

Accessing DB2 from Word

Contents

1. Introduction	2
2. Prerequisites	2
3. Setup	2
Populate DB2 Database	2
Set up ODBC Access	2
4. Discovery.....	3
4.1. Web Service Creation using SOA Gateway	3
4.2. Accessing the WSDL	5
5. Accessing a Web Service with Word	7
6. Conclusion.....	10

1. Introduction

In this tutorial we will show you how to use a Word application to access DB2 via the SOA Gateway.

2. Prerequisites

It is assumed that you are running the 3 components, DB2, Word and the SOA Gateway on Windows.

It is assumed you already have a SOA Gateway server and Control Centre installed. See [here](#) for more info about installing the SOA Gateway.

3. Setup

It is assumed that you already have MS Word installed as part of the MS Office suite of products.

You will also need a DB2 database. IBM provides a downloadable edition of DB2, called "DB2 Express-C". See [this link](#) for the DB2 Express-C homepage. Download and install a version of DB2 Express.

Populate DB2 Database

Now that you've got DB2 installed, we need to populate it with some demo data. For this we'll use the Risaris Bank Demo, which is available [here](#). Save this file to "c:\Temp\RisarisBank_db2.sql".

- Open the DB2 Control Centre under "IBM DB2", "General Admin Tools" in the Start Menu.
- Right click "All databases" and select "Create Database", "Standard".
- Name your new database "RISBANK". All other options can be left as default, so click "Finish".
- Open a DB2 command shell by typing "db2cmd" in a DOS box.
- From the db2 command shell, change directory to where you downloaded the RisarisBank_db2.sql. E.g "cd \temp".
- Populate the RISBANK database by running the command "db2 -f RisarisBank_db2.sql". Note you may see errors about "SYSTEM.CUSTOMERINFORMATION is an undefined name". These occur because the RisarisBank_db2.sql attempts to drop any existing tables before creating new ones. To prove this, you can run the same command again, and the errors will disappear.
- You can now return to the DB2 Control Centre and view the newly created tables in the RISBANK database.

Set up ODBC Access

The final thing to do with your DB2 Database is to set up an ODBC DSN which will be used by the SOA Gateway to access this database.

Click Start, Control Panel, Administrative Tools, Data Sources (ODBC)

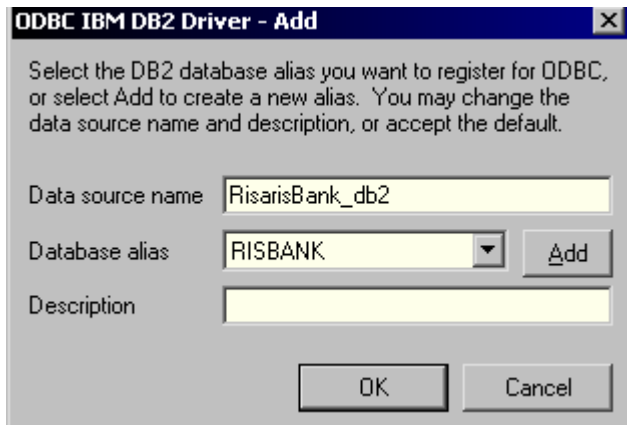
From the resulting screen, choose the "System DSN" Tab.

Click Add

From the list of data source drivers, select “IBM DB2 ODBC DRIVER”, and click “Finish”.

Enter “RisarisBank_db2” as the Data source Name.

Ensure that the Database Alias is RISBANK, and click “OK”.



