Lesson: Creating Custom Workflows with SharePoint Designer 2013

Welcome to our free Advanced SharePoint 2013 tutorial.

In this lesson, you will learn all about creating custom workflows in SharePoint.

Lesson Goals

- Learn about workflow basics.
- Learn how to create a List Workflow using SharePoint Designer 2013.
- Learn how to run a workflow.
- Learn how to view a workflow's history.
- Learn how to add Actions to a workflow.
- Learn how to add Conditions to a workflow.
- Learn how to add parameters to a workflow initiation form.
- Learn how to create a reusable workflow.
- Learn how to associate a reusable workflow with a list/library.

Workflow Basics

Workflows are a popular way to perform automated work in SharePoint. The pay versions of SharePoint Server, Standard and Enterprise, come with extra out-of-box workflows that can be associated and configured with lists and libraries using just the browser. Custom workflows can be created with software applications such as SharePoint Designer 2013 or Visual Studio 2012.

SharePoint Designer is a powerful and fairly easy-to-use tool for creating custom workflows and does not require any formal developer skills. Visual Studio, although extremely powerful in creating custom workflows, requires developer skills to use.

The walk-throughs and exercises in this course will focus on using SharePoint Designer 2013 to create custom workflows.

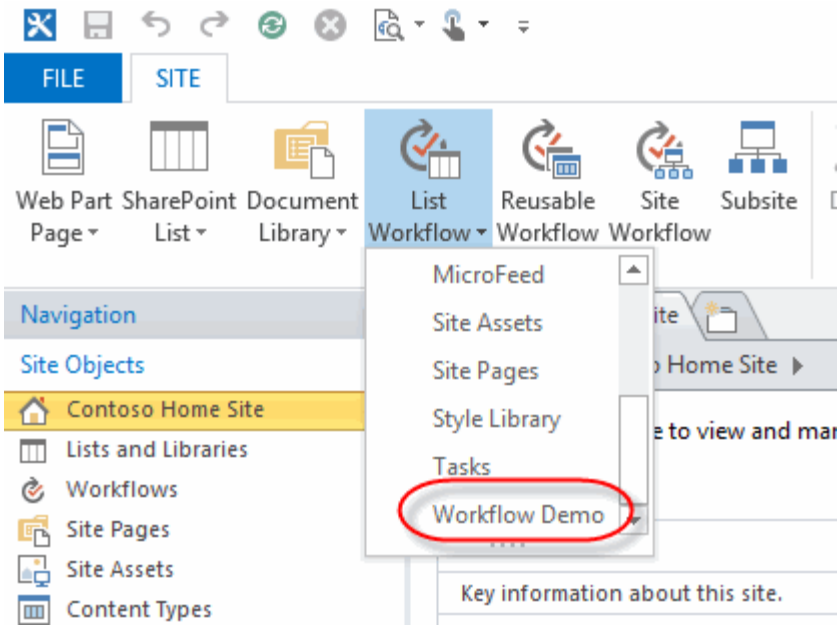
Custom List Workflows

SharePoint Designer 2013 is a perfect tool for creating custom workflows for lists and libraries. When you create a list workflow, it is associated with a specific list or library at creation time and has access to any metadata of the item the workflow is run against.

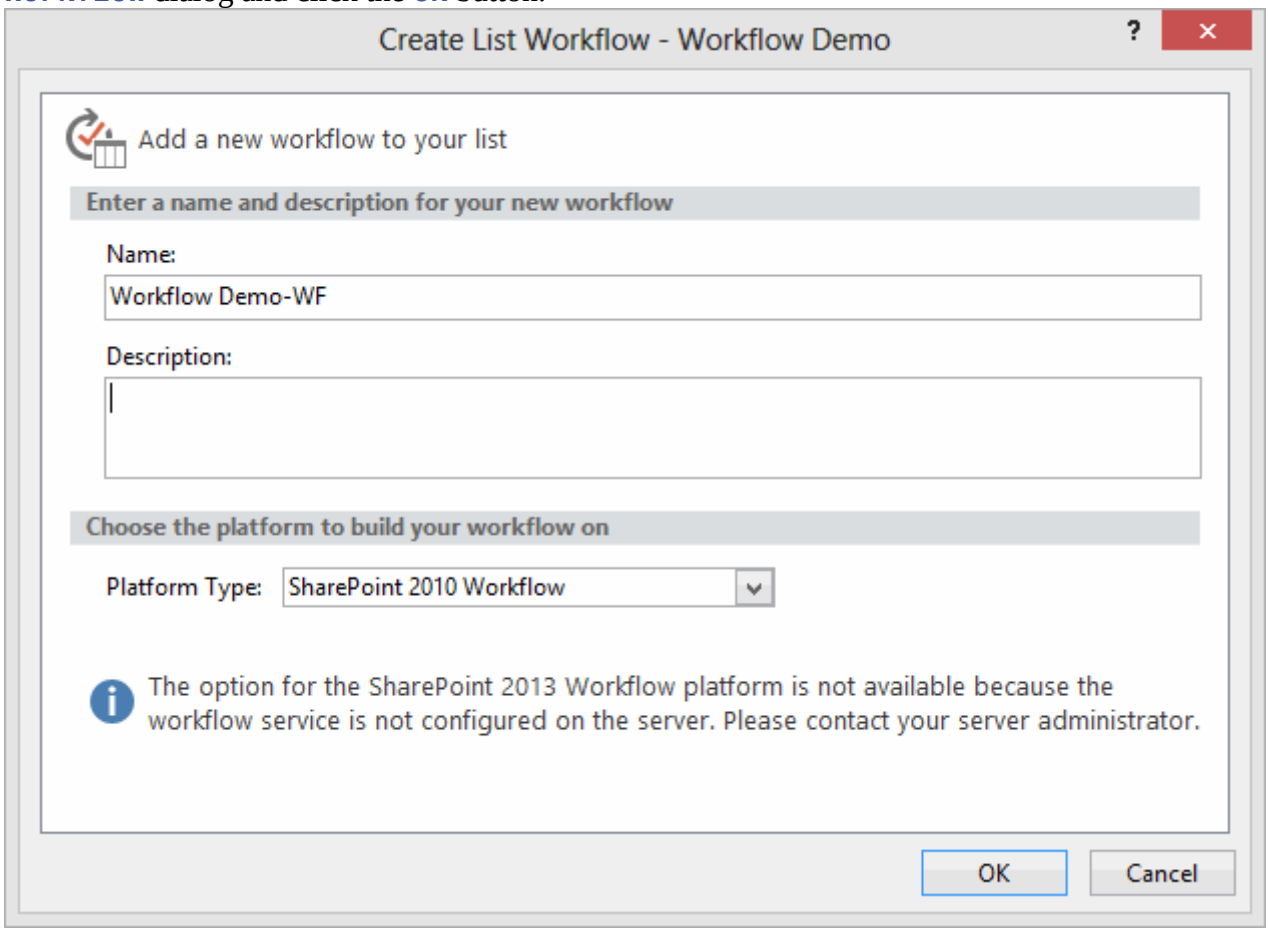
The following walk-through will show you how to create a very basic custom list with a couple of custom columns. Once the list is created the walk-through shows how to use SharePoint Designer 2013 to create an associated custom workflow with the list. Later walk-throughs will build upon the workflow created in this walk-through.

1. Create a new custom list in your site named "Workflow Demo".
    1. Click the **Settings** menu and choose the **Add an app** item.
    2. Select **Custom List** from the template choices and type "Workflow Demo" in the **Name** field.
    3. Click the **Create** button to complete creating the list.
2. Add a choice column named "Colors" and a text column named "Workflow Output" to **Workflow Demo** list.
    1. Click the **Create Column** link on the **LIST** tab toolbar.
    2. Type "Colors" in the **Column name** field and select **Choice** for the data type option.
    3. Enter "Red", "Blue", and "Green" on separate lines in the choices field within the **Additional Column Settings** area.
    4. Click the **OK** button to complete creating the column.
    5. Click the **Create Column** link on the **LIST** tab toolbar.
    6. Type "Workflow Output" in the **Column name** text-box field.
    7. Click the **OK** button to create the column.
3. Launch SharePoint Designer 2013 and create a **List Workflow** associated with the **Workflow Demo** list.
    1. Open SharePoint Designer 2013 and then open your team site in Designer.

2. On the **Site** tab toolbar, click the **List Workflow** drop-down button and choose the **Workflow Demo** list.



3. Type "Workflow Demo-WF" in the **Name** field of the **Create List Workflow** dialog and click the **OK** button.



4. Leave the workflow open in SharePoint Designer for the next walk-through.

Workflow Actions

Workflow Actions are the main working component in a SharePoint Designer workflow. SharePoint Designer is limited to being able only to do things that are defined in an Action. However, SharePoint comes with a wide range of Actions out-of-box. The following is a grouped list of Actions available in a default installation of SharePoint Server 2013:

- **Core Actions**
  - Add a Comment
  - Add Time to Date
  - Do Calculation

- Log to History List
- Pause for Duration
- Pause until Date
- Send an Email
- Set Time Portion of Date/Time Field
- Set Workflow Status
- Set Workflow Variable
- Stop Workflow

- **Document Set Actions (not available in SharePoint Foundation)**
  - Capture a version of the Document Set
  - Send Document Set to Repository
  - Set Content Approval Status for the Document Set
  - Start Document Set Approval Process
- **List Actions**
  - Check In Item
  - Check Out Item
  - Copy List Item
  - Create List Item
  - Declare Record
  - Delete Item
  - Discard Check Out Item
  - Set Content Approval Status
  - Set Field in Current Item
  - Undeclare Record (not available in SharePoint Foundation)
  - Update List Item
  - Wait for Field Change in Current Item
- **Relational Actions (not available in SharePoint Foundation)**
  - Lookup Manager for a User
- **Task Actions**
  - Assign a Form to a Group
  - Assign a To-do Item
  - Collect Data from a User

    - Start Approval Process (not available in SharePoint Foundation)
    - Start Feedback Process (not available in SharePoint Foundation)
- **Utility Actions**
    - Extract Substring from End of String
    - Extract Substring from Index of String
    - Extract Substring from Start of String
    - Extract Substring of String from Index with Length
    - Find Interval Between Dates

Some of the actions listed are not available with SharePoint Foundation 2013.

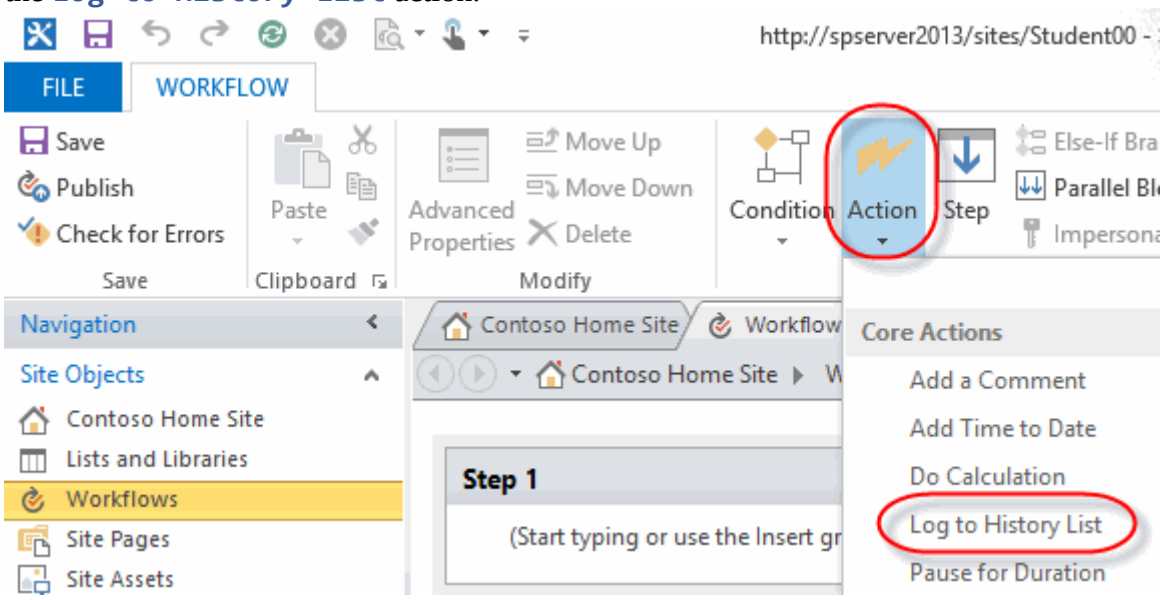
Additional Actions can be purchased, downloaded for free, or created by in-house developers and installed in SharePoint and then configured with SharePoint Designer just like out-of-the-box actions.

SharePoint Designer workflows are created by combining as many Actions as necessary to get the job done.

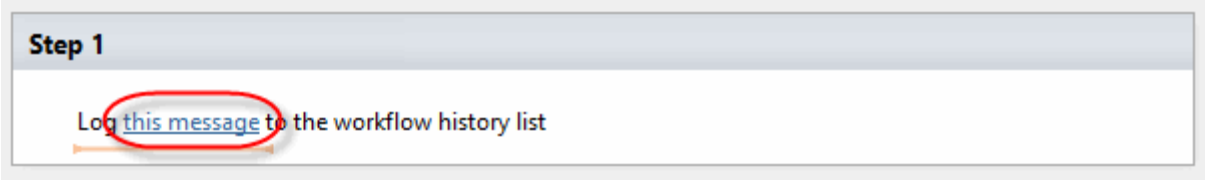
The following walk-through will show you how to add and configure a couple of actions to the workflow that was created in the previous walk-through.

1. Add a **Log to History List** action to the **Workflow Demo-WF**.

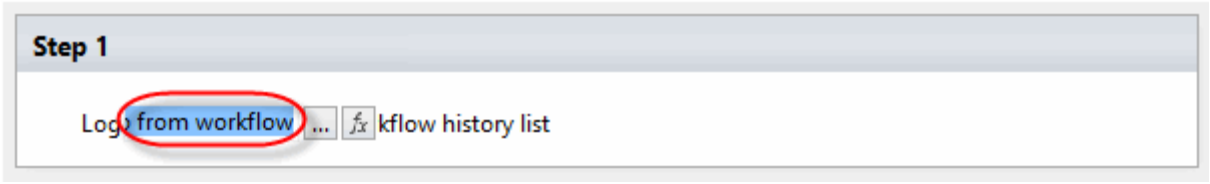
1. Click the **Action** drop-down button from the **Workflow** tab toolbar and select the **Log to History List** action.



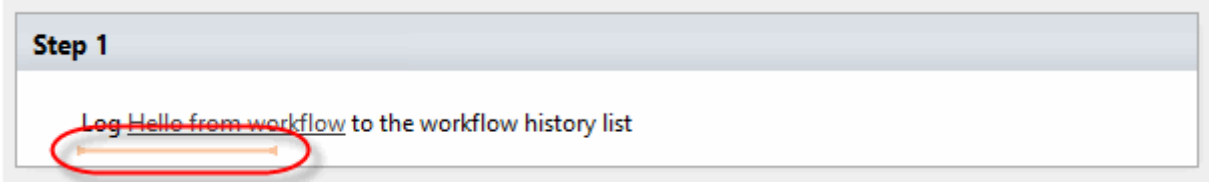
2. Click the this message link inside the **Log to History List** action added from the previous step.



3. Type "Hello from workflow" inside the text box field.

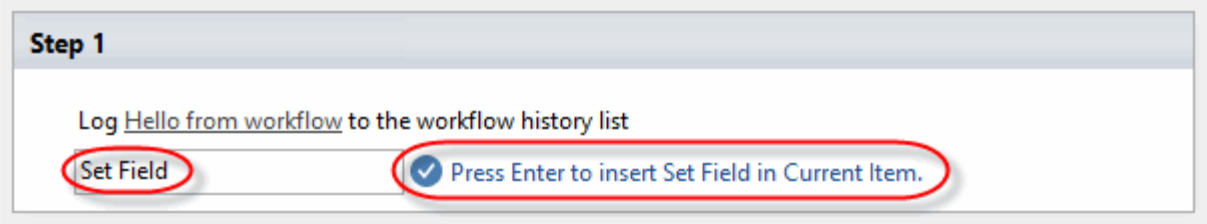


4. Hover and click the orange bar below the **Log to History List** action.



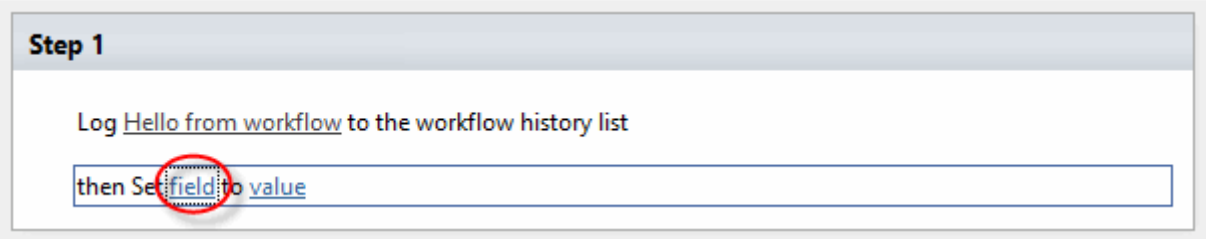
5. Type "Set Field" in the text box that appears when you start typing and press the Enter key to have SharePoint Designer insert the **Set Field in Current**

Item action.

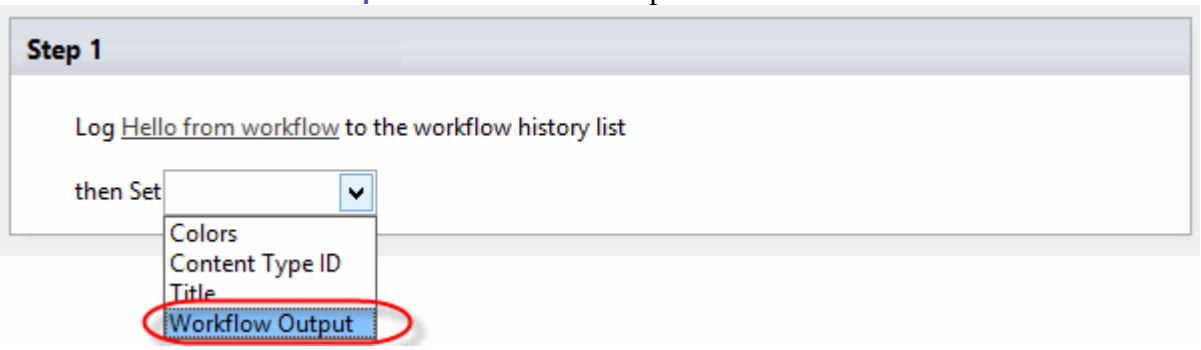


This is just another way to add an action to a workflow. You could also use the **Workflow** tab's **Action** drop-down button like you did with the **Log to History List** action.

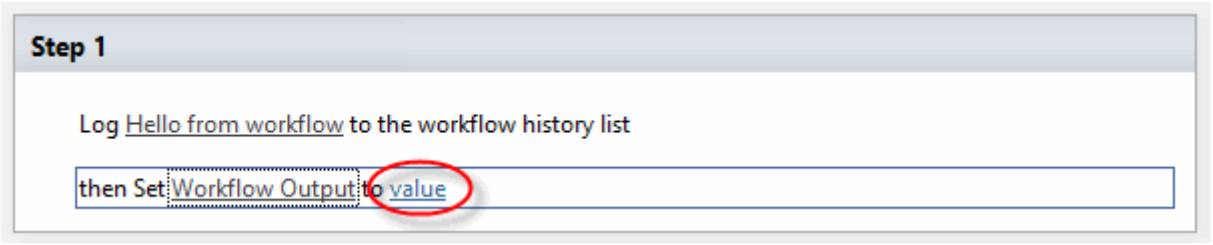
6. Click the field link inside the **Set Field in Current Item** action.



7. Choose the **Workflow Output** field from the drop-down list.

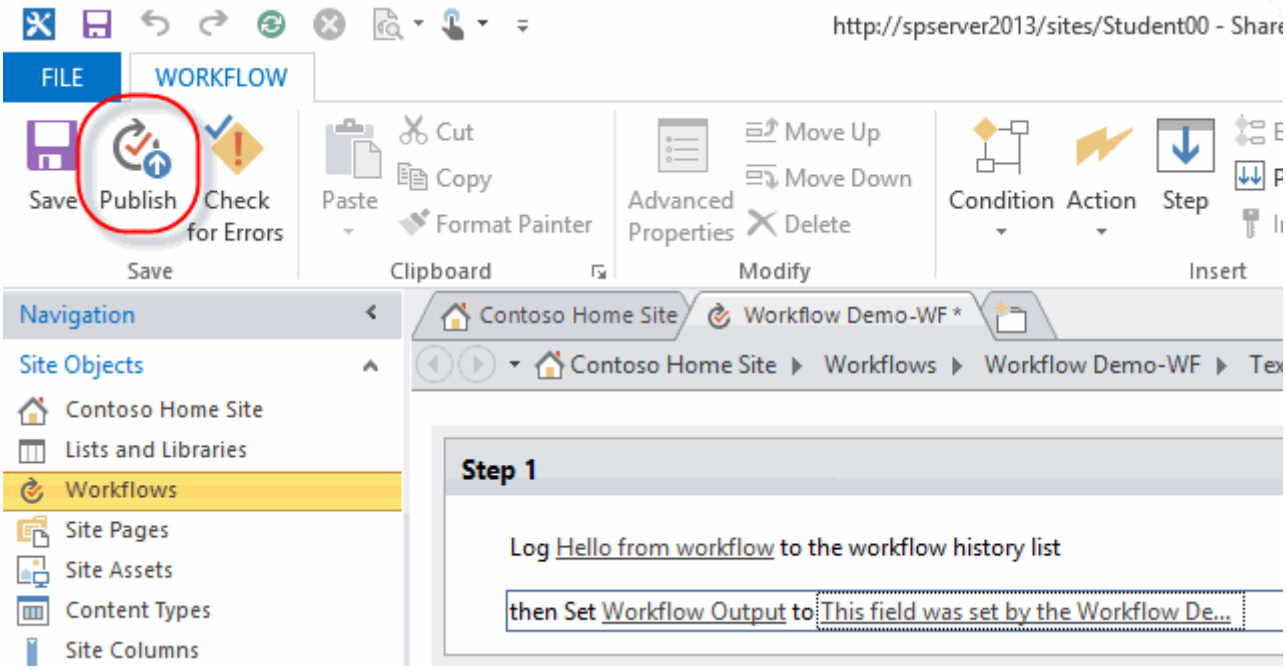


8. Click the **value** link inside the **Set Field in Current Item** action.



9. Type "This field was set by the Workflow Demo-WF" in the **value** text box.

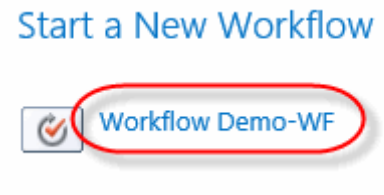
2. Click the **Publish** button in the **Workflows** tab toolbar to publish the workflow to our SharePoint site.



3. Create a new item in the **Workflow Demo** list and start an instance of the **Workflow Demo-WF** on it.
    1. Switch back to the browser window and click the **Workflow Demo** link in the sites **Quick Launch** menu.
    2. Click the **new item** link inside the list.
    3. Type "Item One" for the **Title** field and click the **Save** button.
    4. Click the ellipsis button to the right of **Item One** and select **Workflows** from the drop-down.

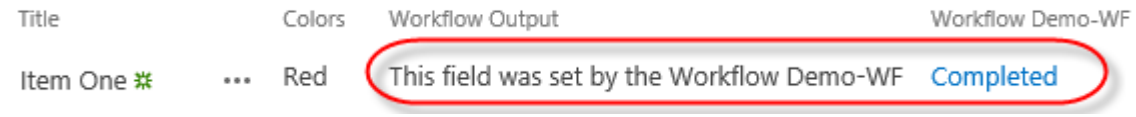
        This is just another way to add an action to a workflow. You could also use the **Workflow** tab's Action drop-down button like you did with the **Log to History List** action.

    5. Click the **Workflow Demo-WF** link on the **Workflows** page.

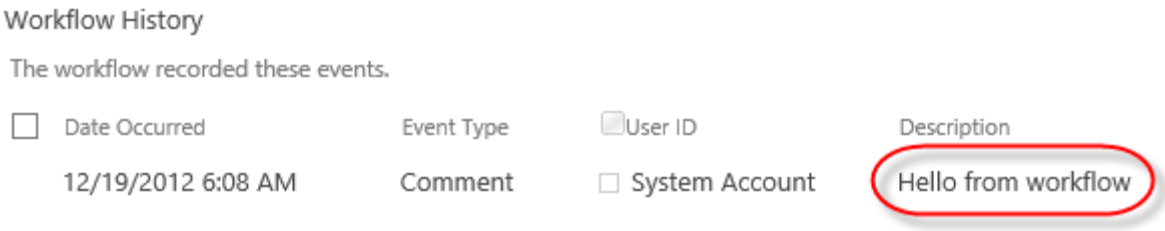


6. Click the **Start** button on the workflows initiation page.

4. Verify the workflow actions outcome.
    1. Verify the list now has a column titled **Workflow Demo-WF** and the **Item One** item's value for the column is **Completed**.
    2. Verify the **Workflow Output** column has the text we wrote to it through the workflow.



    3. Click the **Completed** link in the **Workflow Demo-WF** column.
    4. Verify the **Workflow History** area has the output from our workflow action.



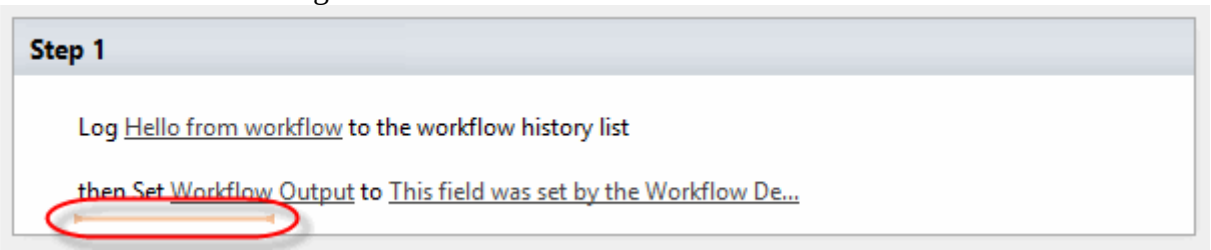
Workflow Conditions

Workflow conditions are a way to control which Actions run or don't run within a workflow. Conditions provide workflows with If-Then and Else-If blocks to wrap Actions. SharePoint Designer provides the following conditions for use within custom workflows:

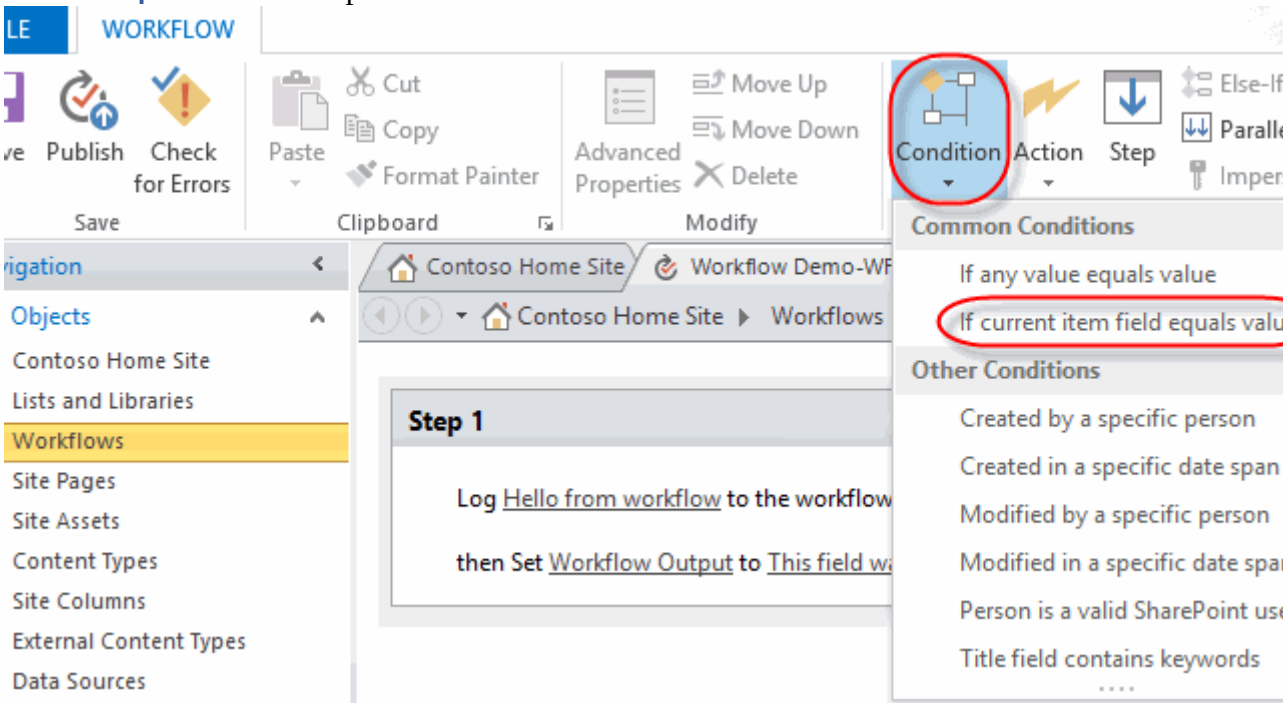
- **Common Conditions**
    - If any value equals value
    - If current item field equals value
- **Other Conditions**
    - Created by specific person
    - Created in a specific date span
    - Modified by a specific person
    - Modified in a specific date span
    - Person is a valid SharePoint user
    - Title field contains keywords

The following walk-through will show you how add a couple **If current item field equals value** conditions that will run different **Log to History List**actions based on valued within the **Colors** column of our **Workflow Demo** list. The conditions will be added into the **Workflow Demo-WF** that was created in the previous walk-through.

