

Le **BIRT** Expert's Guide to

BIRT Best Practices

*How to Develop a Reporting Framework,
Implement Best Practices and
Manage Your BIRT Reporting Project*



SETUP GUIDE

This setup guide shows how to setup Eclipse and the MySQL database for the report examples used in the book *BIRT Best Practices*.

Prerequisites

Computer with enough RAM to run BIRT Designer efficiently. At least 3gb is recommended. This guide assumes the reader has basic knowledge of the BIRT Report Designer.

Import Project into Eclipse

To import the example projects into Eclipse, do the following:

- 1) Go to File → Import ...
- 2) From the Import Menu, choose “Existing Projects in Workspace”
- 3) Select the directory the files were downloaded and unzipped to as the “root” directory
 - a. Select all the projects
 - b. Select “Copy projects into workspace”
 - c. Click Finish

Setup MySQL Database

- Download and install MySQL Database. Confirm the MySQL Database is running and available.
- Download the BIRT Sample Database (“MySQL Version”).
 - <http://www.eclipse.org/birt/phoenix/db/>
- Open the DB Script in a text editor and uncomment “CREATE” and “USE” statements

Open the file “C:\LeBirtExpert\BIRT-Best-Practices\birt-database-2_0_1\ClassicModels\mysql\create_classicmodels.sql” in a Text Editor.

Uncomment the “CREATE” and “USE” statements highlighted below

```
/*
 * Copyright (c) 2005 Actuate Corporation.
 * All rights reserved. This file and the accompanying materials
 * are made available under the terms of the Eclipse Public License v1.0
 * which accompanies this distribution, and is available at
 * http://www.eclipse.org/legal/epl-v10.html
 *
 * Contributors:
 *   Actuate Corporation - initial implementation
 *
 * Classic Models Inc. sample database developed as part of the
 * Eclipse BIRT Project. For more information, see http://www.eclipse.org/birt
 */

/* Recommended DATABASE name is classicmodels. */
/* CREATE DATABASE classicmodels; */
/* USE classicmodels; */

/* DROP the existing tables. Comment this out if it is not needed. */
DROP TABLE Customers;
```

The result should be

```
/*
 * Recommended DATABASE name is classicmodels. */
CREATE DATABASE classicmodels;
USE classicmodels;

/* DROP the existing tables. Comment this out if it is not needed. */
DROP TABLE Customers;
```

- Run DB Scripts
 - Open Windows Command Line Prompt (or Linux Command Prompt) and “cd” to the directory that you unzipped the database files to.

```
C:\>
C:\>cd "C:\LeBirtExpert\BIRT-Best-Practices\birt-database-2_0_1\ClassicModels\mysql"
C:\LeBirtExpert\BIRT-Best-Practices\birt-database-2_0_1\ClassicModels\mysql>
```

- Run the following MySQL command. It will prompt you for a password. You will need to log in as “root” or another user that has “CREATE” and “INSERT” privileges.

mysql -u root -p

```

C:\LeBirtExpert\BIRT-Best-Practices\birt-database-2_0_1\ClassicModels\mysql>mysql
l -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 5.1.41-community MySQL Community Server (GPL)

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

mysql>

```

- Once you are logged in, enter the following command to create the “ClassicModels” database. The “source” command should point to the “create_classicmodels.sql” file.

source create_classicmodels.sql;

```

mysql> source create_classicmodels.sql;
Query OK, 1 row affected (0.00 sec)

Database changed
ERROR 1051 (42S02): Unknown table 'customers'
ERROR 1051 (42S02): Unknown table 'employees'
ERROR 1051 (42S02): Unknown table 'offices'
ERROR 1051 (42S02): Unknown table 'orderdetails'
ERROR 1051 (42S02): Unknown table 'orders'
ERROR 1051 (42S02): Unknown table 'payments'
ERROR 1051 (42S02): Unknown table 'products'
ERROR 1051 (42S02): Unknown table 'productlines'
Query OK, 0 rows affected (0.06 sec)

Query OK, 0 rows affected (0.07 sec)

Query OK, 0 rows affected (0.06 sec)

Query OK, 0 rows affected (0.10 sec)

Query OK, 0 rows affected (0.07 sec)

Query OK, 0 rows affected (0.07 sec)

Query OK, 0 rows affected (0.07 sec)

Query OK, 0 rows affected (0.06 sec)

mysql>

