

WebFOCUS

Working With Data
Release 8.2 Version 01M

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Working With Data

Upload your own data sources and connect, join, and blend data, or learn about the sample data sources that are packaged with the WebFOCUS BUE software.

In this chapter:

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 - [Preparing Data for Upload](#)
 - [Uploading, Appending, and Merging Spreadsheets](#)
 - [Uploading Images and Documents](#)
 - [Connecting to Data and Editing Data](#)
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 - [Creating Virtual Fields](#)
-

Working With Data Overview

There are two ways that you can connect to data in WebFOCUS BUE. You can upload a Microsoft Excel spreadsheet or CSV file using the Upload wizard, or you can connect to an existing table in a data source of your choice, using the Connect to Data wizard. Both processes begin with identifying and preparing the data that you want to use. After your file or table selection is complete, the wizard shows you the default breakdown of your data as measures, dimensions, and hierarchies.

At similar points during the upload and connect processes, you can access options to transform your data beyond the default settings. This includes joining multiple tables into a cluster to create more fields and expand the scope of a synonym, editing geo roles and geo encoding to prepare the synonym for use in mapping and location analysis, data profiling and statistical analysis, changing columns or groups of columns into rows, and creating new or editing existing field roles.

Once a synonym is complete, you can upload it to a target environment or append it or merge it with an existing synonym. You can also save it as a template to allow repeated transformations if the same file is uploaded again in the future.

Understanding Your Data Structures

When you upload or connect to data in WebFOCUS BUE, you create a synonym that can be used to build analytical content. Synonyms define unique names (or aliases) for each object that is accessible from the Reporting Server. Synonyms are useful because they hide the underlying data source location and identity from client applications. They also provide support for extended metadata features of the Reporting Server, such as virtual fields and additional security mechanisms.

Depending on the structure of the synonym that you are creating, the data inside a synonym is typically broken down into categorized roles, such as measures, dimensions, hierarchies, and attributes. As of WebFOCUS Release 8.2 Version 01M, you can utilize the Business View Plus (BV+) functionality when you upload or connect to data. BV+ combines the power and capabilities of traditional Business View (BV) and traditional Dimension View (DV) into a single feature from which you can create a customized view of the data source. It also enables you to create joins, measures, hierarchies, attributes, expressions, and filters.

In a traditional Business View, you can customize the view of a data source by grouping related items that reflect the business logic for an application rather than the physical position of the items in the data source. However, you are unable to indicate the role of each field in a request.

In a traditional Dimension View, fields are categorized on the basis of their roles in a request. Measures, numeric values that you can aggregate, such as gross profit or cost of goods sold, are placed in measure groups. Dimensions, fields that categorize your data or can be used to analyze and compare measures, are organized within hierarchies. And attributes, fields that you can assign to any dimension field whether or not it is in a hierarchy, are organized within levels or dimensions. While you can modify the categorization of fields in a dimension view, you do not have the ability to create a custom view of the data source.

Using BV+, you can group fields into folders, which represents the business view of the data, and assign a role to each field, which indicates its role in a request. The Master File syntax is simple, and provides all of the functions of traditional Business Views and Dimension Views. Additionally, with BV+, you have the flexibility to create folders anywhere in the structure, as well as reusing fields in multiple folders. For example, if you assign the Dimension role to a field, it will automatically be added to the BY field container when you create a report with the data. If you assign the Drill Level role to a successive field in a folder, and turn AUTODRILL on, automatic drill downs are generated from the top levels to the bottom level in the generated output.

Introduction to BV Namespace Modes

When you upload a file using the Upload wizard or create or open a synonym using the Connect to Data wizard, the synonym opens in one of two modes for creating a BV+ structure, BV_NAMESPACE=OFF mode or BV_NAMESPACE=ON mode. The mode in which the synonym opens determines the types of BV+ structures you can add to your synonym. It also controls the type of field name qualifiers that will be used, after the synonym is saved, when you create a request using WebFOCUS tools, such as InfoAssist+ or App Studio.

You can set your Web Console preferences to open the Upload and Connect to Data wizards in your preferred BV Namespace mode by going to the *Workspace* tab, clicking *FOCUS Sets and Info*, clicking *Settings for Web Console Preferences*, and setting the parameter AUTO_BV_NAMESPACE to OFF or ON. If you install a new Reporting Server, the default is OFF. If you are editing a synonym, and it already contains a BV or DV structure, the presence of this existing structure overrides your setting with BV_NAMESPACE=ON or BV_NAMESPACE=OFF, respectively.

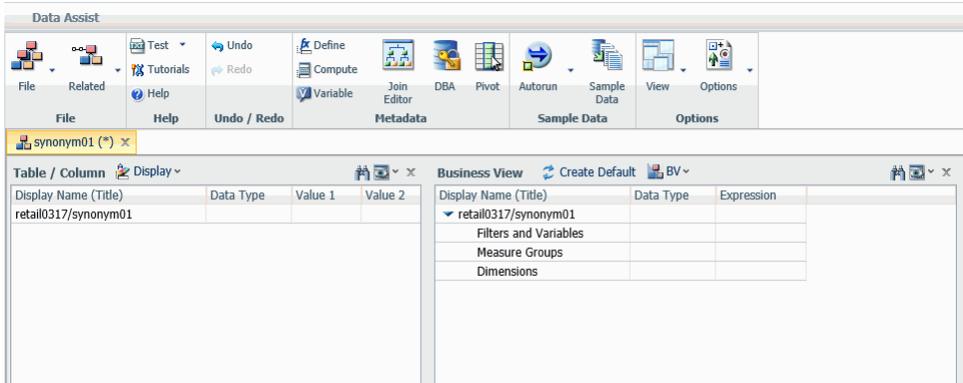
When you upload a file, the synonym has no existing BV or DV structure, so it respects the mode you set in the Web Console. If you create a new synonym, or open an existing synonym that has no BV or DV, it respects the parameter you set in the Web Console.

Reference: BV_NAMESPACE=OFF Mode

BV_NAMESPACE=OFF mode uses physical segment names to qualify field references in reports. If you open an existing synonym that has a DV, it opens in this mode, regardless of the setting you configured in the Web Console. In this mode, you can only add nodes that conform to the DV structure. That is, you can add new measure groups and dimensions under the existing measure group and dimension structure.

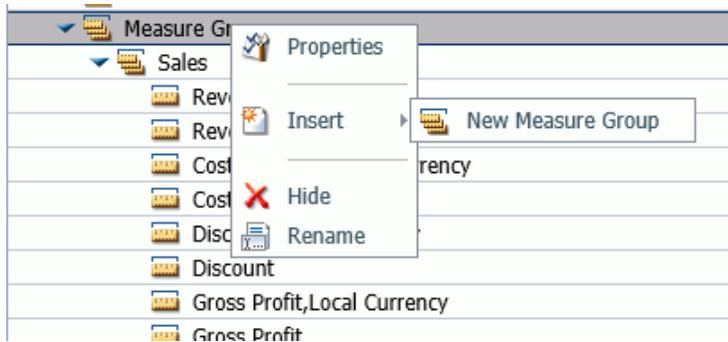
The following describes the structures and actions that are available when you create new or edit existing synonyms in BV_NAMESPACE=OFF mode:

- ❑ **Creating a new cluster synonym or opening an existing synonym that has no BV or DV.** If the synonym has no logical view defined, it opens with three default nodes in the Business View pane, *Filters and Variables*, *Measure Groups*, and *Dimensions*, as shown in the following image.



These nodes are based on a DV structure, and any edits you make to the synonym in this pane using BV_NAMESPACE=OFF mode must adhere to this structure. The context menu options provide only the structures available for a DV. You can insert a new measure group under the Measure Group node or a new dimension folder under the Dimensions node, but you cannot create a new node in the synonym. In a measure group folder, you can only place measures. In a dimensions folder, you can only place dimensions. Under a dimension, you can only add hierarchies, and under a hierarchy field, you can only add attributes.

- ❑ **Opening an existing synonym with a DV defined.** Opens showing the DV organization and icons in the Business View pane. The synonym syntax is converted to use BV+ folders with the DV structure. You cannot create new folders, as you are limited to the structure already defined in the Business View pane. The context menu options provide only the structures available for a DV, as shown in the following image, which shows the content menu options for the Measure Group folder.



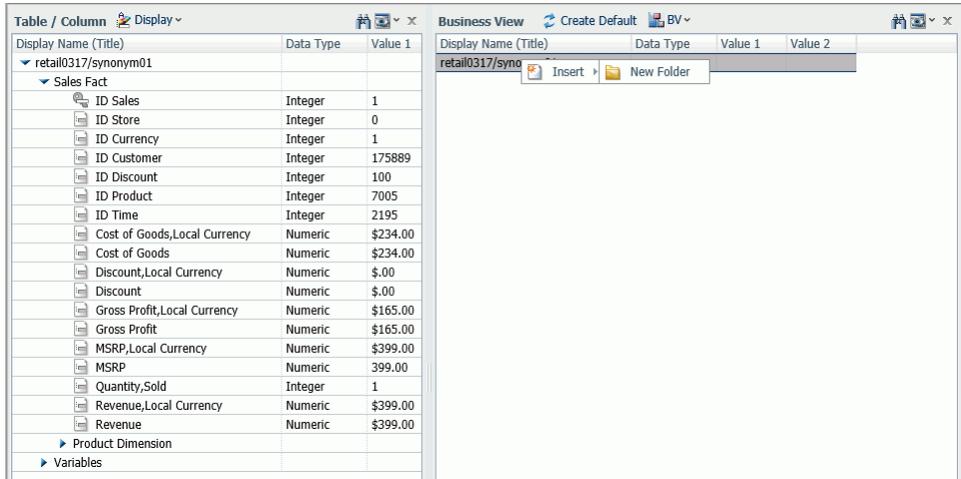
Reference: BV_NAMESPACE=ON Mode

BV_NAMESPACE=ON mode uses logical folder names to qualify field references in reports. If you open an existing synonym that has a BV, it opens in this mode, regardless of the setting that you configured. In this mode, you can create your own logical view of the synonym. You are free to add new folders and assign DV roles to fields and folders.

The exception to this is the Upload wizard. When you select a file in the Upload wizard, the BV default structure, which is automatically populated is based on the three DV nodes. For BV_NAMESPACE=ON, you are able to insert new folders anywhere in the structure. You are not limited to the three default nodes.

The following describes the structures and actions that are available when you create new or edit existing synonyms in BV_NAMESPACE=ON mode:

- ❑ **Creating a new cluster synonym or opening an existing synonym with no DV or BV.** No nodes are pre-configured, as shown in the following image.



The context menu options provide all BV+ options.

- ❑ **Opening an existing synonym with a BV defined.** Opens in BV_NAMESPACE=ON mode, showing the Business View structure defined within it. The context menu options provide BV+ options, as shown in the following image.

Display Name (Title)	Data Type	Value 1	Value 2
wfdemo_7706gen930/wf_retail_sales_product_bv			
▼ WF_RETAIL_NAMESPACE			
Cost	Numeric	234.00	46.00
Cost	Numeric	\$234.00	\$46.00
Disco	Numeric	.00	20.00
Disco	Numeric	\$.00	\$20.00
Gross	Numeric	165.00	13.99
Gross	Numeric	\$165.00	\$13.99
MSRP	Numeric	399.00	79.99
MSRP	Numeric	399.00	79.99
Quan	Integer	1	1
Revenue	Numeric	399.00	59.99
Revenue	Numeric	\$399.00	\$59.99
▼ WF_RETAIL_PRODUCT			
Brand	Character	BOSE	Roku
Brand Type	Character	Specialty B	Specialty B
Model	Character	BOSE V-S2	N1000
Price,Dollars	Numeric	399.00	79.99

Preparing Data for Upload

Uploading data to WebFOCUS BUE can be made easier if you familiarize yourself with the data file first and ensure that it is properly formatted for upload, so geographic data, dimensional hierarchies, and other important aspects of your data are recognized. This is important so that the synonym created for your uploaded data provides the basis for quality analytical content.

You can use the following techniques to prepare your data for the uploading process.

Naming Conventions and Excel Sheet Names

For Excel spreadsheets, the name of the file is not important but the name of the worksheet that contains your data is used to generate the synonym name. For the best results, follow the guidelines below:

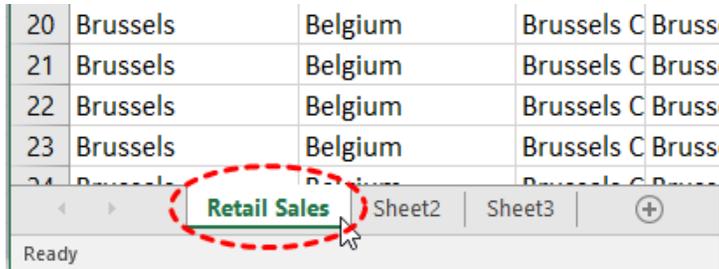
- ❑ Ensure that the worksheet name is meaningful. For example, Store Sales is better than Sheet1.

- ❑ Remove special characters from the worksheet name. Spaces will be converted to underscores but all non-alphanumeric characters should be removed from the name, such as:

`/~!@#$$%^()+=(){},;`

- ❑ Remove or replace NLS characters with standard alphanumeric characters.