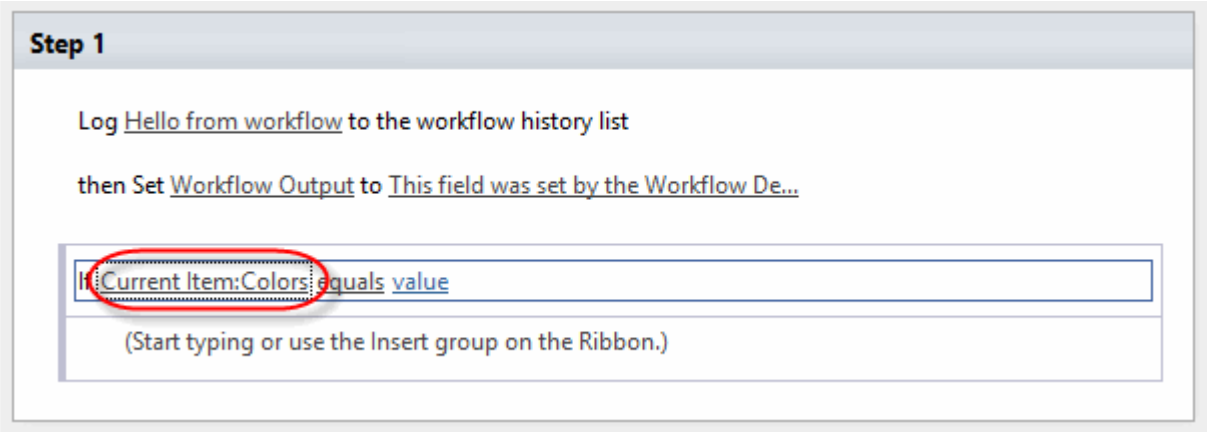
1. Add **If current item field equals value** conditions to check for the different color values within the **Colors** column of a **Workflow Demo** list item.
    1. Switch back to SharePoint Designer and the editor view of our **Workflow Demo-WF** workflow.
    2. Hover and click the orange bar below the last action.



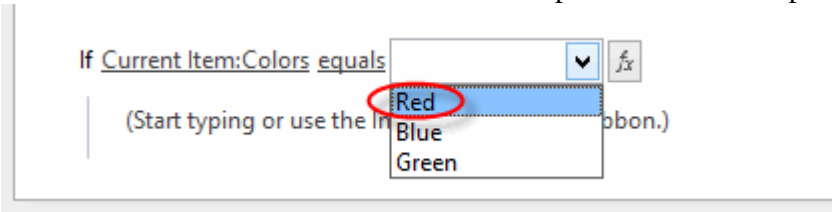
    3. Click the **Condition** drop-down button and choose the **If current item field equals value** option.



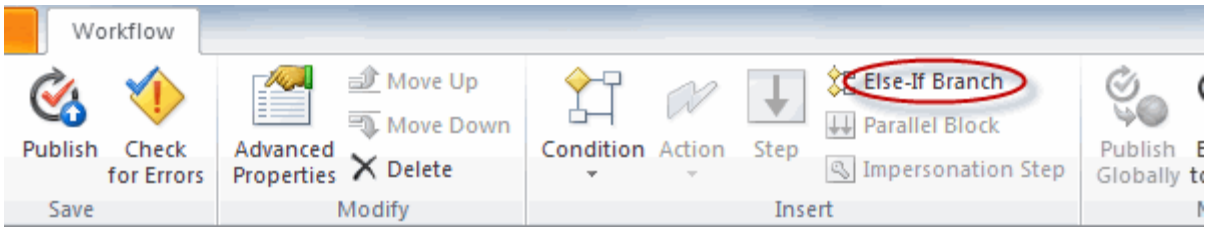
4. Click the **field** link in the condition and choose the **Colors** option from the drop-down list.



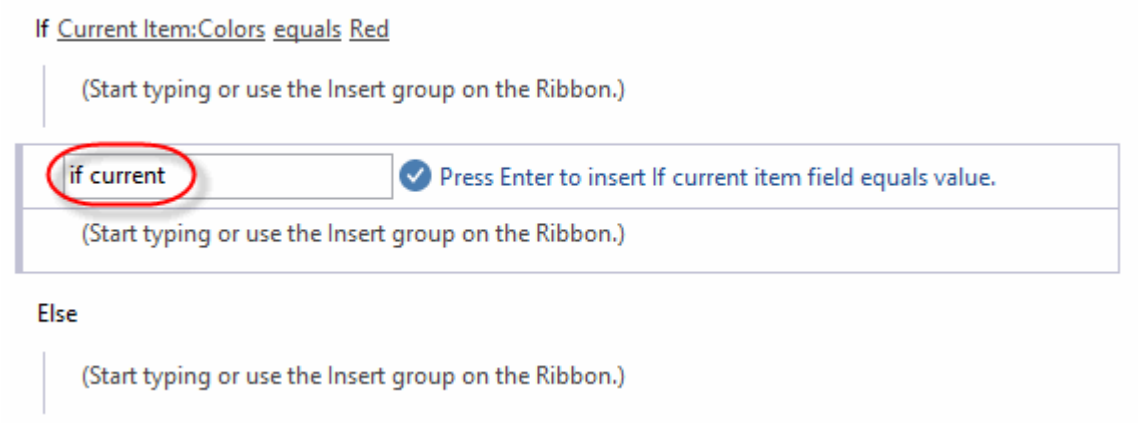
5. Click the **value** link and choose the **Red** option from the drop-down list.



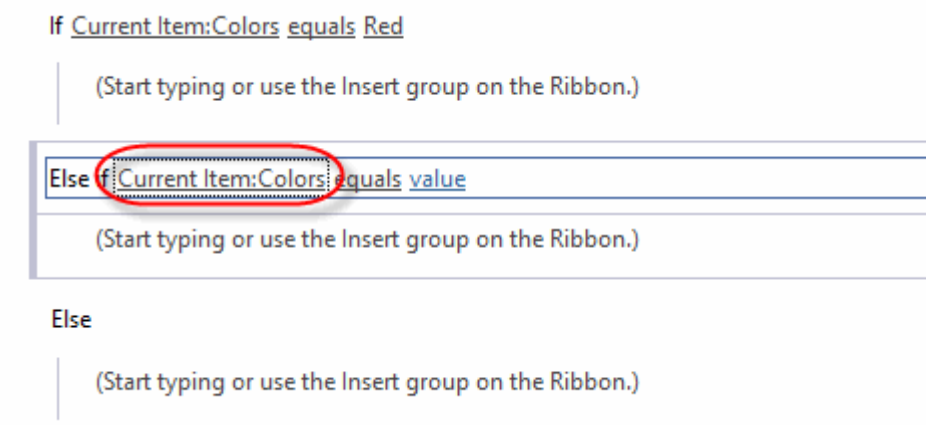
6. Click the **Else-If Branch** button on the **Workflow** tab tool bar twice to add two more condition blocks to the workflow.



7. Click the orange bar below the **(Insert a condition)** label and type "If current" and press the Enter key to have the editor fill in the rest.

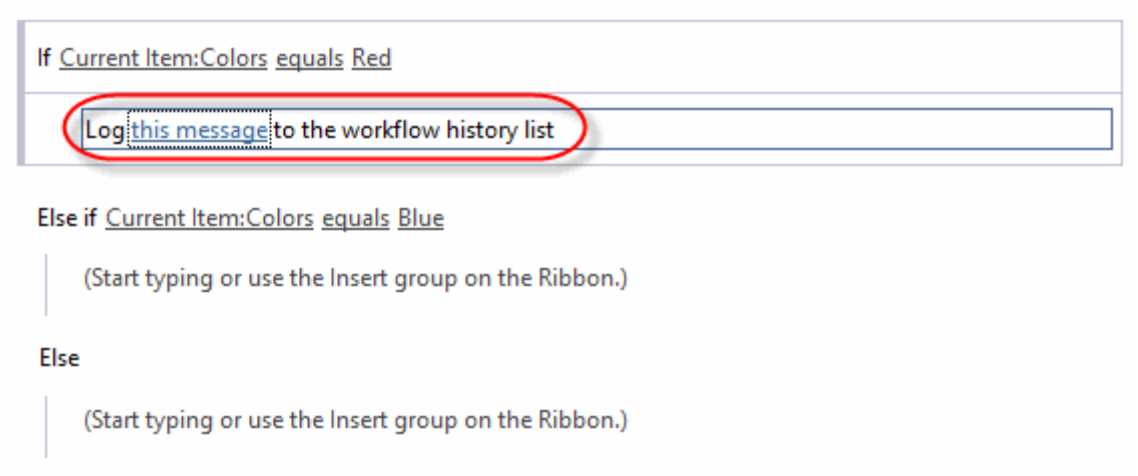


8. Click the **field** link inside the **Else if** branch and choose the **Colors** field from the drop-down list.

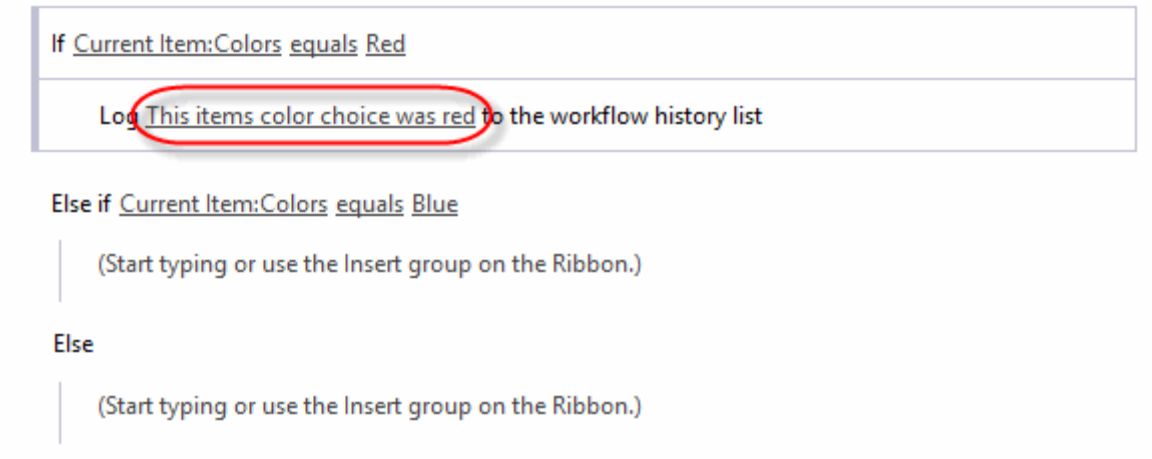


9. Click the **value** link and choose the **Blue** color option from the drop-down list.

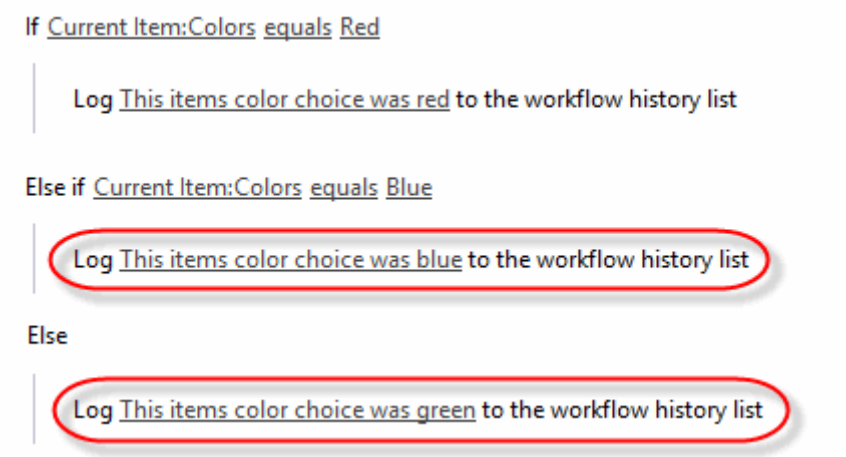
2. Add a **Log to History List** action inside each of the condition branches.
    1. Click the **(Start typing or use the Insert group in the Ribbon.)** label in the first condition branch and type "Log" in the text box and press the Enter key to have the editor fill in the rest of the action.



2. Click the **this message** link inside the **Log to History List** action and type "This items color choice was red" in the text-box field.

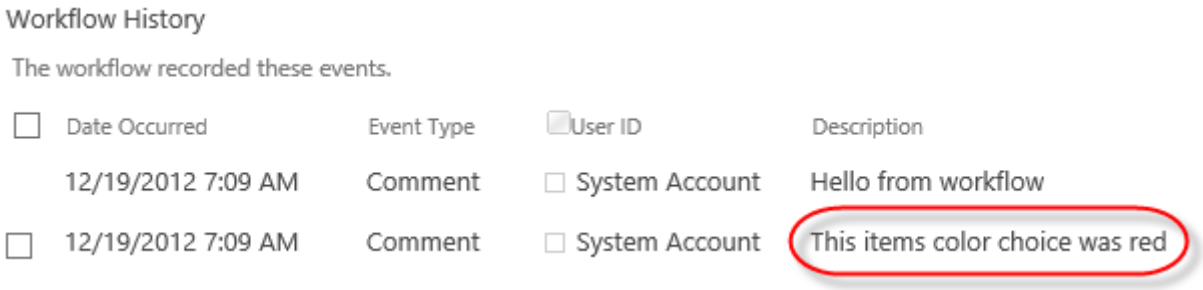


3. Repeat the previous steps to add a **Log to History List** action inside the other two condition branches with messages reflecting "Blue" and "Green". The final condition branches should look like the following image:



3. Click the **Publish** link in the **Workflow** tab toolbar to update the SharePoint site with the current changes.
4. Test the condition branches in the **Workflow Demo** list.
    1. Switch back to the browser window and click the **Workflow Demo** link in the sites **Quick Launch** menu.
    2. Click the **Workflows** link from the item menu of **Item One**.
    3. Click the **Workflow Demo-WF** link under the **Start a New Workflow** heading.
    4. Click the **Start** button to start the workflow.
    5. Click the **Completed** link in the **Workflow Demo-WF** column for **Item One**.

6. Verify the **Workflow History** has an entry with a message appropriate for the items **Colors** field.

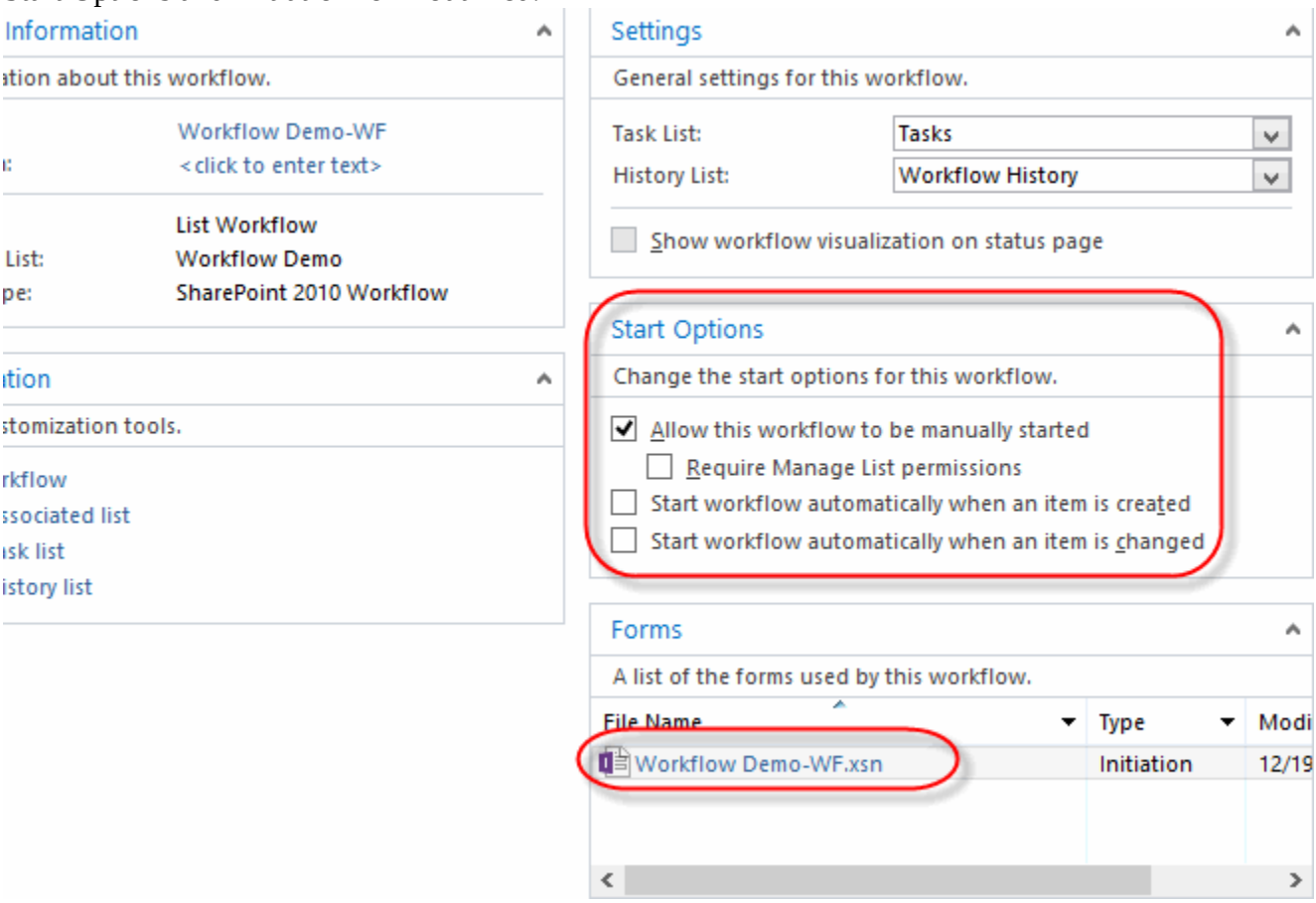


Workflow Initiation Form

Initiation forms can be used with a SharePoint workflow to pass additional information into the workflow from the user who starts it. SharePoint Designer 2013 offers a wizard-driven interface for creating parameters and generating the Initiation form. The form that SharePoint Designer creates can be further customized with Microsoft InfoPath.

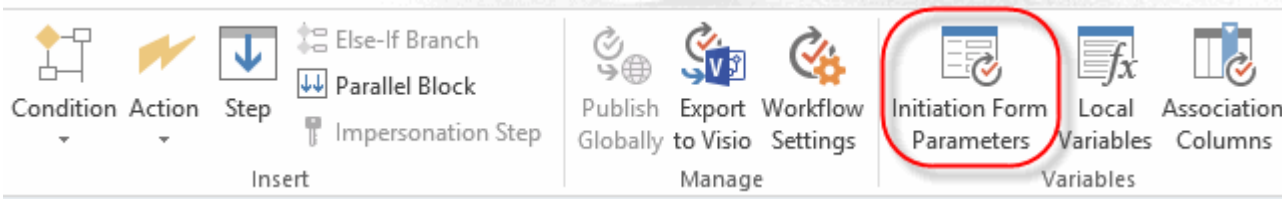
One drawback to using Initiation form parameters is that they work only if the workflow is manually started on an item. If a workflow is set to automatically start when an item is modified or created, then there is no opportunity for the user to interact with the Initiation form. The following shows the workflow settings and configuration tab in SharePoint designer with the

Start Options and Initiation form outlined:

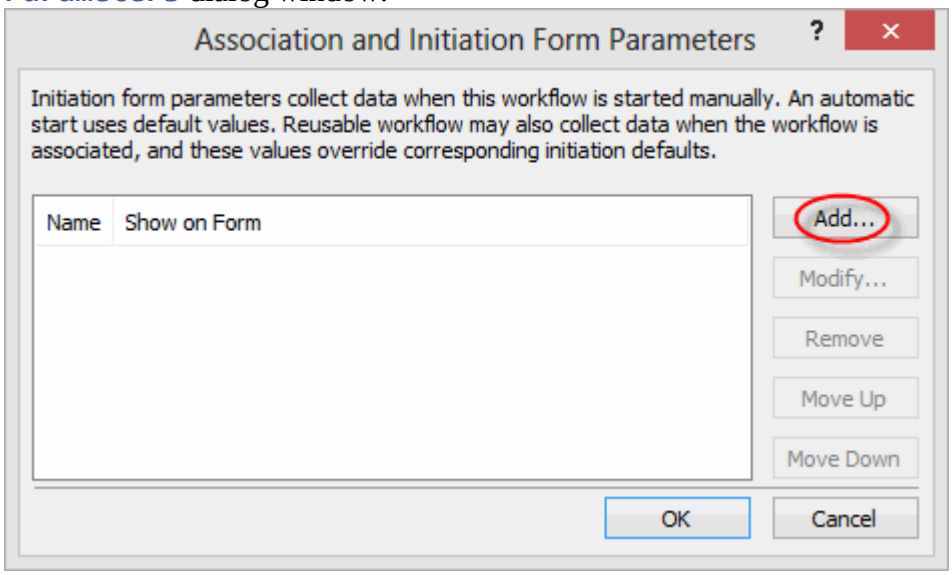


The following walk-through will show you how to add an Initiation parameter to the Workflow Demo-WF created in the previous walk-throughs in this lesson.

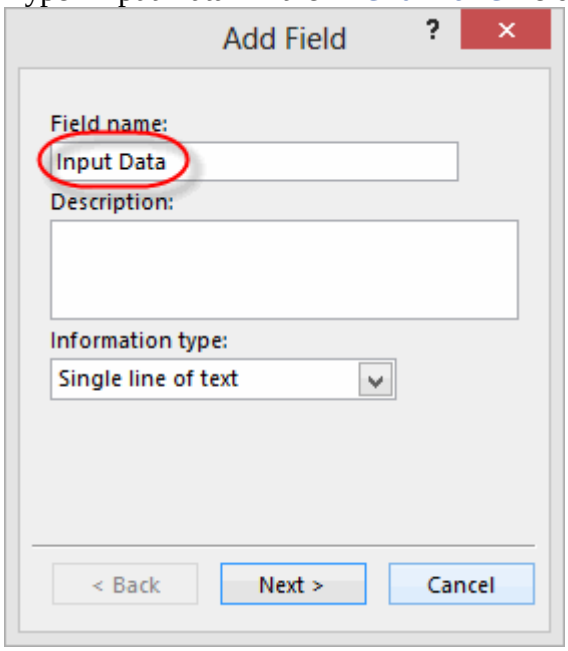
1. Add **`Single line of text`** parameter named "Input Data" to the **`Workflow Demo-WF`** using SharePoint Designer.
    1. Switch back to SharePoint Designer and the editor view of our **`Workflow Demo-WF`** workflow.
    2. Click the **`Initiation Form Parameters`** button on the **`Workflow`** tab toolbar.



3. Click the **Add...** button on the **Association and Initiation Form Parameters** dialog window.



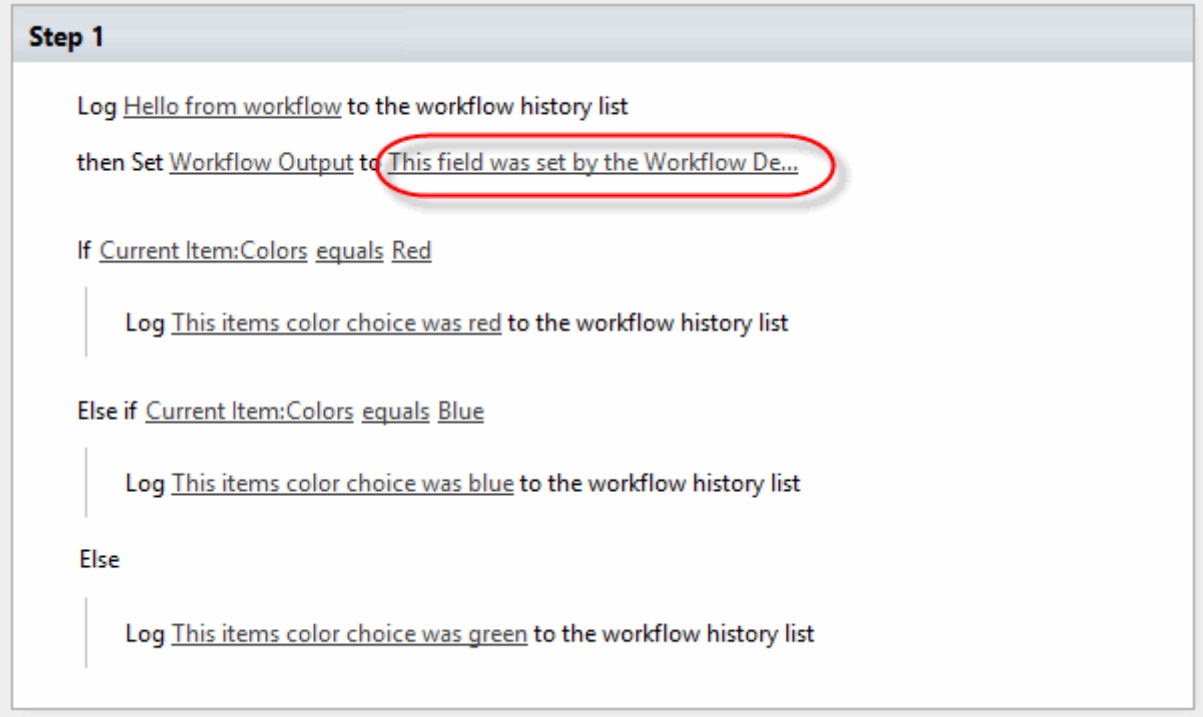
4. Type "Input Data" in the **Field name** field of the **Add Field** dialog window.



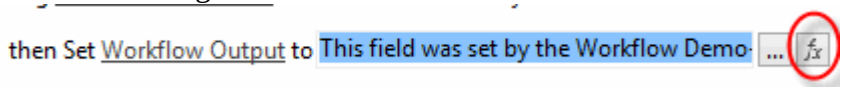
5. Click the **Next** button.
6. Click the **Finish** button.
7. Click the **OK** button on the **Association and Initiation Form Parameters** dialog window.

2. Modify the **Set Field in Current Item** workflow action to write the parameter information from the Initiation form into the **Workflow Output** field of the list item.

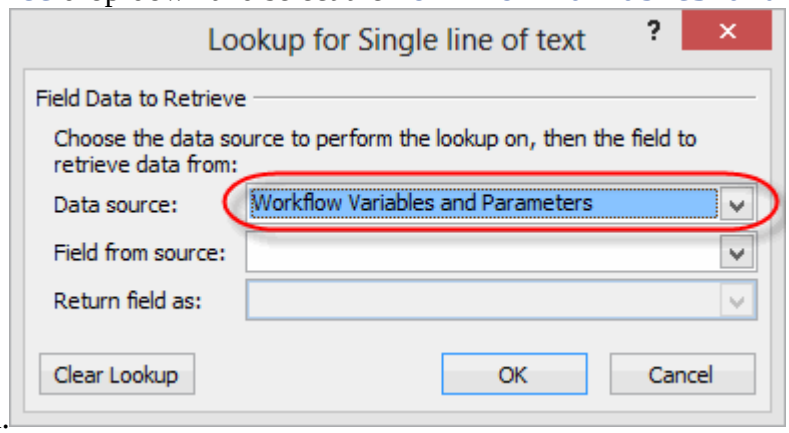
1. Click the **This field was set by the Workflow De...** link of the **Set Field in Current Item** action.



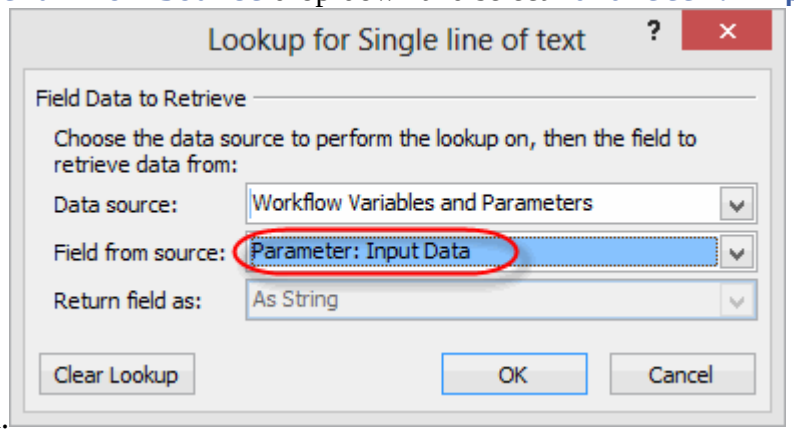
2. Click the ***fx*** button next to the text box to open the **Lookup for Single line of text** dialog window.



