Eclipse DTP Tutorial - Database Tools

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Version 1.0

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Revision History

Revision 0.1 - 0.5	17.01.2008	Lars Vogel
Created		
Revision 0.6 - 0.7	05.01.2009	Lars Vogel
bug fixes and enhancements		
Revision 0.8 - 0.9	24.06.2009 - 25.01.2010	Lars Vogel
Upgrade to Eclipse 3.5 (Galileo)		
Revision 1.0		Lars Vogel
Update to Eclipse 3.6 (Helios)		

Eclipse Data tools Platform

The Eclipse Data Tools Platform (DTP) provides tools to simplify the handling of databases. This article demonstrates the usage of the Eclipse DTP.

This article is based on Eclipse Helios (Eclipse 3.6).

Table of Contents

1. Introduction

1.1. Eclipse Data Tools Platform

The Eclipse DTP project provide tools for performing database tasks. For example the project provides an editor for SQL statements or a database browser.

1.2. Derby - Java DB

In this article Apache Derby is used as the example database. Derby is an open-source, freely available, pure Java database. See Apache Derby Tutorial to learn more about Apache Derby. Eclipse DTP contains connectors for lots of other databases, e.g. MySQL, PostgreSQL, HSQLDB.

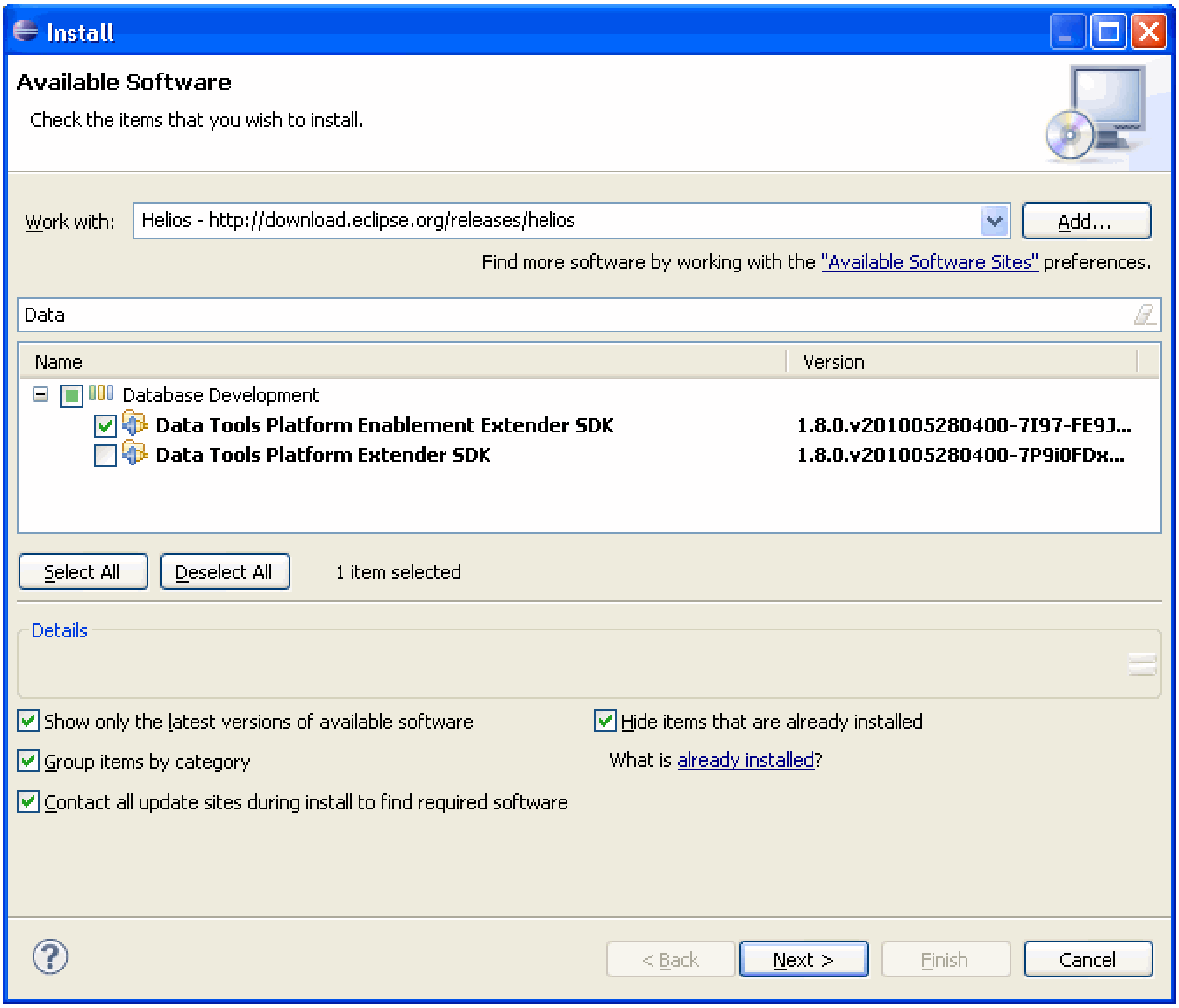
1.3. Using Eclipse

The following assumes that you already have knowledge in using the Eclipse IDE . See the Eclipse Java IDE Tutorial in case you lacking this knowledge.

