



# MANIPULATING THE BDC LIST WEB PART WITH SHAREPOINT DESIGNER

BY BRETT LONSDALE, MCTS, MCSD.NET , MCT

LIGHTNING TOOLS

WWW.LIGHTNINGTOOLS.COM

[BRETT@LIGHTNINGTOOLS.COM](mailto:BRETT@LIGHTNINGTOOLS.COM)

## PRE-REQUISITES

This Whitepaper is written assuming that you have a good understanding of what The Business Data Catalog is, and you have a good general understanding of SharePoint 2007. If you are new to the Business Data Catalog, then please see the 'Introduction to BDC' whitepaper which is available for free download from <http://www.lightningtools.com> prior to reading this whitepaper.

## INTRODUCTION

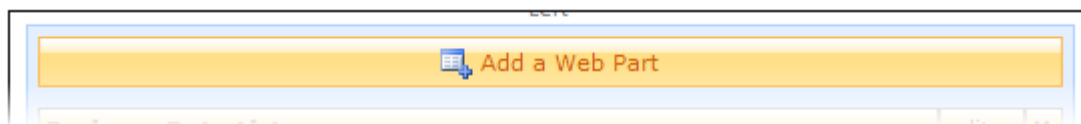
This whitepaper describes how to add style to your BDC data when it is displayed in a BDC List Web Part. The BDC List Web Part will pick up any themes that you apply to the page, but what if you want to format the data? SharePoint Designer can help with Number & Date Formatting, performing calculations on your data, Adding Conditional Formatting, Filtering, Grouping & Sorting. This is easily applied to your Web Parts with Zero Code. Sure, if you also want to go beyond what SharePoint Designer is capable of, then you can use XSL if you like to tweak it. If you are concerned about leaving your site in a customized state (unhosted state), read on.. It will not cause you a problem since we will be able to reset back to the site definition at the end of all our changes, and still retain the modifications we made to the web part.

The setup used to write this White Paper is:

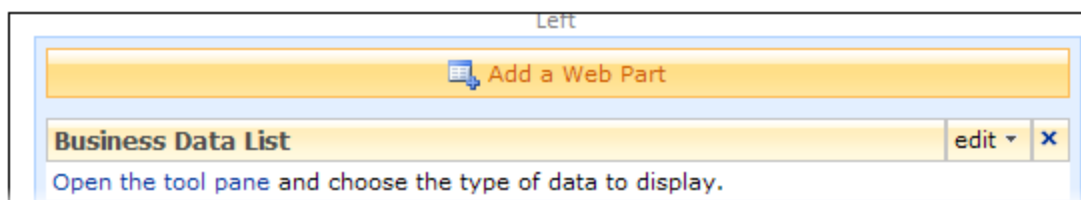
- Microsoft Vista Ultimate Host Operating System
  - Microsoft Virtual PC 2007
- Microsoft Windows Server 2003 Service Pack 2 Stand Alone
  - Microsoft SQL Enterprise Edition 2005
  - ASP.NET
  - IIS 6.0
  - Microsoft Office SharePoint Server 2007 Enterprise Edition
  - Adventure Works Database
  - Microsoft Office Ultimate 2007
  - Microsoft Visual Studio 2005 Professional Edition
  - Oracle 10g

## CONFIGURING THE BUSINESS DATA LIST WEB PART

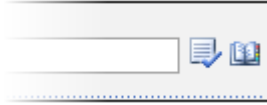
1. Navigate to the site or Web Part page in SharePoint where you would like to display your data.
2. Click **Site Actions**, and then **Edit Page**. (If the Site Actions button is not displayed, then you won't have the necessary permissions to modify the Shared Page, you can however modify the personal page by clicking the welcome link at the top of the page, and then choose Personalize this page).
3. Choose from Web Part zones on your page and click **Add a Web Part**.



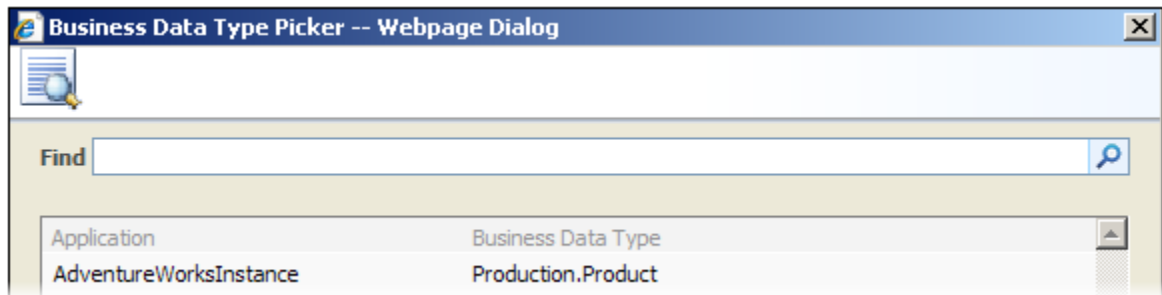
4. Under the All Web Parts section, you should see 'Business Data'.
5. Check the **Business Data List** web part and choose **Add**.
6. Click the **Open the Tool Pane** link to modify the Web Parts properties.



- Each set of data that is available to you is known as a Type. A Type might be an entire table of data, a view of data or a Stored Procedure (Filtered data).
- Click the **small address book icon** which is to the right of the Type Text box in the Properties pane to display a list of available Types.



- You will or should see a list of Types. Common types include Employees, Customers, Orders, Products, Parts, Invoices etc... If you do not see any, then it is possible that BDC hasn't been configured, or you do not have permission to add the BDC Entities. In which case you should seek help from your IT department.
- I am going to select **Production.Product** from my list of types which is a list of bicycle parts.



- Select one of your Types, and then choose **ok**.
- Choose **Ok** at the bottom of the properties pane on the right hand side of your screen.
- At this point, you should see your Business Data has been returned and is displayed in the Web Part.
- My table consisted of too many columns and is taking up too much space on my screen. Therefore, I am going to remove some of the columns.
- Click **Edit** in the top right hand corner of the Web Part that you just added.
- Choose '**Modify Shared Web Part**' or '**Modify My Web Part**'.
- You will notice that an Edit View link is available. Click **Edit View**.

rowguid	ModifiedDate
694215b7-08f7-4c0d-acb1-d734ba44c0c8	3/11/2004 10:01:36 AM
694215b7-08f7-4c0d-acb1-d734ba44c0c8	3/11/2004

18. **Deselect** some of the Fields that you do not want to see.

