

Step-By-Step build Advanced InfoPath Form and SharePoint Designer Workflow

Workshop:

One the Request Form we will design a sample process of "Employee Vacation Request" with Approval process workflow.

Required Tools:

- InfoPath 2010 Designer.
- SharePoint 2010 Enterprise environment.
- SharePoint 2010 Designer.

Steps:

On InfoPath Designer:

- Create New SharePoint Form Library and set the target SharePoint Site
- Create following objects on the Form:

1- Five Fields:

- RequestNumber (String).
- Justification (String) multi line **Mandatory**
- StartDate (Date). **Mandatory**
- EndDate (Date). **Mandatory**

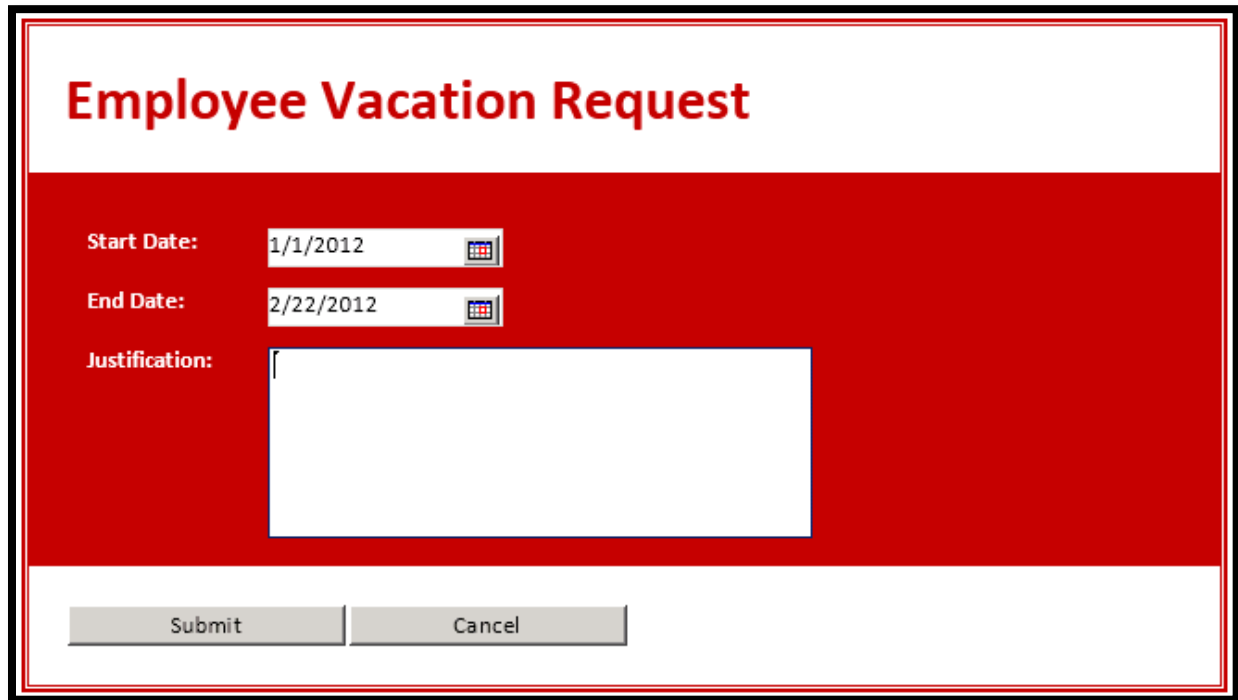
2- Two Buttons:

- Submit.
- Cancel.

3- Three Views:

- Default View (Edit mode view & default view)
- Read Only View (If the form submitted all the controls will be on read only mode)
- Thanks View(After Submitting Request rule will switch to this view with Request Number)
- Add table and drag the mandatories fields created, final view of the form will be as below:

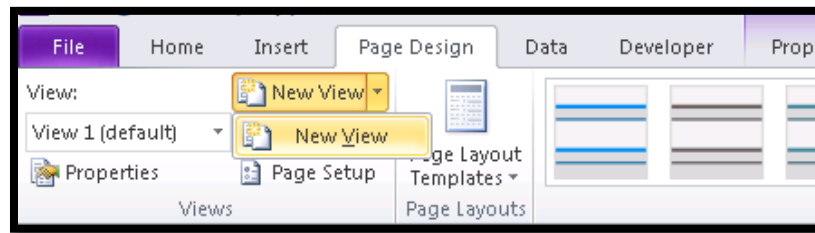
Default View (edit mode) snapshot



The image shows a web form titled "Employee Vacation Request" in a red header. Below the header, on a red background, are three input fields: "Start Date:" with the value "1/1/2012", "End Date:" with the value "2/22/2012", and "Justification:" with a large empty text area. At the bottom, there are two buttons: "Submit" and "Cancel".

How to add new view?

Ribbon menu >> Page Design >> New View

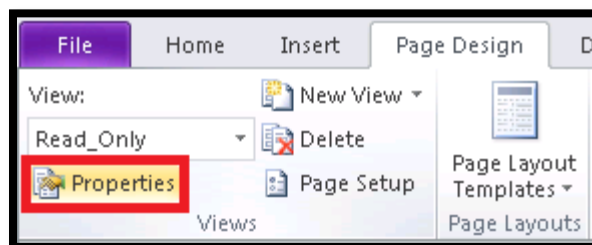


Add new view with read only mode

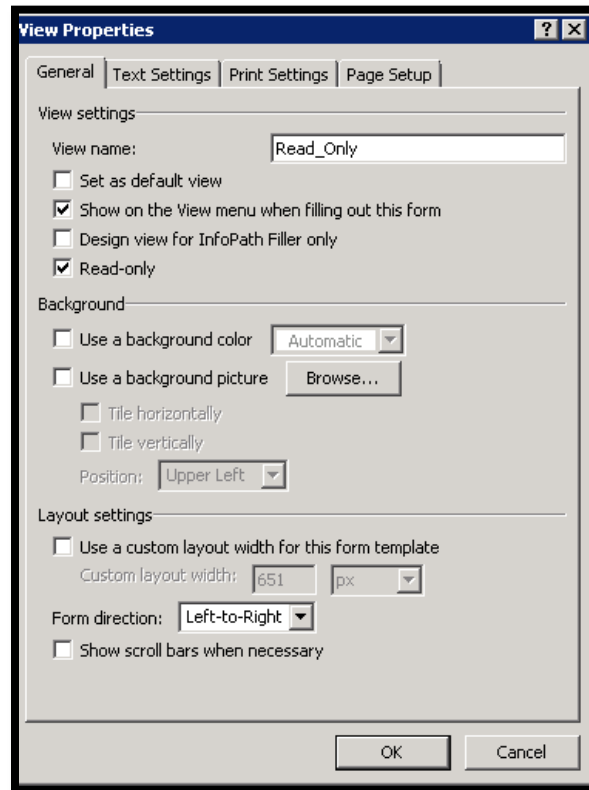
Name it "ReadOnly"

Remove the default table and copy the table and content from default view.

Now after copy the table to read only view set the read only property from the view properties



Check "Read only" option then click on OK.

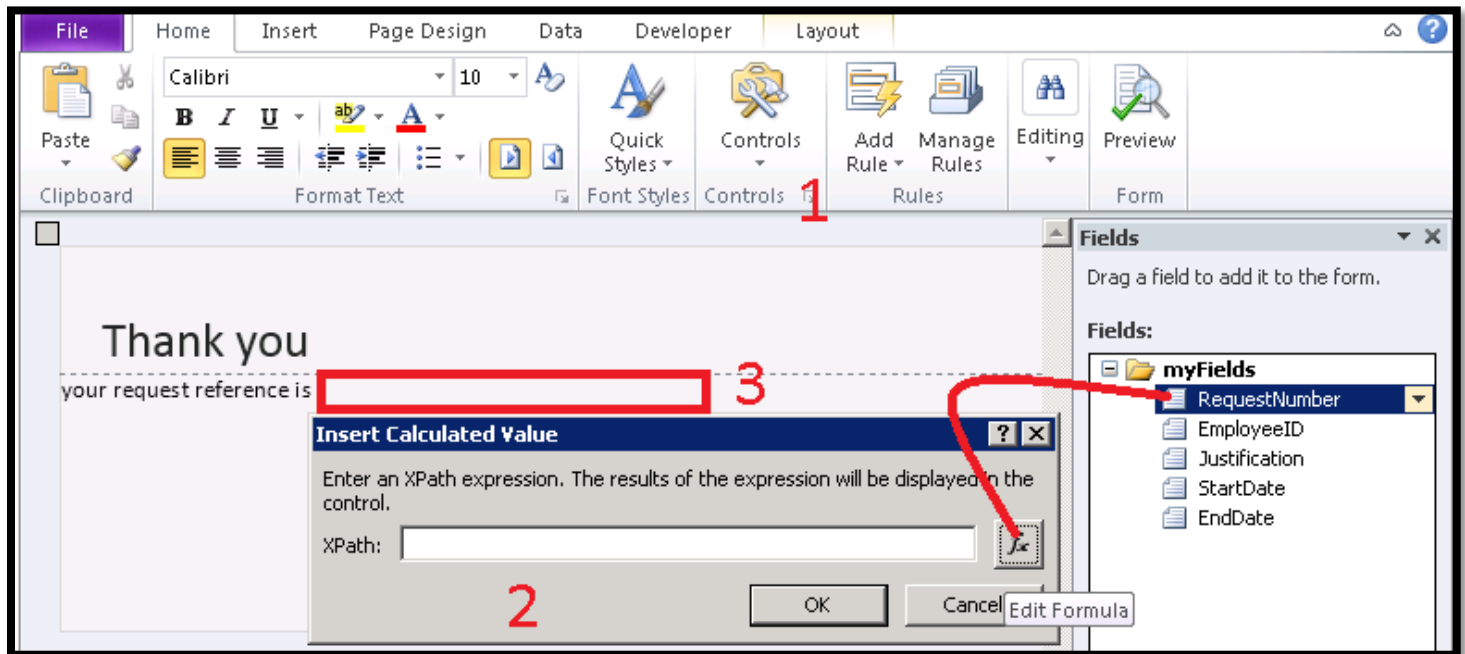


Now on the read only view remove all the buttons and add new to close the form and set rule to close the form

So, the final view of read only will be like below snapshot:

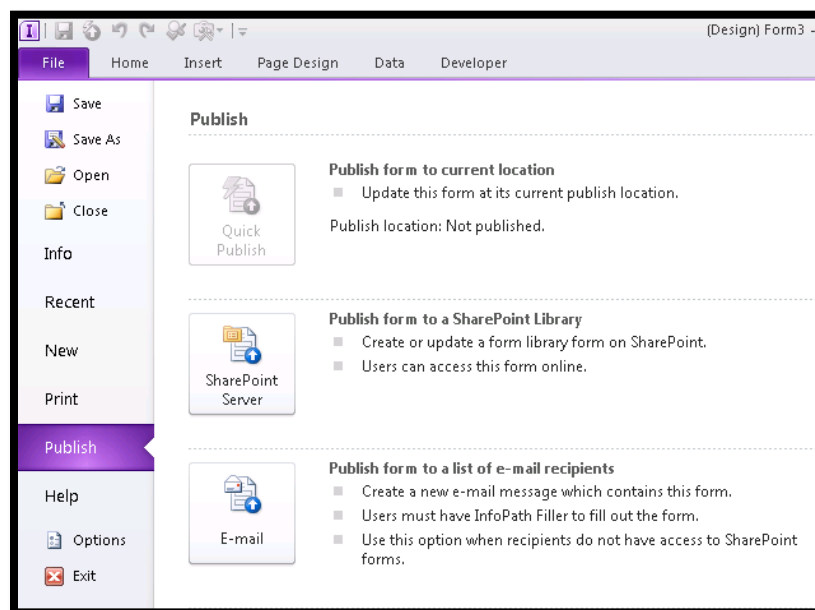
Now repeat same steps to create “Thank You View”

This view will contains only one calculated control of “Request Number” as request reference to inform the user about his request.