2. Installation

2.1. Installation of DTP

Install the Data Tools Platform via the Eclipse update manager . Install "Data Tools Platform Enablement Extender SDK"



Install

Available Software

Check the items that you wish to install.

Work with: Helios - http://download.eclipse.org/releases/helios

Find more software by working with the "Available Software Sites" preferences.

Data

Name	Version
⊟ ■ Database Development	
☑ Data Tools Platform Enablement Extender SDK	1.8.0.v201005280400-7I97-FE9J...
☐ Data Tools Platform Extender SDK	1.8.0.v201005280400-7P9i0FDx...

1 item selected

Details

☑ Show only the latest versions of available software

☑ Hide items that are already installed

☑ Group items by category

What is already installed?

☑ Contact all update sites during install to find required software

2.2. Download Apache Derby

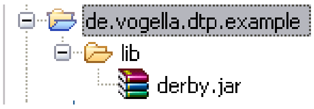
Download the latest Derby version from the Apache website http://db.apache.org/derby/ . Choose the binary distribution.

3. Project

Create a new General Project "de.vogella.dtp.example" via File-> New -> Other -> General -> Project. This project will store the SQL files.

Add a folder "lib" to your project. Copy the file derby.jar from your Derby download into this folder.

The result should look like the following.

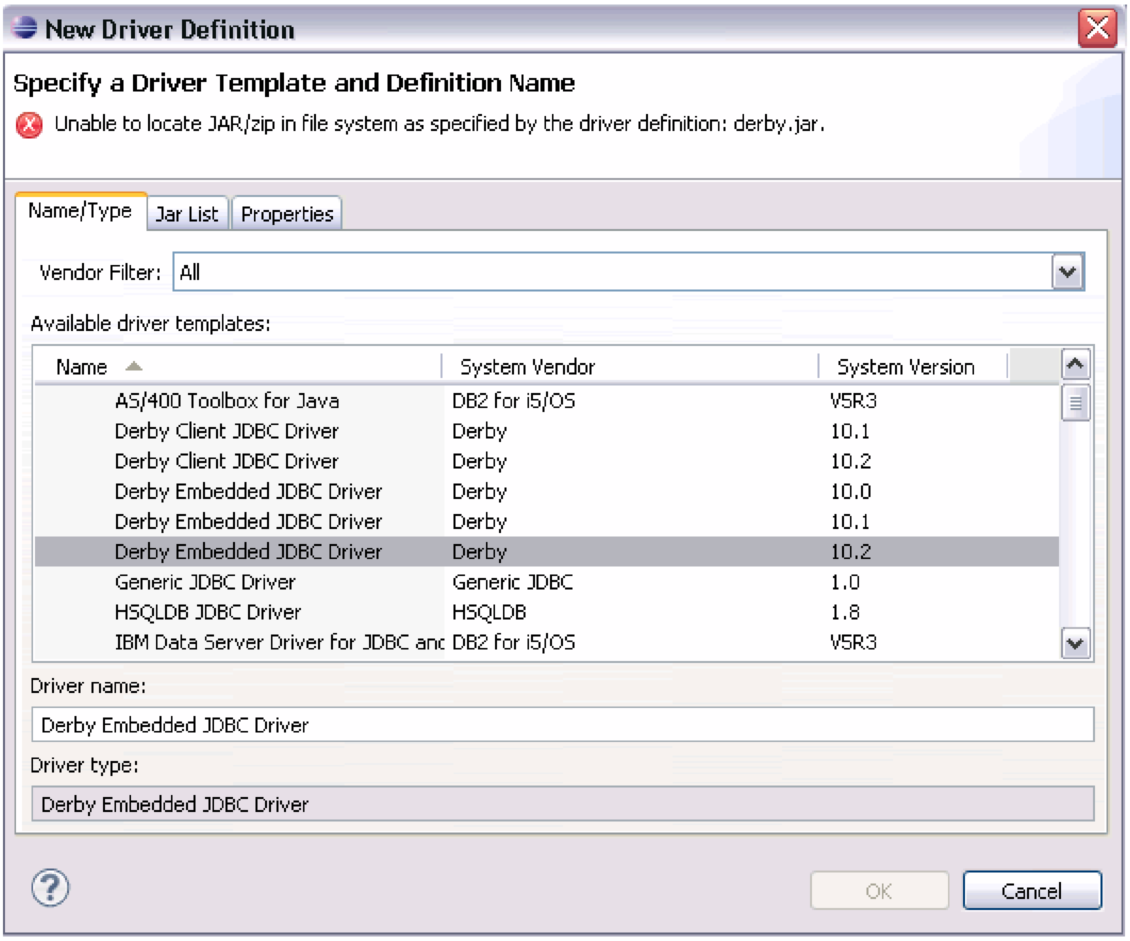


de.vogella.dtp.example
lib
derby.jar

4. Configuration

The following will create a connection for an embedded Derby.

