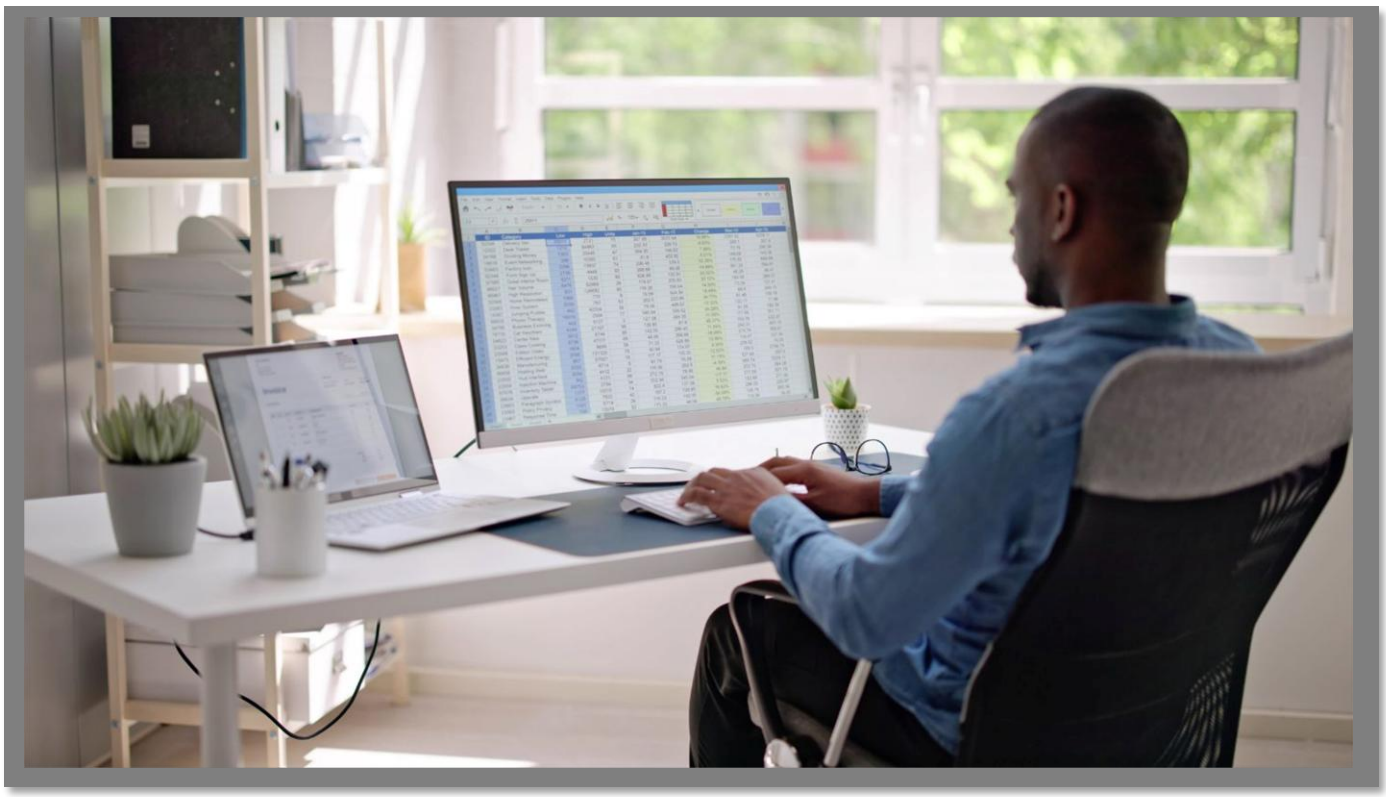
Arbutus Connectors

(SharePoint) Excel Services

CONFIGURATION GUIDE



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Contents

Arbutus Connector – SharePoint Excel Services

A. Introduction

The purpose of this Guide is to provide assistance with configuring the Arbutus SharePoint Excel Services Connector using the ODBC Data Source Administrator. The configuration process can involve several technical steps that require a good understanding of IT systems and database management.