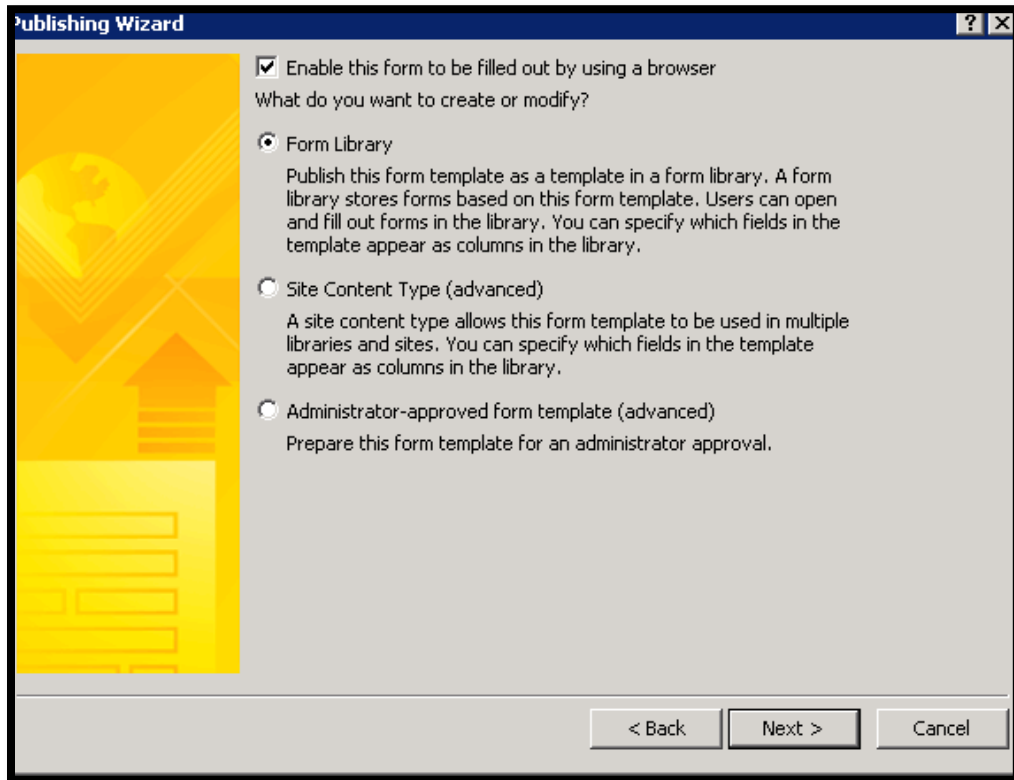


- 1- Add calculated control.
- 2- Insert from the formula from field “**RequestNumber**”.
- 3- Move the control after the text “Your request”

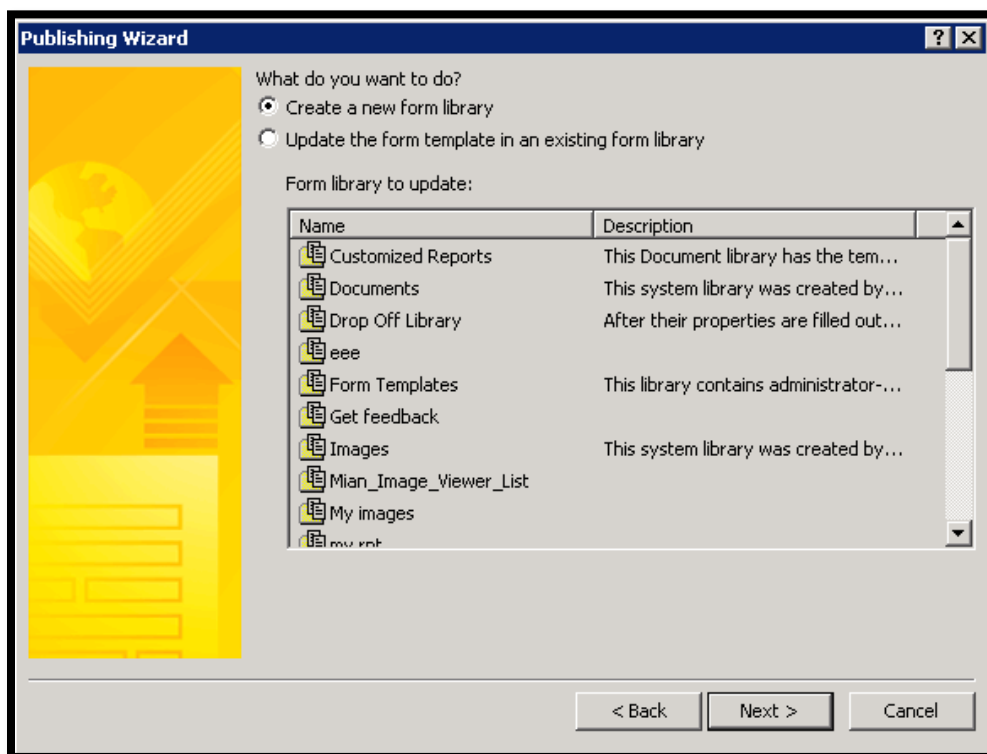
Publish the Form to SharePoint Server as a Form using the publishing wizard.



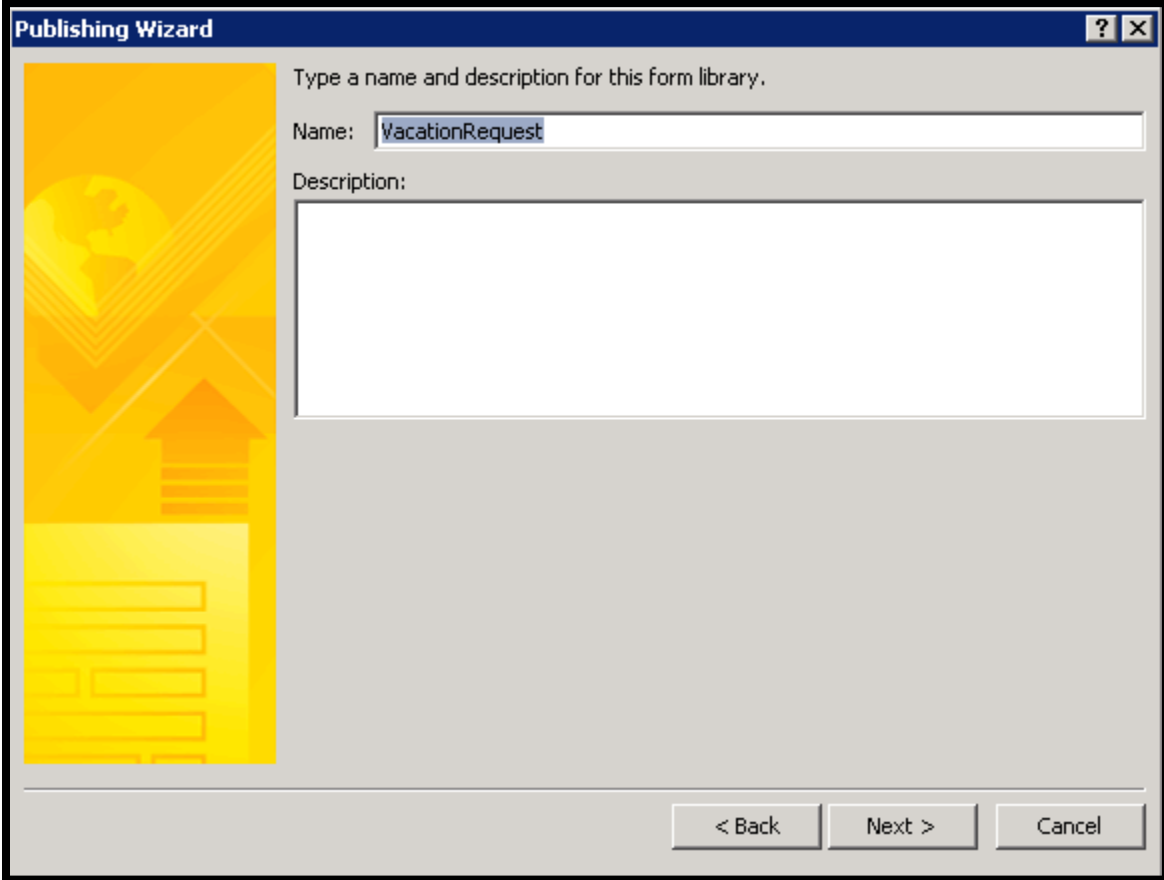
Add target SharePoint Site URL



Create new Form Library.



Name it "Vacation Request"



The image shows a 'Publishing Wizard' dialog box. On the left is a yellow decorative panel with abstract geometric shapes. The main area has a title bar 'Publishing Wizard' with a help icon and a close button. Below the title bar, it says 'Type a name and description for this form library.' There is a 'Name:' label followed by a text box containing 'VacationRequest'. Below that is a 'Description:' label followed by a large empty text area. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

Type a name and description for this form library.

Name:

Description:

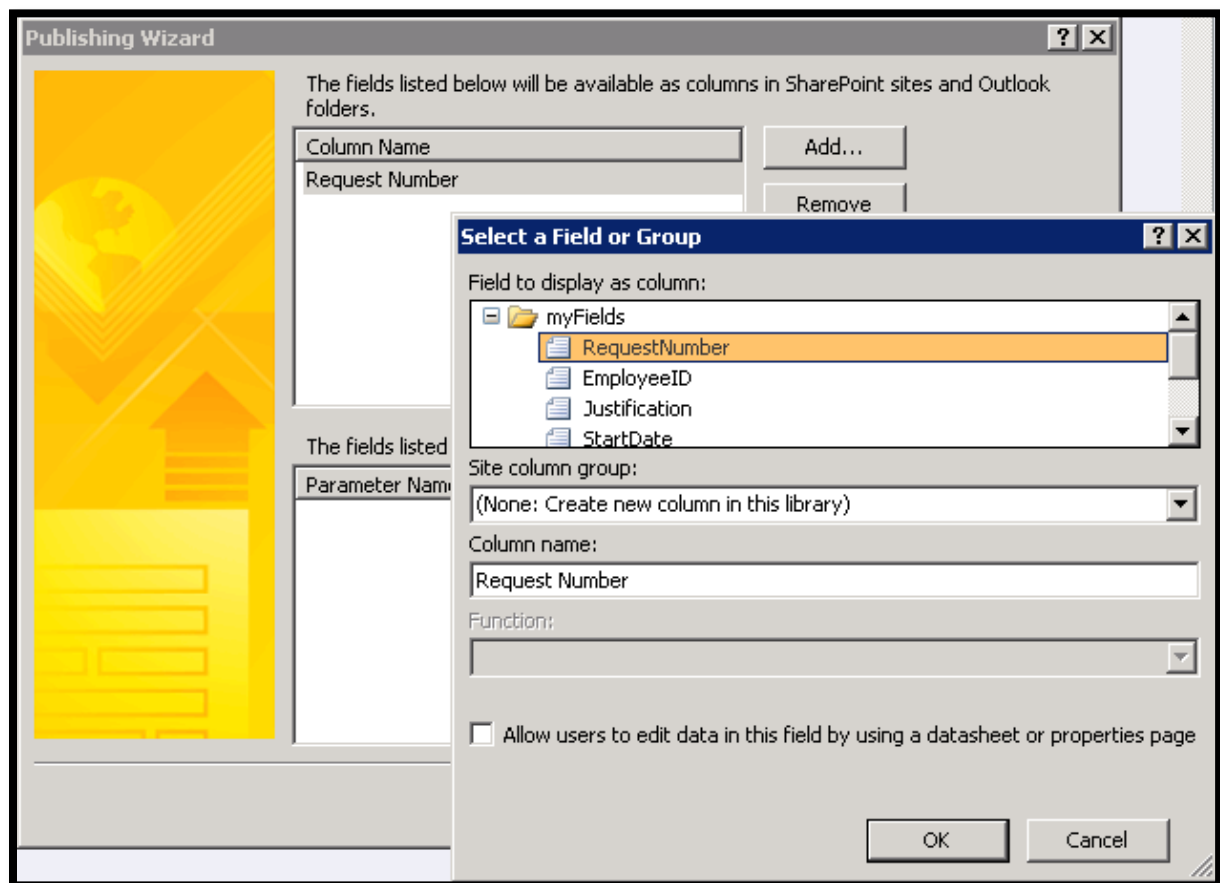
< Back Next > Cancel

Expose the fields to SharePoint

By adding following fields as columns on SharePoint Form Library

- "Request Number"
- "Start Date"
- "End Date"
- "Justification"

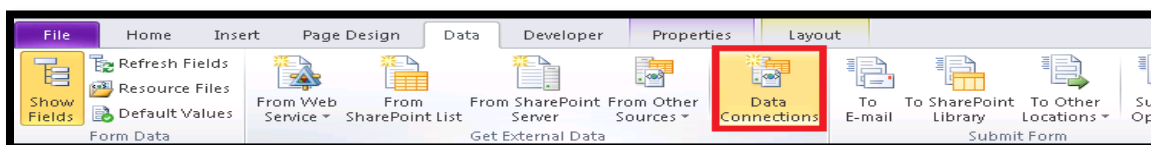
(I will explain this on SharePoint Designer Workflow step).