The image below shows a worksheet with a meaningful name, Retail Sales.



The image shows a screenshot of an Excel spreadsheet. The spreadsheet has four columns and five rows. The first column contains row numbers 20 through 24. The second column contains the word 'Brussels', the third column contains 'Belgium', and the fourth column contains 'Brussels C Bruss'. The fifth column is partially visible and also contains 'Brussels C Bruss'. Below the spreadsheet, the worksheet tabs are visible, with the first tab named 'Retail Sales' circled in red. Other tabs are labeled 'Sheet2' and 'Sheet3'. The status bar at the bottom left shows 'Ready'.

20	Brussels	Belgium	Brussels C Bruss	
21	Brussels	Belgium	Brussels C Bruss	
22	Brussels	Belgium	Brussels C Bruss	
23	Brussels	Belgium	Brussels C Bruss	
24	Brussels	Belgium	Brussels C Bruss	

While you have an opportunity to edit the worksheet name within the Upload wizard, doing it in Excel may be preferable. Note that your spreadsheet data and column titles may contain National Language Support data and special characters.

For CSV files, there is no worksheet name, so the CSV file name is used to generate the synonym name. For this reason, all of the limitations identified for Excel worksheet names apply to the CSV file name. Be sure to check and adjust the file name prior to the upload.

Removing Introductory Information

Sometimes, an Excel spreadsheet contains formatted headings in the first few rows. This information cannot be imported into WebFOCUS BUE and should be removed. Delete the introductory rows and save the file before uploading. Alternatively, you can define a data range within your worksheet and leave the introductory information in place. The following image shows an example spreadsheet with a heading and subheadings highlighted.

	A	B	C	D
1	U.S. Energy Information Administration			
2	<i>May 2014 Monthly Energy Review</i>			
3				
4	Release Date: May 28, 2014			
5	Next Update: June 25, 2014			
6				
7	Annual Total	Primary Energy Consumed by the Residential Sector (Trillion Btu)	Total Energy Consumed by the Residential Sector (Trillion Btu)	Primary Energy Consumed by the Commercial Sector (Trillion Btu)
8				
9	1949	4460.434	5599.25	2668.869
10	1950	4829.337	5988.553	2834.094
11	1951	5104.476	6380.193	2737.684
12	1952	5158.193	6560.243	2672.911

Placing Column Titles in the First Row

For data to be useful in WebFOCUS BUE, your data columns must be identified and properly described in the synonym that is generated during the upload process. You can make this easier by ensuring that the first few rows of your Excel spreadsheet contain column titles that are meaningful to you and to other users who will be using it. An example of meaningful column titles is shown in the following image.

	A	B	C	D	E	F	G	H
1	Store Name	Country	State	City	Sale Date	Revenue	Cost of Goods	Gross Profit
2	Des Moines	United States	Iowa	Des Moines	9/5/2013	3487.45	2288	1199.45
3	Dayton	United States	Ohio	Dayton	9/1/2013	13371.56	9459	3912.56
4	South Salt Lake	United States	Utah	South Salt Lake	9/2/2013	5642.79	4049	1593.79
5	Oslo	Norway	Oslo	Oslo	10/2/2013	13094.04	9206	3888.04
6	Des Moines	United States	Iowa	Des Moines	10/5/2013	4821.17	2962	1859.17
7	Dayton	United States	Ohio	Dayton	10/2/2013	13094.04	9206	3888.04
8	South Salt Lake	United States	Utah	South Salt Lake	10/5/2013	5564.52	3853	1711.52
9	Oslo	Norway	Oslo	Oslo	11/13/2013	18957.63	13293	5664.63
10	Des Moines	United States	Iowa	Des Moines	11/6/2013	6092.9	4513	1579.9

If your spreadsheet has more than one row of column titles, WebFOCUS BUE can merge the information when creating the synonym. You will be given an option to specify how many first rows of the Excel file contain title information in the Upload wizard.

Removing Aggregated Information

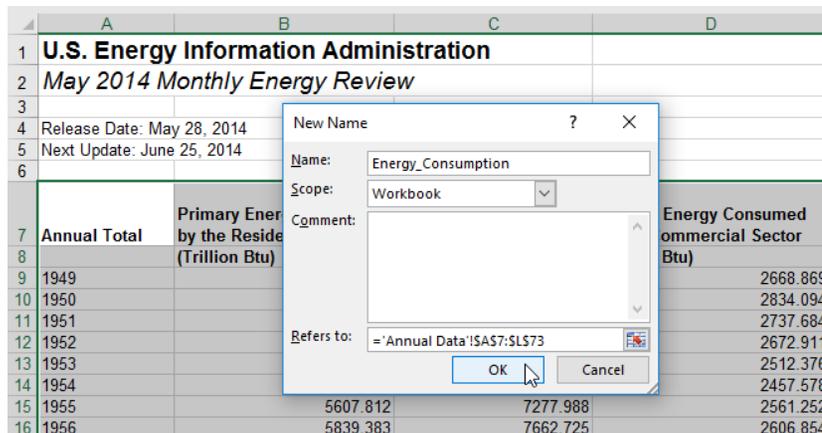
Excel spreadsheets may contain subtotals, grand totals, and other non-data row information. Data aggregation is performed by WebFOCUS BUE, so you should remove these kinds of rows from your spreadsheet and save the file before uploading it.

Using Excel Named Ranges

Data ranges defined within your Excel worksheet can be helpful for the following reasons:

- Your worksheet may have introductory information, such as formatted headings or non-data information, in the first few columns.
- You may not want to import all of the data columns found on your worksheet.

You can define a data range in your worksheet to remove the data that you want WebFOCUS BUE to process during upload, and leave your spreadsheet in its original format. An example of this is shown in the following image.



Preparing Hierarchical Data Columns

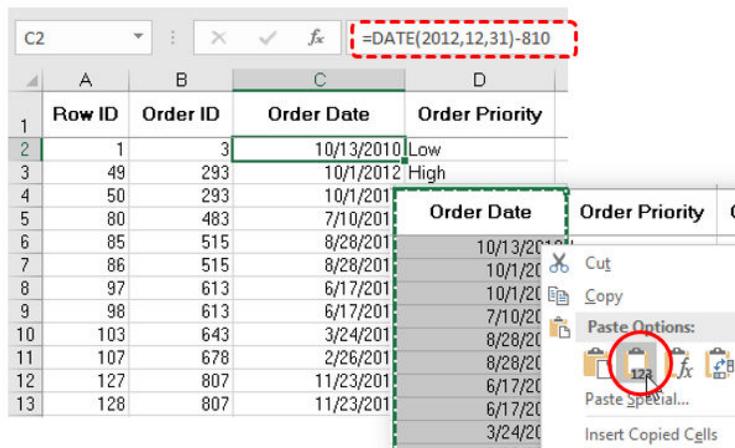
WebFOCUS BUE recognizes columns of data that have hierarchical relationships. This is useful because the field names are arranged more logically in InfoAssist+ and because it facilitates Auto drill capabilities in the content. Auto-drill lets you drill up and down a field hierarchy automatically, making the content engaging and useful.

To help WebFOCUS BUE recognize hierarchical columns correctly, ensure that the column titles begin with a common word or words and are arranged left-to-right in the correct top-to-bottom direction, as shown in the image below. In the Upload wizard, you can define and edit dimension hierarchies prior to creating the synonym. You can also do this prior to the upload in Excel.

	A	B	C	D	E	F	G
1	Store Name	Product Category	Product Subcategory	Sale Date	Revenue	Cost of Goods	Gross Profit
2	Des Moines	Video Production	Video Editing	9/5/2013	3487.45	2288	1199.45
3	Dayton	Video Production	Video Editing	9/1/2013	13371.56	9459	3912.56
4	Dayton	Video Production	Video Editing	12/1/2013	19097.49	13386	5711.49
5	South Salt Lake	Video Production	Video Editing	12/1/2013	10763.83	8138	2625.83
6	Brussels	Accessories	Universal Remote Controls	3/2/2010	10060.72	7822	2238.72
7	Brussels	Accessories	Universal Remote Controls	4/1/2010	12839.15	9456	3383.15
8	Brussels	Accessories	Universal Remote Controls	5/1/2010	9848.13	6992	2856.13
9	Brussels	Accessories	Universal Remote Controls	6/1/2010	10357.7	7584	2773.7
10	Brussels	Accessories	Universal Remote Controls	7/1/2010	10979.11	8283	2696.11

Removing Date Formulas

Spreadsheets may contain a date column where the values are computed by Excel using a formula. You need to convert these computed values into simple values before uploading a spreadsheet. To remove date formulas, select a column, right-click, and then click *Copy*. Then right-click the selected column again, and click *Values*. This can be found under the Paste Options menu, which is highlighted in the following image. Menu options may vary by Excel release. Now you can see that each cell contains a date value, and WebFOCUS BUE can decompose your dates into useful components for use in InfoAssist+.



Uploading, Appending, and Merging Spreadsheets

You can upload, append, or merge Excel spreadsheets or CSV files using the Upload wizard. Before uploading a new file, you should review [Preparing Data for Upload](#) on page 11, to ensure that your upload runs successfully.

After you upload a new file, you can append a file by adding new data to an existing synonym, without changing the structure. This option is useful when you are working with a complex or heavily edited synonym, by allowing you to retain all previous edits and data transformations. You can also merge a file with your data and enhance the existing structure.

The procedures in this section provide step-by-step instructions for uploading, appending, and merging files using the default settings in the Upload wizard.

Procedure: How to Upload Excel Spreadsheets

1. Launch the Upload wizard in one of the following ways:
 - From the Resources tree, right-click a domain or folder, point to *Upload*, and then click *Data*.
 - In the Open dialog box, in InfoAssist+, click *Upload Data*.
 - On the Home page, under Quick Links, click *Upload Data*.
2. Drag the file that you want to upload into the Upload pane or click *Select File*, and navigate to the location of the file on your machine.

The next screen of the Upload wizard opens, as shown in the image below. You can use the options on this screen to preview and change spreadsheets and delimited data files before you upload them to the target environment. This screen shows you the default breakdown of your data as measures, dimensions, and hierarchies.

The screenshot displays the 'Prepared' screen of the Upload Wizard. The ribbon at the top includes options like 'Load and Next'. The 'Business View' pane on the left shows a tree structure for 'Retail_sales' with categories: Measures (Revenue, Cost of Goods, Gross Profit, Quantity Sold, Discount), Dimensions (Sale Date, State, Product), and Hierarchies (Geography, Sale Date, Compound, State, Product). The main data preview table shows the following columns: Revenue, Cost of Goods, Gross Profit, Quantity Sold, Discount, Sale Date, and Sale State. The data is limited to 50 rows.

Revenue	Cost of Goods	Gross Profit	Quantity Sold	Discount	Sale Date	Sale State
3,487.45	2288	1,199.45	16	342.45	09/05/2013	United St
13,321.56	9459	3,912.56	41	3,202.24	09/02/2013	United St
5,642.79	4049	1,593.79	19	429.10	09/02/2013	United St
13,094.04	9206	3,888.04	47	375.70	10/02/2013	Norway
4,821.17	2942	1,859.17	18	198.75	10/02/2013	United St
13,094.04	9206	3,888.04	47	375.70	10/02/2013	United St
5,564.52	3853	1,711.52	18	105.35	10/05/2013	United St
18,957.62	13293	5,664.62	64	1,185.15	11/12/2013	Norway
6,902.96	4513	1,679.96	18	324.00	11/06/2013	United St
6,153.33	5698	2,455.33	29	614.60	11/01/2013	United St
4,340.54	3034	1,306.54	13	228.39	11/08/2013	United St
24,279.62	23815	10,664.62	107	1,765.69	12/02/2013	Norway
5,944.22	4237	1,707.22	22	516.70	12/01/2013	United St
19,997.49	13388	5,711.49	50	1,078.30	12/01/2013	United St
10,763.83	8138	2,625.83	33	431.04	12/01/2013	United St
10,969.72	7922	3,238.72	35	581.55	03/02/2010	Belgium
12,839.15	9456	3,383.15	43	442.05	04/01/2010	Belgium
9,848.13	6992	2,856.13	36	179.40	05/01/2010	Belgium
10,207.70	7594	2,773.70	38	607.61	06/01/2010	Belgium
10,979.11	8283	2,696.11	41	610.89	07/01/2010	Belgium
6,452.77	6107	2,345.77	32	710.09	08/04/2010	Belgium
10,476.23	7655	2,841.23	34	104.96	09/01/2010	Belgium
11,932.34	8644	3,286.34	45	625.20	10/01/2010	Belgium
14,049.84	10830	3,219.84	47	605.50	11/01/2010	Belgium
9,668.79	6695	2,973.79	34	179.75	12/01/2010	Belgium
8,324.15	6010	2,524.15	30	285.19	01/02/2011	Belgium
10,911.22	8255	2,656.22	41	692.85	02/01/2011	Belgium
10,434.95	7582	2,852.95	38	664.43	03/01/2011	Belgium
10,880.94	7845	3,225.94	39	538.75	04/03/2011	Belgium
6,694.65	5981	2,815.65	31	224.25	05/03/2011	Belgium

For more information about the options that are available in this screen, see [Wizard Metadata Screen Reference](#) on page 28.