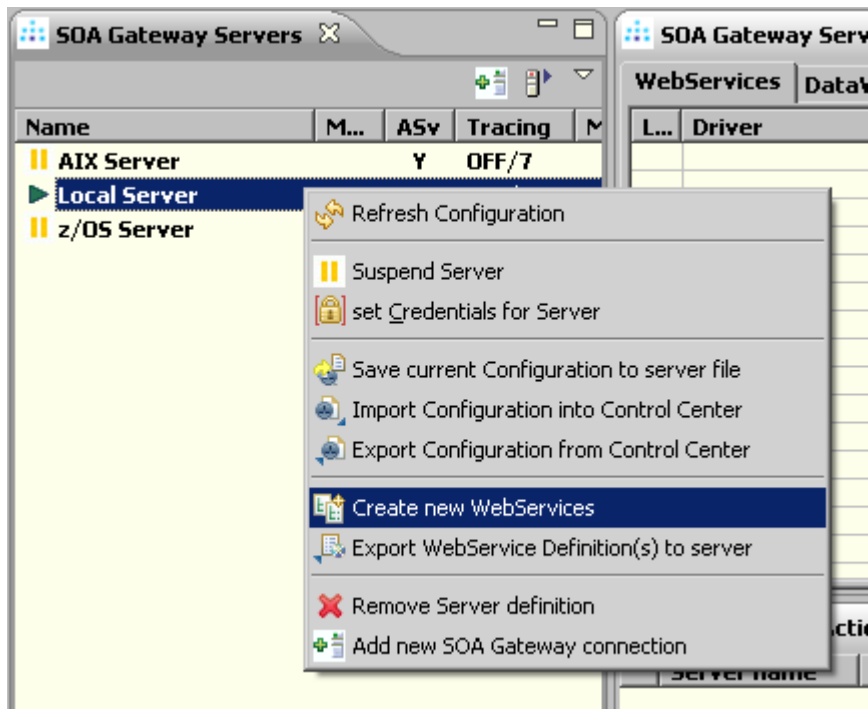
4. Discovery

At this stage you’ve got InfoPath installed, and a DB2 database with some sample data in it. In this section we’ll show you how to create web services from each of the DB2 tables. These web services can be used by the InfoPath language (and many others) to give you direct real-time access to your DB2 Data.

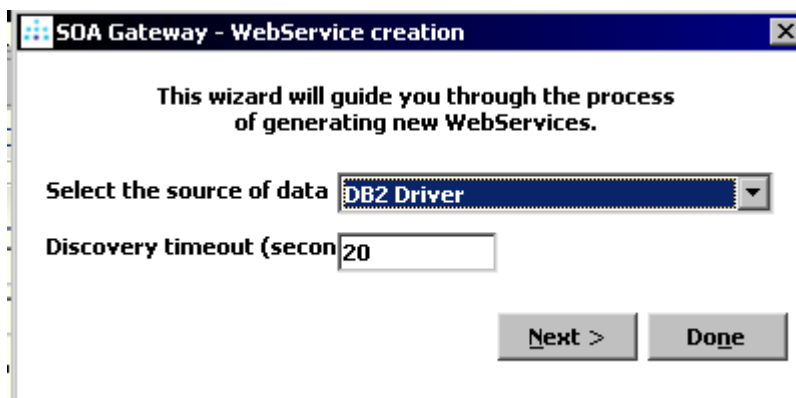
4.1. Web Service Creation using SOA Gateway

Start your SOA Gateway Control Centre. See [here](#) for an introduction to the Control Centre.

In your servers view, right click the entry which represents your local SOA Gateway Server. Select “Create New Web Services”.

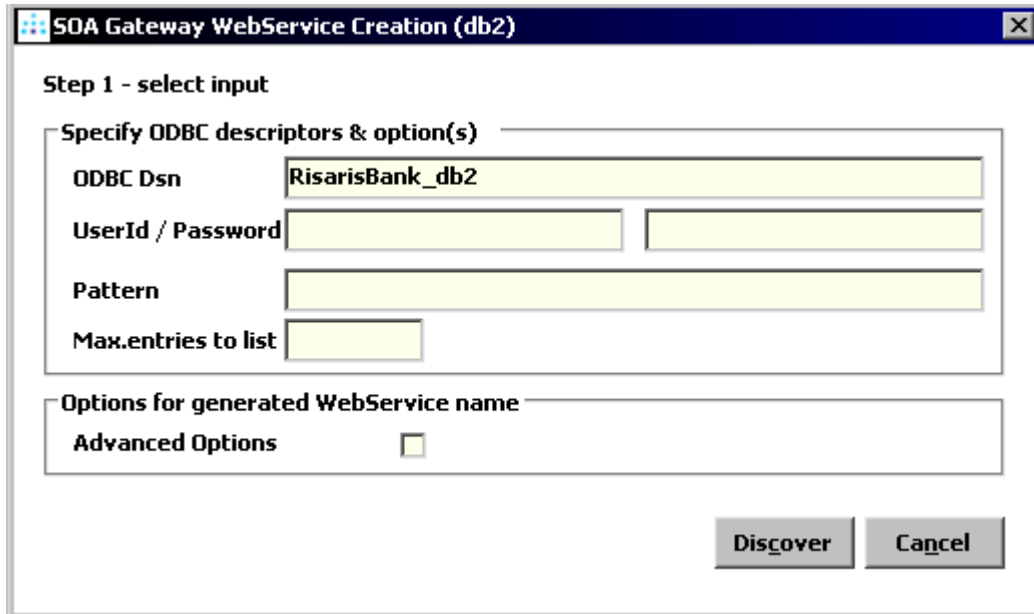


From the next dialog, choose “DB2 Driver”. If you do not see have a DB2 Driver in the list, see how to create one [here](#).