Display	Title	Column Name	Position from Left
<input checked="" type="checkbox"/>		<input type="radio"/> ProductID	1
<input checked="" type="checkbox"/>		<input type="radio"/> Name	2
<input checked="" type="checkbox"/>		<input type="radio"/> ProductNumber	3
<input checked="" type="checkbox"/>		<input type="radio"/> MakeFlag	4
<input checked="" type="checkbox"/>		<input type="radio"/> FinishedGoodsFlag	5
<input checked="" type="checkbox"/>		<input type="radio"/> Color	6
<input checked="" type="checkbox"/>		<input type="radio"/> SafetyStockLevel	7
<input checked="" type="checkbox"/>		<input type="radio"/> ReorderPoint	8
<input checked="" type="checkbox"/>		<input type="radio"/> StandardCost	9
<input checked="" type="checkbox"/>		<input type="radio"/> ListPrice	10
<input checked="" type="checkbox"/>		<input type="radio"/> Size	11
<input checked="" type="checkbox"/>		<input type="radio"/> SizeUnitMeasureCode	12
<input checked="" type="checkbox"/>		<input type="radio"/> WeightUnitMeasureCode	13
<input checked="" type="checkbox"/>		<input type="radio"/> Weight	14
<input checked="" type="checkbox"/>		<input type="radio"/> DaysToManufacture	15

19. Notice that on the same page, you can change the sort order of any column returned, and you can also apply a filter to limit the data that is returned.

20. Click **OK**, and you should now see some useful data.

Production.Product List										
Actions										1 - 20
ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint	StandardCost	ListPrice	Size
1	Adjustable Race	AR-5381	False	False		1000	750	0.0000	0.0000	
2	Bearing Ball	BA-8327	False	False		1000	750	0.0000	0.0000	
3	BB Ball Bearing	BE-2349	True	False		800	600	0.0000	0.0000	
4	Headset Ball Bearings	BE-2908	False	False		800	600	0.0000	0.0000	
316	Blade	BL-2036	True	False		800	600	0.0000	0.0000	
317	LL Crankarm	CA-5965	False	False	Black	500	375	0.0000	0.0000	
318	ML Crankarm	CA-6738	False	False	Black	500	375	0.0000	0.0000	
319	HL Crankarm	CA-7457	False	False	Black	500	375	0.0000	0.0000	
320	Chainring Bolts	CB-2903	False	False	Silver	1000	750	0.0000	0.0000	
321	Chainring Nut	CN-6137	False	False	Silver	1000	750	0.0000	0.0000	
322	Chainring	CR-7833	False	False	Black	1000	750	0.0000	0.0000	
323	Crown	CR-9981	False	False		1000	750	0.0000	0.0000	

The Web Part display the data that we wanted to see, but none of the data is formatted. Using SharePoint Designer, we will first of all format the Standard Cost, and List Price columns into their appropriate currency.

## EDITING YOUR SITE IN SHAREPOINT DESIGNER

1. **Start** Microsoft SharePoint Designer by clicking **Start, All Programs, Microsoft Office, Microsoft Office SharePoint Designer**.
2. **Open** your Site that contains your BDC List Web Part by choosing **File, Open Site**.
3. In the Site Open dialog box, **type** the **URL** for your site such as:  
<http://servername/sitename>
4. **Double Click** the **Default.aspx** file in the Folder List.
5. Your site should now be open and ready for editing.

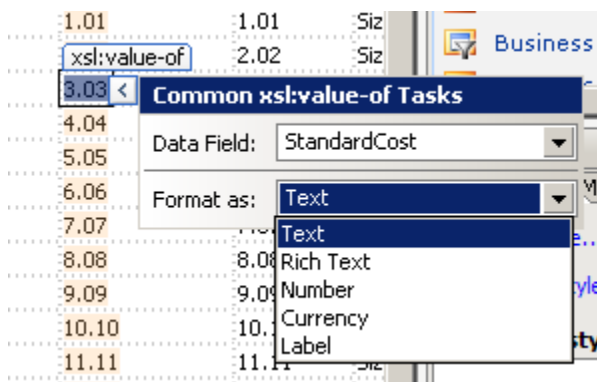
## NUMBER FORMATTING

The first change I am going to make is to the Standard Cost Column. Currently the number value is just displayed as a general number. To format this into a currency:

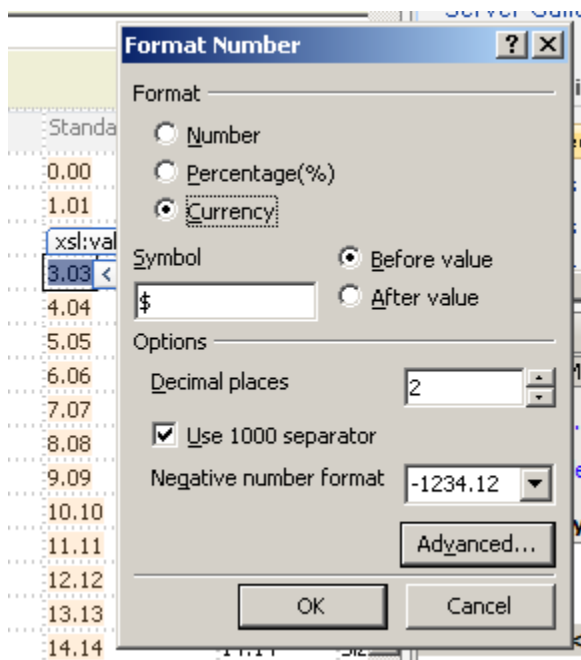
1. **Click** your cursor into one of the numbers in the **Standard Cost Column**.
2. A grey button with a > symbol will appear next to your cursor as shown in the image below:

StandardCost	ListPrice
0.00	0.00
1.01	1.01
2.02	2.02
3.03	3.03
4.04	4.04
5.05	5.05
6.06	6.06
7.07	7.07

3. Click the grey button
4. A small sub menu will appear where you can configure the number formatting. Choose **Currency**.