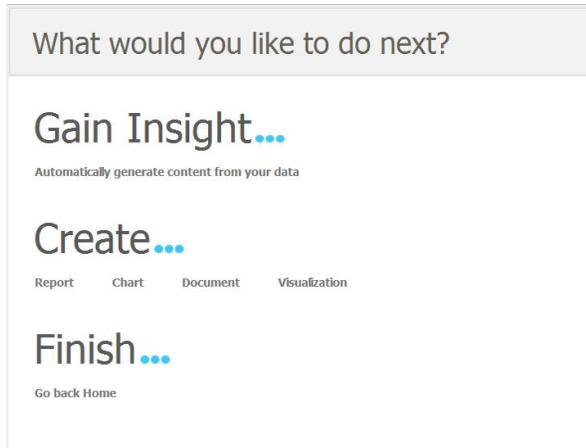
3. On the ribbon, click *Load and Next*.

The Target Load Options dialog box opens.

Note: In WebFOCUS BUE the default target for the Upload Wizard is Hyperstage, which is configured with a bulk load feature. If you change your target environment from the default, and do not have a bulk load program that supports this environment, you may need to clear the Bulk Load check box. For example, if you are using Microsoft SQL Server, you may use a Bulk Copy Program (BCP). If you are unsure about whether you have a bulk load program installed, contact your system Administrator.

4. Click *Proceed to Load*.

If the load is successful, a window opens, and provides options to automatically generate content from your data, create content using the new Master File, or close the Upload wizard, as shown in the following image.



Note: If there are informational messages or if your upload is unsuccessful, the Status screen opens.

5. Select what you want to do next.

Related Information:

- ❏ [Wizard Metadata Screen Reference](#) on page 28

Procedure: How to Append New Data to an Existing Synonym

1. Launch the Upload wizard.
2. Drag the file containing the data that you want to append into the Upload pane or click *Select File*, and navigate to the location of the file on your machine.

The next screen in the Upload wizard opens.

3. On the ribbon, in the *Load* group, click *Load Options*.

The Target Load Options dialog box opens.

4. From the Load Option drop-down list, click *Append into Existing*.

In the Select Target Synonym dialog box, select the synonym to which you want to append data.

Note: In WebFOCUS BUE the default target for the Upload Wizard is Hyperstage, which is configured with a bulk load feature. If you change your target environment from the default, and do not have a bulk load program that supports this environment, you may need to clear the Bulk Load check box. For example, if you are using Microsoft SQL Server, you may use a Bulk Copy Program (BCP). If you are unsure about whether you have a bulk load program installed, contact your system Administrator.

5. Click *OK*.
6. On the ribbon, click *Load and Next*.

If the load is successful, a window opens, and provides options to automatically generate content from your data, create content using the new Master File, or close the Upload wizard.

Note: If there are informational messages or if your upload is unsuccessful, the Status screen opens.

7. Select what you want to do next.

Related Information:

- [Wizard Metadata Screen Reference](#) on page 28.

Procedure: How to Merge New Data With an Existing Synonym

1. Launch the Upload wizard.
2. Drag the file containing the data that you want to merge into the Upload pane or click *Select File*, and navigate to the location of the file on your machine.

The next screen in the Upload wizard opens.

3. On the ribbon, in the *Load* group, click *Load Options*.

The Target Load Options dialog box opens.

4. From the Load Option drop-down list, click *Merge into Existing*.

In the Select Target Synonym dialog box, select the synonym to which you want to merge your data.

5. From the If the record exists drop-down list, click the action you want to occur when a record in the new spreadsheet matches a record in the existing data. You can choose to reject the matching record, update the existing record, or delete the existing record. By default, Update the existing record is selected.
6. From the If the record does not exist drop-down list, click the action you want to occur when a record in the new spreadsheet does not match the record in the existing data. You can choose to include or reject the record that does not match the existing record.

Note: In WebFOCUS BUE the default target for the Upload Wizard is Hyperstage, which is configured with a bulk load feature. If you change your target environment from the default, and do not have a bulk load program that supports this environment, you may need to clear the Bulk Load check box. For example, if you are using Microsoft SQL Server, you may use a Bulk Copy Program (BCP). If you are unsure about whether you have a bulk load program installed, contact your system Administrator.

7. Click *OK*.
8. In the Merge Editor dialog box, you can make additional changes to how your data is merged, for each column in the spreadsheet.

You must create at least one matching expression before you load your data.

9. Click *OK*.
10. On the ribbon, click *Load and Next*.

If the load is successful, a window opens, and provides options to automatically generate content from your data, create content using the new Master File, or close the Upload wizard.

Note: If there are informational messages or if your upload is unsuccessful, the Status screen opens.

11. Select what you want to do next.

Related Information:

- [Wizard Metadata Screen Reference](#) on page 28.

Uploading Images and Documents

In WebFOCUS, you can upload other files, such as images and documents. These files can be used to enhance visualizations and shared with other users and groups.

Procedure: **How to Upload an Image**

1. From the Resources tree, right-click a domain or folder, point to *Upload* and then click *Image*.

The Image upload dialog box opens, as shown in the following image.



Note: Upload options may appear differently across browsers, because each browser utilizes its own upload dialog box.

2. Click *Browse* to select your image. You can upload the following formats: .jpg, .png, and .gif.
3. Select *Publish Image(s)* to provide other users with access to your images.
4. Click *Upload*.

A confirmation window opens.

5. Click *OK*.

Procedure: How to Upload a Document

1. From the Resources tree, right-click a domain or folder, point to *Upload*, and then click *Document*.

The Document upload dialog box opens, as shown in the following image.



Note: Upload options may appear differently across browsers, because each browser utilizes its own upload dialog box.

2. Click *Browse* to select your document.
3. Select *Publish Document(s)* to provide other users with access to your documents.
4. Click *Upload*.

The confirmation window opens.

5. Click *OK*.

Connecting to Data and Editing Data

Aside from uploading data, you can create synonyms by connecting to various data sources. The Connect to Data wizard leads you through this process and allows you to establish a connection to many native data sources. The data source being used determines the type of metadata that is required. For example:

- When the server accesses a relational data source, it needs to know how to interpret the data stored there. You must create a synonym that describes the structure of the data source and the server mapping of the data types.
- When the server invokes a transaction or procedure, it needs to know how to build the request, what parameters to pass, and how to format an answer set from the response. You must create a synonym that describes the layout of the request or response area.

Whatever your data source, the adapter you are using manages the synonym creation process for you, creating a synonym that meets your specific requirements.

Note: Although all synonym creation panes have the same look and feel, the parameters are specific to each adapter. To obtain detailed information for an adapter, click the question mark (?) next to a parameter.

Creating a Synonym With the Connect to Data Wizard

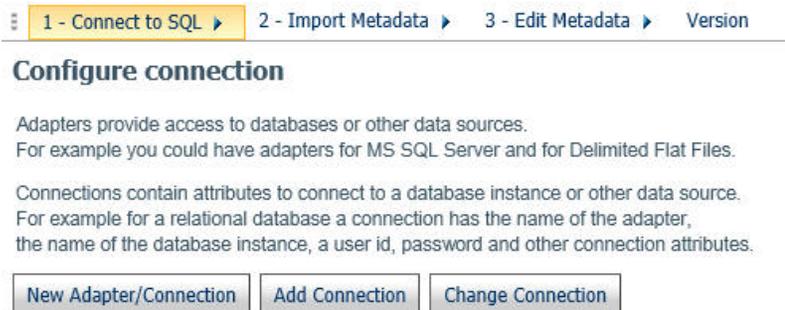
The Connect to Data wizard provides a step-by-step process for configuring adapters that connect to data sources that you can use to build reports, charts, and visualizations in InfoAssist+.

Using the Connect to Data wizard, you can perform the following steps:

1. **Connect to SQL.** Configure an adapter, create a new connection, or change connection parameters.
2. **Import Metadata.** Create a synonym for one or more data sources.

3. **Edit Metadata.** Enhance metadata by adding measures, dimensions, and dimension hierarchies.

These steps are displayed in the navigation screen, as shown in the following image. As you complete the tasks for each step, the tool automatically takes you to the next step in the process. If you want to go directly to a specific step, click the step and the corresponding window opens.



You can launch the Connect to Data wizard in one of the following ways:

- From the Resources tree, right-click a domain or folder, point to *Metadata*, and then click *Connect to Data*.
- In the Open dialog box, in InfoAssist+, click *Connect to Data*.
- On the Home page, under Quick Links, click *Connect to Data*.

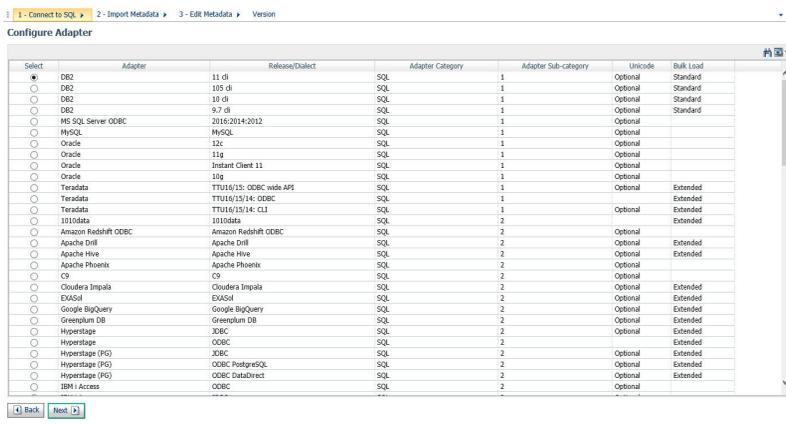
Step One: Connect to SQL

The first step in the Connect to Data wizard is creating a connection to your data, which will allow you to modify your data for use in WebFOCUS. You can configure a new adapter or connection, add a connection to an existing adapter, or change adapter connections.

Procedure: How to Configure a New Adapter/Connection

1. From the Configure connection screen, click *New Adapter/Connection*.

The Configure Adapter screen opens, as shown in the following image.



2. Select the radio button for the adapter and click *Next*.

Note: To sort the available adapters, click the column headers and choose from the available options to sort in ascending or descending order. You can also reset to the original order.

The Add to Configuration screen opens.

3. Enter the parameters for the specific adapter and click *Configure*.

Procedure: How to Add a Connection

1. From the Configure connection screen, click *Add Connection*.

The Add Connections screen opens.

2. Select the radio button for the adapter and click *Next*.
3. Enter the parameters for the specific adapter and click *Configure*.

Procedure: How to Change a Connection

1. From the Configure connection screen, click *Change Connection*.

The Edit Connections screen opens.

2. Select the radio button for the connection and click *Next*.

Note: You can click the *Adapter*, *Connection*, *Connection string*, or *Profile* columns to sort the available connections.

3. Change the parameters for the specific connection and click *Configure*.

Step Two: Import Metadata

Once you configure a connection, you must select the metadata that you want to import. The first screen that you see is the Select connection to create synonyms screen. Here, you select the connection to your data.

Procedure: How to Import Metadata

1. Select the radio button for the adapter and click **Next**.

The Select Synonym Candidates screen opens.

2. Select or enter the parameters for each screen and click **Next**.

The Create Synonym screen opens.

3. Select one or more synonym check boxes.

4. Click **Next**.

The synonyms are created in the application directory.

Step Three: Edit Metadata

Using the first screen in this step, you can manage and enhance your metadata as required, to simplify and enrich future analytics. This screen shows you the default breakdown of your data depending on the BV+ mode you have set in the Web Console parameter, `AUTO_BV_NAMESPACE`. By default, when you install a new Reporting Server, this parameter is set to `OFF`, which means that your data is uploaded in `BV_NAMESPACE=OFF` mode, and is categorized into measures, dimensions, and hierarchies. By default, you can see your fields interpreted as measures and dimensions, as shown in the following image. You can modify the synonym structure by using the ribbon functions and the shortcut menu options available in the Business View Pane.

The screenshot displays the Business View Pane for a data source named 'retail_sales'. The interface is divided into two main sections: a left-hand pane for metadata management and a right-hand pane for data visualization.

Left Pane (Metadata):

- Filters and Variables:**
 - Measures and Variables:**
 - Revenue (Numeric): 3,487.45, 13,371.56
 - Cost of Goods (Integer): 2288, 9459
 - Gross Profit (Numeric): 1,199.45, 3,912.56
 - Quantity Sold (Integer): 16, 41
 - Discount (Numeric): 342.45, 1,307.24
 - Dimensions:**
 - Sale Date (Date): 09/05/2013, 09/01/2013
 - Geography
 - Sale Date-Simple
 - Sale Date-Compound
 - Store
 - Product

Right Pane (Data Table):

Sample Data for retail_sales. Limited to 50 rows. Double the Row Limit

Revenue	Cost of Goods	Gross Profit	Quantity Sold	Discount
3,487.45	2288	1,199.45	16	342.45
13,371.56	9459	3,912.56	41	1,307.24
5,642.79	4049	1,593.79	19	429.10
13,094.04	9206	3,888.04	47	375.70
4,821.17	2962	1,859.17	18	198.75
13,094.04	9206	3,888.04	47	375.70
5,594.52	3853	1,711.52	18	195.35
18,857.63	13293	5,664.63	64	1,185.15
6,092.90	4513	1,579.90	18	324.00
8,153.33	5098	2,855.33	29	814.60
4,340.54	3034	1,306.54	13	228.30
34,279.82	23615	10,664.82	107	1,706.69
5,944.22	4237	1,707.22	22	516.70
10,097.49	13386	5,711.49	50	1,078.30
10,763.83	8138	2,625.83	33	431.04
10,660.72	7822	2,238.72	35	581.55
12,839.15	9456	3,383.15	43	442.05
9,848.13	6992	2,856.13	36	179.40
10,357.70	7584	2,773.70	38	607.61
10,076.11	6283	2,696.11	41	613.89
8,452.77	6107	2,345.77	32	710.09
10,476.33	7665	2,811.33	34	104.96
11,912.34	8044	3,268.34	45	625.20
14,946.84	10830	3,219.84	47	695.50

For more information about the options that are available in the Edit Metadata screen in the Connect to Data wizard, see [Wizard Metadata Screen Reference](#) on page 28.

