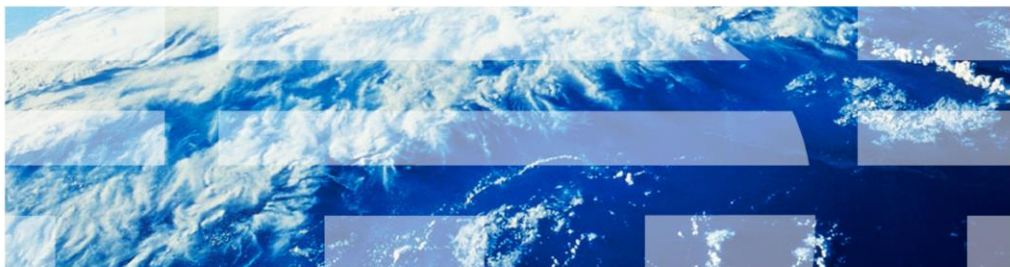


InfoSphere Information Server

Processing web services as a transformation with InfoSphere DataStage



© 2011 IBM Corporation

This presentation describes how to create a Web Services job with InfoSphere™ DataStage® using Web Services as a transformation. The example in this module is based on DataStage 8.5 but the principles are the same for all versions of DataStage.

Objectives

- Understanding prerequisites
- Import Web Services Definitions
- Build job using Web Services as transformation

The objectives of this presentation are to introduce you to the basic concepts of creating DataStage jobs that can access published Web Services as a transformation. This presentation includes the prerequisites for using the Web Service stages. To demonstrate this functionality, this presentation also includes step by step processes necessary to create a DataStage job that uses Web Services as a transformation.

Understanding prerequisites

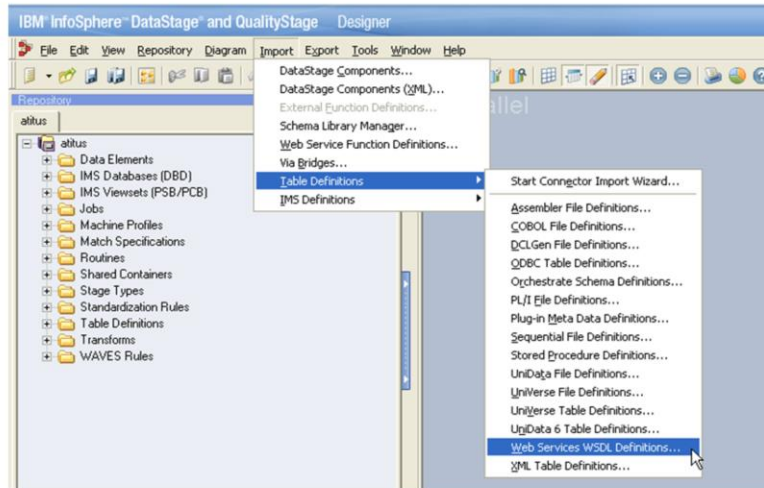
- Standards DataStage web services stages support
 - SOAP 1.1 binding over HTTP
 - Literal and SOAP-encoded web service arguments
 - RPC-style and document-style arguments
- Web service metadata import
 - Physical WSDL (Web service definition language) files on disk
 - Direct HTTP-protocol (non-proxied) import of WSDL using URL

This slide displays the web standards that are supported by the DataStage Web Services stages and the methods available for importing Web Service definitions. The steps in this module will use Web Services published on the public internet. To complete these steps, your local DataStage client AND your DataStage server will both need to have access to the public internet.

The example in this presentation is based on DataStage version 8.5 using a Parallel canvas job. You should be able to complete the module using other versions of DataStage or by using a Server canvas job. However, the screen captures and exact steps may vary slightly.

Import web services definitions (1 of 4)

- Import web services definition
 - Import => Table Definitions => Web Services WSDL Definitions



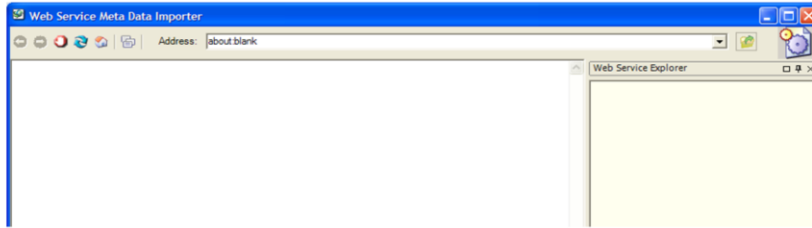
4

Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

To start the Web Service Metadata Importer, open the DataStage Designer (or DataStage Manager in version 7) and click Import from the main menu. Next, expand Table Definitions and then click Web Services WSDL Definitions.