To make the most of this guide, it's advisable to have a good understanding of database connectivity, driver installation, and system settings. The ODBC Data Source Administrator, which is used as part of the configuration process, allows for the setup and management of data sources, enabling applications to access data from various database systems.

Due to the complexity and potential impact of these configurations, it is recommended that only those individuals with IT or database expertise undertake this task. In addition, it should also be understood that each client's network environment is different. A one-size-fits-all approach is rarely effective, as what works well in one environment may not be suitable in another.

B. About SharePoint Excel Services

Microsoft SharePoint Excel Services is a feature of SharePoint that allows users to view, interact with, and share Excel workbooks in a web browser without needing the full Excel application. It enables server-side rendering of Excel files, so users can work with Excel data, run calculations, and perform analysis directly on SharePoint. It is commonly used for collaboration, data sharing, and business intelligence within an organization.

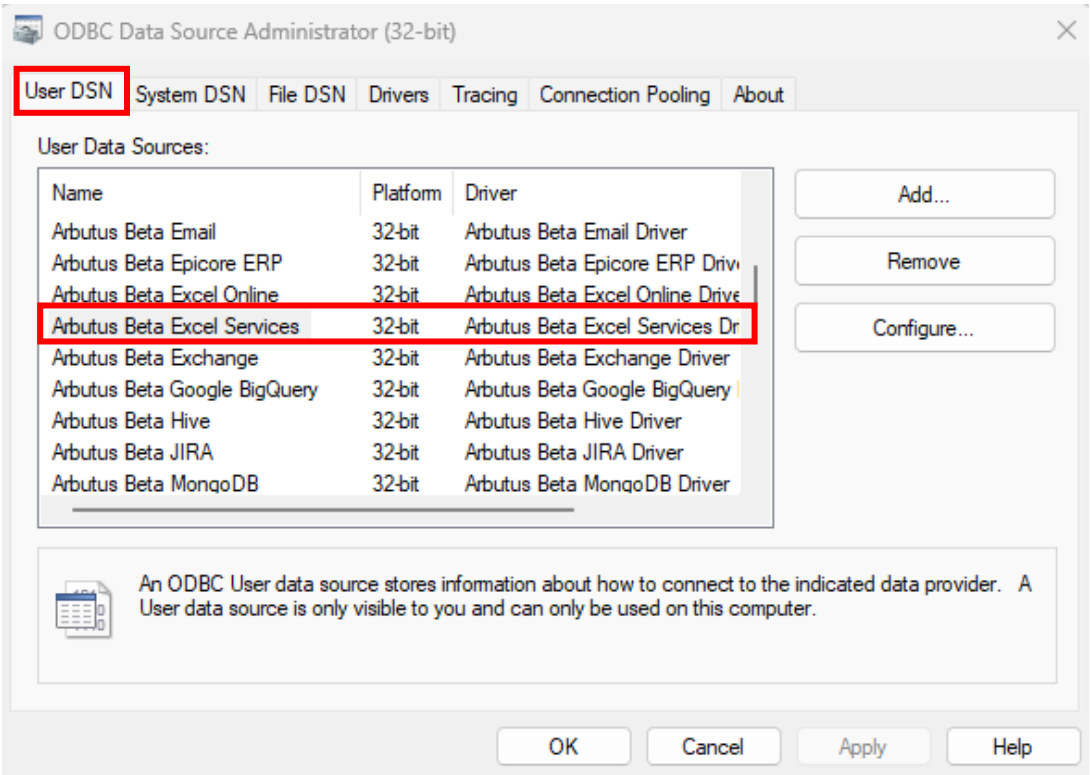
The primary data structure is the Excel workbook. Excel Services can work with external data connections embedded in workbooks. These could include data from databases, services, or other external sources. Data is stored in SharePoint document libraries. Excel workbooks that you want to interact with via Excel Services are typically stored in these document libraries.

C. Determining if the Connector exists prior to configuring

Installation of the Arbutus SharePoint Excel Services Connector is done at the time of installing the Arbutus software. For more information on this, please see the **Overview Guide Document**.

