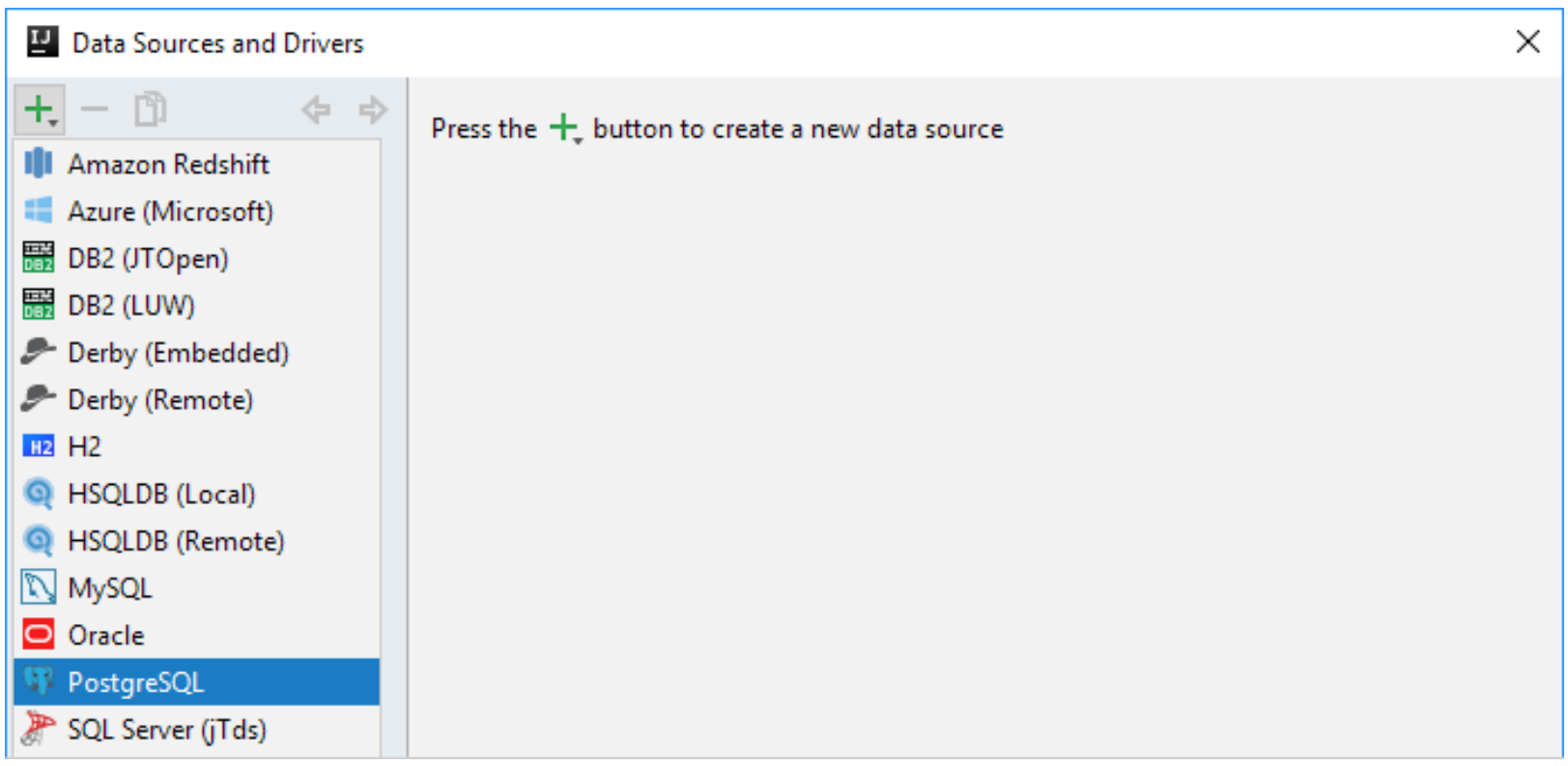
Connecting to a database

To be able to work with your database, define it as a data source. This page provides how tos for popular database management systems and typical situations.

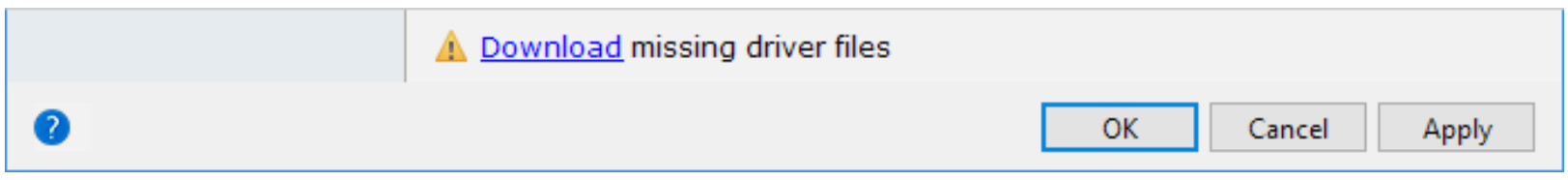
PostgreSQL

1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

2. Click + and select **PostgreSQL**.



3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



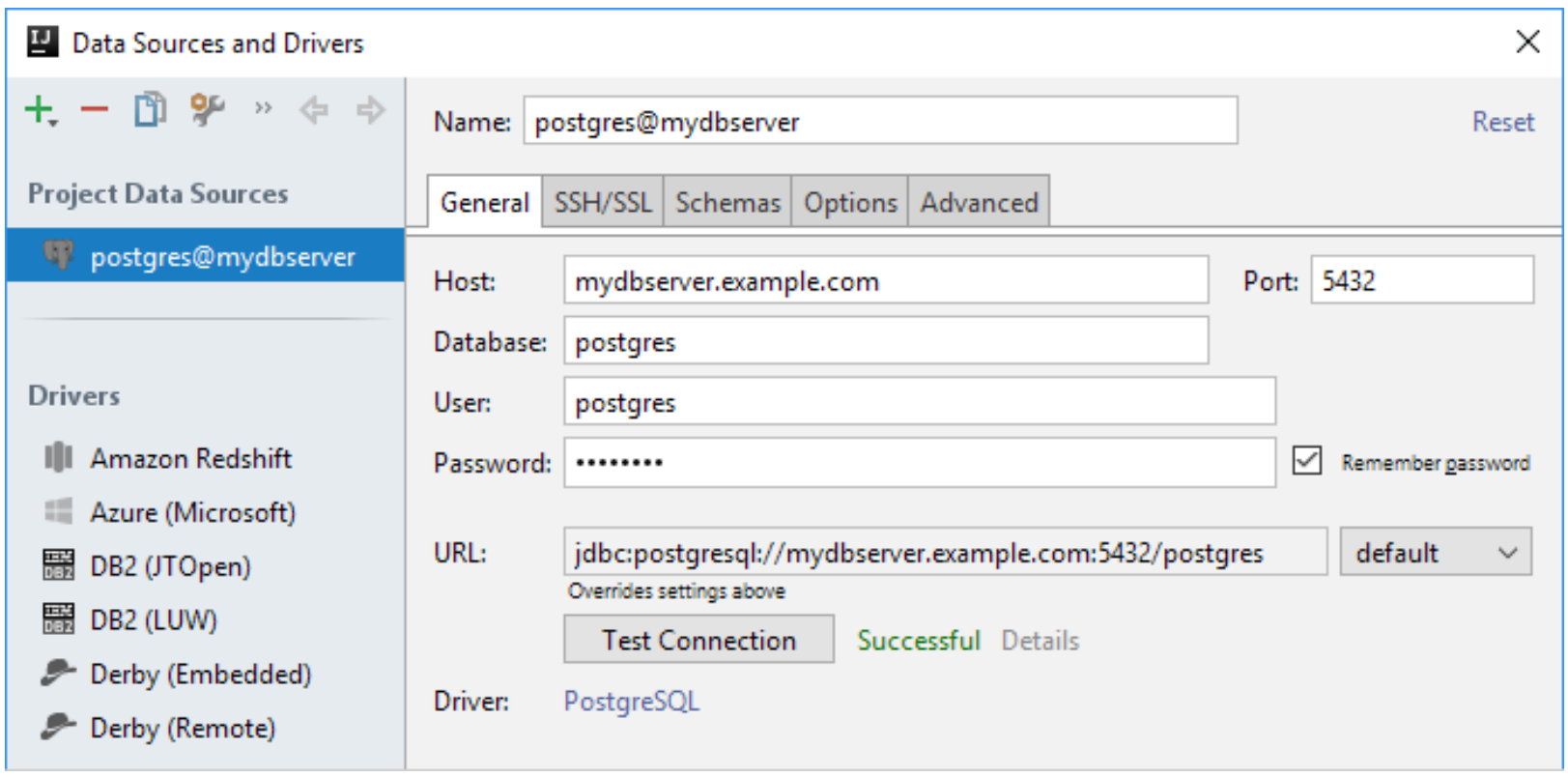
4. Specify the database connection settings and your user account info:

- **Host.** If you database server is on a different computer, replace **`localhost`** with the FQDN or IP address of the server host, e.g. **`mydbserver.example.com`** or **`172.20.240.163`**.
- **Port.** The default PostgreSQL server port is **`5432`**. If your server uses a different port, specify that port.
- **Database.** The name of the database that you are going to work with.
- **User** and **Password.** These are your database user name and password.

5. If necessary, edit the data source name.

6. To connect via SSH, specify the SSH proxy settings.

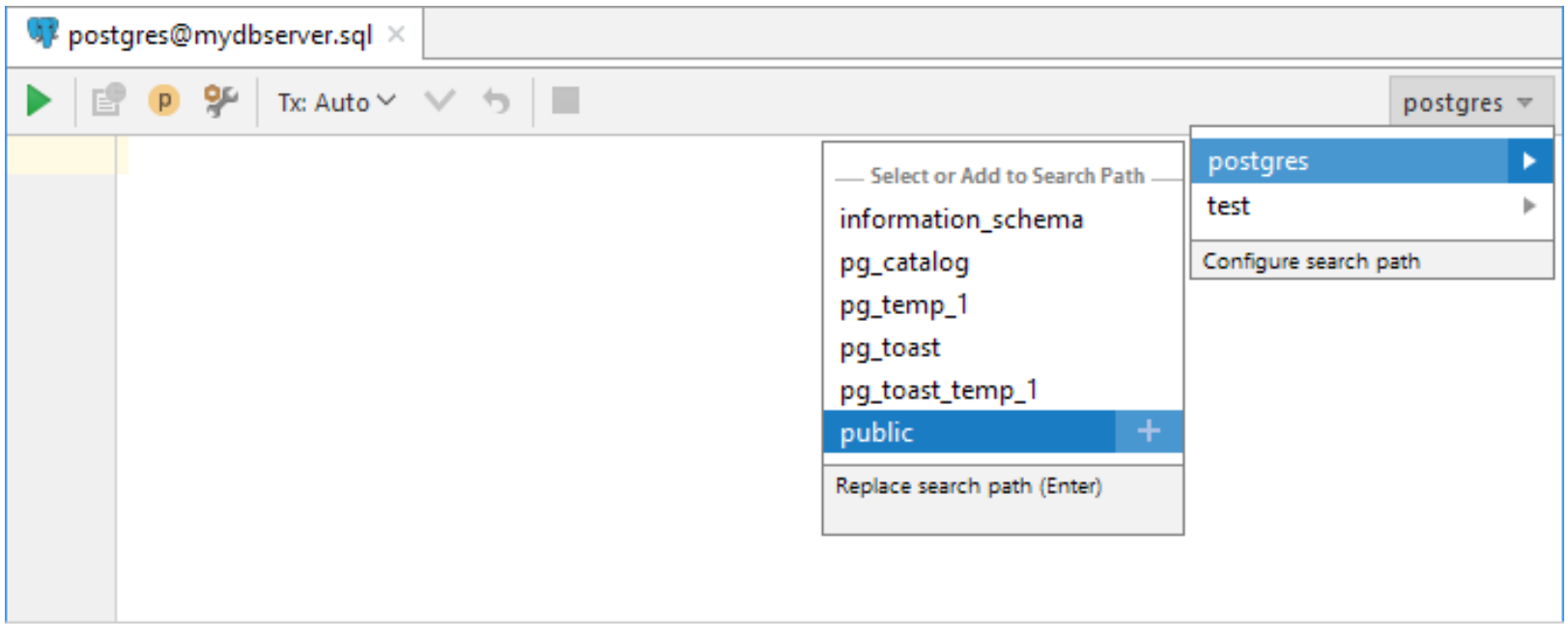
7. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

8. If necessary, form the schema search path using the popup in the upper-right part of the console. For instructions, see Controlling the schema search path for PostgreSQL and Redshift.



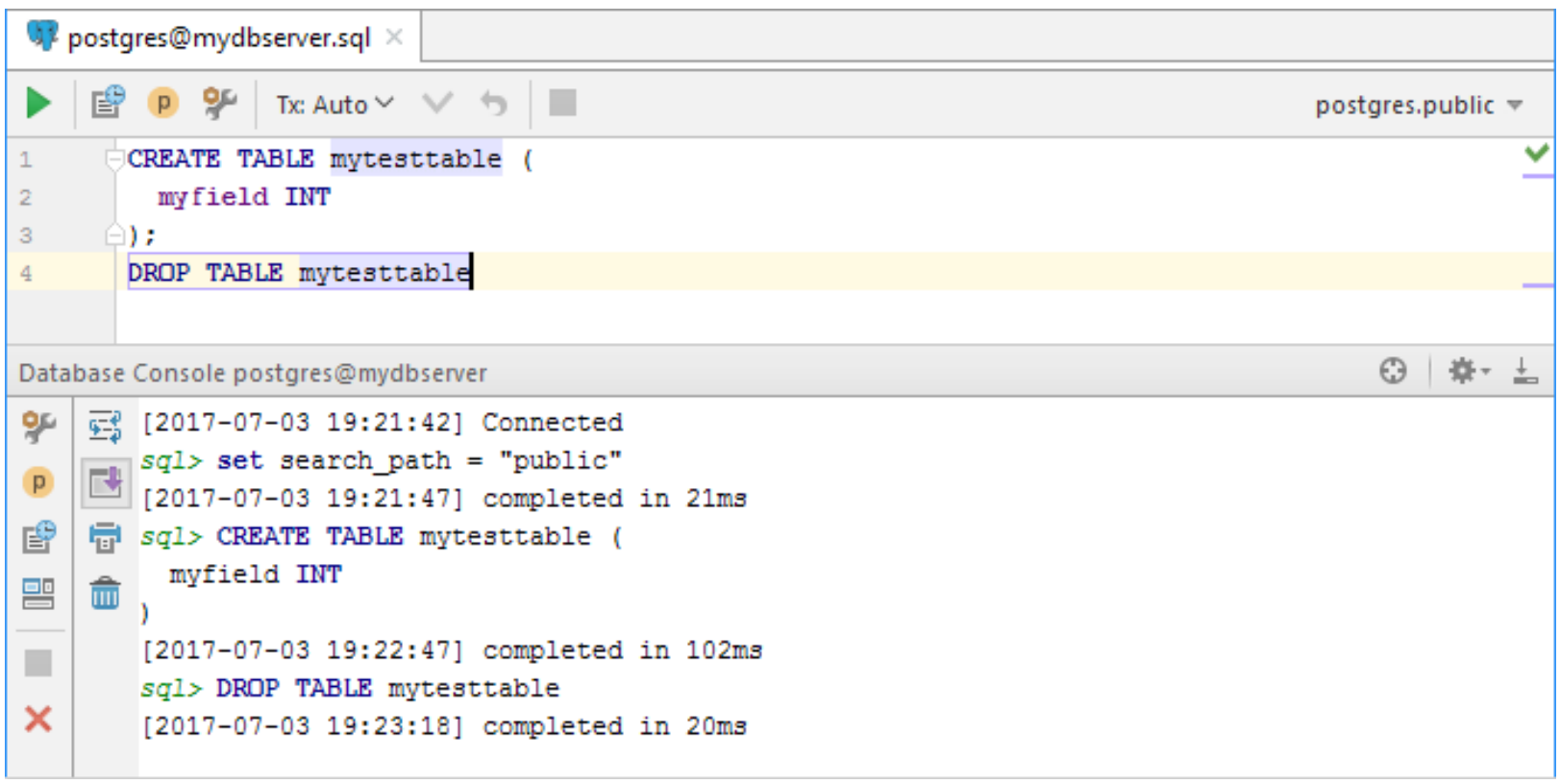
9. Type your query, e.g.

```
CREATE TABLE mytesttable (
  myfield INT
);
```

