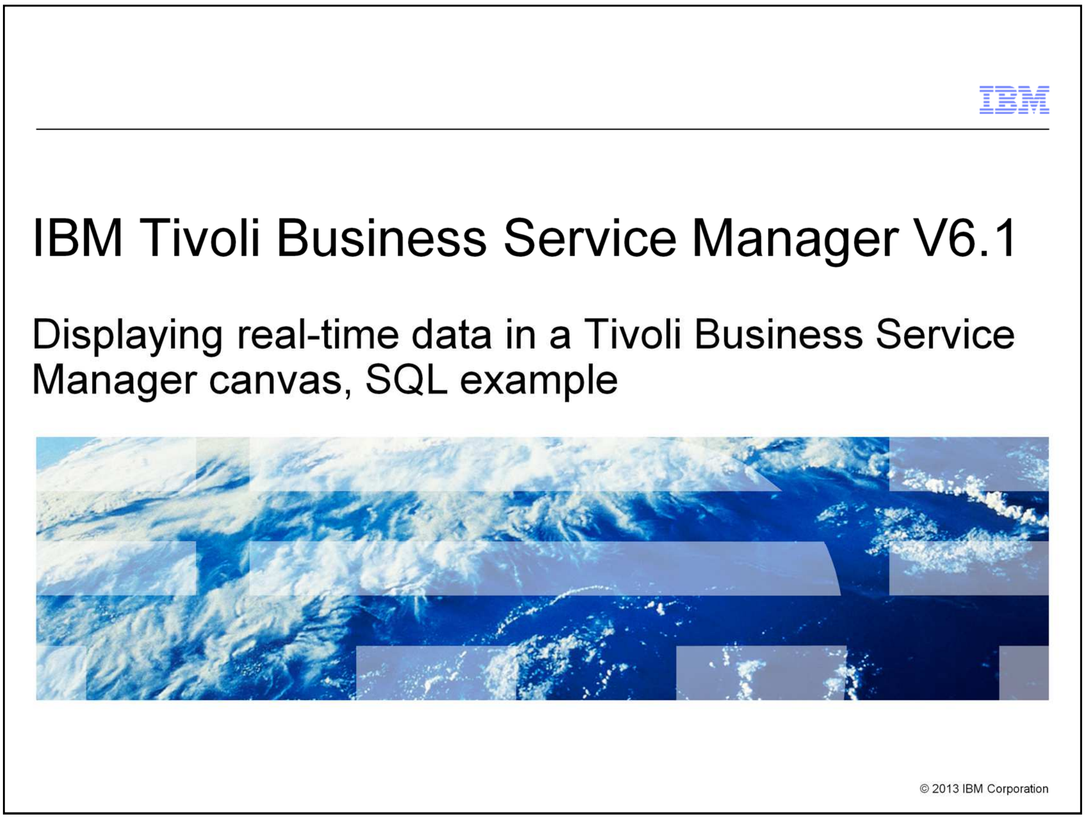
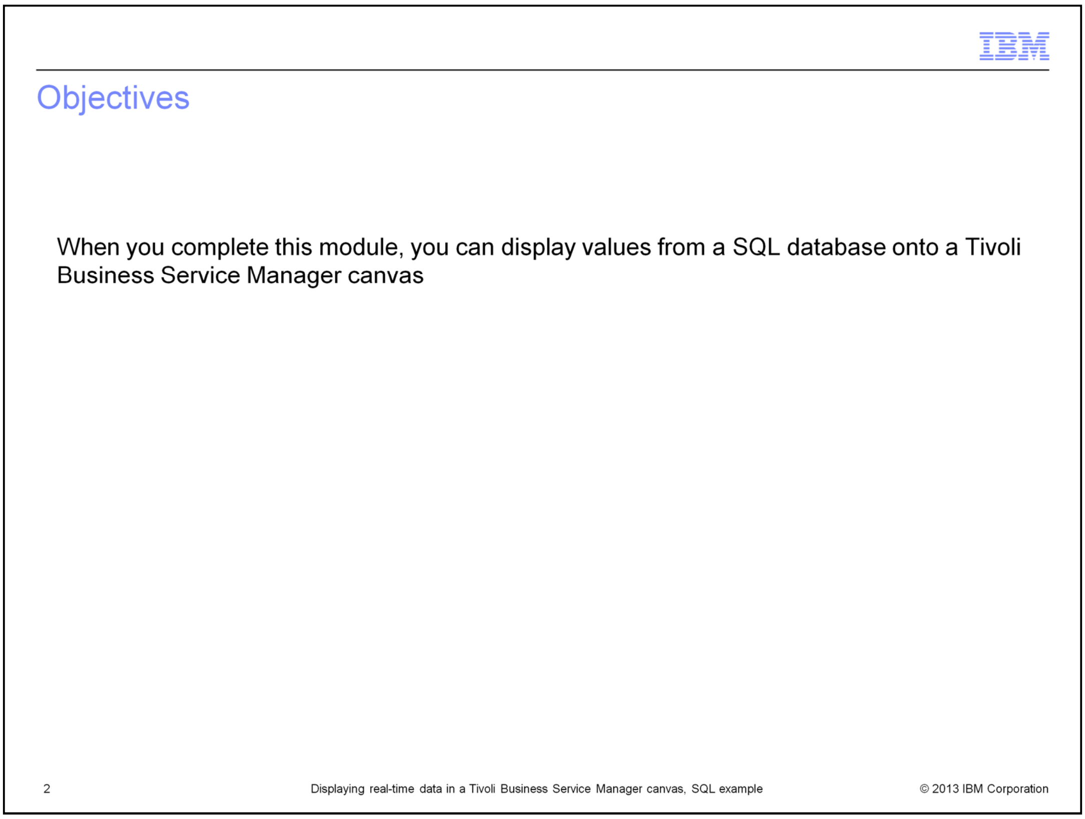


