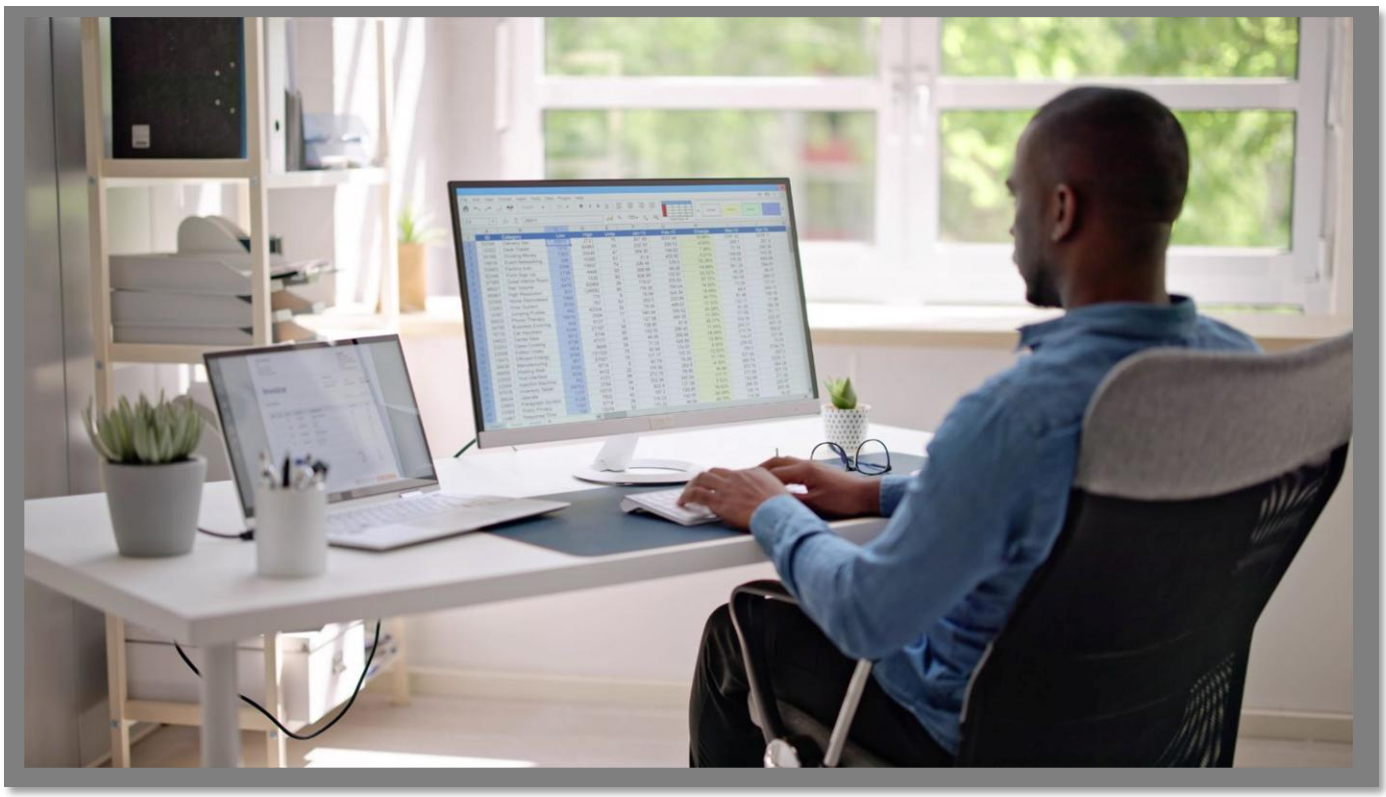
Arbutus Connectors

Workday

CONFIGURATION GUIDE



ARBUTUS

Powerful Analytics Simplified

Contents

Arbutus Connector – Workday

A. Introduction

The purpose of this Guide is to provide assistance with configuring the Arbutus Workday 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 Workday

Workday is a cloud-based software platform that specializes in financial management, enterprise resource planning (ERP), and human capital management (HCM). It helps businesses manage various functions like payroll, benefits, HR, and employee data through real-time reporting and analytics.

