Chapter 2

How to use MySQL Workbench and other development tools

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Objectives

Applied

1. Start or stop the MySQL database server.
2. Use MySQL Workbench to do any of the following:

   Create a database connection
   Navigate through the objects of a database
   View the column definitions for a table
   View the data for a table
   Edit the column definitions for a table
3. Use MySQL Workbench to enter, run, open, and save SQL statements and scripts.
4. Use the MySQL Reference Manual to look up information about SQL statements.
5. Use MySQL Command Line Client to run a SQL statement.

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Objectives (continued)

Knowledge

1. Describe the function of each of these client tools: the MySQL Command Line Client, MySQL Workbench, and the MySQL Reference Manual.

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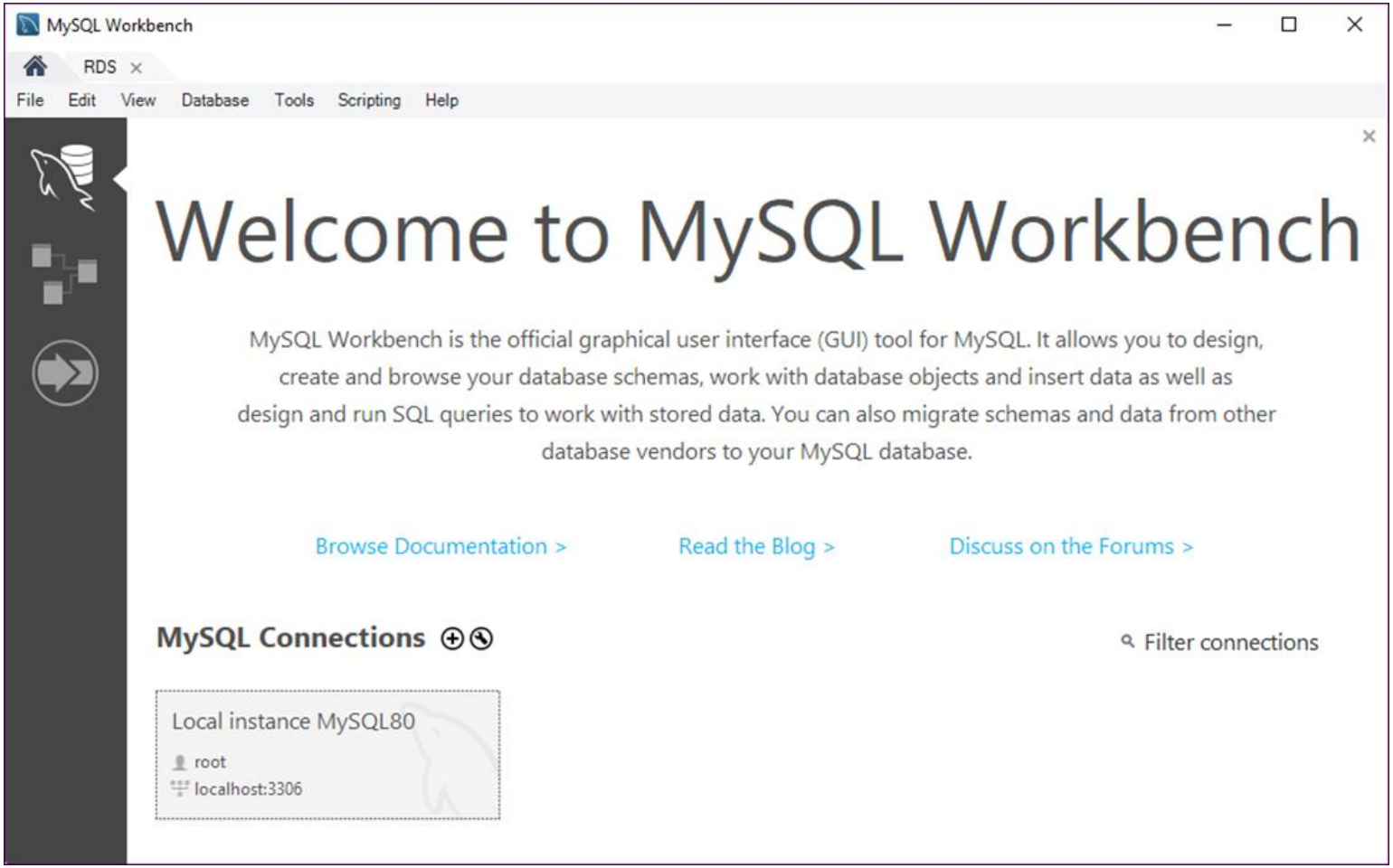
The Home page of MySQL Workbench



