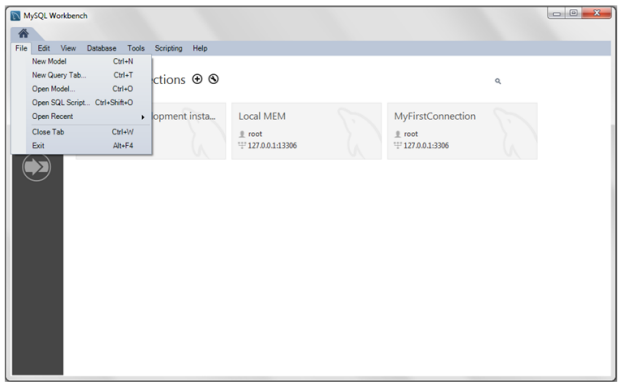
9.3.1 Creating a Model

This tutorial describes how to create a new database model and how to forward-engineer a model to a live MySQL server.

> **Note**
>
> Alternatively, you can create a model from a database by using the reverse engineering wizard. For additional information, see Section 9.4.2.2, “Reverse Engineering a Live Database”.

1. Start MySQL Workbench. On the home screen, click the models icon in the sidebar and then click the **+** icon next to **Models**. Alternatively, you can click **File** and then **New Model** from the menu (shown in the figure that follows).

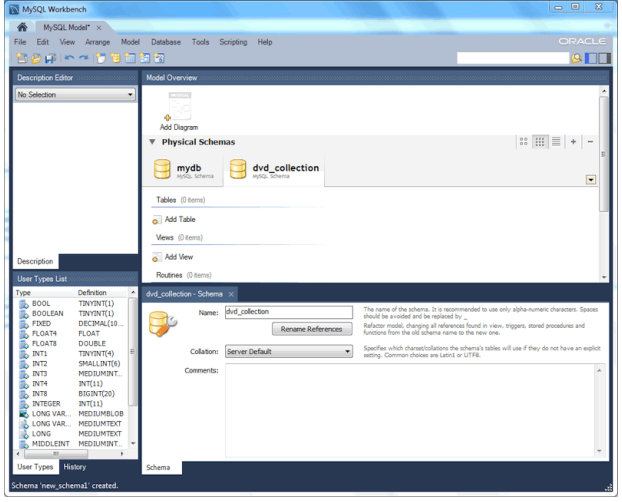
   Figure 9.16 Getting Started Tutorial - Home Screen

   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 default schema as needed or you can delete it.

2. Click the **+** button on the right side of the **Physical Schemas** toolbar to add a new schema. The default schema name is `new_schema1`, which you can now change to **`dvd_collection`** by modifying its **Name** field. Confirm this change in the **Physical Schemas** panel shown in the next figure. Now you are ready to add a table.

   Figure 9.17 Getting Started Tutorial - New Schema



3. Double-click **Add Table** in the **Physical Schemas** section.

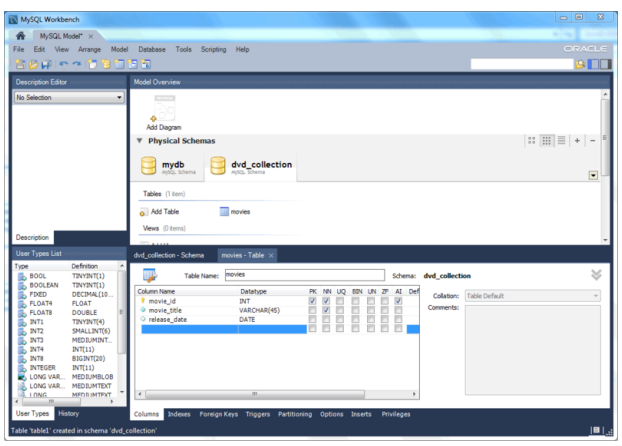
4. This automatically loads the table editor with the default table name `table1`. Edit the **Table Name** field to change the table name from `table1` to **`movies`**.

5. Next, add columns to your table. Double-click a **Column Name** cell and the first field defaults to `moviesid` because (by default) MySQL Workbench appends `id` to the table name for the initial field. Change `moviesid` to **`movie_id`** and keep the **Datatype** as `INT`, and also select the **PK** (PRIMARY KEY), **NN** (NOT NULL), and **AI** (AUTO_INCREMENT) check boxes.

6. Add the two additional columns described in the following table. The figure that appears after the table shows all three columns in the `movies` table.

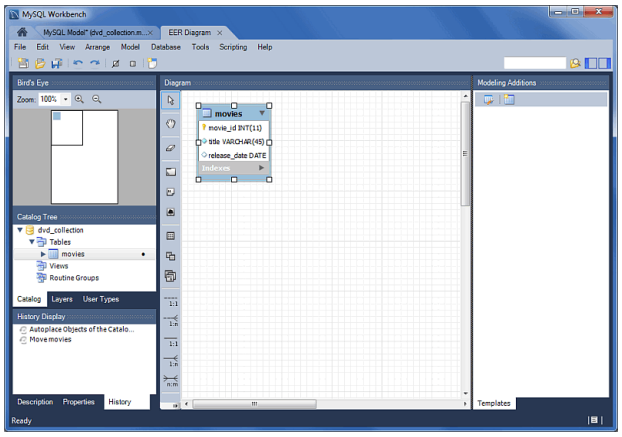
Column Name	Data Type	Column Properties
movie_title	VARCHAR(45)	NN
release_date	DATE (YYYY-MM-DD)	None

Figure 9.18 Getting Started Tutorial - Editing table columns



7. For a visual representation (EER diagram) of this schema, select **Model** and then **Create Diagram from Catalog Objects** to create the EER Diagram for the model. The next figure shows the a new tab titled **EER Diagram**, which displays diagram representation of the movies table and columns.

