

Lab 1 - Submit and Refresh Items to a SharePoint List

Overview

This document details how to use the qRules Command **SubmitToSharePointList** and **RefreshSharePointListItems** together to **(a)** submit repeating data to a parent and child list and **(b)** add the ability to update all your SharePoint list connected items with the latest data from the list, so your users can update either the XML or the list.

Before you Start

Verify that you have created the Expense Report parent and child lists. If not, please review the **Expense Report Deployment Guide.pdf** and look for the steps to create the lists for Parent (Expense Reports) and Child (Expense List Items) using the STP files.

Here's a quick illustration to describe which data will be submitted to the parent and child lists and why we are submitting them separately to two different lists.



Close

EXPENSE REPORT

NAME Jo-Anne Tandaan	MANAGER Jo-Anne Tandaan	ACCOUNTING MANAGER Jo-Anne Tandaan
REPORT DATE 4/6/2020	BUSINESS PURPOSE* Client meeting	

EXPENSE ITEMS						FROM: 4/1/2020	TO: 4/1/2020
CATEGORY *	DATE *	DESCRIPTION	MERCHANT	RECEIPT	AMOUNT *		
Meals	4/1/2020	Lunch	Trellis	Attach file	\$80.00		
Transportation	4/1/2020	Ride fees	Grab Car	Attach file	\$70.00		
					SUBTOTAL	\$150.00	
					LESS CASH ADVANCE	\$0.00	
					TOTAL	\$150.00	

Insert item

Submit

These values are not repeating, and they are considered as "Header" values so we will submit it to the Expense Reports List (Parent)

Solution Version: 1.0.1.1396

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Close

EXPENSE REPORT

NAME Jo-Anne Tandan	MANAGER Jo-Anne Tandan	ACCOUNTING MANAGER Jo-Anne Tandan
REPORT DATE 4/6/2020	BUSINESS PURPOSE* Client meeting	

EXPENSE ITEMS						FROM: 4/1/2020	TO: 4/1/2020
CATEGORY *	DATE *	DESCRIPTION	MERCHANT	RECEIPT	AMOUNT *		
Meals	4/1/2020	Lunch	Trellis	Attach file	\$80.00		
Transportation	4/1/2020	Ride fees	Grab Car	Attach file	\$70.00		
SUBTOTAL					\$150.00		
LESS CASH ADVANCE					\$0.00		
TOTAL					\$150.00		

Insert item

Submit

These is a repeating table, and the values entered here must be submitted to a child list - Expense List Items (*Child*)

Create the Parent Mapping

This section will show you how to create the mapping using the built in **Forms Designer** in **FormsViewer**.

1. Upload the form template *Lab 1 - Submit and Refresh Start.xsn* in FormsViewer.
2. Name the form template *Lab 1 - Submit and Refresh End* or any name you prefer and save it under FormsViewer Training Day 2 group.
3. Click **Design**.

Back to Templates Open Form Open Form (anonymous) **Design**

Your template has been successfully updated.

Update *Lab 1 - Submit and Refresh End*

Form Template:

Click / Drop here to upload files

4. You will be directed to the **FormsDesigner** page.



FormsDesigner

Select Template

Lab 1 - Submit and Refresh End x ▾

Refresh Schema

Refresh Templates

Command Builder

SharePoint List Mappings

JSON XML Builder

Rule Editor

Manage Connections

Manage Resources

Select Command

x ▾

Please select a command name.

5. Click the **SharePoint List Mappings** tab.

6. Enter a mapping name. There's no need to enter your site because the Designer will automatically detect it and place it in the corresponding field.



FormsDesigner

Select Template

Lab 1 - Submit and Refresh End x ▾

Refresh Schema

Refresh Templates

Command Builder

SharePoint List Mappings

JSON XML Builder

Rule Editor

Manage Connections

Manage Resources

Mappings

Enter Mapping Name

mapping

SharePoint Site URL

https://qdabra.sharepoint.com/Training/FV2004

Refresh Site Lists

No mapping(s) exist. Click "Add Top-Level Mapping" to create one.

+ Add Top-Level Mapping

****IMPORTANT**:** Please name the mapping "mapping" as shown in the screenshot.

7. To add the Expense Reports Parent list, click **Add Top-Level Mapping**.



FormsDesigner

Select Template

Expense Report Form

Refresh Schema

Refresh Templates

Command Builder

SharePoint List Mappings

JSON XML Builder

Rule Editor

Manage Connections

Manage Resources

Mappings

Enter Mapping Name

mapping

SharePoint Site URL

https://qdabra.sharepoint.com/Training/FV2004

Refresh Site Lists

No mapping(s) exist. Click "Add Top-Level Mapping" to create one.

+ Add Top-Level Mapping

8. Select the Expense Reports list (parent list) from the dropdown.

Expense Reports

SharePoint List

Expense Reports

Refresh Columns

☐ Data is from Repeating group

Select the base path for your

Select

9. Select the base path and click on **ExpenseReport** as the base path.

Mapping Definition

Expense Reports

SharePoint List

Expense Reports

Refresh Columns

☐ Data is from Repeating group

Select the base path for your

Select

Selected path: /my:ExpenseReport

+ ExpenseReport

Confirm

Cancel

10. Make sure that the “**Use List Name For Submit**” is checked. This means that we’re going to use the List Name as the reference for submission and not the List GUID.

Mapping Definition
+ Add Top-Level Mapping

Expense Reports

SharePoint List
Expense Reports
Refresh Columns
☒ Use List Name For Submit

☐ Data is from Repeating group
my:ExpenseReport
Select

11. Next, we will be adding the **Form Fields** to be mapped to the parent list columns. In the first row, click the **Select** button next to the Form Field.

