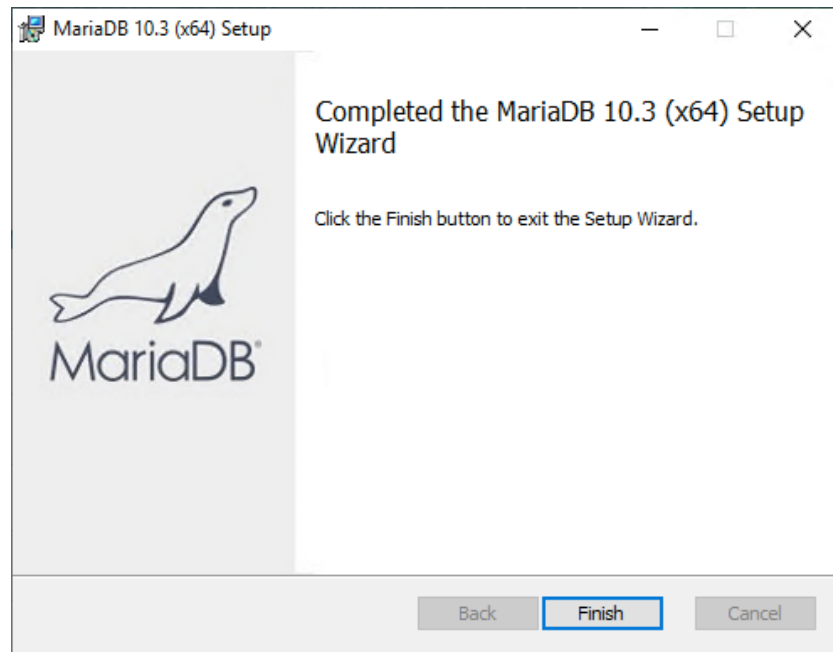


MSDE631 - Lab 3

Etana Disasa

Part 1: Install MariaDB and DataGrip

Installing MariaDB



Testing MariaDB

```
Administrator: 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: 10.3.22-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)]> _
```

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Creating DB

```
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 (0.057 sec)  
  
MariaDB [bookstore]> _
```

```
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 (0.093 sec)  
  
MariaDB [bookstore]> _
```

```
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 (0.038 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 (0.040 sec)  
  
MariaDB [bookstore]> _
```

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Inserting Data

```
MariaDB [bookstore]> INSERT INTO authors
-> (name_last, name_first, country)
-> VALUES('Kafka', 'Franz', 'Czech Republic');
Query OK, 1 row affected (0.008 sec)

MariaDB [bookstore]> INSERT INTO books
-> (title, author_id, isbn, year_pub)
-> VALUES('The Castle', '1', '0805211063', '1998');
Query OK, 1 row affected (0.002 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 (0.002 sec)
Records: 3 Duplicates: 0 Warnings: 0

MariaDB [bookstore]>
```

Verifying the Data Entry

```
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 (0.001 sec)

MariaDB [bookstore]> SELECT * FROM authors;
+-----+-----+-----+-----+
| author_id | name_last | name_first | country |
+-----+-----+-----+-----+
| 1         | Kafka    | Franz     | Czech Republic |
+-----+-----+-----+-----+
1 row in set (0.001 sec)

MariaDB [bookstore]>
```

Joining Table

```
MariaDB [bookstore]> SELECT title AS 'Kafka Books'
-> FROM books
-> JOIN authors USING (author_id)
-> WHERE name_last = 'Kafka';
+-----+
| Kafka Books |
+-----+
| The Metamorphosis |
| The Trial         |
| America          |
| The Castle       |
+-----+
4 rows in set (0.011 sec)

MariaDB [bookstore]>
```

