

FormsViewer qRules Command Overview

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GENERAL GUIDANCE

The general operation of qRules in a form template is as follows:

1. The form designer adds a rule to the form (on a button or a field) that sets the value of the QdabraRules (secondary data source) **Command** node. This value can be set either as a direct text value or a formula.
2. The compiled qRules code attempts to execute the command and then clears the command field so it is ready for the next command.
3. Errors are returned to the **Error** node.
4. The **Success** node is set to true if the Command execution succeeds.
5. Any returned results are returned to the **Results** node
 - You can also use the **/resultxpath** and **/resultdestds** to return results to a specific form field.

Commands may or may not include parameters. The syntax for a parameter is:

/parametername=parametervalue

Parameters are separated by a space from the command and from each other. In the command below, the spaces have been widened to make them more visually apparent:

DateAdd /xpath=/my:myFields/my:StartingDate /weekdays=5

CATEGORY-BASED COMMAND LIST

This section organizes commands by category to help you find the appropriate command for your needs. For detailed information about each command, please refer to the Command Overview section.

Data Connection

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Date

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DBXL

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SharePoint

[CreateSharePointFolder](#)[GetTermsByLabel](#)[RefreshSharePointListItems](#)[DeleteFromSharePoint](#)[GetTermSetIds](#)[SaveToSharePoint](#)[GetListGuid](#)[GetTermSets](#)[SubmitToSharePoint](#)[GetTermPath](#)[GetUserProfileByName](#)[SubmitToSharePointList](#)

String

[ConvertBase64](#)[DiffRichText](#)[GenerateGuid](#)[Decrypt](#)[Encode](#)[ReplaceString](#)[DelimitedList](#)[Encrypt](#)[SetCase](#)

COMMAND OVERVIEW

This section provides a comprehensive list of all available commands in alphabetical order, including their descriptions, required parameters, and optional parameters for each command.

AdjustDbxlConnections

Repoints DBXL data connections to a new location, and sets their user key values.

Allows specifying DBXL URL and User Key via parameters or environment variables.

Required Parameters:

- None

Optional Parameters:

- **url:** DBXL base URL.
Any DBXL web connections found in the form will be repointed to this URL.
Example: <https://dbxl.mycompany.com/QdabraWebService>
If unspecified, command will look for an environment variable named DbxlUrl
Either a URL or a User Key must be specified via parameter or environment variable.
 - **key:** A DBXL user key.
Will be placed in the key query field of any user key-based DBXL connections.
If unspecified, command will look for an environment variable named DbxlUserKey
Either a URL or a User Key must be specified via parameter or environment variable.
-

AlterImage

Resizes and/or adjusts the quality of a base64 image.

Required Parameters:

- None

Optional Parameters:

- **image:** The base64 value for the source image. Altered image is returned as the qRules Result value.
- **imagexpath:** XPath to one or more images to modify. Image fields will be modified in-place and the number of images modified will be returned as the qRules Result.
- **imagesds:** Data source for /imagexpath. If unspecified, the main data source will be used.
- **width:** The width for the resulting image. If /width is specified and /height is not, the resulting height will either be scaled proportional to the specified width if /maintainproportions is true, or will maintain the height of the original image otherwise.
- **maxwidth:** Maximum width scale the image to. Ignored if the actual width is already smaller than the specified value
- **height:** The height for the resulting image. If /height is specified and /width is not, the resulting width will either be scaled proportional to the specified height if /maintainproportions is true, or will maintain the width of the original image otherwise.
- **maxheight:** Maximum height to scale the image to. Ignored if the actual width is already smaller than the specified value.
- **maintainproportions:** (boolean) Maintain the proportions of the original image(s). Defaults to false. Ignored if both /width and /height are specified, or if neither is specified.
- **quality:** (number > 0 and <= 100) The quality for the resulting image(s) (only applies to certain image formats, such as jpg).

- **format:** Format for the resulting image(s), (e.g. png, jpg). Falls back to png if unspecified or if an unsupported value is specified. Subject to browser support, but all browsers should support png and jpg.
-

AssignDocument

Creates a QdFlow document, which provides assignment and status workflow for a specific document. Note that this command requires Qdabra's DBXL v2.4. The use of the /email and the /ccEmail parameters require DBXL version 2.5 or greater.

Required Parameters:

- **submit:** DBXL Submit Adapter Name
- **docid:** Host DocID
- **alias:** Assigned To Alias

Optional Parameters:

- **comment:** Comment
 - **status:** Status
 - **name:** Assigned to Name
 - **email:** Assigned to Email
 - **cc:** Semicolon delimited list of CC Aliases
 - **ccEmail:** Semicolon delimited list of CC emails -- must be in same order as the CC Aliases
 - **myinfo:** Name of a data source set up to access DBXL's GetMyInfo service. Used in automatically determining alias and name
-

ChangeConnectionUrl

Changes the URL for a data connection (SharePoint list, web service, XML file, etc.).

Required Parameters:

- **dsname:** Name of data connection where URL should be changed
- **url:** New URL for the data connection

Optional Parameters:

- **listguid:** GUID for the SharePoint List - either this or listname is required if data connection is to a SharePoint List.

- **listname:** SharePoint List name - either this or listguid is required if data connection is to a SharePoint List.
-

ChangeSubmitUrl

Modifies the URL in a SharePoint submit data connection so that forms submit to a different library by specifying /url. If the /url parameter is not specified (and the form is published to a SharePoint form library), it uses the library the form is opened from.

Required Parameters:

- **submit:** Submit Adapter Name
- **url:** Folder/library path to submit to

Optional Parameters:

- None
-

ClearErrors

Clears all current validation errors in the form.

Required Parameters:

- None

Optional Parameters:

- None
-

ConvertBase64

Converts base64-encoded values to text values.

Required Parameters:

- **value:** The value to convert. Hint: use /value-xpath to indicate the location of the value rather than the value itself.
- **mode:** The type of conversion to perform. Currently only decode is supported.