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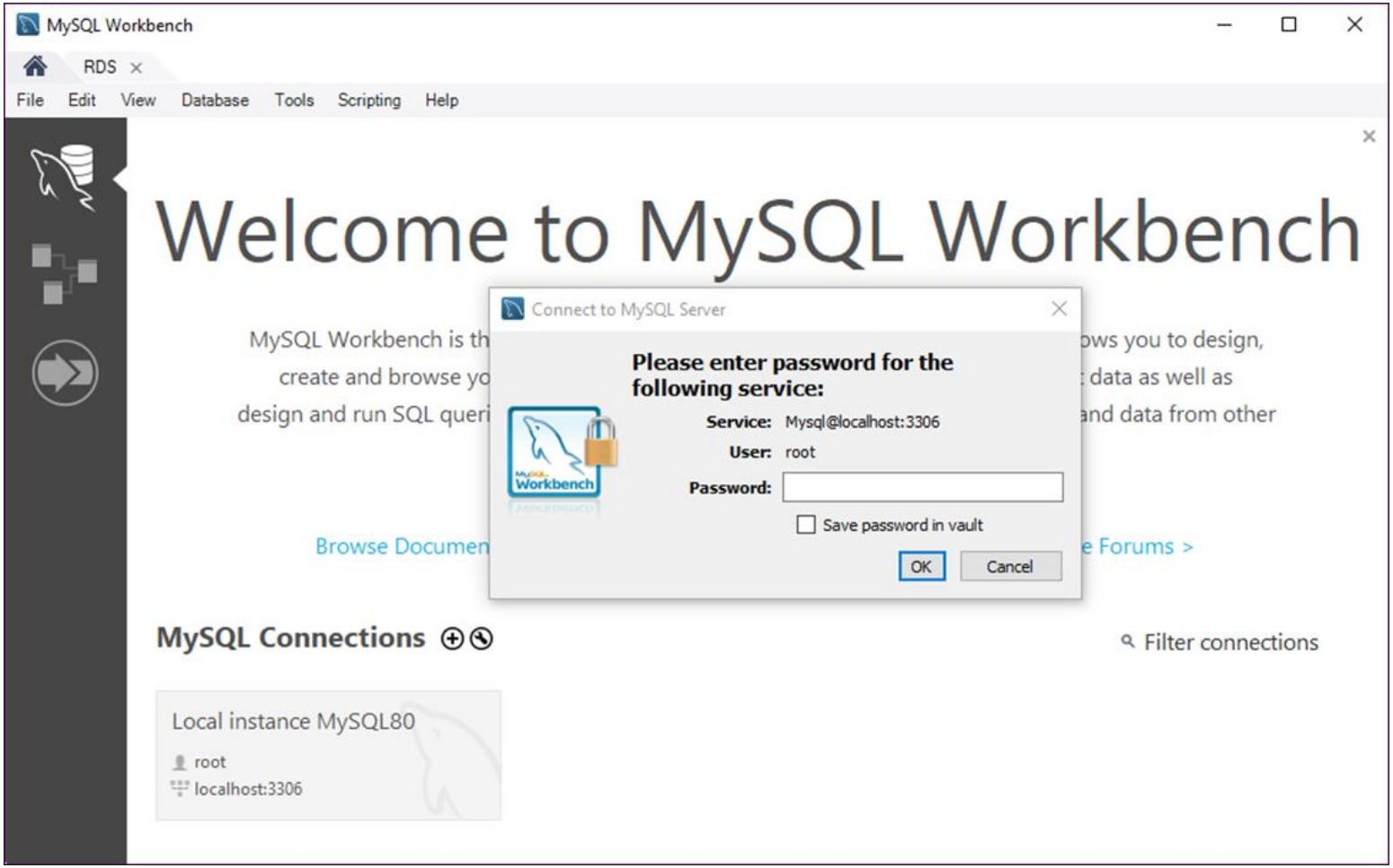
The dialog box for opening database connections



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How to connect as the root user

1. Click the stored connection for the local instance.
2. Enter a password if prompted.

How to specify your own connection parameters

1. Right-click the connection and select Edit Connection.
2. Enter the connection parameters and click the Close button.

How to create a new connection

1. Click the + icon to the right of MySQL Connections
2. Enter the connection parameters and click the OK button.

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How to save a password

- Check the “Save password in vault” option when prompted for your password.

How to clear a password

1. Right-click the connection.
2. Select Edit Connection.
3. Click the Clear button for the password.
4. Click the Close button.

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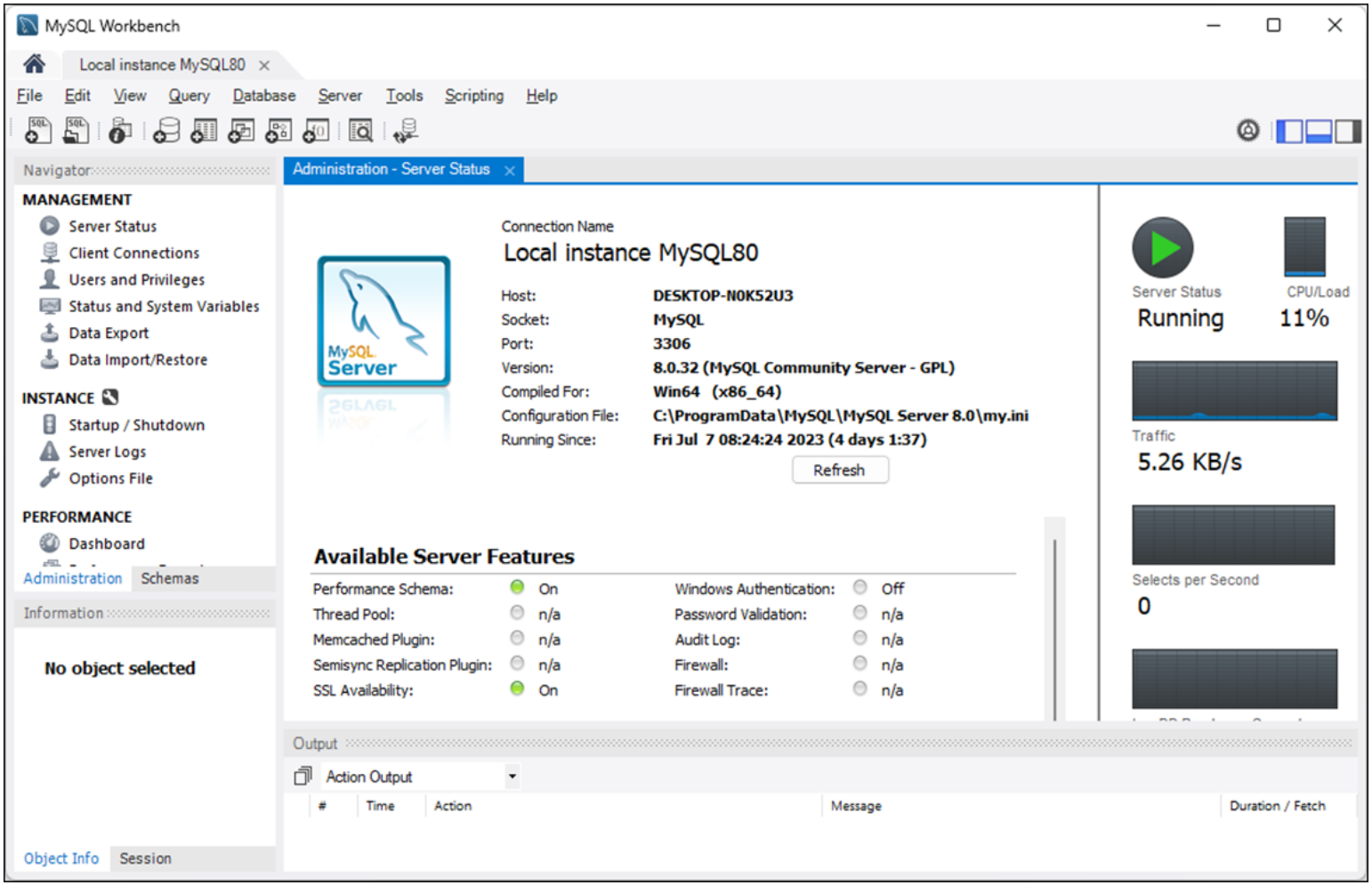
The Server Status option of MySQL Workbench



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How to view the status of the database server

1. Connect to the local server and enter the password if prompted.
2. Display the Administration tab of the Navigator window.
3. Select the Server Status option from the Management category.

