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Introduction

Data View Web Part for Microsoft® SharePoint® 2013 produced by Lightning Tools is a Web Part that can connect to Microsoft SQL Server® databases, ODBC, Oracle® databases, Business Connectivity Services (BCS) external content types, Microsoft Access® databases, OData, Representational state transfer (REST), classic Web services, XML, and RSS feeds.

When editing a page with SharePoint Designer 2013, it no longer has a Design tab. Only the Code tab remains, which makes it very difficult to use the Data From Web Part (DFWP), more commonly known as the Data View Web Part (DVWP) or to conditionally format the List View Web Part. The Data View Web Part was often used to customize the look and feel of SharePoint Lists as well as provide a data view of external data sources. Since the Design tab is now removed, Lightning Tools have created a Web Part allowing the complete configuration of a data using a configuration wizard in the browser. You can create views of your data using checkboxes to select columns. You can sort, filter, format and conditional format your data without writing any code. The Lightning Tools' Data Viewer Web Part is:

- Easy to use, but powerful enough to display your business data
- Build database connections and views in minutes
- Does not require SharePoint Designer

If you have any questions related to this documentation or the Social Squared product, please contact Lightning Tools by clicking Submit Support Ticket on Lightning Tools web site.

References:

If you still need to support Microsoft’s Data Form Web Part, also known as the Data View Web Part, you may like to look at the following resources:

- Marc D Anderson’s Data View Web Part related blogs
- Marc D Anderson’s Unlocking the Mysteries of the SharePoint Data View Web Part XSL Tags 72 pages pdf eBook.
• Laura Rogers @WonderLaura: Data View Web Part Screencasts
Installing the Data Viewer Web Part

This section contains information on how to install the Data Viewer Web Part for Microsoft® SharePoint® 2013. It is essential to read and complete the installation steps before you can add the Data Viewer Web Part to a SharePoint page. Information on using and configuring the LCWP can be found later in the documentation.

As the Data Viewer Web Part is a SharePoint® 2013 farm solution, you may need to raise a change request to install the SharePoint farm solution in your organisation’s production or system integration SharePoint farms. As this is a farm solution it cannot be install in Office 365™.

Once you have installed the Data Viewer Web Part farm solution you should test the installation by adding the Web Part to either a wiki page or a Web Part page in the site collection where you have activated the Lightning Data Viewer Web Part site collection feature.

Use the following steps to install the Data Viewer Web Part:

1. Upload the DataViewer2013webpart.wsp solution package to the SharePoint® 2013 farm.
2. Deploy the solution to the required Web Applications.
3. Activate the Data Viewer 2013 license key if you are not using the trial version of the Web Part.
4. Activate the Data Viewer Web Part site collection feature on the required site collections
5. Test the installation by adding the Web Part to a page

From time to time we will provide an update for the web part. This is on average every 12 weeks.

Uploading the Data Viewer solution package -->
Uploading the Data Viewer solution package

To upload the DataViewer2013WebPart.wsp to your Microsoft® SharePoint® 2013 server farm, complete the following steps using the Add-SPSolution Windows PowerShell® command:

You will need to be a SharePoint server farm administrator to complete these steps. See the blog post: When is a SharePoint Farm Administrator not a SharePoint Farm Administrator?.

1. Unzip the downloaded Data Viewer Web Part zip file to your computer.
2. Copy DataViewer2013webpart.wsp to a folder on your SharePoint 2013 server, for example c:\Tools.
3. Open the SharePoint 2013 Management Shell and type on one line, Add-SPSolution c:\Tools\DataViewer2013WebPart.wsp
   replacing c:\tools with the location where you stored the wsp file.

Note: Do not copy and paste this command from this page, as hidden characters may be included which will cause the Windows PowerShell® command to fail in your environment.

More information on the SharePoint 2013 Management Shell can be found at: Accessing Windows PowerShell for SharePoint 2013

Install and manage solutions for SharePoint 2013 →
Deploying the Data Viewer solution →
Deploying the Data Viewer solution

To deploy a Microsoft® SharePoint® 2013 farm solutions to a Web Application you can use Windows PowerShell® commands or the SharePoint 2013 Central Administration web site.

Which ever method you choose to deploy the farm solution you must be a SharePoint farm administrator. See the blog post: When is a SharePoint Farm Administrator not a SharePoint Farm Administrator?.

Using the SharePoint 2013 Central Administration web site

The following instructions use the SharePoint 2013 Central Administration web site to deploy the farm solution.

1. In the browser, open Microsoft SharePoint Central Administration web site. On the Quick Launch click System Settings, and then under Farm Management, click Manage farm solutions.

3. On the **Solution Properties** page, click **Deploy Solution**.

![Solution Properties](image)

4. On the **Deploy Solution** page, in the **Deploy To?** section, in the dropdown list select the Web application where you want to deploy the solution or select **All content Web applications** if you want...
to use the Data Viewer Web Part in all sites in all Web applications.

5. Click OK

Licensing the Data Viewer Web Part —>

Troubleshooting: If the DataViewer2013webpart.wsp solution is missing on the Solution Management page, upload the Data Viewer solution package using the Add-SPSolution Windows PowerShell® command.
Licensing the Data Viewer Web Part

The Data Viewer Web Part for Microsoft® SharePoint® 2013, is available as a 14 day trial. You can use the full functionality of the Web Part for 14 days upon which the product will need to be licensed. The number of days remaining in your trial will be shown within the Web Part. When the 14 day trial period has expired, the Web Part will display that it is unlicensed and will no longer function until you licensed it.

Lightning Conductor

You’re using trial version of Lightning Conductor Web Part (14 days left).

Please, contact Lightning Tools Ltd. to purchase full version of Lightning Conductor Web Part and learn more about great SharePoint Tools and Web Parts.

View ▶ Tasks ▼

<table>
<thead>
<tr>
<th>Task Name</th>
<th>% Complete</th>
<th>Assigned To</th>
<th>Task Status</th>
<th>Due Date</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task5</td>
<td>1</td>
<td>SP2013\brett</td>
<td>Completed</td>
<td>5/5/2013</td>
<td>(2) Normal</td>
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<tr>
<td>Task2</td>
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<td>SP2013\brett</td>
<td>In Progress</td>
<td>4/4/2013</td>
<td>(2) Normal</td>
</tr>
<tr>
<td>Task4</td>
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<td>Zoe</td>
<td>In Progress</td>
<td>6/6/2013</td>
<td>(2) Normal</td>
</tr>
<tr>
<td>Task5</td>
<td>0.25</td>
<td>SP2013\brett</td>
<td>In Progress</td>
<td>7/7/2013</td>
<td>(2) Normal</td>
</tr>
</tbody>
</table>

When you purchase the Data Viewer Web Part for SharePoint® 2013, you will need to inform Lightning Tools of the number of Web Front-ends and the number of SharePoint farms you wish to purchase a license, including production and non-production SharePoint environments. We will then provide you with a valid license key for each SharePoint farm where you want to use the Lightning Conductor Web Part.

For licensing purposes, a SharePoint Web Front-end (WFE) is a server that has the Microsoft SharePoint Foundation Web Application service started.
Once you have purchased the Web Part and have received the license key, you need to enter the key and activate the product via the Lightning Tools license manager which can be found in SharePoint 2013 Central Administration web site.

You can activate the Data Viewer Web Part over the Internet or manually. Once a license key is activated, it will be associated with a specific SharePoint farm, and can not be activated on a different SharePoint farm. License keys are also specific to a Lightning Tools product, therefore you need a license key for each Lightning Tools product.

Activate with Internet access —>  
Activate without Internet access —>  
Plan service deployment in SharePoint 2013 —>  
Start or stop a service (SharePoint 2013) —>

Troubleshooting: Licensing Error
Activate with Internet access

To automatically activate the Data Viewer Web Part when your Microsoft® SharePoint® 2013 server has Internet access, complete the following steps:

1. In the browser, open SharePoint 2013 Central Administration web site.
2. On the Quick Launch, click System Settings, and then under Farm Management click Manage LightningTools products licensing.

3. From the Choose Product drop down list, select the Lightning Data Viewer 2013.
4. In the License Key text box, type the license key sent to you when you completed your purchase of the Web Part.
5. In the User Email text box, type your email address.
6. In the Organization text box, type your organization or company name.
7. In the User Name text box, type your first name and last name.
8. Click **Activate**.

The page is redisplayed with a **License Status**: **The Product is properly licensed**.
The Data Viewer Web Part license is now activated and registered. You can check the license information within each instance of the Data Viewer Web Part by selecting Edit Web Part on the Web Part menu.

If you have purchased a license of the product already and believe that the information in the Web Part tool pane is incorrect, please contact Lightning Tools by clicking Submit Support Ticket on Lightning Tools web site. We will then gladly provide you with a license key.