```

- Enter the following command to populate the “ClassicModels” database. The “source” command should point to the “load_classicmodels.sql” file.

source load_classicmodels.sql;

```

mysql> source load_classicmodels.sql;
Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 122 rows affected (0.08 sec)
Records: 122 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 23 rows affected (0.03 sec)
Records: 23 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 7 rows affected (0.02 sec)
Records: 7 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 2996 rows affected (0.38 sec)
Records: 2996 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 326 rows affected (0.09 sec)
Records: 326 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 273 rows affected (0.08 sec)
Records: 273 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 110 rows affected (0.07 sec)
Records: 110 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

Query OK, 7 rows affected (0.04 sec)
Records: 7 Deleted: 0 Skipped: 0 Warnings: 0

Empty set (0.00 sec)

mysql>

```

- Run the following commands to confirm the database, tables and data have been loaded.

show databases;

use classicmodels;

show tables;

select count(*) from customers;

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| classicmodels |
| mysql |
| test |
+-----+
4 rows in set (0.00 sec)

mysql> use classicmodels
Database changed
mysql> show tables;
+-----+
| Tables_in_classicmodels |
+-----+
| customers |
| employees |
| offices |
| orderdetails |
| orders |
| payments |
| productlines |
| products |
+-----+
8 rows in set (0.00 sec)

mysql> select count(*) from customers;
+-----+
| count(*) |
+-----+
| 122 |
+-----+
1 row in set (0.02 sec)
```

Create the stored procedures. Issue the following command:

```
DELIMITER //
```

```
CREATE PROCEDURE GetCustomerByCountry(IN countryName VARCHAR(255))
```

```
BEGIN
```

```
    SELECT customerNumber, customerName, contactFirstName, contactLastName, city, country, creditLimit
```

```
    FROM customers
```

```
    WHERE country = countryName;
```

```
END //
```

To test, run the command:

```
CALL GetCustomerByCountry('USA');
```

```
mysql> CALL GetCustomerByCountry('USA');
```

customerNumber	customerName	contactFirstName	contactLastName
112	Signal Gift Stores	Jean	King
124	Mini Gifts Distributors Ltd.	Susan	Nelson
129	Mini Wheels Co.	Julie	Murphy
131	Land of Toys Inc.	Kwai	Lee
151	Muscle Machine Inc	Jeff	Young
157	Diecast Classics Inc.	Kelvin	Leong
161	Technics Stores Inc.	Juri	Hashimoto
168	American Souvenirs Inc	Keith	Franco
173	Cambridge Collectables Co.	Jerry	Tseng

Stored procedure without parameter

DELIMITER //

```
CREATE PROCEDURE CountCustomersByCountry(
    IN countryName VARCHAR(255),
    OUT total INT)
BEGIN
    SELECT count(customerNumber)
    INTO total
    FROM customers
    WHERE country = countryName;
END//
```

To test, run the commands:

```
CALL CountCustomersByCountry('USA', @total);
```

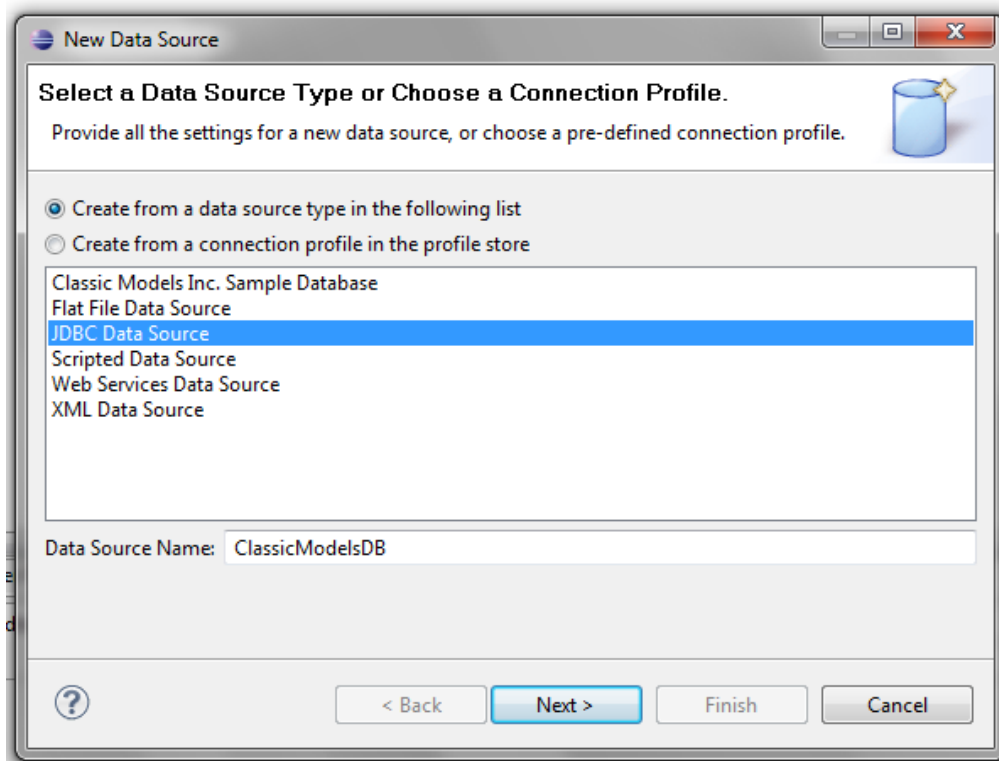
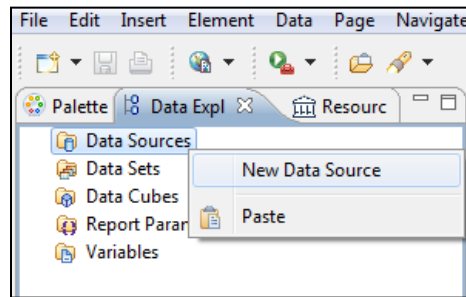
```
select @total as total_customers;
```

```
mysql> CALL CountCustomersByCountry('USA', @total);
Query OK, 0 rows affected (0.03 sec)

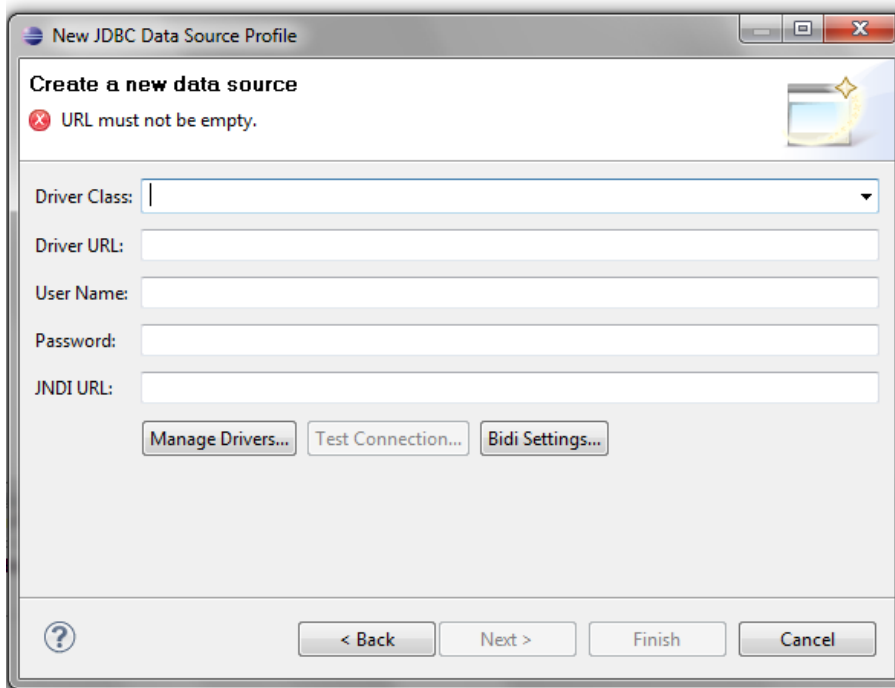
mysql> select @total as total_customers;
+-----+
| total_customers |
+-----+
| 36 |
+-----+
1 row in set (0.00 sec)