IBM Tivoli Business Service Manager V6.1

Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example

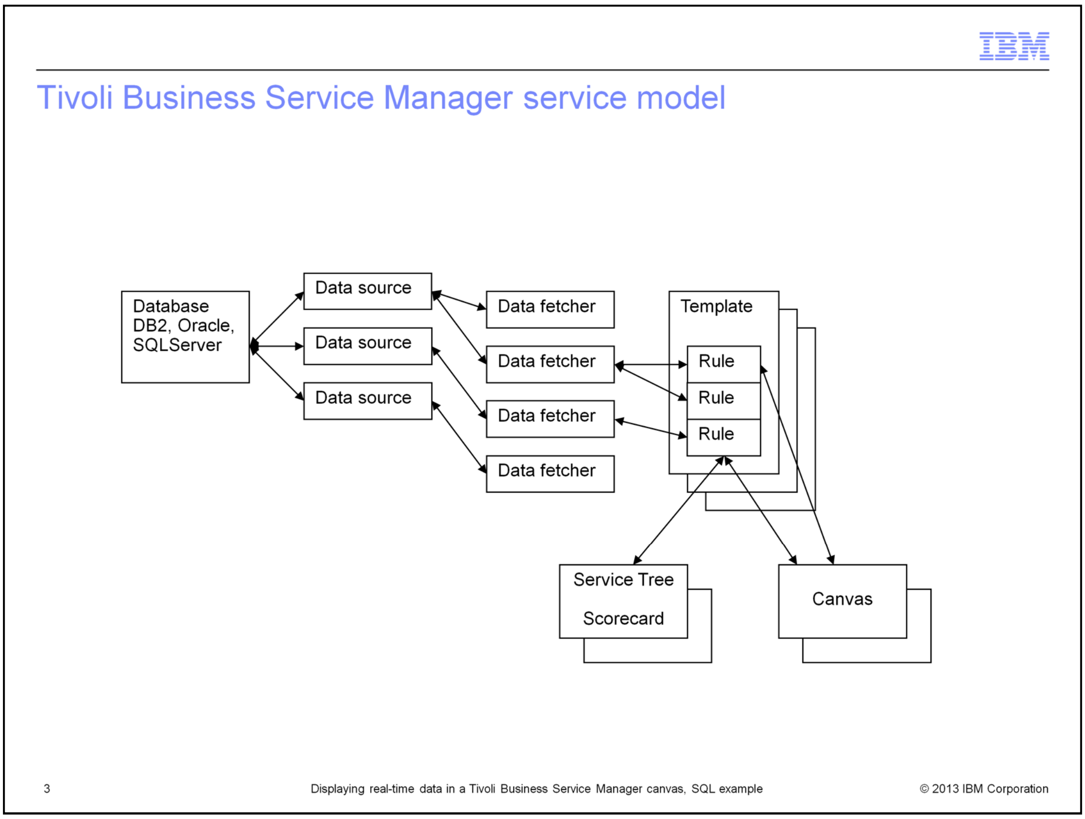
IBM Tivoli® Business Service Manager V6.1, Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example.



Objectives

When you complete this module, you can display values from a SQL database onto a Tivoli Business Service Manager canvas

When you complete this module, you can display values from a SQL database onto a Tivoli Business Service Manager canvas.



IBM

Tivoli Business Service Manager service model

Database DB2, Oracle, SQLServer

Data source

Data source

Data source

Data fetcher

Data fetcher

Data fetcher

Data fetcher

Template

Rule

Rule

Rule

Service Tree

Scorecard

Canvas

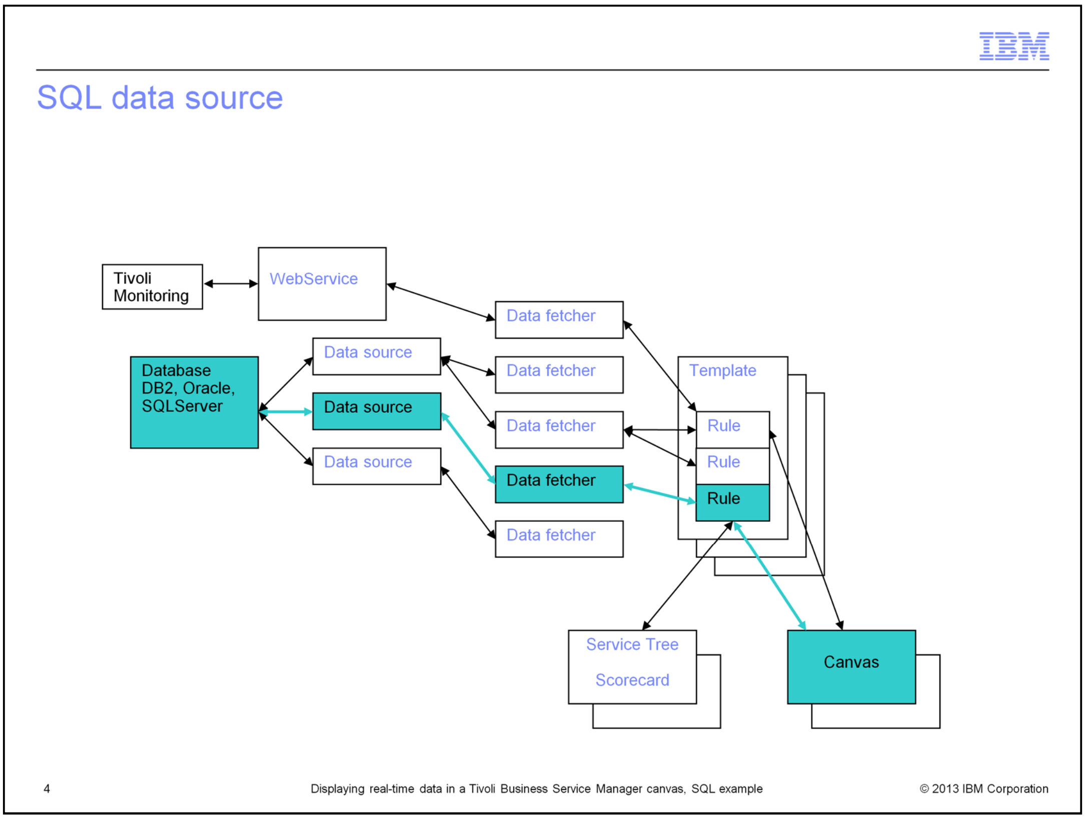
This diagram shows the elements of a Tivoli Business Service Manager service model that you use in this module.

From left to right, you see the SQL database, which can be of various types. Next are data sources that define where the data is coming from. Then, you have the data fetcher, which is the element that periodically pulls the data from the data source.

To the right of that are the rules, which are defined in templates and return a value from the data fetcher. This value is for a service that is defined by using the template.

On the far right is the canvas, where you display the value that is returned by the rule. You can also define values in a service tree or scorecard, which is a little more complex and not covered in this module.

Notice the one-to-many relationship between the elements. One database can be used by many data sources, and one data source can be used by many data fetchers. One data fetcher can be used by many rules, and the output from many rules can be defined in a canvas.