Once the Connector has been installed, the next step is to configure it.

Prior to configuring it, you can check to see if the Connector has been installed by opening the **32-bit ODBC Data Source Administrator**, pictured below, and clicking the **User DSN** tab. Included below is information on how you can access the **ODBC Data Source Administrator**.



- If the Arbutus (SharePoint) Excel Services Connector appears in the list, it can be considered as installed.
- If it is not listed, it is likely that you did not select it during the installation or modification of the Arbutus software. In this case, it is recommended to reinstall the Arbutus software and choose the **Modify** option when prompted. For more details, please refer to the **Overview Guide Document**.

Below is the file path to access and run the **ODBC Data Source Administrator** application:

C:\Windows\SysWOW64\odbcad32.exe

Alternative, you can also try locating and opening the **ODBC Data Source Administrator** application by doing a search on your desktop application.

D. Configuring the Connector after it has been installed

Once you have verified that the Arbutus Connector has been installed, it is time to configure it.

This process is done using the **ODBC Data Source Administrator**. It can be described as "**editing the DSN configuration"**.

DSN, Drivers, and Data Sources
What is a DSN? DSN stands for Data Source Name, and is a unique name used to create a data connection to a database using open database connectivity (ODBC). A DSN is a data structure that contains the information required to connect to a database. It is essentially a string that identifies the source database, including the driver details, the database name, and often authentication credentials and other necessary connection parameters. DSNs facilitate a standardized method for applications to access databases without needing hard-coded connection details, enhancing flexibility and scalability in database management.

Arbutus Connectors

- ***Drivers*** are the components that process ODBC requests and return data to the application. If necessary, drivers modify an application's request into a form that is understood by the data source. The **Drivers** tab in the **ODBC Data Source Administrator** dialog box lists all drivers installed on your computer, including the name, version, company, file name, and file creation date of each driver.

- ***Data sources*** are the databases of files accessed by a driver and are identified by a data source name (DSN). You use the ODBC Data Source Administrator to add, configure, and delete data sources from your system.

All ODBC connections require that a DSN be configured to support the connection. When a client application wants to access an ODBC-compliant database, it references the database using the DSN.

The types of DSNs are:

- **User DSN** – User DSNs are local to a computer and can be used only by the current user. They are registered in the HKEY_Current_USER registry subtree.

- **System DSN** – System DSNs are local to a computer rather than dedicated to a user. The system or any user with privileges can use a data source set up with a system DSN. System DSNs are registered in the HKEY_LOCAL_MACHINE registry subtree.

- **File DSN** – File DSNs are file-based sources that can be shared among all users who have the same drivers installed and therefore have access to the database. These data sources need not be dedicated to a user nor be local to a computer. File data source names are identified by a file name with a .dsn extension.

User and system data sources are collectively known as *machine* data sources because they are local to a computer.