5. You can further refine the currency by setting the Symbol, Before or After, the Decimal Places etc...



6. Choose **Ok**
7. Each value in that column should now be formatted.

ListPrice	Size
\$0.00	Size 0
\$1.01	Size 1
xsl:value-of	Size
\$3.03	Size 3
\$4.04	Size 4
\$5.05	Size 5
\$6.06	Size 6
\$7.07	Size 7
\$8.08	Size 8
\$9.09	Size 9
\$10.10	Size 10
\$11.11	Size 11
\$12.12	Size 12
\$13.13	Size 13
\$14.14	Size 14
\$15.15	Size 15
\$16.16	Size 16
\$17.17	Size 17
\$18.18	Size 18
\$19.19	Size 19

8. Click the **Save** icon on the toolbar to save your change. If you get a warning message about the site becoming customized from the Site Definition, choose **ok**.

## COLOR FORMATTING

The color formatting is like most other Microsoft Office tools, you can highlight Cells of data in the table, and then Apply a formatting change to them. However, SharePoint Designer also allows you to do Conditional Formatting on your BDC Data.

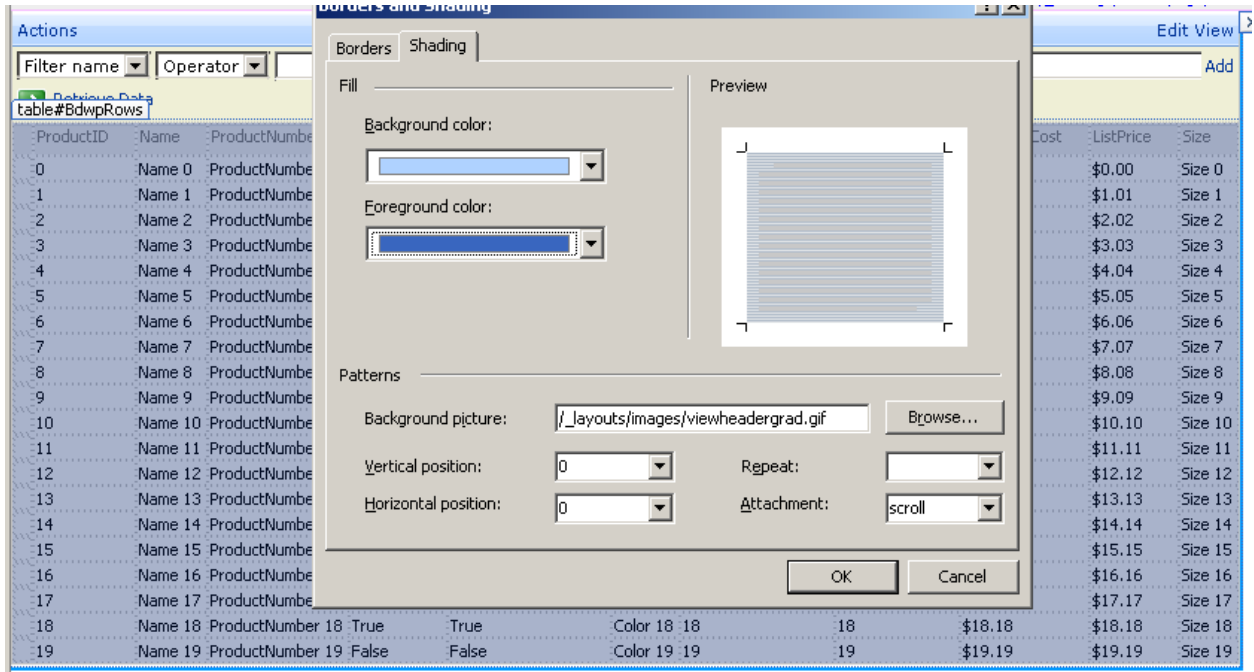
### Format the Data Grid

1. **Highlight** the Entire Table in the BDC List Web Part.

ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint	StandardCost	ListPrice	Size
0	Name 0	ProductNumber 0	True	True	Color 0	0	0	\$0.00	\$0.00	Size 0
1	Name 1	ProductNumber 1	False	False	Color 1	1	1	\$1.01	\$1.01	Size 1
2	Name 2	ProductNumber 2	True	True	Color 2	2	2	\$2.02	\$2.02	Size 2
3	Name 3	ProductNumber 3	False	False	Color 3	3	3	\$3.03	\$3.03	Size 3
4	Name 4	ProductNumber 4	True	True	Color 4	4	4	\$4.04	\$4.04	Size 4
5	Name 5	ProductNumber 5	False	False	Color 5	5	5	\$5.05	\$5.05	Size 5
6	Name 6	ProductNumber 6	True	True	Color 6	6	6	\$6.06	\$6.06	Size 6
7	Name 7	ProductNumber 7	False	False	Color 7	7	7	\$7.07	\$7.07	Size 7
8	Name 8	ProductNumber 8	True	True	Color 8	8	8	\$8.08	\$8.08	Size 8
9	Name 9	ProductNumber 9	False	False	Color 9	9	9	\$9.09	\$9.09	Size 9
10	Name 10	ProductNumber 10	True	True	Color 10	10	10	\$10.10	\$10.10	Size 10
11	Name 11	ProductNumber 11	False	False	Color 11	11	11	\$11.11	\$11.11	Size 11
12	Name 12	ProductNumber 12	True	True	Color 12	12	12	\$12.12	\$12.12	Size 12
13	Name 13	ProductNumber 13	False	False	Color 13	13	13	\$13.13	\$13.13	Size 13
14	Name 14	ProductNumber 14	True	True	Color 14	14	14	\$14.14	\$14.14	Size 14
15	Name 15	ProductNumber 15	False	False	Color 15	15	15	\$15.15	\$15.15	Size 15
16	Name 16	ProductNumber 16	True	True	Color 16	16	16	\$16.16	\$16.16	Size 16
17	Name 17	ProductNumber 17	False	False	Color 17	17	17	\$17.17	\$17.17	Size 17
18	Name 18	ProductNumber 18	True	True	Color 18	18	18	\$18.18	\$18.18	Size 18
19	Name 19	ProductNumber 19	False	False	Color 19	19	19	\$19.19	\$19.19	Size 19

