
1 row in set (0.003 sec)
```

Terminal   Shell   Edit   View   Window   Help

amitprajapati — mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 — ?directConnection=true& TMPDIR=/var/folders/yq/86z_7n5n7yd0gz0bzwk356v

mysql   ...tMS=2000 — ?directConnection=true& TMPDIR=/var/folders/yq/86z_7n5n7yd0gz0bzwk356v

```
forked process: 96440
child process started successfully, parent exiting
 amitprajapati@Amits-MacBook-Air-2 ▶ ~ ▶ mongosh

Current Mongosh Log ID: 69083da8652668e3b9830031
Connecting to:          mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.5.8
Using MongoDB:          7.0.25
Using Mongosh:          2.5.8

For mongosh info see: https://www.mongodb.com/docs/mongodb-shell/

------
   The server generated these startup warnings when booting
   2025-11-03T10:59:06.502+05:30: Access control is not enabled for the database. Read and write access to data and configuration i
ed
   2025-11-03T10:59:06.503+05:30: This server is bound to localhost. Remote systems will be unable to connect to this server. Start
with --bind_ip <address> to specify which IP addresses it should serve responses from, or with --bind_ip_all to bind to all interfa
behavior is desired, start the server with --bind_ip 127.0.0.1 to disable this warning
   2025-11-03T10:59:06.503+05:30: Soft rlimits for open file descriptors too low
------

test> use ecommerceDB

switched to db ecommerceDB
ecommerceDB> db.customers.insertMany([
  {
     customer_id: "C001",
     name: "Amit Sharma",
     email: "amit@example.com",
     phone: "9876543210",
     address: {
       street: "MG Road",
       city: "Mumbai",
       state: "MH",
       zip: "400001"
```

Terminal   Shell   Edit   View   Window   Help

amitprajapati — mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 — ?directConnection=true& TMPDIR=/var/folders/yq/86z_

mysql   ...tMS=2000 — ?directConnection=true& TMPDIR=/var/folders/yq/86z_

```
     name: "Priya Singh",
     email: "priya@example.com",
     phone: "9988776655",
     address: {
       street: "Park Street",
       city: "Kolkata",
       state: "WB",
       zip: "700016"
     }
  }
])

{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('69083dc7652668e3b9830032'),
    '1': ObjectId('69083dc7652668e3b9830033')
  }
}
ecommerceDB> db.products.insertMany([
  {
     product_id: "P001",
     name: "iPhone 15",
     category: "Smartphones",
     price: 79999
  },
  {
     product_id: "P002",
     name: "MacBook Air M3",
     category: "Laptops",
     price: 124999
  }
])
```

```
    order_id: 'O1001',
    customer_id: 'C001',
    order_date: ISODate('2025-10-25T00:00:00.000Z'),
    status: 'Delivered',
    items: [
      { product_id: 'P001', quantity: 1, price: 79999 },
      { product_id: 'P002', quantity: 1, price: 124999 }
    ],
    total_amount: 204998
  }
]
ecommerceDB> db.customers.find({ "address.city": "Mumbai" })
[
  [
    {
      _id: ObjectId('69083dc7652668e3b9830032'),
      customer_id: 'C001',
      name: 'Amit Sharma',
      email: 'amit@example.com',
      phone: '9876543210',
      address: { street: 'MG Road', city: 'Mumbai', state: 'MH', zip: '400001' }
    }
  ]
]
ecommerceDB> db.products.find({ price: { $gt: 100000 } })
[
  [
    {
      _id: ObjectId('69083dcc652668e3b9830035'),
      product_id: 'P002',
      name: 'MacBook Air M3',
      category: 'Laptops',
      price: 124999
    }
  ]
]
ecommerceDB>
```

```
    customer_id: 'C001',
    order_date: ISODate('2025-10-25T00:00:00.000Z'),
    status: 'Delivered',
    items: [
      { product_id: 'P001', quantity: 1, price: 79999 },
      { product_id: 'P002', quantity: 1, price: 124999 }
    ],
    total_amount: 204998
  },
  {
    _id: ObjectId('69083dd1652668e3b9830037'),
    order_id: 'O1002',
    customer_id: 'C002',
    order_date: ISODate('2025-10-26T00:00:00.000Z'),
    status: 'Pending',
    items: [ { product_id: 'P001', quantity: 2, price: 159998 } ],
    total_amount: 159998
  }
]
ecommerceDB> db.orders.find({ customer_id: "C001" }).pretty()
```