Connections & Rules:

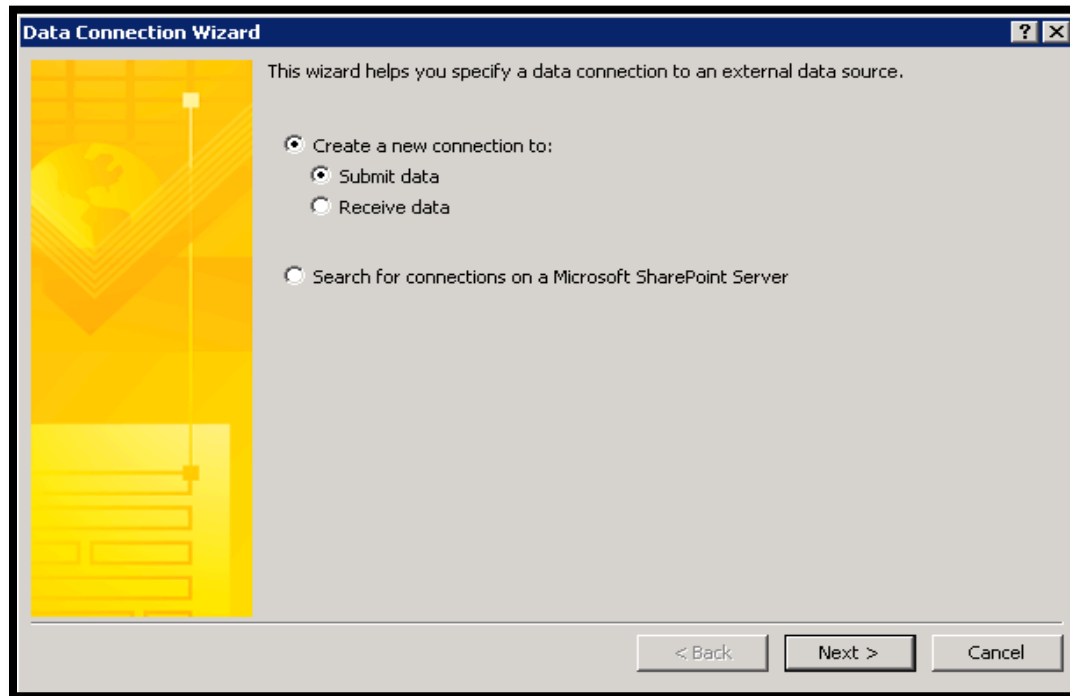
We have to set the submit connection to save the form on the targeted library

Add new Data Connection:

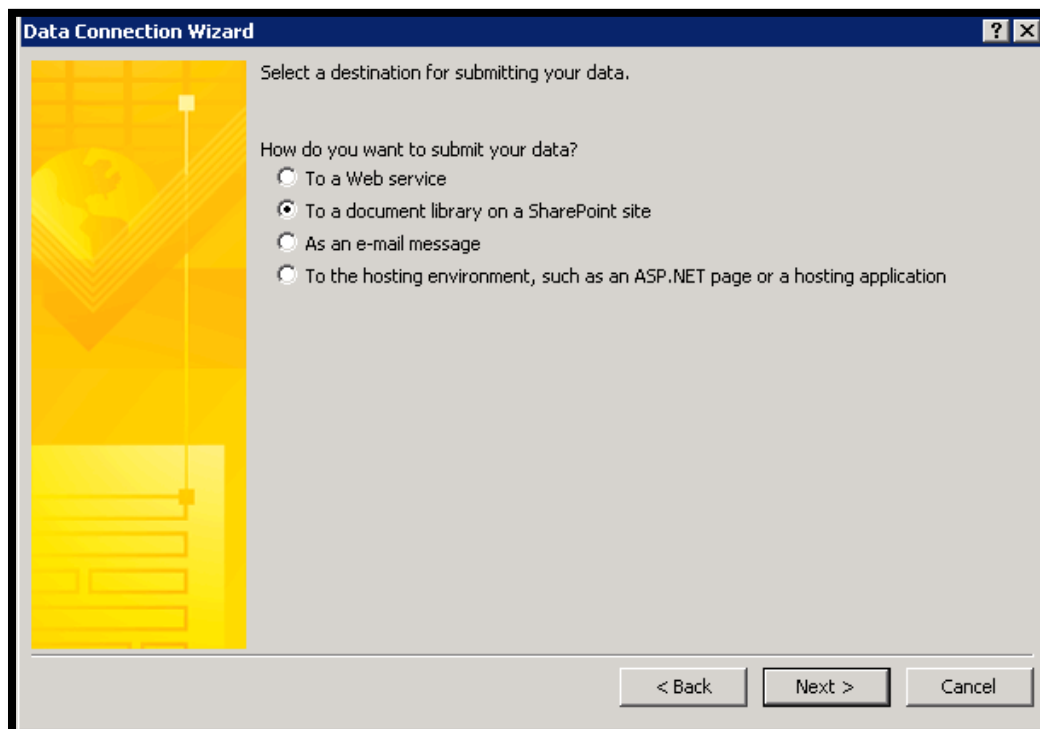


Use add connection wizard:

Submit data



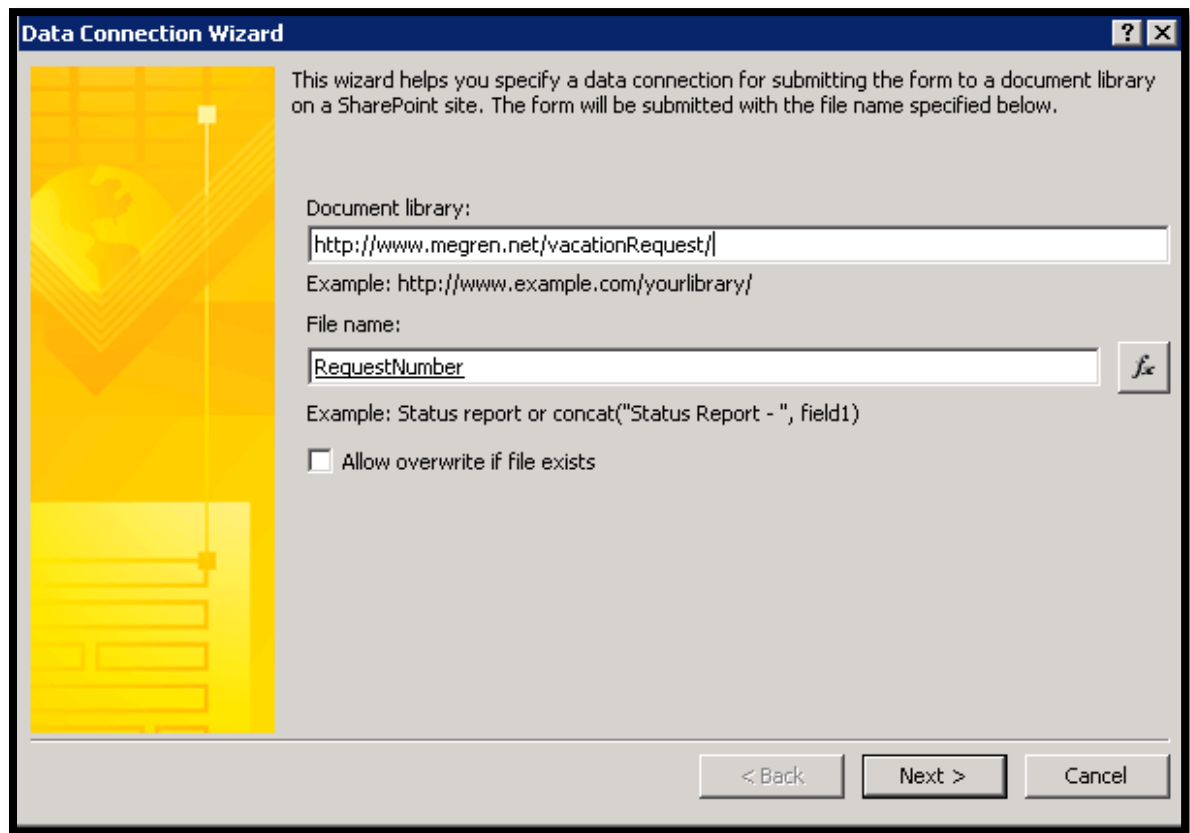
To a document Library



Set the target for library and the name of the form to be saved on each request submitted

On File name add "RequestNumber" form field:

Note: Request Number will calculate a unique ID which I will explain on next step



Give the connection any name and make it as default submit connection.

We have to change the submit option to leave the form open after submit because by default it set to close the form after submit.

Steps:

Ribbon menu >> Data > Submit Options >> then expand advanced options >> change the value of after submit to be "leave the form open"

The screenshot shows the 'Submit Options' dialog box in Microsoft InfoPath. The ribbon at the top includes 'To E-mail', 'To SharePoint Library', 'To Other Locations', 'Submit Options' (highlighted with a red box), 'Form Load', 'Form Submit', 'Rule Inspector', and 'User Roles'. The 'Submit Options' task pane is open, showing configuration options for submitting the form. The 'Allow users to submit this form' checkbox is checked. Under 'Send form data to a single destination', the 'SharePoint document library' is selected. The 'Choose a data connection for submit:' dropdown is set to 'SharePoint Library Submit'. The 'Perform custom action using Rules' and 'Perform custom action using Code' options are not selected. The 'Show the Submit button in both the Ribbon and the Info tab in the InfoPath Filler' checkbox is checked, with the label 'Submit'. The 'Show this message if the form submission fails:' checkbox is checked, with the message 'The form cannot be submitted because of an error.'. The 'Show this message if the form is submitted successfully:' checkbox is not checked, with the message 'The form was submitted successfully.'. The 'After submit:' dropdown menu is highlighted with a red box and set to 'Leave the form open'. The 'Advanced <<' button is visible at the bottom left, and 'OK' and 'Cancel' buttons are at the bottom right.

On Form Load Rules

1- Rule one:

Now we have to check when the form opening if it's new request or existed request

To switch the view either to edit mode or read only view.