2. Choose **Format** from the Menu at the top of your page.

### 3. Choose **Borders & Shading**



### 4. Select the **Shading Tab**

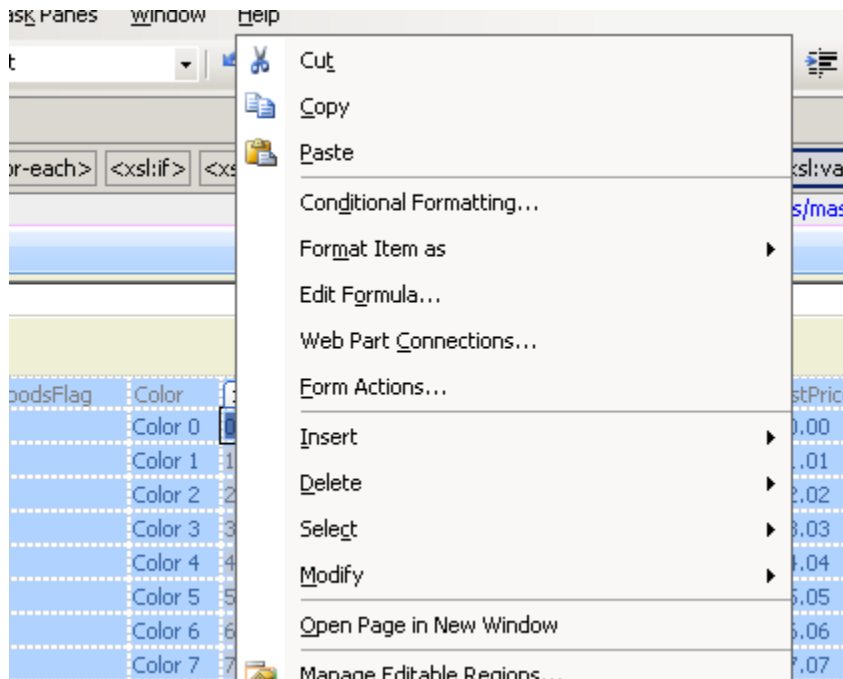
5. Apply Foreground, and Background colors. You may also want to remove the back ground image.

Production.Product List										
ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint	StandardCost	ListPrice	Size
1	Adjustable Race	AR-5381	False	False		1000	750	\$0.00	\$0.00	
2	Bearing Ball	BA-8327	False	False		1000	750	\$0.00	\$0.00	
3	BB Ball Bearing	BE-2349	True	False		800	600	\$0.00	\$0.00	
4	Headset Ball Bearings	BE-2908	False	False		800	600	\$0.00	\$0.00	
316	Blade	BL-2036	True	False		800	600	\$0.00	\$0.00	
317	LL Crankarm	CA-5965	False	False	Black	500	375	\$0.00	\$0.00	
318	ML Crankarm	CA-6738	False	False	Black	500	375	\$0.00	\$0.00	
319	HL Crankarm	CA-7457	False	False	Black	500	375	\$0.00	\$0.00	
320	Chaining Bolts	CB-2903	False	False	Silver	1000	750	\$0.00	\$0.00	
321	Chaining Nut	CN-6137	False	False	Silver	1000	750	\$0.00	\$0.00	
322	Chaining Race	CR-7833	False	False	Black	1000	750	\$0.00	\$0.00	
323	Crown Race	CR-9981	False	False		1000	750	\$0.00	\$0.00	
324	Chain Stays	CS-2812	True	False		1000	750	\$0.00	\$0.00	
325	Decal 1	DC-8732	False	False		1000	750	\$0.00	\$0.00	
326	Decal 2	DC-9824	False	False		1000	750	\$0.00	\$0.00	
327	Down	DT-2377	True	False		800	600	\$0.00	\$0.00	

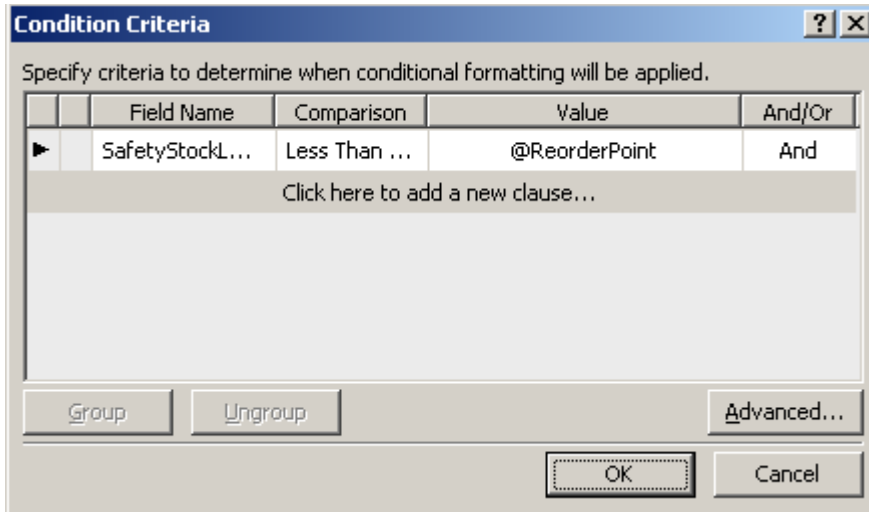
## Conditional Formatting

Using Conditional Formatting, I would like to display in Red the Products that I need to re-order. To do that:

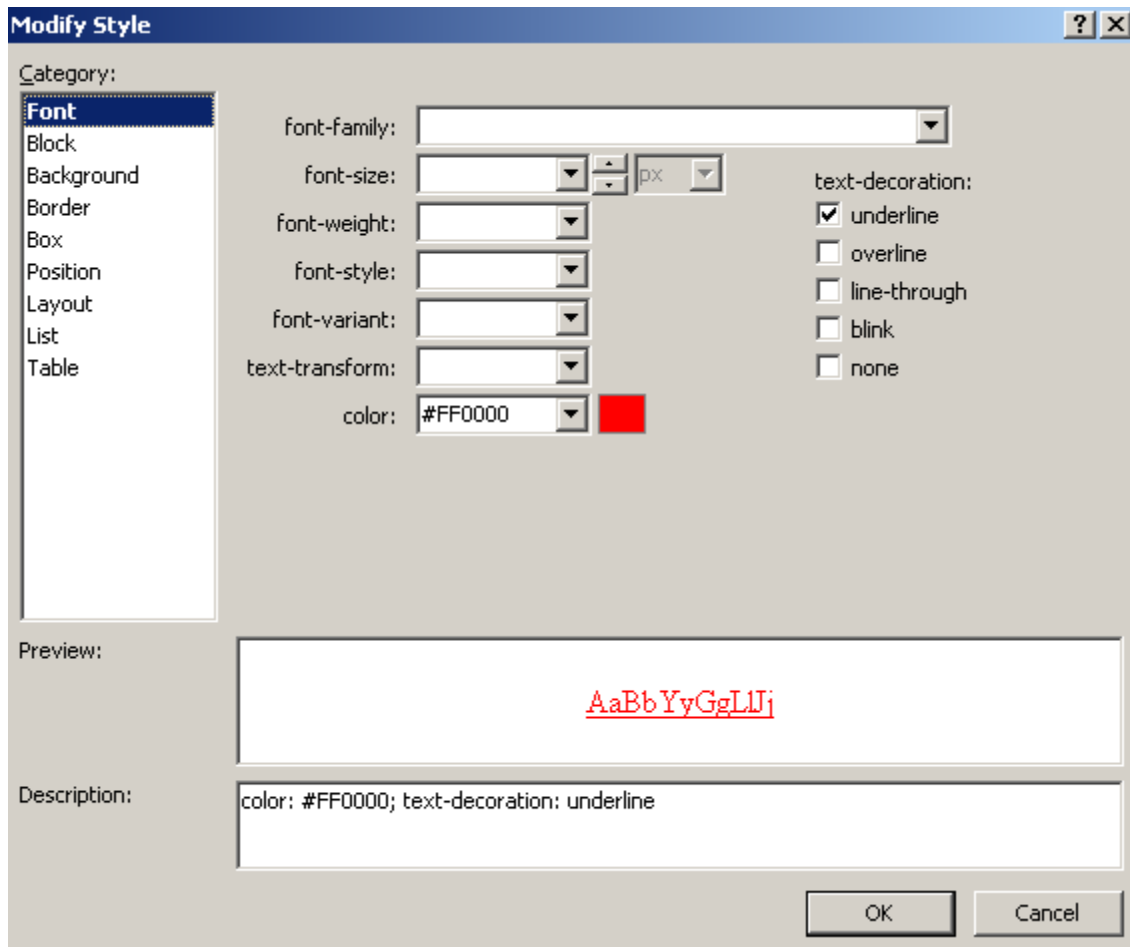
1. **Highlight** whatever you want the formatting to apply to. E.g. A Value, a Group of Column Values or an entire Row.
2. **Right Click** the Highlighted area and choose Conditional Formatting from the menu.



3. The Conditional Formatting Window will appear on the top right hand corner of the SharePoint Designer Window.
4. Click **Create**
5. **Apply Formatting**
6. Configure your Condition e.g. SafetyStockLevel is less than ReOrderPoint.



7. Click **Ok**
8. The Formatting Window will appear
9. **Change** the Font color to **Red**.



10. Click **Ok**.
11. Choose Save from the Menu in SharePoint Designer.
12. Test your changes by refreshing the browser window.

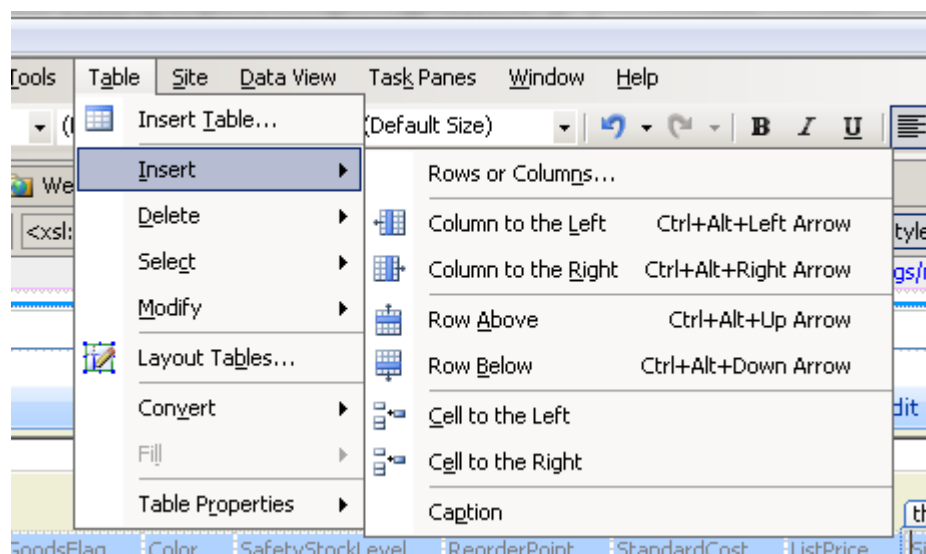
### Production.Product List

ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint
1	Adjustable Race	AR-5381	False	False		1000	750
2	Bearing Ball	BA-8327	False	False		700	750
3	BB Ball Bearing	BE-2349	True	False		800	600