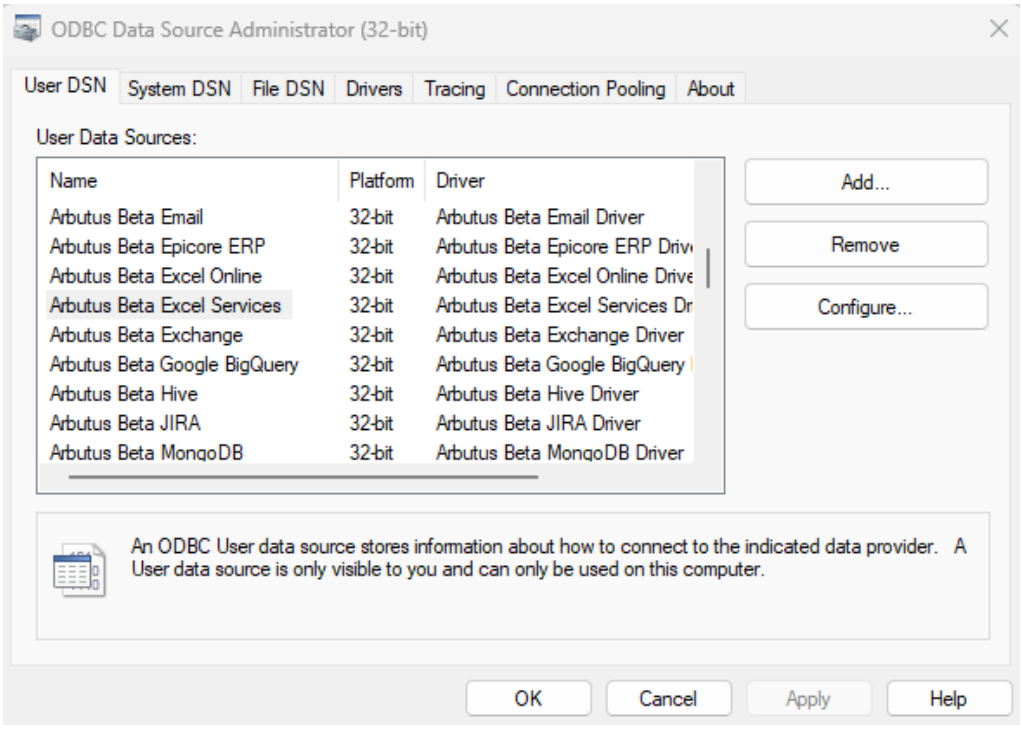
Each of these DSNs has a tab in the **ODBC Data Source Administrator** dialog.

The Arbutus ODBC Driver for SharePoint Excel enables real-time access to Excel Services data, directly from any applications that support ODBC connectivity, the most widely supported interface for connecting applications with data.

Arbutus Connectors

Follow these steps to edit the DSN configuration and configure the Connector.

1. First open the **ODBC Data Source Administrator**.



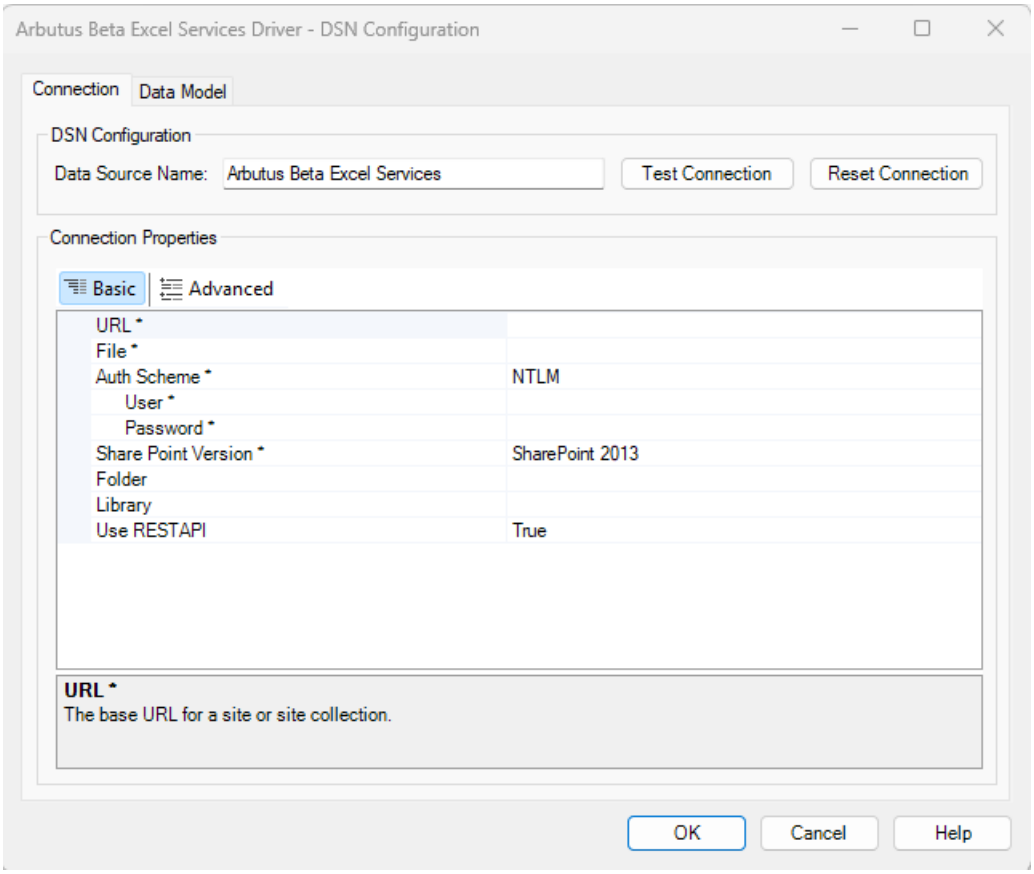
2. Click the **User DSN** tab.