Troubleshooting: Licensing Error
Activate without Internet access

Use the following steps to activate the Data Viewer Web Part when your Microsoft® SharePoint® 2013 server does not have Internet access:

1. In the browser, open SharePoint 2013 Central Administration web site.
2. On the System Settings page, under Farm Management, click Manage LightningTools products licensing.
3. From the Choose Product drop down list, select the Lightning Data Viewer 2013.
4. In the License Key text box, type the license key sent to you when you completed your purchase of the Web Part.
5. In the User Email text box, type your email address.
6. In the Organization text box, type your organization or company name.
7. In the User Name text box, type your first name and last name.

You will need to be a SharePoint server farm administrator and be able to send emails, to complete these steps.
8. Click **Send Activation Email**.

An email is sent to Lightning Tools.

![Email sent to Lightning Tools with activation information]

9. Activation information will be sent in an email to the email address you provided in step 5. The email contains an XML license which can be pasted in the **License Information** text box replacing the existing contents.

10. Click **Save License**.

The **Data Viewer Web Part** license is now activated and registered. You can check the license information within each instance of the Data Viewer Web Part by selecting **Edit Web Part** on the Web Part drop down
## Lightning Data Viewer

<table>
<thead>
<tr>
<th>ProductID</th>
<th>ProductName</th>
<th>UnitsInStock</th>
<th>UnitPrice</th>
<th>UnitsInOrder</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chai</td>
<td>39</td>
<td>$18.00</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Chang</td>
<td>17</td>
<td>$20.00</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Aniseed Syrup</td>
<td>13</td>
<td>$10.00</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>Chef Anton's Cajun Seasoning</td>
<td>0</td>
<td>$22.00</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Chef Anton's Gumbo Mix</td>
<td>20</td>
<td>$21.35</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Grandma's Boysenberry Spread</td>
<td>120</td>
<td>$25.00</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Uncle Bob's Organic Dried Pears</td>
<td>15</td>
<td>$30.00</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Northwoods Cranberry Sauce</td>
<td>10</td>
<td>$40.00</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Mishi Kobe Niku</td>
<td>29</td>
<td>$97.00</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Ikura</td>
<td>31</td>
<td>$31.00</td>
<td>0</td>
</tr>
</tbody>
</table>

[Installing the Data Viewer Web Part →](#)
Upgrading the Data Viewer Web Part

To upgrade to the latest version of the Data Viewer Web Part, use the following steps:

1. Download the latest version from your customer portal or the downloads section of our web site.
2. Unzip the downloaded Data Viewer Web Part zip file to your computer.
3. Copy DataViewer2013WebPart.wsp to a folder on your SharePoint 2013 server, for example c:\tools, if you did not unzip the download file to the SharePoint server.

To upgrade you can use either Windows PowerShell® commands or the STSADM tool.

You will need to be a SharePoint server farm administrator to complete these steps. See the blog post: When is a SharePoint Farm Administrator not a SharePoint Farm Administrator?

Using Windows PowerShell commands

Open the SharePoint 2013 Management Shell and type on one line, the Windows PowerShell command similar to:

```
Update-SPSolution -Identity "DataViewer2013WebPart.wsp" -LiteralPath c:\tools\LightningConductor2013WebPart.wsp" -GacDeployment
```

replacing c:\tools with the location where you stored the wsp file.

*Note:* Do not copy and paste this command from this page, as hidden characters may be included which will cause the Windows PowerShell command to fail in your environment.

Using the STSADM tool:

1. On the SharePoint server, open a command prompt and type: STSADM.exe --o upgradessolution --f c:\tools\DataViewer2013WebPart.wsp --name LightningDataViewer2013WebPart.wsp
–allowgacdeployment -immediate
replacing c:\tools with the location where you stored the wsp file.

2. Then type: STSADM.exe –o execadmsvcjobs.

**Note:** Do not copy and paste this command from this page, as hidden characters may be included which will cause the Windows PowerShell command to fail in your environment.

[Installing the Data Viewer Web Part →](#)
**Activate the Data Viewer Web Part site collection feature**

Before you can add the Data Viewer Web Part to a Microsoft® SharePoint® 2013 page, the Lightning Data Viewer site collection feature must be activated. Use the following steps to activate the Lightning Data Viewer Web Part site collection feature:

You must be a site collection administrator to complete these steps.

1. In the browser, open the top level site of the site collection where your site exists.
2. Click the Settings , and then click Site settings.
3. On the Site Settings page, under Site Collection Administration, click Site collection features.
4. On the Site Collection Features page, to the right of Lightning Data Viewer Web Part click Activate.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Place Records Management</td>
<td>Activate</td>
</tr>
<tr>
<td>Enable the definition and declaration of</td>
<td></td>
</tr>
<tr>
<td>records in place.</td>
<td></td>
</tr>
<tr>
<td>Library and Folder Based Retention</td>
<td>Deactivate</td>
</tr>
<tr>
<td>Allows list administrators to override</td>
<td></td>
</tr>
<tr>
<td>content type retention schedules and set</td>
<td></td>
</tr>
<tr>
<td>schedules on libraries and folders.</td>
<td></td>
</tr>
<tr>
<td>Lightning Conductor Web Part</td>
<td>Deactivate</td>
</tr>
<tr>
<td>New content aggregator for SharePoint</td>
<td></td>
</tr>
<tr>
<td>from Lightning Tools.</td>
<td></td>
</tr>
<tr>
<td>Lightning Data Viewer Web Part</td>
<td>Deactivate</td>
</tr>
<tr>
<td>Data Viewer Web Part from Lightning Tools.</td>
<td></td>
</tr>
<tr>
<td>LightningTools - DeliverPoint 2013 Web Parts</td>
<td>Deactivate</td>
</tr>
<tr>
<td>LightningTools.CKUserSolution Feature1</td>
<td>Activate</td>
</tr>
<tr>
<td>Limited-access user permission lockdown mode</td>
<td>Deactivate</td>
</tr>
<tr>
<td>When this feature is enabled, permissions</td>
<td></td>
</tr>
<tr>
<td>for users in the “limited access” permissions</td>
<td></td>
</tr>
<tr>
<td>level (such as Anonymous Users) are reduced,</td>
<td></td>
</tr>
<tr>
<td>preventing access to Application Pages.</td>
<td></td>
</tr>
</tbody>
</table>

The page will refresh and the feature is identified as being *Active*. You are now ready to add the Web Part to your page.

If you do not see the **Site collection features** link under **Site Collection Administration**, you are probably at a child site within the site collection. Under **Site Collection Administration**, click **Go to top level site** settings to navigate to the top of the site collections, and then repeat step 3.

**Testing the installation —>**

**Using the Lightning Conductor Web Part —>**

**More information on site collection features —>**
## Testing the installation

Use the following steps to test your installation:

1. In the Web applications where you have deployed the Data Viewer Web Part, choose a site where you will create a page to test the Web Part.
2. In the browser, open the top level site of the site collection where your site exists and activate the Lightning Data Viewer Web Part site collection feature.
3. Navigate to the site where you are going to test the Web Part.
4. Create a new page.
5. Add the Web Part to the page.
6. Configure the Web Part and stop editing the page.
7. Review the page and check that the Web Part is displayed as expected.

Troubleshooting →
Creating pages

A website is a collection of webpages. The types of pages that you can create depend on the site that you have created. Most users will be familiar with Team sites within a Microsoft® SharePoint® 2013 installation. When you create a new Team site, SharePoint creates a wiki page library, named Site Pages, where webpages are stored and new pages are created. Two types of webpages can be created in the Site Pages library:

- **wiki pages.** These are the default pages when a site is created from the Team site template. Wiki pages are easy to edit and are used when users need to add static text, images, tables and a small number of Web Parts.
- **Web Part pages.** These pages can only contain App Parts and Web Parts, and are a popular choice for creating interactive dashboards or pages that aggregate information from several content sources.

Web Content Management (WCM) sites, also known as publishing sites are used for public facing sites or for company portals. When you create a WCM page, known as a publishing page, they are created from page layouts. Publishing pages may be able to contain Web Parts and SharePoint App Parts; however, it depends on the page layout you have chosen for the publishing page.

**Creating a wiki page →**
**Creating a Web Part page →**
**Keyboard shortcuts for common tasks on SharePoint pages →**
**Create and manage pages in a publishing site →**
Creating a wiki page

To create a wiki page on a site created from the Team site template, complete the following steps:

1. Navigate to the site where you wish to create a wiki page.

2. Click the Settings ⚙ and then click Add a page.

3. Type the name of your page and then click Create.

Adding Web Parts to a page →
Change the layout of a wiki page →
Creating a Web Part page

To create a Web Part page on a Microsoft® SharePoint® 2013 Team site,

1. Navigate to the site where you wish to create a Web Part page.

2. On the Page ribbon tab, click View All Pages in the Page Library group.

3. On the Files ribbon tab, click the New Document down arrow and then click Web Part Page.

4. In the Name text box, type the name of your page and in the Choose a Layout Template list, select the layout you require.
Site Contents › New Web Part Page

Name
Type a file name for your Web Part Page. The file name appears in headings and links throughout the site.

