

Using the SOA Gateway to access MySQL database

The widely used MySQL database is used here to outline the steps required to expose a SQL table as a web service.

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Introduction

MySQL is a multithreaded, multi-user SQL database management system (DBMS) which has, according to MySQL AB, more than 10 million installations. The ODBC interface is called "MySQL Connector".

This HOWTO assumes that the SOA Gateway and MySQL database are both running on Windows.

It is assumed that MySQL is up and running on the local machine and is accessible.

For the purpose of this HOWTO, the following table has been set up and populated. This table is based on examples that are available in the Tutorial section of the MySQL Documentation. Check your MySQL Manual for more information.

- Database name : test
- Table name : pets
- Table description:

Field	Type	Null	Key	Default	Extra
name	varchar(20)	YES		NULL	
owner	varchar(20)	YES		NULL	
species	varchar(20)	YES		NULL	
sex	char(1)	YES		NULL	
birth	date	YES		NULL	
death	date	YES		NULL	

MySQL Connector

If you already have the MySQL Connector driver installed, then skip this step.

You can check is it installed by selecting **Start Control Panel Add/Remove programs** and look for **MySQL Connector ODBC 3.xx / 5.xx** in the list of installed programs.

- To install MySQL Connector, go to <http://www.mysql.com/products/connector/odbc/> and download the MySQL ODBC Connector
- Download the MSI installer
- Open the file you downloaded.
- Click **Next**
- Ensure the **Typical** radio button is selected and click **Next**
- Click **Install**
- Click **Finish**

The MySQL Connector is now installed. To configure it, follow these steps

- Click **Start, Control Panel, Administrative tools, DataSources(ODBC), System DSN**
- Click **Add**
- From the list of drivers, select **MySQL ODBC 3.xx / 5.xx Driver**
- Click **Finish**
- Enter "soa_gw_mysql" as the **Data Source Name**
- Enter "MySQL SOA Gateway" in **Description**
- Enter "localhost" in **Server**
- Entering a value in the "Port" box is optional. MySQL defaults to port 3306.
- Enter the username required to access the "test" database in **User**
- Enter the password required to access the "test" database in **Password**
- Select the "test" **Database** from the dropdown list.
- Click **Test** and ensure the server returns success