   Selected data connectors are installed as **User DSN's** in Window's 32 Bit **ODBC Data Source Administrator**.

   Also, each of the data connector's names is prefaced with Arbutus, for example, **Arbutus Excel Services.**

3. Select the Arbutus Connector, in this case it is **Arbutus Excel Services**.
4. Click **Configure**.

This opens the **Arbutus Excel Services Driver – DSN Configuration** dialog.



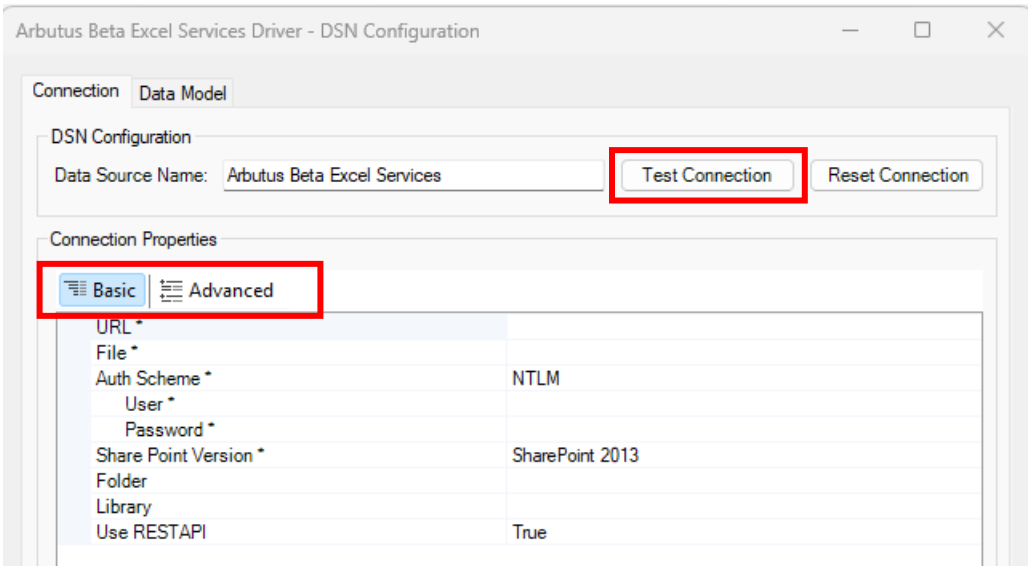
E. Editing the DSN properties – the Basic and Advanced tabs

With the DSN Configuration dialog open, the next step is to edit the DSN properties, where necessary, in the **Basic** and **Advanced** tabs. For example, editing the **Auth Scheme properties** (per screenshot below) to ensure correct authentication to the server is applied.

E1. Editing the DSN properties in the Basic tab

The properties listed in the **Basic** tab are typically the ones that are most commonly used, and as such are designed to be more user-friendly and straightforward, allowing you to quickly make changes without needing in-depth technical knowledge.

Once you have completed editing the properties in the **Basic** tab, you can go ahead and try testing the connection to the SharePoint Excel Services system by clicking the **Test Connection** button, as highlighted in the screenshot below.