Related Information:

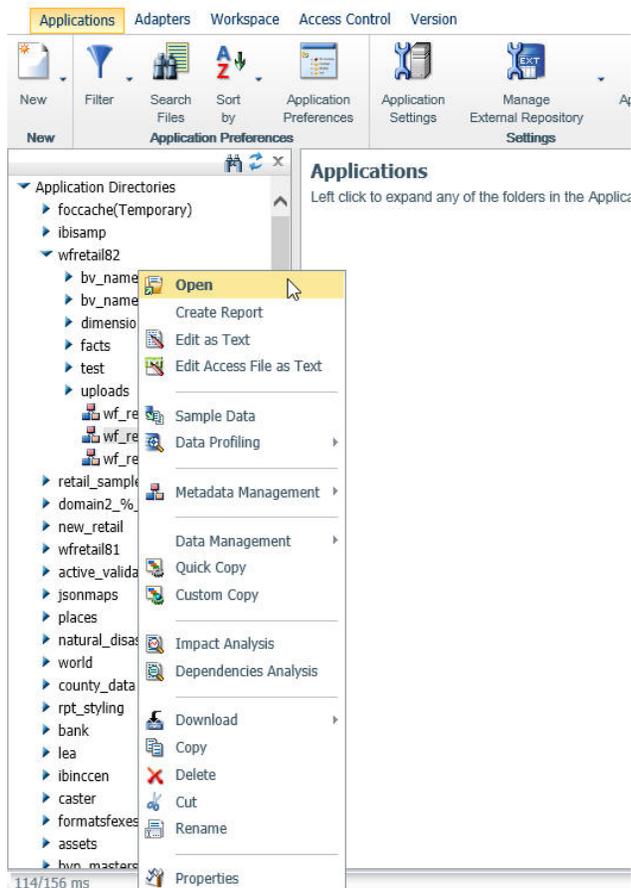
- ❑ [Pivoting Repeating Columns Into Rows](#) on page 60.
- ❑ [Creating Hierarchies](#) on page 62.
- ❑ [Creating Clusters](#) on page 59.
- ❑ [Creating Folders and Assigning DV Roles](#) on page 63.

Editing And Deleting Metadata

You are able to edit or delete previously created synonyms using the shortcut menu.

***Procedure:* How to Edit a Synonym**

1. Right-click a synonym and click *Open*, as shown in the following image.



The Data Assist opens, where you can modify your synonym.

Note: When you open an existing synonym in this way, the Master File opens in BV_NAMESPACE=OFF or BV_NAMESPACE=ON mode, depending on the existing BV or DV structure.

2. Make edits to the synonym, as required.
3. To save your synonym, click *File*, and then click *Save*.
4. Close the Reporting Server window.

Procedure: How to Delete Metadata

1. Right-click the synonym that you want to delete, point to *Data Management*, and then click *Delete All Data*.

A confirmation window opens, alerting you that you are deleting every row of data.

2. Click OK to proceed.
3. To remove the synonym file from the view, right-click this synonym again and then click *Delete*.
4. Close the Reporting server window.

Using Data Preparation Options

The Upload wizard and Connect to Data wizard offer a suite of data preparation options, which are designed to help you prepare your data for future analytics. With these data preparation tools, you can assess your data for validity and consistency, troubleshoot errors, and enhance accuracy and uniformity of your data. The following sections describe these options and explain how to use them.

Wizard Metadata Screen Reference

When you use the Upload wizard or Connect to Data wizard, your data opens in a wizard metadata screen, where you can preview and modify your synonym before you upload it to the target environment. The options available to you in this screen, in either wizard, are context sensitive. The following screen shows the metadata screen that opens when you upload a spreadsheet using the Upload wizard.

The screenshot displays the 'Wizard Metadata Screen' for a synonym named 'retail_sales'. The interface is divided into several sections:

- Business View:** Shows the synonym name and its display name.
- Filters and Variables:** A tree view showing the structure of the data, including 'Retail_sales' with sub-items like Revenue, Cost of Goods, Gross Profit, Quantity Sold, and Discount.
- Dimensions:** A tree view showing the dimensions of the data, including 'Retail_sales' with sub-items like Sale Date, Geography, Sale Date_Simple, Sale Date_Comound, Store, and Product.
- Table:** A table showing the data for the synonym. The columns are Revenue, Cost of Goods, Gross Profit, Quantity Sold, and Discount. The table contains 31 rows of data.
- Metadata:** A table showing the metadata for the synonym. The columns are Data Type, Value 1, and Value 2. The metadata table contains 31 rows of data.

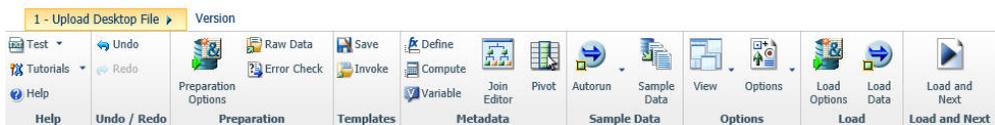
Revenue	Cost of Goods	Gross Profit	Quantity Sold	Discount	Sale Date	Country
3,487.45	2288	1,199.45	16	342.45	09/05/2013	United St.
13,371.56	9459	3,912.56	41	1,307.24	09/01/2013	United St.
5,640.79	4949	1,595.79	19	429.10	09/02/2013	United St.
13,094.04	9206	3,889.04	47	375.70	10/02/2013	Norway
4,821.17	2962	1,859.17	18	198.75	10/05/2013	United St.
12,094.04	9206	3,889.04	47	375.70	10/02/2013	United St.
5,564.52	3853	1,711.52	18	105.35	10/05/2013	United St.
18,957.63	13293	5,664.63	64	1,185.15	11/12/2013	Norway
6,052.99	4513	1,579.99	18	224.00	11/06/2013	United St.
8,153.33	5098	2,455.33	29	634.60	11/06/2013	United St.
4,340.54	3034	1,306.54	13	228.39	11/08/2013	United St.
34,279.82	23615	10,664.82	107	1,706.69	12/02/2013	Norway
5,944.22	4537	1,707.22	22	151.70	12/01/2013	United St.
19,097.49	13386	5,711.49	50	1,078.30	12/01/2013	United St.
10,763.83	8138	2,625.83	33	431.04	12/01/2013	United St.
10,862.72	7822	2,228.72	25	381.55	03/02/2010	Belgium
12,839.15	9456	3,383.15	43	442.05	04/01/2010	Belgium
9,848.13	6992	2,856.13	26	178.40	05/01/2010	Belgium
10,357.70	7584	2,773.70	38	607.61	06/01/2010	Belgium
10,879.11	8293	2,686.11	41	610.89	07/01/2010	Belgium
8,452.77	6107	2,345.77	32	710.09	08/04/2010	Belgium
10,476.33	7665	2,811.33	34	104.96	09/01/2010	Belgium
11,912.24	8644	3,268.24	45	622.20	10/01/2010	Belgium
14,049.84	10830	3,219.84	47	605.50	11/01/2010	Belgium
9,668.79	6695	2,973.79	34	179.75	12/01/2010	Belgium
8,334.15	5810	2,524.15	30	289.39	01/02/2011	Belgium
10,911.22	8255	2,655.22	41	692.85	02/01/2011	Belgium
10,434.95	7582	2,852.95	38	664.43	03/01/2011	Belgium
10,880.84	7645	3,235.84	39	538.75	04/03/2011	Belgium
8,694.65	5981	2,813.65	31	224.25	05/03/2011	Belgium

The wizard metadata screens consist of two sections:

- Ribbon.** Provides access to data preparation functions that you can use to customize your synonym.
- Panes.** Present areas of functionality that you can use to preview or modify the elements of the synonym.

Ribbon

The following image shows the ribbon of the wizard metadata screen that is available when you upload a spreadsheet.



The following sections describe the groups and functions of the wizard metadata screen ribbon. Some options are specific to the Upload wizard, while others are specific to the Connect to Data wizard.

Help

The Help group contains the Test, Tutorials, and Help buttons. You can use the Test button to open the Session Log window, clear the session log, view the synonym being prepared in a text window, and view a list of prepared worksheets.

The options in the Test button include:

Session Log

Opens the Session Log window. The session log contains all of the commands that have been processed for the current upload session. Using this window, you can filter the log file, clear the log file, download the log file to your machine, refresh the log, and manage your server agents.

Clear Session Log

Deletes all content from the log file.

View MFD

Opens the Master File being prepared in a text window. You can search for text within the Master File.

View AFD

Opens the Access File being prepared in a text window. You can search for text within the Access File.

Prepared Worksheets

Opens a window that lists the prepared Worksheets and the details of each, including the date on which it was prepared, the number of rows and columns, whether there is a header row, and the names of the target application, target synonym, target table, target adapter, and target connection.

The Tutorials button opens two high-level documents that outline the main functions of the Upload wizard, including the basic flow of common procedures, and the Business View + capabilities.

The Help button opens the Web Console online Help.

Undo/Redo

The Undo / Redo group contains the Undo and Redo options. You can use these options to reverse the last action you performed, or to cancel your last Undo action. For example, if you renamed a field, but do not want to save it, you can click *Undo*.

Preparation

The Preparation group contains options that you can use to review your data and prepare it for upload. The options are only available when you use the Upload wizard, and include:

Preparation Options

Opens the Preparation Options dialog box, where you can set the following options for Excel spreadsheets.

Scan all rows

Scans all records to determine data type for each column

Row scan limit

Indicates how many worksheet rows are scanned to determine the formats of the columns. Set this value to 0 if you want to scan all of the worksheet rows.

Extend character length

Extends character length by the percentage specified.

Column format recognition

Sets the column format to loose or strict.

Number of header rows

Sets the number of rows used as a header row in the worksheet. Set the value to 0 if a header is not used.

Add RowID Column

Adds a row ID column to your data. This option is only available for Excel spreadsheets.

Decompose Date fields into components

Decomposes Date fields into Year, Quarter, Month, and Day components.

Date Order

Allows you to select a format in which the Date fields appear.

Activate GEOGRAPHIC_ROLE assignment

Assigns geographic roles based on column name analysis.

The following options are also available from the Preparations Options dialog box, when you upload a comma separated values (CSV) file:

Non-printable Delimiter

Defines whether the string in the delimiter field is a printable string or a non-printable decimal character.

Field Enclosure

Allows you to select an enclosure characters for each field from the number of available options, which include: none, single quote, double quote, space, and type-in enclosure. The default value is double quote.

Header row

Defines if the header line be used as column names.

Preserve format

Indicates whether the original data layout, including empty records and linefeeds, will be preserved.

CODEPAGE

Specified the code page for the stored data that will be added to the Master File of the generated synonym.

CDN

Continental Decimal Notation (CDN) determines the punctuation used in numerical notation for input data.

Raw Data

Displays the raw data of the file to be uploaded in the Output Pane.

Error Check

Produces informational messages, if the uploaded file contains inconsistent data, based on the first row of data. The Error Check result is displayed in the Output Pane.

Templates

The Templates group contains options that you can use to create and apply a template to your selected file. These options are only available when you use the Upload wizard, and include:

Save

Saves the existing synonym as a template.

Invoke

Opens the Select Template name dialog box, where you can choose a saved template that you created earlier.

Metadata

The Metadata group contains several data preparation options that you can use to enhance your data. This includes defining virtual fields, creating Compute and Variable fields, joining data sources, and pivoting rows of data into columns. The options include:

Define

Opens the Expression builder, where you can create a define field.

Compute

Opens the Expression builder, where you can create a compute field.

Variable

Opens the properties dialog box, which provides access to the following options:

Variable Name

Specifies the name of the variable.

Prompt Caption

A description of the variable that will appear in the prompt.

Default Value

Specifies the default value of the variable.

Prompt Values

Provides a drop-down menu of optional prompt values for the variable. The options are Input box, Static list of values, Static list of values/captions, Synonym based dynamic list of values, and Procedure based dynamic list of values.

Quoted

If selected, this option adds single quotation marks around the variable.

Usage Format

Provides a drop-down menu of date formats for the variable. The options are Integer, Character (fixed), and Decimal.

Join Editor

Opens the Join Editor dialog box, where you can join multiple worksheets to create a cluster.