Layout
Select a layout template to arrange Web Parts in zones on the page. Multiple Web Parts can be added to each zone. Specific zones allow Web Parts to be stacked in a horizontal or vertical direction, which is illustrated by differently colored Web Parts. If you do not add a Web Part to a zone, the zone collapses (unless it has a fixed width) and the other zones expand to fill unused space when you browse the Web Part Page.

Choose a Layout Template:
- [Header, Footer, 3 Columns]
- [Full Page, Vertical]
- [Header, Left Column, Body]
- [Header, Right Column, Body]
- [Header, Footer, 2 Columns, 4 Rows]
- [Header, Footer, 4 Columns, Top Row]
- [Left Column, Header, Footer, Top Row, 3 Columns]
- [Right Column, Header, Footer, Top Row, 3 Columns]

Save Location
Select the document library where you want the Web Part Page to be saved.

Document Library
[Site Pages]

5. Click Create.

Adding Web Parts to a page ➔
Keyboard shortcuts for Web Part Pages ➔
Using the Data Viewer Web Part

The Data Viewer Web Part for Microsoft® SharePoint® 2013, allows you to easily build a data view, apply formatting and conditional formatting to your content without the need to build complicated view templates or create XSLT. The Data Viewer Web Part provides you with an alternative to the Data Form Web Part (DFWP) or known as the Data View Web Part (DVWP), which you can create using SharePoint Designer.

The Data Viewer Web Part can be used on any version of a SharePoint 2013 on-premises installation, that is, the Web Part can be used on pages in a SharePoint Foundation 2013 on-premises installation, and can be used and seen on pages where users are assigned either the standard or enterprise SharePoint Server 2013 licenses.

Lightning Tools has produced an Office 365™ Apps version of the Data Viewer Web Part: the Data Viewer App for SharePoint Online.

For an overview of the Data Viewer Web Part view the following video:

Complete the following tasks to configure the Data Viewer Web Part:

1. Add the Data Viewer Web Part to the page.
2. Configure the Lightning Conductor Web Part using the four tab dialog.
   - Simply select the data source provider on the Web Part tab.
   - Then complete the required fields such as the server name for the SQL server or the URL for the service containing the data on the Data Source tab. The Data Viewer Web part allows for various authentication options such as windows authentication or mixed mode. If you are connecting to an SQL server database, you can browse the Tables, Views or Stored Procedures that you would like to connect to.
   - The grid view for the Web Part is configured once the connection has been created. Simply select the columns from the data source that you wish to display using the Columns tab.
• Then on the Display tab, provide a column alias, grouping, formatting, and alignment. Conditional formatting, aggregate functions and sorting are among the many features that can be applied.

The Data Viewer Web Part must be installed, and the Lightning Data Viewer Web Part site collection feature must be activated before you can use the Data Viewer Web Part on a SharePoint page.

Request a trial version →
Adding Web Parts to a page —>
Adding Web Parts to a page

To add a Data Viewer Web Part to a Microsoft® SharePoint® 2013 page, use one of the following two procedures, depending on your page type.

• Add a Web Part to a wiki page.
• Add a Web Part to a Web Part page.

Troubleshooting: If the Lightning Tools category or the Data Viewer Web Part does not appear in the Web Part pane, the Lightning Data Viewer Web Part site collection feature has not been activated. Contact your site collection administrator to activate the site collection feature.

Once you have added a Data Viewer Web Part to your page, then if the page is a Web Part page you can connect the Data Viewer Web Part to other Web Parts on the page using the browser. This is known as Web Part connections.

Using the Data Viewer Web Part
Move, Minimize, or delete a Web Part from a page →
Troubleshooting using the Web Part Maintenance Page →
Add a Web Part to a wiki page

To add a Web Part to a wiki page, use the following steps:

1. In the browser, navigate to the wiki page where you want to add the Lightning Conductor Web Part.
2. Click Edit.

3. Click to place the cursor where you want the Web Part to appear and then click the Insert ribbon tab.
4. In the Parts ribbon group, click Web Part to display the Web Part pane.

5. Under Categories, click Lightning Tools Web Parts and then under Parts, click Lightning Data Viewer.

6. Click Add to add the Web Part to the page.
7. Configure the Data Viewer Web Part.
8. Click Save.

Using the Lightning Conductor Web Part →

**Troubleshooting:** If the Lightning Tools category or the Lighting Conductor Web Part does not appear in the Web Part pane, the Lightning Conductor Web Part site collection feature has not been activated. Contact your site collection administrator to activate the site collection feature.
Add a Web Part to a Web Part page

To add a Web Part to a Web Part page, using the following steps:

1. In the browser, navigate to the Web Part page where you want to add the Data Viewer Web Part.
2. Click the **Settings** gear icon, and then click **Edit page**.
3. In the Web Part zone, where you want to add the Web Part click **Add a Web Part**.
4. In the Web Parts pane, under **Categories**, click **Lightning Tools Web Parts** and then under **Parts**, click **Lightning Data Viewer**.

5. Click **Add** to add the Web Part to the page.

6. Configure the Data Viewer Web Part.

7. On the **Page** tab, click **Stop Editing**.

---

**Troubleshooting:** If the **Lightning Tools** category or the **Data Viewer Web Part** does not appear in the Web Part pane, the **Lightning Data Viewer Web Part site collection feature** has not been activated. Contact your site collection administrator to activate the site collection feature.

---

Using the Data Viewer Web Part ➔
Keyboard shortcuts for Web Part Pages ➔
Web Part connections

In the current version of the Data Viewer Web Part you can only connect Data Viewer Web Parts that use Microsoft® SQL Server® databases as data sources. Commonly Web Part connections are used for Master/Child or Summary/Details relationships. For example, connected a Data Viewer Web Part that displays Suppliers to another instances of the Data Viewer Web Part which displays products, so that when a supplier is selected in the Suppliers Web Part, the products that the supplier sells is displayed in the Products Web Part.

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ok</td>
<td></td>
</tr>
<tr>
<td>Exotic Liquids</td>
<td>Chef Anton's Cajun Seasoning</td>
</tr>
<tr>
<td>New Orleans Cajun</td>
<td>False $22.00</td>
</tr>
<tr>
<td>Delights</td>
<td></td>
</tr>
<tr>
<td>Grandma Kelly's</td>
<td>Chef Anton's Gumbo Mix</td>
</tr>
<tr>
<td>Homestead</td>
<td>False $21.35</td>
</tr>
<tr>
<td>Tokyo Traders</td>
<td>Louisiana Fiery Hot Pepper</td>
</tr>
<tr>
<td>Cooperatorativa de</td>
<td>False $21.05</td>
</tr>
<tr>
<td>&quot;Las Cabras&quot;</td>
<td>Sauce Louisiana Hot Spiced</td>
</tr>
<tr>
<td>Mayumi's</td>
<td>False $17.00</td>
</tr>
<tr>
<td>Pavlova, Ltd.</td>
<td>Okra</td>
</tr>
<tr>
<td>Specialty Biscuits,</td>
<td></td>
</tr>
<tr>
<td>Ltd.</td>
<td></td>
</tr>
<tr>
<td>PI Knäckebröd AB</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To connect the Data Viewer Web Part to consume data from another Web Part, complete the following steps:

1. Place the page in edit mode.
2. Add two Web Parts to the page.
3. Configure the two Web Part to point to the relevant Microsoft SQL Server® database tables/views/stored procedures, select the columns that the Web Parts need to display and any formatting your require.
4. Configure the two Web Parts to use linking.
5. From the Data Viewer Web Part menu, click Connections and then click either Send Key Value to or Get Key Value From and then select the other Web Part on the page. You can configure Web Part connections from the master Web Part (Suppliers) to the child Web Part (Products) or from the child Web Part (Products) to the master (Suppliers).

- If you choose to configure Web Part connections from the master content (Suppliers) to the child content (Products), select Send Key Value to.
• If you choose to configure Web Part connections from the Web Part that is displaying the child content to the master content, select **Get Key Value From**.

You must have configured **Linking** on the **Display tab** to a column that contains the data your wish to send or receive from the other Web Part.

For example, when you are creating a Master/Child relationship where on a page you configure one Data Viewer Web Part to display data from the **Suppliers** table, and in another Data Viewer Web Part you display data from the **Products** table, and there is a 1 to Many relationship between the two tables. Then in the Data Viewer Web Part that displays **Suppliers** configure the **Supplier ID** column (often known as the primary key) as the link from **Suppliers** table and in the other Web Part configure the **Supplier ID** column (often known as the foreign key) from **Products** table. Then the correct columns are linked when the Web Part connections is configured between the two Web Parts.

---

**Add a Web Part to a Web Part page**

**Configuring the Data Viewer Web Part —>**
Configuring the Data Viewer Web Part

Use the Web Part menu to configure the [Data Viewer Web Part](#) for Microsoft® SharePoint® 2013. The Web Part menu contains the following links specific to the Data Viewer Web Part:

- **Export data to CSV file**
- **Export data to Excel file.** You can export the data from the Data Viewer Web Part to a Microsoft® Excel® .xlsx file or a comma separated values (CSV) file.