Click Next.

The next screen gives you the ability to add information about your DSN



Enter the above information and click Discover.

The wizard will display all the tables it finds at this (RisarisBank) DSN.

Click “Select All”, and click “Import”.

The wizard will create web services from each one of these tables.

SOA Gateway Servers			SOA Gateway Server Configuration - Local Server				
Name	M...	ASv	Mod	Driver	WebService	DataSource Id	DataView
AIX Server		Y					
DMZ		Y					
dublin dev		Y					
jk server		Y					
jk server linux		Y					
jom server		Y					
▶ Local Server		Y					
lxbre server		Y					
PCRJW9		Y					
risaris.com server		Y					
vse		Y					
z/OS Server		Y					
z/vse		Y					
			DB2.	DB2 Driver	ACCOUNTSMOVEMENTS_SY...	odbcDsn=RisarisBank_db2, schemaNam...	ACCOUNTSMOVEMENTS_SYSTEM
			DB2.	DB2 Driver	AUDIT_SYSTEM	odbcDsn=RisarisBank_db2, schemaNam...	AUDIT_SYSTEM
			DB2.	DB2 Driver	BRANCH_SYSTEM	odbcDsn=RisarisBank_db2, schemaNam...	BRANCH_SYSTEM
			DB2.	DB2 Driver	CURRENTACCOUNT_SYSTEM	odbcDsn=RisarisBank_db2, schemaNam...	CURRENTACCOUNT_SYSTEM
			DB2.	DB2 Driver	CUSTOMERACCOUNTXREF_S...	odbcDsn=RisarisBank_db2, schemaNam...	CUSTOMERACCOUNTXREF_SYSTEM
			DB2.	DB2 Driver	CUSTOMERINFORMATION_S...	odbcDsn=RisarisBank_db2, schemaNam...	CUSTOMERINFORMATION_SYSTEM
			DB2.	DB2 Driver	DEPOSITACCOUNT_SYSTEM	odbcDsn=RisarisBank_db2, schemaNam...	DEPOSITACCOUNT_SYSTEM
			DB2.	DB2 Driver	TELLERTABLE_SYSTEM	odbcDsn=RisarisBank_db2, schemaNam...	TELLERTABLE_SYSTEM

You’ve just created 8 Web Services from your 8 DB2 Tables!

4.2. Accessing the WSDL

Web Service Description Language (WSDL) is a standard, XML-based language that is used to describe a Web Service.

For each of the 8 web services you’ve created in the previous section, the SOA Gateway provides you with a WSDL to describe the Web Service. The WSDL itself is usually interpreted by a web

service client, such as InfoPath, but it is useful to know where to find the WSDL for each of your Web Services.

As WSDL is XML-based, it will open in your browser of choice. To see the WSDL for one of your Risar Bank web services, do the following in your SOA Gateway Control Centre:

- Click on the web service you are interested in, for example the “branch” web service.
- The properties for this web service should appear in your [Properties View](#). If you do not see the Properties view, select Window -> Show View -> Other -> General -> Properties and click OK.
- In the properties view, there is a link to your WSDL. Click it to open the WSDL in a browser.

The image shows two screenshots from the SOA Gateway Control Centre. The top screenshot is the 'WebServices' tab of the 'SOA Gateway Server Configuration - Local Server' window. It contains a table with columns: Mod, Driver, WebService, and DataSource Id. The 'BRANCH_SYSTEM' row is highlighted in blue. The bottom screenshot is the 'Properties' view for the 'BRANCH_SYSTEM' web service. A green arrow points from the 'BRANCH_SYSTEM' row in the table to the 'Name' field in the properties view. The 'WSDL URL is' field contains the link http://localhost:56000/BRANCH_SYSTEM?WSDL. Below this, the 'WebService Identification and options' section shows fields for 'odbcDsn' (RisarisBank_db2), 'schemaName' (SYSTEM), and 'tableName' (BRANCH).