## EDITING COLUMN VALUES

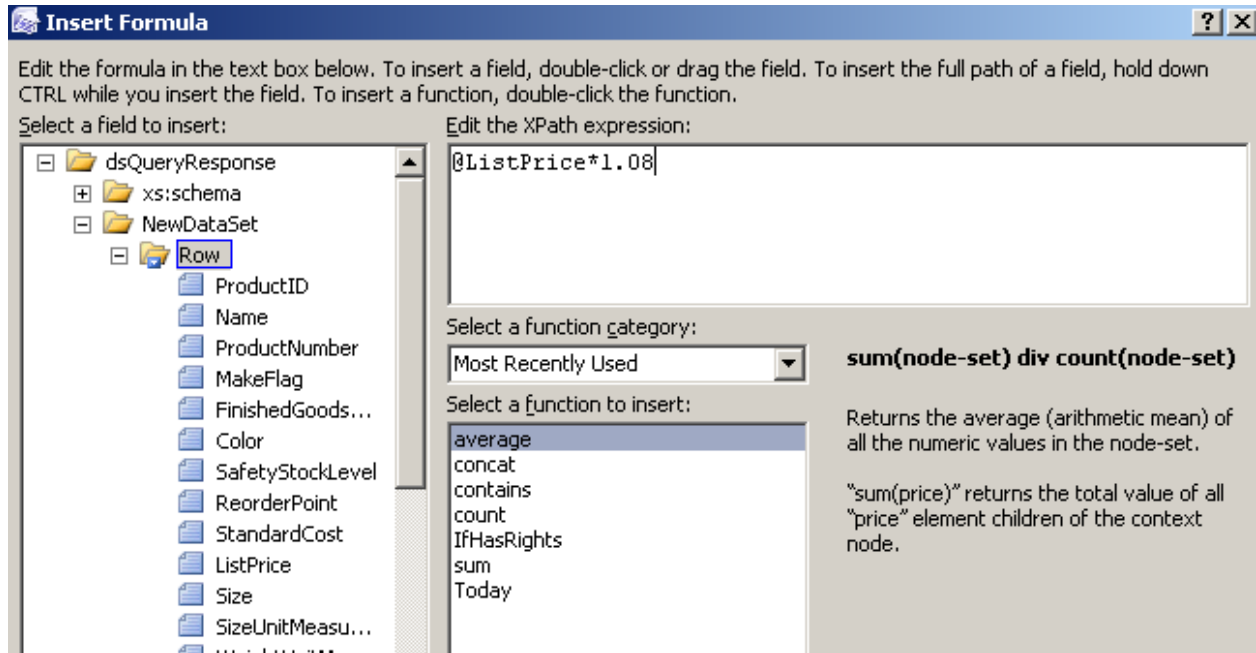
Using SharePoint Designer you can also manipulate the data in the Data Grid, and perform calculations on it. We are going to insert a new column in the Table on our Web Part to calculate the List Price including tax.

1. **Click** your cursor somewhere in the List Price Column
2. From the Menu at the top of the SharePoint Designer Window **choose** Table, Insert, **Column to the Right**.



3. A small column will appear.
4. Type a **Title** for your column: e.g. Total Price

5. **Right click** in the first cell under your column name
6. Choose **Insert Formula** from the menu
7. In the Insert Formula dialog box. **Enter** an XPath expression e.g. @ListPrice\*1.08



8. **Format** your new value to currency and to two decimal places like we did earlier in this whitepaper.
9. Your data should look like the below:

ListPrice	xs:value-of	nc Tax	Size
\$0.00	\$0.00 >		Size 0
\$1.01	\$1.09		Size 1
\$2.02	\$2.18		Size 2
\$3.03	\$3.27		Size 3
\$4.04	\$4.36		Size 4
\$5.05	\$5.45		Size 5
\$6.06	\$6.54		Size 6
\$7.07	\$7.64		Size 7

## SORTING, GROUPING & FILTERING

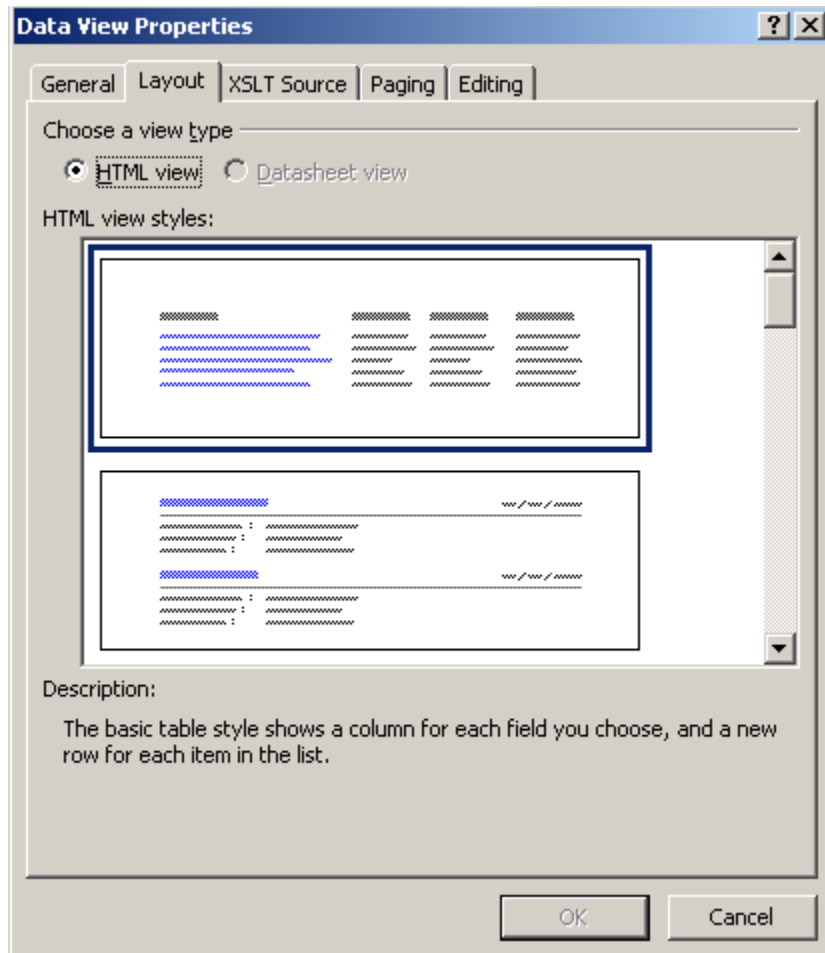
To enable Users to filter, group and sort the data that is displayed in your web part, you can enable the Sorting & Grouping, and Filtering toolbars. To do this:

1. **Select** your Business Data List Web Part
2. In the top right hand corner of the Web Part, click the **Grey Button**.
3. **Choose Data View Properties**