mysql>
```

- Download and install the MySQL JDBC Driver.
 - <http://dev.mysql.com/downloads/>
 - <http://dev.mysql.com/downloads/connector/j/5.1.html> (version 5.1)
 - Download the driver. Unzip the file.
 - Open BIRT. Create New Project. Create New Report. Create New Datasource.



Choose JDBC Datasource. Name it "ClassicModelsDB". Click Next.



The "New JDBC Data Source Profile" dialog box is shown. It has a title bar with a question mark icon and standard window controls. The main area is titled "Create a new data source" and includes a red error icon with the message "URL must not be empty." Below this are five input fields: "Driver Class:" (a dropdown menu), "Driver URL:", "User Name:", "Password:", and "JNDI URL:". At the bottom of the input fields are three buttons: "Manage Drivers...", "Test Connection...", and "Bidi Settings...". At the very bottom of the dialog are four buttons: a help icon (?), "< Back", "Next >", "Finish", and "Cancel".

New JDBC Data Source Profile

Create a new data source

✖ URL must not be empty.

Driver Class:

Driver URL:

User Name:

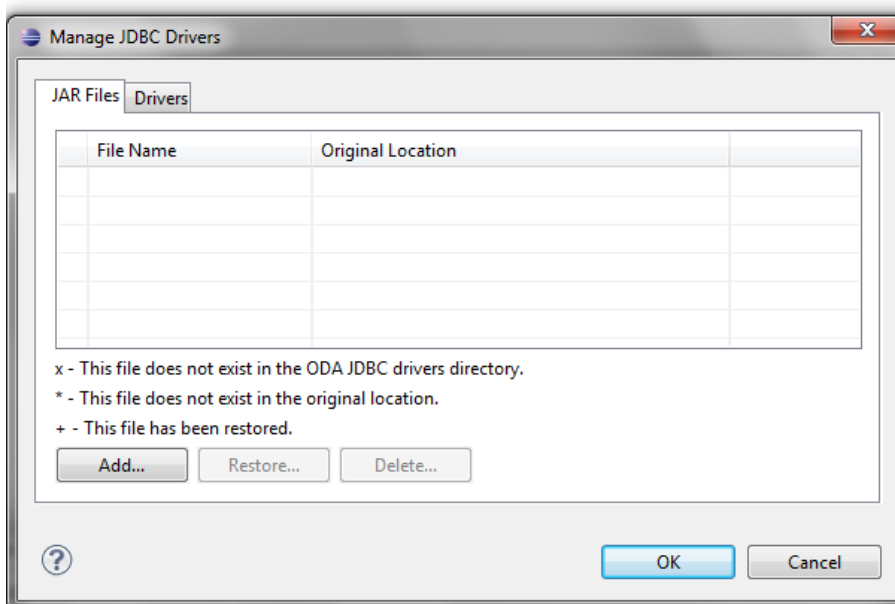
Password:

JNDI URL:

Manage Drivers... Test Connection... Bidi Settings...

? < Back Next > Finish Cancel

Click Manage Drivers ...



The "Manage JDBC Drivers" dialog box is shown. It has a title bar with a question mark icon and standard window controls. The main area has two tabs: "JAR Files" and "Drivers". The "Drivers" tab is selected and contains a table with two columns: "File Name" and "Original Location". Below the table are three buttons: "Add...", "Restore...", and "Delete...". At the bottom of the dialog are three buttons: a help icon (?), "OK", and "Cancel".

Manage JDBC Drivers

JAR Files Drivers

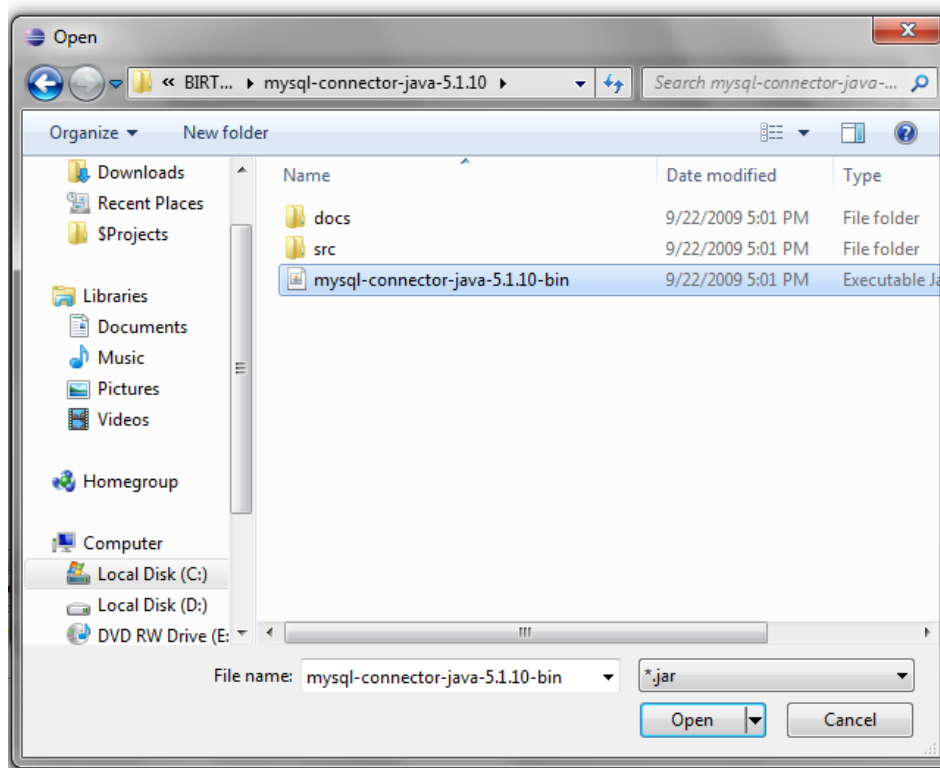
File Name	Original Location

x - This file does not exist in the ODA JDBC drivers directory.
* - This file does not exist in the original location.
