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Chapter 4. Getting Started Tutorial

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This tutorial provides a quick hands-on introduction to using MySQL Workbench for beginners. If you have used MySQL Workbench before you can safely skip this tutorial.

To complete this tutorial you will need to have a locally installed MySQL Server. If you only have access to a remote MySQL server you will need to enter appropriate connection parameters when required. This tutorial requires MySQL Workbench version 5.2.16 or above. You also need a basic understanding of MySQL concepts. This tutorial demonstrates the procedures on Microsoft Windows, they are, however, the same for all supported platforms.

4.1. Administering a MySQL Server

In this section you will see how you can use MySQL Workbench to connect to a server in order to carry out administrative functions, such as starting and stopping the server.

1. Launch MySQL Workbench. You will be presented with the Home screen:

Figure 4.1. Getting Started Tutorial - Home Screen

2. In order to administer your MySQL Server you need to first create a Server Instance. This contains information about the target server, including how to connect to it. From the Home screen of MySQL Workbench, click **New Server Instance**. The **Create New Server Instance Profile** wizard will be displayed.

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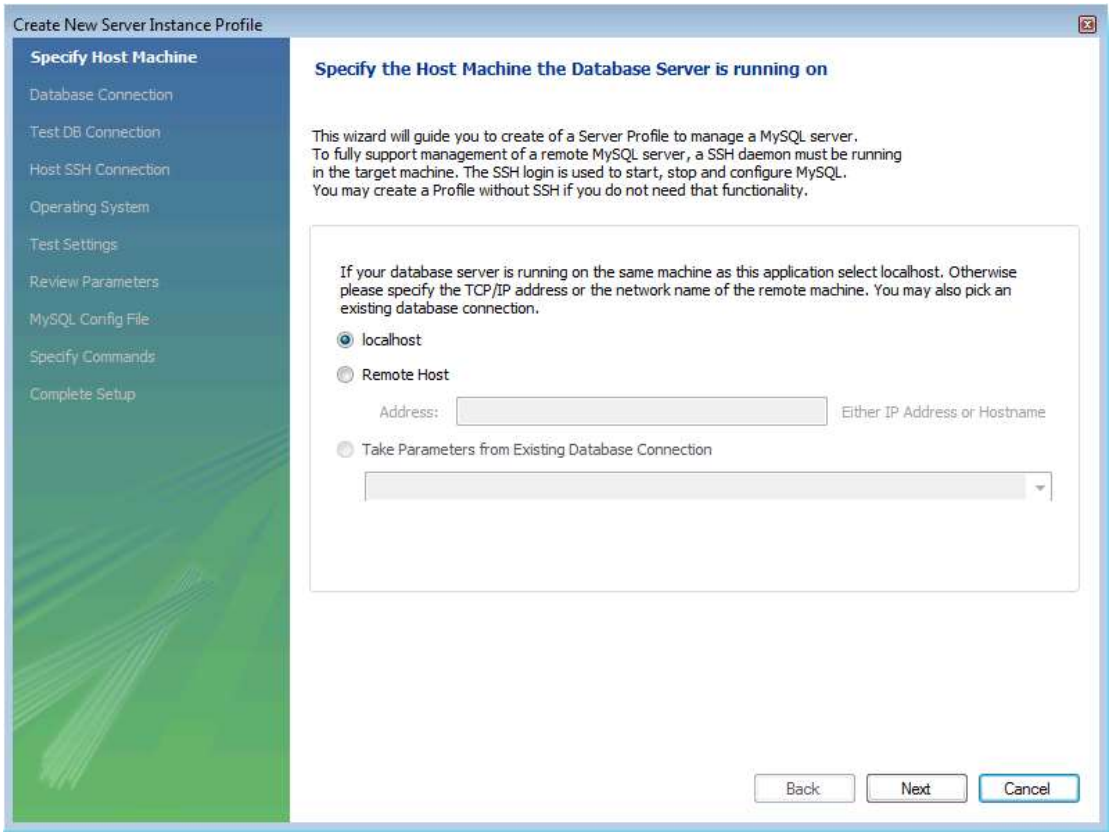
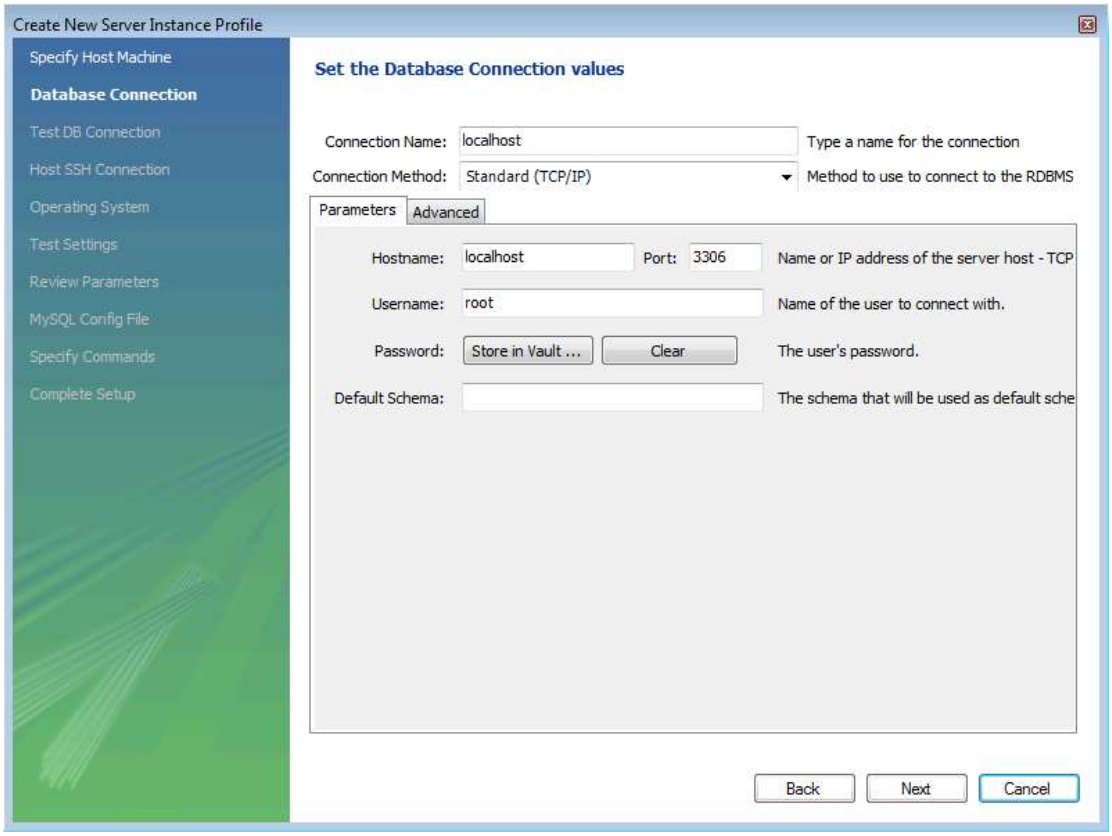
3. In this tutorial we will connect to a locally installed server, so click Next.

Figure 4.2. Getting Started Tutorial - Specify Host Machine



4. Next you will set up a connection, or select an existing connection to use to connect to the server. Assuming you have not already created a connection, you can use the default values here, although if your MySQL Server has a password set for root, you can set it here by clicking on Store in Vault. This allows you to connect to the server without needing to enter a password each time. It is also possible to use another account to connect to the server by setting the username and password here, if required.