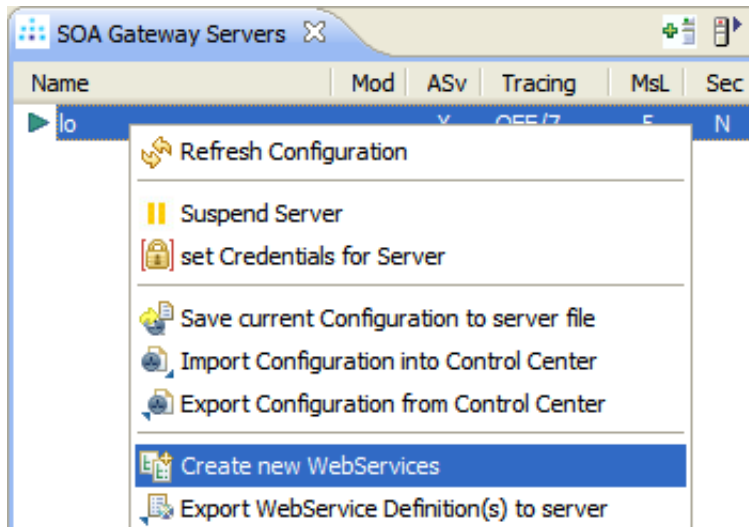


- Click **OK**
- Click **OK**

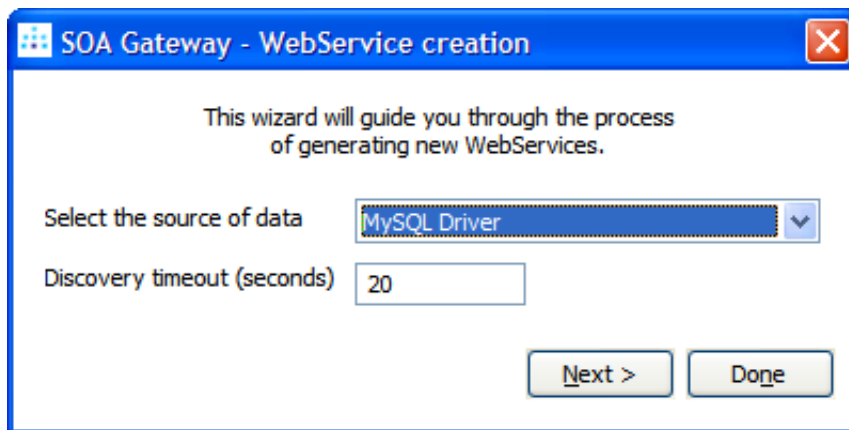
SOA Gateway Configuration

The SOA Gateway must now be configured to access and use this new MySQL DSN

- Start the SOA Gateway Control Center and add a SOA Gateway Server. See here for more information.
- If you do not have an MySQL driver, add one now. See here for more info
- Left click on your server, and select "**Create new WebServices**"

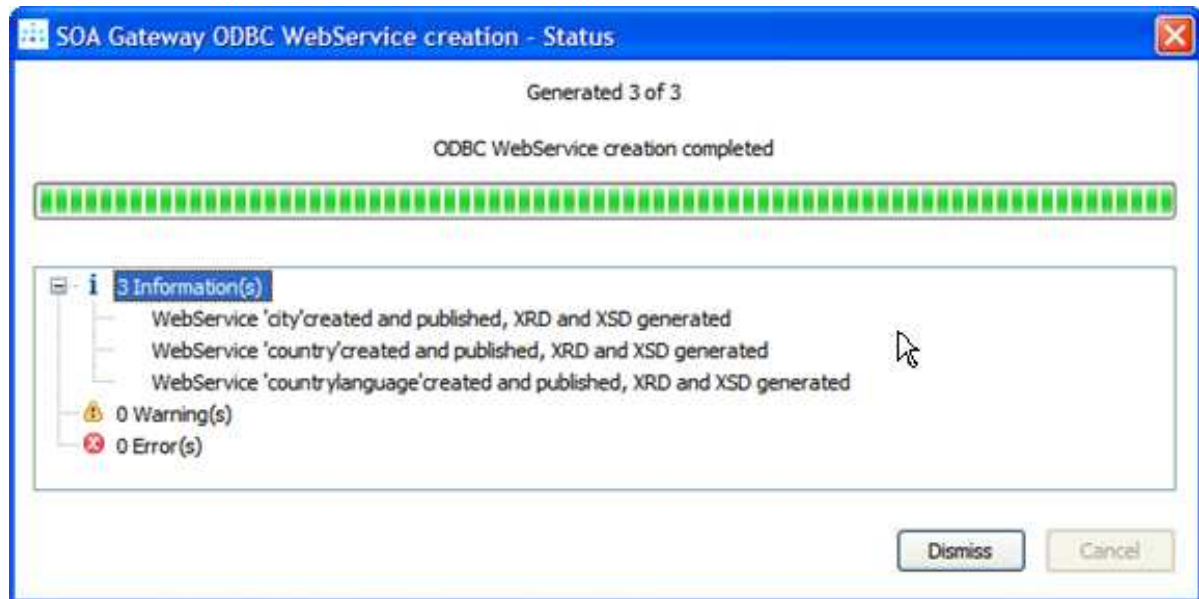


- From the next dialog choose **MySQL Driver** and click **Next**



- The next dialog prompts you for the the
 1. **ODBC Dsn**: In this case it will be world_dsn
 2. The **UserId** and **Password**. If in doubt, use "root" as the User Id, and the password will be the one you set up during MySQL installation.
 3. **Pattern**: This will be a pattern match value passed to the SQL Command. The search pattern characters are: an underscore (_), which represents any single character and a percent sign (%), which represents any sequence of zero or more characters.
 4. **Max Tables**: This is a hard-limit on the amount of tables the SOA Gateway will attempt to discover.

Example:



- Click "Close" to finish the WebService Creation
- You have now created WebServices based on the "world" DSN!

The screenshot displays the SOA Gateway Server Configuration interface. At the top, a table lists configured WebServices:

Mod	Driver	WebService	DataSource Id	DataView
	MySQL Driver	world_dsn_City	odbcDsn=world_dsn, tableName=...	world_dsn_City
	MySQL Driver	world_dsn_Country	odbcDsn=world_dsn, tableName=...	world_dsn_Country
	MySQL Driver	world_dsn_CountryLanguage	odbcDsn=world_dsn, tableName=...	world_dsn_CountryLanguage

Below the table, the SOA Gateway Action Log shows messages such as "ODBC discovery completed, 3 WebService(s) generated" and "Configuration autosaved due to published WebService modification(s)".