Figure 9.19 Getting Started Tutorial - EER Diagram



8. 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.

> ### Note
>
> To open the table editor, either change back to the **MySQL Model** tab and right-click on the `movies` table, or right-click on `movies` in the EER diagram and select an **Edit 'movies'** option.

9. Save the model by choosing **File** and then **Save Model** from the menu, or click the Save Model to Current File icon on the menu toolbar. For this tutorial, type **`Home_Media`** and then click Save.

Before synchronizing your new model with the live MySQL server, confirm that you already created a MySQL connection. This tutorial assumes you have created a connection already. If not, see Section 5.2, “Creating A New MySQL Connection (Tutorial)” and use that tutorial to create a MySQL connection named **MyFirstConnection**, although an alternative connection can also work.

Now forward-engineer your model to the live MySQL server as follows:

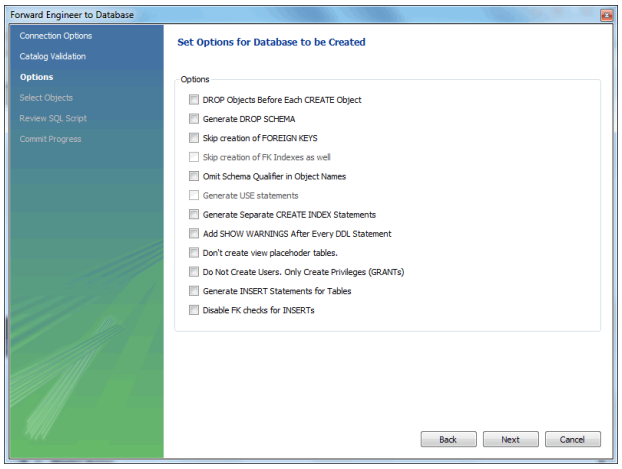
1. Select **Database** and then **Forward Engineer** from the menu to open the Forward Engineer to Database wizard.

2. The Connection Options step selects the MySQL connection and optionally sets additional options for the selected MySQL connection. Make any necessary connection changes and then click Next.

> ### Note
>
> You may decided to choose a different MySQL connection here, but this tutorial uses **MyFirstConnection**.

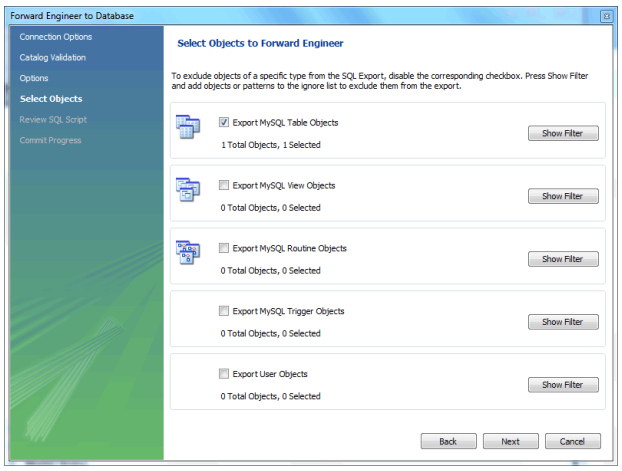
3. The Options step lists optional advanced options (as shown in the figure that follows). For this tutorial, you can ignore these options and click **Next**.

Figure 9.20 Getting Started Tutorial - Options



4. Select an object to export to the live MySQL server. In this case, there is only one table (`dvd_collection.movie`). Select the `Export MySQL Table Objects` check box (as the figure that shows) and then click Next.

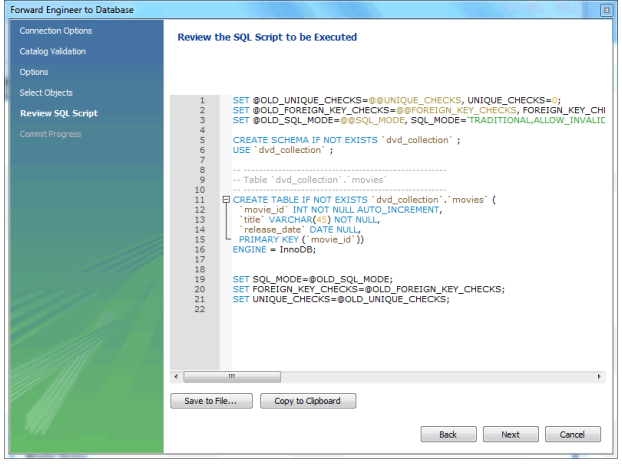
Figure 9.21 Getting Started Tutorial - Select Objects



5. The Review SQL Script step displays the SQL script that will be executed 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 to execute the forward-engineering process.

Figure 9.22 Getting Started Tutorial - Review SQL Script



6. The Commit Progress step confirms that each task was executed. Click Show Logs to view the logs. If no errors are present, click Close to close the wizard.

7. The new `dvd_collection` database is now present on the MySQL server. Confirm this by opening the MySQL connection and viewing the schema list, or by executing `SHOW DATABASES` from the MySQL Command Line Client (**mysql**).

8. Click the **Save Model to Current File** icon on the menu toolbar to save the model.

For additional information about data modeling, see Chapter 9, *Database Design and Modeling*.