Note

- After you install MySQL, the *database server* usually starts automatically each time you start your computer.

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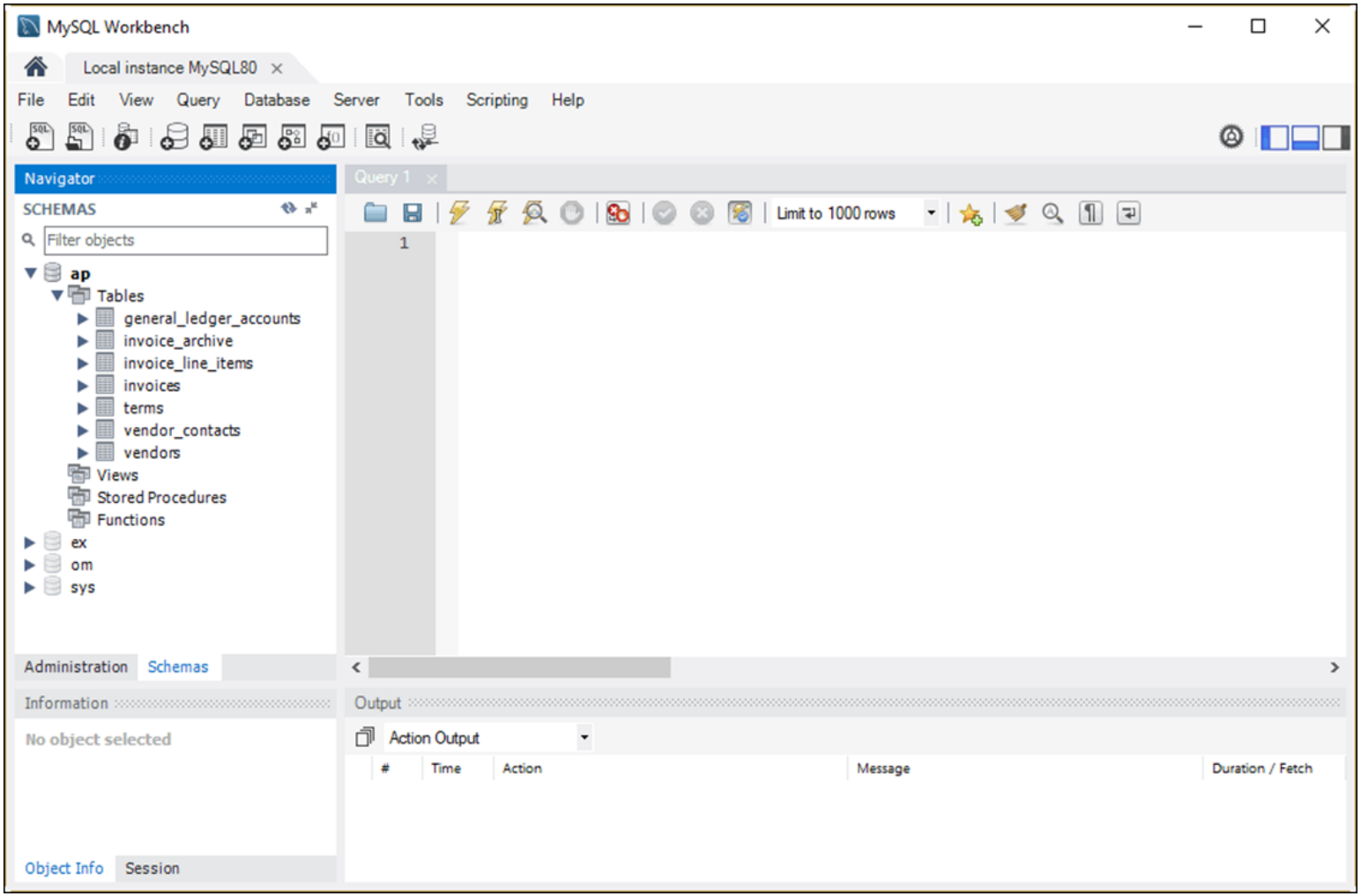
The tables available for the AP database



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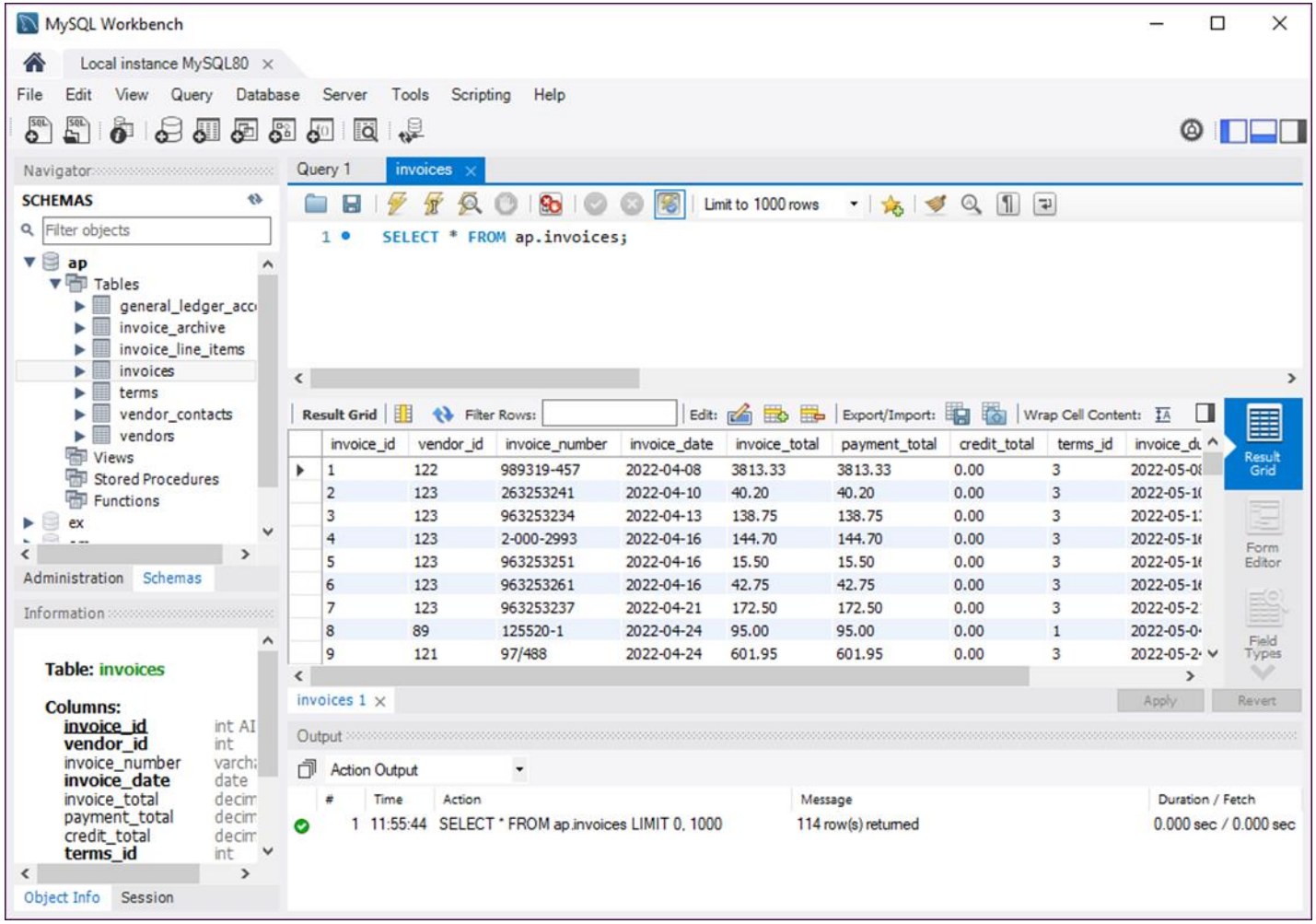
The data for the Invoices table in a Result grid