DBA

Opens the DBA dialog box, where you can edit the access to your data. This option is available only when you use the Connect to Data wizard.

Pivot

Opens the Pivot Prepared Data dialog box, where you can pivot any repeating columns or groups of columns into rows.

Sample Data

The Sample Data group contains options that you can use to toggle the Autorun and Data Preview options On and Off, stop the current request, and view the Sample Data in the Output Pane to instantly visualize field values.

Autorun

Provides access to the following options:

Off

Disables autorun in the Output Pane.

On

Enables autorun in the Output Pane.

Data Preview

Provides access to the following options:

Off

Disables the display of data values in the Business View Pane.

On

Enables the display of data values in the Business View Pane.

Sample Data

Runs the Sample Data request in the Output Pane.

Options

The Options group consists contains the View and Options functions. You can use the View button to customize your view of the wizard you are using. You can use the Options button to specify options for generating and displaying the synonym and set upload limits.

Click *View* to access the following options to customize your screen:

Reset View

Reverts all your screen customizations to the default view.

Grid Details

Provides access to the following options:

View as Columns

Displays data in columns inside panes. This option is enabled, by default.

View as Tooltip

Displays data in tooltips, as you hover over fields.

Table/Column Pane

Provides access to the options that control placement of the Table/Column Pane on the screen, such as:

Tile Horizontal

Displays panes on the screen in the horizontal succession. This option is enabled, by default.

Tile Vertical

Displays panes on the screen in the horizontal succession.

Show

Displays the Table/Column Pane on the screen.

Hide

Hides the Table/Column Pane from view. This option is enabled, by default.

Business View Pane

Provides access to the options that control placement of the Business View Pane on the screen, such as:

Show

Displays the Business View Pane on the screen.

Hide

Hides the Business View Pane from view. This option is enabled, by default.

Filters/Groups Pane

Provides access to the options that control placement of the Filters/Groups Pane on the screen, such as:

Show

Displays the Filters/Groups Pane on the screen.

Hide

Hides the Filters/Groups Pane from view. This option is enabled, by default.

Output Pane

Provides access to the options that control the placement of the Output Pane on the screen, such as:

Show Floating

Undocks the Output Pane, so it can be moved around the screen.

Show Docked

Docks the Output Pane on the right side of the screen. This option is enabled, by default.

Show Maximized

Enlarges the Output Pane to the size of the screen.

Hide

Hides the Output Pane.

Multiple Output Panes

Provides access to the options that control the appearance of multiple Output Panes on the screen, such as:

Show All Tabbed

If this option is selected, all output requests are shown in the Output Pane in tabs. This option is selected, by default.

Show Only Latest

If this options is selected, the single-tab Output Pane is reloaded to display the latest output request.

Click *Options* and select *Advanced* to open the Options dialog box and select the following synonym creation options:

Synonym Editor

Provides access to the following options, when you use the Connect to Data wizard.

Support extended options

Allows you to insert sort object styling.

Column Management

Provides access to the following options.

Name display strategy

You can select how the column names are displayed in the Tables/Columns Pane from one of the following choices:

- Name.** Assigns the FIELDNAME attribute from the synonym as the column name displayed in the Tables/Columns Pane.
- Title.** Assigns the TITLE attribute from the synonym as the column name displayed in the Tables/Columns Pane. TITLE is the default value.
- Description.** Assigns the DESCRIPTION attribute from the synonym as the column name displayed in the Tables/Columns Pane.
- Alias.** Assigns the ALIAS attribute from the synonym as the column name displayed in the Tables/Columns Pane.

Function display strategy

Selects the functions information that displays in the Expression Builder, and on the shortcut menu for a column, when you add a function to the synonym. Select one of the following values:

- Syntax.** The function syntax (function name and parameters) is displayed. This is the default value.
- Short Description.** A short description of what the function calculates is displayed.

Language Generation Options

Provides options for generating field names and synonym references in the synonym being prepared.

Use segment to qualify field reference

Specifies when the segment name should be added to the field name in order to qualify the field name. Select one of the following values:

- For duplicate fields.** Uses the segment name to qualify the field name only when multiple segments contain the same field name. This is the default value.
- Always.** Uses the segment name to qualify the field name.

Use application name to qualify synonym reference

Specifies whether synonym references in the synonym being prepared will include the application name. Select one of the following values:

- Yes.** Adds the application name to synonym references (appname/synonymname). This is the default value.
- No.** Does not add the application name to synonym references.

Limits

Sets limits for working with the Upload or Connect to Data wizard.

Maximum number of rows for test

Sets the maximum number of rows of sample data displayed. The default value is 50.

Maximum number of columns for test

Sets the maximum number of columns of sample data displayed. The default is 999999.

Maximum number of identical error messages

Sets the maximum number of identical error messages that can be generated by the wizard.

Random Sampling limit (in %)

Defines the percentage for the random sample that is used for statistical analysis.

Undo/Redo Limit

Sets the maximum number of undo and redo actions supported. The default value is 50.

Omit missing (null) values in Data Profiling charts

Omits any missing or null values in the data source.

Load

The Load group contains the Load Options and Load Data items. These options are only available when you use the Upload wizard.

Click *Load Options* to select the following data loading options. These options may change depending on the target adapter selected.

Load Option

Provides access to the following options:

New

Uploads a new worksheet to create a synonym.

Append Existing Data

Adds new data to the existing synonym without changing the structure and parameters of the synonym.

Merge with Existing Data

Merges new data with the existing synonym.

Adapter

Allows you to select a database, in which the unloaded data is stored.

Connection

Specifies a connection for the selected adapter.

Synonym Application

Specifies the application directory for the synonym. Click the ellipsis button to change this directory.

Synonym

Specifies the name of the synonym, as appears in the repository. By default, the name is the same as the name of the source worksheet.

Data File

Contains the name of the DFIX target data file in the database. This option is only available if you are uploading a .CSV file.

Table Name

Indicates the name of the target table in the database.

Bulk Load

Specifies the method of loading data. This option is enabled, by default.

Key columns derived from

Contains a list of candidate fields from which you can select one or more to be used as the primary key of the target table.

Field Delimiter

Allows you to select a column separator from the number of available options, which include: none, comma, tab, pipe, space, semi-colon, colon, type-in delimiter. The default value is comma. This option is only available if you are uploading a .CSV file.

Header row

Defines if the header line be used as column names. This option is only available if you are uploading a .CSV file.

Field Enclosure

Allows you to select an enclosure characters for each field from the number of available options, which include: none, single quote, double quote, space, and type-in enclosure. The default value is double quote. This option is only available if you are uploading a .CSV file.

Overwrite Existing Synonym

Overwrites the existing synonym with the same name.

Click *Load Data* to upload your synonym to the repository without leaving the Upload wizard. The Load Data button also brings up the Load Options dialog box, allowing to review and modify your loading parameters.

Load and Next

The Load and Next function uploads your synonym to the repository and brings you to the next screen, where you can select how to use your synonym. This option is only available when you use the Upload wizard.

Save and Next

The Save and Next function saves your changes and brings you to the next screen, where you can select how to use your synonym. This option is only available when you use the Connect to Data wizard.

Panes

The wizard metadata screen contains the following panes:

- Table/Column
- Business View
- Filters/Groups

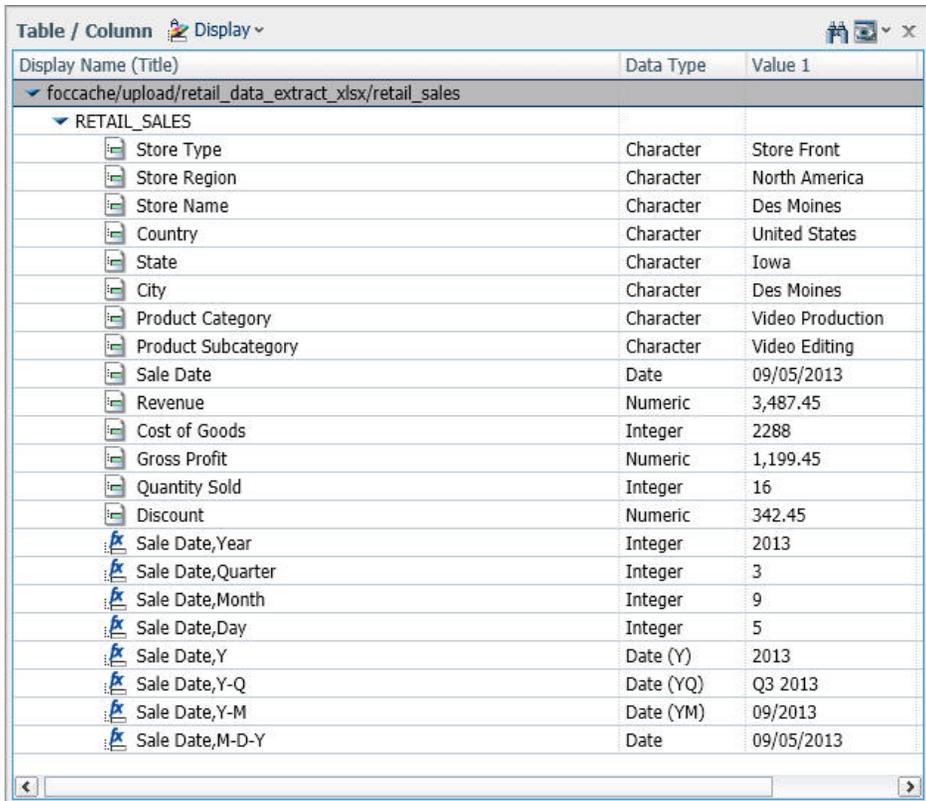
Output

The default view displays Business View and Output Panes. You can customize the view of your screen by clicking View on the ribbon.

Table/Column Pane

The Table/Column Pane displays the fields in the same order as they are displayed in the source file.

The Table/Column Pane is shown in the following image.



Display Name (Title)	Data Type	Value 1
▼ foccache/upload/retail_data_extract_xlsx/retail_sales		
▼ RETAIL_SALES		
Store Type	Character	Store Front
Store Region	Character	North America
Store Name	Character	Des Moines
Country	Character	United States
State	Character	Iowa
City	Character	Des Moines
Product Category	Character	Video Production
Product Subcategory	Character	Video Editing
Sale Date	Date	09/05/2013
Revenue	Numeric	3,487.45
Cost of Goods	Integer	2288
Gross Profit	Numeric	1,199.45
Quantity Sold	Integer	16
Discount	Numeric	342.45
Sale Date,Year	Integer	2013
Sale Date,Quarter	Integer	3
Sale Date,Month	Integer	9
Sale Date,Day	Integer	5
Sale Date,Y	Date (Y)	2013
Sale Date,Y-Q	Date (YQ)	Q3 2013
Sale Date,Y-M	Date (YM)	09/2013
Sale Date,M-D-Y	Date	09/05/2013

The Table/Column Pane has the following options:

Display

Toggles between the Columns, Business View, and the Join Editor view of folders options. The Join Editor option launches the Join Editor dialog box, where you can create clusters.

Find

Opens the search field, where you can type the name of the field that you want to find and allows you to modify your search options.

View

Provides access to the following options:

Expand All

Expands all nodes, folders, and hierarchies.

Collapse All

Collapses all nodes, folders, and hierarchies.

Choose Columns

Opens the Choose Columns dialog box, where you can select the columns that you want to display in the Business View Pane.

Reset to defaults

Reverts the pane to its default view.

Business View Pane

The Business View Pane shows you how the Upload wizard and Connect to Data wizard interpret and categorize your data. The numeric values, such as Gross Profit or Cost of Goods, are interpreted as measures. The alphanumeric values, such as Product or Geography, become dimensions. Dimensions, which categorize data, can be organized into hierarchies to define the relationships between the fields in the hierarchies. For example, a Geography hierarchy can contain the Continent, Country, State, and City dimensions. You can also assign dimension attributes to any dimension field, whether or not it is in a hierarchy. When applied to a field, attributes provide supplementary information that can be used for analysis or display. For example, in a Geography hierarchy, which includes the Country, State, and City dimensions, Population can be assigned as an attribute of the City dimension. Each category of data is represented by an icon. The following table identifies these icons and describes what they represent.

Icon	Identifies	Description
	Measure group	Contains individual measures.

Icon	Identifies	Description
	Measure	Measure is a numeric field. It resides inside a measure group. Measures can be moved between measure groups and between measures and dimensions areas.
	Dimension folder	Contains dimensions, dimension hierarchies, and attributes.
	Dimension Hierarchy	Resides inside the dimension folder and contains individual dimensions and associated attributes.
	Dimension	Dimension is an alphanumeric field. It resides inside the dimension hierarchies. Dimensions can be moved between dimension folders, between and outside dimension hierarchies. You can move a dimension into a measure group and turn it into a measure. You can also move a dimension inside an attribute folder and turn it into an attribute.
	Attribute folder	Contains individual attributes associated with a dimension.
	Attribute	Resides inside an attribute folder. Attributes can be moved between attribute folders. If you move an attribute outside an attribute folder, it inherits the identity of a hierarchical level to which it is moved.

The Business View Pane is shown in the following image.