3. Click the **Data source** drop-down and select the **Workflow Variables and Parameters** option.

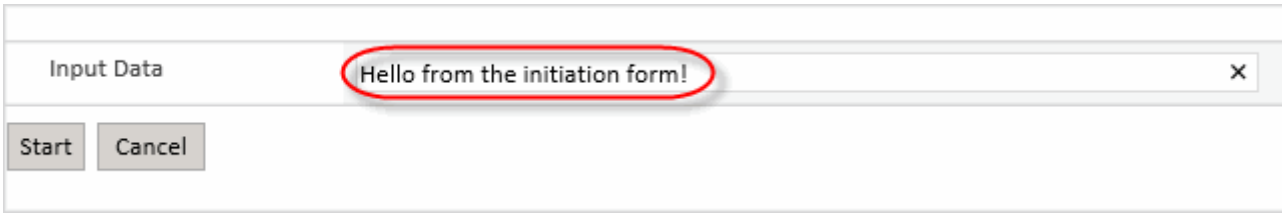


4. Click the **Field from source** drop-down and select **Parameter: Input Data** option.

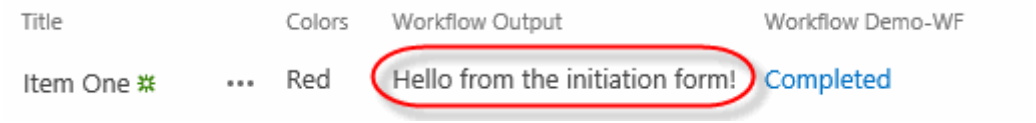


5. Click the **OK** button to save the settings.

3. Click the **Publish** button to save the workflow changes back to the SharePoint server.
4. Run the **Workflow Demo-WF** to test the Initiation form parameter.
    1. Switch back to the browser window and click the **Workflow Demo** link in the site's **Quick Launch** menu.
    2. Click the **Workflows** link from the item menu of **Item One**.
    3. Click the **Workflow Demo-WF** link under the **Start a New Workflow** heading.
    4. Type "Hello from the initiation form!" in the **Input Data** field of the Initiation form.



    5. Click the **Start** button to start the workflow.
    6. Verify the **Workflow Output** field for **Item One** has the text from the Initiation form.



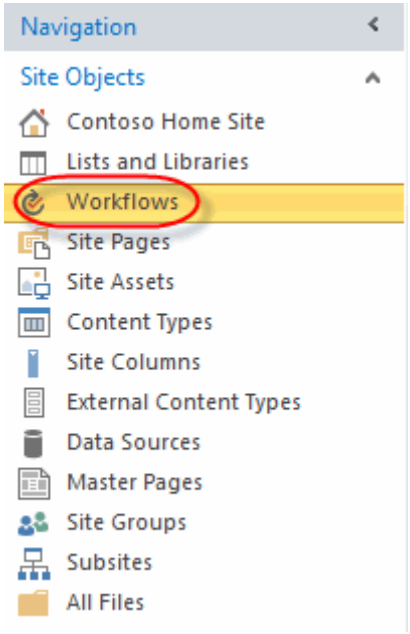
Reusable Workflows

Reusable workflows allow you to create a workflow backed by a SharePoint Content Type instead of an existing list or library. Once the content type is assigned to a list or library, the

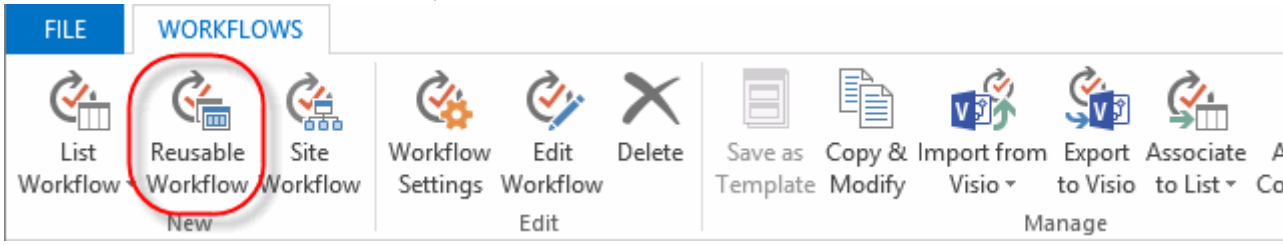
workflow can be associated with that same list or library. Unlike creating a List Workflow, a reusable workflow does require extra steps of associating the workflow with the list/library. The benefit is that the workflow can be used on as many lists/libraries that support the content type without having to re-create the workflow.

The following walk-through shows how to use SharePoint Designer to create a reusable workflow for the **Document** content type.

1. Launch SharePoint Designer 2010 and create a **Reusable Workflow** associated with the **Document** content type.
    1. If SharePoint Designer is not already open, click the **Site Actions** menu and choose the **Edit in SharePoint Designer** option.
    2. Click the **Workflows** link in the **Navigation** menu.

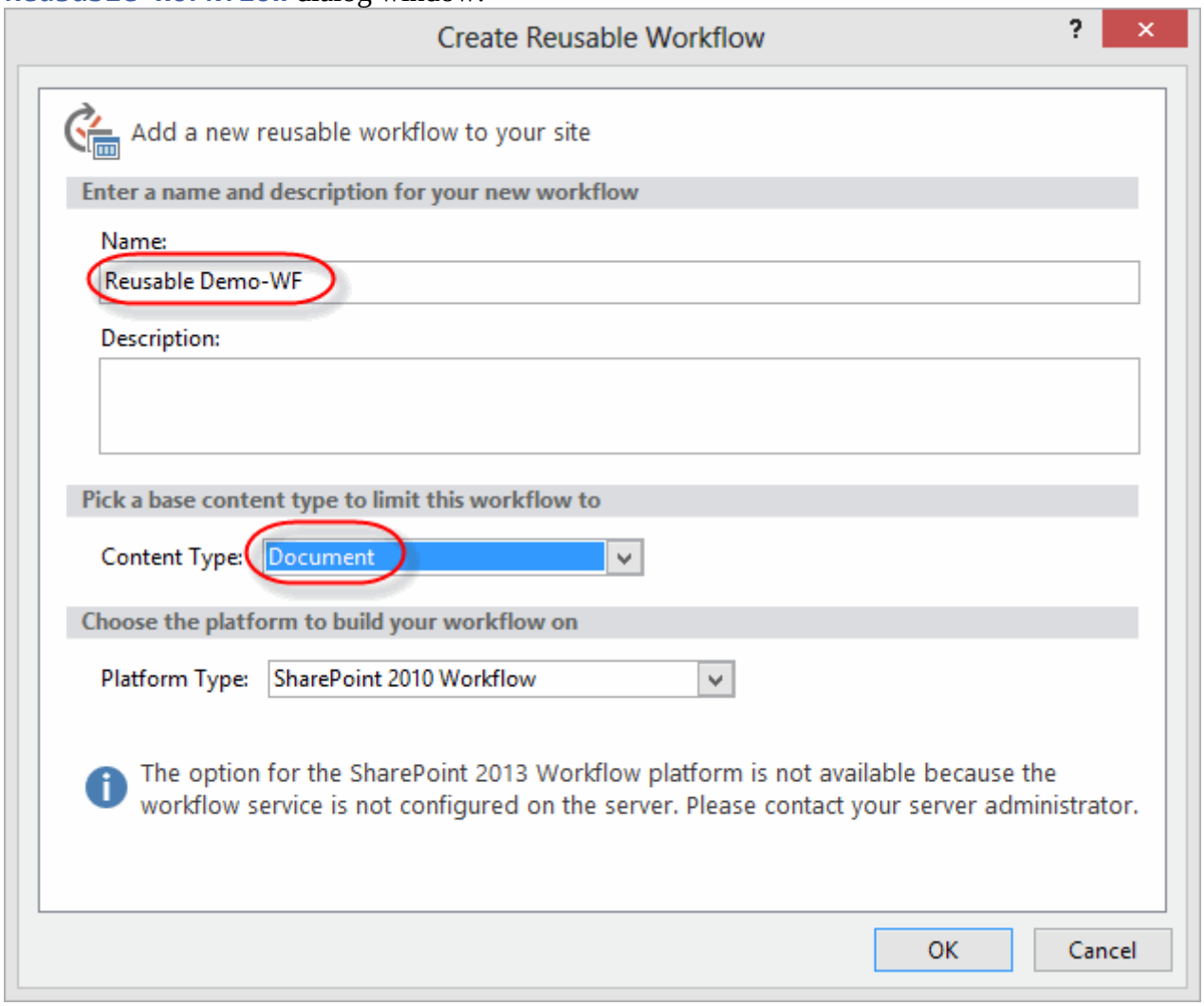


    3. From the **Workflows** tab toolbar, click the **Reusable Workflow**.



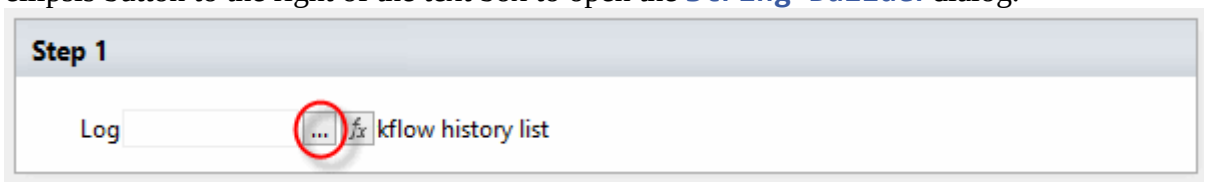
    4. Type "Reusable Demo-WF" in the **Name** field of the **Create Reusable Workflow** dialog window.

5. Select **Document** in the **Content Type** drop-down field of the **Create Reusable Workflow** dialog window.

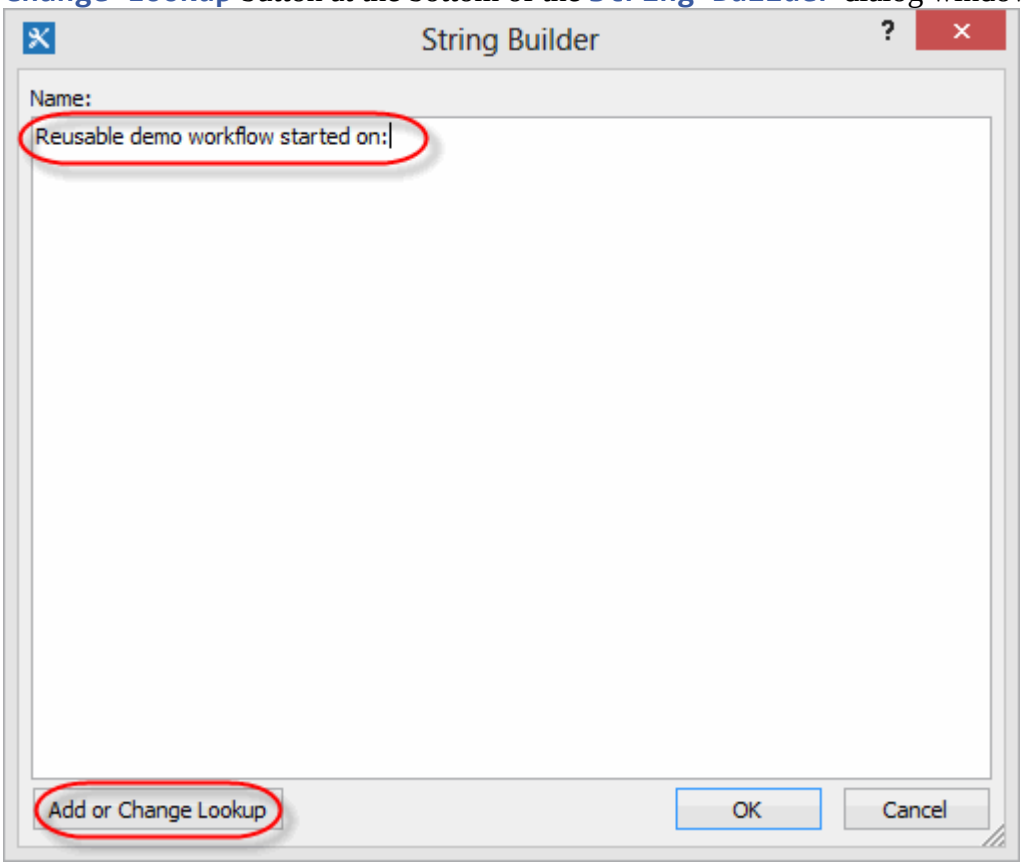


6. Click the **OK** button to complete creating the new reusable workflow.

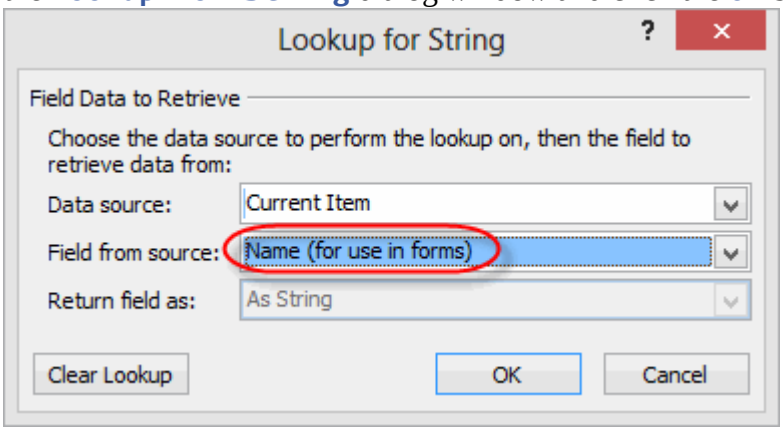
2. Add a **Log to History List** action to the **Reusable Demo-WF** workflow.
    1. Click the **Action** drop-down button on the **Workflow** tab toolbar and choose the **Log to History List** action.
    2. Click the **this message** link in the **Log to History List** action and click the ellipsis button to the right of the text box to open the **String Builder**dialog.



3. Type "Reusable demo workflow started on: " in the text box and click the **Add or Change Lookup** button at the bottom of the **String Builder** dialog window.



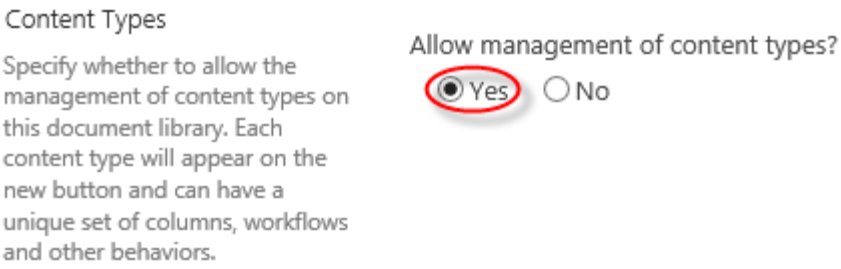
4. Select **Name (for use in forms)** for the **Field from source** field in the **Lookup for String** dialog window and click the **OK** button.



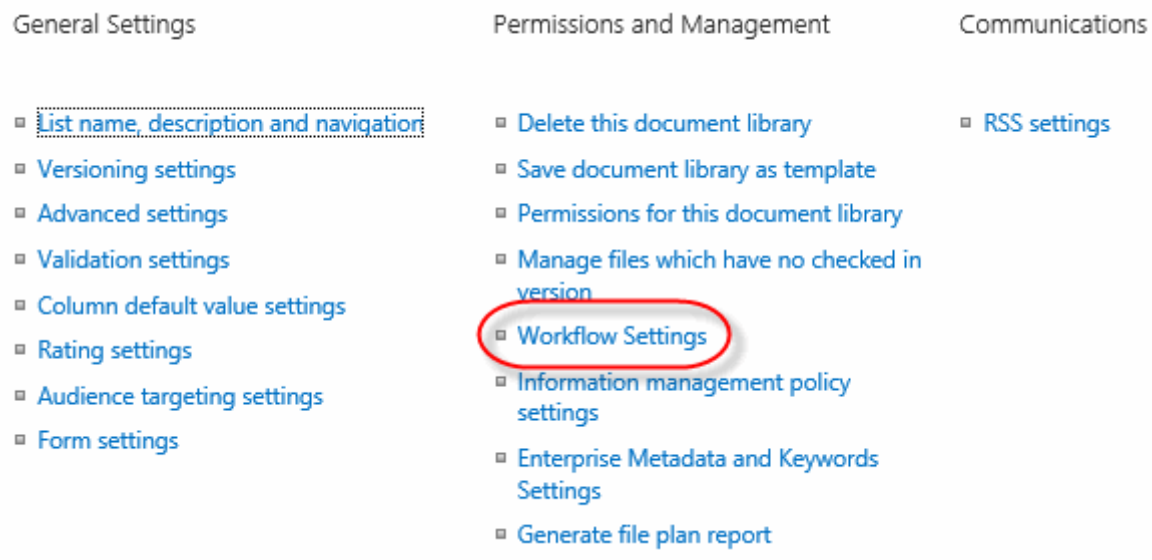
5. Click the **OK** button to close the **String Builder** dialog.

3. Click the **Publish** button in the **Workflow** tab toolbar to save and publish the new workflow to SharePoint.
4. Associate the **Reusable Demo-WF** with the **Documents** library.

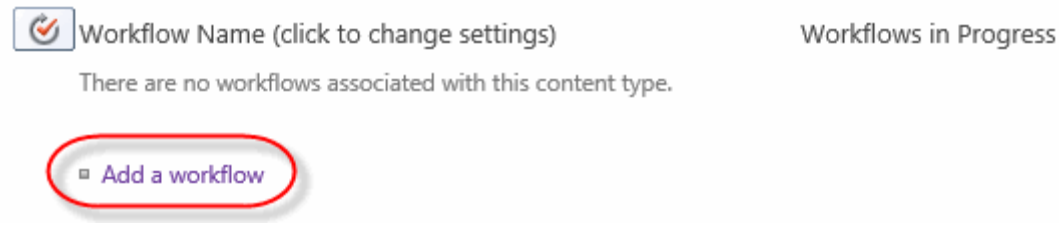
1. Switch back to the browser window and click the **Documents** link in the sites **Quick Launch** menu.
2. Click the **Library Settings** button on the **LIBRARY** tab toolbar.
3. Click the **Advanced** settings link under the **General Settings** group.
4. Click the **Yes** radio button for the **Allow management of content types** option.



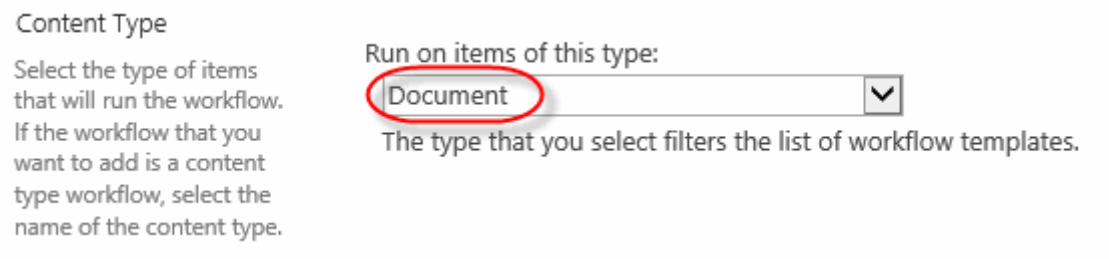
5. Click the **OK** button to save the setting.
6. Click the **Workflow Settings** link under the **Permissions and Management** area of the **Document Library Settings** page.



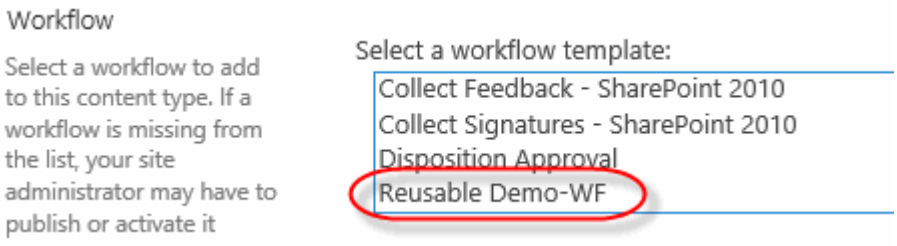
7. Click the **Add a workflow** link.



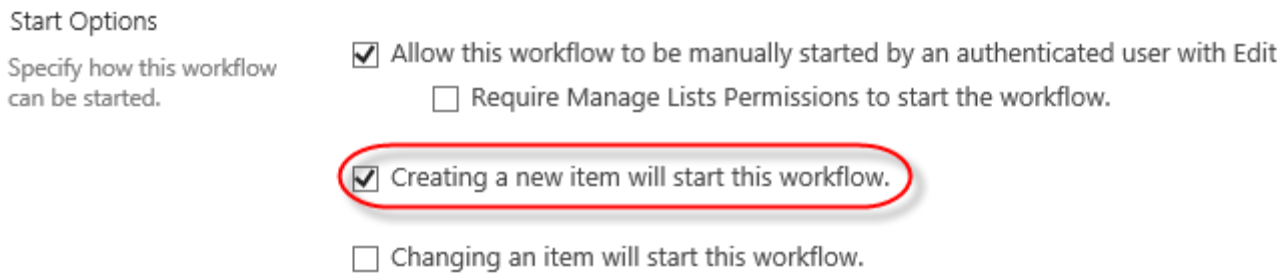
8. Select **Document** in the **Run on items of this type** drop-down list field.



9. Select **Reusable Demo-WF** in the **Select a workflow template** list-box field.



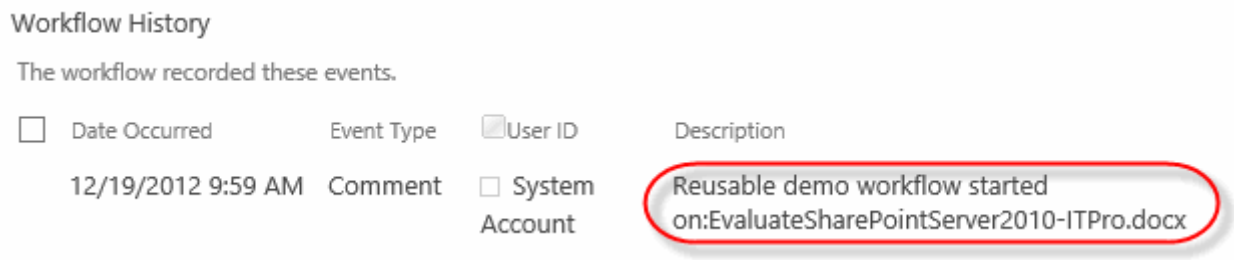
10. Type "Shared Docs Reusable WF" in the **Name** field.
11. Check the box labeled **Creating a new item will start this workflow** in the **Start Options** group.



12. Click the **OK** button to save.

5. Run the **Shared Docs Reusable WF** against an item in the **Documents** library.
    1. Click the **Documents** link in the sites **Quick Launch** menu.
    2. Click the **new document** link to upload a new document to the library.
    3. Click the **Browse** button.
    4. Use the **Choose File to Upload** dialog to select the EvaluateSharePointServer2010-ITPro document from the class files you downloaded and click the **Open** button.
    5. Click the **OK** button on the **Upload Document** dialog.
    6. Type "Workflow Test" in the **Title** field and click the **Save** button to complete uploading the file.

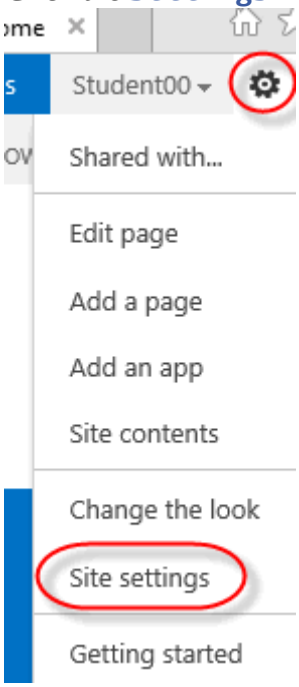
7. Click the **Completed** link under the **Shared Docs Reusable WF** column to open the workflow history page for item.
8. Verify the **Workflow History** has the text entry from the **Log to History List** action with the file name included.



Creating Custom List Workflows

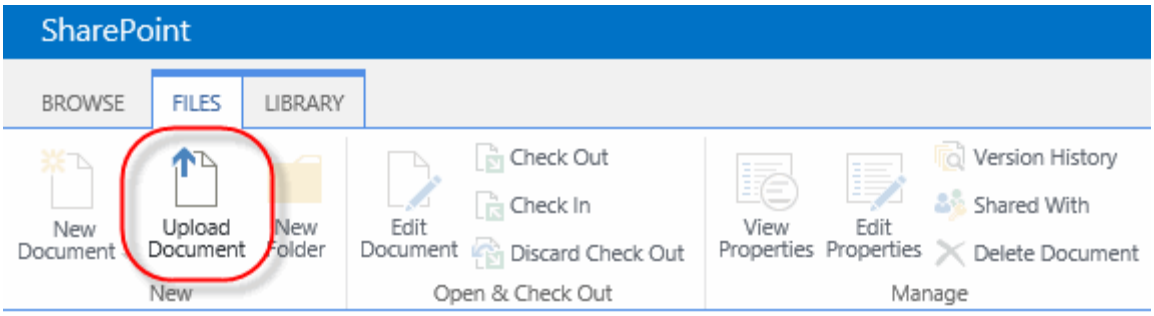
Duration: 15 to 25 minutes.

1. Navigate to your team site.
2. Import the Time-off-request-list-template.stp list template file and create a new list using the template. The new list will be used later in the exercise with a custom workflow.
    1. Click the **Settings** menu then click the **Site Settings** option.

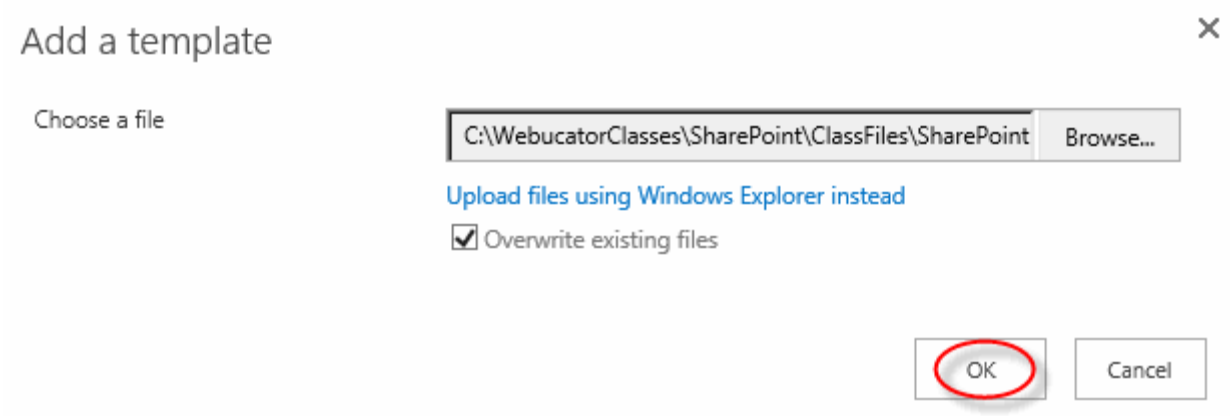


2. Click the **List templates** link on the **Site Settings** page within the **Web Designer Galleries** group.

3. Click the **FILES** tab to open the toolbar then click the **Upload Document** link button.

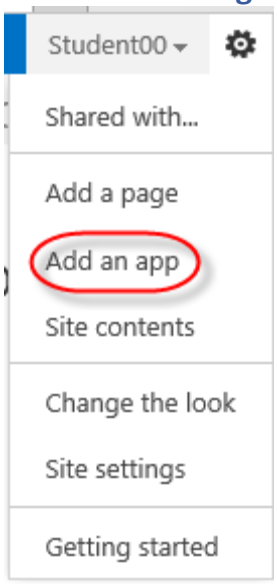


4. Click the **Browse** button in the **Upload Template** dialog.
5. Navigate to the folder you downloaded the class files to and select the Time-off-request-list-template.stp file and click the **Open** button on the **Choose File to Upload** dialog window.
6. Click the **OK** button on the **Add a template** dialog.

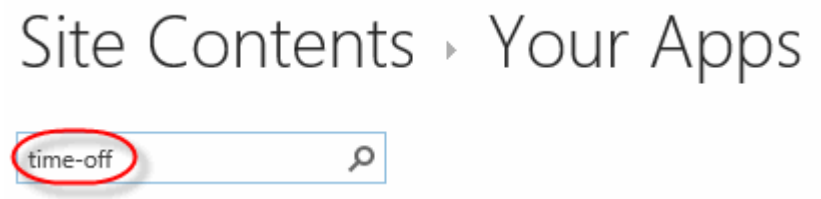


7. Click the **Save** button on the **List Template Gallery** dialog to save the file into the gallery.

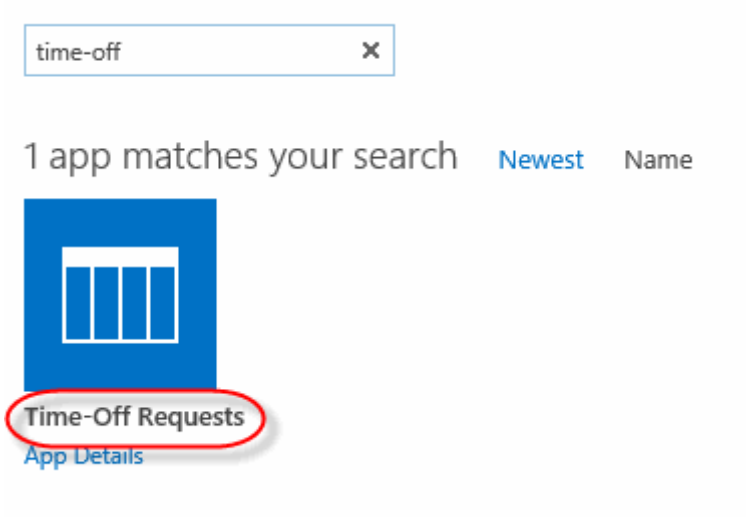
8. Click the **Settings** menu then choose the **Add an app** option.