10. Execute the query: ▶ or Ctrl+Enter.

11. If necessary, execute another query, e.g.

```
DROP TABLE mytesttable
```

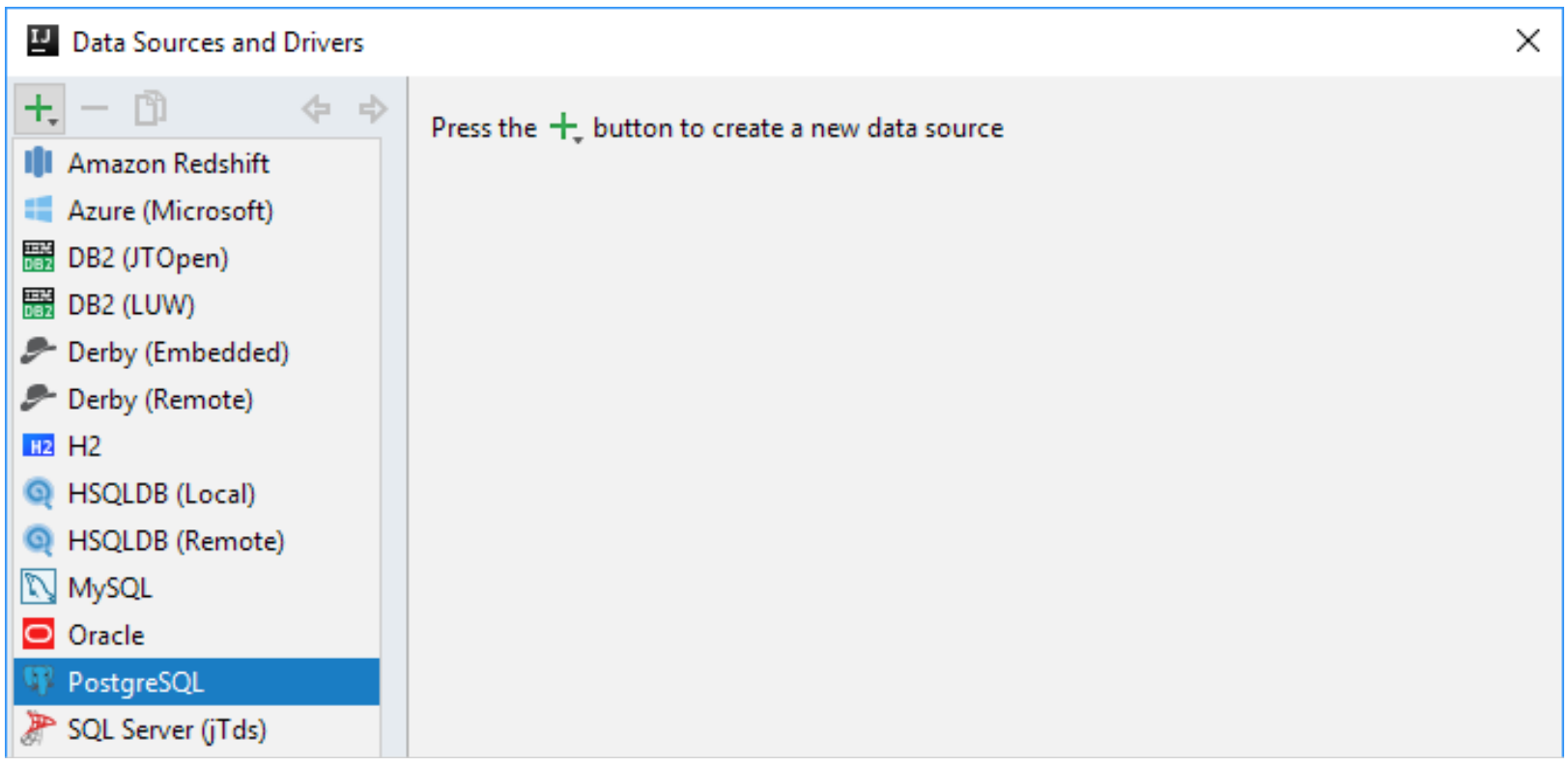


PostgreSQL on Heroku

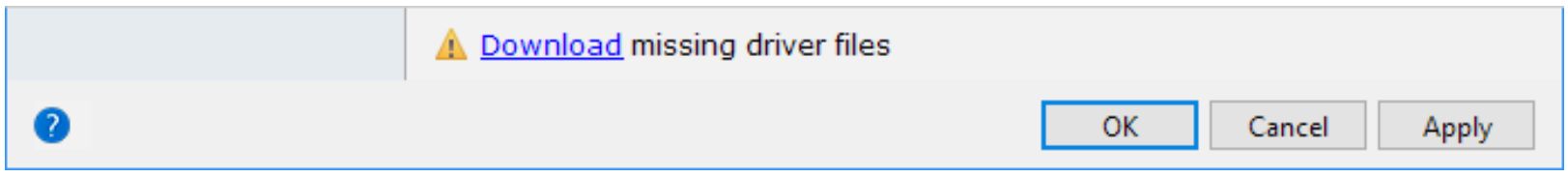
1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**)

and click to open the **Data Sources and Drivers** dialog.

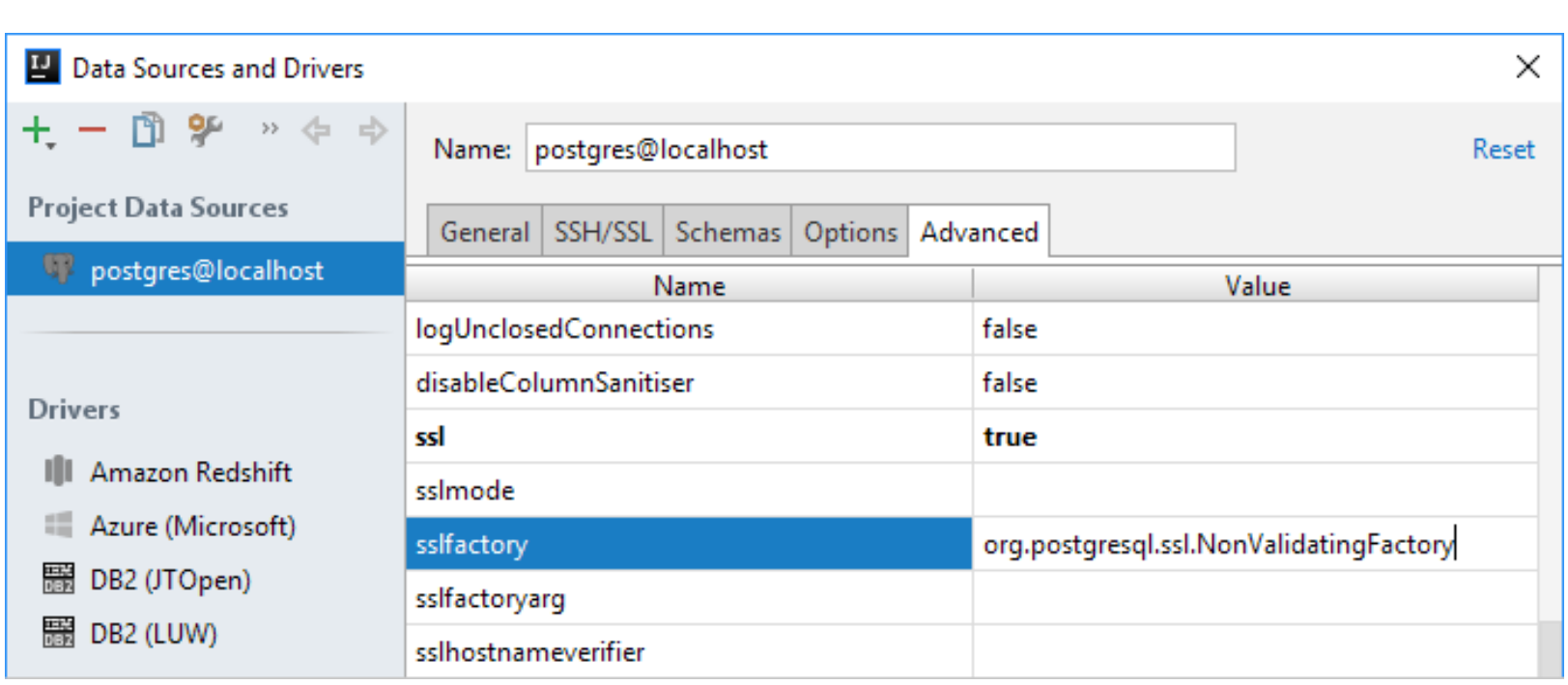
2. Click + and select **PostgreSQL**.



3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



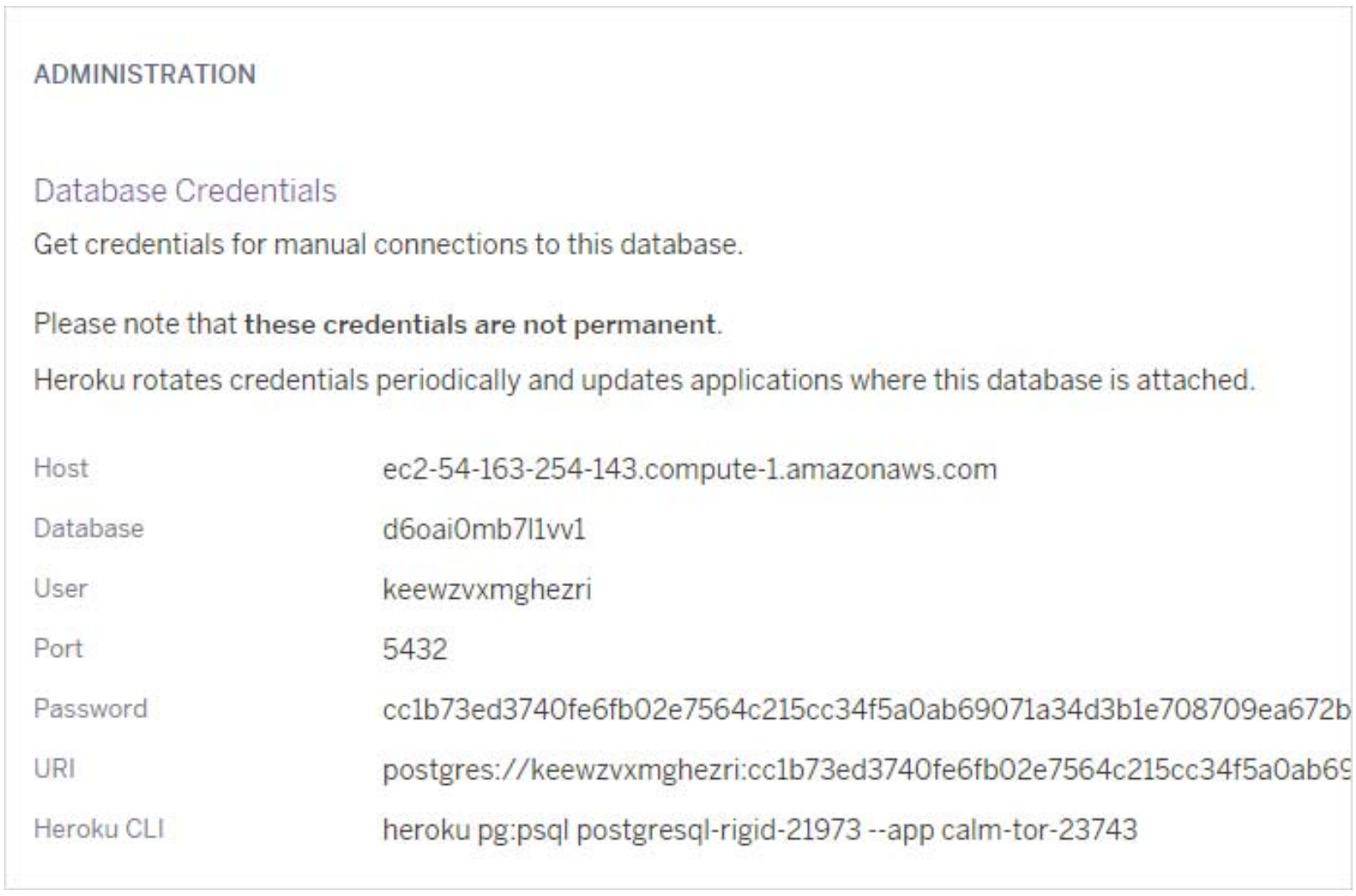
4. Select the **Advanced** tab and specify the following properties:
   - **ssl**: `true`
   - **sslfactory**: `org.postgresql.ssl.NonValidatingFactory`



These will turn SSL on and the certificate validation off.

5. Click **Apply** and select the **General** tab.

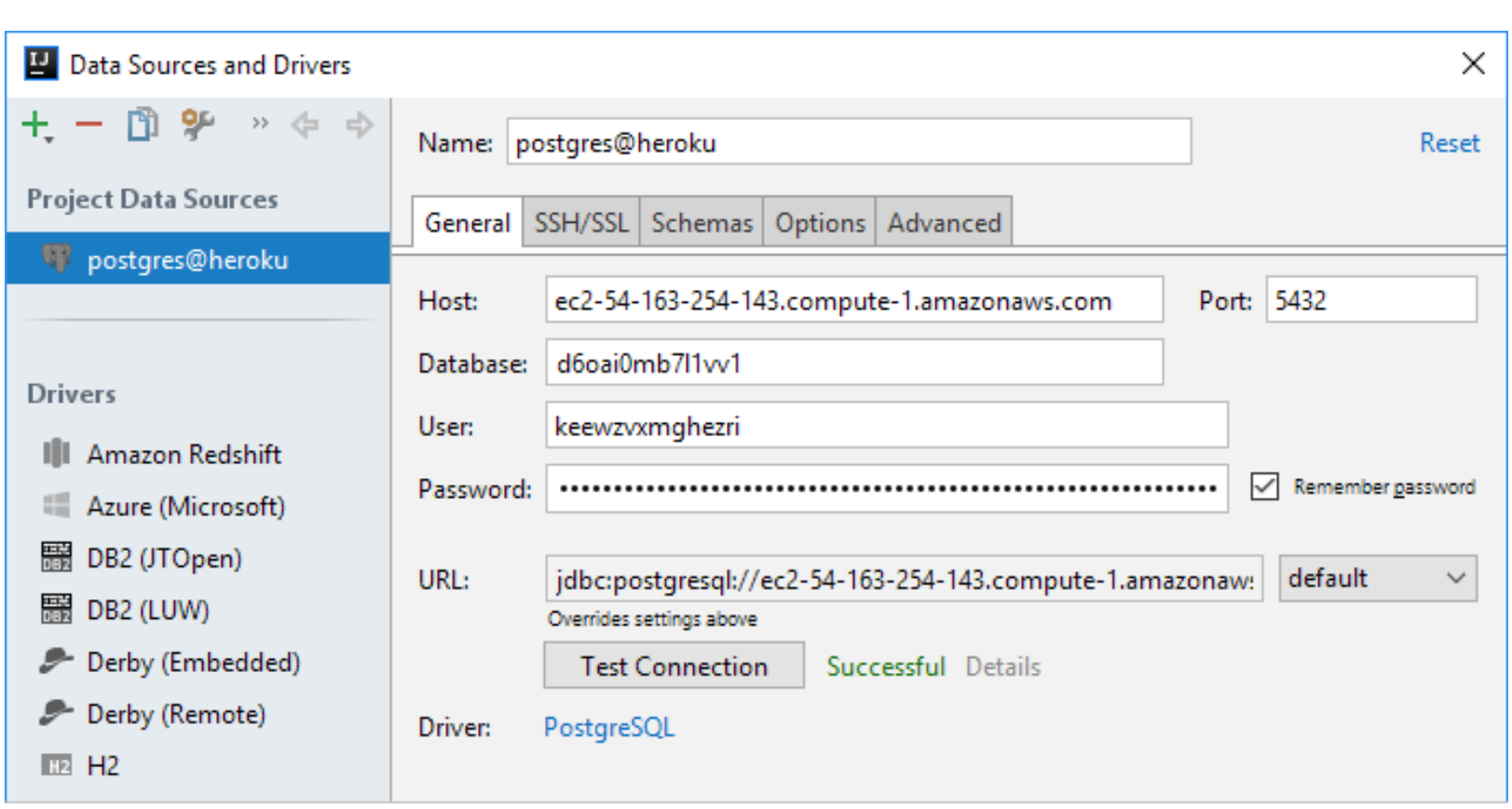
6. Go to your Heroku dashboard and display your database settings: e.g. click your app, under **Installed add-ons**, click **Heroku Postgres**, and then, in the **ADMINISTRATION** section, click **View Credentials**.



7. Copy the settings from the dashboard onto the **General** tab.

8. If necessary, edit the data source name.

9. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

10. If necessary, form the schema search path using the popup in the upper-right part of the console. For instructions, see Controlling the schema search path for PostgreSQL and Redshift.

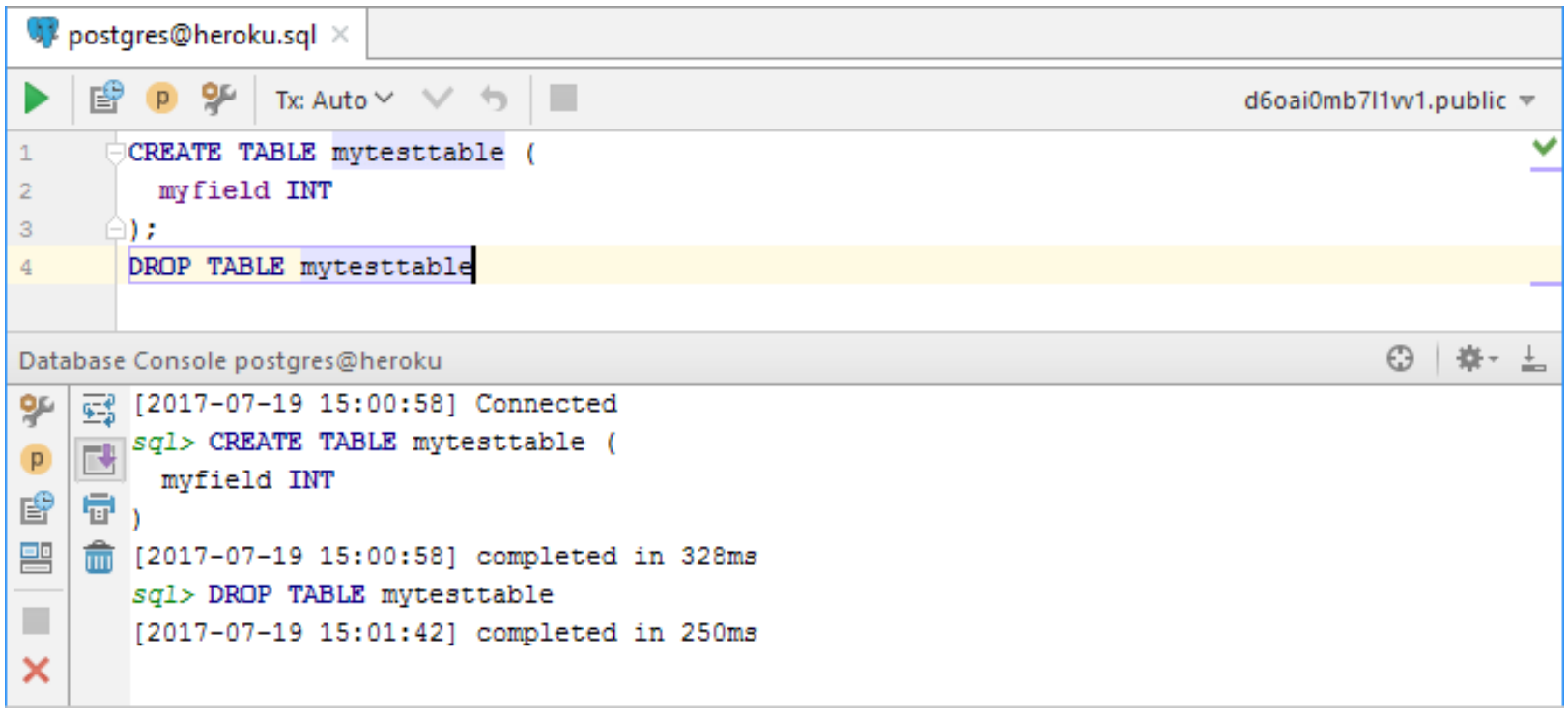
11. Type your query, e.g.

```
CREATE TABLE mytesttable (
  myfield INT
);
```