Steps:

Under the data menu from ribbon menu >> click on Form Load



Add new Action rule with condition

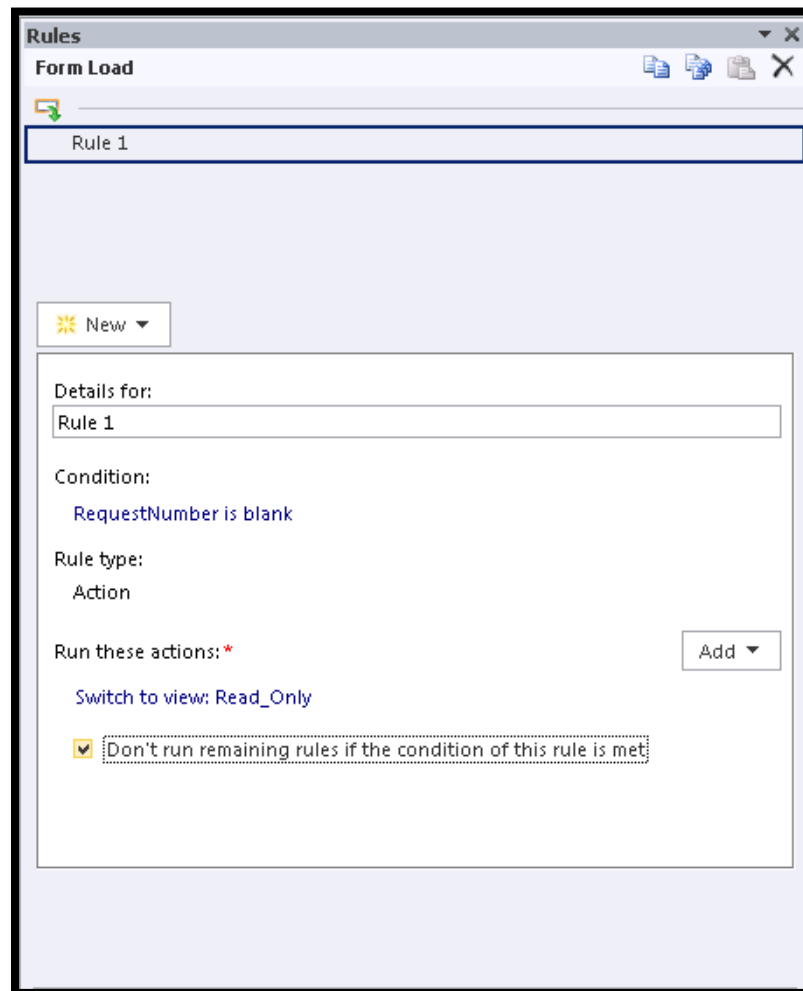
If the RequestNumber is not blank

Then run these actions:

Switch view to Read Only View

Important! Click on don't run remaining rules option; to only execute this rule only if the condition is met and not continue the rules (Break Action)

The rule window will be like below snapshot



2- Rule two:

Build and calculate the Request Number dynamically if it's new request.

By set following formula on the field "RequestNumber"

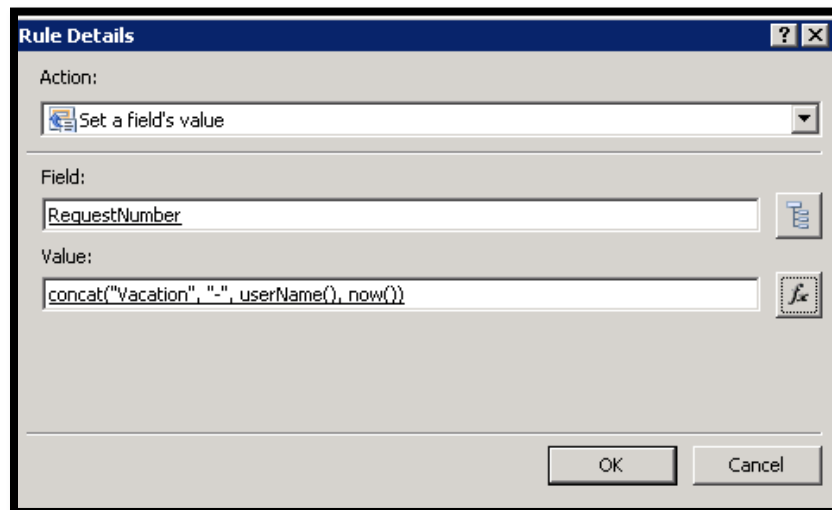
```
concat("Vacation", "-", userName(), "-", now())
```

Steps

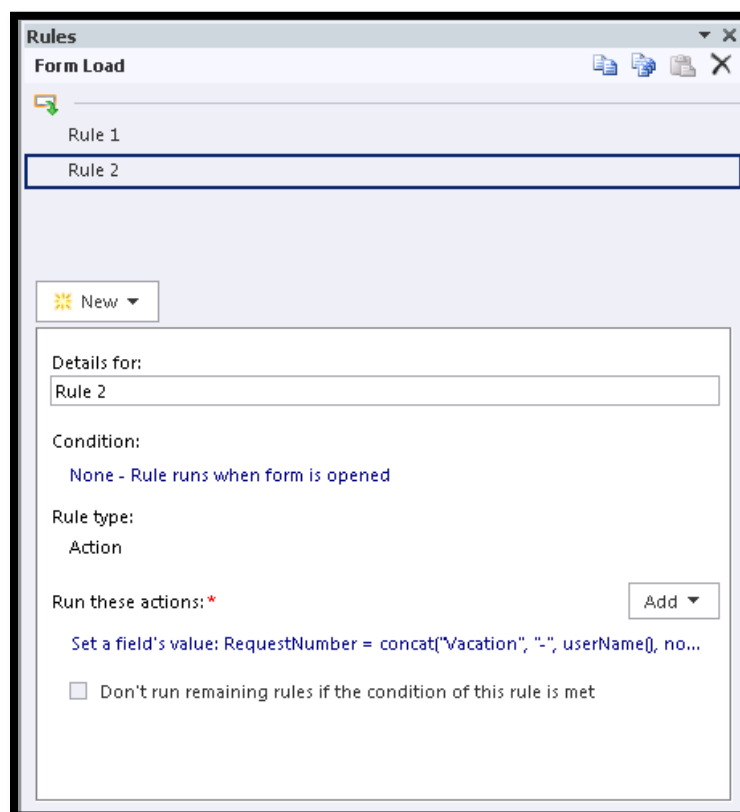
Add new Action without condition

Run these actions:

Set a field's value



So, on Form Load rules window will be like below



Submit Rules:

On submit button we will save the Form data to SharePoint Library

Using the previous Data connection created on above steps

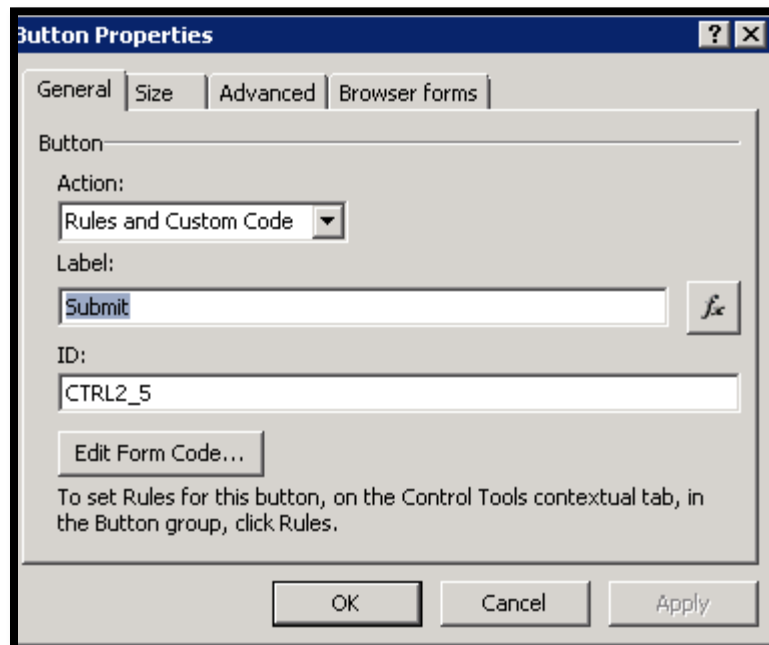
Then switch the view to “Thank You View” which is created to above steps as well

Steps:

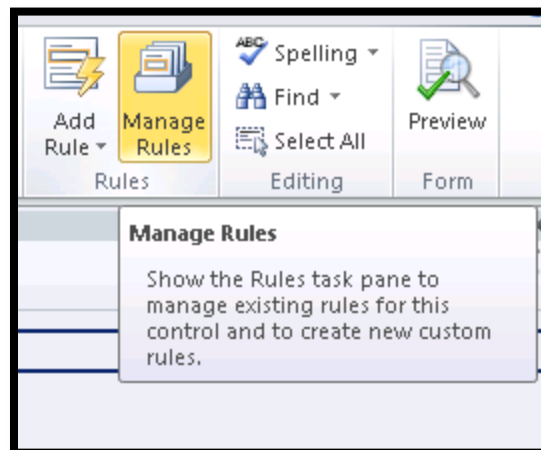
Select the submit button then right click >> Properties

Under drop down Actions select “Rules and Custom Code” option.

Then Click “Ok”



Now click on form Ribbon menu >> Home >> Manage rules To show all the rules



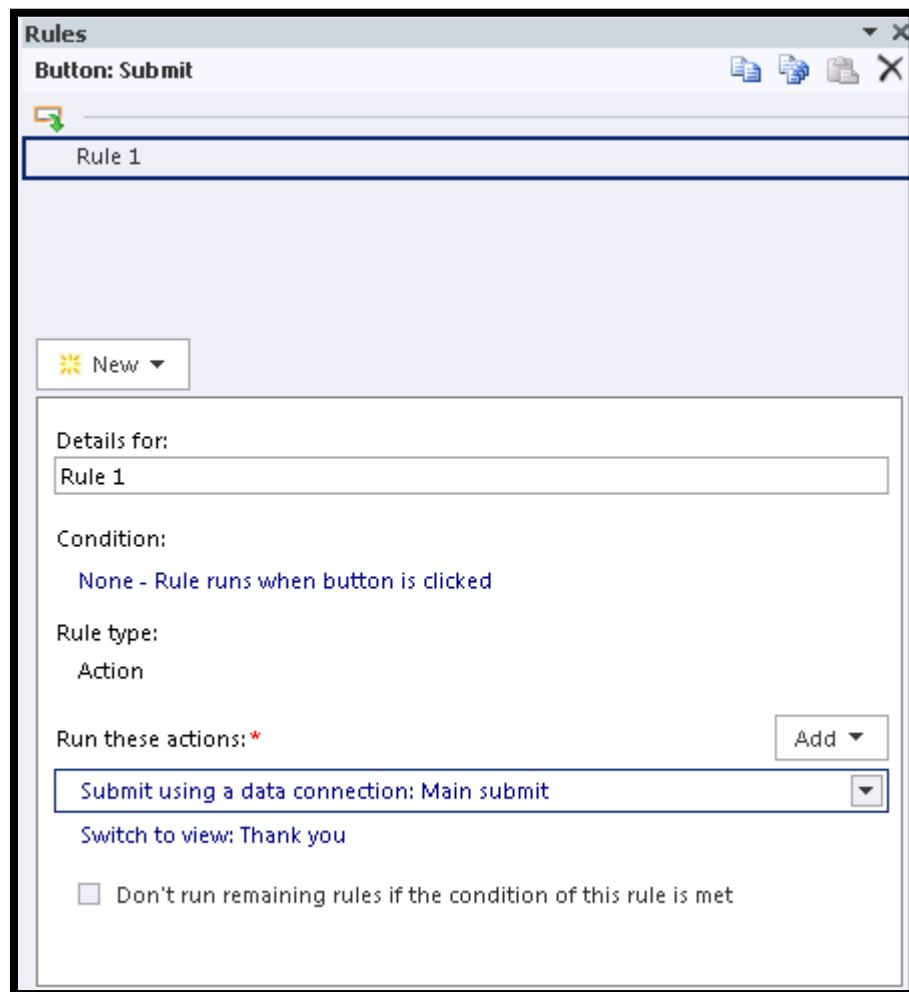
Now, select the button again then add new rule from the rules window

We can add condition to validate or we can leave it none.