Optional Parameters:

- None
-

Copy

Copies xml nodes to a new destination.

Required Parameters:

- **sourcepath:** The xpath of the node to copy
- **destpath:** The XPath of the location where the node should be copied

Optional Parameters:

- **sourcedb:** The name of the data source from which the node should be copied
 - **destdb:** The name of the data source to which the node should be copied
 - **location:** The location relative to the destination node where the node should be inserted (firstChild, lastChild, before or after). The default value is lastChild.
-

CopyRichText

Copies a rich text field. You can specify a destination and a source data source as well as the XPath to a rich-text field you wish to copy.

Required Parameters:

- **xpathsrc:** XPath to Node (Source)
- **xpathdest:** XPath to Node (Destination)

Optional Parameters:

- **dsnamesrc:** Data Source Name (Source)
 - **dsnamedest:** Data Source Name (Destination)
-

CopyTable

Copies data from the source table to the destination table.

Required Parameters:

- **tablesrc:** tablesrc
- **rowsrc:** rowsrc
- **tabledest:** tabledest
- **rowdest:** rowdest

Optional Parameters:

- **dsnamesrc:** dsnamesrc
 - **dsnamedest:** dsnamedest
 - **xpathdest:** xpathdest
 - **empty:** empty
-

CreateSharePointFolder

Creates a folder in a SharePoint library or list.

Required Parameters:

- **name:** The name of the document set to create or path of the new folder to create, relative to the list or library.

Optional Parameters:

- **type:** Either Folder or DocumentSet. Default is Folder.
 - **contenttype:** A custom content type name or ID to use.
 - **contenttypeisid:** (Boolean) true to indicate that the /contenttype value is a content type ID (false by default).
 - **siteurl:** Url of the SharePoint site where the folder or document set should be created. Required if not specified in a definition file.
 - **library:** Name of the library where the folder or document set should be created. Required if not specified in a definition file.
 - **definitionsrc:** Name of the data source where a custom definition is.
 - **definitionname:** Name of the definition within the definition file.
 - **webservice:** The name of a data connection set up to use Lists.asmx's UpdateListItems method. (Required when creating folders from Filler mode.)
-

DateAdd

Adds to a date or datetime field. The resulting date will be returned as the Result value of the command.

Required Parameters:

- **xpath:** XPath to starting Date or DateTime field.

Optional Parameters:

- **dsname:** Data Source Name

- **seconds:** (+/-) Seconds to add
 - **minutes:** (+/-) Minutes to add
 - **hours:** (+/-) Hours to add
 - **days:** (+/-) Days to add
 - **weekdays:** (+/-) Weekdays to add
 - **weeks:** (+/-) Weeks to add
 - **months:** (+/-) Months to add
 - **years:** (+/-) Years to add
 - **dsnamehol:** If using /weekdays parameter, can include a secondary data source for holidays to exclude.
 - **xpathhol:** If using /weekdays parameter, can include an XPath with holidays to exclude.
-

DateDiff

Calculates the difference between two dates.

Required Parameters:

- **date1:** The start date
- **date2:** The date to subtract from date1

Optional Parameters:

- **component:** Desired portion of the date difference (days | weekdays | hours | minutes | seconds | milliseconds | totaldays | totalhours | totalminutes | totalseconds | totalmilliseconds)
 - **dsnamehol:** If using /component=weekdays, a secondary data source can be included for holidays to exclude. Use with /xpathhol to indicate a location for excluded holiday dates
 - **xpathhol:** If using /component=weekdays, /xpathhol allows you to include a repeating field or field in a repeating group with holidays that should be excluded in the date math. If the values are in your main data source, /dsnamehol is not needed
-

Decrypt

This command transforms encrypted data into the original underlying text value or attachment. The same password used to encrypt must be used here in order to correctly decrypt. Uses the Rijndael symmetric encryption algorithm and a 256 bit key length. Be sure to save your password(s)—qRules does not record them.

Required Parameters:

- **xpath:** The XPath to the field to decrypt
- **pass:** The XPath to the password field

Optional Parameters:

- **dsnamepass:** Data source name for the password field (if password field is in a secondary data source)
 - **clear:** Clear password after decryption.
-

Delete

Deletes an xml node specified by an XPath.

Required Parameters:

- **xpath:** XPath to delete. It can be filtered in the case of a repeating group or field

Optional Parameters:

- **dsname:** Only needs to be specified if the XPath to delete is not located in the Main data source
-

DeleteFile

Delete a local network file.

Required Parameters:

- **path:** Path of the file to delete

Optional Parameters:

- None
-

DeleteFromSharePoint

Deletes a document in SharePoint.

Required Parameters:

- **url:** Item URL

Optional Parameters:

- None
-

DelimitedList

Concatenates the values of a repeating field (or field in a repeating group), separating each value with the specified delimiter.

Required Parameters:

- **xpath:** XPath to the values to delimit

Optional Parameters:

- **dsname:** Name of the data source that has the field values to delimit
 - **separator:** (default: ;) Delimiter to place between the selected values
 - **space:** When specified, includes a space around the separator at the indicated position - possible values: before, after, both
-

DiffRichText

Compares two rich text values, or multiple pairs of rich text values, and produces a rich text diff of their values.

Required Parameters:

- **beforepath:** XPath to the "before" rich text value. Relative to /parentpath if it is specified.
- **afterpath:** XPath to the "after" rich text value. Relative to /parentpath if it is specified.