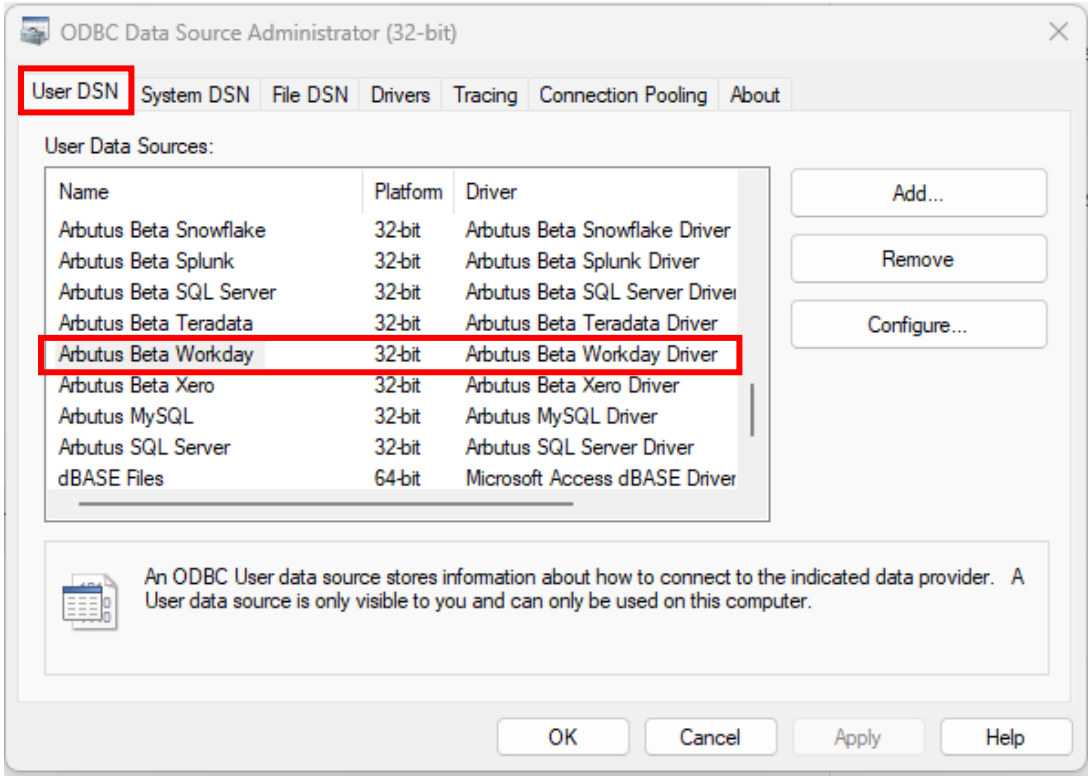
In Workday, data is stored securely in a cloud-based environment. Data in Workday is organized into objects, such as employees, positions, and organizations. These objects are stored in a relational database, allowing for efficient querying and reporting.

C. Determining if the Connector exists prior to configuring

Installation of the Arbutus Workday 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 Workday 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.