Figure 4.3. Getting Started Tutorial - Database Connection



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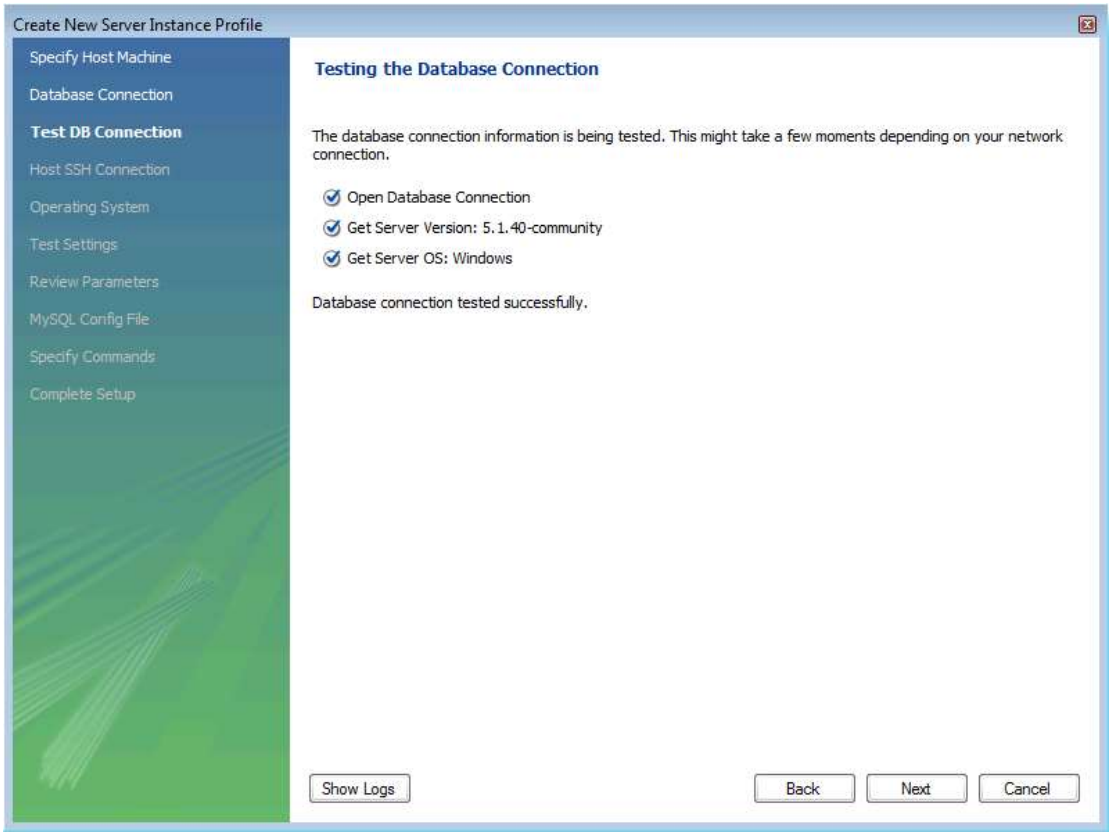
You can now click Next.

5. The connection will now be tested. You should see that the connection was successful. If not click Back and check that you have entered the information required.

Figure 4.4. Getting Started Tutorial - Connection Test



If everything tested correctly, click Next.

6. On this screen you will set the operating system and installation type. In this case the installation is Microsoft Windows, and the installation type is MySQL 5.1 x86 Installer Package. Setting these options allows MySQL Workbench to determine location of configuration files, and the correct start up and shut down commands to use for the server.

Figure 4.5. Getting Started Tutorial - Operating System

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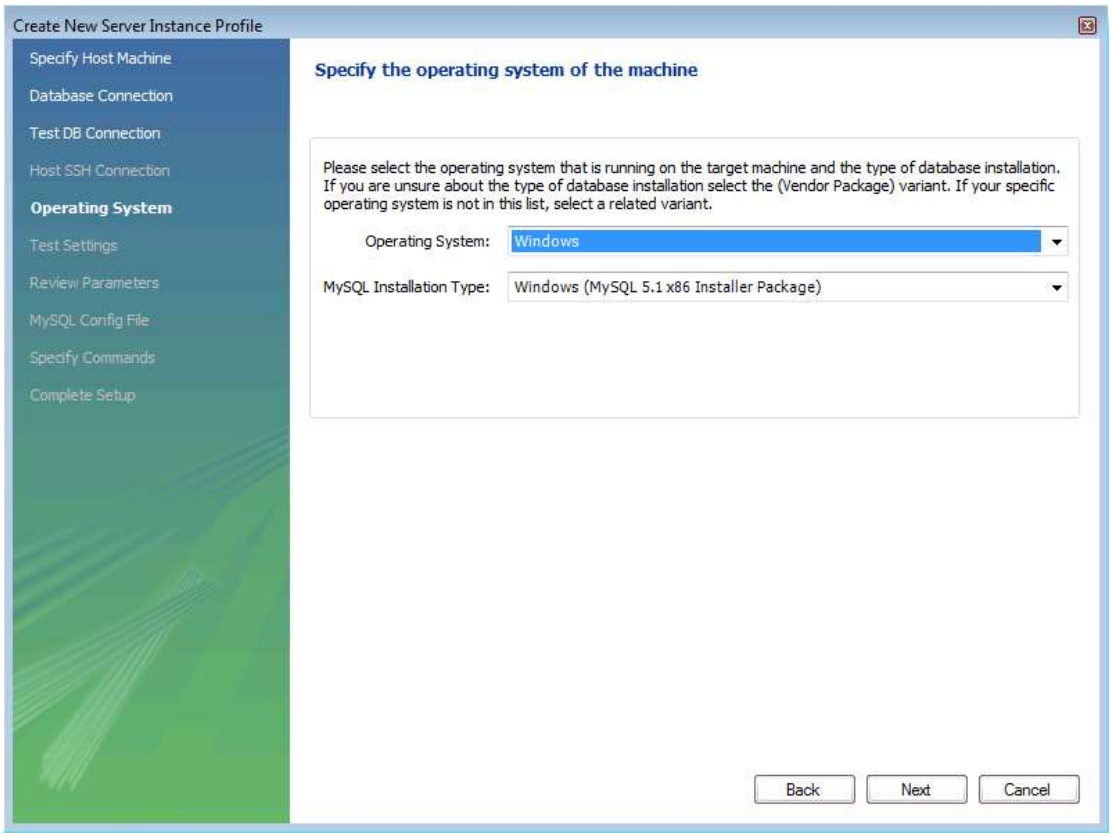
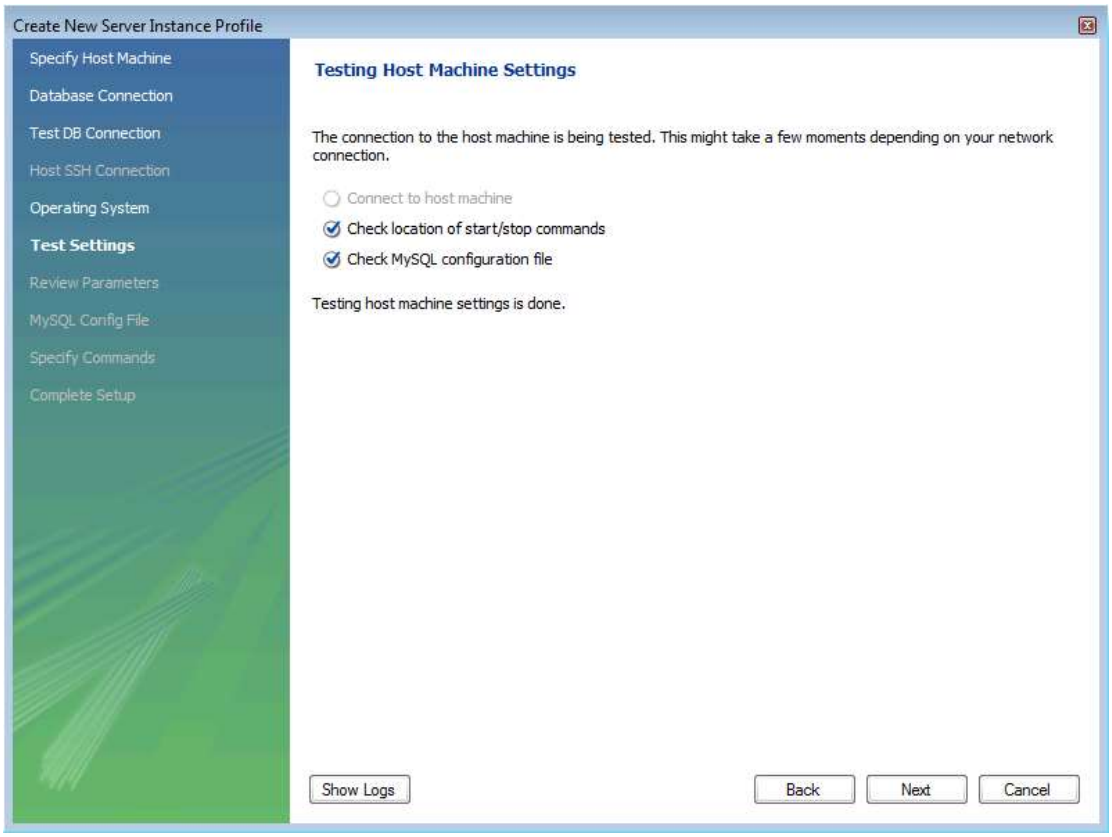


Once you have set the operating system and installation type, click Next.

7. The wizard will now check that it is able to access the start up and shut down commands, and access the MySQL Server configuration file.

Figure 4.6. Getting Started Tutorial - Test Host Settings



Check that everything is in order and then click Next.