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How to view the data for a table

1. Right-click the table in the Navigator window.
2. Select Select Rows - Limit 1000 to display it in a Result grid.

How to edit the data for a table

1. View the data.
2. Use the buttons at the top of the Result grid to insert, update, and delete rows.
3. Click the Apply button at the bottom of the tab to apply changes.

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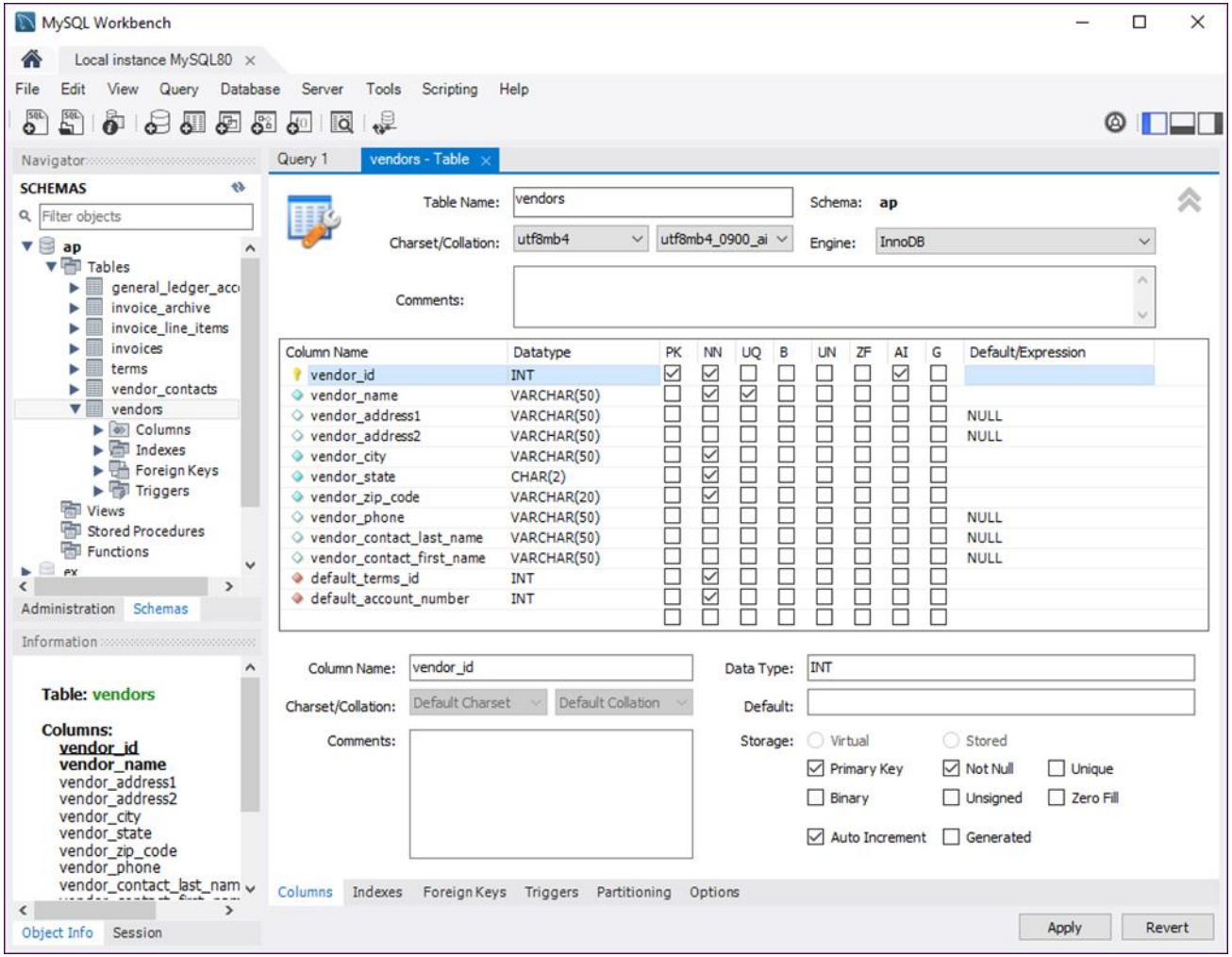
The column definitions for the Vendors table



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How to view the column definitions