Mod	Driver	WebService	DataSource Id
DB2.	DB2 Driver	ACCOUNTSMOVEMENTS_SY...	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	AUDIT_SYSTEM	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	BRANCH_SYSTEM	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	CURRENTACCOUNT_SYSTEM	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	CUSTOMERACCOUNTXREF_S...	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	CUSTOMERINFORMATION_S...	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	DEPOSITACCOUNT_SYSTEM	odbcDsn=RisarisBank_db2, schen
DB2.	DB2 Driver	TELLERTABLE_SYSTEM	odbcDsn=RisarisBank_db2, schen

WebService properties

Name: BRANCH_SYSTEM
DataView: BRANCH_SYSTEM
Driver: DB2 Driver
Read-only:
WSDL URL is: http://localhost:56000/BRANCH_SYSTEM?WSDL

WebService Identification and options

odbcDsn: RisarisBank_db2
schemaName: SYSTEM
tableName: BRANCH

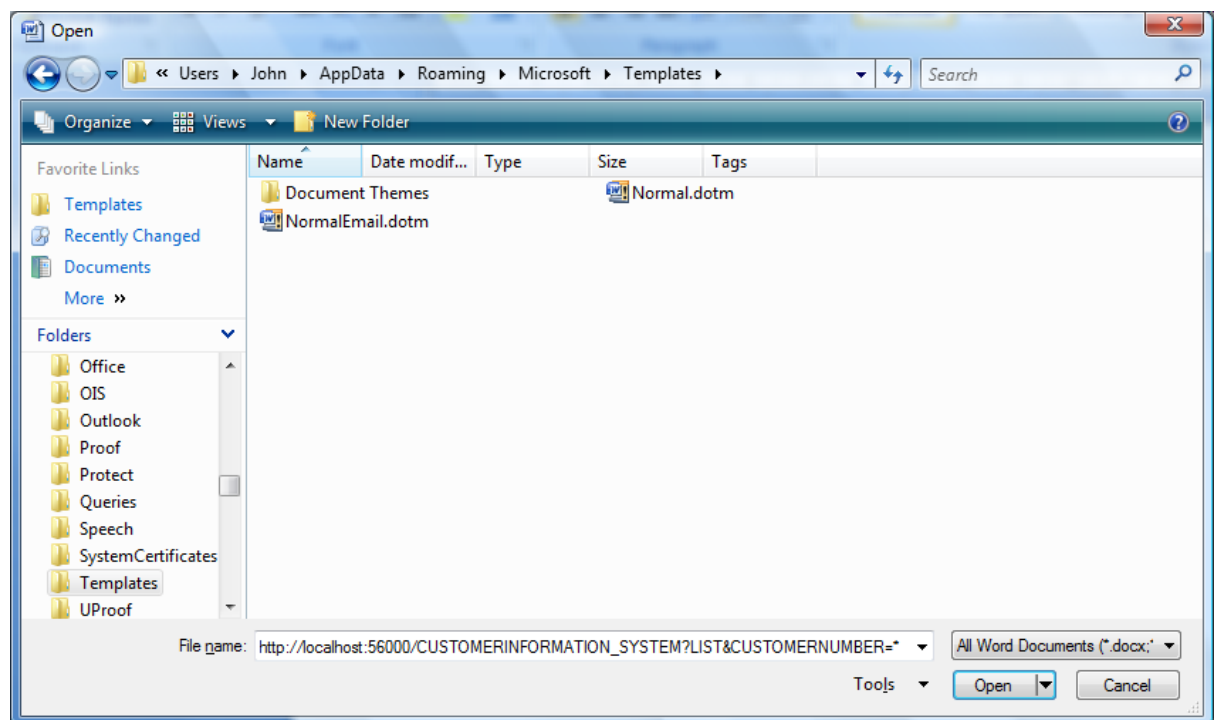
You can view the WSDL for the other web services by clicking the link from their properties view.

This WSDL is the starting point for using Web Services, and can be used time and again by different web service clients.