Import web services definitions (2 of 4)



- Web service definition published to public internet
 - <http://wsf.cdyne.com/WeatherWS/Weather.asmx?wsdl>



5

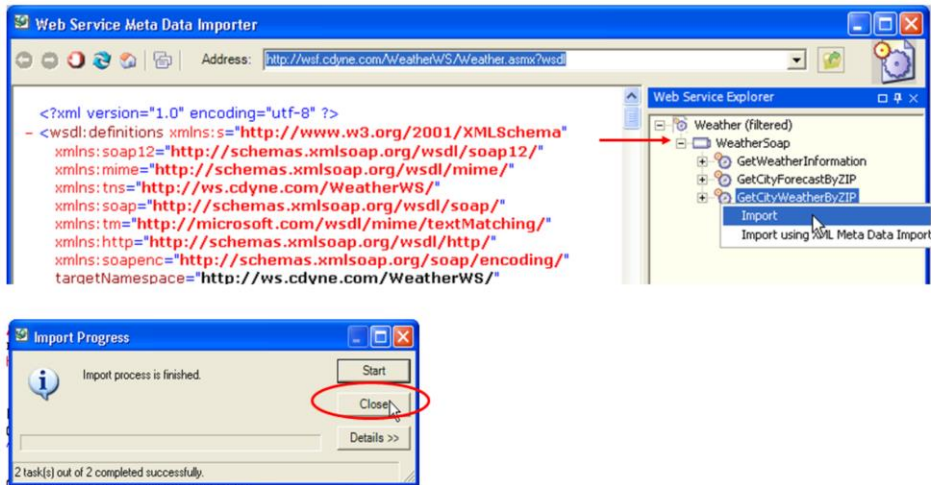
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

The Web Service Metadata Importer should open as a new window. In this module, you will use a web service that returns weather forecast information. The URL for the web service is provided on this slide. To browse the Web Service, enter the URL for the web Service WSDL document into the Address field in the Web Service Metadata Importer and press Enter.

Import web services definitions (3 of 4)

- Import GetCityWeatherByZIP



6

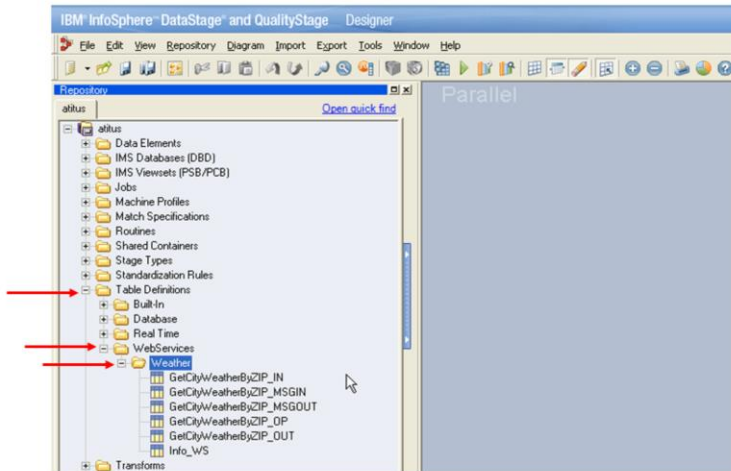
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

The next step is to import the GetCityWeatherByZIP operation. On the right side of the Web Services Meta Data Importer dialog box, click the [+] next to the entry for "WeatherSoap" in the Web Services Explorer pane to expand it. Locate the GetCityWeatherByZIP operation with the 'gears' icon next to it. Right click GetCityWeatherByZIP and select 'Import'. When the import finishes, click Close on the dialog box and then click Close on the bottom right side of the Web Services Metadata Importer window.