1. Right-click the table name in the Navigator window.
2. Select Alter Table.

How to edit the column definitions

1. View the column definitions.
2. Use the resulting window to add new columns and modify and delete existing columns.

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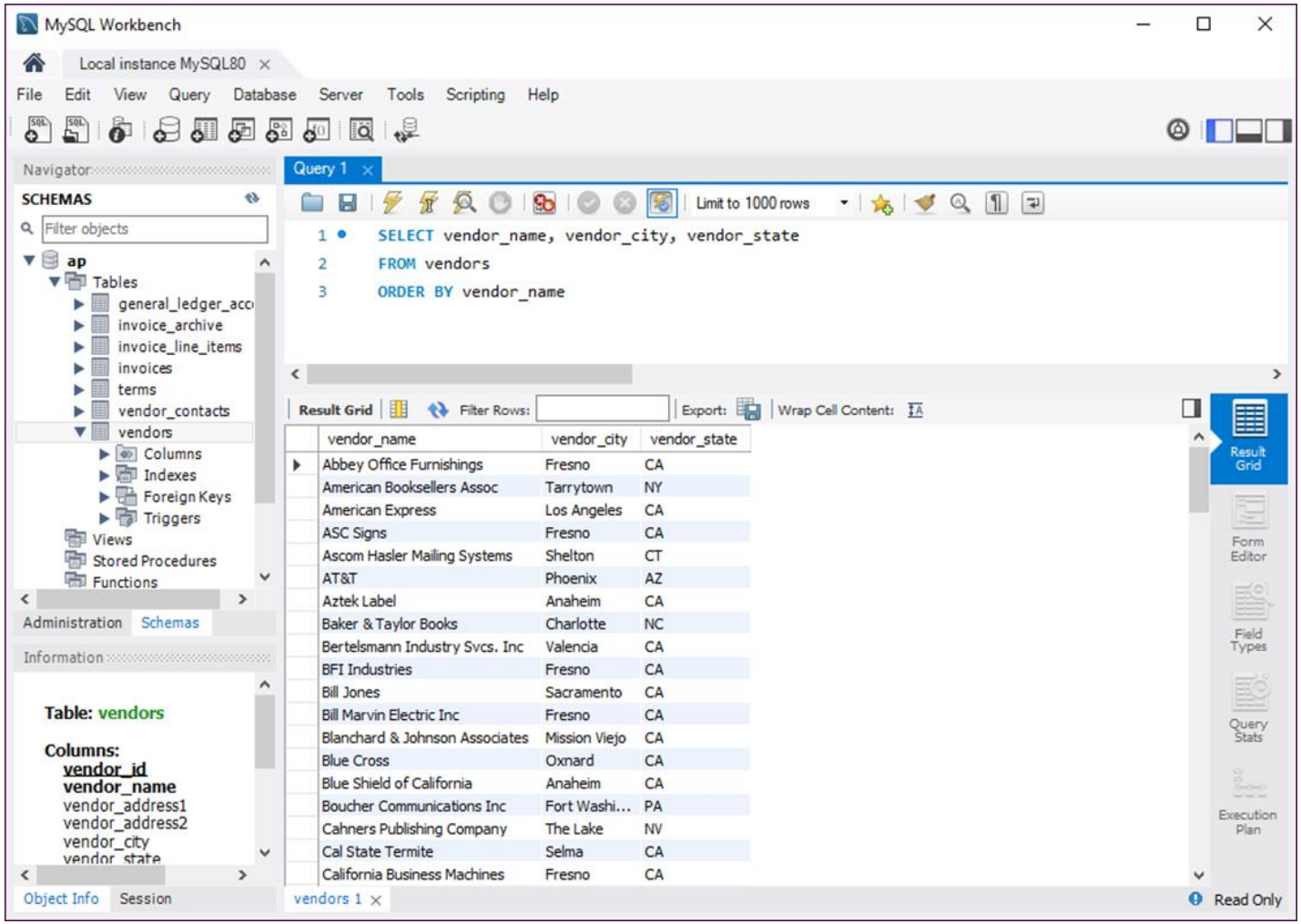
A SELECT statement and its results



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How to enter a SQL statement

1. Press Ctrl+T or click the Create New SQL Tab button in the SQL Editor toolbar to open a new SQL Editor tab.
2. Double-click a database in the Schemas tab of the Navigator window to select it.
3. Type the SQL statement into the SQL editor.

How to execute a SQL statement

1. Press Ctrl+Enter or click the Execute Statement button in the SQL Editor toolbar.
2. If the statement retrieves data, the data is displayed in a Result grid.

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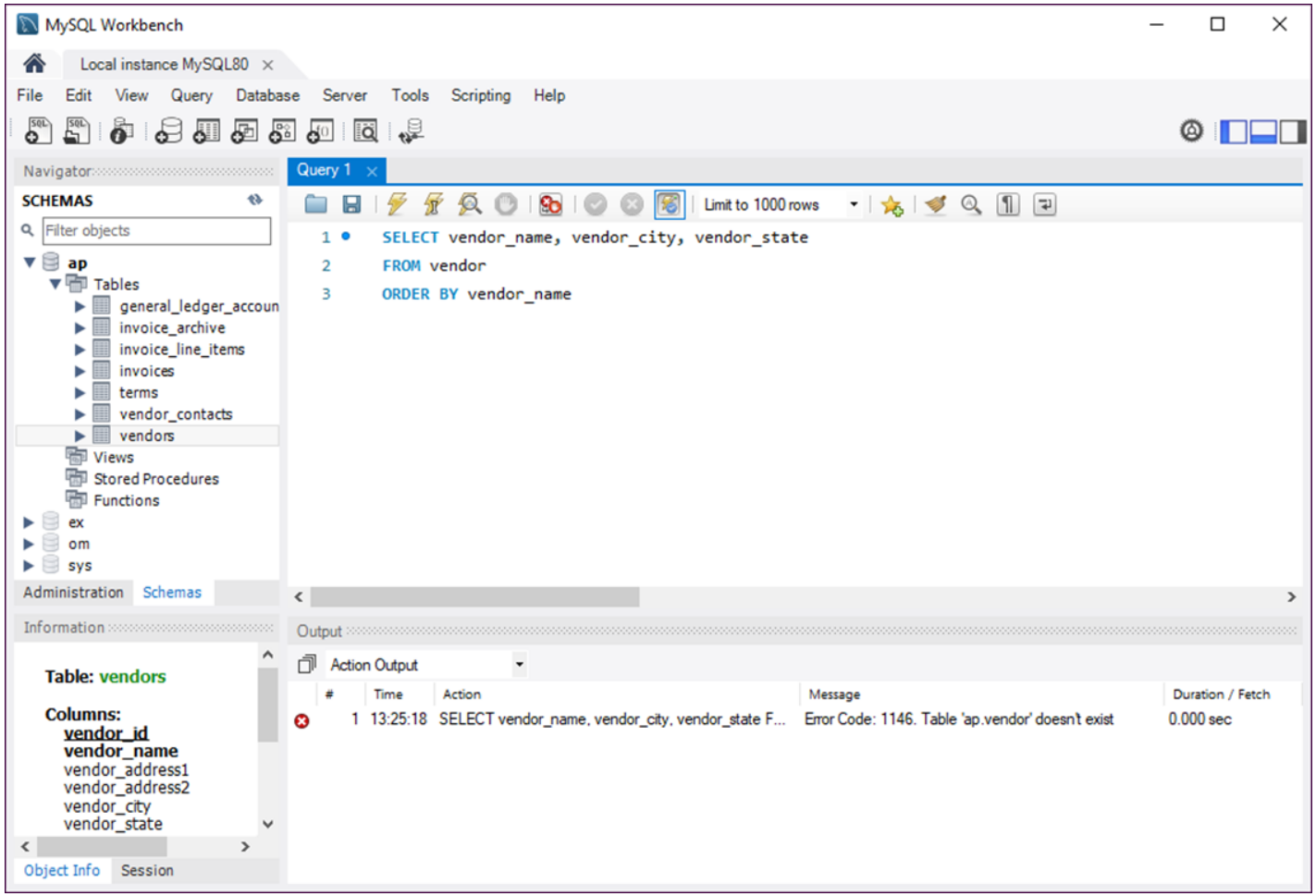
How to handle syntax errors