Exiting MariaDB

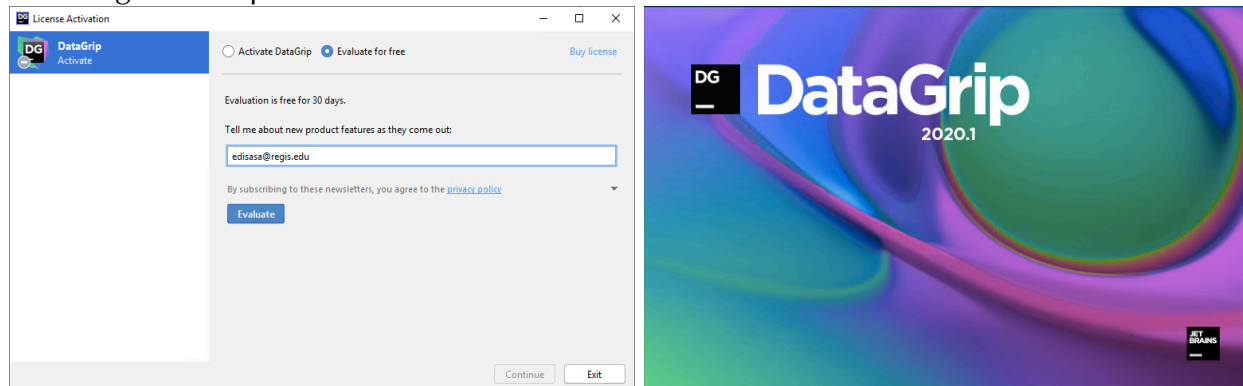
```
MariaDB [bookstore]> quit
Bye

C:\Windows\system32>exit
```

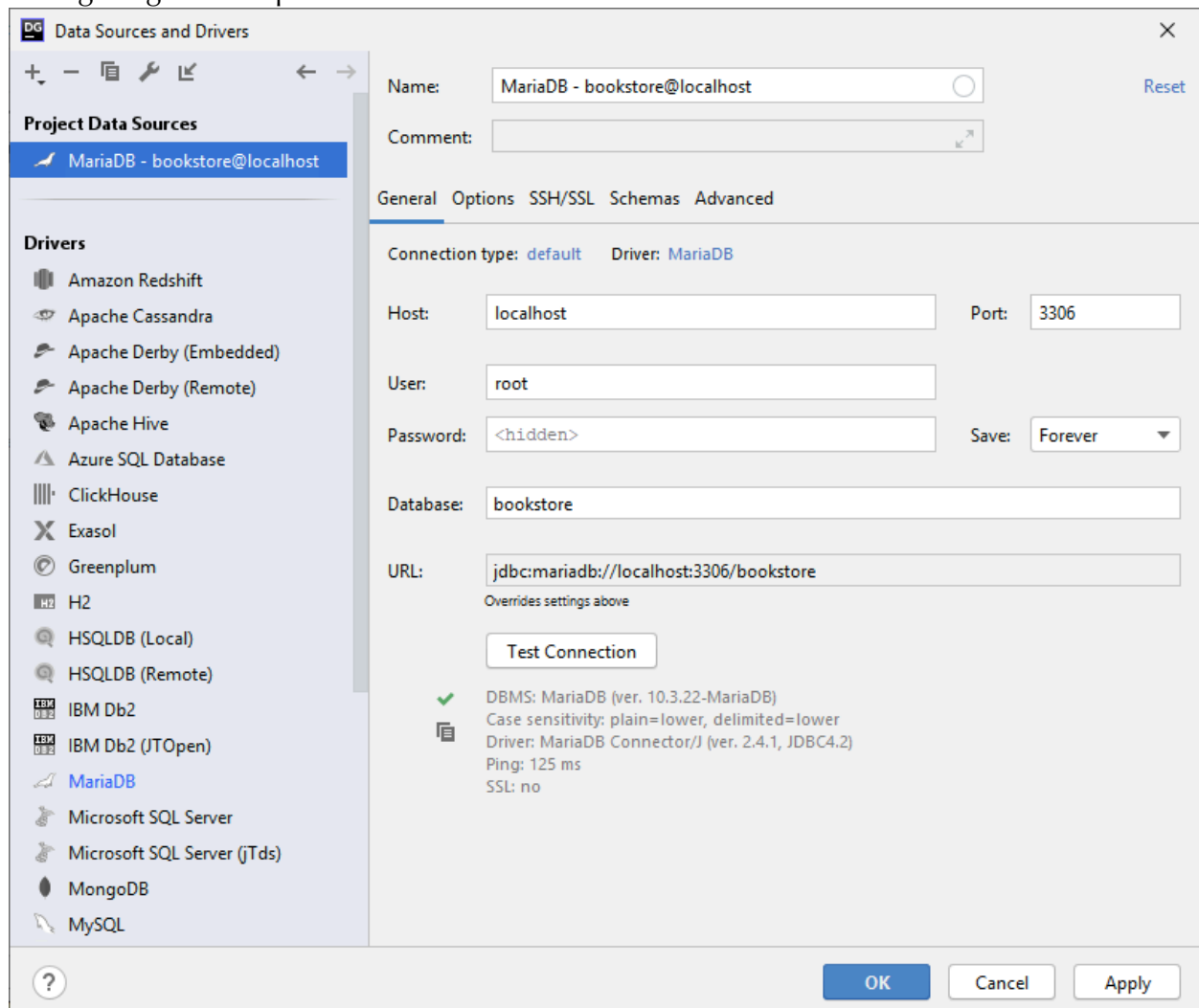
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Installing DataGrip