12. Execute the query: ▶ or Ctrl+Enter.

13. If necessary, execute another query, e.g.

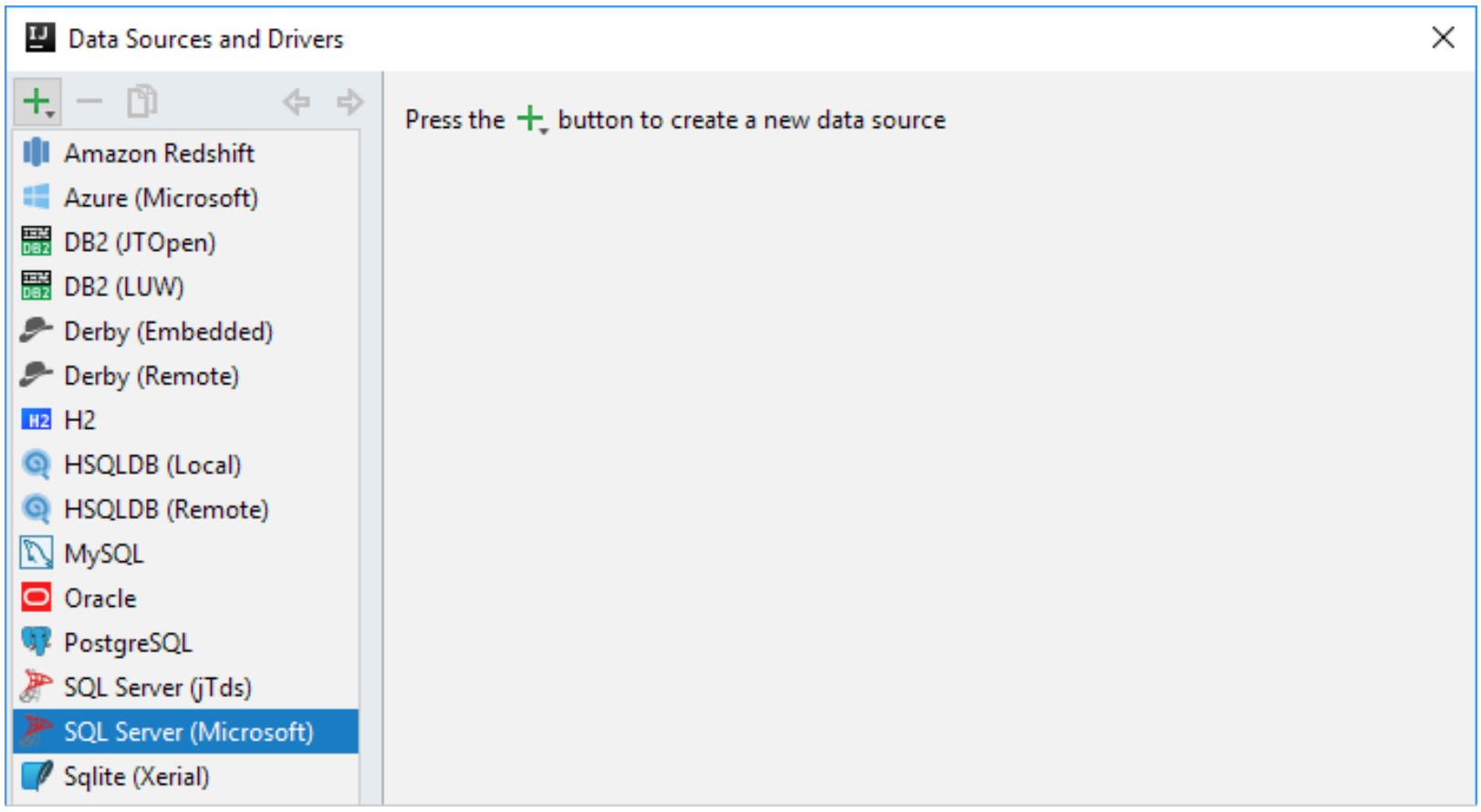
```
DROP TABLE mytesttable
```



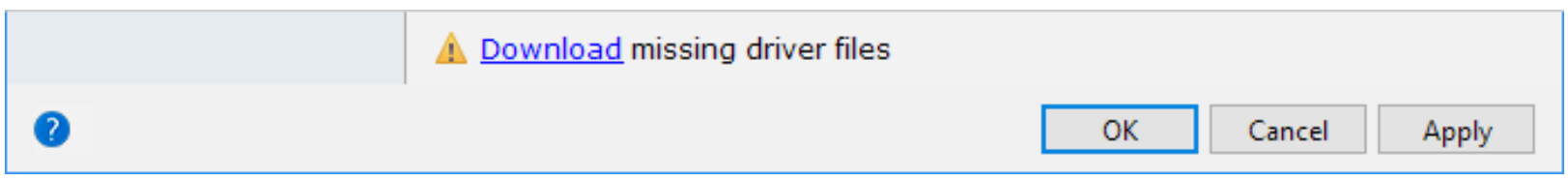
Microsoft SQL Server

1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

2. Click + and select **SQL Server (jTds)** or **SQL Server (Microsoft)**. These options differ only in the database driver that is used: jTDS or Microsoft .

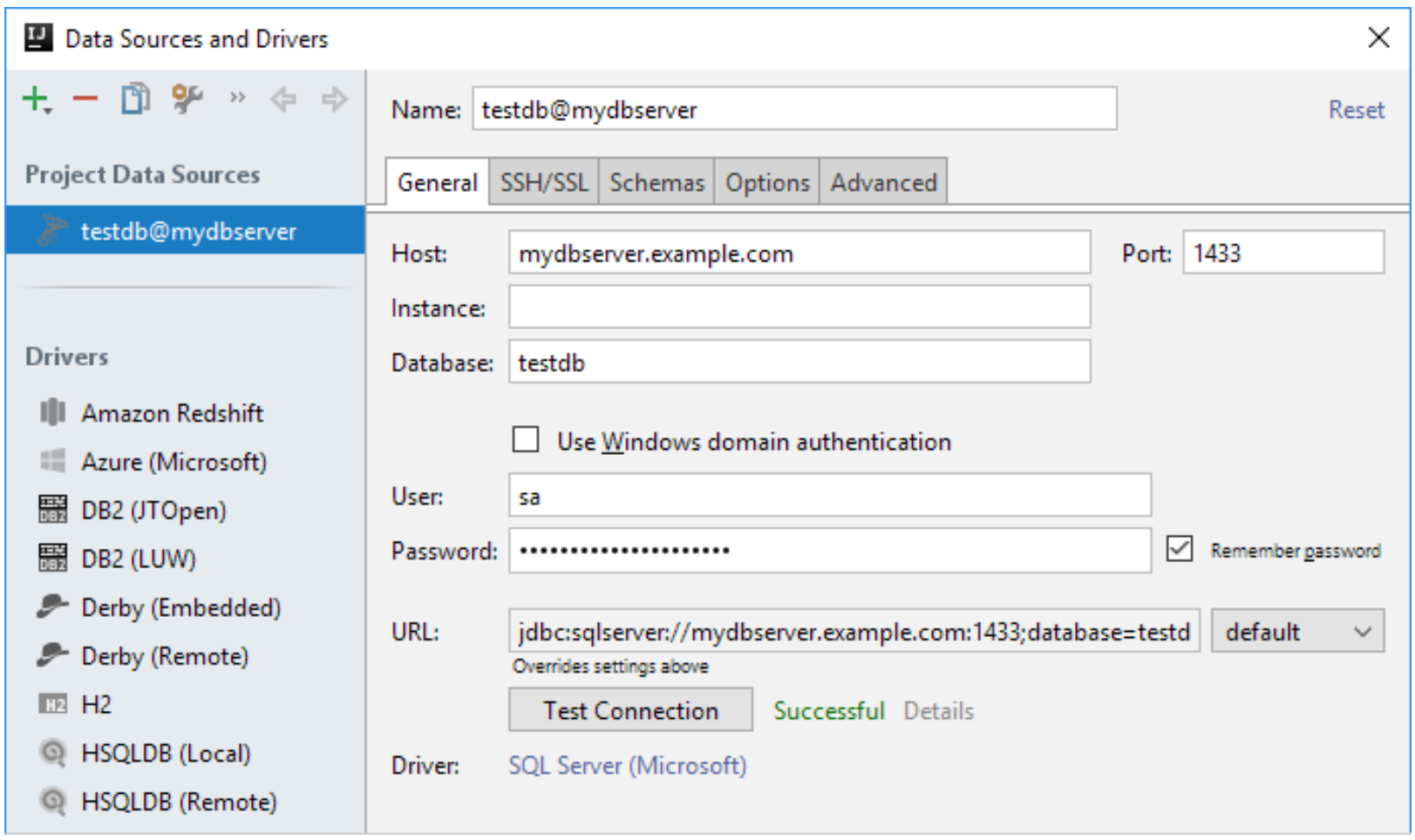


3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



4. Specify the database connection settings and authentication options:
   - **Host.** If you database server is on a different computer, replace **`localhost`** with the FQDN or IP address of the server host, e.g. **`mydbserver.example.com`** or **`172.20.240.163`**.
   - **Port.** Specify the server port; the default port for SQL Server is **`1433`**.
   - **Instance.** If you are connecting to a default server instance, don't specify anything. Otherwise, specify the instance name.
   - **Database.** Specify the name of the database that you are going to work with.
   - **Use Windows domain authentication.** To use Windows Authentication, leave the checkbox selected. To use SQL Server Authentication, clear the checkbox, and specify your user name and password.
5. If necessary, edit the data source name.
6. To connect via SSH, specify the SSH proxy settings.

7. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

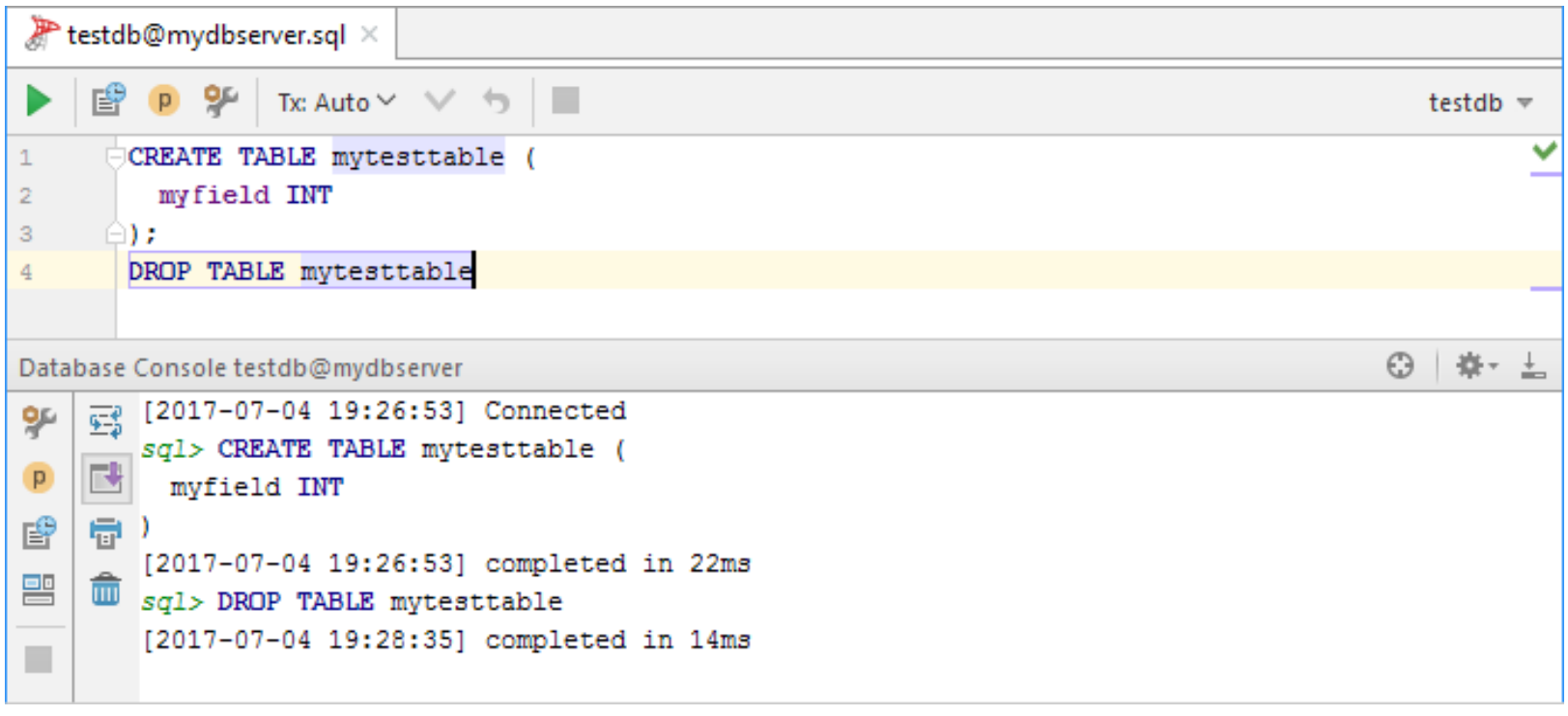
8. Type your query, e.g.

```
CREATE TABLE mytesttable (
  myfield INT
);
```

9. Execute the query: ▶ or Ctrl+Enter.

10. If necessary, execute another query, e.g.

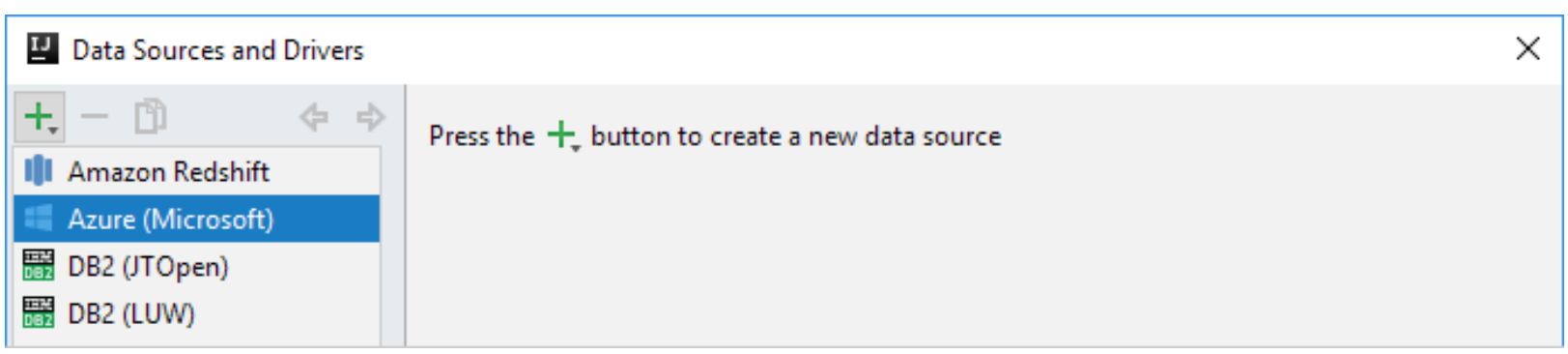
```
DROP TABLE mytesttable
```



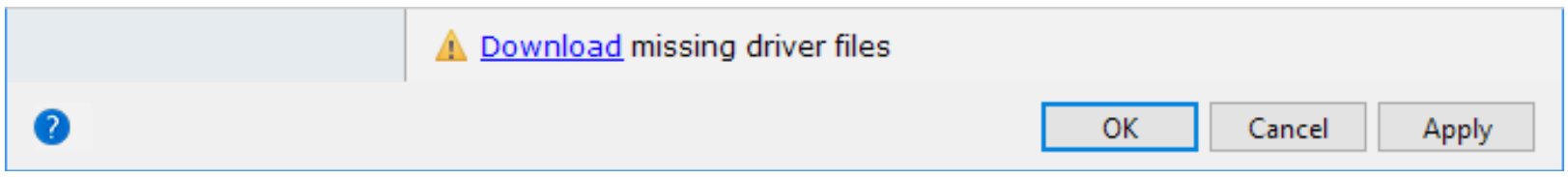
Microsoft Azure

1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

2. Click + and select **Azure (Microsoft)**.



3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



4. Specify the database connection settings and authentication options:

   - **Host.** This is the FQDN of your server. Within the default **`server.database.windows.net`** you, most likely, only need to replace the **`server`** part with the name of your server.
   - **Port.** The default Azure server port is **1433**.
   - **Database.** The name of the database that you are going to work

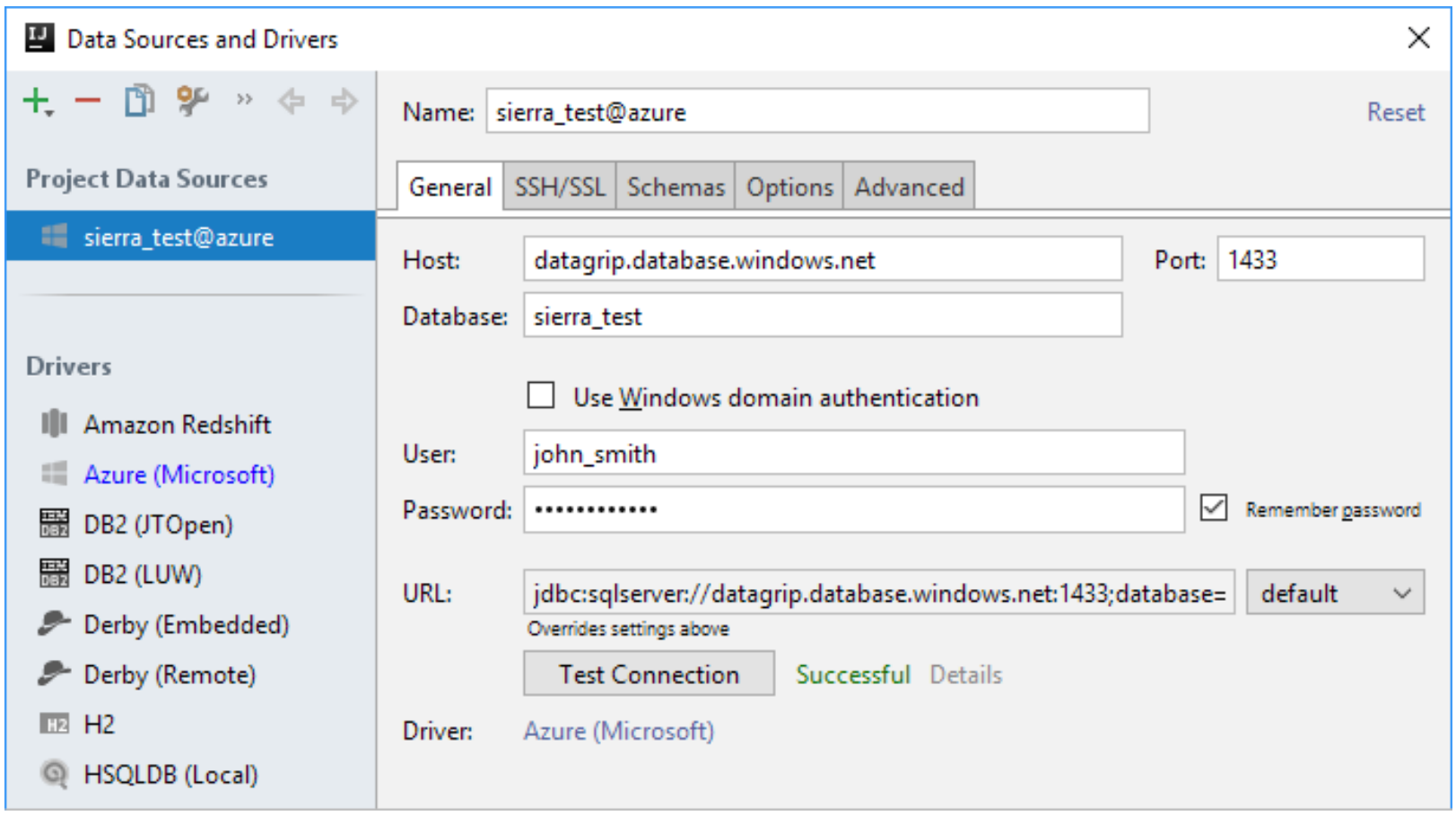
with.