Import web services definitions (4 of 4)

- Verify successful import - repository view



7

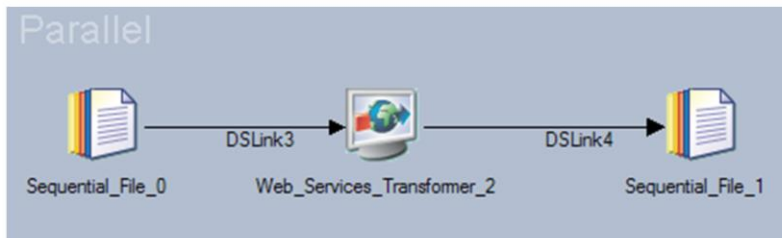
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

To verify that the import was successful, go to the repository view in the DataStage Designer (or the DataStage Manager in version 7) and locate the Table Definitions folder. Click to expand it and then locate the WebServices folder and expand it. If the import was successful, you will have a Weather folder with the operation that was just imported. Expanding it will show all of the entries labeled with GetCityWeatherByZIP.

Build job using web service as transformation (1 of 11)

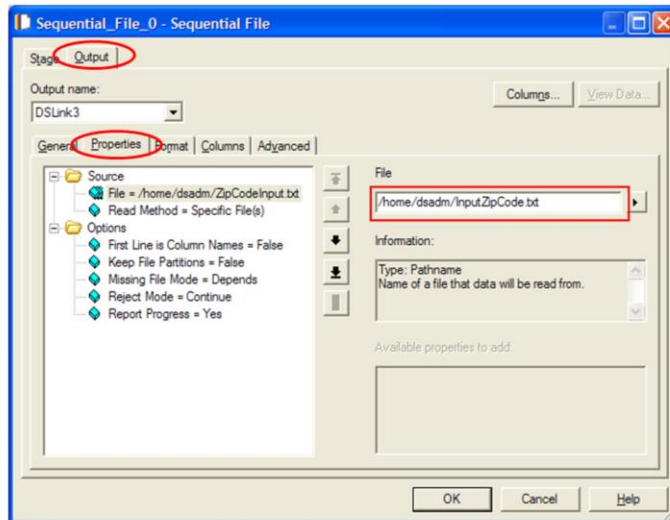
- Create new parallel DataStage job
 - Source – Sequential file
 - Web service transformer
 - Target – Sequential file



In the DataStage Designer, create a new blank job (either server or parallel). On the job canvas, add a sequential file for the source, a web services transformer and a sequential file for the target.

Build job using web service as transformation (2 of 11)

- Define input file for source sequential file stage



9

Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

Double click the sequential file stage. Click the Output tab at the top and then click the Properties tab. Edit the path for the File property and provide the full path to the location on your DataStage server where you will create your source sequential file. It is ok that the file does not currently exist; you are going to create it in the next step.

After typing the path, press Enter to submit. It is not necessary to change any other options; the default values should be used. Press OK at the bottom of the dialog box to save the changes.

Build job using web service as transformation (3 of 11)

- Create source file – UNIX® or Linux®
 - Add valid US ZIP code

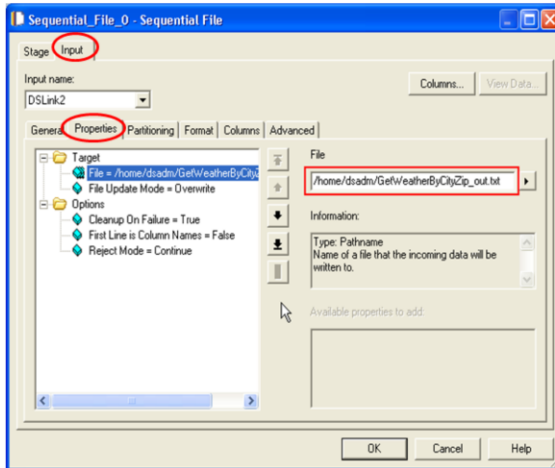
```
$ cd /home/dsadm  
$ vi InputZipCode.txt  
"01460"  
$ cat InputZipCode.txt  
"01460"
```

- Windows®
 - Create file in WordPad
"01460"

Using a text editing program, create the input file that you specified in the previous slide. Note that this file must be created on the DataStage Server, not on your local client workstation. Enter a single line into this file, which is a valid US ZIP code surrounded with double quote characters.