+ - This file has been restored.

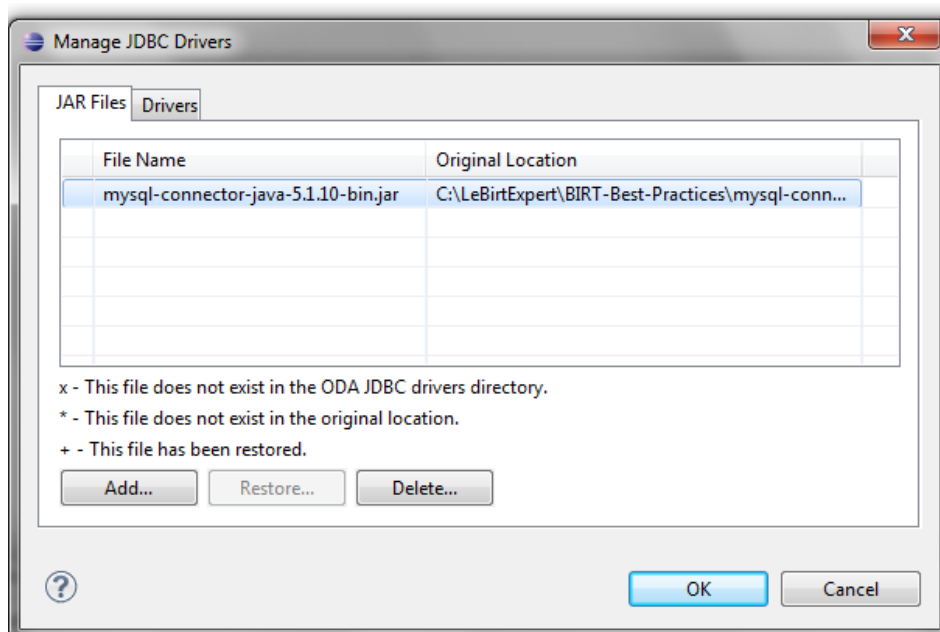
Add... Restore... Delete...

? OK Cancel

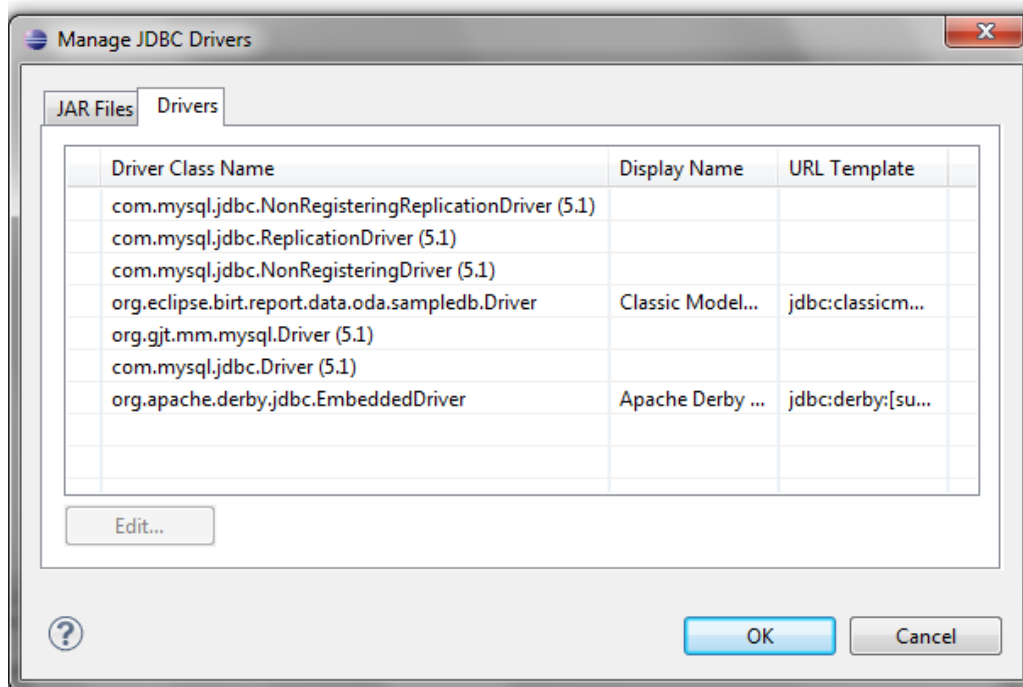
Click “Add...”



Choose the mysql-connector-java-5.1.10-bin.jar and click “Open”. The file should be where you unzipped the MySQL JDBC driver.



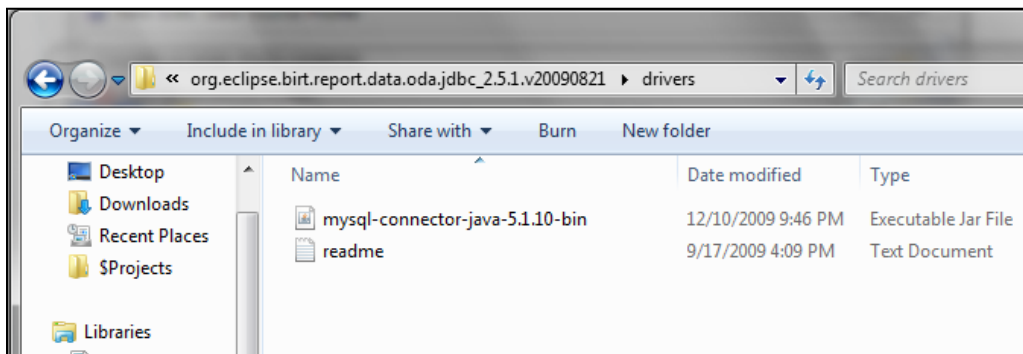
Click the “Drivers” tab to confirm that the driver was loaded.



Click “OK”.

By default, the BIRT Report Designer copied the jar file to the following directory:

C:\eclipse-galileo-birt\eclipse\plugins\org.eclipse.birt.report.data.oda.jdbc_2.5.1.v20090821\drivers



Alternative Method to register JDBC driver with BIRT Designer.

Copy the “mysql-connector-java-5.1.10-bin.jar” file to the directory:

C:\eclipse-galileo-birt\eclipse\plugins\org.eclipse.birt.report.data.oda.jdbc_2.5.1.v20090821\drivers

Any future JDBC drivers can be added to this directory or through the GUI as described in this section.