Process Director Documentation

Custom Tasks Reference Guide

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Contents

Documentation Formatting Note

Text and Code Formatting Conventions

To highlight terms and concepts that have special relevance, this documentation implements several formatting conventions to make key words and terms more noticeable.

- Control Label: This format will identify the text labels or properties for Process Director objects, or the names of dialog boxes.
  Example: The Name text box.
- UI Element: This format will identify user interface elements such as buttons, tabs, or other UI objects used to perform interface operations.
  Example: The Submit button.
- Formal Control Name: This format will identify named Process Director controls.
  Example: A Section End control.
- Process Director Object: This format will identify named instances of Process Director Folders, Forms, Process Timelines, Knowledge Views, etc.
  Example: The Travel Expense Approval Process Timeline.
- **Key Terms**: This format will identify key terms and concepts introduced into the text of the document, and which are important to learn.
  Example: A **Case** is group of processes, transactions, or responses that define a complex activity.
- `Code`**:** This format will identify code samples, system variables, formulas, or other fixed programmatic syntax.
  Example: Type the following formula: `AirFare + Lodging`.
- `Code Option`**:** A section of a code sample to denote placeholder values that must be replaced by the user manually at design time.
  Example: `{CURR_USER, format=FormatType}`
- `Code Comment`**:** A section of a code sample that is used for text comments, rather than runnable code.
  Example: `// This is a comment.`
- `Code Variable`: A programming object whose value is usually determined from a command written in code.
  Example: `var formControls = BaseCurrentForm.FormControls;`

In addition to the above, extended samples of program code are presented in a special format to set them off from the rest of the text, as demonstrated below:

```
// Called after database initialized
public override void SetSystemVars(BPLo-
gix.WorkflowDirector.SDK.bp bp)
{
    // Before we make SDK calls that access the database,
    // ensure DB has been opened
    if (bp.DBOpenComplete)
    {
        // Place custom code here
    }
}
```

Important text or warnings are presented in a special callout box for special attention:

This is an Important item.

Notes of general interest are also presented in special callout boxes:

This is a note.

Hopefully, the use of these formatting conventions will make it easier for you to determine the various types of objects to which the text refers.

Icons

Some universal icons are used in the documentation. They are listed below:

ICON	NAME	DESCRIPTION
#	Link	A hyperlink to the specific URL and named anchor of a topic, heading, or other item.
+	Dropdown Closed	An icon that, when clicked, will expand dropdown text in a topic.
−	Dropdown Open	An icon that, when clicked, will close the expanded dropdown text in a topic.

Finally, some topic headers within each online document may display a link symbol (#) when you mouse over the header. Clicking the link will navigate to that specific section of the document, which can then be bookmarked in your browser.

Other Conventions

URLs displayed in sample will, unless used for commands or URLs used on the local host machine, use the "HTTPS" prefix by default, as modern practice has evolved to use the encryption layer to access URLs, instead of the plain-text method (HTTP) of accessing URLs.

Introduction to Custom Tasks

Process Director supports the ability to package unique business logic in Custom Tasks that can be mapped to Form events (e.g., buttons) and can be used in Process Timelines as Activities. This enables custom logic to be developed once with the scripting interfaces and re-used across many Form and Process Timeline definitions without any additional scripting.

Download the latest Custom Tasks here.

Using T-SQL with Custom Tasks

Several Custom Task types, such as the Database Connector Custom Tasks, allow you to use T-SQL to pass SQL statements directly to the Process Director database. Process Director implements some custom methods for using system variables in SQL statements, such as

- Encode types for Strings ($), numbers (#), and string handling for use in LIKE clauses (~).
- Pre, Post, and Null text operators for System Variables
- Pattern, Replace, and Trim for use with Regular Expressions

All of these items are documented in the System Variables Guide at the topics linked above in the list.

Custom Task Types

All Custom Tasks should be located in the [Custom Tasks] folder, which is located at the root level of the partition(s) for your Process Director installation. In side the folder are a series of subfolders, each of which stores a specific category of Custom Tasks. You can navigate to each category of Custom Task by using the Table of Contents displayed in the upper right corner of the page, or clicking one of the links below.

Active Directory: Used for accessing data from Microsoft Active Directory.

Case: Used to manipulate Case definitions/instances.

Content Actions: Used to manipulate Content List objects.

Database Connectors: Used to access and manipulate data in external data stores.

Documents: Used to manipulate document attachments.

Form: Used to access and manipulate Form instances.

Form Data Mapping: Used to get or set data contained in Form instances.

IoT: Used to access data from remote "Internet of Things" (IoT) devices. Primarily intended for use with Machine Learning/AI operations.

Meta Data: Used to get or set Meta Data categories and attributes for object instances.

MS Dynamics: Used to access data from Microsoft Dynamics.

PDF: Used to perform PDF transform and conversion operations.

Process: Used to manipulate process instances.

User: Used to import or provision Process Director users without manually performing tasks via the IT Admin area.

Web Services: Used to access or post data via Web Services.

SharePoint: Used to access data from Microsoft SharePoint.

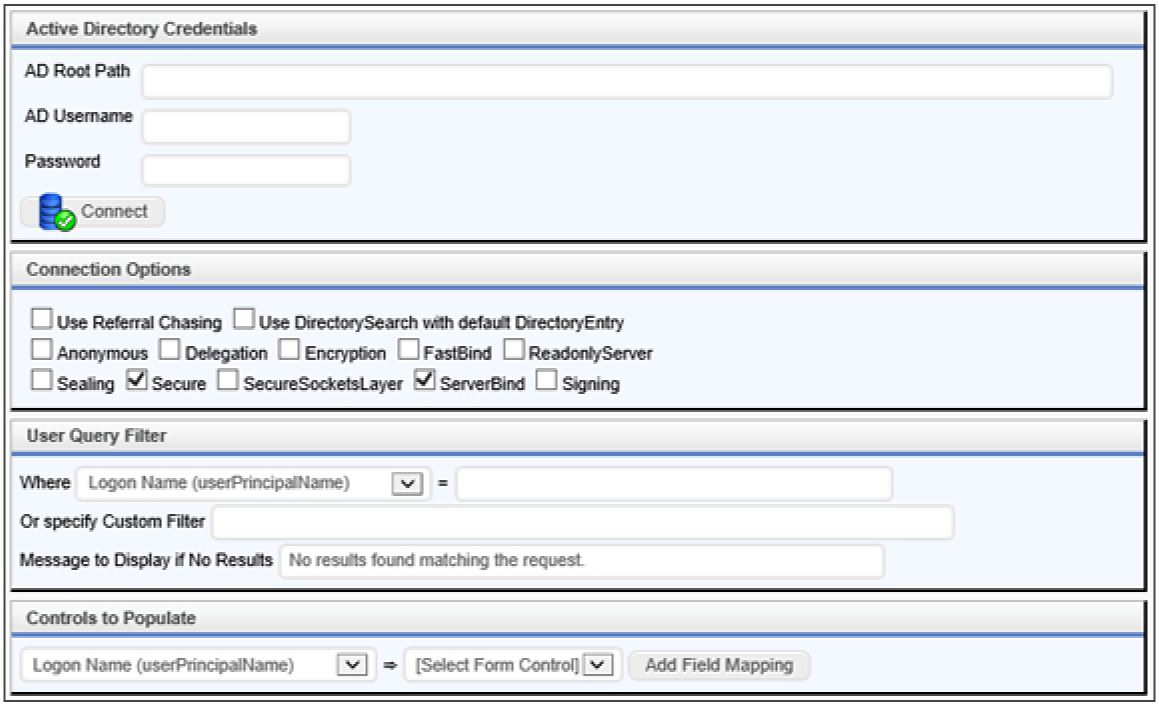
MS Dynamics: Used to access data from Microsoft Dynamics.

Active Directory Custom Tasks

These Custom Tasks use data from Active Directory to use in Process Director.

Fill Fields from Active Directory

This Custom Task enables you to fill Form fields using data from Active Directory. You can return values from both standard and custom Active Directory fields, and map each value returned to a Form field.



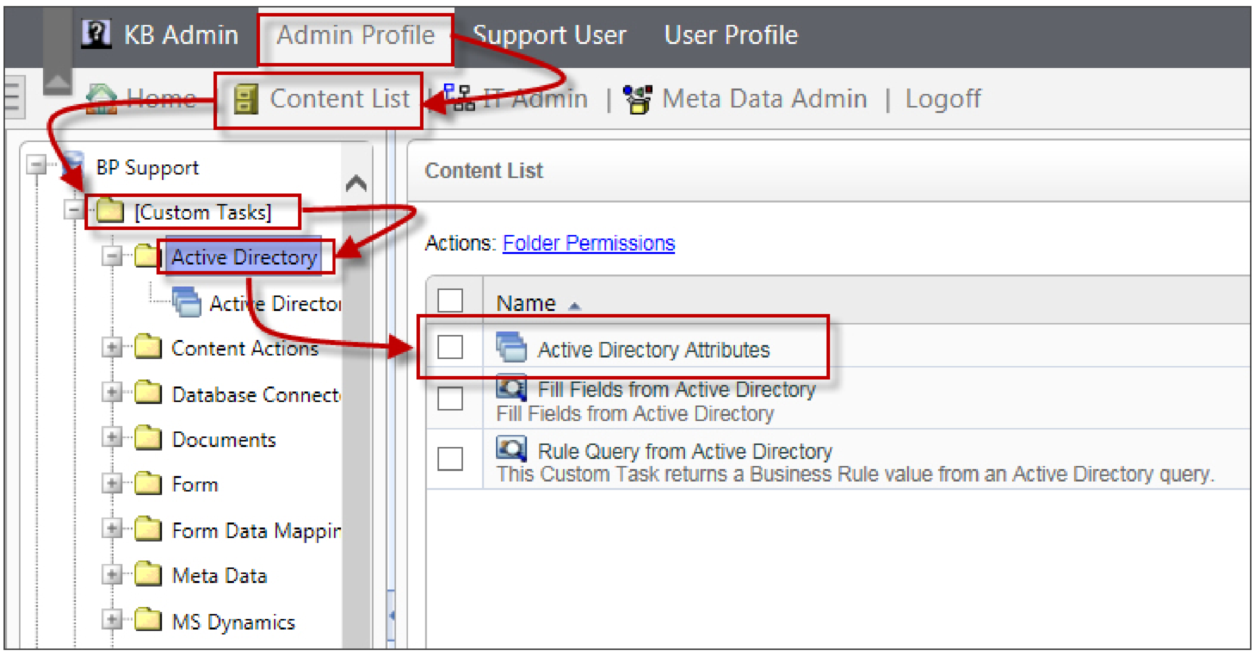
Configuration Options

OPTION	DESCRIPTION
AD Root Path	The root path of the Active Directory
AD Username	A valid AD user with permissions to read AD data.
AD Password	AD User's password
Connection Options	A list of check boxes that display connection options. Defaults to select a secure, Server-Bind connection.
Where	Query filter to select specific AD fields that match a text value.
Or specify custom filter	A custom text filter to apply.
Message to display if no results	A text message to display if the AD query doesn't return any results.
Controls to populate	You can select which form controls to populate with fields from the active directory. Simply click the Add Field Mapping button to add

OPTION	DESCRIPTION
	another field to map. If an Active Directory field is mapped to a form field in an array, it will append a row to that array for each user found, and fill in the form field in the new row of the array.

In the Controls to Populate section, the Dropdown Object on the left side will display the standard fields from Active Directory. You can alter the fields that are displayed in this dropdown to include custom fields.

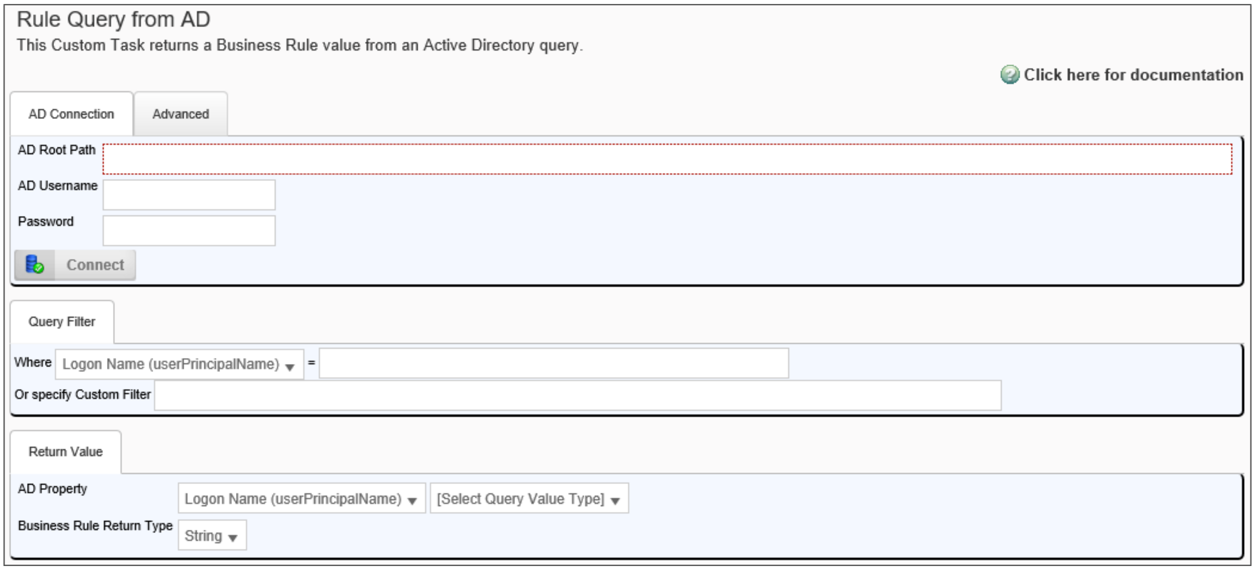
In the content list, navigate to the Active Directory subfolder of the [Custom Tasks] directory. In this folder, there's a Drodown object named Active Directory Attributes. You can alter the list of fields displayed in this dropdown object in order to display any custom Active Directory fields you desire.



Rule Query From Active Directory

This Custom Task enables you to perform an Active Directory query in a Business Rule. You can then return the result of the active Directory Query as a Business Rule value.

Standard Tabs



Advanced Tab

Configuration Options

OPTION	DESCRIPTION
AD Connection Tab	
AD Root Path	The root path of the Active Directory
AD Username	A valid AD user with permissions to read AD data.
AD Password	AD User's password
Advanced Tab	

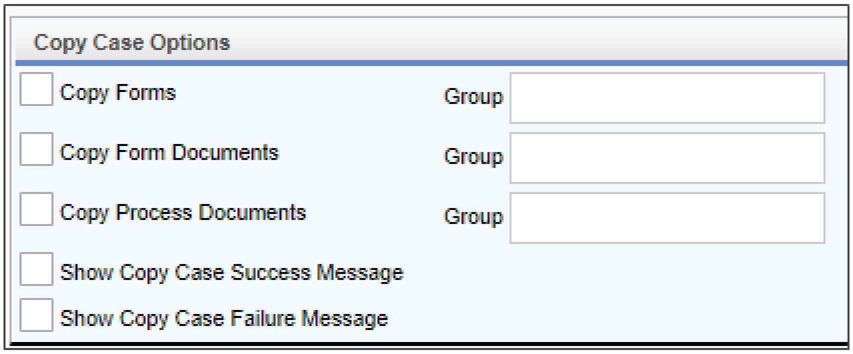
OPTION	DESCRIPTION
Various Check Boxes	A list of check boxes that display connection options. Defaults to select a secure, Server-Bind connection.
Query Filter Tab	
Where	Query filter to select specific AD fields that match a text value.
Or specify custom filter	A custom text filter to apply.
Return Value Tab	
AD Property	Two dropdown controls. The first dropdown contains a list of all possible Active Directory fields. The second dropdown contains a list of Query value types, and can be set to one of the following values: • UserID • UID • E-mail Address • Group Name • GID
Business Rule return type	The type of data to be returned by the Business Rule, and can be one of the following options: • String • Number • Date/Time • user • Group

Case Custom Tasks

Case Custom Tasks enable you to manipulate the properties for Case instances.

Copy Case

This Custom Task will copy all Case instance objects to a new Case instance. You can check the boxes next to each of the objects you desire to copy, and you can limit the objects returned by specifying a Group name to return only objects from a specified group. This feature enables you to select specific objects to transfer to a new Case instance, or to transfer all of the objects in a Case.



Each selectable object has a Group option that enables you to specify a specific group name from which to copy the objects.

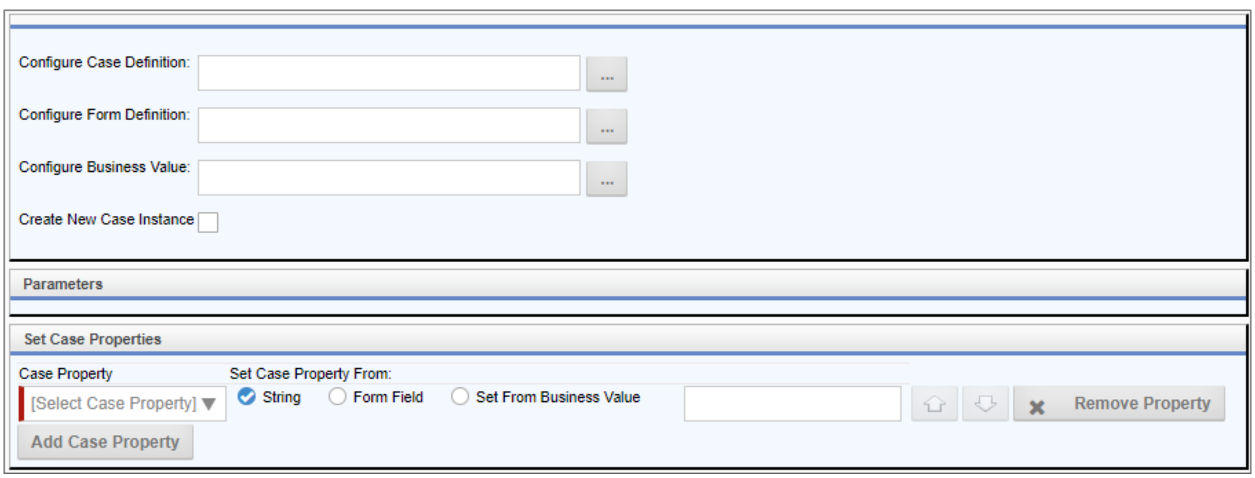
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Copy Forms		Selecting this option will copy all of the case forms.
Copy Form Documents		Selecting this option will copy all of the case form attachments.
Copy Process Documents		Selecting this option will copy all of the case process attachments.
Show Copy Case Success Message		Selecting this option will dis-

OPTION	ATTRIBUTES	DESCRIPTION
		play a success message upon completion.
Show Copy Case Failure Message		Selecting this option will display a failure message if the copy operation fails.

Set Case Property

This Custom Task will set property values in a Case instance from either a manually-configured value, a Form field, or a Business Value. You can configure the same Custom task to return both Form and Business Value data, then select which data to apply to different properties. You can also simply set string values manually, with or without Form and/or Business Value data.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Configure Case Definition		A Content Picker that enables you to

OPTION	ATTRIBUTES	DESCRIPTION
		select the Case definition for which you wish to set the properties.
Configure Form Definition		A Content Picker that enables you to select the Form definition for which you wish to set the properties. **This control won't be displayed when configuring the Custom Task in a process, as it is redundant, since the properties can be set in the Form itself.**
Configure Business Value		A Content

OPTION	ATTRIBUTES	DESCRIPTION
		Picker that enables you to select the Business Value definition for which you wish to set the properties.
Create New Case Instance		Selecting this option will create a new Case instance for the configured Case definition before setting the case properties for that instance.
Object Data Type		A Content Picker that enables you select the Form definition whose fields will be used to set the properties of the selected Case definition.
Case Property	A dropdown list containing the properties for the Case definition you selected.	The Case property to set.

OPTION	ATTRIBUTES	DESCRIPTION
Set Case property From	String Form Control Set from Business Value	Setting this property to String will display a text box into which you can enter the value you wish to set. You can enter System Variables in this field to set the property. Setting this property to Form Field will display a drop-down from which you can select the Form field from which the value will be set. If the field is an array field, the Case Property will be set to a comma-separated list of all values in the array field.
From Object	Text Box Form Control Dropdown	Depending on the value you

OPTION	ATTRIBUTES	DESCRIPTION
	Content Picker to select a Business Value	select from the Set Case Property From property, you'll see the appropriate control to set the value of the case property, e.g., a text box when you select "String".

For each property, clicking the Up or Down arrow buttons will change the order in which the properties are set. Clicking the Remove Property button will eliminate the property from the list of properties to set.

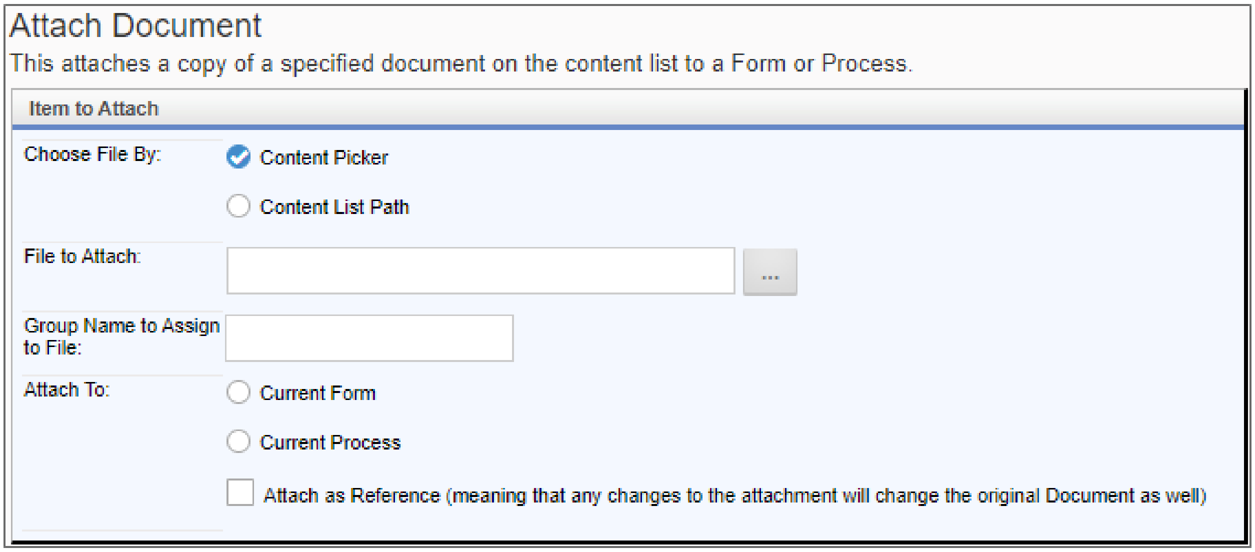
To add an additional property to set, click the Add Case Property button.

Content Actions Custom Tasks

These Custom Tasks perform a variety of operations on Process Director Content List objects.

Attach Document

This Custom Task will attach a document from the Content List to a specific Form or Process instance. This Custom Task enables you to provide documents such as fillable PDF Forms, instructional documents, images, or other attachments to a running Form or Process. The document you attach must reside in the Content List.



Configuration Options

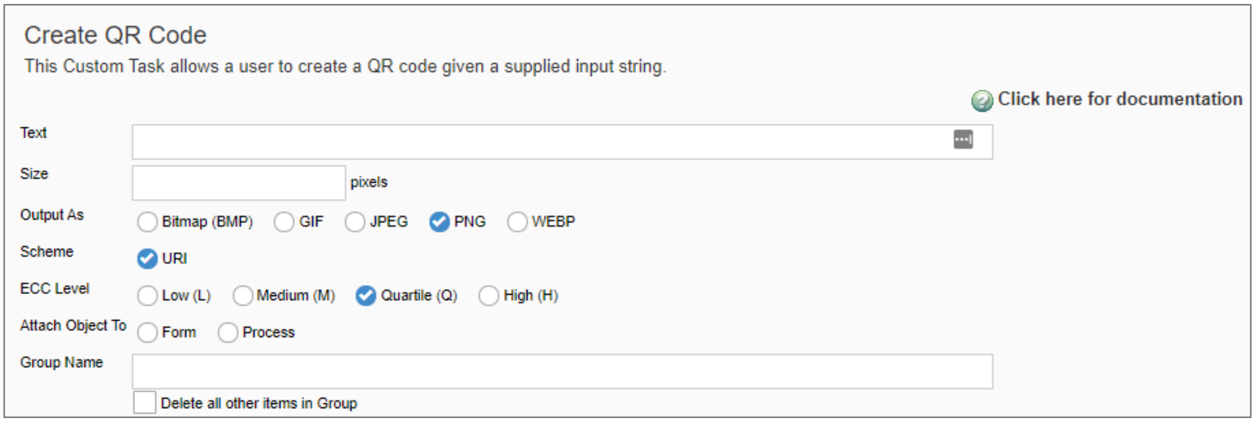
OPTION	ATTRIBUTES	DESCRIPTION
Choose file by	Content Picker Content List path string	Enables you to specify the method to use the choose the document to attach. In most use cases, the default selection, Content Picker, will be the best choice.
File to Attach		The document to attach can be selected via a Content Picker control when Content Picker is selec-

OPTION	ATTRIBUTES	DESCRIPTION
		ted as the Choose File by property. If Content List path string is selected, a text box will appear to enable you to type in the Content List path to the document. Again, in most cases, you'll use the Content Picker.
Group Name to Assign to File		The desired Group Name for the attached file.
Attach To	Current Form Current Process	Select the appropriate option to attach the document in the Content List to the current process instance, or the current instance of the default Form.

OPTION	ATTRIBUTES	DESCRIPTION
		In most cases, attaching the document to the Current Process is the best option.

Create QR Code

This Custom Task will generate a QR Code image when used in conjunction with a BP Logix Image control. This Custom Task requires Process Director v5.44.500 or higher to work, since some additional application files are required for the product to produce the QR code image.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Text		The text to encode in the QR image. Currently, it only supports URIs (see theScheme property). This

OPTION	ATTRIBUTES	DESCRIPTION
		property is required. Keep in mind that the Text should be as short as possible to generate more readable QR code image. For very long URIs, you may wish to consider a URL shortener.
Size		Size in pixels. 100 pixels is the minimum. There is no maximum. The size represents both width and height as only square images are generated.
Output As	Bitmap GIF JPEG PNG WEBP	The image format of the generated image. PNG is the default image type. Use the other formats if the

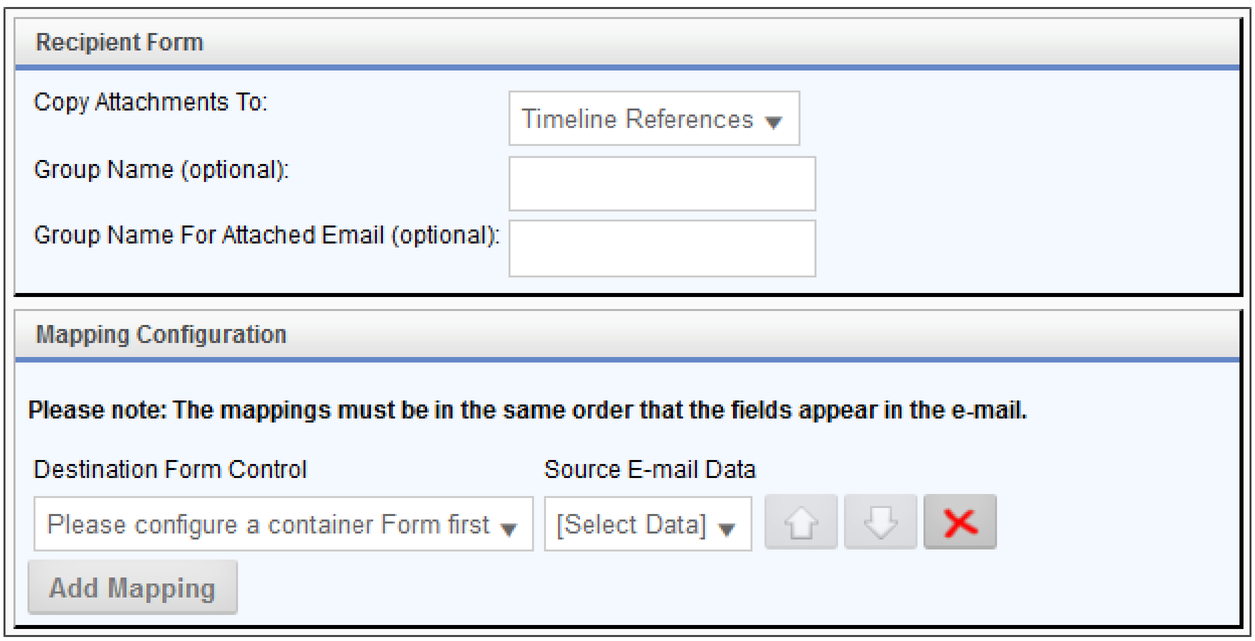
OPTION	ATTRIBUTES	DESCRIPTION
		image may be exported or utilized in other systems that require specific image formats.
Scheme	URI	The Scheme controls how the Text is validated as well as how it's encoded in the QR code. Currently, only URIs are supported. Other formats will likely be supported in future releases.
ECC Level	Low Medium Quartile High	Error correction code level specifies how much redundant information to include as an aid in scanning the code. Quartile provides a good balance of redundancy

OPTION	ATTRIBUTES	DESCRIPTION
		vs increased size. Utilize Low or Medium when a smaller image is desired and image scans will be performed at a close distance to image. Use High when you want the most reliable QR image possible and size is less of an issue.
Attach Object To	Form Process	Specifies the object to which to attach the image file.
Group Name		Specifies the group name of the attachment file.
Delete all other items in Group		When checked, this option will delete all other files in the specified group. Otherwise, the image attach-

OPTION	ATTRIBUTES	DESCRIPTION
		ment will be added to the existing files in the group.

Email Import

This Custom Task enables you to import text from an email and map it to a field in a Form. To do so, you'll need to identify the container form in the Process Timeline activity. Additionally, the Custom Task can be configured to move any email attachment documents to the Form or Process as attachments. You can find information to extract from the email massage by using specific keywords found in the email body, or by specifying a Regular Expression to use to parse the entire text of an email message for text that matches it. Additionally, you can return data from specific email header values.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Copy Attachments to	None, Timeline References, Workflow References, Form	Determines how email

OPTION	ATTRIBUTES	DESCRIPTION
	References.	attachments will be stored.
Group Name		The desired group name to apply to the imported email attachments.
Group Name for attached Email		The desired group name to apply to the imported email message.
Destination Form Control	Form fields on the container Form	The data field to which you'd like to map the data.
Source Email Data	From, From (Display Name), Date, Subject, Single Header, Entire Header, Keyword, Regular Expression	The various email sections where the data you'd like to extract is located in the email.

If you select the Keyword, Single Header, or Regular Expression items as the Source Email Data, additional text boxes will appear automatically that enable you to identify the items to search for.

- **Keyword:** Two text boxes will appear. In the first text box you can place a starting keyword, while the second text box will accept an ending keyword. Process Director will return all text between the keywords.

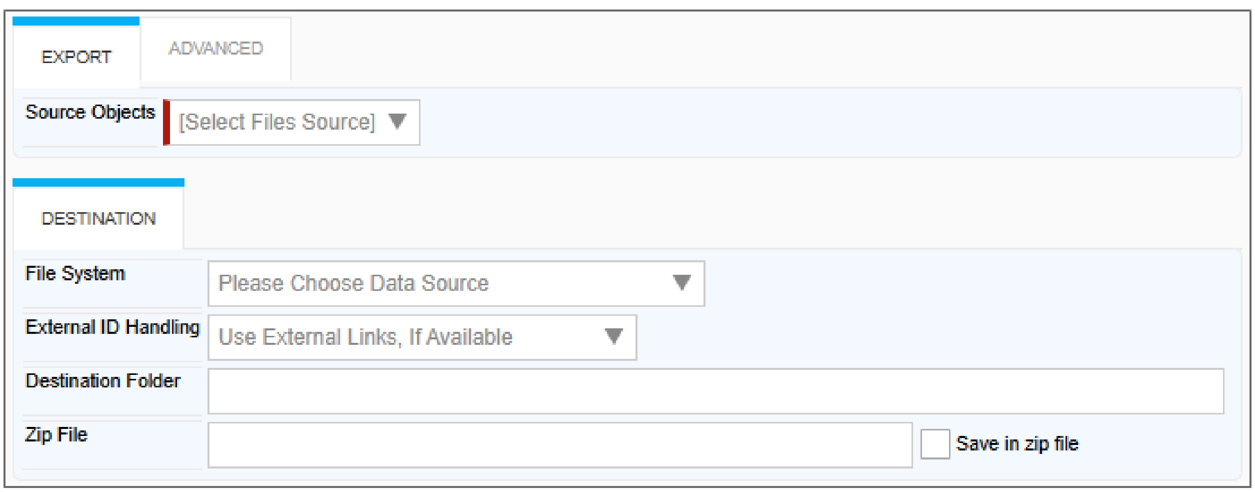
- **Single header:** A single text box will appear that accepts the name of an email header field.
- **Regular Expression:**A single text box will appear that accepts a regular expression to use to parse the email body. Leaving the value blank, i.e., not providing an expression, will import the entire body of the email message.

Export Files to Filesystem

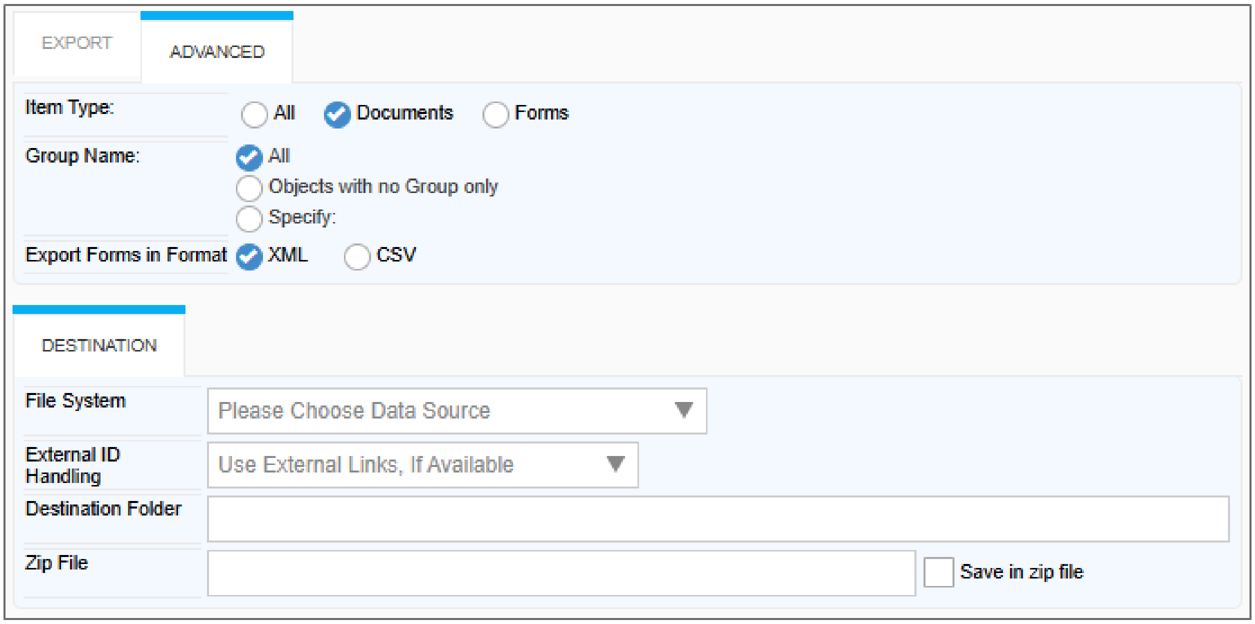
This Custom Task enables a user to export objects from Process Director to either a Windows File System folder or to an accessible SFTP server. In most cases, this Custom Task should be used instead of the older Export Items Custom Task.

Security enhancements for Process Director v5.0 disable the use of System Variables to configure the Destination Folder property. Additionally, the requirement was imposed that all export paths to a Windows File System must be explicitly listed in the Custom Variables file, through the use of the AllowedExportLocations Custom Variable.

Export Tab



Advanced Tab



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
EXPORT TAB		
Source Objects	Form, Workflow, Timeline	Reference types to export.
ADVANCED TAB		
Item Type	All Documents, Forms.	Item type to export.
Group Name	All, Objects with no group only, Specify	The Group Name of the items to export. Choosing Specify will reveal a text box into which you can type a specific Group Name, or a System Variable that returns a Group Name.
Export forms in format	XML, CSV	The export format of the exported item.

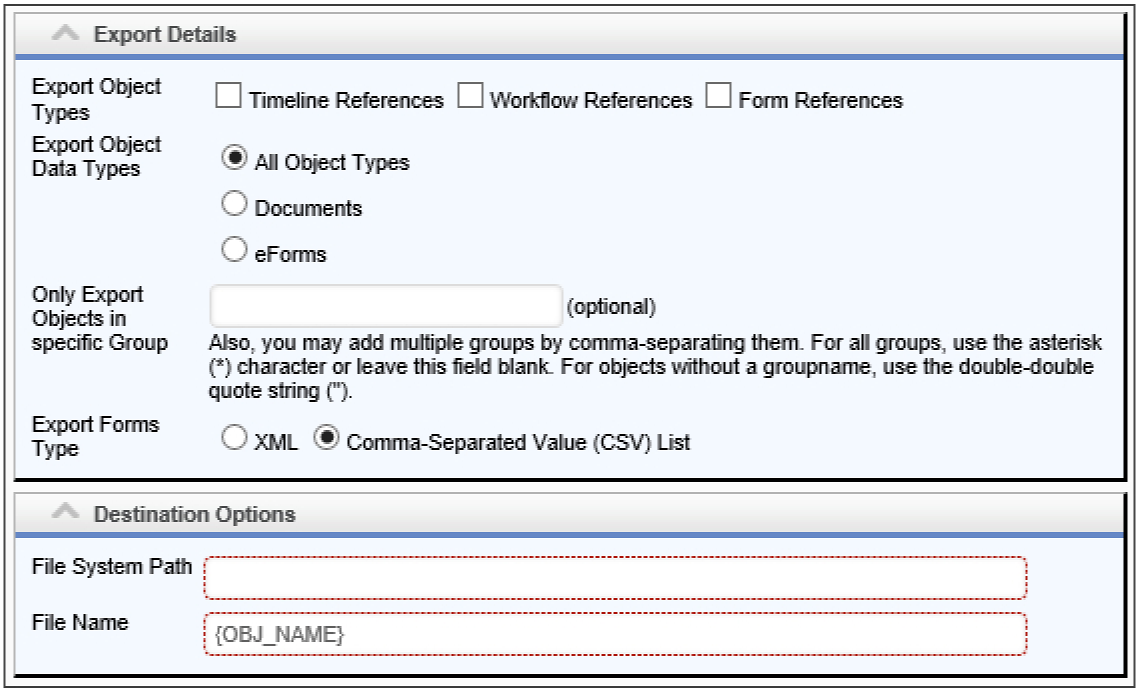
OPTION	ATTRIBUTES	DESCRIPTION
DESTINATION TAB		
File system	Available file systems	The file system in which to export the object. This should be a Datasource object that uses either the Windows File System or the SFTP (SSH Transfer) Data-source Types.
External ID Handling	Use External Links if Avail-able, Require External links (Error if no Link), Do Not Use External Links (Ignore)	How to handle external IDs from the chosen file system.
Destination Folder		If you select the "Do Not Use External Links (Ignore)" option, you can enter the file path for your export in the Destination Folder text-box. The location must be one specified by the AllowedExportLocations Custom Variable, if the export is set to use a Windows File System folder. For SFTP trans-fers, the folder path can be set arbitrarily.
Zip File/Save in Zip File		Introduced in v2025.02.27 of the Cus-tom Task, the Save in Zip File property, when

OPTION	ATTRIBUTES	DESCRIPTION
		checked, will add the exported files to a ZIP archive and save it. The Zip file property enables you to provide a name for a ZIP file.

Export Items

This Custom task has been deprecated in favor of using the Export Files to Filesystem Custom Task.

This Custom Task exports items (Documents, Forms, Form Data, etc.) to the Content List or File System. Ensure the folder has full permission to write the data.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Export Object Types	Process Timeline References	Type of object

OPTION	ATTRIBUTES	DESCRIPTION
	Workflow References Form References	(s) to export. Multiple objects can be selected.
Export Object Data Types	All Objects Documents Forms	Type of object data type to export.
Only export objects in specific Group		Specify a Group Name, or a System Variable that returns a Group Name, to export objects that belong to that group
Export Forms Type	XML CSV	Decides format of exported object: XML or Comma Separated Values
File System Path		Location to export the file. Can be set to your local drive.
File Name		New name of the exported file

For Process Director v4.5 and version 2017.08.11 of this Custom Task, Process Director will attempt to create the specified File System path if the path doesn't exist. For prior versions, the path must already exist on the target system.

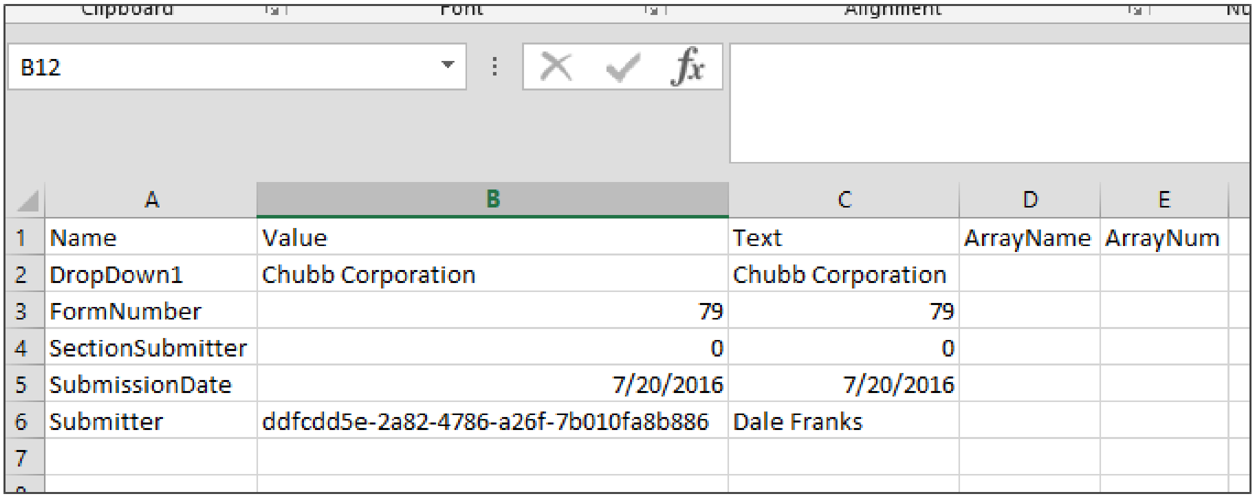
XML Format

When the XML option is selected, form instances are exported to an XML file of the following format. The XML file stores information about the state of each field in the form instance.

```
<!-- Export Items XML Format -->
<?xml version="1.0" encoding="utf-8"?>
<FormDataXML xlmns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <!-- each form field's information is contained inside a
<FormFieldsList> tag -->
    <FormFieldsList>
        <Name>someName</Name><!-- the name of the form field -
->
        <Value>someValue</Value><!-- this form instance's
value for the field -->
        <Text>someText</Text><!-- the text of the form field
(if applicable) -->
        <!-- Array Tags: these tags only appear if the field
is part of an array -->
        <ArrayName>someName</ArrayName><!-- the array con-
taining this field -->
        <ArrayNum>0</ArrayNum><!-- the number of the row this
field is in -->
        <!-- this tag appears for every field, and is just a
placeholder to
        ensure future compatibility -->
        <FormField_V1 />
    </FormFieldsList>
</FormDataXML>
```

CSV Format

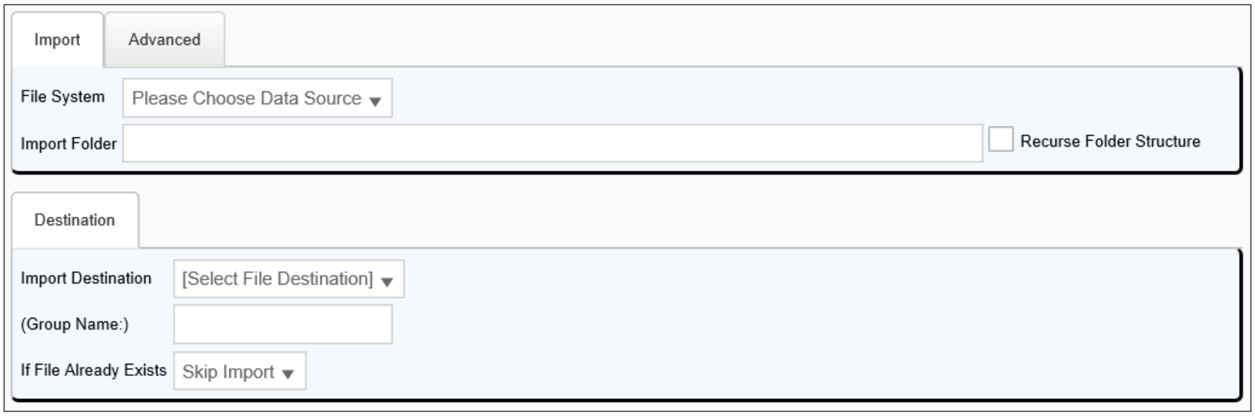
When the CSV option is selected, form instances are exported to a CSV file of the following format. The CSV file stores information about the state of each field in the form instance.



Import files from Filesystem

This Custom Task enables a user to import files from any accessible Windows File System folder or SFTP Server folder to Process Director. You can select an import folder on the file system and import all files in that folder, including any subfolders, into Process Director. Alternatively, you can specify filters to import only the desired files from the folder, such as limiting the import to files of a certain size or file type.

Import/Destination Tabs



Advanced Tab

Configuration Options

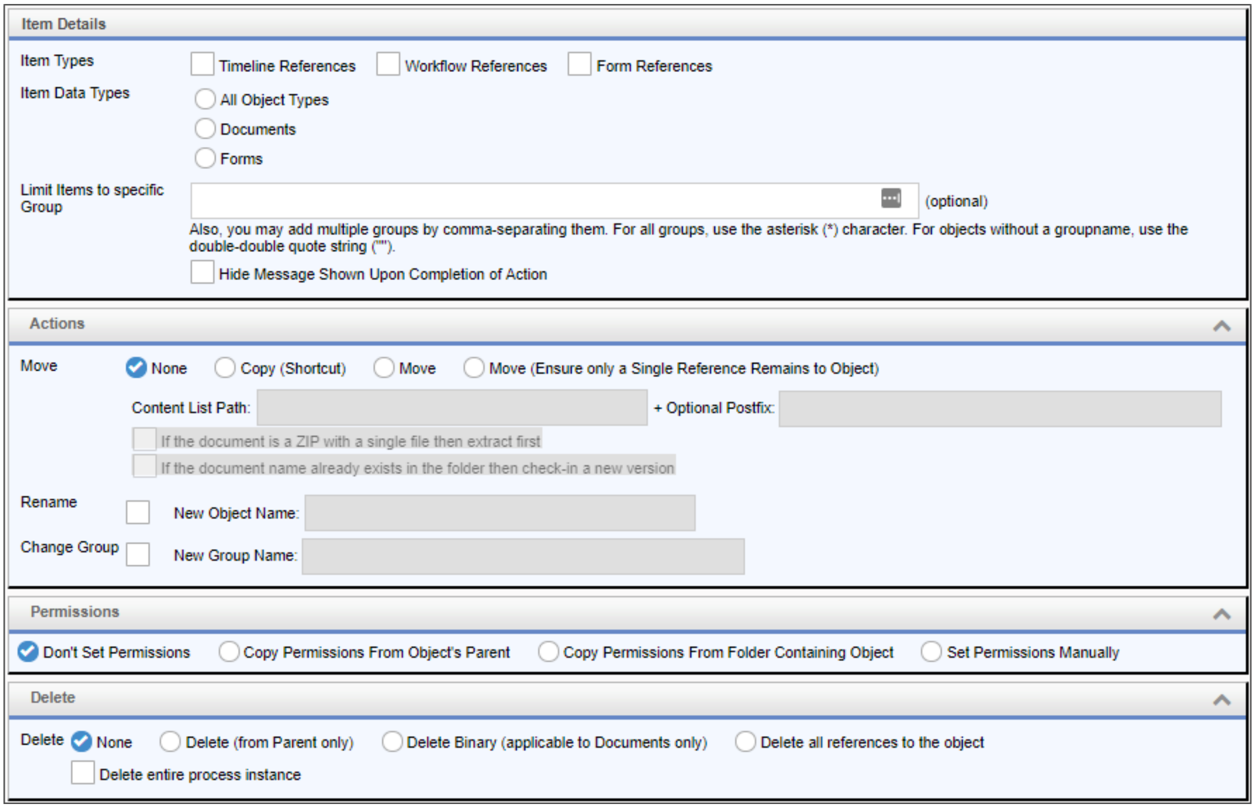
OPTION	ATTRIBUTES	DESCRIPTION
IMPORT TAB		
File System		The file system Data-source from which you'd like to import items. This should be a Datasource object that uses either the Windows File System or the SFTP (SSH Transfer) Data-source Types.
Import Folder		The folder path to the item to import.
Recurse folder structure		Allow recursive folders.
DESTINATION TAB		
Import Destination	Form, Workflow, Timeline, Folder	The import location into which to place the imported item. Depending on which option you specify, you can select the

OPTION	ATTRIBUTES	DESCRIPTION
		object into which to place the imported item. For instance, if you select Folder, which is the most common use case, you'll be shown a Folder Picker than enables you to pick the folder into which to place the imported file(s).
Group Name		Enables you to enter a Group name for the imported file(s).
If File Already Exists	Skip import, Create New Version, Create New Object	Select how to handle files that already exist in Process Director.
ADVANCED TAB		
Maximum Number of Files to Handle		The maximum number of files to import during the operation.
Maximum Size of Files		This field accepts an integer number for the maximum file size of handled files in **Kilobytes**. Larger files are excluded from the operation.
Match Filter		A text filter to specify the files to import.

OPTION	ATTRIBUTES	DESCRIPTION
		The text should specify a comma- separated list of acceptable file extensions, e.g., ".doc,.docx,.xls,.xlsx".
Date Filter (Minimum Date)		This is a two- part option. The Textbox allows you to specify a minimum file date to import, while the dropdown enables the selection of how to populate the minimum date field.
Delete File in Filesystem on Successful Import		This check box enables you to select whether or not to delete the original file in the file system after the import.

Item Actions

This Custom Task allows you to move, delete, and/or rename a Process Director object or file attachment contained in the current process. For instance, you might wish to copy a document attachment from the process into a specific Content List folder. Additionally, you can use this Custom Task to set or change permissions for an object.



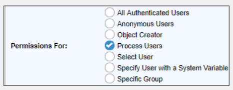
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Item Types	Timeline References Workflow References Form References	The type of items upon which you'd like to run the action.
Item Data Types	All Object Types Documents Forms	The data type of the items upon which you'd like to run the action.
Limit items to a Specific Group		The Group Names, separated by commas, of the

OPTION	ATTRIBUTES	DESCRIPTION
		items upon which you'd like to run the action.
Hide Message Shown Upon Completion Of Action		Checking this option will suppress the message shown on the Form.
Move	None: Do not move the object. Move: Move the object to a specified Content list Path. Copy: Copy the object to a specified Content list Path. Ensure only a Single Reference remains to Object: Remove all references to the object except for the object that resides in the specified Content List Path.	The desired move actions, if any.
Content List Path		The path in the Content List to which the Move actions are applied.
Optional Postfix		This is the name of a subdirectory you'd like to create in the content list folder spe-

OPTION	ATTRIBUTES	DESCRIPTION
		cified in the Content List Path. Process Director will create the sub-folder for you automatically.
If the Document is a ZIP file with a single file then extract first		Setting this option will, ***if the file is a zip archive containing a single file***, extract the file from the zip archive before placing it int he Content List.
If the document name already exists in the folder then check-in a new version		If the imported document already exists, checking this option will check out the existing document, then check in the new document as a new version check-in.
Rename	New Object Name	Enables you to

OPTION	ATTRIBUTES	DESCRIPTION
		specify a new object name for the item by entering it into the New Object Name text box.
Change Group	New Group Name	Enables you to specify a new group name for the item by entering it into the New Group Name text box.
Permissions	Don't Set Permissions Copy Permissions from Object's Parent Copy Permissions from Folder Containing Object Set Permissions Manually	Enables you to choose between copying the permissions of the Content List folder in which the object resides, or the option to copy permissions from whatever its parent is (e.g. a Process or Form instance). Selecting the

OPTION	ATTRIBUTES	DESCRIPTION
		Set Permissions Manually item enlarges the permissions section to enable you to set manual permissions on the object being configured. When Set Permissions Manually is selected, a number of different options appear to enable you to set the permissions from the Custom Task.  The first five options are preset options to cover the normal user permissions

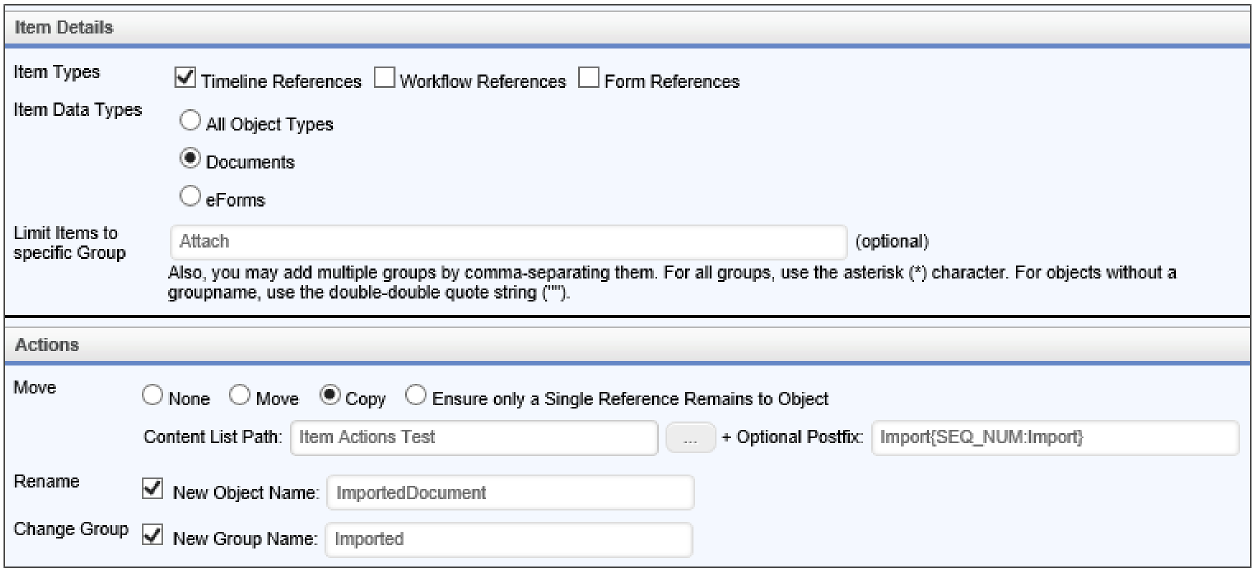
OPTION	ATTRIBUTES	DESCRIPTION
		groups that exist in Process Director. The remaining three options (Select User, Specify user with a System Variable, and Specific Group), will, when selected provide an additional control to select the user, or to specify a System Variable or Group Name for whom to set permissions.
Delete	None Delete (from parent only) Delete Binary (Applicable to documents only) Delete all references to the object	The desired delete actions, if any. Delete (from parent only) will delete the attachment reference from the specified

OPTION	ATTRIBUTES	DESCRIPTION
		parent object, but not delete the object from any other object that references it. Delete Binary (Applicable to documents only) will delete the attachment binary, but will retain all of the references to the object. Delete all references to the object will completely delete the attachment and all references to it in all objects.
Delete entire process instance		Checking this option will delete the currently running process instance.

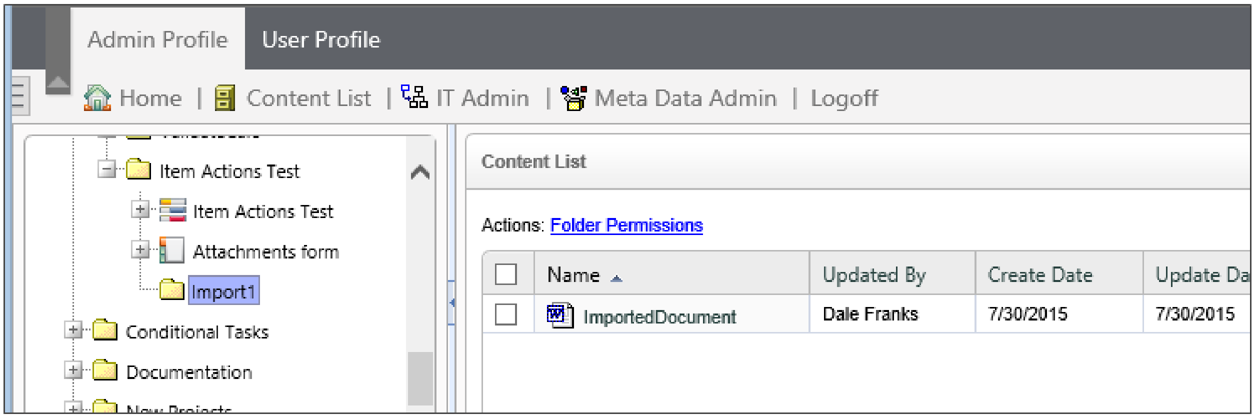
OPTION	ATTRIBUTES	DESCRIPTION
		Use this property carefully; any pending tasks in the process will be deleted, and if the Item Actions CT is deleting a process as a task in that process, forms opened on a task in that process will be closed.

Example

Let us assume that there is an uploaded document in a Group called "Attach" that is attached to a Timeline, and that you'd like to rename the document and copy it to the content list. You could configure the Item Actions Custom Task as shown below:



In this case, the uploaded document will be copied into the Item Actions Test folder by creating a subfolder that incorporates a unique sequence number as part of the folder name. The document will be renamed "ImportedDocument", and placed into a group named "Imported. In the content list, after the Custom Task runs, you'll see the new folder and the copied document it contains, as shown below:



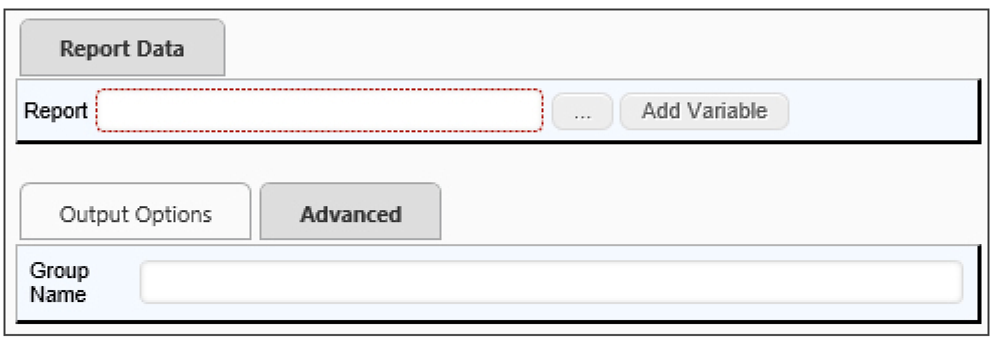
Please note that this example renames the attachment object with a new name. While the document is stored in process Director, this won't cause a problem, because Process Director will store the proper file document type. But, this may cause a conflict with the Export Files to Filesystem CT at a later time. The Export Files to Filesystem CT does ***not*** track the document types that are exported, but will simply use the object's name as the file name during the export. So, if the object name of the renamed document is missing the file extension, or is renamed to a different file extension, then once the Export Files to Filesystem CT is run, the exported document will ***not*** have the proper file extension when it is stored on your local file system.

Run Report

The Custom Task enables you to run a Report in the background, then export the completed Report to a specific file format (PDF, PNG, etc.).

Report Data/Output Options Tabs

Advanced Tab



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
REPORT DATA TAB		
Report		Select the report to run using the Report picker control
OUTPUT OPTIONS		

OPTION	ATTRIBUTES	DESCRIPTION
Output Name		The name of the exported report object.
Select Format	PDF, JPG, PNG, DOCX, XLSX, PPTX, CSV	The output file format of the exported report. The CSV format was added to the 2024.08.21 version of the Custom Task.
ADVANCED TAB		
Group Name		The group name of the exported object.

