

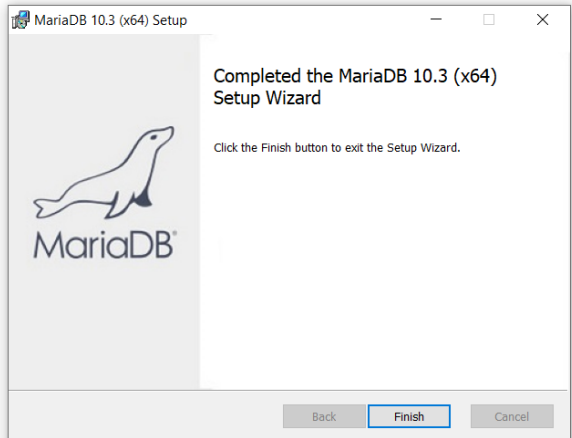
Alla Topp

Lab 3

Installation of MariaDB and testing.

Installed Maria DB below:

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```
Command Prompt (MariaDB 10.3 (x64)) - mysql -u root -p
Setting environment for MariaDB 10.3 (x64)

C:\Windows\system32>mysql -u root -p
Enter password: ****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
Server version: 10.3.15-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)]>
```

Creating and using a database called bookstore with commands:

```
CREATE DATABASE bookstore;
```

```
USE bookstore;
```

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```
Command Prompt (MariaDB 10.3 (x64)) - mysql -u root -p
go      (\g) Send command to mysql server.
help    (\h) Display this help.
notee   (\t) Don't write into outfile.
print   (\p) Print current command.
prompt  (\R) Change your mysql prompt.
quit    (\q) Quit mysql.
rehash  (\#) Rebuild completion hash.
source  (\.) Execute an SQL script file. Takes a file name as an argument.
status  (\s) Get status information from the server.
tee      (\T) Set outfile [to_outfile]. Append everything into given outfile.
use      (\u) Use another database. Takes database name as argument.
charset (\C) Switch to another charset. Might be needed for processing binlog with multi-byte charsets.
warnings (\W) Show warnings after every statement.
nowarning (\w) Don't show warnings after every statement.

For server side help, type 'help contents'

MariaDB [(none)]> create database bookstore;
Query OK, 1 row affected (0.002 sec)

MariaDB [(none)]> use bookstore;
Database changed
MariaDB [bookstore]> CREATE TABLE books (
  -> isbn CHAR(20) PRIMARY KEY,
  -> title VARCHAR(50),
  -> author_id INT,
  -> publisher_id INT,
  -> year_pub CHAR(4),
  -> description TEXT );
Query OK, 0 rows affected (0.833 sec)

MariaDB [bookstore]>
```

After that we create a table called books with next commands:

```
CREATE TABLE books ( isbn CHAR(20) PRIMARY KEY,
title VARCHAR(50),
author_id INT,
publisher_id INT,
year_pub CHAR(4),
description TEXT );
```

Also, we create another table called Authors and then Describe Authors after creating the table.

```
CREATE TABLE authors
(author_id INT AUTO_INCREMENT PRIMARY KEY,
```

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name_last VARCHAR(50),

name_first VARCHAR(50),

country VARCHAR(50));

With the command `describe books;` and `describe authors;` we can see the table output below.

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```
Command Prompt (MariaDB 10.3 (x64)) - mysql -u root -p
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'describe books' at line 1
MariaDB [bookstore]> describe books;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| isbn       | char(20)  | NO   | PRI | NULL    |       |
| title      | varchar(50) | YES  |     | NULL    |       |
| author_id  | int(11)   | YES  |     | NULL    |       |
| publisher_id | int(11)   | YES  |     | NULL    |       |
| year_pub   | char(4)   | YES  |     | NULL    |       |
| description | text      | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.034 sec)

MariaDB [bookstore]> CREATE TABLE authors
-> (author_id INT AUTO_INCREMENT PRIMARY KEY,
-> name_last VARCHAR(50),
-> name_first VARCHAR(50),
-> country VARCHAR(50) );
Query OK, 0 rows affected (0.580 sec)