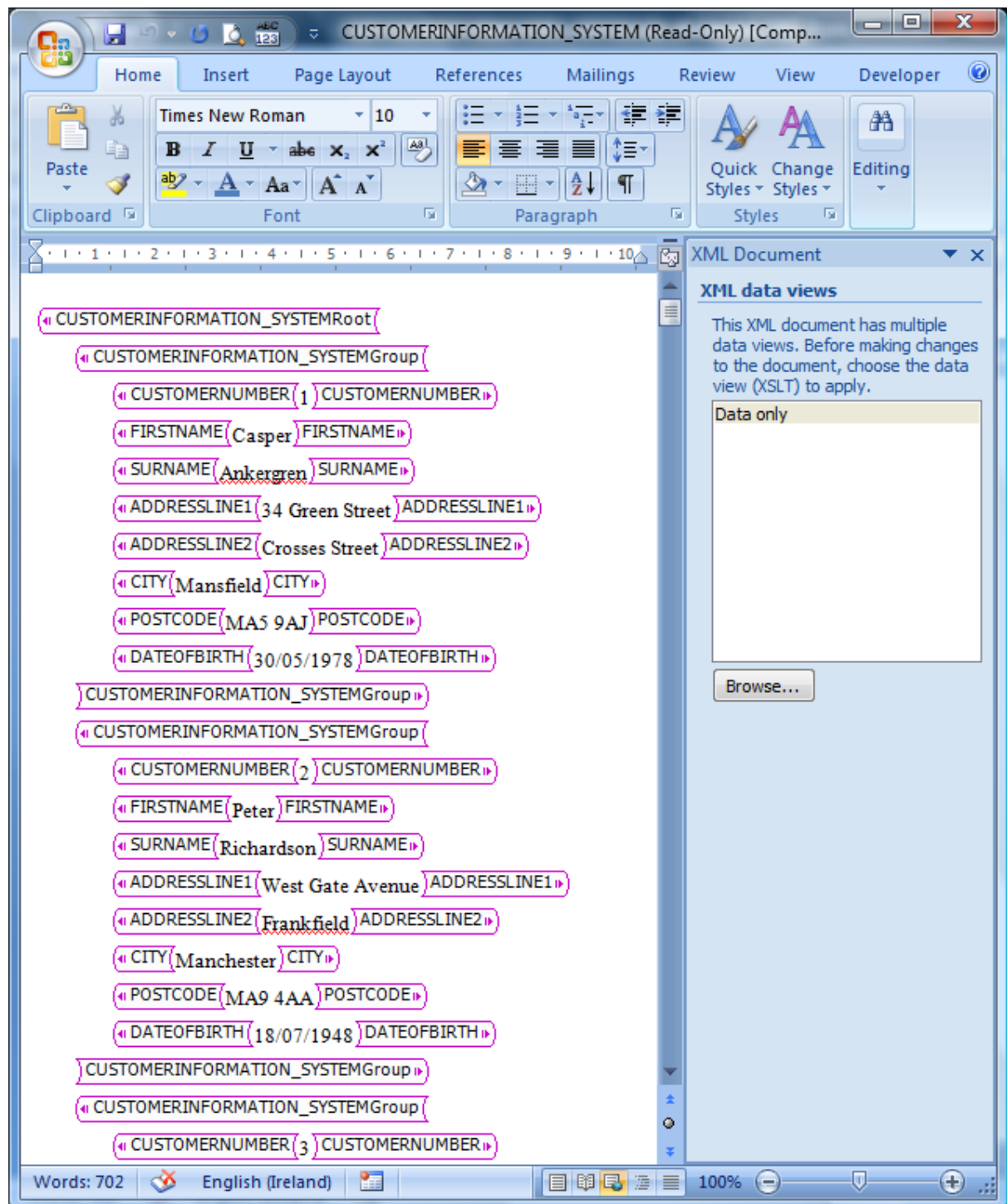
5. Accessing a Web Service with Word

We will use the Word application to access our new Risaribank Web Services.

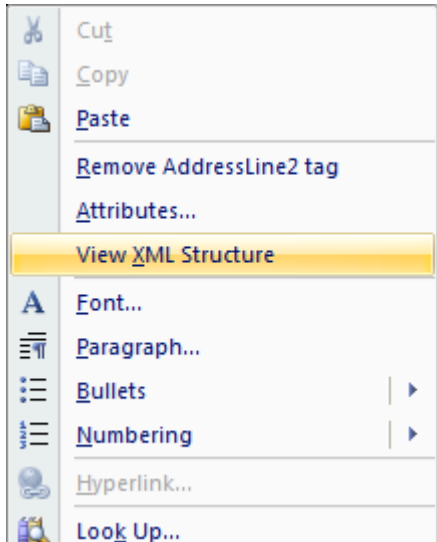
Open *Microsoft Word*. Open a new document and enter the required URL in the File Name box e.g. http://localhost:56000/CUSTOMERINFORMATION_SYSTEM?LIST&CUSTOMERNUMBER=* will call the CUSTOMERINFORMATION_SYSTEM web service with a list query requesting all customer information. Depending on your SOA Gateway configuration you may have to change localhost and/or the port number of 56000.