- **Configure Web Part.** This link displays the Configure Data Viewer Web Part dialog which is the main method of configuring the Data Viewer Web Part and consists of four tabs:
  - Web Part
  - Data Source
  - Columns
  - Display

Once you have configured the Web Part, chosen the data source and how to display the content, at the bottom of the Configure Lightning Conductor Web Part dialog, click Save.

The minimum configuration details you must provide are:
- On the Web Part tab: select a Data Source Provider.
On the Data Source tab, configure the data source, for example, if you selected SharePoint List Data Source Provider on the Web Part tab, then in the Source List section, select one list or library.

On the Columns tab, select at least one column. No columns are selected by default, therefore, when you save your configuration without selecting a column, an error message, Error occurred in Web Part is displayed with a description: Error occurred while trying to retrieve and display data.

- Export configuration data.
- Import configuration data. Importing and Exporting of configuration data allows you to export the settings and import them again between different environments. such as, from your staging environment to your production environment.

If you typed a user name and password, that is, you did not use integrated security or a Secure Store ID, when you configured the Data Viewer Web Part then these details will be visible as plain text in the configuration file. This is a security risk and you should take appropriate precautions when storing and distributing the configuration XML file.

Web Part tab —>
Web Part tab

The **Web Part** tab is the first tab on the Data Viewer Web Part dialog and allows you to choose data source and display providers, and page loading options, as described below:

### Data Source Provider

There are seven data source providers:

- **MSSql Data Source Provider**
- **Oracle Data Source Provider**
• ODBC Data Source Provider
• SharePoint List Data Source Provider
• OData Service Data Source Provider
• SharePoint External Data Source Provider
• XML Data Source Provider

Display Provider

There are one display provider that allow different approaches to displaying your content.

• **SPGridView Display Provider.** This is the default display provider, which is often referred to as the no-code or grid like display provider. Use this provider to select columns to display, configure filters, sorting, pagination, column width and formatting without the need to write any code.

In a future release of the Data Viewer Web Part, XSLT or JSON display providers will be available.

Data Refreshing Interval

Type in the text box the interval of time in seconds that the Lightning Conductor Web Part will fetch the items from the data source and refresh the page. A value of 0 or if you leave the text box empty, then the Web Part will only query the data source if the page is manually refreshed. When caching is enabled the value typed into this text box has no affect, that is, if caching is enabled at the refreshing interval the data is obtained from the cache and not from the data source.

Initial Loading

Select this check box to load the Web Part with item information independently of the page load. This is the default setting. When the check box is unselected the page loads once item information has been queried.

Statistical Information

Select this check box to display details at the top of the Web Part on how many items are being aggregated. This is useful when trying to identify performance issues.
Configuring the Data Viewer Web Part →
**Data Source tab**

The **Data Source** tab is the second tab on the Data Viewer Web Part dialog and allow you to build a view of your data. It consists of a number of section depending on the data source provider selected on the Web Part tab. This page describes how to configure the Data Source tab for the following data source providers:

- Microsoft® SQL Server®
- Oracle®
- ODBC
- Microsoft® SharePoint® Lists and Libraries
- OData Service
- SharePoint® External Data (Business Connectivity Services)
- XML

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**Microsoft SQL Server® Data Source Provider**

There are two methods of using the Data Viewer Web Part to connect to a Microsoft SQL Server® database, either create an external content type and then configure the Data Viewer Web Part with the SharePoint External Data Source Provider, or complete the following steps:

1. Ensure that you have selected, **MSSql Data Source Provider** on the Web Part tab.
2. Click the **Data Source** tab.

3. In the **Initial connection settings** section:
   - In the **Server Name** text box, type the name of an Microsoft SQL Server instance that you wish to connect to.
   - Use one of the following to configure how SharePoint should connect to the SQL Server instance:
     - Select the **Integrated Security** check box if you wish to use integrated windows authentication.
     - In the **Username** and **Password** text boxes, type a username and password if you are using SQL authentication.
     - Select the **Get From Secure Store** check box, and then in the **Secure Store ID** text box, type a [Secure Store Target Application ID](#).

   **Note**: In most environments you will suffer a double hop authentication issue when using Windows integrated security and therefore you may need to use either a [Secure Store Target Application ID](#) or a SQL Server login account within the SQL Server instance. Request help from your [SharePoint farm administrator](#) if you need a [Secure Store Target Application ID](#) or your SQL Server database administrator if you need an SQL Server login account to be configured.

3. In the **Database settings** section:
• Click Refresh to populate the **Enter the database name** list.

From the **Enter the database name** list, select the database that contains the data you wish to display in the Data Viewer Web Part.

If SharePoint is able to connect successfully to the SQL Server instance, a connection string is created in *The current connection string* text box, which you can amend if needed.

4. In the **Database content** section:

• Select **Table**, **View** or **Stored Procedure** from the **Choose database content type** list.
• From the **Choose one of the database contents from the list**, select the table, view or stored procedure that returns the data you wish to display in the Data Viewer Web Part.

![Database content](image)

5. Click the **Columns** tab to continue configuring the Data Viewer Web Part.

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The disadvantage of using this method of connecting to the SQL Server database as compared to using Business Connectivity Services (BCS), is if you need to configure another Data Viewer Web Part to display the same data, you will need to configure the connection details again. Using the Export and Import Configuration Data options from the Web Part menu can be used in such scenarios. However, the connection details are visible in the Web Part configuration and in the resulting XML file, and therefore, from a security perspective, it may be more prudent to use BCS when connecting to SQL Server databases. The connection details are then centrally administered, and details, such as username and password, are hidden from users.

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**Oracle® Data Source Provider**

There are two methods of using the Data Viewer Web Part to connect to an Oracle® database, either create an external content type and then configure the Data Viewer Web Part with the SharePoint External Data Source Provider or, complete the following steps:
1. Ensure that you have selected, **Oracle Data Source Provider** on the **Web Part** tab.

2. Click the **Data Source** tab.

3. In the **Initial connection settings** section:
   
   • In the **Data Source** text box, type the name of the Oracle server that you wish to connect to.
   
   • Use one of the following to configure how SharePoint should connect to the Oracle server:
     
     - Select the **Integrated Security** check box if you wish to use integrated windows authentication.
     
     - In the **Username** and **Password** text boxes, type a username and password if you are using Oracle authentication.
     
   - Select the **Get From Secure Store** check box, and then in the **Secure Store ID** text box, type the **Secure Store Target Application ID**.

   **Note:** In most environments you will suffer a double hop authentication issue when using Windows integrated security and should therefore you may need to use either a **Secure Store Target Application ID** or a Oracle login account within the Oracle server. Request help from your **SharePoint farm administrator** if you need a **Secure Store Target Application ID** or your Oracle database administrator if you need an Oracle server login account to be configured.

3. In the **Database content** section:
   
   • Select from the **Choose database content type** list.
• From the **Choose one of the database contents from the list**, select the component that returns the data you wish to display in the Data Viewer Web Part.

4. Click the **Columns** tab to continue configuring the Data Viewer Web Part.

**The disadvantage of using this method of connecting to the Oracle database as compared to using Business Connectivity Services (BCS), is if you need to configure another Data Viewer Web Part to display the same data, you will need to configure the connection details again. Using the Export and Import Configuration Data options from the Web Part menu can be used in such scenarios. However, the connection details are visible in the Web Part configuration and in the resulting XML file, and therefore, from a security perspective, it may be more prudent to use BCS when connecting to Oracle databases. The connection details are then centrally administered, and details, such as username and password, are hidden from users.**
ODBC Data Source Provider

Open Data Base Connectivity (ODBC) is a driver based connectivity option which is supported by many external data sources. You must have the correct ODBC driver installed on your SharePoint server(s) to use ODBC data source provider with the Data Viewer Web Part.