Then under “Run these actions”:

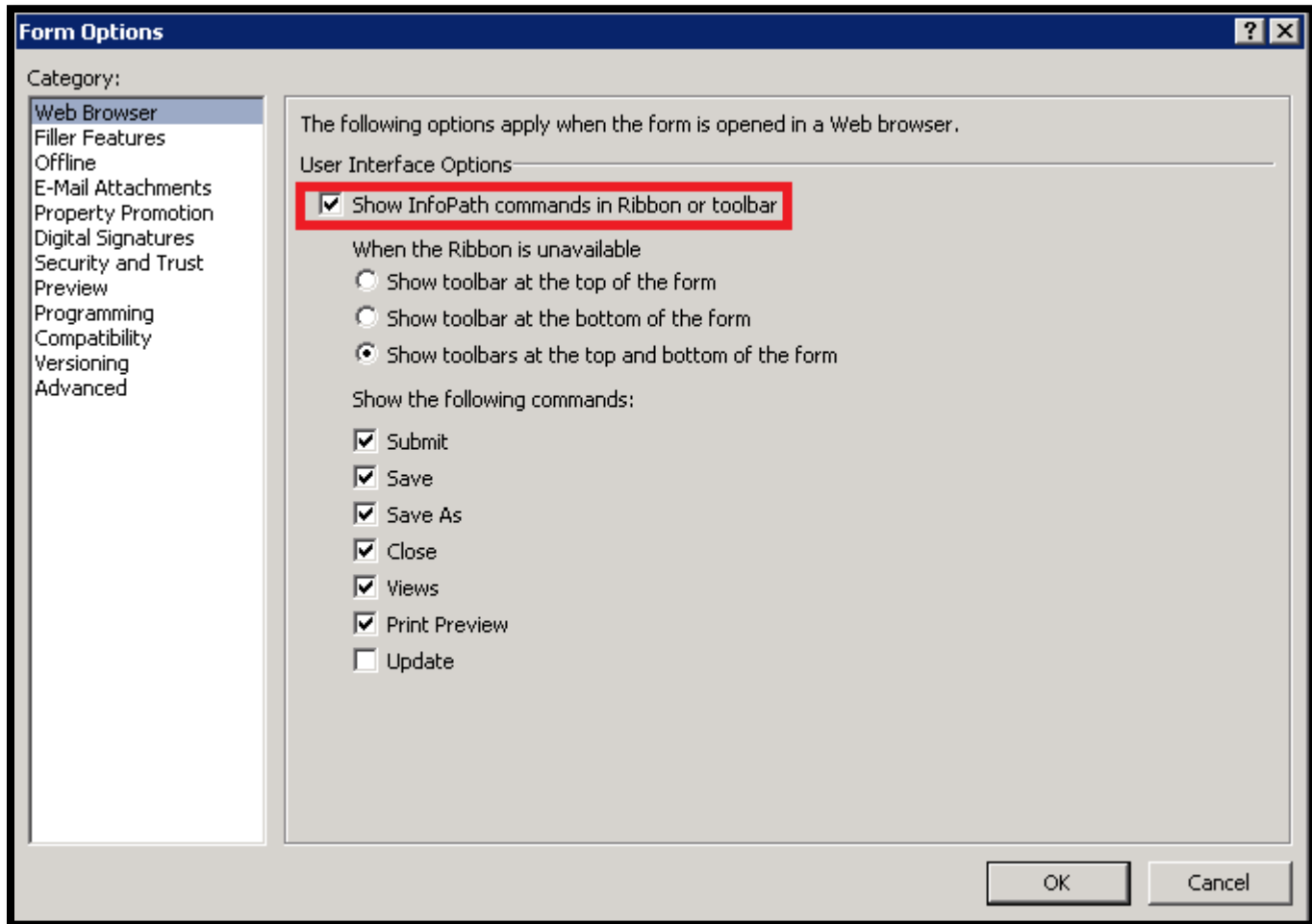
- Add submit data action then select the pervious data connection created.
- Add switch view action to switch to “Thank you view” created above.

The final view will be like below snapshot:



One options we have to consider it is the form ribbon menu has options which should be hide

To hide it from The InfoPath designer >> File Menu >> Form Options



Publish the form File Menu >> click on Quick Public.

Congratulation, the InfoPath form level and we can test it from SharePoint by add new item on the Form library and check the Request Number

It will generate number like below

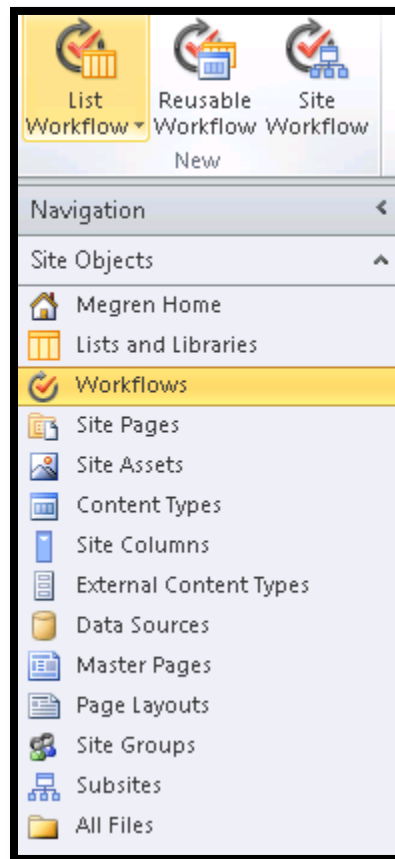
Request Number: [Vacation-Megren-2012-01-25T16:21:35](#)

SharePoint Designer 2010:

We will design a Workflow to assign Approval Task Process to be associated with our pervious Vacation Request library and customize the task form:

Steps:

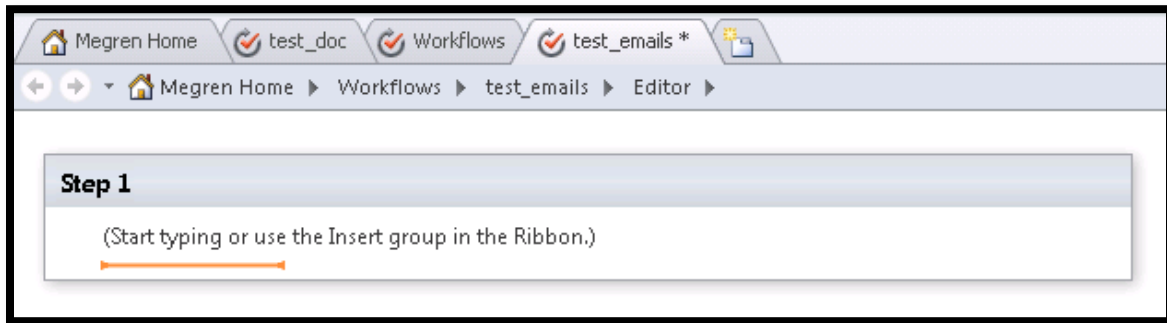
Open SharePoint SPD and connect to the site contain the targeted document library → open workflow menu form the side navigation window.



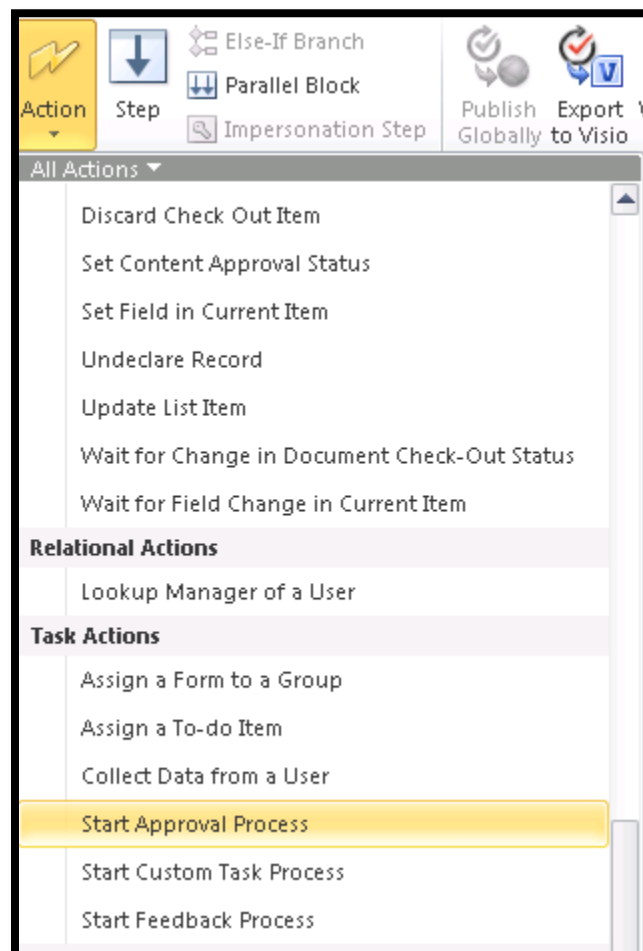
Form the ribbon menu click on List workflow and pick our Vacation Form library need to associate the workflow on it.

Writ the workflow name and put the description.

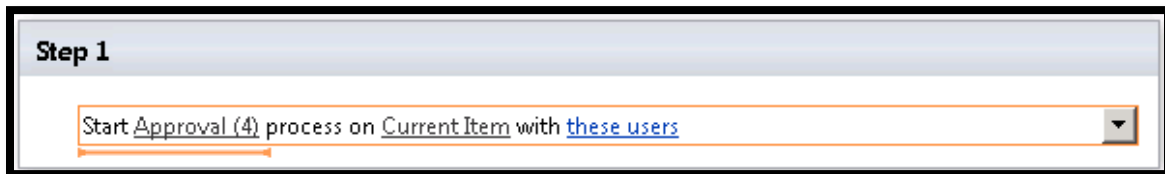
Workflow Editor Window will opened



From the ribbon menu add action → inside task action sector chose “Start Approval process”



We will see a new action added as a line on the workflow editor



We're going to set task process participants users, by clicking on "these users" link

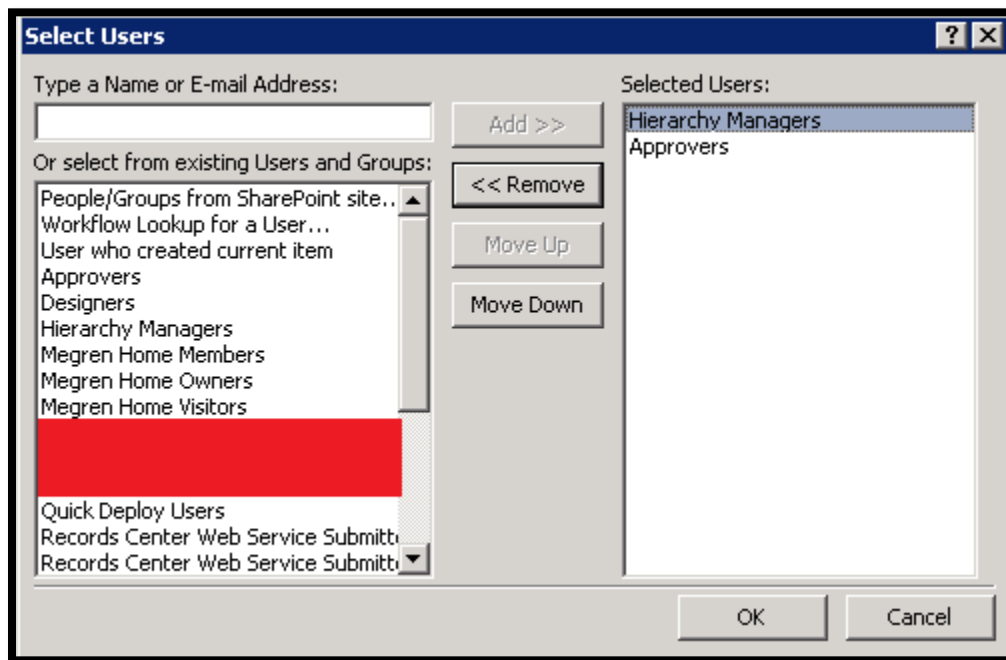
And pick the users from SharePoint groups or single users.

A screenshot of a dialog box titled 'Select Task Process Participants'. The dialog has a blue header bar with a question mark and a close button. It contains several fields and controls: 'Participants:' with a text box and a '...' button; 'CC:' with a text box and a '...' button; 'Task Request' section with 'Title:' and a text box, and 'Instructions:' with a large text area; 'Add or Change Lookup' button; 'Duration per Task:' with a text box, a '...' button, and a 'Day(s)' dropdown; 'Due Date for Task Process:' with a text box, a '...' button, and a '...' button; and 'OK' and 'Cancel' buttons at the bottom right.