SQL data source

Tivoli Monitoring

WebService

Database DB2, Oracle, SQLServer

Data source

Data source

Data source

Data fetcher

Data fetcher

Data fetcher

Data fetcher

Data fetcher

Template

Rule

Rule

Rule

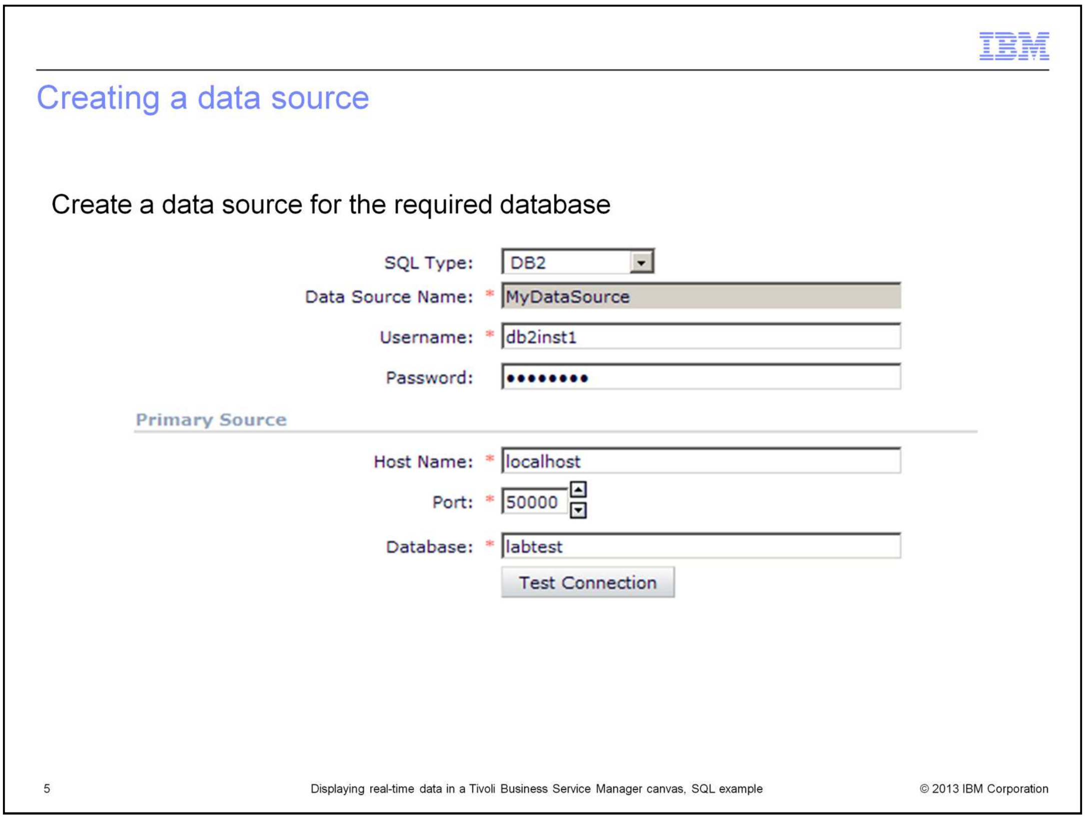
Service Tree

Scorecard

Canvas

4 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example © 2013 IBM Corporation

These are the elements that are used when data is taken from an SQL database and presented on a canvas. This time, looking at the elements from right to left, the canvas is defined with a display item that takes the output from a rule. The rule receives a data item that is returned by the data fetcher. The data fetcher uses the details from the data source to connect to the SQL database.



Creating a data source

Create a data source for the required database

SQL Type: DB2

Data Source Name: * MyDataSource

Username: * db2inst1

Password: ••••••••

Primary Source

Host Name: * localhost

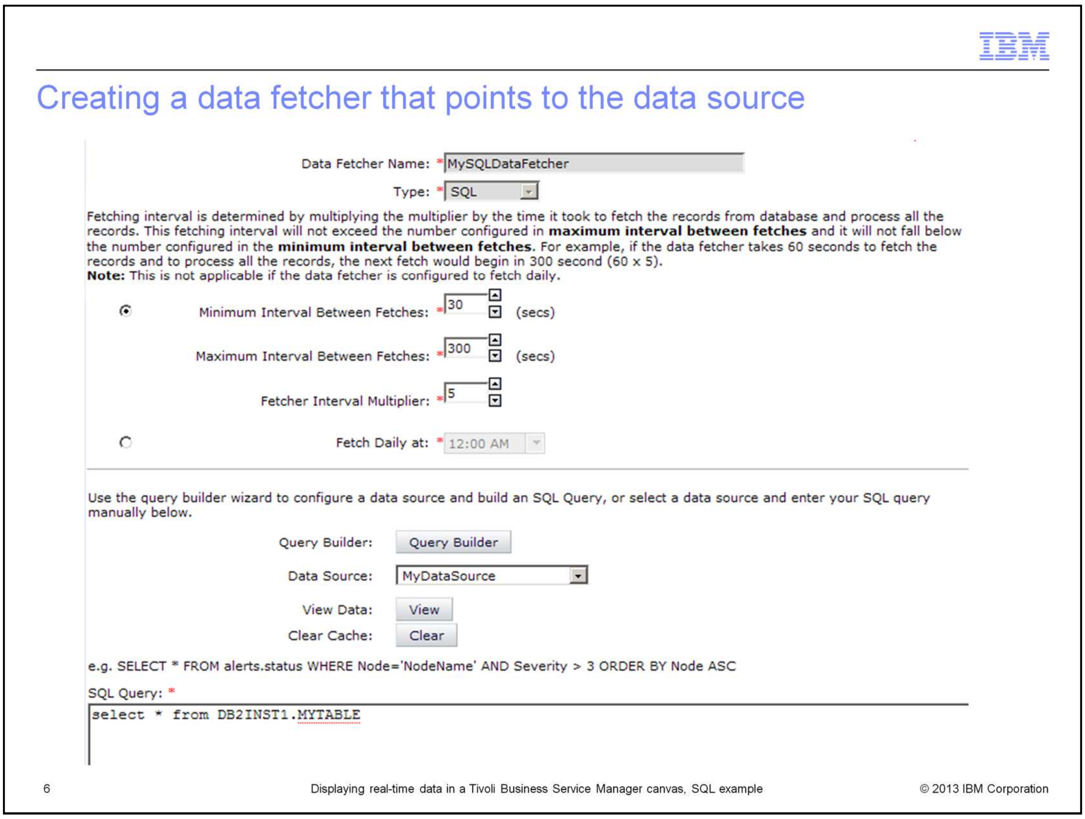
Port: * 50000

Database: * labtest

5 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example © 2013 IBM Corporation

The first step in this SQL database example is to create a data source for the required database. This example uses a DB2® database. You can also use ORACLE, MSSQL, MySQL, Sybase, Informix®, or Postgres.

This portion of the data source creation window shows only the primary connection. You can also configure a backup connection.



Creating a data fetcher that points to the data source

Data Fetcher Name: * MySQLDataFetcher

Type: * SQL

Fetching interval is determined by multiplying the multiplier by the time it took to fetch the records from database and process all the records. This fetching interval will not exceed the number configured in **maximum interval between fetches** and it will not fall below the number configured in the **minimum interval between fetches**. For example, if the data fetcher takes 60 seconds to fetch the records and to process all the records, the next fetch would begin in 300 second (60 x 5).
Note: This is not applicable if the data fetcher is configured to fetch daily.