Define the driver for the derby access. Go to Window-> Preferences and select "Data Management" -> Connectivity -> Driver Definition. Press Add. Select Derby and the version you want to use. If your Derby version is not listed selected the highest number displayed.



New Driver Definition

Specify a Driver Template and Definition Name

Unable to locate JAR/zip in file system as specified by the driver definition: derby.jar.

Vendor Filter: All

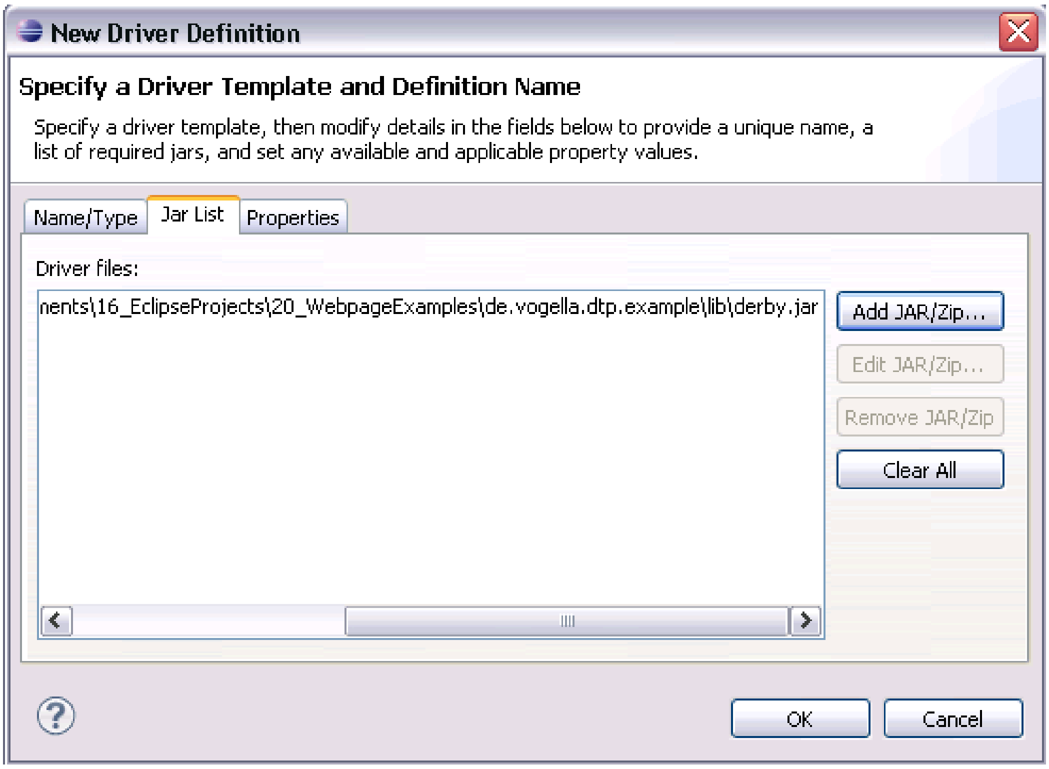
Available driver templates:

Name	System Vendor	System Version
AS/400 Toolbox for Java	DB2 for i5/OS	V5R3
Derby Client JDBC Driver	Derby	10.1
Derby Client JDBC Driver	Derby	10.2
Derby Embedded JDBC Driver	Derby	10.0
Derby Embedded JDBC Driver	Derby	10.1
Derby Embedded JDBC Driver	Derby	10.2
Generic JDBC Driver	Generic JDBC	1.0
HSQLDB JDBC Driver	HSQLDB	1.8
IBM Data Server Driver for JDBC anc	DB2 for i5/OS	V5R3

Driver name: Derby Embedded JDBC Driver

Driver type: Derby Embedded JDBC Driver

Select then the tab jar press "Add" and select the derby.jar from your project folder "lib".



New Driver Definition

Specify a Driver Template and Definition Name

Specify a driver template, then modify details in the fields below to provide a unique name, a list of required jars, and set any available and applicable property values.