Mapping Definition
+ Add Top-Level Mapping

Expense Reports

SharePoint List
Expense Reports
Refresh Columns
☒ Use List Name For Submit

☐ Data is from Repeating group
my:ExpenseReport
Select

Fields
+ Add Field

Form Field		SharePoint Column	Options	
	Select		Plain	Remove

Save

12. Select the SharePoint ID (ShPIId) in the main data source.

Selected path: /my:ExpenseReport/my:Form/my:ShPIId

ExpenseReport
Form
ShPIId
Status
FormName
countMR
AttachmentsFolder
FormFile
Language
PendingStatus
Resource
ExpenseDetails
ReportTracking

Confirm
Cancel

We are going to use this field for the Expense Report List Item id. It doesn't get mapped to a column. On a successful submit, qRules will populate it with the newly created item's ID, so we can update our list item from our form.

13. Next, in the **SharePoint Column** dropdown, select **ID**.

Fields

Form Field

my:Form/my:ShPID

Select

SharePoint Column

ID

Options

ID

14. Click the **+Add Field** button to map the rest of the fields as shown below.

Form Field	SharePoint Column
my:Form/my:ShPID	ID
my:ExpenseDetails/my:Report/my:ReportDate	Report Date
my:ExpenseDetails/my:Report/my:ReportName	Report Name
my:Resource/my:Employee/my:Name	Resource Name
my:ExpenseDetails/my:Report/my:Purpose	Purpose
my:ExpenseDetails/my:Report/my:Total	Total
my:Form/my:Status	Status

Here's how the rest of the mapping looks:

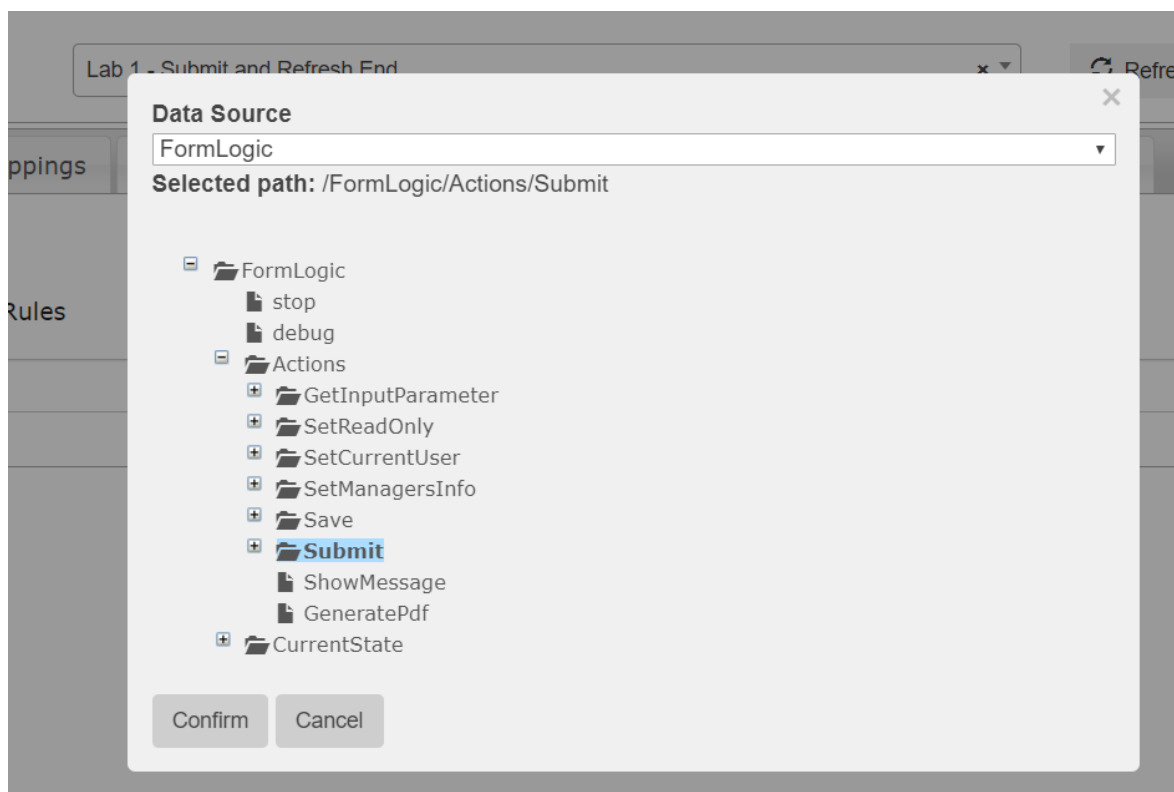
Form Field	SharePoint Column	Options
my:Form/my:ShPid	ID	ID
my:ExpenseDetails/my:Report/my:ReportDate	Report Date	Date
my:ExpenseDetails/my:Report/my:ReportName	Report Name	Plain
my:Resource/my:Employee/my:Name	Resource Name	Plain
my:ExpenseDetails/my:Report/my:Purpose	Purpose	Plain
my:ExpenseDetails/my:Report/my:Total	Total	Plain
my:Form/my:Status	Status	Plain

15. Click **Save** button at the bottom.

Add the SubmitToSharePointList Command

After creating the mapping, we will add a qRules command that will set the mapping to run. Let's use the **Rule Editor** to add the command.