Database Connectors Custom Tasks

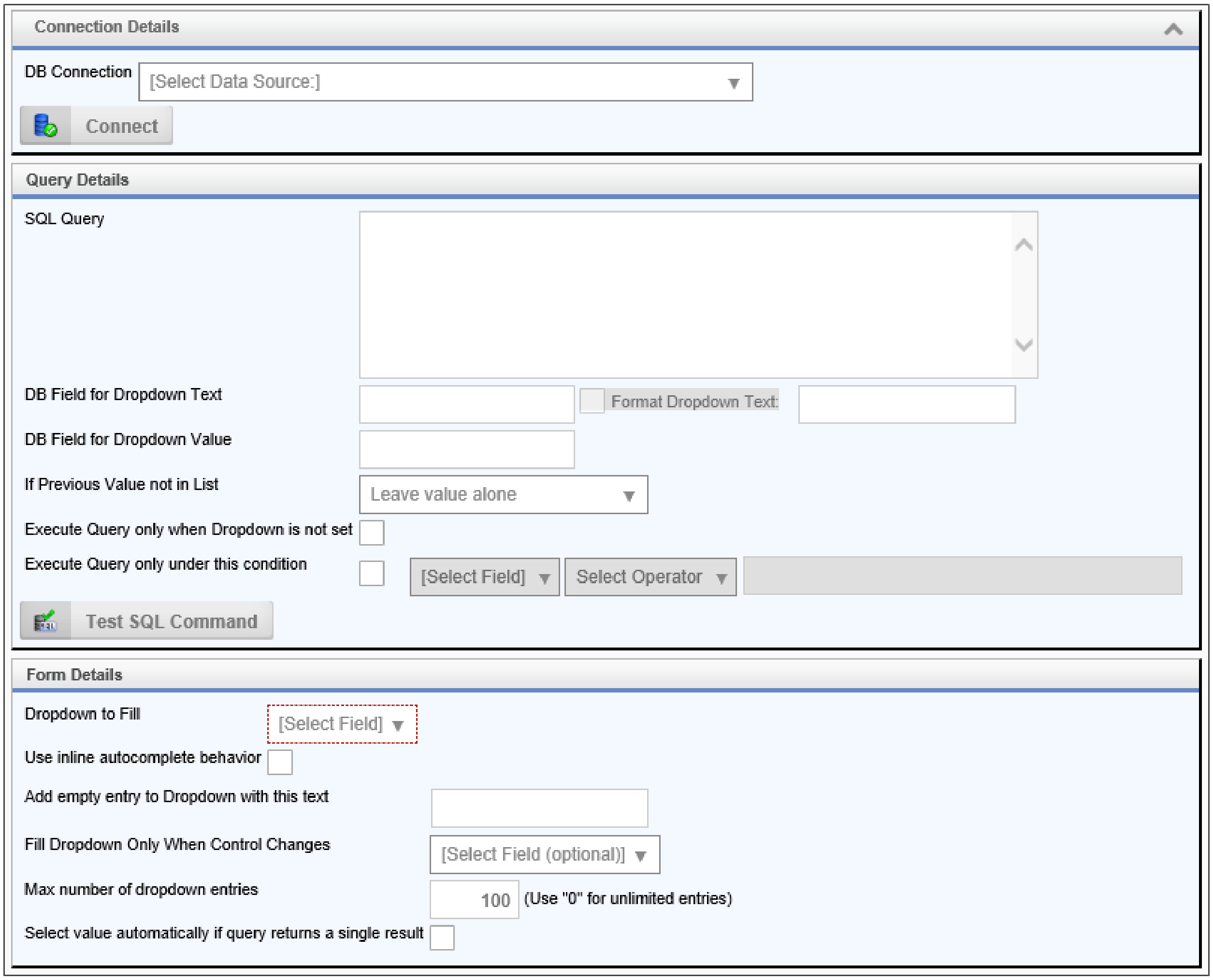
Custom Tasks in this section perform operations on a live database to Select, Update, Insert, or Delete data. Any operation you specify with these Custom Tasks will run on the database you select. As such, you should exercise caution using Custom Tasks that alter the underlying data.

For security reasons, it is very important that, when using system variables in a SQL statement, you include all of the proper system variable encodings to ensure you protect yourself from possible security issues, like SQL Injection attacks.

Advanced Fill Dropdown from DB

This Form Custom Task will automatically fill a dropdown field on the Form with values from an external database using a free-form SQL command.

For most use cases, the Business Value is a better choice for accessing and using external data.



Configuration Options

OPTION	VALUES	DESCRIPTION
DB Connection	Manual Connection, [List of Available Connections]	Allows you to select a pre-configured Data Source object.
SQL Query		SELECT clause

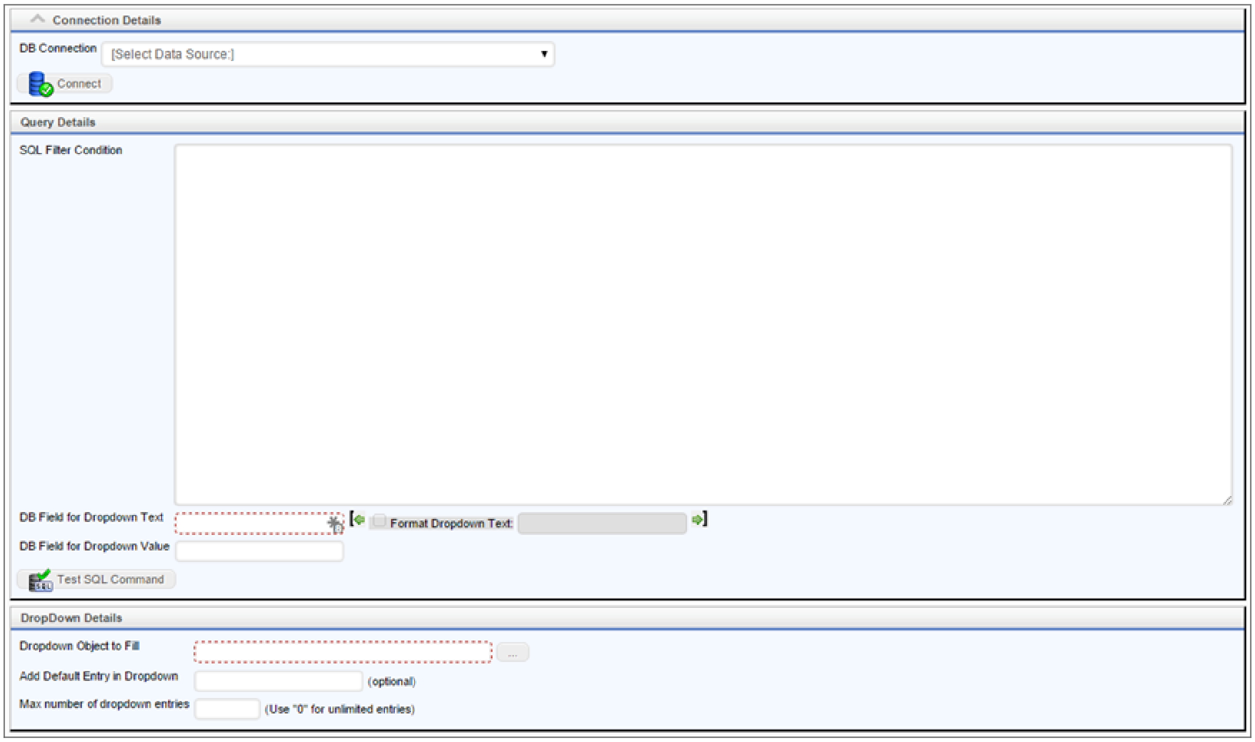
OPTION	VALUES	DESCRIPTION
		from external database.
DB Field for Dropdown Text		Required column name from database table to fill dropdown.
DB Field for Dropdown Value		Optional drop-down value to use with text.
If Previous Value Not In List	Leave value alone Clear the value in the form Add value to the dropdown	Specify what to do with previous value.
Execute Query only when Drop-down is empty		Execute Query only when Dropdown is empty.
Execute Query only under this condition		Execute Query only under this condition.
Dropdown to Fill		Required drop-down field on form to fill.
First Entry in Dropdown		Optional first entry in the dropdown (this isn't a value).
Fill Dropdown Only When Control Changes		Specify a control that changes to fill

OPTION	VALUES	DESCRIPTION
		the dropdown.
Max number of dropdown entries		Use "0" for unlimited.
Select value automatically if query returns a single result		Checking this box will ensure that, if the query only returns a single result, that the result will be automatically selected in the dropdown control.

Advanced Fill Dropdown Object from DB

This Custom Form Task will automatically fill a Dropdown Object with values from an external database using a free-form SQL command.

For most use cases, the Business Value, used in conjunction with the Fill Dropdowns tab of the Form definition, is a better choice for accessing and using external data.



Configuration Options

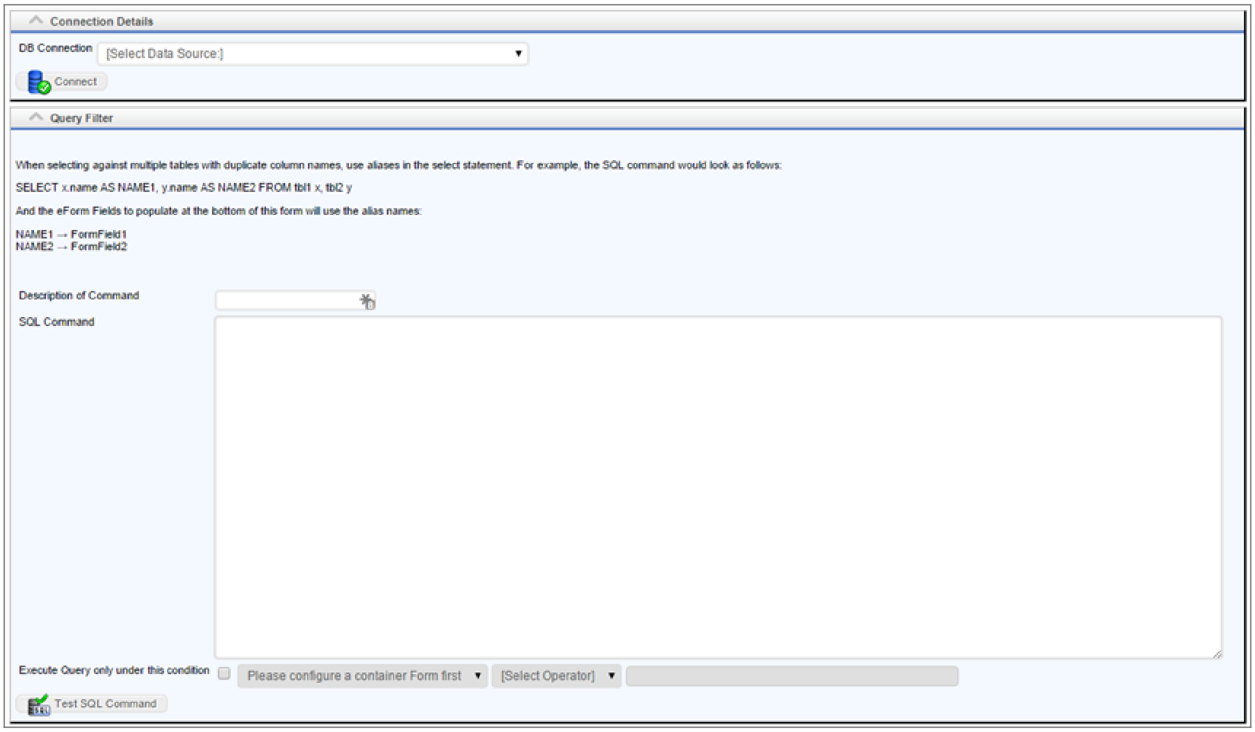
OPTION	VALUES	DESCRIPTION
DB Connection	Manual Connection, [List of Available Connections]	Allows you to select a pre-configured Data Source object.
SQL Filter Condition		SELECT clause from external database.
DB Field for Dropdown Text		Required column name from database table to fill dropdown.
DB Field for Dropdown Value		Optional drop-down value to

OPTION	VALUES	DESCRIPTION
		use with text.
Dropdown Object to Fill		Select the Dropdown Object into which the data will be placed.
Add Default Entry in Dropdown		Optional first entry in the dropdown (this isn't a value).
Fill Dropdown Only When Control Changes		Specify a control that changes to fill the dropdown.
Max number of dropdown entries		Use “0” for unlimited.

Advanced Fill Fields from DB

This Custom Task allows you to fill in a Form's fields either from a running Process Timeline, or from within the Form itself. Because this is an advanced Custom Task, you'll need to use SQL to request data from the database. Under the “DB Connection” dropdown menu, select the name of the database that you wish to access. Using the “SELECT” SQL command, select the data that you wish to set the field with from the database.

For most use cases, the Business Value, used in conjunction with the Set Form Data tab of the Form definition, is a better choice for accessing and using external data.



In the Controls to Populate section, you can also select which database field you wish to take the information from, as well as which Form Field you can set using that information. Configure the display results to your liking: you can set the number of results returned, the number displayed, etc.

Configuration Options

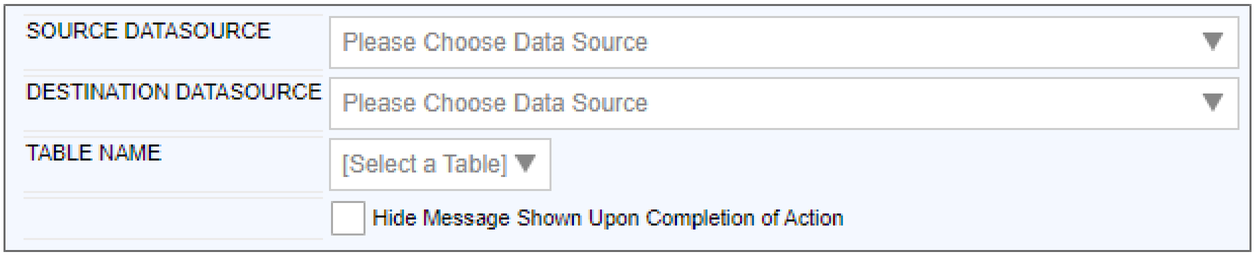
OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	Manual Connection (List of Available Connections)	Allows you to select a pre-configured Data Source object.

OPTION	ATTRIBUTES	DESCRIPTION
SQL Command		SELECT clause from external database.
Execute Query only under this condition		Execute Query only under this condition.
Controls to populate		Database column name and corresponding control to populate
Message to display if no records are found		Message to display if no records are found
Do not clear existing data if no records are found		Keeps existing field data if no records are returned.
Fill Array with results		Use with array. Fills array with results returned
Only return first result		If the query returns multiple records, only return the first (control sorting with ORDER BY clauses

OPTION	ATTRIBUTES	DESCRIPTION
Convert System Variables in results		If the query returns system variables, convert them to their values.

Clone Table from DB

This Custom Task will clone an existing table from a source DataSource into a destination Datasource. This Custom Task cannot be used to clone a Process Director Internal Database table (e.g., tblProject, tblProjectActivity, etc.), or any other tables besides user-created ones. Outside of these restrictions, user-created/managed tables can be transferred between selected Datasources. This Custom Task can be called from a Form or a Process Timeline.



The options for configuring this custom task are very simple.

OPTION	ATTRIBUTES	DESCRIPTION
Source Datasource	List of Available Datasource Objects	Enables you to select a preconfigured Data Source object ***from*** which to transfer the table.
Destination Datasource	List of Available Datasource Objects	Enables you to select a preconfigured Data Source object ***to*** which to transfer the table.
Table Name		Enables you to select

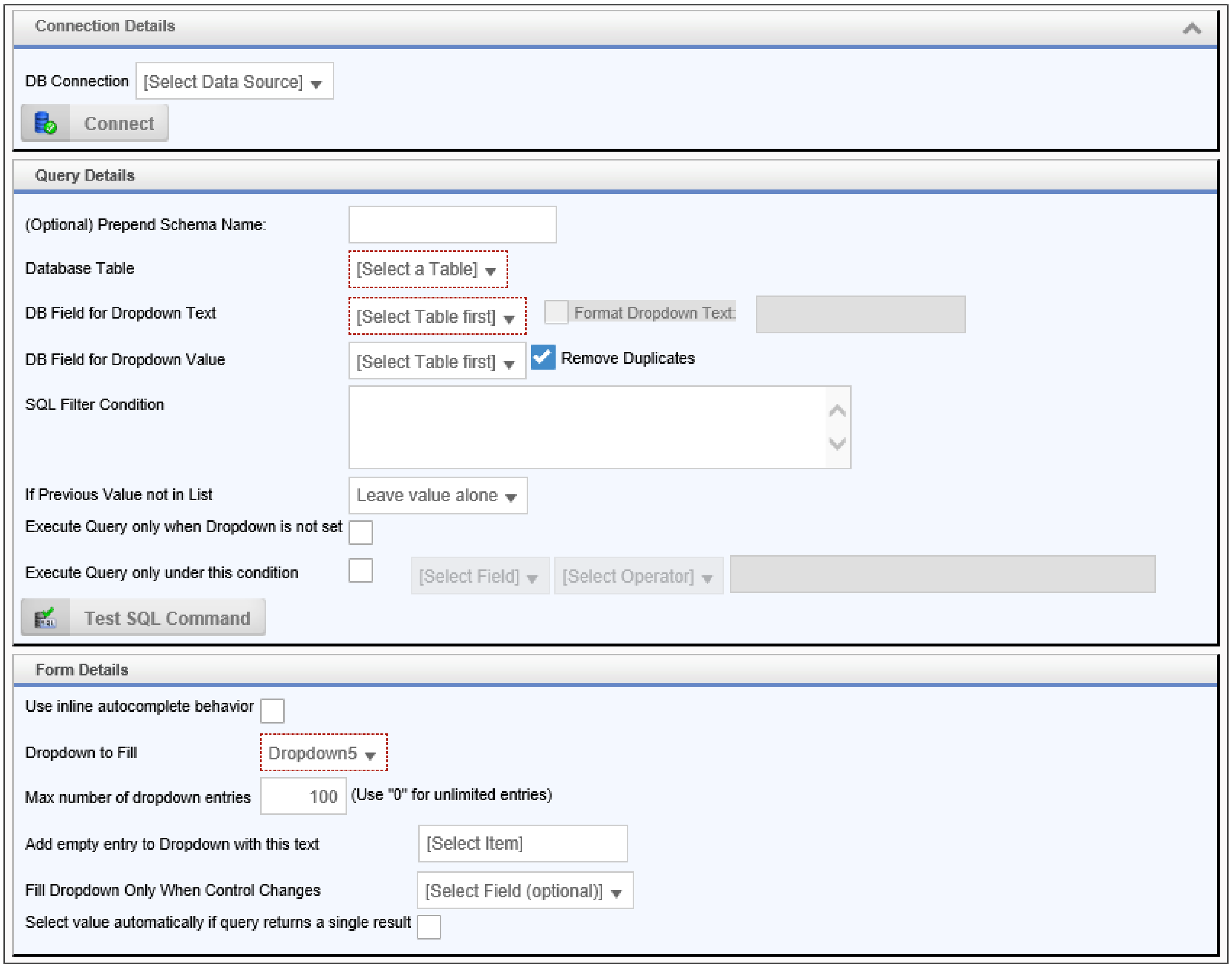
OPTION	ATTRIBUTES	DESCRIPTION
		the table name of the database table you desire to clone. This Dropdown is only filled with options by making a selection in the Destination Datasource field.
Hide Message Shown upon Completion of Action		When checked, this property will suppress the success/failure message that's displayed by default when this Custom Task completes.

Fill DropDown from DB

This Custom Task fills a dropdown in a Form with data from a database without having to use SQL.

For most use cases, the Business Value, used in conjunction with the Fill Dropdowns tab of the Form definition, is a better choice for accessing and using external data.

From the DB Connection dropdown, select the database that you wish to gather data from. In the Database Table dropdown, select the desired table from which you wish to extract data. This dropdown gives you a list of all tables in all databases. The following dropdowns allow you to select specific fields from the database from which to gather data.



You can also set the conditions under which the query is executed. Make sure to test your SQL command to make sure it returns results and is properly formatted, if you chose to add a filter. In the Form Details, you can select the dropdown you want filled, as well as other options governing the target dropdown field.

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	Manual Connection (List of Available Connections)	Allows you to select a pre-configured Data Source object.
Prepend Schema Name		An optional

OPTION	ATTRIBUTES	DESCRIPTION
		text string to add to the beginning of the database schema name.
Database Table		Connect to a database table that contains the info
DB Field for Dropdown Text		Select the database column to use as the item name in the dropdown.
DB Field for Dropdown Value		Select the database column to use the optional item value.
SQL Filter Condition		Specify additional SQL commands like a WHERE or ORDER BY clause.
If Previous Value Not In List	Leave value alone Clear the value in the form Add value to the dropdown	Specify what to do with previous value.
Execute Query only when Dropdown is empty		Execute Query only when Dropdown is empty.

OPTION	ATTRIBUTES	DESCRIPTION
Execute Query only under this condition		Execute Query only under this condition.
Use Inline Autocomplete Behavior		Instead of displaying the control as a traditional dropdown, checking this property will display the dropdown as a Type-Ahead control, enabling you to begin typing a value. As you type, matching values are automatically displayed. This is useful far large dropdowns with many rows of data, enabling you to filter the possible results with a typed value, then select the single value you wish.

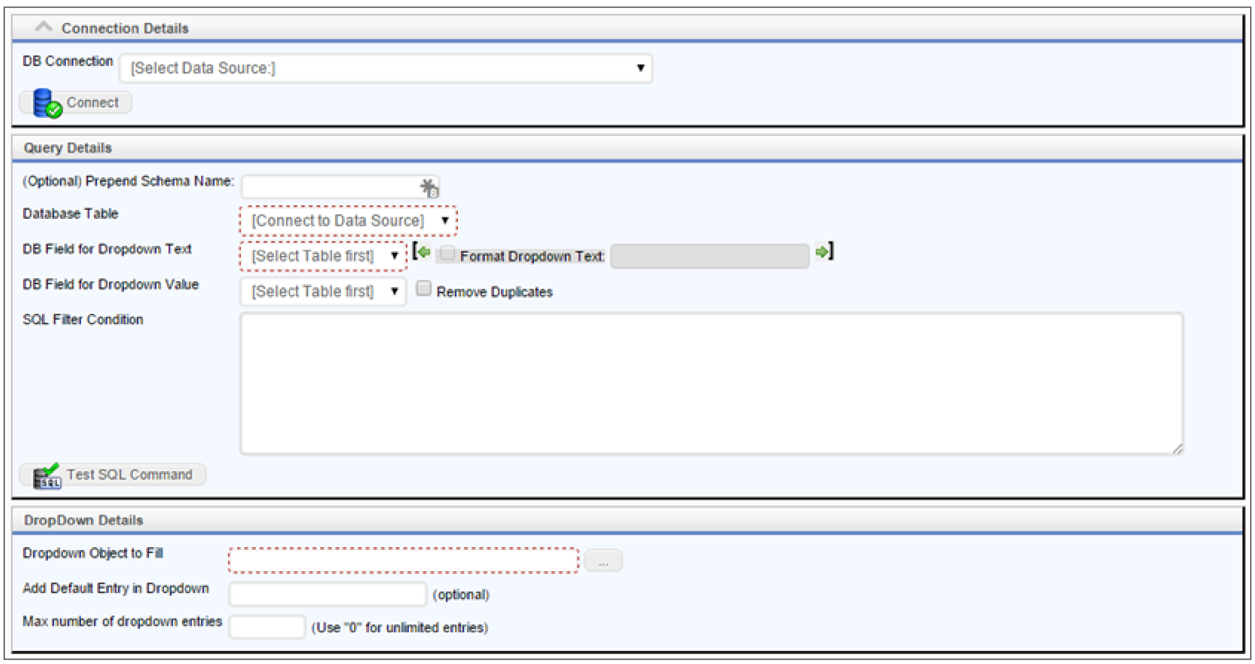
OPTION	ATTRIBUTES	DESCRIPTION
		If this property is checked, the Custom Task *must* be run only on the [View State Init] event for the form.
Dropdown to Fill		Required dropdown field on form to fill.
Add empty entry to dropdown with this text		Optional first entry in the dropdown (this isn't a value).
Fill Dropdown Only When Control Changes		Specify a control that changes to fill the dropdown.
Max number of dropdown entries		Use “0” for unlimited.
Select value automatically if query returns a single result		If only one record is returned from the database,

OPTION	ATTRIBUTES	DESCRIPTION
		select it automatically.

Fill DropDown Object from DB

This Custom Task fills a Dropdown Object with data from a database without having to use a complete SQL statement. Instead, Process Director will generate a dynamic SQL statement, based on the selections you make from the available drodown property fields.

> **For most use cases, the Business Value, used in conjunction with the Fill Dropdowns tab of the Form definition, is a better choice for accessing and using external data.**



You can also set the conditions under which the Query is executed. Make sure to test your SQL command to make sure it returns results and is properly formatted, if you chose to add a filter. In the Form Details, you can select the dropdown you want filled, as well as other options governing the target dropdown field.

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	Manual Connection (List of Available Connections)	Allows you to select a pre-configured Data Source object.
Prepend Schema Name		An optional text string to add to the beginning of the database schema name.
Database Table		Connect to a database table that contains the info
DB Field for Dropdown Text		Select the data-base column to use as the item name in the dropdown.
DB Field for Dropdown Value		Select the data-base column to use the optional item value.
Remove Duplicates		Checking this box removes any duplicate display values from the drop-

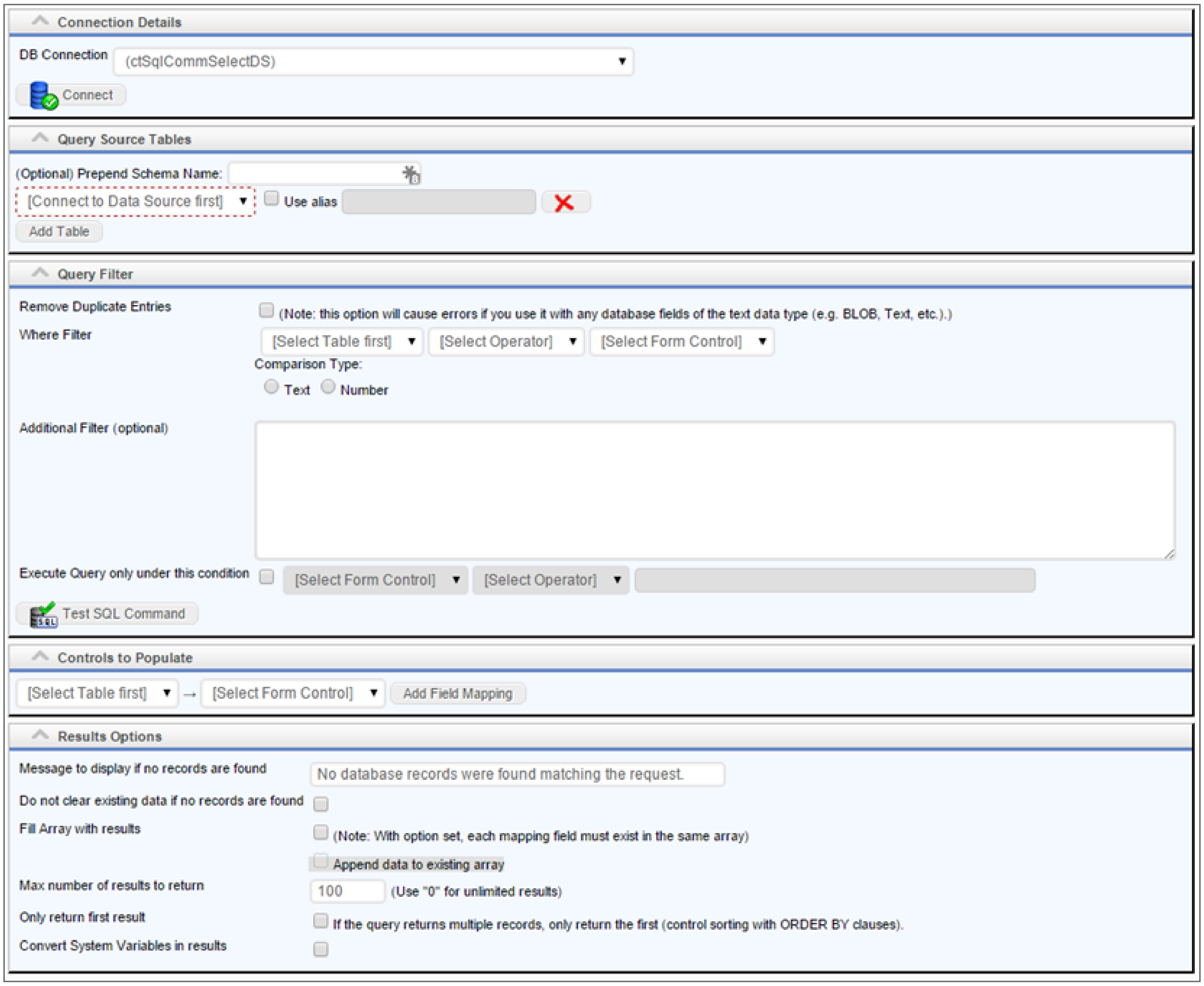
OPTION	ATTRIBUTES	DESCRIPTION
		down list. Uncheck this box to display any duplicates that exist in the database.
SQL Filter Condition		Specify additional SQL command phrases like a WHERE or ORDER BY clause.
If Previous Value Not In List	Leave value alone Clear the value in the form Add value to the dropdown	Specify what to do with previous value.
Execute Query only when Dropdown is empty		Execute Query only when Dropdown is empty.
Execute Query only under this condition		Execute Query only under this condition.
Dropdown Object to Fill		Select the Dropdown Object into which the data should be placed.
Add Default entry in Dropdown		Optional first entry in the dropdown

OPTION	ATTRIBUTES	DESCRIPTION
		(this isn't a value).
Max number of dropdown entries		Use “0” for unlimited.

Fill Fields from DB

This Custom Task sets the data in Form fields from a database without the use of a complete SQL statement. Instead, Process Director will generate a dynamic SQL statement, based on the selections you make from the available drodown property fields.

For most use cases, the Business Value, used in conjunction with the Fill Dropdowns tab of the Form definition, is a better choice for accessing and using external data.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	Manual Connection (List of Available Connections)	Allows you to select a pre-configured Data Source object. When the manual connection option is chosen, addi-tional con-

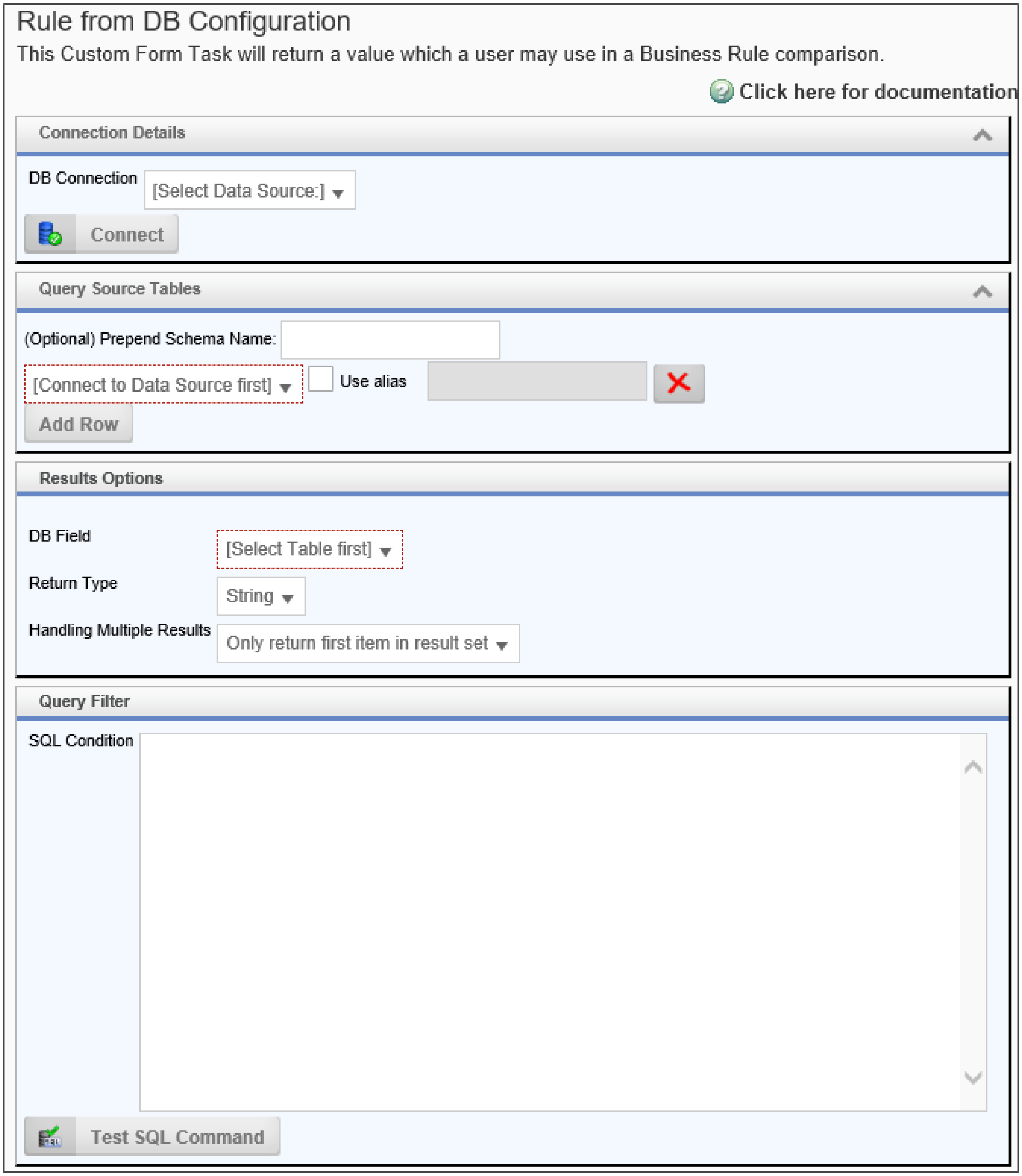
OPTION	ATTRIBUTES	DESCRIPTION
		figuration fields will appear.
(Optional) Prepend Schema Name		Prepend the schema name. This is case sensitive.
Query source tables	(List of tables)	List of database tables from the selected Datasource. Additional tables can be added by clicking the Add Table button.
Use Alias		Allows you to rename the tables using an alias. The text box enables you to write the desired alias name.
Remove Duplicate Entries		Removes duplicates.
Where Filter		Enables you to input a WHERE clause for the query.

OPTION	ATTRIBUTES	DESCRIPTION
Additional Filter		ORDER BY clause from external database.
Execute Query only under this condition		Execute Query only under this condition.
Controls to populate		Database column name and corresponding control to populate. Additional controls can be added by clicking the Add Mapping button.
Message to display if no records are found		Message to display if no records are found.
Fill Array with results		Use with array. Fills array with results returned.
Max number of results to return		Use “0” for unlimited.
Only return first result		If the query returns multiple records,

OPTION	ATTRIBUTES	DESCRIPTION
		only return the first (control sorting with ORDER BY clauses
Convert System Variables in results		If the query returns system variables, convert them to their values.

Rule Query from DB

This Custom Task will execute a custom SQL command on an external database in the context of a Business Rule.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	List of Available Datasources	Allows you to

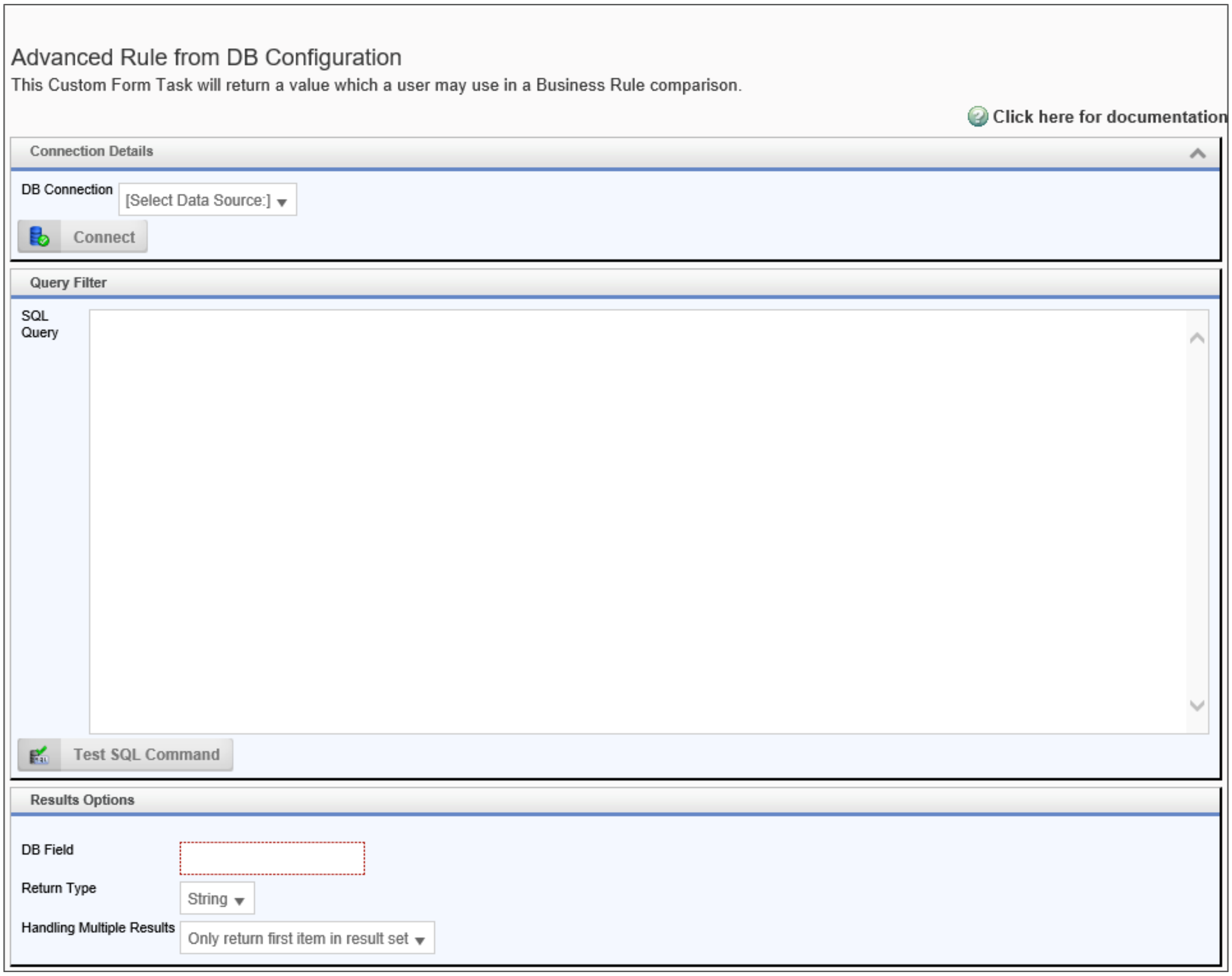
OPTION	ATTRIBUTES	DESCRIPTION
		select a pre-configured Data Source object.
(Optional) Prepend Schema Name		Prepend the schema name. This is case sensitive.
Query source tables	(List of tables)	List of data-base tables from the selec-ted Data-source. Additional tables can be added by click-ing the Add Table button.
Use Alias		A check box that enables you to rename the tables using an alias. The text box enables you to write the desired alias name.
Add Row Button		Adds a new row of query source tables
DB Field	(List of all available database	Select the field

OPTION	ATTRIBUTES	DESCRIPTION
	fields)	that contains the desired results.
Return Type	String Number Date/Time User Group	The data type of the query result.
Handling Multiple Results	Only return first item in result set Return entire result set in a list	Enables you to return only the first result, or a list of all results found by the query.
SQL Condition		Enables you to add a SQL WHERE clause to filter your query results.

Advanced Rule Query from DB

This Custom Task will execute a custom SQL command on an external database in the context of a Business Rule. The Business Rule will, in turn return a specified value based on the data returned by the SQL Query.

For most use cases, the Business Value is a better choice for accessing and using external data in the context of a Business Rule, since the Business Rule can either return a value based on the result of a Business Value, or return the data directly from a Business Value.



Configuration Options

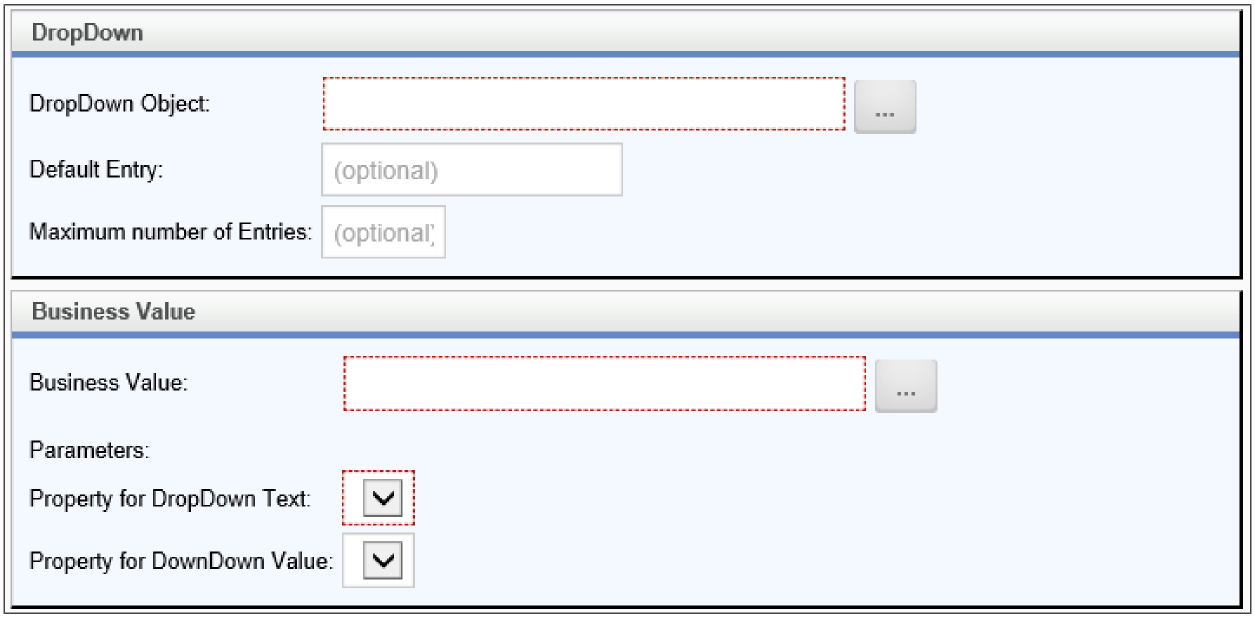
OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	List of Available Datasources	Allows you to select a pre-configured Datasource object.
SQL Query		A valid SQL statement to return data from the selected Data-

OPTION	ATTRIBUTES	DESCRIPTION
		source.
Query source tables	(List of tables)	List of database tables from the selected Datasource. Additional tables can be added by clicking the Add Table button.
DB Field	(List of all available database fields)	Select the field that contains the desired results.
Return Type	String Number Date/Time User Group	The data type of the query result.
Handling Multiple Results	Only return first item in result set Return entire result set in a list	Enables you to return only the first result, or a list of all results found by the query.

Fill Dropdown Object from a Business Value

This Timeline Custom Task will fill the items in a Dropdown Object from a Business Value.

ⓘ **For most use cases, the [Business Value] is a better choice for accessing and using external data.**



Configuration Options

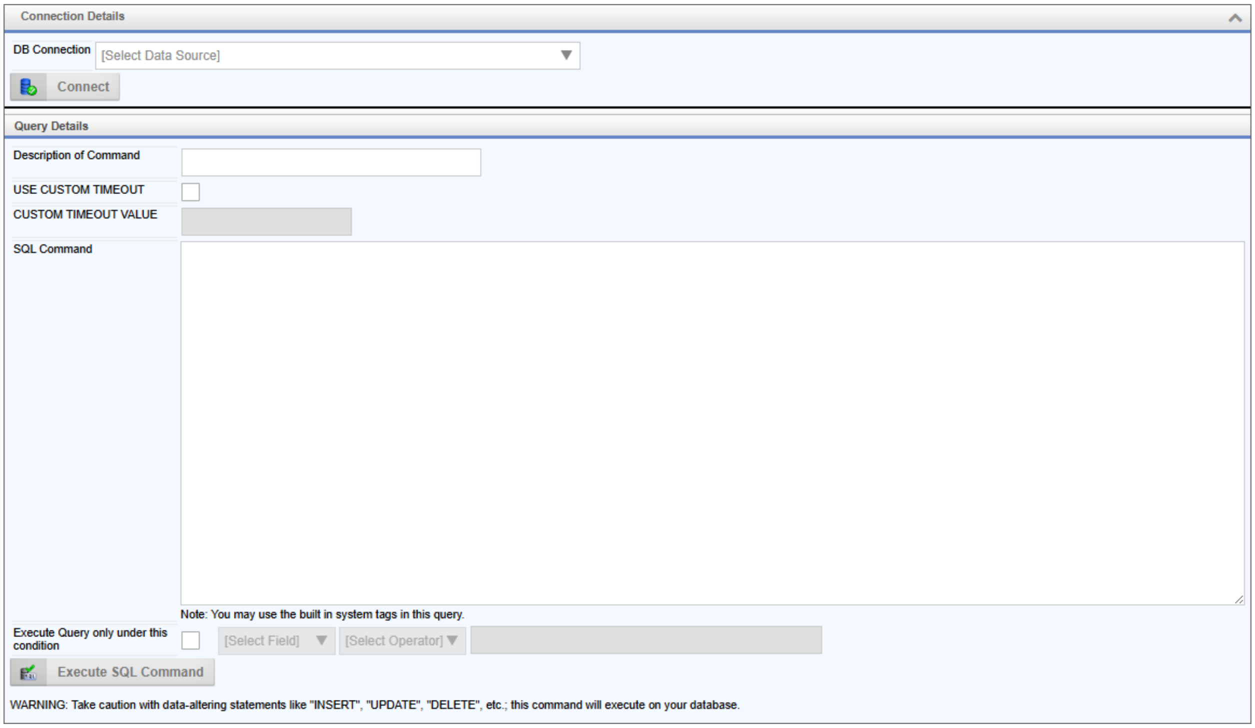
OPTION	ATTRIBUTES	DESCRIPTION
Dropdown Object	Content Picker	Enables you to select a Dropdown Object to fill.
Default Entry		Enter the optional default option you'd like to display.
Maximum Number of Entries		Enter the optional maximum number of entries to place in the

OPTION	ATTRIBUTES	DESCRIPTION
		Dropdown Object.
Business Value	Content Picker	Enables you to select a Business Value to use to fill the Dropdown Object.
Property for DropDown Text		The field returned by the Business Value that you'd like to display to the user as an option.
Property for DropDown Value		The field returned by the Business Value that you'd like to save as the field's value.

SQL Command

This Custom Task will execute a custom SQL command on a database. This is a very advanced Custom Task that enables your Form or process to submit any kind of SQL query to a database. You can also test the query by clicking the Execute SQL Command button, but note that **this will actually run the SQL Operation on the live database**. Use caution!

You should use this Custom Task for *all* SQL commands that use the UPDATE, INSERT, or DELETE functions. These command should never be used in a Business Value. Using this Custom Task gives you complete control over when and how data update commands are passed to your external data.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
DB Connection	Manual Connection (List of Available Connections)	Allows you to select a pre-configured Data Source object.
Use Custom Timeout		Enables you to enable a custom timeout value when

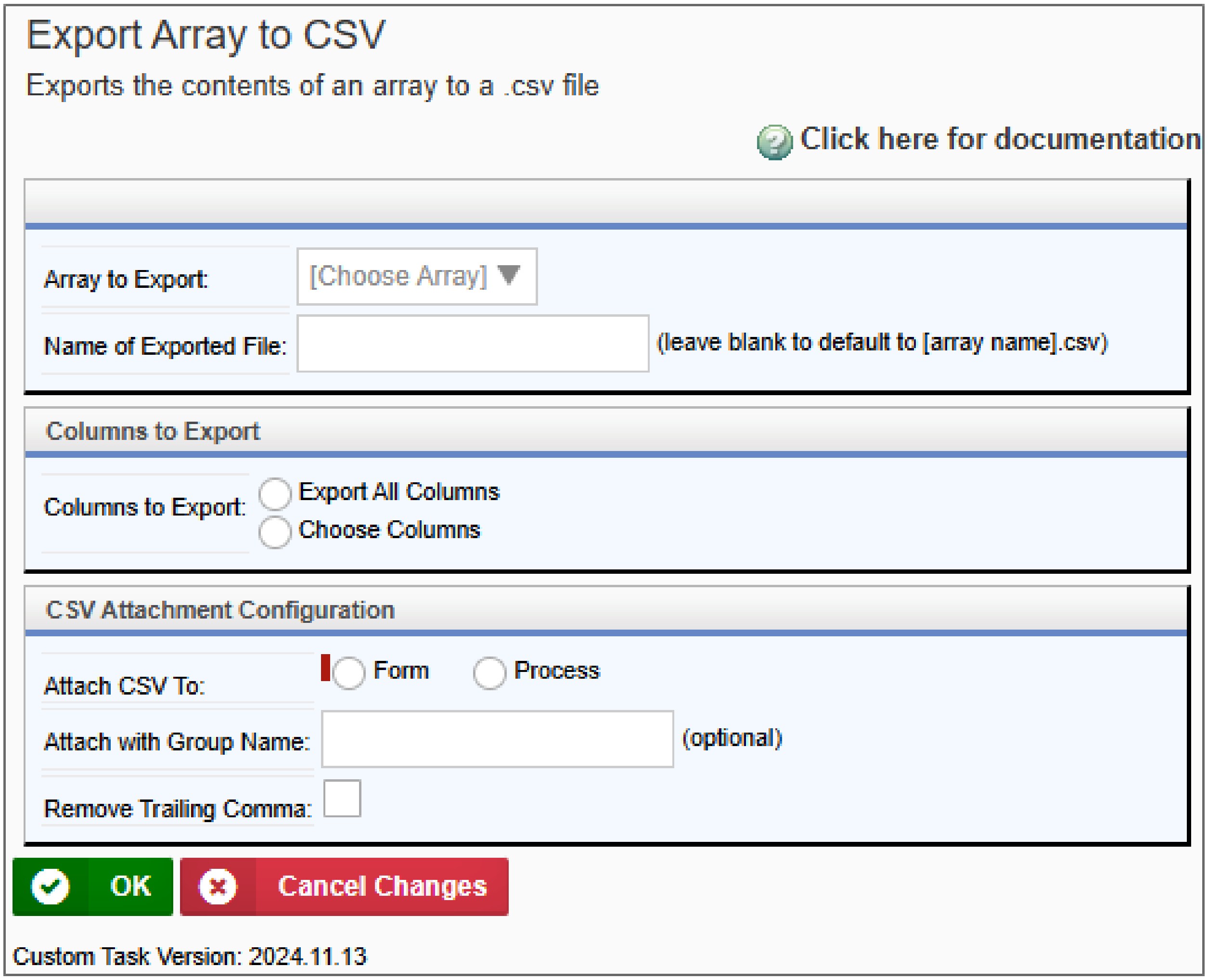
OPTION	ATTRIBUTES	DESCRIPTION
		running the SQL command.
Custom Timeout Value		The length of the timeout value, in seconds to set when Use Custom Timeout is checked.
Description of command		Brief description of what the command does.
SQL Command		T- SQL statement to run on the external database.
Execute Query only under this condition		Execute Query only under this condition.

Documents Custom Tasks

These Custom Tasks enable you to perform a variety of tasks on documents stored in Process Director.

Export Array to CSV

This Custom Task exports the contents of an array to a CSV file, and attaches the CSV file to the Form or process. You can export all columns, or specify the columns to export. This custom task can only be configured in a Form definition.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Array to Export	List of arrays on the Form	The array you desire to export to CSV. Only one array can be chosen.
Name of Exported File		You can optionally type a file name for the CSV file, but, if left blank, the

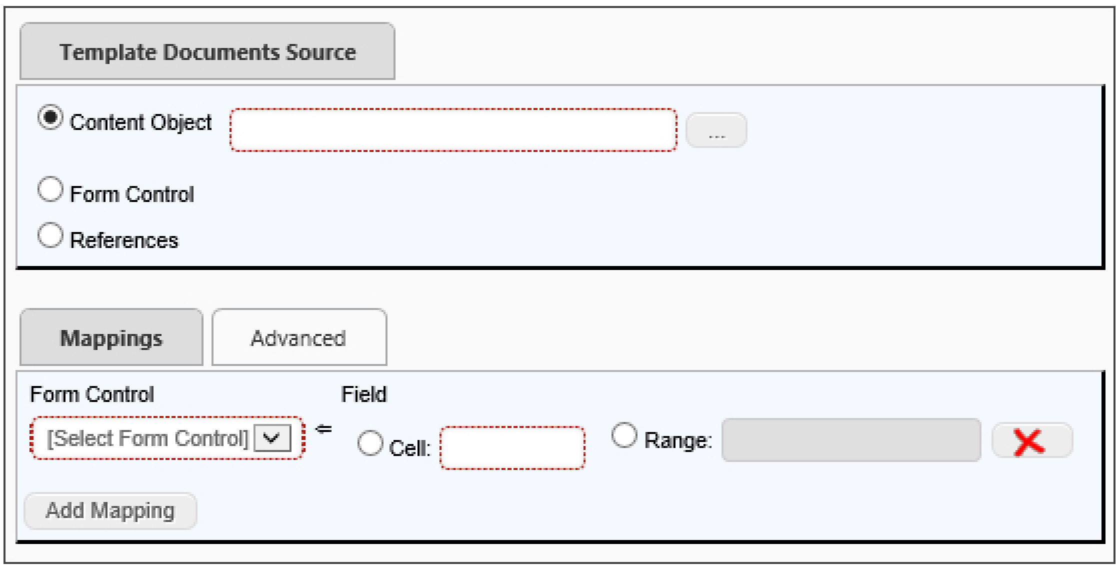
OPTION	ATTRIBUTES	DESCRIPTION
		name of the array will be used as the file name.
Columns to Export	Export all Columns Choose Columns	If you select Choose Columns, an Add Column button will appear, enabling you to add individual array columns to the export.
Attach CSV to	Form Process	Select where you'd like to attach the CSV file.
Attach with Group Name		You can optionally provide a group name for the exported CSV file.
Remove Trailing Comma		Added in v2024.11.13, this property removes the trailing comma from the exported CSV file.

Fill Fields from Excel

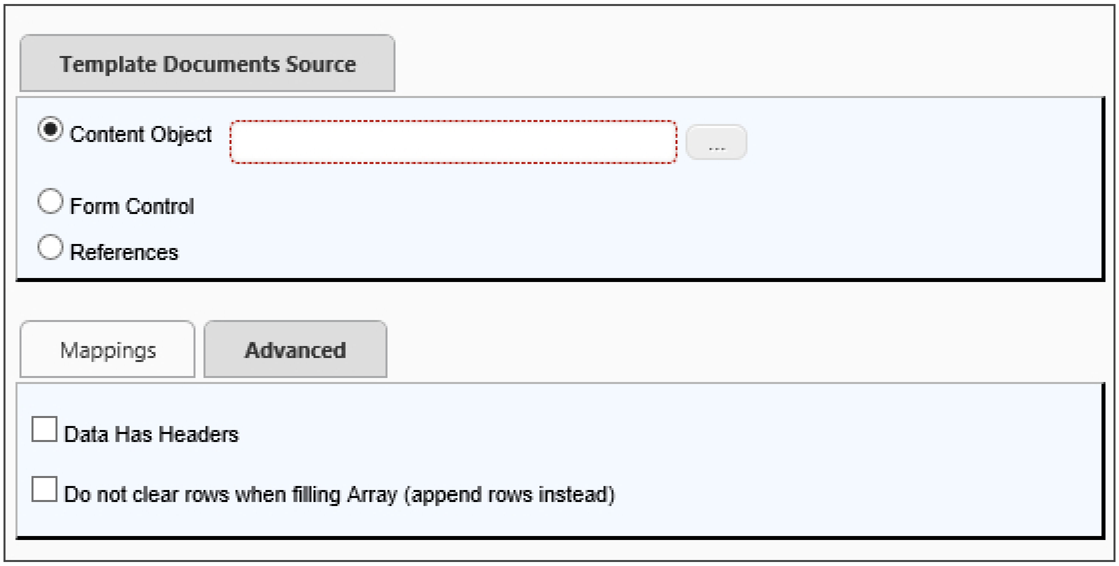
This Custom Task fills form field values from data in an Excel spreadsheet attachment. This Excel sheet can exist either as an object in the Content List, or as a Process Timeline or Form attachment. The data in the Excel file attachment usually fills an array on the form. This is the only context in which a document attachment can be used as a data source for Form fields. Please note that the attachment cannot be mapped to a data source, not can it be used to provide data outside the context of the specific process that contains the attachment.

You can also specify that the Excel sheet be specified by a Form Control if you check the Form Control radio button option.

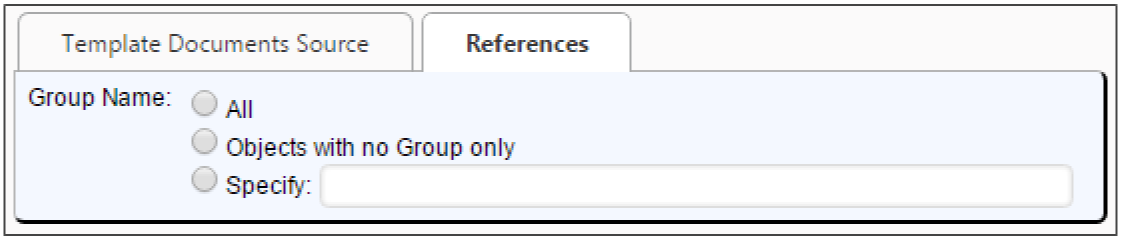
Template Documents Source/Mappings Tabs



Advanced Tab



References Tab



When you select References as the source on the Template Documents Source tab, the References tab will appear, enabling you to specify the Group from which to select the Excel template.

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
TEMPLATE DOCUMENTS SOURCE TAB		
Content Object		Select the Excel template object using the picker control.
Form Control	(List of Form Controls)	Select the form control from

OPTION	ATTRIBUTES	DESCRIPTION
		the dropdown. This must be a Content Picker control that identifies an Excel spreadsheet template in the Content List.
References	Workflow References, Timeline References, Form References	The type of reference to use as a template source. The Excel spreadsheet template must exist as an object reference, like an attachment.
MAPPINGS TAB		
Form Control	(List of Form Controls)	The form control to map. Mapping can be done to a cell or named range in the excel spreadsheet. . If you specify a field that is part of an array, you

OPTION	ATTRIBUTES	DESCRIPTION
		must specify an Excel column (using the Excel spreadsheet's column letter designation, e.g., A, B, C, etc.) from which the array must be filled. Additional controls can be added by clicking the Add mapping button.
ADVANCED TAB		
Data has headers		Select if the Excel spreadsheet uses column headers in the first row. This will skip the first row when reading the data.
Do not clear rows when filling Array (append rows instead)		Select to append new data to existing data. The default is to

OPTION	ATTRIBUTES	DESCRIPTION
		overwrite the existing data.
REFERENCES TAB		
Group Name	All Objects with no Group Only Group	Select the appropriate Group option. If you choose Group, a text box will appear, into which you can type the Group name of the template.

For Process Director v5.12 and higher, this Custom Task also supports the use of Excel-compatible CSV files.

Transform Form to Word

This Custom Task transforms field values in a Form instance into a Microsoft Word document. You can specify how data from the form instance is mapped to the Word document by describing how each field in the form instance maps to each field in the Word document, and you can have all fields in the form instance map to fields with the same names in the Word document.

This Custom Task does ***not*** use or integrate with Microsoft Word's built-in form creation features. Word's form features can be useful in some contexts, but they print and look differently than the document's other text, which makes them unsuitable for use in pre-formatted letters or memos. Since this Custom Task is designed to integrate Process Director data into ***any*** Word document, it relies on specifically formatted text markers to define "fields" in the Word document. Because this is a text-based system, the field markers in the Word document will be converted to normal text, which makes this Custom Task suitable for a wide range of uses.