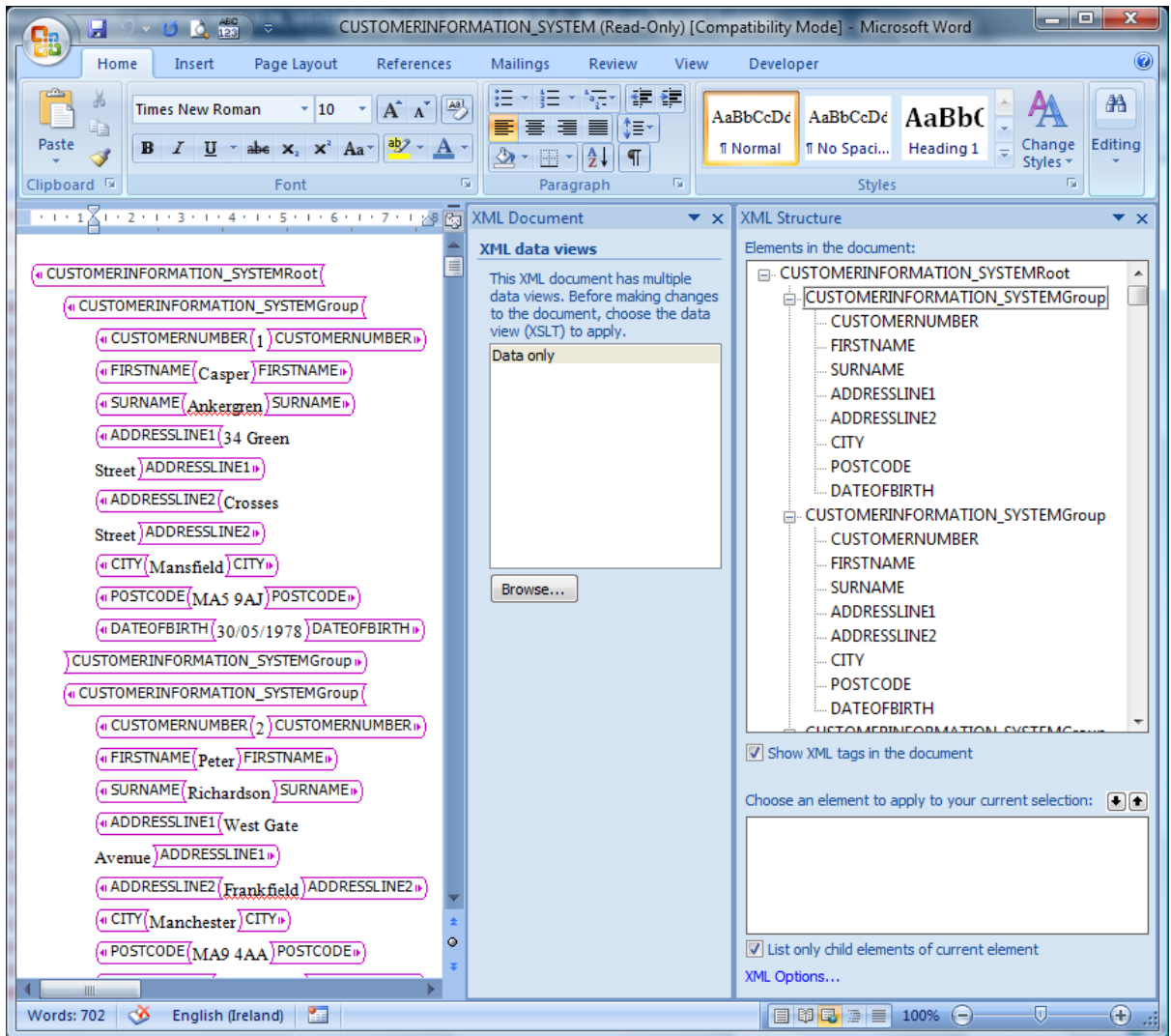
Select Open. A list of customers will be returned as shown.