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Common causes of errors

- Having the wrong database selected
- Misspelling the name of a table or column
- Misspelling a keyword
- Omitting the closing quotation mark for a character string

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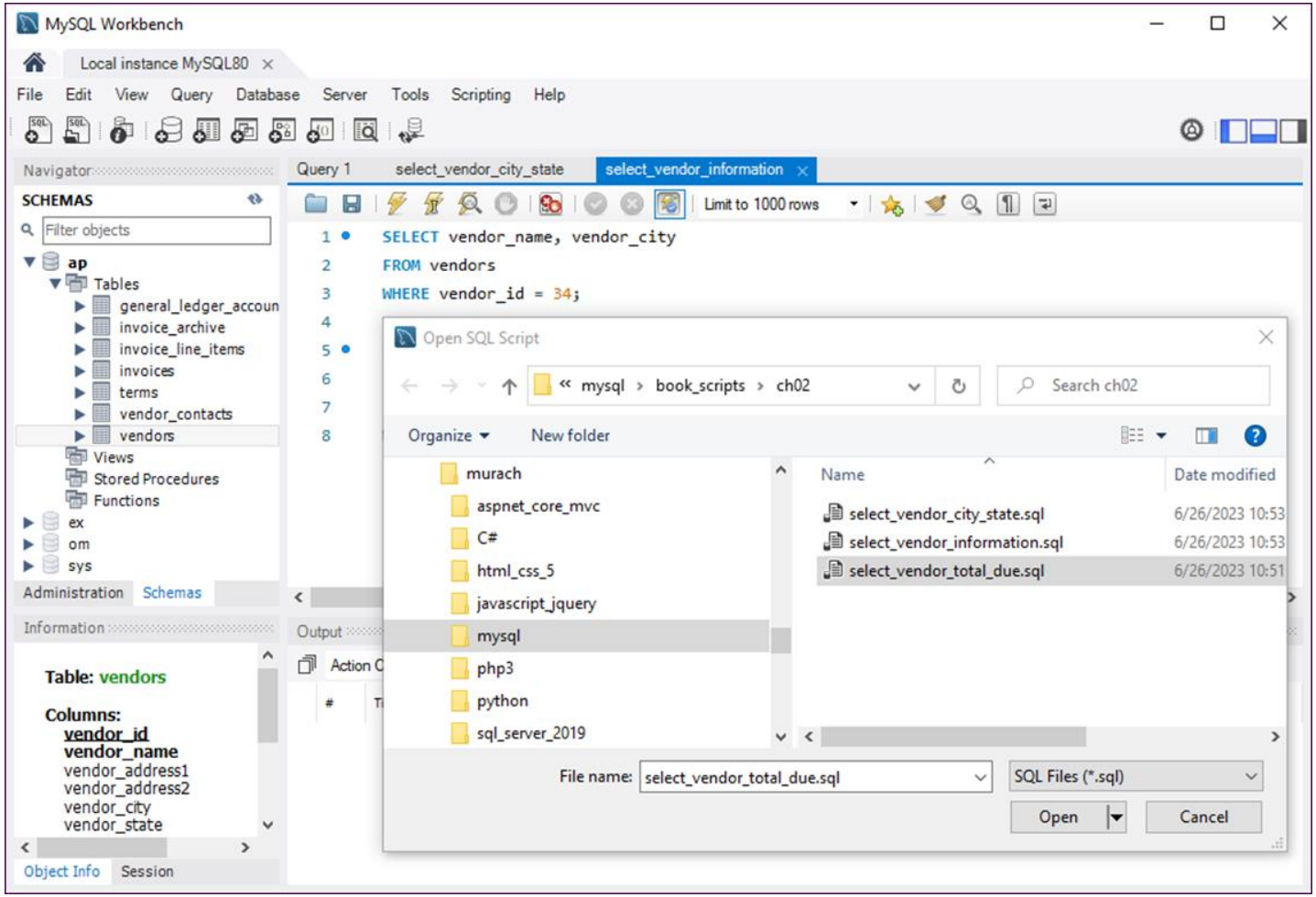
The Open SQL Script dialog box



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How to open a SQL script

1. Click the Open SQL Script File button in the SQL Editor toolbar or press Ctrl+Shift+O.
2. Use the Open SQL Script dialog box to locate and open the SQL script.

How to switch between open files

- Select the appropriate tab.

How to cut, copy, and paste code

- Use the standard techniques.

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How to save a new SQL script

1. Click the Save button in the SQL Editor toolbar or press Ctrl+S.
2. Use the Save SQL Script dialog box that's displayed to specify a location and name for the file.

How to save a modified script to a new file

1. Press Ctrl+Shift+S or select File→Save Script As.
2. Use the Save SQL Script dialog box that's displayed to specify a location and name for the file.