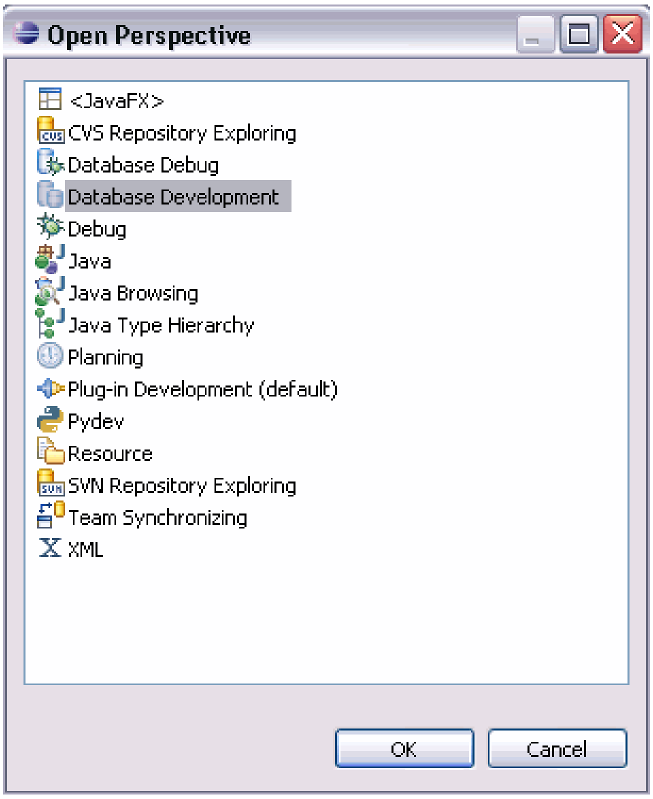
Driver files:

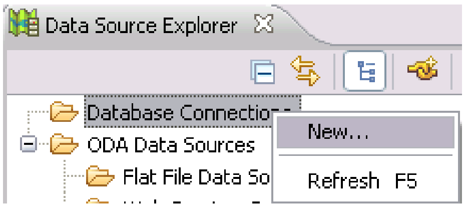
nents\16_EclipseProjects\20_WebpageExamples\de.vogella.dtp.example\lib\derby.jar

5. Working with Databases

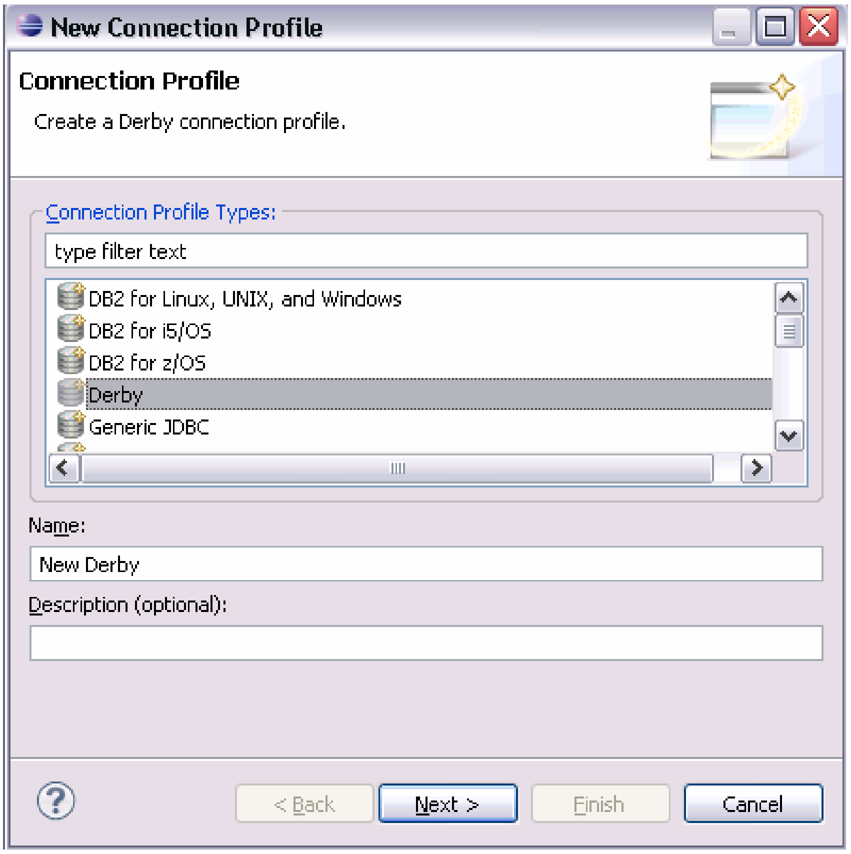
5.1. Create a new Databases Connection

Switch to the perspective "Database Development" and select "Database Connections", right mouse click and select new.





Select Derby.



New Connection Profile

Connection Profile

Create a Derby connection profile.