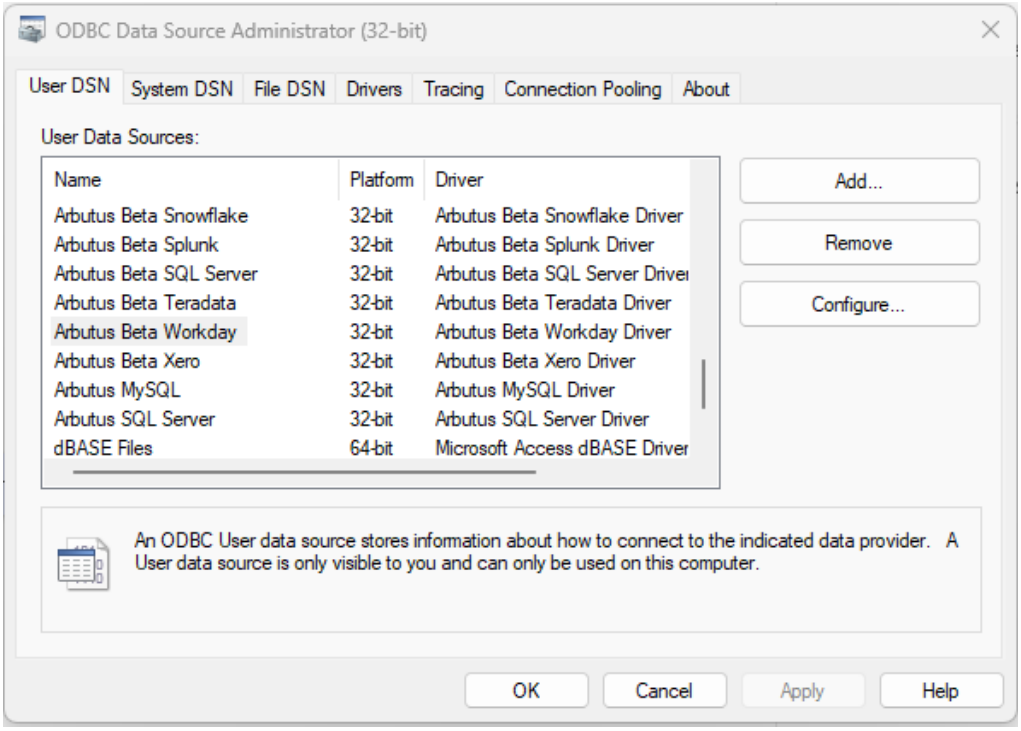
Each of these DSNs has a tab in the **ODBC Data Source Administrator** dialog.

The Arbutus ODBC Driver for Workday enables real-time access to Workday 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**.



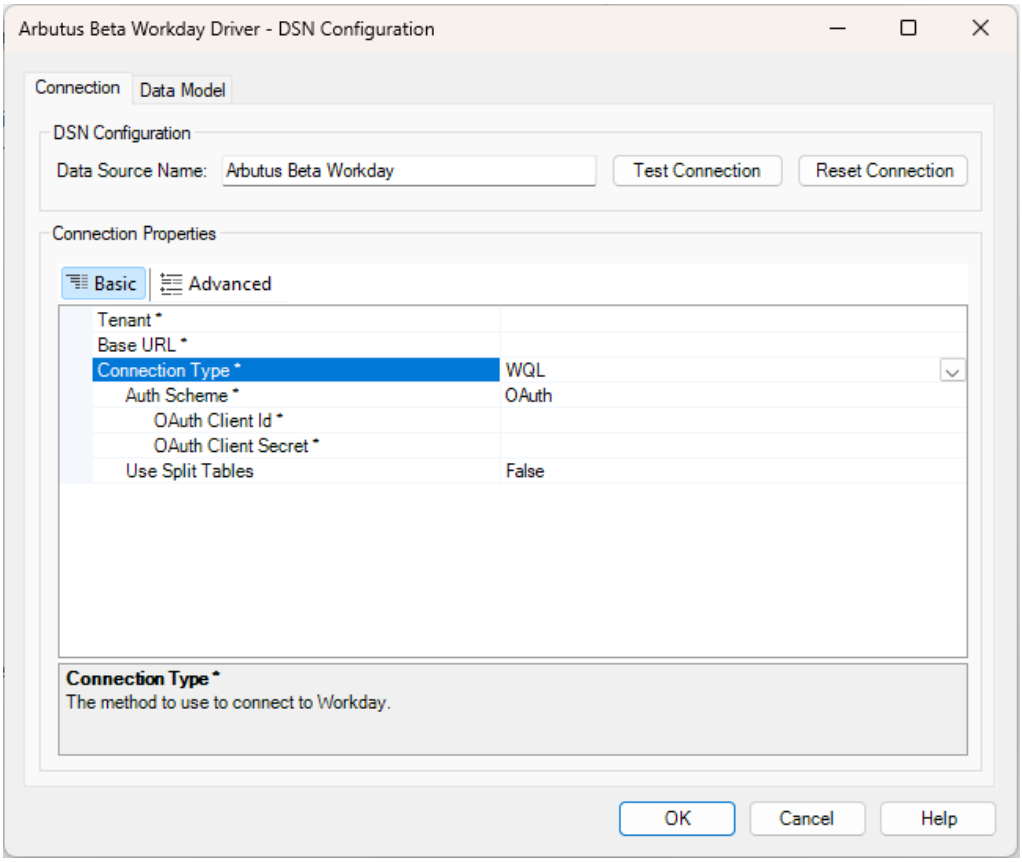
2. Click the **User DSN** tab.

