



МУИС-ХШУИС-МКУТ
ӨГӨГДЛИЙН САНГИЙН СИСТЕМ
8. Embedded SQL

Сонгож авсан систем: кино театр (tables)

-- Table: movies

```
CREATE TABLE movies (  
  movie_id SERIAL PRIMARY KEY,  
  title VARCHAR(100) NOT NULL,  
  release_year INTEGER NOT NULL,  
  genre VARCHAR(50) NOT NULL
```

```
);
```

-- Table: theaters

```
CREATE TABLE theaters (  
  theater_id SERIAL PRIMARY KEY,  
  NAME VARCHAR(100) NOT NULL,  
  location VARCHAR(100) NOT NULL
```

```
);
```

-- Table: showtimes

```
CREATE TABLE showtimes (  
  showtime_id SERIAL PRIMARY KEY,  
  movie_id INTEGER NOT NULL,  
  theater_id INTEGER NOT NULL,  
  showtime TIMESTAMP NOT NULL
```

```
);
```

```
-- Table: tickets
```

```
`tickets`
```

```
-- Table: customers
```

```
CREATE TABLE customers (
```

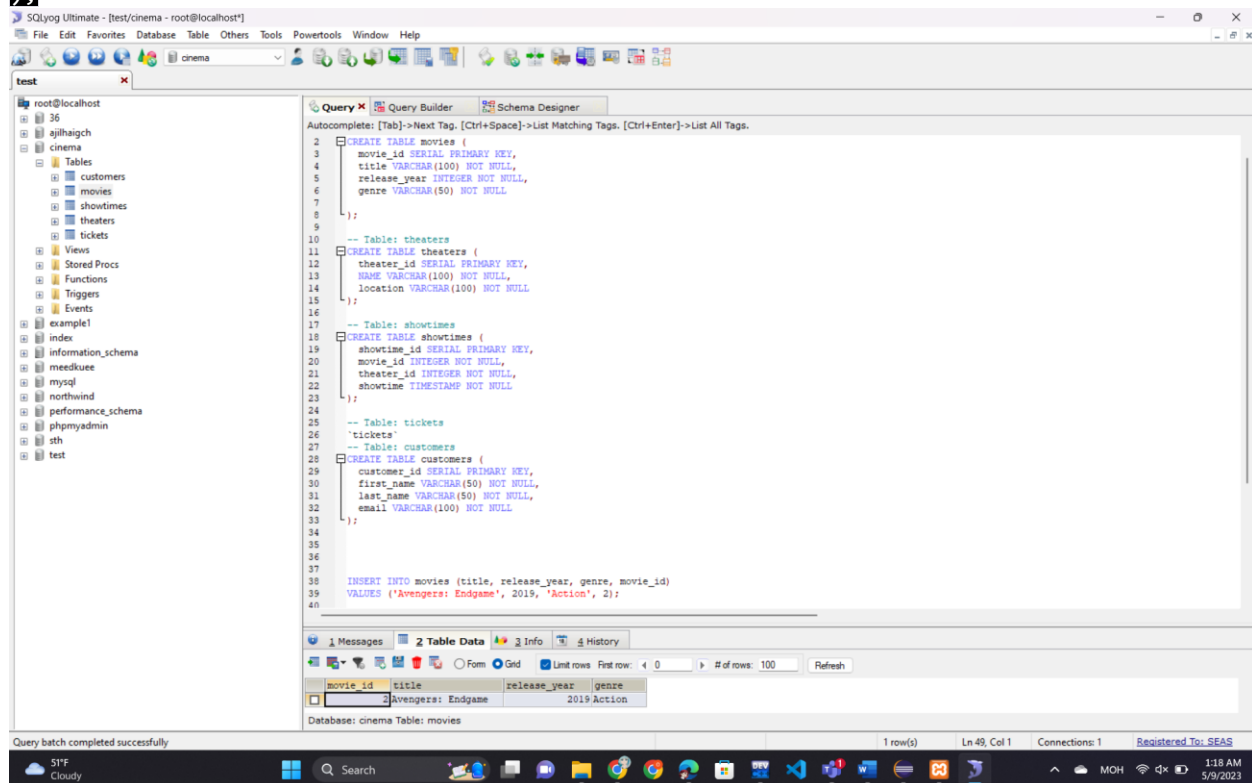
```
customer_id SERIAL PRIMARY KEY,
```

```
first_name VARCHAR(50) NOT NULL,
```

```
last_name VARCHAR(50) NOT NULL,
```

```
email VARCHAR(100) NOT NULL
```

```
);
```



Хүснэгтэд утга оноов.

```
INSERT INTO movies (title, release_year, genre, movie_id)
```

```
VALUES ('Avengers: Endgame', 2019, 'Action', 2);
```

```
INSERT INTO theaters (theater id, NAME, location)
```

```
VALUES ('1', 'urguu', 'shangrila');
```

```
INSERT INTO showtimes (showtime id, movie id, theater id, showtime )
```

```
VALUES (3, 2, 1, '2038-01-19 03:14:07');
```

Хүснэгтээ утгаа устгав.