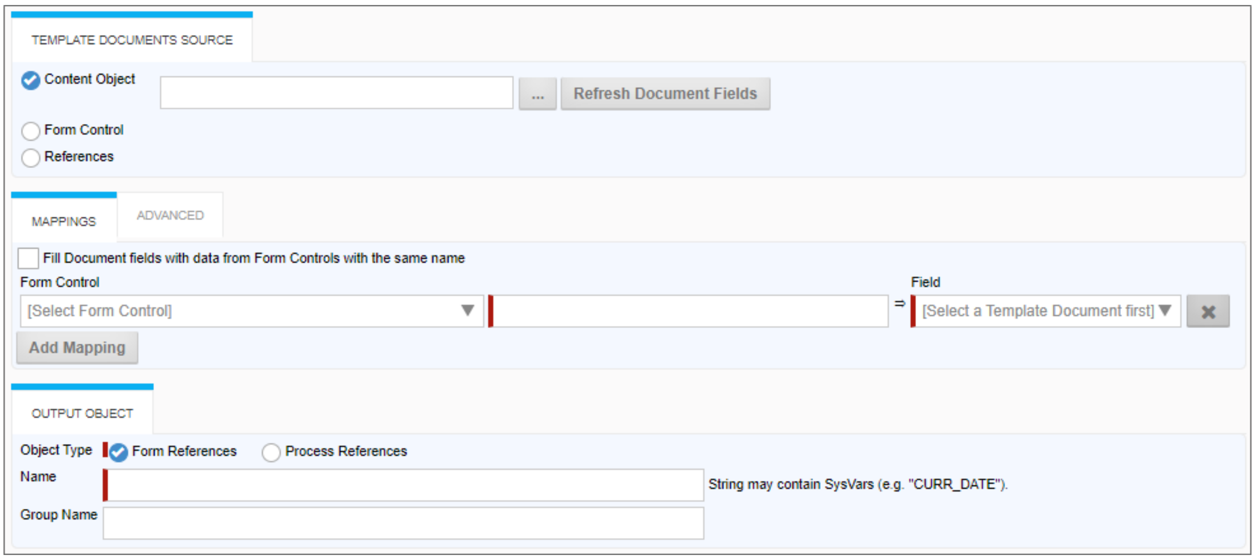
You can create a Word document to use as a template, and place field markers into the document to contain field values. For instance, if you have a Form field named "FirstName", you can place a field marker into the Word document in the format:

```
<<FirstName>>
```

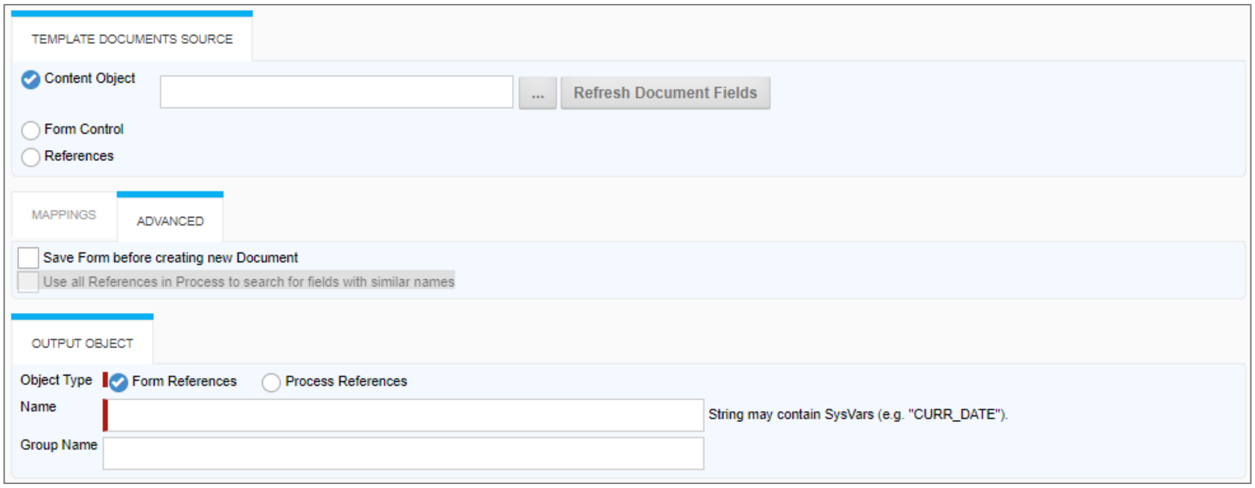
During the conversion process, the field marker will be overwritten by the actual value in the FirstName field on the container Form. Essentially, this is an operation that is very similar to Word's MailMerge function.

Fields contained in an array can't be transferred to field markers in a Word document.

Standard Tabs



Advanced Tab



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
TEMPLATE DOCUMENTS SOURCE TAB		
Content Object		Select the Word template object using the picker control. This is the most commonly used method for designating a template form. It's also the easiest to configure, because selecting a template document from the Content List automatically fills the options for the markers in the Word Template.

OPTION	ATTRIBUTES	DESCRIPTION
Form Control	(List of Form Controls)	Select the form control from the drop-down. You can select a document template at run-time by placing a Content Picker control on the Form, then selecting Form Control for this property. When you do so, an additional property will appear that enables you to select the Content Picker control on the Form to provide the template source. At run-time, the Form submitter could then choose any Word template in the Content List for use as the document template. In this case, Process Director won't know what fields exist in the document template, so you'll need to

OPTION	ATTRIBUTES	DESCRIPTION
		manually type in the Word field names in each mapping row.
References	Form References Process References	The type of reference to use as a template source. you can use a document attachment as the template source by selecting the References option, then selecting "Form References" or "Process References" to denote where the template is attached. In most cases, this should be to the Process, rather than the Form. In either case, a new tab, References, will appear in the UI. You'll need to configure this tab to specify the attachment's Group Name, i.e., the attachment group

OPTION	ATTRIBUTES	DESCRIPTION
		for the Word attachment you'll use for the template. Additionally, the Overwrite Template document... property enables you to replace the blank template with the new Word document that will be created when the Custom Task runs. Again, choosing this option means that you'll need to ***manually specify*** the Word field names in each mapping row.
MAPPINGS TAB		
Fill Document fields with data from Form Controls with the same name		If the Word document has form fields, this option will automatically match field names to transfer Form fields into Word form fields with the same names as the Form fields.
Form Control	(List of Form Controls)	The form control to

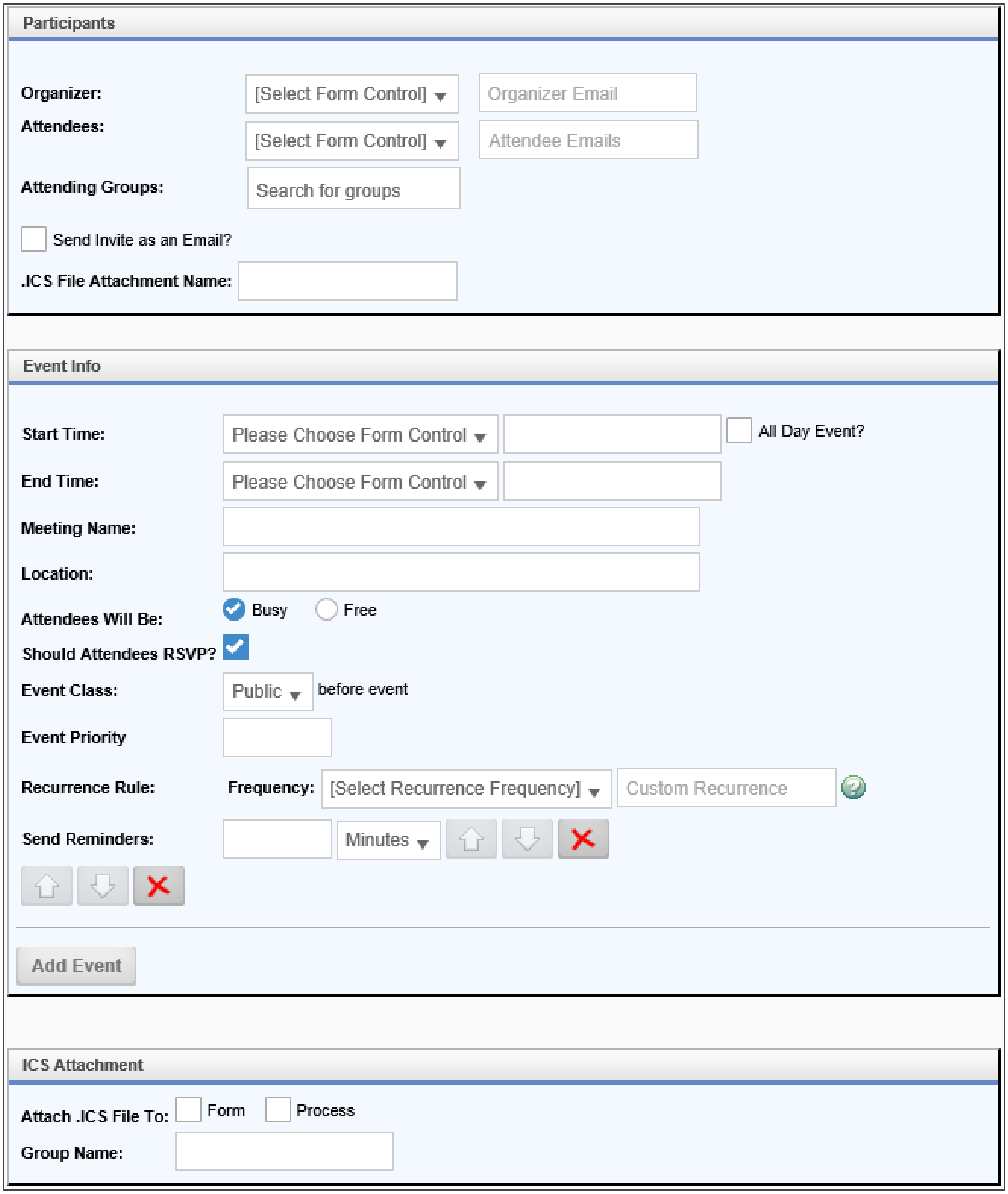
OPTION	ATTRIBUTES	DESCRIPTION
		map. You map Form fields to Word Document fields. Additional controls can be added by clicking the Add mapping button.
ADVANCED TAB		
Save Form before creating new Document		Save the Form to preserve any edited data prior to creating the Word Document. **This check-box setting is relevant only when the Custom Task is used in a Form. If this Custom Task is used in a Process Timeline, don't check this checkbox. Doing so may cause unwanted behavior in**

OPTION	ATTRIBUTES	DESCRIPTION
		some circumstances.
Use all References in Process to search for fields with similar names		In addition to using Form fields, this option tells Process Director to search all of the process references for fields.
OUTPUT OBJECT TAB		
Object Type	Form References Process References	The reference type of the output object to create.
Name		The desired file name of the output object. This field will accept System Variables as part of the file name.
Group Name		The name of the attachment group to apply to the output object.

Send Calendar Invitation

This Form Custom Task sends an iCalendar meeting invitation (in ICS format) to configured attendees. Attendees can be configured manually, or can be retrieved from Form fields. The ICS calendar file is fully or partially supported by all major email/calendar systems.

Microsoft Exchange/Outlook does not fully support the iCalendar format, and some of Microsoft's proprietary calendar features work slightly differently, so you may see unexpected behaviors with some Custom Task configurations when the ICS file is imported into Outlook. You should test the configuration thoroughly prior to releasing into production.


Participants
Organizer:
[Select Form Control]
Organizer Email
Attendees:
[Select Form Control]
Attendee Emails
Attending Groups:
Search for groups
Send Invite as an Email?
.ICS File Attachment Name:
Event Info
Start Time:
Please Choose Form Control
All Day Event?
End Time:
Please Choose Form Control
Meeting Name:
Location:
Attendees Will Be:
Busy
Free
Should Attendees RSVP?
Event Class:
Public
before event
Event Priority
Recurrence Rule:
Frequency:
[Select Recurrence Frequency]
Custom Recurrence
Send Reminders:
Minutes
Add Event
ICS Attachment
Attach .ICS File To:
Form
Process
Group Name:

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Participants Section		
Organizer	Form Control Picker Manual Configuration	Chose a Form User Picker field specifying the Organizer, or manually configure the name and email address of the organizing user.
Attendees	Form Control Picker Manual Configuration	Chose a Form User Picker field specifying the list of attendees, or manually configure the name and email addresses of the attendees as comma-separated lists.
Attending Groups		A group picker that enables you to select a Process Director Group to use as the list of attendees.

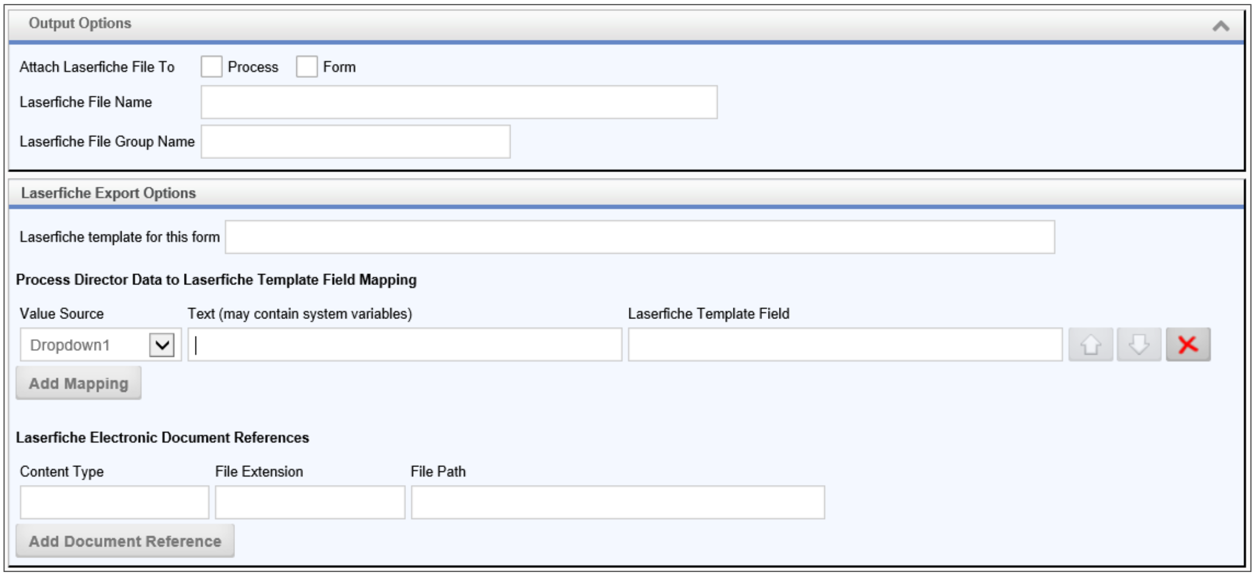
OPTION	ATTRIBUTES	DESCRIPTION
Send Invite as an Email?		Checking this box will send the invitation as an email message, with an ICS attachment.
.ICS File Attachment Name		The name you'd like to specify for the ICS file.
Event Info Section		
Start Time	Form Control Picker Manual Configuration	The start time if the event, which you can choose from a Date control on the Form or configure manually.
End Time	Form Control Picker Manual Configuration	The end time if the event, which you can choose from a Date control on the Form or configure manually.
Meeting Name		The name of the meeting
Location		The location of the meeting

OPTION	ATTRIBUTES	DESCRIPTION
Attendees will be	Busy Free	Enables you to set the busy status of invitees when the invitation is accepted.
Should Attendees RSVP?		Requires an RSVP from attendees who accept the meeting request.
Event Class	Public Private Confidential	Sets the privacy level of the meeting for attendees.
Event Priority		Sets the priority of the meeting.
Recurrence Rule	Dropdown of common recurrence rules Manual rule configuration	Select a desired recurrence rule from the dropdown, or create a custom recurrence rule.
Send Reminders		You can send recurring reminders to attendees on a desired sched-

OPTION	ATTRIBUTES	DESCRIPTION
		ule.
Add Event		Click this button to add additional events to the invitation.
.ICS Attachment Section		
Attach .ICS file to	Form Process	Choose the option where you'd like to attach the ICS file. You can attach the file to the Form or to the running process.
Group Name		You can optionally specify a group name for the attachment.

Convert to Laserfiche

This Form Custom Task exports the values of Form fields to a laserfiche-compatible XML output file, and attaches the XML file to the Form or process.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Attach Laserfiche File To	Process Form	Enables you to select whether to attach the output file to the process or the form.
Laserfiche File Name		The name to give to the output file.
Laserfiche File Group Name		The Group name to give to the output file.
Laserfiche template for this form		The file path to the laserfiche template file that will be used to struc-

OPTION	ATTRIBUTES	DESCRIPTION
		ture the output file properly.
Process Director Data to Laserfiche Template Field Mapping		When the Add Mapping button is clicked, a row of properties will appear that enable you to map form fields to the laserfiche template file's fields: **Value Source:** The form field to use as the value. **Text (may contain system variables):** Arbitrary text to use as the value. **Laserfiche Template Field:** The XPath of the laserfiche template field to

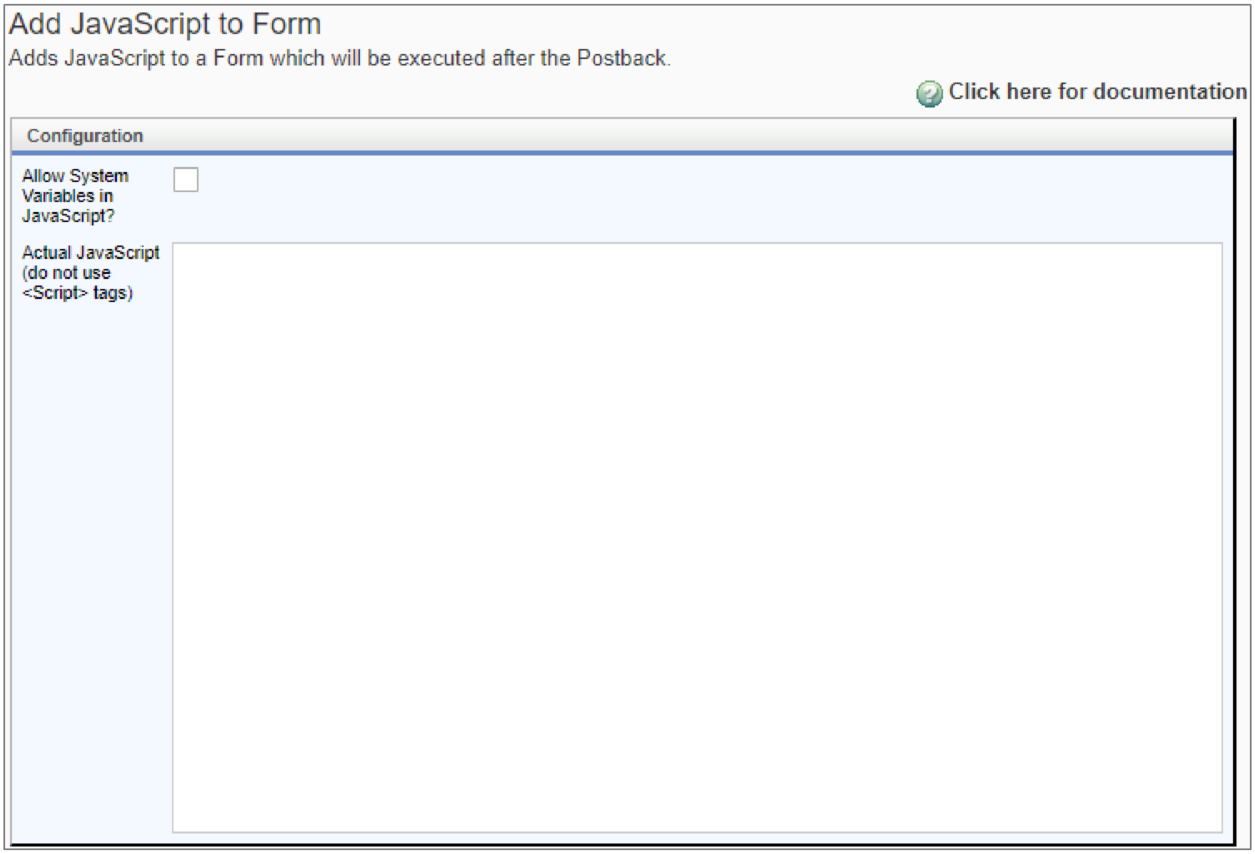
OPTION	ATTRIBUTES	DESCRIPTION
		store the value.
Laserfiche Electronic Document References		When the Add Document Reference button is clicked, a rows of properties will appear that enable you to reference documents in the output file: **Content Type:** The MIME content type of the document. **File Extension:** The file extension of the document. **File Path:** The file path to the document's storage location.

Form Custom Tasks

These Custom Tasks perform various Form operations.

Add JavaScript to Form

This Custom Task will add JavaScript to run a client-side script in the Form. This JavaScript can run on various HTML DOM events, as well as on Process Director Form events. This CT can only be configured for a Form definition. The JavaScript can include System Variables.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Allow System Variables in JavaScript?		When this check box is selected, Process Director will parse the JavaScript text for System Variables and replace them with the appropriate values.
Actual JavaScript (don't use <Script> tags)		The JavaScript code to be run by the Custom Task.

OPTION	ATTRIBUTES	DESCRIPTION
		Only the actual JavaScript code is inserted into this box. HTML `<script>` tags shouldn't be included.

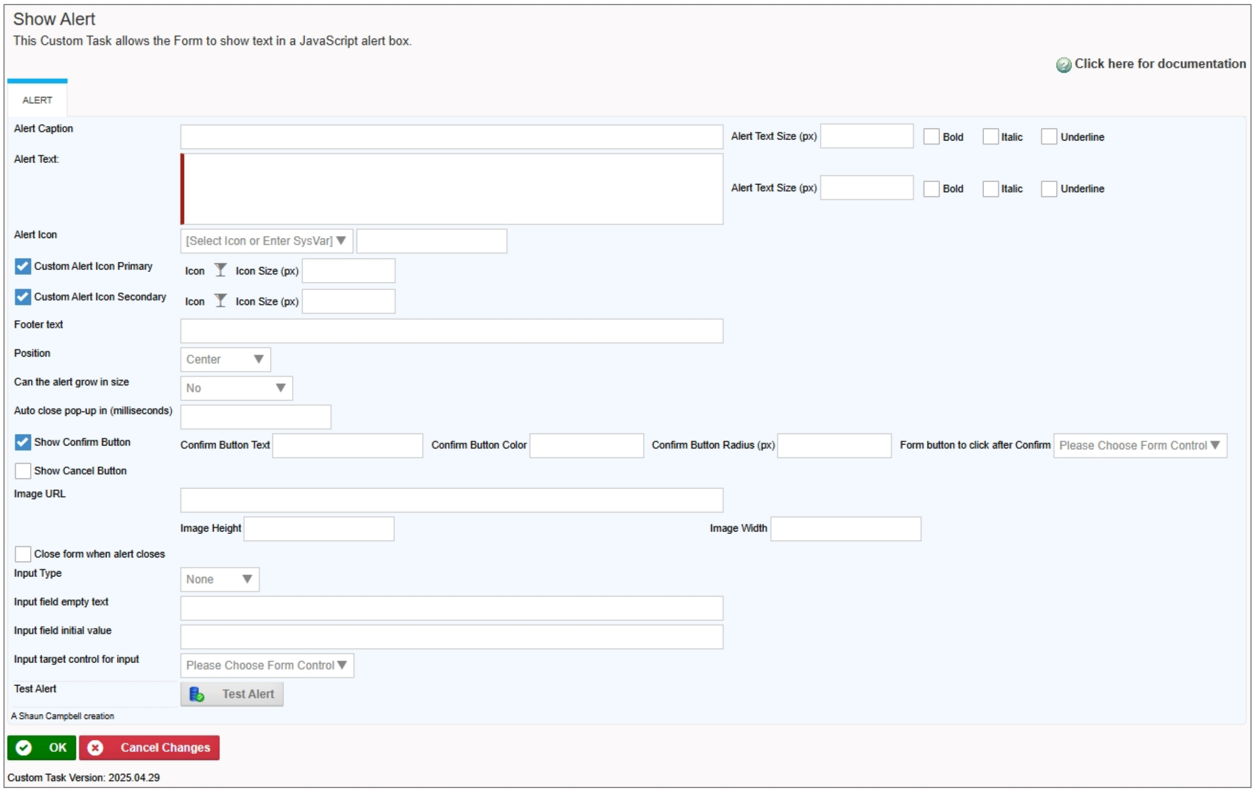
Additionally, this Custom Task solves an issue with Internet Explorer where the browser looses focus on the Form after a Set Form Data Custom Task is run. Simply insert the following JavaScript line in the JavaScript text box:

```
bpSetWindowFocus();
```

Set this Custom Task to run immediately after the Set Form Data Custom Task to reapply focus to the Form.

Advanced Show Alert

This Custom Task will show an Alert Box on a form, and enables you to configure several advanced options for the appearance and function of the Alert Box.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Alert Caption		The title text to display for the Alert. This property may contain system Variables.
Alert Text		The main message text to display.
Alert Icon	None Info Success Warning Error Question ***Or*** User-Supplied Value	The Icon to display on the Alert Box. You can select a standard item from the Dropdown control, or use the Text box to supply an icon via the `{ICON}` system variable.
Custom Alert Icon Primary		For v2025.04.29 and higher of the Custom Task, this property enables you to use the Icon Picker to select an icon and it's color to

OPTION	ATTRIBUTES	DESCRIPTION
		display as the primary icon for the alert box, when checked. An additional property, Icon Size (px), will also appear to enable you to specify the size, in pixels, at which the icon will display.
Custom Alert Icon Secondary		For v2025.04.29 and higher of the Custom Task, this property enables you to use the Icon Picker to select an icon and it's color to display as the primary icon for the alert box, when checked. An additional property, Icon Size (px), will also appear to

OPTION	ATTRIBUTES	DESCRIPTION
		enable you to specify the size, in pixels, at which the icon will display.
Footer Text		Text to display in the footer of the Alert Box.
Position	Center (Default) Center-Start Center-End Top Top-Start Top-End Bottom Bottom-Start Bottom-End	Sets the display location of the Alert Box
Can the alert grow in size	No (Default) Grow by Row Grow by Column Full Screen	Determines the Alert Box resizing mode. "Grow by Row" extends the Alert box to the full horizontal width of the screen, "Grow by Column" to the full vertical width, and "Full Screen" covers the entire display.

OPTION	ATTRIBUTES	DESCRIPTION
Auto close pop-up in (milliseconds)		For v2025.04.29 and higher of the Custom Task, this property enables you to enter the number of milliseconds to display the alert box, after which it will close. For example, setting the property to `5000` will display the alert box for five seconds.
Show Confirm Button		When checked, will display a confirmation button in the Alert Box.
Confirm Button Text		The caption to display on the confirmation button.
Color		Sets the background color of the confirmation button, using an HTML named

OPTION	ATTRIBUTES	DESCRIPTION
		color or hexa-decimal decimal value. e.g., `blue` or `#082f4d`.
Form button to click after Confirm	(List of Form Controls)	A Form Button control to automatically click after clicking the confirmation button. The Form Button must be visible.
Show Cancel Button		When checked, will display a cancel button in the Alert Box.
Cancel Button Text		The caption to display on the cancel button.
Cancel Button Color		Sets the background color of the cancel button, using an HTML named color or hexadecimal value. e.g., `blue` or `#082f4d`.
Reverse Confirm and Cancel button display order		By default, the

OPTION	ATTRIBUTES	DESCRIPTION
		confirmation button appears on the left, and the cancel button on the right. Setting this property to checked will reverse that order.
Image URL		The URL of an image to display in the Alert Box. The image will display between the Icon and the Alert Caption.
Image Height/Width		The height and width of the image, in pixels, to display. Leaving these setting blank will automatically resize the image to display it with the original aspect ratio.

OPTION	ATTRIBUTES	DESCRIPTION
		Setting these values manually may change the aspect ratio of the image, making it display in an unexpected manner.
Close form when alert closes		When checked, the Form instance will close automatically after the Alert Box closes. **If this property is checked, the properties below won't be visible, as the remain-**

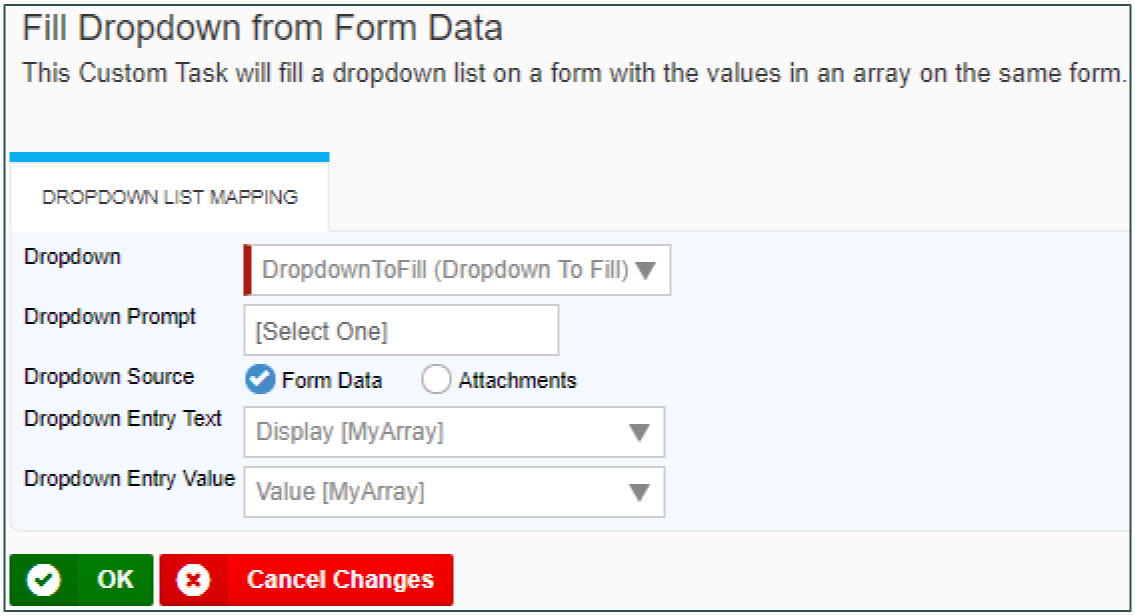
OPTION	ATTRIBUTES	DESCRIPTION
		ing properties can only function if the Form remains open.
Input Type	None (default) Alert Text: Email Password Number Telephone Text Area Checkbox	The property, when set to other than "None" will display an input control of the selected type in the Alter box, below the Alert Text. The selected Input Type will also validate user entry to conform properly to the Input Type selected, e.g., selecting "Email" will require the input to be entered in a valid email address format.

OPTION	ATTRIBUTES	DESCRIPTION
Input field empty text		Sets the text to display as Empty Text in the Alert Box input field when no value is set, i.e., when the user will supply a value. If the selected Input Type is a checkbox, this property will be used as the display text for the Checkbox.
Input field initial value		Sets the initial value of the Alert Box input field. If a value is set, the Empty Text won't display.
Input target control for input	(List of Form Controls)	Enables you to select a form field into which the value of the Alert Box input field will be copied after the Alert Box is closed.

OPTION	ATTRIBUTES	DESCRIPTION
Test Alert		For v2025.04.29 and higher of the Custom Task, this button, when clicked, will display a preview of the alert box as it is currently configured.

Fill Dropdown from Form Data

This Form Custom Task will fill a Dropdown control on a form with the Form field values of an array contained on the Form. If called after adding or removing rows from the array, the available options in the Dropdown will change. Be advised that if the value of the Dropdown is set to an option that is subsequently removed from the array, the value will be orphaned from the updated options, which could result in unexpected behavior.



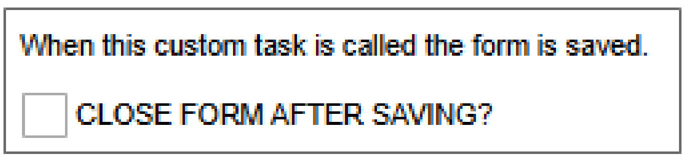
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Dropdown	(List of Form Controls)	Select the target dropdown control that will use the form data.
Dropdown Prompt		The initial prompt you'd like the user to see in the dropdown.
Dropdown Source	Form Data Attachments	You can choose the source for the dropdown data. If you select form data, you can select the form array that contains the data. If you select Attachments, you can select which attachment property you wish to display in the dropdown.
Dropdown Entry Text	A list of array fields or attachment properties	The data you wish to display as the text of

OPTION	ATTRIBUTES	DESCRIPTION
		the dropdown options.
Dropdown Entry Value	A list of array fields or attachment properties	The data you wish to display as the value that will be saved with the dropdown control.

Form Save

This Form Custom Task will save the Form in its current state whenever it is called by an event.

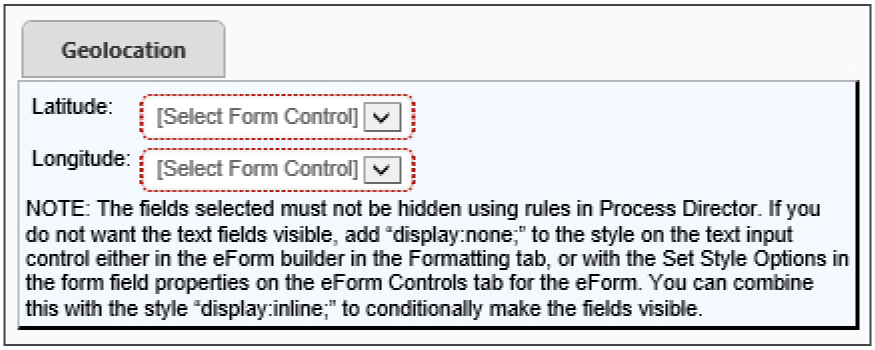


The Close Form After Saving property will, when checked, close the Form after the save operation has completed.

Get geolocation

This Custom Task fills form fields with location (latitude/longitude) data derived from the browser. The fields selected must not be hidden using rules in Process Director. If you don't want the text fields visible, add the style “display:none;” to either

1. The Style property of the input control in the Formatting tab of the Properties dialog box in the Online Form Designer, or
2. The Set Style Options property in the Properties dialog box for the control on the Form Controls tab for the field. You can combine this style with the style “display:inline;” to conditionally make the fields visible.



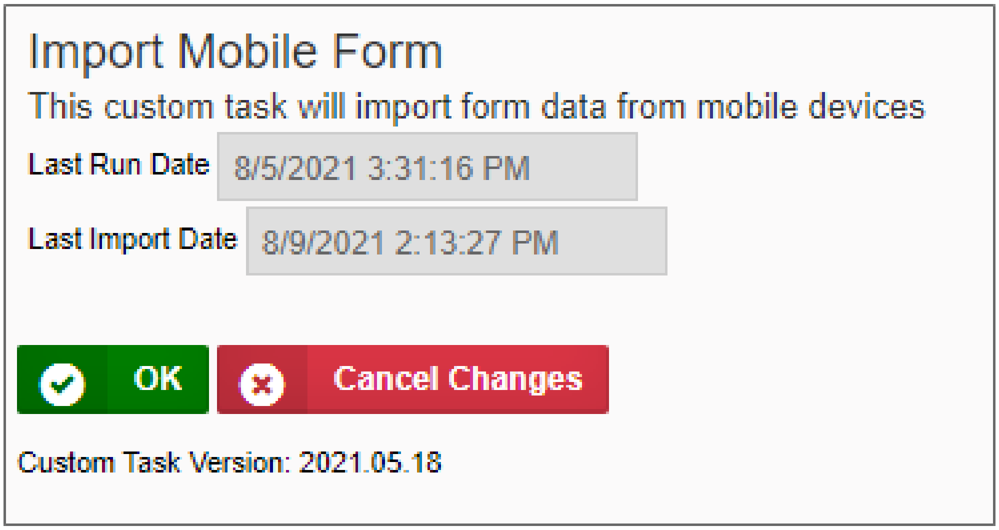
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Latitude	(List of Form Controls)	Select the control that stores the latitude of the location.
Longitude	(List of Form Controls)	Select the control that stores the longitude of the location.

Mobile Form Import

This custom Task is only relevant to installations that are specifically licensed for the Mobile Application component.

This Custom Task imports data from the BP Logix Mobile Server to create Form instances for forms filled out using the BP Logix Mobile App.



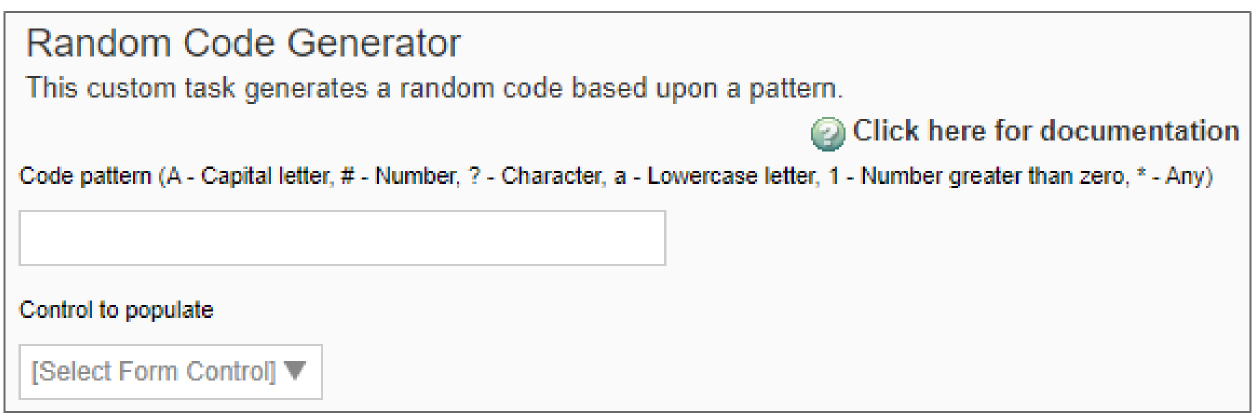
Versions 2024.08.01 and newer of this Custom Task will also import mobile tasks, as part of the Mobile Task Export For User activity types introduced in Process Director v6.1.300 and higher.

Configuration Options

This Custom Task has no user-configurable options. It displays information on the last execution date for informational purposes. The configuration options needed to run this Custom Task are configured via the Mobile Application Custom Variables.

Random Code Generator

This Custom Task generates a random code based upon a pattern, and copies the generated code into a specified Form control.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Code Pattern		Enables you to configure the patter of the code to generate.
Control to Populate	(List of Form Controls)	Selects the Form control that stores the generated code.

Configuring the Code Pattern

The code generated by this Custom Task will conform to the specifications you configure in the Code Pattern property. You configure the desired pattern using a set of wildcard characters. The available wildcards are shown below:

WILDCARD	GENERATED CODE CHARACTER
A	An upper case letter character.
a	A lower case letter character.
?	A special character, such as !, or ^.
#	A number from 0-9.
1	A number from 1-9 (no zeroes).
*	Any upper or lower case letter, any number, or any special character.

Thus, using a Code Pattern of `Aa?#1*` could result in the following values randomly generated from this pattern:

- `It!88J`
- `Ge^07j`
- `Yp:46Q`
- `Gb)260`

For instance, you could set a 10-character autogenerated password using the Code Pattern `**********`, which might result in values such as:

- `ueL;5('*6q`
- `e@s=Udsu86`
- `` j<#q;7ra`% ``
- ...and so forth.

Set Focus

This Custom Task enables designers to determine which Form field should have the focus after a Form field event is fired. Form field events generally cause a page refresh, during which control focus is lost. Losing the control focus restarts the Form's tab order at the beginning.

For example, you may wish to prompt a calculation on the value of two Form fields, FieldA and FieldB, any time the value of either field changes. You could then run this Custom Task on the FieldA event to set the focus to the FieldB control, which would be next in the normal tab order. Similarly, on the event for FieldB, you would run this Custom Task to set the focus on whatever field would normally come next in the tab order for the form.

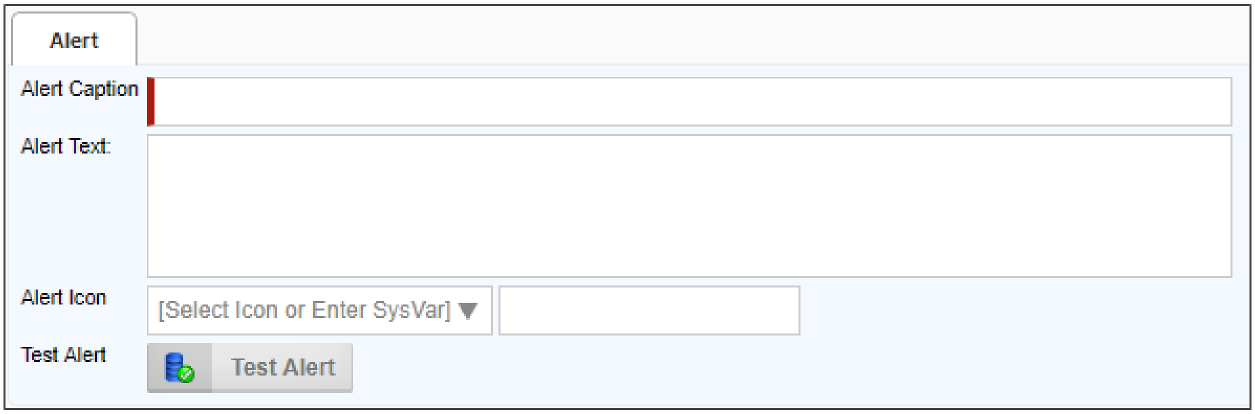
By default, controls are automatically sorted into tab order from left to right then from top to bottom. Process Director does not enable you to specify a custom tab order for Form controls.

The Set Focus Custom Task will reset the Form's control focus to the field configured by the designer.

To configure the Custom Task, set the Form Control property to the field that should receive focus after the Form control event fires. This Custom Task can only be configured in a Form definition.

Show Alert

This Custom Task will show a JavaScript alert box on a Form. You can specify the Title, text and icon that are displayed in the alert box.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Alert Caption		The text that will appear as the header text for the alert box. This is a required field.
Alert Text		Additional text to display below the caption of the alert box.
Alert Icon	[Select Icon or Enter Sysvar] None Info Success Warning Error	In nearly every case, you should simply select the desired icon from the drop-down.

OPTION	ATTRIBUTES	DESCRIPTION
		If [Select Icon or Enter Sysvar] is selected, you may enter the system variable for a form field that returns the values "Info", "Success", etc., in the text box provided. You can't use a custom icon system variable for this value. It must be one of the five values that appear in the dropdown.
Test Alert		Clicking the button will display the alert box, so that you can see it while configuring the Custom Task.

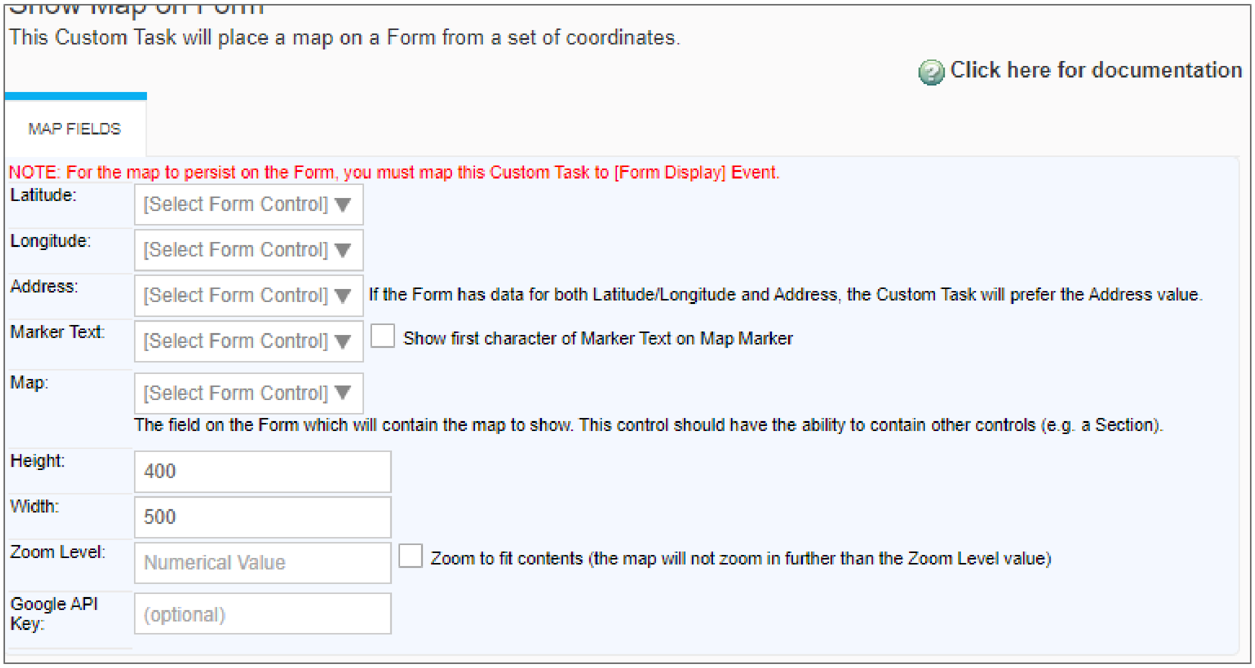
A move away from using a JavaScript alert was made for technical reasons. This change was necessary though it prevents the Show Alert CT from showing a message when a form completes. At present there is no way to show a message when a form completes.

This Custom Task can only be configured in a Form definition.

Show Map on Form

This Custom Task will place a map image on a Form when given a set of coordinates. For the map to persist on the Form, you must map this Custom Task to the **[Form Display]** Event. The creation and display of the Map image is dynamic, so refreshing the page will always remove the map image until the Custom Task is called again. Setting this custom task to the **[Form Display]** event ensures the map image is regenerated any time a form event fires and refreshes the page.

The Custom Task also enables you to add multiple markers to a map. If you set the Latitude and Longitude properties to an array field, Process director will automatically display a marker for each row in the array.



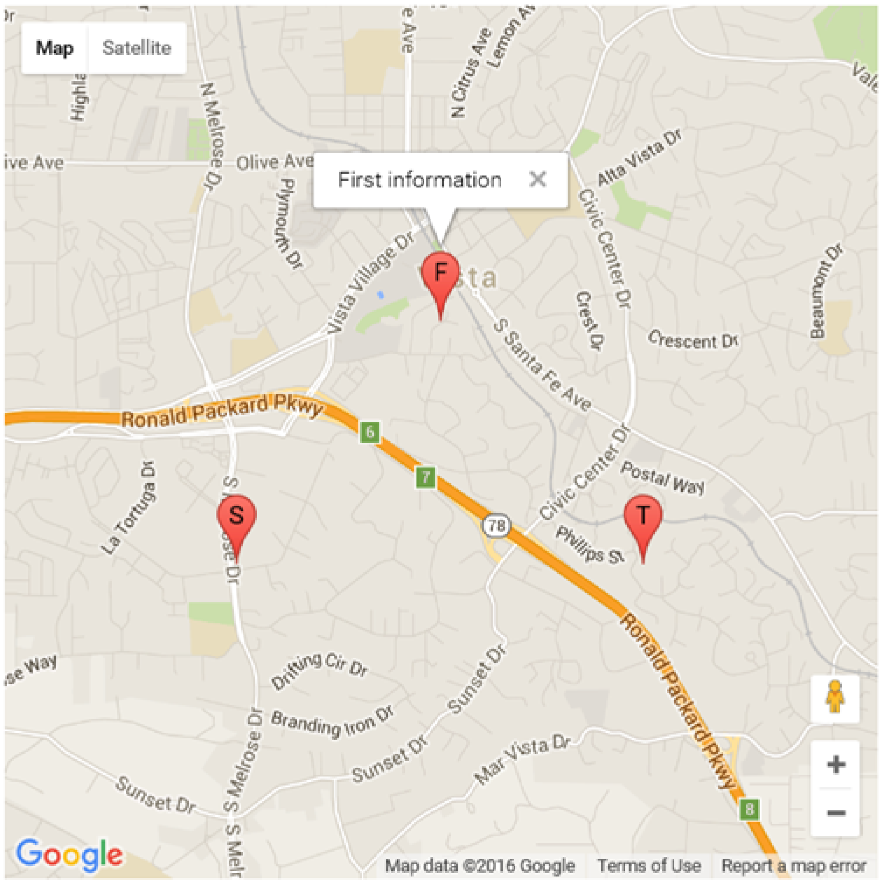
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Latitude	(List of Form Controls)	Select the control that stores the latitude of the location.
Longitude	(List of Form Controls)	Select the control that stores the longitude of the location.
Address	(List of Form Controls)	Select the control that stores the address of the location.
Marker Text	(List of Form Controls)	A control that contains the text that you'd like to appear in a pop-up box when you click on the marker.
Map	(List of Form Controls)	The field on the Form which will contain the map to show. This control should have the ability to contain other controls (e.g. a Sec-

OPTION	ATTRIBUTES	DESCRIPTION
		tion).
Height		The map's desired height.
Width		The map's desired width.
Zoom Level		Can be set from 1 to 25, with 25 being the highest zoom level.
Zoom to Fit Contents		When checked, if multiple coordinates are entered, the zoom level will automatically set to a level that shows all of the coordinates that have been set.
Google API Key		Optional Google API key to use so that map views can be tracked through the Google Maps administrative console for your account.

Multiple locations can be marked by using an array control to set the Latitude, Longitude, Address, and Marker Text settings. See the example below.

Lat: 33.1982188	Lon: -117.2433825	First information
Lat: 33.1882188	Lon: -117.2533825	Second Information
Lat: 33.1882188	Lon: -117.2333825	Third information

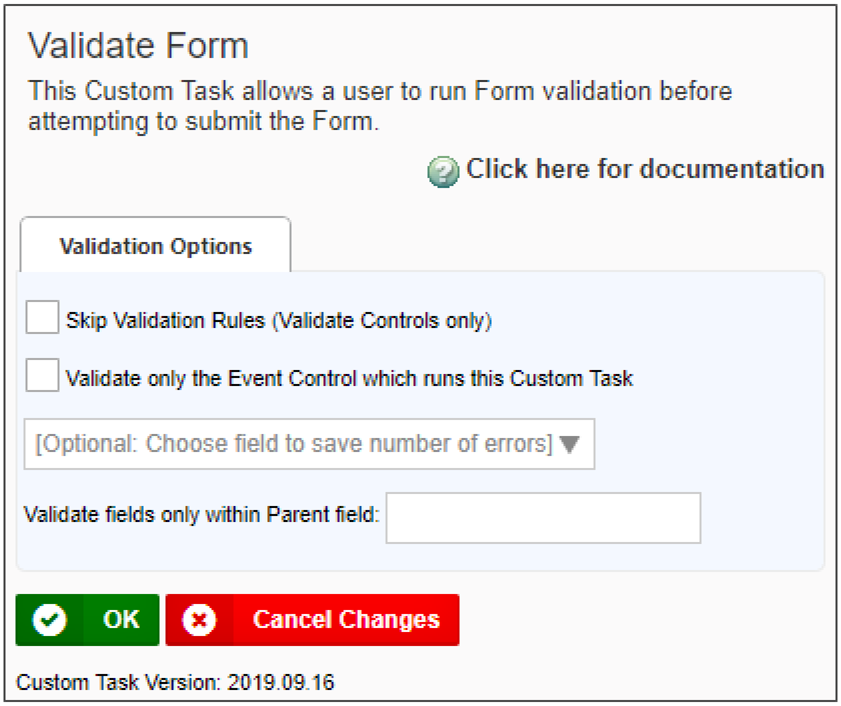


Validate Form

This Custom Task runs Form validation **before** attempting to submit the Form. Normally, Form field values are only validated when the Form is submitted. This Custom task enables you to run Form field validation whenever you choose. For example, if the value of FieldA determines the options that might be displayed in a Dropdown control, you might want to run this Custom Task on the FieldA event to ensure the value in FieldA is valid before allowing the user to continue filling out the Form. If the Form does not validate, the appropriate validation error messages will be displayed to the user.

You may choose to validate the entire form or, for Custom Task v2019.09.16 and higher, only fields within a specified container control, like a Section or TabStrip control.

The use of v2019.09.16 or higher of this Custom Task requires Process Director v5.26 or higher.



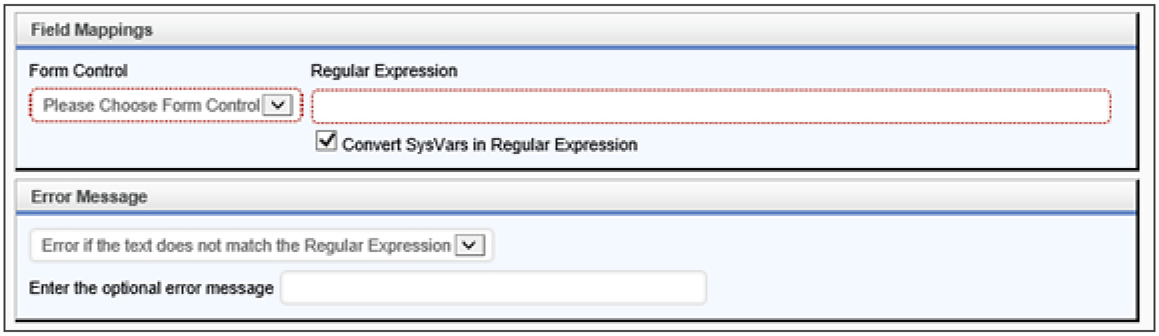
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Skip Validation Rules (Validate Controls only)		Skip all of the form validation rules.
Validate only the Event Control which runs this Custom Task		Validate on the control that runs the Custom Task.

OPTION	ATTRIBUTES	DESCRIPTION
Optional: Choose field to save the number of errors	(List of Form Controls)	Select the control that stores the number of validation errors that are thrown.
Validate Fields Only within Parent Field		An input box that will accept the name of a valid container control, e.g., a Section.

Validate Form Field

This Custom Task will validate a form field using a Regular Expression. Only the specified Form field will be validated, and the validation will only check to ensure that the value of the Form field matches the specified Regular Expression. This Custom Task does not substitute for or interfere with, normal Form validation.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Form Control	(List of Form Controls)	The form control to validate
Regular Expression		The Regular

OPTION	ATTRIBUTES	DESCRIPTION
		expression to use to validate the form control.
Convert SysVars in Regular Expression		Convert any SysVars used in the Regular Expression to their values prior to validating the form field.
Error message	Error if the text doesn't match the regular expression, Error if the text does match the regular expression	Choose whether the message displays when the regular expression matches or not.
Enter the optional error message		A customized error message to display.

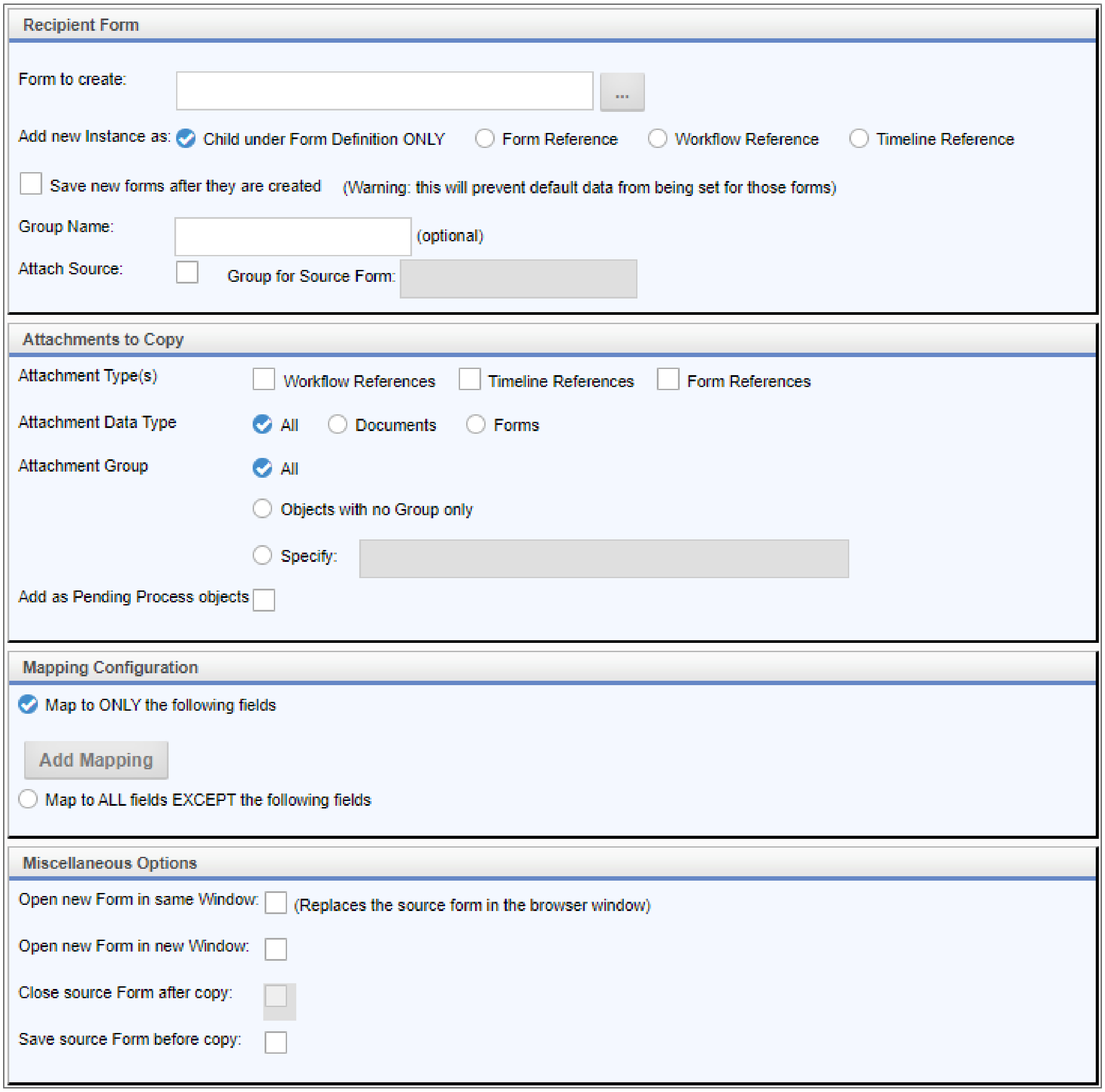
Form Data Mapping Custom Tasks

These Custom Tasks enable you to set data values in a Form, fill fields from Business Value objects, copy data between two different Form instances, and to manipulate arrays on forms on a variety of ways. In addition to these Custom Tasks, some functions, like setting form data, or filling fields from a Business Value, are also provided in the configuration tabs of Form and/or Timeline Definitions, and can be invoked from the definitions directly, instead of being called via a Custom Task.

Copy Form Data

This Custom Task enables you to create a new instance of a specified Form, then copy data to it from a different Form instance. This Custom Task *always* creates a new Form instance before copying the data, and does not copy data between two existing form instances.

When invoked on a Form, the Custom Task assumes the Form will be used as the **Container Form**, which is to say the Form that contains the original data to be copied. When invoked from a Process Timeline as a Custom Task activity, the Custom Task tab of the activity will contain a property named Set Container Form. This property enables you to choose the Form that will be used as the Container Form for the Custom Task. This Custom Task cannot be configured without a Container Form set.



The Form to create property enables you to select the form template into which you wish to copy the data. When the Custom Task runs, a new instance of the selected Form will be created to receive the data.

To select the fields into which you want to copy the data, click on the Add Mapping button to create a new mapping row for each field you wish to copy. For each mapping row, select destination and source Form fields. Alternatively, you can tell the Custom Task to map to all Forms except ones that you specify. This setting will automatically copy data from the source form to the corresponding fields in the destination form, excluding the fields you specify.

Other options can be set to specify how the form is displayed and under what groups and instance types it is created. You can specify the group name of the new form, and what kind of reference it will be, e.g., a Form or Process reference. You can click on the Attach Source checkbox to attach the source Form to the destination form, specifying a new group name for the attachment. Similarly, you can copy of all of the Container Form's document attachments to the new Form.

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Form to Create		Select the form to which the data should be copied from the picker control.
Add new Instance as	Child under Form Definition ONLY Form Reference Workflow Reference Timeline Reference	The object reference to which to attach the new form.
Save new forms after they are created		This prevents the new version from being treated like a new form instance, meaning that it will immediately show up in Knowledge Views, etc.