8. You now have a chance to review the configuration settings so far. The information displayed varies slightly depending on platform, connection method and installation type:

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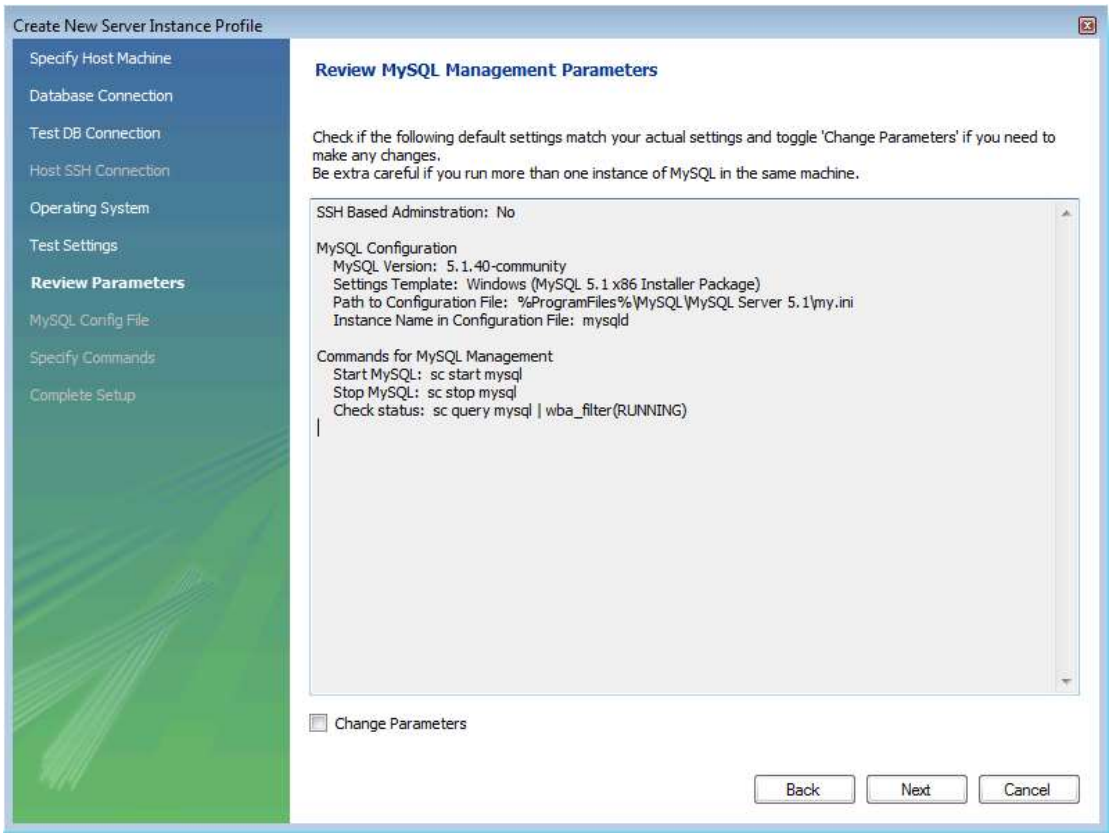
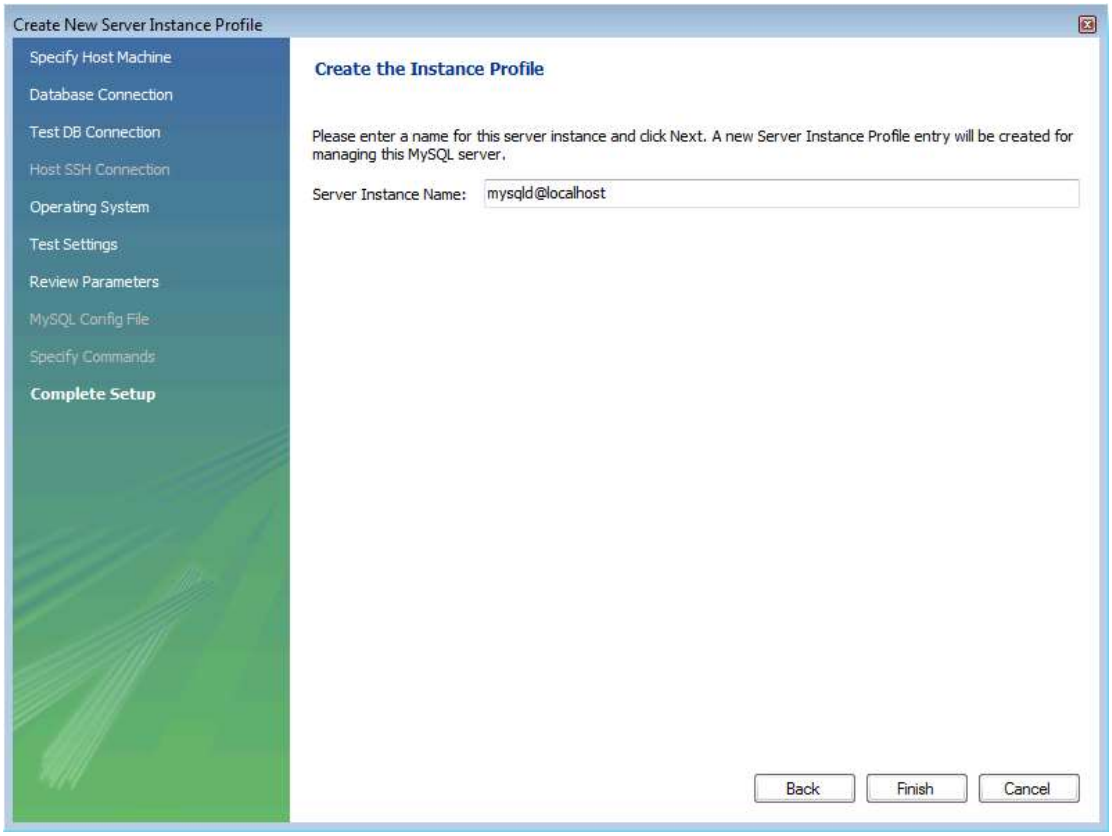
Figure 4.7. Getting Started Tutorial - Review Settings



Click Next.

9. Finally you can give the server instance a suitable name. This will be used to select this particular instance from a list of available instances.

Figure 4.8. Getting Started Tutorial - Instance Name



Having set the desired name, you can click Finish to complete the server instance creation process.

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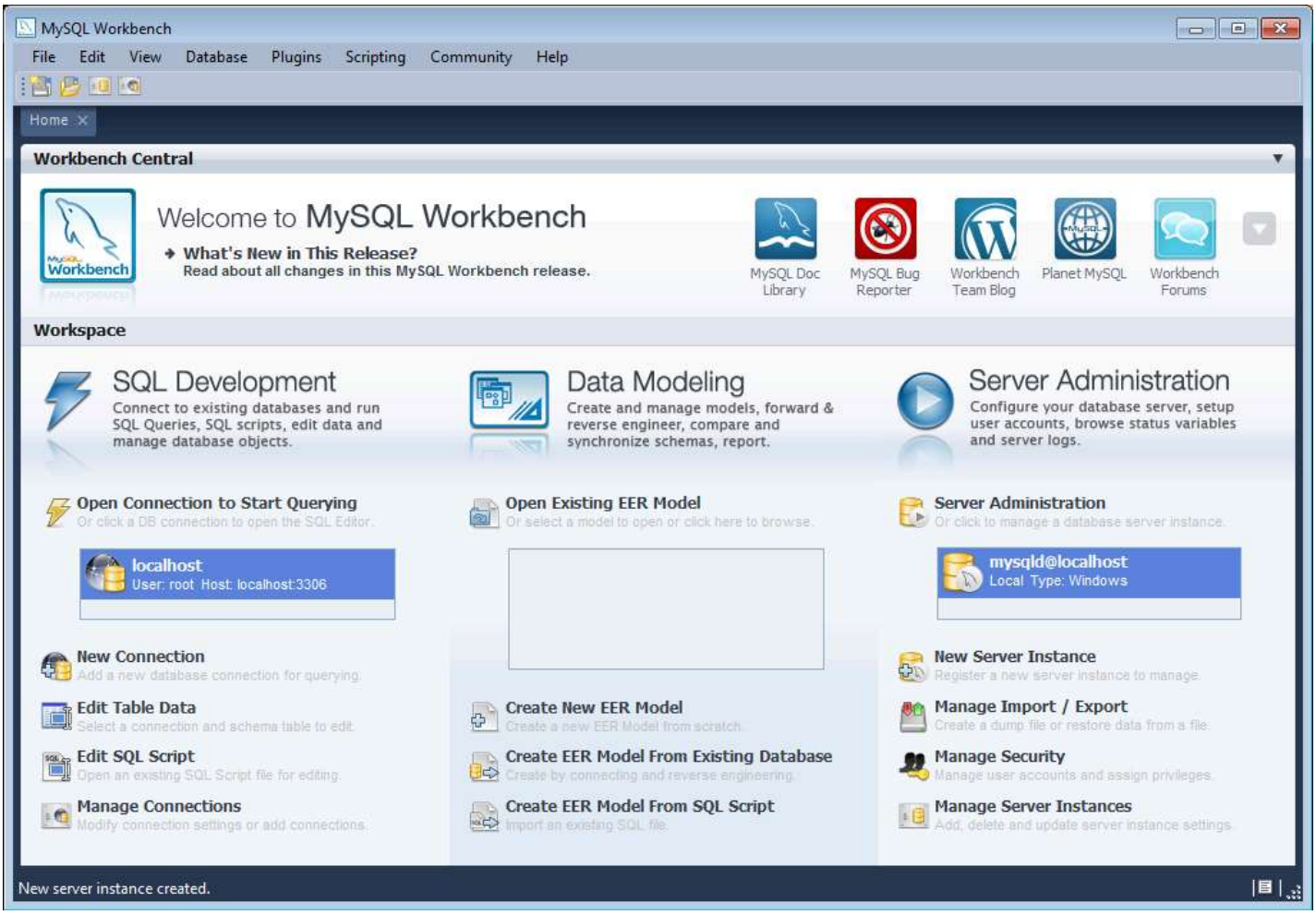
10. You will now be returned to the Home screen. You will see the new server instance you created, along with the new connection you created as part of the above procedure.