1. Go to the **Rule Editor** tab.
2. Make sure that the option **Field Rules** is selected.
3. In the **Select Field** textbox, select the **Submit** field under **FormLogic** data source → **Actions** node. Click Confirm.



- Click **+New Rule**. Add a new rule called "Submit to SharePoint List" move it up so that it runs right after the **Set Report Name** rule.

Select Field

Field Rules

Stop if blank - 1 action	↓	×
Reset self - 1 action	↓	↑
Set Form Status - 1 action	↓	↑
Set Assignment - 2 actions	↓	↑
Print no receipt - 1 action	↓	↑
Set Report Name - 1 action	↓	↑
Submit to SharePoint List - 1 action	↓	↑
Set Form Name - 1 action	↓	↑
Submit to Expense Report Form Library - 2 actions	↑	×

- Leave the action **Set a field's value**. This is selected as default:

Actions

+ New Action

Please specify valid values for all actions

To use a static value in expression for **Set a field's value** surround it in quotes, like "Use this value"

×

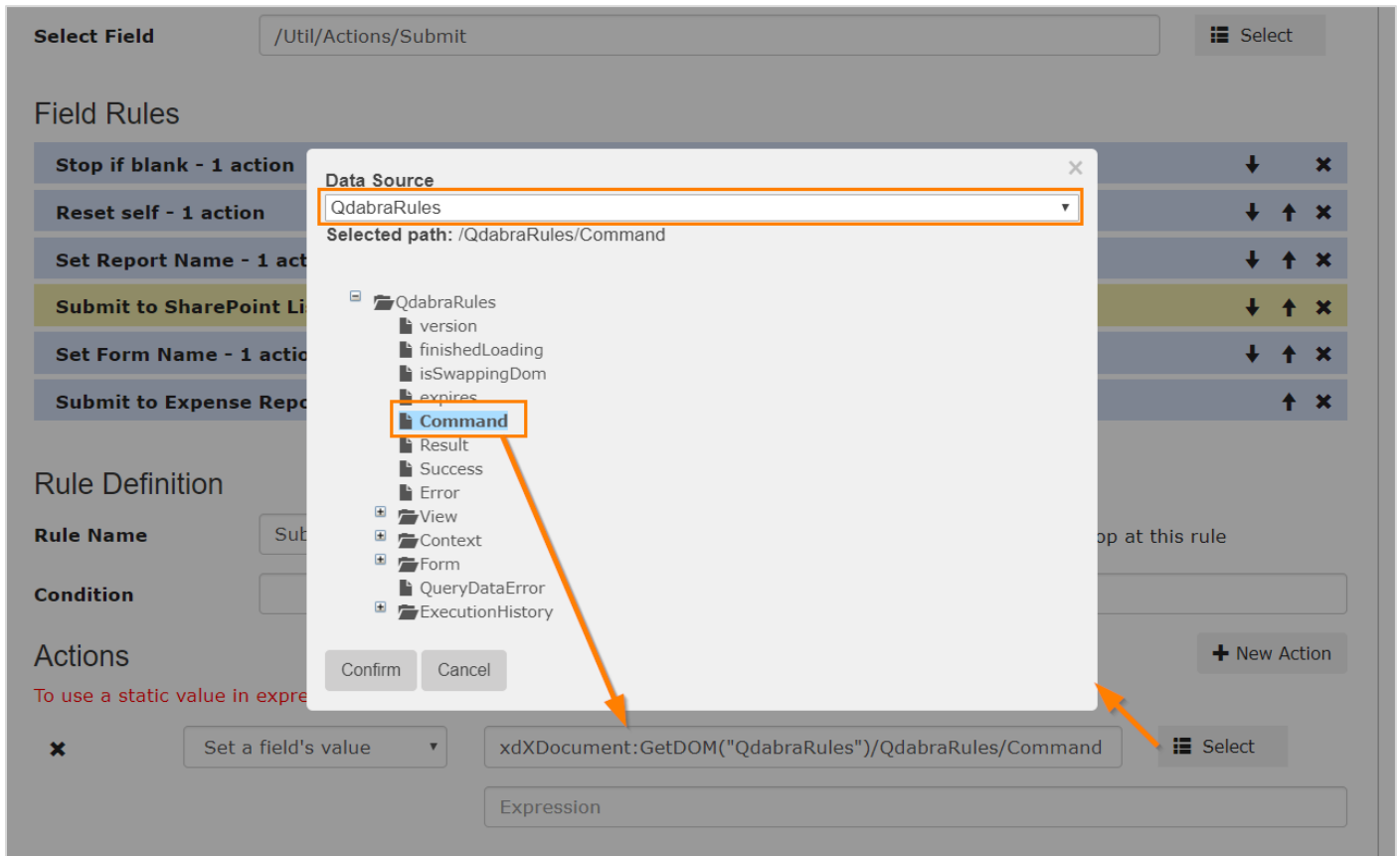
Set a field's value

Target Field

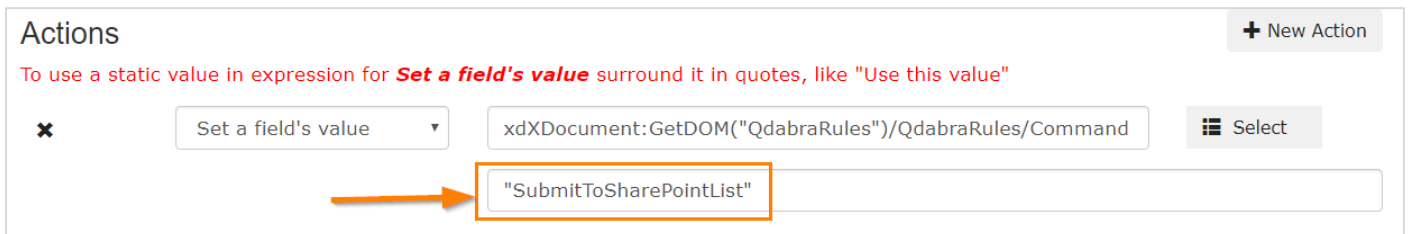
Expression

Select

- In the **Target Field** textbox, select the **Command** field under **QdabraRules** data connection.