OPTION	ATTRIBUTES	DESCRIPTION
		Default values won't be set for the fields of the new form instance when this option is checked.
Group Name		The Group Name for the new form.
Attach Source		Attach the source form as a reference to the new form instance.
Group for Source Form		The Group Name for the source form.
Attachment Type(s)	Workflow References Timeline References Form References	Attachments to copy to the new form instance.
Attachment Data Type	All Documents Forms	They type of object to attach to the

OPTION	ATTRIBUTES	DESCRIPTION
		new Form.
Attachment Group	All Objects with no Group only Specify	Group name of the attachments. Selecting "Specify" will enable you to add the desired group name in the text box.
Add as pending process objects		Add the attachments as pending process references instead of form references.
Map to ONLY the following fields		Restrict form field mapping to the field mappings you add by clicking the Add mapping button.
Map to ALL fields EXCEPT the following fields		Restrict form field mapping to **exclude** the field mappings you add by clicking the Add mapping

OPTION	ATTRIBUTES	DESCRIPTION
		button.
Open new Form in same Window		Replaces the source form in the browser window.
Open new Form in new Window		Opens the destination form in a new window. For Process Director versions older than v4.55, to enable this option to work as expected in conjunction with the Close source Form after copy property, the fEnableJSURL Custom Variable must be set to "true".
Close source Form after copy		Close the source form after the data has been copied to the new Form.
Save source Form before copy		Save the source form

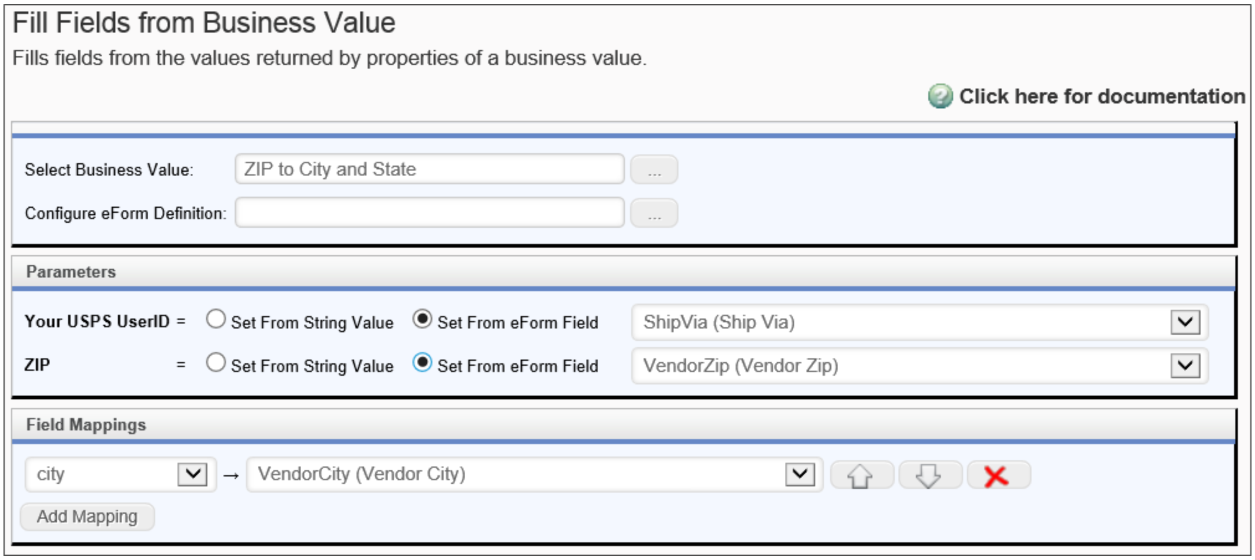
OPTION	ATTRIBUTES	DESCRIPTION
		before copying to ensure the most current data is copied.

Version 2018.10.26 and below for this Custom Task may incorrectly copy the value of an HTML control between forms. Later versions of this Custom Task, e.g., 2022.XX.XX and above, correct this behavior.

Fill Fields from Business Value

This Custom Task was largely deprecated in Process Director v4.5 with the addition of the *Set Form Data* tab to both Form and Process Timeline definitions, which enable you to fill fields directly from a Business Value without invoking a Custom Task.

For users of Process Director v4.02 and higher, the Fill Fields from Business Value Custom Task enables you to use a Business Value to fill Form fields.



This Custom Task requires the SDK that is delivered with process Director v4.02, and can't be used with earlier versions.

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Select Business Value		A ContentPicker that enables you to choose the Business Value to use to extract the data.
Configure Form Definition		A ContentPicker that enables you to optionally set parameters from a different form than the default container Form, if desired. The Custom Task will search for an instance of the selected form in the current process instance, and use the values from that Form.
Parameters	An automatically generated list of the parameters required by	If the Business

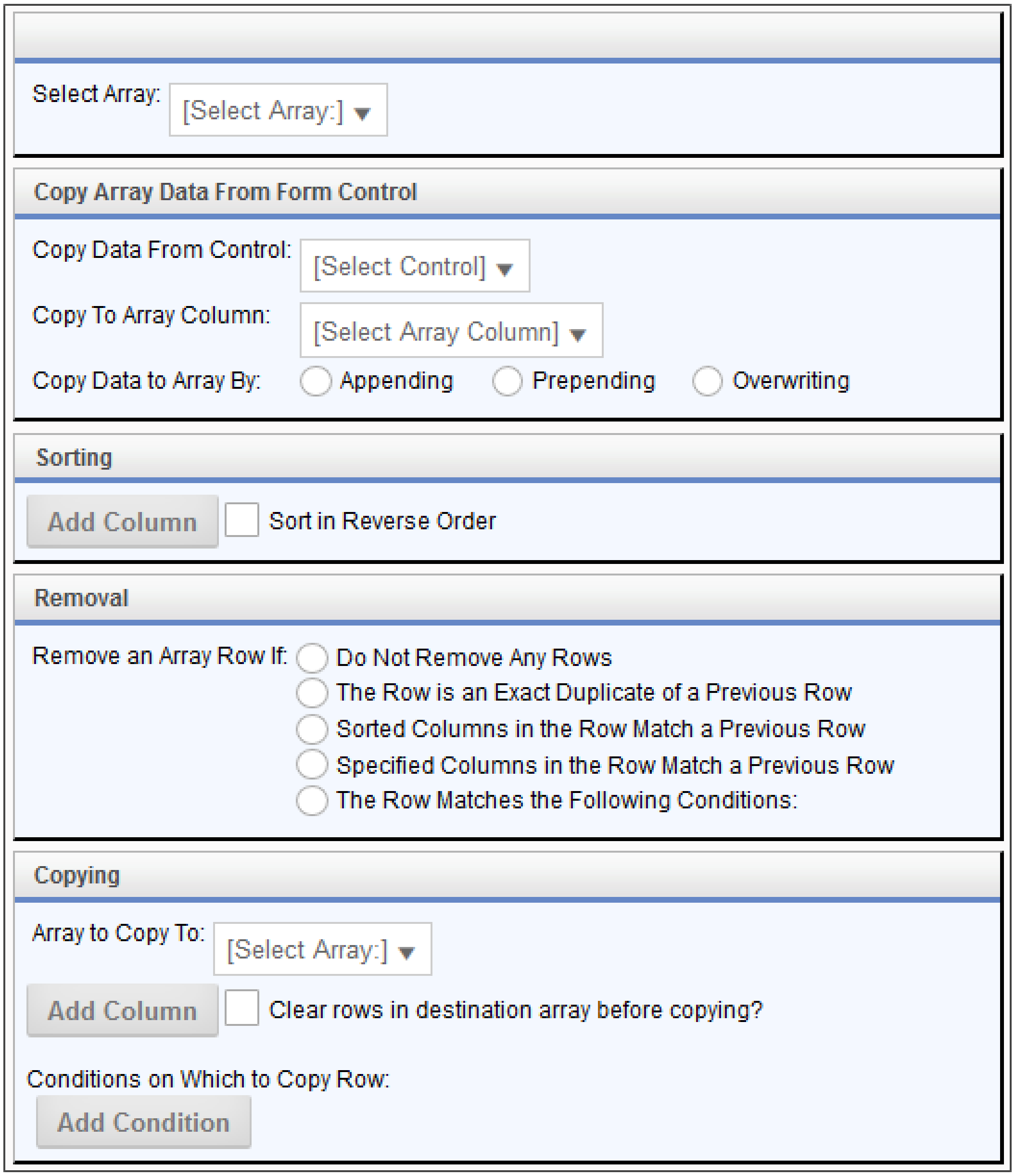
OPTION	ATTRIBUTES	DESCRIPTION
	the Business Value.	Value uses parameters, Process Director will display each parameter for the Business Value. You can set the parameter using a string value, or select a Form field that will supply the parameter's value.
Field Mappings	A list of all the Form fields to map to the Business Value.	To add a field to map to the Business Value, click the Add Mapping button. Each mapping will consist of a dropdown from which to choose the Business Value property to apply, and a dropdown from which to

OPTION	ATTRIBUTES	DESCRIPTION
		use the Form field whose value you wish to set. For users of Process Director v4.05 and higher, this Custom Task will fill array columns with a Business Value that returns a recordset.

Manipulate Array Data

This Custom Task will perform a variety of useful operations with Form arrays:

- Sort data in arrays.
- Remove duplicate rows in an array.
- Remove array rows based on conditions
- Copy data in an array to fields in another array.



When invoked on a Form, the Custom Task assumes the Form will be used as the **Container Form**, which is to say the Form that contains the original data to be copied. When invoked from a Process Timeline as a Custom Task activity, the Custom Task tab of the activity will contain a property named Set Container Form. This property enables you to choose the Form that will be used as the Container Form for the Custom Task. This Custom Task cannot be configured without a Container Form set.

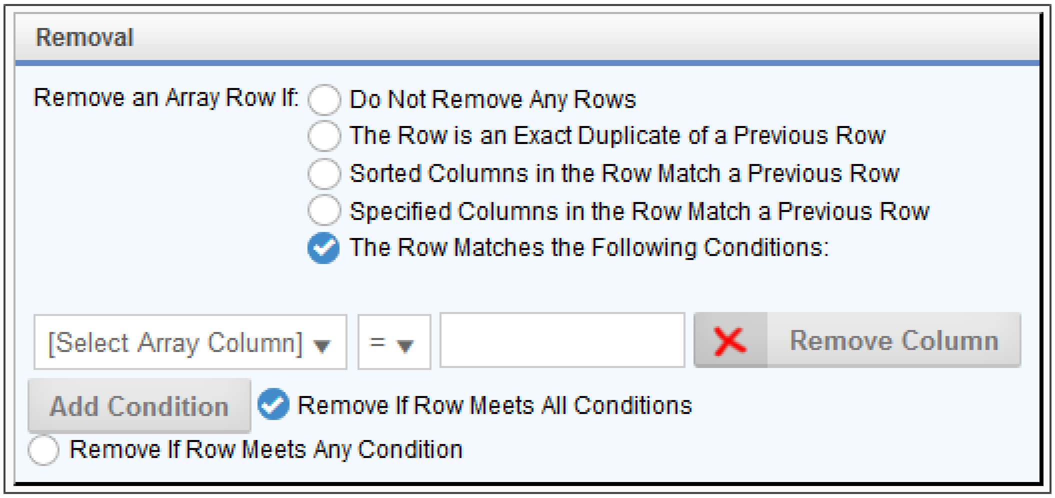
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Select Array	List of arrays on the Form	The array to which to apply the Custom Task oper- ations.
Copy Data From Control	List of Form controls	The Form con- trol from which data should be copied.
Copy To Array Column	List of Array columns	The Array column into which the data should be pas- ted.
Copy Data to Array By	Appending Prepending Overwriting	How the data will be copied into the array. The data may be prepended by adding a row to the beginning of the array, appended by adding a new row to the end of the array, or overwrite the existing column data in

OPTION	ATTRIBUTES	DESCRIPTION
		the array.
Sorting		Click the Add Column button to choose the array column on which to sort.
Sort in Reverse Order		Checking this checkbox will sort the array in Descending order, rather than Ascending order.
Remove an Array Row If:	Do Not Remove Any Rows The Row is an Exact Duplicate of a Previous Row Sorted Columns in the Row Match a Previous Row Specified Columns in the Row Match a Previous Row The Row Matches the Following Conditions:	Select the condition under which duplicate rows should be removed.
Array copy to	List of arrays on the Form	Choose the array to which the array values should be copied from the array you initially selected in the Select Array

OPTION	ATTRIBUTES	DESCRIPTION
		option.
Conditions on Which to Copy Row		Enables you to use the Condition Builder to determine the conditions under which a row will be copied.

In the Removal section of the configuration screen, if you select the Remove Rows based on Conditions option, an Add Condition button and additional options will appear. Clicking the Add Condition button will add a conditions row that enables you to select an array field, operator, and enter a value to compare, so that you can remove a row based on the condition. Each condition row has a Remove Condition button to enable you to delete the row, if desired. Finally, you may then select whether to remove the row if it meets *all* of the conditions, or to remove the row if it meets *any* of the conditions in the list.



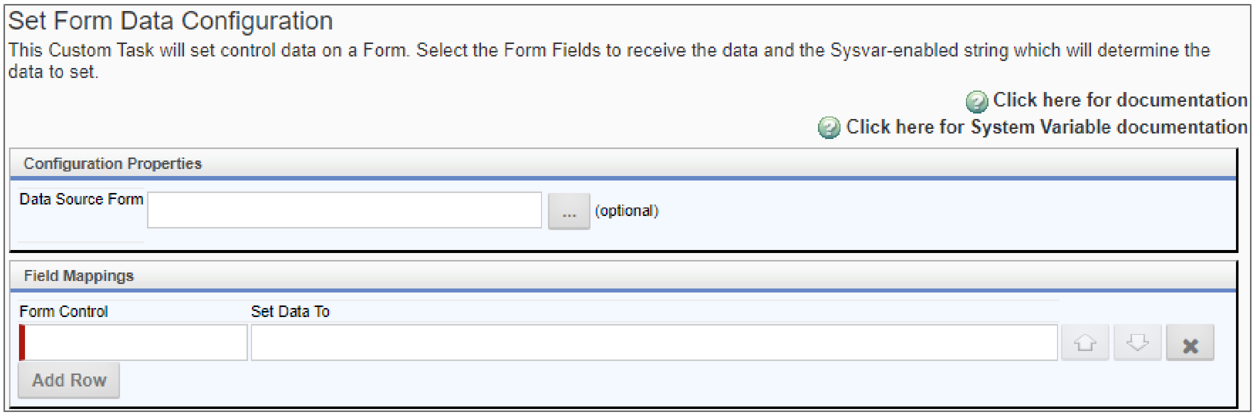
Set Form Data

This Custom Task was largely deprecated in Process Director v4.5 with the addition of the *Set Form Data* tab to both Form and Process Timeline

definitions, which enable you to set Form Data directly, without invoking a Custom Task.

This Custom Task will set the value of fields on a Form. You can select the Form Control who's value you wish to set, then use System Variable or plain text in the Set Data To property to set the value of the specified Form Control.

Clicking the Add Control button enables you create additional control mapping rows for additional controls.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Data Source Form		Picker control to select a form containing the data source, if any.
Form Control		The form control to set data (Container Form must be configured)
Set Data To		Data to set to Form Control

IoT (Internet of Things) Custom Tasks

IOT Custom Tasks enable you to communicate between Process Director and Azure IoT devices.

Send Message to IoT Device

This Custom Task will send a configurable text message to an Azure IoT device from Process Director.

Configuration Options

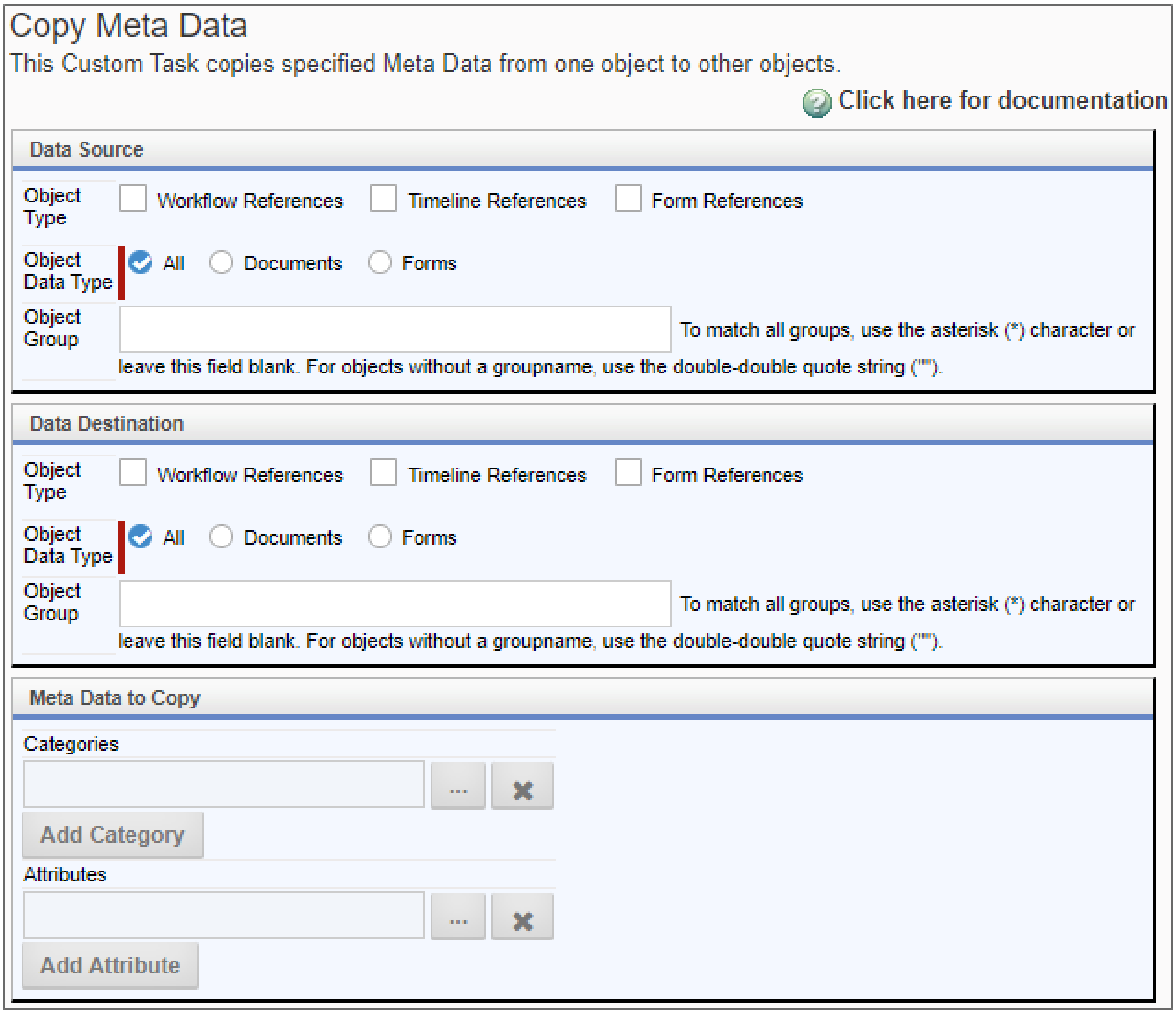
OPTION	ATTRIBUTES	DESCRIPTION
IoT Device	List of IoT Data Sources	The Data Source object that connects to the IoT device.
Device ID		The Azure Device ID of the IoT Device.
Message to send		The Text message that should be transmitted to the IoT device.

Meta Data Custom Tasks

These Custom Tasks enable you to manipulate Meta Data from Process Director.

Copy Meta Data

This Custom Task copies Meta Data between Process Director objects any any associated document attachments.



Configuration Options

Both the Data Source and Data Destination sections of the configuration screen allow you to configure the same three fields.

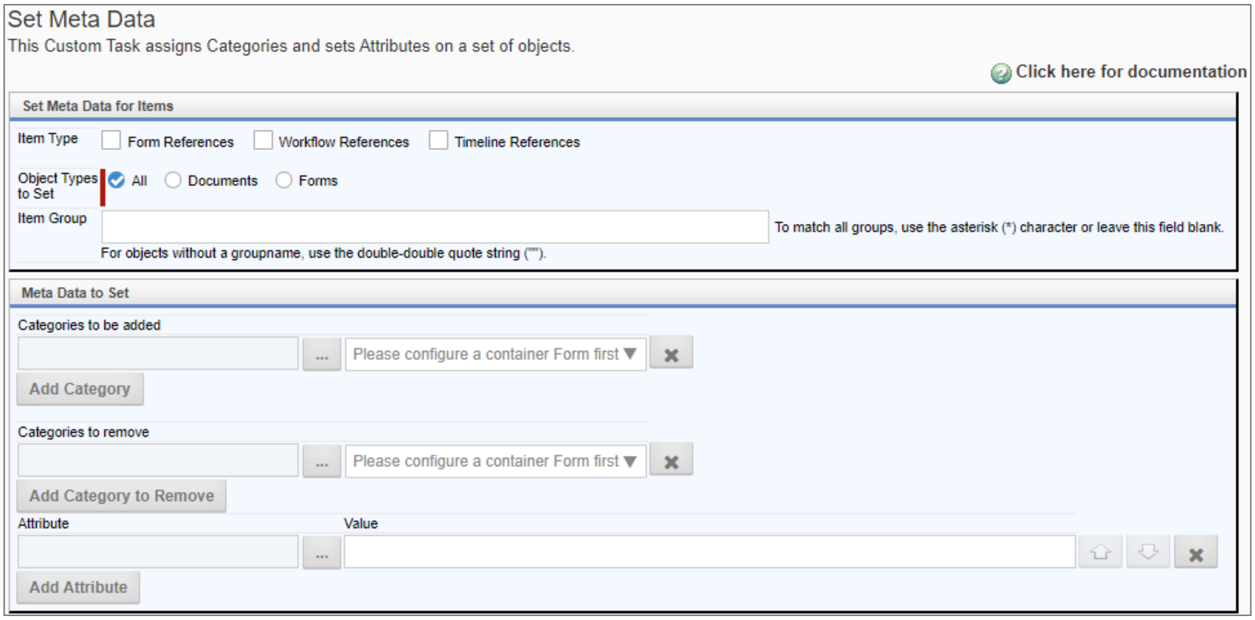
OPTION	ATTRIBUTES	DESCRIPTION
Object Type	Workflow References, Timeline References, Form References	The type of object reference from which to copy

OPTION	ATTRIBUTES	DESCRIPTION
		the Meta Data.
Object Data Type	All, Documents, Forms	The type of objects from which to copy the Meta Data.
Object Group		Group Name of the objects from which to copy the Meta Data.

In the Meta Data to Copy section, you can click the Add Category or Add Attribute buttons to add additional categories or attributes, respectively, to be copied.

Set Meta Data

This Custom Task assigns Categories and sets Attributes on a Process Director object or set of objects. You can configure the Custom Task to set Meta Data Categories to an object, assign Attributes and Attribute values, or both. Similarly, by using the Add Category to Remove button, you can remove specified Categories, along with all their Attributes, from an object.



Configuration Options

Both the Data Source and Data Destination sections of the configuration screen enable you to configure the same three fields.

OPTION	ATTRIBUTES	DESCRIPTION
Item Type	Form Only, Form References, Workflow References, Timeline References	The type of object reference for which you wish to set meta data.
Object Types to Set	All, Documents, Forms	The type of objects to which to set the meta data.
Item Group		Group Name of the objects to which to set the meta data.

Clicking Add Category and Add Attribute displays a picker that enables you to select a category or attribute that you want to apply to the objects. Clicking Add Category to Remove displays a picker that enables you to select a category that you want to remove from the objects. In both cases, you can also select a Meta Data picker control from the Form to specify the categories to add or remove.

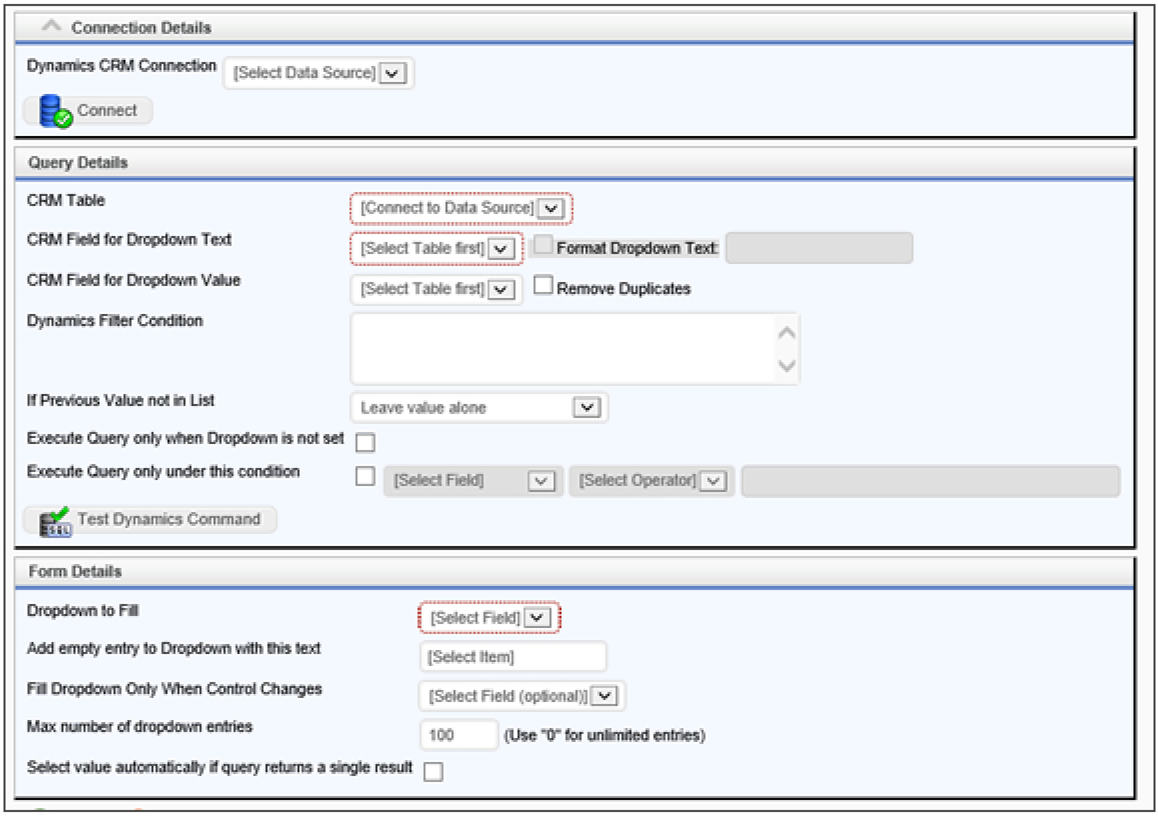
MS Dynamics Custom Tasks

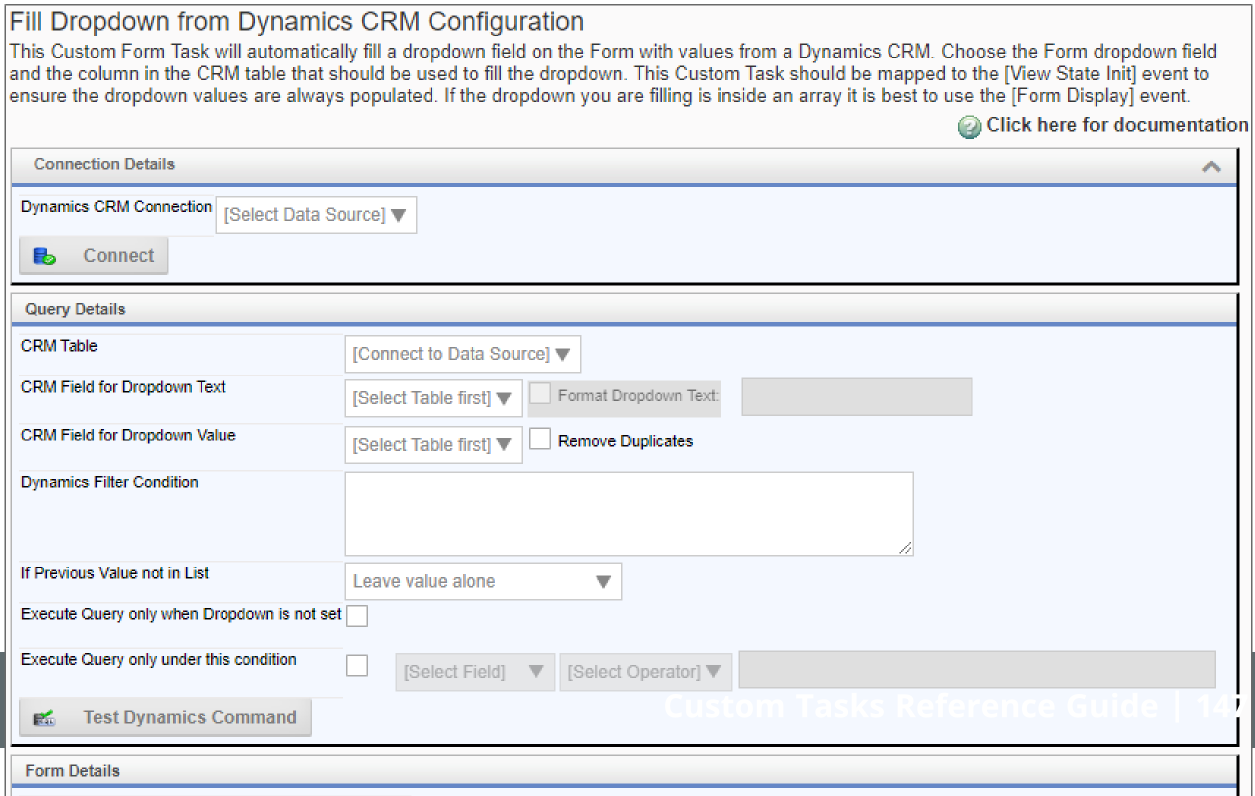
The use of Microsoft Dynamics requires that you purchase an additional connection license from cData, who control the licensing for data connections to the software.

These Custom Tasks enable the transfer of data to and from Microsoft Dynamics.

Fill DropDown from Dynamics CRM

This Custom Form Task will automatically fill a dropdown field on the Form with values from a Dynamics CRM. Choose the Form dropdown field and the column in the CRM table that should be used to fill the dropdown. This Custom Task should be mapped to the [View State Init] event to ensure the dropdown values are always populated. If the dropdown you are filling is inside an array it is best to use the **[Form Display]** event.





Configuration Options

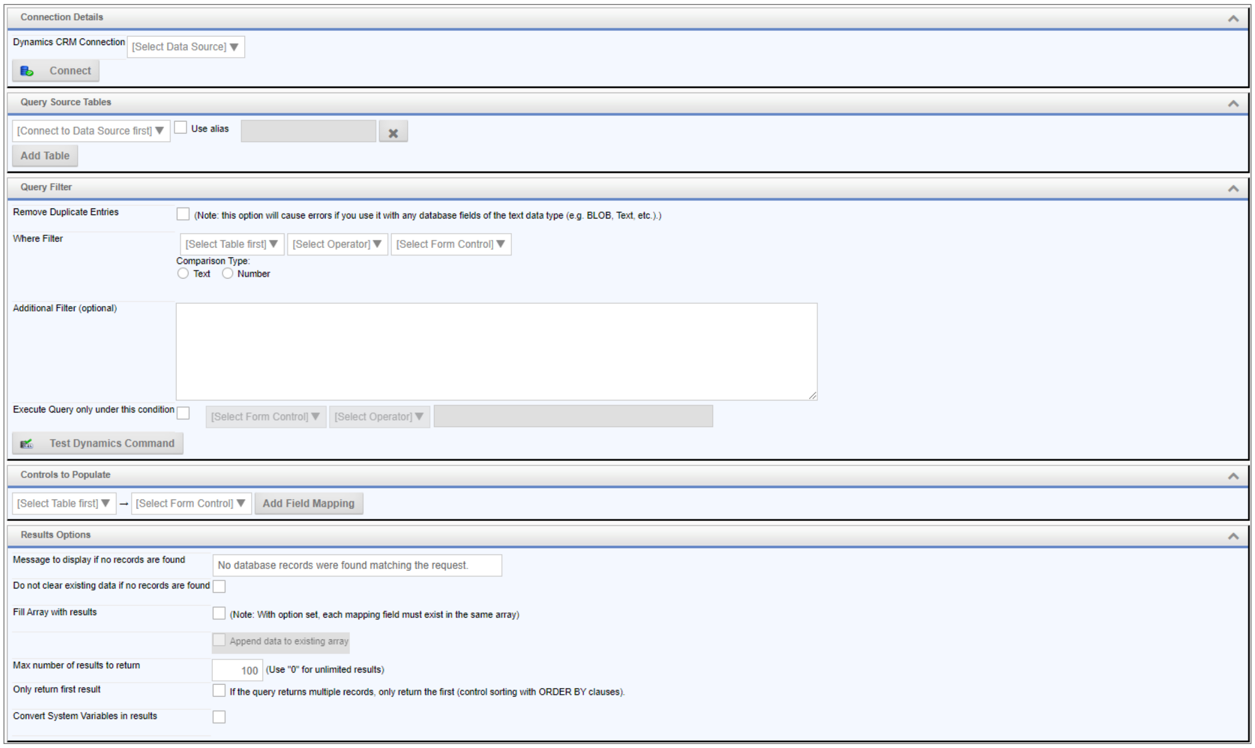
OPTION	ATTRIBUTES	DESCRIPTION
Dynamics CRM Connection	List of Data Sources	The data connection to Microsoft Dynamics
CRM Table	List of Dynamics Tables	The table from which the data will be retrieved.
CRM Field for Dropdown Text	List of table fields	The table field that will be displayed as the text in the dropdown control.
CRM Field for Dropdown Value	List of table fields	The table field that will be used as the value of the dropdown control.
Dynamics Filter Condition		Text filter that will be used as the WHERE condition of the SQL statement that returns the Microsoft Dynamics data.

OPTION	ATTRIBUTES	DESCRIPTION
If Previous Value not in List	Leave value alone, Clear the value in the form, Add the value to the dropdown	How the drop-down value will be altered if the previous value isn't in the list of data returned from Dynamics.
Execute Query only when Drop-down isn't set		This prevents the query from being re-run if the dropdown has already been populated.
Execute Query only under this condition		Enables you to set a condition for running the query that populates the dropdown.
Dropdown to Fill	List of Form fields	The name of the dropdown control that will be filled with Dynamics data.
Add empty entry to Dropdown with this text		Text value for null entries. The default is [Select Field].

OPTION	ATTRIBUTES	DESCRIPTION
Fill Dropdown Only When Control Changes	List of Form fields	Prevents the query from running unless this field changes. This is often used for a field whose value will be used as a filter to limit the data that is returned.
Max number of dropdown entries		Maximum number of items that will be placed in the dropdown control.
Select value automatically if query returns a single result		If there is only one record returned from the query, then automatically select the value.

Fill Fields from Dynamics CRM

This Custom Form Task can automatically fill multiple fields on the Form with values from MS Dynamics CRM. Choose the Form fields and the columns in the CRM tables that should be used to fill them. You can also configure the input fields will be used to select the appropriate information from the source data.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Dynamics CRM Connection	List of Data Sources	The data connection to Microsoft Dynamics
Query Source Tables	List of Dynamics Tables	The table from which the data will be retrieved. Additional tables can be added by clicking the Add Table button.
Use Alias		An alias name to use for the

OPTION	ATTRIBUTES	DESCRIPTION
		table.
Remove Duplicate Entries		Do not repeat duplicate items in the returned data. This option will cause errors if you use it with any database fields of the text data type (e.g. BLOB, Text, etc.
Where Filter	Lists of Tables, operators, and form controls	Enables you to filter data by comparing a Dynamics field value to a Form field value.
Comparison Type	Text, Number	The type of comparison the filter will make
Additional Filter (optional)		Text filter that will be used as the WHERE condition of the SQL statement that returns the Microsoft

OPTION	ATTRIBUTES	DESCRIPTION
		Dynamics data.
Execute Query only under this condition		Enables you to set a condition for running the query that populates the dropdown.
Controls to populate	Lists of tables and Form fields	Field mappings between Dynamics fields and Form fields. Additional mappings can be added by clicking the Add Mapping button.
Message to display if no records are found		Text message to display if no data is returned.
Do not clear existing data if no records are found		Make no changes to the existing values if no data is returned.
Fill Array with results		Fills an array with the values returned from

OPTION	ATTRIBUTES	DESCRIPTION
		Dynamics. With this option set, each mapping field must exist in the same array. Check " Append data to existing array" to add the new data to the array rather than overwriting it.
Max number of results to return		The maximum number of results to return from the query.
Only return first result		If the query returns multiple records, only return the first (control sorting with ORDER BY clauses).
Convert System Variables in results		Convert system variables to their values in the returned results.

PDF Custom Tasks

The PDF Custom Tasks are used to create PDF files from Forms, and to convert other file types to PDF documents. The following document file types can be converted to PDF:

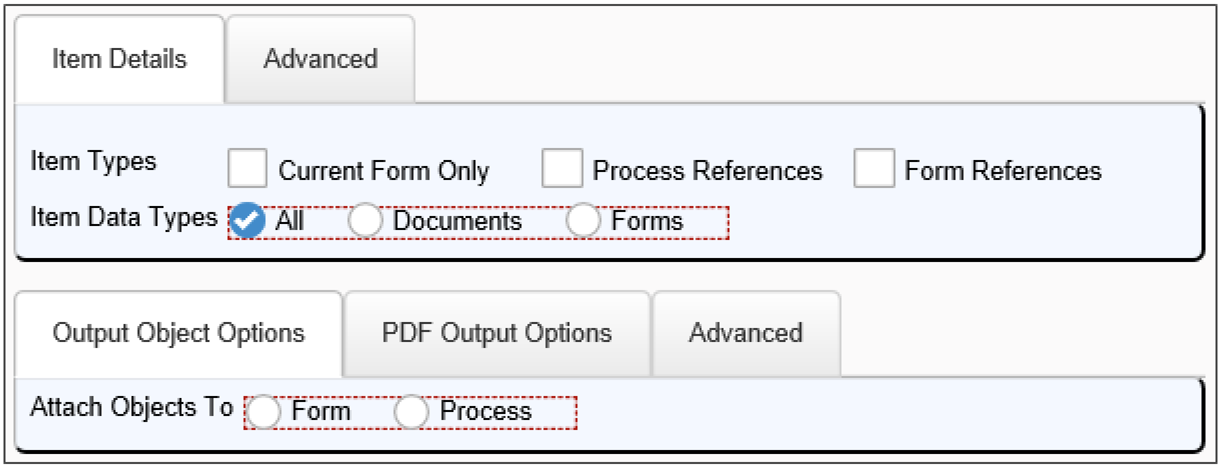
Document Type	File Extension
Microsoft Word Document	.DOC .DOCX
Microsoft PowerPoint Presentation	.PPT .PPTX
Microsoft Excel Spreadsheet	.XLS .XLSX
Text Files	.TXT .CSV .RTF
Image Files	.JPG .GIF .PNG .BMP
Email Files	.MSG

Some PDF Forms, created using the XFA format, may not operate as expected during PDF operations. The XFA format is not a standard PDF fillable form. Instead, it contains an XML-based form, with the PDF file only used as a wrapper for the XML data. Process Director does not support the XFA Forms format.

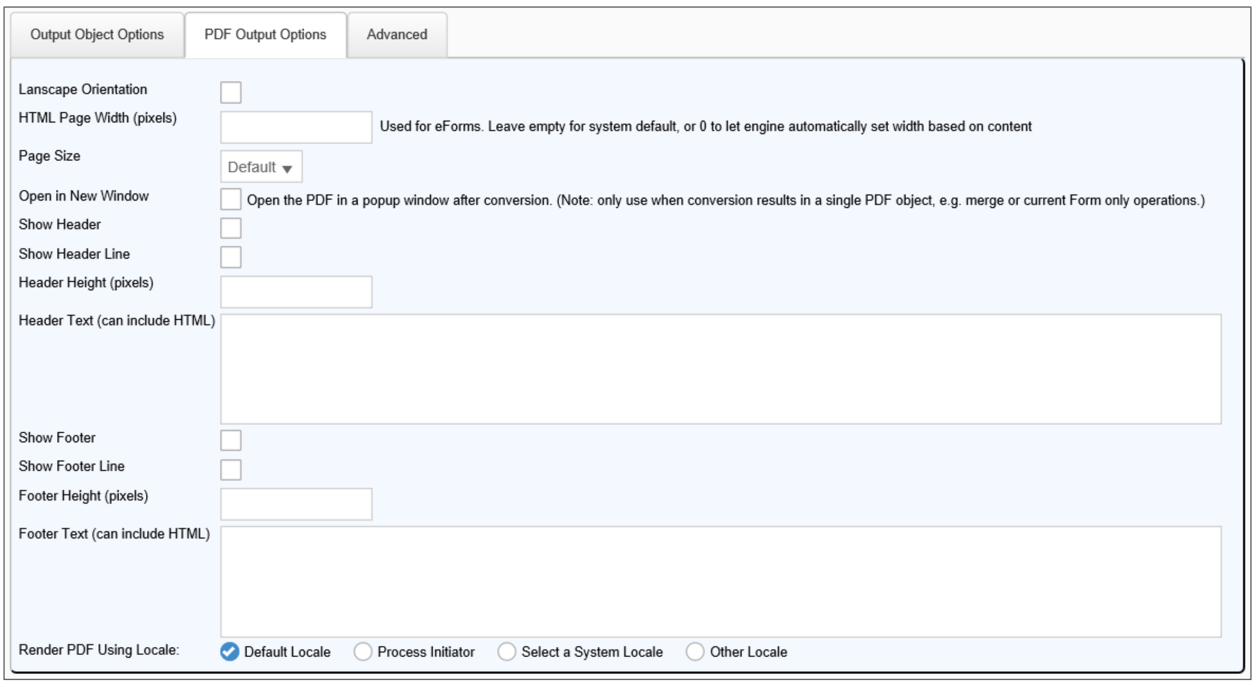
Convert to PDF

This Custom Form Task will convert Forms, document attachments, and other objects to PDF Documents. The PDF output can produce a PDF document for each specified object, or merge all converted objects into a single PDF file, and enable you to set the sort order in which the documents will appear in the merged PDF.

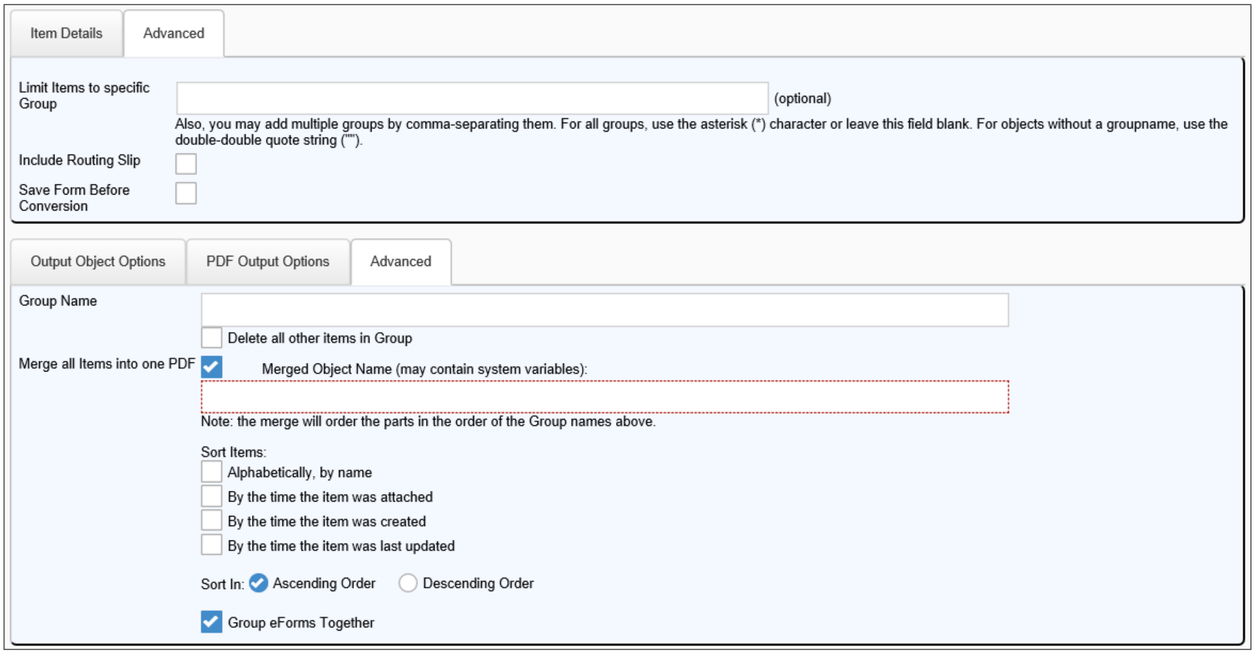
Item Details/Output Object Options Tabs



PDF Output Options Tab



Advanced Tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
ITEM DETAILS TAB		
Item Types	Current Form Only Process References Form References	The type of items to be converted to PDF. Selecting Current Form Only will only convert the Form to PDF, and, if checked, will disable the remaining options. This option is only available when the Custom Task is being used as

OPTION	ATTRIBUTES	DESCRIPTION
		a Form Custom Task, and won't appear in the configuration for Custom Task activities in a Process Timeline. Process References will convert only items that are attached to the process. The Form itself is a process reference object. Form References will convert only items that are attached to the form. The Form is **not** a form reference object. **The best practice with attachments is to attach them to the process, not the**

OPTION	ATTRIBUTES	DESCRIPTION
		form. If you do attach items to the form, and you'd like to convert both the form and all form attachments to a PDF, you must check both Process References and Form References.
Item Data Types	All Object Types All Documents Forms	The type of object.
OUTPUT OBJECT OPTIONS TAB		
Attach Objects To	Form Process	Enables you to select whether to attach the converted object(s) to the Form or the Process.
Output As	PDF TIFF	Enables you to select whether to output the object to PDF or

OPTION	ATTRIBUTES	DESCRIPTION
		TIFF format.
TIFF Resolution	Visible if TIFF is the selected output format.	Enables you to set the resolution, in DPI, of the TIFF image.
Render TIFF in Reduced Color Depth	Visible if TIFF is the selected output format.	Enables you to render the TIFF image in grayscale, instead of color.
ADVANCED TABS		
Limit Items to Specific Group		Convert only a group of objects.
Include Routing Slip		Include Routing Slip.
Save Form before Conversion		Saves the form prior to the conversion to ensure the most recent data is included on the PDF.
Group Name		Assign a name to group objects.
Merge all Items into one PDF		Merge all objects to one PDF
Merged Object Name		Give the merged objects a name.
PDF OUTPUT OPTIONS TAB		

OPTION	ATTRIBUTES	DESCRIPTION
This tab consists of PDF Page formatting options, most of which are self-explanatory.		
Landscape Orientation		
HTML Page Width (pixels)		Used for Forms. Leave empty for system default, or 0 to let engine automatically set width based on content.
Page Size	List of print page sizes	
Open in New Window		
Show Header		Open the PDF in a popup window after conversion. (Note: only use when conversion results in a single PDF object, e.g. merge or current Form only operations.)
Show Header Line		
Header Height (pixels)		
Header Text (can include HTML)		
Show Footer		
Show Footer Line		
Footer Height (pixels)		

OPTION	ATTRIBUTES	DESCRIPTION
Footer Text (can include HTML)		
Render PDF Using Locale	Default Locale Process Initiator Select a System Locale Other Locale	Sets the locale in which a form displays when it is rendered to PDF. When Select a System Locale is selected, the user can pick the available locales from a drop-down that will automatically appear. Similarly, when Other Locale is selected, a text box will appear to enable the user to specify the locale. See MSDN for a list of culture names that can be used with the "Other Locale" option.

Page numbers can be displayed in either the Header Text or Footer Text properties of the PDF Output Options tab. If you type `#p#`, it will insert the current page number in the header or footer. If you type `#P#`, then it will insert the total page count. So, for example, to show the current page of total pages, you could enter `Page #p# of #P#` into the HTML header or footer, to see an output like: "Page 4 of 10".

When you select the Merge all Items into one PDF option, an additional set of options will appear that enable you to specify how to handle the merge operation.

Merged Object Name: This option specifies the name of the merged PDF file.

Sort Items: You may select the order in which you'd like the merged PDF documents to appear in the final, merged document by selecting the item to sort by, and the sort order to apply.

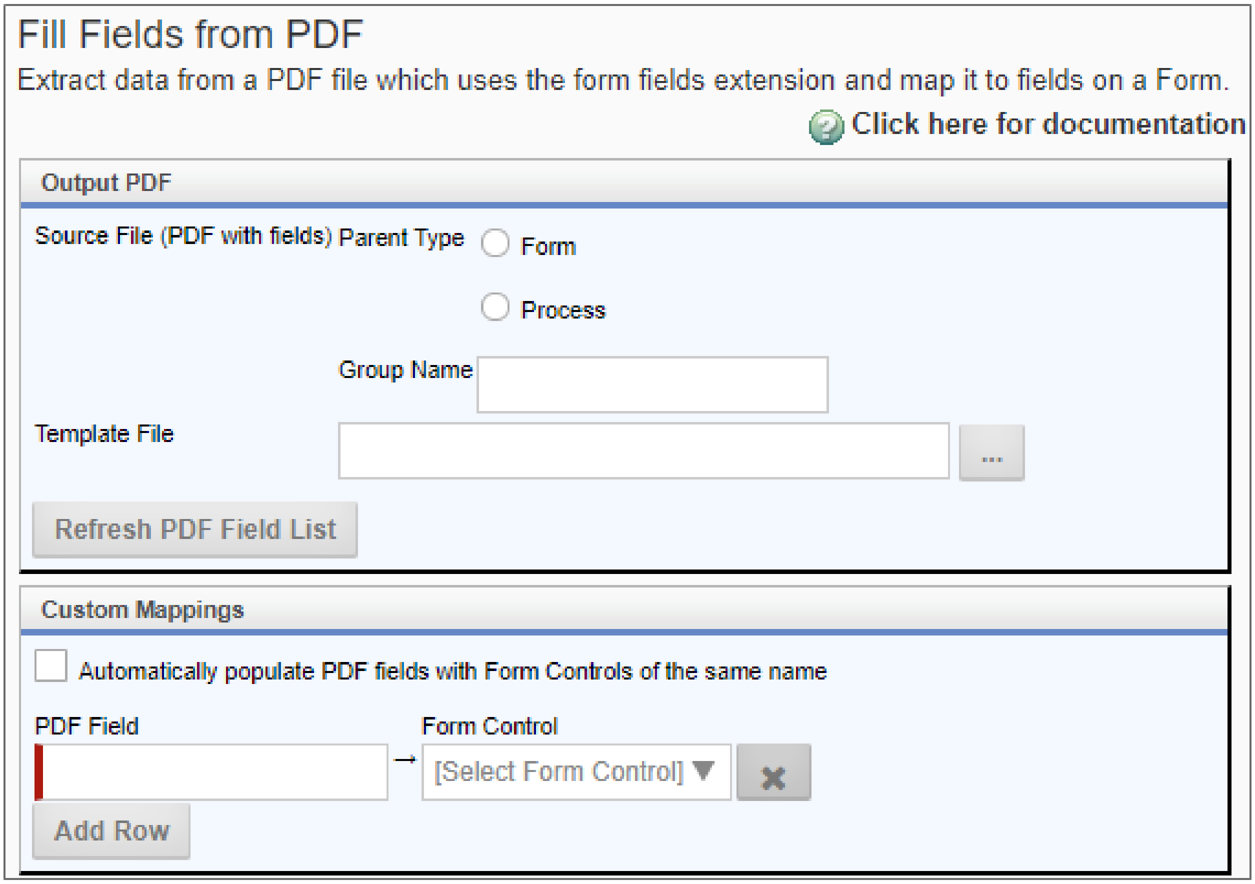
If you select multiple sort items, the sort will be prioritized in the order in which the items appear on the configuration screen. So if a user wants to sort by name, creation time, and update time, it will first sort alphabetically, then for items with the same name, then by their creation time. For items with the same name and creation time, it will sort by their update time.

Group Forms Together: By default, sorting will sort all items in the desired sort order. You may, however, select this option to sort and group the Forms together as the first pages of the PDF, then sort and group the attachment files on the subsequent pages.

Fill Fields From PDF

This Custom Task will extract values from PDF form fields in an attached PDF form to fill form fields with that data, for installations running Process Director v5.44.500 or higher.

A template file containing a blank version of the PDF form must reside in the Content List to enable field mapping between the attachment and the Form.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Output PDF Section		
Source File Parent Type	Form Process	The reference type of the PDF Form attachment. The attachment may be either a Form or Process attachment.
Group Name		The optional group name of

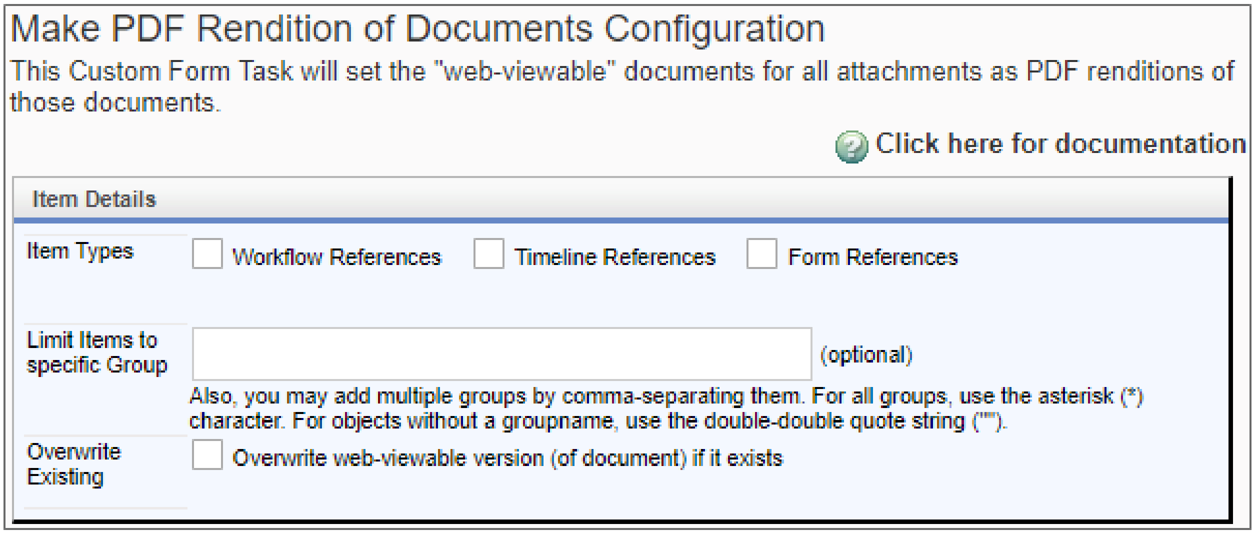
OPTION	ATTRIBUTES	DESCRIPTION
		the attachment group containing the PDF file.
Template File		A Content List Picker that enables you to select the Template PDF file. This file will be used to identify the PDF form fields that should be used to extract data. The Template File must exist in the content list, and be specified in the Custom Task to enable the PDF form fields to be transferred to a Process Director Form.
Refresh PDF Field List		This button will, when clicked, refresh the PDF field

OPTION	ATTRIBUTES	DESCRIPTION
		list from the template file to enable field mappings between the PDF and Form fields.
Custom Mappings Section		
Automatically populate PDF fields with Form Controls of the same name		This checkbox will, when checked, automatically map fields with the same names in both the PDF attachment and Form.
PDF Field	Dropdown list of PDF form fields	Enables you to select a specific PDF form field for mapping.
Form Control	Dropdown list of Form fields	Enables you to select a specific Form field for mapping.
Add Row		This button will add additional field mapping rows.

Make PDF Rendition of Documents

This in an older Custom Task that has been largely deprecated by the Convert to PDf Custom Task, which offers far more functionality.

This Custom Task converts all document attachments—and only document attachments—to PDF format.



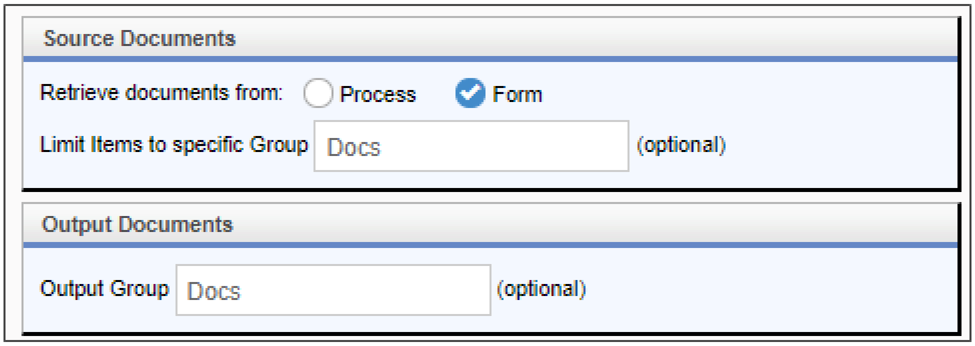
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Item Types	Workflow References Process Timeline References Form References	The type of items to be converted to PDF.
Limit Items to Specific Group		Convert only a group of objects with the Group name you enter here.
Overwrite Existing		Overwrite web- viewable version (of document) if it

OPTION	ATTRIBUTES	DESCRIPTION
		exists

PDF Annotation Merge

For users of the Collaborative Document Markup feature, this Custom Task will convert an annotated CDM document to a PDF file, and will attach the PDF file as a separate attachment. Normally, the annotated document is only accessible via the CDM user interface, so this Custom Task offers a convenient way to add the completed annotations to the process as a PDF attachment, where it will be viewable without having to open the CDM interface.



Configuration Options

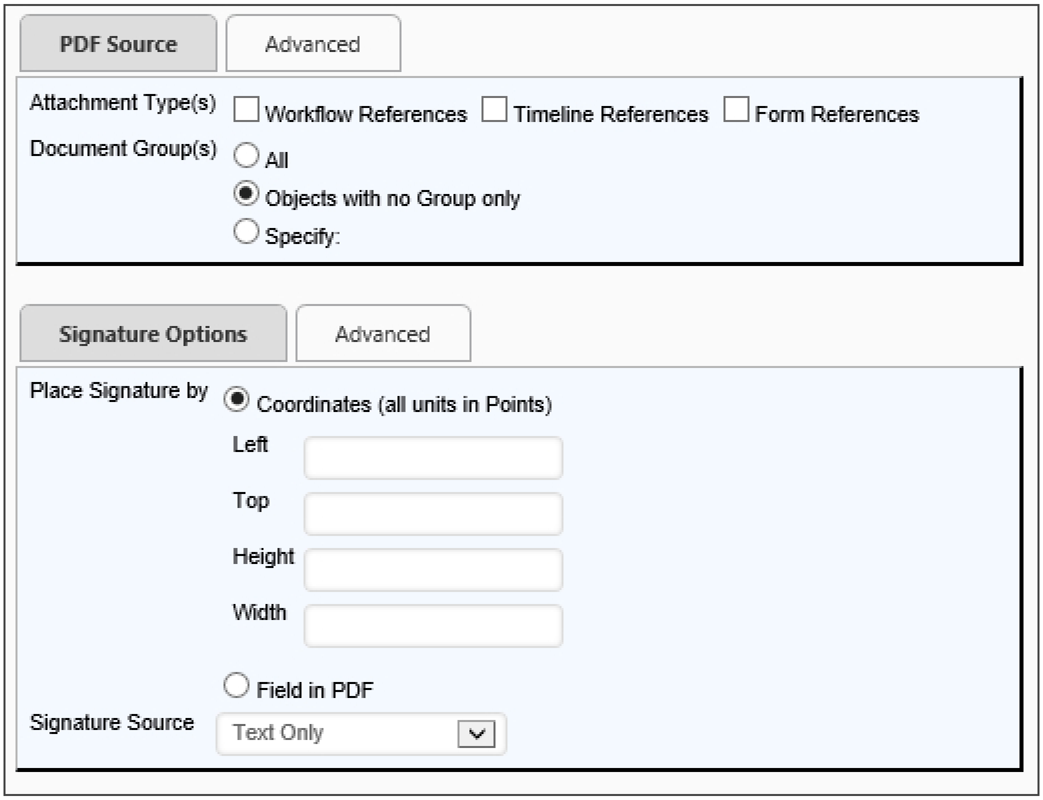
OPTION	ATTRIBUTES	DESCRIPTION
Retrieve documents from:	Process Form	The attachment type of items to be converted to PDF.
Limit Items to Specific Group		Convert only a group of objects with the Group name you enter here. If a group isn't given, all

OPTION	ATTRIBUTES	DESCRIPTION
		objects will be converted.
Output Group		The Group name to assign to the exported PDF file(s).