Optional Parameters:

- **parentpath:** Parent of /beforepath, /afterpath, and /destpath. When specified, the command will go through all nodes that match the /parentpath and process the /beforepath and /afterpath relative to them.
 - **destpath:** XPath where the diff result should be placed. Required if /parentpath is specified. Relative to /parentpath if it is specified. If unspecified, the diff result is returned to the qRules Result field.
 - **dsname:** Data source where the rich text comparisons should be performed.
 - **addstyles:** (Boolean, defaults to false) Adds CSS styles to the page to highlight insertions and deletions in green and red.
 - **implementation:** The rich text diffing implementation to use. Possible options are tnwinc (<https://github.com/tnwinc/htmlldiff.js>), dfoverdx (<https://github.com/dfoverdx/htmlldiff-js>). Default is dfoverdx
-

DownloadAttachment

Download a file that is stored as base64 in a form field, or open it in a new browser tab.

Required Parameters:

- **xpath:** XPath to the field that contains the file.
If multiple fields are found, the one that comes first in the data source is used.

Optional Parameters:

- **dsname:** The name of the data source that contains the field.
If not specified, the main data source is used.
- **filename:** The file name to use for the downloaded file.
If not specified, the name is determined as follows:
(1) If the file name is stored in the base64, that filename will be used.
(2) Otherwise, the command will attempt to auto-detect the file type and download it as Picture.XYZ, where XYZ is an auto-determined extension (gif, jpg, png, bmp).
- **open:** (boolean, default: false) If true, will attempt to open the file in a new browser tab instead of downloading.
If the file type is not supported by the browser, the file will be downloaded instead.
When using this option, /filename does not have an effect on the name of the opened file, but extension of the specified name is used in determining how to handle the file.

Encode

Returns an encoded or decoded string.

Required Parameters:

- **text:** text to encode

Optional Parameters:

- **decode:** (boolean, defaults to false) Decode the text
- **type:** Encoding type (url | html | uri | uriComponent); default is url

Encrypt

This command transforms texts and attachments into a set of random characters and provides security by using a password to protect data. Uses the Rijndael symmetric encryption algorithm and a 256 bit key length. Be sure to save your password(s)—qRules does not record them.

Required Parameters:

- **xpath:** The XPath to the field to encrypt

- **pass:** The XPath to the password field

Optional Parameters:

- **dsnamepass:** Data source name for the password field (if password field is in a secondary data source)
 - **clear:** Clear password after encryption.
 - **pad:** Pad encryption.
-

ExecuteSqlQuery

Uses an SQL Data connection to execute a given SQL command. Only supported on FormsViewer instances that have this feature enabled.

Required Parameters:

- **dsname:** SQL Data Source Name
- **sql:** SQL to execute. Example: EXEC AdventureWorks.dbo.GetCustomer @customerId = 12345

Optional Parameters:

- **detectname:** (boolean, defaults to false)
When true, will attempt to use the name of the queried table as the XML node name for the rows in the result XML.
Otherwise, will use the default row names from the data source.
 - **parametersdsname:** (defaults to main data source) The name of the data source in which to evaluate /parametersxpath
 - **parametersxpath:** An XPath to one or more XML nodes corresponding to parameters to be passed with the SQL query
 - **parametersnamepath:** A path, relative to /parametersxpath, indicating where to locate the parameter name for each respective parameter. Required if /parametersxpath is specified.
 - **parametersvaluepath:** A path, relative to /parametersxpath, indicating where to locate the parameter value for each respective parameter. Defaults to current parameter node.
 - **parameterstypepath:** A path, relative to /parametersxpath, indicating where to locate the data type for each respective parameter. Possible values for the data type are: boolean, datetime, decimal, integer, string, innerxml. Defaults to string if data type is unspecified.
 - **parametersallownullpath:** A path, relative to /parametersxpath, to a field that indicates the "allow null" value for each respective parameter. If unspecified, or the field is not found, "allow null" defaults to false.
-

FormatDate

Formats a date into a specified format. Standard date formats: <https://docs.microsoft.com/en-us/dotnet/standard/base-types/standard-date-and-time-format-strings>. Custom date formats: <https://docs.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings>.

Required Parameters:

- **date:** The date value to apply the format to

Optional Parameters:

- **format:** The standard or custom format for the date. Default is d (short date pattern). Standard date formats: <https://docs.microsoft.com/en-us/dotnet/standard/base-types/standard-date-and-time-format-strings>. Custom date formats: <https://docs.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings>.
-

FormatNumber

Formats a number into the specified format.

Required Parameters:

- **value:** The number value to apply the format to
- **format:** The standard or custom .NET format for the returned string.

Optional Parameters:

- **culture:** The desired culture provider for the returned string
-

GenerateGuid

Returns a new GUID in the format specified.

Required Parameters:

- None

Optional Parameters:

- **format:** Format for the generated GUID. Default is D.
-

GetAttachmentAttribute

Returns attributes from an attachment included in a File Control.

Required Parameters:

- **xpath:** XPath to field to attachment
- **attr:** Specific attribute value to get (Name | Ext | Size | File)

Optional Parameters:

- **dsname:** Data Source Name
-

GetConnectionUrl

Returns the current URL of the specified data connection.

Required Parameters:

- **dsname:** Name of the data connection.

Optional Parameters:

- None
-

GetDayOfYear

Returns an integer value indicating the day number in the year for a date value. If no date parameter is provided, uses today's date.

Required Parameters:

- None

Optional Parameters:

- **date:** Date to return day of year for
-

GetEnvironmentVariable

Retrieves the value of an environment variable

Required Parameters:

- **key:** The key of the environment variable to retrieve (case sensitive)

Optional Parameters:

- None
-

GetErrorCount

Returns the number of current validation errors in the form.

Required Parameters:

- None

Optional Parameters:

- **novalidate:** (boolean, defaults to false) Prevents this command from re-validating the form's fields.
-

GetErrors

Provides a list of the form's current validation errors (if any) as a string value.

Required Parameters:

- None

Optional Parameters:

- **format:** Format for the errors returned. Possible values are: message, fieldAndMessage. Defaults to message.
 - **novalidate:** (boolean, defaults to false) Prevents this command from re-validating the form's fields.
-

GetFormProperty

Obtain the value of a form property.