● Minimum Interval Between Fetches: * 30 (secs)

Maximum Interval Between Fetches: * 300 (secs)

Fetcher Interval Multiplier: * 5

○ Fetch Daily at: * 12:00 AM

Use the query builder wizard to configure a data source and build an SQL Query, or select a data source and enter your SQL query manually below.

Query Builder: Query Builder

Data Source: MyDataSource

View Data: View

Clear Cache: Clear

e.g. SELECT * FROM alerts.status WHERE Node='NodeName' AND Severity > 3 ORDER BY Node ASC

SQL Query: *

```
select * from DB2INST1.MYTABLE
```

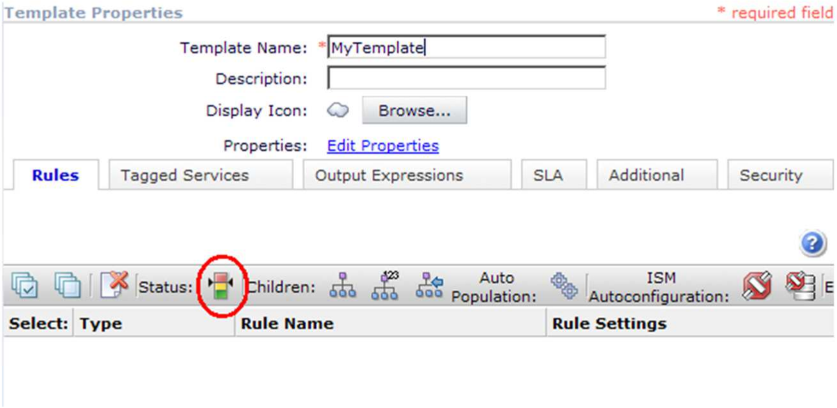
6 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example © 2013 IBM Corporation

Next, create a data fetcher that points to the data source. The data fetcher must contain the SQL for selecting the data that you want. The data fetcher selects data from the database based on the intervals specified here.

You can select as much or as little data as you want. Try to avoid selecting data that you do not need. In this example, all rows from the table are selected. Later, you see that they are not all used in this example. You can modify the SQL by selecting specific columns. Remember, you can have several rules take different values. Plan what you need to minimize the overhead, especially in a production implementation.

You can check the data that is returned by pressing the **View** button.

Creating a template



Template Properties

* required field

Template Name: * MyTemplate

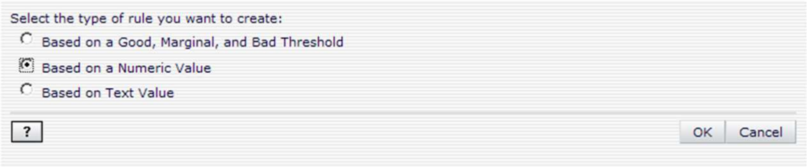
Description:

Display Icon:

Properties: Edit Properties

Now create a template. To create the rule, click the button that is circled in the example.

Creating a new incoming status rule that is based on a numeric value



Select the type of rule you want to create:

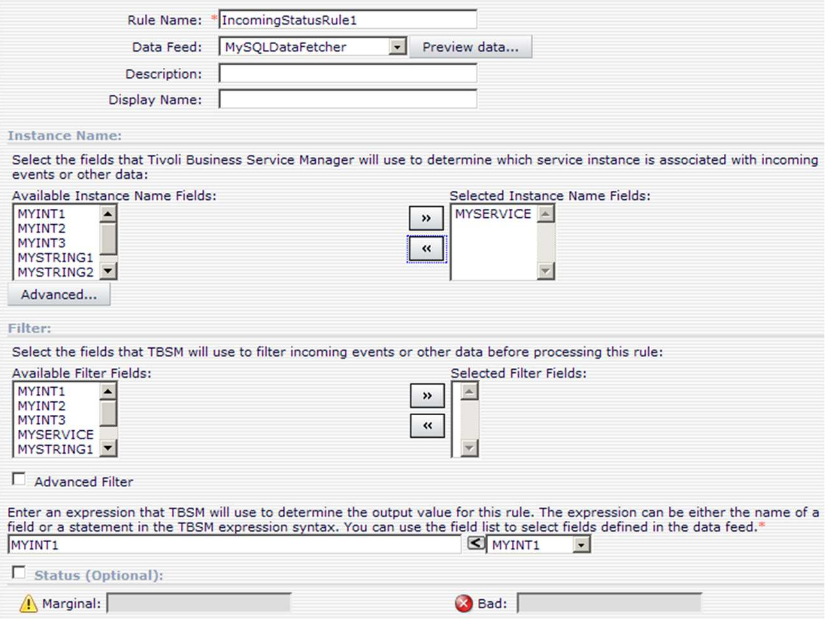
○ Based on a Good, Marginal, and Bad Threshold

● Based on a Numeric Value

○ Based on Text Value

In this case, use a rule that is based on a numeric value because that is what you are going to select from the database. You can follow this same procedure for a text value by selecting the appropriate type of rule.

Specifying the data for the rule



Rule Name: * IncomingStatusRule1

Data Feed: MySQLDataFetcher

Description:

Display Name:

Instance Name:

Select the fields that Tivoli Business Service Manager will use to determine which service instance is associated with incoming events or other data:

Available Instance Name Fields: MYINT1, MYINT2, MYINT3, MYSTRING1, MYSTRING2

Selected Instance Name Fields: MYSERVICE

Filter:

Select the fields that TBSM will use to filter incoming events or other data before processing this rule:

Available Filter Fields: MYINT1, MYINT2, MYINT3, MYSERVICE, MYSTRING1

Selected Filter Fields:

☐ Advanced Filter

Enter an expression that TBSM will use to determine the output value for this rule. The expression can be either the name of a field or a statement in the TBSM expression syntax. You can use the field list to select fields defined in the data feed.*

MYINT1 MYINT1

☐ Status (Optional):

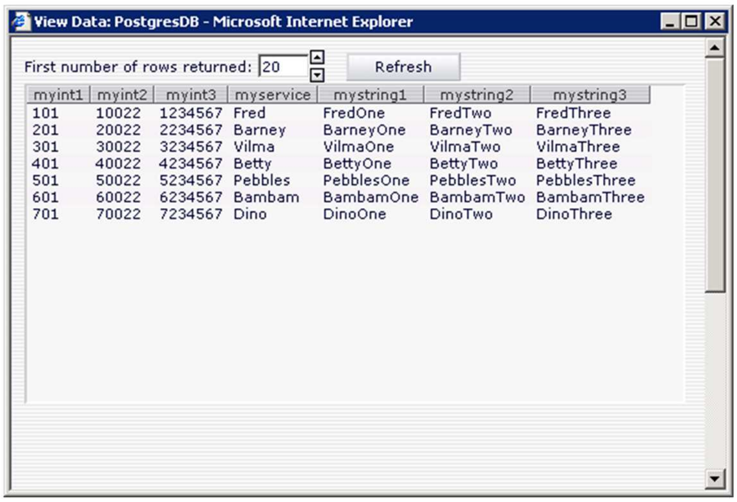
Marginal:

Bad:

In the incoming status rule, you must specify which column from the database matches the service that you have in the canvas and which numeric value is returned by the rule. You can use the **Marginal** or **Bad** numeric threshold fields to set the status color of the service.