9. Type "time-off" in the **search** field and click the **search** icon.



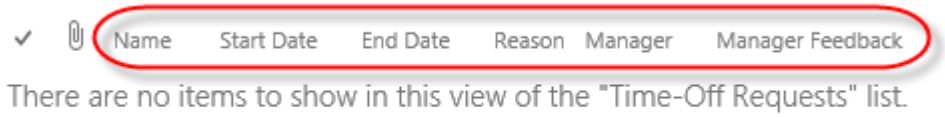
10. Select the **Time-Off Requests** template from the list template.



11. Type "Time-Off Requests" in the **Name:** field and click the **Create** button to complete creating the new list.

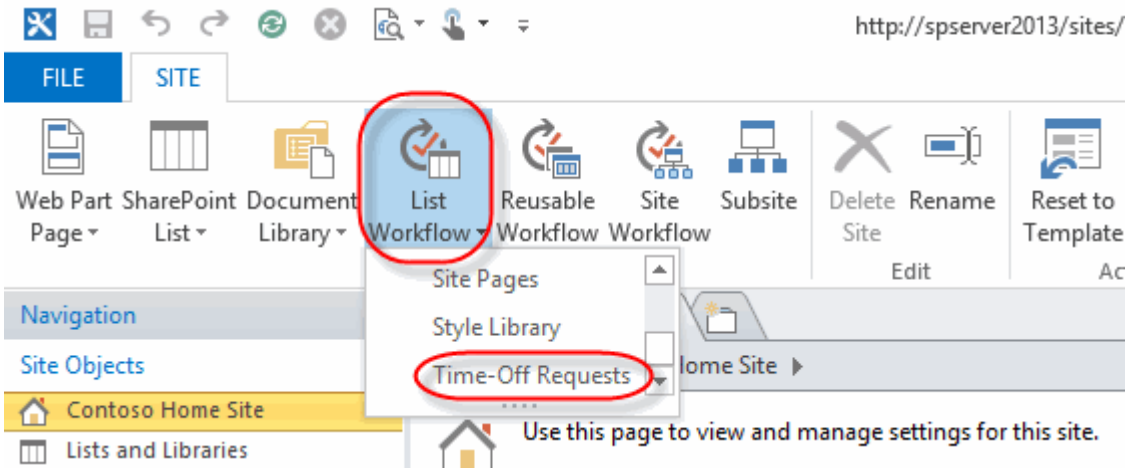
12. Click the **Time-Off Requests** link in the **Quick Launch** and verify the new list has the following columns: **Name**, **Start Date**, **End Date**, **Reason**, **Manager**, and **Manager Feedback**.

    The columns were defined in the list template that the list was created with. If the list does not have these columns, make sure the list was created with the template imported in the earlier steps.

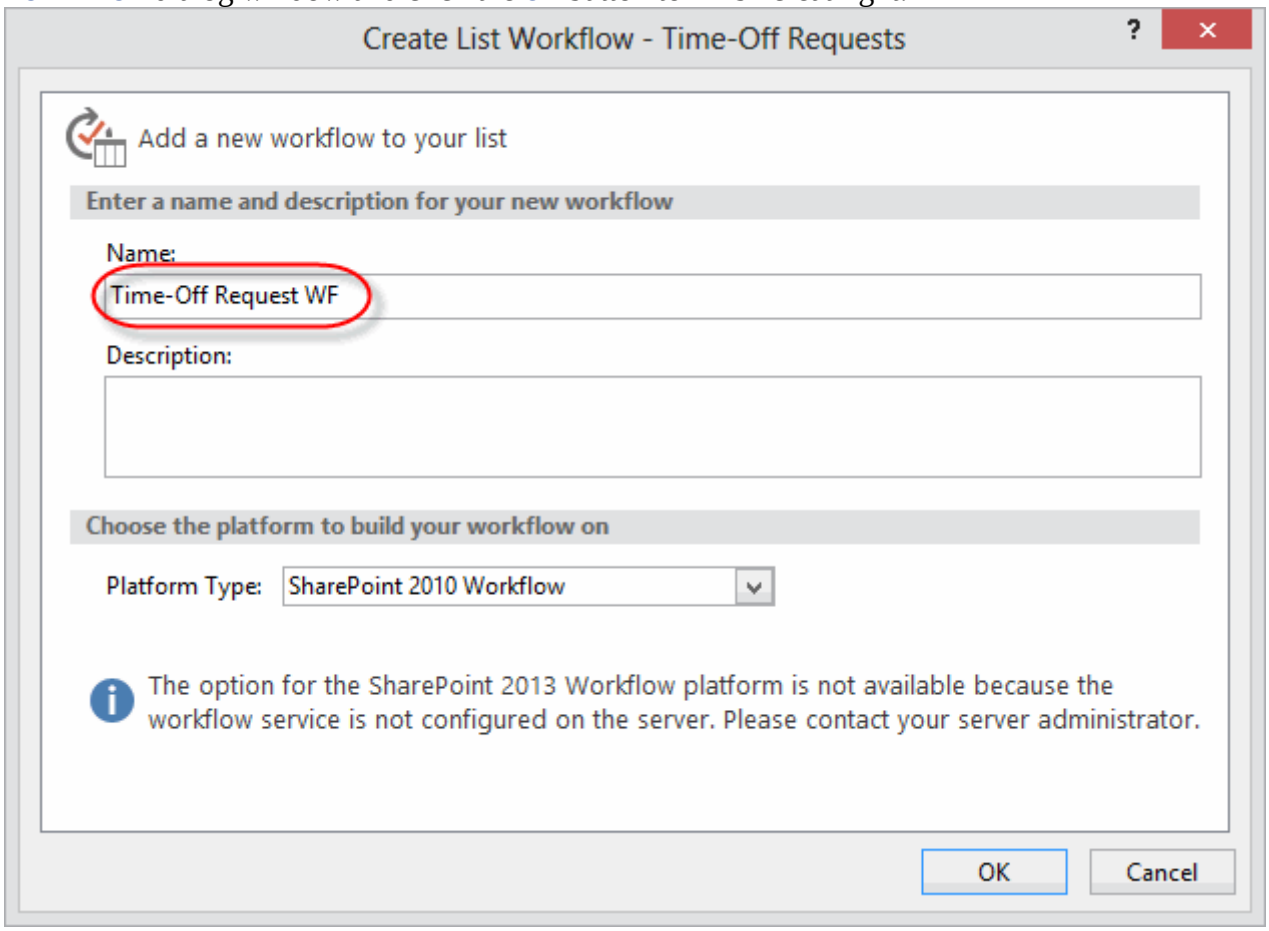


3. Open the site in SharePoint Designer 2013.
4. Using SharePoint Designer, create a new **List Workflow** for the **Time-Off Requests** list.

1. Click the **List Workflow** drop-down button on the **Site** tab toolbar within the **New** group and select **Time-Off Requests** from the list.

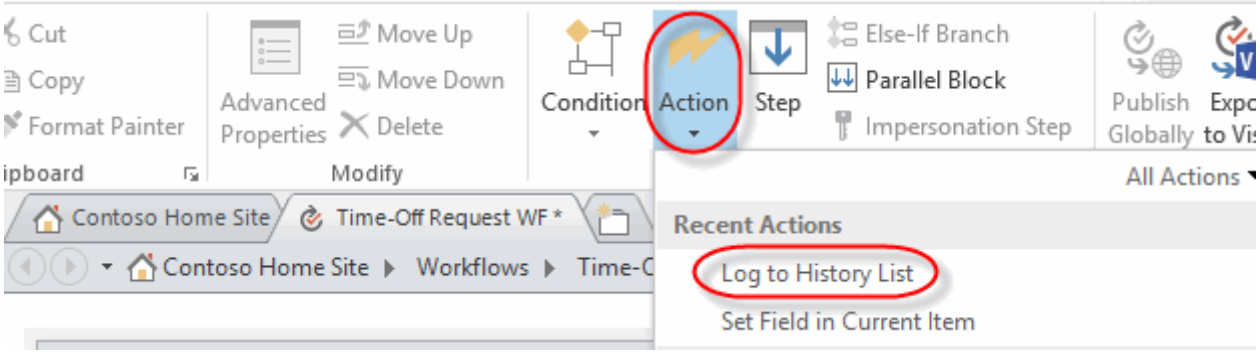


2. Type "Time-Off Request WF" in the **Name** field of the **Create List Workflow** dialog window and click the **OK** button to finish creating it.

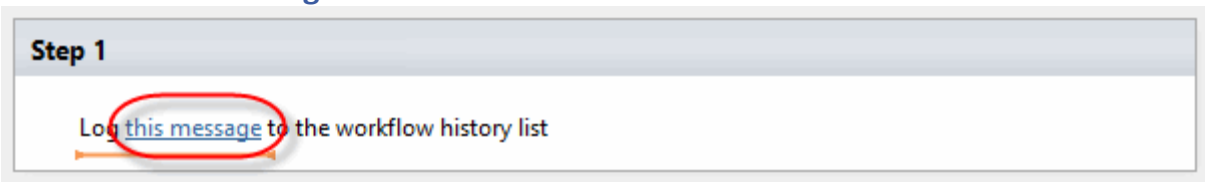


5. Add a **Log to History List** action to the new workflow.

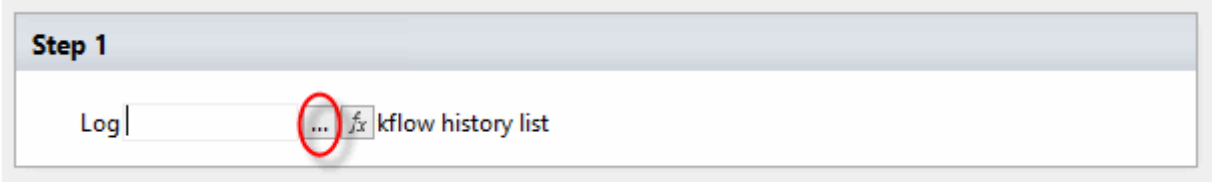
1. Click the **Action** drop-down button in the **Workflow** tab toolbar and select the **Log to History List** option.



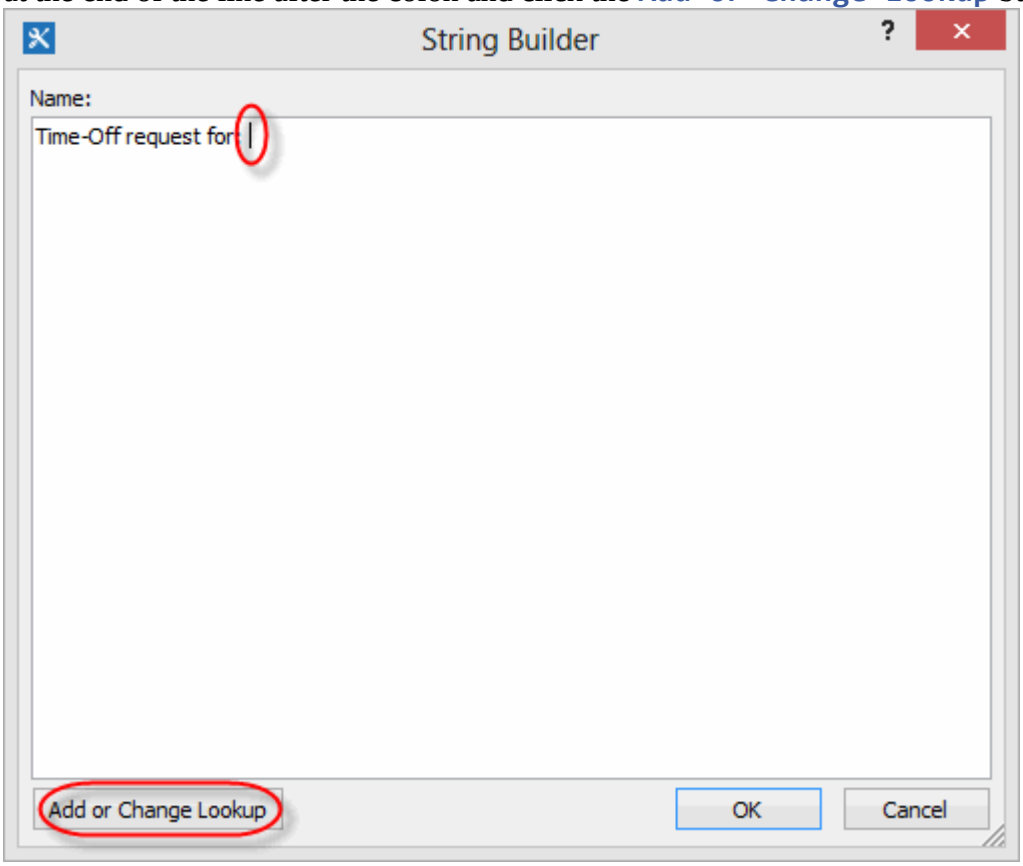
2. Click the **this message** link within the workflow editor work area.



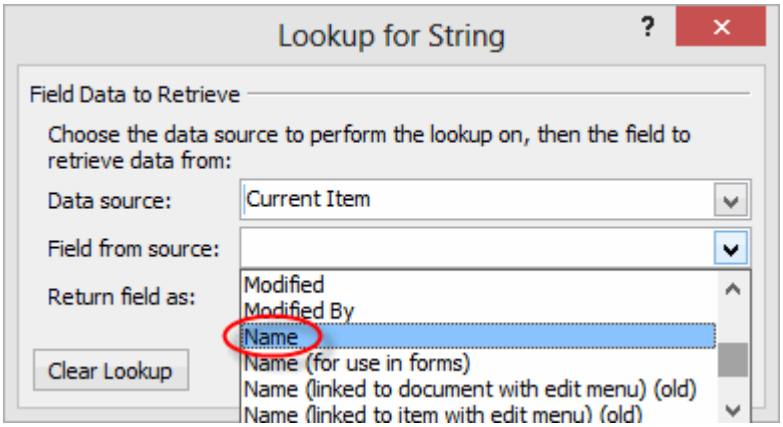
3. Click the ellipsis button next to the log message text box to open the **String Builder** editor.



4. Type "Time-Off request started for:" in the **Name** field then with you insertion point at the end of the line after the colon and click the **Add or Change Lookup** button.



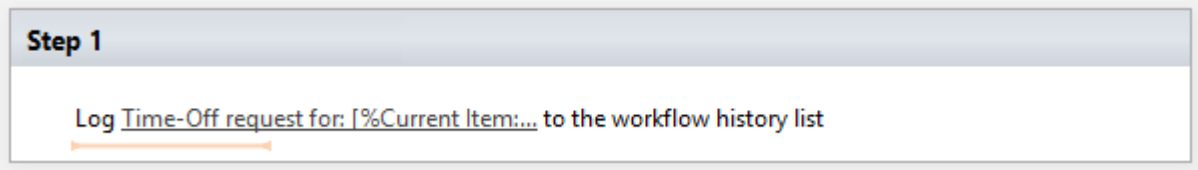
5. In the **Lookup for String** dialog box, leave the **Data source** field set to **Current Item** and select **Name** in the **Field from source** drop-down field.



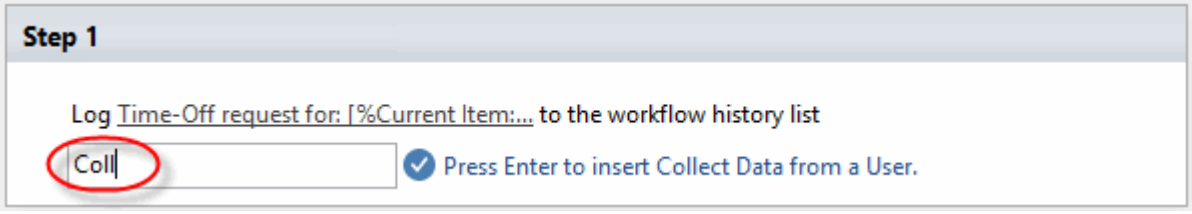
6. Click the **OK** button on the **Lookup for String** dialog to close and save your choices.
7. Click the **OK** button on the **String Builder** dialog to close it and save the string.

6. Add an action that will collect data from a user using a custom task.

1. Hover your mouse pointer under the **`Log to History List`** action you created in the previous steps and click on the orange bar that appears.

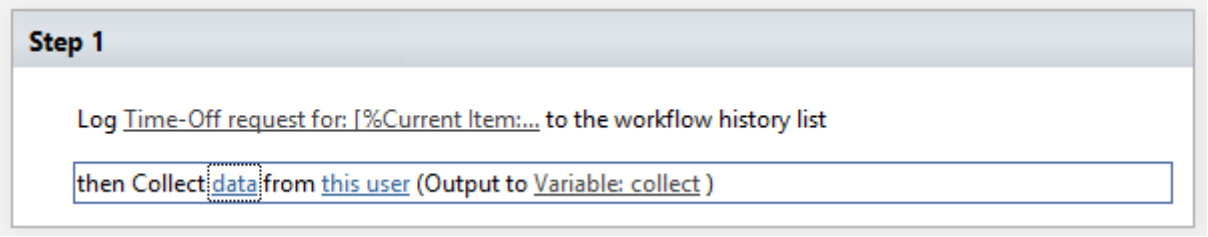


2. Type the word "collect" and the orange bar will change into a text box like the following image:

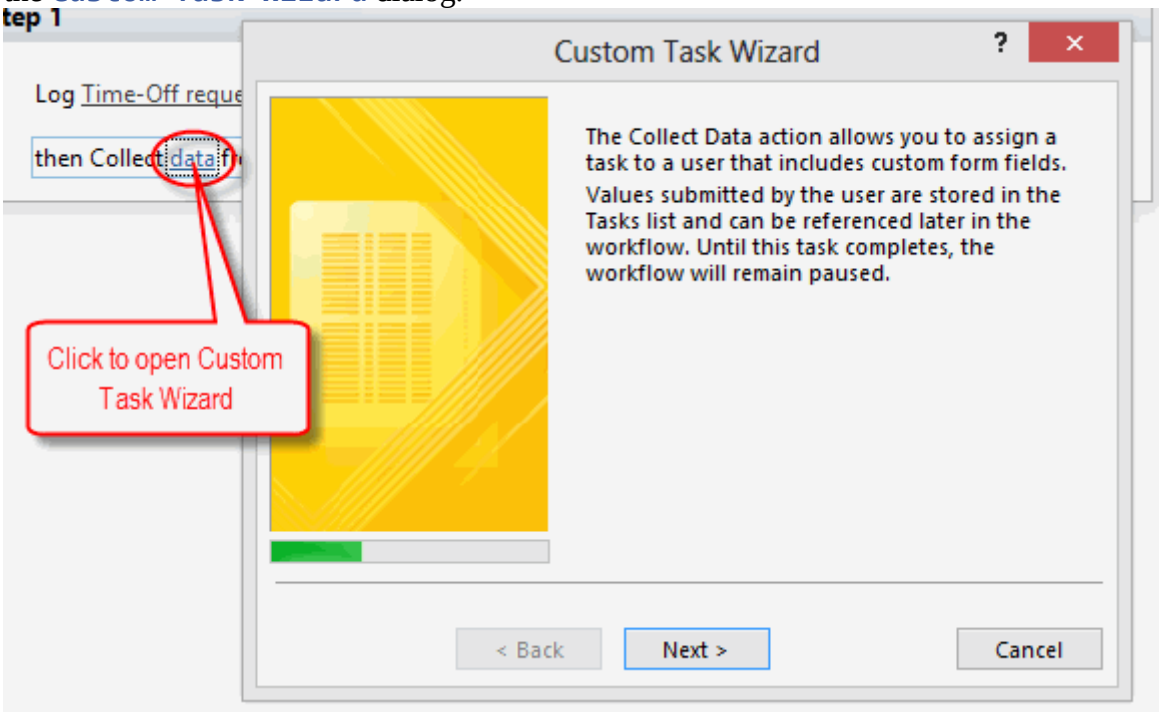


This is just another way to add an action to a workflow. You could also use the **`Workflow`** tab's **`Action`** drop-down button like you did with the **`Log to History List`** action.

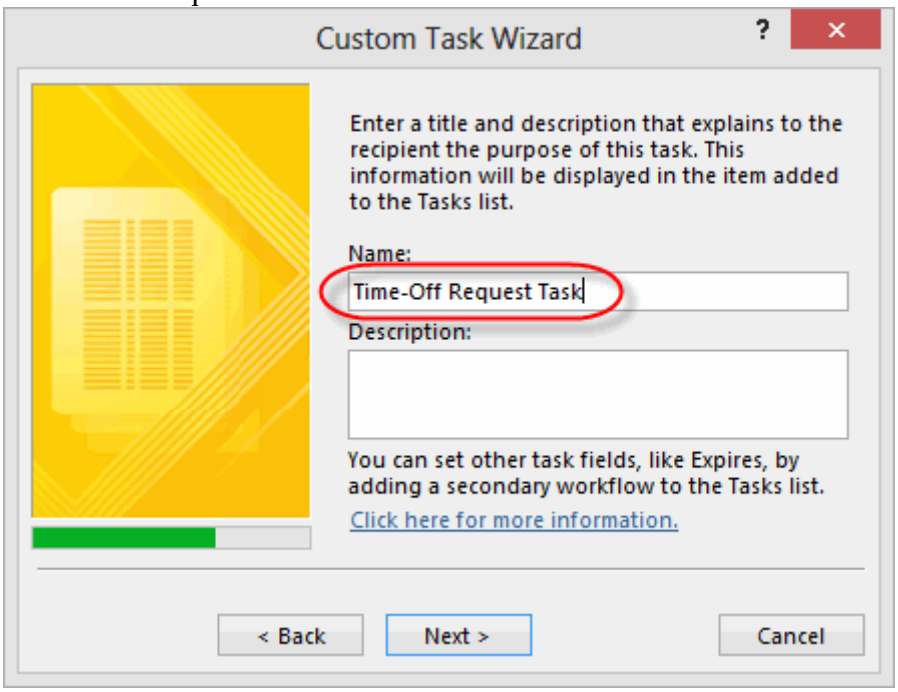
3. Press your Enter key to have the editor add the **`Collect Data from a User`** action.



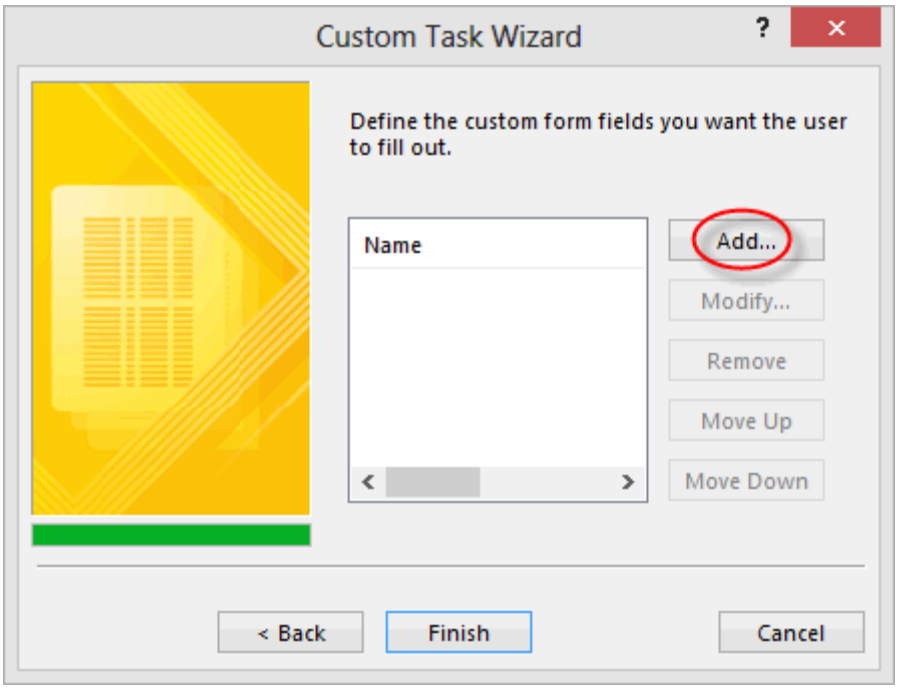
4. Click the data link in the **Collect Data from a User** action to open the **Custom Task Wizard** dialog.



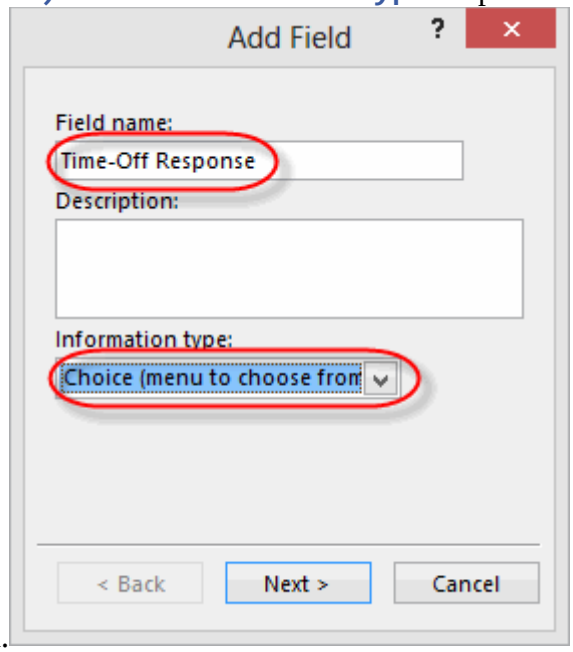
5. Click the **Next** button on the first page of the **Custom Task Wizard** dialog.
6. On the second page of the **Custom Task Wizard** dialog, change the **Name** field to "Time-Off Request Task" and click the **Next** button.



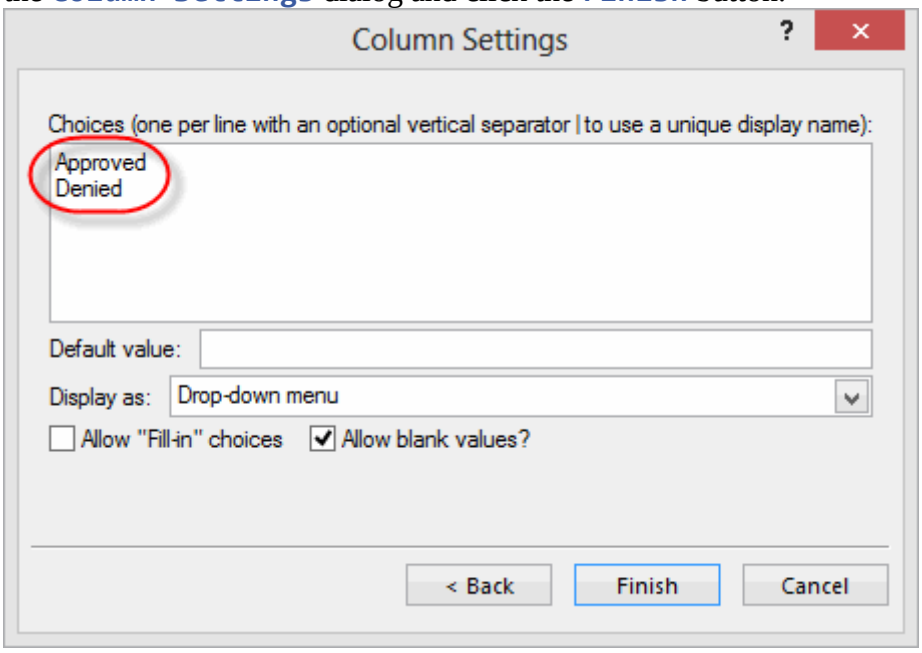
7. On the third page of the **Custom Task Wizard** dialog, click the **Add** button to add a new field to the custom task.



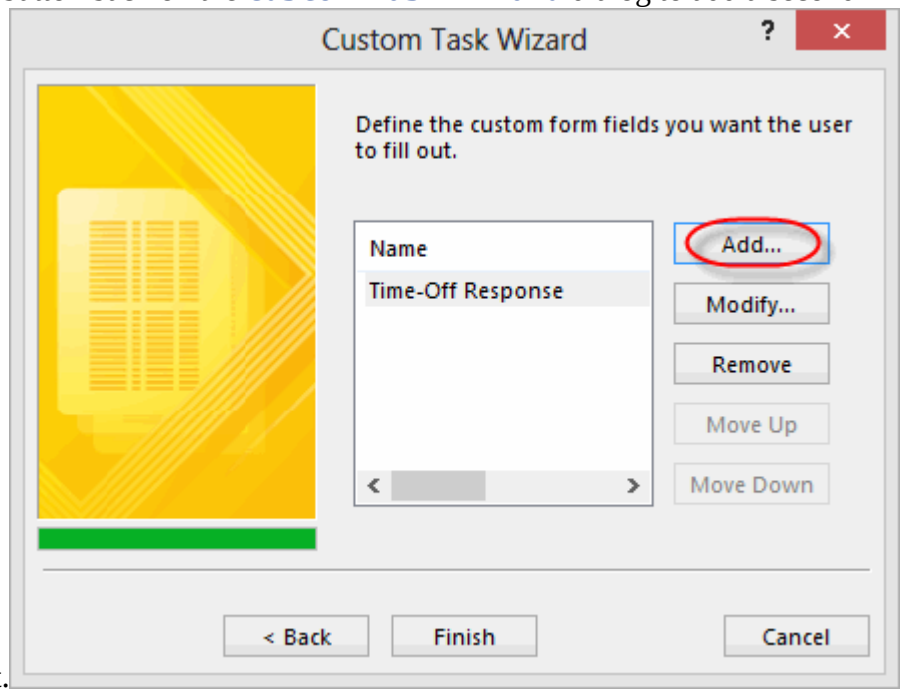
8. Type "Time-Off Response" in the **Field name** field and choose **Choice (menu to choose from)** in the **Information type** drop-down field and click the **Next** button.