Required Parameters:

- **key:** Name of the property to retrieve. Allowed values for key: (CurrentUrl | LastModified | SharePointSiteCollectionUrl | SharePointSiteUrl | UserAgent)

Optional Parameters:

- None
-

GetInputParameter

Returns if the key exists and gets the value back. If the key does not exist, FAIL is returned.

Required Parameters:

- **key:** Name of Parameter for Desired Value

Optional Parameters:

- None
-

GetListGuid

Returns the GUID for the list named in /listname.

Required Parameters:

- **listname:** The name of the list to return the GUID for

Optional Parameters:

- **dsname:** The data connection to the GetListCollection method of the Lists web service - either this or /siteurl is required.
 - **siteurl:** Site url where the specified list exists - either this or /dsname is required.
-

GetNetworkFile

Retrieves a file from a local network. Can initiate a download of the file, generate a URL to download the file, or load the file into one of the form's data sources. Only supported on FormsViewer instances that have this feature enabled.

Required Parameters:

- **path:** The path to the file

Optional Parameters:

- **action:** (defaults to download) The action to perform with the requested file (download - initiate a download; link - create a download link; load - load the file into one of the form's data sources)
 - **dsname:** The name of the data source to load the file into (only applicable when using /action=load)
-

GetTermPath

Queries SharePoint's TaxonomyClientService to obtain the path for a given Term. Additional information on the metadata commands can be found on <http://www.infopathdev.com/files/folders/qrules/entry76371.aspx>.

Required Parameters:

- **termId:** GUID for term Id

Optional Parameters:

- **pathsep:** Indicate an optional path separator instead of the default semi-colon

GetTermsByLabel

Queries SharePoint's TaxonomyClientService to obtain a list of TermSets that match the label (search term) provided by the user. Additional information on the metadata commands can be found <http://www.infopathdev.com/files/folders/qrules/entry76371.aspx>.

Required Parameters:

- None

Optional Parameters:

- **dsnamesrc:** GetTermsByLabel data connection
- **dsnamedest:** Destination source

GetTermSetIds

Queries SharePoint to obtain a list of available TermSetIds. Additional information on the metadata commands can be found on <http://www.infopathdev.com/files/folders/qrules/entry76371.aspx>.

Required Parameters:

- None

Optional Parameters:

- **list:** Name of list to containing managed metadata columns
- **dsnamesrc:** GetList data connection
- **dsnamedest:** GetTermSet data connection

GetTermSets

Queries SharePoint's TaxonomyClientService to obtain a list of available TermSets. Additional information on the metadata commands can be found on <http://www.infopathdev.com/files/folders/qrules/entry76371.aspx>.

Required Parameters:

- None

Optional Parameters:

- **dsnamesrc:** GetTermSet data connection
- **dsnamedest:** Destination source

GetUserProfileByName

Retrieves user information from SharePoint's user profile store and uses it to populate a GetUserProfileByName SOAP connection.

Required Parameters:

- None

Optional Parameters:

- **dsname:** GetUserProfileByName data source. Defaults to GetUserProfileByName
- **user:** User alias. Defaults to the current user. Required when the current user cannot be determined, e.g. in anonymous mode.
- **properties:** Semicolon-delimited list of specific user profile properties to query. When using /source=profiles, the app must be installed with extra permissions to query the user profile store in order to use this parameter.
- **source:** (Defaults to default) Location from which to retrieve user data. Possible values are siteusers for the Site Users List, profiles for the User Profile store, and default for the environment default. default equates to siteusers when using server-side queries and profiles when using client-side queries.

GetValue

Returns the value for a given XPath as a string. If the node is not present or blank, a default value can be returned.

Required Parameters:

- None

Optional Parameters:

- **dsname:** The name of the data source from which to get a value.
- **xpath:** XPath from which to get a value.
- **xpathnode:** Relative XPath to node containing an XPath to evaluate - can only be used if /eval is true and /reldst is specified.
Takes precedence over /xpath.
- **eval:** (boolean, defaults to false) Evaluate the XPath as an expression rather than retrieving a node value.
- **xpathsrc:** When using /eval=true, the path to the nodes(s) relative to which XPath should be evaluated, UNLESS /contextnode is specified, in which case XPaths will be evaluated relative to

that node.

If /xpathnode is specified, the path in /xpathnode will be evaluated relative to these nodes.

Required if /eval is true and /reldes is specified.

- **contextnode:** Context node for evaluation - can only be used if /eval is true and /reldes is specified.
- **reldes:** XPath relative to the value of the /xpath or /xpathsrc parameter, depending on whether /eval is true. When specified, qRules will place results of the XPath evaluation(s) in the field indicated by /reldes
- **append:** (boolean, defaults to false). If true, the result of the string replacement is appended to the current value of the field indicated by the /reldes parameter rather than replacing it.
- **default:** Default value to return to the results node if no value or a blank value is found.

GetWeekDay

Returns the date of a specific weekday within a given week.

Required Parameters:

- **day:** Day of the week to get. Assumes a Sunday - Saturday week.

Optional Parameters:

- **date:** Date for the week. If omitted, the current date is used.

GetXml

Returns the full inner or outer XML of a node in one of the form's data sources.

Required Parameters:

- None

Optional Parameters:

- **dsname:** Name of the data source from which to retrieve XML. Defaults to main data source if omitted.
- **xpath:** XPath to the node to get. If omitted, defaults to the root of the data source. If multiple nodes are found, gets the XML of the first node found.
- **inner:** (boolean, defaults to false) Get the inner XML of the node (i.e. don't include the node itself). If both /inner and /outer are true, /outer takes precedence.
- **outer:** (boolean, defaults to true) Get the XML of node (i.e. include the node itself). If both /inner and /outer are true, /outer takes precedence.