IBM

Viewing the results

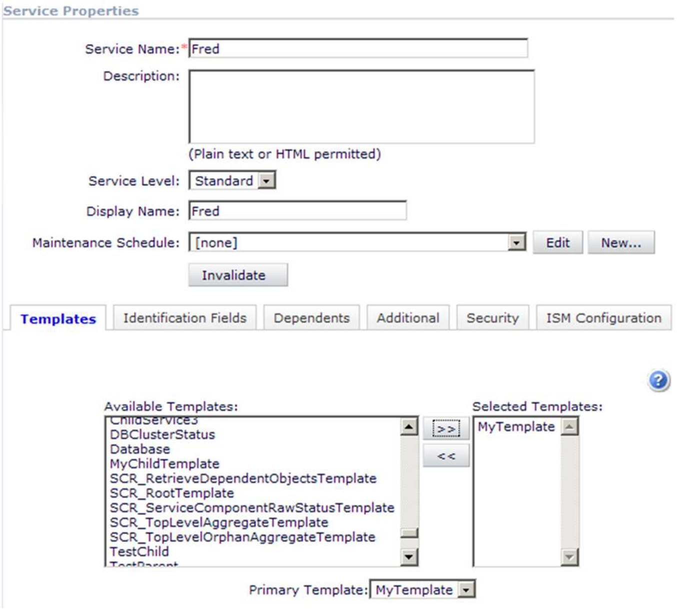


First number of rows returned: 20

myint1	myint2	myint3	myservice	mystring1	mystring2	mystring3
101	10022	1234567	Fred	FredOne	FredTwo	FredThree
201	20022	2234567	Barney	BarneyOne	BarneyTwo	BarneyThree
301	30022	3234567	Vilma	VilmaOne	VilmaTwo	VilmaThree
401	40022	4234567	Betty	BettyOne	BettyTwo	BettyThree
501	50022	5234567	Pebbles	PebblesOne	PebblesTwo	PebblesThree
601	60022	6234567	Bambam	BambamOne	BambamTwo	BambamThree
701	70022	7234567	Dino	DinoOne	DinoTwo	DinoThree

Click **Preview data** to see what is returned by the rule. You can see the values that can be returned in myint1 and the corresponding values of myservice. So, for example, for a Service called Fred, which is linked to this template, the rule returns the numeric value 101.

Creating a service



Service Properties

Service Name:* Fred

Description:

(Plain text or HTML permitted)

Service Level: Standard

Display Name: Fred

Maintenance Schedule: [none]

Available Templates:

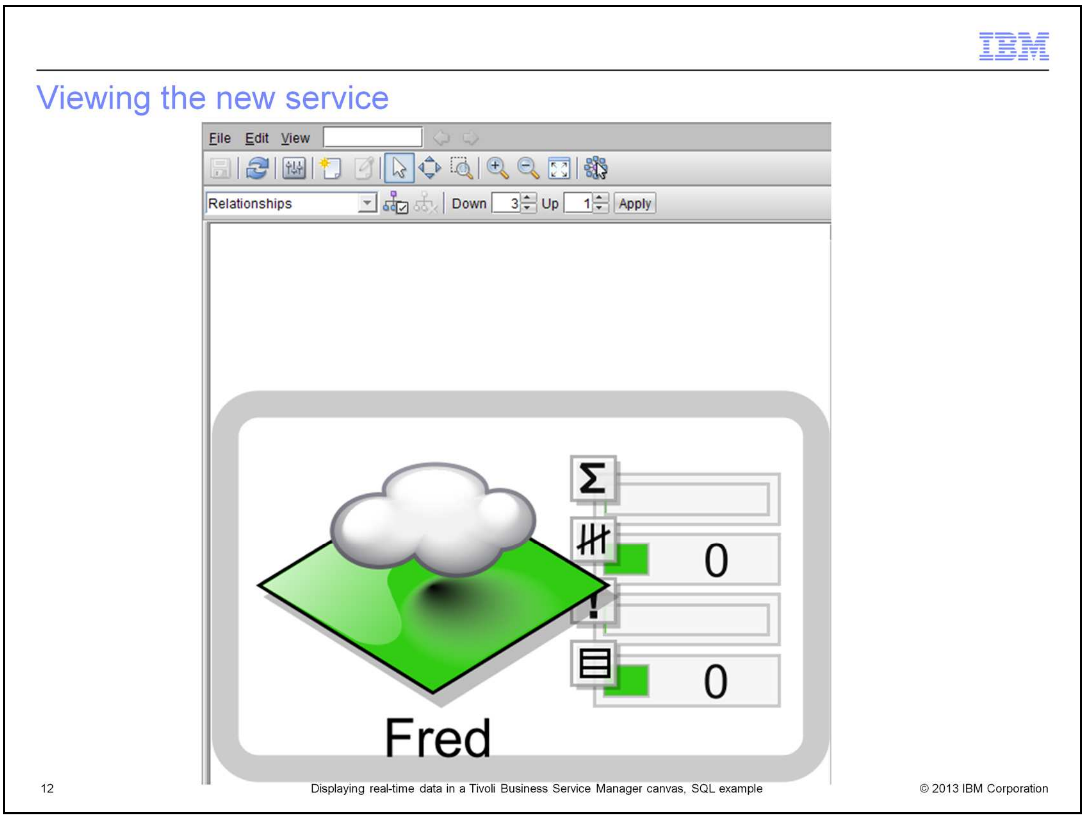
- ChildService3
- DBClusterStatus
- Database
- MyChildTemplate
- SCR_RetrieveDependentObjectsTemplate
- SCR_RootTemplate
- SCR_ServiceComponentRawStatusTemplate
- SCR_TopLevelAggregateTemplate
- SCR_TopLevelOrphanAggregateTemplate
- TestChild
- TestParent

Selected Templates:

- MyTemplate

Primary Template: MyTemplate

You can now create a service called Fred by using your selected template. In this example, it is named MyTemplate.