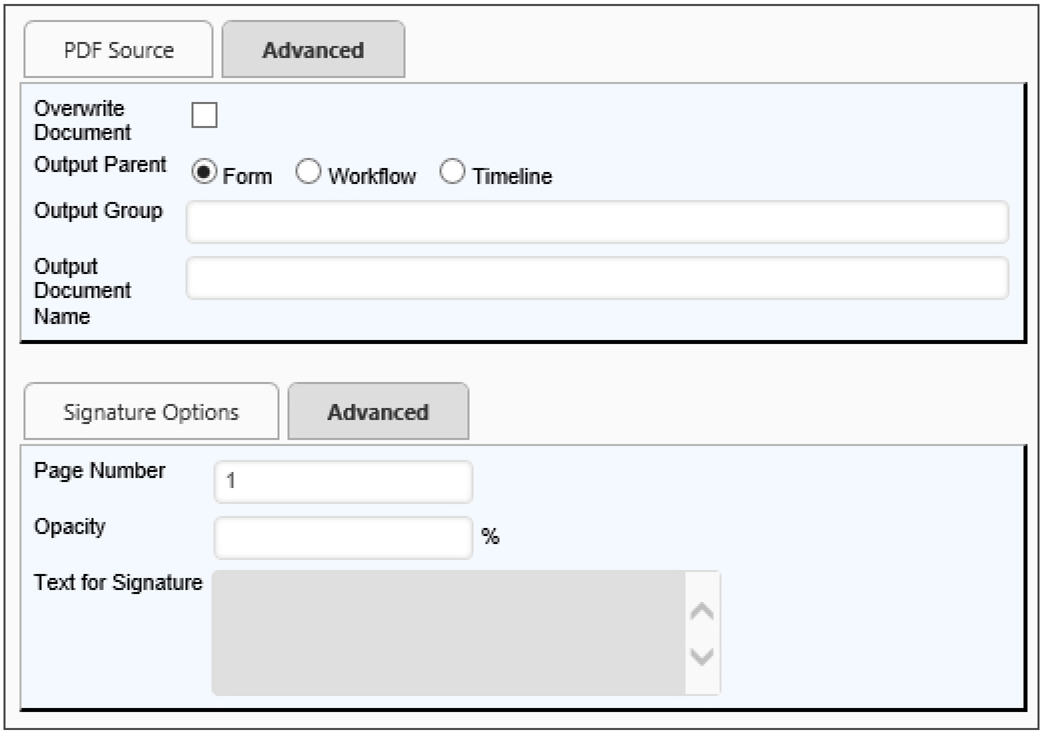
Sign PDF

This Custom Task places a text or image of a user’s signature on a PDF document. You'll need to specify the exact size and positioning of the image to ensure it gets inserted at the appropriate location, unless you have a PDF form field that can accept the image in the PDF document itself, though this option is not generally available for pre-printed PDF forms supplied by government or other organizations.

PDF Source/Signature Options Tabs



Advanced Tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
PDF SOURCE TAB		
Attachment Types	Workflow References Timeline References Form References	The type of items to be converted to PDF.
Document Groups	All, Objects with no group only, Specify	"Specify" will convert only a group of objects with the Group Name you enter into the text box that appears when

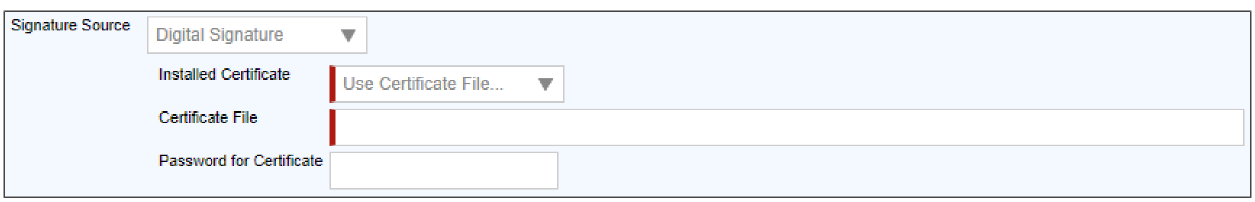
OPTION	ATTRIBUTES	DESCRIPTION
		you select this option.
SIGNATURE OPTIONS TAB		
Place Signature by	Coordinates (all units in Points), Field in PDF.	You can set the signature's location and size in the document by setting the Left, Top, Height, and Width properties. A simpler, yet equally effective method, is to place a field in the PDF document to contain the signature.
Signature Source	Text Only, User Picture, User Signature, Image (Content Object), Signature Control, Digital Signature	The source type of the signature that will be placed on the PDF document. **Text Only:** Typed text will be used as the signature.

OPTION	ATTRIBUTES	DESCRIPTION
		User Picture: The user image configured in the user's Process Director account settings. **User Signature:** The signature image configured in the user's Process Director account settings. **Image (Content Object):** An image that you've uploaded to the Content List. **Signature Control:** A signature control that can be used to generate a signature image

OPTION	ATTRIBUTES	DESCRIPTION
		by drawing the signature with the mouse. **Digital Signature:** The digital signature provided by the server's certificate. See the further discussion on digital signatures below.
ADVANCED TABS		
Overwrite Document		Overwrite the existing PDF document.
Output Parent	Form, Workflow, Timeline	The object type to which the PDF file should be attached.
Output Group		The Group name to be applied to the PDF file.
Output Document Name		The file name of the signed PDF file.
Page Number		Page number

OPTION	ATTRIBUTES	DESCRIPTION
		where the signature will appear.
Opacity		100% opacity means the signature will be completely opaque. 0% opacity means the signature will be completely transparent.
Text for signature		Additional text to displayed in the signature area.

Digital Signatures



Digital signature certificates can be accessed in two ways when you select Digital Signature as the Signature Source. You can install the certificate directly on the server, in which case it will appear automatically in the Installed Certificate dropdown, and you can select the installed certificate you desire to use. For instructions on installing a digital signature certificate, please see the Microsoft documentation for your particular server's operating system.

Alternatively, you can place a certificate file in an accessible file system, and select "Use Certificate File" from the Installed Certificate dropdown. If you choose to use a certificate file, you must provide the fully qualified file path to the file in the Certificate File text box, then supply the password for the certificate file in the

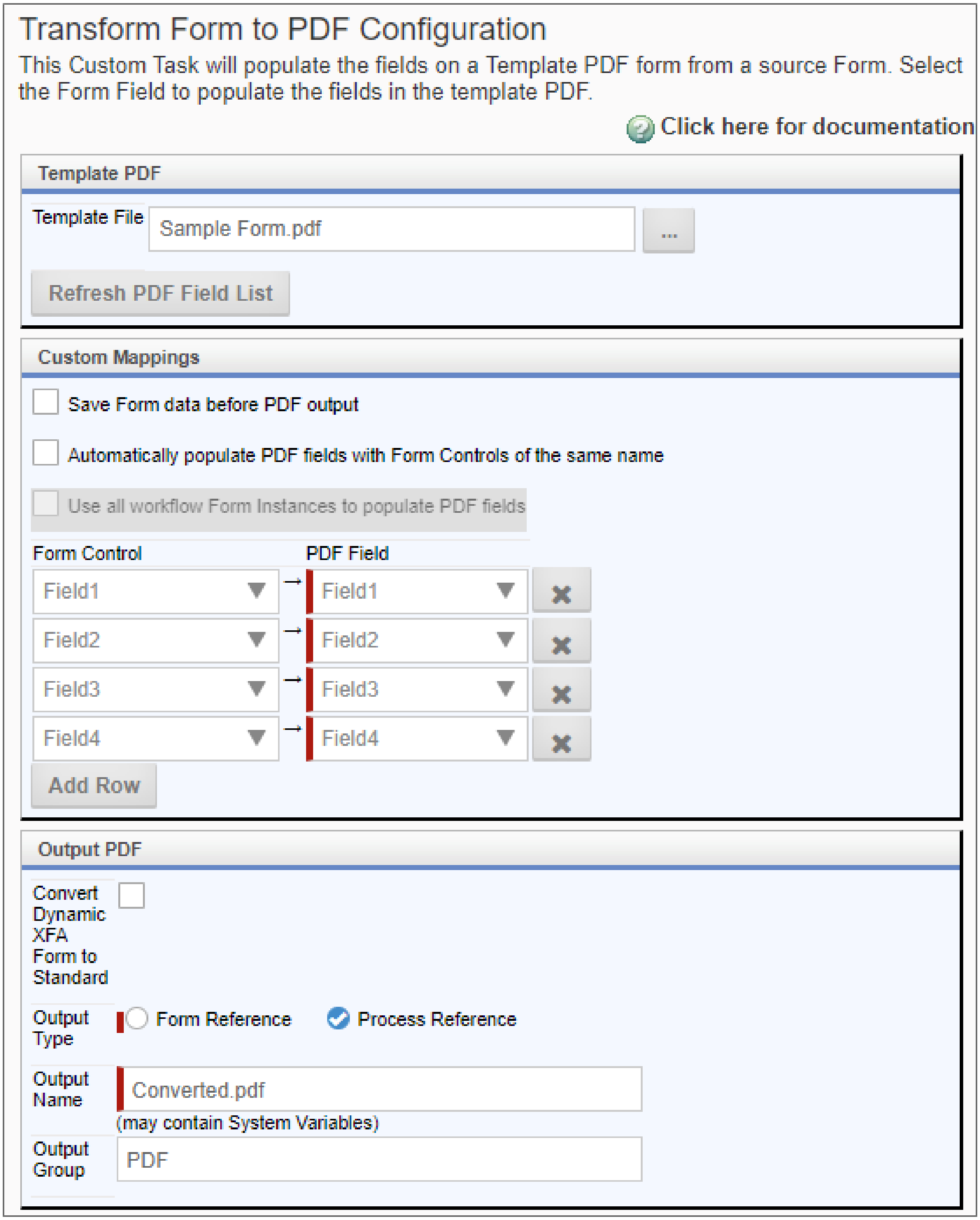
Password for Certificate text box. Again, for instructions on creating a certificate file, please see the Microsoft documentation for your particular server's operating system.

Once configured, the same certificate or certificate file will be used to digitally sign all documents produced by the Custom Task. **There is no functionality that enables the use of user-level certificates, only server-level ones.**

Transform Form to PDF

This Custom Task will populate the fields on a Template PDF form from a source Form. A blank copy of the PDF form must exist in the Content List.When the Custom Task is invoked, Process Director will retrieve a blank copy of the PDF form, insert the specified Form field values into it, and then attach the new PDF form to the Process Director Form or Process.

To create a template PDF, you'll need a copy of Adobe Acrobat. The process of making a template PDF document isn't covered in this documentation.


Transform Form to PDF Configuration
This Custom Task will populate the fields on a Template PDF form from a source Form. Select the Form Field to populate the fields in the template PDF.
Click here for documentation
Template PDF
Template File
Sample Form.pdf
...
Refresh PDF Field List
Custom Mappings
Save Form data before PDF output
Automatically populate PDF fields with Form Controls of the same name
Use all workflow Form Instances to populate PDF fields
Form Control
PDF Field
Field1
Field1
Field2
Field2
Field3
Field3
Field4
Field4
Add Row
Output PDF
Convert Dynamic XFA Form to Standard
Output Type
Form Reference
Process Reference
Output Name
Converted.pdf
(may contain System Variables)
Output Group
PDF

Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Template File		Picker control to select the PDF template file.
Refresh PDF Field List		Refresh the list of fields found in the PDF template file.
Save Form data before PDF output		Saves the form prior to the conversion to ensure the most recent data is included on the PDF.
Automatically populate PDF fields with Form Controls of the same name		
Use all Workflow Form Instances to populate PDF fields		Legacy Workflow property to generate PDFs containing field values from multiple Form instances.
Form Control	Lists of Form controls and PDF template fields	Map fields from the form to the PDF tem-

OPTION	ATTRIBUTES	DESCRIPTION
		plate file. Additional field mappings can be made by clicking the Add Row button.
Convert Dynamic XFA Form to Standard		PDF forms in the Dynamic XFA format will, when this property is checked, be converted to standard PDF forms, if possible.
Output Type	Form Reference Process Reference	The reference type to which to attach the PDF output file.
Output name		The name of the exported PDF file.
Output Group		The Group Name to apply to the exported PDF file.

PDF Rich Text Field Support

Process Director can be configured to transfer Rich Text content into PDF form fields from Rich Text fields in Process Director Forms by setting the following configuration options:

- Set the [AllowRichTextTemplate custom variable]() to "true" in the Process Director Custom customization file (vars.cs.aspx).
- In the PDF template, the Allow Rich Text Formatting checkbox must be checked in the Text Field Properties of the appropriate form fields.

Support for Rich Text content transfer should be considered experimental and partial, due to the way that Adobe incorporates rich text into its forms. As such, you may see unexpected behaviors when Rich Text content is transferred, such as:

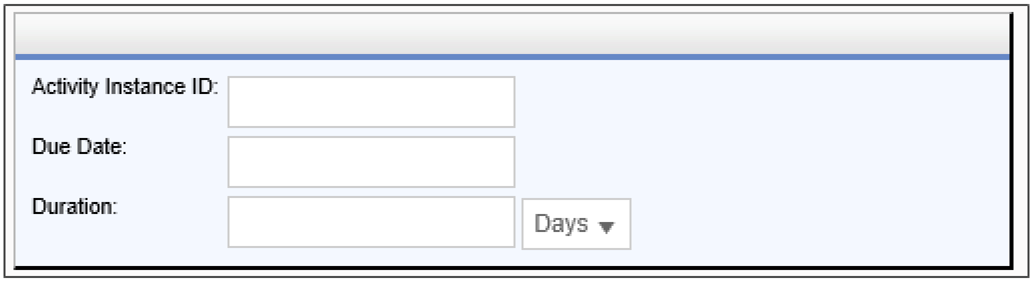
- Not all formats and fonts are supported.
- Certain input text causes the function to HTML encode the input, which will cause the PDF form field to show HTML markup instead of Rich text.

Process Custom Tasks

These Custom Tasks are used to initiate processes or process steps.

Change Activity Due Date

This Custom Task changes the duration and due date of a specified Timeline Activity, and requires the Activity Instance ID to identify the activity to change. Assuming that the Activity is running in the current process, this should be relatively easy to retrieve by using the approriate System Variable in the Activity Instance ID property, e.g., `{ACTIVITY_RUNNING_NAME, format=id}`.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Activity Instance ID		The GUID of the activity

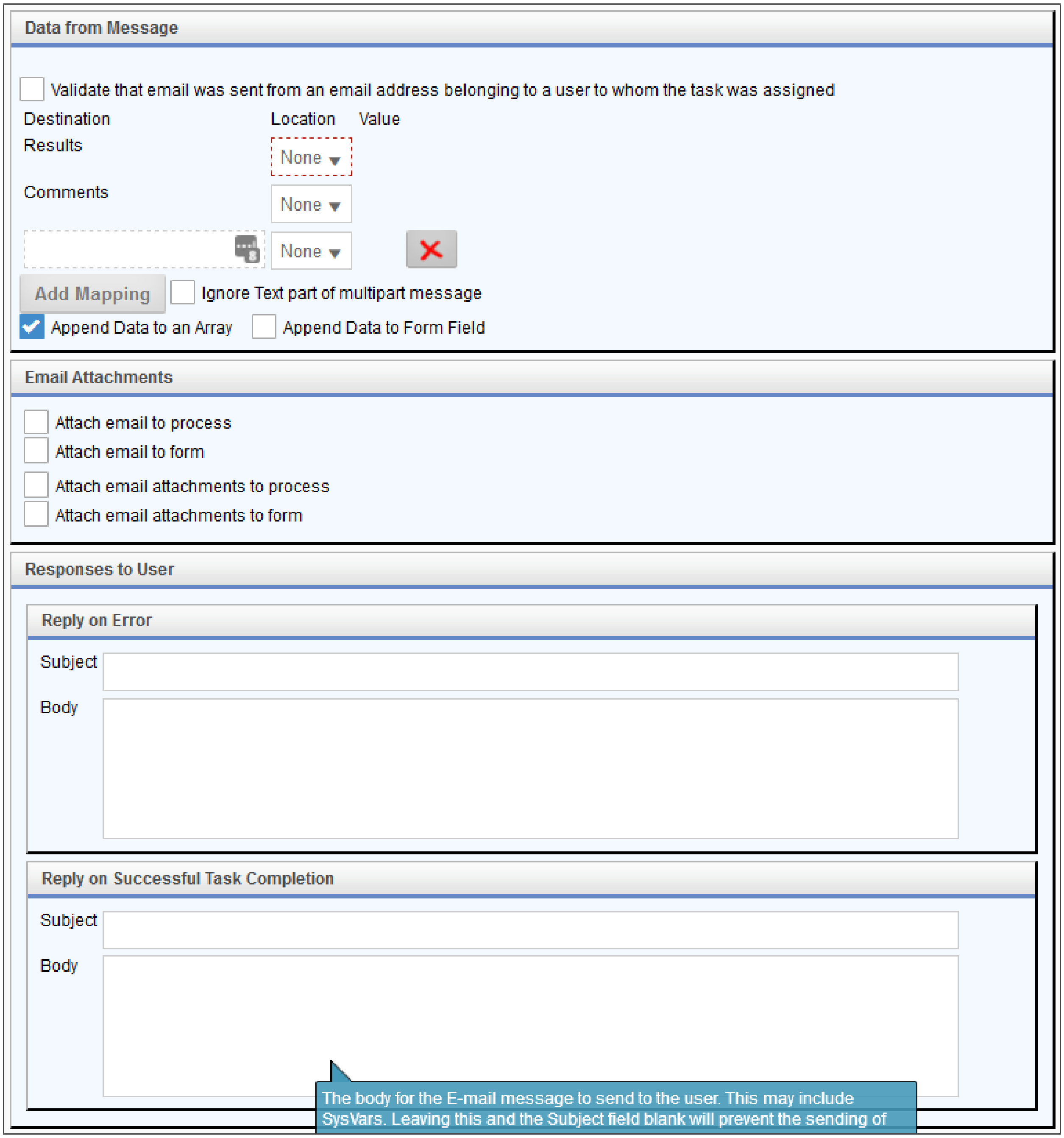
OPTION	ATTRIBUTES	DESCRIPTION
		instance you wish to edit.
Due Date		The desired due date in MM/DD/YYYY format.
Duration		The duration of activity. You can set the duration by specifying the number of duration units, then use the drop down to select the desired duration unit (Days, weeks, etc.)

E-Mail Action

The E-Mail Action Custom Task will parse an email message and extract values to use in a Form or process. You can determine the appropriate value by finding it using one of three methods:

1. Line: On a specific line of the email.
2. Keyword: Identified by a following a Keyword in the format "Keyword: KeywordName".
3. Value: A static value manually entered into the field on the Custom Task, i.e., specifying a value on receipt of an email, without parsing the email itself.

Parsing emails using this Custom Task is part of a much more complex process. A Training Webinar about Offline Task Completion via Email can be found on the BP Logix YouTube channel.



Configuration Options

Data From message

The message values you wish to extract.

OPTION	ATTRIBUTES	DESCRIPTION
Validate that email was sent from an email address belonging to a user to whom the task was assigned		This option will validate the email address of the user who sent the email against the email address of the user to whom the user task was assigned. This ensures that a person who possesses the user task notification email but was not assigned to the task can't complete the task.
Results	Line, Keyword, Value	The Result of the task, which corresponds to the Process Timeline Activity result.
Comments	Line, Keyword, Value	Comments that can be added to a Process Timeline Activity via the SignatureComments control.
[A Mapped Form field]	Line, Keyword, Value	A Form field that can be mapped to the Line, Value, or Keyword. You can click the Add Mappings button to map addi-

OPTION	ATTRIBUTES	DESCRIPTION
		tional Form fields.
Ignore Text part of multipart message		Sometimes, retrieving information from a message formatted in Rich Text can be difficult. Checking this option may resolve the issue.
Append Data to an Array		This checkbox can only be selected if the mapped field is in an array. If checked, this option will add a new row to the array, setting the specified field to the value retrieved. If not checked, but the mapped field is in an array, the entire specified column (that is, the specified field in **every** row of the array) will be set to the value returned.
Append Data to Form Field		If checked, this option will add the retrieved data to the existing contents of the specified form field with a comma separator. If not

OPTION	ATTRIBUTES	DESCRIPTION
		checked, the existing contents of that form field will be replaced.

Email Attachments

For any of the options chosen for email/attachment handling, a Group Name text box will appear to enable you assign group name for the object when it is attached.

OPTION	DESCRIPTION
Attach email to process	This will attach the email object as a process attachment.
Attach email to form	This will attach the email object as a Form attachment.
Attach email attachments to process	This will attach all of the email's attachments as a process attachment.
Attach email attachments to form	This will attach all of the email's attachments as a Form attachment.

Reply on Error

Used to send a generic response when an error occurs when processing the email.

OPTION	ATTRIBUTES	DESCRIPTION
Subject		The subject of the email response sent to the user who sent the email.
Body		The body text of the email response sent to the user

OPTION	ATTRIBUTES	DESCRIPTION
		who sent the email.

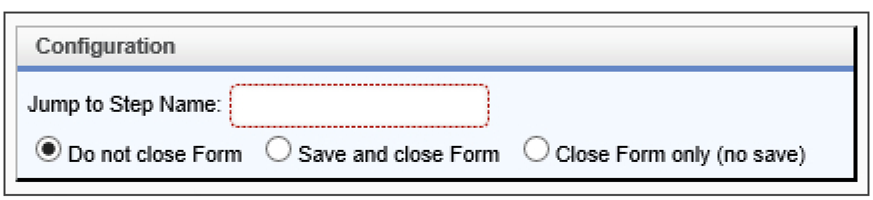
Reply on Successful Task Completion

Used to notify the email sender when a task has been successfully completed after the email is received and parsed.

OPTION	ATTRIBUTES	DESCRIPTION
Subject		The subject of the email response sent to the user who sent the email.
Body		The body text of the email response sent to the user who sent the email.

Jump to Step

This Custom Task will cause a Workflow to jump from the current Step to a different Step in the Workflow. When called, all intervening steps are skipped.



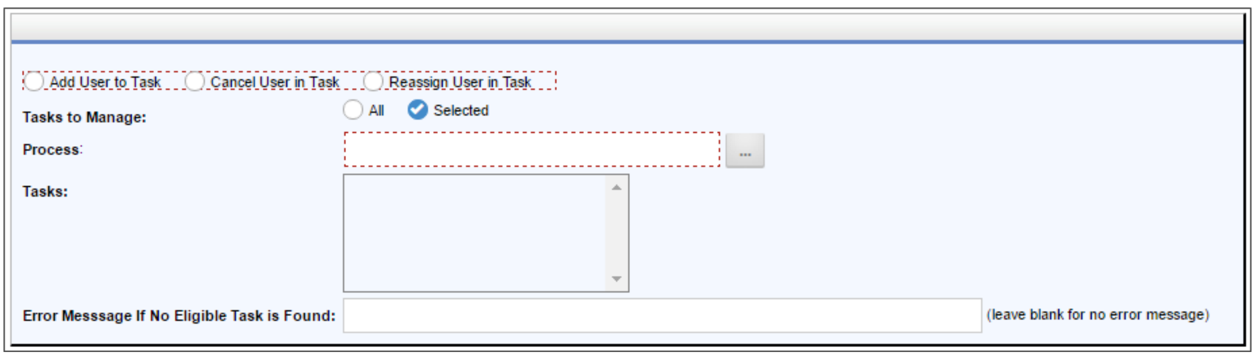
Configuration Options

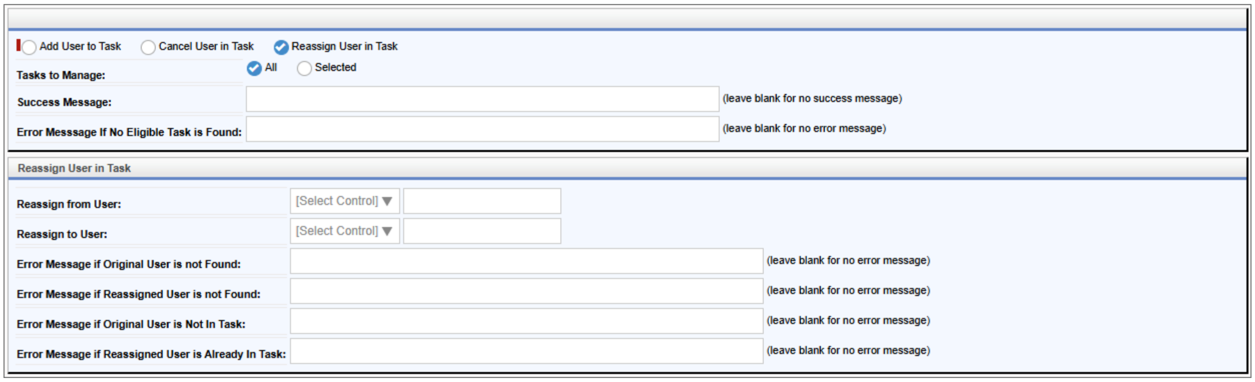
OPTION	ATTRIBUTES	DESCRIPTION
Jump to step name		The name of the process

OPTION	ATTRIBUTES	DESCRIPTION
		step to which you want to jump.
[Post-jump actions]	Do not close Form, Save and close Form, Close Form only (no save)	Directs what to happen to the open Form when the task is run.

Manage Task Users

The Manage Task Users Custom Task will Add, Cancel or Reassign users from a specific task, or all tasks in a process. This Custom Task is a Form Custom Task, and is generally designed for use by process administrators to use a Form to specify user task assignments.





Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
User Action	Add User to task Cancel user in task Reassign User in Task	This option specifies the user action you'd like to take.
Tasks to Manage	All Selected	You can manage all tasks, or a selected task. If you choose the Selected option, then you'll be presented with a Process chooser to select the process, and a Tasks list that shows the tasks that are available from the selected process.
Success Message		For Process Director v6.1.300 and higher, this property enables you to configure an optional suc-

OPTION	ATTRIBUTES	DESCRIPTION
		cess message to display.
Process		A Content Picker control that enables you to select the process to manage if you choose the Selected option from the Tasks to Manage property.
Tasks		The list of available tasks from the process you selected in the Process property.
Error Message If...		The error message you'd like to display if the specified task can't be completed.

Reassign user in Task Options

When the Reassign User in Task property is selected, additional options are made available to configure the task reassignment.

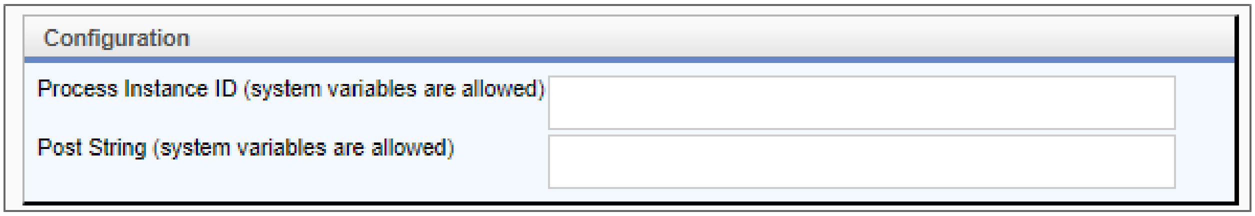
OPTION	ATTRIBUTES	DESCRIPTION
Reassign from User	List of Form controls OR Text box	The user who should be removed from the task. You can select the user from a UserPicker control that exists on the form, OR You can enter the UserID into the available text box.
Reassign to User	List of Form controls OR Text box	The user who should be added to the task to replace the original user. You can select the user from a UserPicker control that exists on the form, OR You can enter the UserID into the available text box.

OPTION	ATTRIBUTES	DESCRIPTION
Error Message if Original User isn't Found		An error message you can configure to display if the original user can't be found in the system.
Error Message if Reassigned User isn't Found		An error message you can configure to display if the reassigned user can't be found in the system.
Error Message if Original User is Not In Task		An error message you can configure to display if the original user isn't a task participant in the specified task.
Error Message if Reassigned User is Already In Task		An error message you can configure to display if the reassigned user is already a task participant in the specified task.

An SDK method, GetProcessTasksByPRID, adds additional scripting support for this Custom Task.

Post to Instance

This Custom Task will post a value to a Wait Activity in a Process Timeline instance as an event, to wake the process and complete the Wait activity. To successfully complete the activity, the message sent must match the completion condition specified on the activity.



Configuration Options

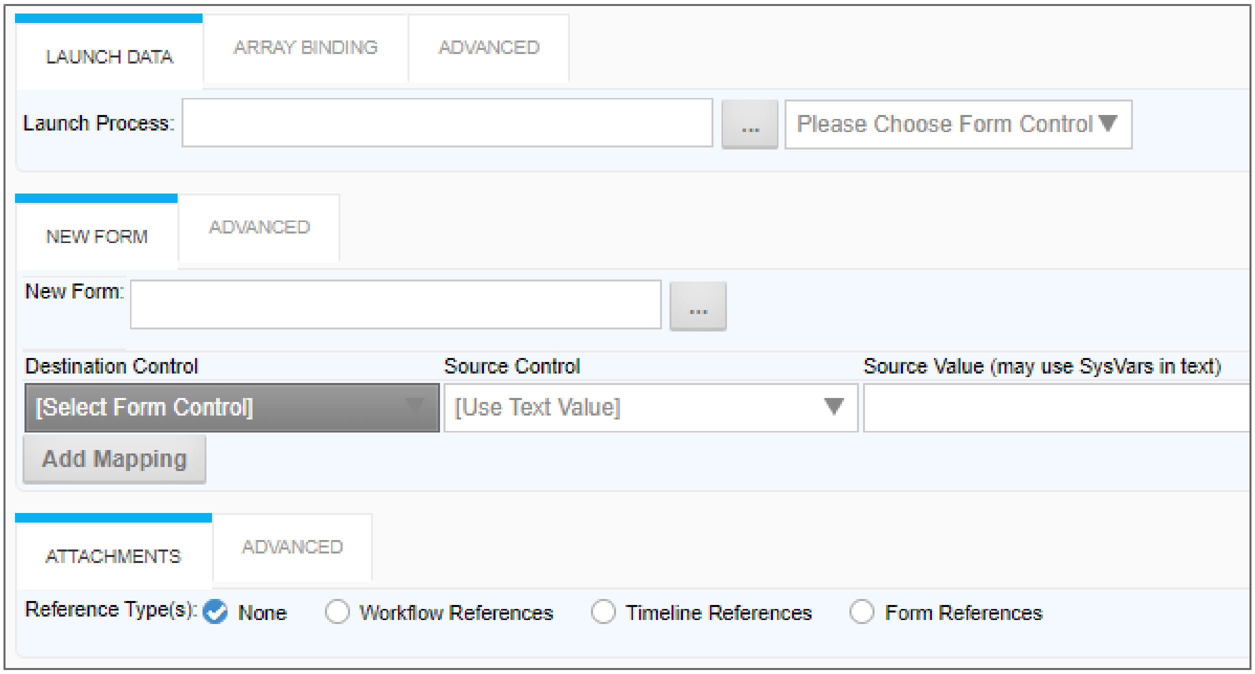
OPTION	ATTRIBUTES	DESCRIPTION
Process Instance ID:		The Instance ID of the process instance that is stopped on a Wait task that you wish to complete.
Post String:		The string value that will complete the wait task.

Run Process

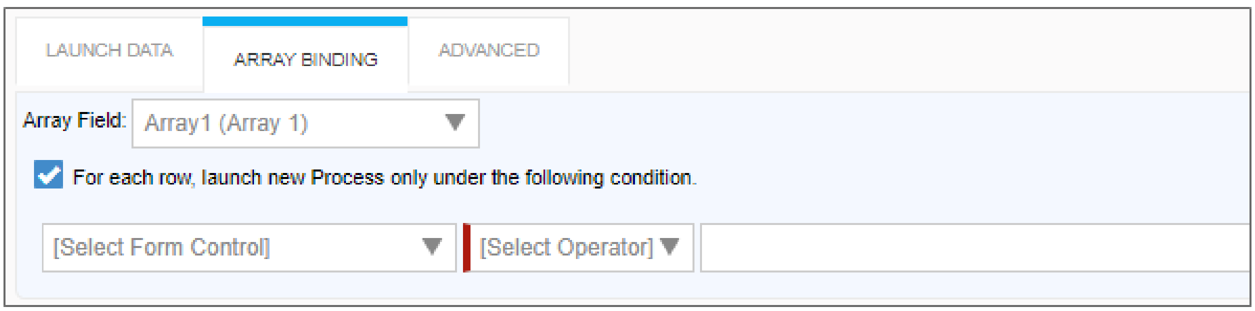
This Custom Task launches a new, asynchronous process or processes. You can either specify the process within the Custom Task configuration, or have the process specified by a form field or an array of form fields. The Launch Data tab enables you to configure a form control that will specify the process to be launched. Alternatively, you can specify the process to be launched right in that tab.

Additionally, this Custom Task can be bound to an Array on a form to launch a new process for each row in the array, via the Array Binding tab.

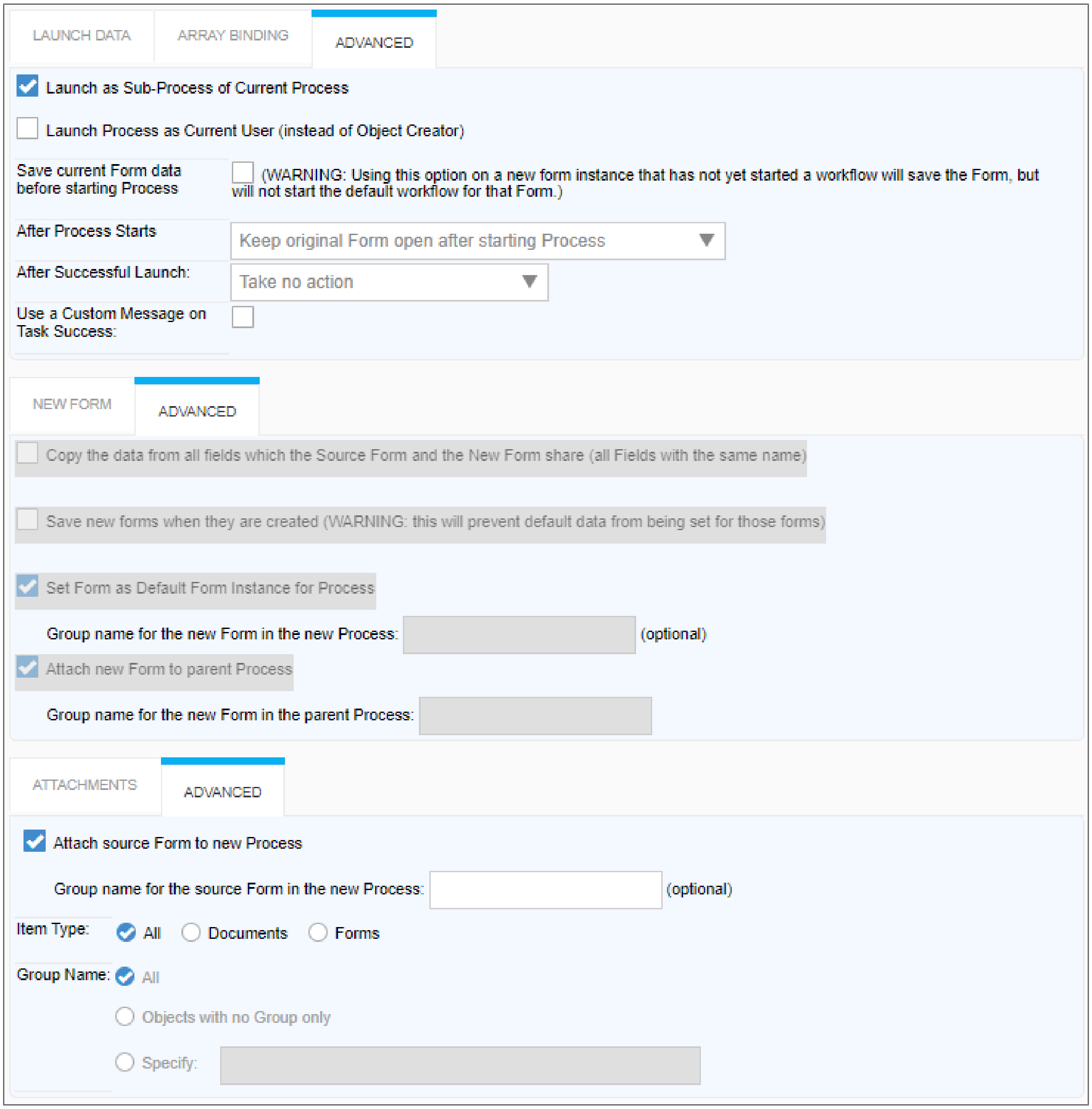
Launch Data/New Form/Attachments Tabs



Array Binding Tab



Advanced Tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
LAUNCH DATA TAB		
Launch Process		Picker control to choose the

OPTION	ATTRIBUTES	DESCRIPTION
		process to launch.
NEW FORM TAB		
New Form		Picker control to select the new form to attach to the process.
Add Mapping		This button will add a new Form control mapping row each time it is clicked. Each mapping row has a set of properties to enable you to transfer data from a control on the Course Form to the Destination Form used by the new process invoked by the Custom Task.
Destination Control	List of Form controls	The destination control into which to place data copied

OPTION	ATTRIBUTES	DESCRIPTION
		from the Source form, which is usually the default Form for the calling process.
Source Control	List of Form controls	The control on the source form from which you wish to copy data.
Source Value		This property enables you to use an arbitrary value as the source value, instead of a Source Control. This property will accept any text input, including System Variables, to provide a source value to place into the selected destination Form control.
ATTACHMENTS TAB		
Reference Type(s)	None	The reference

OPTION	ATTRIBUTES	DESCRIPTION
	Workflow References Timeline References Form References	types for the document attachments that are associated with the source Form or process.
Attach Items To	Newly Launched Process New Form	This selection is available only when the Reference Type (s) field is set to a value other than "None". It enables you to attach items to either the new process or the new Form that is invoked by the custom Task.
ARRAY BINDING TAB		
Array Field	List of Form arrays	When an array field is selected (assuming one exists in the Form) this Custom Task will launch a new

OPTION	ATTRIBUTES	DESCRIPTION
		process for each row in an array. This feature assumes that the corresponding controls in the Destination Form are NOT arrays controls. Essentially, this feature enables you to create a single Form/Process for each row of the array, which only contains data from 1 array row.
For each row, launch new Process only under the following condition.		When checked, a list of fields, list of operators, and a text box appear to allow you to set a condition that must apply for each row in the array before that row ini-

OPTION	ATTRIBUTES	DESCRIPTION
		tiates the process.
[Select Form Control]	List of Form Fields in the Source Form	A Form field to evaluate on the Source Form. This field will be evaluated for each specific row, if the field is an array row.
[Select Operator]	List of Condition Operators	This is the operator that will be used to evaluate the two sides of the condition.
Text Field		This text field enables you to use arbitrary text, including System Variables, to compare with the Source Form control.
ADVANCED TABS		
Launch as Sub-Process of Current Process		This property will, when checked, invoke the new

OPTION	ATTRIBUTES	DESCRIPTION
		process as an asynchronous subprocess of the calling process. The Two process will be linked, as if they were a single process, but the the subprocess will run without requiring the calling process to pause while the subprocess runs. Unchecking this property will cause the invoked process to run completely independently of the invoking process.
Launch Process as Current User (instead of Object Creator)		Object Creator is a special permissions type. When a user creates an object they are,

OPTION	ATTRIBUTES	DESCRIPTION
		by default, assigned the Object Creator permissions for the objects. This permission assignment is the default behavior. There are some advanced, but rare, permissions scenarios in which you may not want the invoking user to be assigned Object Creator permissions, as they may be more expansive than those available to the invoking user. In those scenarios, launching the Process as Current User will prevent the invoking user from

OPTION	ATTRIBUTES	DESCRIPTION
		ions.
Save current Form data before starting Process		Saves the form data before the process is initiated. Using this option on a new Form instance that hasn't yet started a Process Timeline Instance will save the Form, but won't start the default Timeline Instance for that Form.
After Process Starts	List of form handling options	Determines what should happen with the parent Form after the process started by the Custom Task is initiated.
After Successful Launch	List of actions	Enables you to make changes to form fields to reflect the start of the pro-

OPTION	ATTRIBUTES	DESCRIPTION
		cess.
Use a Custom Message on Task Success:		This property, will, when checked, expose a text box to enable you to enter a custom message to be displayed with the process is successfully invoked, in lieu of the default message generated by Process Director.
Copy the data from all fields which the Source Form and the New Form share (all Fields with the same name)		Copies source Form field data to the destination Form, assuming the control names are the same in both Forms.
Save new forms when they are created (WARNING: this will prevent default data from being set for those forms)		Enables you to automatically save a form instance after the Run Process Custom Task creates it.

OPTION	ATTRIBUTES	DESCRIPTION
		Use with care: this option is disabled by default, as enabling it will prevent default data from being set on that form instance.
Set Form as Default Form Instance for Process		Sets the Destination Form as the Default for for the new Process. This is the default.
Group name for the new Form in the new Process		Sets a group name for the destination form.
Attach new Form to parent Process		After creation, the destination Form will be attached as a process attachment to the process that invokes the new process.
Group name for the new Form in the parent Process		Sets a group name for the new form in

OPTION	ATTRIBUTES	DESCRIPTION
		the Parent Process, This Group name may be different than the Group name used in the new process..
Attach source Form to new Process		The Source form will, when this property is checked, be attached to the new process as a process attachment.
Group name for the source Form in the new Process		Sets a group name for the source form in the new process, which may be different that the Group name used in the calling process.
Item Type	All, Documents, Forms	Types of attachments to transfer from the invoking process to the new process.

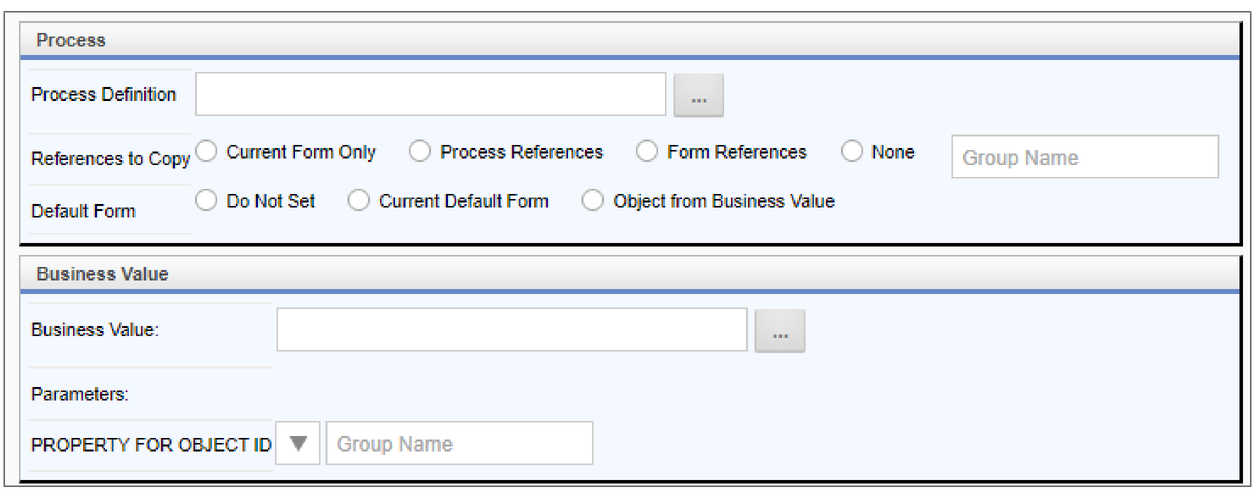
OPTION	ATTRIBUTES	DESCRIPTION
Group Name	All, Objects with no Group only, Specify	Enables you to specify Group name for the attachments, optionally limiting which objects are attached to the new process.

Run Process From BV Results

This Custom Task invokes processes that can link data on multiple, pre-existing Forms, in cases where the Synchronize Data flag on the primary form field doesn't suffice.

For example, having one Form "A", and a Knowledge View that returns Form instances "1", "2", and "3" (potentially as a result of some data in "A"), the Custom Task can start three processes, one for each pair of Forms (["A", "1"], ["A", "2"], ["A", "3"]) by using a Business Value that has the Knowledge View as a data source. The Business Value must return an Object ID.

The purpose of the Custom Task is to create ***new*** Processes that operate on ***existing*** Forms. As such, this Custom Task is generally relevant only for very advanced implementations.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Process Section		
Process Definition		An Object Picker from you can select the desired process to start.
References to Copy	Current Form Only Process References Form References None	When choosing Process or Form References, a Group name text box enables you to specify the Group name for references to attach to the new process. Current Form Only will attach only the current default Form of the running Process.
Default Form	Do Not Set Current Default Form Object From Business Value	Enables you to choose the default form for the new process. In

OPTION	ATTRIBUTES	DESCRIPTION
		most cases, you'd choose the Form returned by the Business Value, using the Object ID returned from the underlying Knowledge View.
Business Value Section		
Business Value		An Object Picker from you can select the desired Business Value to use.
Parameters		If the selected Business Value property has required parameters, selection fields will appear that enable you to: Choose the parameter from the Container form specified in the Process

OPTION	ATTRIBUTES	DESCRIPTION
		Timeline Activity from a dropdown OR Type the Parameter in a text box, to include the use of System Variables.
Property for Object ID		A dropdown control enables you to select the Business Value property to use to retrieve the Object ID OR A text box enables you to enter the Object ID or appropriate system variable.

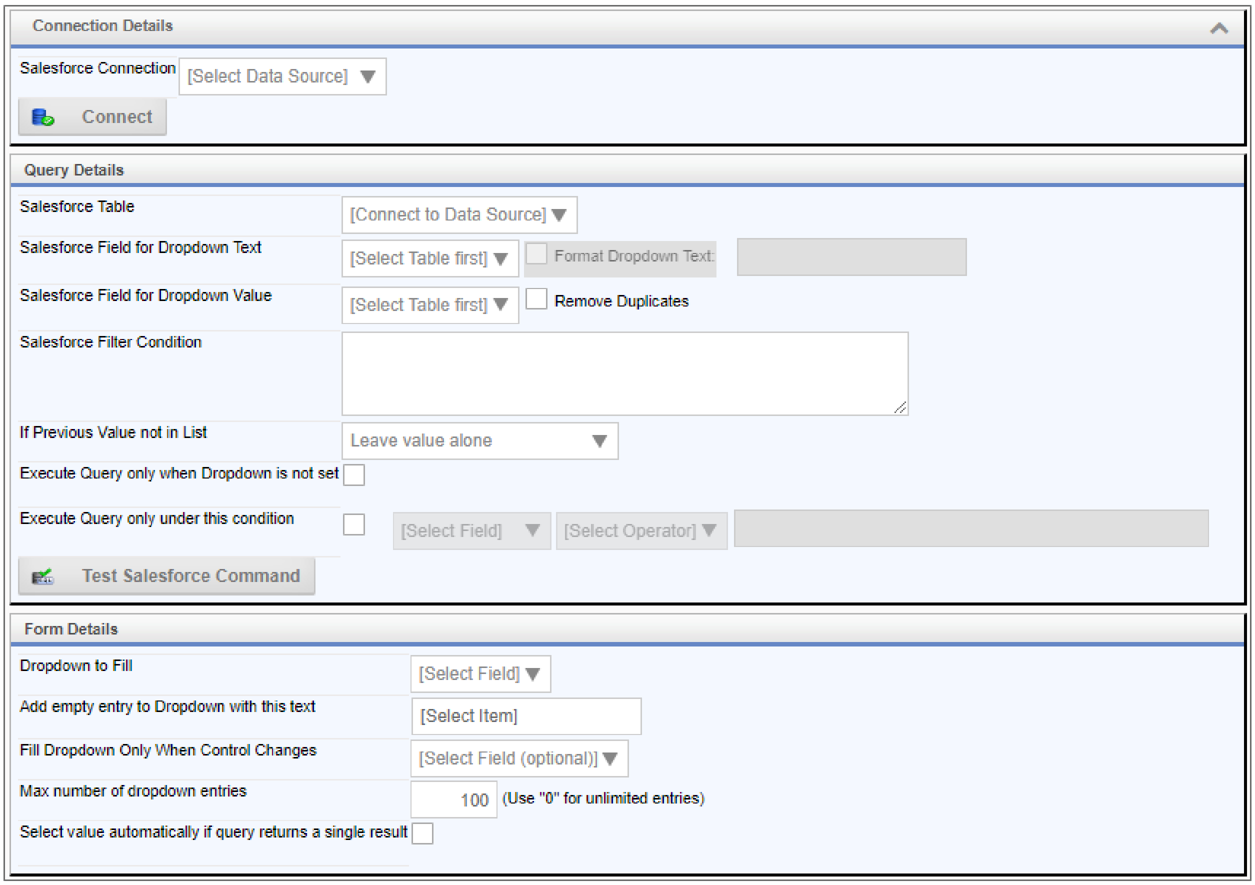
Salesforce Custom Tasks

The use of SalesForce requires that you purchase an additional license from cData, who control the licensing for SalesForce connections. Please see the SalesForce Data Source topic for more information.

These Custom Tasks return data from Salesforce to fill dropdowns or other Form fields.

Fill DropDown from Salesforce

This Custom Form Task will automatically fill a dropdown field on the Form with values from Salesforce. Choose the Form dropdown field and the column in the Salesforce table that should be used to fill the dropdown. This Custom Task should be mapped to the [View State Init] event to ensure the dropdown values are always populated. If the dropdown you are filling is inside an array it is best to use the [Form Display] event.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Salesforce Connection	List of Data Sources	The data connection to Microsoft

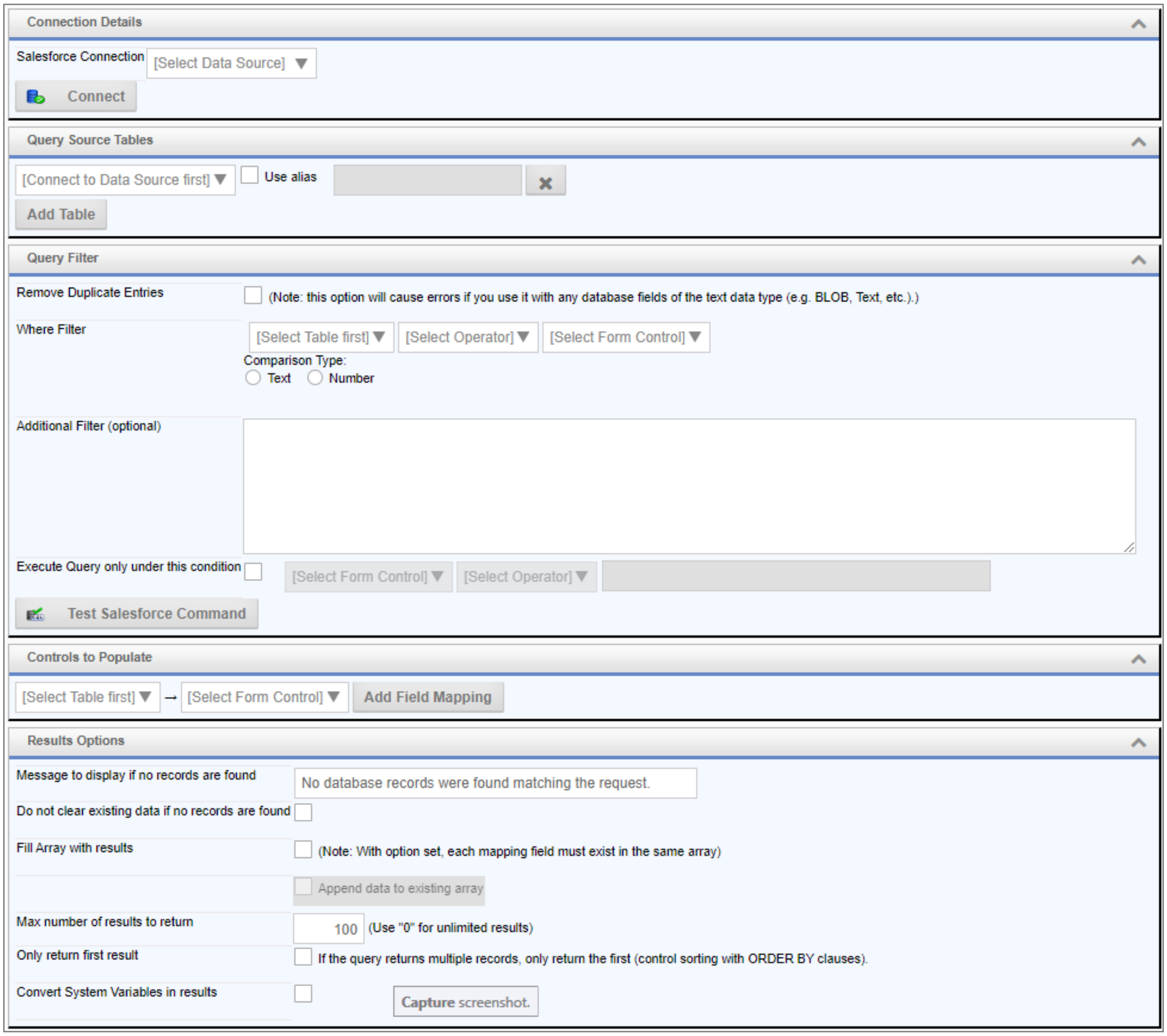
OPTION	ATTRIBUTES	DESCRIPTION
		Salesforce
Salesforce Table	List of Salesforce Tables	The table from which the data will be retrieved.
Salesforce Field for Dropdown Text	List of table fields	The table field that will be displayed as the text in the dropdown control.
Salesforce Field for Dropdown Value	List of table fields	The table field that will be used as the value of the dropdown control.
Salesforce Filter Condition		Text filter that will be used as the WHERE condition of the SQL statement that returns the Microsoft Salesforce data.
If Previous Value not in List	Leave value alone, Clear the value in the form, Add the value to the dropdown	How the dropdown value will be altered if the previous value isn't in

OPTION	ATTRIBUTES	DESCRIPTION
		the list of data returned from Salesforce.
Execute Query only when Drop-down isn't set		This prevents the query from being re-run if the dropdown has already been populated.
Execute Query only under this condition		Enables you to set a condition for running the query that populates the dropdown.
Dropdown to Fill	List of Form fields	The name of the dropdown control that will be filled with Salesforce data.
Add empty entry to Dropdown with this text		Text value for null entries. The default is [Select Field].
Fill Dropdown Only When Control Changes	List of Form fields	Prevents the query from running unless this field changes. This

OPTION	ATTRIBUTES	DESCRIPTION
		is often used for a field whose value will be used as a filter to limit the data that is returned.
Max number of dropdown entries		Maximum number of items that will be placed in the dropdown control.
Select value automatically if query returns a single result		If there is only one record returned from the query, then automatically select the value.

Fill Fields from Salesforce

This Custom Form Task can automatically fill multiple fields on the Form with values from Salesforce. Choose the Form fields and the columns in the Salesforce tables that should be used to fill them. You can also configure the input fields will be used to select the appropriate information in the Salesforce Source.



Configuration Data

OPTION	ATTRIBUTES	DESCRIPTION
Salesforce Connection	List of Data Sources	The data connection to the Salesforce source.
Query Source Tables	List of Salesforce Tables	The table from which the data will be retrieved. Addi-

OPTION	ATTRIBUTES	DESCRIPTION
		tional tables can be added by clicking the Add Table button.
Use Alias		An alias name to use for the table.
Remove Duplicate Entries		Do not repeat duplicate items in the returned data. This option will cause errors if you use it with any database fields of the text data type (e.g. BLOB, Text, etc.
Where Filter	Lists of Tables, operators, and form controls	Enables you to filter data by comparing a Salesforce field value to a Form field value.
Comparison Type	Text, Number	The type of comparison the filter will make

OPTION	ATTRIBUTES	DESCRIPTION
Additional Filter (optional)		Text filter that will be used as the WHERE condition of the SQL statement that returns the Microsoft Salesforce data.
Execute Query only under this condition		Enables you to set a condition for running the query that populates the dropdown.
Controls to populate	Lists of tables and Form fields	Field mappings between Salesforce fields and Form fields. Additional mappings can be added by clicking the Add Mapping button.
Message to display if no records are found		Text message to display if no data is returned.
Do not clear existing data if no		Make no

OPTION	ATTRIBUTES	DESCRIPTION
records are found		changes to the existing values if no data is returned.
Fill Array with results		Fills an array with the values returned from Salesforce. With this option set, each mapping field must exist in the same array. Check " Append data to existing array" to add the new data to the array rather than overwriting it.
Max number of results to return		The maximum number of res-ults to return from the query.
Only return first result		If the query returns mul-tiple records, only return the first (control sorting with

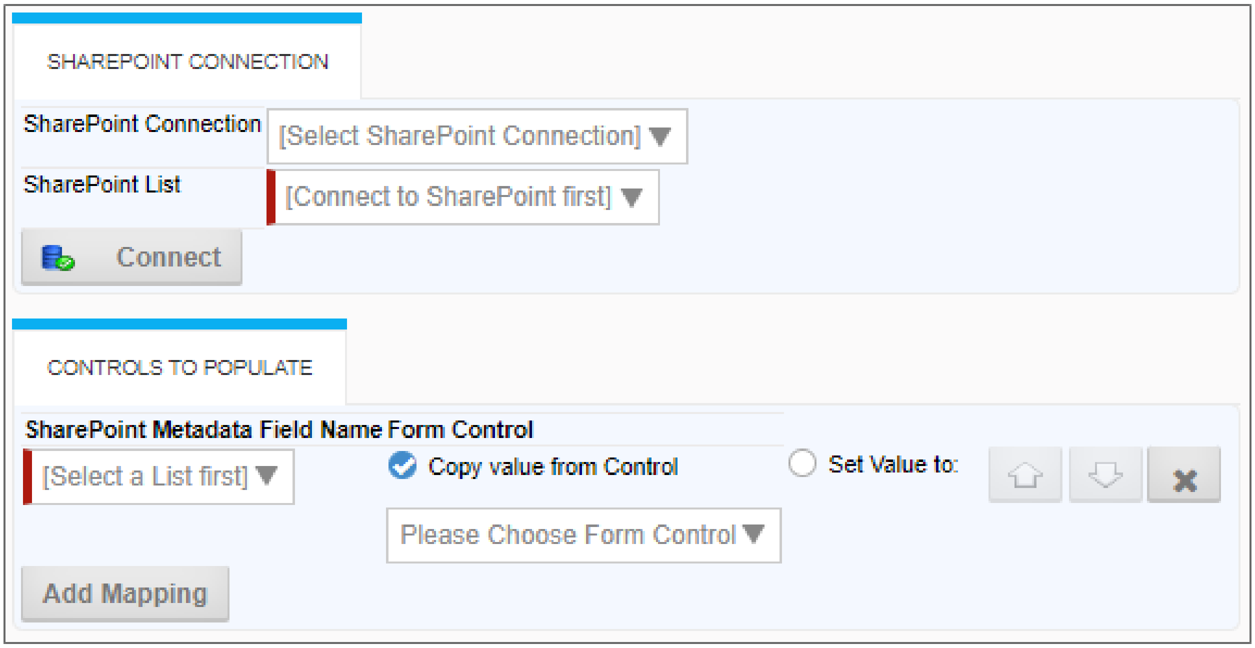
OPTION	ATTRIBUTES	DESCRIPTION
		ORDER BY clauses).
Convert System Variables in results		Convert system variables to their values in the returned results.

SharePoint Custom Tasks

These Custom Tasks perform a variety of SharePoint operations to manipulate files or data from SharePoint lists.

Add to SharePoint List

This Custom Task imports Form field data into a SharePoint List.