Build job using web service as transformation (4 of 11)

- Define output file for target sequential file stage



11

Processing web services as a transformation with InfoSphere DataStage

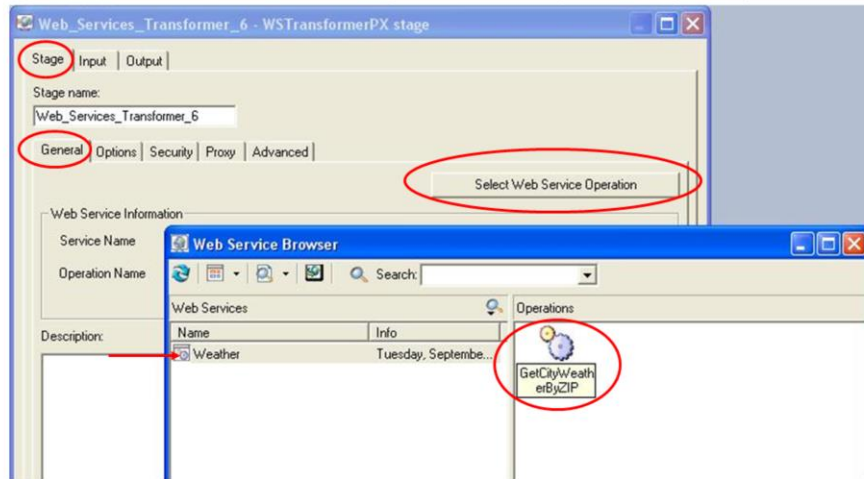
© 2011 IBM Corporation

Next, double click the target sequential file stage. Click the Input tab at the top and then click the Properties tab. Edit the path for the File property and provide the full path to the location on your DataStage server where it will write the file.

After typing the path, press Enter to submit. It is not necessary to change any other options; the default values should be used. Press OK at the bottom of the dialog box to save the changes.

Build job using web service as transformation (5 of 11)

- Configure Web Service Transformer stage to call GetCityWeatherByZIP operation



12

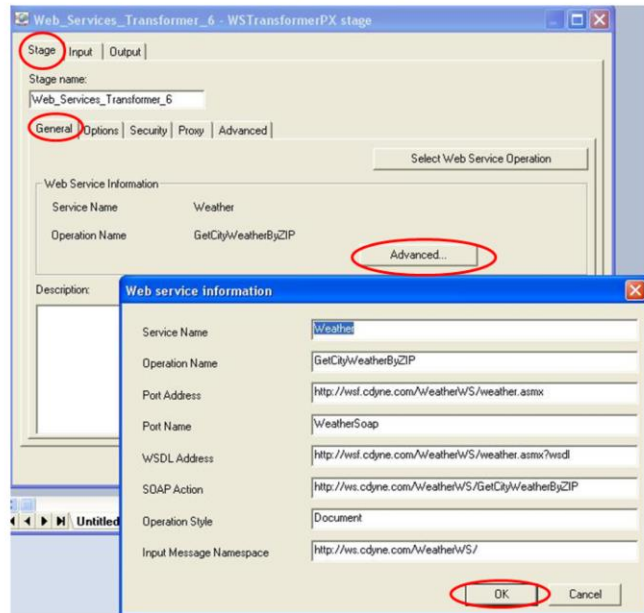
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

Open the Web Services Transformer stage. Select General tab. Click the 'Select Web Service Operation' button. In the Web Service Browser window, select the 'Weather' web service in the left pane and the operations are listed in the right pane. Double click the 'GetCityWeatherByZIP' operation in the right pane.

Build job using web service as transformation (6 of 11)

- Verify Web Services Information is populated



13

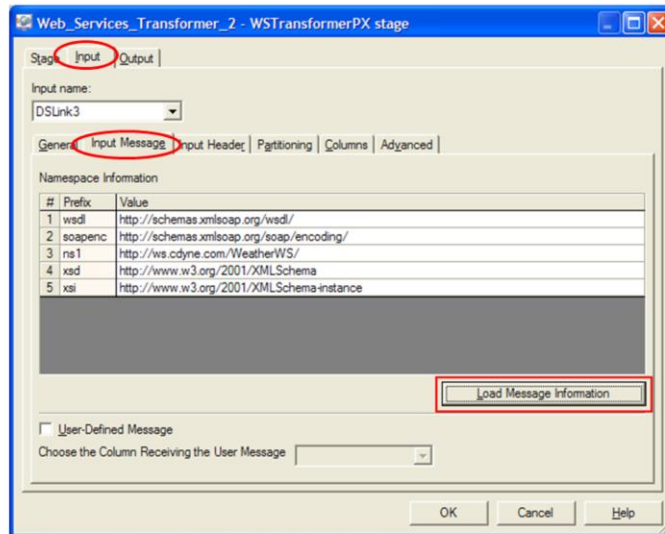
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

Next, click the Advanced button and verify all of the properties in the Web Service Information are populated. If the information is not populated correctly, go back to the previous steps and ensure all steps were completed correctly. Click OK when finished.