   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 Workday.**

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

This opens the **Arbutus Workday Driver – DSN Configuration** dialog.



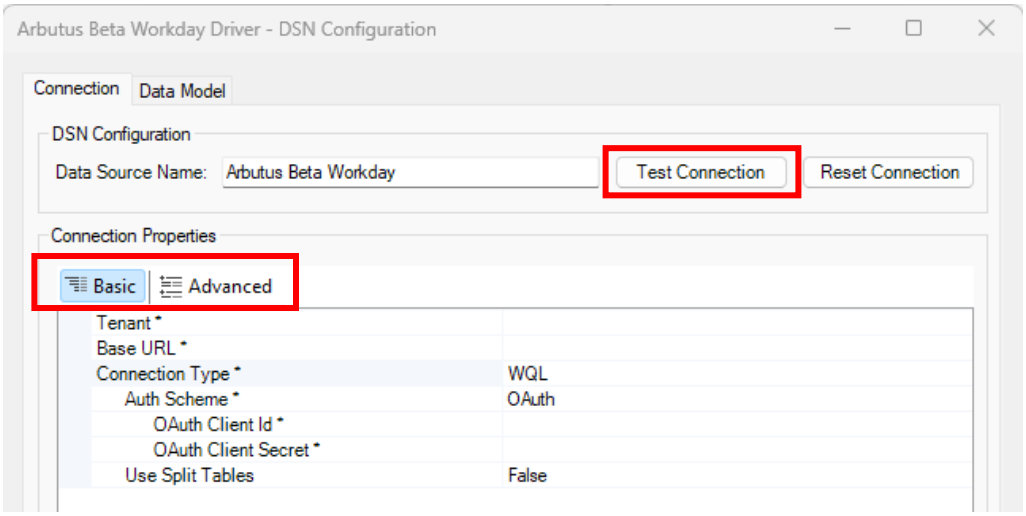
E. Editing the DSN properties – the Basic and Advanced tabs

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 entry in the **Auth Scheme** property, as seen in the screenshot above.

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 Workday system by clicking the **Test Connection** button, as highlighted in the screenshot below.



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

1. **Tenant** – enter the tenant for the account.

   The tenant will be used when constructing the URL to use when attempting to retrieve data from Workday. For example:

   https://wd3-impl-services1.workday.com/ccx/service/mycompany_gms1/Human_Resources

   Based on the above example, **"mycompany_gms1"** would be the tenant.

2. **Base URL** – this is the base URL for the Workday connection.

   To obtain the Base URL, log into Workday and search for View API Clients. In the listed values, find the Workday REST API Endpoint. For example:

   https://wd3-impl-services1.workday.com/ccx/api/v1/mycompany

   Based on the above example, the Base URL is ***"https://wd3-impl-services1.workday.com"***

3. **Connection Type** – select from the dropdown the method to use to connect to Workday. The following options are available for selection:
   a. WQL (Workday Query Language)
   b. Reports
   c. REST (***Re****presentational* ***S****tate* ***T****ransfer - a way for applications to communicate over the internet using simple HTTP requests)*
   d. SOAP (***S****imple* ***O****bject* ***A****ccess* ***P****rotocol > A transmission and packaging protocol)*

   The default is **WQL**.

   Please see the four respective sections below **Connection Type** for more information on the four properties listed above.