Connection Profile Types:

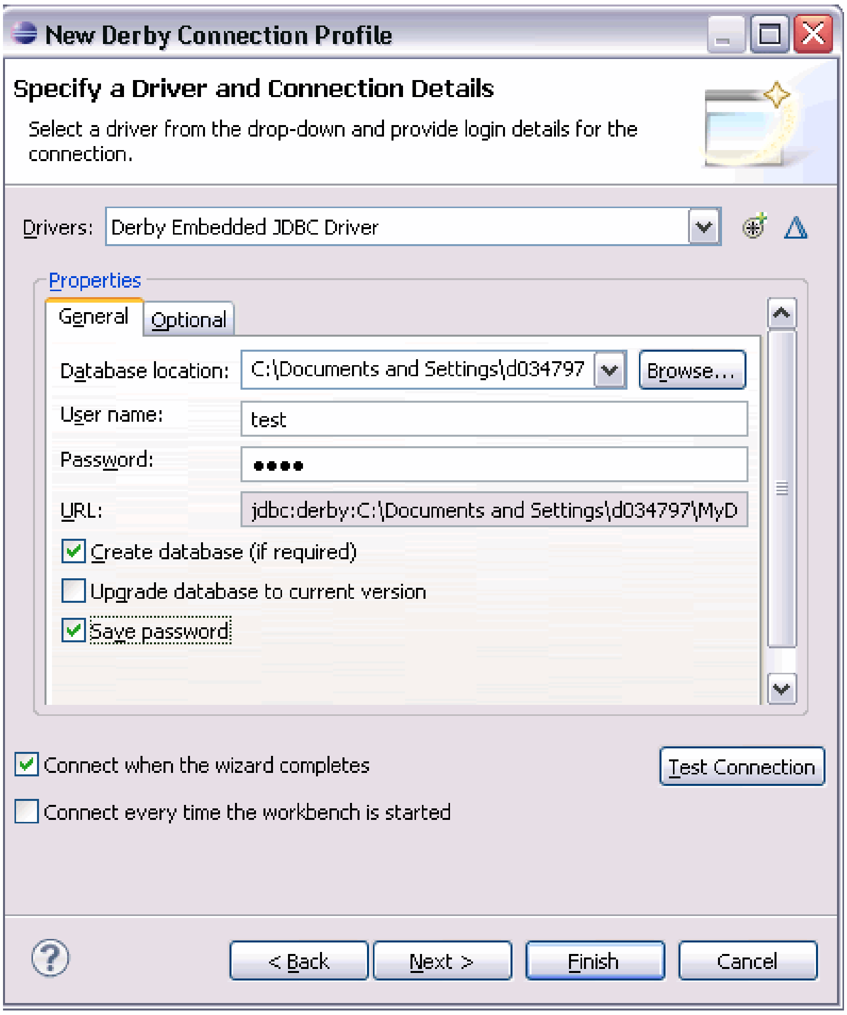
type filter text

- DB2 for Linux, UNIX, and Windows
- DB2 for i5/OS
- DB2 for z/OS
- Derby
- Generic JDBC

Name: New Derby

Description (optional):

Maintain a Database location where the new database should be stored on your file system. The flag "Create database (if required)" should be selected. Maintain user and password and press finish.



New Derby Connection Profile

Specify a Driver and Connection Details

Select a driver from the drop-down and provide login details for the connection.

Drivers: Derby Embedded JDBC Driver

Properties

General | Optional

Database location: C:\Documents and Settings\d034797

User name: test

Password: ●●●●

URL: jdbc:derby:C:\Documents and Settings\d034797\MyD

☑ Create database (if required)

☐ Upgrade database to current version

☑ Save password

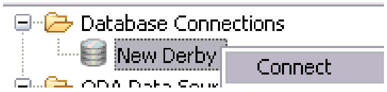
☑ Connect when the wizard completes

☐ Connect every time the workbench is started

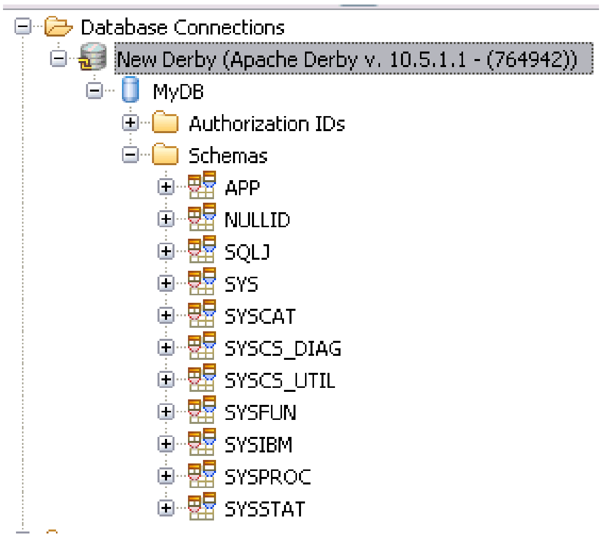
Congratulation! You have created a new database.

5.2. Create a new Databases Connection

Now your folder Database should have an additional entry. Right it and select connect (if you not connected).



Open then tree to see the content of your new database.