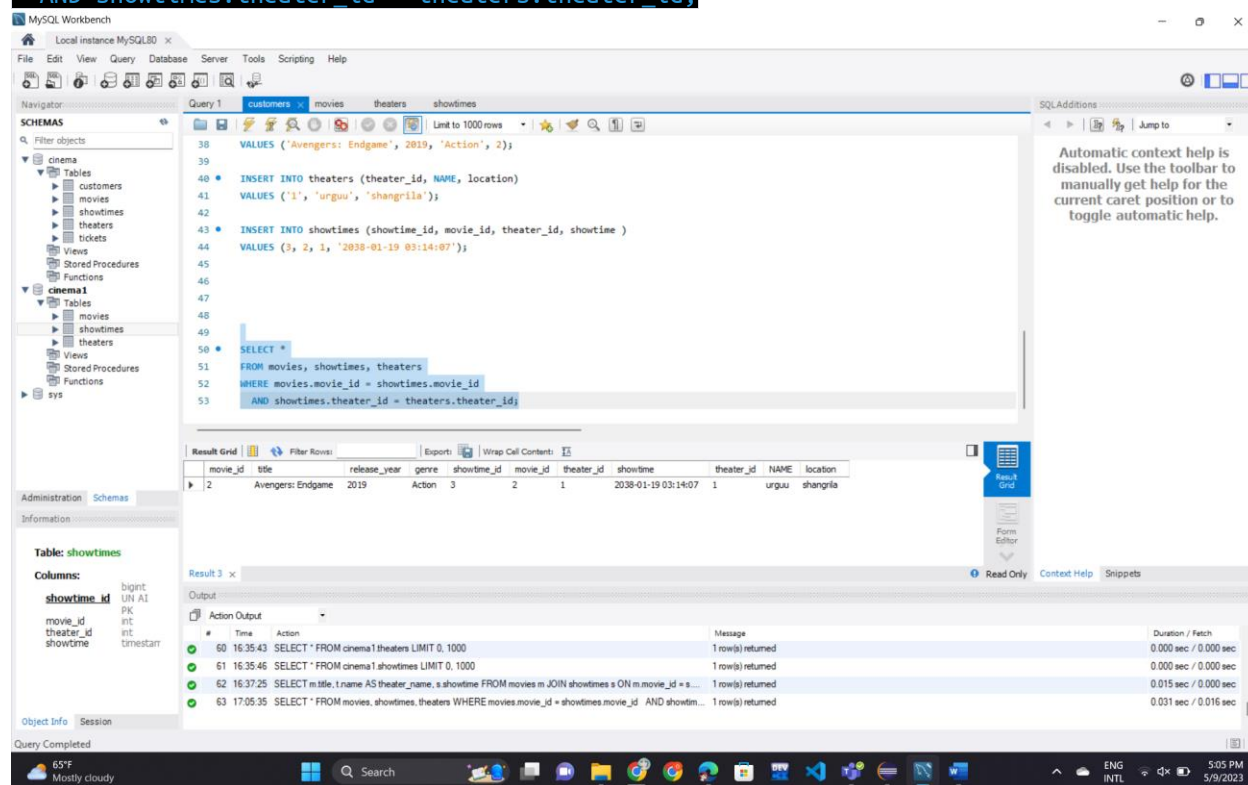
```
DELETE FROM movies
WHERE genre = 'Action';
```

Хүснэгтээ өөрчлөв.

```
UPDATE movies
SET release_year = 2021
WHERE movie_id = 2;
```

3 хүснэгт select-лэв

```
SELECT *
FROM movies, showtimes, theaters
WHERE movies.movie_id = showtimes.movie_id
AND showtimes.theater_id = theaters.theater_id;
```