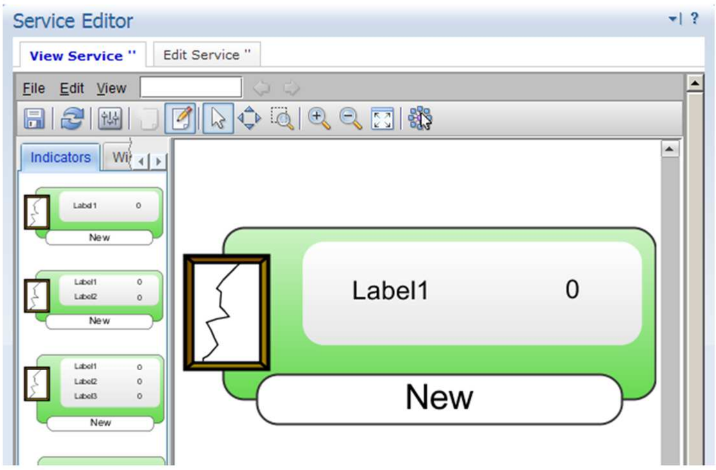


Viewing the new service

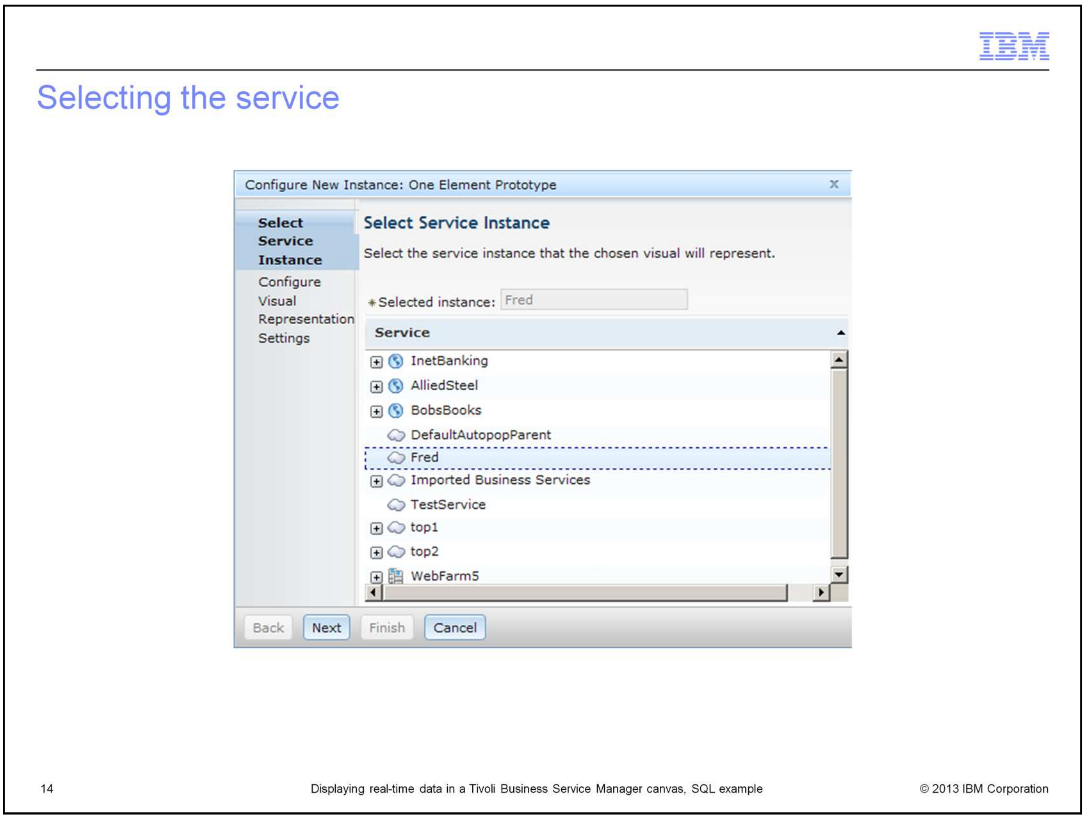
12 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example

Here is the new service called Fred, but the value from the database is not seen in the default service viewer. It only shows overall status and event data.

Creating a canvas



Create a new canvas and place a single element prototype on the canvas.



Selecting the service

Configure New Instance: One Element Prototype

Select Service Instance

Select the service instance that the chosen visual will represent.

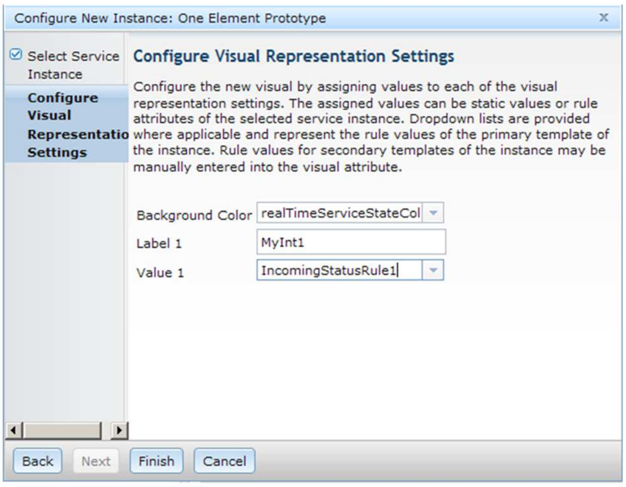
*Selected instance: Fred

14 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example © 2013 IBM Corporation

In the Select Service Instance pane, select the service **Fred** and click **Next**.

IBM

Configuring the visual representation


Configure New Instance: One Element Prototype

☑ Select Service Instance

Configure Visual Representatio Settings

Configure Visual Representation Settings

Configure the new visual by assigning values to each of the visual representation settings. The assigned values can be static values or rule attributes of the selected service instance. Dropdown lists are provided where applicable and represent the rule values of the primary template of the instance. Rule values for secondary templates of the instance may be manually entered into the visual attribute.

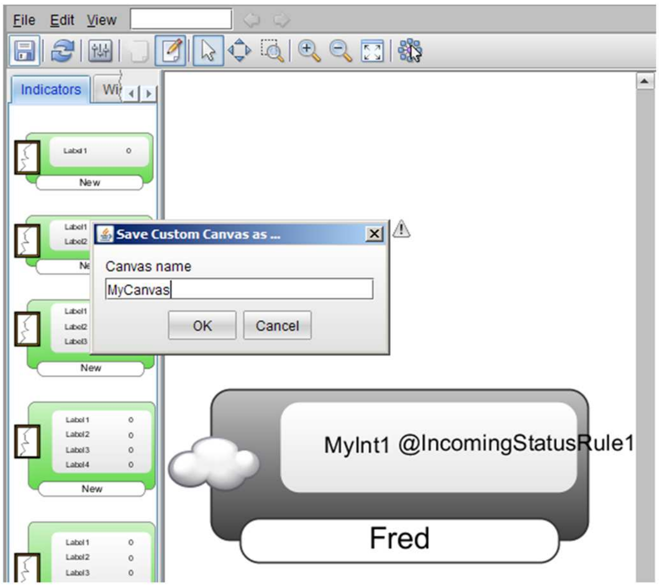
Background Color: realTimeServiceStateCol

Label 1: MyInt1

Value 1: IncomingStatusRule1

In the **Label 1** field, type some text of your choice for the label. From the Value 1 list, select the name of the rule that you created that returns the value and click Finish. You can leave the background color unchanged. In this example, you did not set the status of the service in your rule, but if you did, or if it was set by another rule, the default value here can cause the correct color to be displayed in the canvas.