Figure 4.9. Getting Started Tutorial - Home Screen Instance



You are now ready to test your new server instance.

11. From the Home screen, double-click the Server Instance you created. The Administrator will open on the **Startup** configuration page.

Figure 4.10. Getting Started Tutorial - Admin Startup

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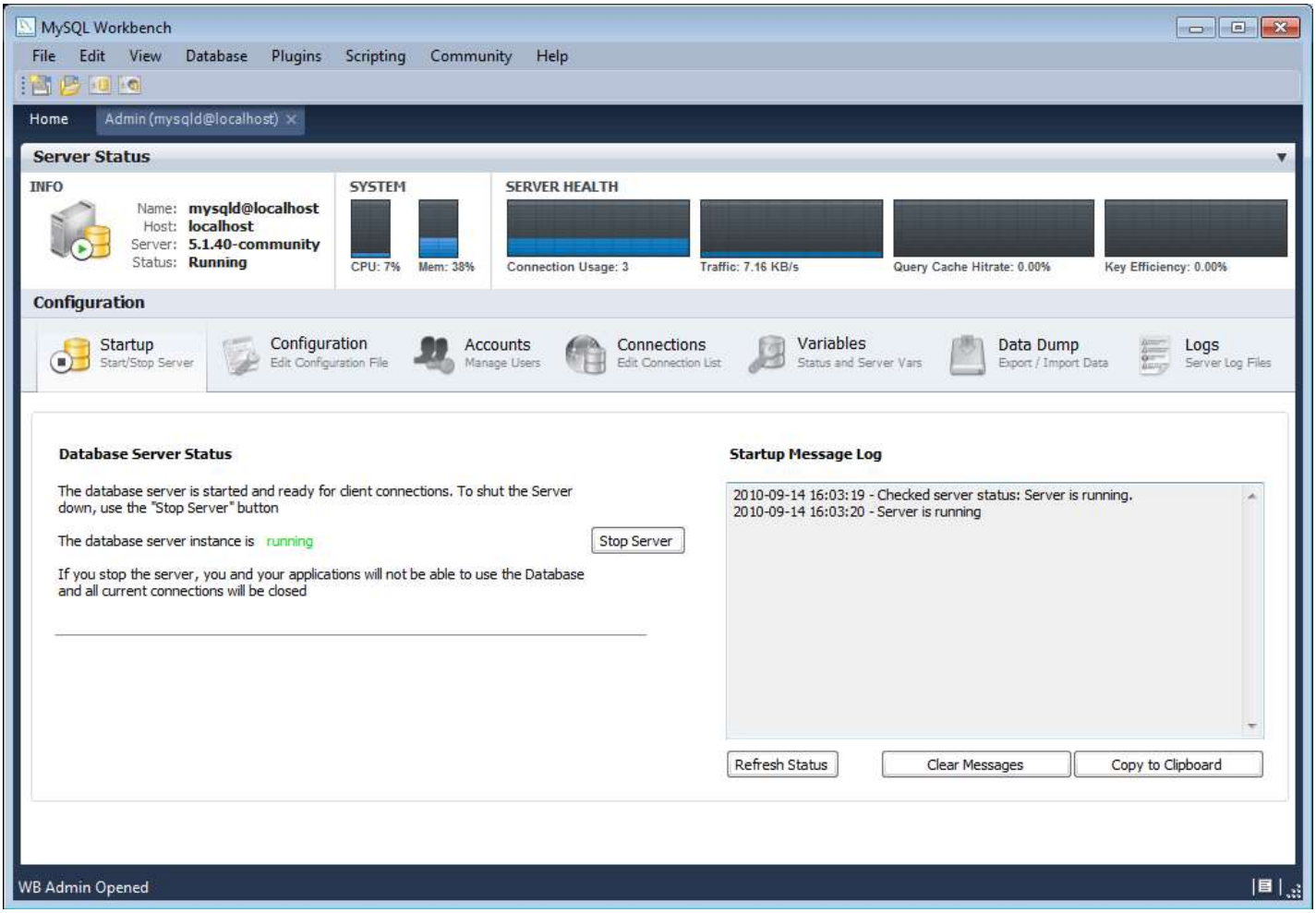

12. Click the Stop Server button. The message window will show that the server has stopped.
13. Click the Start Server button to resume the server. The message window will confirm that the server is running.

You have now seen how to create a server instance to allow you to manage a MySQL server.

For further information see Chapter 8, *Server Administration*.

4.2. Creating a Model

In this section you will learn how to create a new database model, create a table, create an EER Diagram of your model, and then forward engineer your model to the live database server.

1. Start MySQL Workbench. On the Home screen select **Create new EER Model**. A model can contain multiple schemata. Note that when you create a new model, it contains the `mydb` schema by default. You can change the name of this schema to serve your own purposes, or simply delete it.

   Figure 4.11. Getting Started Tutorial - Home Screen

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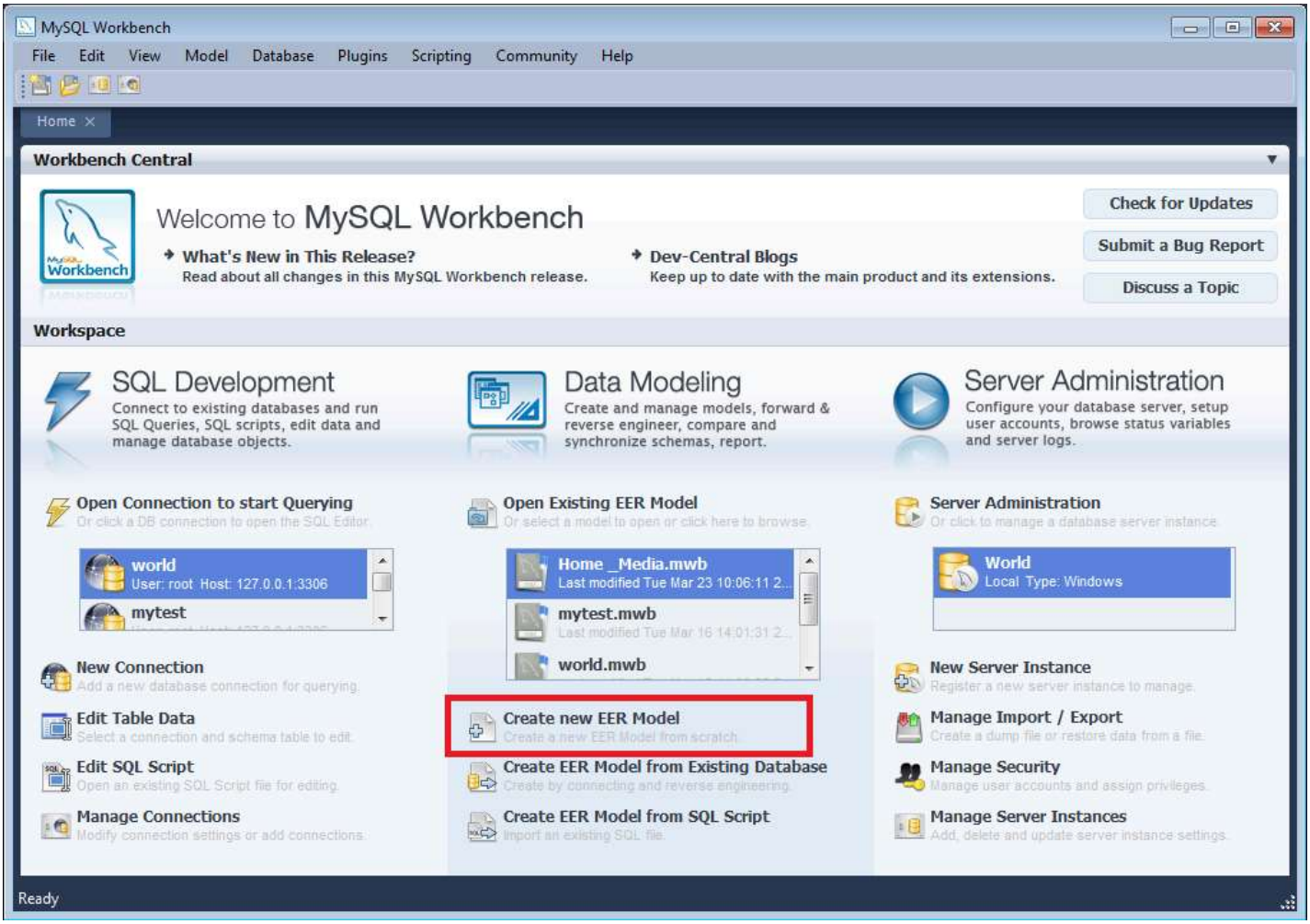

2. On the Physical Schemata toolbar, click the button + to add a new schema. This will create a new schema and display a tabsheet for the schema. In the tabsheet, change the name of the schema to “dvd_collection”, by typing into the field called **Name.** Ensure that this change is reflected on the Physical Schemata tab. Now you are ready to add a table to your schema. If at this stage you receive a message dialog asking to rename all schema occurrences, you can click Yes to apply your name change.