7. In the field below it, type the command `SubmitToSharePointList` and surround it with quotes.



8. Once that's done, click **Save Changes** at the top of the page.

Form Rules

/FormLogic/Actions/Submit - 9 rules

Rule Type ☒ Field Rules ☐ Button Rules

Select Field /FormLogic/Actions/Submit

Save Changes

Remove RuleSet

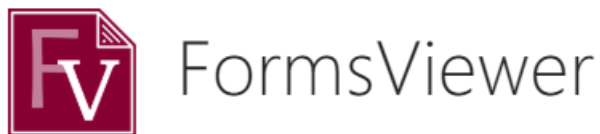
New Rule

Select

Test the Parent Mapping

Now that you have created your first mapping, lets run a quick check to see if the Expense Report form submits to the Expense Reports list.

1. Back in the Upload Template page, click **Open Form**.



[Back to Templates](#)
[Open Form](#)
[Open Form \(anonymous\)](#)
[Design](#)

Update **Lab 1 - Submit and Refresh End**

2. Fill out the form and submit an expense.


[Close](#)

EXPENSE REPORT

NAME Jo-Anne Tandan	MANAGER Kaoru Okumura	ACCOUNTING MANAGER Kaoru Okumura
REPORT DATE 4/11/2020	BUSINESS PURPOSE* Client meeting	

EXPENSE ITEMS

FROM: 4/11/2020 TO: 4/11/2020

CATEGORY *	DATE *	DESCRIPTION	MERCHANT	RECEIPT	AMOUNT *
Meals ▼	4/11/2020 	Lunch	Trellis	Attach file	\$80.00
SUBTOTAL					\$80.00
LESS CASH ADVANCE					\$0.00
TOTAL					\$80.00

[Insert item](#)
[Submit](#)

Solution Version: 1.0.1.1482

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3. Refresh the Expense Reports list to verify that an item is submitted.

Expense Reports

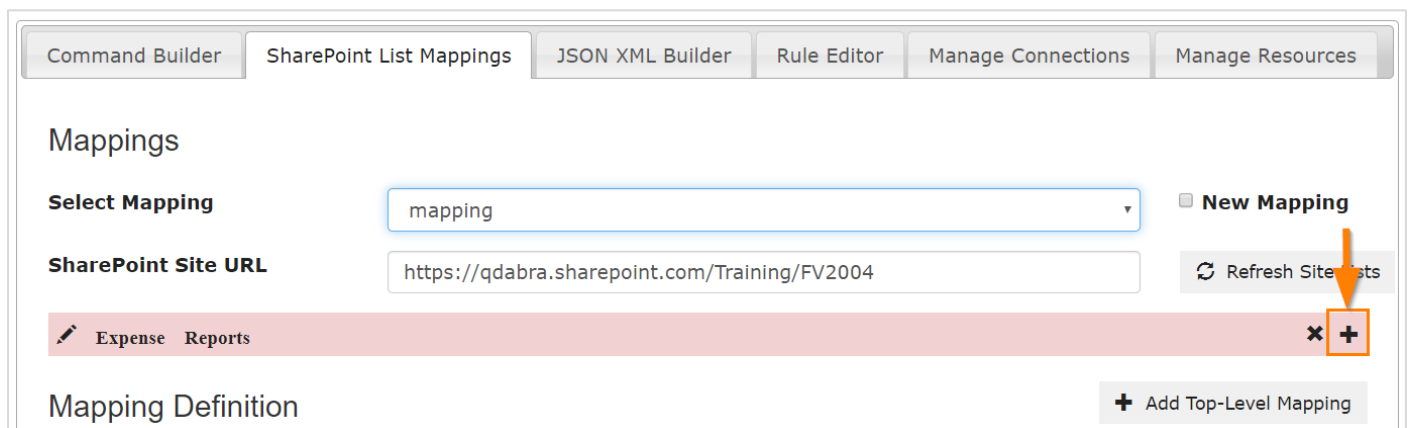
ID ▾	Report Name ▾	Resource Name ▾	Report Date ▾	Purpose ▾	Total ▾	Status ▾
24	ER Jo-Anne Tandaan 2020-04-11	Jo-Anne Tandaan	4/11/2020	Client meeting	80	Submitted

Congrats! You have created your first mapping! 😊

Create a Child Mapping

Next, let's add the child mapping.

1. Back in the SharePoint List Mappings, click the + button that can be found to the right of the Expense Reports mapping name.