   - **Connection Type: WQL (default value)**

     WQL exposes Workday data sources as read-only views using the Workday Query Language (WQL) service.

     The **WQL connection type** has the following properties:
     - **Auth Scheme** – this is the type of authentication to use when connecting to Workday.

This is a dropdown selection consisting of the following options to choose from:

- OAuth - Use OAuth with **OAuth Client ID** (see below) and **OAuth Client Secret** (see below). Users log into Workday interactively with a web browser.

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

  - OAuth Client ID – enter the client ID assigned when you registered your application with an OAuth authorization server.

  - OAuth Client Secret - enter the client secret assigned when you registered your application with an OAuth authorization server.

  The default value is **OAuth**.

- OAuthISU - Use OAuth with **OAuth Client ID** (see below), **OAuth Client Secret** (see below), and **OAuth Refresh Token** (see below). The driver authenticates integration system users (ISUs) automatically.

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

  - OAuth Client ID – enter the client ID assigned when you registered your application with an OAuth authorization server.

  - OAuth Client Secret - enter the client secret assigned when you registered your application with an OAuth authorization server.

  - OAuth Refresh Token – enter the OAuth refresh token for the corresponding OAuth access token.

- OAuthJWT - Use OAuth with an x509 certificate. Only available for ISUs.

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

  - OAuth Client ID – enter the client ID assigned when you registered your application with an OAuth authorization server.

  - OAuth Client Secret - enter the client secret assigned when you registered your application with an OAuth authorization server.

  - OAuth JWT Cert – enter the JWT Certificate store.

  - OAuth JWT Cert Type – select from the dropdown list the type of key store containing the JWT Certificate.

    The options available for selection are:

    - USER
    - MACHINE
    - PFXFILE
    - PFXBLOB
    - JKSFILE
    - JKSBLOB
    - PEMKEY_FILE
    - PEMKEY_BLOB
    - PUBLIC_KEY_FILE
    - PUBLIC_KEY_BLOB
    - SSH PUBLIC_KEY_FILE
    - SSH PUBLIC_KEY_BLOB
    - P7BFILE
    - PPKFILE
    - XMLFILE
    - XMLBLOB

    The default value is **USER**.

  - OAuth JWT Issuer – enter the issuer of the Java Web Token.

- ❖ OAuth JWT Subject – enter the user subject for which the application is requesting delegated access.

- ❖ OAuth JWT Cert Password – enter the password for the OAuth JWT certificate.

- ❖ OAuth JWT Cert Subject – enter the subject of the OAuth JWT certificate.

- ➢ AzureAD - Use **SSO** (see below) with AzureAD as the identity provider. Only available for normal users and requires an interactive login to Azure.

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

  - ❖ SSO Properties – additional properties required to connect to the identity provider in a semicolon-separated list.

  - ❖ OAuth Client ID – enter the client ID assigned when you register your application with an OAuth authorization server.

  AzureAD has properties to control which Azure resource is used to authenticate the user. AzureAD SSO uses two applications, the SSO application registered to Workday and a separate OAuth application for the driver.

  The driver must know the resource ID of the SSO application so that it can ask that application to authenticate your user.

- **Use Split Tables** – specify whether to split WQL data sources into multiple tables. This is a True/False dropdown selection.

  Workday data sources will often have several hundred fields, with some data sources like *allWorkers* having thousands of fields. Many database and reporting tools do not support tables with this many columns. By default, the driver exposes the data sources the same way Workday does, so tools with these limitations cannot use larger data sources.

  Enabling this option allows the driver to be used with these tools. When split tables are enabled, the driver creates multiple tables for complex Workday data sources. Each split table contains between 50-100 columns, along with the primary key, last modified timestamp and effective and entry inputs.

  JOINs can be used if data is required from columns that are part of different split tables

  The default value is **False**.

- **Connection Type: Reports**

  Reports exposes Workday reports as views using Reports as a Service (RaaS).

  The **Reports connection type** has the following properties:

  - Custom Report URL – enter the URL of the report that shows all Reports as a Services (RaaS) reports.