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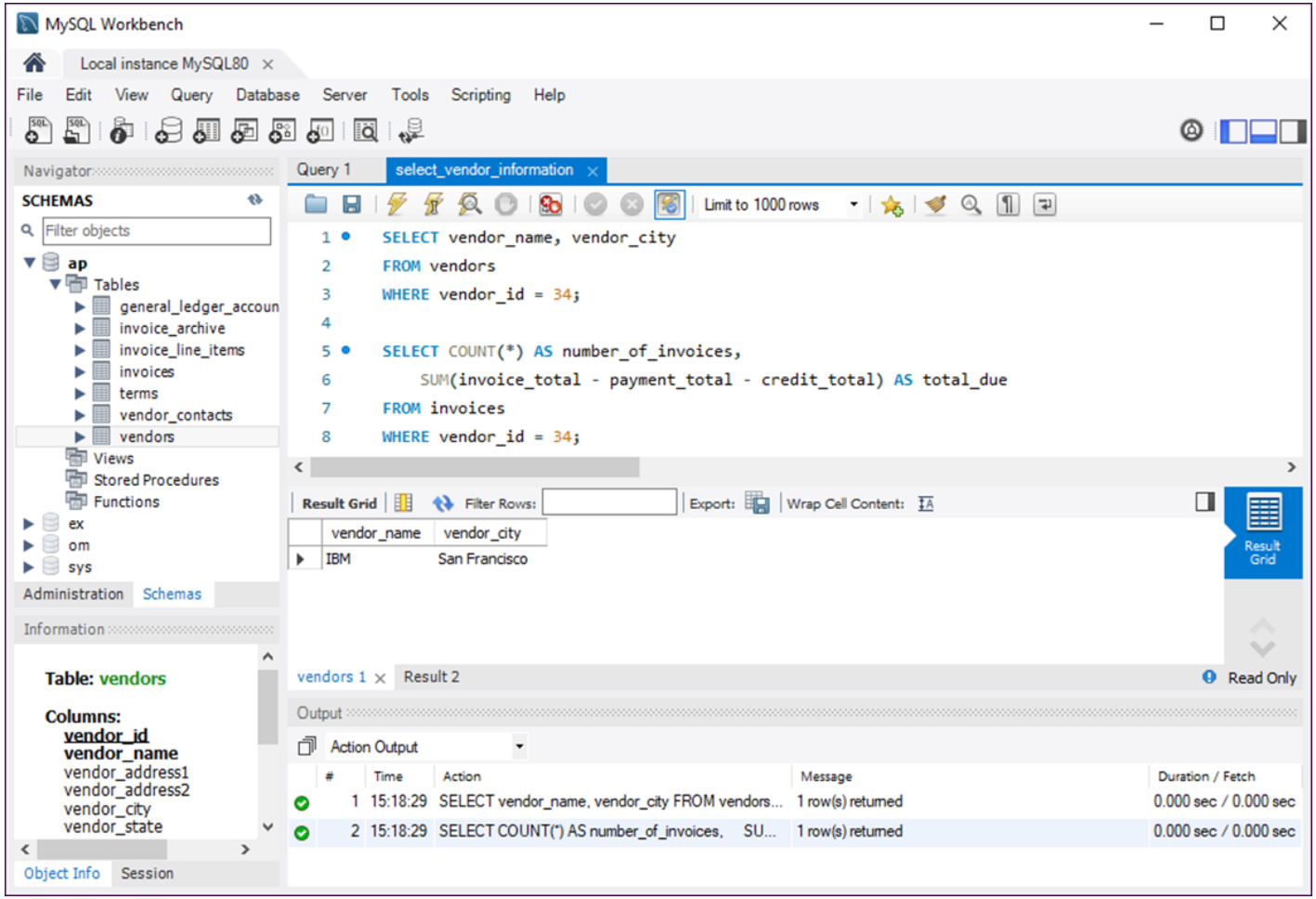
A SQL script and its results



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How to run an entire script

- Press Ctrl+Shift+Enter or click the Execute Script button.

How to run one statement within a script

1. Move the insertion point into the statement you want to execute.
2. Press Ctrl+Enter or click the Execute Statement button.

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How to run two or more statements within a script

1. Select the statements you want to execute.
2. Press Ctrl+Shift+Enter or click the Execute Script button.

Notes

- The results of each statement that returns data are displayed in a separate Result grid.
- If a script contains more than one statement, you must code a semicolon at the end of each statement.

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The web address for the MySQL 8.0 Reference Manual

https://dev.mysql.com/doc/refman/8.0/en/

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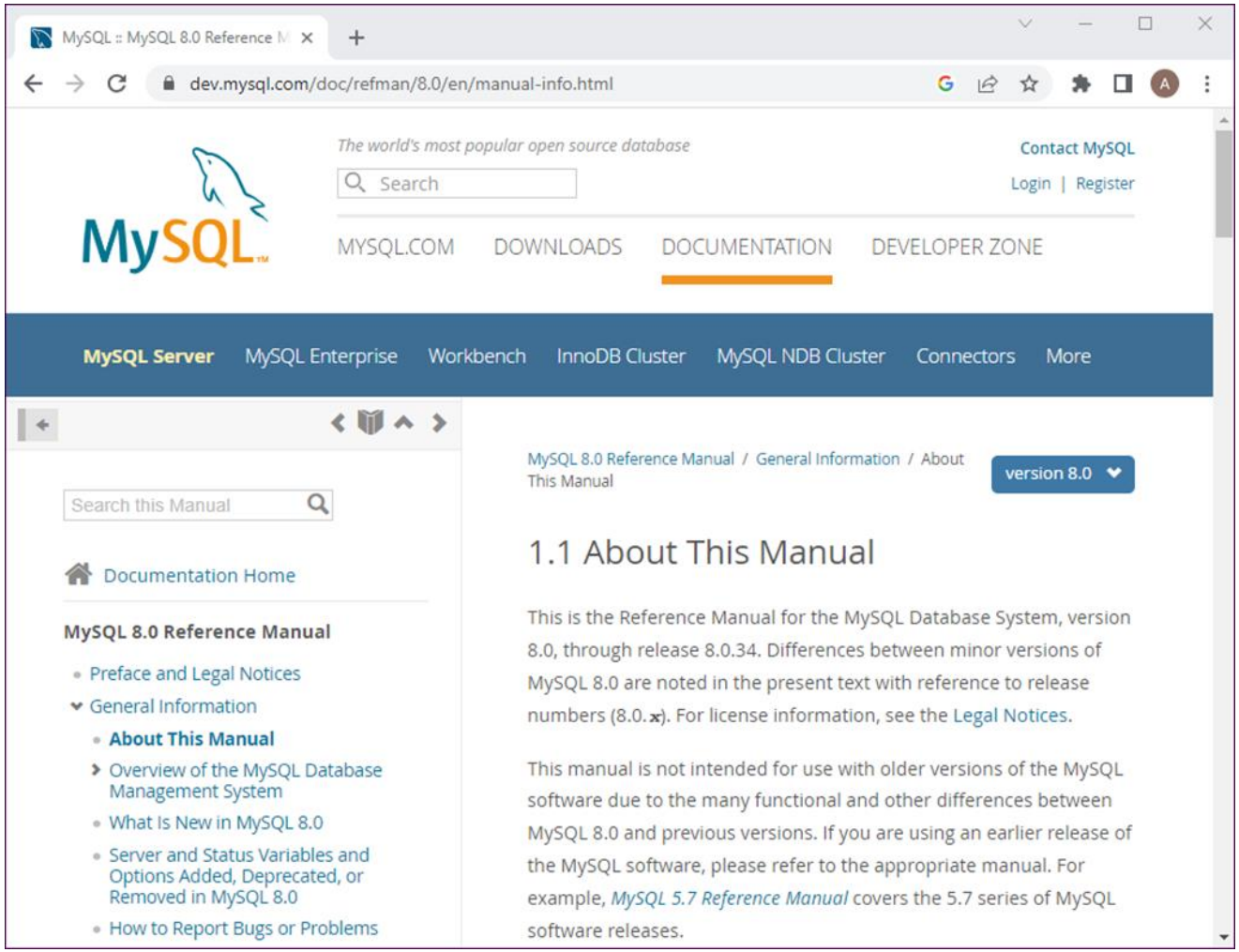
A web page from the MySQL Reference Manual