MariaDB [bookstore]> describe authors;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| author_id  | int(11)   | NO   | PRI | NULL    | auto_increment |
| name_last  | varchar(50) | YES  |     | NULL    |       |
| name_first | varchar(50) | YES  |     | NULL    |       |
| country    | varchar(50) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.031 sec)

MariaDB [bookstore]>
```

Below we can see how we insert some data into tables (authors, books). With command `select * from books;` and `Select * from authors;`

We can see the output table.

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```
Command Prompt (MariaDB 10.3 (x64)) - mysql -u root -p

4 rows in set (0.031 sec)

MariaDB [bookstore]> INSERT INTO authors
-> (name_last, name_first, country)
-> VALUES('Kafka', 'Franz', 'Czech Republic');
Query OK, 1 row affected (0.370 sec)

MariaDB [bookstore]> INSERT INTO books
-> (title, author_id, isbn, year_pub)
-> VALUES('The Castle', '1', '0805211063', '1998');
Query OK, 1 row affected (0.049 sec)

MariaDB [bookstore]> INSERT INTO books
-> (title, author_id, isbn, year_pub)
-> VALUES('The Trial', '1', '0805210407', '1995'),
-> ('The Metamorphosis', '1', '0553213695', '1995'),
-> ('America', '1', '0805210644', '1995');
Query OK, 3 rows affected (0.120 sec)
Records: 3 Duplicates: 0 Warnings: 0

MariaDB [bookstore]>
```

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```
Command Prompt (MariaDB 10.3 (x64)) - mysql -u root -p

MariaDB [bookstore]> select * from books;
+-----+-----+-----+-----+-----+-----+
| isbn      | title           | author_id | publisher_id | year_pub | description |
+-----+-----+-----+-----+-----+-----+
| 0553213695 | The Metamorphosis | 1         | NULL         | 1995     | NULL        |
| 0805210407 | The Trial         | 1         | NULL         | 1995     | NULL        |
| 0805210644 | America          | 1         | NULL         | 1995     | NULL        |
| 0805211063 | The Castle       | 1         | NULL         | 1998     | NULL        |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.000 sec)

MariaDB [bookstore]>
```

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```
Command Prompt (MariaDB 10.3 (x64)) - mysql -u root -p

4 rows in set (0.000 sec)

MariaDB [bookstore]> select * from authors;
+-----+-----+-----+-----+
| author_id | name_last | name_first | country      |
+-----+-----+-----+-----+
| 1         | Kafka    | Franz     | Czech Republic |
+-----+-----+-----+-----+
1 row in set (0.000 sec)

MariaDB [bookstore]>
```

LAB 3 PART 2

Create a table called publishers using the DDL with command shown on the print screen:

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The screenshot shows the DataGrip interface with the following components:

- File Explorer:** Displays the file structure of the 'bookstore' database, including files like authors.frm, authors.ibd, books.frm, books.ibd, db.opt, publishers.frm, and publishers.ibd.
- SQL Editor:** Contains the following SQL code:

```
5 Contact_name_first VARCHAR(50),
6 country VARCHAR(50) );
7
```
- Database Console:** Shows the output of SQL commands:

```
[2019-05-22 16:28:20] Connected
sql> select * from books
[2019-05-22 16:28:21] 4 rows retrieved starting from 1 in 379 ms (execution: 10 ms, fetching:
sql> desc books
[2019-05-22 16:34:05] 6 rows retrieved starting from 1 in 48 ms (execution: 25 ms, fetching: 2
sql> CREATE TABLE publishers
(publisher_id INT AUTO_INCREMENT PRIMARY KEY,
Company_name VARCHAR(50),
Contact_name_last VARCHAR(50),
Contact_name_first VARCHAR(50),
country VARCHAR(50) )
[2019-05-22 16:42:11] completed in 338 ms
```

Then we insert a few new rows of data into the publisher table shown below:

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The screenshot shows the DataGrip interface with the following components:

- SQL Editor:** Contains the following SQL code:

```
1 INSERT INTO publishers
2 (company_name, contact_name_last, Contact_name_first, country)
3 VALUES ('Made-Alot', 'Smith', 'John', 'USA');
4
5 INSERT INTO publishers
6 (company_name, contact_name_last, Contact_name_first, country)
7 VALUES ('New-Guys', 'Jones', 'Fred', 'USA');
```
- Database Console:** Shows the output of the SQL commands:

```
Contact_name_last VARCHAR(50),
Contact_name_first VARCHAR(50),
country VARCHAR(50) )
[2019-05-22 16:43:52] [42S01][1050] (conn=12) Table 'publishers' already exists
sql> INSERT INTO publishers
(company_name, contact_name_last, Contact_name_first, country)
VALUES ('Made-Alot', 'Smith', 'John', 'USA')
[2019-05-22 16:47:23] 1 row affected in 152 ms
sql> INSERT INTO publishers
(company_name, contact_name_last, Contact_name_first, country)
VALUES ('New-Guys', 'Jones', 'Fred', 'USA')
[2019-05-22 16:47:31] 1 row affected in 168 ms
```

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Added two publisher rows.

The screenshot shows the DataGrip interface with a SQL query `select * from publishers;` executed in the console. The results are displayed in a table with 2 rows:

	publisher_id	Company_name	Contact_name_last	Contact_name_first	co
1	1	Made-Alot	Smith	John	USA
2	2	New-Guys	Jones	Fred	USA

Here we enter the foreign key values directly into the book table rows under publisher_id:

The screenshot shows the DataGrip interface with a series of SQL commands executed in the console. The commands are:

```
sql> select * from books
[2019-05-22 16:51:53] 4 rows retrieved starting from 1 in 35 ms (execution: 15 ms, fetching: 20 ms)
sql> UPDATE `bookstore`.`books` t SET t.`publisher_id` = 2 WHERE t.`isbn` LIKE '0805210407' ESCAPE '#'
[2019-05-22 16:53:08] 1 row affected in 15 ms
sql> UPDATE `bookstore`.`books` t SET t.`publisher_id` = 1 WHERE t.`isbn` LIKE '0805210644' ESCAPE '#'
[2019-05-22 16:53:08] 1 row affected in 2 ms
sql> UPDATE `bookstore`.`books` t SET t.`publisher_id` = 2 WHERE t.`isbn` LIKE '0805211063' ESCAPE '#'
[2019-05-22 16:53:08] 1 row affected in 2 ms
sql> UPDATE `bookstore`.`books` t SET t.`publisher_id` = 1 WHERE t.`isbn` LIKE '0553213695' ESCAPE '#'
[2019-05-22 16:53:08] 1 row affected in 7 ms
sql> select * from books
[2019-05-22 16:53:08] 4 rows retrieved starting from 1 in 17 ms (execution: 5 ms, fetching: 12 ms)
```

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Lab 3

You will now join the books table with the authors table and the publishers table.

Please modify this query to include the join to the publishers table. The expected results are shown below. Notice the column aliases in green that I added for Book, author, and publisher.

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Lab 3

The screenshot shows the DataGrip interface with a SQL query in the editor and its results in the Database Console. The query joins the books, authors, and publishers tables. The results table has columns: Book, ISBN, author, and publisher, with 4 rows of data.

```
SELECT b.title Book, b.ISBN, a.name_last author, p.company_name publisher
FROM books b
JOIN authors a USING (author_ID)
JOIN publishers p USING (publisher_id);
```

	Book	ISBN	author	publisher
1	The Metamorphosis	0553213695	Kafka	Made-Alot
2	The Trial	0805210407	Kafka	New-Guys
3	America	0805210644	Kafka	Made-Alot
4	The Castle	0805211063	Kafka	New-Guys

Assignment:

“Your final assignment is to add few more rows to the authors table. Then, change the books table foreign keys to use some of the new authors, but keep one book author as Kafka. You can change the title of the books if you want to or feel free to add new books with a new author and publisher.

Add more columns to query result set for contact_name_last, Contact_name_first and country (country from both author table and publisher table). Create two new column aliases so that you can tell the difference between the author country and publisher country in the result set. Don’t forget the table aliases or you might get an error on the country column since it exists in two different tables.”

On the print screens below I showed how I altered the tables. I added 3 more rows to the authors table (Pushkin, Tolstoy and Wild) then added isbn to those 3 new authors in the books table. I used the same publishers. Then I changed foreign keys, so the information is updated, and we have our new books. I added new book’s names, and their country and year when they were published. For output table I used 1 old author and 3 new authors with new information.