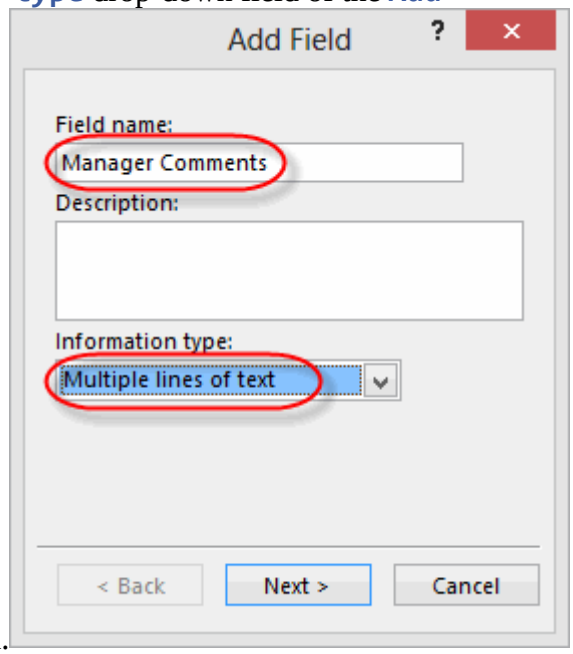
9. Type "Approved" and "Denied" on separate lines in the **Choices** field of the **Column Settings** dialog and click the **Finish** button.



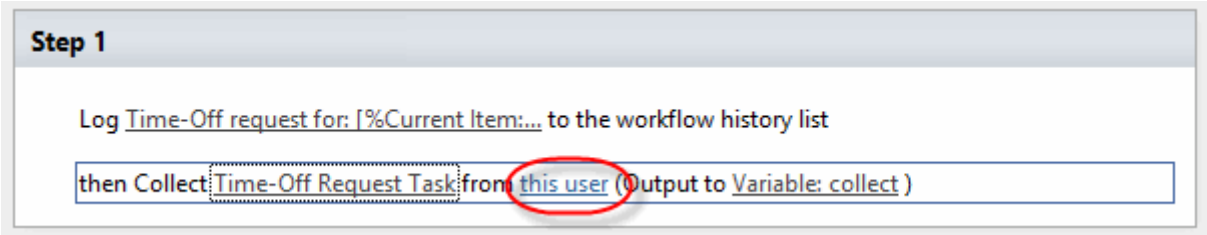
10. Click the **Add** button back on the **Custom Task Wizard** dialog to add a second field to the list.



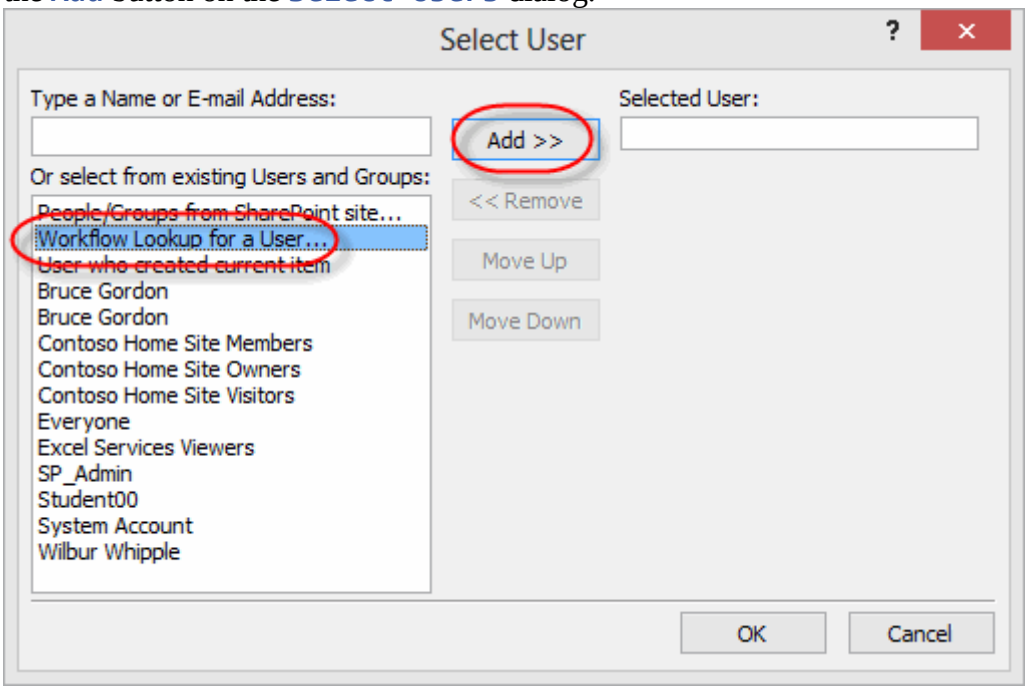
11. Type "Manager Comments" in the **Field name** field and choose **Multiple lines of text** in the **Information type** drop-down field of the **Add Field** dialog and click the **Next** button.



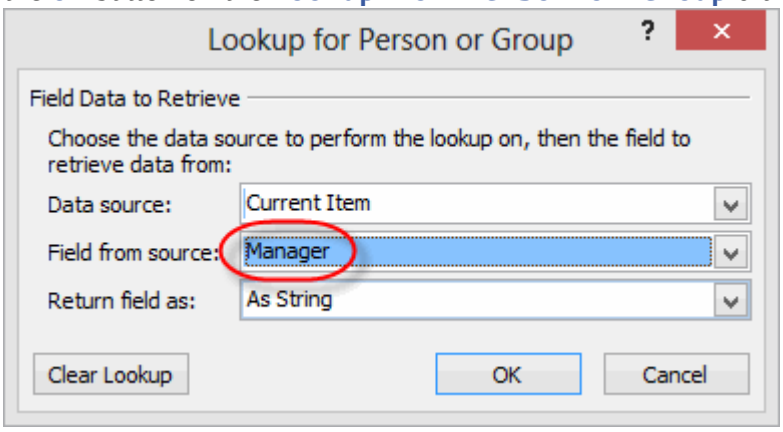
12. Leave the **Default value** field blank and click the **Finish** button on the **Column Settings** dialog.
13. Click the **Finish** button on **Custom Task Wizard** dialog to save the custom task.
14. Click the **this user** link in the **Collect Data from a User** action to open the **Select Users** dialog.



15. Select **Workflow Lookup for a User...** option within the list box and click the **Add** button on the **Select Users** dialog.



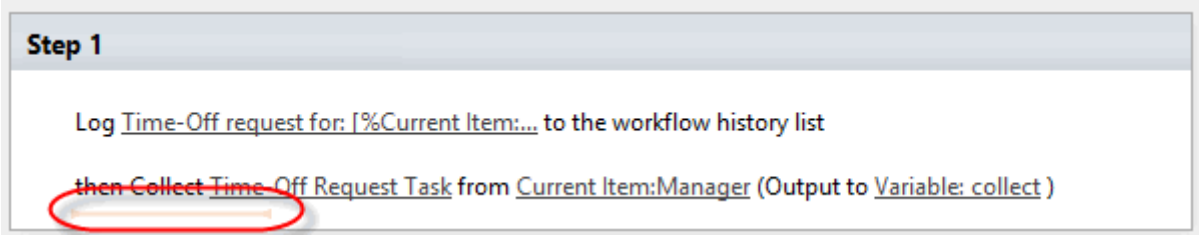
16. Select **Manager** in the **Field from source** drop-down list field and click the **OK** button on the **Lookup for Person or Group** dialog.



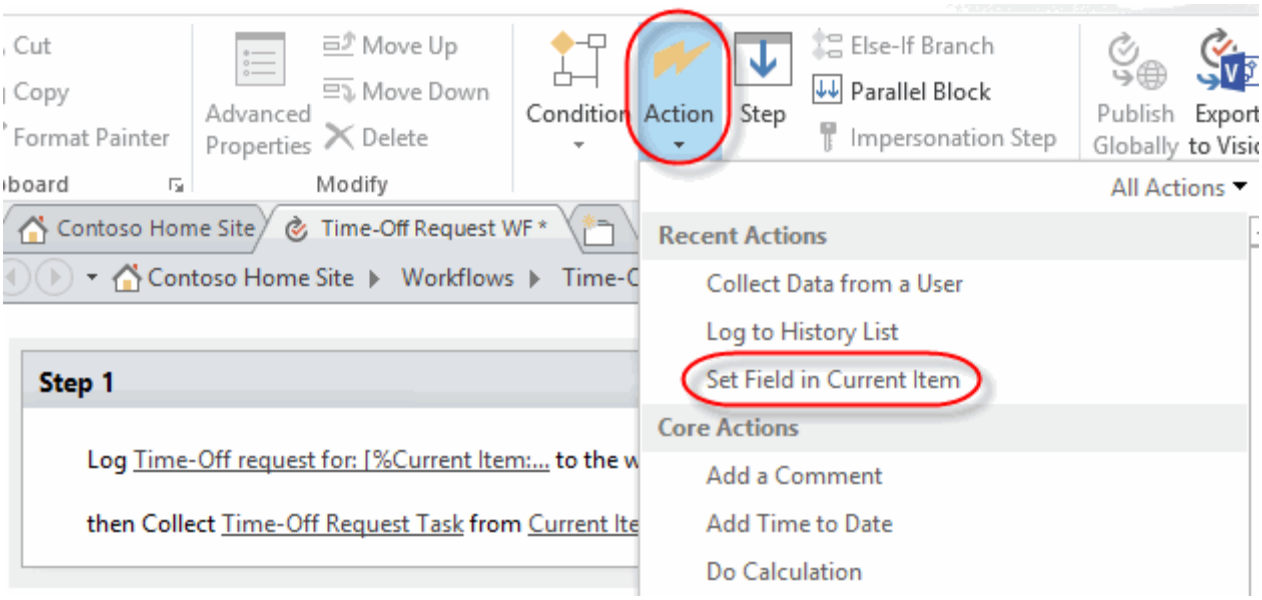
17. Click the **OK** button to close and save your choice on the **Select Users** dialog.

7. Add an action that will retrieve the **Manager Comments** from the previous task action into the **Manager Feedback** field of the list item.

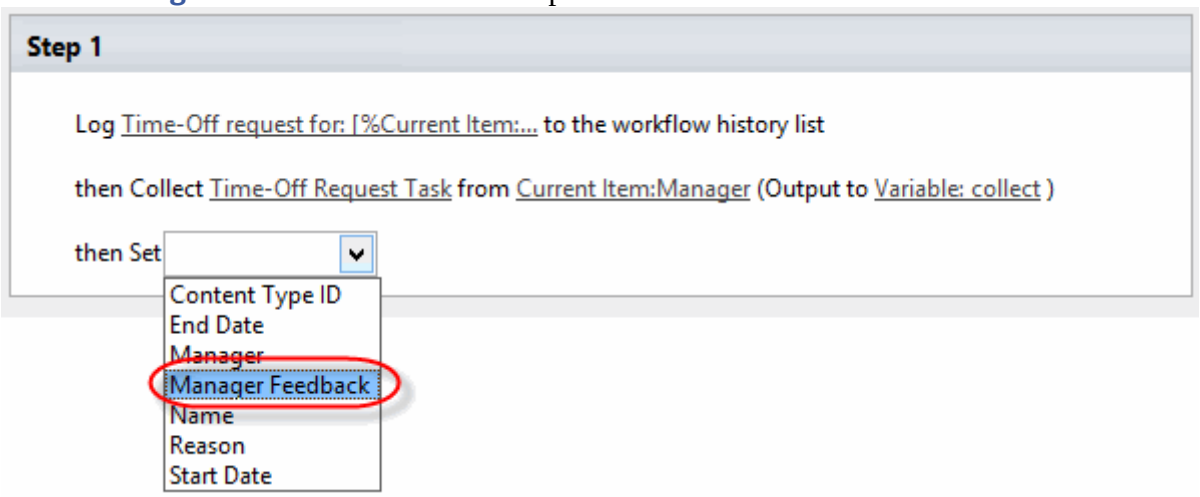
1. Hover and click the orange bar below **`Collect Data from a User`** action.



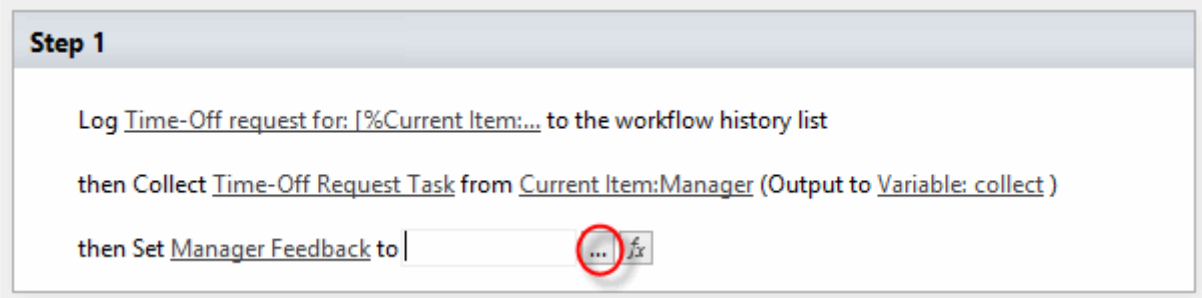
2. Click the **`Action`** button drop-down in the **`Workflow`** tab toolbar and choose the **`Set Field in Current Item`** action from the list.



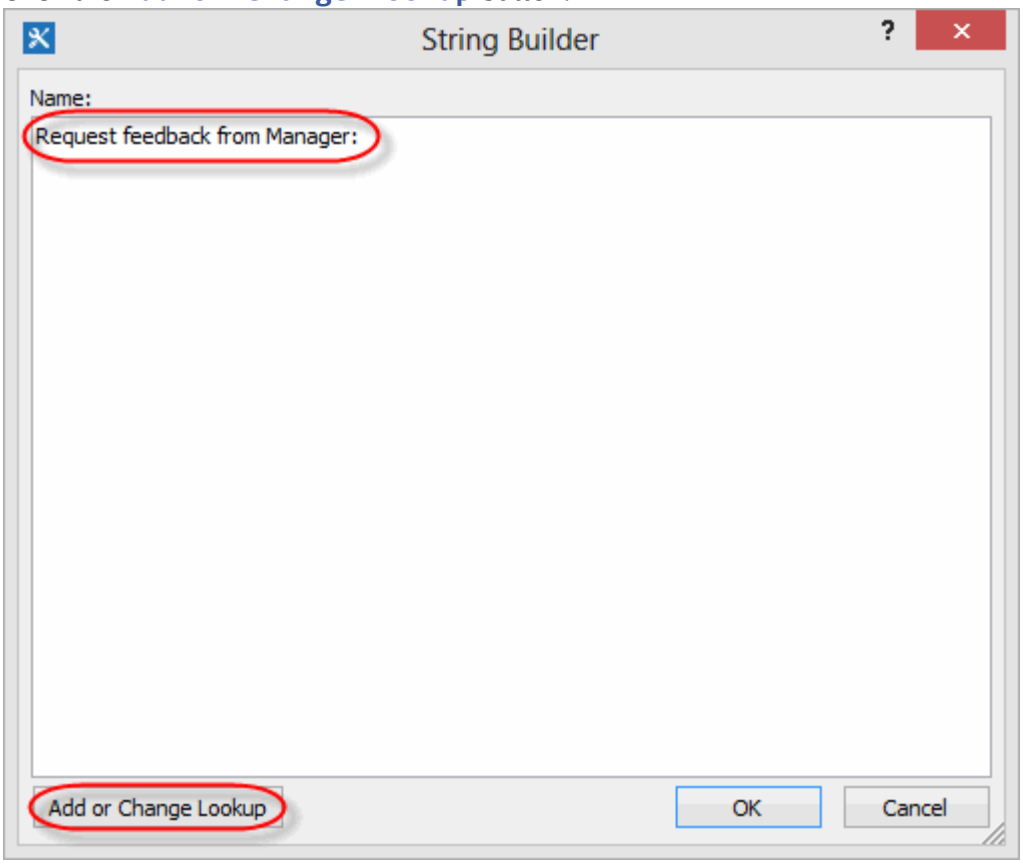
3. Click the field link in the **`Set Field in Current Item`** action and choose **`Manager Feedback`** from the drop-down list.



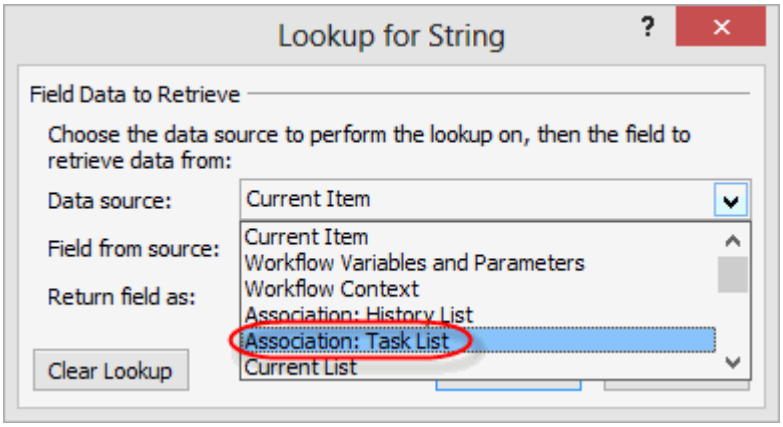
4. Click the **value** link in the **Set Field in Current Item** action and then click the ellipsis button to open the **String Builder** dialog.



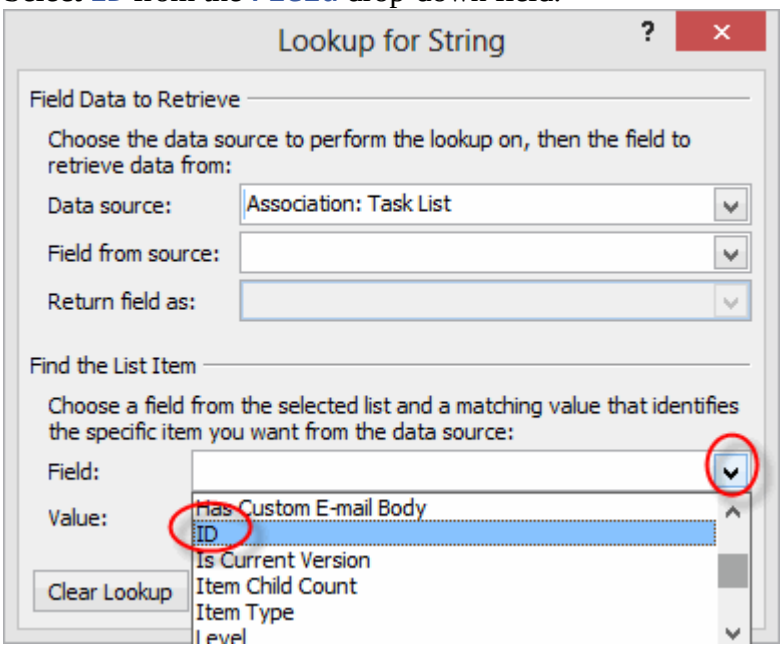
5. Type "Request feedback from Manager: " in the **String Builder** field and then click the **Add or Change Lookup** button.



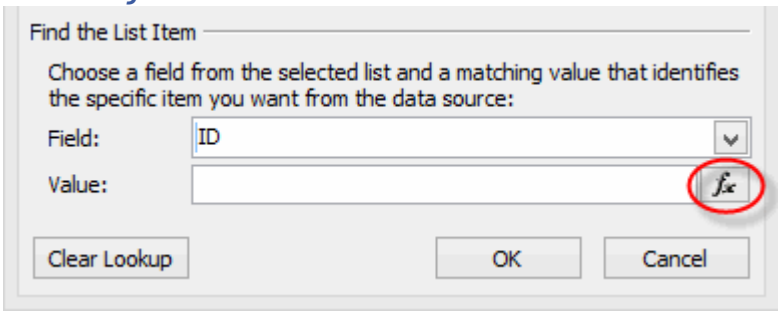
6. Select **`Association: Task List`** from the **`Data`** source drop-down field.



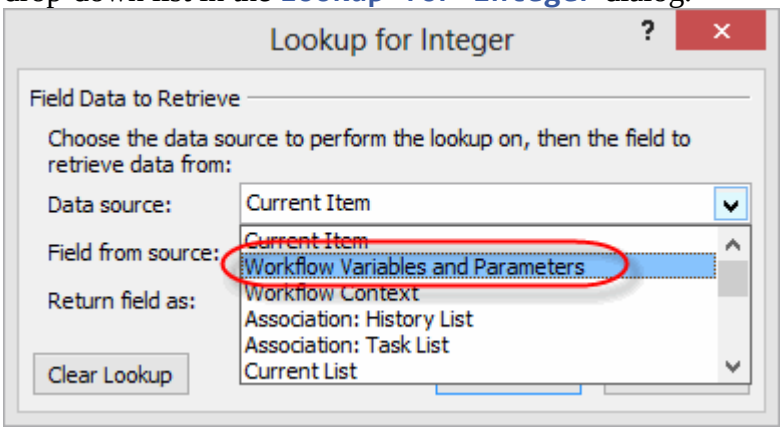
7. Select **`ID`** from the **`Field`** drop-down field.



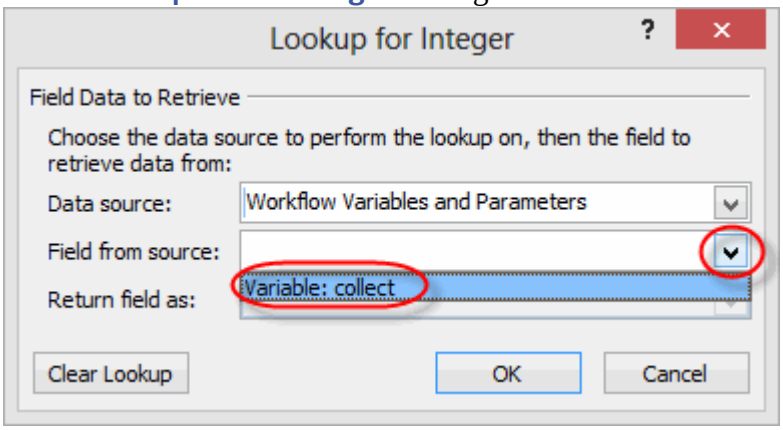
8. Click the ***`fx`*** button next to the **`Value`** field text box.



9. Select **Workflow Variables and Parameters** from the **Data source** field drop-down list in the **Lookup for Integer** dialog.

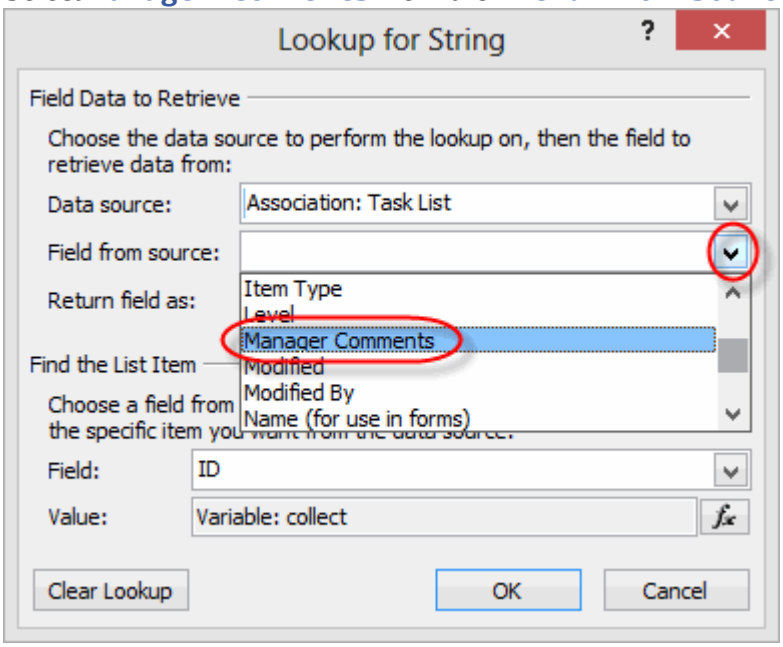


10. Select **Variable: collect** from the **Field from source** field drop-down list in the **Lookup for Integer** dialog.



11. Click the **OK** button to save your choices and close the **Lookup for Integer** dialog.

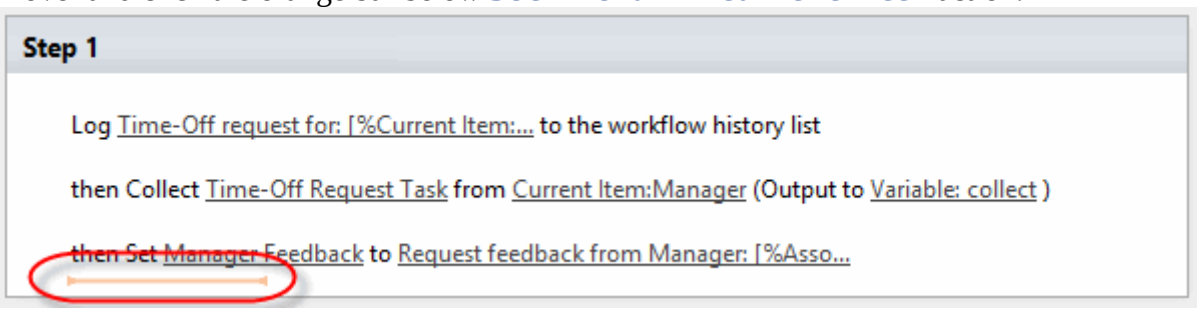
12. Select **Manager Comments** from the **Field from source** field drop-down list.



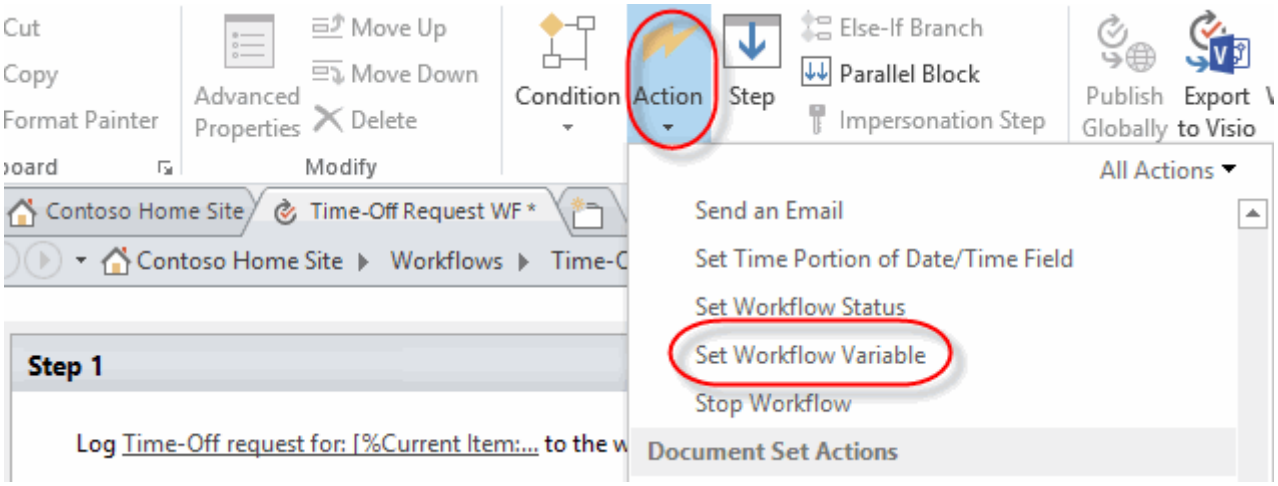
The **Manager Comments** custom task field will not show in the list until you've completed the **Find the List Item** portion of the **Lookup for String**dialog. The **Find the List Item** portion is how the workflow retrieves the specific task that was created by previous workflow action.

13. Click the **OK** button to close the **Lookup for String** dialog and save your settings.
14. Click the **OK** button to close the **String Builder** dialog and save your string.

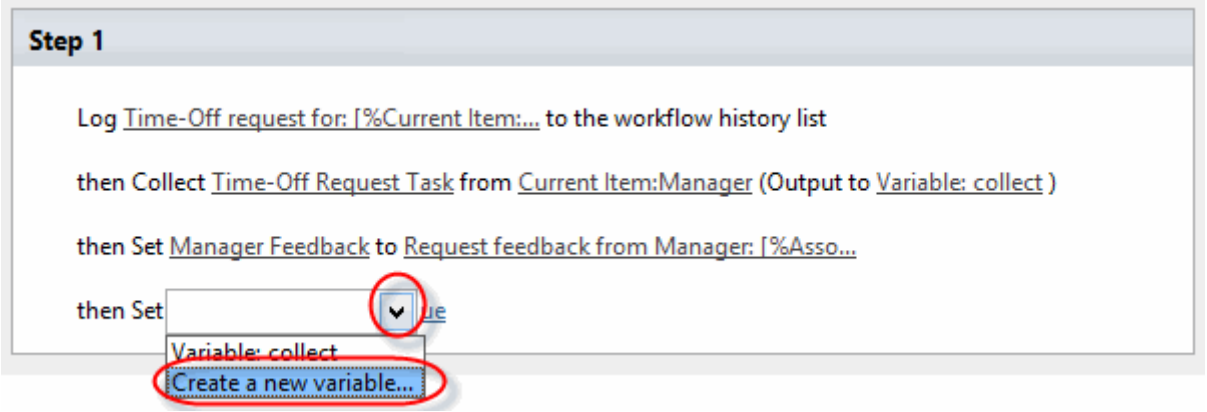
8. Add a **Set Workflow Variable** action that store the **Time-Off Response** of the custom task action created in previous steps. The workflow variable will be used in later steps with a condition to send different emails based on the Manager's response in the custom task.
    1. Hover and click the orange bar below **Set Field in Current Item** action.