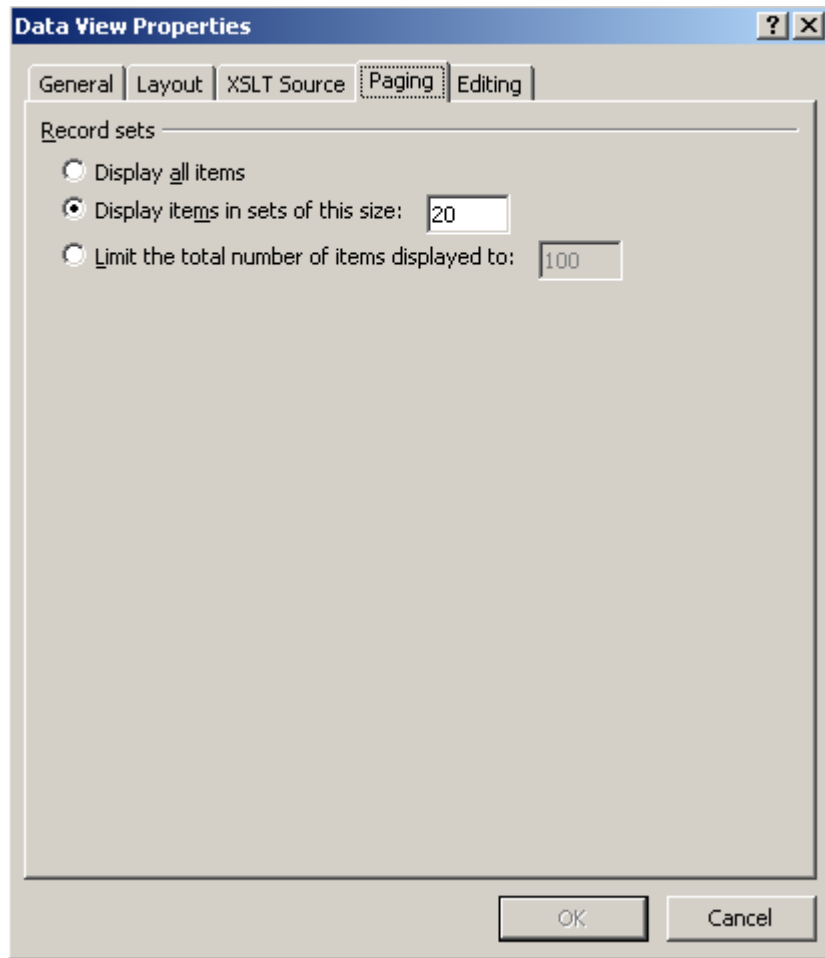
The screenshot shows a Business Data List Web Part with a table of items and a 'Common Data View Tasks' menu. The table has columns for 'List Price Inc Tax' and 'Size'. The menu includes options like 'Filter...', 'Sort and Group:', 'Paging: 20 item(s) per set', 'Edit Columns...', 'Change Layout...', 'Data View Preview: Default', 'Show with sample data', 'Conditional Formatting...', 'Web Part Connections...', 'Parameters...', 'Refresh Data View', and 'Data View Properties...'.

List Price Inc Tax	Size
\$0.00	Size 0
\$1.09	Size 1
\$2.18	Size 2
\$3.27	Size 3
\$4.36	Size 4
\$5.45	Size 5
\$6.54	Size 6
\$7.64	Size 7
\$8.73	Size 8

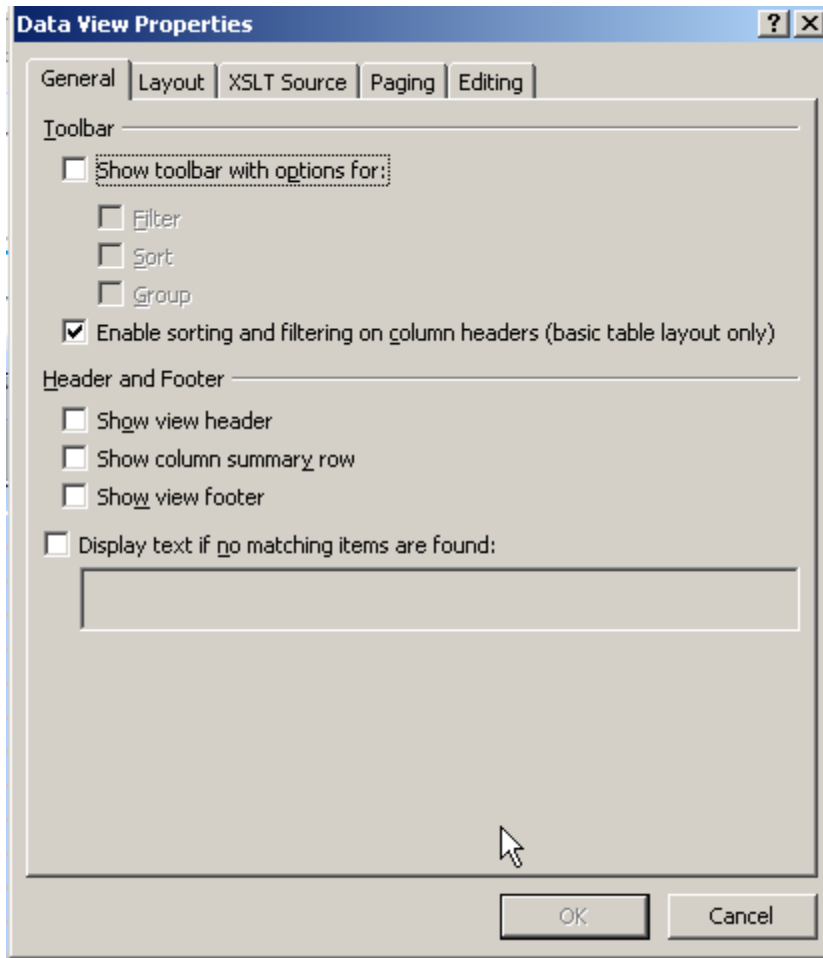
4. Notice that there are some predefined styles to choose from.



5. You can also specify the number of rows to display



6. As well as Display the toolbars that I mentioned.



7. **Check** the boxes so that you can see the **Filter, Sort & Group Toolbar**, and also Select **View Footer** which we will be using later on.
8. Click **Ok**.
9. **Save** your changes to the Site, and refresh your browser.