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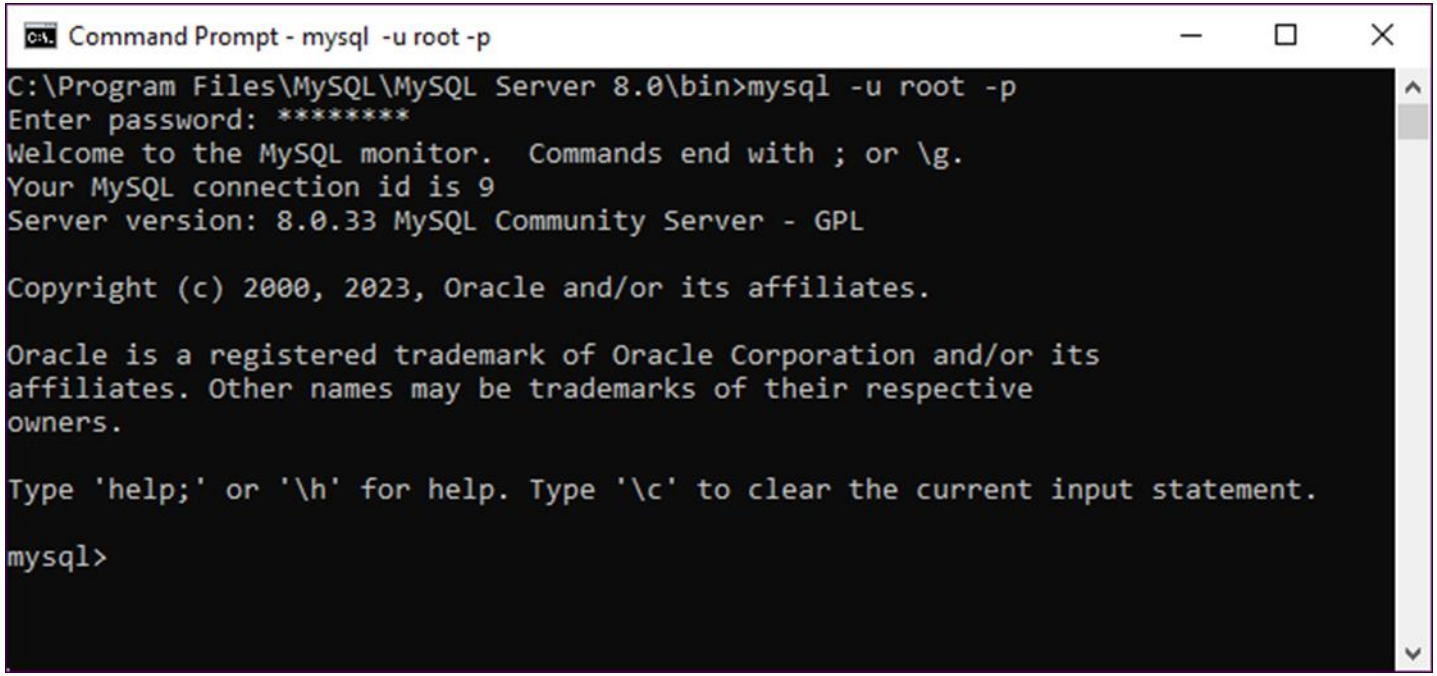
The MySQL Command Line Client in Windows



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How to start the MySQL Command Line Client from the command line

For Windows

```
cd \Program Files\MySQL\MySQL Server 8.0\bin
mysql –u root -p
```

For macOS

```
cd /usr/local/mysql/bin
./mysql –u root -p
```


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The syntax of the mysql command

```
mysql -h hostname -u username -p
```

Examples of the mysql command

```
mysql -u ap_tester -p
mysql -h localhost -u root -p
mysql -h murach.com -u ap_tester -p
```

How to exit from the MySQL Command Line Client

```
mysql> exit;
```


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How to list the names of all databases managed by the server

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| ap                 |
| ex                 |
| information_schema |
| mysql              |
| om                 |
| performance_schema |
| sys                |
+--------------------+
7 rows in set (0.00 sec)
```


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How to select a database for use

```
mysql> use ap;
Database changed
```

How to select data from a database

```
mysql> select vendor_name from vendors limit 5;
+------------------------------+
| vendor_name                  |
+------------------------------+
| Abbey Office Furnishings     |
| American Booksellers Assoc   |
| American Express             |
| ASC Signs                    |
| Ascom Hasler Mailing Systems |
+------------------------------+
5 rows in set (0.00 sec)
```


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