Figure 4.12. Getting Started Tutorial - New Schema

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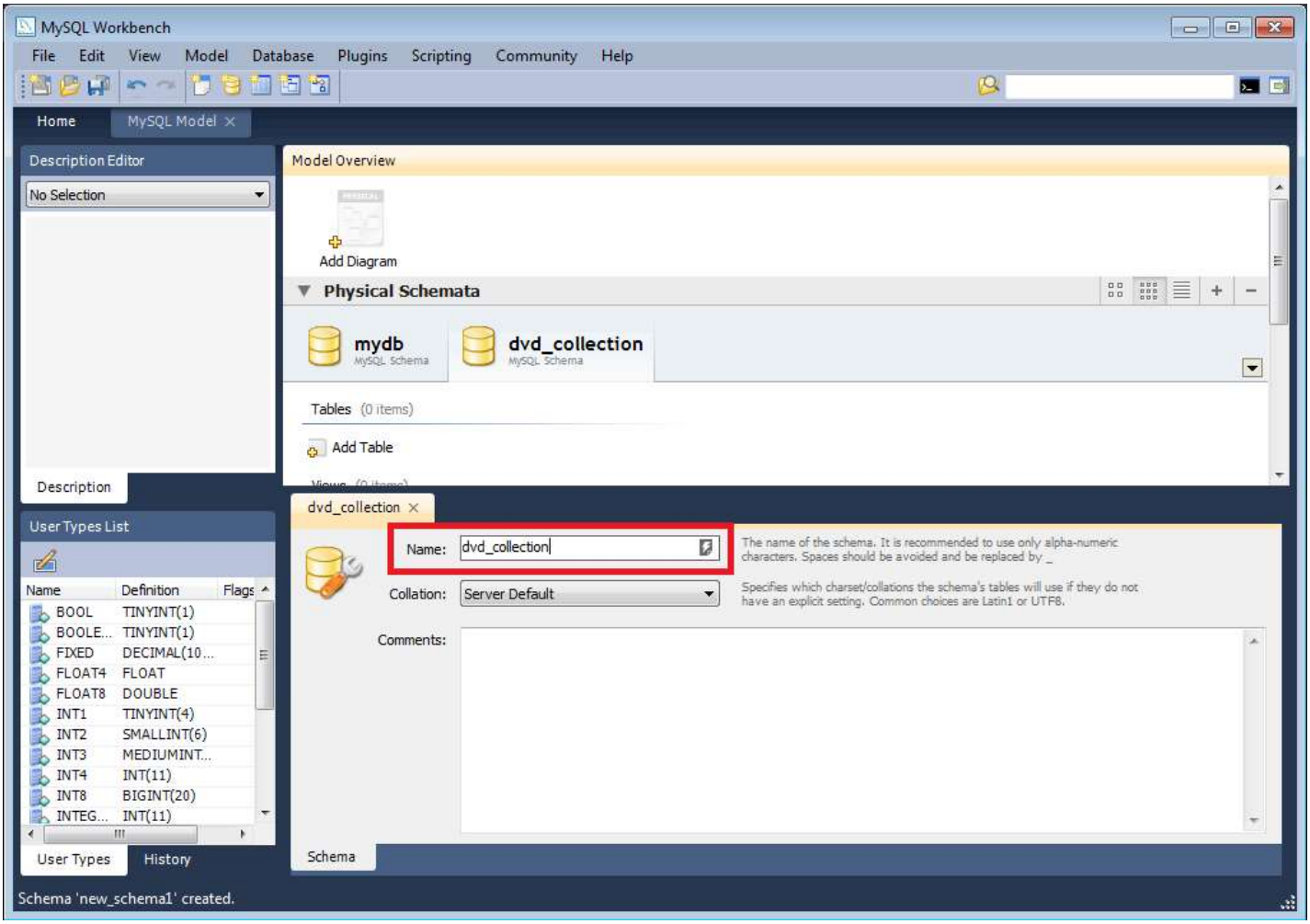

3. In the Physical Schemata section double-click **Add Table**.

4. Double-click **table1** to launch the table editor (you may not have to do this as the table editor will automatically load at this point if you are using later versions of MySQL Workbench). In the table editor, change the name of the table to “movies” and press **Enter**. The table editor will then switch from the **Table** tab to the **Columns** tab, to allow you to enter details of your table columns.

5. Change the name of the first column to “movie_id”. Select a data type of `INT`. You will then make this column have the following properties: primary key, not null, autoincrement. To do this click the **PK**, **NN**, and **AI** checkboxes.

6. Add two further columns:

Column Name	Data Type	Column Properties
movie_title	VARCHAR(45)	NN
release_date	DATE (YYYY-MM-DD)	None.

Figure 4.13. Getting Started Tutorial - Columns

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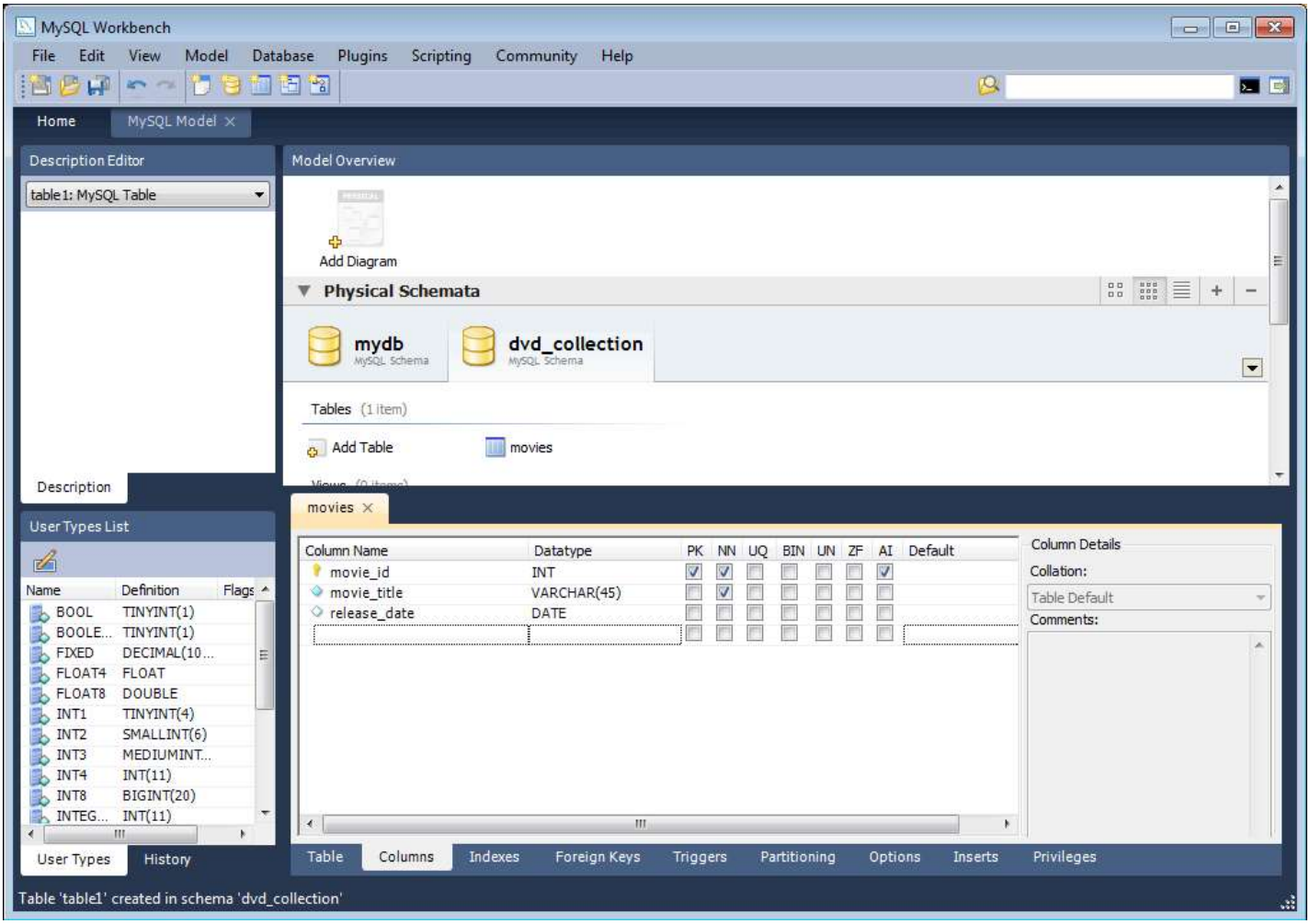

7. Now you can obtain a visual representation of this schema so far. From the main menu select **Model**, **Create Diagram from Catalog Objects**. The EER Diagram will be created and displayed.