Information on ODBC drivers can be found on the following web site: [http://en.wikipedia.org/wiki/ODBC#Drivers](http://en.wikipedia.org/wiki/ODBC#Drivers). The latest drivers can be found at: [http://dev.mysql.com/downloads/connector/odbc](http://dev.mysql.com/downloads/connector/odbc)

To connect to a published ODBC data source, either create an external content type and then configure the Data Viewer Web Part with the SharePoint External Data Source Provider or, complete the following steps:

1. Ensure that you have selected, **ODBC Data Source Provider** on the **Web Part** tab.
2. Click the **Data Source** tab.
3. In the **Initial connection settings** section:
   - Type the connection string to the ODBC data source in the **Connection String** text box, for example, `Provider=Microsoft.ACE.OLEDB.12.0; Data Source=\server\share\folder\myAccessFile.accdb;`.
   - If the ODBC data source does not allow anonymous access, use one of the following to configure how SharePoint should connect to the data source:
     - Select the **Connect as Current User** check box if you wish to use integrated windows authentication.
     - In the **Username** and **Password** text boxes, type a username and password if you are using basic authentication.
     - Select the **Get From Secure Store** check box, and then in the **Secure Store ID** text box, type the **Secure Store Target Application ID**.
   - Optionally configure the **Quote Prefix** and **Quote Suffix** text boxes. The QuotePrefix and QuoteSuffix properties of some data sources are used to specify delimiters such as a left bracket and a right bracket to encapsulate the data object name, when data objects contain characters such as spaces, commas, and semicolons.
4. In the **Database content** section:
   - Select the content type from the **Choose database content type** list.
• Click the Refresh icon, and then select the content from the **Choose one of the database contents from the list.**

5. Click the **Columns** tab to continue configuring the Data Viewer Web Part.

The disadvantage of using this method of connecting to the an ODBC data source as compared to using **Business Connectivity Services (BCS)**, is if you need to configure another Data Viewer Web Part to display the same data, you will need to configure the connection details again. Using the **Export and Import Configuration Data** options from the Web Part menu can be used in such scenarios. However, the connection details are visible in the Web Part configuration and in the resulting XML file, and therefore, from a security perspective, it may be more prudent to use **BCS** when connecting to ODBC data source. The connection details are then centrally administered, and details, such as username and password, are hidden from users.

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**SharePoint List Data Source Provider**

To connect to a SharePoint list or library, complete the following steps:

1. **Ensure that you have selected, SharePoint List Data Source Provider** on the **Web Part** tab.

2. Click the **Data Source** tab.
3. In the **Source List** section a collapsed web application tree view is displayed, which you can use to select the list of library data to display. Only one web application is displayed. This is the web application that contains the site where you have added the Data Viewer Web Part. If you want to display data from lists or libraries in another web application, use the text box below the collapse tree view to type or cut/paste the URL of the other web application in your SharePoint farm, and then click the green plus \( + \) icon to the right of the text box. If the user who is configuring the Data Viewer Web Part, does not have permission to the root site of site collection, or no such site collection exists, then no URL is added to the tree view.

![Configure Data Viewer Web Part](image)

4. Expand the tree view by clicking the plus sign \( ( + ) \) and then select the check box to the left of the list or library that contains the data you wish to display in the Data Viewer Web Part.
**Note:** You should not select external lists. The Data Viewer Web Part does not currently support connecting to external lists, if you want to display data from external systems use the SharePoint External Data Source Provider.

**Tip:** The tree view only allows you to select one list or library across your Microsoft® SharePoint® farm. If you wish to aggregate data from multiple lists, please look at the Lightning Conductor Web Part.

5. Complete the Audience Targeting Settings section as required.
6. Complete the Miscellaneous section as required.
7. Click the Columns tab to continue configuring the Data Viewer Web Part.
OData Service Data Source Provider

To connect to published OData services, either create an external content type and then configure the Data Viewer Web Part with the SharePoint External Data Source Provider, or complete the following steps:

1. Ensure that you have selected, OData Service Data Source Provider on the Web Part tab.
2. Click the Data Source tab.
3. In the Service connection settings section:
   - Type the URL of the OData service in the Service URL text box, for example, http://services.odata.org/Northwind/Northwind.svc/.
   - If the OData service does not allow anonymous access, use one of the following to configure how SharePoint should connect to the data source:
     - Select the Connect as Current User check box if you wish to use integrated windows authentication.
     - In the Username and Password text boxes, type a username and password if you are using basic authentication.
     - Select the Get From Secure Store check box, and then in the Secure Store ID text box, type the Secure Store Target Application ID.
   - Click the Refresh icon, and then select and entity from the Entity Set list.
4. Click the **Columns** tab to continue configuring the Data Viewer Web Part.

You can find out more information about OData from the web site: [www.odata.org](http://www.odata.org).

**SharePoint External Data Source Provider**

Business Connectivity Services (BCS) allows you to connect up to data stored externally to Microsoft® SharePoint®. Once you have created an [external content type](http://example.com), you expose the data from the external system using [External Lists](http://example.com), [external data columns](http://example.com) and if you are using Enterprise licences with Microsoft® SharePoint® Server 2013, [Business Data Web Parts](http://example.com).
You can also use the Data Viewer Web Part to connect to data external to SharePoint using an external content type. Also, forms and views on external lists suffer from the lost of the Design view in SharePoint Designer similar to internal SharePoint list, also, Business Data Web Parts, which are a form of the Data View Web Part, cannot be formatted without writing custom XSLT; therefore, you may want to use the Data Viewer Web Part.

Use the following steps to use the Data Viewer Web Part with external content types:

This procedure assumes that you have already created an external content type for your external data source. External content types can be created using tools such as Microsoft Visual Studio, SharePoint Designer and third party tools, such as, Lightning Tools’ BCS Meta Man or ERPConnect when you want to connect to SAP® ERP/BW systems.

1. Ensure that you have selected, SharePoint External Data Source Provider on the Web Part tab.
2. Click the Data Source tab.
   SharePoint connects to the Business Data Connectivity metadata store and displays in the External content type list, those external content types you have permissions to see.
3. From the External content type list, select an external content type.
4. Select the relevant external content type operations (methods) from the Finder method, Creator method, Updater method and Specific finder method for deleting lists.

5. Click the **Columns** tab to continue configuring the Data Viewer Web Part.

**XML Data Source Provider**

To connect to published OData services, complete the following steps:

1. Ensure that you have selected, **XML Data Source Provider** on the **Web Part** tab.
2. Click the **Data Source** tab.
3. In the **XML data settings** section:
• Type the URL of the XML source in the **Xml url** text box, for example, if you want to configure the Data Viewer Web Part to display blog posts from the Microsoft Office team, you could use: [http://blogs.office.com/feed/](http://blogs.office.com/feed/).

• Optionally, type the URL of the XLST in the **Xsl transformation url** text box.

• If the XML data source does not allow anonymous access, use one of the following to configure how SharePoint should connect to the data source:
  - Select the **Connect as Current User** check box if you wish to use integrated windows authentication.
  - In the **Username** and **Password** text boxes, type a username and password if you are using basic authentication.
  - Select the **Get From Secure Store** check box, and then in the **Secure Store ID** text box, type the **Secure Store Target Application ID**.

• Type XPath that will evaluate to a node-set in the **Items XPath** text box. You do not have to specify the root node, for example, for a RSS feed, the root node is `rss`, so in the **Items XPath** text box you would type `/channel/item` or `./channel/item`.

• Click the **Preview** icon to display the Preview dialog box. Several items will be retrieved from the data source using the XPath expressions and displayed in the dialog box.
6. Click the **Columns** tab to continue configuring the Data Viewer Web Part.
**Audience Targeting Settings**

The **Audience Targeting** section is on the Data Source tab.

**Microsoft® SharePoint®** Server **Audience Targeting** allows items targeted to a specific audience to be filtered when aggregating them with the **Lightning Conductor Web Part**. For example, if you have **audience target enabled** an Announcements list, instead of aggregating all announcements from that list, in the Lightning Conductor Web Part, you may only want to filter the items displayed depending on the user who is displaying the page. The user will need to be part of an **audience** and items in the list must be tag for that audience. This allows you to display only information in the Web Part that is relevant to the user.

Use the check boxes in the **Audience Targeting** section, as follows:

1. Select **Enable Audience Targeting**.
2. If you want to also return items to a user when that item has not been targeted to an audience, select the **Include Not Targeted Items**.

![Audience Targeting Settings](image)

For this feature to work, you must be using SharePoint® Server and Audience Targeting must be enabled for the lists that you are aggregating. Audience targeting is not available on SharePoint® Foundation.

**Data Source tab →**
Miscellaneous

The Miscellaneous section is the last section on the Data Source tab.

This section contains two options:

1. Use the Limit Amount Of Items Return to text box, to restrict the number of items returned from the data source. Use this option for performance reasons. This limit will be applied to the first X amount retrieved from the data source. Filters or Pagination on the Display tab can be set to return a specific subset. For example, if you would like to show the “Top Ten latest Announcements”, instead of typing a number in the Limit Amount Of Items Returned To text box, use the Paging section section on the Display tab, and on the Columns tab, sort by the column, Created in descending order.

2. Select the Translate Taxonomy Terms check box when you are using multiple languages with Managed Metadata, and you wish to use Management Metadata columns, to filter items or to display terms in the Lightning Conductor Web Part. This allows the Web Part to display translated terms according to the user’s browser language setting.

Data Source tab →
Columns tab

The Columns tab, consists of the Columns section. Use this section to select columns that should be displayed in the Data Viewer Web Part. Once you have configured the columns to be display, click on the Display tab to format the column data.

By default, no columns are selected, therefore, you must select at least one column, otherwise when you save your Data Viewer Web Part configuration, an error message, Error occurred in Web Part is displayed with a description: Error occurred while trying to retrieve and display data.