The screenshot shows the Business View Pane with the following structure:

Display Name (Title)	Data Type	Value 1	V
▼ foccacha/upload/retail_data_extract_xlsx/retail_sales			
Filters and Variables			
▼ Measure Groups			
▼ Retail_sales			
Revenue	Numeric	3,487.45	1
Cost of Goods	Integer	2288	9
Gross Profit	Numeric	1,199.45	3
Quantity Sold	Integer	16	4
Discount	Numeric	342.45	1
▼ Dimensions			
▼ Retail_sales			
Sale Date	Date	09/05/2013	0
▶ Geography			
▶ Sale Date,Simple			
▶ Sale Date,Compound			
▶ Store			
▶ Product			

The Business View Pane has the following options:

Reset Defaults

Eliminates all changes and reverts the view back to the initial categorization of your data.

Flatten

Removes dimension hierarchies and displays individual dimensions under the Dimensions folder.

Display

Toggles between the Columns, Folders, and Modeling View of Folders displays.

Hide All

Hides all fields from the view.

Note: When a field is hidden, it is moved to the Table/Column Pane. This pane is hidden, by default. For more information on how to access this pane, see *Options*.

BV

Opens a menu, where you can change BV_NAMESPACE=OFF and BV_NAMESPACE=ON modes for your session. By default, the wizards create a Business View structure in with BV_NAMESPACE=OFF, which adheres to a fixed structure of measures, followed by dimensions, hierarchies, levels, and attributes, using a folder structure in the synonym. You can insert new entries, but are limited to existing structure types. When you select BV_NAMESPACE=ON, you can insert new folders and increase the flexibility of your metadata.

Find

Opens the search field, where you can type the name of the field that you want to find and allows you to modify your search options. Any occurrence of the search string found in the pane is highlighted.

View

Provides access to the following options:

Expand All

Expands all nodes, folders, and hierarchies.

Collapse All

Collapses all nodes, folders, and hierarchies.

Choose columns

Opens the Choose Columns dialog box, where you can select the columns that you want to display in the Business View Pane.

Reset to defaults

Reverts the pane to its default view.

Each node in the Business View Pane opens a context-sensitive shortcut menu that can be used to insert and modify folders or fields, view sample data, perform statistical analysis and data preparation techniques. You can access these options by right-clicking each level. These shortcut menu options are conditional and depend on the type of an element and its place in the synonym structure. In addition, these options are different if you are editing your synonym in BV_NAMESPACE=OFF mode or BV_NAMESPACE=ON mode. The following list identifies the shortcut menu options for your synonym in both modes.

Insert

Depending on the context, provides access to the following options:

New Measure Group

Creates a new measure group inside this Measure Group folder.

New Dimension Folder

Creates a new dimension folder inside the Dimensions node.

New Parent/Child Hierarchy

Opens the Create a Parent/Child Hierarchy dialog box, where you can create a new hierarchy.

New Levels Hierarchy

Creates a new level hierarchy inside this dimension folder.

New Folder

Creates a new folder, which functions as a segment to provide a view of the synonym and to define the accessible fields and their relationships. You can assign a DV role, such as Dimension, Measure, or Attributes to each new folder that you create. This option is only available in BV_NAMESPACE=ON mode.

Filter

Opens the Filters/Groups Pane, where you can create or modify a filter.

Character Function

Provides a choice of preconfigured character functions that open in the Function Assist for New Define dialog box.

Conversion Function

Provides a choice of preconfigured conversion functions that open in the Function Assist for New Define dialog box.

Geography Function

Provides a choice of preconfigured geographical functions that open in the Function Assist for New Define dialog box.

Numeric Function

Provides a choice of preconfigured numeric functions that open in the Function Assist for New Define dialog box.

Advanced Function

Opens the Define dialog box, where you configure a new function.

Grouping

Opens the Filters/Groups Pane, where you can configure group values.

Group Numeric (Binning)

Opens the Binning wizard, where you can configure a numeric group.

Aggregation Function

Provides a choice of preconfigured aggregation functions that open in the Function Assist for New Compute dialog box.

Analytic Function

Provides a choice of preconfigured analytic functions that open in the Function Assist for New Compute dialog box.

Advanced Aggregation

Opens the Compute dialog box, where you can a compute field using advanced aggregation options.

Properties

Opens the Properties dialog box. For more information, see *Using the Properties Dialog Box*.

Pivot

Opens the Pivot Prepared Data dialog box, where you can pivot any repeating columns or groups of columns into rows.

DV Role

Opens a sub-menu that allows you to assign a DV role, such as Dimension (Standalone or Drillable), Measure, or Attribute, explicitly to a field or folder. You can also choose to have the field inherit its role from a parent. This role moves with the field if you drag it to another location in the BV+ structure. If you do not explicitly assign a DV role, the role changes as you move the object under a new parent, except if you drop it onto a field with the Drill Level role. This option is only available if you are in BV_NAMESPACE=ON mode.

Geographic Role

Opens a sub-menu, where you can configure a geographic role for the field.

Create Hierarchy

Transforms the dimension into a hierarchy. This option is only available for standalone dimensions.

Remove Hierarchy

Removes a hierarchy and displays all the items inside this hierarchy as individual dimensions.

Remove from Hierarchy

Removes the field from a hierarchy. This option is only available for the dimensions that are part of a hierarchy.

Show/Hide Attribute

Toggles between displaying or hiding attributes for the field.

Sample Data

Displays the sample data for all the measure groups inside this measure group folder in the Output Pane.

Data Profiling

Provides access to the following options:

Statistics

Displays statistic analysis of the field in the Output Pane.

Hex View

Displays the data in hexadecimal format.

Values

Displays the values for this field for the selected number of rows in the Output Pane.

Values (Bar Chart)

Displays the values for the field in a bar chart in the Output Pane. The chart is limited to 50 values.

Values (Pie Chart)

Displays the values for the field in a pie chart in the Output Pane.

Duplicate Values

Displays the duplicate values for this field for the selected number of rows in the Output Pane.

Outliers

Displays the outliers for this field in the Output Pane.

Impact Analysis

Displays the impact analysis results in the Output Pane.

Rename

Opens the Rename dialog box where you can rename the field.

Hide

Moves the field to the Table/Column Pane.

Note: This pane is hidden, by default. For more information on how to access this pane, see *Options*.

Cut

Cuts the field from its directory.

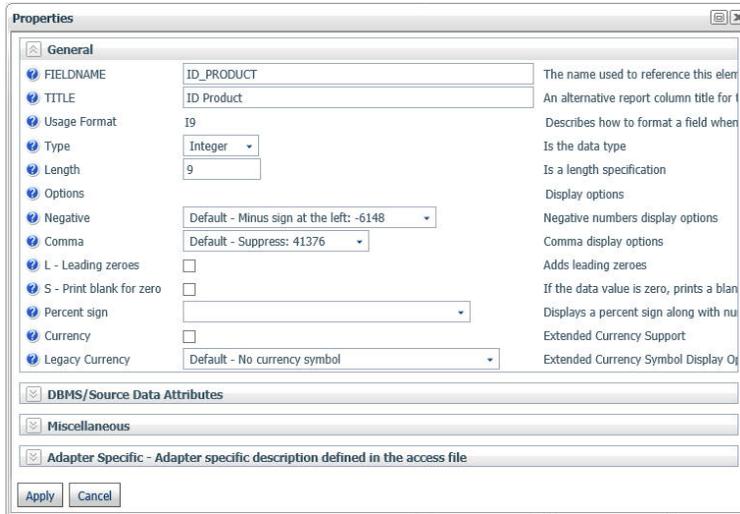
Paste

Pastes an item inside the directory.

Using the Properties Dialog Box

You can use the Properties dialog box to change settings for your data, such as appearance, formatting, data descriptions, and others. The options in this dialog box change depending on the type of data you are editing.

An example of the Properties dialog box is shown in the following image.



The Properties dialog box is organized into various groups, as described below.

Note: The location of these properties within the different groups may change if you are using BV_NAMESPACE=OFF mode or BV_NAMESPACE=ON mode.

General Group

Contains general properties that can be applied to various elements.

FOLDER

Indicates the name of virtual segment that you have selected.

PARENT

Identifies the name of the parent, for the virtual segment that you have selected.

DESCRIPTION

Provides additional information about the folder that you are viewing. This is an optional attribute.

FIELDNAME

Indicates the name that is used to reference this data element in the request.

BELONGS_TO_SEGMENT

Identifies the segment where the field resides in the original Master File.

TITLE

Specifies an alternative report column title for the field.

Usage Format

Describes how to format a field when displaying it in a report or using it in a calculation.

Type

Allows you to select a data type for this field, as it is stored in the data source.

Length

Describes the length of data as it is stored in the data source.

Number of decimal places

Specifies the number of digits that follow the decimal point.

Options

Displays options for this field.

Negative

Allows you to select a format in which negative numbers are displayed.

Comma

Allows you to choose whether large numbers are displayed with a comma.

L - Leading zeroes

If selected, adds leading zeroes to a number.

S - Print blank for zero

Specifies whether to display the blank field, if the data value is zero.

Percent sign

For the percentage values, toggles between displaying a percentage sign only, or calculating the percentage value and displaying a percentage sign.

E - Scientific notation

If selected, only significant digits are displayed.

Currency

If selected, provides access to the Currency Code and Currency Symbol Position options.

Currency Code

Provides access to ISO currency code formats.

Currency Symbol Position

Indicates the position of the currency symbol.

Legacy Currency

Provides the extended currency symbol display options. Select a currency symbol that displays in the report output, regardless of the default currently symbol that is configured for National Language Support (NLS).

Component Order

Sets the order of the date components, such as MDYY or DMY. Y.

Month

Sets the display options for a month component.

Day of the Week

Sets the display options for the day of the week component.

Separator

Specifies the element that you can use to separate date components, such as with commas or hyphens.

DV Role

Identifies the dimension view hierarchy the property represents. These options include Dimension (Standalone), Dimension (Drill Level), Measure, Attribute, and Inherit from parent.

DBMS/Source Data Attributes

Contains supplemental properties that you can define for metadata.

ALIAS

Specifies the name of the field, as it appears in the synonym. If you are using BV_NAMESPACE=ON mode, this property appears under the General group.

ACTUAL

Describes the type and length of data as it is stored in the data source.

Type

Allows you to select a data type for this field, as it is displayed in a report or used it in a calculation.

Length

Describes the length of data as it is displayed in a report or used it in a calculation.

DATEPATTERN

Specifies the date pattern that is used for conversion from a date or date time that is stored as an alphanumeric field to a data or data time format.

MISSING

If selected, allows null values to be entered into and read from a field in data sources that support null data.

Miscellaneous Group

Contains supplemental properties. All properties in the Miscellaneous group are disabled, by default.

REDEFINES

Enables you to redefine or recompute a field name that exists in more than one segment. A DEFINE expression may not contain qualified field names.

WITH

Associates the DEFINE with a real field from the synonym.

DESCRIPTION

Creates an attribute for comments and remarks within a field.

ACCEPT

Creates an attribute that can be used to populate an auto-prompt dialogue box or to validate data as it is entered into a field from a MODIFY procedure.

PROPERTY

Indicates the place of the field in the hierarchy of the Master File.

REFERENCE

Shows field attributes, such as physical parent/child relationships among the elements in the file.

DATASET

Specifies a physical name of the data source or alternate index.

FIELDTYPE

Specifies the type of the field.

I - Index

If selected, the field is displayed as an index field.

R - Readonly

If selected, the field is displayed as a read-only field.

Prompt Values

Adds optional prompt values for a define.

ACCESS_PROPERTY

Specifies access options for the field's data. If you are using BV_NAMESPACE=ON mode, this property appears under the General group.

INTERNAL

If selected, the field does not appear in the list of available fields or Sample Data. If you are using BV_NAMESPACE=ON mode, this property appears under the General group.

NEED_VALUE

If selected, the field requires a value to access the data.

Select By

Allows you to set a selection parameter. The choices are: value, range, and multiple values.

HELPMESSAGE

Allows you to add a help message to the field.

GEOGRAPHIC_ROLE

Defines a geographic role of the field.

TEMPORAL_PROPERTY

Specifies a temporal property of the field.

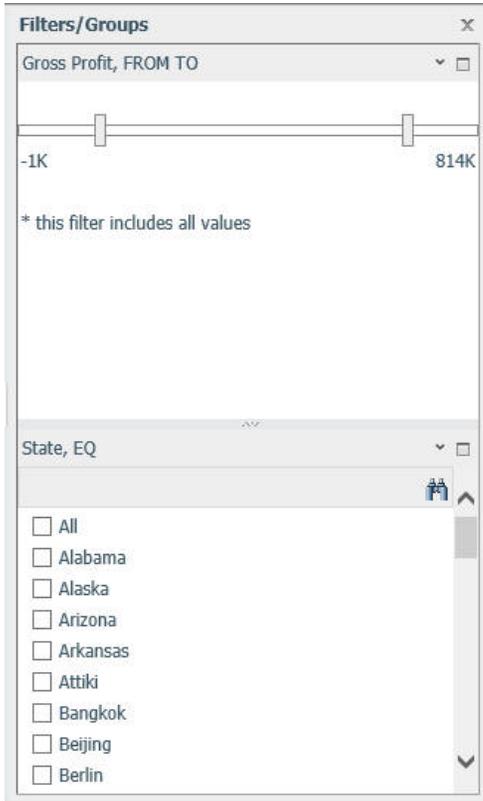
USE_STYLE

Allows you to select a style for the field.