In the first field add the participants IDs and there is an option to send the task to the users | in parallel or one at time (sequential)

And here is snapshot for sequential approval task for 2 exists groups

From top to bottom



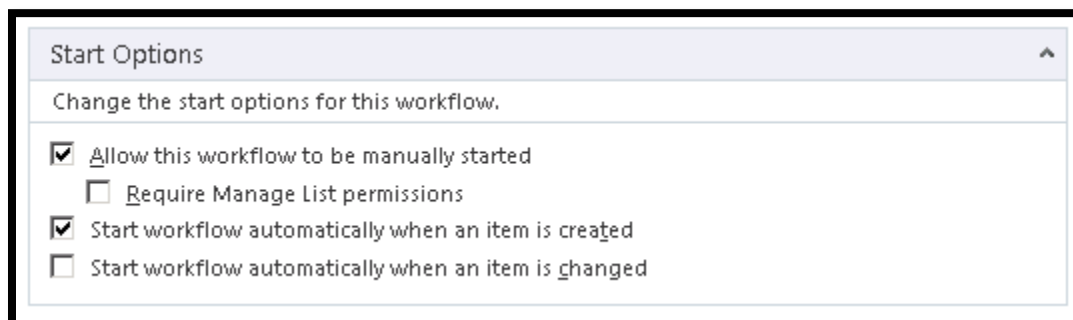
So the task will be assigned to Hierarchy Managers group → if approved → Approvers group

No need to add any title or instructions but may you need to set the task duration time and due process date if required.

Finally we need to trigger this workflow when an item added to the document library.

So, we have to click on Workflow settings form the ribbon menu.

Then under Start Options check box of start workflow automatically when item created as below



Save and publish the workflow from the ribbon menu.

You will noticed that after publishing a new Task form added on the workflow Forms

File Name	Type	Modified Date
net_approvals.xsn	Initiation	1/23/2012 8:34 PM
Approval_x0028_9_x0029_.xsn	Task	1/25/2012 5:56 PM

This form will be opened by approvers to approve the vacation request or reject it.

We can open it by click on it form the same window above.

It has only requester Name and little information related to the task.

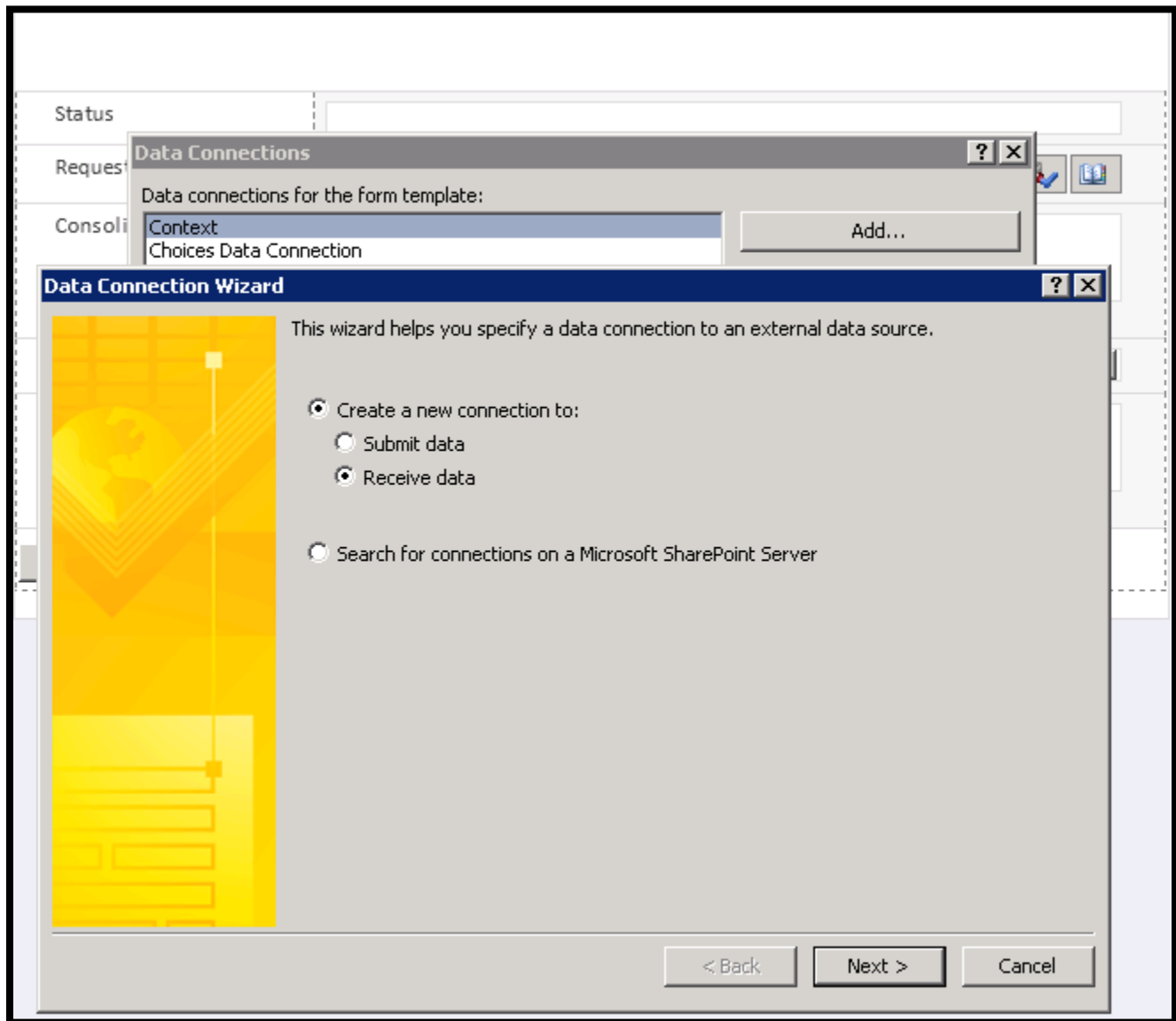
You need to get the request data (Vacation Start Date, Vacation End Date and Justification)

How fetching Request's Data to Form Task?

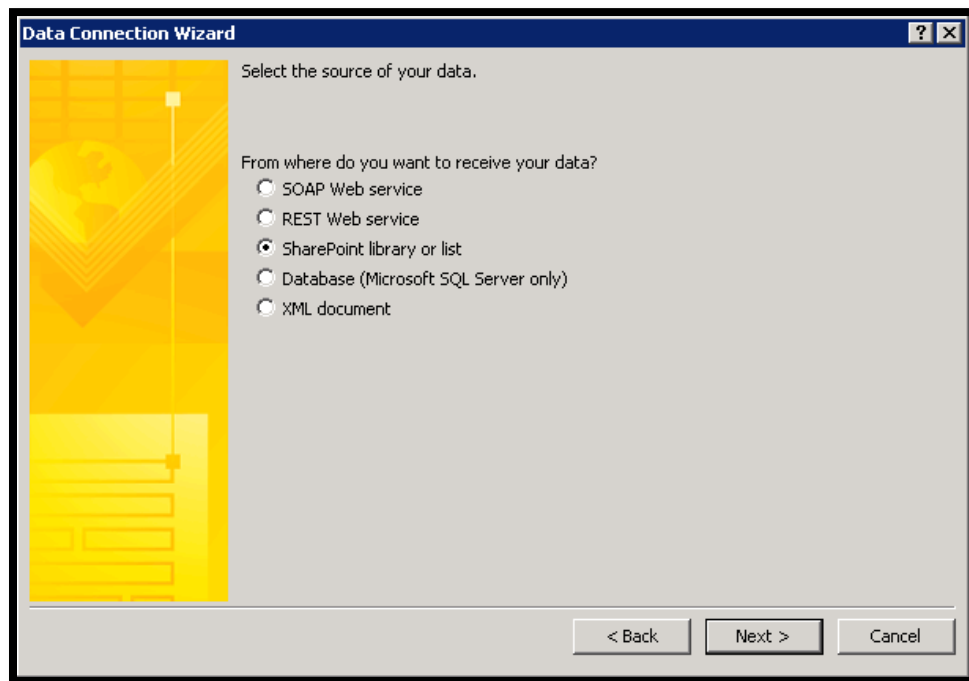
Steps:

On the Task Form add a new connection >> Data Menu >> Data Connection.