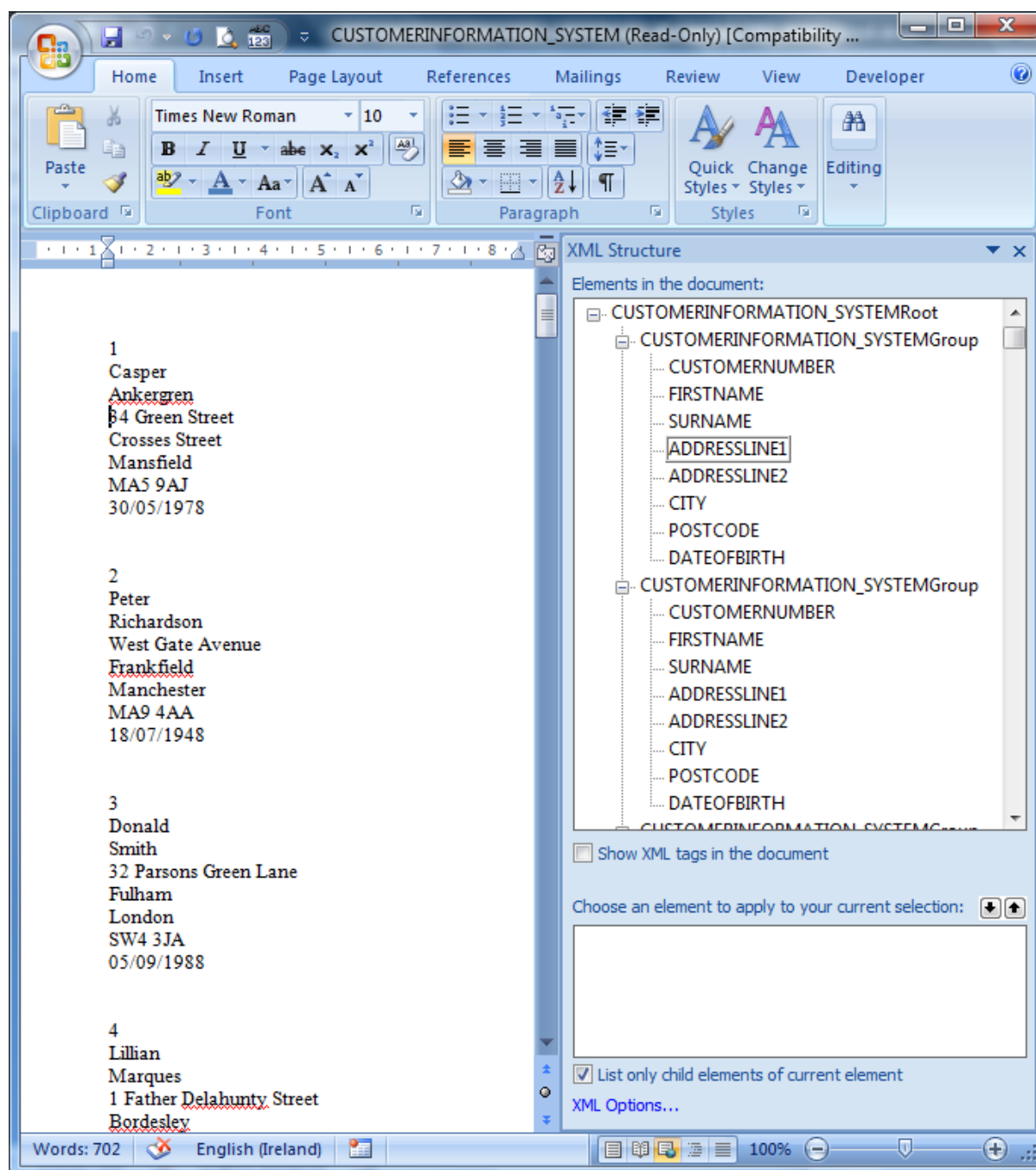
Right-click on the returned structure. Select View XML Structure from the pop-up menu.



The following window is displayed.



Close the XML Document window. Deselect [Show XML tags in the document](#) and you have a more elegant list displayed.



6. Conclusion

This tutorial shows how to access DB2 from Word using the SOA Gateway.