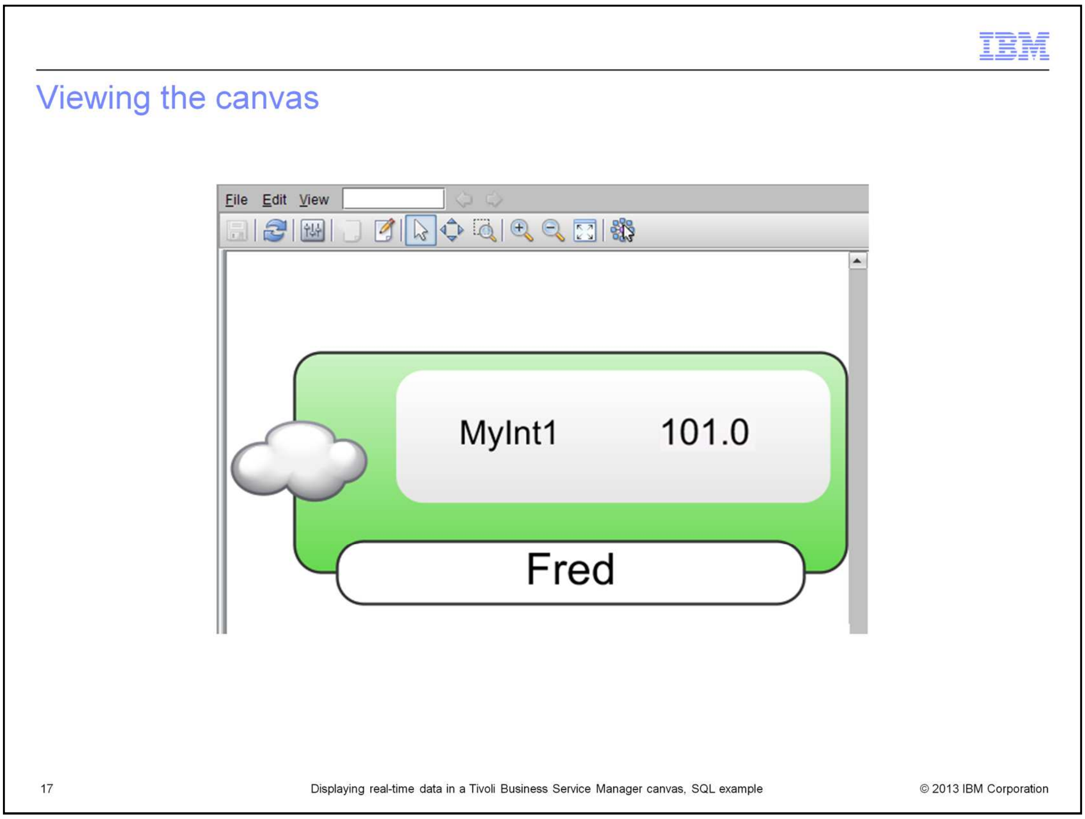
Saving the canvas



Save Custom Canvas as ...

Canvas name: MyCanvas

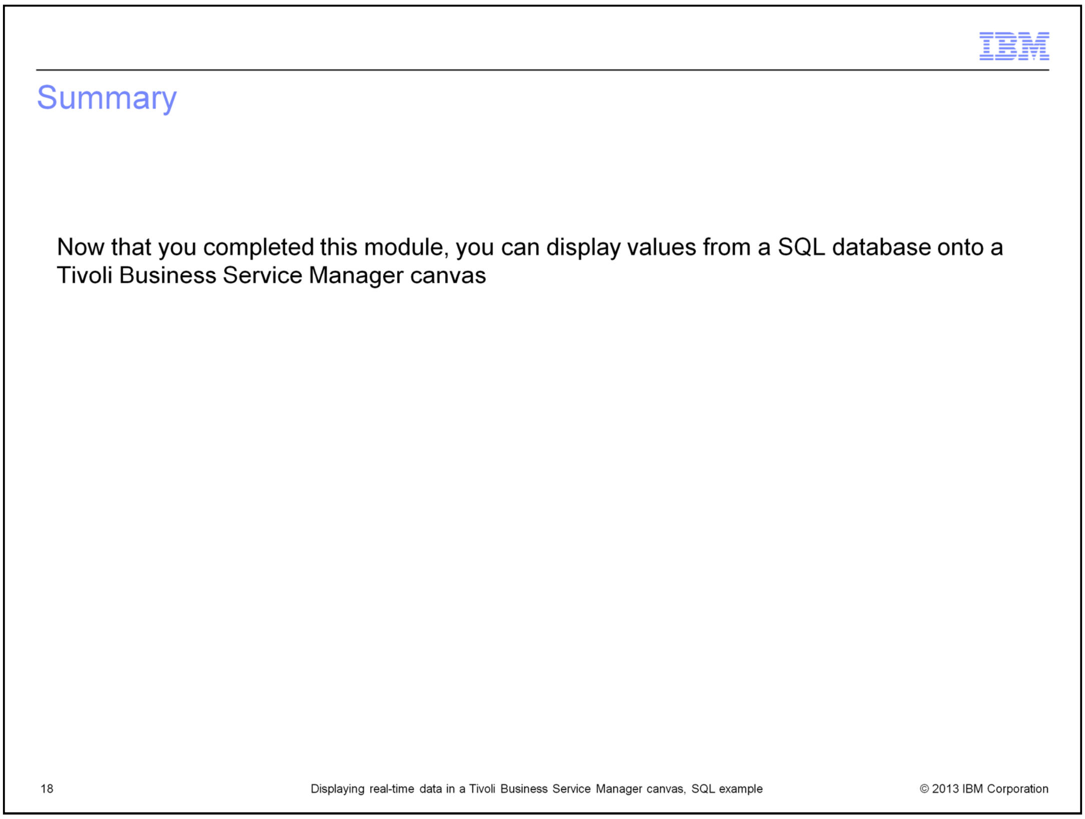
After creating the single element prototype in the canvas, you can see the label and the rule name in the canvas. Type a name for your canvas, and click OK.



Viewing the canvas

File
Edit
View
MyInt1
101.0
Fred
17
Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example
© 2013 IBM Corporation

The live canvas is then displayed, and the rule name is replaced by the value it returns. If you change the value in the database, at the next refresh you see the value change in the canvas. Assuming the data fetcher refresh period is 30 seconds and the canvas refresh time is also 30 seconds, the time for the update to the database and the canvas is about one minute.