Figure 4.14. Getting Started Tutorial - EER Diagram

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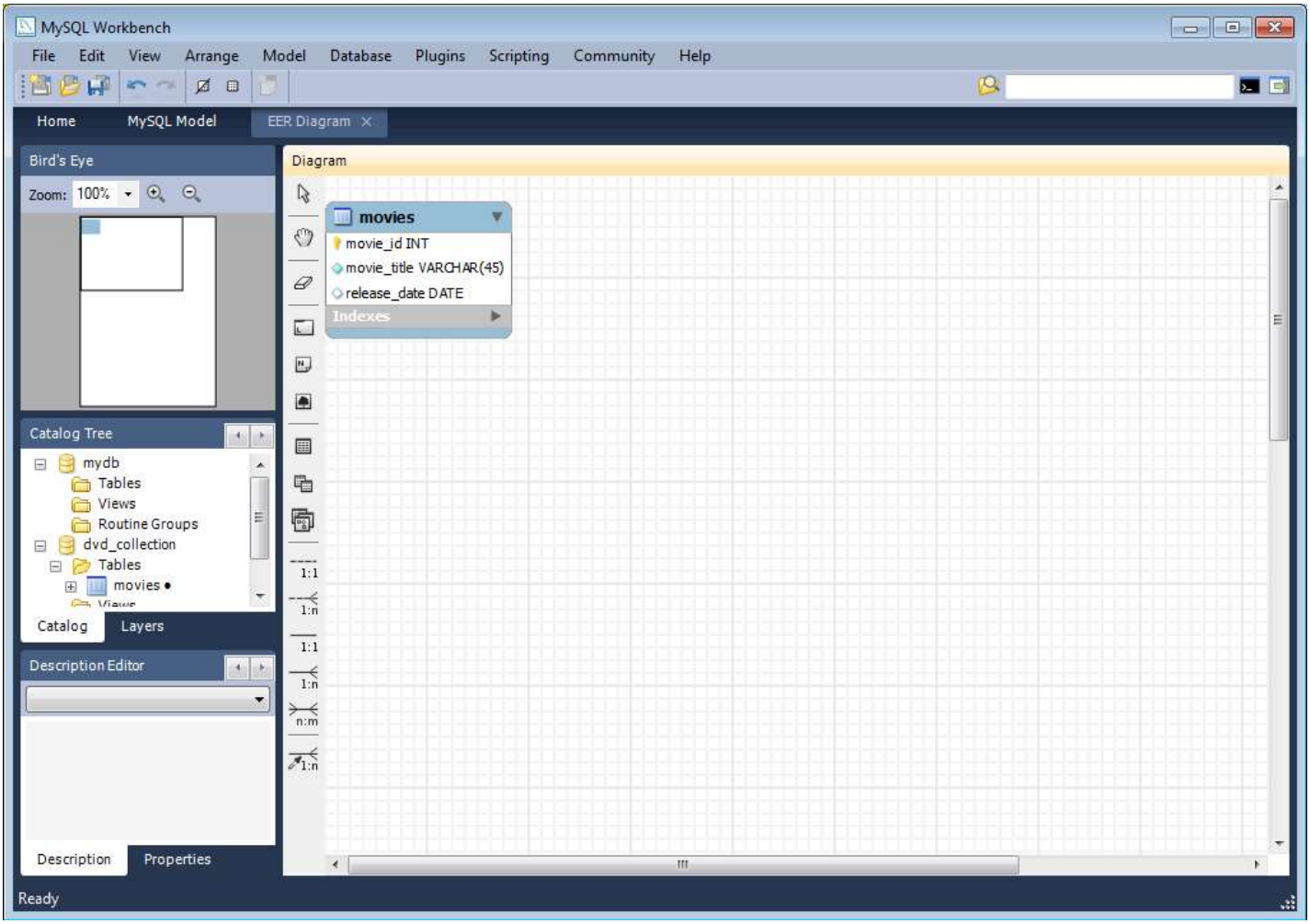

8. Now, in the table editor, change the name of the column “movie_title” to “title”. Note that the EER Diagram is automatically updated to reflect this change.

9. At this point you can save your model. Click the main toolbar button Save Model to Current File. In this case you have not yet saved this file so you will be prompted to enter a model file name. For this tutorial enter “Home_Media”. The Home_Media model may contain further schemata in addition to `dvd_collection`, such as `cd_collection`. Click Save to save the model.

10. You can synchronize your model with the live database server. First you need to tell MySQL Workbench how to connect to the live server. From the main menu select **Database**, **Manage Connections...**.

11. In the **Manage DB Connections** dialog click New.

12. Enter “Big Iron Server” for the connection name. This allows us to identify which server this connection corresponds to, although it is possible to create multiple connections to the same server.

13. Enter the username for the account you will use to connect to the server.

14. Click on the Store in Vault... button and enter the password for the username you entered in the previous step. You can optionally ignore this step, and you will be prompted for this password whenever MySQL Workbench connects to the server.

15. Click Test Connection to test your connection parameters. If everything is OK at this point you can click Close.

Figure 4.15. Getting Started Tutorial - Manage Connections

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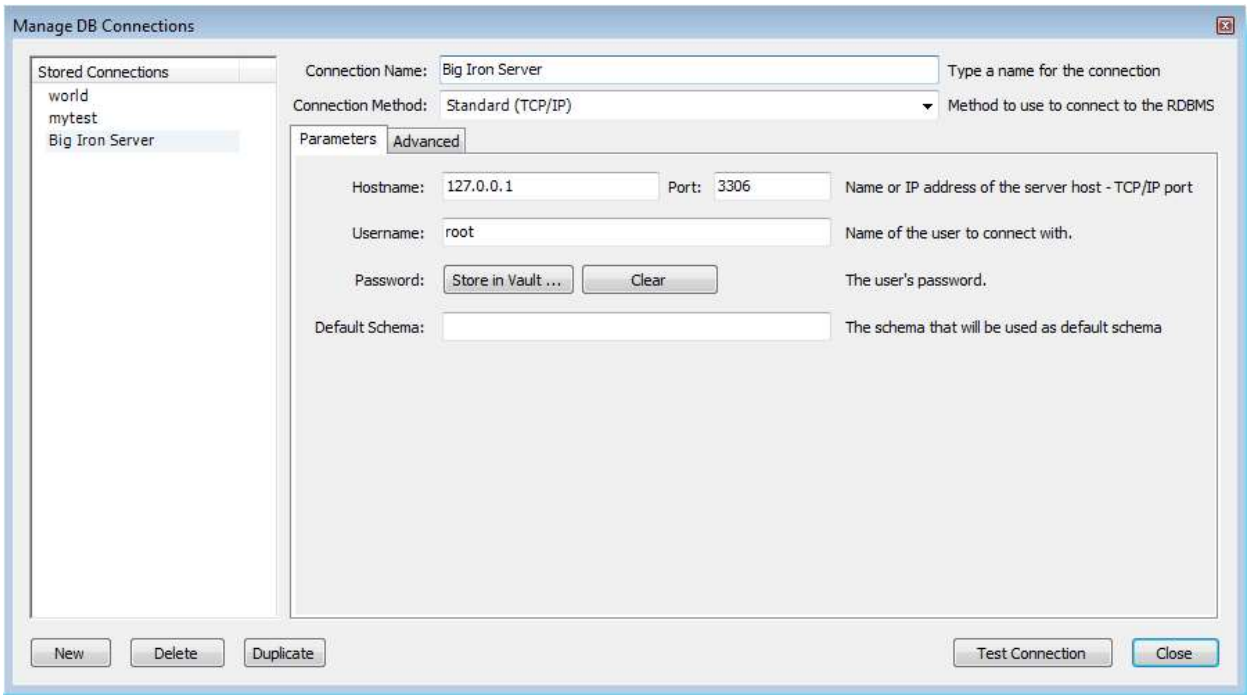


16. You are now ready to forward engineer your model to the live server. From the main menu select **Database**, **Forward Engineer...**. The **Forward Engineer to Database** wizard will be displayed.