- **download:** (boolean, defaults to false) Download the XML as a file.
 - **filename:** File name to use when downloading the XML. If unspecified, file name is determined as follows:
 - If /dsname is specified, that name plus the extension .xml
 - Otherwise, if the current document has a file name, (e.g. a document= parameter is present in the form URL), that file name
 - Otherwise, document.xml
-

Insert

Inserts rows in a repeating table.

Required Parameters:

- **parent:** XPath to the node(s) where new child rows should be inserted.

Optional Parameters:

- **dsname:** Name of the data source. Assumes you are using the Main data source if it is not specified
 - **child:** Relative XPath to the child node (repeating) – must provide either /child or /xpathsrc
 - **before:** Relative XPath from the parent node to the sibling node that child node should be inserted before. Ignored when using /posn. If node cannot be selected, simply inserts as usual.
 - **posn:** (whole number or the word "last". default: last) Row position where to insert. i.e. for /posn=3, rows will be inserted before the 3rd row. If /posn=last, rows will be inserted after the last row
 - **count:** (number. default: 1) Number of occurrences to insert in each target location.
 - **xpathsrc:** Full XPath to the row to insert. The command uses this to determine the XML to use when it can't be determined based on /parent and /child.
Usually necessary when /parent includes a filter/predicate, e.g.
/my:ExpeneReport/my:Expenses[2]/my:Receipts
 - **firstparentonly:** (boolean, default: true) If /parent matches multiple nodes, only insert into the first node located. When false, insert into all located /parent nodes.
-

InsertPi

Insert a processing instruction into the xml file.

Required Parameters:

- **name:** Name of the processing instruction to insert.
- **data:** Data content of the processing instruction.

Optional Parameters:

- **update:** (boolean, defaults to false)
When true, this command will replace the processing instruction if it already exists and add a new one if it doesn't.
When false, the command will fail with an error if a processing instruction with the indicated name is already present.
 - **dsname:** Name of the data source to insert the processing instruction into.
-

Irr

Returns a value specifying the internal rate of return for a series of periodic cash flows (payments and receipts).

Required Parameters:

- **values:** Comma delimited list of cash flow values – must contain at least one negative value

Optional Parameters:

- **guess:** Value you estimate is returned by Rate. Defaults to 0.1 (10 percent).
-

JsonToXml

Converts a JSON string to XML and places the converted XML into one of the form's data sources.

Required Parameters:

- **xpath:** XPath of the location where the converted JSON should be inserted
- **json:** JSON to convert into XML. Tip: Use /json-xpath (and optionally /json-dsname) to get the JSON from a field in the form.

Optional Parameters:

- **dsname:** Name of the data source where the converted JSON should be inserted
-

ListDirectory

Lists all of the files or directories in a file system directory and places the results in a repeating group. Not available in all FormsViewer deployments.

Required Parameters:

- **path:** Path to the directory to list.
- **parent:** Parent node where the results should be deposited.

- **child:** Name of the child node used to list results.

Optional Parameters:

- **mode:** Indicates whether to list files or directories. Possible values are file and directory. Default is file.
 - **dsname:** Data source where the results should be deposited
 - **clear:** (boolean, defaults to true) Indicates whether to clear any previously present child nodes on success.
 - **fullpathattributename:** Attribute on the child node to store the full file or directory path.
 - **lastmodifiedlocalattributename:** Attribute on the child node to store the last modified date of the file or directory. Uses the server's local time zone.
-

LoadResource

Loads a CSS or JS file into the page.

Required Parameters:

- **name:** The name of resource

Optional Parameters:

- **type:** If specified, must be either "script" or "style" - the type of the resource
 - **unload:** If true, indicates that the resource should be unloaded (defaults - false)
 - **allowexternal:** If true, loads the name value as an external resource (defaults - false)
-

MakeRequest

Carries out a network request and provides the result

Required Parameters:

- **path:** Path where the request should be sent (URL, etc.)

Optional Parameters:

- **username:** Username to use for authentication
- **password:** Password to use for authentication
- **method:** HTTP Method to use. Defaults to POST if /content is specified and GET if not.
- **contenttype:** Content type of content being sent. Default is text/plain. Only relevant when /content is specified.

- **content:** Content to send in the request
 - **headersdsname:** Data source XPath for header
 - **headerspath:** Repeated section XPath for header
 - **headernamewidth:** Name XPath for header
 - **headervaluepath:** Value XPath for header
 - **timeoutms:** Timeout in milliseconds (terminate the request if it takes longer than this amount of time to complete)
-

ModifySqlQuery

This command will allow you to add a WHERE clause to an existing SQL data connection. It will execute the SQL query after adding the WHERE clause. Only supported on FormsViewer instances that have this feature enabled.

Required Parameters:

- **dsname:** SQL Data Source Name
- **where:** Where clause for SQL Command, e.g. WHERE Sales >= 12345

Optional Parameters:

- **detectname:** (boolean, defaults to false)
When true, will attempt to use the name of the queried table as the XML node name for the rows in the result XML.
Otherwise, will use the default row names from the data source.
-

Move

Moves xml nodes to a new destination.

Required Parameters:

- **sourcepath:** The XPath of the node to move
- **destpath:** The XPath of the location where the node should be moved

Optional Parameters:

- **sourceds:** The name of the data source from which the node should be moved
- **destds:** The name of the data source to which the node should be moved
- **location:** The location relative to the destination node where the node should be inserted (firstChild, lastChild, before or after). The default value is lastChild.

Npv

Returns a value specifying the net present value of an investment based on a series of periodic cash flows (payments and receipts) and a discount rate.

Required Parameters:

- **rate:** Discount rate over the length of the period.
- **values:** Comma delimited list of cash flow values – must contain at least one negative value.