At the top right of the Columns section, at least three icons are displayed, which when clicked allow you to:

- Update the Data Viewer Web Part with the columns selected.
- Add a calculated column
- Configure Advanced filtering.

Below these three links there are three icons, which allow you to:

- Select all columns.
- Invert the selection.
- Uncheck all columns.

The content of the rest of Columns section, may look different depending on the data source selected. For data sources such as SharePoint lists and library apps, SQL Server databases, Oracle databases, ODBC and OData data sources, the Columns section contains a list of columns, as described below:

- Selecting the check box to the left of the column name, to display data from that column in the Data Viewer Web Part. You can set the order of the columns within the Columns section, by dragging the columns up or down.
Note: When you have selected a SharePoint Library app as your data source and you want to show
the name of the file, and want the name to become a link to the properties page or to open the file in
the appropriate application, then select the Name column, which when you hover over it has the
screen tip, LinkFileNoMenu, and then on the Display tab, complete the configuration options in the
Linking and Grouping section.

• Filtering. You can filter the number of items return based on values in one column, by using the
 Filtering icon , or more columns by clicking the Advanced filtering link in the top right of the
Columns section. Click the Remove All Filters icon , to remove all persistent filters from all
columns.

The Display tab allows you to format, group, sort, align, and conditionally format the data from the columns
you have selected, however, the Columns tab may provide other options within the Columns section
dependant on the data source.

SQL Server data source

With SQL Server database tables the following options are available on the Columns tab:

• Group By Select the Group By check box to the right of the column to group items by that column.
    You can then select to aggregate each group by selecting the checkboxes:
    ◦ Max
    ◦ Min
    ◦ Sum
    ◦ AVG
    ◦ Count
Optionally you can select to format for numerical columns of each aggregated function using the drop down list to the right of each function check box.

- For numerical columns you can select, None, Currency, Decimal, Fixed Point, General, Hexadecimal, Number, Percent and Scientific.
- For Date/Time columns, you can select None, Long Date, Long Data and Time, Long Time, Short Date, Short Date and Time, Short Time and Year And Month. You can also type a custom date format.

### OData data source

For an OData data source, the Columns section allows you to select the check boxes to specify the columns that are to appear on the Add New Item and Edit Item dialogs:

- Allow Insert
• **Allow Update**

You must remember to select the appropriate check boxes in the **Data Connection** section on the **Display tab** for the **Add New Item** button and Edit icon to appear in the Data Viewer Web Part, so users can display the **Add New Item** and **Edit Item** dialogs.

**Note:** The presence of **Allow Insert**, **Allow Update** and the **Data Connection** check boxes do not indicate that the OData service allows users to complete insert or update operations. Once you have configured the Web Part, you should test the insert, update and delete operations, for error messages. If these operations are not valid then an error message is displayed, **Error occurred in Web Part**, with a description of **The remote server returned an error (403) Forbidden**.

**XML data source**
For a XML data source, in the **Columns** section:

1. For each column, in the **Name** text box, type the column name, and in the **XPath** text box type provide the XPATH expressions relative to the item tag you provided on the Data Source tab.
2. Click the green plus icon.

3. Select and arrange the columns and configure filters if needed.

**Configuring the Data Viewer Web Part →**

— Miscellaneous

**Calculated Columns —>**
Calculated Columns

From Data Viewer Web Part version 2.1.0.0, you can add calculated columns.

Microsoft® SharePoint® allows you to add a calculated column to a list or library. By creating a formula in these calculated columns you can include data from other columns and performs functions to calculate dates and times, to perform mathematical equations, or to manipulate text. In calculated columns, formulas are based on Microsoft® Excel® functions and syntax, but there are some limitations on the functions you can use and some subtleties in the syntax. You can find more information about the various kinds of formulas you can use in a SharePoint calculated columns in the Microsoft article Calculated Field Formulas.

Using the Data Viewer Web Part, you add calculations similar to those you can add to a SharePoint calculated column plus you can add almost any calculation that you want. The advantage of using a Data Viewer calculated column is that the calculation is executed every time the page is displayed, whereas with a list / library calculated column, the formula is only executed when the list item or file is modified. Also, the Data Viewer calculated column, is not based on Microsoft Excel formulas, but on C# based operators, calculations and functions.

As with other columns, with a Data Viewer calculated columns, you can apply conditional formatting on the calculated value, filter on the calculated column as well as sort or group by the result of the calculation. This page contains information on how to add a Data Viewer calculated column and information on formulas you can use.

Adding a Calculated Column

To add a Data Viewer calculated column, use the following steps:

1. Click the Add calculated column icon in the top right hand corner of the Columns section on the Columns tab.

   The Add calculated column dialog box is displayed., which contains three sections:

   - **Column name**: In the text box, type a name for the column.
   - **Column type**: Select one of the following values: String, DateTime, Integer, Double or Boolean. You must select the data type that is to be calculated. This may not be the same value as the columns involved in the calculation.
• **Expression**: Use this section to create the formula for the calculated column. A formula can contain functions, column references, operators, and constants. To insert a column reference, select the column in the dropdown list and then click **Insert field**.

4. Once you have created finished configuring the formula, click **Save**. The **Add calculated column** dialog box closes and the new calculated column is displayed at the top of the columns in the **Columns Configuration** section.

5. Select the check box to the left of the column if you wish to display the column in the Data Viewer Web Part.
6. To edit the calculated column, click the *Edit calculated column* icon to the right of the column name.

7. To delete the calculated column, click the *Remove calculated column* icon.

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### Information on calculated column formulas

This section contains examples of formulas you can use in the Data Viewer calculated column.

#### Text formulas

You can use formulas to manipulate text, such as combining or concatenating the values from multiple columns, comparing the contents of columns, removing characters or spaces, and repeating characters.

1. To combine two or more columns, use the addition operator (+), for example to create a calculated column, *fullname*, which concatenates the columns, *Firstname* and *Lastname*, use the following formula:
   
   `[Firstname]+" "+[Lastname]

2. Use **String properties**, for example, to find the length of the values stored in the *Title* column:
   
   `[Title].Length

3. Use **String methods**, for example,
To convert a string stored in the Title column to lower case,

\[ \text{Title}.ToLower() \]

To retrieve a substring for values stored in the Title column, starting from character position 5, for a length of 6 characters,

\[ \text{Title}.Substring(5,6) \]

To remove all spaces for values stored in the Title column,

\[ \text{Title}.Replace(" ","") \]

---

**Date and time formulas**

You can use formulas to perform calculations that are based on dates and times, such as finding the day of the week, adding a number of days, months, or years to a date, calculating the difference between two dates, and converting time to a decimal value.

1. Use **DateTime properties**, such as, displaying the day of the week for values stored in the Created column,

\[ \text{Created}.Value.DayOfWeek \]

2. Use the **DateTime methods** to add a date/time component to a column, for example to add two hours to the Created column, use the following formula,

\[ \text{Created}.Value.AddHours(2).ToString("YYYY-MM-DD HH:MM") \]

3. Calculate the difference between two dates, use the subtraction operator (–) and then use **TimeSpan properties** to present the difference as required, for example, when using a task list, create a calculated column using the following formula to display the number of days to complete a task.

\[ (\text{DueDate}.Value-\text{StartDate}.Value).TotalDays \]

---

**Conditional Formulas**

You can use the formulas to test the condition of a statement and return a value. Conditional expressions take the form of a ternary operator called the conditional expression operator, ?, which use the following format:

\[ (\text{condition})?\text{(evaluate if condition was true)}:\text{(evaluate if condition was false)} \]

For example, if you want to create a calculated column that contains either Before or After, depending on the year the item / file was created, then the formula would look similar to:

\[ (\text{Created}.Value.Year<\text{DateTime.Now.Year})?"\text{Before}":"\text{After}" \]
Also, if the LCWP conditional formatting feature does not satisfy all your need, you can apply formatting as part of your calculated column, for example,

```
([Created].Value.Year < DateTime.Now.Year) ? "<font style='color:red;'>Before</font>" : "<font style='color:blue;'>After</font>"
```

This would result in a Lightning Conductor Web Part displaying data similar to the following screenshot.

![Lightning Conductor Web Part](image)

**Mathematical Formula**

You can use formulas to perform a variety of mathematical calculations, such as adding (+), subtracting (−), multiplying (*), dividing numbers (/), remainder after dividing a number by a second number (%) ; and using the [Math Fields](#) and [Math Methods](#), for example,

1. Round values in the *NoTasks* column to the nearest integral value:
   ```
   Math.Round([NoTasks].Value)
   ```

2. Calculate the area of a circle when the value of the radius is saved in the *Radius* column:
   ```
   ```
Column Filtering

You can filter the number of items displayed within the Data Viewer Web Part, based on one or more conditions using:

- Values in one column using the filtering icon
- Values in more than one columns using the Advanced filtering link.

Both of these options are detailed on this page.

Filtering icon

Filters can be configured on each column whether the column is displayed or not. Each column type can also provide different filtering options, for example, a Date/Time filter allows you to filter by [TODAY], a People column allows you to filter by [Me], and so on.