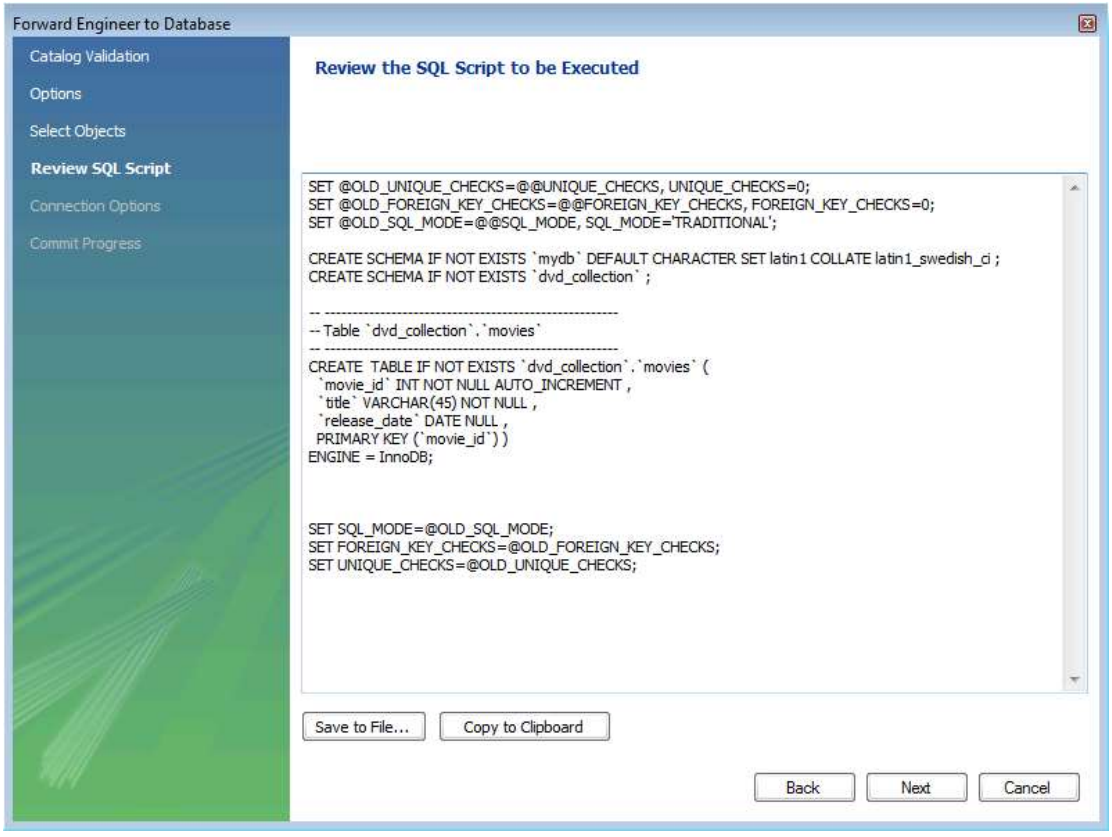
17. The first page of the wizard is the Catalog Validation page. Click the Run Validations button to validate the Catalog. If everything is in order the wizard will report that validaton finished successfully. Click **Next** to continue.

18. The Options page of the wizard shows various advanced options. For this tutorial you can ignore these and simply click **Next**.

19. On the next page you can select the object you want to export to the live server. In this case we only have a table, so no other objects need to be selected. Click Next.

20. The next screen, Review SQL Script, displays the script that will be run on the live server to create your schema. Review the script to make sure that you understand the operations that will be carried out. Click Next.

Figure 4.16. Getting Started Tutorial - Review Script



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21. Select the connection you created earlier, “Big Iron Server”. Click Execute. Check the messages for any erros, and then click Close to exit the wizard.

22. Ensure that the script ran without error on the server and then click Close. As a simple test that the script worked launch the MySQL Command Line Client. Enter `SHOW DATABASES;` and identify your schema. Enter `USE dvd_collection;`, to select your schema. Now enter `SHOW TABLES;`. Enter `SELECT * FROM movies;`, this will return the empty set as you have not yet entered any data into your database. Note that it is possible to use MySQL Workbench to carry out such checks, and you will see how to do this later, but the MySQL Command Line Client has been used here as you have probably used this previously.

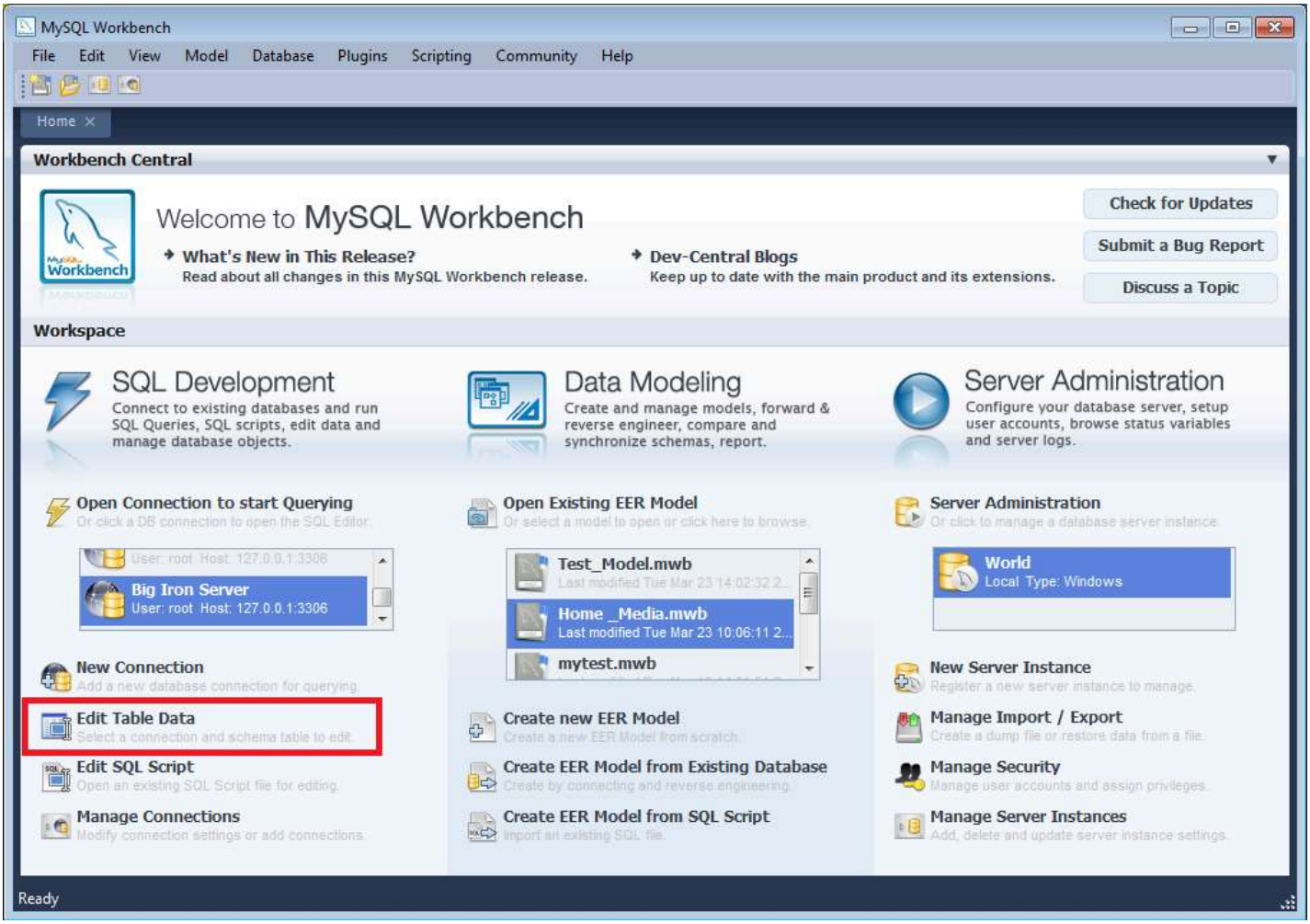
23. Ensure that your model is saved. Click **Save Model to Current File** on the main toolbar.

4.3. Adding Data to Your Database

In the previous section you created a model, schema, and table. You also forward engineered your model to the live server. In this section you will see how you can use MySQL Workbench to add data into your database on the live server.

1. On the Home screen click the link **Edit Table Data** in the SQL Development area of the Workspace. This launches **Edit Table Data** wizard.

Figure 4.17. Getting Started Tutorial - Edit Table Data



2. In the wizard select the “Big Iron Server” connection from the stored connection drop down listbox. Click Next.

3. Select the schema, `dvd_collection`. Select the table to edit, `movies`. Click Finish.

4. You will see a data grid. This is where you can enter the data for your database. Remember that the `movie_id` was set to be autoincrement, so you do not need to enter values directly for this column. In the data grid enter the following movie information:

title	release_date
Gone with the Wind	1939-04-17
The Hound of the Baskervilles	1939-03-31
The Matrix	1999-06-11
Above the Law	1988-04-08

Note: do not modify any values in the `movie_id` column.