Optional Parameters:

- None
-

Prompt

Prompts the user with a popup dialog and produces a result based on the user's selection

Required Parameters:

- None

Optional Parameters:

- **title:** The title on the prompt (defaults to blank).
 - **text:** The text on the popup (defaults to blank).
 - **type:** Type of prompt to make (available options are YesNo, YesNoCancel, and OKCancel - defaults to YesNo).
 - **yestext:** The text to show on the Yes button (defaults to Yes).
 - **notext:** The text to show on the No button (defaults to No).
 - **oktext:** The text to show on the OK button (defaults to OK).
 - **canceltext:** The text to show on the Cancel button (defaults to Cancel).
-

RefreshSharePointListItems

This command is used in tandem with SubmitToSharePointList to update list items with most recent edits to the list. Supports changes, including deletes. Can be used in either report or update mode.

Required Parameters:

- None

Optional Parameters:

- **dsname:** Data source name for list data
 - **xpathsrc:** Path to the repeating node in your SharePoint list
 - **id:** XPath to ID field(s) for SharePoint List ID
 - **mapping:** Mapping data source name
 - **mappingName:** Specify the mapping to refresh, refreshes all mappings in mapping file if not specified.
 - **mode:** Indicates whether to actually update fields in the forms with new values (update) or just report on what would be updated (report)
-

RegisterMultiDrop

Enables multi-file drop support for certain form fields.

Required Parameters:

- **repeater:** XPath to the repeating group on which to enable multi-file drop

Optional Parameters:

- **attachment:** XPath, relative to /repeater, to the location of the attachment field. If unspecified, the path indicated by /repeater is assumed to be the field itself.
 - **xpathsrc:** A direct XPath to the location of the repeating group indicated by /repeater, but without any filters or other complex XPath constructions. This may be needed if /repeater involves filters or other complex syntax.
-

RemoveDbxLPi

Removes the DBXL Processing Instructions from an xml document. This command takes no parameters.

Required Parameters:

- None

Optional Parameters:

- **dsname:** Data source name.
-

RemovePi

Remove a processing instruction from the xml file.

Required Parameters:

- **name:** Name of the processing instruction to remove

Optional Parameters:

- None
-

RenderForm

Renders form data using a view from the current template or another template. Currently supports rendering as PDF or Text.

Required Parameters:

- **format:** Format type to render form. pdf and text are currently supported.

Optional Parameters:

- **views:** List of views to render, separated by &
- **output:** Output encoding. PDF default: base64, allowed values for PDF: base64, base64raw. Text default: text, allowed values for Text: text)
- **filename:** Filename for the output file (only applies when /output is base64)
- **templatename:** Name of the template to use for rendering data (defaults to the currently open template)
- **dsname:** Name of the data source to use as the "main" data source for rendering. Defaults to the form's actual main data source. Intended for use in conjunction with /templatename
- **headerfontfamily:** Font name to use for header (defaults to Arial)
- **headerfontsize:** Font size to use for header in points (defaults to 8)
- **headertext:** Text to use for header. Placeholders can be used for page numbers - {CrtPage} for current page, or {PageCount} for total pages.
- **headeralignment:** Horizontal Alignment for header (valid values are left, center, right or justify - defaults to Left)
- **footerfontfamily:** Font name to use for footer (defaults to Arial)
- **footerfontsize:** Font size to use for header in points (defaults to 8)
- **footertext:** Text to use for footer. Placeholders can be used for page numbers - {CrtPage} for current page, or {PageCount} for total pages.
- **footeralignment:** Horizontal Alignment for footer (valid values are left, center, right or justify - defaults to Left)
- **open:** Attempt to open the rendered file after creating it. Possible values are: none (do nothing), browser (open within the browser), download (download the file). Default is: browser. Note that

actual behavior of /open=browser and /open=download can vary depending on browser and environment settings.

- **includebuttons:** (boolean, false by default) Include button text when rendering form as text.
-

ReplaceString

Returns a string with the instances of /string1 in the source node replaced with /string2. Can also be used with a regular expression by using the /pattern parameter.

Required Parameters:

- **xpathsrc:** XPath to the field containing the value to modify.

Optional Parameters:

- **dsnamesrc:** Name of the data source containing the source value indicated by /xpathsrc
 - **string1:** Value to be replaced - either /string1 or /pattern must be provided
 - **string2:** Value to replace with. If not specified, the found value is removed from the string. When using /pattern, can contain placeholders like \$1 \$2 to use the values of matched groups.
 - **pattern:** Regular expression pattern. Parts of the source string matching the pattern will be replaced with the value provided for /string2.
 - **reldest:** XPath relative to the node(s) indicated by the /xpathsrc parameter. When specified, qRules will place the results of the string replacement in the indicated location. Can be used to do string replacement on multiple fields at once.
 - **append:** (boolean, defaults to false) When true, the result of the string replacement is appended to the current value of the field indicated by the /reldest parameter rather than replacing it. Has no effect if /reldest is unspecified.
-

SaveToDbxl

Saves a file, a set of files, an image or a set of images to a DBXL DocType called QdFile (please refer to the qRules User Guide for details).

Required Parameters:

- **submit:** DBXL Submit Adapter Name
- **xpath:** XPath to Picture(s) or Attachment(s)

Optional Parameters:

- **dsname:** Data Source Name
- **qdimage:** (boolean, defaults to false) Create a QdImage Document for a Saved Picture (yes | no)]

- **autoopen:** (boolean, defaults to false) Use links that automatically open the saved-out files rather than the documents they are stored in.
 - **domainid:** A DBXL domain with which to associate the saved-out file
-

SaveToNetwork

Required Parameters:

- **path:** Path to the destination directory
- **xpath:** XPath to File(s)

Optional Parameters:

- **dsname:** Data Source Name
 - **name:** Name for file (extension will be added by qRules if it the value does not contain an extension)
 - **namexpath:** Path to each file's respective filename, relative to the file fields' location
 - **overwrite:** (boolean, false by default) - Overwrite existing file if name is specified
 - **clear:** (boolean, true by default) - Indicates whether to clear the attachment field on successful upload
 - **uniqueusername:** (boolean, true by default) - Prepend date and time information to file names to provide unique names
 - **createdirectory:** (boolean, true by default) - Create directory if it does not exist
-

SaveToSharePoint

Saves a file, a set of files, an image or a set of images to a SharePoint Document Library. Additional information can be found on <http://www.infopathdev.com/files/folders/qrules/entry40104.aspx>.