Command Builder | SharePoint List Mappings | JSON XML Builder | Rule Editor | Manage Connections | Manage Resources

Mappings

Select Mapping: mapping ▾

SharePoint Site URL: https://qdabra.sharepoint.com/Training/FV2004

Refresh Site Lists

Expense Reports ✕ +

Mapping Definition

+ Add Top-Level Mapping

2. For the SharePoint List, select **Expense List Items** in the dropdown.

Mappings

Select Mapping

mapping

SharePoint Site URL

https://qdabra.sharepoint.com/Training/FV2004

Refresh Site Lists

Expense Reports

Expense List Items

Mapping Definition

Expense List Items

SharePoint List

Expense List Items

Refresh Columns

Use List Name For Submit

☐ Data is from Repeating group

Select the base path for you

Select

3. Check the box **Data is from Repeating group**.

Mappings

Select Mapping

mapping

SharePoint Site URL

https://qdabra.sharepoint.com/Training/FV2004

Refresh Site Lists

Expense Reports

Expense List Items

Mapping Definition

Expense List Items

SharePoint List

Expense List Items

Refresh Columns

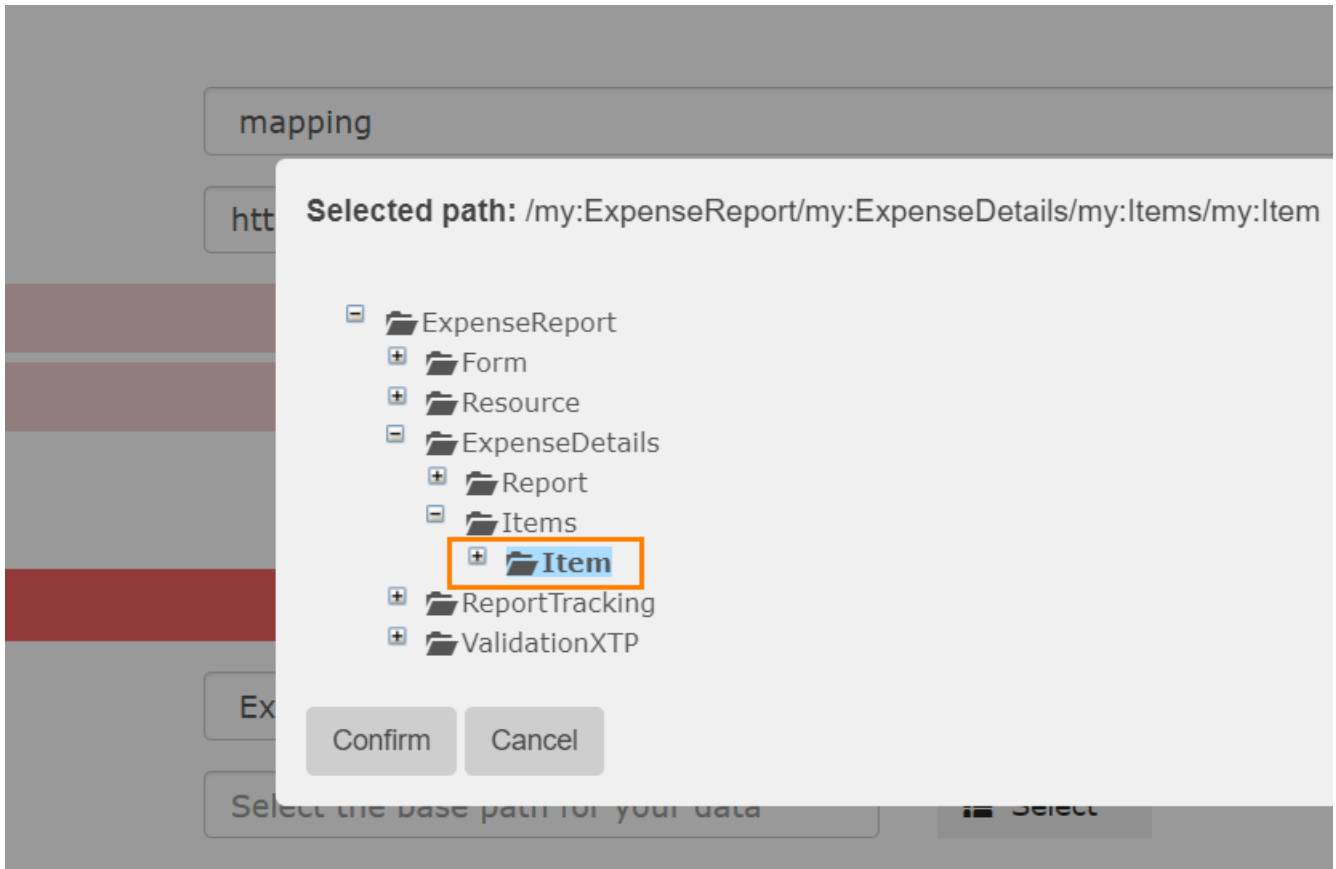
Use List Name For Submit

☒ Data is from Repeating group

Select the base path for you

Select

4. To the field where it says, "Select the base path...", click the **Select** button and select the **Item** repeating group as the base path. Click Confirm.