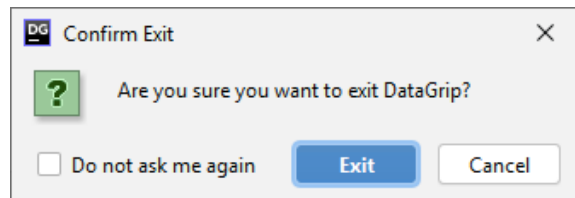
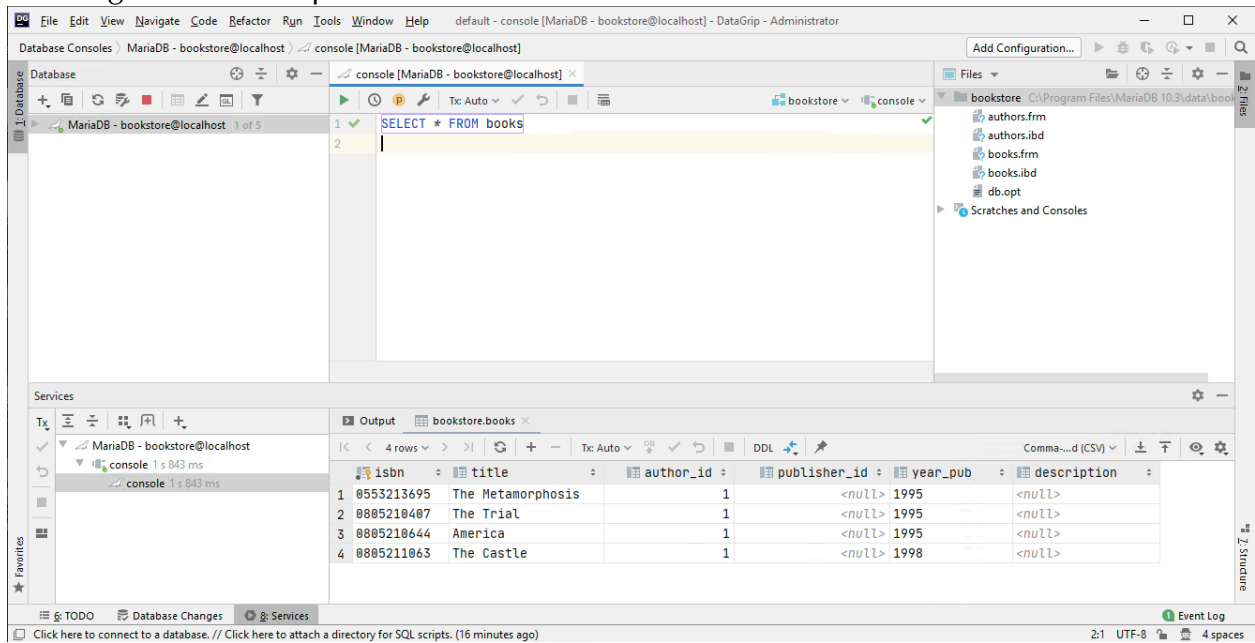
Configuring DataGrip