Required Parameters:

- **url:** SharePoint Library URL
- **xpath:** XPath to Picture(s) or Attachment(s)

Optional Parameters:

- **dsname:** Data Source Name
- **name:** Name for file (extension will be added by qRules)
- **namexpath:** Relative XPath for name field -- not available for /async

- **overwrite:** Overwrite existing file if name is specified (yes | no) -- default is no. Not available if /dsnamews is specified.
 - **async:** Filler Only - upload asynchronously to prevent blocking user while filling out form (yes | no) -- default is no. Ignored if command is used in browser.
 - **dsnameprog:** If uploading async, data source name for progress node - defaults to Main if not specified.
 - **xpathprog:** If uploading async, XPath for node to report progress to. Main data source assumed if /dsnameprog not specified.
 - **dsnamews:** Data Connection Name for Copy web service.
 - **dsurl:** Site URL for Copy web service data connection. Use only if the data connection should have its url changed.
 - **clear:** (yes | no)- indicates whether to clear the attachment field on successful upload. Default is yes.
 - **uniqueusername:** (boolean, true by default) - Prepend date and time information to file names to provide unique names
-

SetCase

Returns a string with the value of the source node in the case requested. Options are Lower, Upper and Title. Title case sets all words to lower case, then sets the first letter to each to upper case unless the word is in all upper case already.

Required Parameters:

- **xpathsrc:** XPath for source field

Optional Parameters:

- **dsnamesrc:** Data Source Name for source
 - **case:** Upper|Lower|Title (default is Upper)
-

SetCharacterLimit

Sets the character limit for view controls

Required Parameters:

- **maxlength:** The size limit for the control

Optional Parameters:

- **xpath:** The XPath to the field(s) whose length should be limited. Either /xpath or /ctrlid should be specified, but not both. Should be the full path to the field without any brackets, double slashes, etc.
 - **dsname:** The data source of the field to be limited. Defaults to the main data source if omitted
 - **ctrlid:** The ctrlid (control id) of the control to limit.
 - **view:** The view containing the control to limit. Defaults to all views if omitted. Must use /xpath (not /ctrlid if omitting /view)
 - **movenext:** (boolean - defaults to false) When true, moves focus to the next control when the limit is reached.
-

SetDefaultView

Switches the form's view to the indicated view. This is useful for times when you are using rules on a field and the "Switch views" rule action is not available, or when the view to switch to is determined dynamically.

Required Parameters:

- **view:** View name

Optional Parameters:

- None
-

SetValidationMode

Sets the form's validation behavior, determining how frequently validation takes place.

Required Parameters:

- **mode:** The validation mode to use. Possible values are:
 - none - don't automatically validate;
 - auto - validate before each view update (essentially after each user interaction);
 - afterChange - after a field in the view is modified;
 - afterErrorChange - after a field in the view with a validation error is modified.

Default mode is afterErrorChange

Optional Parameters:

- None
-

SetValue

Sets the value of one or more fields. Can be used to specify a particular field (like in a repeating group) using XPath filters.

Required Parameters:

- **xpath:** XPath to field(s) to set.

Optional Parameters:

- **dsname:** Data source name of the field(s) to set.
 - **value:** New value for the field.
 - **blank:** (boolean) Sets the field to blank. Overrides /value if specified
 - **nil:** (boolean) Adds an xsi:nil="true" attribute to the field. For use with non-string data types. Overrides /value if specified.
-

SetXml

Allows setting the XML content of a node based on a string.

Required Parameters:

- **destpath:** Destination path
- **value:** XML value to set

Optional Parameters:

- **destds:** Destination data source
 - **excludesourceroot:** (boolean) - When true, omits the root element of the source node from the inserted XML and only inserts its contents
-

SortTable

Sorts a table according to the specified column(s) and order(s).

Required Parameters:

- **row:** XPath to table rows to sort.
- **compare:** XPath to field(s) to compare, relative to the rows being sorted. When sorting on multiple columns, separate values with commas.

Optional Parameters:

- **dsname:** Data Source Name

- **order:** (Default: asc) Sort Order (asc | desc). When sorting on multiple columns, separate values with commas.
- **type:** (Default: text) Data Type (text | number). When sorting on multiple columns, separate values with commas.

SubmitToDbxl

Submits the document to Qdabra DBXL.

Required Parameters:

- **submit:** Name of the query (receive) data connection to DBXL's SubmitDocument, SubmitDocumentWithKey, or SubmitDocumentAsUser method.

Optional Parameters:

- **doctype:** Allows you to explicitly specify the doc type to submit to. This is necessary when the template is going to be accessed from somewhere other than DBXL (like SharePoint) or when you're submitting a data source other than the main data source.
- **docid:** DocID of the document you are submitting.
If /docid is specified and /xpath is not, this docid will be stored in the data source in a QdabraDBXL processing instruction and will be included in subsequent submits unless it is deliberately modified or overridden in a subsequent SubmitToDbxl command.
Ignored if /xpath is specified and matches multiple nodes.
Use /docidxpath to specify DocIDs for multiple documents.
- **key:** Document key to use when submitting to the SubmitDocumentWithKey web method.
When using that method, either this or /keyxpath must be specified.
Ignored if /xpath is specified and matches multiple nodes.
Use /keyxpath to specify keys for multiple documents.
- **user:** If submitting via the SubmitDocumentAsUser web method, the user parameter must be provided.
- **name:** Form name
- **author:** Form author
- **desc:** Form description
- **dsname:** Allows you to submit a datasource other than the main data source to DBXL. This can be used when you have child doc types and have added their XML as a 2ds
- **timeout:** Allows you to enter the timeout in secs. This can be used if you have large documents to submit to DBXL
- **xpath:** XPath to XML-tree node(s) to submit, if you are submitting only a portion of the xml