- Auth Scheme – this is the type of authentication to use when connecting to Workday.

  This setting is a dropdown selection consisting of the following options to choose from:
  a. OAuthISU
  b. OAuthJWT
  c. AzureAD
  d. OAuth

  The default value is **OAuth**

  Based on what you select from the above options, additional sub-settings are listed for editing.

  Note that these are the same sub-settings that are also described under the Connection Type WQL (above).

  For more context and information, please refer to those properties listed in that section above.

- **Connection Type: REST**

  *REST = **Re**presentational **S**tate **T**ransfer > a way for applications to communicate over the internet using simple HTTP requests)*

  REST exposes Workday data as tables and views using the REST API.

  The **REST connection type** has the following properties:
  - Auth Scheme – this is the type of authentication to use when connecting to Workday.

This setting is a dropdown selection consisting of the following options to choose from:

a. OAuth
b. OAuthISU
c. OAuthJWT
d. AzureAD

Based on what you select from the above options, additional sub-settings are listed for editing.

Note that these are the same sub-settings that are also described in the section above **Connection Type WQL**.

For more context and information, please refer to those properties listed in that section above.

The default value is **OAuth**

- **Connection Type: SOAP**

*SOAP = **S**imple **O**bject **A**ccess **P**rotocol > A transmission and packaging protocol*

SOAP exposes Workday data as views using the SOAP API.

The **SOAP connection type** has the following properties:

- Auth Scheme – this is the type of authentication to use when connecting to Workday.

  This setting is a dropdown selection consisting of the following options to choose from:

  a. Basic
  b. OAuth
  c. OAuthISU
  d. OAuthJWT
  e. AzureAD

The default value is **Basic**.

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

- ❖ User – enter the Workday user account used to authenticate. Together with Password (see below), this field is used to authenticate against the Workday server.

- ❖ Password - enter the password used to authenticate the user. The User (see above) and Password are together used to authenticate with the server.

The other four remaining options, i.e., **OAuth, OAuthISU, OAuthJWT**, and **AzureAD**, all have the same sub-settings that are also described in the section above **Connection Type WQL**.

For more context and information, please refer to those properties listed in that section above.

- ▪ **Service** – enter the specific SOAP service or services to retrieve data from. Enter as a comma-separated list.

When using the SOAP API, the driver exposes SOAP services as separate schemas. By default, the driver exposes the most common Workday services. You can change what services the connection exposes by adding or removing entries from this list:

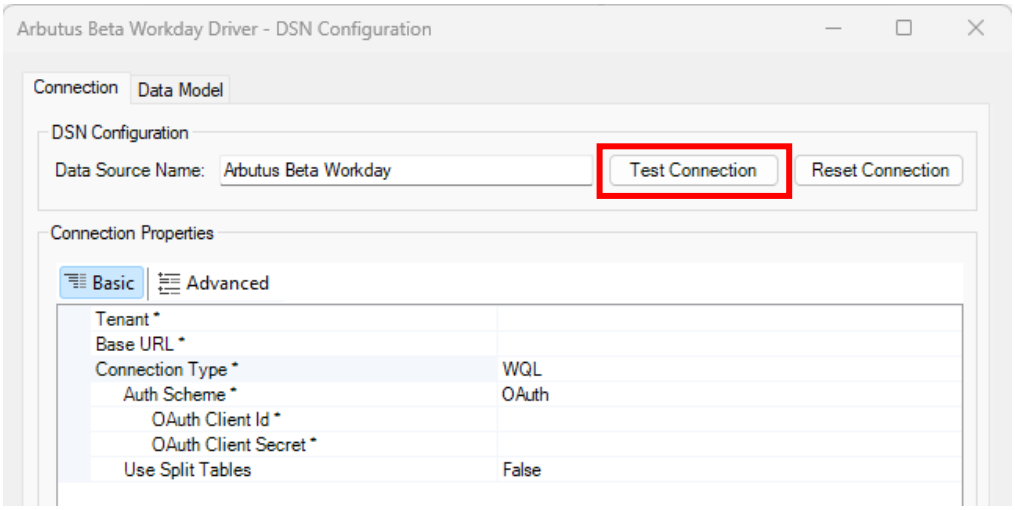
Absence_Management, Academic_Advising, Academic_Foundation, Admissions, Adoption, Benefits_Administration, Campus_Engagement, Cash_Management, Compensation, Compensation_Review, Dynamic_Document_Generation, Financial_Aid,Financial_Management, Human_Resources,