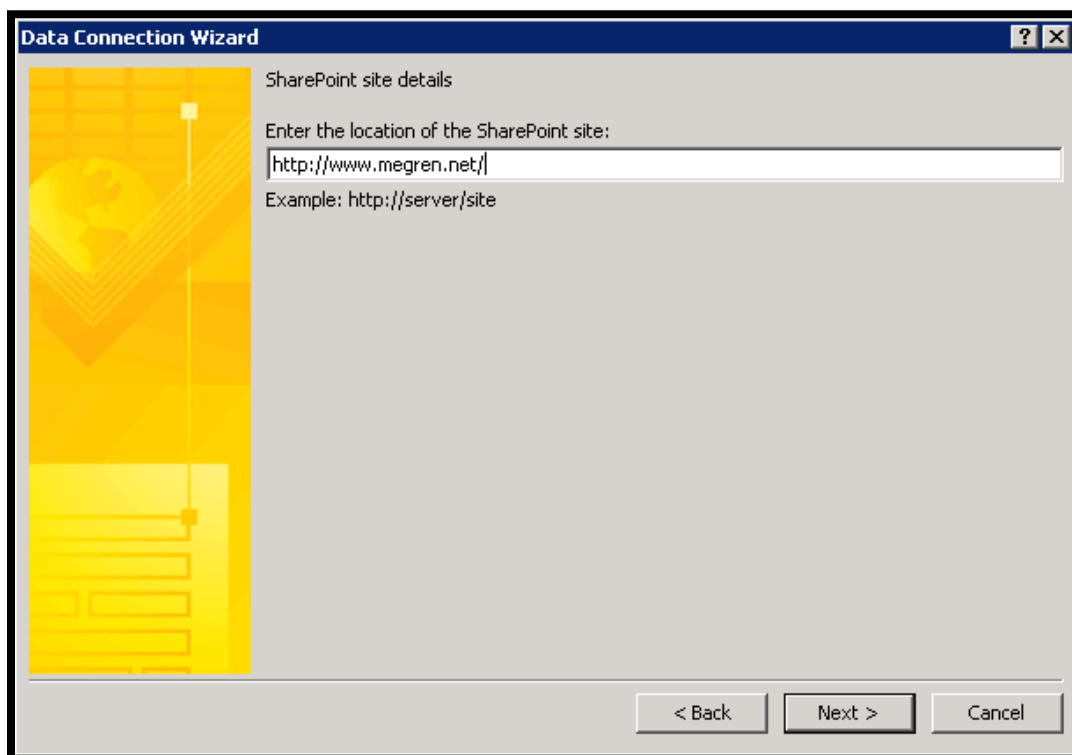
Choose receive data option



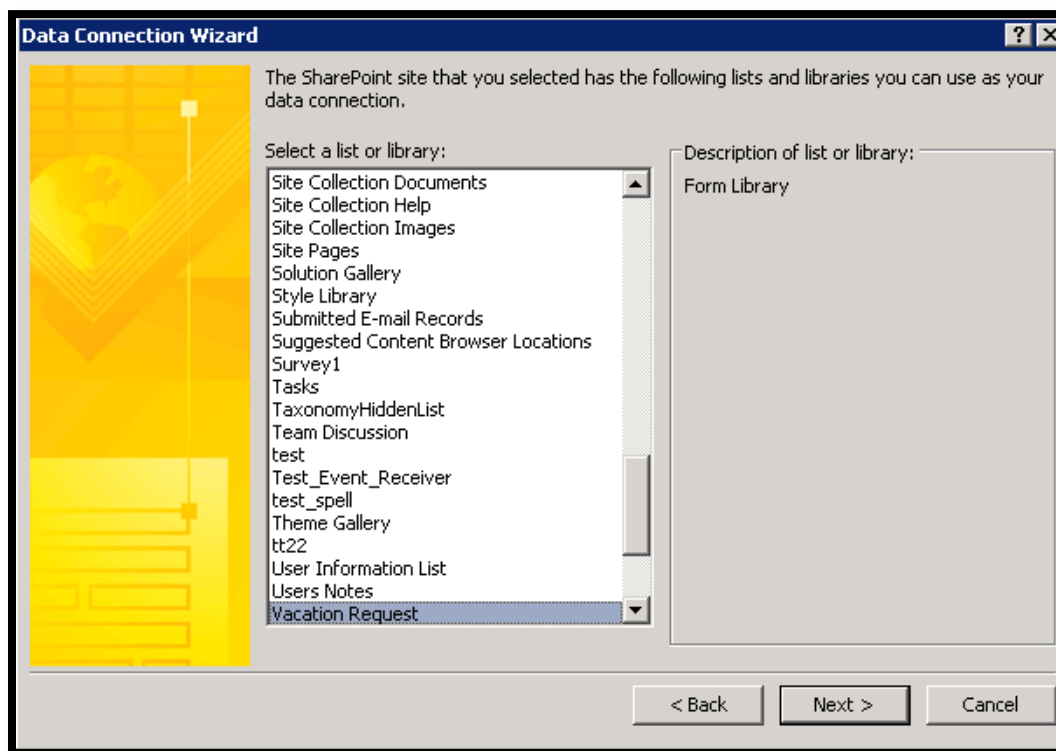
Choose SharePoint Library or List



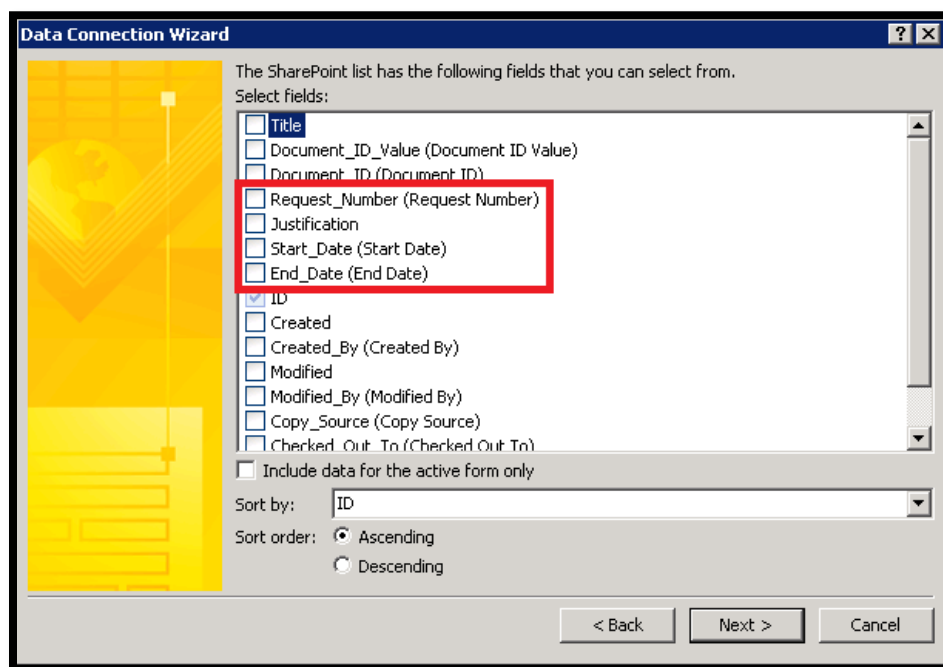
Put the SharePoint site that has the Vacation Request form library



Select the Vacation Request library

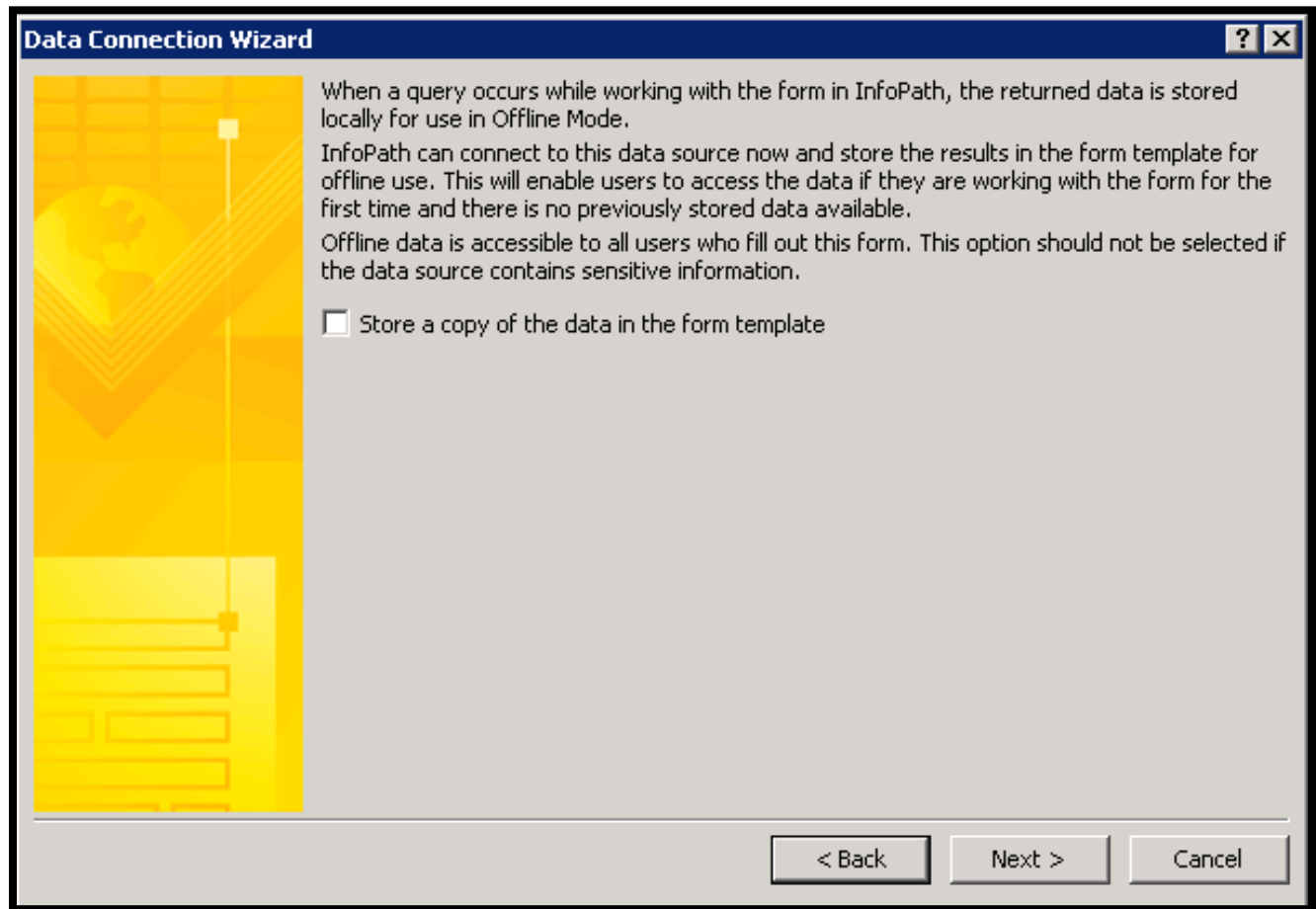


The following window shows us the available fields on the selected library



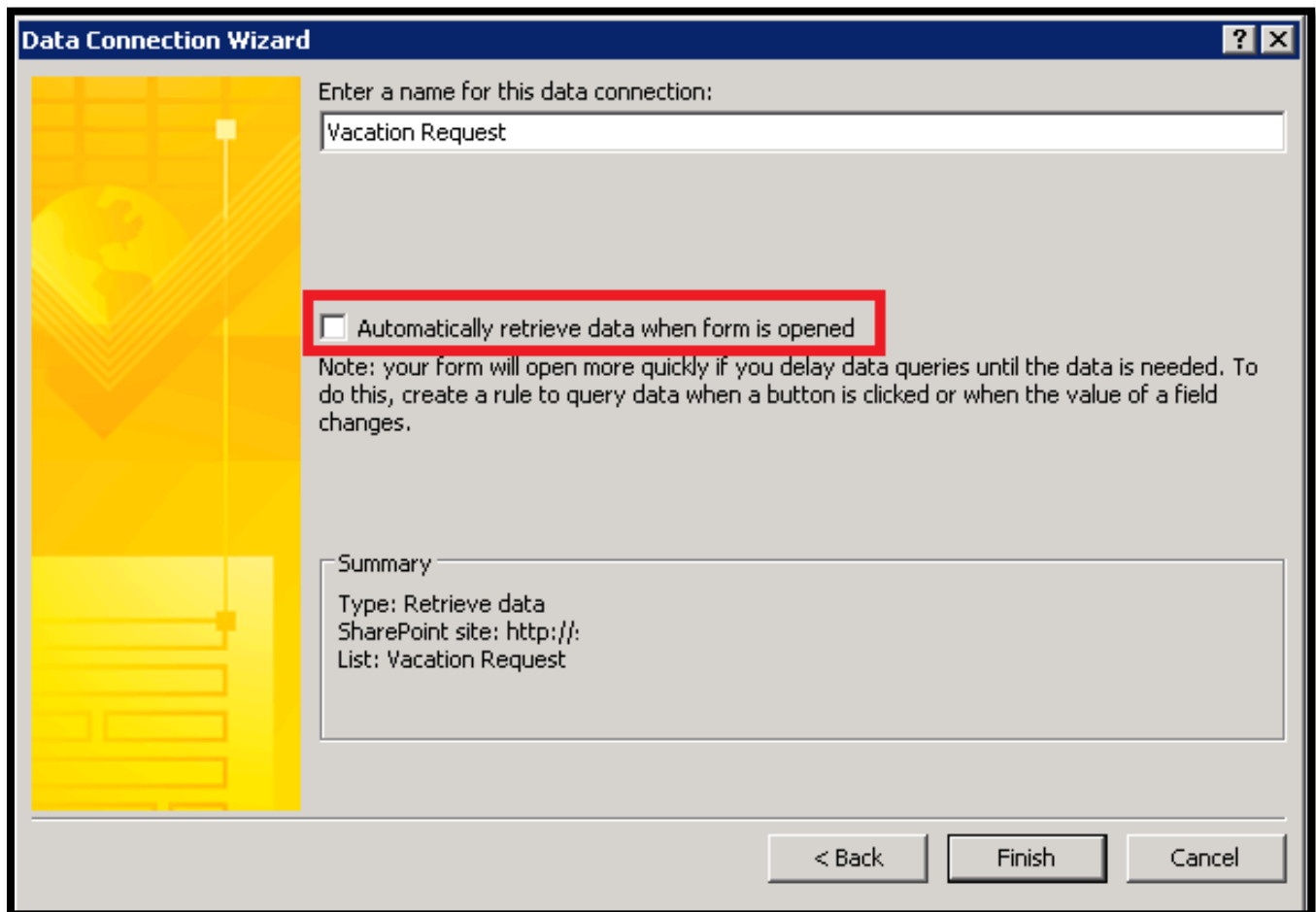
Note: highlighted fields shown here because the previous step when initiating the Vacation Form we expose these fields. We will select all of them plus the title field.

Keep store a copy option unchecked.



On the last screen uncheck the automatically retrieve option then click on finish.

Important If checks this option it will bring all the requests and maybe affect the site performance!!!



We have the connection but we need to get only the currant task related request data.

If you remember what we have the request number as a unique value so we will use it

How to do that?