In the **Basic** tab, there are **seven** main properties to review:

1. **URL** – this is the base URL for a site or site collection. The following are examples of valid URLs:
   - *http://server/SharePoint/*
   - *http://server/Sites/mysite/*
   - *http://server:90/*

   The provider will use URL to derive URLs for other calls to the server.

2. **File** – this is the name of the Excel file to which to connect to - the name of Excel file to which to connect (including the extension ".xlsx"). The file must exist.

3. **Auth Scheme –** click the dropdown to select from the list the appropriate type of authentication to use when connecting to SharePoint Excel Services. The options available for selection are as follows:
   - NTLM (NT LAN Manager) – select this to allow users to authenticate based on their Windows credentials. NTLM is a Microsoft authentication protocol that is typically used for Windows environments.

     If your system doesn't require any additional security measures like multi-factor authentication, **NTLM** should work well for most on-premises environments.

     It is commonly used for internal enterprise environments where both the client and server are part of the same Windows domain.

     The default value is **NTLM**.

     Selecting **NTLM** requires you to specify the following:
     - User – this is the username of the account used to authenticate to the server.

     - Password – this is the password of the account used to authenticate to the server.

   - Basic – select this only in cases where no other authentication method is available, and security is not a high concern (for example, on internal, non-public networks with HTTPS enabled).

     Basic authentication sends the username and password in clear text (base64 encoded, not encrypted) with each request. **Avoid using Basic** if security is a concern, because the credentials are sent in an insecure manner.

It is rarely recommended due to security risks unless you're using a very controlled, secure environment.

Selecting **Basic** requires you to specify the following:

- User – this is the username of the account used to authenticate to the server.

- Password – this is the password of the account used to authenticate to the server.

- Digest – select this when you need a **more secure** method than Basic but do not want to rely on Windows-based authentication (NTLM).

  Digest authentication sends hashed (encrypted) credentials over the network, providing better security than **Basic**. It provides **better security** than **Basic** and is used when a higher level of security is needed but Windows authentication is not required.

  Selecting **Digest** requires you to specify the following:

  - User – this is the username of the account used to authenticate to the server.

  - Password – this is the password of the account used to authenticate to the server.

- Forms – select this when **SharePoint is configured with forms-based authentication**, typically for scenarios where users are authenticating through a web interface (common in public-facing SharePoint sites).

  Forms authentication involves logging in through a **web-based login page** (like a typical website login form).

Selecting **Forms** requires you to specify the following:

- User – this is the username of the account used to authenticate to the server.

- Password – this is the password of the account used to authenticate to the server.

- None – select this if your SharePoint site is **public** or if authentication is not required for access. No authentication will be used; the connection will not require credentials.

  You should only choose **None** if the SharePoint server is open to the public and doesn't require authentication.

- Negotiate – when this is selected, the driver will **Negotiate** an authentication mechanism with the server. Set **AuthScheme** to Negotiate if you want to use Kerberos authentication.

  Selecting **Negotiate** requires you to specify the following:

  - User – this is the username of the account used to authenticate to the server.

  - Password – this is the password of the account used to authenticate to the server.

- ADFS (Active Directory Federation Services) – select this to use Single Sign-On (SSO) authentication with ADFS. ADFS is a federated identity service that allows for Single Sign-on (SSO) across different domains or organizations.

  You would Use ADFS if your SharePoint site is integrated with Active Directory Federation Services, which is common in environments using SSO for cross-domain authentication.

Selecting **ADFS** requires you to specify the following:

- User – this is the username of the account used to authenticate to the server.

- Password – this is the password of the account used to authenticate to the server.

- STSURL – this is the URL of the security token service (STS) when using Single Sing-On (SSO). This property only needs to be set when using SSO with a local Active Directory Federation Services (ADFS).

- SSO Login URL – this is the identity provider's login URL.

- SSO Domain – this is the domain of the user when using Single Sign-On (SSO).

  This property is only applicable when using single sign-on and if the domain of the **User** (e.g. user@mydomain.com) is different than the domain configured within the SSO service (e.g. user@myssodomain.com).

  This property may be required when using the ADFS services.