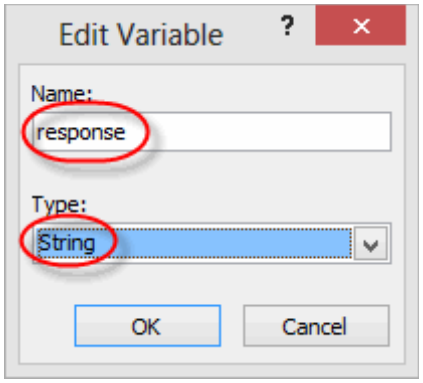
2. Select **Set Workflow Variable** from the **Action** drop-down list in the **Workflow** tab toolbar.



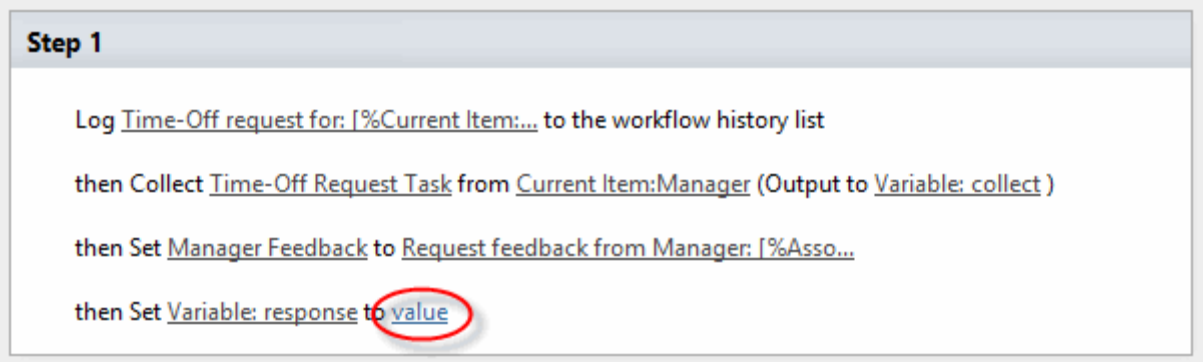
3. Click the **workflow variable** link in the new action and select **Create a new variable** from the drop-down list.



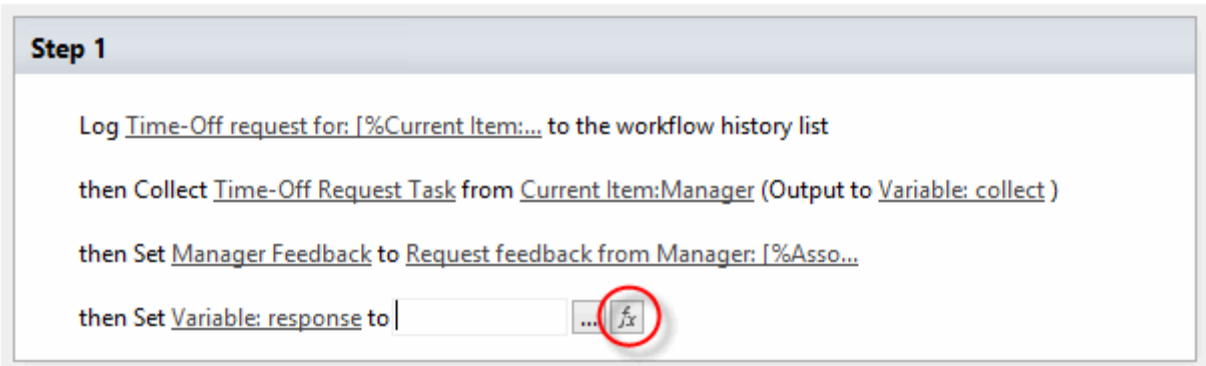
4. Type "Response" in the **Name** field and select **String** in the **Type** field and click the **OK** button to close the **Edit Variable** dialog and save your settings.



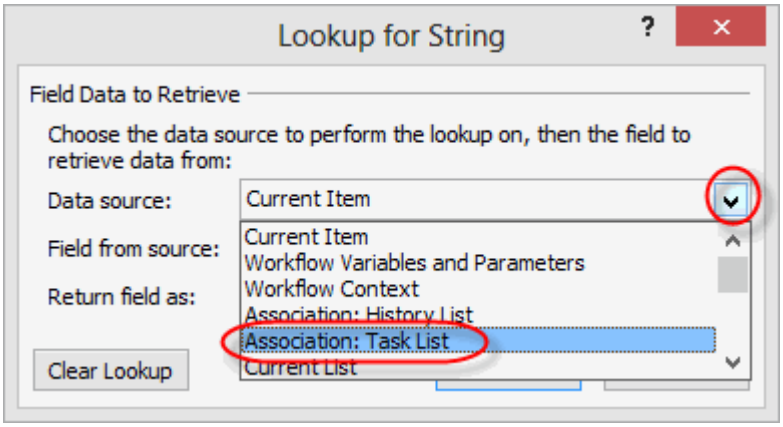
5. Click the **Value** link of the **Set Workflow Variable** action.



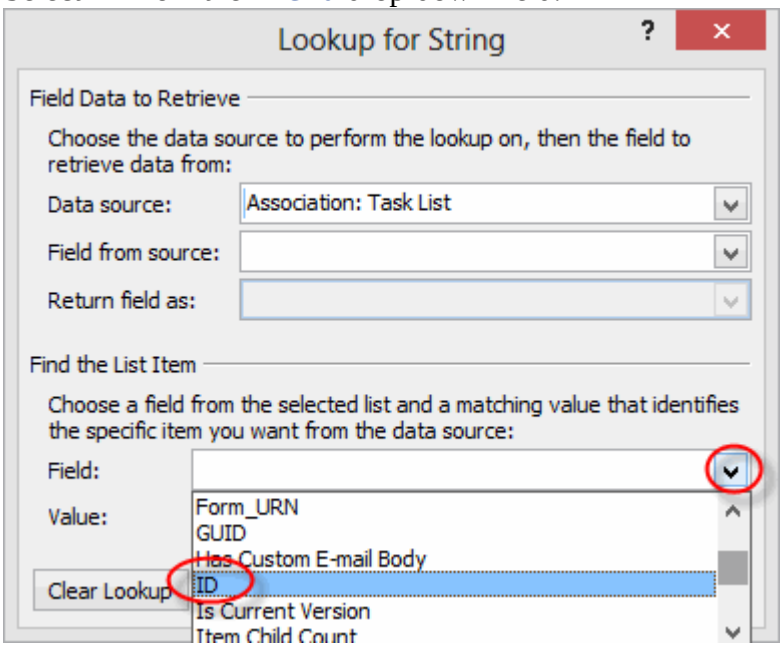
6. Click the **fx** button next to the **Value** field text box.



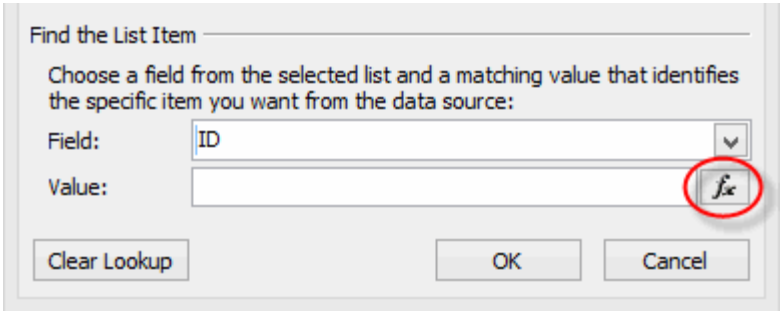
7. Select **Association: Task List** from the **Data** source drop-down field.



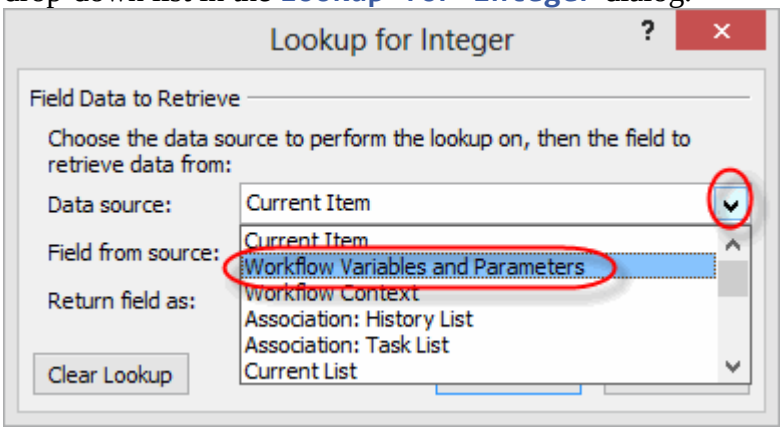
8. Select **ID** from the **Field** drop-down field.



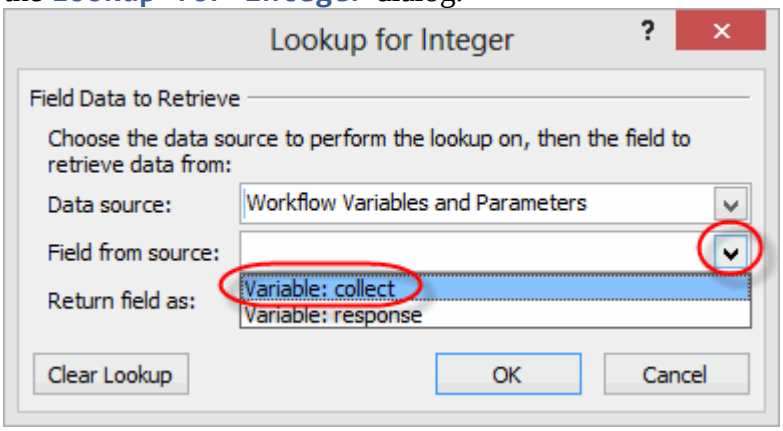
9. Click the **fx** button next to the **Value** field text box.



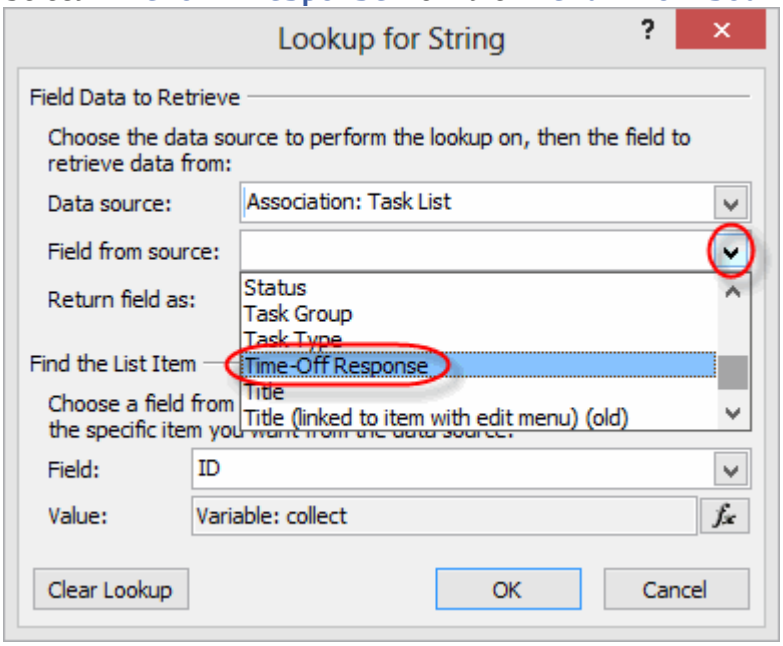
10. Select **Workflow Variables and Parameters** from the **Data source** field drop-down list in the **Lookup for Integer** dialog.



11. Select **Variable: collect** from the **Field** from source field drop-down list in the **Lookup for Integer** dialog.



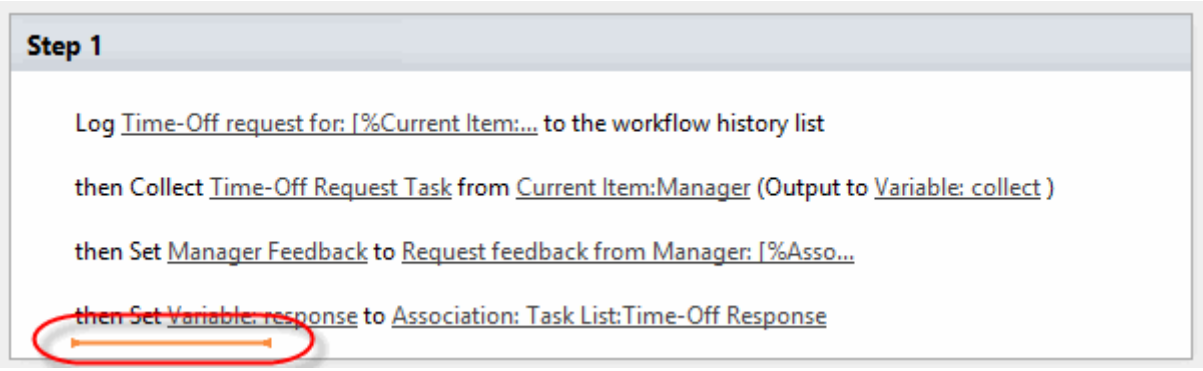
12. Click the **OK** button to save your choices and close the **Lookup for Integer** dialog.
13. Select **Time-Off Response** from the **Field from source** field drop-down list.



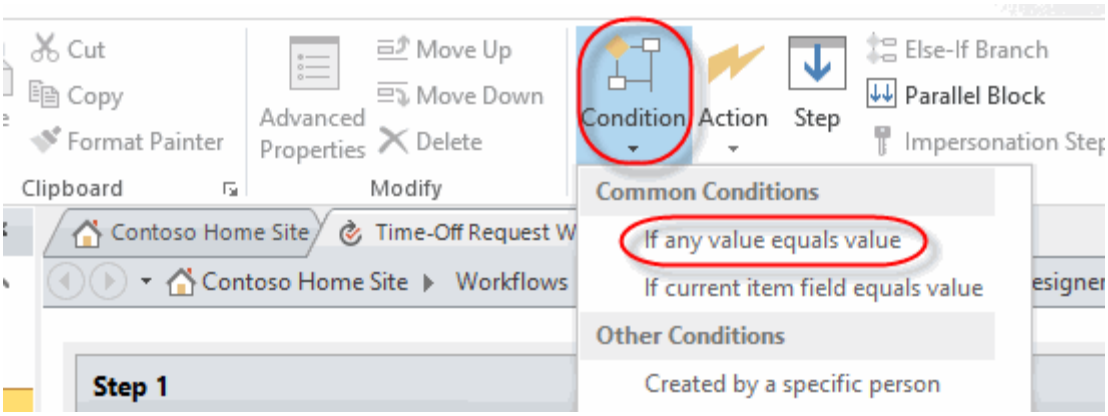
The **Time-Off Response** custom task field will not show in the list until you've completed the **Find the List Item** portion of the **Lookup for String**dialog. The **Find the List Item** portion is how the workflow retrieves the specific task that was created by previous workflow action.

14. Click the **OK** button to close the **Lookup for String** dialog and save your settings.

9. Add an **`If any value equals value`** condition to the workflow.
    1. Hover and click the orange bar below the last action in the workflow.

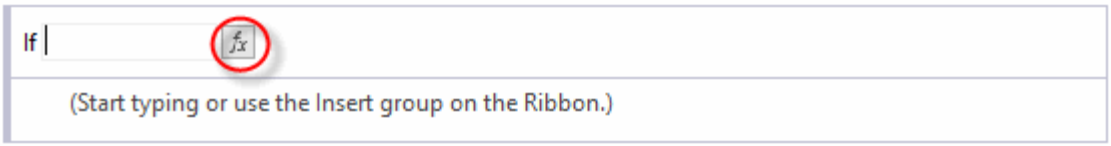


    2. Select **`If any value equals value`** option from the **`Condition`** drop-down button in the **`Workflow`** tab toolbar.

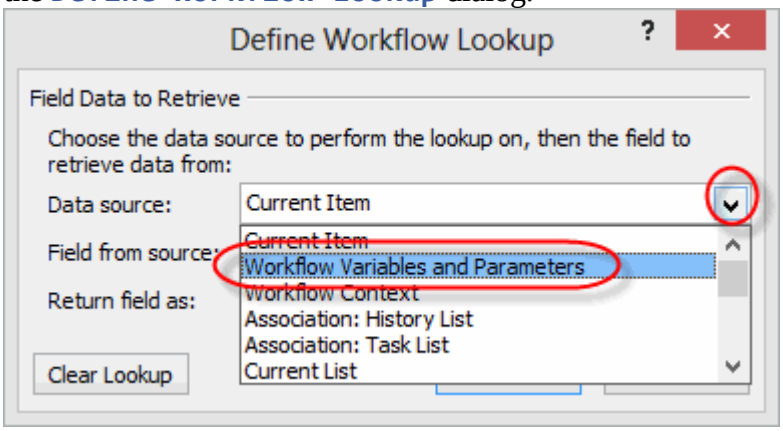


    3. Click the **`value`** link in the workflow condition.

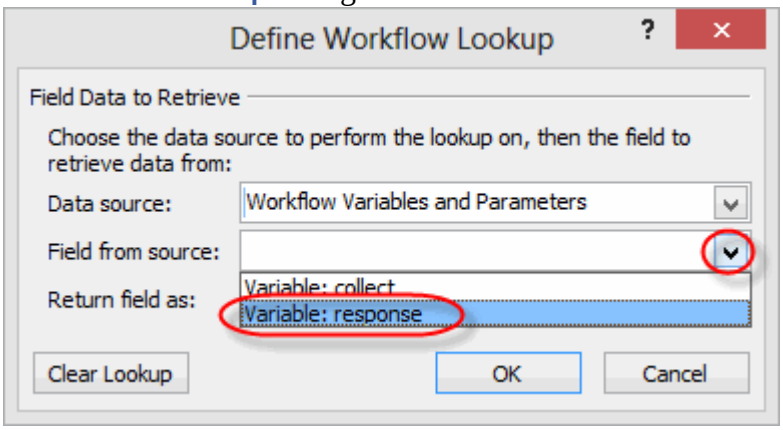
    4. Click the ***`fx`*** button next to the **`value`** text box.



5. Select **Workflow Variables and Parameters** for the **Data source** field of the **Define Workflow Lookup** dialog.



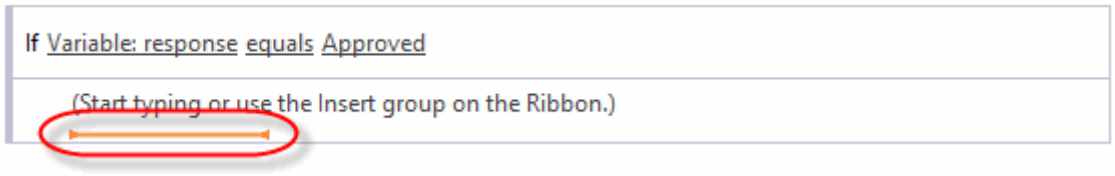
6. Select **Variable: response** for the **Field from source** field of the **Define Workflow Lookup** dialog.



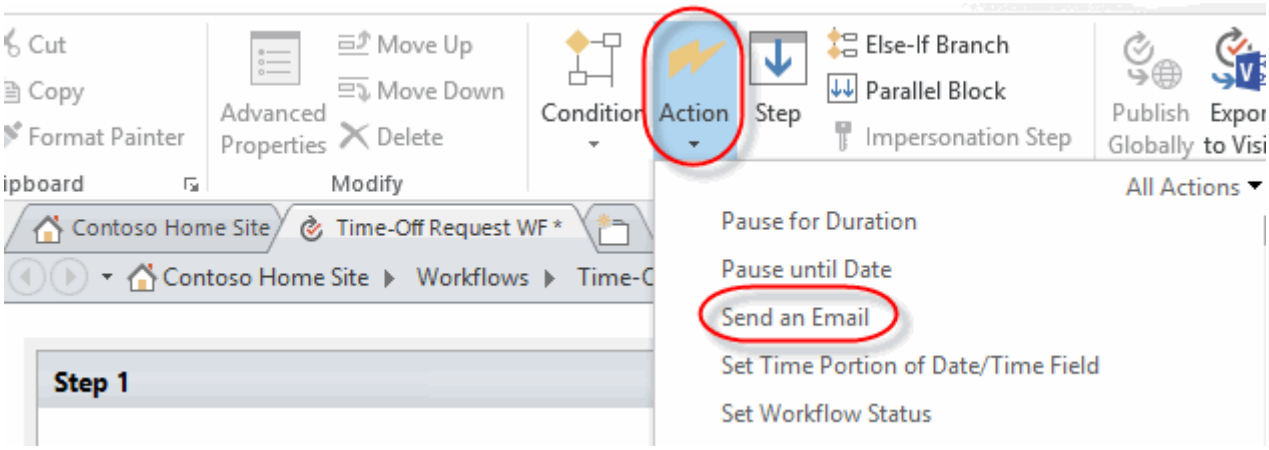
7. Click the **OK** button to close the **Define Workflow Lookup** and save your settings.
8. Click the **value** link in the workflow condition and type "Approved", without the quotes, in the text box.

10. Add a **Send an Email** action inside the **If** condition.

1. Hover and click the orange bar directly below the label **(Start typing or use the Insert group in the Ribbon)**.

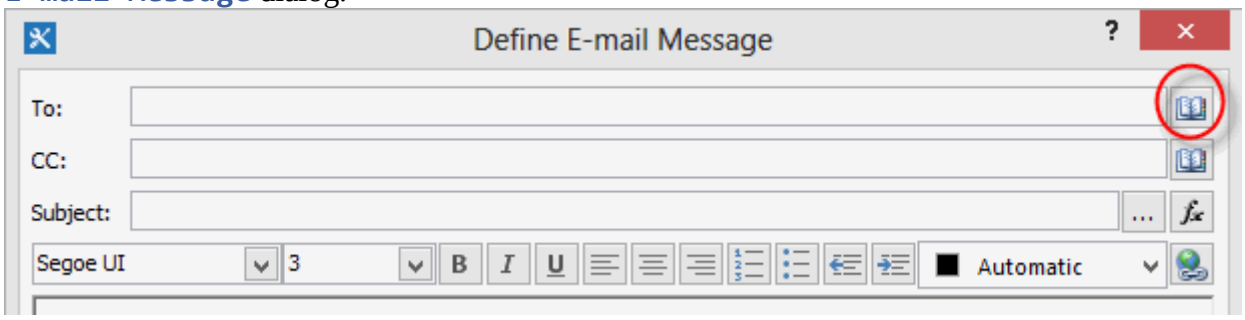


2. Select **Send an Email** from the **Action** menu drop-down button on the **Workflow** tab toolbar.

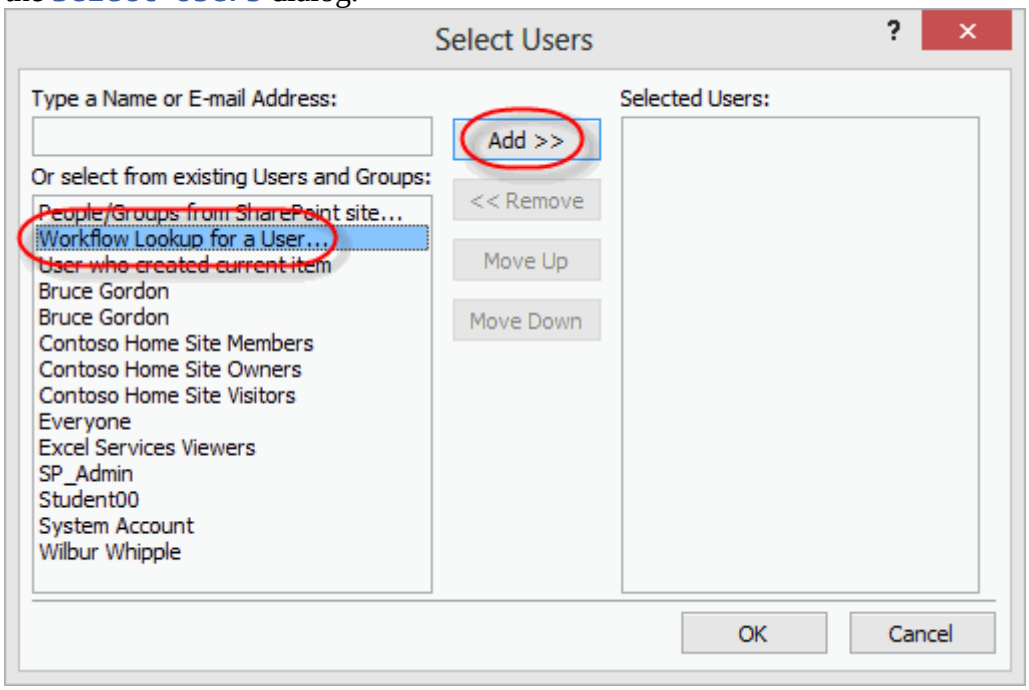


3. Click the **these users** link in the **Send an Email** action.

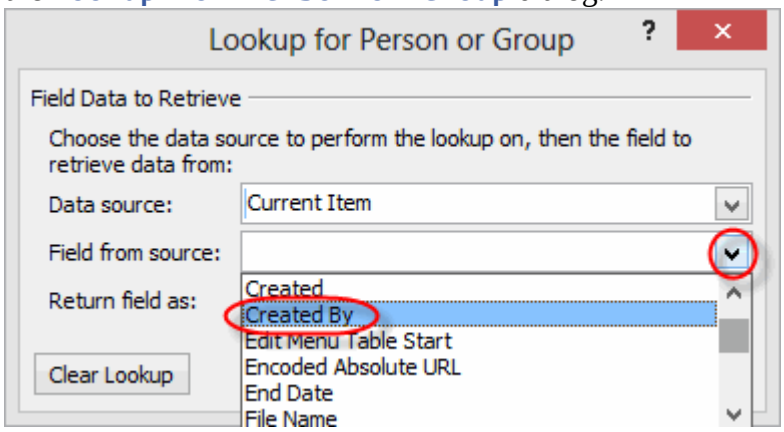
4. Click the **User Lookup** icon, looks like a book, next to the **To** field in the **Define E-mail Message** dialog.



5. Click the **Workflow Lookup for a User...** option and click the **Add** button in the **Select Users** dialog.



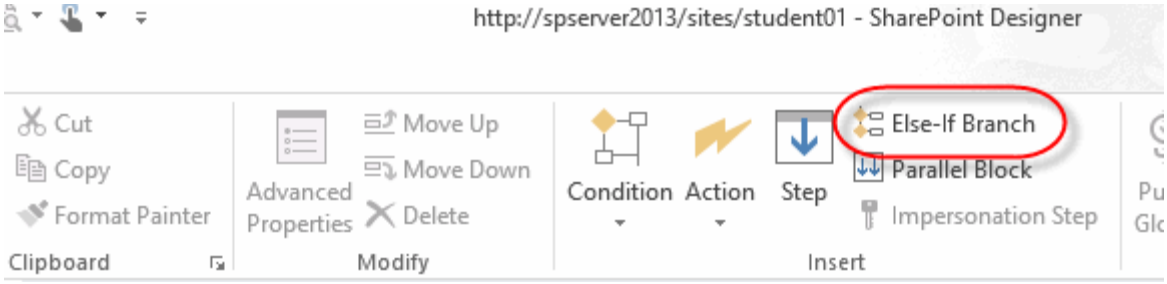
6. Select **Created By** in the **Field from source** drop-down list field of the **Lookup for Person or Group** dialog.



7. Click the **OK** button to close the **Lookup for Person or Group** dialog and save your settings.
8. Click the **OK** button to close the **Select Users** dialog and save your settings.
9. Type "Vacation Request Approved" in the **Subject** field of the **Define E-mail Message** dialog.
10. Type "Your vacation request has been approved" in the **Body** field of the **Define E-mail Message** dialog and click the **OK** button to close and save.

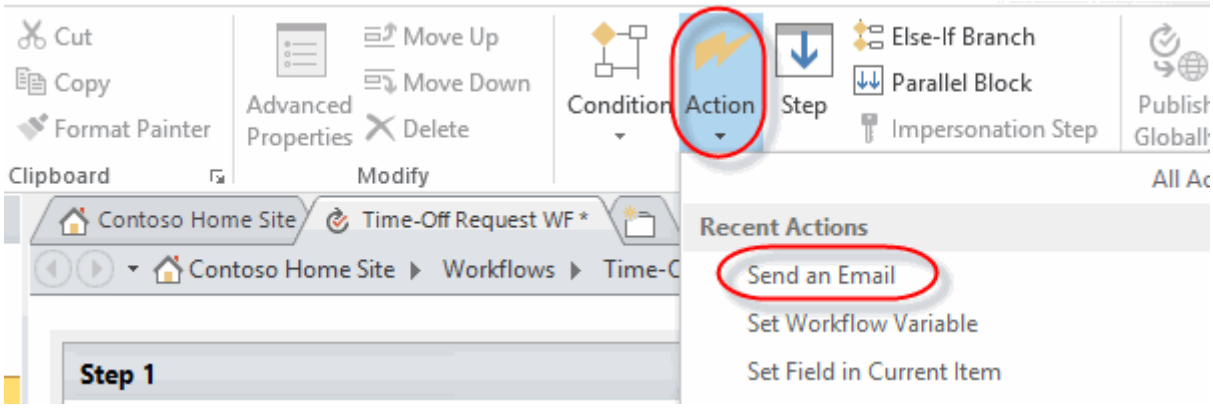
11. Add an **Else** block to the If condition.
    1. Hover and click the orange bar below the **Send an Email** action.