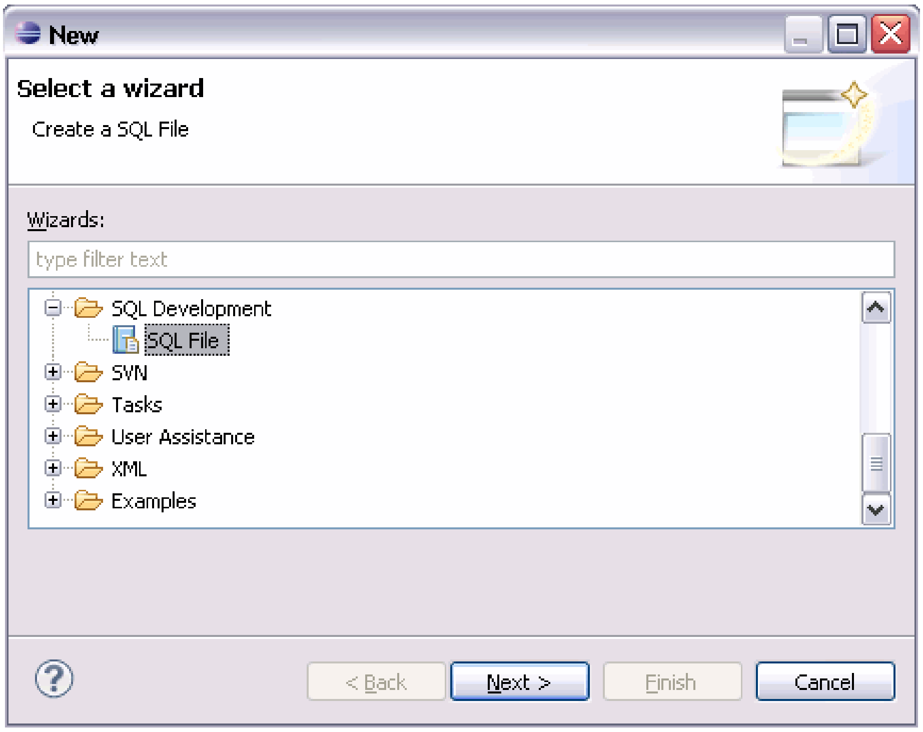


Congratulation. You have connected yourself to the new database.

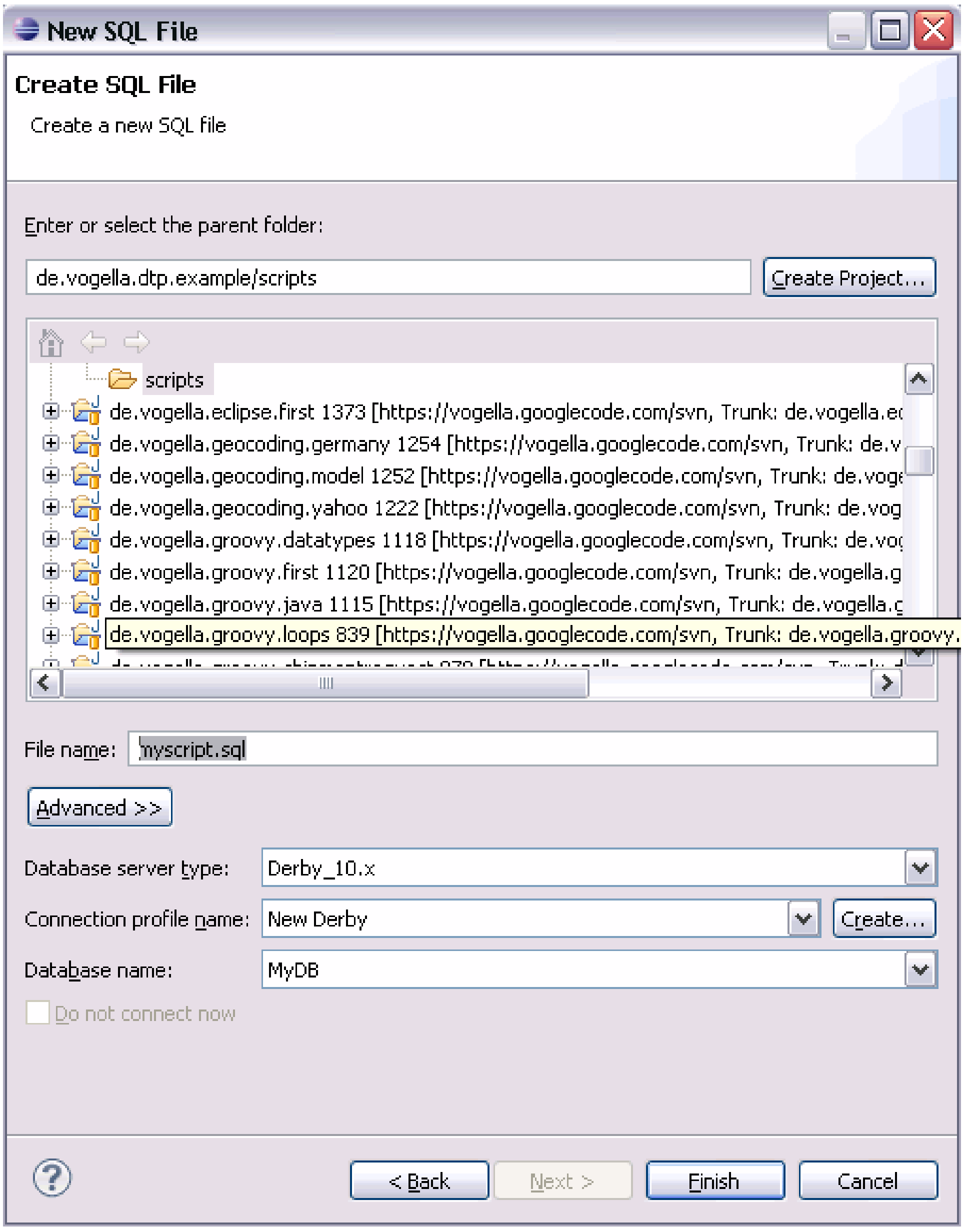
Sometimes you have to disconnect and connect again to see the changes you did. For example if you create a new database schema.