Build job using web service as transformation (7 of 11)

- Load namespace information



14

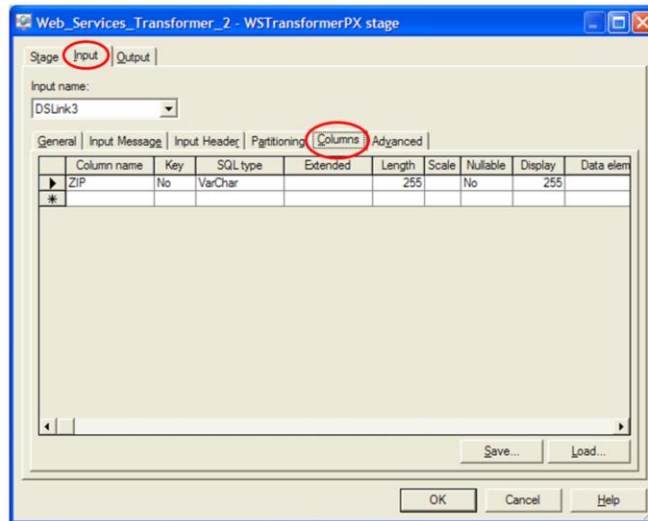
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

With the Web Services Transformer stage still open, select the Input tab at the top and then click the Input Message tab. Click the Load Message Information button and the grid for Namespace information is automatically populated.

Build job using web service as transformation (8 of 11)

- Validate columns tab has been populated



15

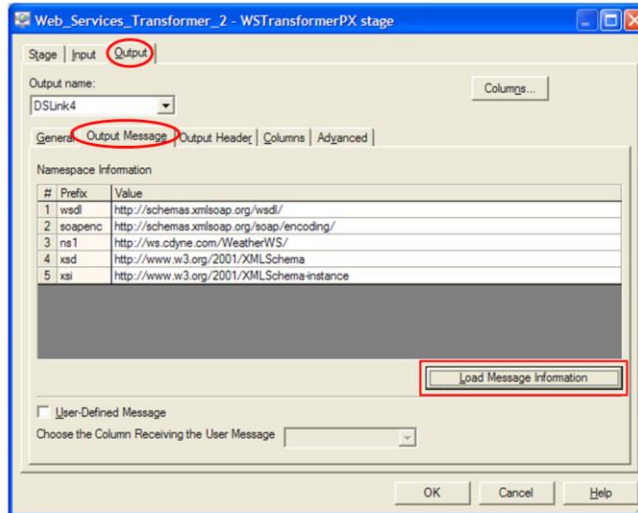
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

With the Input tab still selected at the top, click the Columns tab. Validate that it has been automatically populated with the input column for the web service. If you do not see column values here, go back and ensure all of the previous steps were completed.

Build job using web service as transformation (9 of 11)

- Load namespace information for output message



16

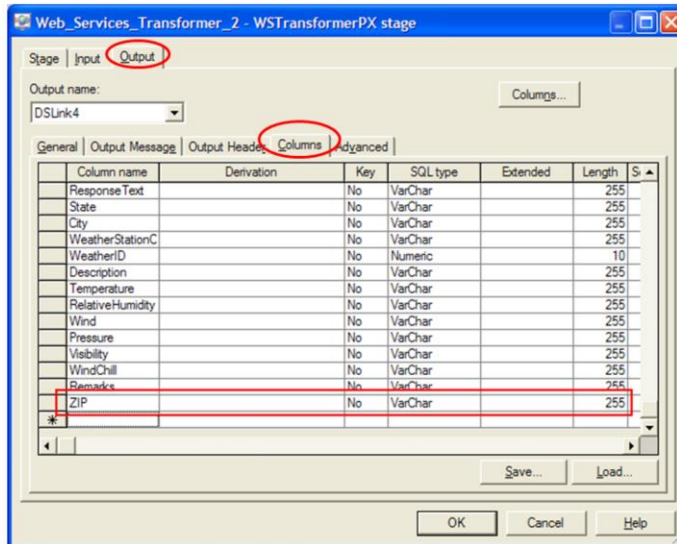
Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

Click the Output tab at the top and then click the Output Message tab. Press the Load Arguments Information button and the grid for Namespace information is automatically populated.