Configuration Data

OPTION	ATTRIBUTES	DESCRIPTION
SharePoint Connection	List of Breakpoints connections	The data con-

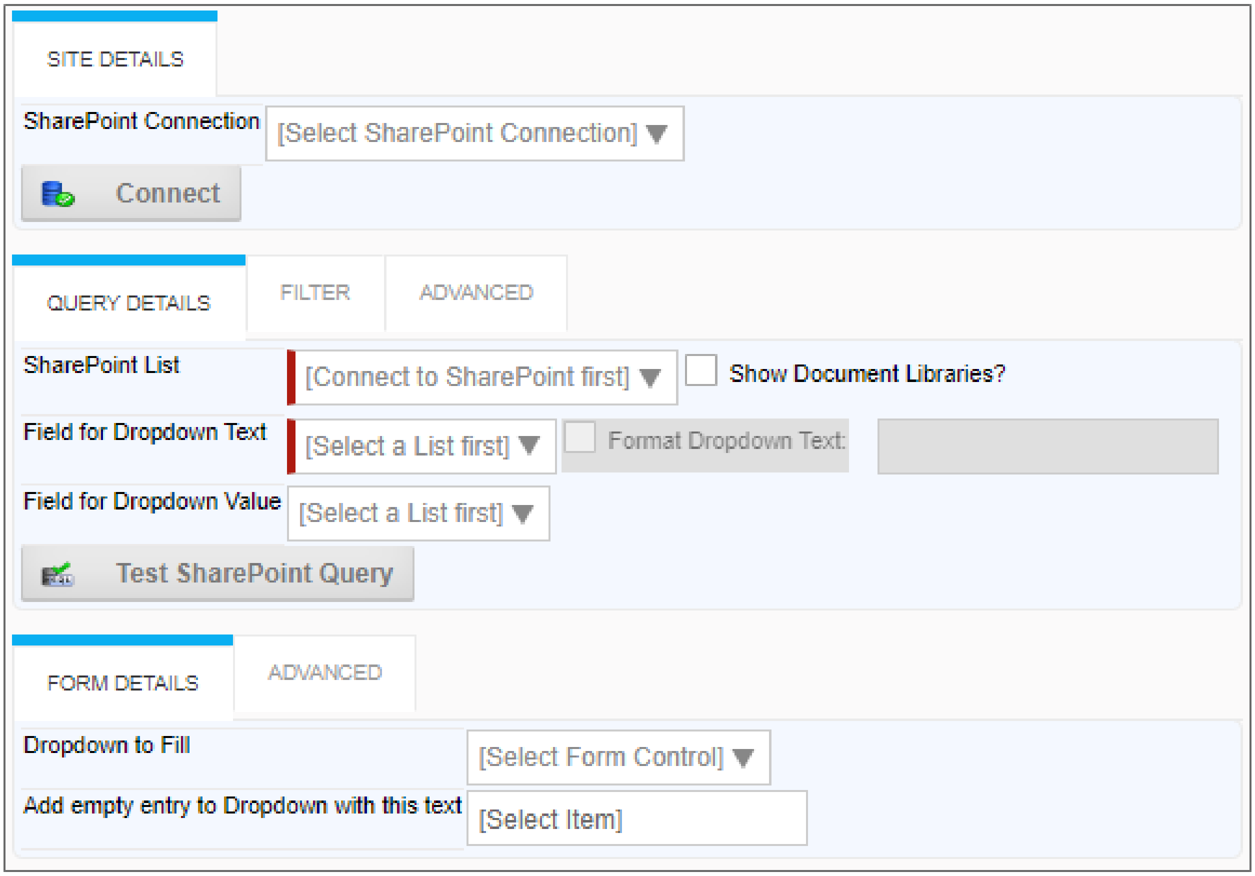
OPTION	ATTRIBUTES	DESCRIPTION
		nection to the SharePoint source.
SharePoint List	List of SharePoint Lists	The list to which the data will be pushed.
Controls to populate		Click the Add Mapping button to add a mapping from and Form control to a field in the SharePoint list. Additional controls will appear for each mapping row.
List Fields	Dropdown	A list of fields contained in the selected SharePoint list.
Copy Value from Control		When this option is selected, a dropdown list of all current Form fields will appear, to enable you to select the Form field

OPTION	ATTRIBUTES	DESCRIPTION
		whose value you want to place in the specified field of the SharePoint List.
Set Value To		When this option is selected, a text box will appear, to enable you to enter the value you want to place in the specified field of the SharePoint List.

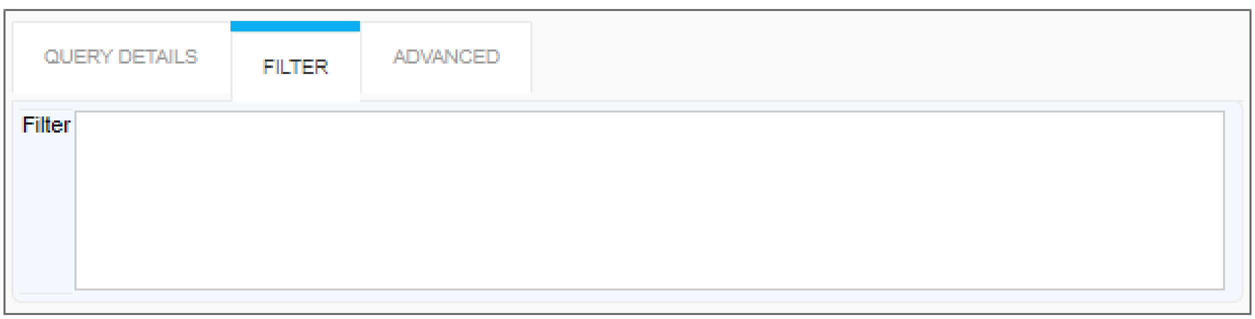
Fill DropDown from SharePoint

This Custom Form Task will automatically fill a dropdown field on the Form with values from SharePoint list. Choose the Form dropdown field and the column in the SharePoint list that should be used to fill the dropdown. This Custom Task should be mapped to the [View State Init] event to ensure the dropdown values are always populated. If the dropdown you are filling is inside an array it is best to use the [Form Display] event.

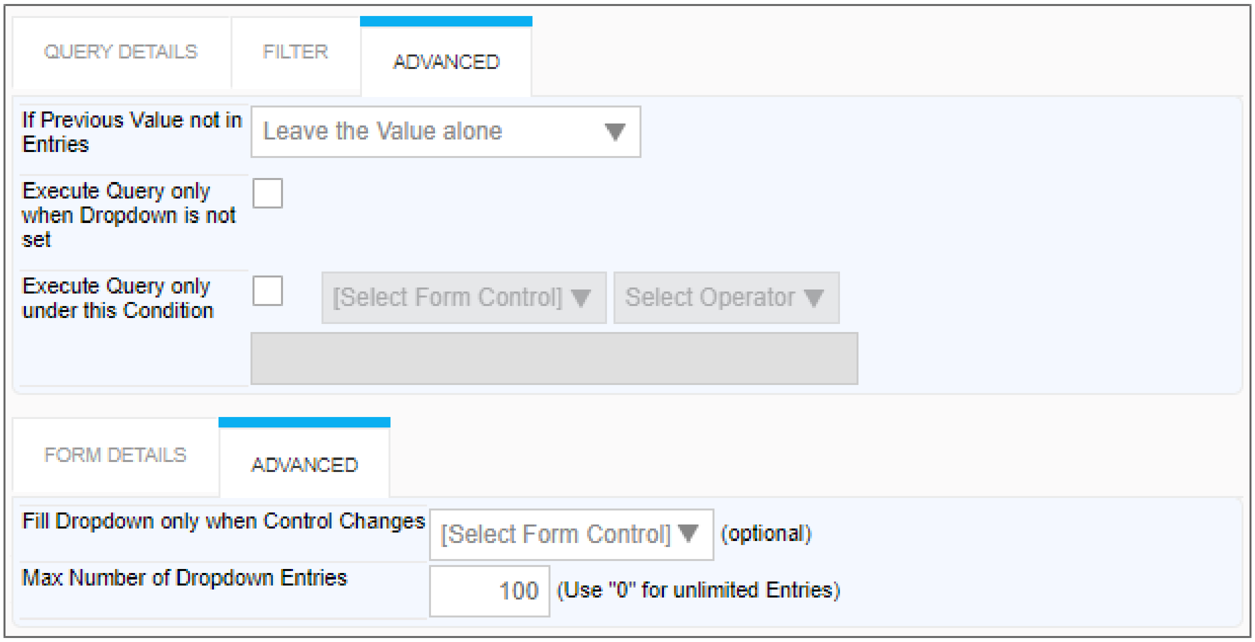
Site Details/Query Details/Form Details Tabs



Filter Tab



Advanced Tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
SITE DETAILS TAB		
SharePoint Connection	List of Data Sources	The data connection to Microsoft SharePoint
Show Document Libraries?		When checked, you can choose from document libraries, instead of only SharePoint lists.
QUERY DETAILS TAB		
SharePoint List	List of SharePoint Lists	The list from which the data

OPTION	ATTRIBUTES	DESCRIPTION
		will be retrieved.
Field for Dropdown Text	List of list fields	The list field that will be displayed as the text in the dropdown control.
Field for Dropdown Value	List of list fields	The list field that will be used as the value of the dropdown control.
FILTER TAB		
Filter		Text filter that will be used as the WHERE condition of the SQL statement that returns the Microsoft SharePoint data. .
FORM DETAILS TAB		
Dropdown to Fill	List of Form fields	The name of the dropdown control that will be filled

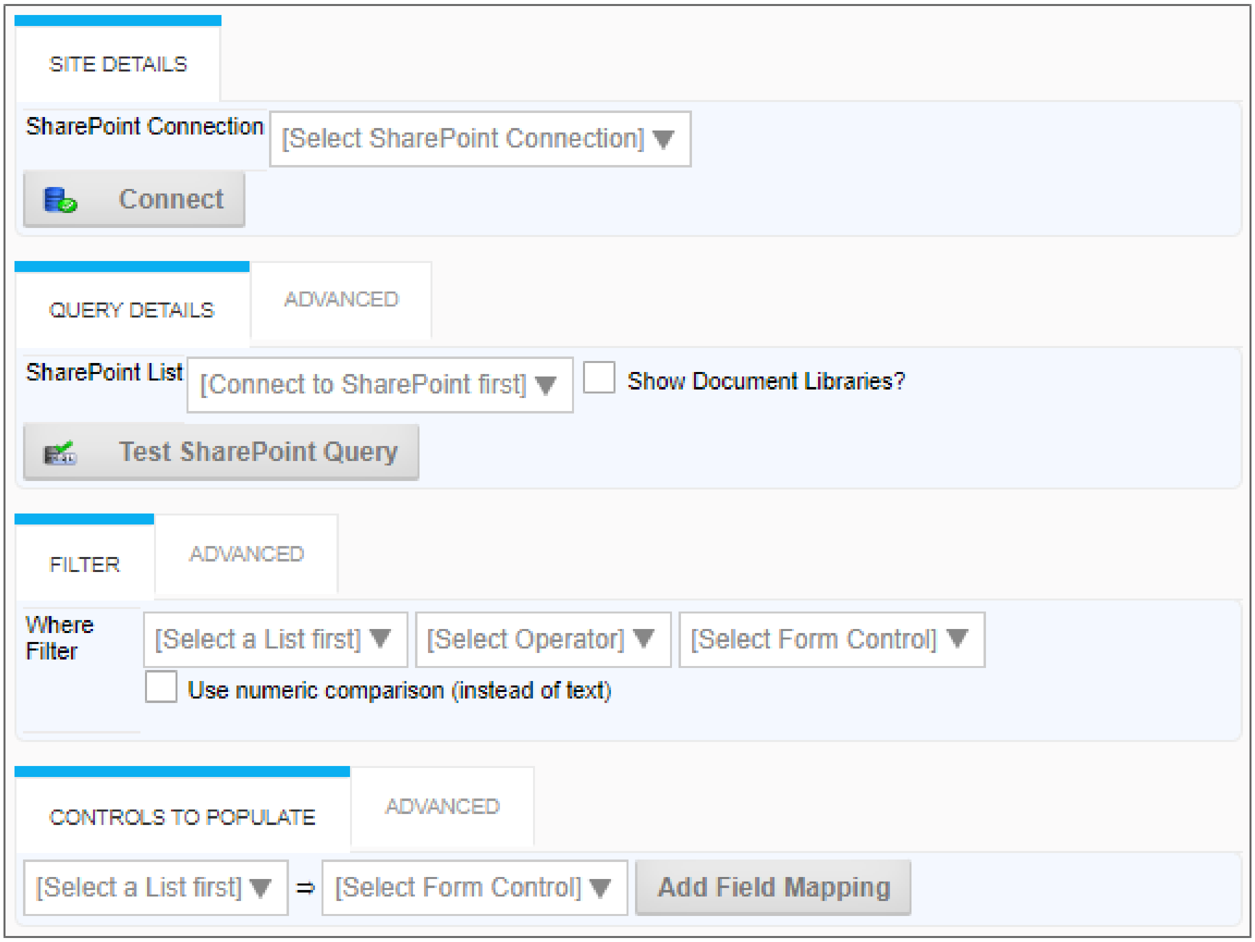
OPTION	ATTRIBUTES	DESCRIPTION
		with SharePoint data.
Add empty entry to Dropdown with this text		Text value for null entries. The default is [Select Field].
ADVANCED TABS		
If Previous Value not in List	Leave value alone, Clear the value in the form, Add the value to the dropdown	How the drop-down value will be altered if the previous value isn't in the list of data returned from SharePoint.
Execute Query only when Drop-down isn't set		This prevents the query from being re-run if the dropdown has already been pop-ulated.
Execute Query only under this condition		Enables you to set a condition for running the query that populates the dropdown.
Fill Dropdown Only When Con-trol Changes	List of Form fields	Prevents the query from

OPTION	ATTRIBUTES	DESCRIPTION
		running unless this field changes. This is often used for a field whose value will be used as a filter to limit the data that is returned.
Max number of dropdown entries		Maximum number of items that will be placed in the dropdown control.

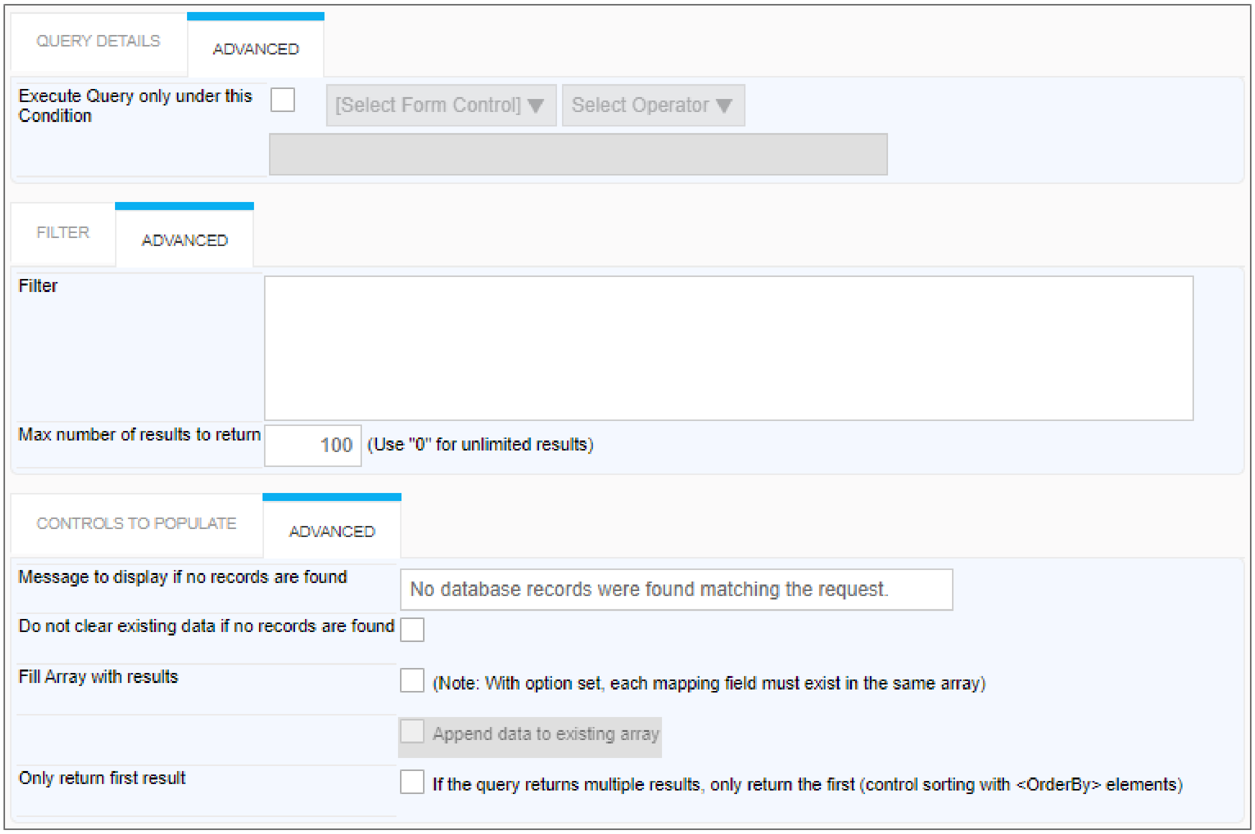
Fill Fields from SharePoint

This Custom Form Task can automatically fill multiple fields on the Form with values from a SharePoint source. Choose the Form fields and the columns in the SharePoint tables that should be used to fill them. You can also configure the input fields will be used to select the appropriate information in the SharePoint Source.

Standard Tabs



Advanced Tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
SITE DETAILS TAB		
SharePoint Connection	List of SharePoint Data Sources	The data connection to the SharePoint source.
QUERY DETAILS TAB		
SharePoint List	List of SharePoint Lists	The list from which the data will be retrieved. Additional lists can be added by

OPTION	ATTRIBUTES	DESCRIPTION
		clicking the Add Table button.
Show Document Libraries?		When checked, you can choose from document libraries, instead of only SharePoint lists.
FILTER TAB		
Filter	Lists of Lists, operators, and form controls	Enables you to filter data by comparing a SharePoint field value to a Form field value.
CONTROLS TO POPULATE TAB		
Controls to populate	Lists of lists and Form fields	Field mappings between SharePoint fields and Form fields. Additional mappings can be added by clicking the Add Mapping button.
ADVANCED TABS		

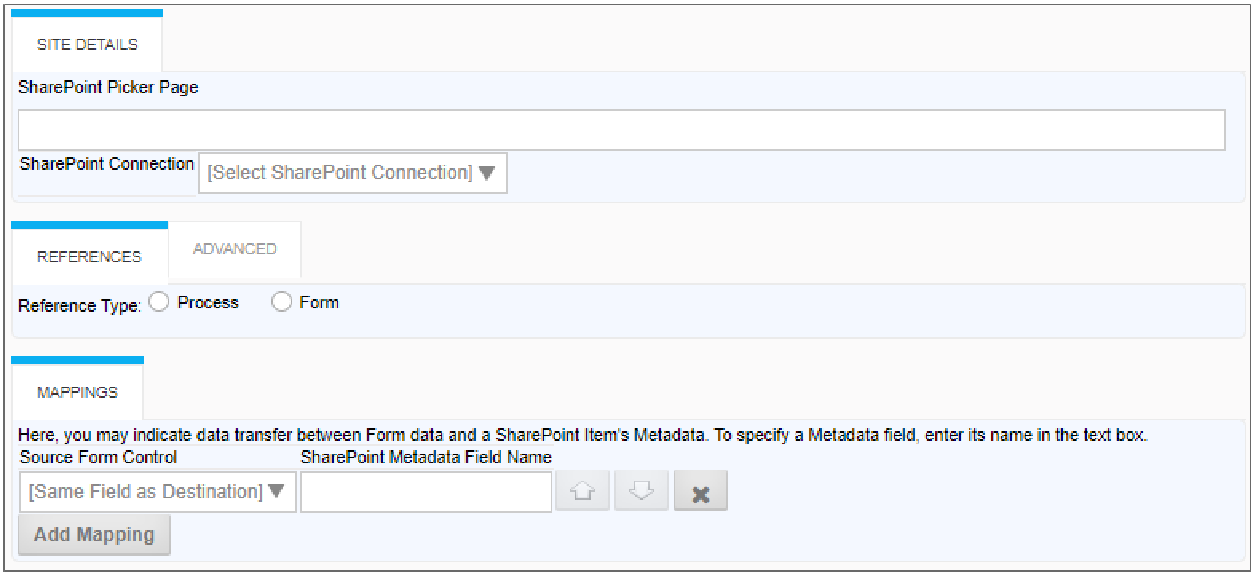
OPTION	ATTRIBUTES	DESCRIPTION
Execute Query only under this condition		Enables you to set a condition for running the query that populates the dropdown.
Filter		Text filter that will be used as the WHERE condition of the SQL statement that returns the Microsoft SharePoint data.
Max number of results to return		The maximum number of results to return from the query.
Message to display if no records are found		Text message to display if no data is returned.
Do not clear existing data if no records are found		Make no changes to the existing values if no data is returned.
Fill Array with results		Fills an array

OPTION	ATTRIBUTES	DESCRIPTION
		with the values returned from SharePoint. With this option set, each mapping field must exist in the same array. Check "Append data to existing array" to add the new data to the array rather than overwriting it.
Only Return First Result		Checking this box will, if the query returns more than one result, only use the first result returned by the query, based on the `<OrderBy>` elements, if any, used for the query filter.

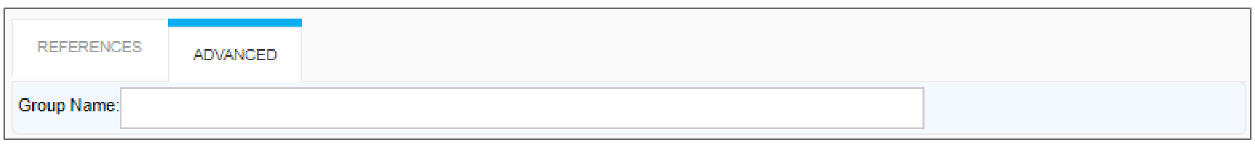
Get Files from SharePoint

Enables a picker for SharePoint files that will attach them to an object and optionally set Form data from Metadata fields.

Standard Tabs



Advanced Tab



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
SITE DETAILS TAB		
SharePoint Picker Page		This is the URL of the SharePoint page that will display the document library from which you'll select documents to attach to the form. This should be a

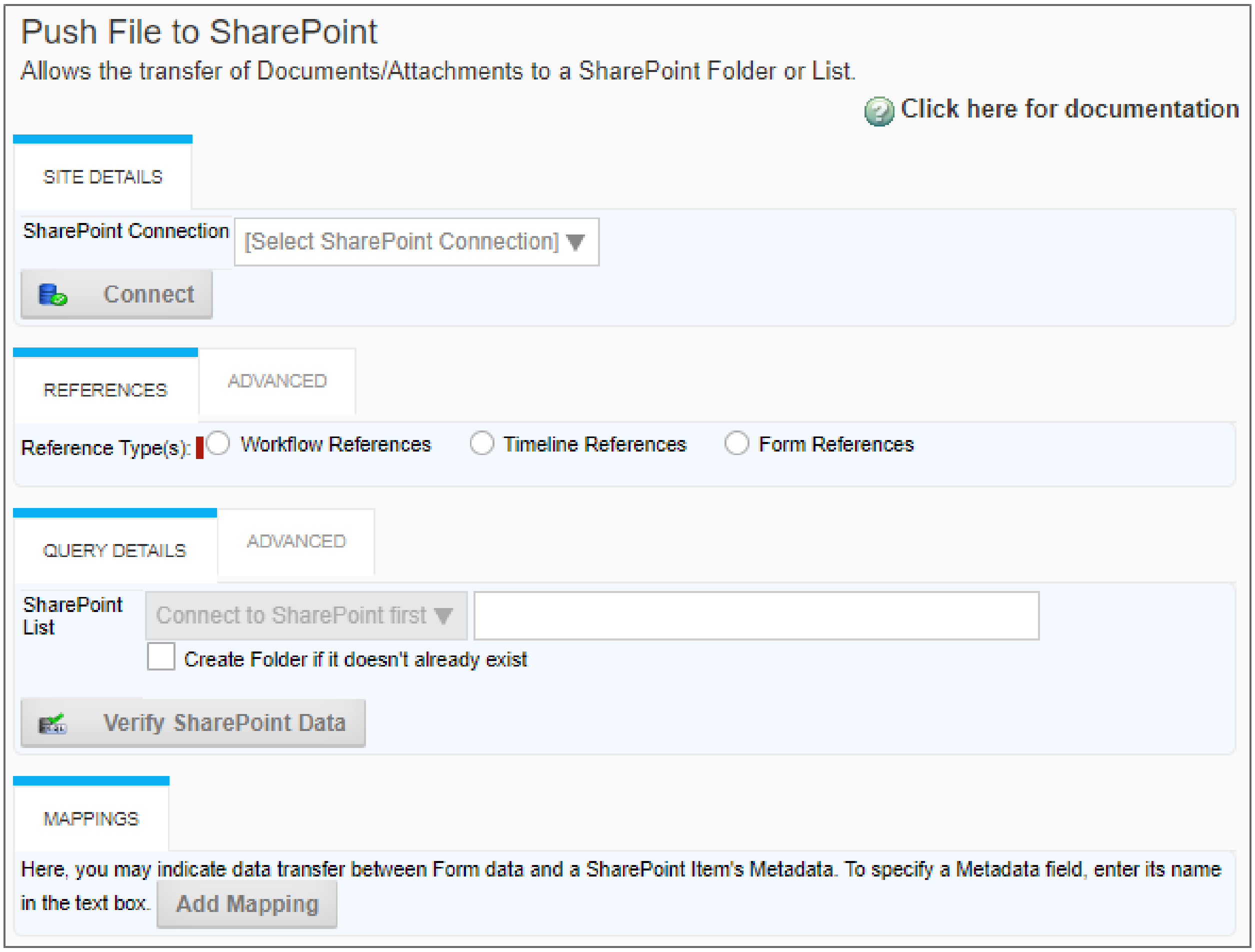
OPTION	ATTRIBUTES	DESCRIPTION
		web part page you've previously created using the BP Document Picker web part. Please refer to the "Working With SharePoint" section of Implementer's Guide for detailed instructions.
SharePoint Connection	List of SharePoint Data Sources	The data connection to the SharePoint source.
REFERENCES TAB		
Reference Type(s)	Process, Form	Select whether the imported SharePoint document should be attached to the process or to the Form.
MAPPINGS TAB		
Add Mapping		Click the Add Mapping button to create a

OPTION	ATTRIBUTES	DESCRIPTION
		new mapping row to specify Form field values you wish to transfer as the SharePoint Metadata for the file.
Source Form Control	List of Form controls	The control on the source Form whose value you wish to transfer to a SharePoint Metadata field.
SharePoint Metadata Field Name		To specify the SharePoint Metadata field, enter its name in the text box.
ADVANCED TAB		
Group Name		Specify a Group Name for the imported document.

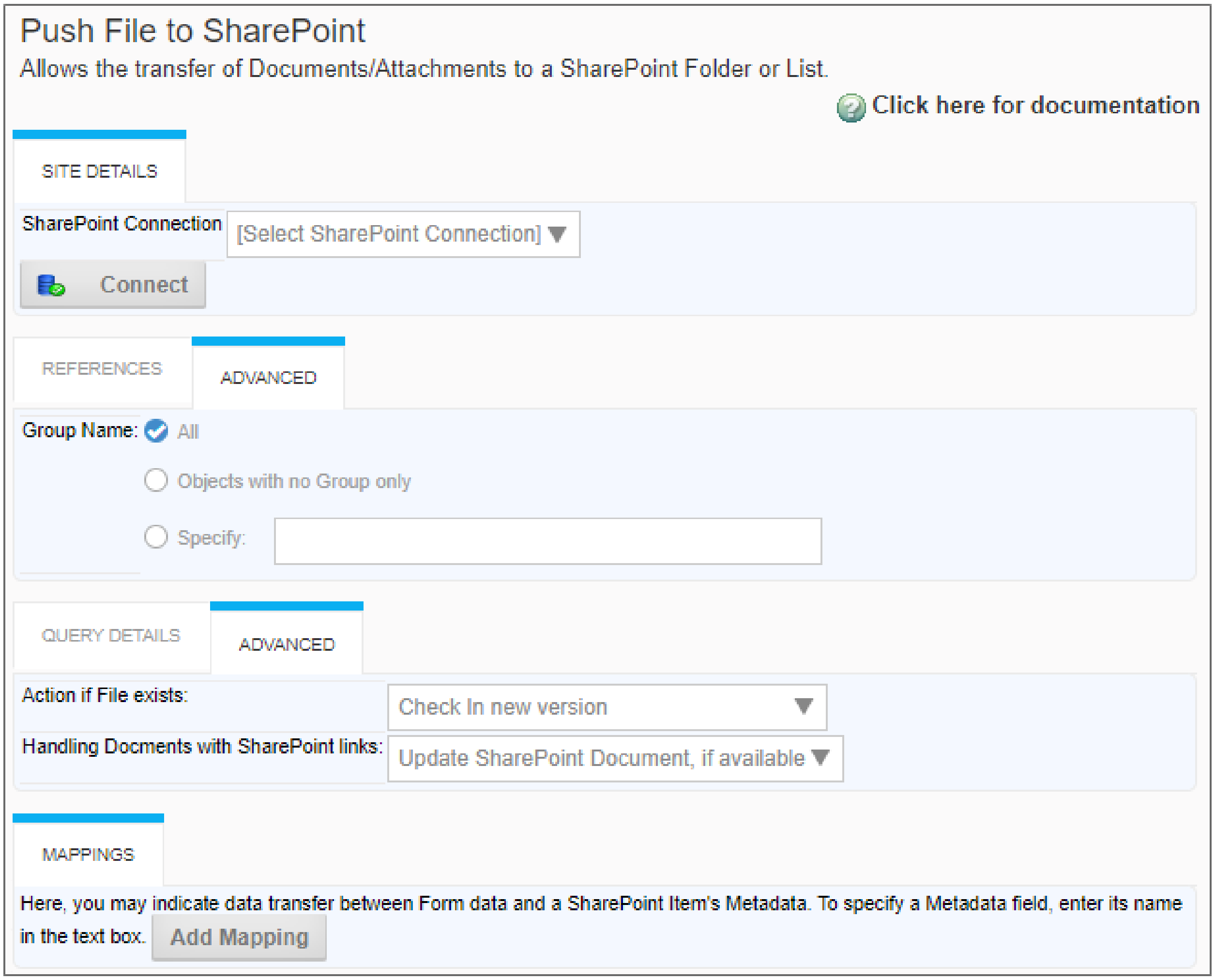
Push file to SharePoint

This Custom Task will export file attachments to SharePoint.

Standard Tabs



Advanced Tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
SITE DETAILS TAB		
SharePoint Connection	List of SharePoint Data Sources	The data connection to the SharePoint source.
REFERENCES TAB		
Reference Type(s)	Workflow, Timeline, Form	The attachment type of

OPTION	ATTRIBUTES	DESCRIPTION
		the exported SharePoint document.
QUERY DETAILS		
SharePoint List	List of SharePoint Lists	The list from which the data will be retrieved. Additional lists can be added by clicking the Add Table button. If necessary, click the "Create Folder if it doesn't already exist" check box. Once you've selected the list into which to insert the files, you can enter a file path to the desired folder in the text box. The file path should be relative to the site root, and the path can

OPTION	ATTRIBUTES	DESCRIPTION
		contain system variables for dynamic routing.
MAPPINGS TAB		
Add Mapping		You may indicate data transfer between Form data and a SharePoint Item's Metadata. To specify a Metadata field, enter its name in the text box.
ADVANCED TABS		
Group Name	All, Objects with no Group only, Specify	Specify a Group Name for the pushed document. This field will accept System Variables for CT version 2019.02.15 and higher.
Action if File exists	List of SharePoint Actions	Choose the option to determine how you

OPTION	ATTRIBUTES	DESCRIPTION
		desire SharePoint's Check in/ Check out to work with an existing file.
Handling Documents with SharePoint links	List of SharePoint Actions	Choose the option to determine how to handle documents with SharePoint links.

Filtering SharePoint Data

On the Filter tabs for:

- Fill Fields from Sharepoint
- Fill Dropdown from Sharepoint
- Fill Dropdown Object from Sharepoint

The Filter property optionally expects the WHERE node of a CAML query to provide an additional filter. For example:

```
<View>
   <Query>
      <Where>
         <Contains>
            <FieldRef Name="Field1"/>
            <Value Type="Text">{$FORM:FieldName}</Value>
         </Contains>
      </Where>
   </Query>
</View>
```

In this example, the value of a Form field named FieldName is being passed to the WHERE node, which specifies that the Field1 field of the data returned from SharePoint **must** contain the value of the FieldName Form field.

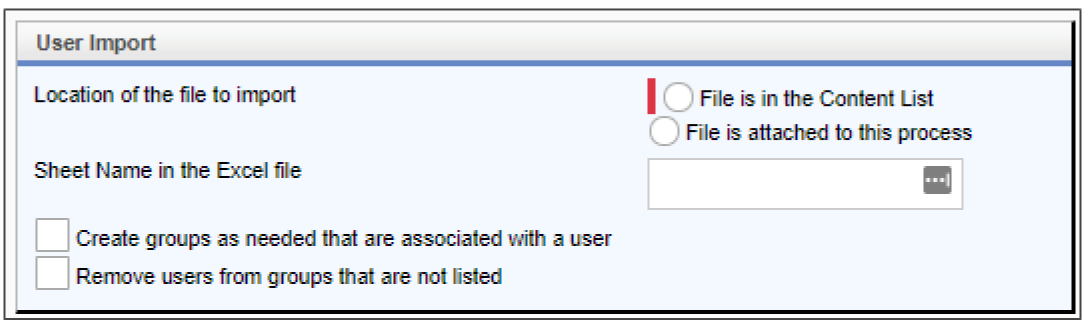
> **BP Logix does not offer assistance with CAML queries via free Technical Support, as they count as custom development. We'd be happy to assist you via a Direct Assistance engagement.**

User Custom Tasks

The User Custom Tasks enable you to import and provision new Process Director users via a form or process, rather than requiring access to the IT Admin area of the installation.

Import Users

This Process Custom Task imports users from an Excel or CSV file that has been uploaded to the Content List or attached to a Form or process. This Custom Task isn't available as a Form Custom Task.



Configuration Options

The User Import section of the configuration screen contains all of the configuration properties.

OPTION	ATTRIBUTES	DESCRIPTION
Location of the file to import	File is in the Content List File is attached to this process	Enables you to choose the location from which to

OPTION	ATTRIBUTES	DESCRIPTION
		import the Excel/CSV file.
File to import from the content list		If you choose Content Picker as the file location, this property will appear. The property consists of a Content Picker from which you can choose the Excel/CSV file that contains the users to import.
Group Name of the File to Import		If you choose Content Process Attachment as the file location, this property will appear. You can enter the group name of the attachment group that contains the Excel/CSV file.

OPTION	ATTRIBUTES	DESCRIPTION
Sheet Name in the Excel file		Enables you to specify the sheet name in the Excel file that contains the user data.
Create groups as needed that are associated with a user		If groups are included for the users in the Excel/CSV file, you can choose to import the groups and assign the user to them.
Remove users from groups that are not listed		This setting will remove the user from all groups that aren't included in the Excel/CSV file.

There are a number of different methods you can use to provide the Excel file used to import users. Perhaps the easiest is to use the BPImport utility.

To begin, the Excel file should, of course, be in the proper format for Process Director to parse it correctly. Some sample PowerShell scripts are available to transfer your AD Data to Excel. The sample scripts need to be modified to put the correct values into it for your AD system, e.g. OU, etc. You can download the sample PowerShell scripts from here.

Once the Excel file has been created an placed in an accessible folder, the BPImport utility can push the Excel file to a reception folder in Process Director. The reception folder would be configured to start a process when a new file is moved into the folder, as described here. This would enable you to set a Process Timeline to run each time a new Excel file is uploaded into the folder by the BPImport utility. The BPImport utility can be run from any system. You can download the BPImport utility from here.

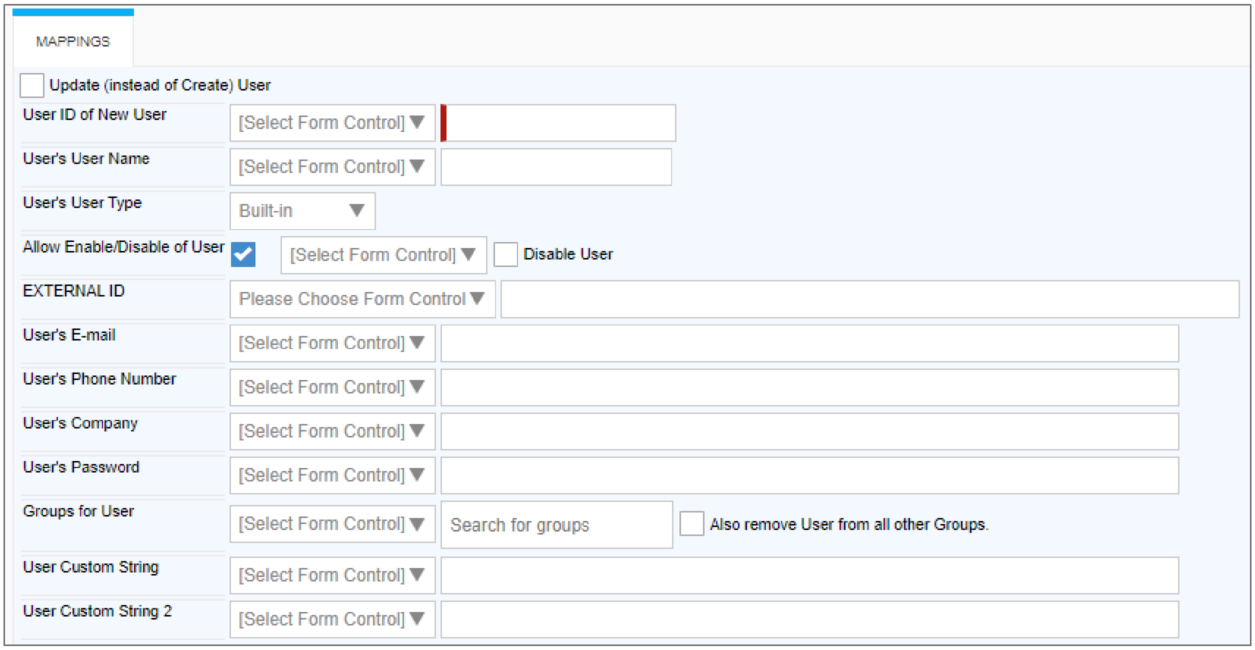
The Process Timeline that is started when the Excel file is moved into the folder would use this Custom Task as the first Timeline Activity, to import the users from the Excel file. Process Director will automatically attach the Excel file to the Process Timeline when it runs.

Additionally, you can use the Windows Scheduler utility to run the PowerShell script and then call BPImport to import the Excel file on a regularly scheduled basis.

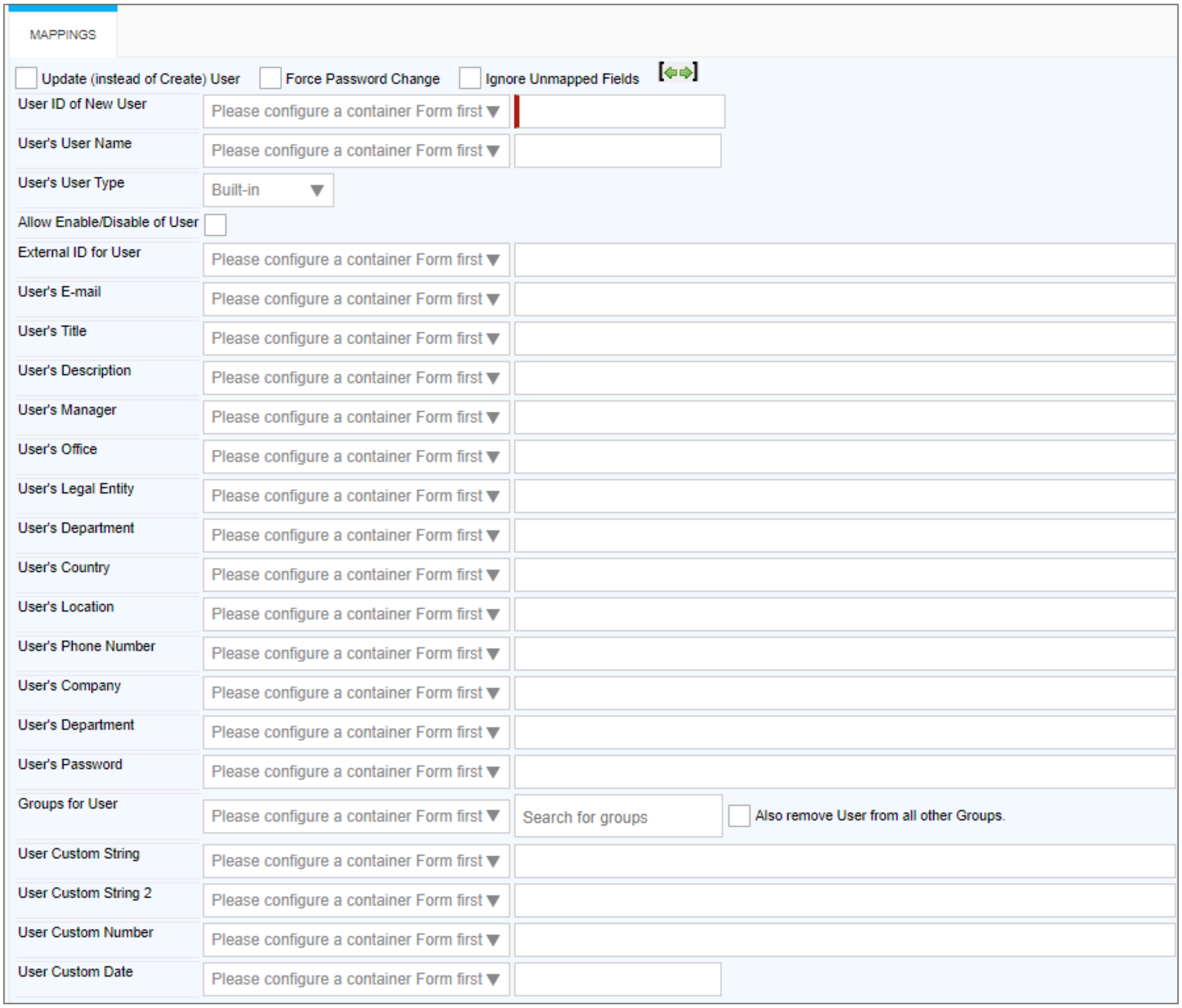
Provision Users

This Custom Task enables you to provision users by updating existing users or creating new users without having to access the IT Admin area.

For Process Director v6.0.11 or lower, the appropriate Custom Task should be version 2022.02.09, which appears like the example below.



For Process Director v6.1.0 or higher, this Custom Task enables the configuration of additional fields in version 2023.11.22.



Previous versions of this custom task will work as designed in Process Director v6.1.0, but Custom Task version 2023.11.22 will not work properly with Process Director v6.0.11 or below.

Custom Task version 2024.09.26 enables you to specify whether users must use Multi-Factor Authentication (MFA) to log into the system. This version of the Custom Task is backwards-compatible with previous versions of Process Director.

Configuration Options

The Mappings tab of the configuration screen contains all configuration options. The additional options for v2023.11.22 of the Custom Task are included below. Earlier versions of this Custom Task will have fewer fields to configure.

OPTION	ATTRIBUTES	DESCRIPTION
Update (instead of Create) User		Enables you to update an existing user. When this option is selected, the Password field is hidden, since the SDK prevents updating existing user passwords, for security reasons.
Force Password Change		Enables you to require the user to change their password on first login.
Ignore Unmapped Fields.		Enables you to tell Process Director to ignore fields that are not configured for field mapping in the import.
User ID of New User	Dropdown list of Form fields System Variable text box	Enables you to set the User ID of the user via form field or system vari-

OPTION	ATTRIBUTES	DESCRIPTION
		able.
User's User Name	Dropdown list of Form fields System Variable text box	Enables you to set the User Name of the user via form field or system variable.
User's User Type	Built-in Windows LDAP External SAML Header Login	Enables you to specify the user type to provision for the user.
Allow enable/disable of user		By default, provisioning always enables newly provisioned users. When checked, however, this property enables you to set whether the user account can be set as enabled or disabled. You can specify a Form field that sets the user's disabled status

OPTION	ATTRIBUTES	DESCRIPTION
		for account creation via a dropdown control. Alternatively, an additional checkbox, Disable User, also appears to enable you explicitly disable the user on account creation.
External ID for User	Dropdown list of Form fields System Variable text box	This property enables you to set the External ID (External GUID) of the user via form field or system variable. The External ID is usually the ID of an external directory system, such as Active Directory or LDAP, by which the user is

OPTION	ATTRIBUTES	DESCRIPTION
		identified in that system.
User's E-mail	Dropdown list of Form fields System Variable text box	Enables you to set the user's email address via form field or system variable.
User's Title	Dropdown list of Form fields System Variable text box	Enables you to set the user's title via form field or system variable.
User's Description	Dropdown list of Form fields System Variable text box	Enables you to set the user's description via form field or system variable.
User's Manager	Dropdown list of Form fields System Variable text box	Enables you to set the user's email address via form field or system variable.
User's Office	Dropdown list of Form fields System Variable text box	Enables you to set the user's office via form field or system variable.
User's Legal Entity	Dropdown list of Form fields	Enables you to

OPTION	ATTRIBUTES	DESCRIPTION
	System Variable text box	set the user's legal entity via form field or system variable.
User's Department	Dropdown list of Form fields System Variable text box	Enables you to set the user's department via form field or system variable.
Business Unit	Dropdown list of Form fields System Variable text box	Enables you to set the Business Unit to which the user is associated.
User's Country	Dropdown list of Form fields System Variable text box	Enables you to set the user's country via form field or system variable.
User's Location	Dropdown list of Form fields System Variable text box	Enables you to set the user's location via form field or system variable.
User's Phone Number	Dropdown list of Form fields System Variable text box	Enables you to set the user's phone number via form field

OPTION	ATTRIBUTES	DESCRIPTION
		or system variable.
User's Company	Dropdown list of Form fields System Variable text box	Enables you to set the user's company name via form field or system variable.
User's Password	Dropdown list of Form fields System Variable text box	Enables you to set the user's password via form field or system variable.
Groups for User	Dropdown list of Form fields Group Picker	Enables you to assign the user to a group or groups via a form field or Group Picker control. If the user is already a group member of a group not specified in this list, the user will be removed from that group.
Also remove User from all other Groups		Enables you to specify that the user will

OPTION	ATTRIBUTES	DESCRIPTION
		only be assigned membership to the Groups specified in the import, removing all other Group memberships.
User Custom String	Dropdown list of Form fields System Variable text box	Enables you to set the user's Custom String property via form field or system variable.
User Custom String 2	Dropdown list of Form fields System Variable text box	Enables you to set the user's Custom String 2 property via form field or system variable.
User Custom Number	Dropdown list of Form fields System Variable text box	Enables you to set the user's Custom Number property via form field or system variable.
User Custom Date	Dropdown list of Form fields System Variable text box	Enables you to set the user's

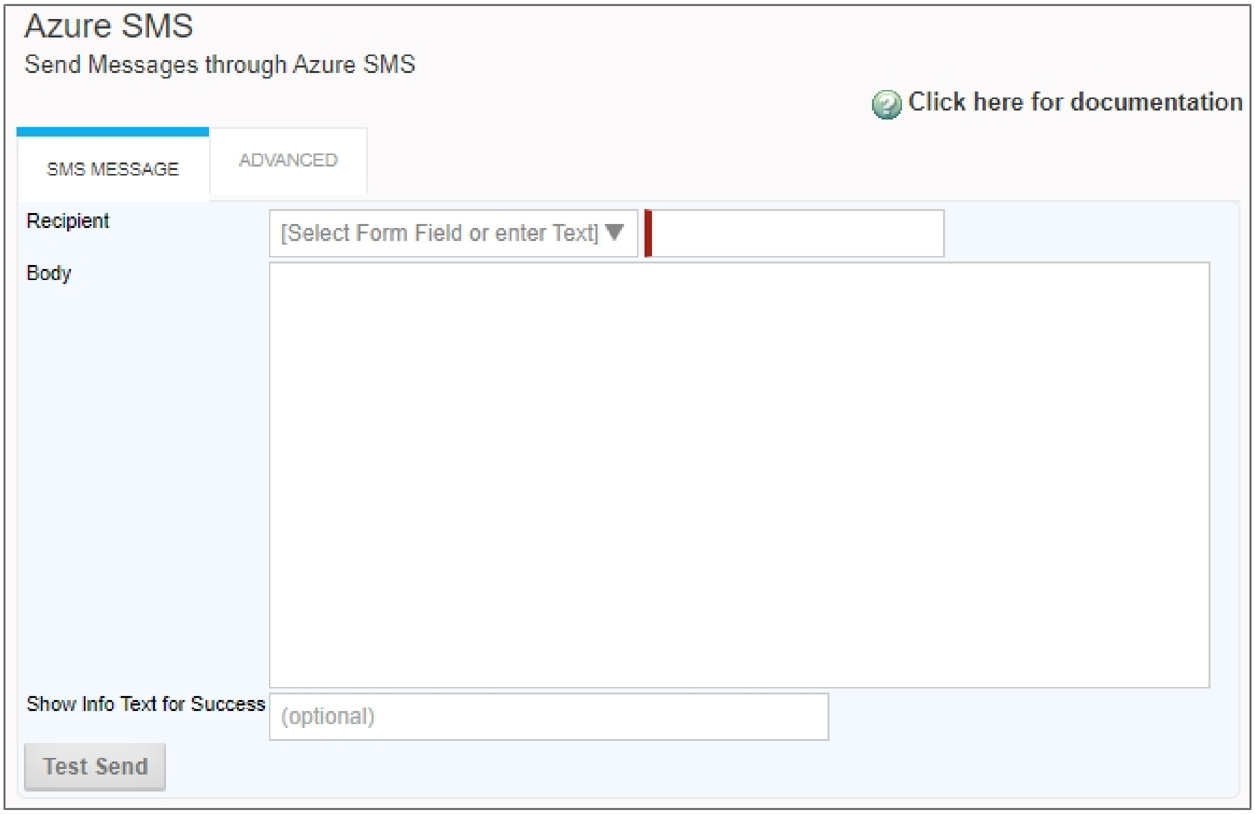
OPTION	ATTRIBUTES	DESCRIPTION
		Custom Date property via form field or system variable.

Web Services Custom Tasks

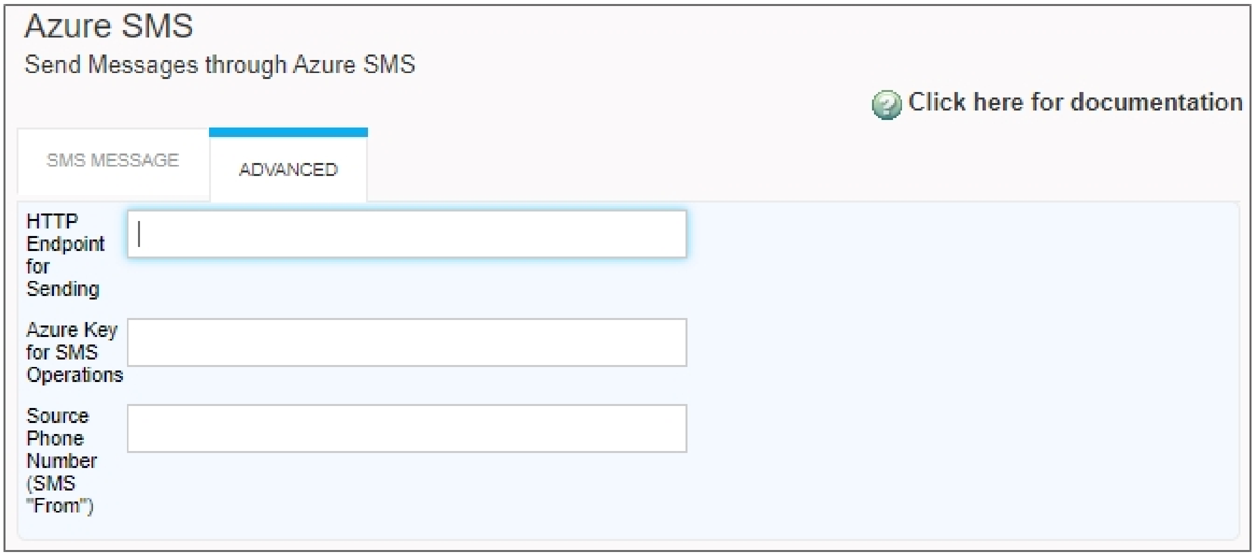
Azure SMS

This Custom Task will use the Microsoft Azure's built-in SMS capabilities to send an SMS text message to a specified recipient's mobile phone number(s). For sending SMS, Azure supports up to 100 recipients (destination phone numbers).

SMS Message Tab



Advanced Tab



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
SMS MESSAGE TAB		
Recipient	Dropdown list of Form Fields OR Text Input	The mobile number to which to send the SMS Message. This number can be selected from a Form field, using the dropdown control, or by entering text in the provided text box. If a Form field is selected from the dropdown control, the text

OPTION	ATTRIBUTES	DESCRIPTION
		box will be hidden. Otherwise, the text field will accept a phone number or a system variable that returns the phone number. Any phone number string must conform to the E.164 format (full country code, starting with “+1” for U.S. numbers) for Azure SMS to accept it.
Body		The message to be sent via SMS. Be aware that different mobile service providers may have different character limits for SMS messages, down to 160 characters.
Show Info Text for Success		An optional property to specify a message

OPTION	ATTRIBUTES	DESCRIPTION
		to display when the message is sent successfully.
Test Send	Button	This button, when clicked, will test the SMS Message feature to ensure it can be accepted by Microsoft Azure.
ADVANCED TAB		
HTTP Endpoint for Sending		The fully qualified URL of the Azure SMS endpoint for your Azure installation. For each Cloud customer, the Endpoint URL will almost certainly not change, but the customers with access to configure this Custom Task (i.e. customers on systems that BP Logix does not manage) will

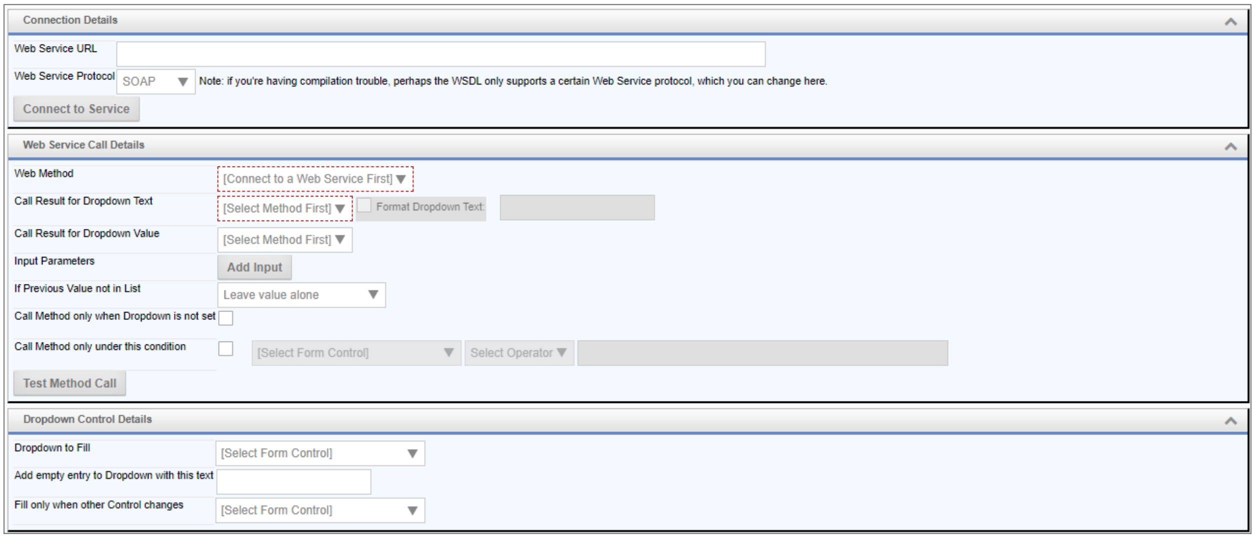
OPTION	ATTRIBUTES	DESCRIPTION
		need to acquire their own Azure Key and phone number to use this Custom Task.
Azure Key for SMS Operations		The cryptographic key value required to access Azure SMS. This value must be obtained from Microsoft Azure. The Key field contains a Base64 representation of an Azure Communication Services key, which an Azure customer can find in the Azure Communication Services Portal.
Source Phone Number (SMS "From")		The phone number from which the SMS message should be sent, e.g., a valid mobile number

OPTION	ATTRIBUTES	DESCRIPTION
		for a mobile device to which return messages can be routed. Azure Communication Services provides several methods for provisioning a phone number, including through the Communication Services Portal.

Fill DropDown from Web Service

This Custom Form Task will automatically fill a dropdown field on the Form with results from a web service call. Choose the Form dropdown field and the output parameter(s) that should be used to fill the dropdown. This Custom Task should be mapped to the [Form Displayed] event to ensure the dropdown values are always populated.

> **This Custom Task doesn't support WCF web services.**



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Web Service URL		The URL of the web service from which the data is to be retrieved.
Web Service Protocol	SOAP, SOAP 1.2	The communications protocol to use for the web service. If you're having compilation trouble, perhaps the WSDL only supports a certain Web Service protocol, which you can change here.
Web Method	List of Web Service Methods	This is the list of web service

OPTION	ATTRIBUTES	DESCRIPTION
		methods that are available through the selected Web Service URL. Different web services will expose different methods.
Call Result for Dropdown Text	List of table fields	The Call Result that will be displayed as the text in the dropdown control.
Call Result for Dropdown Value	List of table fields	The Call Result that will be used as the value of the dropdown control.
Input Parameters		Click the Add Input button to add parameters for the web service call.
If Previous Value not in List	Leave value alone, Clear the value in the form, Add the value to the dropdown	How the dropdown value will be altered if the previous value isn't in the list of data returned from SharePoint.

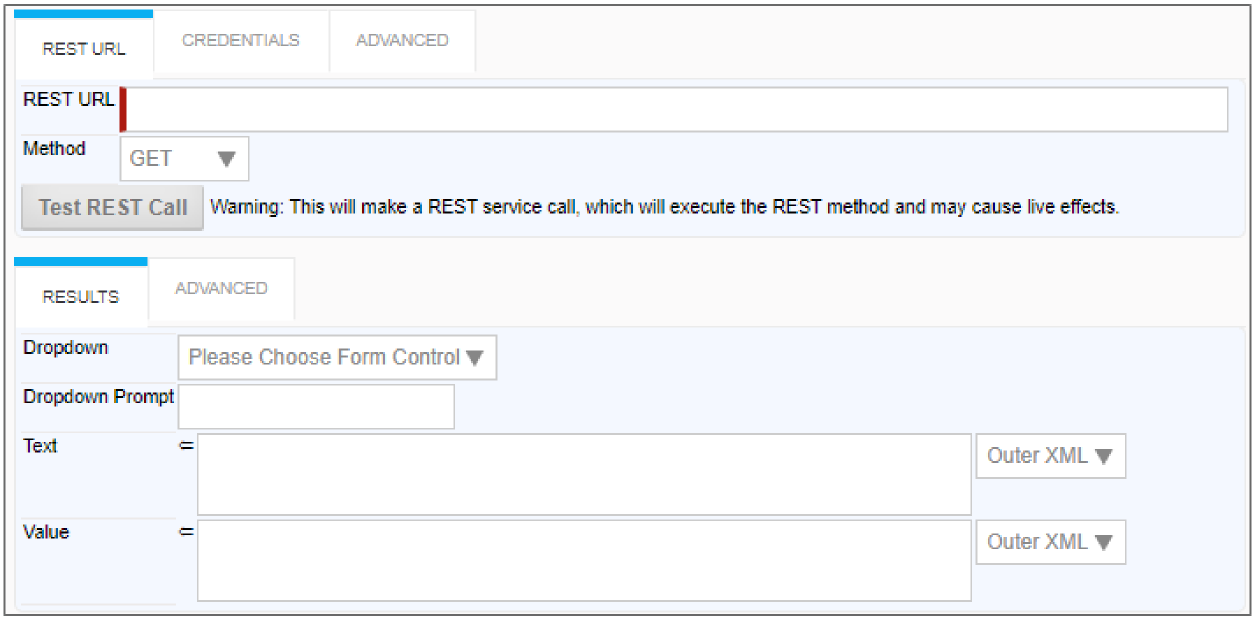
OPTION	ATTRIBUTES	DESCRIPTION
Call method only when Drop-down isn't set		This prevents the call from being re-run if the drop-down has already been populated.
Call method only under this condition		Enables you to set a condition for running the call that populates the drop-down.
Test Method Call		This will run a test call to retrieve the data.
Dropdown to Fill	List of Form fields	The name of the dropdown control that will be filled with Salesforce data.
Add empty entry to Dropdown with this text		Text value for null entries.
Fill Only When Other Control Changes	List of Form fields	Prevents the query from running unless this field changes. This is often used for a field whose value will be used as a filter to limit the data that is returned.

Fill Dropdown from REST

This Custom Task has largely been deprecated by the use of Business Values to return data from a REST service and fill dropdowns via the Fill Dropdowns tab of a Form definition.