6. Using SQL Statements

Switch back to the Java perspective. Create a folder "scripts". Right click on it, select New -> Other and SQL Development and SQL File.



Maintain the folder "scripts" as a target, name the file "myscript.sql" and maintain the connection you have created earlier.



New SQL File

Create SQL File

Create a new SQL file

Enter or select the parent folder: de.vogella.dtp.example/scripts

scripts
de.vogella.eclipse.first 1373 [https://vogella.googlecode.com/svn, Trunk: de.vogella.ec
de.vogella.geocoding.germany 1254 [https://vogella.googlecode.com/svn, Trunk: de.v
de.vogella.geocoding.model 1252 [https://vogella.googlecode.com/svn, Trunk: de.voge
de.vogella.geocoding.yahoo 1222 [https://vogella.googlecode.com/svn, Trunk: de.vog
de.vogella.groovy.datatypes 1118 [https://vogella.googlecode.com/svn, Trunk: de.vog
de.vogella.groovy.first 1120 [https://vogella.googlecode.com/svn, Trunk: de.vogella.g
de.vogella.groovy.java 1115 [https://vogella.googlecode.com/svn, Trunk: de.vogella.g
de.vogella.groovy.loops 839 [https://vogella.googlecode.com/svn, Trunk: de.vogella.groovy.

File name: myscript.sql

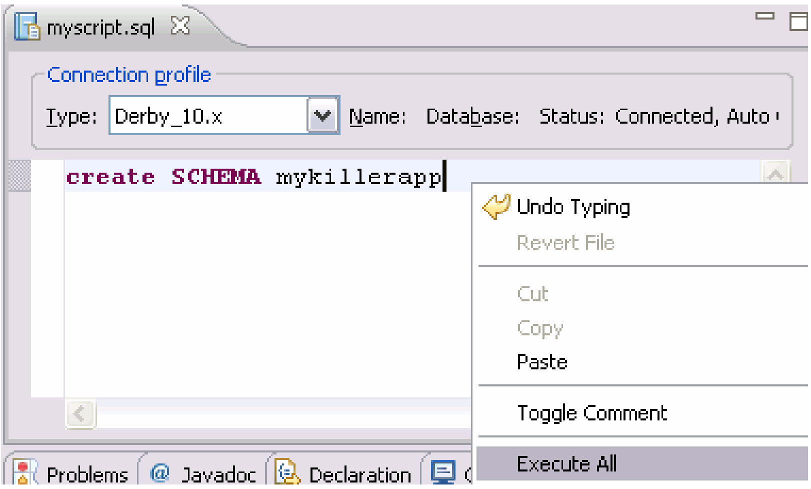
Database server type: Derby_10.x

Connection profile name: New Derby

Database name: MyDB

□ Do not connect now

Maintain a SQL statement, e.g. the creation of a Database schema, right click and select "Execute all". After running the script you see the result in the "SQL Results" view.

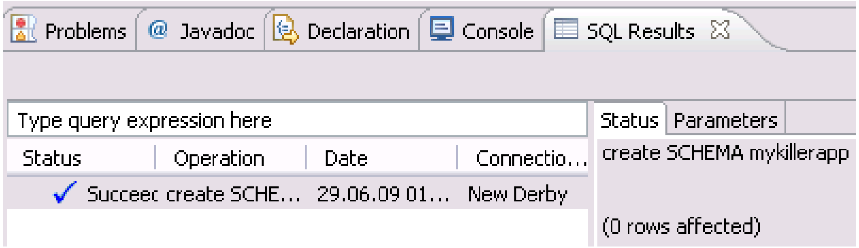


myscript.sql

Connection profile

Type: Derby_10.x Name: Database: Status: Connected, Auto

```
create SCHEMA mykillerapp
```



Status	Operation	Date	Connectio...
✓ Succeec	create SCHE...	29.06.09 01...	New Derby

create SCHEMA mykillerapp

(0 rows affected)

Switch back to "Database development" perspective, right click on your database and select refresh to see your new schema. You could continue now writing SQL statements to create your database, e.g. creating a table via SQL.