5. Don't forget to check the **"Use List Name For Submit"**.

Mappings

Select Mapping

mapping

SharePoint Site URL

https://qdabra.sharepoint.com/Training/FV2004

Refresh Site Lists

Expense Reports

Expense List Items

Mapping Definition

Expense List Items

SharePoint List

Expense List Items

Refresh Columns

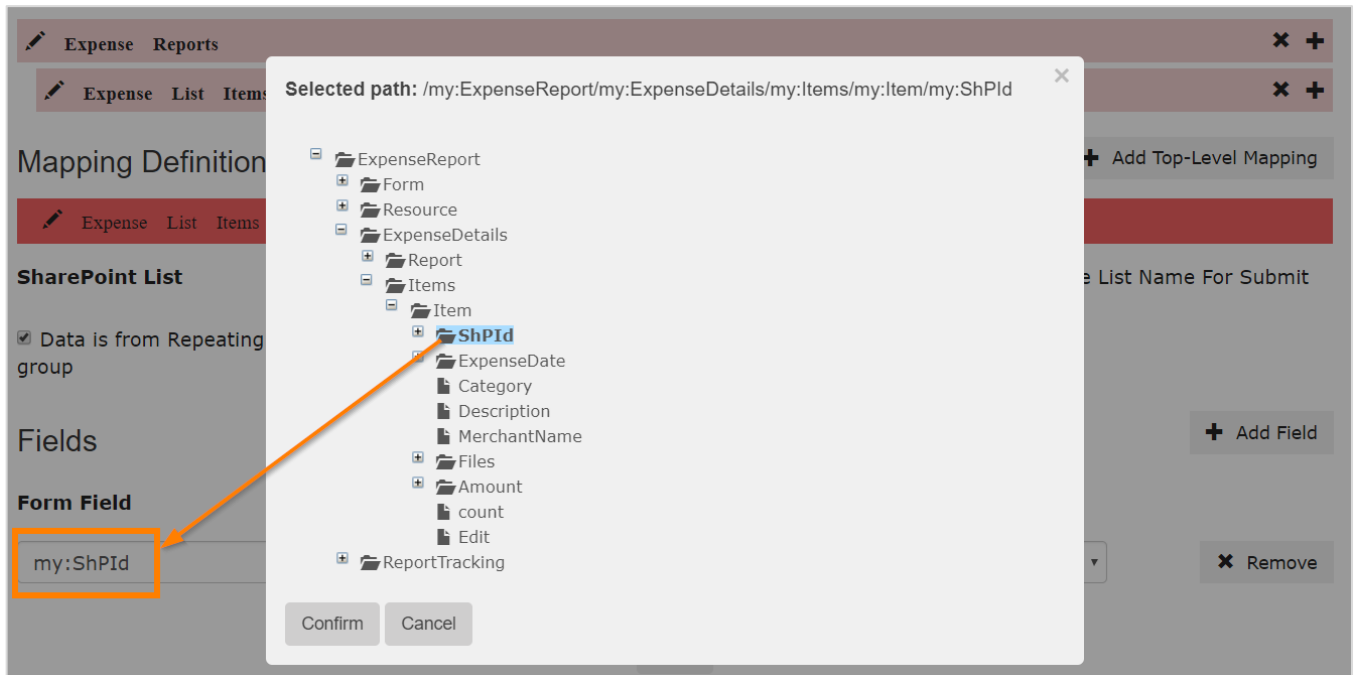
☒ Use List Name For Submit

☒ Data is from Repeating group

my:ExpenseDetails/my:Iter

Select

6. Now, we will map the fields. In the first Form Field, select the **ShPIId** field under the **Item** base path.



7. Map this field to the SharePoint ID column.

Form Field		SharePoint Column	Options
my:ShPid	Select	ID	ID

8. Click **+Add Field**. Do not select any Form Field in this row – just select the **Report ID** under SharePoint Column, and in the **Options** dropdown field, select **Parent List Id**. Basically, we are telling FormsViewer to save the Parent List ID value (remember the parent list is the Expense Reports list) to the column Report ID, so, we are adding a reference of the parent ID to the child.

Form Field		SharePoint Column	Options
my:ShPid	Select	ID	ID
		Report ID	Parent List Id

9. Map the rest of the Form fields to their corresponding SharePoint columns and click **Save**.

SharePoint List
Expense List Items
Refresh Columns
☒ Use List Name For Submit

☒ Data is from Repeating group
my:ExpenseDetails/my:Item
Select

Fields

Add Field

Form Field		SharePoint Column	Options	
my:ShPID	Select	ID	ID	Remove
		Report ID	Parent List Id	Remove
my:Category	Select	Category	Plain	Remove
my:Description	Select	Description	Plain	Remove
my:ExpenseDate	Select	Date	Plain	Remove
my:Amount	Select	Amount	Plain	Remove
../ ../ ../ my:Form/my:Status	Select	Status	Plain	Remove

Save

NOTE: In order to map fields that are outside the repeating group (for example, the Status column mapped to the Form Field `../ ../ ../ my:Form/my:Status` in the screenshot above). Manually add the relative XPath Expression of the field in the Form Field box. Here's a [blog](#) on how to use rules to get the relative XPath.

Test the Child Mapping

Now that you have created the child mapping, lets run another test to check if the Expense Report form submits to the Expense List Items.

1. Back in the Upload Template page, click **Open Form**.
2. Fill out the form and submit an expense.

[Close](#)

EXPENSE REPORT

NAME

Jo-Anne Tandan

MANAGER

Kaoru Okumura

ACCOUNTING MANAGER

Kaoru Okumura

REPORT DATE

4/11/2020

BUSINESS PURPOSE*

Client meeting

EXPENSE ITEMS

FROM: 4/11/2020 TO: 4/11/2020

CATEGORY *

DATE *

DESCRIPTION

MERCHANT

RECEIPT

AMOUNT *

Meals

4/11/2020

Lunch

Trellis

Attach file

\$80.00

Fees or dues

4/11/2020

Zoom Pro

Zoom

Attach file

\$14.99

SUBTOTAL

\$94.99

LESS CASH ADVANCE

\$0.00

TOTAL

\$94.99

Insert item

[Submit](#)

Solution Version: 1.0.1.1484

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- Refresh the *Expense Reports* and *Expense List Items* lists to verify that an item is submitted to both lists.