- **Use Windows domain authentication.** To use Azure Active Directory Authentication , leave the checkbox selected. To use SQL Authentication, clear the checkbox, and specify your user name and password.

5. If necessary, edit the data source name.

6. To connect via SSH, specify the SSH proxy settings.

7. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

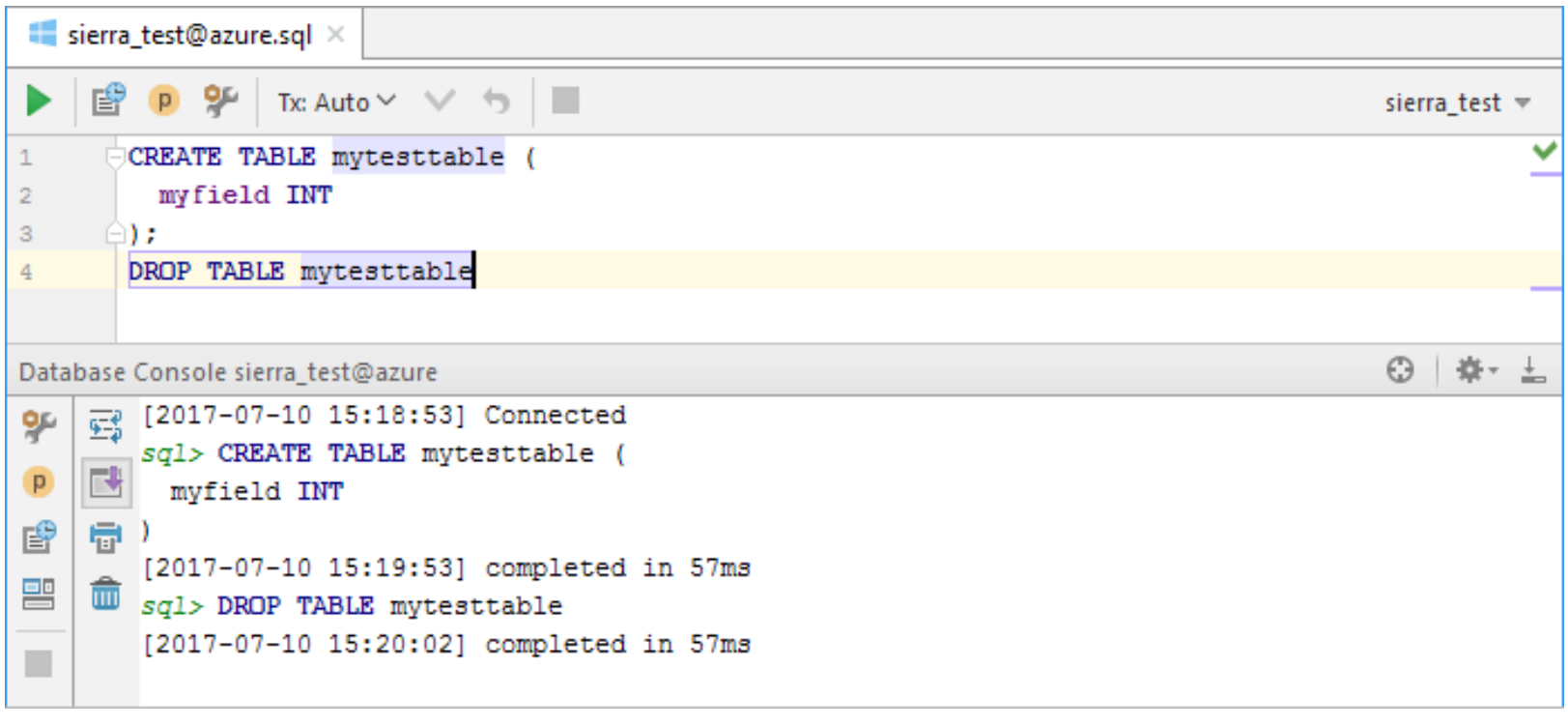
8. Type your query, e.g.

```
CREATE TABLE mytesttable (
  myfield INT
);
```

9. Execute the query: ▶ or Ctrl+Enter.

10. If necessary, execute another query, e.g.

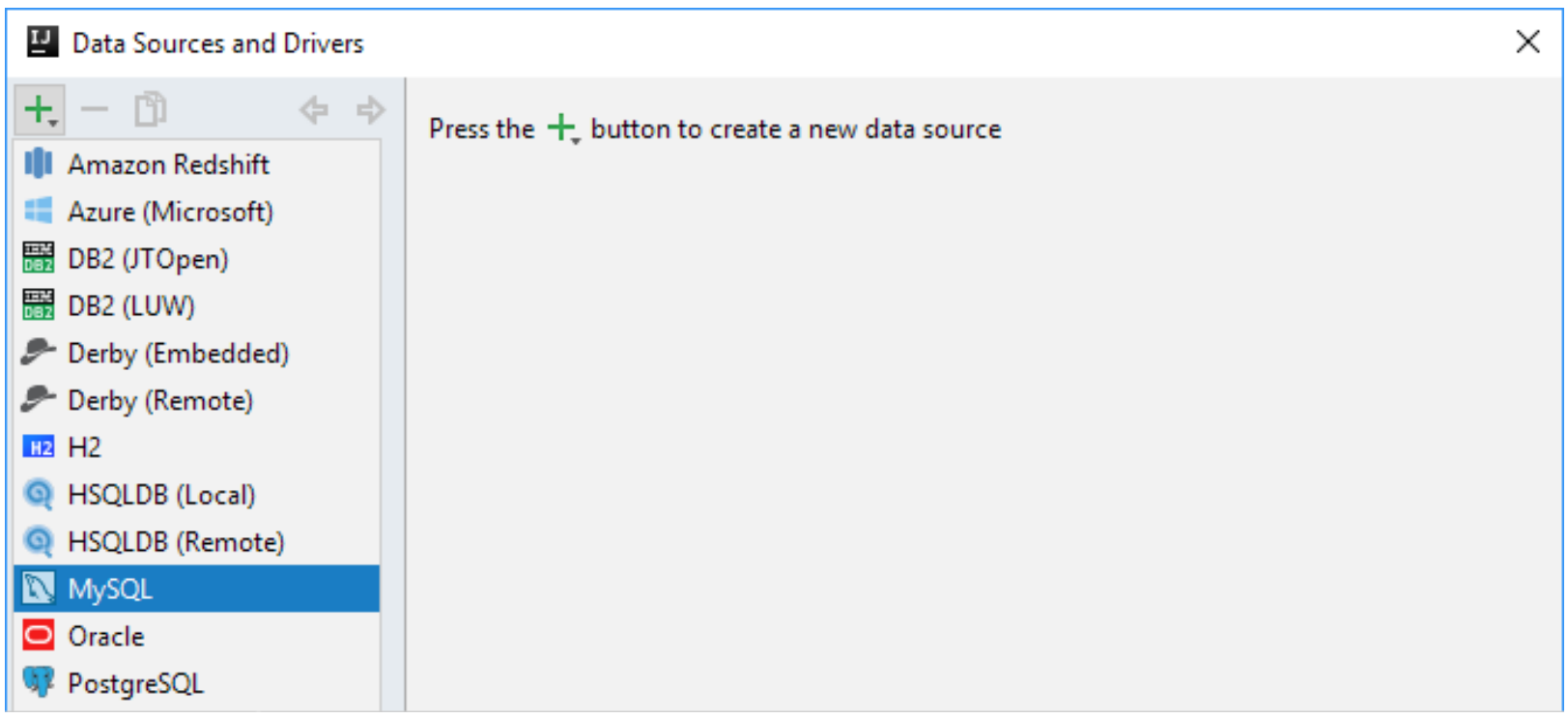
```
DROP TABLE mytesttable
```



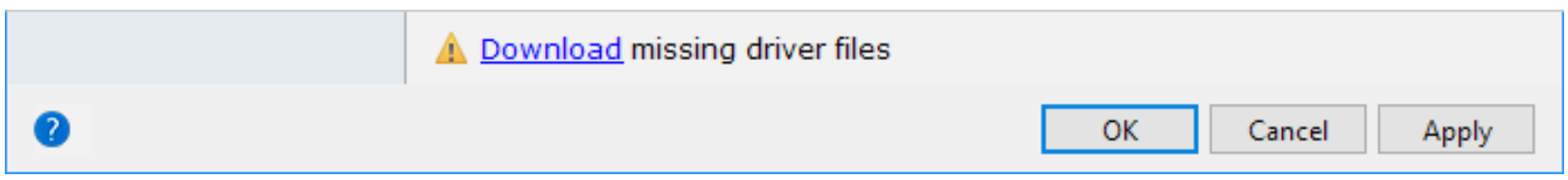
MySQL

1. Open the **Database** tool window (e.g. **View** | **Tool Windows** | **Database**) and click to open the **Data Sources and Drivers** dialog.

2. Click + and select **MySQL**.



3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



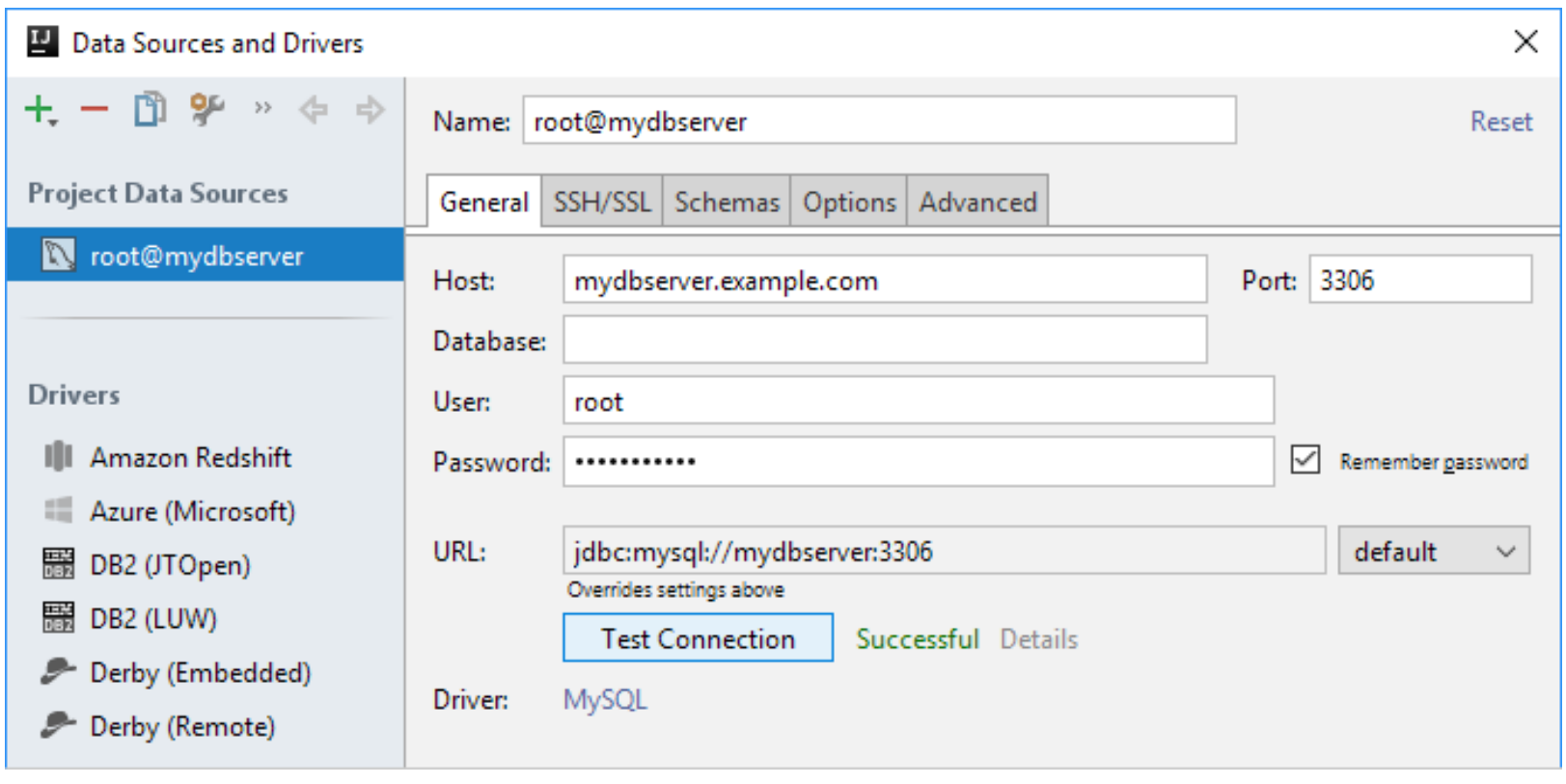
4. Specify the database connection settings and your user account info:

- **Host.** If you database server is on a different computer, replace **`localhost`** with the FQDN or IP address of the server host, e.g. **`mydbserver.example.com`** or **`172.20.240.163`**.
- **Port.** The default MySQL server port is **`3306`**. If your server uses a different port, specify that port.
- **User** and **Password.** These are your database user name and password.

5. If necessary, edit the data source name.

6. To connect via SSH, specify the SSH proxy settings.

7. To make sure that the settings are OK, click **Test Connection**.



   Click **OK**.

   Now, as a final check, execute a couple of queries.

8. Select your default schema from the list in the upper-right part of the console.

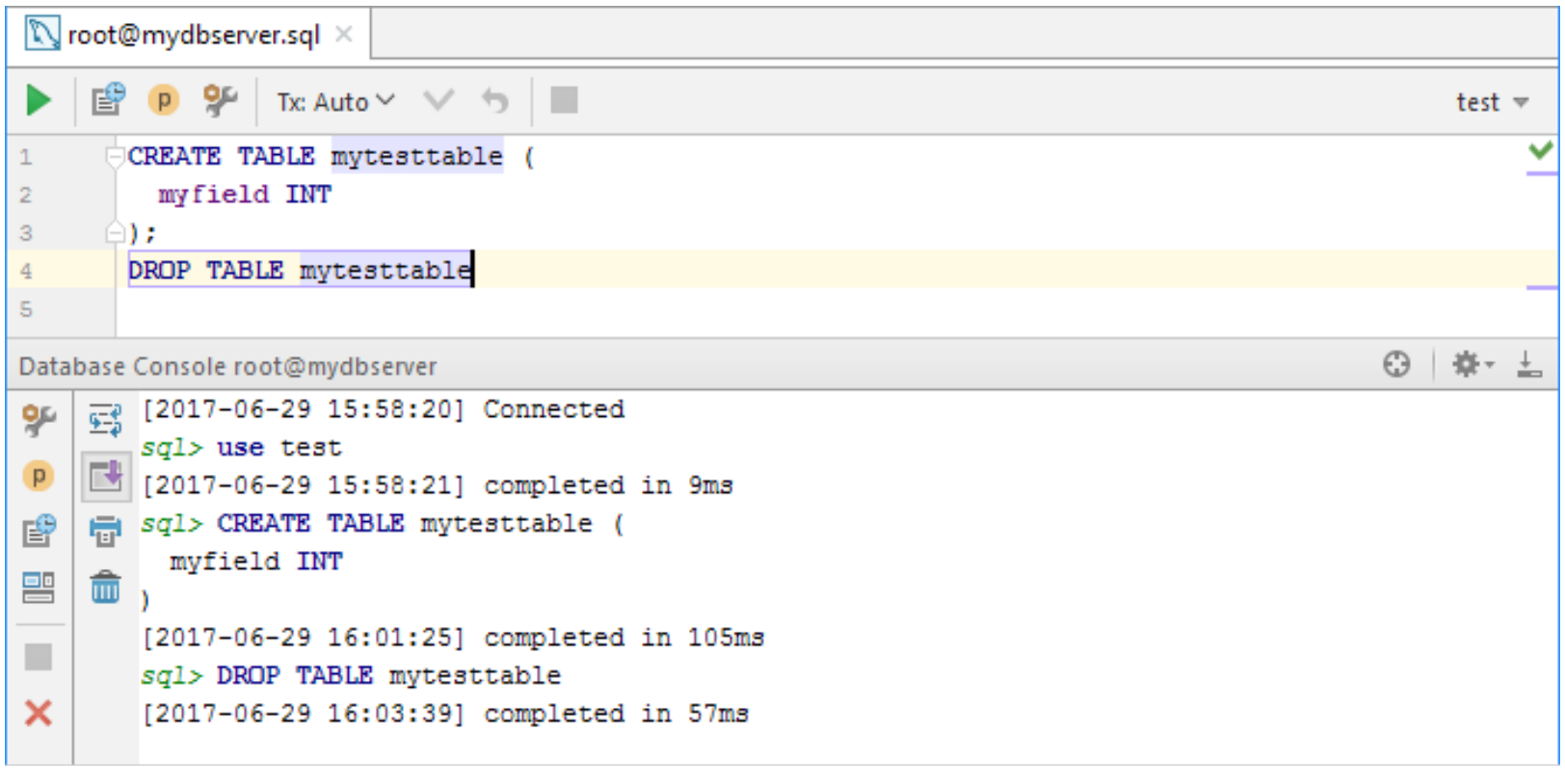
9. Type your query, e.g.

```
CREATE TABLE mytesttable (
  myfield INT
);
```