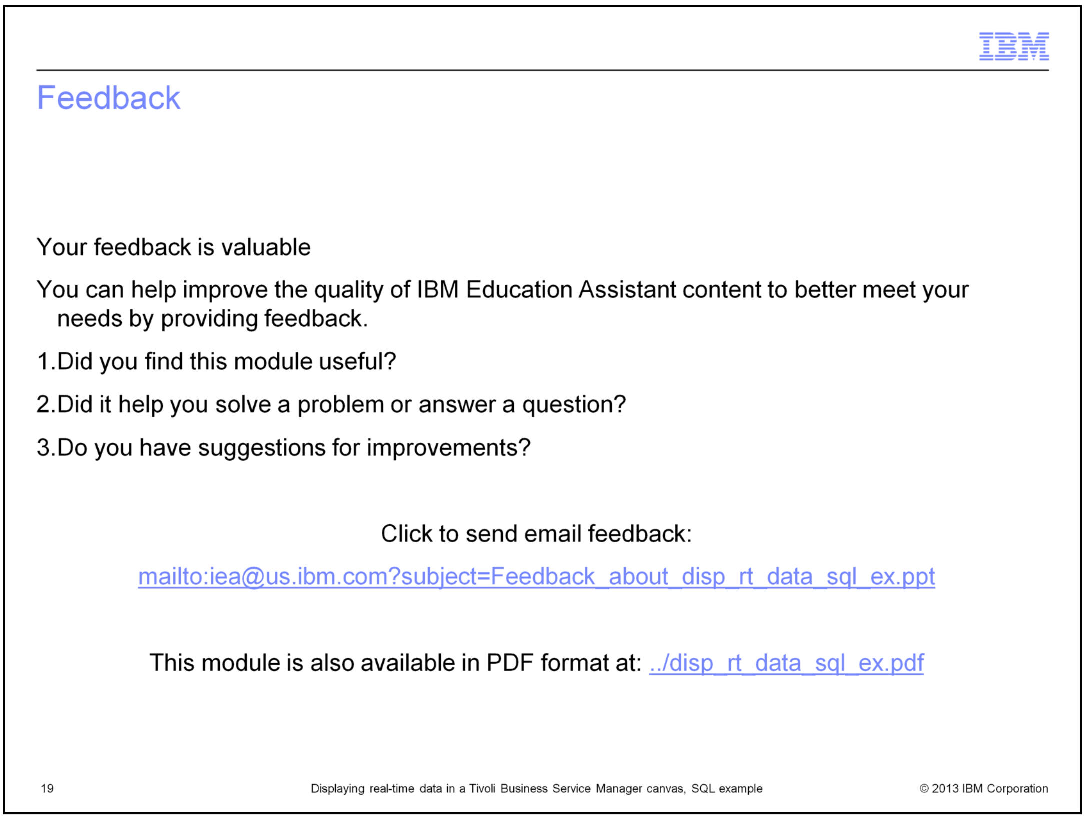


Summary

Now that you completed this module, you can display values from a SQL database onto a Tivoli Business Service Manager canvas

18 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example © 2013 IBM Corporation

Now that you have completed this module, you can display values from a SQL database onto a Tivoli Business Service Manager canvas.



Feedback

Your feedback is valuable

You can help improve the quality of IBM Education Assistant content to better meet your needs by providing feedback.

1. Did you find this module useful?
2. Did it help you solve a problem or answer a question?
3. Do you have suggestions for improvements?

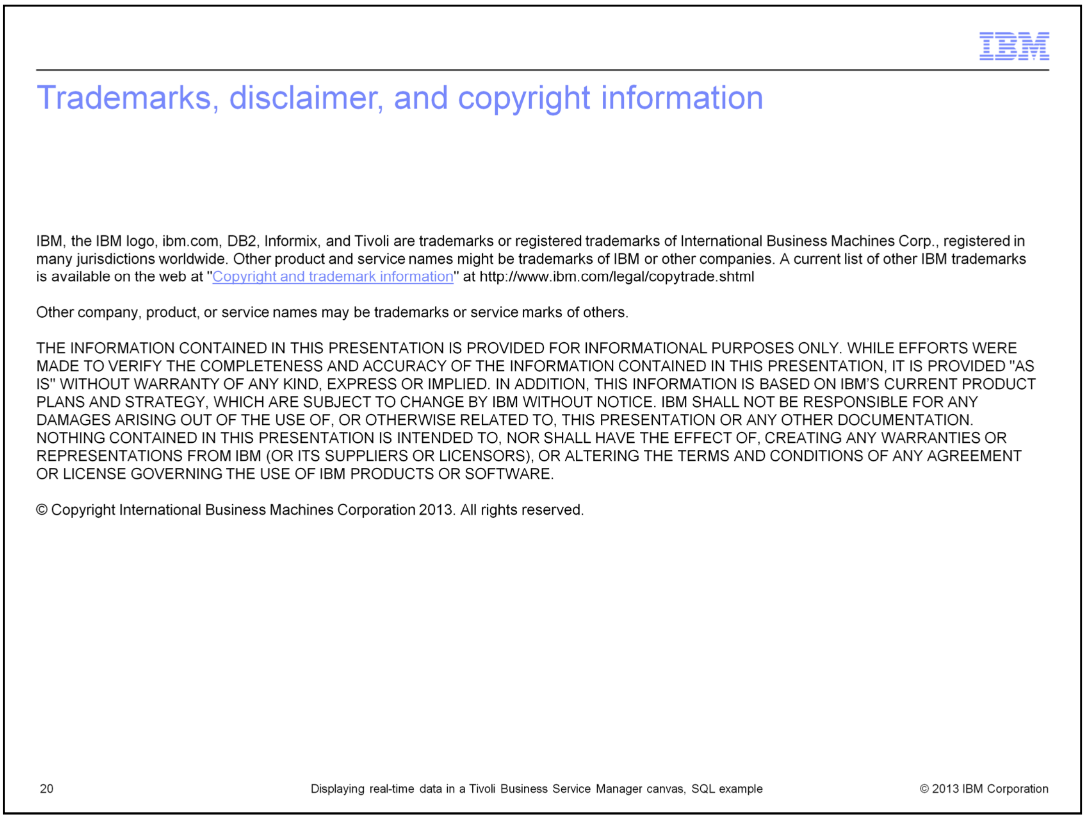
Click to send email feedback:

mailto:iea@us.ibm.com?subject=Feedback_about_disp_rt_data_sql_ex.ppt

This module is also available in PDF format at: ../disp_rt_data_sql_ex.pdf

19 Displaying real-time data in a Tivoli Business Service Manager canvas, SQL example © 2013 IBM Corporation

You can help improve the quality of IBM Education Assistant content by providing feedback.



Trademarks, disclaimer, and copyright information

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.