You can apply the filter and remove the filter using the filtering icon, which displays the Filter Configuration dialog.

Select the condition from the drop down list, type a value in the text box and then click the green plus icon. A dialog displays stating that the filter configuration was updated successfully.
When a filter has been configured for a column, then to the right of the Filtering icon, is the Remove Filtering icon. This allows you to easily identify columns that are being used to filter the contents returned from the rollup query. To remove all persistent filters, click the Remove Filtering icon, just under the Filtering column heading.

You can also use Web Part connections to filter the contents of a Data Viewer Web Part.

Advanced Filters

Occasionally, you may want to filter on more than one column using And or Or operators. This can be done with the Data Viewer Web Part using the Advanced filtering icon, which is display in the top right of the Columns section of the Columns tab.

To filter on more than one column:

1. Click the Advanced filtering icon in the top right hand corner of the Columns section on the Columns tab.
2. Click the green plus icon to add a new level of filtering.
3. Select the column to apply the filter to.
4. Select the operator such as Equals.
5. Set the value.
6. You can repeat these steps for each column that you wish to filter on.

Columns tab ➔
— Calculated Columns
Display tab ➔
Display tab

When the SPGridView Display Provider is selected in the Configure Display Provider drop down list on the Web Part tab, the Display tab contains the following sections:

- Display Columns
- Header configuration
- Linking and Grouping
- Data connection.
- Paging settings
- No item returned message text box. In this text box, type the text you wish to display when no data is returned from the data source.
- Grouping Order. This section appears when the check box under Group By is selected for at least one column in the Display Columns section.
- Sorting Order. This section is displayed when you have selected either Ascending or Descending for at least one column from the Sort list in the Display Columns section.

When you have finished configuring all four tabs, click Save.

Configuring the Data Viewer Web Part →
Display Columns

Use the **Display Columns** section on the **Display tab** to select how the column data should be displayed by the Data Viewer Web Part. Only those columns you selected on the **Columns tab** are displayed in this section.

In this section you can configure:

- **Format**: Select from the **Format** drop down list the format of columns, for example:
  - For a Boolean column type, you can select: **None**, **Yes/No**, **True/False** or **Checkbox**.
  - For numerical columns you can select, **None**, **Currency**, **Decimal**, **Fixed Point**, **General**, **Hexadecimal**, **Number**, **Percent** and **Scientific**.
  - For Date/Time columns, you can select **None**, **Long Date**, **Long Data and Time**, **Long Time**, **Short Date**, **Short Date and Time**, **Short Time** and **Year And Month**. You can also type a [custom date format](#).

- **Alias**: Most column names are not user friendly. Type in the **Alias** text box an alternate name for the column title.
Note: The Column name and Alias name is only displayed when the Show Header check box is selected in the Header Configuration section on the Display tab.

- Column width: Type in the **Width, px** text box the width of the column in pixels.

- Sorting: Use the **Sort** drop down list to sort the items displayed in **Ascending** or **Descending** order. A **Sorting Order** section appears.
By sorting data, you present the data in an order that works best for your users, instead of the order in which the data is returned from the data source. For example, you can create a Data Viewer Web Part that displays a product list, sorted by product name in alphabetically order to make it easier to find products in the list. You can also sort on multiple columns by adding more column to the sort order list. For example, to help make the products in the list easier to find, you can configure the Data Viewer Web Part to display the product list by category, and then by product name within each category. You can use the Sorting Order section to change the order of the sort columns, by dragging columns in sort order. The column at the top of the Sorting Order section is the first column used to sort the returned items from the data source.

**Note:** When you have chosen The SharePoint List Data Source provider on the Web Part tab, to improve the display performance of lists or libraries, that contain a large number of items, you can create indexes on the columns you will be sorting on.

- Grouping: Select the Group By check box to the right of the column to group items by that column. A Grouping Order section appears. If you wish to group using multiple columns, you can change the order of the grouping, using the Grouping Order section, by dragging columns in group order. The column at the top of the Grouping Order section is the first column used to group the returned items.
By default groups are expanded. To collapse groups when the Data Viewer Web Part is first displayed, in the Linking and Grouping section, select Groups Collapsed from the Grouping Initial State list. You can also display how many records are in a group by selecting Show Count of Items in Groups check box in the Linking and Grouping section.

- **Display**: When you select to group items by a column then the check box below Display becomes active, and you can select whether to show the values in the column not only as a group heading but also as a column in the Data Viewer Web Part.

- **Font and Background formatting**: You can use the Align, Forecolor and Backcolor lists, as well as the check boxes B (bold), I (italic) and U (underline) to format the fonts and background colors for each column individually. The Forecolor and Backcolor can also be set either using the color picker or by entering the RGB code.

- **Conditional Formatting**. Conditional formatting can be set per value or per row allowing you to change formatting options only if a condition is true, for example, you could highlight any Products that have a Units in Stock less than 10 or Tasks assigned to you. Click the formatting icon to display the Configure Conditional Formatting dialog. Click the Remove All Formatting icon , to remove all filters from all columns.
Display tab

Conditional Formatting
Conditional Formatting

Formatting can be applied to the content of your Data Viewer Web Part based upon a condition being true or false. For example, if you are displaying Task items from a Task List app, you may want to display Tasks that are past their due date in red font rather than black font. It is possible to have multiple conditions using the And and Or operators.

To apply conditional formatting:

1. On the Display tab, in the Display Columns section, click the formatting icon next to the column that contains the value which you want to use for the condition. For example, you would click the formatting icon to the right of the UnitsInStock column, if you wanted to format products that have less than 10 units in stock.
2. Select the Apply To Entire Row check box when you want the entire row to be formatted rather than the column value.
4. Under Add New Filter Condition, set the condition.

5. Click the green plus icon, to set the condition. You can modify, delete or add additional conditions.
6. Optionally, click Add Formatting to add additional formatting options.
7. Click Save to apply the formatting to the Web Part.

The remove formatting icon appears to the right of the formatting icon, indicating that you have configured conditionally formatting using the UnitsInStock column.
When you save your configuration, the Data Viewer Web Part displays the data similar to the following screenshot.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Value1</th>
<th>Value2</th>
<th>Value3</th>
</tr>
</thead>
<tbody>
<tr>
<td>33 Geitost</td>
<td>2.5000</td>
<td>112</td>
<td>0</td>
</tr>
<tr>
<td>13 Konbu</td>
<td>6.0000</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>52 Filo Mix</td>
<td>7.0000</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>54 Tourtière</td>
<td>7.4500</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>75 Rhönbräu Klosterbier</td>
<td>7.7500</td>
<td>125</td>
<td>0</td>
</tr>
<tr>
<td>23 Tunnbröd</td>
<td>9.0000</td>
<td>61</td>
<td>0</td>
</tr>
<tr>
<td>19 Teatime Chocolate Biscuits</td>
<td>9.2000</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>47 Zaanse koeken</td>
<td>9.5000</td>
<td>36</td>
<td>0</td>
</tr>
<tr>
<td>45 Rogede sild</td>
<td>9.5000</td>
<td>5</td>
<td>70</td>
</tr>
<tr>
<td>41 Jack's New England Clam Chowder</td>
<td>9.6500</td>
<td>85</td>
<td>0</td>
</tr>
<tr>
<td>21 Sir Rodney's Scones</td>
<td>10.0000</td>
<td>3</td>
<td>40</td>
</tr>
</tbody>
</table>
Linking and Grouping

The Linking and Grouping section is on the Display tab, of the Data Viewer Web Part dialog.

Use this section as described below:

- **Column name**: This check box should only be selected when either the MSSql Data Source Provider or the SharePoint List Data Source Provider is selected on the Web Part tab. The column name selected from the list, must also be selected on the Columns tab, otherwise an error is displayed.
  - When using the MSSql Data Source Provider, you can use Web Part connections to connect two or more Data Viewer Web Part, when the Web Parts are displaying content from a Microsoft SQL® database. The tables from the database must have a 1 to many (Master/Child) relationship. In the Web Part that is displaying data from table that has the Master relationship, select the primary key column and in the Web Part which will received data from the Master Web Part, select the secondary key column that matches data from the primary key column. In the Web Part that is displaying the master content, you must display the column that contains the primary key. In the Web Part that displays the child content, you do not have to display the column that displays the secondary key.
  - Select a column from the Column name list when using the SharePoint List Data Source Provider, for the column to become a link. Select the same column that is a link when using the List View Web Part. This is usually the first column that appears when you create a new item, for example, for most lists and libraries this is the Title column, however for a Tasks list, select Task Name and Libraries, select Name. When the user clicks on the link the properties page for the item/file is displayed.

- **Link to Item Directly**: The check box is only applicable when using either the MSSql Data Source Provider or the SharePoint List Data Source Provider. By default this check box is not selected.
  - Select this check box when you want to use Web Part connections for two Data Viewer Web Parts that are displaying data from an SQL database (a column must also be selected from the Columns list).
  - When you are using the SharePoint List Data Source Provider, this check box is only applicable to libraries and used with the Column name list. When the Link to Item Directly check box is
selected then the column is selected from the **Column name** list, is a link which when clicked, opens the file with the program associated with the file’s extension.