10. Execute the query: ▶ or Ctrl+Enter.

11. If necessary, execute another query, e.g.

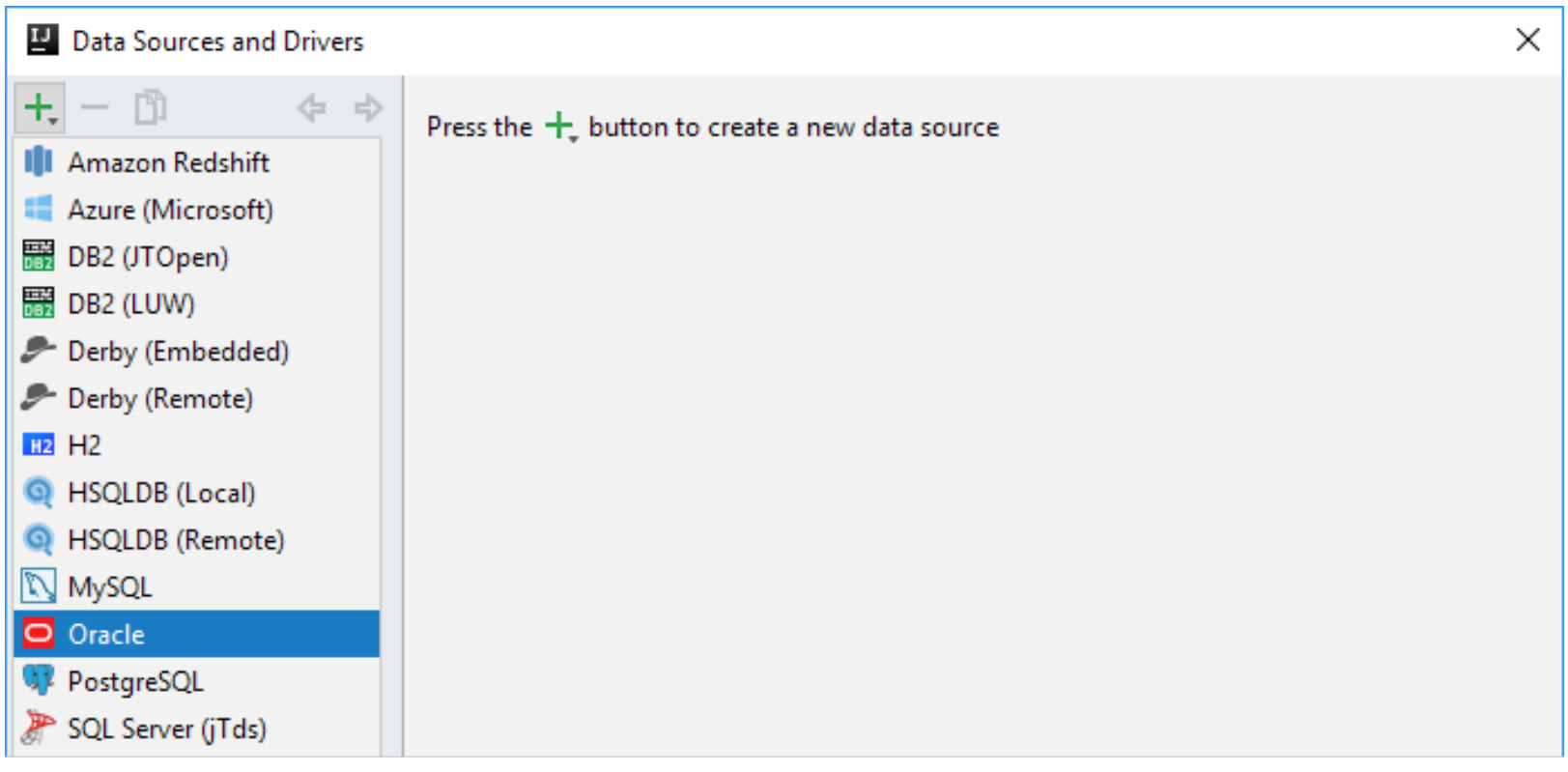
```
DROP TABLE mytesttable
```



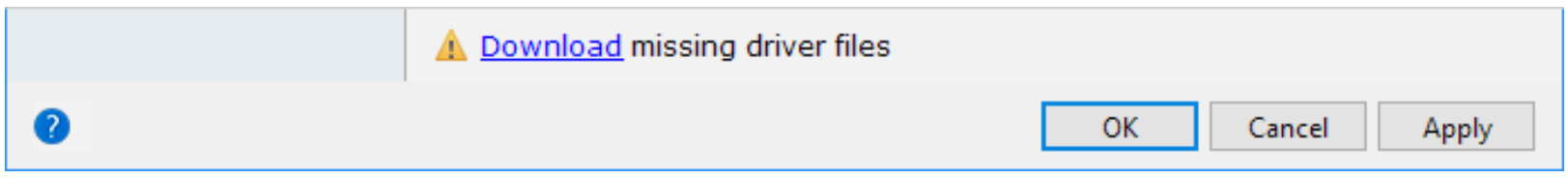
Oracle

1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

2. Click + and select **Oracle**.



3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



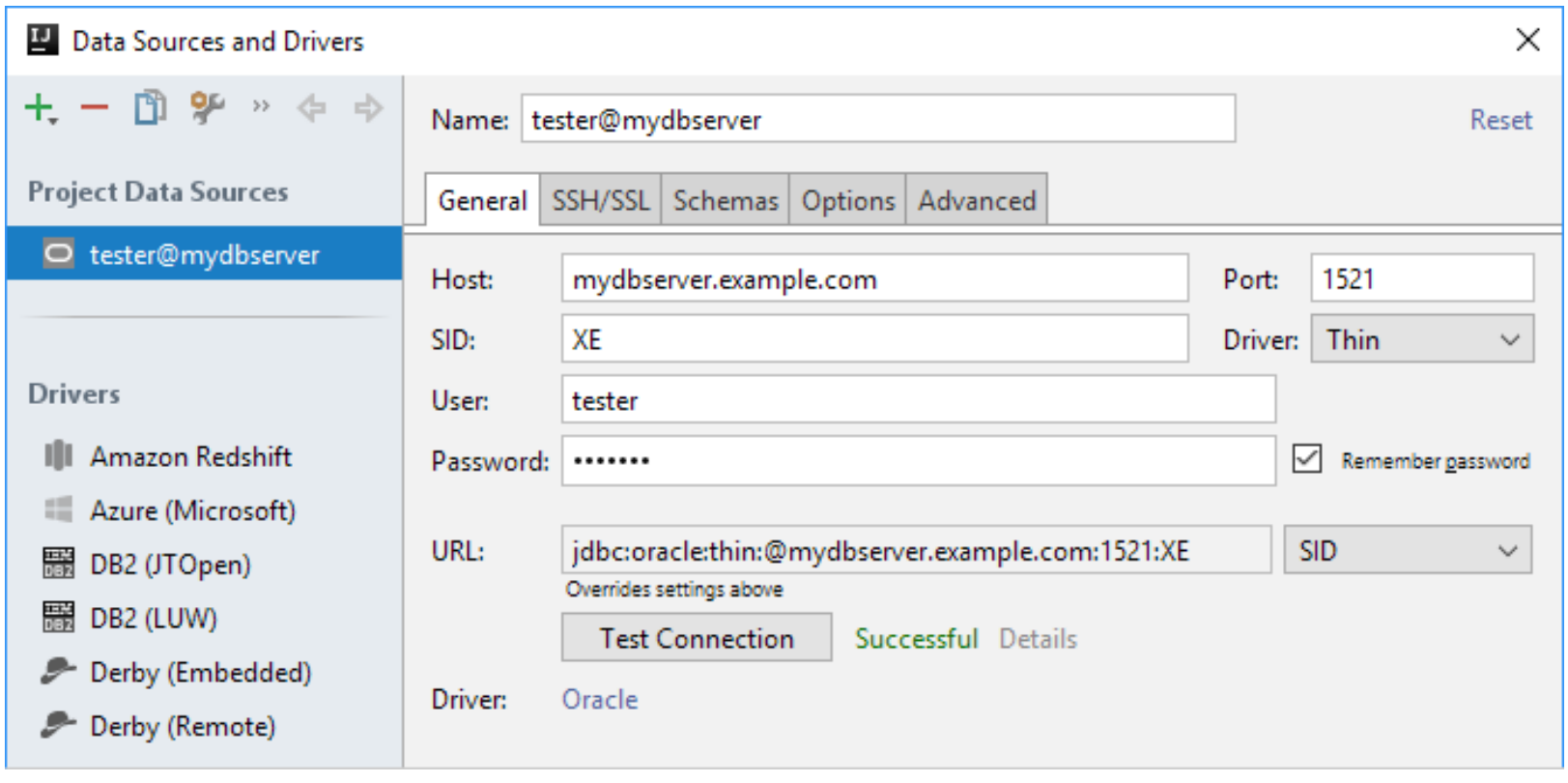
4. Specify the database connection settings and your user account info:
   From the list to the right of **URL**, select SID or Service Name, or TNS.
   - If **SID** or **Service Name** is selected, the settings are:
     - **Host.** If you database server is on a different computer, replace **`localhost`** with the FQDN or IP address of the server host, e.g. **`mydbserver.example.com`** or **`172.20.240.163`**.
     - **Port.** The default Oracle server port is **`1521`**. If your server uses a different port, specify that port.
     - **SID** or **Service.** The Oracle system ID or service name for your database. The typical values are **`XE`** or **`ORCL`**.
       To find out what the value should be, check the environment variable **`ORACLE_SID`** on the server host, or contact your database administrator.
   - If **TNS** is selected, the connection settings are read from a tnsnames.ora configuration file. So you should specify:
     - **TNSADMIN.** The path to the directory in which your **`tnsnames.ora`** file is located.

- **TNS name.** If in your **`tnsnames.ora`** file, there is more than one **`net_service_name`**, specify the one that should be used.

The rest of the settings are:

- **Driver.** The default **Thin** driver will do in most of the cases. For more info, see Oracle JDBC FAQ .
- **User** and **Password.** These are your database user name and password.

5. If necessary, edit the data source name.
6. To connect via SSH, specify the SSH proxy settings.
7. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

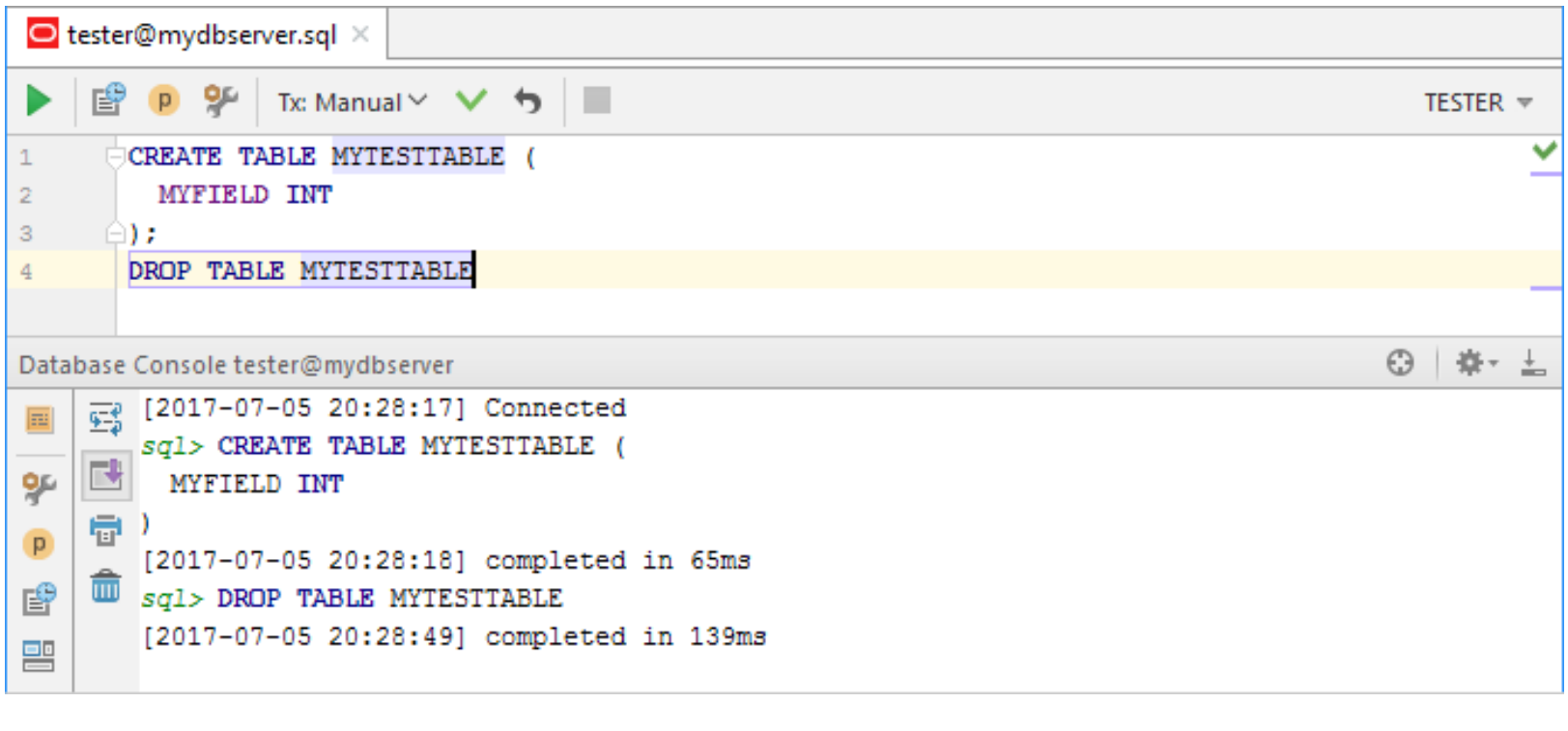
Now, as a final check, execute a couple of queries.

8. Type your query, e.g.

```
CREATE TABLE MYTESTTABLE (
  MYFIELD INT
);
```

9. Execute the query: ▶ or Ctrl+Enter.
10. If necessary, execute another query, e.g.

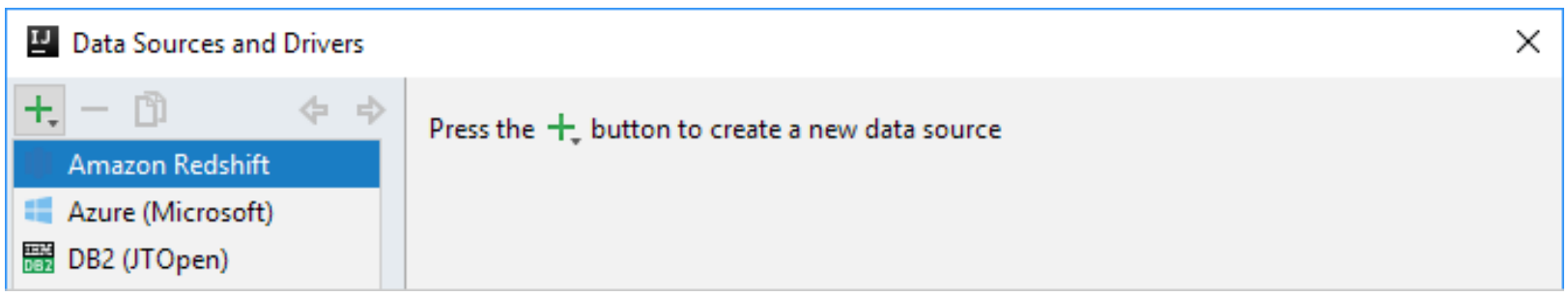
```
DROP TABLE MYTESTTABLE
```



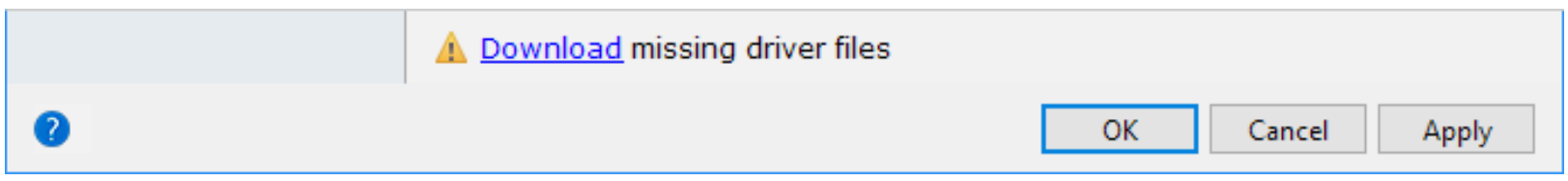
Amazon Redshift

1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

2. Click + and select **Amazon Redshift**.



3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



4. To the right of the **URL** field, select **URL only**.

5. Go to your Redshift Dashboard, select **Clusters**, select the cluster you want to connect to, and copy the JDBC URL listed under **Cluster Database Properties** onto the clipboard.

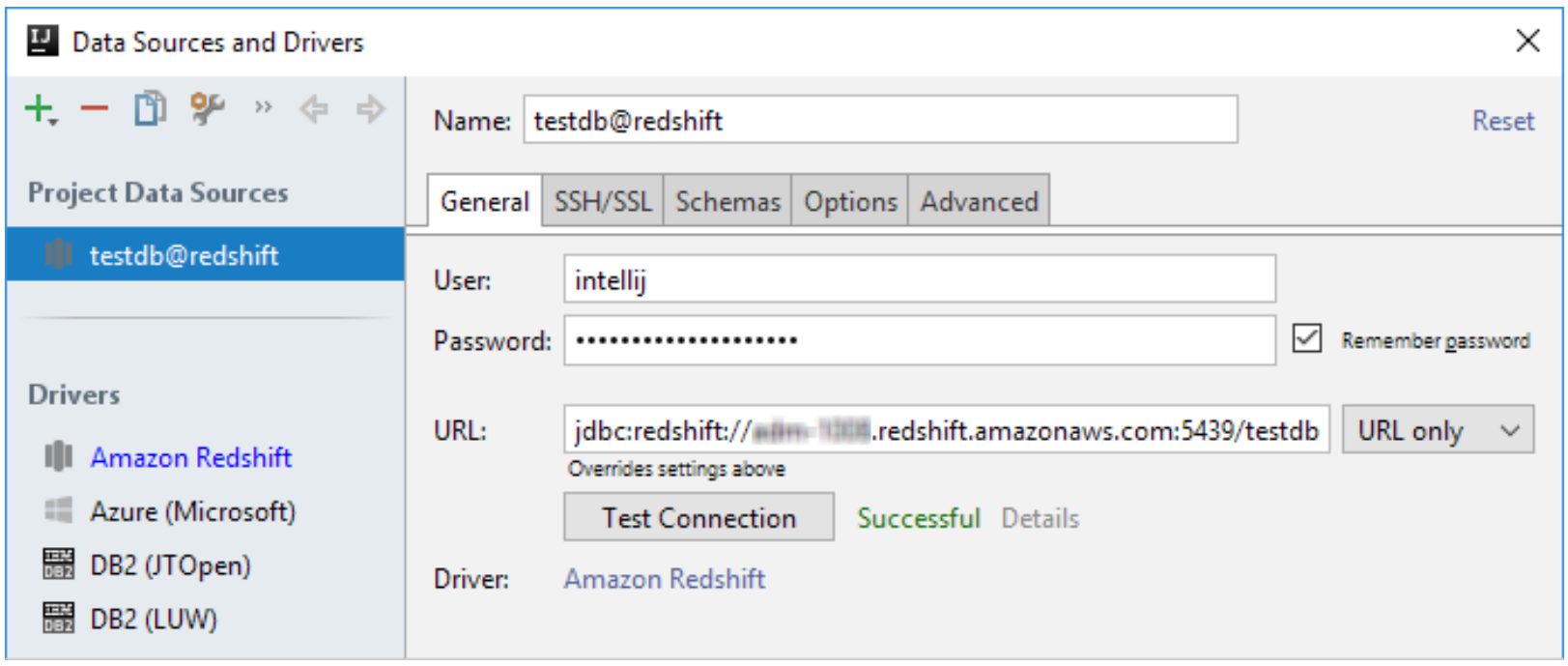
6. Paste the URL into the **URL** field.