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Working with DataGrip



END OF PART ONE

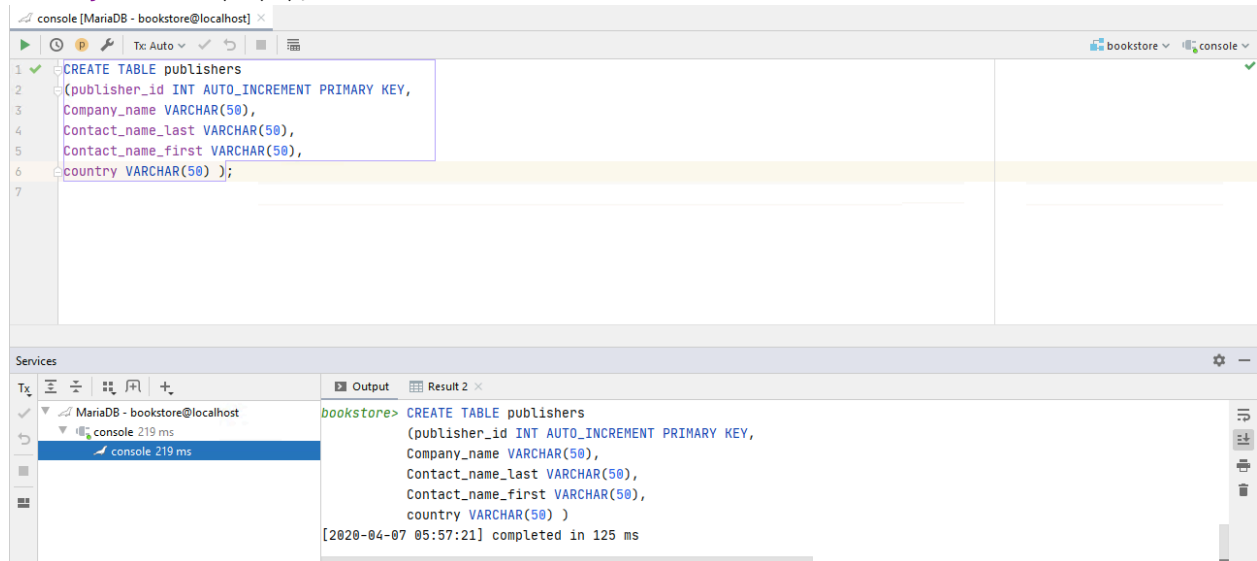
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Part 2: Execute queries using MariaDB

Creating Tables

```
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) );
```



Entering Data

```
INSERT INTO publishers
(company_name, contact_name_last, Contact_name_first, country)
VALUES('Made-Alot', 'Smith', 'John', 'USA');
```

```
INSERT INTO publishers
(company_name, contact_name_last, Contact_name_first, country)
VALUES('New-Guys', 'Jones', 'Fred', 'USA');
```

```
SELECT * FROM publishers;
```

The screenshot shows the 'Output' panel of the MariaDB console displaying the results of the 'SELECT * FROM publishers;' query. The results are shown in a table with 5 columns and 2 rows.

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

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I decided to add an entry “accidentally”. ☺

```
INSERT INTO publishers
(company_name, contact_name_last, Contact_name_first, country)
VALUES('Zondervan', 'Collins', 'Harper', 'USA');
```

	publisher_id	Company_name	Contact_name_last	Contact_name_first	country
1	1	Made-Alot	Smith	John	USA
2	2	New-Guys	Jones	Fred	USA
3	3	Zondervan	Collins	Harper	USA

```
DELETE FROM publishers WHERE publisher_id > 2;
```

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

```
SELECT * FROM books;
```

	isbn	title	author_id	publisher_id	year_pub	description
1	0553213695	The Metamorphosis	1	<null>	1995	<null>
2	0805210407	The Trial	1	<null>	1995	<null>
3	0805210644	America	1	<null>	1995	<null>
4	0805211063	The Castle	1	<null>	1998	<null>

Now, the publisher_id entries have been saved permanently.

	isbn	title	author_id	publisher_id	year_pub	description
1	0553213695	The Metamorphosis	1	1	1995	<null>
2	0805210407	The Trial	1	2	1995	<null>
3	0805210644	America	1	1	1995	<null>
4	0805211063	The Castle	1	2	1998	<null>

```
bookstore> UPDATE bookstore.books t SET t.publisher_id = 1 WHERE t.isbn LIKE '0553213695' ESCAPE '#'
[2020-04-07 06:21:09] 1 row affected in 218 ms
bookstore> UPDATE bookstore.books t SET t.publisher_id = 2 WHERE t.isbn LIKE '0805211063' ESCAPE '#'
[2020-04-07 06:21:09] 1 row affected in 16 ms
bookstore> UPDATE bookstore.books t SET t.publisher_id = 2 WHERE t.isbn LIKE '0805210407' ESCAPE '#'
[2020-04-07 06:21:09] 1 row affected in 0 ms
bookstore> UPDATE bookstore.books t SET t.publisher_id = 1 WHERE t.isbn LIKE '0805210644' ESCAPE '#'
[2020-04-07 06:21:09] 1 row affected in 0 ms
bookstore> SELECT * FROM books
[2020-04-07 06:21:09] 4 rows retrieved starting from 1 in 46 ms (execution: 30 ms, fetching: 16 ms)
```