- **doctypexpath:** Relative XPath to submit doc type value; overrides /doctype param
 - **docidxpath:** XPath to locate the DocID for each document to submit. Relative to /xpath if /xpath is specified; otherwise, relative to the data source root.
Overrides /docid.
 - **keyxpath:** XPath to locate the Document Key for each document to submit. Relative to /xpath if /xpath is specified; otherwise, relative to the data source root.
Overrides /key.
 - **namexpath:** Relative XPath to Name value; overrides /name param
 - **authorxpath:** Relative XPath to Author value; overrides /author param
 - **descxpath:** Relative XPath to Description value; overrides /desc param
 - **resultdocidxpath:** Relative XPath to store DocID value returned from successful submit
 - **resultrefidxpath:** Relative XPath to store RefID value returned from successful submit
-

SubmitToNetwork

Submits the contents of a data source to a local network location. Only supported on FormsViewer instances that have this feature enabled.

Required Parameters:

- **path:** Path to submit the file to. If /filename is specified, assumes this is the path to a folder where the file should be saved. Otherwise, assumes this is the full file path.

Optional Parameters:

- **filename:** The name of the file to save. Can be omitted if filename is included in /path
 - **dsname:** The data source whose contents should be submitted. If not specified, assumes the current data source.
 - **createdirectory:** (boolean, false by default) Create target directory if it does not exist. Otherwise, will fail if the directory does not exist.
 - **overwrite:** (boolean, false by default) Overwrite target file if it exists. Otherwise, will fail if the file exists.
-

SubmitToSharePoint

Submits an XML document to a SharePoint form library.

Required Parameters:

- **dssubmit:** Submit Data Connection Name

Optional Parameters:

- **dsname:** Data Source Name
 - **overwrite:** Allow overwriting the target file
 - **url:** Folder location to save
-

SubmitToSharePointList

Submits data to the SharePoint list it has been mapped to. If provided with the path to a field for the list item ID, populates that, allowing for updating of items in the list from the form.

Required Parameters:

- None

Optional Parameters:

- **mapping:** Mapping Data Connection Name - default is mapping
 - **mappingName:** Name of mapping to submit if not submitting all mappings in a mapping file
 - **id:** Path to Id field for SharePoint List Id (required if adding attachments, pre-4.2 mapping - can be indicated in mapping file for 4.2 and later.)
 - **dsname:** Data Source For AddAttachment Method (SharePoint Lists Web Service)
 - **xpath:** XPath to attachment field (pre-4.2 mapping - can be indicated in mapping file for v4.2 and later)
 - **name:** Name for file (extension will be added by qRules)
 - **namexpath:** Relative XPath for name field
 - **uniqueName:** Prepend date and time information to the file name to provide a unique name (yes | no)
 - **clear:** (yes | no)- indicates whether to clear the attachment field on successful upload. Default is yes.
 - **ssappid:** Secure store application id to use if user is logged in anonymously
 - **submit:** Sharepoint List Service Submit Connection Name
-

SwapDomWithDocument

After retrieving documents by passing in the DBXL document ID in the input parameters, this command replaces the main DOM with the retrieved XML.

Required Parameters:

- **getdocument:** DBXL GetDocument data connection name
- **docid:** Document ID to replace the DOM with

Optional Parameters:

- **upgradedocument:** It attempts to apply the template's built in upgrade to the incoming document
- **version:** Allows querying a previous version of a form stored in DBXL

Transform

Performs an XSL transform on data in any data source and stores the result somewhere else in the form. Supports using `xsl:include` and `xsl:import` to import other XSLTs that are stored in the form as a resource file. The resulting XML can be stored as either a string value in a single field, or as an entire node tree beneath a certain node. This command utilizes an XSLT stored as a resource file in the XSN to perform its transform. You can use the Resource Files dialog to add and manage these files. This command is recommended for experienced users who know how to create an XSLT.

Required Parameters:

- **xsltfile:** Resource file name of XSL transform

Optional Parameters:

- **sourceds:** Source data source
- **sourcepath:** Source node path
- **sourcefile:** Source template file
- **destds:** Destination data source
- **destpath:** Destination node path
- **tostring:** (boolean, false by default) Store result as string value
- **excluderoot:** Omit root of transform result when transferring to destination
- **resultfilename:** The filename to use for the resulting file when using the base64 format
- **placement:** Location to place the transform result in the destination node. Possible values are: replace, prepend, append (default is replace)
- **usedocument:** (boolean, false by default) Allow using the `document()` function in the XSLT.
- **setresult:** (boolean, false by default) Set the transform result to the qRules Result field.
- **format:** Method for storing the result (xml, string, base64)

UseOption

Allows setting FormsViewer options that affect form behavior.

Required Parameters:

- **key:** The key (identifier) for the option
- **value:** The value to set to the option

Optional Parameters:

- None
-

WriteLog

Writes a message to the logging system

Required Parameters:

- **message:** The message to log

Optional Parameters:

- None
-

XmlToJson

Converts XML in one of the form's data sources to a JSON string. Useful in combination with the MakeRequest command for interacting with JSON web APIs.

Required Parameters:

- None

Optional Parameters:

- **xpath:** XPath to the node to convert to JSON
- **dsname:** Name of the data source with the node to convert to JSON

APPENDIX: CUSTOM QRULES COMMAND

FormsViewer supports custom qRules Commands. This allows you to create your own commands in JavaScript.

To prevent naming conflicts with current and future qRules commands, the added command will be available using the specified name prepended with Custom.

- e.g. MyCommand -> **Custom**MyCommand

Learn more here: [Custom qRules Commands for FormsViewer](#)