7. Specify your user name and password.

8. If necessary, edit the data source name.

9. To connect via SSH, specify the SSH proxy settings.

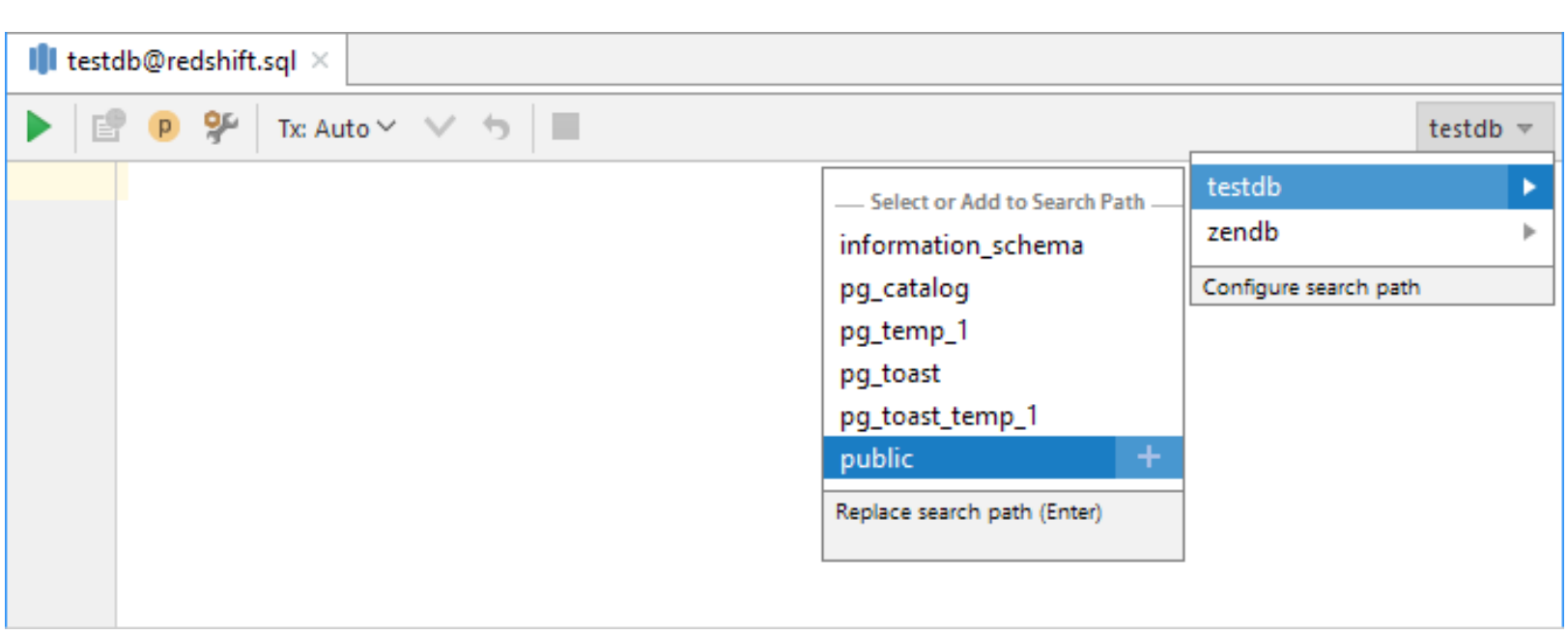
10. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

11. If necessary, form the schema search path using the popup in the upper-right part of the console. For instructions, see Controlling the schema search path for PostgreSQL and Redshift.



12. Type your query, e.g.

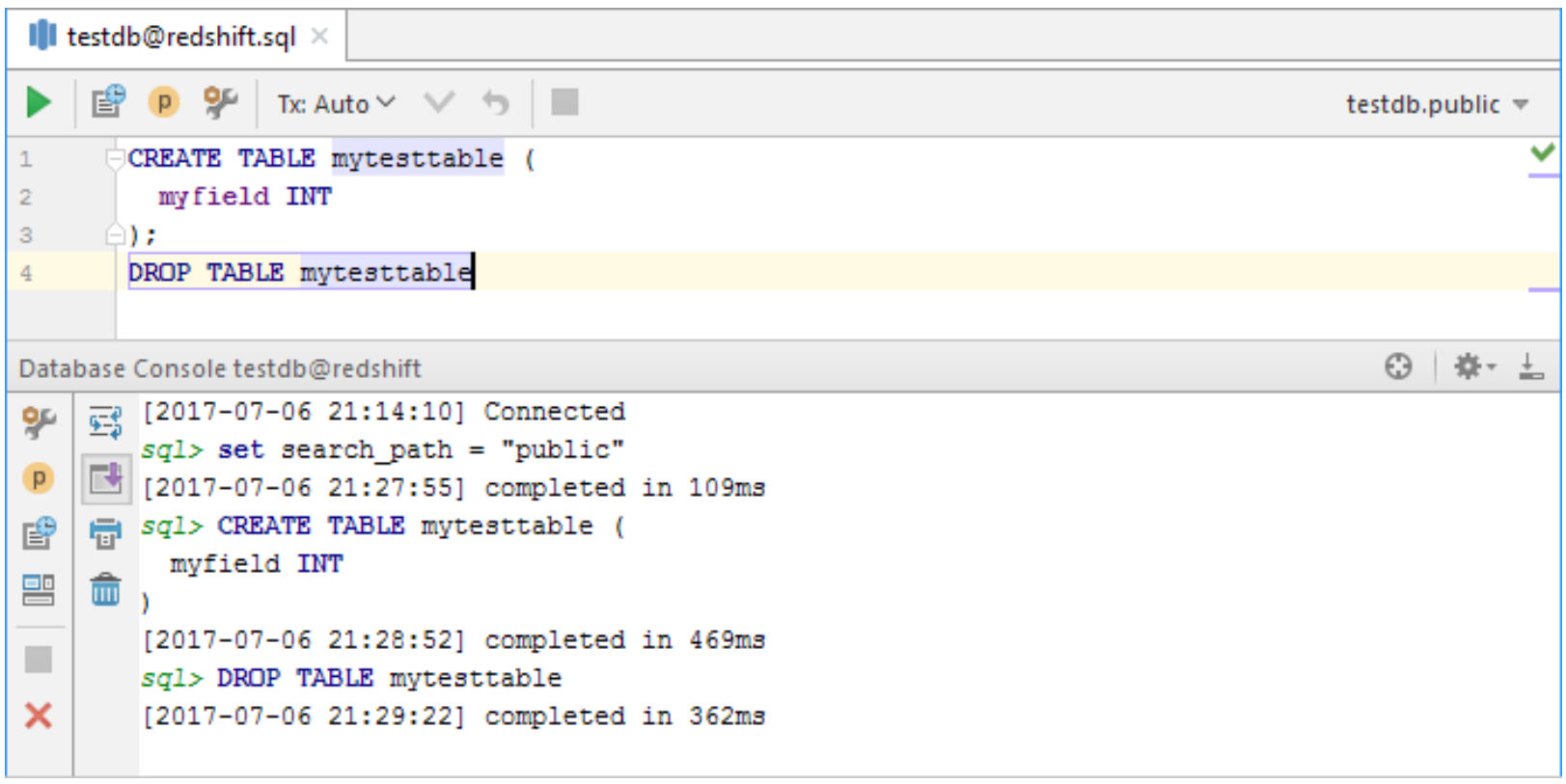
```
CREATE TABLE mytesttable (
```

```
  myfield INT
);
```

13. Execute the query: ▶ or Ctrl+Enter.

14. If necessary, execute another query, e.g.

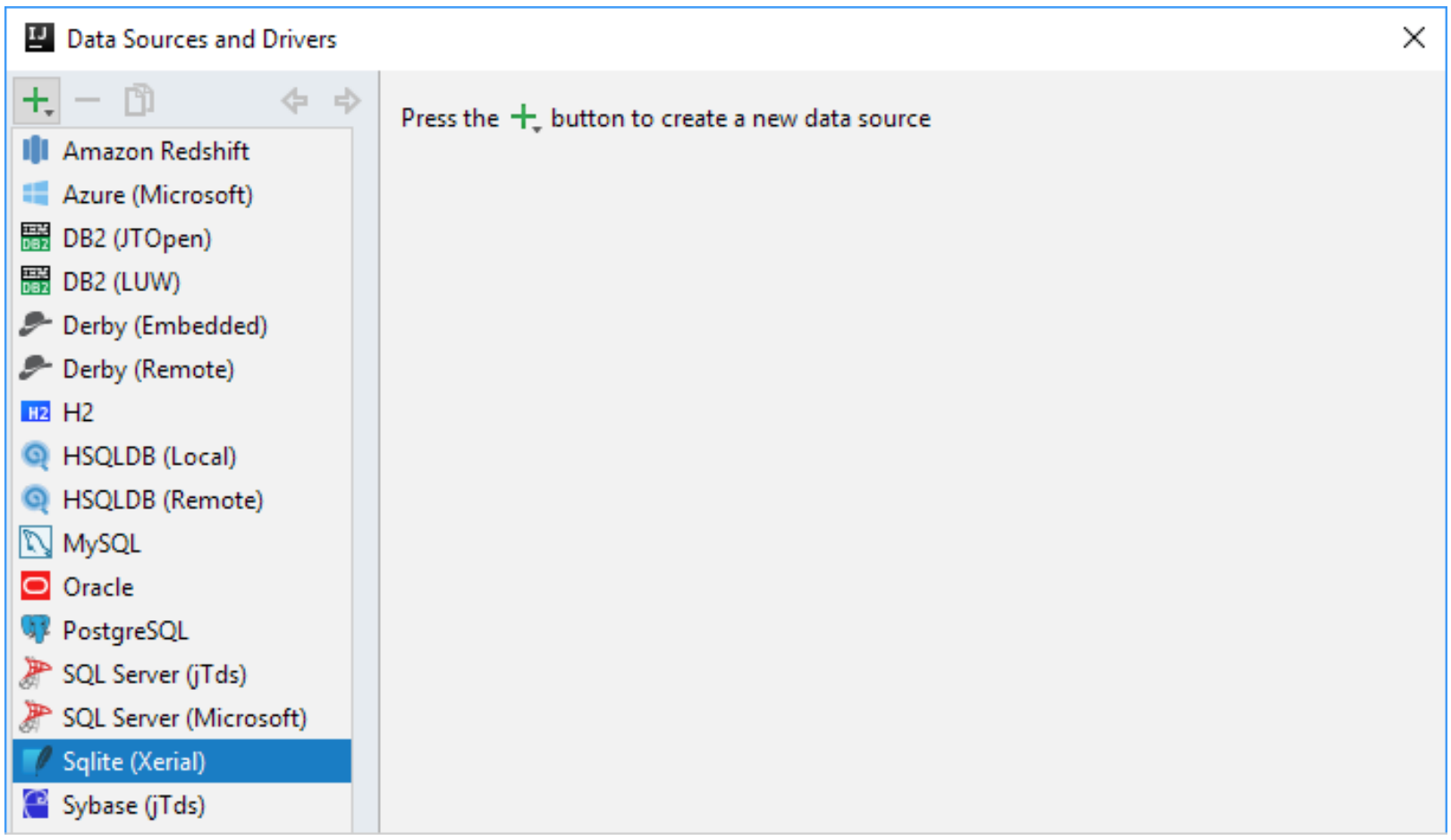
```
DROP TABLE mytesttable
```



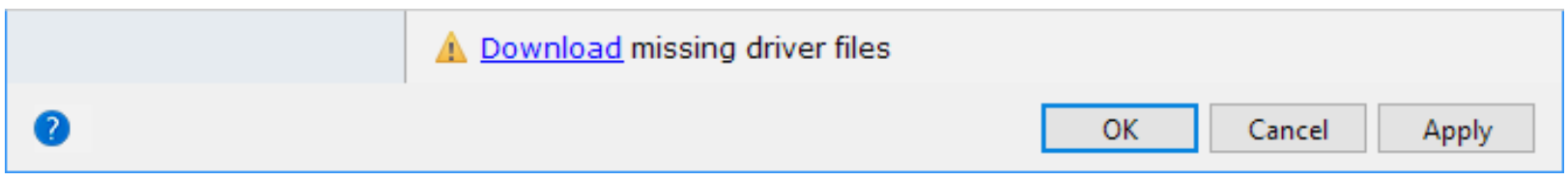
SQLite

1. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

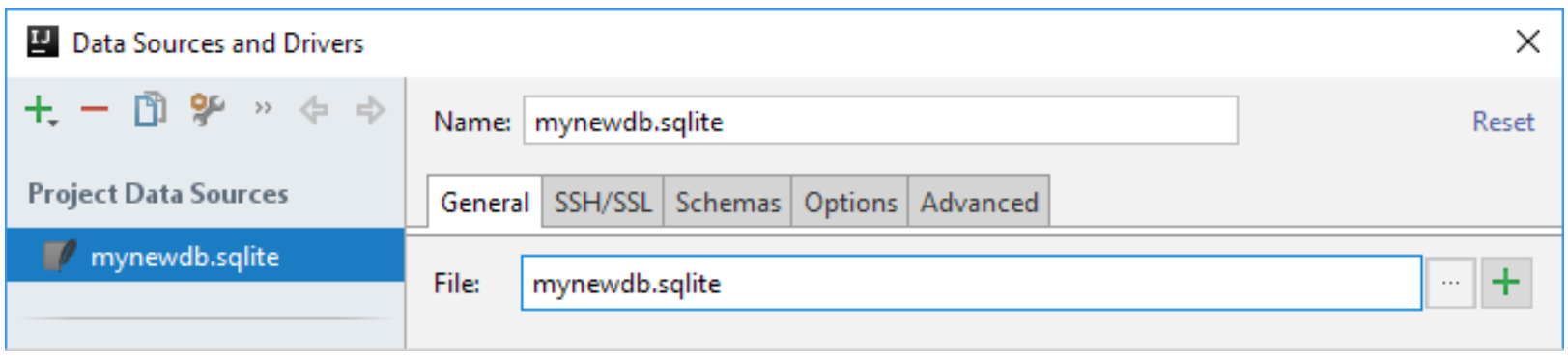
2. Click + and select **Sqlite**.



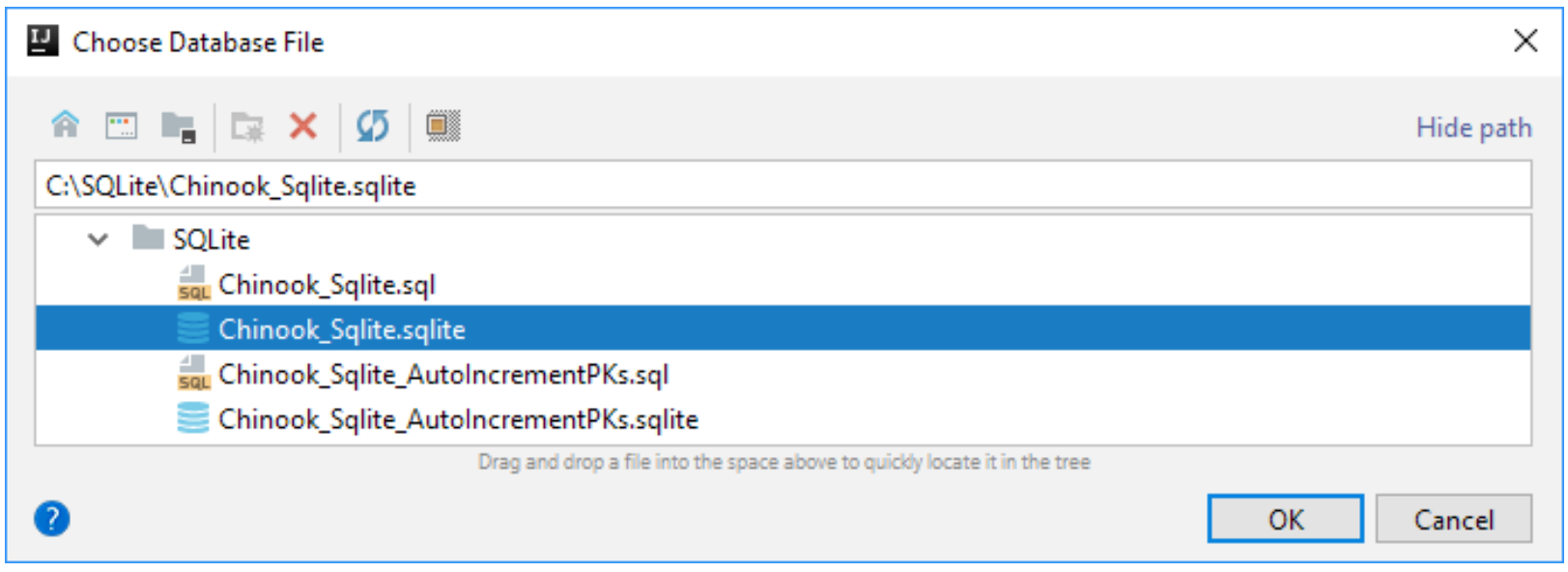
3. In the lower part of the dialog, within **Download missing driver files**, click the **Download** link.