Filters/Groups Pane

The Filters/Groups Pane automatically opens when you create a new filter or group. When you open two or more items at the same time, they display nested in the same pane.

An example of the Filters/Groups Pane is shown in the following image.



Depending on the field type, the Filters/Groups Pane displays the following options:

Find

Opens the search field, where you can type the name of the field that you want to find and allows you to modify your search options.

Expand

Maximizes the section of the pane.

Drop-down arrow

Provides access to the following options for filters:

Display

Determines a display format for the filter. The options include: text box, double list, check-box list, pull-down list, and slider. The default option is slider for Numeric fields and check box for all other fields.

Relation

Creates a relational expression. The options include: EQ, NE, LT, GT, LE, GE, and Range. The default value is Range for Numeric and EQ for all other fields.

Values

Toggles between showing and hiding the NULL values for this field.

Hide Filter Card

Removes filter data from the Filters/Groups Pane, while leaving the pane open.

Delete Filter

Deletes the filter from the synonym.

Properties

Opens the Filter properties dialog box, where you can change the Title for the filter, and view its Name and Base field name properties.

Move Up

Moves the filter up in the Filters/Groups Pane.

Move Down

Moves the filter down in the Filters/Groups Pane.

Provides access to the following options for groups:

Display

Determines a display format for the group. The options are: Double List and Single List. The default value is Single List.

Add all shown values to a new group

Selects all values and adds them to a new group.

Create a New Group

Creates a new empty group, to which you can add values manually.

Edit properties

Opens the Edit properties dialog box, where you can edit the Name, Title, and Default Value properties.

Hide Group Card

Removes the group data from the Filters/Groups Pane.

Move Up

Moves the group up in the Filters/Groups Pane.

Move Down

Moves the group down in the Filters/Groups Pane.

Additionally, if the list of values spans through multiple pages, you can increase or decrease the number of values displayed on each page by clicking the *Increase Page Size* or *Decrease Page Size* buttons. You can use the *First Page*, *Previous Page*, *Next Page*, and *Last Page* buttons to navigate between pages.

Output Pane

The Output Pane displays data and status messages for various features. The Output Pane is shown in the following image.

Prepared x

Sample Data for retail_data_extract.xlsx/retail_sales. Limited to 50 rows. Double the Row Limit

Revenue	Cost of Goods	Gross Profit	Quantity Sold	Discount
3,487.45	2288	1,199.45	16	34
13,371.56	9459	3,912.56	41	1,30
5,642.79	4049	1,593.79	19	42
13,094.04	9206	3,888.04	47	37
4,821.17	2962	1,859.17	18	19
13,094.04	9206	3,888.04	47	37
5,564.52	3853	1,711.52	18	10
18,957.63	13293	5,664.63	64	1,18
6,092.90	4513	1,579.90	18	32
8,153.33	5698	2,455.33	29	61
4,340.54	3034	1,306.54	13	22
34,279.82	23615	10,664.82	107	1,70
5,944.22	4237	1,707.22	22	51
19,097.49	13386	5,711.49	50	1,07
10,763.83	8138	2,625.83	33	43
10,060.72	7822	2,238.72	35	58
12,839.15	9456	3,383.15	43	44
9,848.13	6992	2,856.13	36	17
10,357.70	7584	2,773.70	38	60
10,979.11	8283	2,696.11	41	61
8,452.77	6107	2,345.77	32	71
10,476.33	7665	2,811.33	34	10

The Output Pane has the following options:

Find

Opens the search field, where you can type the name of the field that you want to find and allows you to modify your search options.

View

Provides access to the following options:

Expand All

Expands all nodes, folders, and hierarchies.

Collapse All

Collapses all nodes, folders, and hierarchies.

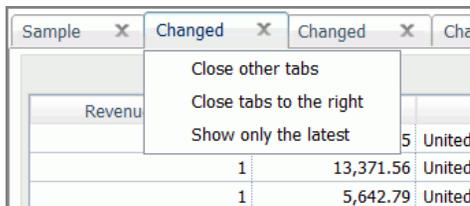
Choose columns

Opens the Choose Columns dialog box, where you can select the columns that you want to display in the Business View Pane.

Reset to defaults

Reverts the Pane to its default view.

If more than one tab is open, you can right-click a tab to access the tab menu, as shown in the following image. The menu allows you to close all other tabs, close tabs to the right, or show only the latest tab.



Creating Clusters

When you need to add more tables to your synonym, you can use the Join feature to create a cluster. This allows you to enhance the structure of your synonym by introducing more data.

Procedure: How to Create a Cluster

1. When uploading data or connecting to data on the main metadata screen, on the ribbon, in the Metadata group, click *Join Editor*.

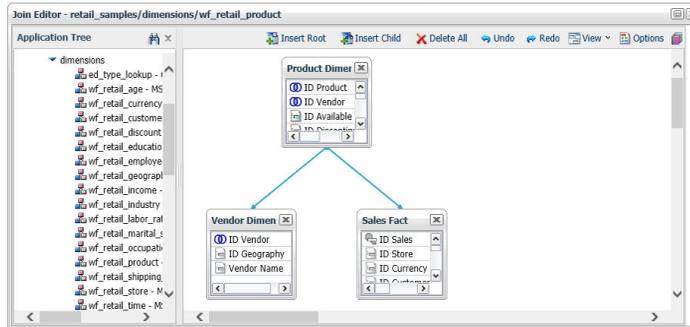
The Join Editor dialog box opens.

2. Click *Insert Child*.

The Insert Child dialog box opens.

3. Click a Master File from the list, and then click *OK*. You can select several Master Files by holding the Shift key.

The completed cluster displays in the Join Editor dialog box, as shown in the following image.



4. Close the Join Editor dialog box.

The new columns are added to the Table/Column pane.

5. Drag columns to the Business View pane to modify the synonym.

Related Information:

 [Wizard Metadata Screen Reference](#) on page 28.

Pivoting Repeating Columns Into Rows

Some Excel spreadsheets may contain repeating columns, such as sales figures for a series of years. There may even be repeating column groups, such as both budget and actual figures for a series of years. You can use the pivot option to transform these columns or groups of columns into rows.

Procedure: How to Pivot Columns Into Rows

1. When uploading data or connecting to data on the main metadata screen, on the ribbon, in the Metadata group, click *Pivot*.

The Pivot Prepared Data dialog box opens.

2. Set the Pivot Type option to *Repeating column*.
3. In the First column drop-down box, select the first column in the range of repeating columns.

4. In the Last column drop-down box, select the last column in the range of repeating columns.
5. In the Column Title for Pivoted Data, type the new column title that reflects the numeric cell that you are describing.
6. In the Title for Pivoted Key field, type the new column title that represents the repeating columns that you are pivoting into rows.
7. Leave the Formula for Pivoted Key field value unedited. This value is automatically generated by the wizard, it should not be changed.

An example of the completed configuration for pivoting columns is shown in the following image.

Pivot Prepared Data

Pivot Column(s) to Rows in synonym years

Selected Parameters

Pivot Type Repeating column
 First column 1960
 Last column 2012
 Column Title for Pivoted Value Amount Example: AMOUNT
 Column Title for Pivoted Key Year# Example: STMT_YEAR
 Formula for Pivoted Key 1960 + ORDER - 1

Cancel OK

8. Click *OK*.

The repeating columns now display as rows. The Pivot button turned into the Remove Pivot button, allowing you to quickly revert your pivoting changes.

Related Information:

- [Wizard Metadata Screen Reference](#) on page 28.

Procedure: How to Pivot Column Groups into Rows

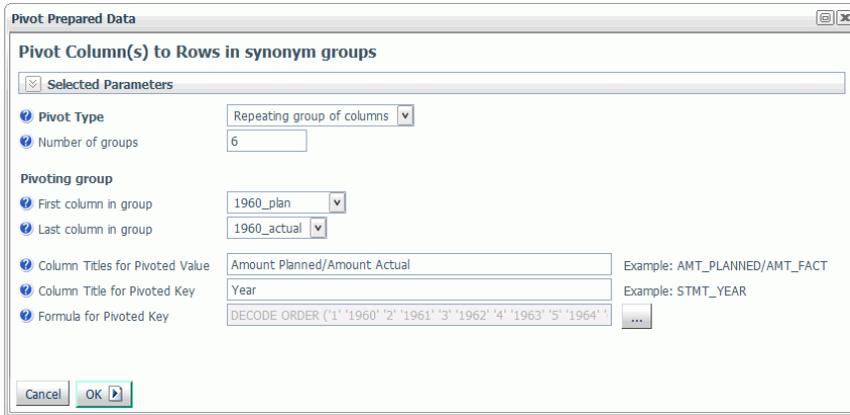
1. When uploading data or connecting to data on the main metadata screen, on the ribbon, in the Metadata group, click *Pivot*.

The Pivot Prepared Data dialog box opens.

2. Set the Pivot Type option to *Repeating group of columns*.
3. In the Number of groups field, specify the number of groups of columns that you are pivoting.

4. In the Column Title for Pivoted Data, type the new column title that will be used for all the columns across the repeating groups.
5. In the Title for Pivoted Key field, type the new column title that represents the repeating columns that you are pivoting into rows.
6. Edit the automatically generated formula in the Formula for Pivoted Key field by clicking the ellipsis button. Make sure there are no repetitive alphanumeric values in the Pivoted Column field.

An example of the completed configuration for pivoting groups of columns is shown in the following image.



7. Click *OK*.

The repeating groups of columns now display as rows. The Pivot button turned into the Remove Pivot button, allowing you to quickly revert your pivoting changes.

Related Information:

[Wizard Metadata Screen Reference](#) on page 28.

Creating Hierarchies

When you upload a data file, using the default wizard settings, the wizard creates dimension hierarchies automatically, based on name pattern-matching and date-time analysis. Optionally, you can create additional hierarchies to organize individual columns, enable drill-downs in your data, and add more flexibility to your synonym.

Note: If you set BV_NAMESPACE=ON, you are able to add new folders, but will not be able to create new hierarchies.

Procedure: How to Create a Hierarchy

1. When uploading data or connecting to data on the main metadata screen, in the Business View Pane, right-click a dimension folder, point to *Insert*, and then click *New Levels Hierarchy*.

The Hierarchy is added to the dimension folder.

2. Right-click the Hierarchy, and then click *Rename*.

The Rename dialog box opens.

3. Type the name of your new hierarchy and click *OK*.

Note: You can also turn an existing dimension into a dimension hierarchy. To do so, right-click the dimension, and then click *Create Hierarchy*.

4. Drag individual columns into the new hierarchy in a logical order to populate it.
5. To remove a field from the hierarchy, right-click the field, and then click *Remove from Hierarchy*.
6. Once you have edited your metadata, click *Next*.

The Save As dialog box opens.

7. Enter a name for the synonym in the File Name field and click *OK*.

A pop-up window opens, providing access to the following options:

Create.

Allows you to create a report, chart, document, or visualization with your new Master File.

Finish.

Closes the wizard.

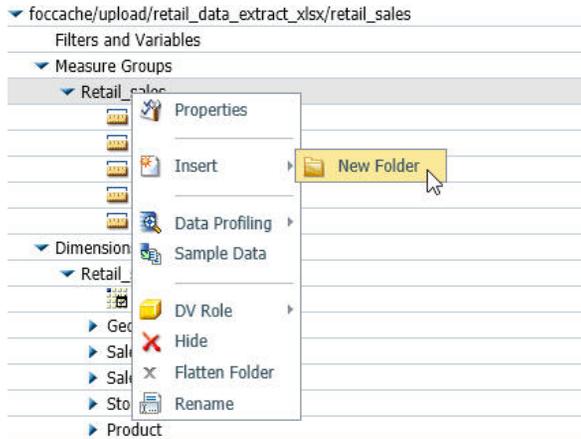
Related Information:

- ❑ [Wizard Metadata Screen Reference](#) on page 28.

Creating Folders and Assigning DV Roles

When using BV+ capabilities, specifically, when you are working in a Business View, you can create folders to organize your data. Folders function as segments to provide a view of the synonym and define the accessible fields and their relationships. Folder relationships are the same as segment relationships, with parent folders, child folders, and sibling folders. Once you create a new folder, you can add data fields and assign roles.

You can create a new folder by right-clicking a folder or field, clicking *Insert*, and then clicking *Folder*, as shown in the following image.



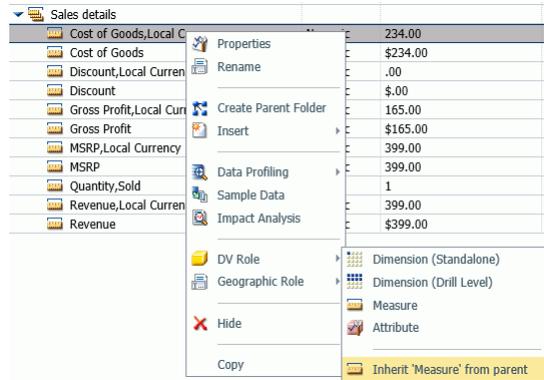
Assigning DV Roles

While you have total flexibility defining a structure using any fields from your data source, when you issue a report request against the synonym, the retrieval path for the data must conform to any constraints imposed by your DBMS entity diagrams and by the rules of WebFOCUS BUE retrieval.

