

Database Security practical
(IT 252)



Btech/22/10/14

```

C:\xampp> XAMPP for Windows - mysql -h localhost -u root -p

Setting environment for using XAMPP for Windows.
user@DESKTOP-LBIGAU9 c:\xampp
# mysql -h localhost -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> CREATE DATABASE example_db;
Query OK, 1 row affected (0.001 sec)

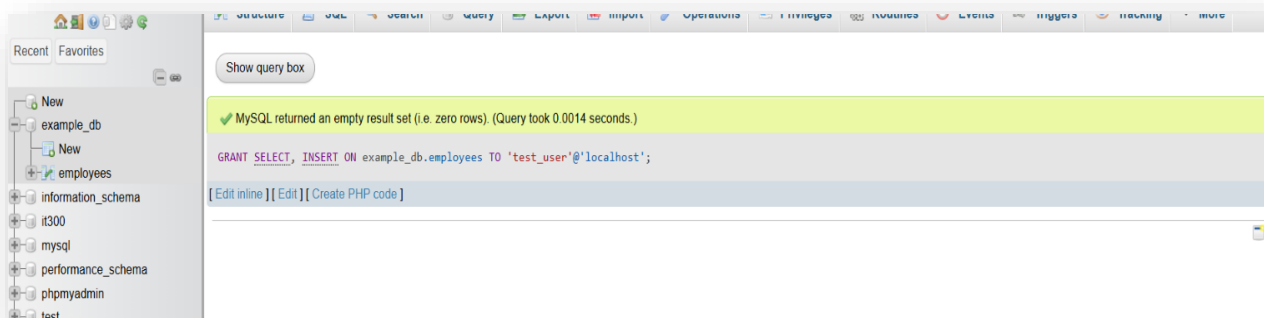
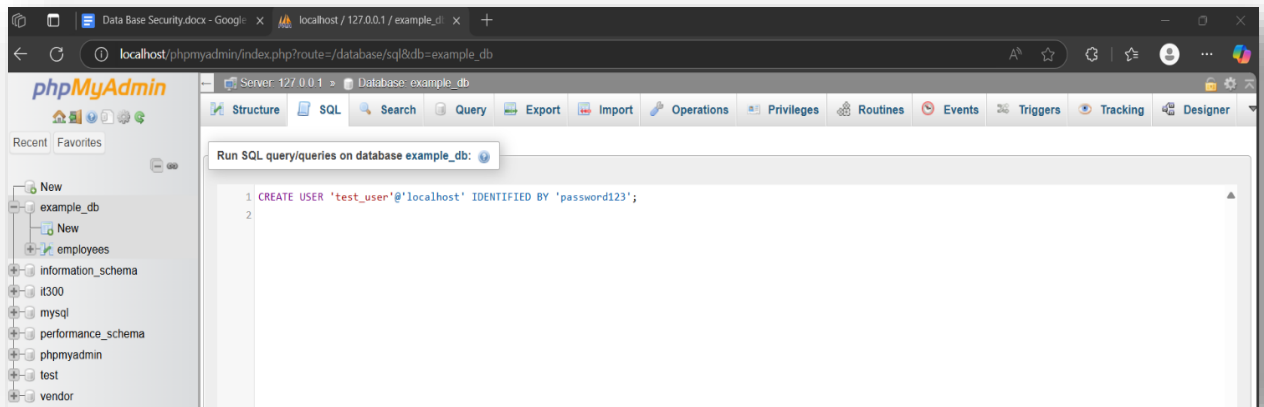
MariaDB [(none)]> USE example_db;
Database changed
MariaDB [example_db]> CREATE TABLE employees (
  ->   employee_id INT AUTO_INCREMENT PRIMARY KEY,
  ->   first_name VARCHAR(50),
  ->   last_name VARCHAR(50),
  ->   email VARCHAR(100),
  ->   hire_date DATE
  -> );
Query OK, 0 rows affected (0.015 sec)

MariaDB [example_db]>

```

The screenshot shows the phpMyAdmin web interface in a browser. The address bar indicates the URL is `localhost/phpmyadmin/index.php?route=/database/structure&db=example_db`. The interface is for the 'example_db' database, and the 'Structure' tab is selected. A sidebar on the left shows the database structure, including 'example_db' and its tables. The main area displays the structure of the 'employees' table, which has 1 table and a sum of 0 rows. The table columns are: employee_id (INT, AUTO_INCREMENT, PRIMARY KEY), first_name (VARCHAR(50)), last_name (VARCHAR(50)), email (VARCHAR(100)), and hire_date (DATE). The table is using the InnoDB engine with the utf8mb4_general_ci collation. The size of the table is 16.0 KiB, and the overhead is 0 B.