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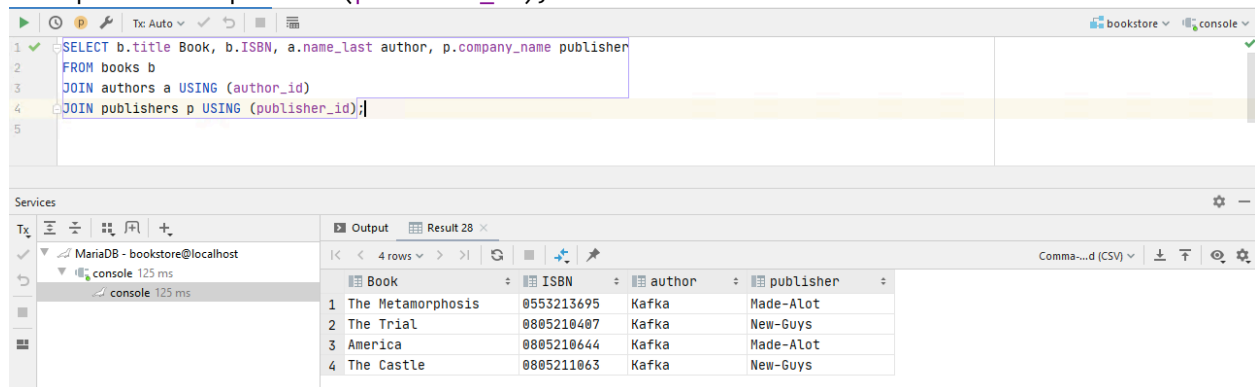
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Problem 1

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.

Solution 1

```
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);
```



The screenshot shows a SQL query editor with the following query:

```
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);
```

The query results are displayed in a table with 4 rows and 4 columns:

	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

Problem 2

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.

Solution 2

Adding more rows

```
INSERT INTO authors
(name_last, name_first, country)
VALUES ('Mengiste', 'Maaza', 'Ethiopia');
```

```
INSERT INTO authors
(name_last, name_first, country)
VALUES ('Farrow', 'Ronan', 'USA');
```

	author_id	name_last	name_first	country
1	1	Kafka	Franz	Czech Republic
2	2	Mengiste	Maaza	Ethiopia
3	3	Farrow	Ronan	USA

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Adding more rows to the books table

```
INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES ('0393083569', 'The Shadow King', '2', '1', '2019', '');
```

```
INSERT INTO books
(isbn, title, author_id, publisher_id, year_pub, description)
VALUES ('0316486637', 'Catch and Kill', '3', '2', '2019', '');
```

```
SELECT * FROM books;
```

	isbn	title	author_id	publisher_id	year_pub	description
1	0316486637	Catch and Kill	3	2	2019	
2	0393083569	The Shadow King: A Novel	2	1	2019	
3	0553213695	The Metamorphosis	1	1	1995	<null>
4	0805210407	The Trial	1	2	1995	<null>
5	0805210644	America	1	1	1995	<null>
6	0805211063	The Castle	1	2	1998	<null>

Changing data in the books table

```
UPDATE books
SET author_id = '2'
WHERE isbn = '0805210644';
UPDATE books
SET author_id = '3'
WHERE isbn = '0805211063';
```

```
SELECT * FROM books;
```

	isbn	title	author_id	publisher_id	year_pub	description
1	0316486637	Catch and Kill	3	2	2019	
2	0393083569	The Shadow King: A Novel	2	1	2019	
3	0553213695	The Metamorphosis	1	1	1995	<null>
4	0805210407	The Trial	1	2	1995	<null>
5	0805210644	America	2	1	1995	<null>
6	0805211063	The Castle	3	2	1998	<null>

Problem 3

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.