Only the folders will be displayed in the WebFOCUS tools, not the real segments, and only the fields within the folder structure will be accessible for reporting.

Note: When a folder is inserted as a child of a field, the attribute PARENT_FIELD describes this relationship. By default, such a folder and its fields will be assumed to have the Attribute role.

- ❑ **None.** If no role is assigned, the field or folder will inherit its role from its parent. If a role has been assigned, you can remove it by selecting the option to inherit its role from its parent, as shown in the following image.



For more information about the Business View pane, see [Wizard Metadata Screen Reference](#) on page 28.

Joining and Blending Data

You can join two or more related data sources to create a larger integrated data structure from which you can report in a single request. The joined structure is virtual. It is a way of accessing multiple data sources as if they were a single data source. This can greatly increase the number of fields available for use in your content, giving you an expanded selection for your reporting and charting purposes.

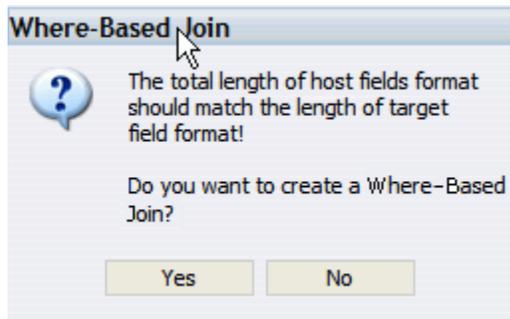
Joins

Using conditional joins, you can establish joins based on conditions other than equality between fields. In addition, the host and cross-referenced join fields do not have to contain matching formats, and the cross-referenced field does not have to be indexed.

Note: You can edit the description of a join by clicking *Edit* in the Join dialog box and typing in the Description section. You can only use letters, numbers, and underscores in your description. No special characters are allowed.

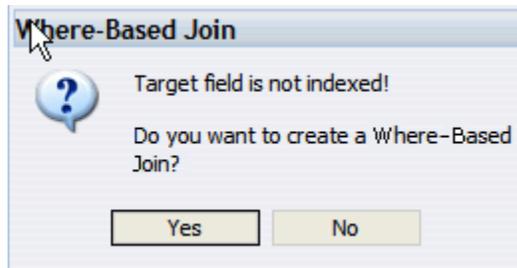
The conditional join is supported for FOCUS and all relational data adapters. Because each data source differs in its ability to handle complex conditional criteria, the optimization of the WHERE syntax differs depending on the specific data sources involved in the join and the complexity of the conditional criteria.

For FOCUS data sources, if the host and cross-referenced join fields do not have common matching formats, the following message appears.



Note: If you click Yes, the Filter dialog box opens, where you can create a Where-Based Join.

If the cross-referenced join field does not have an index, the following message appears.



Note: If you click Yes, the Filter dialog box opens, where you can create a where-based join.

Blending Data

The blend option allows you to explicitly select the data fields that you want to include. More specifically, you can join multi-fact data structures and combine pertinent external data into your current data source, creating a blended data resource. This can be from local or other system resources.

Blending is used to create customized data sources. For example, you may have some of the basic fields available in the current data source, but you can use the blend option to add relevant data fields from a different data source to the current data source in order to create a unique data set.

The blend option allows a new fact table to be added to a cluster master as a parent segment to an existing child segment. This option is available from the Join dialog box. You may want to blend data if you are reporting from two different fact tables that share a common dimension, such as a product dimension. For an example of this, you can view the sample retail database, wf_retail_lite. The wf_retail_lite Master File contains the WF_RETAIL_STORE_SALES segment and the WF_RETAIL_SALES segment. The WF_RETAIL_SALES segment is defined as the parent of the WF_RETAIL_STORE_SALES segment. You may want to add a second fact table to the report. The second fact table in this example will be an Excel spreadsheet that you upload to InfoAssist+ for use with a report or chart. The data in the spreadsheet file that you upload will be joined to the WF_RETAIL_LITE database using a common field.

Note: You can find supported, common fields in your selected database (for example, WF_RETAIL_LITE) using the search feature in the Data pane. If necessary, you may need to add a field in your spreadsheet to map your data to the structure of the database. For example, ID_CUSTOMER. In addition, the name of the primary sheet in Microsoft Excel becomes the name of your data source, so be sure to name the file accordingly.

The following list provides some general rules that apply to the Blend option:

1. The result of blending is that a single dimension is shared between two fact tables. The table must be based on a cluster with at least two segments. One segment is for Fact table 1, the second segment is for the dimension.
2. Two uploaded files cannot be blended because they result in single segment Master Files.
3. Do not use the fields from the blended table as a sort field, since these fields will not have common field when used with fields from other fact tables.

Procedure: How to Blend Data

This procedure describes how to blend data from an external data source into an existing data source. This example uses a Microsoft Excel spreadsheet file.

1. On the *Data* tab, in the *Join* group, click *Join*.

The Join dialog box displays.

2. Click *Add New*.

The Open dialog box displays.

Note: The options that display on the Open dialog box depend on your user privileges.

3. At the top of the Open dialog box, click *Upload Data*.

The Upload wizard opens.

4. Drag your Microsoft Excel spreadsheet file on to the Upload pane, or click *Select Upload File* to locate the file on your local drive.

The next screen of the Upload wizard opens. You can use the options on this screen to preview and change spreadsheets and delimited data files before you upload them to the target environment. This screen shows you the default breakdown of your data as measures, dimensions, and hierarchies.

5. On the ribbon, click *Load and Next*.

The Target Load Options dialog box opens.

Note: In WebFOCUS BUE the default target for the Upload Wizard is Hyperstage, which is configured with a bulk load feature. If you change your target environment from the default, and do not have a bulk load program that supports this environment, you may need to clear the Bulk Load check box. For example, if you are using Microsoft SQL Server, you may use a Bulk Copy Program (BCP). If you are unsure about whether you have a bulk load program installed, contact your system Administrator.

6. Click *Proceed to Load*.

The Upload wizard closes, and you return to the Open dialog box.

Note: If there are informational messages or if your upload is unsuccessful, the Status screen opens.

7. In the Open dialog box, click the name of your uploaded data source and then click *Open*.
8. In the Join dialog box, create a connection between the common fields by dragging your mouse pointer from the field in the Master File to the common field in the newly uploaded file.
9. Click *Blend*, and then click *OK*.

The blended data source fields are now available in the Data pane.

Creating Virtual Fields

A temporary field is a field whose value is not stored in the data source, but can be calculated from the data that is there, or assigned an absolute value. A temporary field takes up no storage space in the data source, and is created only when needed. DEFINE fields and COMPUTE fields are two different types of temporary fields.

When you create a temporary field, you determine its value by writing an expression. You can combine fields, constants, and operators in an expression to produce a single value. For example, if your data contains salary and deduction amounts, you can calculate the ratio of deductions to salaries using the following expression: $\text{deduction} / \text{salary}$.

You can specify the expression yourself, or you can use one of the many supplied functions that perform specific calculations or manipulations. In addition, you can use expressions and functions as building blocks for more complex expressions, as well as use one temporary field to evaluate another.

Note: When creating a DEFINE or a COMPUTE field, the following characters are suppressed and cannot be entered in the Format text box.

space ! " # \$ % & ' () * + , / : ; < = > ? @ [\] ^ _ ` { | } ~

Selecting a Temporary Field

The following information is provided to help you choose the kind of temporary field that you need.

- Choose a virtual field** when you want to:
 - Use the temporary field to select data for your report. You cannot use a calculated value, since it is evaluated after data selection takes place.
 - Use the temporary field to sort on data values. A calculated value is evaluated after the data is sorted. With the BY TOTAL phrase, you can sort on this type of field.
- Choose a calculated value** when you want to:
 - Evaluate the temporary field using total values or prefix operators (which operate on total values). You cannot use a virtual field, since it is evaluated before any totaling takes place.
 - Evaluate the temporary field using fields from different paths in the data structure. You cannot use a virtual field, since it is evaluated before the relationship between data in the different paths is established.

Detail (DEFINE)

A virtual field (DEFINE) is evaluated as each record that meets the selection criteria is retrieved from the data source. The result of the expression is treated as though it were a real field stored in the data source.

The calculation that determines the value of a virtual field is performed on each retrieved record that passes any screening conditions on real fields.

You can define a virtual field in the following ways:

- In a Master File.** These virtual fields are available whenever the data source is used for reporting. These fields cannot be cleared by JOIN or DEFINE FILE commands.

❑ **In a procedure.** A virtual field created in a procedure lasts only for that procedure.

A DEFINE field is an optional attribute used to create a virtual field for reporting. You can derive the virtual field value from information already in the data source (that is, from permanent fields).

You may define fields simultaneously (in addition to fields defined in the Master File) for as many data sources as desired. The total length of all virtual fields and real fields cannot exceed 32,000 characters.

The Detail Field (DEFINE) dialog box allows you to create a defined field, type a name for the field, and enter a format.

Summary (COMPUTE)

A calculated value (COMPUTE) is evaluated after all of the data that meets the selection criteria is retrieved, sorted, and summed. Therefore, the calculation is performed using the aggregated values of the fields. Calculated values are available only for the specified report request. You specify the COMPUTE command in the body of the report request, following the display command and optionally, introduced by AND. You can compute more than one field with a single COMPUTE command.

The Summary Field (COMPUTE) dialog box allows you to create a computed field, type a name for the field, and enter a format.

The Field List provides similar functionality, including options to display data source fields in a Logical, List, or Structured view. You can also view a complete set of functions, instead of data source fields, by clicking the *Functions* button .

Creating Temporary Fields Independent of a Master File

The temporary fields that you create with the DEFINE and COMPUTE commands are tied to a specific Master File, and in the case of values calculated with the COMPUTE command, to a specific request. However, you can create temporary fields that are independent of either a Master File or a request using the DEFINE FUNCTION command.

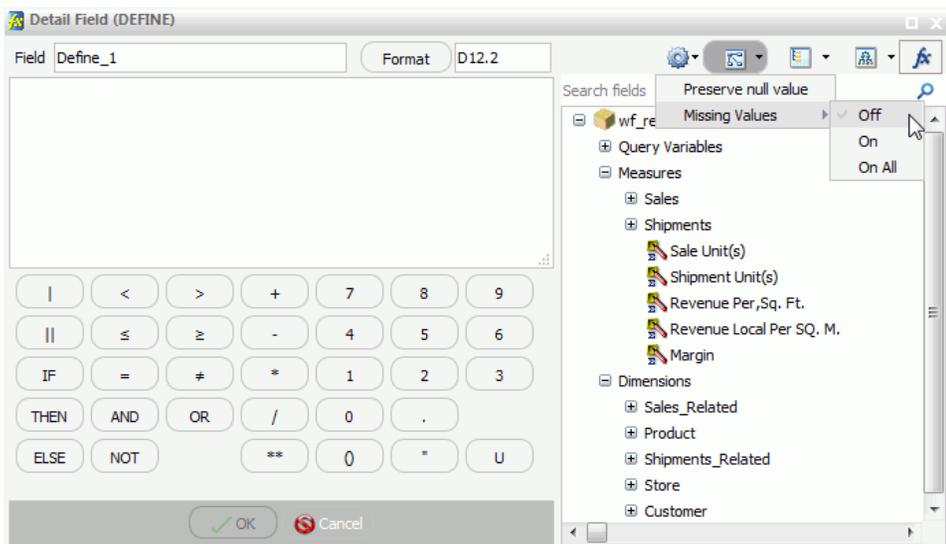
A DEFINE function is a named group of calculations that use any number of input values and produce a return value. When calling a DEFINE function, you must first define the function.

A DEFINE function can be called in most of the same situations that are valid for Information Builders-supplied functions. Data types are defined with each argument. When substituting values for these arguments, the format must match the defined format. Alphanumeric arguments shorter than the specified format are padded with blanks, while longer alphanumeric arguments are truncated.

All calculations within the function are done in double precision. Format conversions occur only across equal signs (=) in the assignments that define temporary fields.

Enabling the Display of Missing Values for a DEFINE or COMPUTE

When working with DEFINES and COMPUTEs, you can use the Missing Values option to enable or disable the display of missing values for a DEFINE or COMPUTE field. This allows you to accurately display missing values in reports, charts, and visualizations. The Missing Values option, which is accessible through the Additional Options button, is shown in the following image.



The following descriptions explain each option on the Missing Values drop-down list:

- Off.** When selected, MISSING syntax is removed from the DEFINE or COMPUTE field definition. This is the default selection. MISSING treats missing values for numeric fields as zeros and missing values for alphanumeric fields as blanks.
- On.** When selected, MISSING ON is added after the format in the DEFINE or COMPUTE field definition. MISSING ON interprets the temporary field as missing.
- On All.** When selected, MISSING ON ALL is added after the format in the DEFINE or COMPUTE field definition. MISSING ON ALL indicates that if all fields in the expression have values, then the temporary field has a value. If at least one field in the expression has a missing value, the temporary field also has a missing value.

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