Parent List:

Expense Reports

ID	Report Name	Resource Name	Report Date	Purpose	Total	Status
25	ER Jo-Anne Tandan 2020-04-11	Jo-Anne Tandan	4/11/2020	Client meeting	94.99	Submitted

Child List:

Expense List Items

Report ID ▾	Description ▾	Date ▾	Category ▾	Amount ▾	Status ▾	ID ▾
25	 Lunch	2020-04-11	Meals	80	Submitted	22
25	 Zoom Pro	2020-04-11	Fees	14.99	Submitted	23

Congrats! You just completed both mappings! 😊

Add the RefreshSharePointListItems command

The **RefreshSharePointListItems** command is always used with forms that are set up to use the **SubmitToSharePointList** command where a form field is set to maintain the SharePoint list item ID. The RefreshSharePointListItems leverages this ID field - it adds to your form the ability to update all your SharePoint list connected items with the latest data from the list, so your users can update either the XML or the list. The items will stay in sync when your XML is next opened, and it can also propagate deletes - both from the XML to the list and vice versa.

1. In FormsViewer, go to the **Command Builder** tab.
2. Search for **RefreshSharePointListItems** command.
3. Find the **mode** parameter, select Update.

i mode

☒ Static
 ☐ Dynamic

(omit)

(omit)

Report

Update

4. Click **Copy to Clipboard**.

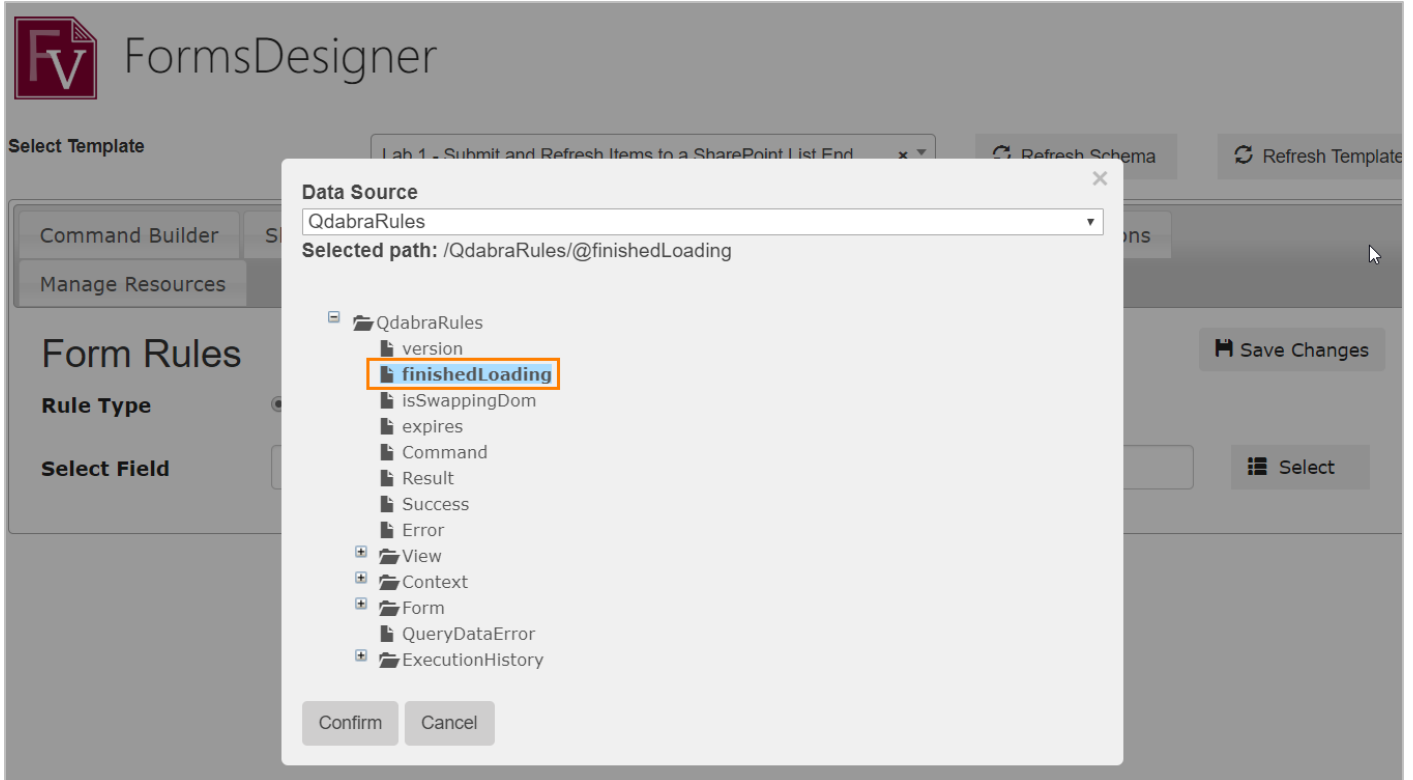
Command

Copy to Clipboard

RefreshSharePointListItems /mode=update

5. Switch to the **Rule Editor** tab.

6. For Rule Type, select **Field Rules**.
7. In the **Select Field** textbox, select the **finishedLoading** node under **QdabraRules** data source.



8. Click **New Rule**. Name this rule "Refresh".
9. Leave the action to **Set a field's value**.
10. Select the **Command** field under **QdabraRules** data connection as the target field.
11. Copy and paste the command below. Don't forget to surround it in quotes.