7. Maintaining data in a table

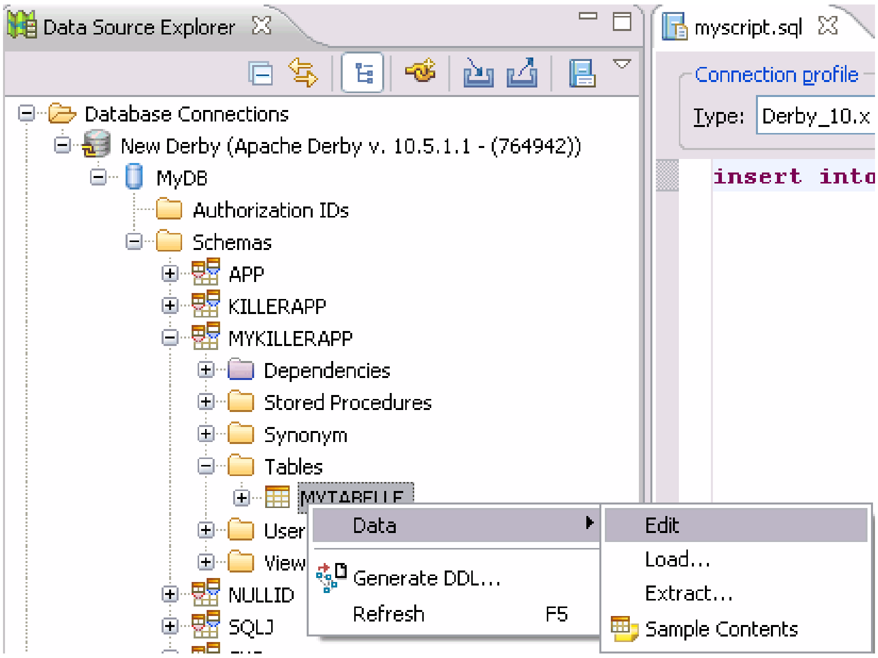
Create a table with the following coding.

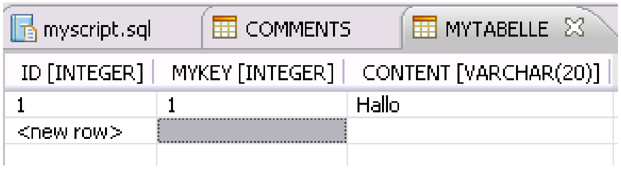
```
CREATE TABLE MYKILLERAPP.MyTabelle (
                    ID INTEGER NOT NULL,
                    MyKey INTEGER NOT NULL,
                    Content VARCHAR(20) NOT NULL,
                    PRIMARY KEY (ID)
          );
```

Put in some data via SQL

```
insert into MYKILLERAPP.MyTabelle values (1,1,'Hallo');
```

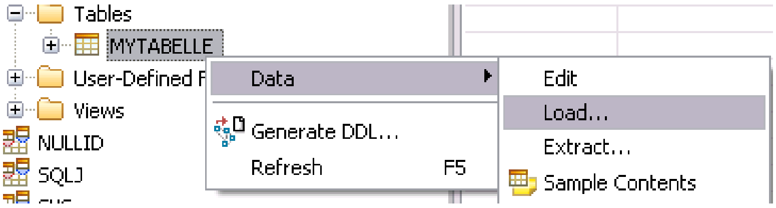
Refresh your database and select your new table, right click on your table and select Data->Edit. Now you can edit the data.





ID [INTEGER]	MYKEY [INTEGER]	CONTENT [VARCHAR(20)]
1	1	Hallo
<new row>		

Also note that Eclipse Data Tools Platform allows you to upload / download the data and also to see a sample of the content.



8. Thank you

Please help me to support this article:

Donate

9. Questions and Discussion

Before posting questions, please see the vogella FAQ . If you have questions or find an error in this article please use the www.vogella.de Google Group . I have created a short list how to create good questions which might also help you.

10. Links and Literature

10.1. vogella Resources

Eclipse RCP Training Join my Eclipse RCP Training to become an RCP Expert in 5 days (Training in German)

Android Tutorial Introduction to Android Programming

GWT Tutorial Program in Java and compile to JavaScript and HTML

Eclipse RCP Tutorial Create native applications in Java

JUnit Tutorial Test your application

Git Tutorial Put everything you have under distributed version control system