Identity_Management, Integrations, Inventory, Learning, Payroll, Payroll_CAN, Payroll_GBR, Payroll_Interface, Performance_Management, Recruiting, Resource_Management, Revenue_Management, Scheduling, Settlement_Services, Staffing, Student_Core, Student_Finance, Student_Recruiting, Talent, Time_Tracking, Workday_Connect, Workday_Extensibility, Workforce_Planning

E2. Editing the DSN properties in the Advanced tab

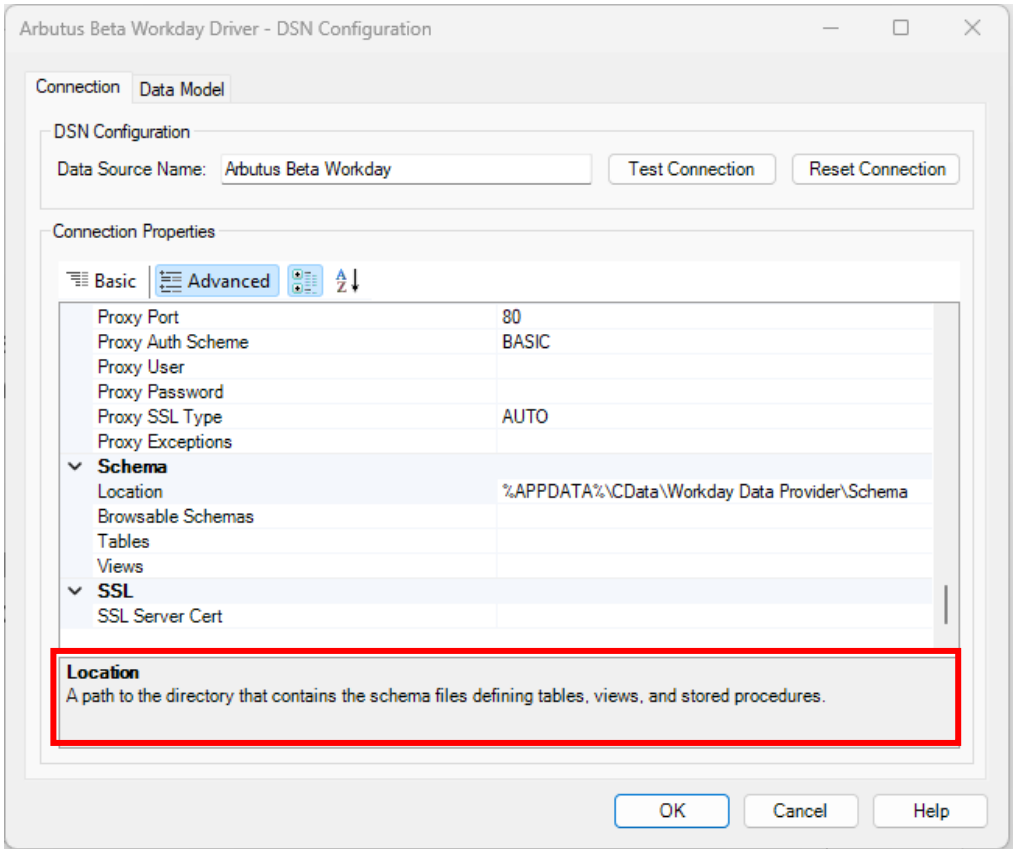
This tab includes more detailed and technical properties. It is intended for those users who need more control over the configuration and are comfortable with more complex options. The **Advanced** tab often includes properties that can fine-tune the behaviour of the system feature.

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 Workday 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.