    2. Click the **Else-If Branch** button on the **Workflow** tab toolbar to add an **Else** block to the **If** condition.



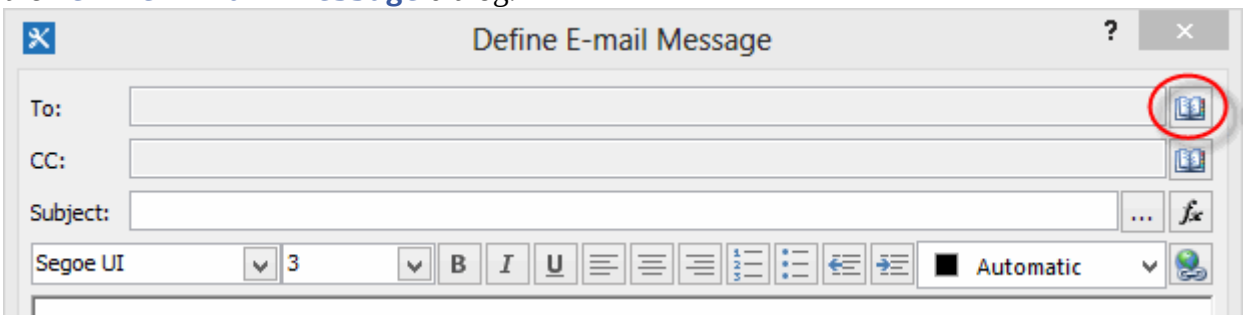
    3. Hover and click the orange bar directly below the **Else** label.

    4. Select **Send an Email** from the **Action** menu drop-down button on the **Workflow** tab toolbar.

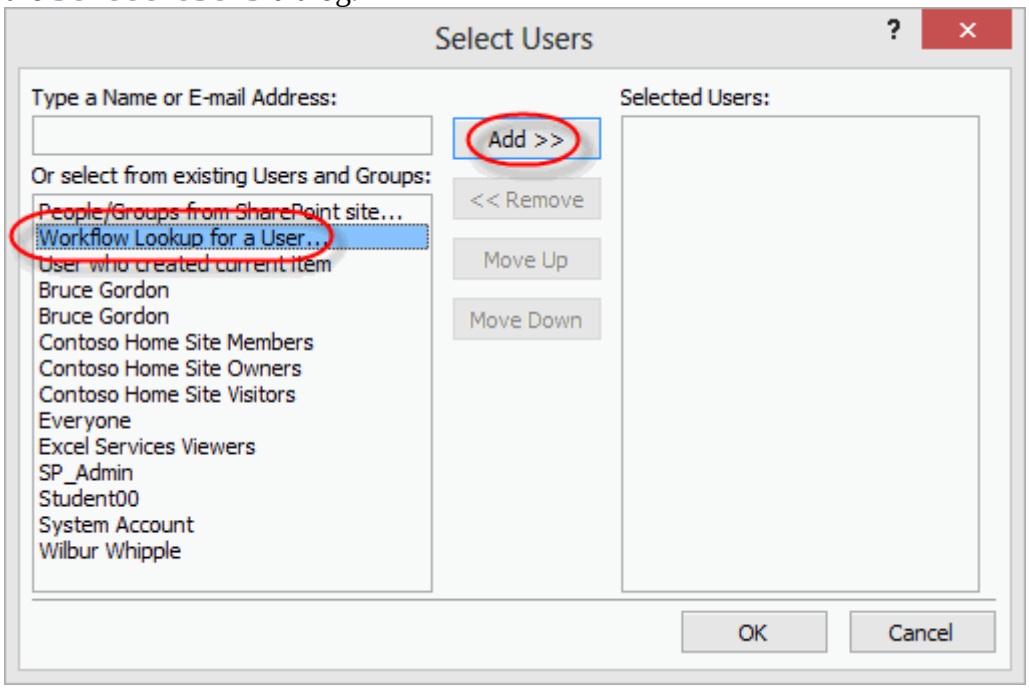


5. Click the **these users** link in the **Send an Email** action.

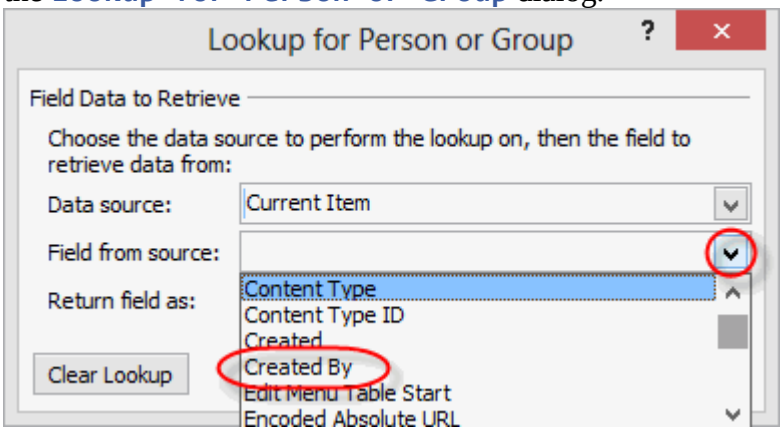
6. Click the **User Lookup** icon, which looks like a book, next to the **To** field in the **Define E-mail Message** dialog.



7. Click the **Workflow Lookup for a User...** option and click the **Add** button in the **Select Users** dialog.

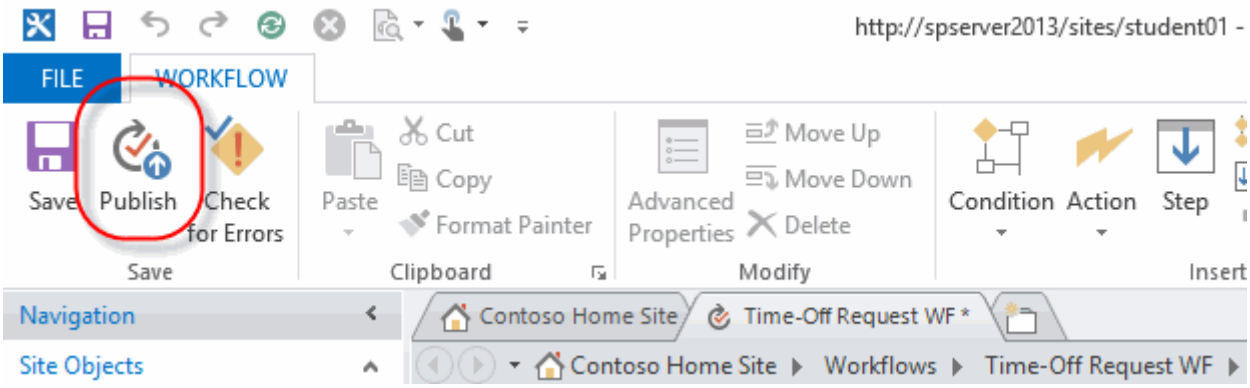


8. Select **Created By** in the **Field from source** drop-down list field of the **Lookup for Person or Group** dialog.



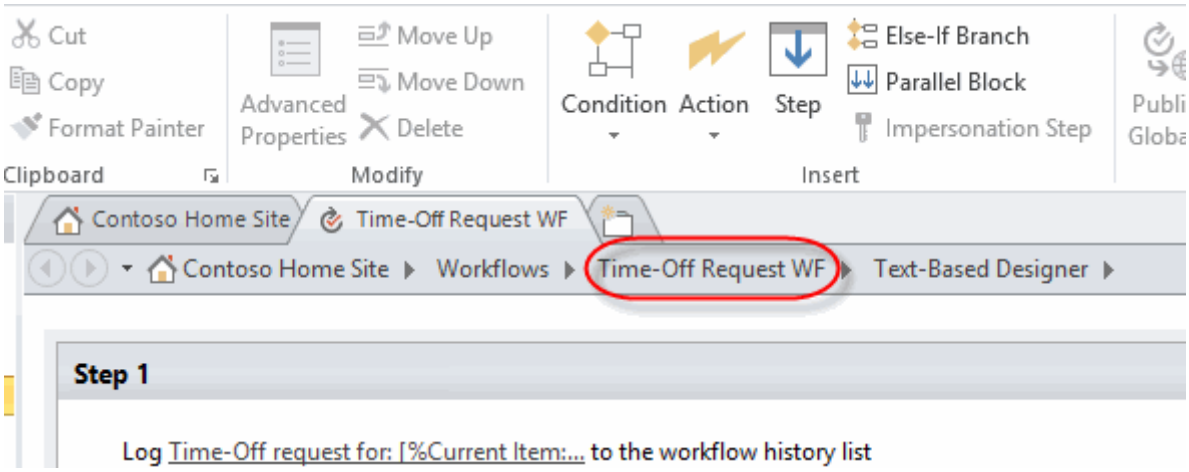
9. Click the **OK** button to close the **Lookup for Person or Group** dialog and save your settings.
10. Click the **OK** button to close the **Select Users** dialog and save your settings.
11. Type "Vacation Request Rejected" in the **Subject** field of the **Define E-mail Message** dialog.
12. Type "Your vacation request has been rejected" in the **Body** field of the **Define E-mail Message** dialog and click the **OK** button to close and save.

12. Save the **Time-Off Request WF** workflow.
    1. Click the **Save** icon in the upper-left corner the SharePoint Designer window.

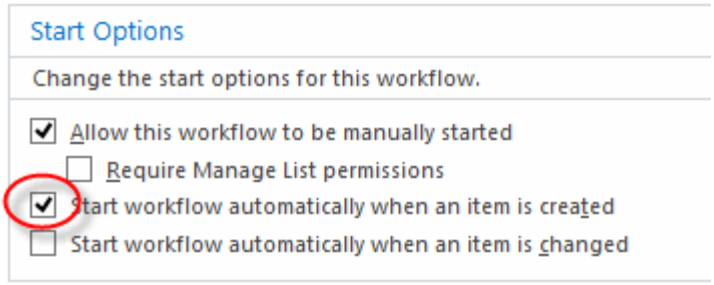


13. Change the **Time-Off Request WF** to start automatically when a new item is added to the list.

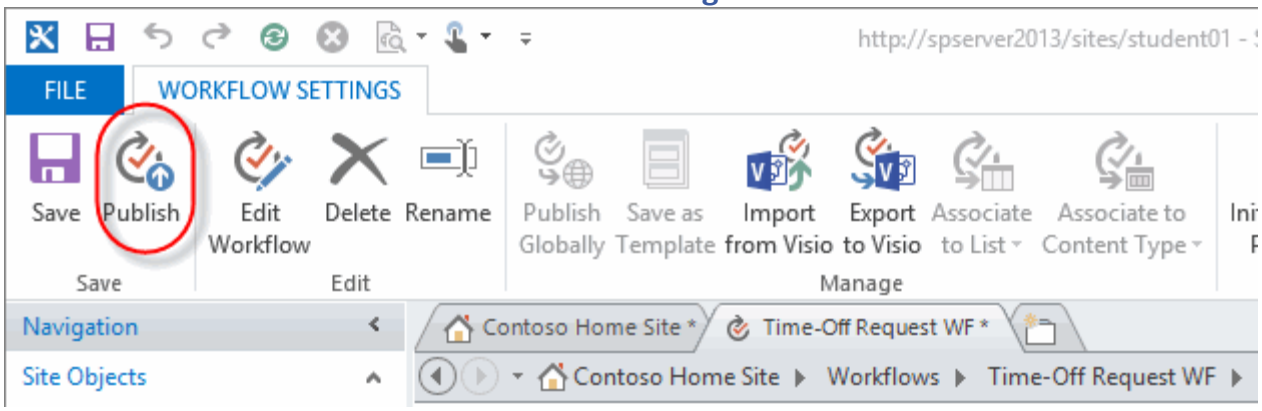
1. Click the **Time-Off Request WF** breadcrumb at the top of the workflow editor area.



2. Check the **Start workflow automatically when an item is created** check box under **Start Options**.

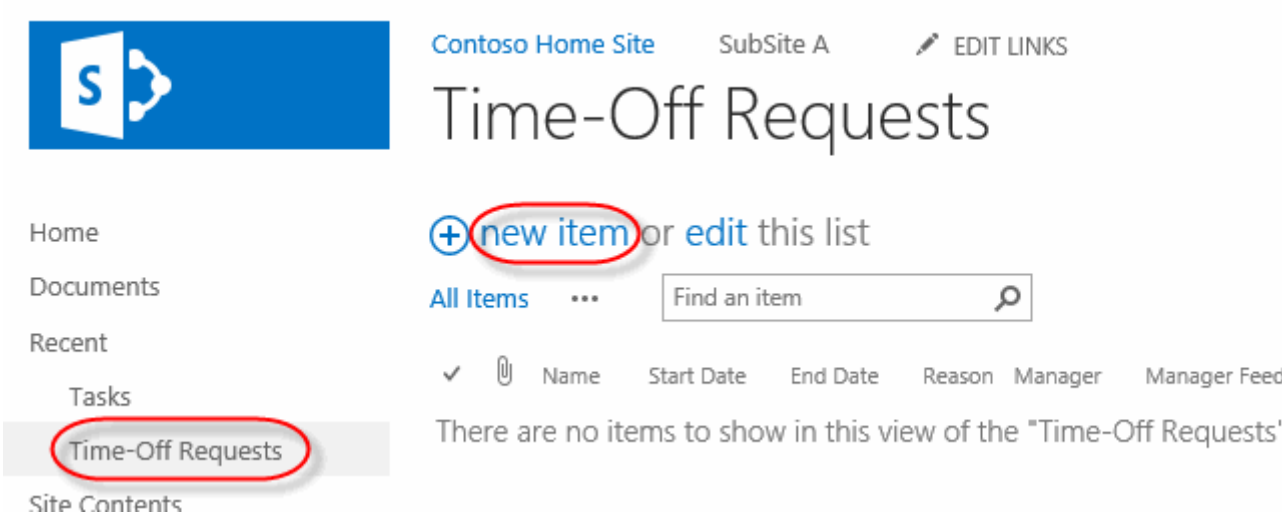


14. Publish the **Time-Off Request WF** workflow.
    1. Click the **Publish** button on the **Workflow Settings** tab toolbar.



15. Create a new item in the **Time-Off Requests** list to test the custom workflow.
    1. Switch back to your browser window or open one if you don't have one already open and browse to your site.
    2. Click the **Time-Off Requests** link in the site's **Quick Launch** menu.

3. Click the **new item** link in the list.



4. Enter the following information in the **Time-Off Requests- New Item** dialog and replace the **Name** and **Manager** fields with your account:

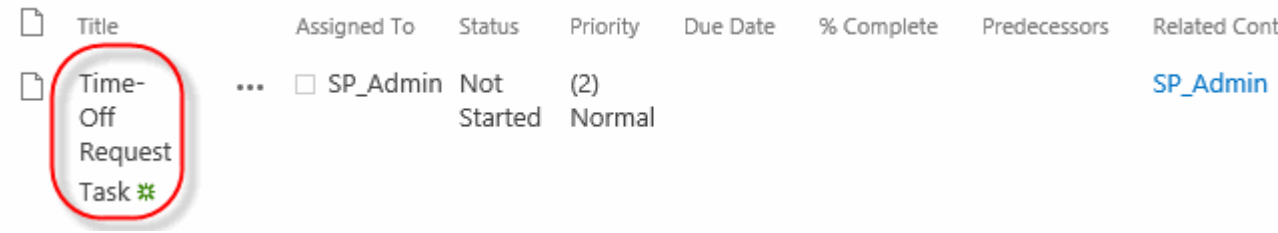
   Name SP_Admin
   Start Date Select the following week's Monday
   End Date Select the following week's Friday
   Reason Going Fishing
   Manager SP_Admin

5. Click the **Save** button to save the new time-off request item.
6. Click the **Time-Off Requests** link in the site's **Quick Launch** menu to refresh the page.
7. Verify the column **Time-Off Request WF** has been added and the status for the new list item is **In Progress**.

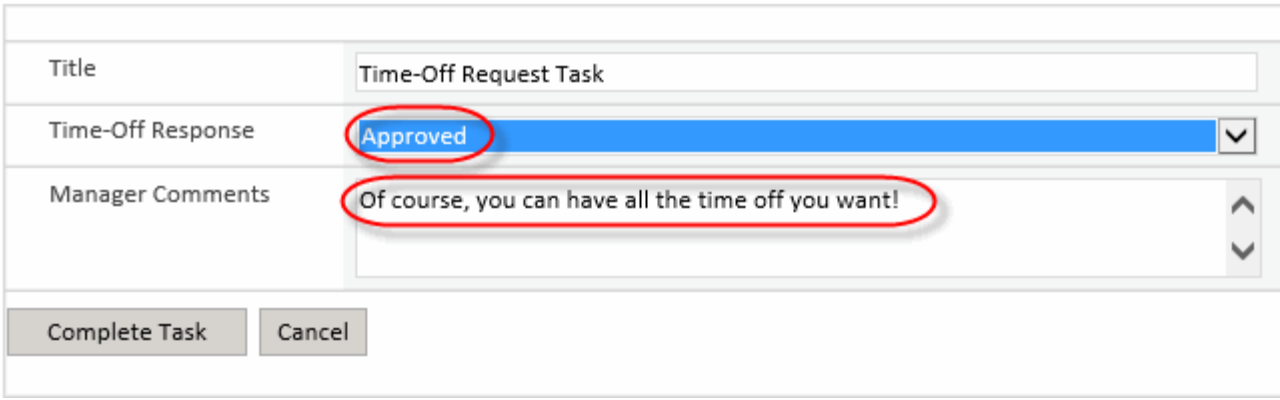
   Until the task created by the workflow is completed, the workflow will remain **In Progress**. Once the task is completed, the workflow will continue to the next action defined in the workflow.

16. Complete the **Time-Off Request WF** custom task.

1. Click the **Site Contents** link in the site's **Quick Launch** menu.
2. Click the **Tasks** link on the **Site Contents** page.
3. Click the **Time-Off Request Task** link to open it.

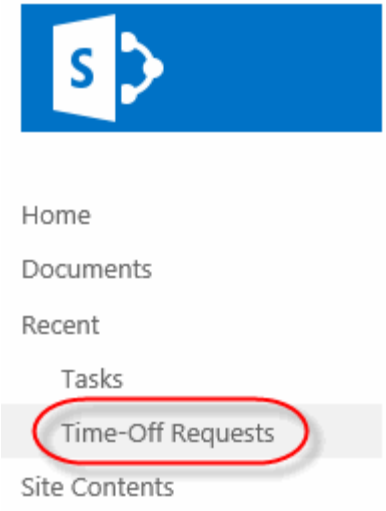


4. Select **Approved** in the **Time-Off Response** drop-down field and type "Of course, you can have all the time off you want!" in the **Manager Comments** field.

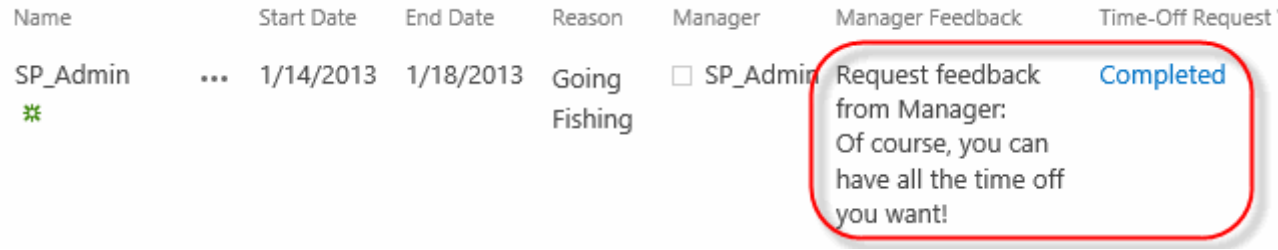


5. Click the **Complete Task** button to complete the task and continue the workflow.

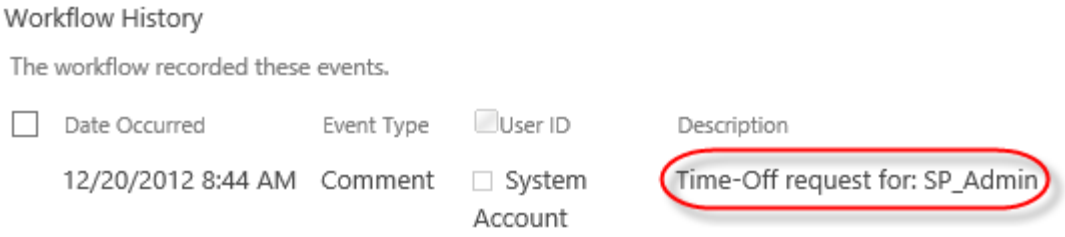
17. Verify the **Time-Off Request WF** custom workflow has completed.
    1. Click the **Time-Off Requests** link in the site's **Quick Launch** menu.



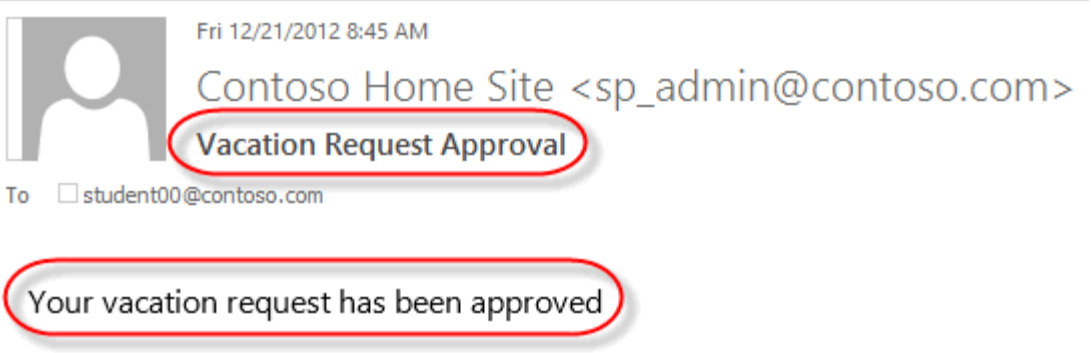
2. Verify the **Manager Feedback** column includes the Manager's comments and the **Time-Off Request WF** column status is **Completed**.



3. Click the **Completed** link in the **Time-Off Request WF** column to view the workflow history.
4. Verify the **Log to History List** action in your workflow added the custom message to the history log.



18. Verify the email was sent.
    1. Open Microsoft Outlook.
    2. Open the email message from your site with the subject of **Vacation Request Approval** and verify the body matches what you configured in the workflow.

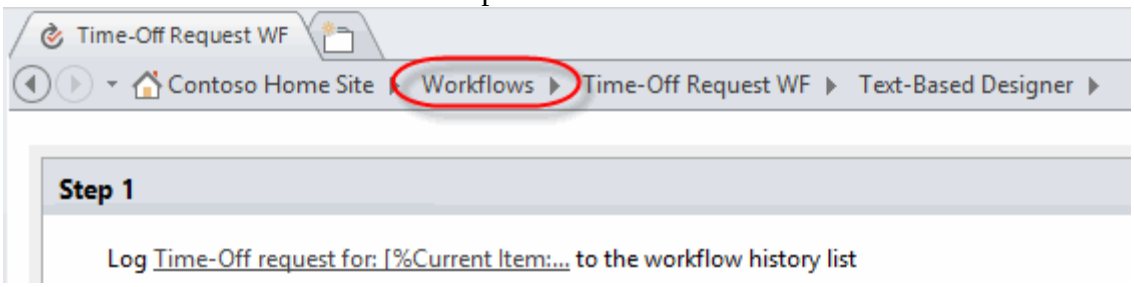


    3. Close the email message and close Outlook.

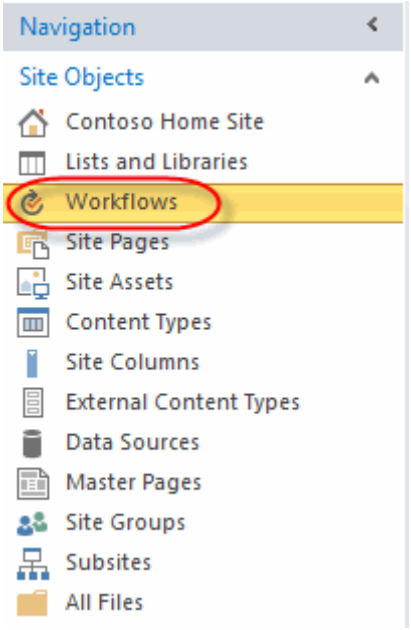
Creating Reusable Workflows

Duration: 15 to 25 minutes.

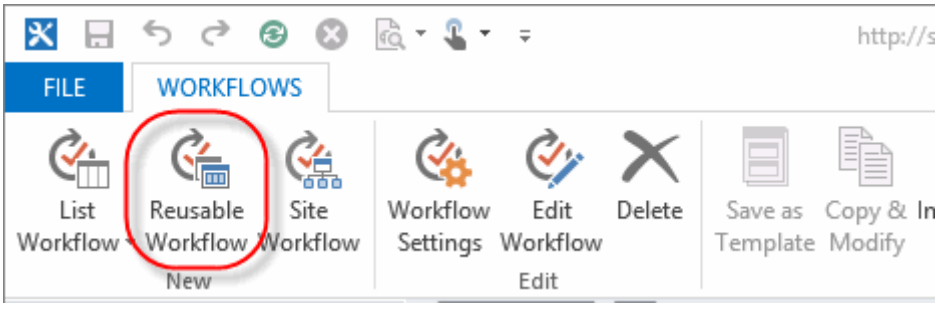
1. Create a reusable workflow for the document content type using SharePoint Designer.
    1. Navigate back to SharePoint Designer or open a new instance if you closed it from the previous exercise.
    2. If the **Time-Off Request WF** is still open from the previous exercise, click the **Workflows** breadcrumb at the top of the editor tab.



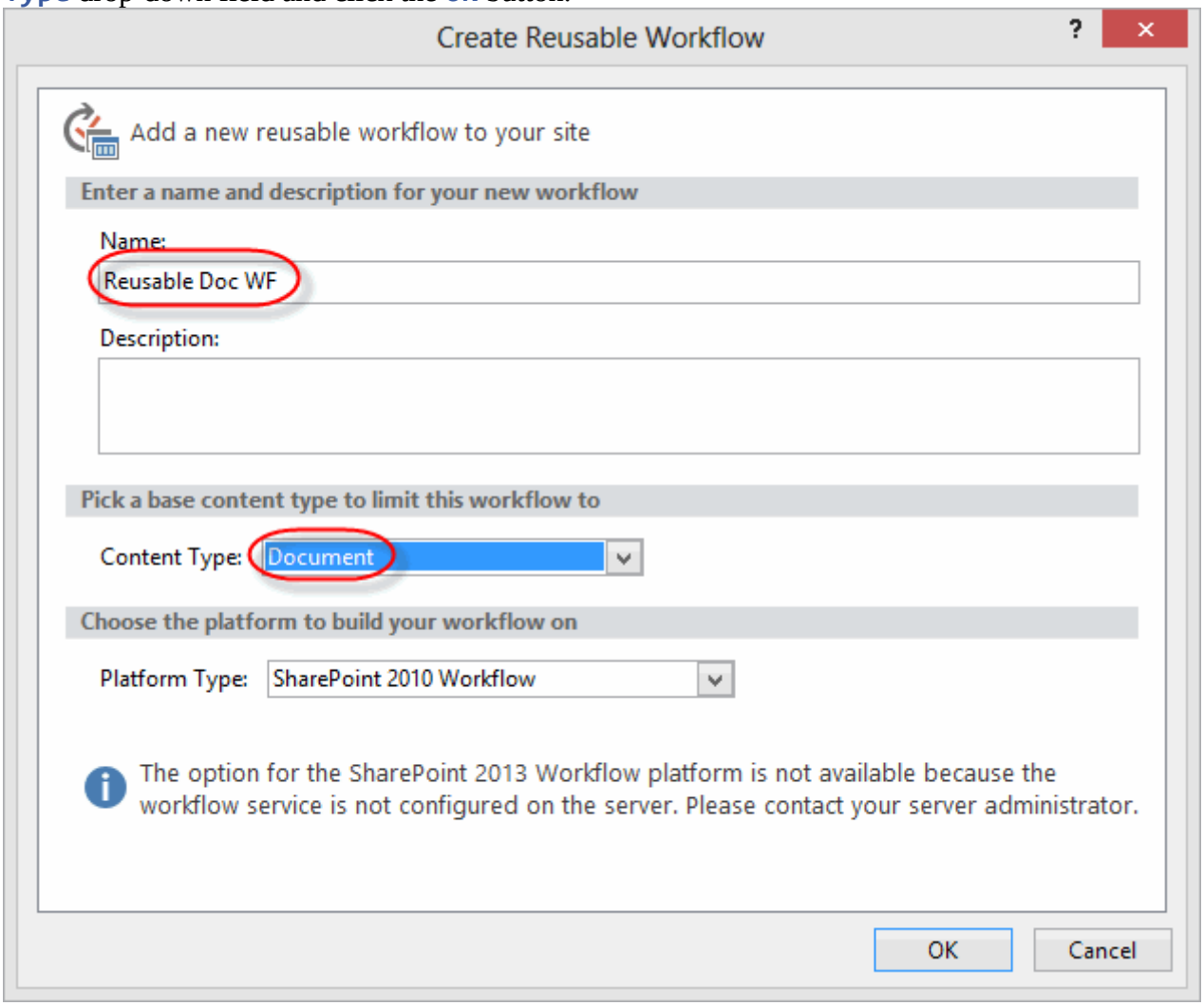
Or if you closed it, you can click the **Workflows** link in the **Navigation** menu.