- SSO Properties – this is an additional property required to connect to the identity provider in a semi-colon separated list. This is used with the **SSO Login URL**.

4. **Share Point Version** – this is a dropdown selection to specify the **version of the SharePoint server** to which you are connecting. The possible options for selection are:
   - SharePoint 2013 – select this is your SharePoint server is running SharePoint 2013 or a later version such as SharePoint Online as part of Microsoft 365. SharePoint 2013 includes updates and improvements to Excel Services, including better performance, security, and integration features.

     The default value is **SharePoint 2013**.

   - SharePoint 2010 – select this if your SharePoint server is running SharePoint 2010 or an earlier version, e.g., SharePoint 2007.

5. **Folder** – this is the folder containing the workbook specified by the **File** property (see above).

   The full, hierarchical path of the subfolder in a **Library** (see below) where the **File** (see above) can be found. For example if the **File** is located in a folder called "**SubFolder**" within the folder called "**BaseFolder**", the property will be set to **"/BaseFolder/SubFolder/"**.

6. **Library** – this is the **Document Library** to which to connect to.

   This property indicates the name of the **Document Library** containing the Excel file. If no library is specified, the "**Shared Documents**" library will be used.

   If you wish to connect to **OneDrive for Business**, set this property to "**Documents**".

If the language of your SharePoint site is not English, set this property to the name of the library for the corresponding language. Here are some steps to get the value:

a. Go to your **SharePoint site collection**
b. Go to the **Document library** page
c. Click on the **Settings** menu
d. Click on **Library settings** on the **Settings** menu
e. Under the **List Information** section, there is a flag "**Web Address**"

7. **Use RESTAPI** – this is a True/False selection to specify whether or not the RESTAPI is to be used for retrieving data.

   SharePoint 2010 must use the REST API. In SharePoint versions after 2010, both the REST API and OData API are available.

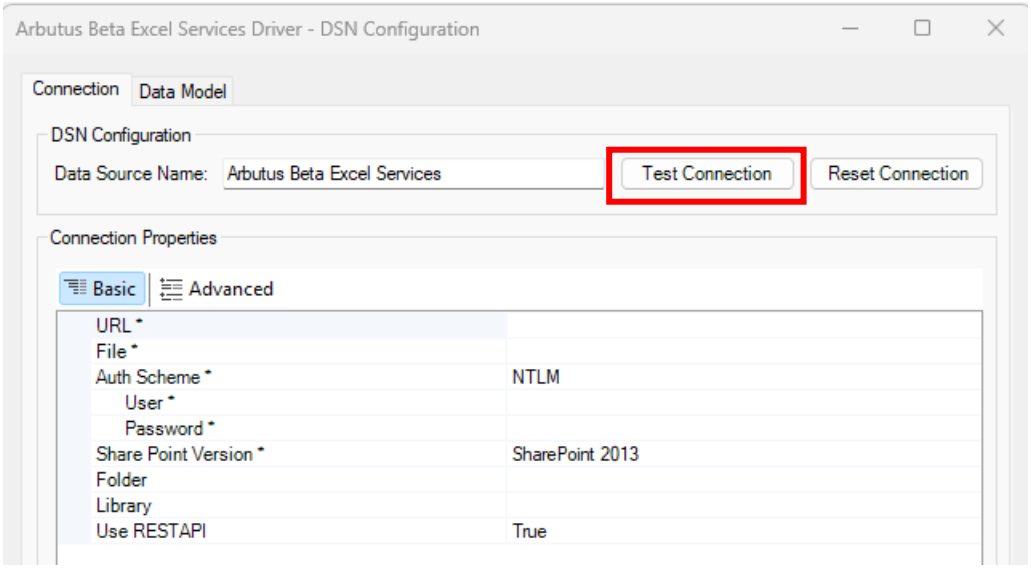
   Use **RESTAPI** to access spreadsheets and ranges as tables as well as table objects. The OData API enables access to only table objects.

   The default value is **True**.