## Production.Product List

ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint
1	Adjustable Race	AR-5381	False	False		1000	750
2	Bearing Ball	BA-8327	False	False		700	750
3	BB Ball Bearing	BE-2349	True	False		800	600
4	Headset Ball Bearings	BE-2908	False	False		800	600
316	Blade	BL-2036	True	False		800	600
317	LL Crankarm	CA-5965	False	False	Black	500	375

9. Notice that you can now Filter, Sort & Group your data.

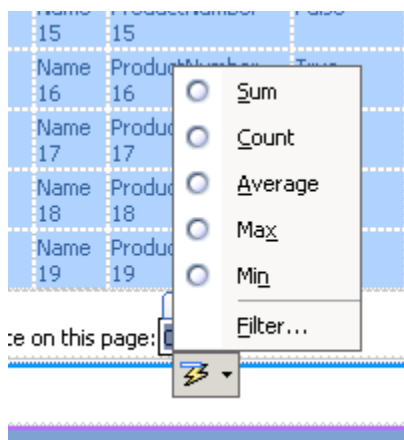
## THE VIEW FOOTER

The view footer is very useful for summary data. You should already see that there is a count of the number of items returned from your data. To see other aggregate information:

1. **Type** a label in the Footer such as 'Average list Price'
2. **Drag** the **List Price Field** from the **Fields** list on the right hand side of your page.



3. Click the Yellow **Bolt of Lightning** to choose an aggregate function
4. **Select Average**

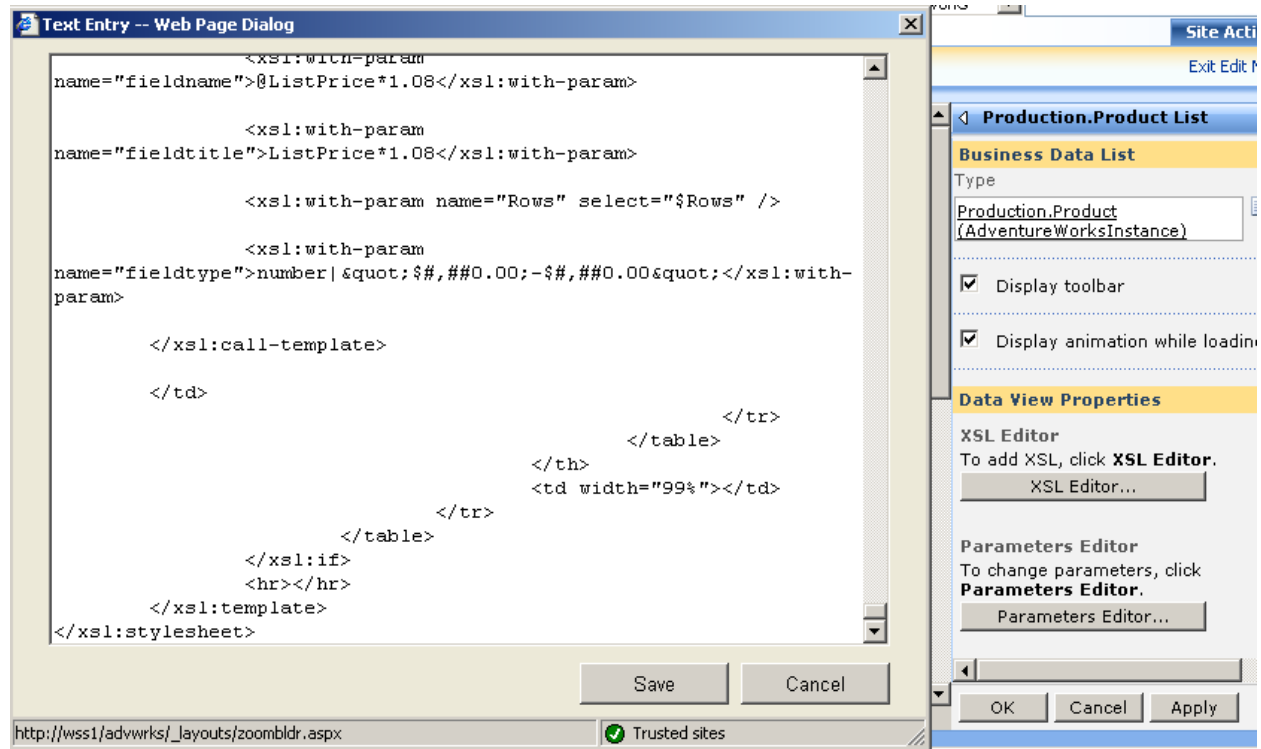


5. **Format** the value to currency as we did earlier.

## TWEAKING WITH XSL

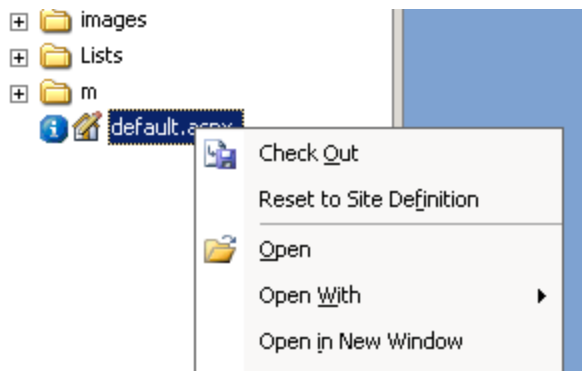
Some things that you may want to do to your BDC List web part are not possible using SharePoint Designer. However, you can tweak them using XSL. To do this:

1. Using SharePoint in Internet Explorer, Click **Site Actions, Edit Page**
2. On your Web Part, click the drop down and choose **Modify Shared Web Part**
3. In the Web Part Properties, click the **XSL Editor Button**.
4. You can then manipulate the Web Part using XSL.



## RESETTING TO THE SITE DEFINITION

Once you have made all the changes you are going to make using SharePoint Designer. Using SharePoint Designer, right click your Default.aspx file and choose Reset to SharePoint Designer. This avoids unghosting and your site will now receive changes made to the Site Definition upon Upgrading or Service Packing SharePoint. Notice that your Web Part still retains the changes that we made.



## SUMMARY

This Whitepaper was written to help BDC Users get the most out of their Business Data by using SharePoint Designer.

Developers may also right custom web parts and display data in other ways, but what I hope to have shown you is that SharePoint Designer is an easy to use tool for Manipulating Business Data Web Parts.

Kind regards

Brett Lonsdale

[brett@lightningtools.com](mailto:brett@lightningtools.com)