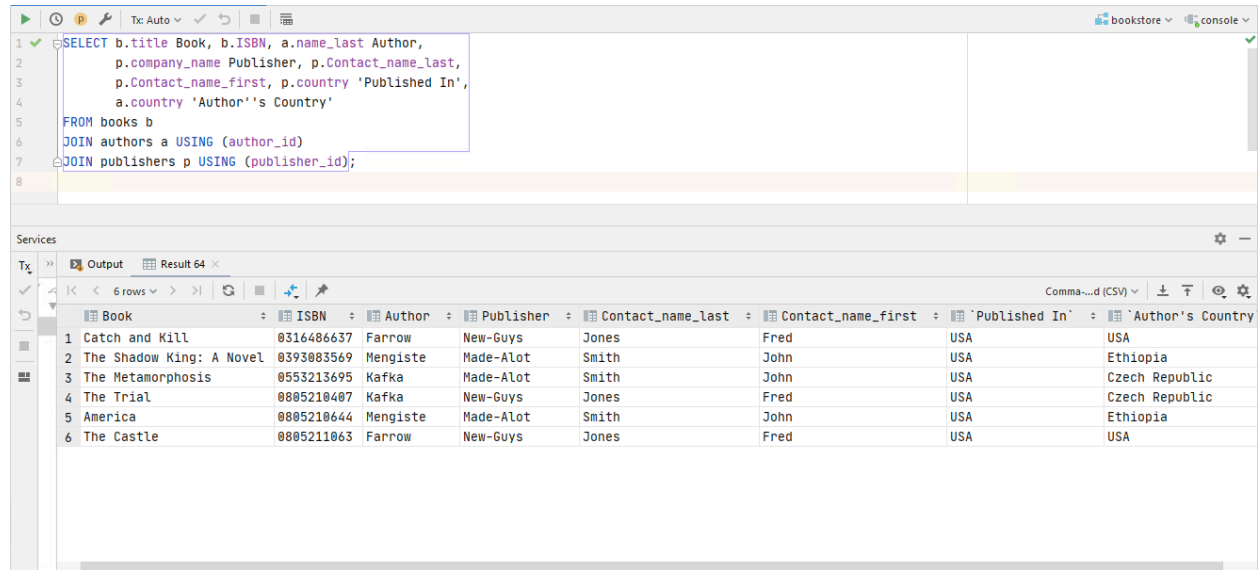
Solution 3

Below shows the added columns and their aliases

```
SELECT b.title Book, b.ISBN, a.name_last Author,
       p.company_name Publisher, p.Contact_name_last,
       p.Contact_name_first, p.country 'Published In',
       a.country 'Author's Country'
FROM books b
JOIN authors a USING (author_id)
JOIN publishers p USING (publisher_id);
```

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The screenshot shows a SQL query editor with a query that joins a books table with authors and publishers tables. The query is as follows:

```
1 SELECT b.title Book, b.ISBN, a.name_last Author,  
2       p.company_name Publisher, p.Contact_name_last,  
3       p.Contact_name_first, p.country 'Published In',  
4       a.country 'Author's Country'  
5 FROM books b  
6 JOIN authors a USING (author_id)  
7 JOIN publishers p USING (publisher_id);  
8
```

Below the query editor, the 'Services' pane shows the 'Output' tab with 'Result 64'. The results are displayed in a table with 8 columns: Book, ISBN, Author, Publisher, Contact_name_last, Contact_name_first, 'Published In', and 'Author's Country'. There are 6 rows of data.

Book	ISBN	Author	Publisher	Contact_name_last	Contact_name_first	'Published In'	'Author's Country'
1 Catch and Kill	0316486637	Farrow	New-Guys	Jones	Fred	USA	USA
2 The Shadow King: A Novel	0393883569	Mengiste	Made-Alot	Smith	John	USA	Ethiopia
3 The Metamorphosis	0553213695	Kafka	Made-Alot	Smith	John	USA	Czech Republic
4 The Trial	0805210407	Kafka	New-Guys	Jones	Fred	USA	Czech Republic
5 America	0805210644	Mengiste	Made-Alot	Smith	John	USA	Ethiopia
6 The Castle	0805211063	Farrow	New-Guys	Jones	Fred	USA	USA

END OF PART TWO