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Lab 3

D:\Users\aleks\Downloads\Programs\console.sql - DataGrip

Edit View Navigate Code Refactor Tools Window Help

Database Consoles > MariaDB - bookstore@localhost > MariaDB - bookstore@localhost [console]

Database MariaDB - bookstore@localhost [console] Programs\console.sql bookstore.authors [Mari]

MariaDB - bookstore@localhost 1 of 5

schemas 1

bookstore

authors

author_id int(11) (auto increment)

name_last varchar(50)

name_first varchar(50)

country varchar(50)

PRIMARY (author_id)

books

isbn char(20)

title varchar(50)

author_id int(11)

publisher_id int(11)

year_pub char(4)

description text

PRIMARY (isbn)

publishers

publisher_id int(11) (auto increment)

Company_name varchar(50)

Contact_name_last varchar(50)

Contact_name_first varchar(50)

country varchar(50)

PRIMARY (publisher_id)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

```
INSERT INTO authors
(name_last, name_first, country)
VALUES('Pushkin', 'Alexander', 'Russia');

INSERT INTO authors
(name_last, name_first, country)
VALUES('Tolstoy', 'Lev', 'Russia');

INSERT INTO authors
(name_last, name_first, country)
VALUES('Wild', 'Oscar', 'England');

INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES('123456', 'War and Peace', '3', '1', '1869', 'empty');

INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES('56789', 'Ruslan and Ludmila', '2', '2', '1820', 'empty');

INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES('28755', 'The Dorian Gray', '4', '2', '1890', 'empty');

Delete from books where isbn = 0553213695;
Delete from books where isbn = 0805210407;
Delete from books where isbn = 0805210644;
```

MariaDB - bookstore@localhost 1 of 5

authors

author_id int(11) (auto increment)

name_last varchar(50)

name_first varchar(50)

country varchar(50)

PRIMARY (author_id)

books

isbn char(20)

title varchar(50)

author_id int(11)

publisher_id int(11)

year_pub char(4)

description text

PRIMARY (isbn)

publishers

publisher_id int(11) (auto increment)

Company_name varchar(50)

Contact_name_last varchar(50)

Contact_name_first varchar(50)

country varchar(50)

PRIMARY (publisher_id)

13

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```
INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES('123456', 'War and Peace', '3', '1', '1869', 'empty');

INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES('56789', 'Ruslan and Ludmila', '2', '2', '1820', 'empty');

INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES('28755', 'The Dorian Gray', '4', '2', '1890', 'empty');

Delete from books where isbn = 0553213695;
Delete from books where isbn = 0805210407;
Delete from books where isbn = 0805210644;

select * from authors;
select * from books;

SELECT b.title Book, b.ISBN, a.name_last author, p.company_name publisher, p.contact_name_last, p.contact_name_first, p.country
FROM books b
JOIN authors a USING (author_id)
JOIN publishers p USING (publisher_id);
```





Database Console: MariaDB - bookstore@localhost [console] bookstore.authors [MariaDB - bookstore@localhost] bookstore.books [MariaDB - bookstore@localhost]

Book	ISBN	author	publisher	contact_name_last	contact_name_first	country	country
1 The Castle	0805211063	Kafka	New-Guys	Jones	Fred	Czech Republic	USA
2 War and Peace	123456	Tolstoy	Made-Alot	Smith	John	Russia	USA
3 The Dorian Gray	28755	Wild	New-Guys	Jones	Fred	England	USA
4 Ruslan and Ludmila	56789	Pushkin	New-Guys	Jones	Fred	Russia	USA







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Q <Filter criteria>

	 author_id	 name_last	 name_first	 country
1	1	Kafka	Franz	Czech Republic
2	2	Pushkin	Alexander	Russia
3	3	Tolstoy	Lev	Russia
4	4	Wild	Oscar	England

Q <Filter criteria>

	 isbn	 title	 author_id	 publisher_id	 year_pub	 description
1	0805211063	The Castle	1	2	1998	<null>
2	123456	War and Peace	3	1	1869	empty
3	28755	The Dorian Gray	4	2	1890	empty
4	56789	Ruslan and Ludmila	2	2	1820	empty