E2. Editing the DSN properties in the Advanced tab

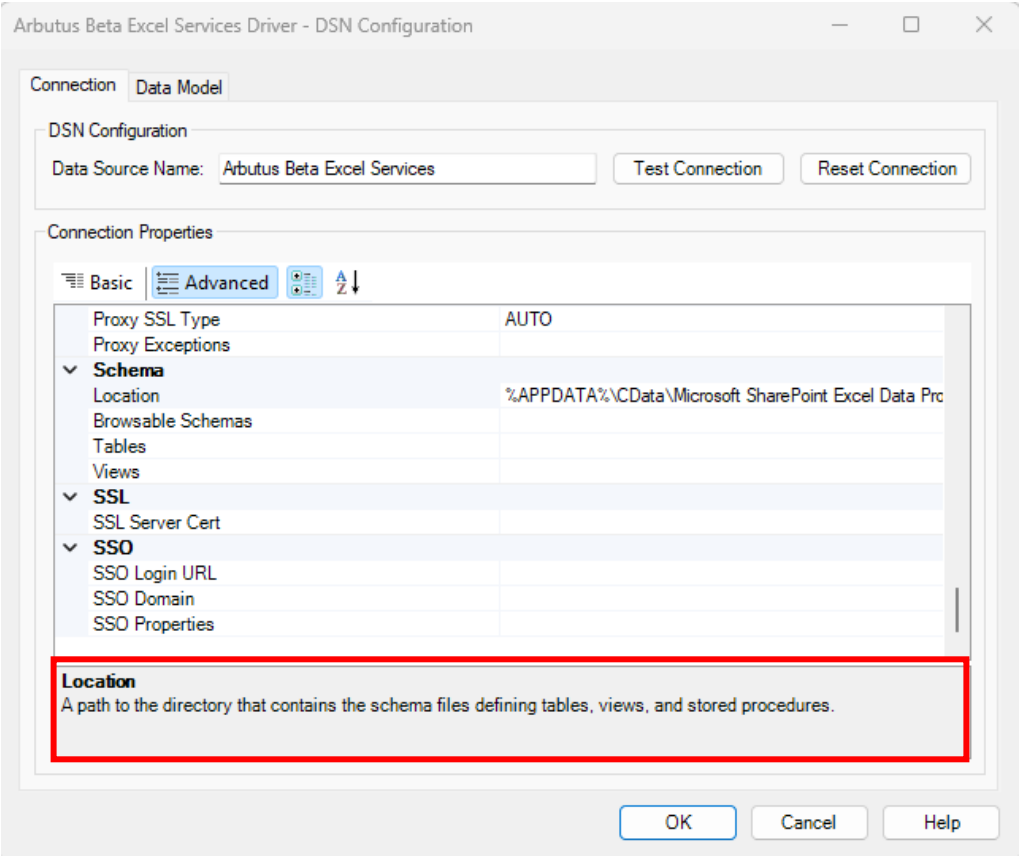
This tab includes more detailed and technical properties. It is intended for those users who need more control over the configuration and are comfortable with more complex options. The **Advanced** tab often includes properties that can fine-tune the behaviour of the system feature.

If you have already completed editing the properties in the **Basic** tab, as required, you do not necessarily need to also complete editing the properties in the **Advanced** tab. Instead, once you have completed editing the properties in the **Basic** tab, you may opt to proceed to testing the connection to the SharePoint Excel Services system by clicking the **Test Connection** button.



There are a lot more properties included for editing in the **Advanced** tab.

However, it is useful to know that each property does provide a short description of it and as such serves as a guide in terms of what to edit and/or enter. This short description can be seen at the bottom of the **DSN Configuration** dialog box, as seen in the screenshot below.



If it is deemed necessary to complete some/all the properties in the **Advanced** tab, it is recommended that you refer to the description shown for any of the properties being edited and/or entered.

If required, more information on the properties listed in the **Advanced** tab can also be provided.

F. Other questions and/or request for assistance

There may be times when you need to consult with the technical support team at Arbutus Software. If so, please send an email request to support@ArbutusSoftware.com.

For more information, please refer to the CONTACT US page on our website.