Build job using web service as transformation (10 of 11)

- Add ZIP column



17

Processing web services as a transformation with InfoSphere DataStage

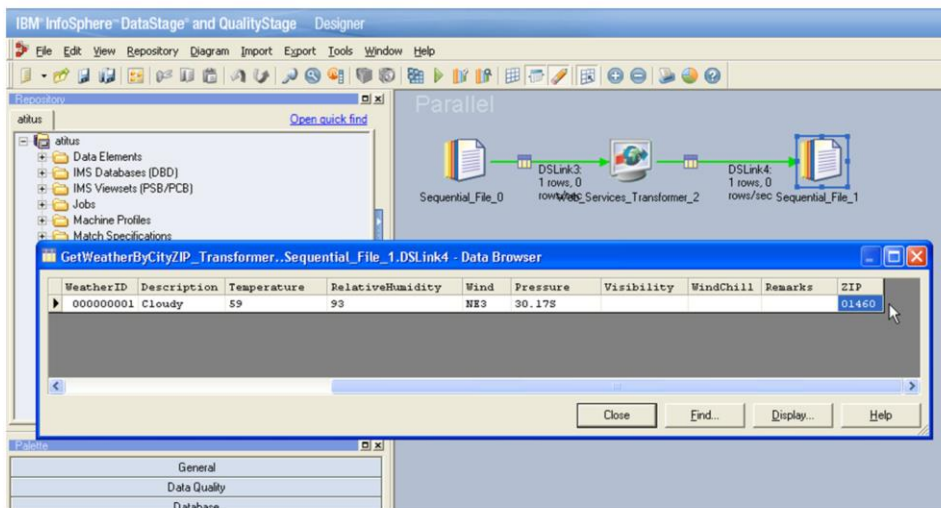
© 2011 IBM Corporation

This Web Service Transformer stage example will demonstrate the use of the column 'pass-through' feature. This feature allows input column values to be automatically mapped to corresponding output columns, provided the columns have the same name and compatible types.

With the Outputs tab still selected at the top, click the Columns tab. In the empty row at the bottom of the columns grid denoted with an asterisk character (*), manually define a new column with the same values as the input column ZIP. The correct values are displayed on this slide highlighted with a red border.

Build job using web service as transformation (11 of 11)

- Save, compile, and run job



18

Processing web services as a transformation with InfoSphere DataStage

© 2011 IBM Corporation

Using the DataStage Designer, save and compile the job. To enable performance statistics, right click anywhere on the blank area of the job canvas and select Show Performance Statistics. Run the job from Designer and the link will turn green and report one row processed. Right click the target Sequential file stage and view data to see the individual column values returned.

Notice the ZIP column receives the value 'passed through' from the input column of the same name.

Trademarks, disclaimer, and copyright information

IBM, the IBM logo, ibm.com, DataStage, and InfoSphere are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of other IBM trademarks is available on the web at "[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)" at <http://www.ibm.com/legal/copytrade.shtml>

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. Windows, and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, or service names may be trademarks or service marks of others.

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. WHILE EFFORTS WERE MADE TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION CONTAINED IN THIS PRESENTATION, IT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IN ADDITION, THIS INFORMATION IS BASED ON IBM'S CURRENT PRODUCT PLANS AND STRATEGY, WHICH ARE SUBJECT TO CHANGE BY IBM WITHOUT NOTICE. IBM SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF THE USE OF, OR OTHERWISE RELATED TO, THIS PRESENTATION OR ANY OTHER DOCUMENTATION. NOTHING CONTAINED IN THIS PRESENTATION IS INTENDED TO, NOR SHALL HAVE THE EFFECT OF, CREATING ANY WARRANTIES OR REPRESENTATIONS FROM IBM (OR ITS SUPPLIERS OR LICENSORS), OR ALTERING THE TERMS AND CONDITIONS OF ANY AGREEMENT OR LICENSE GOVERNING THE USE OF IBM PRODUCTS OR SOFTWARE.

© Copyright International Business Machines Corporation 2011. All rights reserved.