On the Task Form Load

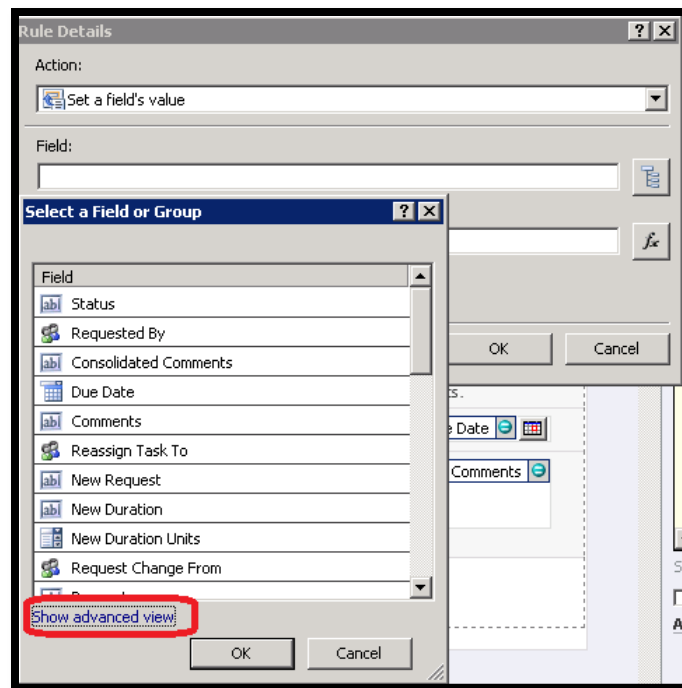
Add rule to set vacation request connections to bring only the item which has the same tile of the task related.

Add new rule

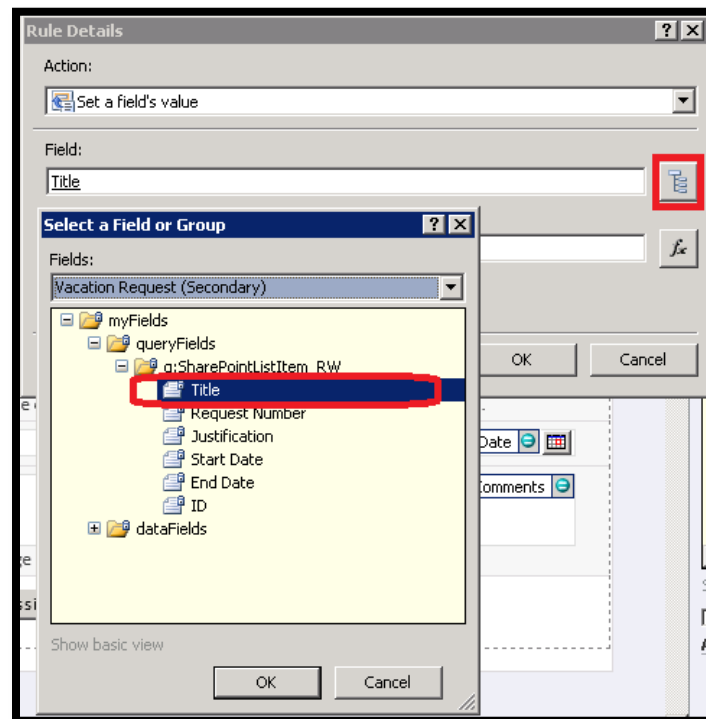
Run these actions:

Set a field's value of the new created connection query title field to be the currant task related task discretion

Click the field to be set and click on show advanced view option

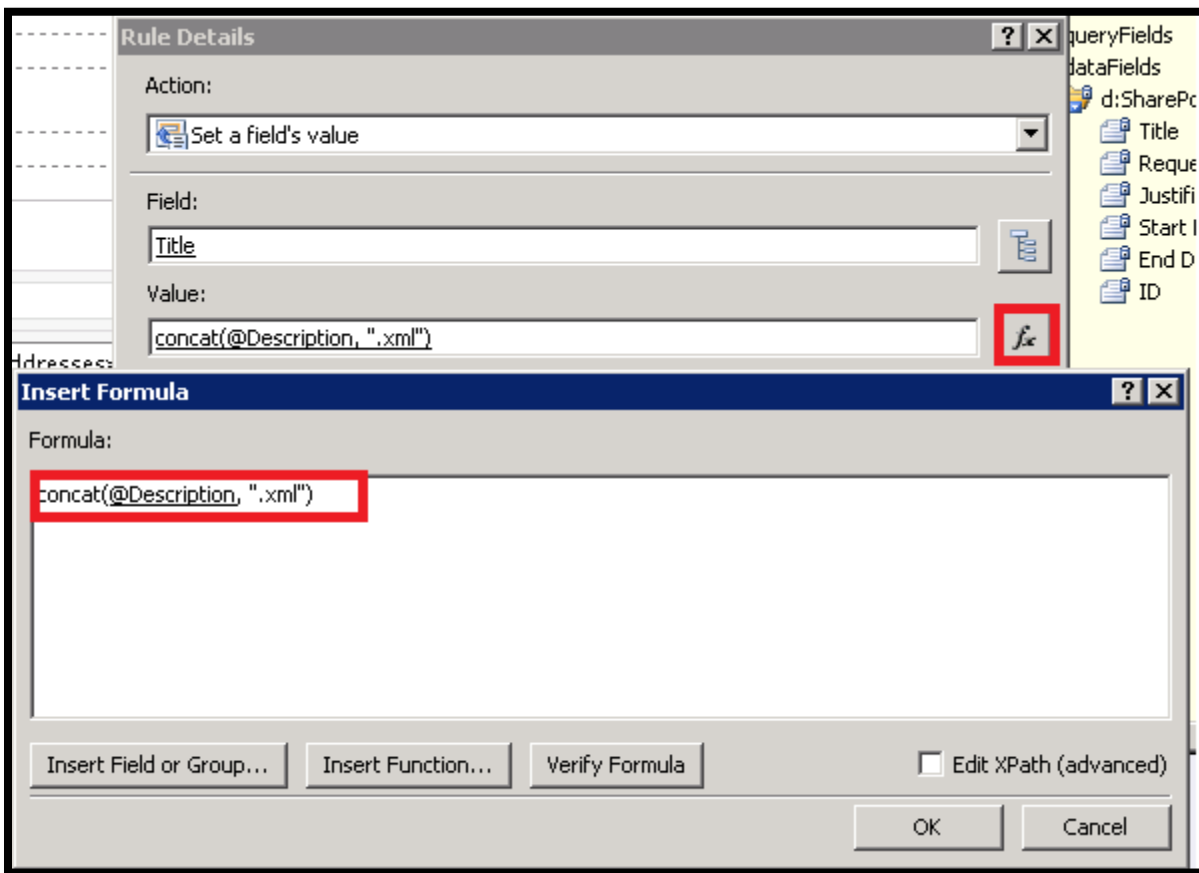


Select the vacation request connection (secondary) >> under query fields select the title which we will use it for the query.

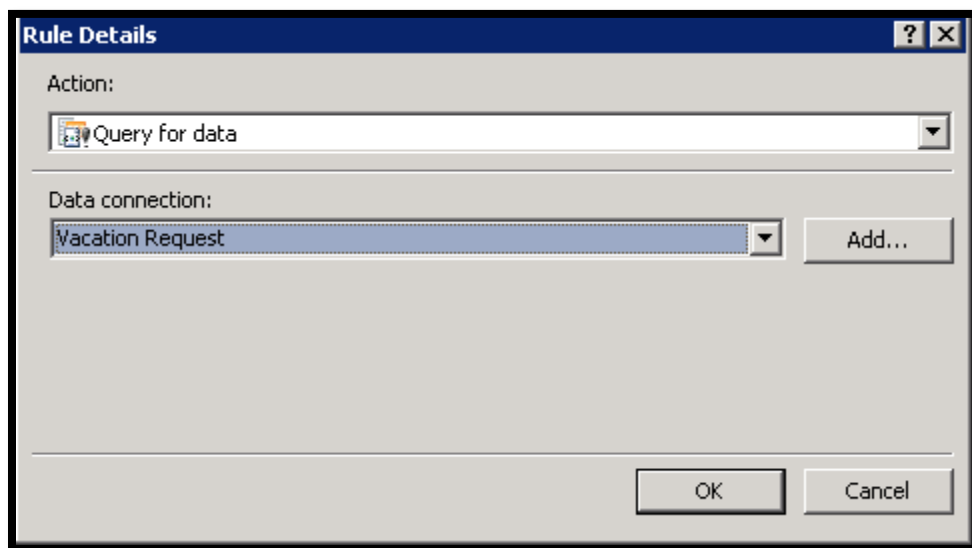


Set the value to be equal the following formula

```
concat(@Description, ".xml")
```



Add the second action for query using connection



The final form load rule's actions will be like below:

The screenshot shows a 'Form Load' dialog box with a tab labeled 'Rule 1'. The dialog has a 'New' button with a star icon. Below this, the 'Details for:' field is set to 'Rule 1'. The 'Condition:' is 'None - Rule runs when form is opened'. The 'Rule type:' is 'Action'. Under 'Run these actions: *', there is an 'Add' button and a list of actions. The first action is 'Set a field's value: Title = concat(@Description, ".xml")'. The second action is 'Query using a data connection: Vacation Request', which is highlighted with a red box. At the bottom, there is a checkbox labeled 'Don't run remaining rules if the condition of this rule is met' which is currently unchecked.

Form Load

Rule 1

New ▼

Details for:
Rule 1

Condition:
None - Rule runs when form is opened

Rule type:
Action

Run these actions: * Add ▼

Set a field's value: Title = concat(@Description, ".xml")

Query using a data connection: Vacation Request ▼

☐ Don't run remaining rules if the condition of this rule is met

Explore the fields and add them to the task form as extra details or table

The screenshot shows a SharePoint form editor. On the left is a form titled "Vacation request details :". It contains fields for "Request Number:", "Justification:", "Start Date:", "End Date:", and a "Repeating Section" with fields for "Status", "Requested By", "Consolidated Comments", "Due Date", and "Comments". At the bottom are buttons for "Approve", "Reject", "Cancel", and "Reassign Task". On the right is a "Fields" pane. It has a dropdown menu set to "Vacation Request (Secondary)". Below it is a tree view showing "myFields" with sub-items "queryFields" and "dataFields". Under "dataFields", there is a folder "d:SharePointListItem_". Inside this folder, a list of fields is shown: "Title", "Request Number", "Justification", "Start Date", "End Date", and "ID". A red arrow points from this list of fields to the "Request Number" field in the form.

Publish the form.

Submit new vacation request the check the document library new item

MyRecords	About Megren	Megren Blog	Search this site...	?
<input type="checkbox"/>	Name	Vacation Request	Created	
.....	Vacation-system-2012-01-25T18_58_34	In Progress	1/25/2012 6:58 PM	

You will notify that, there is a new column added named as workflow name "Vacation Request"

Let's click on the "In Progress" link and check the task assigned

Workflow Information

Initiator: System Account
Started: 1/25/2012 6:59 PM
Last run: 1/25/2012 6:59 PM

Document: [Vacation-system-2012-01-25T18_58_34](#)
Status: In Progress

- ▢ [Add or update assignees of Approval \(10\)](#)
- ▢ [Cancel all Approval \(10\) tasks](#)
- ▢ [Update active tasks of Approval \(10\)](#)

If an error occurs or this workflow stops responding, it can be terminated. Terminating the workflow will set its status to Canceled and will delete all tasks created by it.

- ▢ [Terminate this workflow now.](#)

Tasks

The following tasks have been assigned to the participants in this workflow. Click a task to edit it. You can also view these tasks in the list [megren Tasks](#).

<input type="checkbox"/> <input type="checkbox"/> Assigned To	Title	Due Date	Status	Related Content
Approvers	Please review Vacation-system-2012-01-25T18_58_34 NEW		Not Started	Vacation-system-2012-01-25T18_58_34

Workflow History

- ▢ [View workflow reports](#)

Now we will open the Task form to check the request as an approver

Workflow Task

☒ Claim Task | ☐ Delete Item

This workflow task applies to [Vacation-system-2012-01-25T22_05_47](#).

Vacation request details :

Vacation-system-2012-01-
Request Number: 25T22:05:47
Justification:
Annual vacation
Start Date: 1/18/2012
End Date : 1/25/2012

Status	Not Started
Requested By	System Account ;
Consolidated Comments	Approval (10) started by System Account on 1/25/2012 10:07 PM Comment: These are the comments of the requestor and all previous participants.
Due Date	<input type="text"/>
Comments	<input type="text"/>

This message will be included in your response.