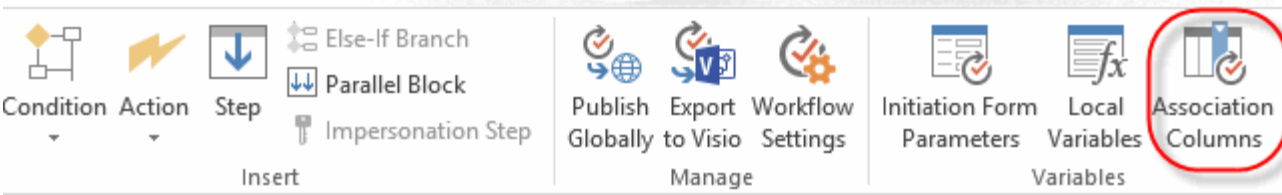
3. Click the **Reusable Workflow** link in the **WORKFLOWS** tab toolbar **New** group.



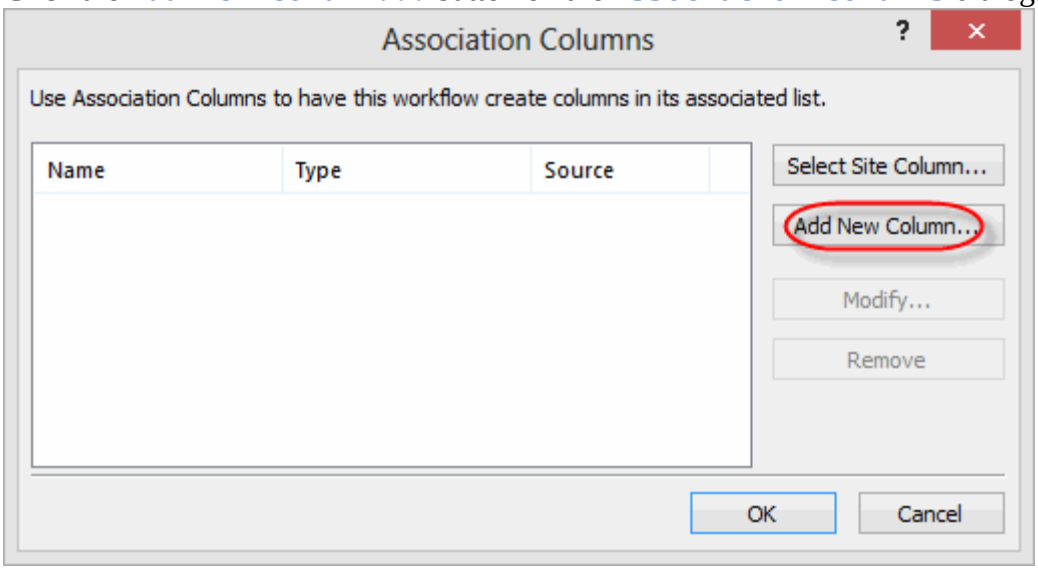
4. Type "Reusable Doc WF" in the **Name** field and choose **Document** in the **Content Type** drop-down field and click the **OK** button.



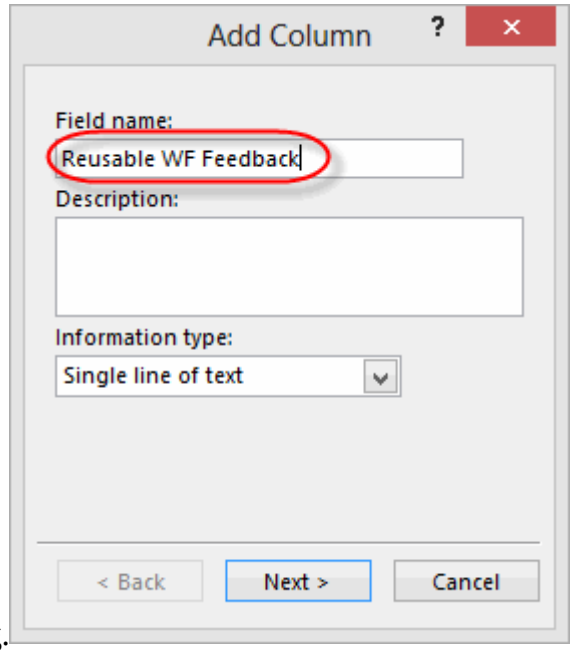
2. Add an **Association Column** to the **Reusable Doc WF**.
    1. Click the **Association Columns** button in the **WORKFLOW** tab toolbar in the **Variables** group.



2. Click the **Add New Column...** button on the **Association Columns** dialog.



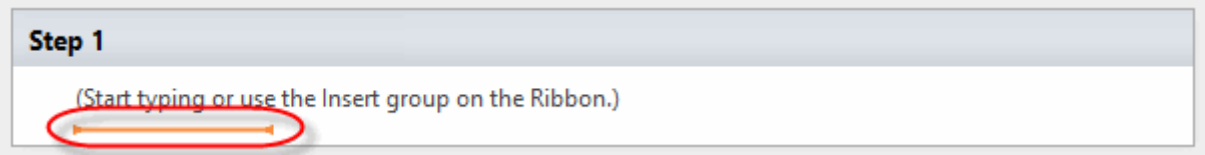
3. Type "Reusable WF Feedback" in the **Field** name field and click the **Next** button on the **Add Column** dialog.



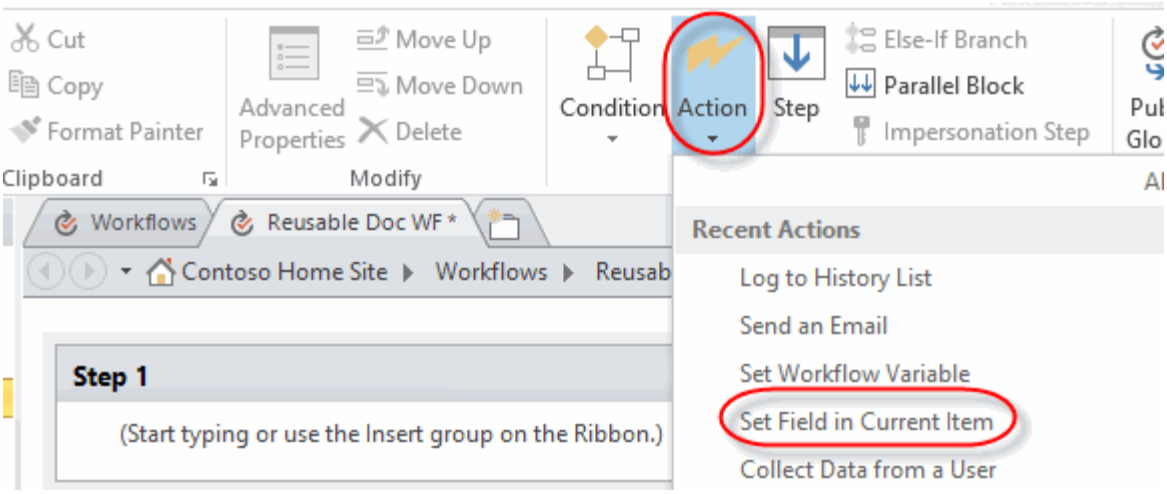
4. Leave the **Default value** field empty and click the **Finish** button of the **Column Settings** dialog.
5. Click the **OK** button to close the **Association Columns** dialog and save your column setting.

3. Add a **Set Field in Current Item** action to the **Reusable Doc WF** and configure it to write text into the **Reusable WF Feedback** associated column.

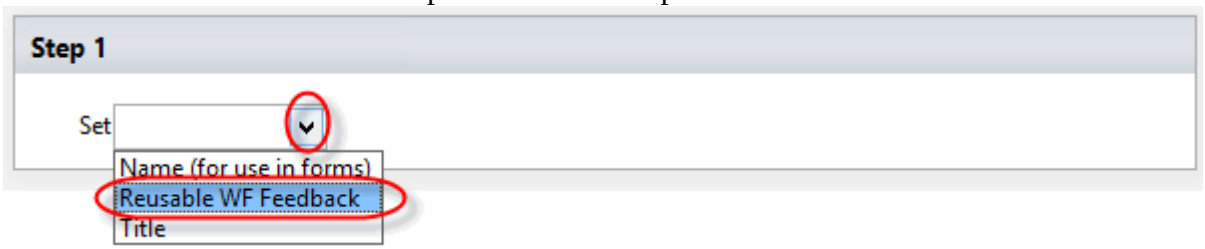
1. Hover and click the orange bar within **Step 1** of the **Reusable Doc WF**.



2. Click the **Action** drop-down button in the **Workflows** tab toolbar and choose the **Set Field in Current Item** action.

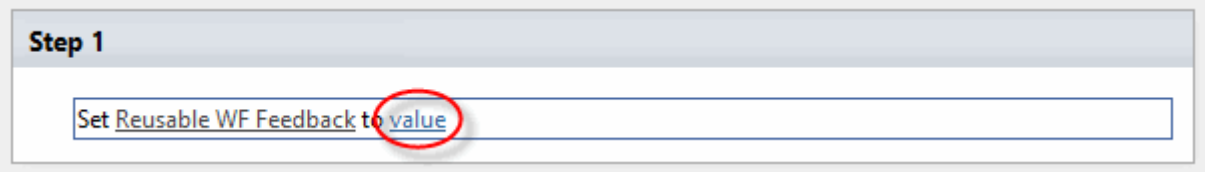


3. Click the **field** link in the **Set Field in Current Item** action and choose the **Reusable WF Feedback** option from the drop-down list.



Only fields defined in the content type and associated columns are available to use in a reusable workflow.

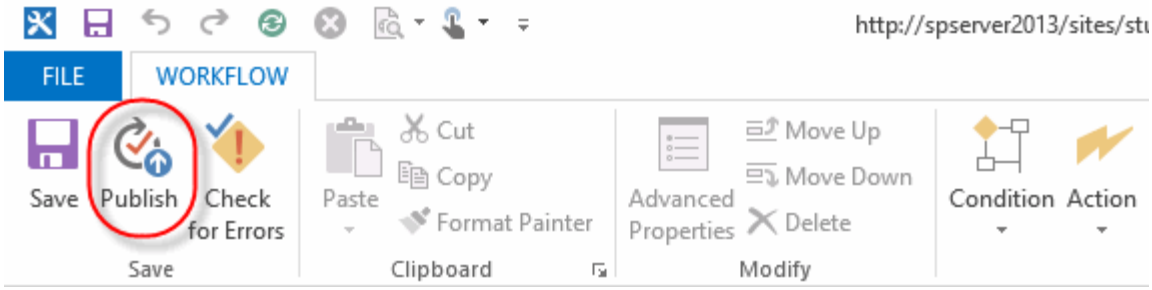
4. Click the **value** link in the **Set Field in Current Item** action.



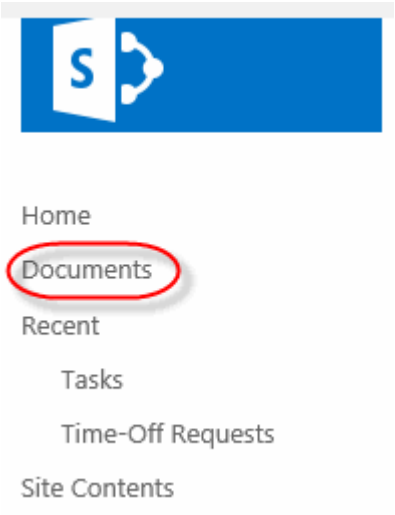
5. Type "This message was created by the Reusable Doc WF!" in the value text box.

4. Publish the **Reusable Doc WF**.

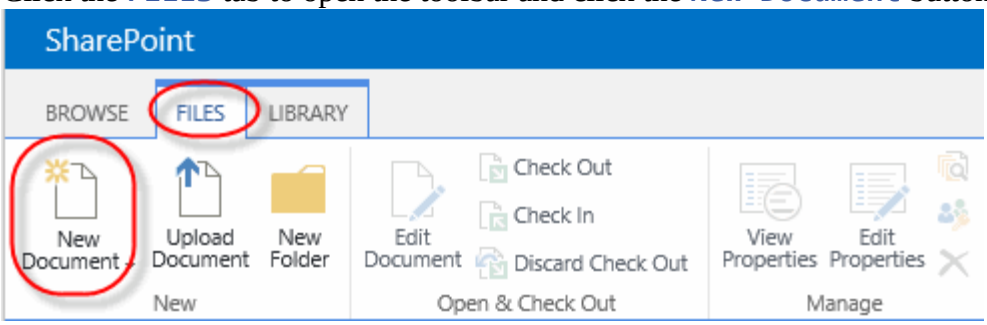
1. Click the **Publish** button in the **WORKFLOW** tab toolbar's **Save** group.



5. Associate and test the **Reusable Doc WF** workflow with the **Shared Documents** library of your site.
    1. Switch back to your browser window or open one if you don't have one already open and browse to your assigned student site.
    2. Click the **Documents** link in the site's **Quick Launch** menu.

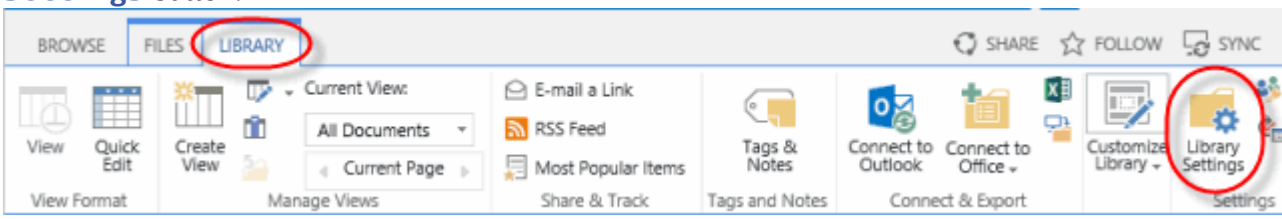


    3. Click the **FILES** tab to open the toolbar and click the **New Document** button.

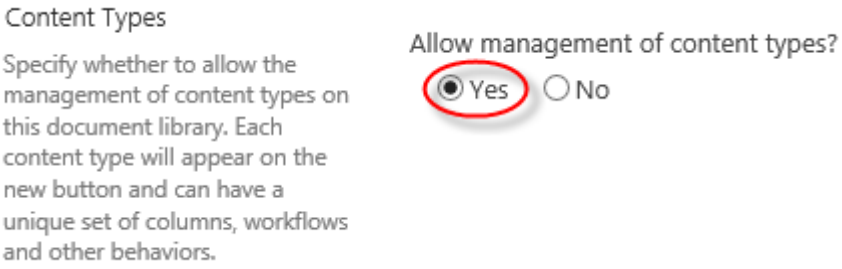


    4. Type "This is a sample document for use with a reusable workflow." in the new Word document and click the **Save** icon in the upper-left corner of the Microsoft Word window.

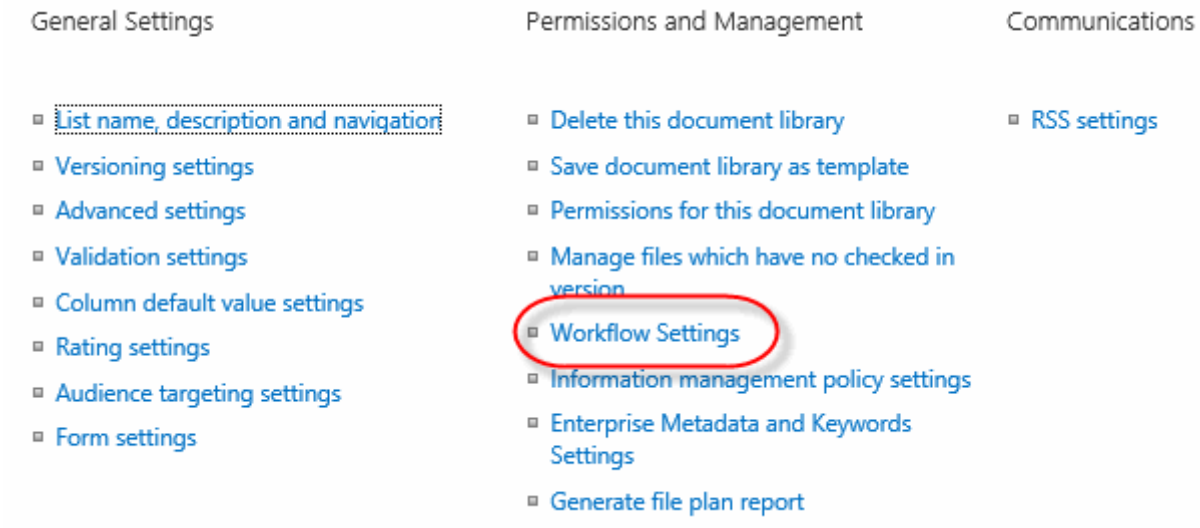
5. Click **Shared Documents** from the **Other Web Locations** on the Word **Save As** page.
6. Type "Sample WF Doc" in the **File name** field and click the **Save** button.
7. Close Microsoft Word.
8. Click the **LIBRARY** tab to open the toolbar and click the **Library Settings** button.



9. Click the **Advanced** settings link under the **General Settings** group.
10. Click the **Yes** radio button for the **Allow management of content types** option.

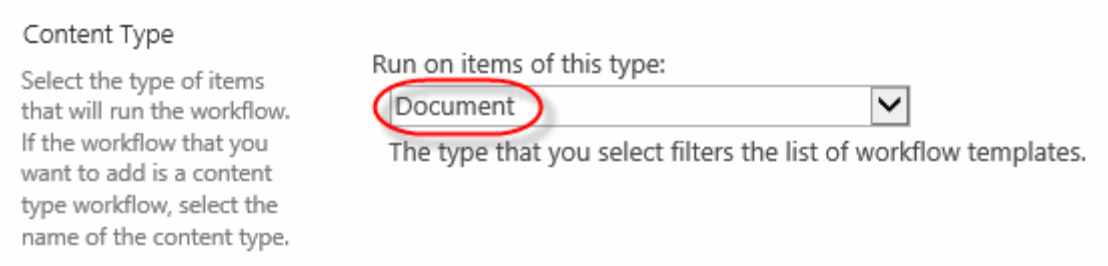


11. Click the **OK** button to save the setting.
12. Click the **Workflow Settings** link under **Permissions and Management**.

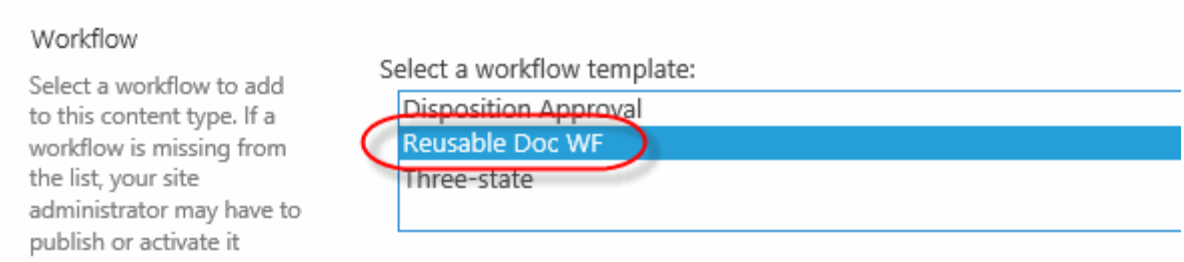


13. Click the **Add a workflow** link.

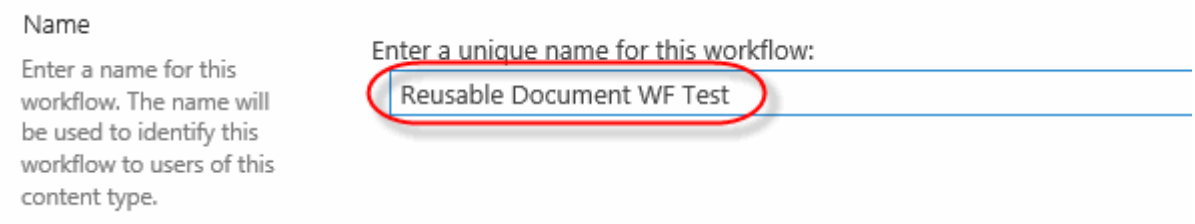
14. Select **Document** from the **Run on items of this type** drop-down field.



15. Select **Reusable Doc WF** from the **Select a workflow template** list box.

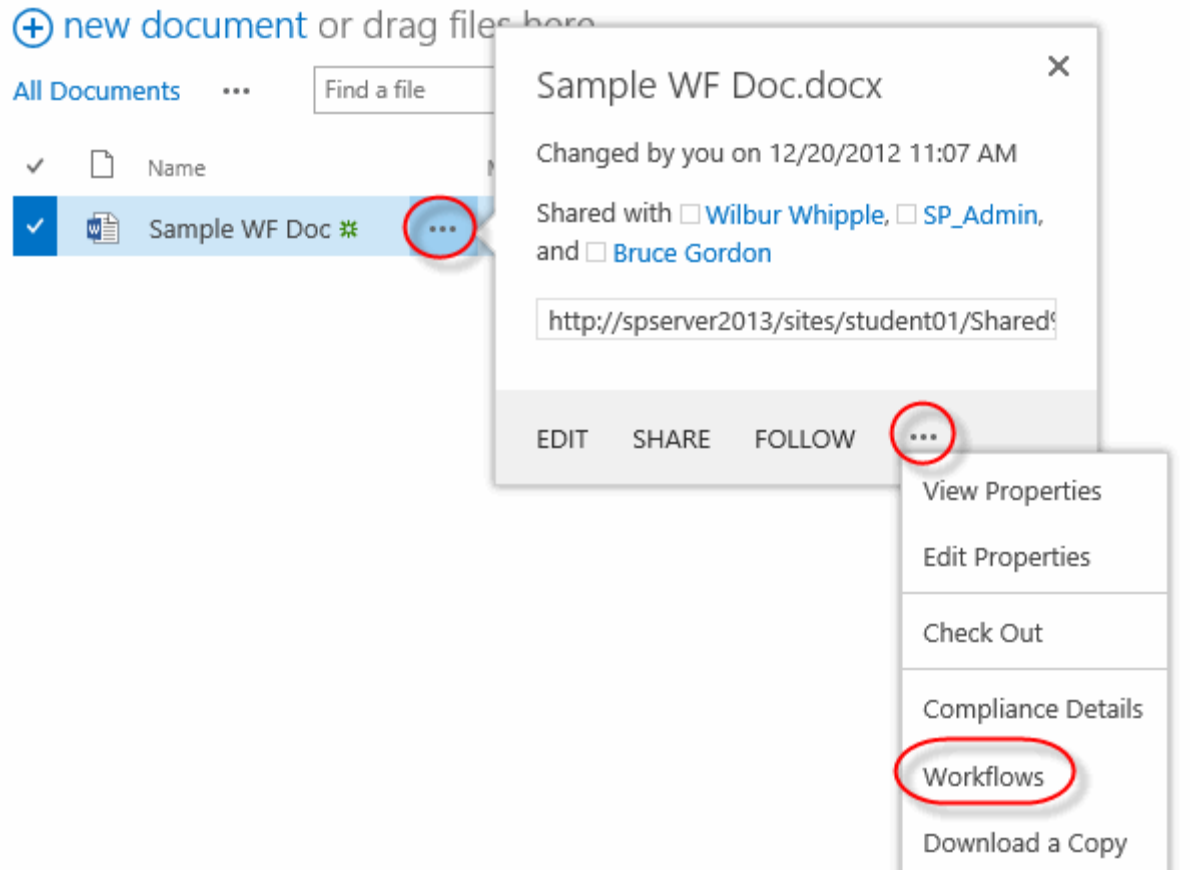


16. Type "Reusable Document WF Test" in the **Type a unique name for this workflow** field.

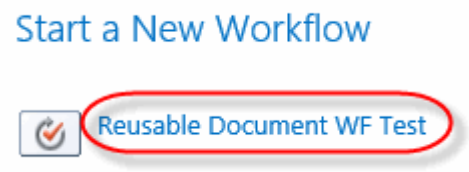


17. Leave the rest of the workflow settings at their defaults and click the **OK** button at the bottom of the form.
18. Click the **Documents** link in the site's **Quick Launch** menu to navigate back the default view of the library.
19. Click the ellipsis link next to the **Sample WF Doc** link then click the second ellipsis link in the balloon pop-up to open the context menu and click

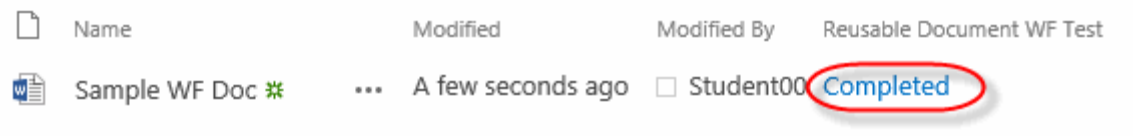
the **Workflows** link.



20. Click the **Reusable Document WF Test** link.

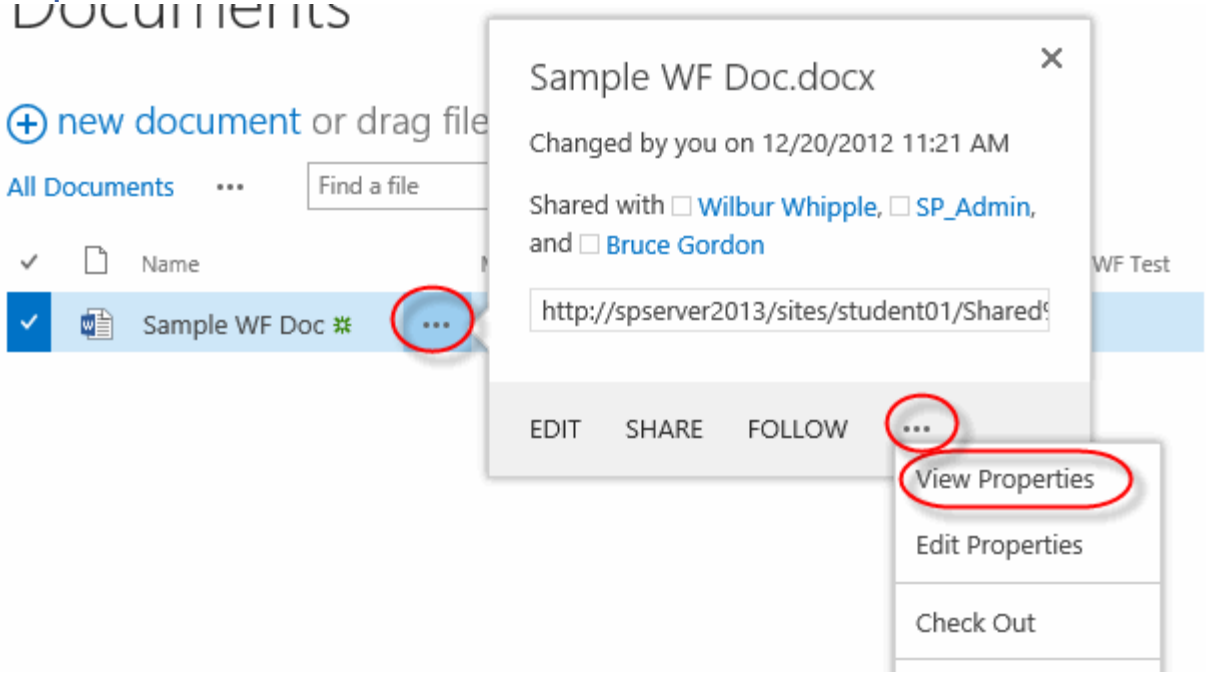


21. Click the **Start** button to start the workflow.
22. Verify the **Reusable Document WF Test** column has the status of **Completed**.

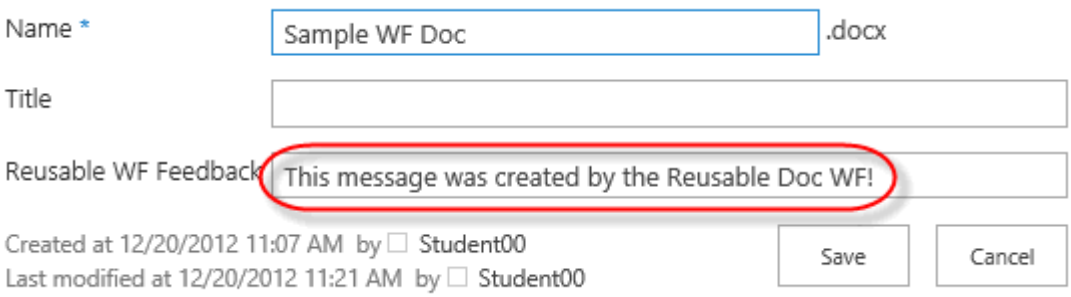


23. Click the ellipsis link next to the **Sample WF Doc** link and then click the second ellipsis link in the balloon pop-up to open the context menu and click the **Edit**

Properties link.



24. Verify the **Reusable WF Feedback** field exists and has the text "**This message created by the Reusable Doc WF!**" in it.



25. Click the **Cancel** button to close the dialog.

6. Close SharePoint Designer.