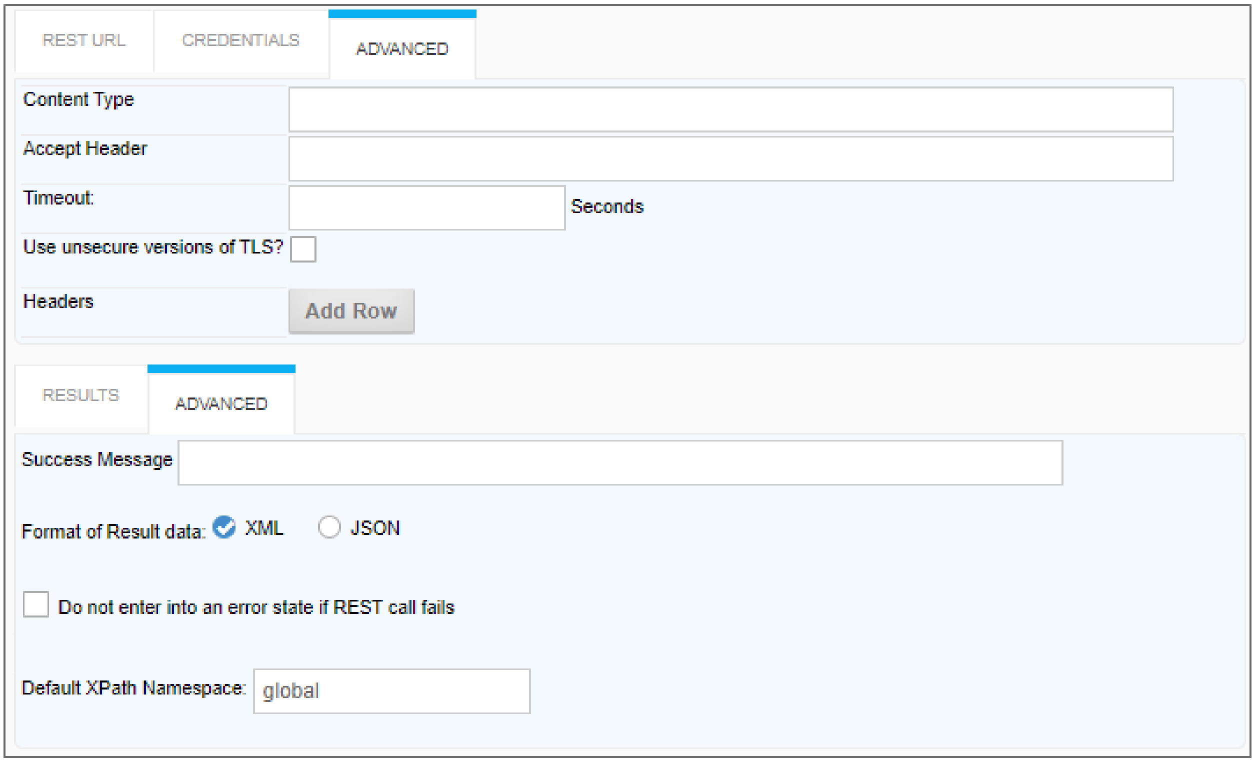
This Custom Form Task can fill dropdown options with values from a REST Web Service call. Choose the Form dropdown field and the output parameter(s) that should be used to fill the dropdown. This Custom Task should be mapped to the [Form Displayed] event to ensure the dropdown values are always populated.

Standard Tabs



Credentials Tab

Advanced tabs



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
REST URL TAB		
REST URL		The URL of the REST Service, including the parameters
Method	Get, Post	The HTTP method of the REST call.
RESULTS TAB		
Dropdown control	List of Dropdown Controls	Select the drop-down you wish to fill.
Prompt for empty row		An optional

OPTION	ATTRIBUTES	DESCRIPTION
(Optional)		prompt to add to create an empty row.
Display Text		The XPath to the field result you wish to show as the display text.
Value		The XPath to the field result you wish to save as the field value.
CREDENTIALS TAB		
Data Source	List of Compliance Datasources.	You can select a Compliance Datasource to provide the credentials. Otherwise, you can supply the credentials manually using the fields below.
Username		Login information with appropriate credentials to access the REST Service.
Password		Login inform-

OPTION	ATTRIBUTES	DESCRIPTION
		ation with appropriate credentials to access the REST Service.
ADVANCED TABS		
Content Type		MIME type of the Rest call.
Accept Header		This property enables you to set the "Accept" header of the HTTP Request.
Timeout		The number of seconds to wait before the REST call times out.
Use Insecure versions of TLS?		By default, Process Director won't use TLS 1.0 for the transport layer for security reasons. Checking this option will enables the use of TLS 1.0 if desired.
Headers		You can add

OPTION	ATTRIBUTES	DESCRIPTION
		additional HTTP headers to the call by clicking the Add Row button to create key/value pairs.
Success Message		Message to display when the results are successfully retrieved.
Format of result data	XML, JSON	The format of the REST source data.
Do not enter into an error state if REST call fails		Checking this option will ensure that, if the REST call fails, the error won't be returned to the form. This is useful when you are using parameters, and a user passes a bad parameter from the form. In that case,

OPTION	ATTRIBUTES	DESCRIPTION
		you may wish to return nothing and leave the form fields blank, rather than display an error message to the user.
Default XPath namespace	Global	The default namespace is generally correct.

Additional Notes:

If URL parameters are being used in the REST call to pass in form field data, the system variables need to use the '&' encode type. e.g., `{&FORM:formfield}`.

If you request the results to be returned in JSON format AND have mapped to individual form fields, **an XPATH expression is still required** when defining the mapping between the results and form field (Typically JSONPath expressions are used with JSON). Further, depending on the JSON string, a double slash may be required in the expression when specifying the JSON identifier, because the JSON string might have translated into an empty root XML node, which would require the double slash. So, if a JSON query with a single slash doesn't work when you think it should, try prefixing the query with a double slash (`//`).

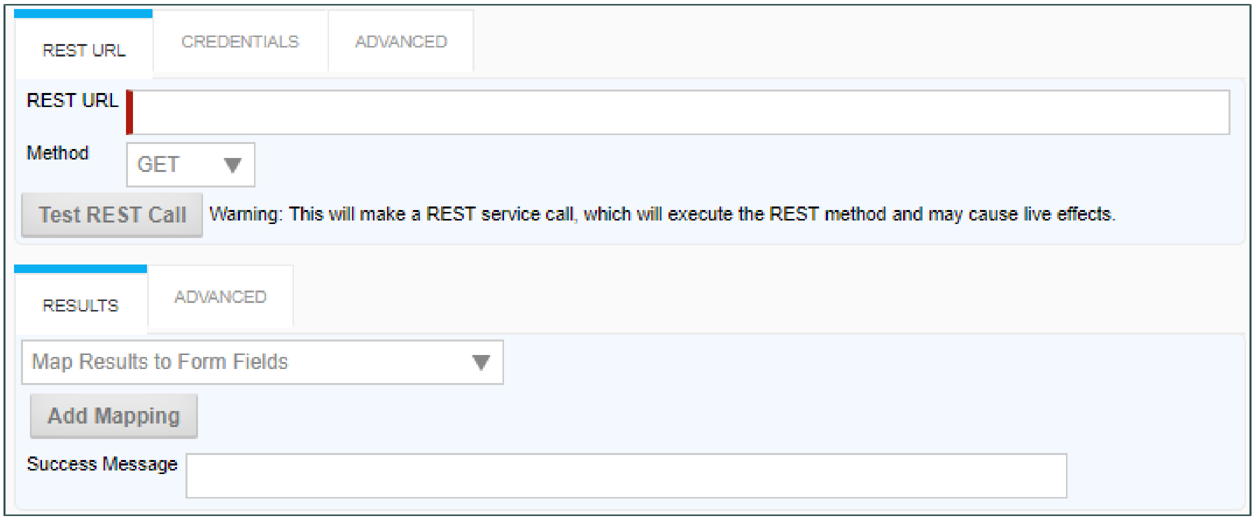
Fill Fields from REST

This Custom Task has largely been deprecated by the use of Business Values to return data from a REST service and fill fields via the Set Form Data tab of a Form definition.

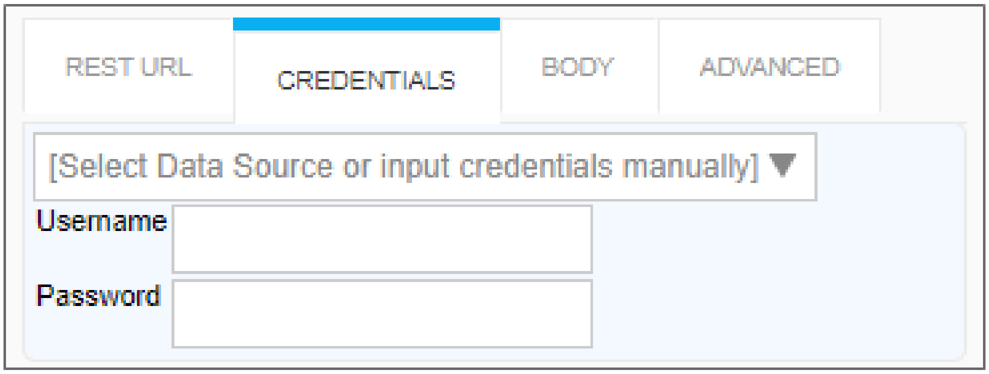
This Custom Form Task can fill multiple fields on a Form with values from a REST Web Service call. Choose the Form fields and the queries (in XPath) that correspond to data with which to fill the Form fields, or choose to put all of the data into a single Form field. You can also pass data in the URL to the REST Service.

For v2022.03.31 and higher of this Custom Task, the Custom Task can be called even if there is no form instance to use. This can be useful in rare contexts, such as trying to call the build_form_cache.aspx page, which doesn't require any form data to be sent or returned.

Standard Tabs

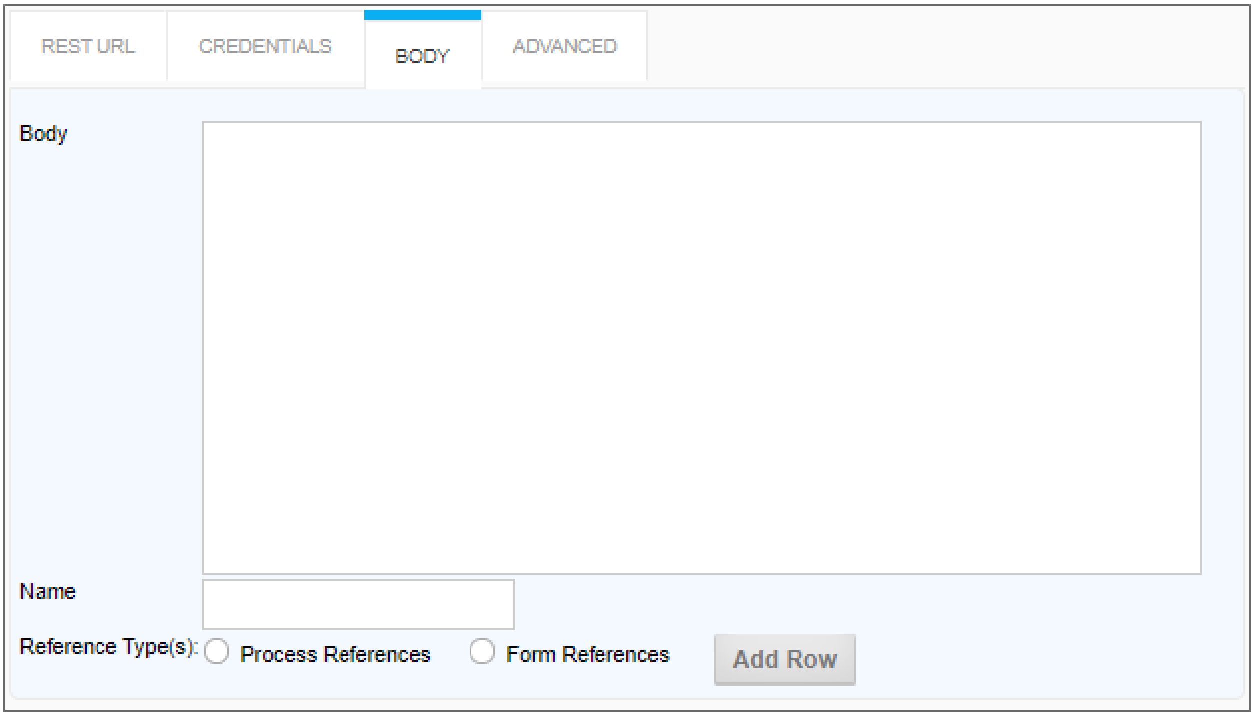


Credentials Tab

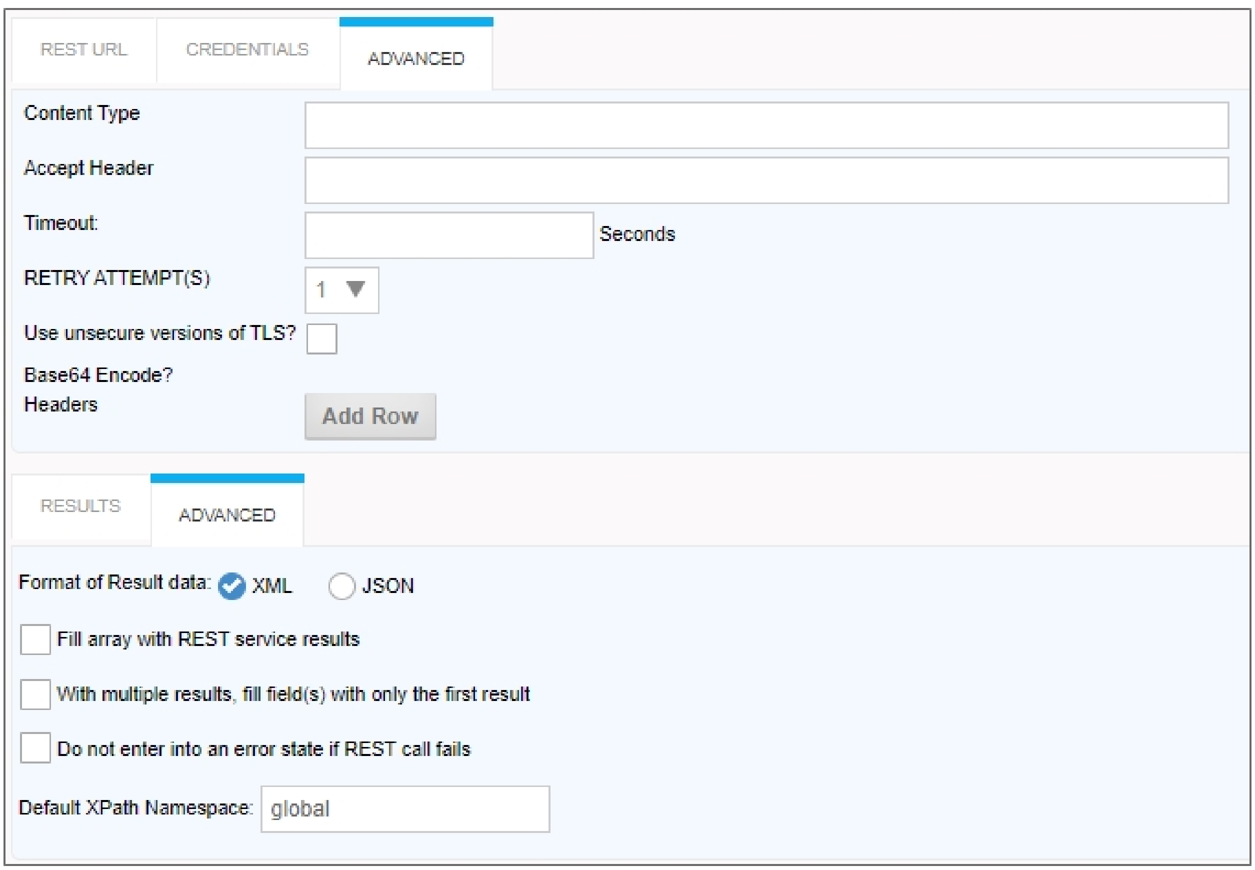


Body Tab

When using rest call *with **any** method other than GET*, a Body tab will appear automatically in the UI.



Advanced tabs



Configuration Data

OPTION	ATTRIBUTES	DESCRIPTION
REST URL TAB		
REST URL		The URL of the REST Service, including the parameters
Method	GET POST PUT PATCH DELETE	The Web method to use to call the REST service.
RESULTS TAB		
Result Mapping Dropdown	Map results to Form Fields Place all data from REST call into a single field Dump Data from REST call into an attachment Dump Result Field from REST call into an Attachment	See the Result Tab Options section below for a detailed explanation of each option.
Success Message		A text message to display when the REST call completes successfully.
BODY TAB		
Body		The body of the web request. This can contain

OPTION	ATTRIBUTES	DESCRIPTION
		JSON, XML, or any other text format accepted by the REST service. Using this field with attachments (multipart web request) will result in this field representing one of the multiple parts of the Request Content. Due to System Variable parsing logic, to use curly braces in the Body (e.g., JSON data), ensure that any curly brace that is ***NOT*** part of a System Variable is followed by a new line.
Name		The value for the Content-

OPTION	ATTRIBUTES	DESCRIPTION
		Disposition header's "name" parameter.
Reference Type(s)	Process References Form References	The type of attachment to include in the REST call for multipart web requests. Additional reference types may be added by clicking the Add Row button; however, if you use a System Variable to specify the attachment in the Body, you should ***not*** use the Add Row button to add additional attachments.
CREDENTIALS TAB		
Data Source	List of Compliance Datasources.	You can select a Compliance Datasource to provide the cre-

OPTION	ATTRIBUTES	DESCRIPTION
		dentials. Otherwise, you can supply the credentials manually using the fields below.
Username		Login information with appropriate credentials to access the REST Service.
Password		Login information with appropriate credentials to access the REST Service.
ADVANCED TABS		
Content Type		MIME type of the Rest call.
Accept Header		This property enables you to set the "Accept" header of the HTTP Request.
Timeout		The number of seconds to wait before the REST call times out.

OPTION	ATTRIBUTES	DESCRIPTION
Retry Attempts	Number of retries to attempt	Added in v2023.01.26 this field is designed to prevent an issue that may occur when REST POST calls to update data fails *without an underlying fault in the Payload or service*. This property implements a retry mechanism that often resolves the issue, and eliminates the need for an administrator to re-run the Timeline Activity/Form event that invokes the Custom Task.
Use Insecure versions of TLS?		By default, Process Director won't use TLS

OPTION	ATTRIBUTES	DESCRIPTION
		1.0 for the transport layer for security reasons. Checking this option will enables the use of TLS 1.0 if desired.
Base64 Encode		When selected, will encode attachments using Base64 encoding.
Headers		You can add additional HTTP headers to the call by clicking the Add Row button to create key/value pairs.
Format of Result data	XML JSON	Specifies the format of the result data for multipart web requests.
Fill array with REST service results		This option switches between two modes of this

OPTION	ATTRIBUTES	DESCRIPTION
		Custom Task's execution. When clear, this indicates to make a REST call for each row in an existing array (expecting one value for each field from the call). When set, this indicates to fill an array with the results of the REST call (expecting multiple values for each field from the call).
With multiple results, fill field(s) with only the first result		
Do not enter into an error state if REST call fails		Checking this option will ensure that, if the REST call fails, the error won't be returned to the form. This is useful when

OPTION	ATTRIBUTES	DESCRIPTION
		you are using parameters, and a user passes a bad parameter from the form. In that case, you may wish to return nothing and leave the form fields blank, rather than display an error message to the user.
Default XPath namespace	Global	The default namespace is generally correct.

Result Tab Options

Map results to Form Fields

When this option is selected, the following properties can be configured:

Form Field: The Form field into which to place data from a REST field.

XPath Expression: The XPath expression that specifies the location of a REST field in the XML DOM.

Value Dropdown: The data to place in the field. By default, this is the REST field value, but you can choose to use the Inner or Outer XML from the REST return XML.

Additional Form fields can be added by clicking the Add Mapping button to add a new field.

Place all data from REST call into a single field

When this option is selected, the following properties can be configured:

Form Field: The Form field into which the entire REST response will be placed.

Dump Data from REST call into an attachment

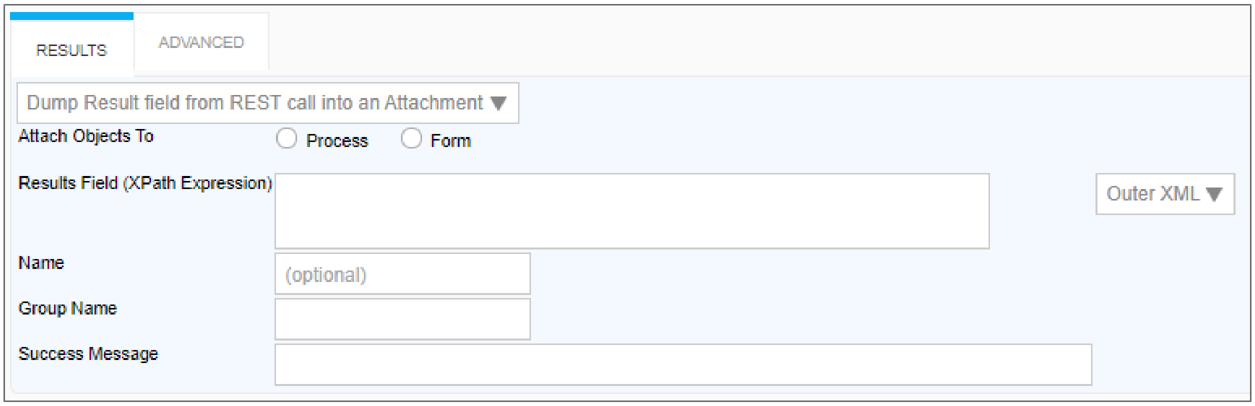
When this option is selected, the following properties can be configured:

Attach Objects to: This property enables you to create either a Form or a Process Attachment from the REST response.

Name: The Name of the attachment file.

Group Name: The desired attachment Group name for the attachment file.

Dump Result Field from REST call into an Attachment



Attach Objects to: This property enables you to create either a Form or a Process Attachment from the REST response.

Results Field (XPATH Expression): The XPATH to the results field. This value can be placed in the Inner or Outer XML, or as a Value by selecting the appropriate value from the dropdown control associated with this property.

Name: The Name of the attachment file.

Group Name: The desired attachment Group name for the attachment file.

Additional Notes:

If URL parameters are being used in the REST call to pass in form field data, the system variables need to use the '&' encode type. e.g., {&FORM:formfield}.

If you request the results to be returned in JSON format AND have mapped to individual form fields, **an XPATH expression is still required** when defining the mapping between the results and form field (Typically JSONPath expressions are used with JSON). Further, depending on the JSON string, a double slash may be required in the expression when specifying the JSON identifier, because the JSON string might have translated into an empty root XML node, which would require the double slash. So, if a JSON query with a single slash doesn’t work when you think it should, try prefixing the query with a double slash ("//").”

Fill Fields from Payment Gateway

When “Bank of America – PCG Integrated Web Payments” is the selected Gateway Name, this Custom Task will allow payment transactions to be processed through the Bank of America payment gateway using HTTP POST protocol. For more information on this gateway and its implementation, consult the Bank of America document “Payment Collection Gateway Integrated Web Payments HTTP POST API – Gateway Solutions User Guide v2.7.4”.

Gateway Configuration

There are a number of gateway configuration values that must be set as described below to properly work with Process Director. Please contact Bank of America to ensure the following values are set.

- Perform Session Notification: Yes
- Void Transaction When Session Notification Fails: Yes
- Notify on Each Attempt: No
- Redirect On Success: Yes
- Redirect On Failure: Yes

There are a number of features that must be properly configured at the gateway for this Custom Task to perform as expected. Please contact Bank of America to ensure your requirements on these settings are met.

- **Gateway Locale:** English is the gateway’s default locale. If you wish to use Spanish, you must include it in your requirements to Bank of America, and ensure that Spanish is enabled in their gateway configuration portal.
- **User Defined Data:** If you wish to have user-defined data passed from your payment transaction Form to the gateway, you must include in your requirements to Bank of America that fields “user_defined1” through “user_defined10” are enabled and modifiable. These ten fields are used to pass up to 500 characters each of user-defined data between Process Director and the gateway.
- **Payment Date:** If you wish to receive the payment date from the gateway, you must include it in your requirements to Bank of America.

There are five URLs that are required by the Bank of America payment gateway to be able to communicate with your Process Director implementation. These URLs must be publicly accessible.

- **Request Post (Verification) URL:** https://{your Process Director domain}/payment_processor.aspx
- **Return Post (Notification) URL:** https://{your Process Director domain}/payment_processor.aspx

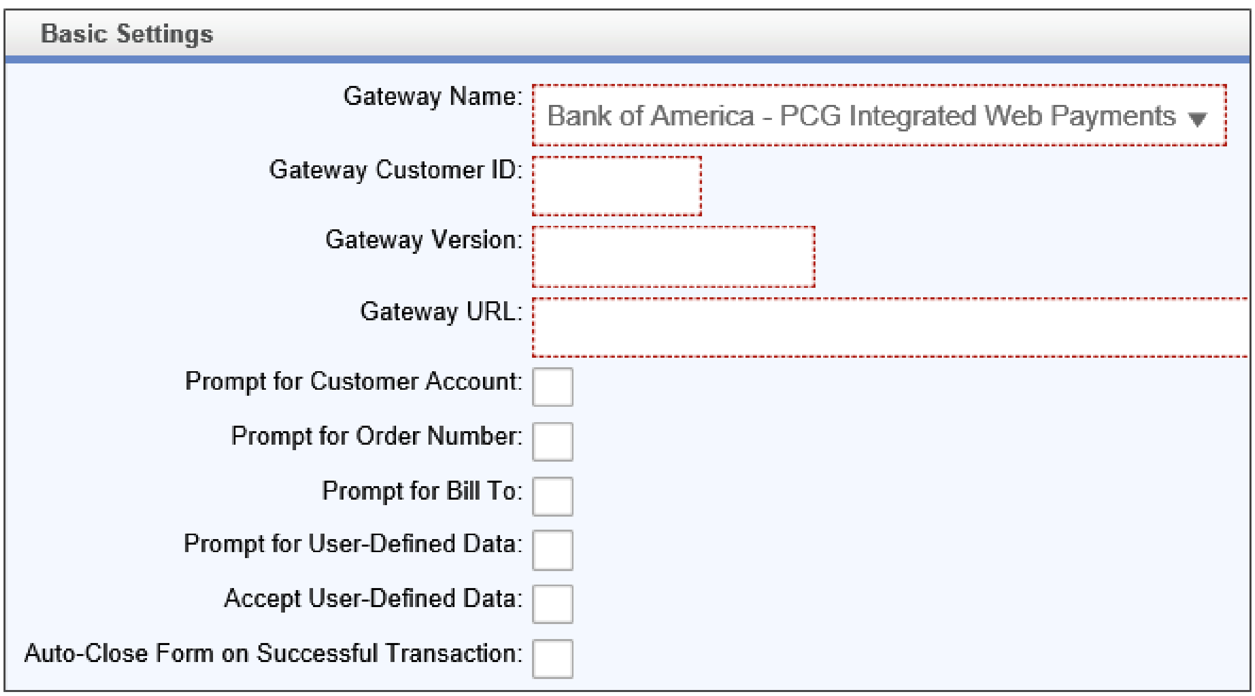
- **Success URL:** https://{your Process Director domain}/payment_processor.aspx?pd_result=success
- **Failure URL:** https://{your Process Director domain}/payment_processor.aspx?pd_result=failure
- **Expired URL:** https://{your Process Director domain}/payment_processor.aspx?pd_result=expired

The use of a secure protocol (https) isn't required when testing with the Bank of America sandbox gateway environment, but is required for the production environment.

Custom Task Configuration

Configuration of this Custom Task is performed from the Custom Task Event Mapping tab of the Form Definition. After selecting the Custom Task, adding it to your Form, and selecting a triggering event, click the Configure button to enter its configuration values.

Basic Settings



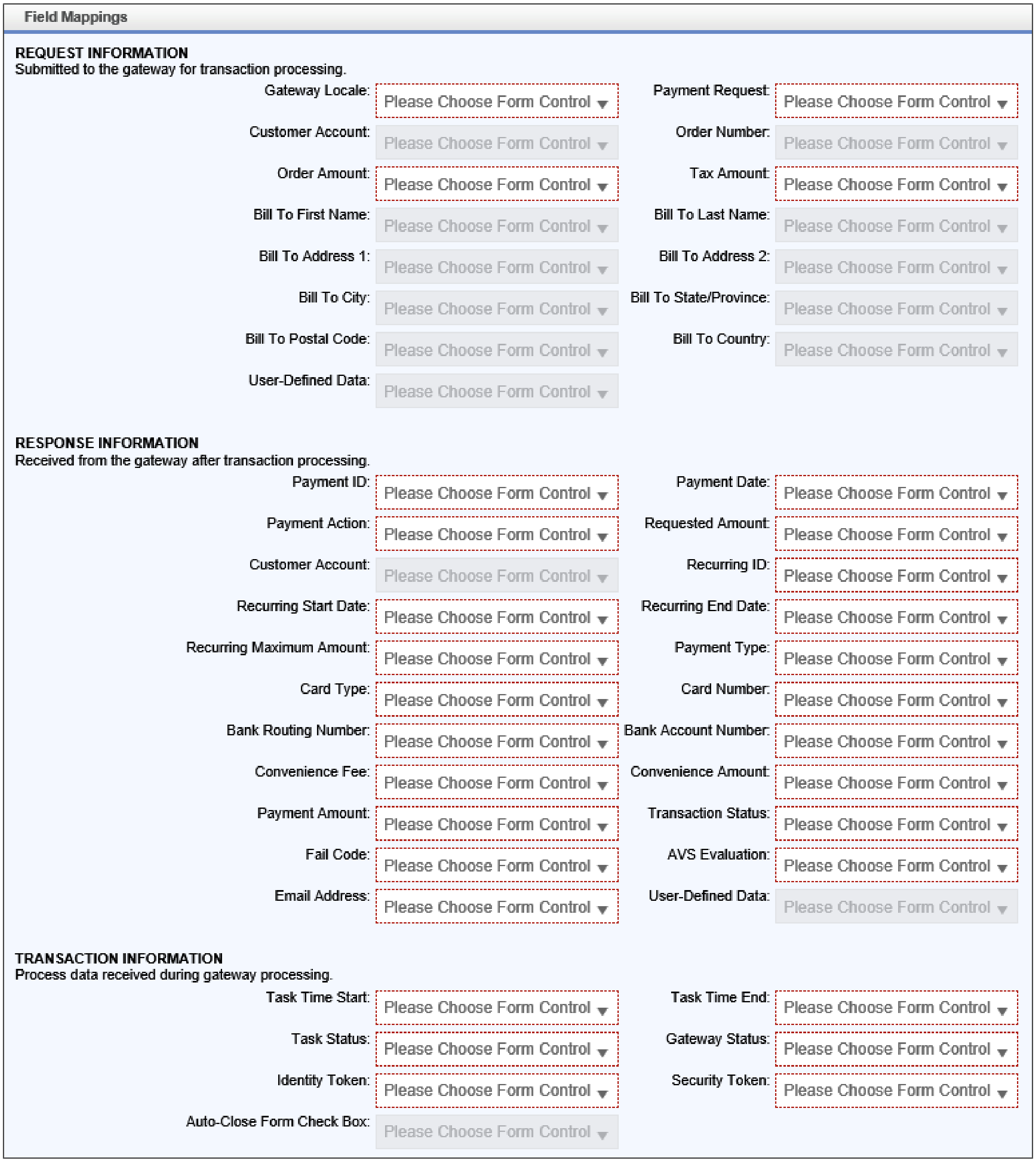
OPTION	DESCRIPTION
Gateway Name	The gateway to use for processing payment

OPTION	DESCRIPTION
	transactions. Entry of this field is required. Its default value is “Bank of America – PCG Integrated Web Payments”.
Gateway Customer ID	The customer identity code required by the gateway. Entry of this field is required. There is no default value. The value to enter in this field must be acquired from Bank of America. (The gateway “application_id” parameter.)
Gateway Version	The release version of the gateway software. Entry of this field is required. There is no default value. The value to enter in this field must be acquired from Bank of America. (The gateway “message_version” parameter.)
Gateway URL	The URL of the gateway. Valid values are the URL of the sandbox gateway environment, or the production gateway environment. Both of these URLs must be acquired from Bank of America. Entry of this field is required. There is no default value. (The “action” of the form when the gateway.)
Prompt for Customer Account	Check this box to pass a “Customer Account” field to the gateway for inclusion in the payment transaction. Entry of this field isn't required, as passing a customer account to the gateway isn't required, but may be desirable. The default value is unchecked.
Prompt for Order Number	Check this box to pass an “Order Number” field to the gateway for inclusion in the payment transaction. Entry of this field isn't required, as passing an order number to the gateway isn't required, but may be desirable. The default value is unchecked.

OPTION	DESCRIPTION
	If an order number isn't provided, the gateway will use its Payment ID as an order number when processing the transaction.
Prompt for Bill To	Check this box to pass “Bill To” name and address information to the gateway, which is then used to populate the gateway payment page. Entry of this field isn't required, as passing the bill to information to the gateway isn't required, but may be desirable. The default value is unchecked.
Prompt for User-Defined Data	Check this box to pass a “User-Defined Data” field from the payment transaction Form to the gateway for inclusion in the payment transaction. Entry of this field isn't required, as passing user-defined data to the gateway isn't required, but may be desirable. The default value is unchecked.
Accept Payment Date	Check this box to capture the payment date from the gateway, and save it in the payment transaction Form. Entry of this field isn't required, as capturing the payment date from the gateway isn't required, but may be desirable. The default value is unchecked.
Accept User-Defined Data	Check this box to capture the user-defined data from the gateway, and save it in the payment transaction Form. Entry of this field isn't required, as capturing the user-defined data from the gateway isn't required, but may be desirable. The default value is unchecked.

OPTION	DESCRIPTION
Auto-Close Form on Successful Transaction	Check this box to automatically close your payment transaction Form upon successful completion of a payment transaction. Entry of this field isn't required. The default value is unchecked. If you check this box, you'll need to modify and use the Sample Payment Processing Form Script. (See the Auto-Close Form on Successful Transaction section below for details.)

Field Mappings



Request Information

You'll notice that there are some fields in the screen shot above that are disabled. Those fields are conditionally disabled based upon the selections made in the Basic Settings and Advanced Settings sections. For example, the Customer Account field is disabled when the “Prompt for Customer Account” field in Basic Settings is unchecked.

OPTION	DESCRIPTION
Gateway Locale	Maps a Drop-Down List control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Gateway Locale” in Advanced Settings is “Select at Runtime”. There is no default value. (This is the gateway “language” parameter.) **The Drop-Down List control on the parent Form must have values that are recognized by the Custom Task. Refer to “Request Information – Gateway Locale” in the Runtime Operation section of this document for a list of valid values.**
Payment Request	Maps a Drop-Down List control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payment Request” in Advanced Settings is “Select at Runtime”. There is no default value. (This is the gateway “action_type” parameter.) **The Drop-Down List control on the parent Form must have values that are recognized by the Custom Task. Refer to “Request Information – Payment Request” in the Runtime Operation section of this document for a list of valid**

OPTION	DESCRIPTION
	values.
Customer Account	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for Customer Account" is checked. There is no default value. (This is the gateway "client_account_number" parameter.)
Order Number	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for Order Number" is checked. There is no default value. (This is the gateway "order_number" parameter.) **The data of this field is used only for processing the transaction. It doesn't appear in the response, or in the gateway-generated receipt.**
Order Amount	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (The gateway "amount" parameter.)
Tax Amount	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway "tax_amount" parameter.)

OPTION	DESCRIPTION
	The data of this field is used only for processing the transaction. It doesn't appear in the response, or in the gateway-generated receipt.
Bill To First Name	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for Bill To" is checked. There is no default value. (The gateway "billing_firstname" parameter.)
Bill To Address 1	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for Bill To" is checked. There is no default value. (This is the gateway "billing_address" parameter.)
Bill To Address 2	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for Bill To" is checked. There is no default value. (This is the gateway "billine_address2" parameter.)
Bill To City	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for Bill To" is checked. There is no default value. (This is the gateway "billing_city" parameter.)
Bill To State/Province	Maps a Drop-Down List control on the payment transaction Form to its corresponding

OPTION	DESCRIPTION
	Custom Task control. Entry of this field is required only when “Prompt for Bill To” is checked. There is no default value. (This is the gateway “billing_state” parameter.) **The Drop-Down List control on the parent Form must have values that correspond to the states and provinces that we support. You should include in your Drop-Down List control only those states and provinces that you require. Refer to “Request Information – Bill To State/Province” in the Runtime Operation section of this document for a list of state/province names and codes.**
Bill To Postal Code	Maps a Drop-Down List control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Prompt for Bill To” is checked. There is no default value. (This is the gateway “billing_zip” parameter.)
Bill To Country	Maps a Drop-Down List control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Prompt for Bill To” is checked. There is no default value. (This is the gateway “billing_country_id” parameter.) **The Drop-Down List control on the parent Form must have values that correspond to the countries that we sup-**

OPTION	DESCRIPTION
	port. You should include in your Drop-Down List control only those countries that you require. Refer to "Request Information – Bill To Country" in the Runtime Operation section of this document for a list of country names and codes.
User-Defined Data	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Prompt for User-Defined Data" is checked. There is no default value. (These are the gateway "user_defined1" through "user_defined10" parameters, where the data to each parameter is separated by a pipe (|) character.)

Response Information

The fields of this section are received from the gateway after transaction process.

OPTION	DESCRIPTION
Payment ID	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (The gateway "transaction_id" parameter.)
Payment Date	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway "payment_date" parameter.)

OPTION	DESCRIPTION
Payment Action	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payment Request” is “Recurring Payments” or “Select at Runtime”. There is no default value. (This is the gateway “action_sub_type” parameter.)
Requested Amount	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway “amount” parameter.)
Customer Account	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Prompt for Customer Account” is checked. There is no default value. (This is the gateway “client_account_number” parameter.)
Recurring ID	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payment Request” is “Recurring Payments” or “Select at Runtime”. There is no default value. (This is the gateway “payment_plan_id” parameter.)
Recurring Start Date	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payment Request” is “Recurring Payments” or “Select at Runtime”. There is no default value. (This is the gateway “start_date”

OPTION	DESCRIPTION
	parameter.)
Recurring End Date	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payment Request” is “Recurring Payments” or “Select at Runtime”. There is no default value. (This is the gateway “end_date” parameter.)
Recurring Maximum Amount	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payment Request” is “Recurring Payments” or “Select at Runtime”. There is no default value. (This is the gateway “maximum_payment_amount_allowed” parameter.)
Payment Type	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway “payment_type” parameter.)
Card Type	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payments Allowed” is “Card Only” or “Card or Check”. There is no default value. (This is the gateway “card_type” parameter.)
Card Number	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payments Allowed” is “Card Only” or “Card or Check”. There is no default value. (This is the gateway “partial_card_number”

OPTION	DESCRIPTION
	parameter.)
Bank Routing Number	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payments Allowed” is “Check Only” or “Card or Check”. There is no default value. (This is the gateway “routing_transit_number” parameter.)
Bank Account Number	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when “Payments Allowed” is “Check Only” or “Card or Check”. There is no default value. (This is the gateway “partial_acct_number” parameter.)
Convenience Fee	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway “convenience_fee_collected” parameter.)
Convenience Amount	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway “convenience_fee_amount” parameter.)
Payment Amount	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway “total_amount” parameter.)
Transaction Status	Maps a Textbox control on the payment trans-

OPTION	DESCRIPTION
	action Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway "transaction_status" parameter.)
Fail Code	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway "fail_code" parameter.)
AVS Evaluation	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway "avs_response" parameter.)
Email Address	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required. There is no default value. (This is the gateway "email_address" parameter.)
User-Defined Data	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. Entry of this field is required only when "Accept User-Defined Data" is checked. There is no default value. (These are the gateway "user_defined1" through "user_defined10" parameters, where the data from each parameter is separated by a pipe (|) character.)

Transaction Information

The fields of this section are received from the gateway and the Custom Task during gateway processing.

OPTION	DESCRIPTION
Task Time Start	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. This is the date and time the Custom Task instance started processing of the transaction. Entry of this field is required. There is no default value.
Task Time End	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. This is the date and time the Custom Task instance ended processing of the transaction. Entry of this field is required. There is no default value.
Task Status	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. This is a value that represents the final execution status of the Custom Task. Entry of this field is required. There is no default value.
Gateway Status	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. This is a value that represents the final status of the transaction. Valid values are “SUCCESS”, “FAILURE”, or “EXPIRED”. Entry of this field is required. There is no default value.
Identity Token	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. This is a value that is created by Process Director, and is used to uniquely identify each transaction. Entry of this field is required. There is no default value. (This is the gateway “remittance_id” parameter.)

OPTION	DESCRIPTION
Security Token	Maps a Textbox control on the payment transaction Form to its corresponding Custom Task control. This is a value that is created by the Bank of America gateway, and is used to uniquely identify the transaction. Entry of this field is required. There is no default value. (This is the gateway “security_id” parameter.)
Auto-Close Form Check Box	Maps a Check Box control on the payment transaction Form to its corresponding Custom Task control. When this control is enabled, it will be “checked” by Process Director upon successful completion of a financial transaction. This field is required only when the Auto-Close Form on Successful Transaction check box is checked. There is no default value.

To facilitate the form auto-close feature, you must customize the Sample Payment Processing Form Script, and then associate it with your payment transaction Form. You'll find the following instructional text in the BP_Display method of the sample Form script file:

```
// NOTE: You must replace the text "YourControlNameGoesHere"
below with
// the associated control names on your payment transaction
Form.
// When finished, save and upload this script file.

    // The Form Transaction Auto-Close check box control name.
    string FORM_CONTROL_TRANSACTION_AUTO_CLOSE = "YourCon-
trolNameGoesHere";

    // The Form Transaction Task Status input control name.
    string FORM_CONTROL_TRANSACTION_TASK_STATUS = "YourCon-
trolNameGoesHere";

    // The Form Transaction Gateway Status input control name.
    string FORM_CONTROL_TRANSACTION_GATEWAY_STATUS =
```

```
"YourControlNameGoesHere";

    // The Form Response Transaction Status input control
name.
    string FORM_CONTROL_RESPONSE_TRANSACTION_STATUS = "YourCon-
trolNameGoesHere";

    // The Form Response Fail Code input control name.
    string FORM_CONTROL_RESPONSE_FAIL_CODE = "YourCon-
trolNameGoesHere";
```

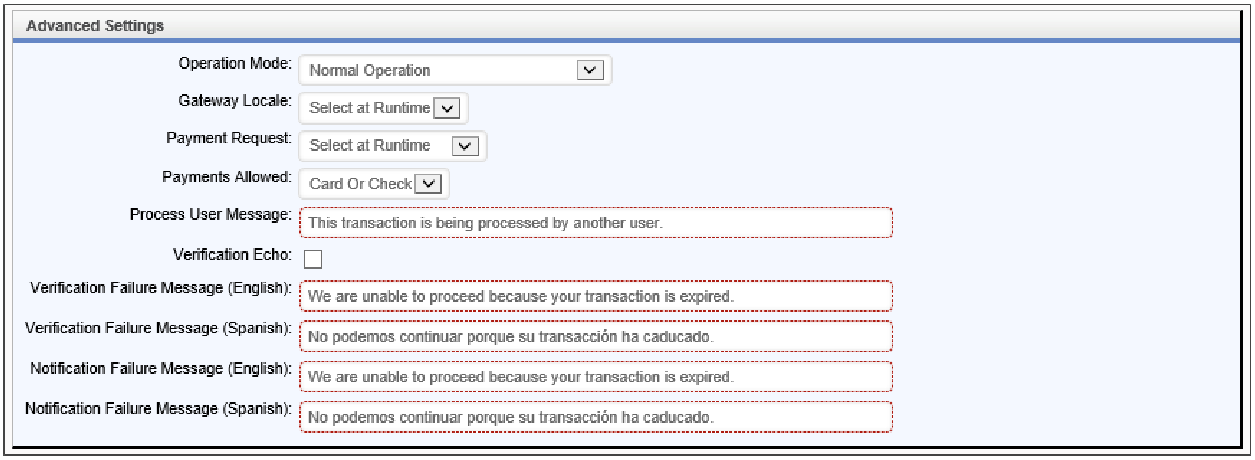
Process Director will automatically populate these controls on your payment transaction Form at the conclusion of the payment transaction. A successful transaction is one that has these values:

- Transaction Task Status = COMPLETED
- Transaction Gateway Status = SUCCESS
- Response Transaction Status = SUCCESS
- Response Fail Code = APPROVED

Upon completion of the financial transaction, if the control values indicate a successful transaction, the sample Form script will automatically save the form, and close the Form. If the Form is running within a Timeline Activity, it will complete that activity with a result of “Payment Completed”.

You may capture this result by specifying “Payment Completed” as a valid result in your Timeline Activity, and setting the “Show this result button when” condition to a value that is never true.

Advanced Settings



OPTION	DESCRIPTION
Operation Mode	Selects the operational mode of the Custom Task, which can be “Normal Operation”, or any of a number of gateway-specific test conditions. This shouldn't be changed unless you are testing of a specific error condition. The default choice is “Normal Operation”.
Gateway Locale	Identifies the locale (language and country) to be used by the gateway when presenting payment information. Valid choices are “English”, “Spanish”, or “Select at Runtime”. If “Select at Runtime” is selected, the payment transaction Form must include a Drop-Down List control that is mapped to “Request Gateway Locale”. (See “Request Gateway Locale” above for details.) The default choice is “Select at Runtime”. (This is the gateway “language” parameter.)
Payment Request	Identifies the type of payment that can be made, and the required control mapping. Valid choices are “One-Time Payment”, “Recurring Payments”, or “Select at Runtime”. If

OPTION	DESCRIPTION
	“Select at Runtime” is selected, the payment transaction Form must include a Drop-Down List control that is mapped to “Request Payment Request”. (See “Request Payment Request” above for details.) The default choice is “Select at Runtime”. (This is the gateway “action_type” parameter.)
Payments Allowed	Identifies whether bank and/or credit control mapping is required. Valid choices are “Card or Check”, “Card Only”, or “Check Only”. The default choice is “Card or Check”.
Process User Message	The error message that the Custom Task will display when another user has started processing the same transaction. Entry of this field is required. The default value is “This transaction is being processed by another user.”
Verification Echo	Determines if the Bank of America gateway will issue a Notification message on a failed Verification message. When checked, a Verification message is issued on a failed Notification message. The default value is unchecked. (We recommend that you leave this field unchecked.)
Verification Failure Message (English)	The message that the Bank of America gateway presents on its user interface when “Redirect On Failure” is set to “No”, “Gateway Locale” is set to “English”, and a transaction verification failure occurs. Entry of this field is required. The default value is “We are unable to proceed because your transaction is expired.” (This is the gateway “user_message”

OPTION	DESCRIPTION
	parameter.)
Verification Failure Message (Spanish)	The message that the Bank of America gateway presents on its user interface when “Redirect On Failure” is set to “No”, “Gateway Locale” is set to “Spanish”, and a transaction verification failure occurs. Entry of this field is required. The default value is “No podemos continuar porque su transacción ha caducado.” (This is the gateway “user_message” parameter.)
Notification Failure Message (English)	The message that the Bank of America gateway presents on its user interface when “Redirect On Failure” is set to “No”, “Gateway Locale” is set to “English”, and a transaction notification failure occurs. Entry of this field is required. The default value is “We are unable to proceed because your transaction is expired.” (This is the gateway “user_message” parameter.)
Notification Failure Message (Spanish)	The message that the Bank of America gateway presents on its user interface when “Redirect On Failure” is set to “No”, “Gateway Locale” is set to “Spanish”, and a transaction notification failure occurs. Entry of this field is required. The default value is “No podemos continuar porque su transacción ha caducado.” (This is the gateway “user_message” parameter.)

Custom Task Runtime Operation

The Fill Fields from Payment Gateway Custom Task is designed to be called only from a payment transaction Form.The Custom Task automatically saves the form before it connects with the payment gateway, thereby making the form unable to trigger a Process Timeline. In addition, when control returns to the form after the payment transaction, the form is no longer a “new form instance”, as it’s already been saved.

At runtime, this Custom Task will expect a number of Process Director controls to exist on the payment transaction Form from which it is being called. The exact number of controls will depend upon your Custom Task configuration.

Payment Transaction Form Controls

The following fields require controls to exist on your payment transaction Form:

Request Information

- Order Amount
- Tax Amount

Response Information

- Payment ID
- Payment Date
- Requested Amount
- Payment Type
- Convenience Fee
- Convenience Amount
- Payment Amount
- Transaction Status
- Fail Code
- AVS Evaluation
- Email Address

Transaction Information

- Task Time Start
- Task Time End
- Task Status
- Gateway Status
- Identity Token
- Security Token

The following fields may require controls to exist on your payment transaction Form depending upon the configuration of your Custom Task:

Request Information

- Gateway Locale (required when Advanced Settings – Gateway Locale is “Select at Runtime”)
- Payment Request (required when Advanced Settings – Payment Request is “Select at Runtime”)
- Customer Account (required when Basic Settings – Prompt for Customer Account is checked)
- Order Number (required when Basic Settings – Prompt for Order Number is checked)
- Bill To First Name (required when Basic Settings – Prompt for Bill To is checked)
- Bill To Last Name (required when Basic Settings – Prompt for Bill To is checked)
- Bill To Address 1 (required when Basic Settings – Prompt for Bill To is checked)
- Bill To Address 2 (required when Basic Settings – Prompt for Bill To is checked)
- Bill To City (required when Basic Settings – Prompt for Bill To is checked)
- Bill To State/Province (required when Basic Settings – Prompt for Bill To is checked)
- Bill To Postal Code (required when Basic Settings – Prompt for Bill To is checked)
- Bill To Country (required when Basic Settings – Prompt for Bill To is checked)
- User-Defined Data (required when Basic Settings – Prompt for User-Defined Data is checked)

Response Information

- Payment Action (required for Recurring Payments)
- Customer Account (required when Basic Settings – Prompt for Customer Account is checked)
- Recurring ID (required for Recurring Payments)
- Recurring Start Date (required for Recurring Payments)
- Recurring End Date (required for Recurring Payments)
- Recurring Maximum (required for Recurring Payments)
- Card Type (required for Card payments)
- Card Number (required for Card payments)
- Bank Routing Number (required for Check payments)
- Bank Account Number (required for Check payments)

- User-Defined Data (required when Basic Settings – Accept User-Defined Data is checked)

Request Information – Gateway Locale

If you've configured the Custom Task to prompt the user for the locale ("English" or "Spanish") that should be used by the gateway, your payment transaction Form must include a Drop-Down List control that includes these two choices, where the value of "English" is "en-US", and the value of "Spanish" is "es-MX".

Request Information – Payment Request

If you've configured the Custom Task to prompt the user for the type of payment request to be submitted ("One-Time Payment" or "Recurring Payments"), your payment transaction Form must include a Drop-Down List control that includes these two choices, where the value of "One-Time Payment" is "1", and the value of "Recurring Payments" is "2".

Request Information – Bill To State/Province

If you've configured the Custom Task to prompt for "Bill To" information, your payment transaction Form must include a Drop-Down List control for selection of a state or province. These state or province values are only valid for the countries of United States and Canada. When any other country is selected, the Bill To State/Province control must have a value of "XX". The valid list of states and provinces, with both display and data values, is specified below.

State/Province (Text)	Code (Value)	State/Province (Text)	Code (Value)
NO STATE/PROVINCE	XX	New Hampshire	NH
Alabama	AL	New Jersey	NJ
Alaska	AK	New Mexico	NM
American Samoa	AS	New York	NY
Arizona	AZ	North Carolina	NC
Arkansas	AR	North Dakota	ND
Armed Forces Africa	AE	Northern Mariana Islands	MP

State/Province (Text)	Code (Value)	State/Province (Text)	Code (Value)
Armed Forces Americas	AA	Ohio	OH
Armed Forces Canada	AE	Oklahoma	OK
Armed Forces Europe	AE	Oregon	OR
Armed Forces Middle East	AE	Palau	PW
Armed Forces Pacific	AP	Pennsylvania	PA
California	CA	Puerto Rico	PR
Colorado	CO	Rhode Island	RI
Connecticut	CT	South Carolina	SC
Delaware	DE	South Dakota	SD
Dist. of Columbia	DC	Tennessee	TN
Federated States of Micronesia	FM	Texas	TX
Florida	FL	Utah	UT
Georgia	GA	Vermont	VT
Guam	GU	Virgin Islands	VI
Hawaii	HI	Virginia	VA
Idaho	ID	Washington	WA
Illinois	IL	West Virginia	WV
Indiana	IN	Wisconsin	WI
Iowa	IA	Wyoming	WY
Kansas	KS	Alberta	AB
Kentucky	KY	British Columbia	BC

State/Province (Text)	Code (Value)	State/Province (Text)	Code (Value)
Louisiana	LA	Manitoba	MB
Maine	ME	New Brunswick	NB
Marshall Islands	MH	Newfoundland and Labrador	NF
Maryland	MD	Northwest Territories	NT
Massachusetts	MA	Nova Scotia	NS
Michigan	MI	Nunavut	NU
Minnesota	MN	Ontario	ON
Mississippi	MS	Prince Edward Island	PE
Missouri	MO	Quebec	QC
Montana	MT	Saskatchewan	SK
Nebraska	NE	Yukon	YT
Nevada	NV		

Request Information – Bill To Count

If you've configured the Custom Task to prompt for “Bill To” information, your payment transaction Form must include a Drop-Down List control for selection of a country. The valid list of countries, with both display and data values, is specified below.

Country (Text)	Code (Value)	Country (Text)	Code (Value)
Afghanistan	AF	Lesotho	LS
Aland Islands	AX	Liberia	LR
Albania	AL	Libya	LY
Algeria	DZ	Liechtenstein	LI
American Samoa	AS	Lithuania	LT

Country (Text)	Code (Value)	Country (Text)	Code (Value)
Andorra	AD	Luxembourg	LU
Angola	AO	Macao	MO
Anguilla	AI	Macedonia	MK
Antarctica	AQ	Madagascar	MG
Antigua and Barbuda	AG	Malawi	MW
Argentina	AR	Malaysia	MY
Armenia	AM	Maldives	MV
Aruba	AW	Mali	ML
Australia	AU	Malta	MT
Austria	AT	Marshall Islands	MH
Azerbaijan	AZ	Martinique	MQ
Bahamas	BS	Mauritania	MR
Bahrain	BH	Mauritius	MU
Bangladesh	BD	Mayotte	YT
Barbados	BB	Mexico	MX
Belarus	BY	Micronesia	FM
Belgium	BE	Moldova	MD
Belize	BZ	Monaco	MC
Benin	BJ	Mongolia	MN
Bermuda	BM	Montenegro	ME
Bhutan	BT	Montserrat	MS
Bolivia	BO	Morocco	MA
Bonaire	BQ	Mozambique	MZ
Bosnia Herzegovina	BA	Myanmar	MM
Botswana	BW	Namibia	NA
Bouvet Island	BV	Nauru	NR

Country (Text)	Code (Value)	Country (Text)	Code (Value)
Brazil	BR	Nepal	NP
British Indian Ocean Territory	IO	Netherlands	NL
British Virgin Islands	VG	New Caledonia	NC
Brunei Darussalam	BN	New Zealand	NZ
Bulgaria	BG	Nicaragua	NI
Burkina Faso	BF	Niger	NE
Burundi	BI	Nigeria	NG
Côte d'Ivoire	CI	Niue	NU
Cambodia	KH	Norfolk Island	NF
Cameroon	CM	Northern Mariana Islands	MP
Canada	CA	Norway	NO
Cape Verde	CV	Oman	OM
Cayman Islands	KY	Pakistan	PK
Central African Republic	CF	Palau	PW
Chad	TD	Palestine	PS
Chile	CL	Panama	PA
China	CN	Papua New Guinea	PG
Christmas Island	CX	Paraguay	PY
Cocos (Keeling Islands	CC	Peru	PE
Colombia	CO	Philippines	PH
Comoros	KM	Pitcairn	PN
Congo	CG	Poland	PL
Cook Islands	CK	Portugal	PT
Costa Rica	CR	Puerto Rico	PR
Croatia	HR	Qatar	QA

Country (Text)	Code (Value)	Country (Text)	Code (Value)
Cuba	CU	Reunion	RE
Curaçao	CW	Romania	RO
Cyprus	CY	Russian Federation	RU
Czech Republic	CZ	Rwanda	RW
Democratic Republic of the Congo	CD	Saint Barthalemy	BL
Denmark	DK	Saint Helena	SH
Djibouti	DJ	Saint Kitts and Nevis	KN
Dominica	DM	Saint Lucia	LC
Dominican Republic	DO	Saint Martin (French)	MF
Ecuador	EC	Saint Pierre and Miquelon	PM
Egypt	EG	Saint Vincent and the Grenadines	VC
El Salvador	SV	Samoa	WS
Equatorial Guinea	GQ	San Marino	SM
Eritrea	ER	Sao Tome and Principe	ST
Estonia	EE	Saudi Arabia	SA
Ethiopia	ET	Senegal	SN
Falkland Islands (Malvinas	FK	Serbia	RS
Faroe Islands	FO	Seychelles	SC
Fiji	FJ	Sierra Leone	SL
Finland	FI	Singapore	SG
France	FR	Saint Maarten (Dutch)	SX
French Guiana	GF	Slovakia	SK
French Polynesia	PF	Slovenia	SI
French Southern Territories	TF	Solomon Islands	SB

Country (Text)	Code (Value)	Country (Text)	Code (Value)
Gabon	GA	Somalia	SO
Gambia	GM	South Africa	ZA
Georgia	GE	South Georgia, South Sandwich Islands	GS
Germany	DE	South Sudan	SS
Ghana	GH	Spain	ES
Gibraltar	GI	Sri Lanka	LK
Greece	GR	Sudan	SD
Greenland	GL	Suriname	SR
Grenada	GD	Svalbard and Jan Mayen	SJ
Guadeloupe	GP	Swaziland	SZ
Guam	GU	Sweden	SE
Guatemala	GT	Switzerland	CH
Guernsey	GG	Syrian Arab Republic	SY
Guinea	GN	Taiwan	TW
Guinea-Bissau	GW	Tajikistan	TJ
Guyana	GY	Thailand	TH
Haiti	HT	Timor-Leste	TL
Heard Island and McDonald Islands	HM	Togo	TG
Holy See (Vatican City State)	VA	Tokelau	TK
Honduras	HN	Tonga	TO
Hong Kong	HK	Trinidad and Tobago	TT
Hungary	HU	Tunisia	TN
Iceland	IS	Turkey	TR
India	IN	Turkmenistan	TM

Country (Text)	Code (Value)	Country (Text)	Code (Value)
Indonesia	ID	Turks and Caicos Islands	TC
Iran	IR	Tuvalu	TV
Iraq	IQ	Uganda	UG
Ireland	IE	Ukraine	UA
Isle of Man	IM	United Arab Emirates	AE
Israel	IL	United Kingdom	GB
Italy	IT	United Republic of Tanzania	TZ
Jamaica	JM	United States	US
Japan	JP	United States Minor Outlying Islands	UM
Jersey	JE	Uruguay	UY
Jordan	JO	US Virgin Islands	VI
Kazakhstan	KZ	Uzbekistan	UZ
Kenya	KE	Vanuatu	VU
Kiribati	KI	Venezuela	VE
Korea	KP	Viet Nam	VN
Korea	KR	Wallis and Futuna	WF
Kuwait	KW	Western Sahara	EH
Kyrgyzstan	KG	Yemen	YE
Lao People's Democratic Republic	LA	Zambia	ZM
Latvia	LV	Zimbabwe	ZW
Lebanon	LB		

Request Information – User-Defined Data

If you've configured the Custom Task to prompt for user-defined data, your payment transaction Form must include a Textbox control for this text value. The maximum length of the user-defined data is 5,000 characters, as this gateway supports

10 user-defined fields of up to 500 characters each. To place specific data into specific user-defined fields, you must separate the data with a pipe (|) character. For example, if you intend to populate the first three gateway user-defined fields with the values of the controls “Field1”, “Field2”, and “Field3” on your payment transaction Form, you'll populate the User-Defined Data field on your payment transaction Form with a Set Form Data field that sets the User-Defined Data control value to the string “{:Field1}|{:Field2}|{:Field3}”, where the pipe (|) character separates each field value.

Response Information – Payment Type

The type of payment used will be indicated in the Payment Type control:

- CREDIT/DEBIT = A credit or debit card was used
- PERSONAL CHECK = A personal check was used
- BUSINESS CHECK = A business check was used

Response Information – Response Card Type

When a card is used to make a payment, the following values will be seen in the Card Type control:

- AMEX = American Express
- DISC_NOV = Discover / Novus
- MC = MasterCard
- MC_DBT = MasterCard Debit
- VISA = Visa
- VISA_DBT = Visa Debit

Response Information – User-Defined Data

If you've configured the Custom Task to accept user-defined data, your payment transaction Form must include a Textbox control for this text value. The maximum length of the user-defined data is 5,000 characters, as this gateway supports 10 user-defined fields of up to 500 characters each. As data is read from each gateway user-defined field, it is concatenated to the one User-Defined Data control on your payment transaction Form, where each field is separated by a pipe (|) character. For example, if you intend to accept data from the first three gateway user-defined fields (“user_defined1”, “user_defined2”, and “user_defined3”), at the conclusion of the transaction the User-Defined Data control on your payment transaction

Form will contain the string "user_defined1|user_defined2|user_defined3", where the pipe (|) character separates each field value.