Table	Action	Rows	Type	Collation	Size	Overhead
employees	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
1 table	Sum	0	InnoDB	utf8mb4_general_ci	16.0 KiB	0 B



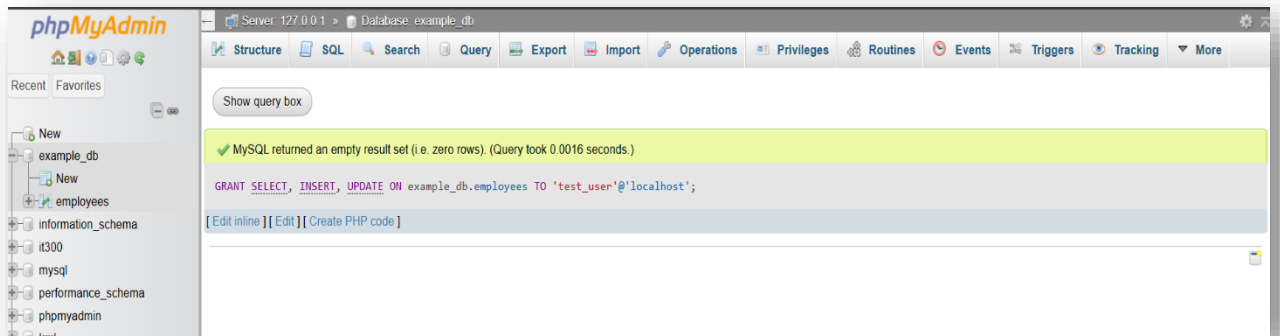
```
Setting environment for using XAMPP for Windows.
user@DESKTOP-LB1GAU9 c:\xampp
# mysql -u test_user -p
Enter password: *****
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 425
Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> use example_db;
Database changed
MariaDB [example_db]> INSERT INTO employees (first_name, last_name, email, hire_date)
-> VALUES ('Malintha', 'Rukshan', 'ruki.d@yahoo.com', '2025-02-21');
Query OK, 1 row affected (0.010 sec)

MariaDB [example_db]>
```



```
Setting environment for using XAMPP for Windows.
user@DESKTOP-LBIGAU9 c:\xampp
# mysql -u test_user -p
Enter password: *****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 425
Server version: 10.4.32-MariaDB mariadb.org binary distribution

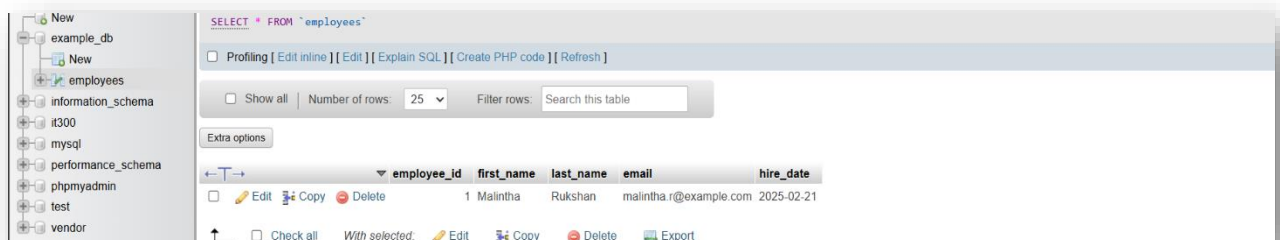
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> use example_db;
Database changed
MariaDB [example_db]> INSERT INTO employees (first_name, last_name, email, hire_date)
-> VALUES ('Malintha', 'Rukshan', 'ruki.d2@yahoo.com', '2025-02-21');
Query OK, 1 row affected (0.010 sec)

MariaDB [example_db]> UPDATE employees
-> SET email = 'malintha.r@example.com'
-> WHERE first_name = 'Malintha' AND last_name = 'Rukshan';
Query OK, 1 row affected (0.011 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [example_db]>
```



The screenshot shows the phpMyAdmin interface. On the left, a tree view displays the database structure: 'example_db' contains a 'New' table with an 'employees' column. Other databases listed are 'information_schema', 'it300', 'mysql', and 'performance_schema'. The main panel on the right shows a green success message: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0014 seconds.)'. Below this, the executed SQL query is displayed: 'REVOKE UPDATE ON example_db.employees FROM 'test_user'@'localhost';'. At the bottom of the query area, there are links: '[Edit inline] [Edit] [Create PHP code]'.

The screenshot shows the phpMyAdmin interface after executing a 'SHOW GRANTS' query. A warning message at the top states: 'Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.' Below this, a green message says: 'Your SQL query has been executed successfully.' The executed query is 'SHOW GRANTS FOR 'test_user'@'localhost';'. There is a checkbox for 'Profiling' followed by links: '[Edit inline] [Edit] [Create PHP code] [Refresh]'. An 'Extra options' button is also present. The results section, titled 'Grants for test_user@localhost', shows two grant statements: 'GRANT USAGE ON *.* TO 'test_user'@'localhost' IDENT...' and 'GRANT SELECT, INSERT ON 'example_db`.`employees` T...'. The left sidebar shows a different database structure, including 'information_schema', 'it300', 'mysql', 'performance_schema', 'phpmyadmin', 'test', and 'vendor'.