The main area shows the "WebService properties" for the selected resource "world_dsn_City". The properties are:

- Name: world_dsn_City
- DataView: world_dsn_City
- Driver: MySQL Driver
- Read-only:
- WSDL URL is .. http://dublin:8090/world_dsn_City?WSDL

Under "WebService Identification and options", the following fields are visible:

- odbcDsn: world_dsn
- schemaName: (empty)
- tableName: City

Accessing MySQL

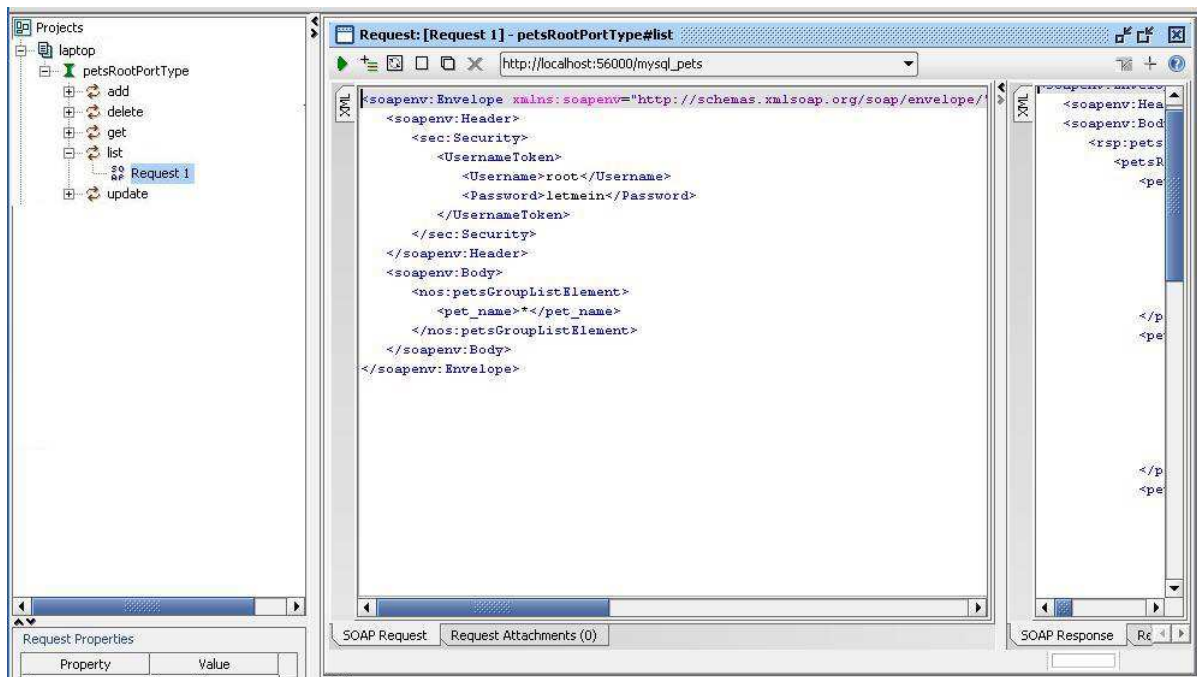
Now that the resource has been set up, you can access the Web Service Description Language (WSDL) by selecting the following URL: `http://<host>:<port>/mysql_pets?WSDL`

This WSDL is the starting point to accessing the pets table using the SOA Gateway. There are many clients available to consume and use web services, for example soapUi, XMLSpy, and Infopath.