- **Grouping Initial State**: From the drop down list select either **Groups Expanded** (default) or **Groups Collapsed**. To select the columns to group data, use the **Group By** checkbox in the **Display Columns** section.

- **Show Count of Items in Groups**: Select this check box if you want a count of items in groups to be displayed.

For SharePoint list and library apps, two other options are available:

- **Show Document Type Icon**: This option is only applicable when you have selected a document library as your data source. By default this check box is not selected. Select this check box when you want an icon are displayed to the left of the document to indicate the file type. File types are identified using the file’s extension. A blank document icon is displayed for unknown file types.

- **Group by Folders**: When lists and libraries contain folders, you can display the folder structure in the Data Viewer Web Part by selecting this check box. Ensure that the Parent Folder name column is chosen on the **Column tab**.

**Configuring the Data Viewer Web Part** →
**Creating, Updating and Deleting data** —> **Conditional Formatting**
Creating, Updating and Deleting data

The Data Viewer Web Part provides the user the option of adding, modifying and deleting data for any data source. Users can perform such operations depending upon their permission in the data source and also as to whether Enable insert, Enable update, and Enable delete operations have been selected in the Data connections section on the Display tab.

<table>
<thead>
<tr>
<th>Data connection</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable insert</td>
<td></td>
</tr>
<tr>
<td>Enable update</td>
<td></td>
</tr>
<tr>
<td>Enable delete</td>
<td></td>
</tr>
</tbody>
</table>

By default the Data Viewer Web Part will only display data in read-only mode.

When the check boxes are selected, links to the Data Viewer Web Part are provided, so users can insert, update or delete records in the data source

- **Update.** Click the Edit icon to the left of the row to display the Edit Item dialog. All columns from the data source are displayed on the Edit Item dialog, no matter the columns you selected on the Columns tab. Modify the required fields and then click **Save**.
• **Delete.** Click the Delete \(\times\) icon to the left of the row. A dialog box is displayed asking *Are you sure you want to delete this item?*. Click **OK** to delete the item.
### Create

To create new items, click **Add New Item** to display the **Add New Item** dialog. All columns from the data source are displayed on the **Add New Item** dialog, no matter the columns you selected on

<table>
<thead>
<tr>
<th>SupplierID</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Verkoop Rijnweg 22</td>
</tr>
<tr>
<td>4</td>
<td>9-8 Sekimai Musashino-shi</td>
</tr>
<tr>
<td>17</td>
<td><strong>Brovallavägen 231</strong></td>
</tr>
<tr>
<td>8</td>
<td>29 King's Way</td>
</tr>
<tr>
<td>10</td>
<td>Av. das Americanas 12.890</td>
</tr>
<tr>
<td>12</td>
<td>Bogenallee 51</td>
</tr>
<tr>
<td>9</td>
<td>Kaloadagatan 13</td>
</tr>
<tr>
<td>7</td>
<td>74 Rose St. Moonie Ponds</td>
</tr>
<tr>
<td>26</td>
<td>Via dei Gelsomini, 153</td>
</tr>
<tr>
<td>15</td>
<td>Hatlevegen 5</td>
</tr>
</tbody>
</table>
the **Columns tab**. Type the required values and then click **Add**.
Header Configuration

The Header configuration section is on the Display tab of the Lightning Conductor Web Part dialog.

Use the options in this section, as described below:

- Select the Show header check box to show the column names of the columns selected on the Columns tab. The default is to not to show column names.

- From the Header align drop down list, select Centre, Justify, Left, Not set or Right to align the column names. The default is Not set.

Configuring the Data Viewer Web Part →
Creating, Updating and Deleting data
Paging Settings →
Paging Settings

Use **Paging settings** section on the **Display tab** of the **Data Viewer Web Part** dialog to configure your pagination options. This section contains three options:

- **Records Per Page**: Type the number of items to display, for example 25.
- **Pager align**: Select from the drop down list: **Center**, **Justify**, **Left**, **Not set** or **Right**. **Left** is the default.
- **Pager position**: From the drop down list select; **Top**, **Bottom** or **Top and bottom**. **Bottom** is the default.

![Paging settings](image)

**Configuring the Data Viewer Web Part →**

**— Header Configuration**

**Troubleshooting —>**
Troubleshooting

This section contains issues that may be experienced when installing the Data Viewer Web Part for Microsoft® SharePoint® 2013.

SharePoint 2013 Central Administration Web Site:

The following errors are related to tasks that are completed using the SharePoint 2013 Central Administration web site.

- Missing: Manage Lightning Tools Products Licensing link on the System Settings page.
- Licensing Error

SharePoint sites:

The following errors are related to tasks an information worker, site owner or site collection administrator may see.

- Missing: Lightning Data Viewer Web Part site collection feature.
- Missing: Data Viewer Web Part in the Web Part pane.

Web Part error

Whilst configuring or once you have saved your configuration, the Data Viewer Web Part may display an Error dialog. The following list contains common configuration errors.

<table>
<thead>
<tr>
<th>Error Description</th>
<th>Data Source Provider</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could not get databases info. Login failed for user ['username']</td>
<td>Ms SQL</td>
<td>Username does not have access permissions on the Microsoft SQL Server instance. Check the spelling of the username and password. Contact your database administrator for further assistance.</td>
</tr>
<tr>
<td>Error Description</td>
<td>Component</td>
<td>Message</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Could not get databases info. Target application not found (application id: [secure store id]).</td>
<td>Ms SQL</td>
<td>The secure store id that you used does not exist. Check the spelling. Contact your SharePoint server administrator for further assistance.</td>
</tr>
<tr>
<td>Can’t retrieve xml data from url ()</td>
<td>XML</td>
<td>The XML data source has not returned well formatted XML. Contact the owner of the XML data source to rectify the error.</td>
</tr>
<tr>
<td>Error occurred while getting data in format Data Table from data source provider.</td>
<td>SharePoint List</td>
<td>You selected an external list in tree view on the Data Source tab. Only internally SharePoint lists and libraries are currently supported.</td>
</tr>
</tbody>
</table>
**Missing: Manage Lightning Tools Product Licencing link**

**Symptom:**

On the **System Settings** page of the SharePoint 2013 Central Administration web site, under **Farm Management**, the link – **Manage Lightning Tools products licencing** – is missing.

**Resolution:**

Activate the Manage Licensing Of Lightning Conductor farm feature using the following steps:

1. In the browser, on the Quick Launch of the Microsoft SharePoint Central Administration web site, click **System Settings**, and then under **Farm Management**, click **Manage farm features**.

---

Central Administration

- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration

**Servers**
- Manage servers in this farm
- Manage services on server

**E-Mail and Text Messages (SMS)**
- Configure outgoing e-mail settings
- Configure incoming e-mail settings
- Configure mobile account

**Farm Management**
- Configure alternate access mappings
- Manage farm solutions
- Manage user solutions
- Configure privacy options
- Configure cross-firewall access zone

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2. On the **Manage Farm Features** page, to the right of **Manage licensing of Lightning Conductor** click **Activate**.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excel Services Application Web Part Farm Feature</td>
<td>Adds farm-level Excel Services Application web part features to the Microsoft SharePoint Foundation framework</td>
<td></td>
</tr>
<tr>
<td>Global Web Parts</td>
<td>Installs additional web parts common to all types of sites.</td>
<td></td>
</tr>
<tr>
<td>Manage licensing of Lightning Conductor</td>
<td>Adds links in central administration for managing LT products licensing.</td>
<td>Activate</td>
</tr>
</tbody>
</table>
Missing: Lightning Data Viewer Web Part site collection feature

Symptom:

When trying to activate the Lightning Data Viewer Web Part site collection feature, it is not listed on the Site Collection Features page.

Resolution:

Deploy the Data Viewer solution to the Web application where the site collection lives.
Missing: DataView2013webpart.wsp solution

Symptom:

On the Solutions Management page of the SharePoint 2013 Central Administration web site, the DataView2013webpart.wsp – solution is missing.

Resolution:

Upload the Data Viewer solution package using Add-SPSolution Windows PowerShell® command.
Missing: Lightning Tools Web Parts category in the Web Part pane

Symptom:

When trying to add the Data Viewer Web Part to a Microsoft® SharePoint® 2013 page, the Lightning Tools Web Parts category does not appear in the Web Part pane.

Resolution:

Activate the Lightning Data Viewer Web Part at the site collection level.
Missing: Lightning Conductor Web Part in the Web Part pane

Symptom:

When trying to add the Data Viewer Web Part to a Microsoft® SharePoint® 2013 page, the Lightning Conductor Web Part does not appear in the Web Part pane.

Resolution:

Activate the Lightning Data Viewer Web Part at the site collection level.