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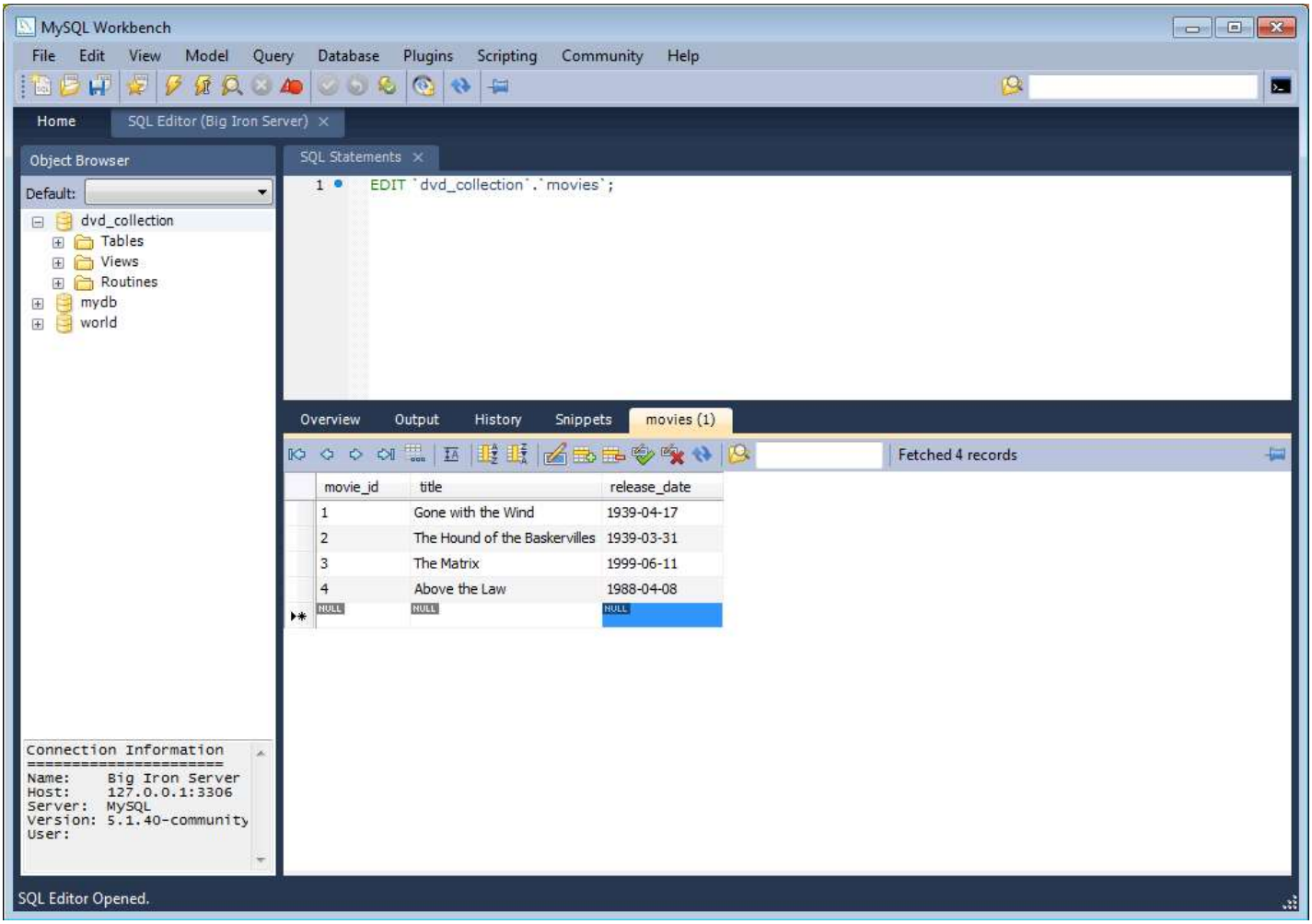
5. Now click the Apply changes to data source button in the toolbar located in the bottom right corner. A list of SQL statements will be displayed. Confirm that you understand the operations to be carried out. Click Apply SQL to apply these changes to the live server.

6. Confirm that the script was executed correctly and then click Finish.

7. View the data grid again and observe that the autoincrement values have been generated.

Figure 4.18. Getting Started Tutorial - Edit Data



8. Now you will check that the data really has been applied to the live server. Launch the MySQL Command Line Client. Enter `SELECT * FROM movies;` to see the data just entered.

9. You can also carry out a similar check from within MySQL Workbench. Click on the Home screen tab.

10. Click the link **Open Connection to start Querying** in the SQL Development section of the Workspace. This will launch the **Connect to Database** dialog. Select "Big Iron Server" from the drop down listbox. Click OK.

11. A new SQL Editor tab will be displayed. In the SQL Statements area enter the following code:

```
USE dvd_collection;
SELECT * FROM movies;
```

12. Now click the Execute SQL Script in Connected Server toolbar button. This resembles a small lightning bolt. The SQL Editor will display a new Result tab contain the result of executing the SQL statements.

Figure 4.19. Getting Started Tutorial - Results

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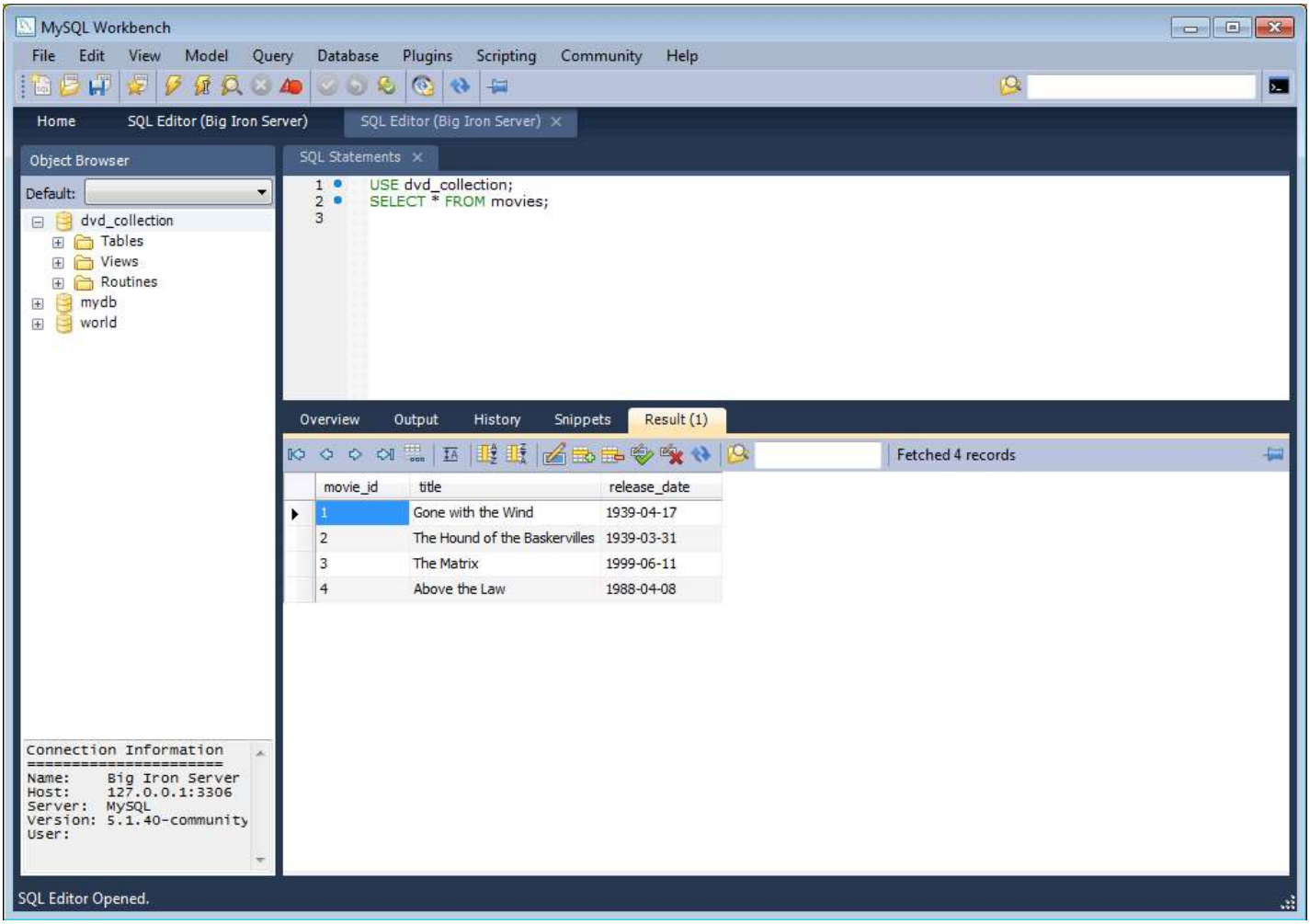

In this section of the tutorial you have learnt how to add data to your database, and also how to execute SQL statements using MySQL Workbench.

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