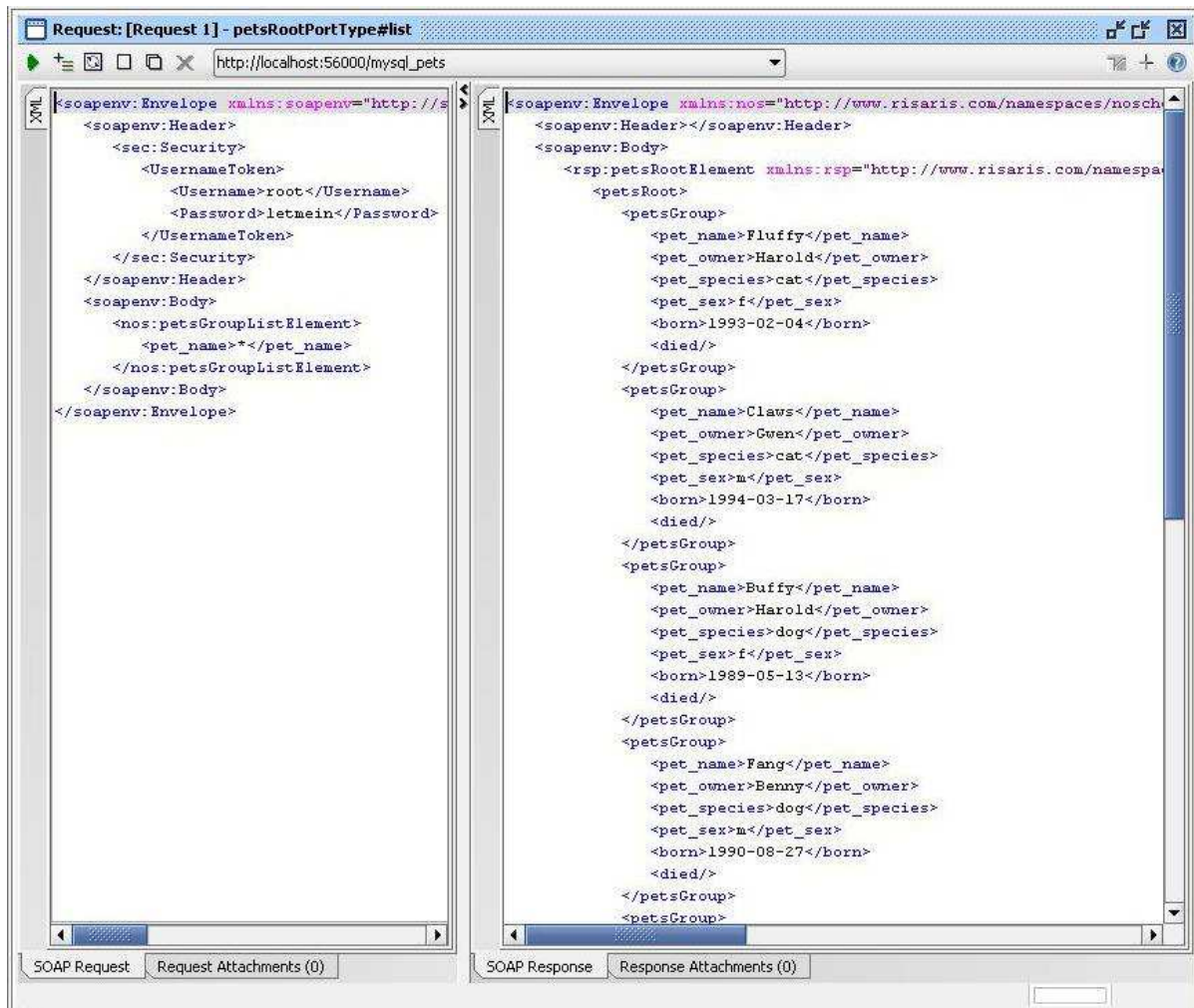
A tutorial on how to access Adabas data through soap ui is available here. The follow examples is based on that tutorial, and shows how to access the pets table web service.

- Start soapUi and create a new WSDL project.
- Import the new pets WSDL : `http://<host>:<port>/soa_gw_mysql?WSDL`
- Edit the list request
- Completely remove the `<petsGroupHeader>` element from the `<soap:Header>` element
- In the `<Security>` element, add the required Username and Password for accessing the pets table

- Add "*" as the content of the <pet_name> element (same as SELECT * from pets;)
- E.g
-



- Hit the green arrow, and the results of the request should be displayed



Congratulations! You have now accessed MySQL using the SOA Gateway!

Further MySQL Examples

There are many freely available demo databases available online. One of the best known ones is the the MySQL World database. It contains statistics about countries around the world.

See [here](#) for more information about the world database.

You can use the World Database with the SOA Gateway using the same procedure as you used to import the pets table above.