Transaction Response Analysis

Determining the success or failure of a payment transaction, and the cause of a failure when it occurs, depends upon the values held in several controls on your payment transaction Form at the conclusion of payment processing. Here are a few guidelines to assist in making your determination.

When a successful transaction occurs, you'll typically see all of the following:

1. Transaction Task Status = "COMPLETED"
2. Transaction Gateway Status = "SUCCESS"
3. Response Transaction Status = "SUCCESS"
4. Response Fail Code = "APPROVED"
5. Response AVS Evaluation = "ADDRESS MATCH, POSTAL CODE MATCH", "ADDRESS MATCH, NO POSTAL CODE MATCH", or "NO ADDRESS MATCH, POSTAL CODE MATCH"

When an unsuccessful transaction occurs, you may see one or more of the following:

1. Transaction Task Status = "PROCESSING STOPPED: Mode=Operation Mode", where "Operation Mode" could be:
   a. BofA_FailBeforeTableRowAdd
   b. BofA_FailBeforeVerification
   c. BofA_FailDuringVerification
   d. BofA_FailDuringNotification
   e. All of these errors are a result of selecting a test in the Operation Mode configuration control.
2. Transaction Task Status = "PROCESSING STOPPED: Status=Form Status", where "Form Status" could be:
   a. Overwritten: Another user has submitted a payment for the same payment transaction Form instance.
   b. Success: Another user has completed payment for the same payment transaction Form instance.
3. Transaction Gateway Status = "FAILURE"
4. Transaction Gateway Status = "EXPIRED"

5. Response Transaction Status = "FAILURE"
6. Response Fail Code = "DUPLICATE"
7. Response Fail Code = "DECLINED (BOA-code)", where "code" is a Bank of America payment failure code. (See the Bank of America document "Payment Collection Gateway – Testing Information and Checklists – Gateway Solutions User Guide – Version 4.6" for an explanation of the code.)
8. Response Fail Code = "ERROR (BOA-code)", where "code" is a Bank of America payment failure code. (See the Bank of America document "Payment Collection Gateway – Testing Information and Checklists – Gateway Solutions User Guide – Version 4.6" for an explanation of the code.)
9. Response AVS Evaluation = "NO ADDRESS MATCH, NO POSTAL CODE MATCH", or "UNAVAILABLE"

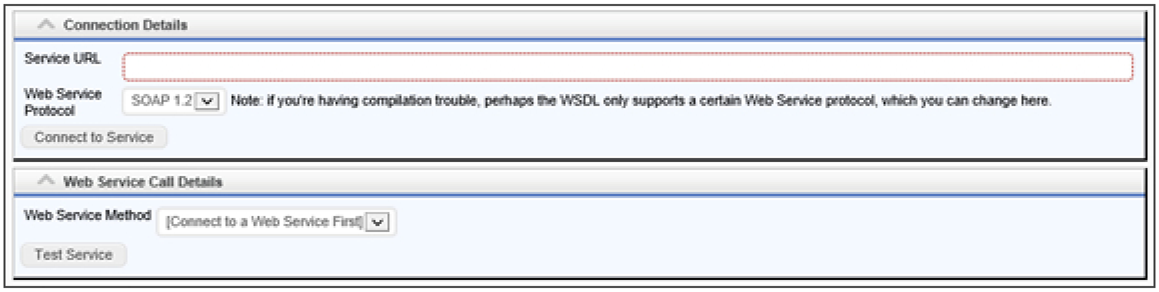
Payment Gateway Demo Application

We have included the Process Director application "Payment Gateway Demo" for your use. It is the application we used during the development of this Custom Task. It presents all possible fields without regard to fields that may be enabled or disabled through Custom Task configuration. The Demo is located in the most recent version of the [Samples] folder that contains the sample files compiled by BP Logix. The Samples are available for download from the Downloads page of the BP Logix Support site.

Fill Fields from Web Service

This Custom Tasks doesn't support WCF web services.

This Custom Form Task will make a Web Service Call, sending data from the running form as inputs to the method.



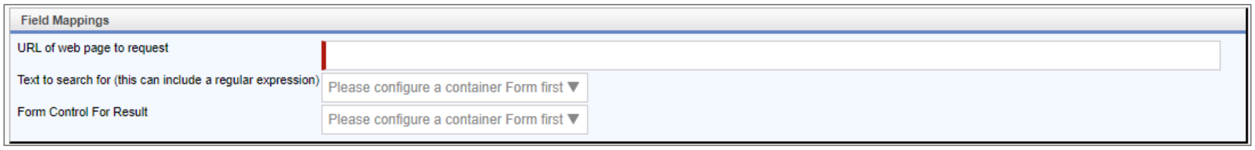
Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
Service URL		The URL of the web service from which the data is to be retrieved.
Web Service Protocol	SOAP, SOAP 1.2	The communications protocol to use for the web service. If you're having compilation trouble, perhaps the WSDL only supports a certain Web Service protocol, which you can change here.
Web Service Method	List of Web Service Methods	This is the list of web service methods that are available through the selected Web Service URL. Different web services will expose different methods.

Once you select a web service method, the appropriate parameters for that web service will appear in the configuration screen. You can then map those parameters to fields from a Form.

Find Text on Web Page

This Custom Form Task will search a specified web page for a specified text string, including a Regular Expression, and return the number of times the search text is found on a web page.



Configuration Options

OPTION	ATTRIBUTES	DESCRIPTION
URL of web page to request		The URL of the web page containing the text to be searched.
Text to Search	Form Control	The field that will supply the search string to look for on the web page.
Form control for result	Form Control	This is the field that will display the number of matches found by the search.

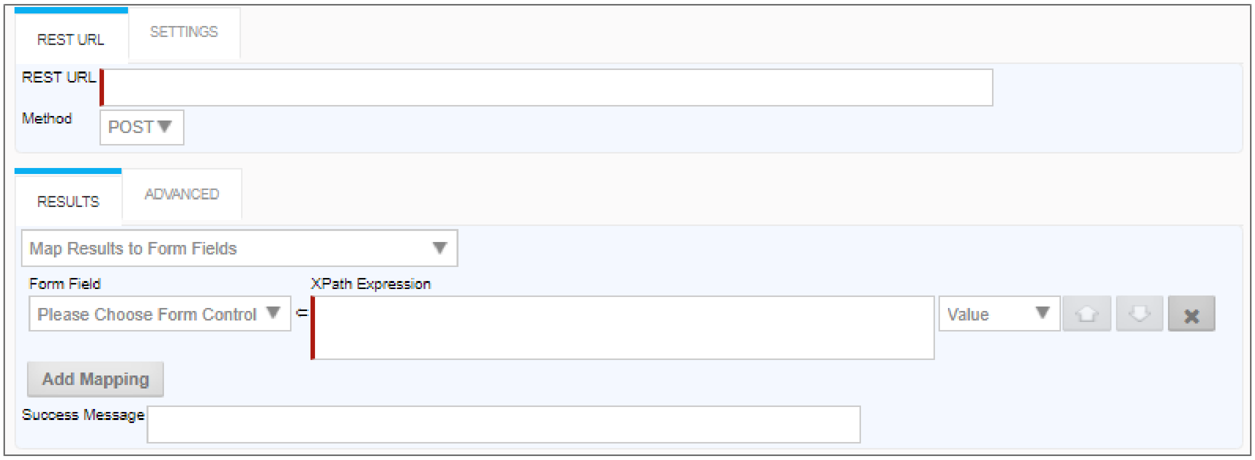
Form Recognizer from REST

This Custom Task is specifically designed for use with the Vaccine Tracking Application. It uses the Form Recognizer component to provide OCR text recognition for Vaccine Cards. It is specifically designed to extract text from Vaccine Card images, and not for general use to fill

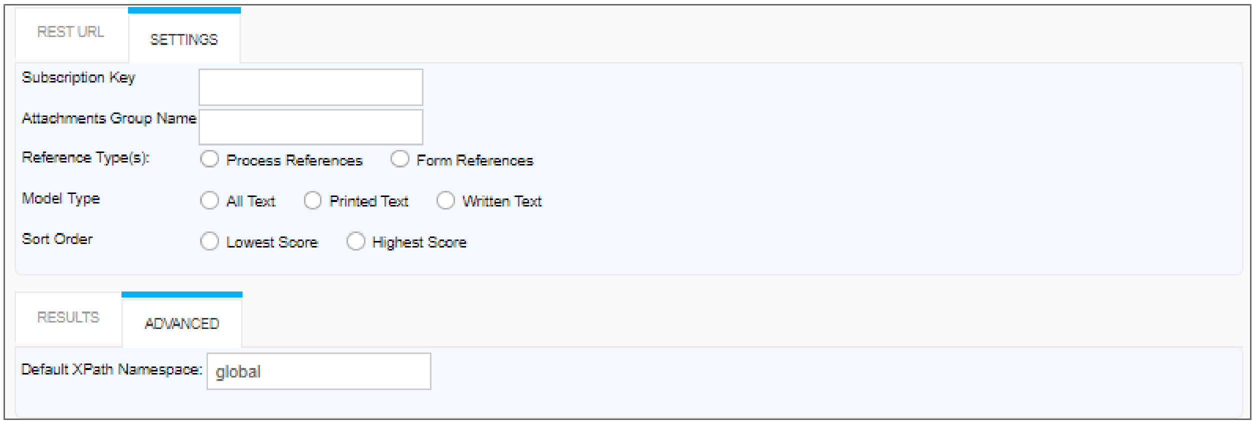
form fields for other use cases. This CT requires a separately-licensed Application Key from BP Logix to access the Form Recognizer.

For Process Director Vaccine Tracking application users, this Form Custom Task can fill multiple fields on a Form with values from the Form Recognizer REST Web Service for Vaccination Cards. You can choose the Form fields and the queries (in XPath) that correspond to data with which to fill the Form fields, or choose to put all of the data into a single Form field. You can also pass data in the URL to the REST Service.

Standard Tabs



Settings/Advanced tabs



Configuration

OPTION	ATTRIBUTES	DESCRIPTION
REST URL TAB		
REST URL		The URL of the REST Service, including the parameters
Method	GET POST PUT PATCH DELETE	The Web method to use to call the REST service.
RESULTS TAB		
Result Mapping Dropdown	Map results to Form Fields Place all data from REST call into a single field Dump Data from REST call into an attachment Dump Result Field from REST call into an attachment	See the Result Tab Options section below for a detailed explanation of each option.
Success Message		A text message to display when the REST call completes successfully.
SETTINGS TAB		
Subscription Key		The Form Recognizer Subscription Key obtained from BP Logix.

OPTION	ATTRIBUTES	DESCRIPTION
Attachments Group Name		An optional Group name to assign to attachments returned by the REST call.
Reference Type(s)	Process References Form References	The type of attachment to include in the REST call for multipart web requests. Additional reference types may be added by clicking the Add Row button; however, if you use a System Variable to specify the attachment in the Body, you should ***not*** use the Add Row button to add additional attachments.
Model Type	All Text Printed Text Written Text	The text model of text you desire to

OPTION	ATTRIBUTES	DESCRIPTION
		return from the Form Recognizer. You can choose to have the OCR interpret all text, just printed text, or only handwritten text.
Sort Order	Lowest Score Highest Score	The sort order, by recognition score, into which the results should be sorted.
ADVANCED TAB		
Default XPath namespace	Global	The default namespace is generally correct.

Result Tab Options
Map results to Form Fields

When this option is selected, the following properties can be configured:

Form Field: The Form field into which to place data from a REST field.

XPath Expression: The XPath expression that specifies the location of a REST field in the XML DOM.

Value Dropdown: The data to place in the field. By default, this is the REST field value, but you can choose to use the Inner or Outer XML from the REST return XML.

Additional Form fields can be added by clicking the Add Mapping button to add a new field.

Place all data from REST call into a single field

When this option is selected, the following properties can be configured:

Form Field: The Form field into which the entire REST response will be placed.

Dump Data from REST call into an attachment

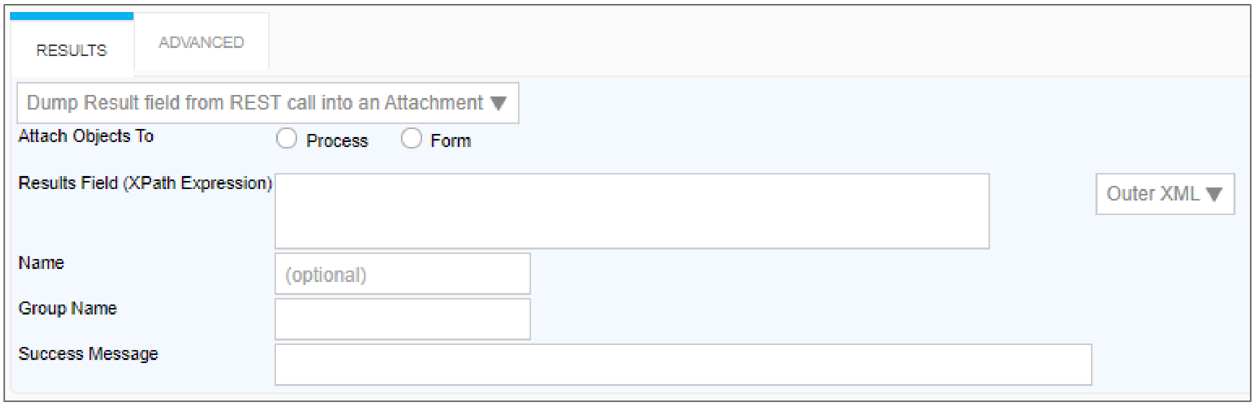
When this option is selected, the following properties can be configured:

Attach Objects to: This property enables you to create either a Form or a Process Attachment from the REST response.

Name: The Name of the attachment file.

Group Name: The desired attachment Group name for the attachment file.

Dump Result Field from REST call into an Attachment



Attach Objects to: This property enables you to create either a Form or a Process Attachment from the REST response.

Results Field (XPATH Expression): The XPATH to the results field. This value can be placed in the Inner or Outer XML, or as a Value by selecting the appropriate value from the dropdown control associated with this property.

Name: The Name of the attachment file.

Group Name: The desired attachment Group name for the attachment file.

Additional Notes:

If URL parameters are being used in the REST call to pass in form field data, the system variables need to use the '&' encode type. e.g., `{&FORM:formfield}`.

If you request the results to be returned in JSON format AND have mapped to individual form fields, **an XPATH expression is still required** when defining the mapping between the results and form field (Typically JSONPath expressions are used with JSON). Further, depending on the JSON string, a double slash may be required in the expression when specifying the JSON identifier, because the JSON string might have translated into an empty root XML node, which would require the double slash. So, if a JSON query with a single slash doesn't work when you think it should, try prefixing the query with a double slash ("//")."

Working With Custom Tasks

Custom Tasks can be used in several ways. While some Custom Tasks can be only be used in a Form or a Process Timeline, most Custom Tasks can be used in both. This section primarily discusses the different use cases in which Custom Tasks can be implemented. Custom Tasks must also imported into your system periodically, as they are updated by BP Logix, which is also discussed in this section of the documentation.

You can navigate to each topic in this section by using the Table of Contents displayed in the upper right corner of the page, or clicking one of the links below.

Custom Tasks in a Process Timeline: How Custom Tasks are configured in a Process Timeline definition.

Custom Tasks in a Form: How Custom Tasks are configured in a Form definition.

Custom Tasks in a Business Rule: How Custom Tasks are configured in a Business Rule definition.

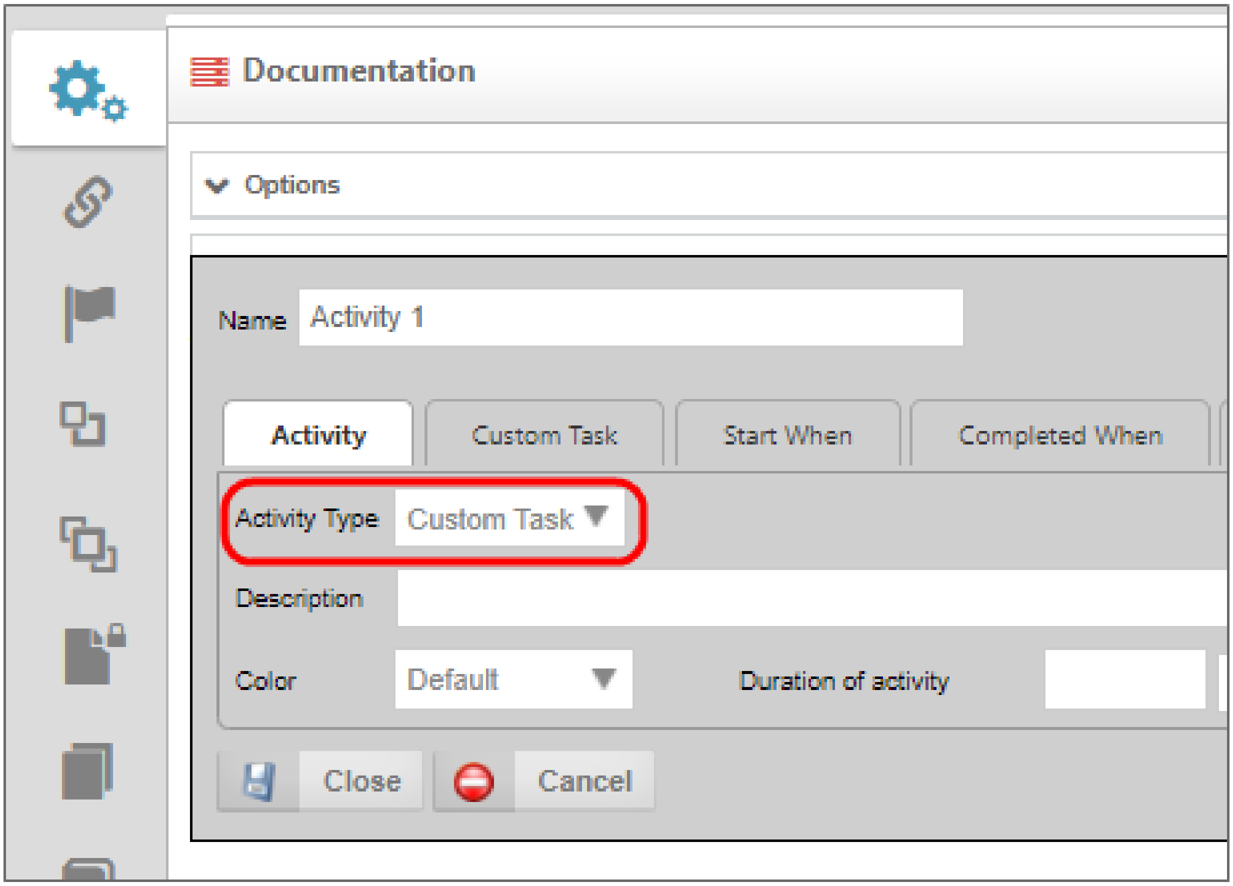
Custom Tasks in a Workflow (Legacy): How Custom Tasks are configured in a Workflow definition.

Importing and Upgrading Custom Tasks: How to import or upgrade Custom Tasks in your Process Director installation.

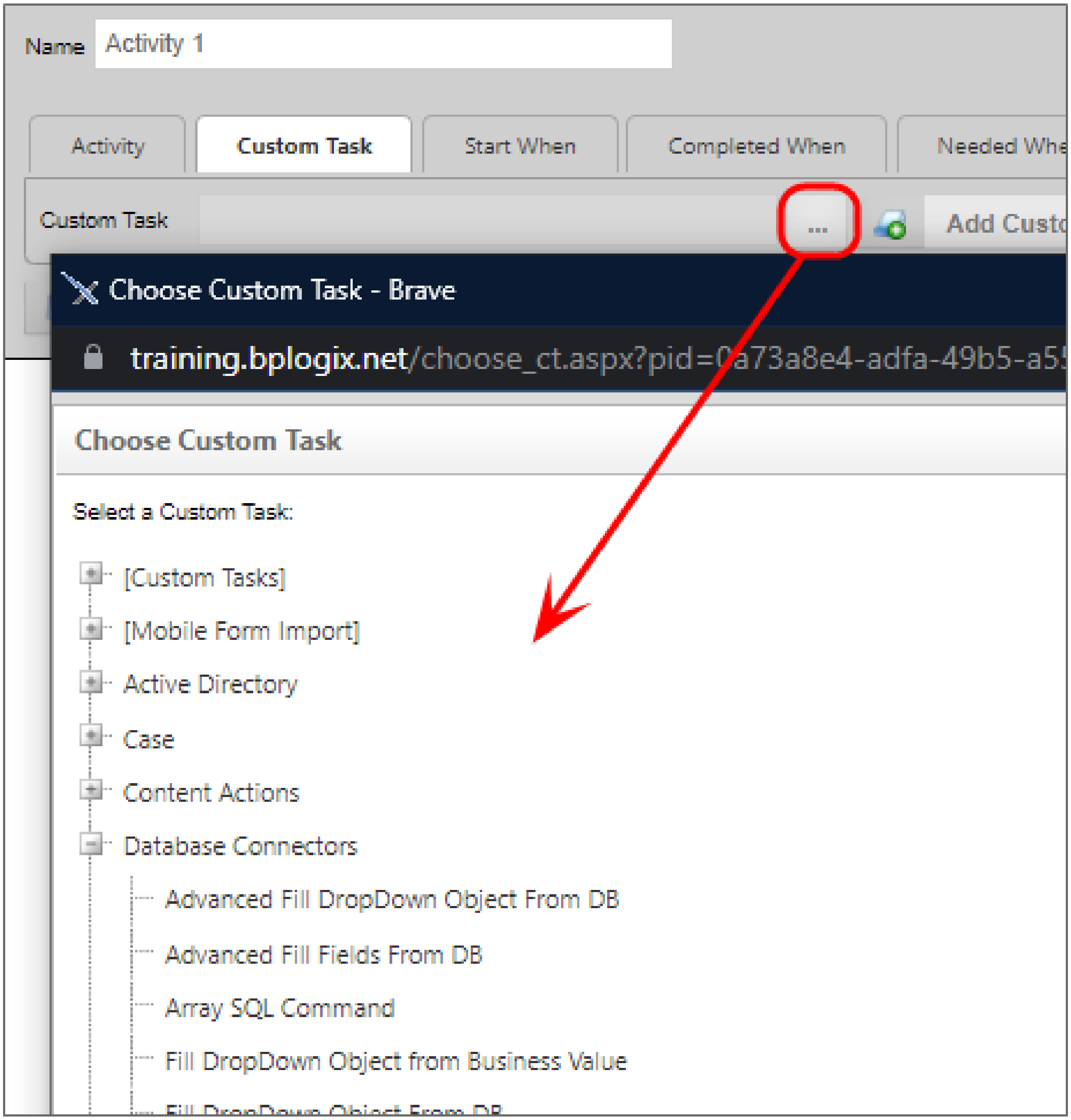
Custom Tasks in a Process Timeline

A Process Timeline Custom Task can be added to a Process Timeline Definition just like a built-in Activity Type. The Process Timeline Custom Task can't have any user participants; they run and then immediately transition to the next activity in the Process Timeline without any user intervention. They are configured similarly to standard task types and must exist in the path/route of the Process Timeline to be executed.

To use a Custom Task in a Process Timeline Definition, select Custom Task from the Activity Type dropdown in the Activity tab.



Then click on the Custom Task tab. Select your Custom Task from the object picker and, once selected, click the Add Custom Task button. This activity will implement the Custom Task when it starts.



Custom Tasks in a Form

Process Director supports the ability to package unique business logic in the Custom Task that can be mapped to Form events (e.g. buttons). This allows custom logic to be developed once with the scripting interfaces and re-used across many Form definitions without any additional scripting. For information on creating Custom Tasks for Form see the Process Director Developer's Guide for more information.

Form Custom Tasks are mapped to Form events. For example, Custom Tasks can cause the display of a Form, or Custom Tasks can be set to respond to a change in Form data. This will cause the Custom Task to be run in the context of the current Form. The Custom Task can view and modify any of the current form data.

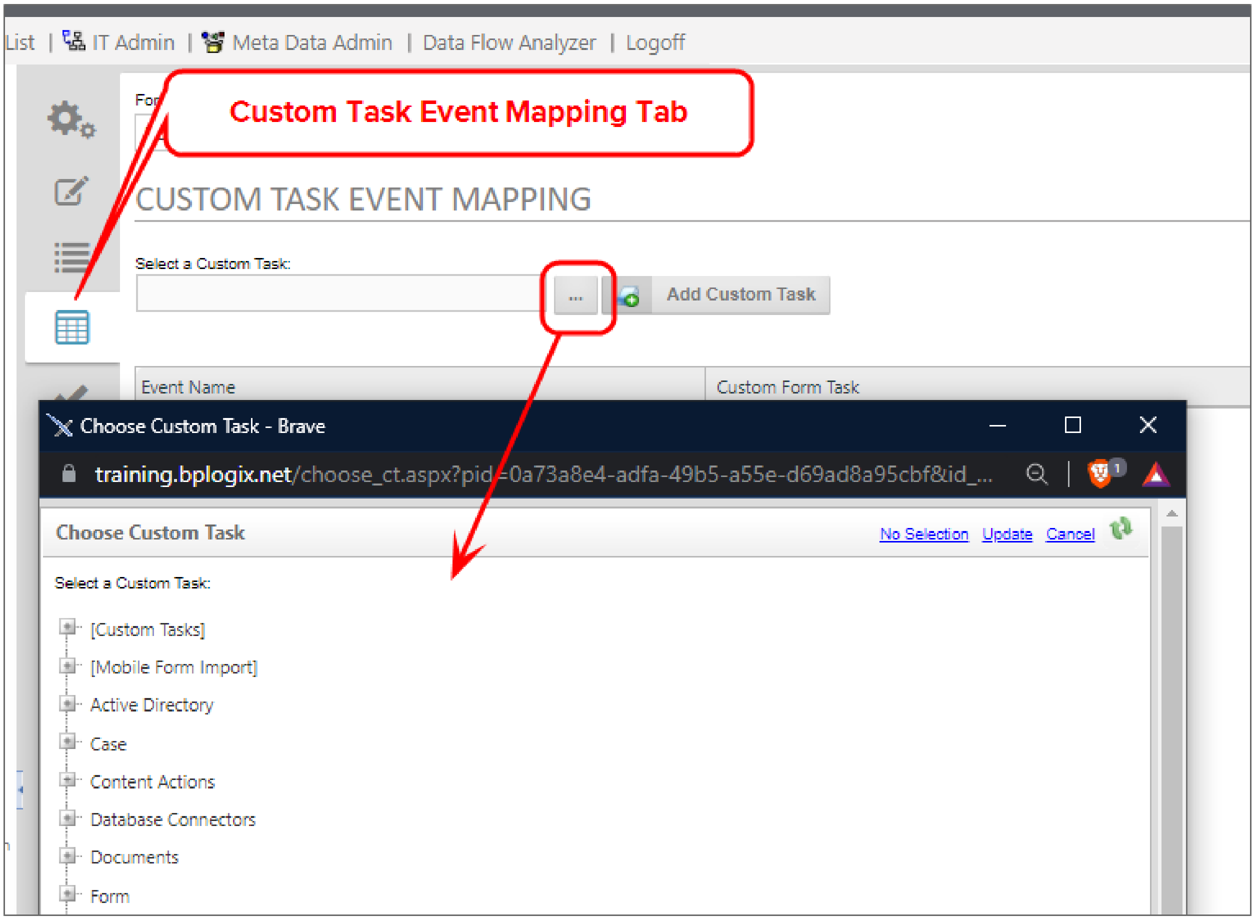
Mapping Custom Tasks to Events

A Custom Task must be associated (mapped) to an event. The following events are available:

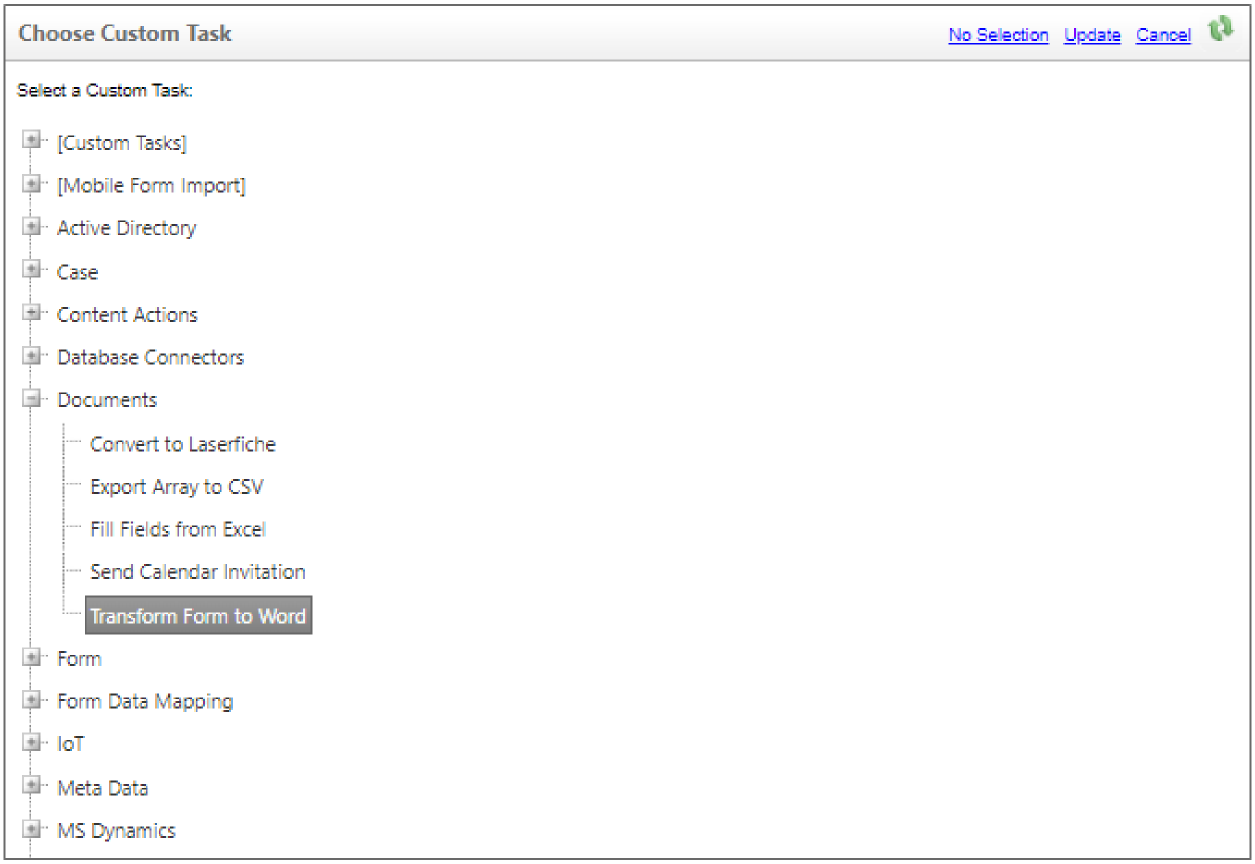
EVENT	WHEN THE EVENT RUNS
Form Creation	When the form is first opened by Process Director and prepared for display.
View State Init	When the Form's View State is initialized.
Before Conditions	Before any form conditions are resolved.
After Conditions	After all of the form's conditions are resolved.
Before Validation	Before form validation rules are run.
After Validation	After all form validation rules have been run.
Form Completed	When the Form is marked as complete and closes.
Form Display	When the Form is displayed.
Event	Any form control set as an event control is changed.

A complete list of events that fire during a form's life cycle can be found in the Events section of the Form Class documentation topic in the Developer's guide.

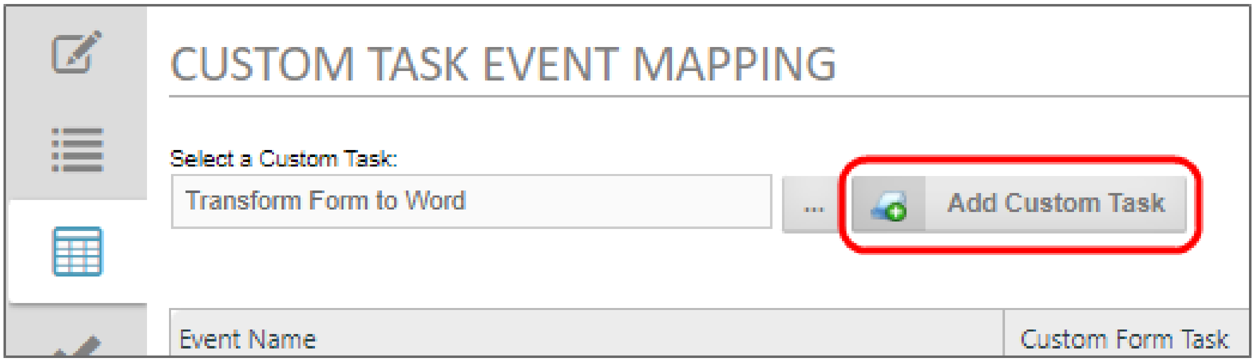
To associate a Custom Task with an event, click the Custom Task Event Mapping tab on the Form's definition. From there, click the Build button of the picker control, which is located to the left of the Add Custom Task button at the top of the tab, to open the Choose Custom Task dialog box.



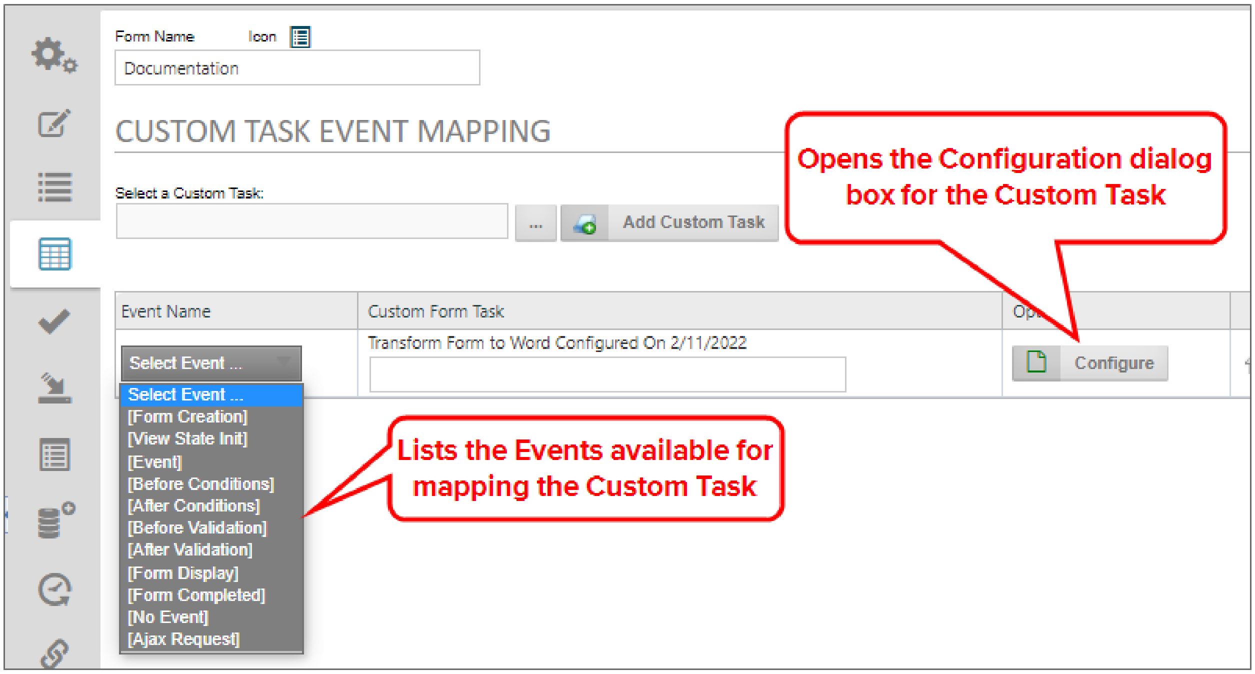
From the Choose Custom Task dialog box, navigate through the treeview to fine the Custom Task you desire, then click on the task to select it. The dialog box will close automatically.



After the dialog box closes, the name of the Custom Task you selected will appear in the picker control. Click the Add Custom Task button to add the mapping to the form.

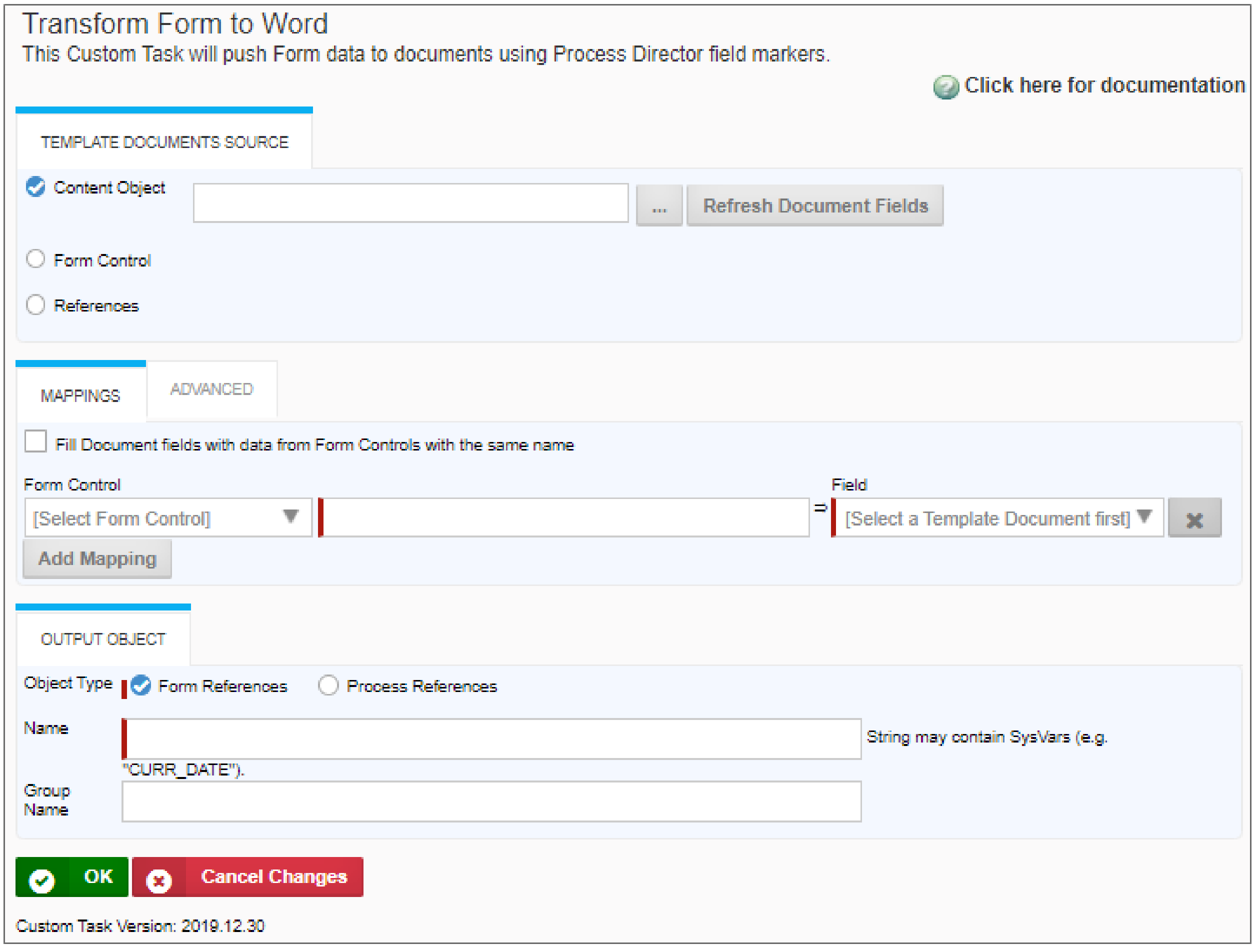


Once the mapping has been added to the list of Custom Tasks, select the event you desire to map from the Select Event dropdown in the mapped event line.



The dropdown will display all of the standard form events, as well as the control names of any control you've identified as an event field. If the control event you wish to map doesn't appear, then you must return to the Form Controls tab, and set that control as an event control. Once you've selected the event you wish to map, you may enter a brief description of what the Custom Task will do in the text box labeled with the selected Custom Tasks' name, which, in the example above is Transform Form to Word.... Now, click the Configure button to open the configuration dialog box for the Custom Task.

Each Custom Task has a specific dialog box, in this example we will show the configuration dialog box for the Transform Form to Word Custom Task. Specific configuration dialog boxes will be discussed below for each of the Custom Tasks.



Make the appropriate configuration changes in the Custom Task's configuration dialog box, then click the OK button to close and save your configuration changes.

Finally, set any conditions that you'd like to impose on the Custom Task to control when it runs.

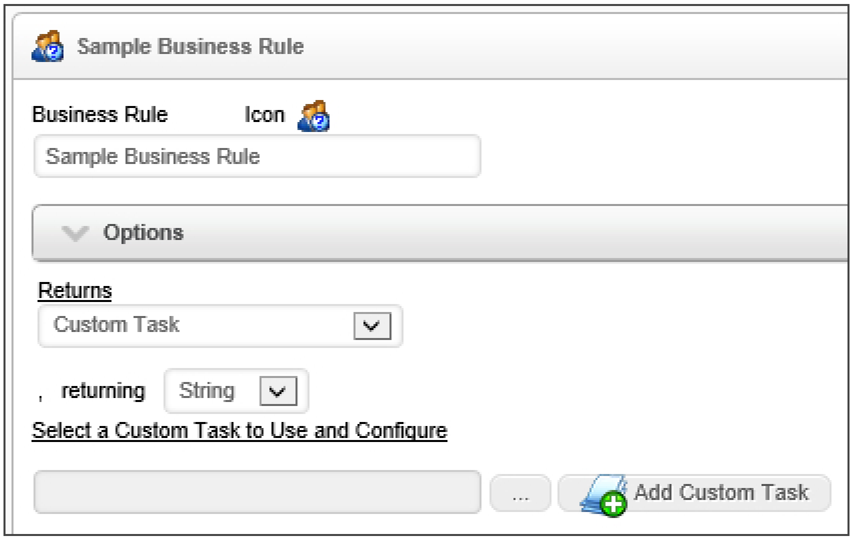
Custom Tasks in a Business Rule

The Process Director Business Rules engine supports Custom Tasks. This allows you to create a Custom Task type that will return the results of a Custom Task in a Business Rule. Custom Tasks allow unique business logic and processing to be packaged into a Business Rule. This Business Rule return is made available to the Business Rule builders, without requiring any additional scripting. For information on developing Custom Tasks for Business Rules see Process Director Developers Guide for more information.

A Business Rule Custom Task can be added to a Business Rule definition just like other returns. A Business Rule can only have one Business Rule Custom Task and can return as the following: string, number, date, user, and group. They are configured similar to standard task types and must exist in the path/route of the Business Rule to be executed.

Adding the Custom Task to the Business Rule

To use a Custom Task in a Business Rule definition, select Custom Task from the Returns selection of the Business Rule. Select the Custom Task from the pick list and click the Add Custom Task button. This now acts like any other return from a Business Rule.



Configuring a Business Rule Custom Task

After a Custom Task is placed on the Business Rule return you can configure it. Most Custom Tasks will require some configuration. Click on the Configure button to configure the Custom Task. The interface displayed and the information you are prompted for will be dependent on the creator of the Custom Task.

Custom Tasks in a Workflow

The Workflow object is the legacy process model used in early versions of Process Director. BP Logix recommends the use of the Process Timeline object, and not the Workflow object. The Workflow object remains in the product for backwards compatibility, but doesn't receive any new functionality updates, other than required bug fixes. No new

features have been added to this object since Process Director v4.5. All new process-based functionality is solely added to the Process Timeline.

The Process Director engine supports Custom Tasks. This allows you to create a Custom Task type that will appear in the Workflow task toolbar. Custom Tasks allow unique business logic and processing to be packaged into a new Workflow task type. This new task type is made available to the Workflow builders, without requiring any additional scripting. For information on developing Custom Tasks for Workflows see Process Director Developers Guide for more information.

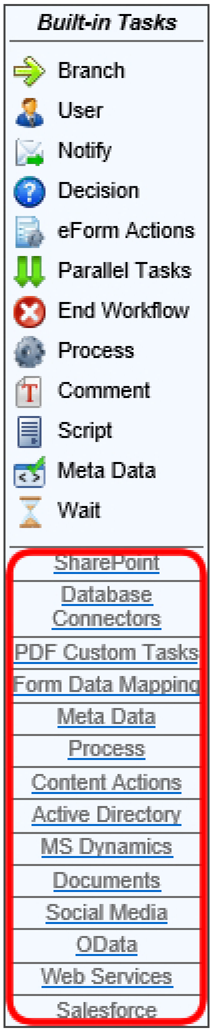
Custom Tasks already exist for many common functions such as:

- Database connectors to populate form fields from an external database;
- Conversion of documents and Forms to PDF.
- Connect to a Web Service

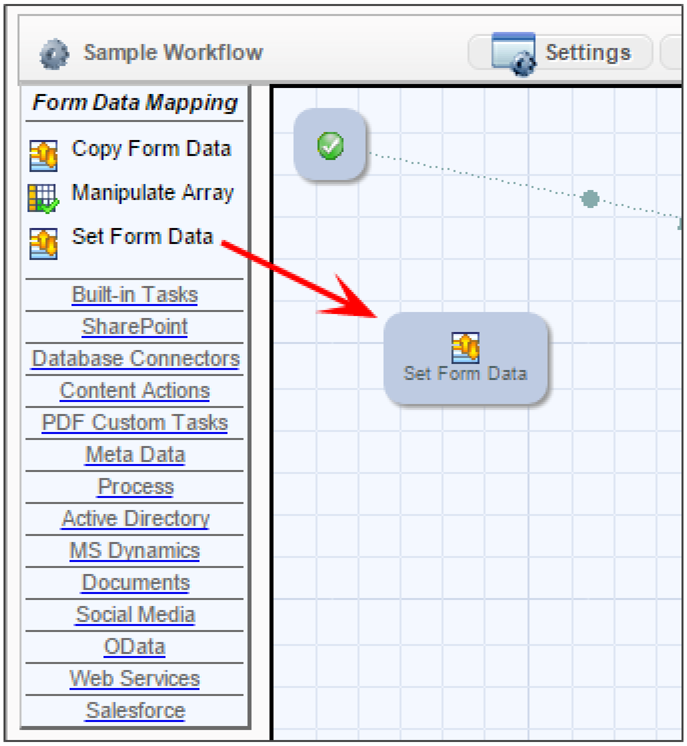
A Workflow Custom Task can be added to a Workflow definition just like a built-in task type. The Workflow Custom Task can't have any user participants; they run and then immediately transition to the next step in the Workflow without any user intervention. They are configured similar to standard task types are must exist in the path/route of the Workflow to be executed.

Adding the Custom Task to the Workflow

To use a Custom Task in a Workflow definition, expand the appropriate group in the task toolbar.

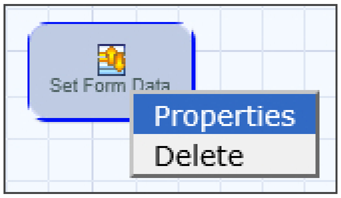


Then click on the Custom Task icon and drop it on to the palette. This now acts like any other Workflow Step and should be added to the path/route by drawing the connectors to it.

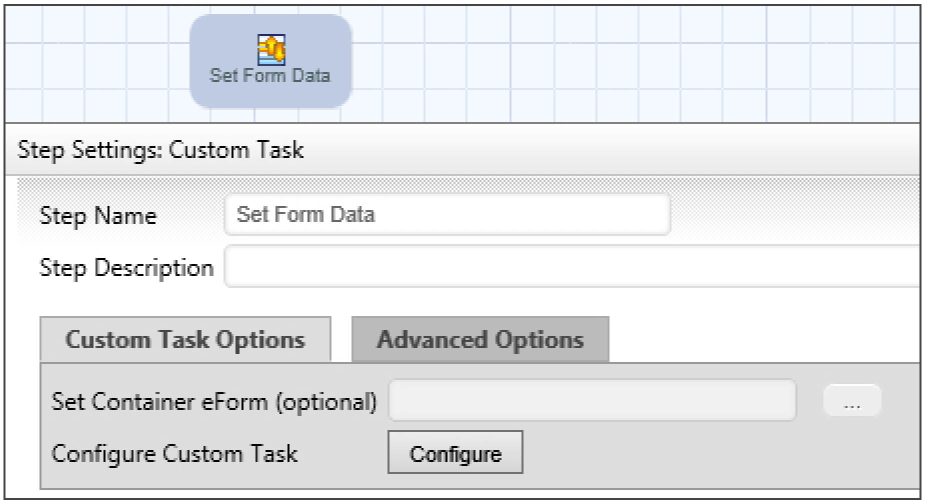


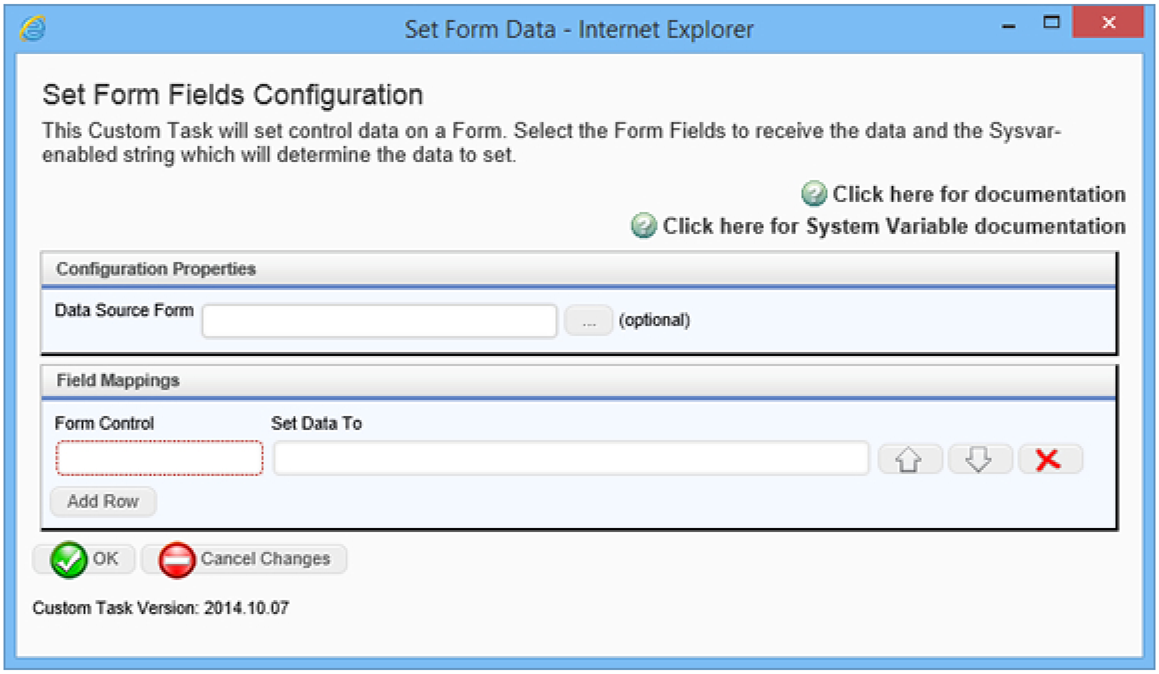
Configuring a Workflow Custom Task

After a Custom Task is placed on the Workflow palette you can configure it. Most Custom Tasks will require some configuration, but it isn't required. To configure the Custom Task right click on the step and choose the Properties menu item, or double click on the icon.



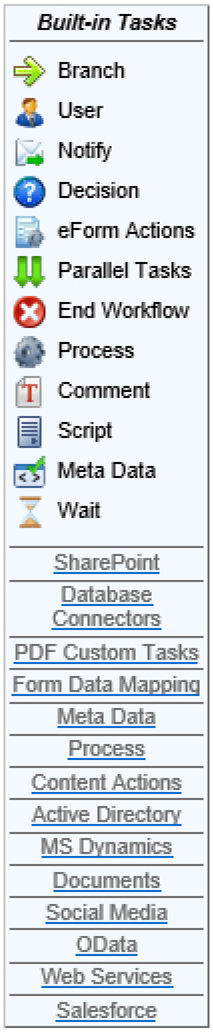
This will display a dialog that prompts for a Form to reference. Most Custom Tasks will require this configuration, indicating which Form definition will be routed in this Workflow. The dialog will display different information depending on which task is being configured. Click the “Configure” button to display additional options.



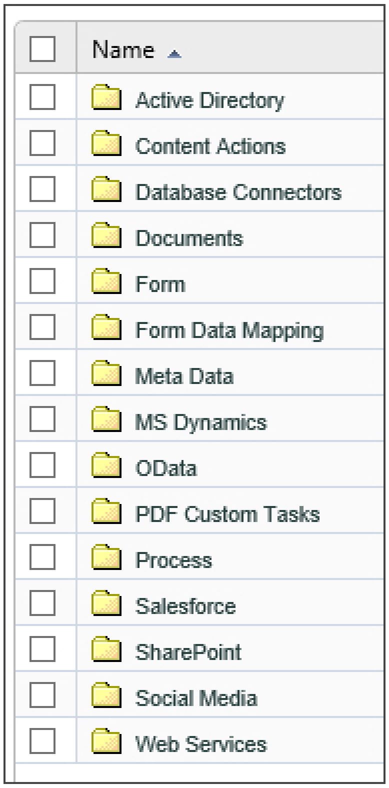


Locating where a Custom Task is installed

Workflow Custom Tasks will appear in the Workflow toolbar automatically when they are installed in the Content List. The name of the folder containing the Custom Tasks is the same as the name of the group in the Workflow.

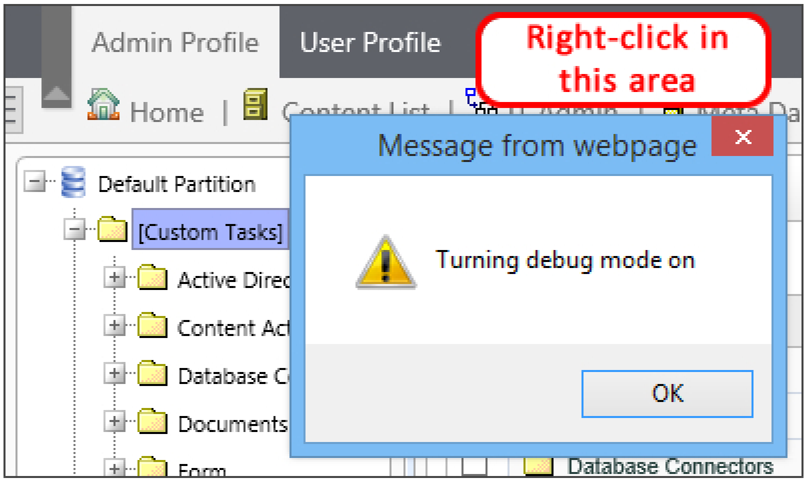


Workflow Task List



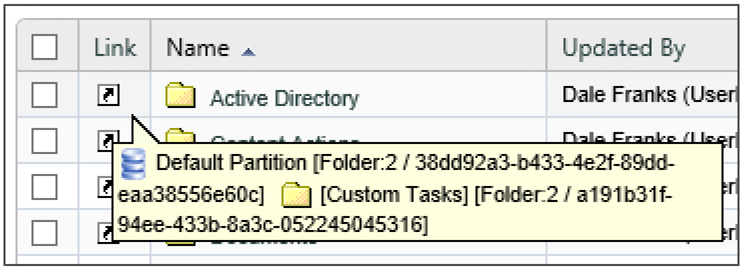
Custom Task Content List

To locate where a Workflow Custom Task is installed in the Content List, open the Workflow builder and then turn on debugging mode by right clicking anywhere in the menu bar area of the Process Director screen. A message box will appear, informing you that Debug Mode has been activated. Only users that are in the admin user group will be able to do this.



Next, refresh the Workflow builder by clicking on the Refresh icon located in the upper right portion of the screen.

In debugging mode, additional information will appear for every folder and file, such us their GUIDs.



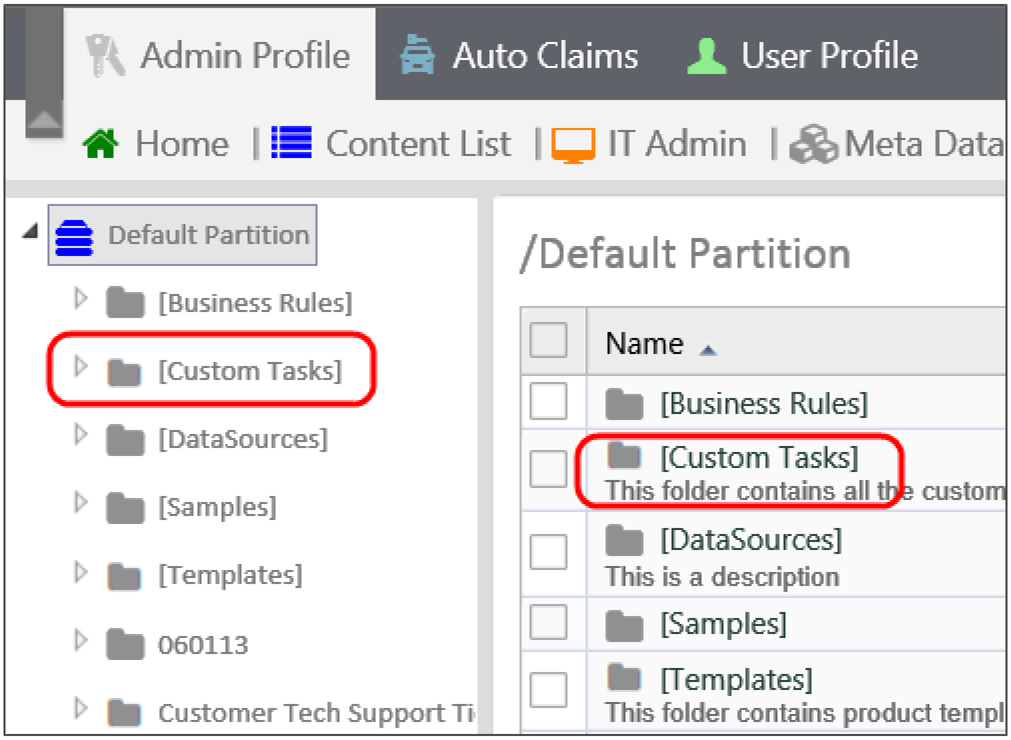
Importing and Upgrading Custom Tasks

Custom Tasks may be periodically updated. To ensure proper installation and upgrade of these Custom Tasks review the following procedures:

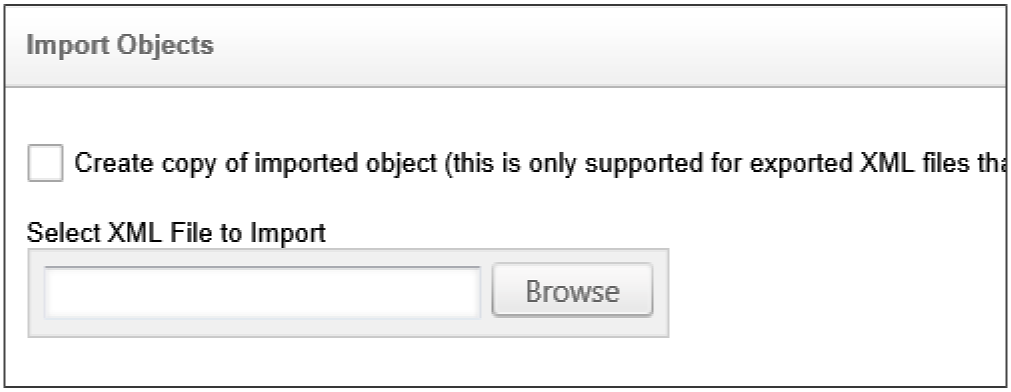
Do not delete the current Custom Tasks unless you are sure you want to delete them. Deleting Custom Tasks will remove all Custom Task event mappings to any objects in the partition.

To import Custom Tasks, ensure that you aren't inside of the Custom Tasks folder unless you are importing individual Custom Tasks.

Navigate to the root folder of the location where the Custom Tasks are stored. This should be the root folder of the partition. It should look like the following:



Continue to import the Custom Tasks by selecting Import Objects from the Create New dropdown. Selecting this option will open the Import Objects dialog box. Browse to the location of the XML file by clicking the Browse button to open the file dialog that enables you to select the XML file in your local file system.



Once you've selected the XML file to import click OK. This will import and overwrite the current Custom Tasks, kin their current location.

Ensure that there are no duplicate [Custom Tasks] folders.

You have successfully updated your Custom Tasks.