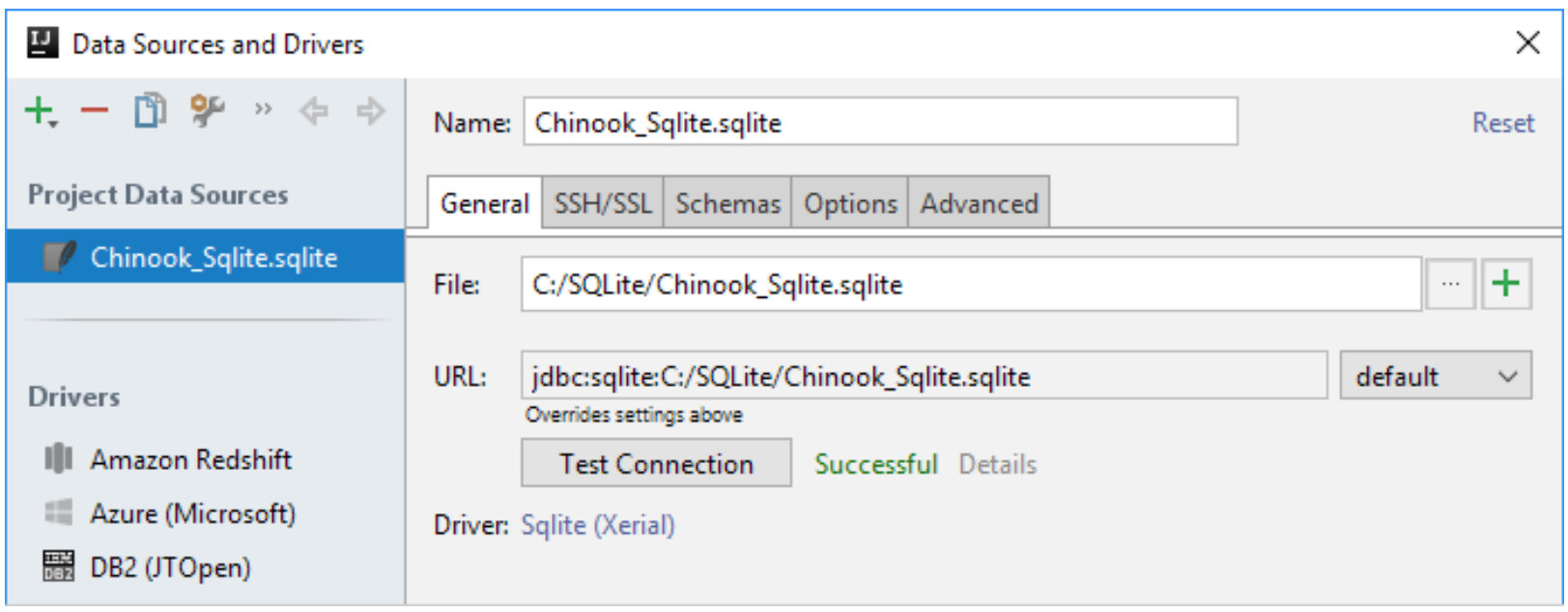
4. To create a new database, specify its name in the **File** field (e.g. **`mynewdb.sqlite`**) and click +.



To use an existing database, click ··· and select the database file in the dialog that opens.



5. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

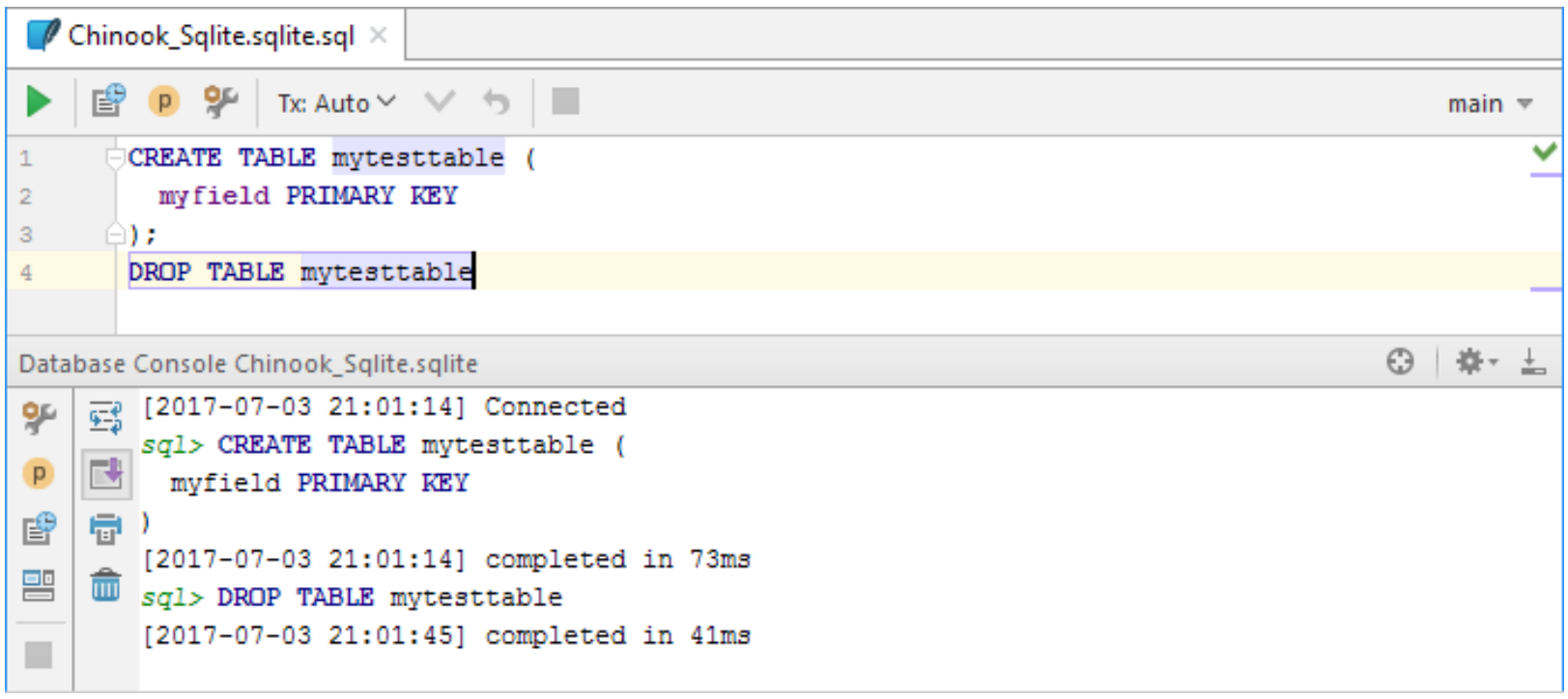
6. Type your query, e.g.

```
CREATE TABLE mytesttable (
  myfield PRIMARY KEY
);
```

7. Execute the query: ▶ or Ctrl+Enter.

8. If necessary, execute another query, e.g.

```
DROP TABLE mytesttable
```



Vertica as an example of 'unsupported' DBMS

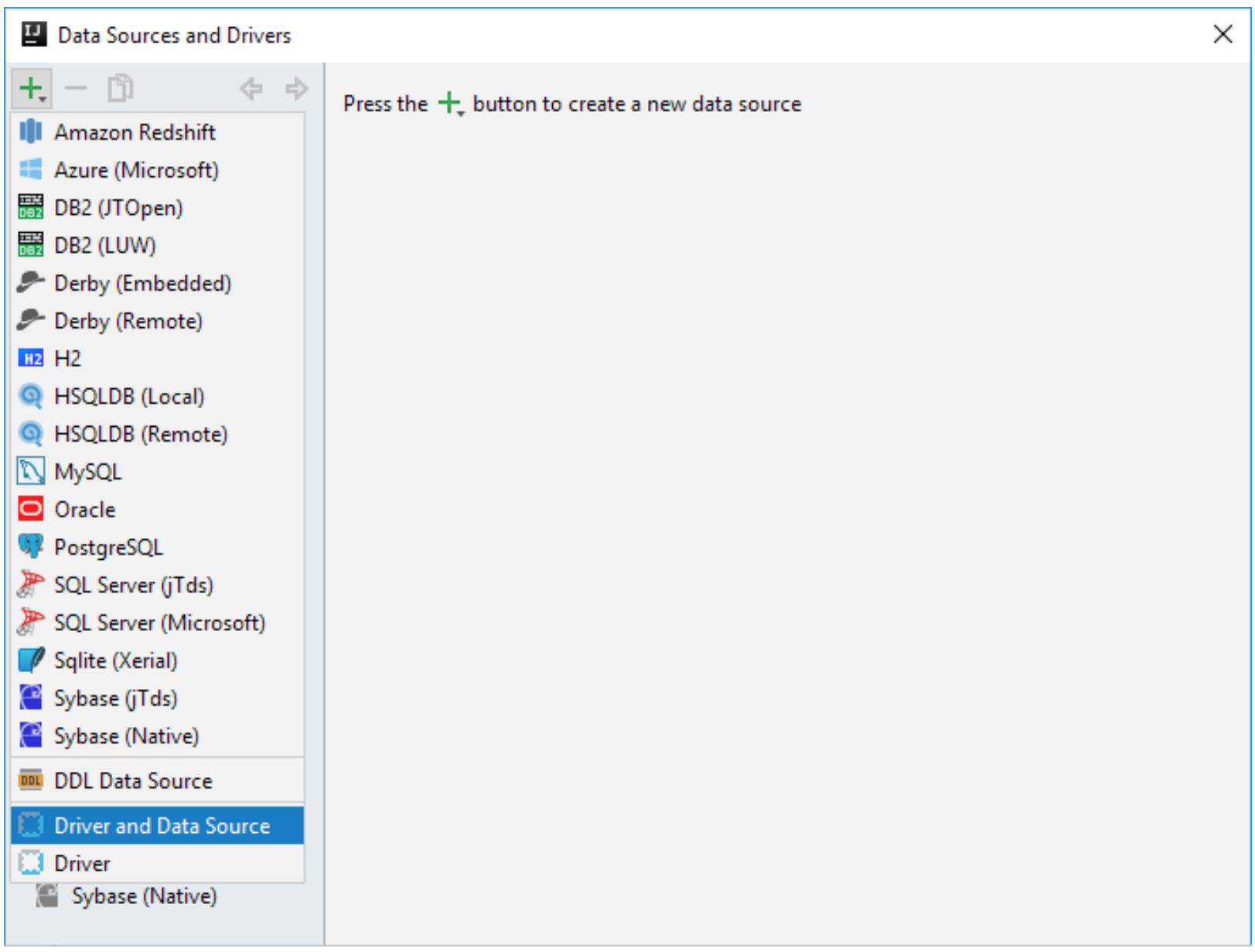
An "unsupported" DBMS is one that is not present in the list of database management systems, when you click + in the **Data Sources and Drivers** dialog. You can still connect to such a database if there is a JDBC driver for it.

In this section, we provide corresponding how-to instructions using Vertica as an example.

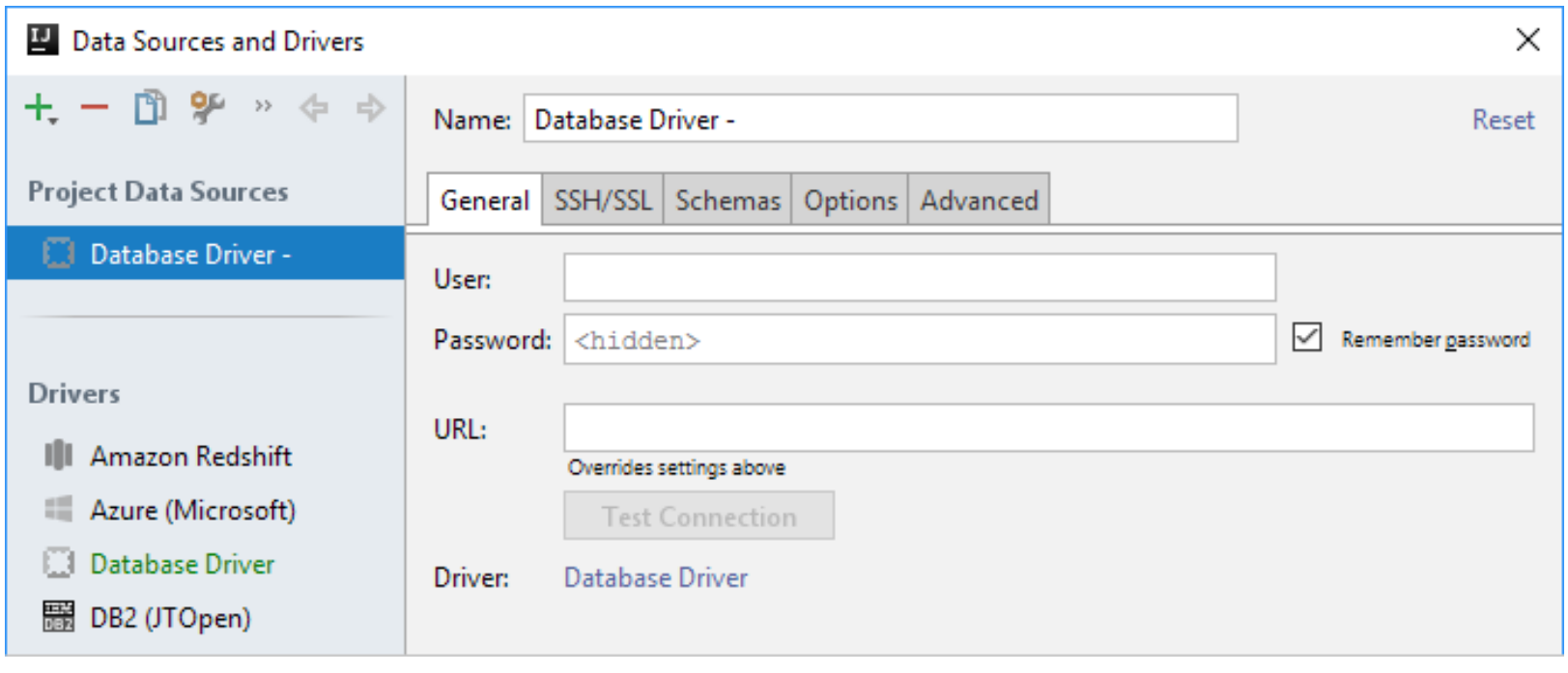
1. Download a JDBC driver for the DBMS that you are going to connect to. A driver, usually, is one or more `.jar` files.

2. Open the **Database** tool window (e.g. **View | Tool Windows | Database**) and click to open the **Data Sources and Drivers** dialog.

3. Click + and select **Driver and Data Source**.

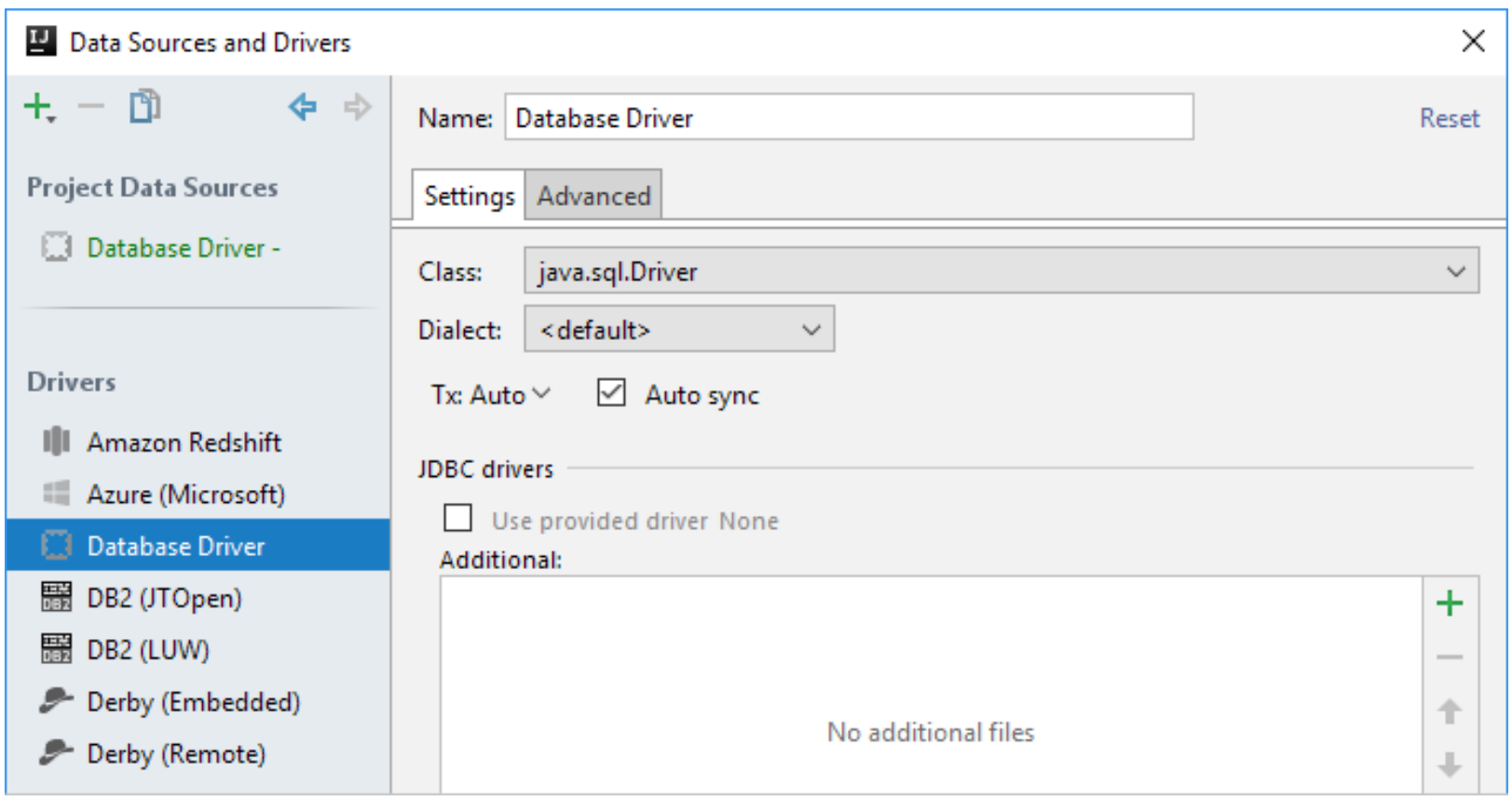


Your data source settings, initially, look something like this:

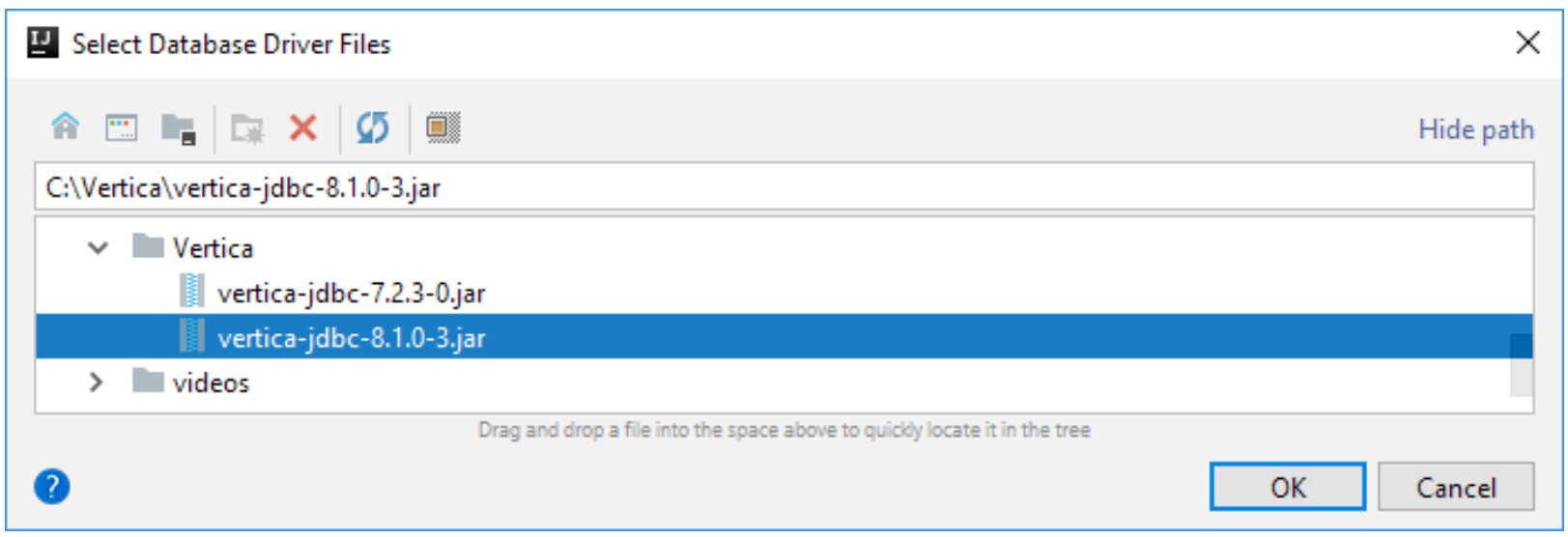


4. To the right of **Driver**, click the **Database Driver** link.

Now we are going to specify the driver.