Embedded sql үндсэн код

```
import java.sql.*;

public class DatabaseSystemTask {

    // JDBC driver нэр болон өгөгдлийн сангийн URL
    static final String JDBC_DRIVER = "com.mysql.cj.jdbc.Driver";
    static final String DB_URL = "jdbc:mysql://localhost:3306/cinema";
```

```
// Database credentials
static final String USER = "root";
static final String PASS = "oyul2345";
```

```
public static void main(String[] args) {
    Connection conn = null;
    Statement stmt = null;
    try {
        // STEP 1: бүртгүүлнэ JDBC driver
        Class.forName(JDBC_DRIVER);
```

```
        // STEP 2: нээгээд холбогдно
        System.out.println("Connecting to the database...");
        conn = DriverManager.getConnection(DB_URL, USER, PASS);
```

```
        // STEP 3: statement үүсгэнэ
        System.out.println("Creating statement...");
        stmt = conn.createStatement();
```

```
        // STEP 4: query ийг ажиллуулна
        String sqlQuery = "SELECT *" +
            " FROM movies, showtimes, theaters " +
            " WHERE movies.movie_id = showtimes.movie_id
            AND showtimes.theater_id = theaters.theater_id;
        ResultSet resultSet = stmt.executeQuery(sqlQuery);
```

```
        // STEP 5: үр дүнг оноох үйл явц
        while (resultSet.next()) {
            String movieTitle = resultSet.getString("title");
            String theaterName = resultSet.getString("theater_name");
            Timestamp showtime = resultSet.getTimestamp("showtime");
```

```
            System.out.println("Movie Title: " + movieTitle);
            System.out.println("Theater Name: " + theaterName);
            System.out.println("Showtime: " + showtime);
            System.out.println("-----");
        }
```

```
        // STEP 6: resources ийг хаана
        resultSet.close();
```

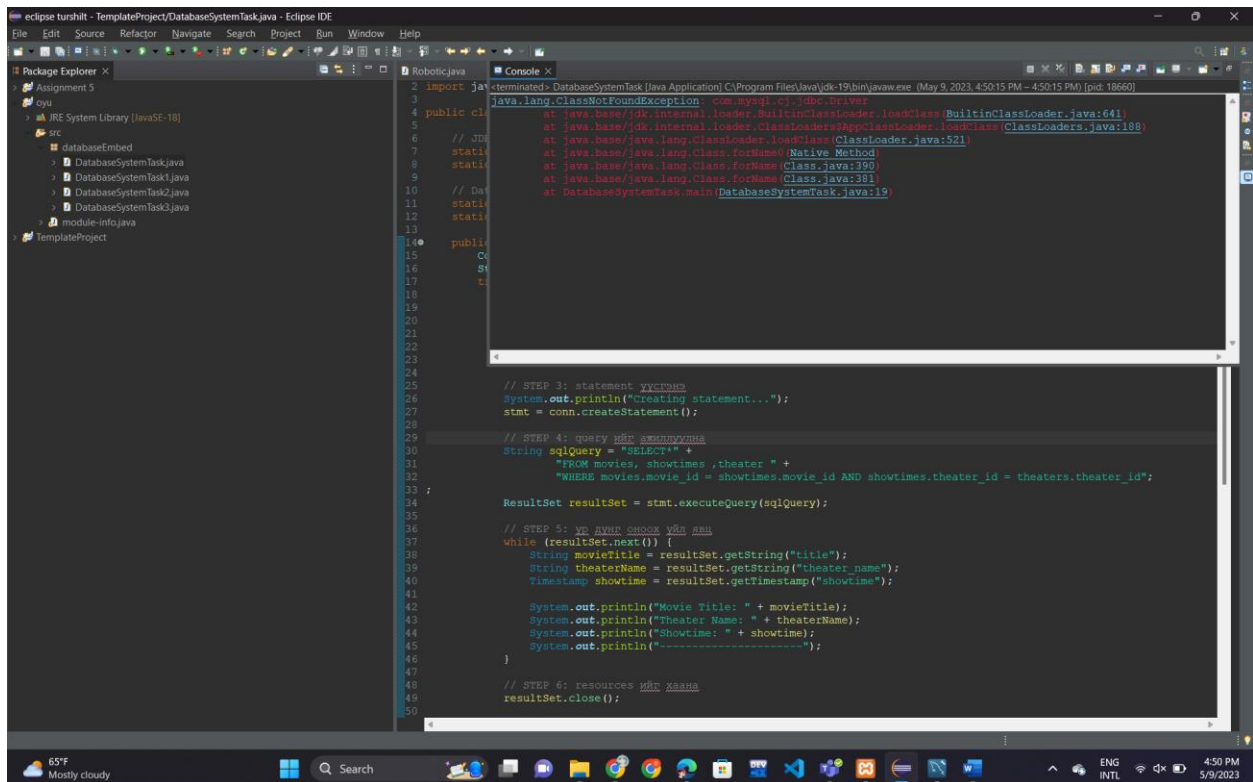
```
        resultSet.close();
        stmt.close();
        conn.close();
```

```
    } catch (SQLException se) {
        // Handle errors for JDBC
        se.printStackTrace();
    } catch (Exception e) {
        // Handle errors for Class.forName
        e.printStackTrace();
    } finally {
        // Finally block used to close resources
        try {
            if (stmt != null)
```

```

        stmt.close();
    } catch (SQLException se2) {
        // няцаана
    }
    try {
        if (conn != null)
            conn.close();
    } catch (SQLException se) {
        se.printStackTrace();
    }
}
}} ерөнхий ийм бичиглэлтэй бна

```



Алдаа заав.