"RefreshSharePointListItems /mode=update"

Refresh - 1 action
↑ ×

Rule Definition

Rule Name ☒ Enabled ☐ Stop at this rule

Condition

Actions + New Action

To use a static value in expression for **Set a field's value** surround it in quotes, like "Use this value"

×

Set a field's value

xdXDocument:GetDOM("QdabraRules")/QdabraRules/Comm;

"RefreshSharePointListItems /mode=update"

Select

12. When done, click **Save Changes** at the top of the page.

Test your form!

- Let's open one of the forms submitted in the Expense Report library (modern UI). Simply click on the XML link.

Expense Report Library

	Name ▾	Expense Date ▾	Name ▾
	Expense Report No. 25 - Jo-Anne Tandan.xml	4/11/2020	Jo-Anne Tandan

- When the form opens, click Edit.


Close

EXPENSE REPORT

FORM STATUS

SUBMITTED

Edit

NAME Jo-Anne Tandan	MANAGER Kaoru Okumura	ACCOUNTS MANAGER Kaoru Okumura
REPORT DATE 4/11/2020	BUSINESS PURPOSE Client meeting	

EXPENSE ITEMS				FROM: 4/11/2020 TO: 4/11/2020	
CATEGORY	EXPENSE DATE	DESCRIPTON	MERCHANT	RECEIPT	AMOUNT
Meals	4/11/2020	Lunch	Trellis		\$80.00
Fees	4/11/2020	Zoom Pro	Zoom		\$14.99
				SUBTOTAL	\$94.99
				LESS CASH ADVANCE	\$0.00
				TOTAL	\$94.99

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3. Make some changes to the items. I've highlighted the changes I made:

EXPENSE ITEMS						FROM: 4/11/2020 TO: 4/11/2020
CATEGORY *	DATE *	DESCRIPTION	MERCHANT	RECEIPT	AMOUNT *	
Meals ▼	4/11/2020 	Lunch	Trellis	Attach file	\$100.00	
Software ▼	4/11/2020 	Zoom Pro	Zoom	Attach file	\$14.99	
SUBTOTAL					\$114.99	
LESS CASH ADVANCE					\$0.00	
TOTAL					\$114.99	

Insert item

Submit

4. Click Submit.

5. Refresh the lists and verify that the changes are reflected in the Expense Reports and Expense List Items:

Expense Reports

ID ▼	Report Name ▼	Resource Name ▼	Report Date ▼	Purpose ▼	Total ▼	Status ▼
25	ER Jo-Anne Tandan 2020-04-11	Jo-Anne Tandan	4/11/2020	Client meeting	114.99	Submitted

Expense List Items

Report ID ▼	Description ▼	Date ▼	Category ▼	Amount ▼	Status ▼
25	Lunch	2020-04-11	Meals	100	Submitted
25	Zoom Pro	2020-04-11	Software	14.99	Submitted

6. Try editing the item from the list and reopen the form in the Expense Report library to see the changes take effect.

FV2004

+

 New

✎

 Quick edit

📄

 Export to Excel

⚙️

 PowerApps

⌵

📄

 Flow

⌵

⋮

Expense List Items

Report ID ⌵	Description ⌵	Date ⌵	Category ⌵	Amount ⌵
25	Lunch	2020-04-11	Meals	150
25	Zoom Pro	2020-04-11	Software	14.99

✎ Edit all

🔗 Copy link

✎ E

Lunch

Description *

Lunch

Report ID

25

Date

2020-04-11

Category

Meals

Amount

150

Status

Submitted

EXPENSE REPORT

FORM STATUS
SUBMITTED

Edit

NAME
Jo-Anne Tandan

MANAGER
Kaoru Okumura

ACCOUNTS MANAGER
Kaoru Okumura

REPORT DATE
4/11/2020

BUSINESS PURPOSE
Client meeting

EXPENSE ITEMS

FROM: 4/11/2020 TO: 4/11/2020

CATEGORY	EXPENSE DATE	DESCRIPTON	MERCHANT	RECEIPT	AMOUNT
Meals	4/11/2020	Lunch	Trellis		\$150.00
Software	4/11/2020	Zoom Pro	Zoom		\$14.99
				SUBTOTAL	\$164.99
				LESS CASH ADVANCE	\$0.00
				TOTAL	\$164.99

7. You can also try deleting the item from the list and the item will no longer show when you re-open the form. Deletion works vice-versa, you can delete either from the list or the form.

 Edit
  Share
  Copy link
  Delete
  Flow
  ...

Expense List Items

Report ID ▾	Description ▾	Date ▾	Category ▾	Amount ▾
25	Lunch	2020-04-11	Meals	150
25	Zoom Pro	2020-04-11	Software	14.99

Close

EXPENSE REPORT

FORM STATUS

SUBMITTED

Edit

NAME

Jo-Anne Tandan

MANAGER

Kaoru Okumura

ACCOUNTS MANAGER

Kaoru Okumura

REPORT DATE

4/11/2020

BUSINESS PURPOSE

Client meeting

EXPENSE ITEMS

FROM: 4/11/2020 TO: 4/11/2020

CATEGORY	EXPENSE DATE	DESCRIPTION	MERCHANT	RECEIPT	AMOUNT
Software	4/11/2020	Zoom Pro	Zoom		\$14.99
SUBTOTAL					\$14.99
LESS CASH ADVANCE					\$0.00
TOTAL					\$14.99

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Congrats! 😊 You have finished the exercises for **Lab 1**.

You may check out the End form for this lab (*Lab 1 - Submit and Refresh End.xsn*).

--- End of Lab 1 ---

Contact Information

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