5. In the **JDBC drivers** section, click + and select your driver file or files in the dialog that opens.

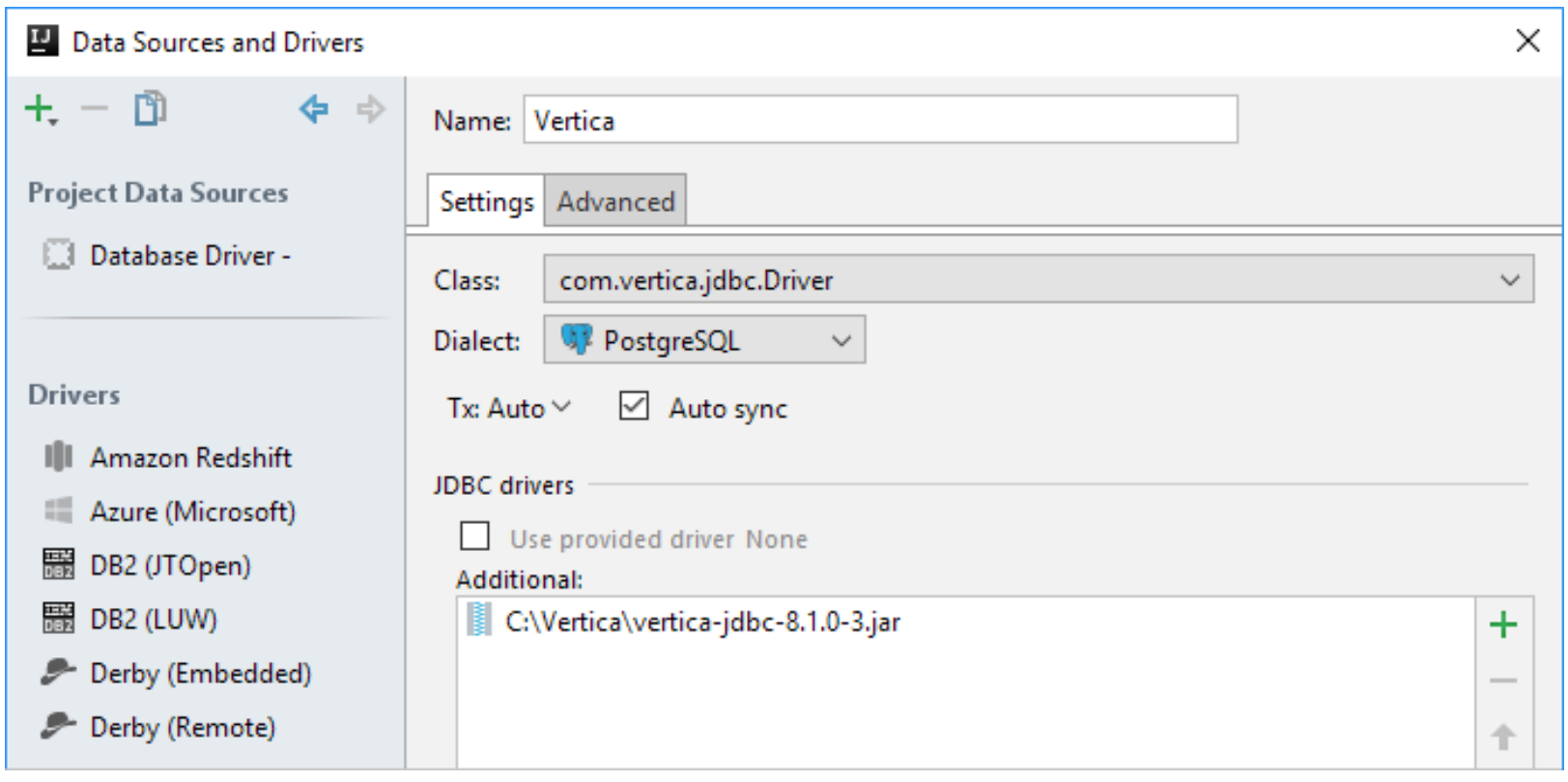


6. Specify:

   – **Name.** Change the default name, for example, to the name of your

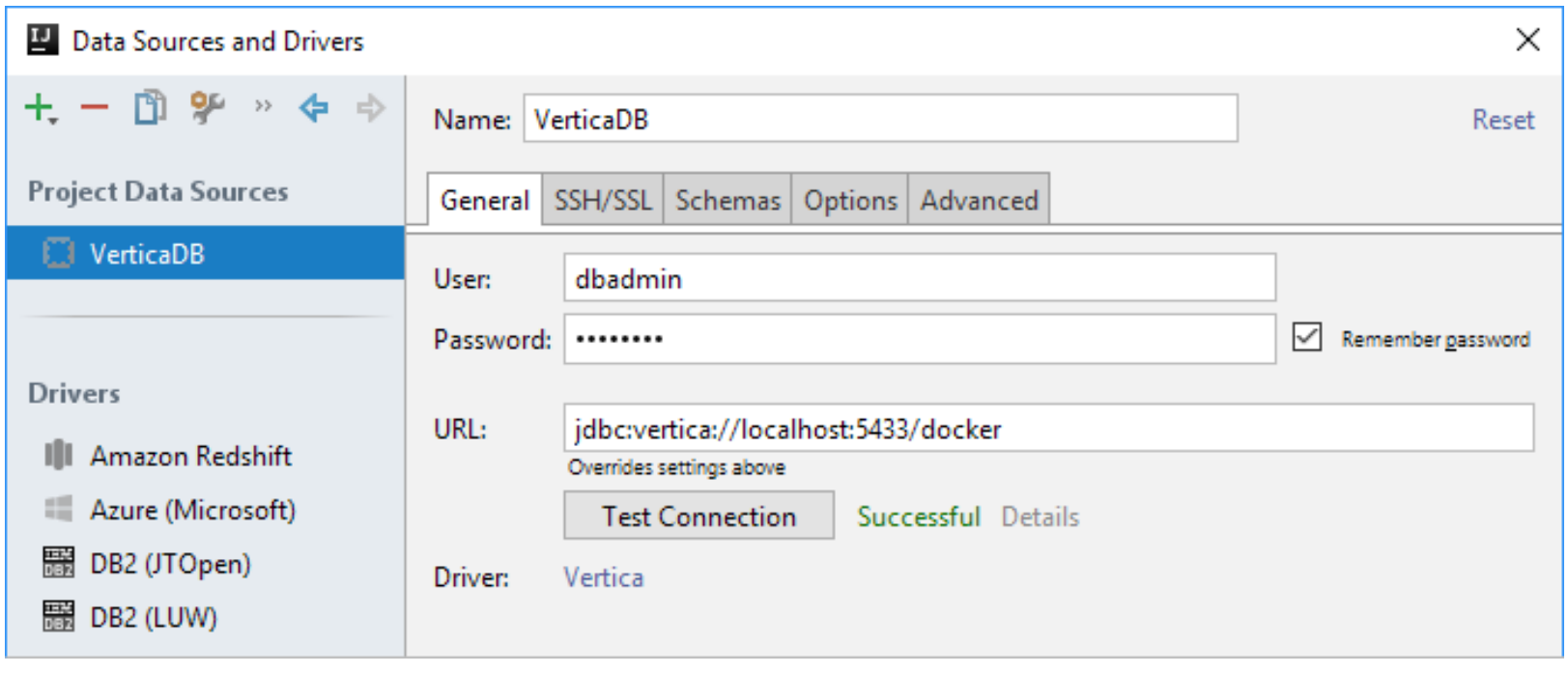
DBMS.

- **Class.** Usually, this is something like **`com.<company_name>.jdbc.Driver`** e.g. **`com.vertica.jdbc.Driver`**
- **Dialect.** Select the dialect which is the closest to your DBMS SQL dialect.



7. Click **Apply**, and select your data source under **Project Data Sources**.
8. Specify:
   - **URL.** Your database connection URL. For corresponding info, refer to your DBMS documentation. Usually, this is something like **`jdbc:<dbms_name>://<host>:<port>/<db_name>`** e.g. **`jdbc:vertica://localhost:5433/docker`**
   - **User** and **Password**. These are your database user name and password.

   If necessary, edit the data source name.
9. To connect via SSH, specify the SSH proxy settings.
10. To make sure that the settings are OK, click **Test Connection**.



Click **OK**.

Now, as a final check, execute a couple of queries.

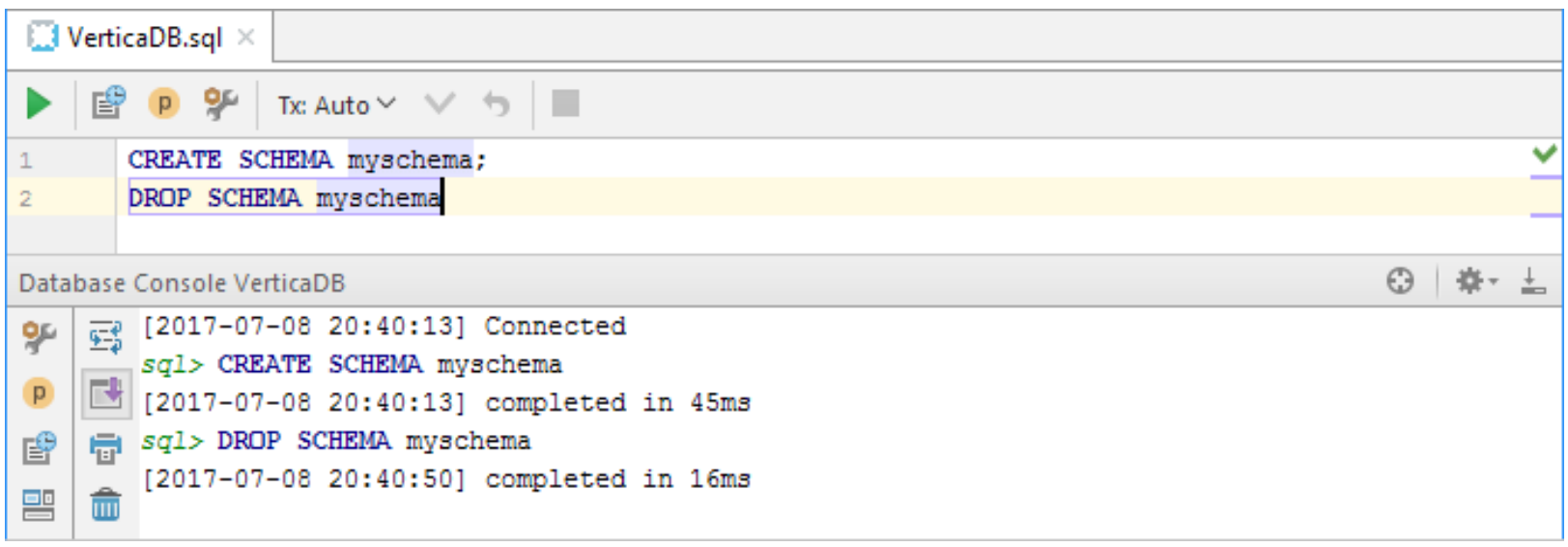
11. Type your query, e.g.

```
CREATE SCHEMA myschema;
```

12. Execute the query: ▶ or Ctrl+Enter.

13. If necessary, execute another query, e.g.

```
DROP SCHEMA myschema
```



Connecting via SSH

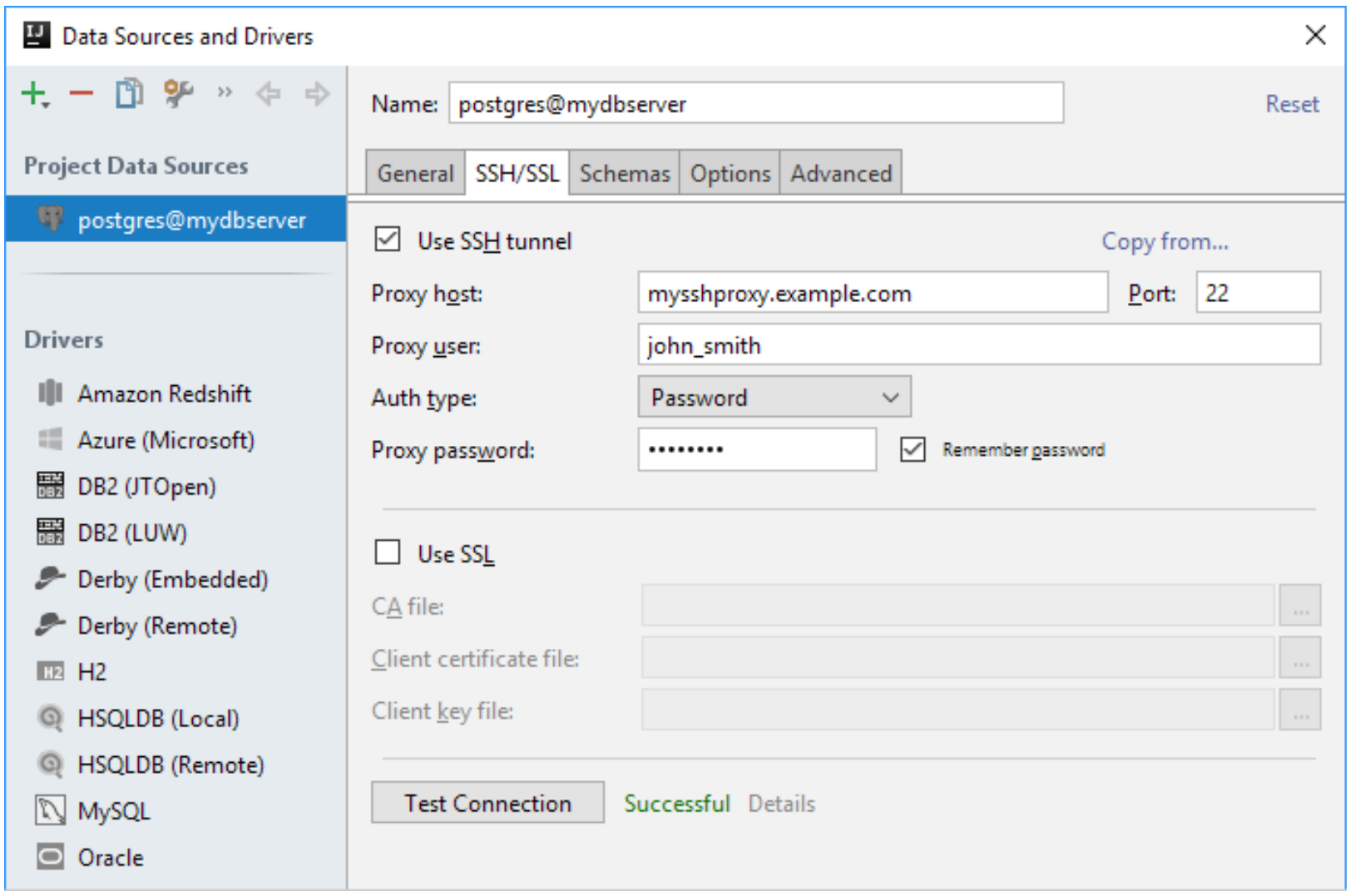
To access your database via SSH , specify the settings for your SSH proxy server on the **SSH/SSL** tab.

1. Select the **Use SSH tunnel** checkbox.

2. Specify the settings:

   - **Proxy host.** **`localhost`** if the server is on the same computer. Otherwise, the FQDN or IP address of the server host, e.g. **`mysshproxy.example.com`** or **`172.20.241.34`**. The server host must be accessible by the specified name or IP address from your local computer.
   - **Port.** The SSH port; the default port is **`22`**.
   - **Proxy user.** Your SSH server user name.
   - **Auth type.** The authentication type used by your server:
     - **Password.** Password-based authentication. If this authentication type is used, you should specify your password.
     - **Key pair (OpenSSH).** Key-based authentication. If this authentication type is used, you should specify:
       - The location of your private key file.
       - The passphrase for the private key - if the key is locked with the passphrase.

3. To make sure that the settings - ones for the database and the proxy server - are all OK, click **Test Connection**.



Last modified: 2 August 2018