

Hello World HTML5 Designer Overview

Application Overview

This guide provides the step-by-step instructions for building a simple, "Hello, World" style workflow with the HTML5 Designer. This guide can also be used to build a simple workflow to validate that your K2 environment is operating as expected, or as an introduction to the HTML5 Designer and K2 Management site.

Note

Users familiar with K2 Workspace will notice that, from K2 4.7 onward, many of the workspace features have been moved to the new **K2 Management** site. The K2 Management site contains the tools commonly used to administer the K2 environment, plus several new additions. K2 administrators (full control) will use the K2 Management site to manage task lists (worklists), server and process rights, out-of-office settings, errors, etc. New additions to the K2 Management site include the ability to register new service types and service instances, generate and execute SmartObjects and view categories (both K2 Designer and system).

This tutorial can be completed in any environment that has K2 blackpearl 4.7 (or later) or K2 Appit 1.5 (or later) installed. The screen shots and users in the tutorial reflect the standard K2-provided virtual environment, commonly used for K2 blackpearl training events. You can, however, complete this tutorial in any other environment as long as the necessary K2 components are installed and operational, though your screens and users may be different. You must also have the necessary rights and permissions to create the K2 artifacts in the target environment. Be aware that it may be difficult to follow the steps in this tutorial if you are working in a K2 blackpearl version prior to 4.7/K2 Appit version prior to 1.5.

Some tutorials require that you have internet access to be able to connect to an external SQL database used for retrieving data. Those tutorials will contain additional information on internet connection requirements.

Application Design

The following steps will explain the basics of K2 workflows, then guide you through building a simple workflow in HTML5 Designer. You'll test the workflow components by starting an instance of the workflow from the K2 Management site. The workflow will consist of a **user task**, with the workflow originator assigned as the recipient. A task notification will be sent to the originator's in-box, where it will be actioned using SmartActions.

Note

SmartActions allow you to action a user task by simply replying to the task notification email with an action in the message body. For example, if an action option included *Approved*, you could simply reply to the mail with Approved as the message body. K2 will then *read* the action and process the workflow accordingly.

You will complete the workflow by adding two **system tasks** that will send a confirmation email to the workflow originator, depending on the task action selected.

Upon completion of tutorial, you will have a basic understanding of the HTML5 Designer environment and how to create a new workflow. You will also have an introduction to the K2 Management site, where you will assign workflow rights, then start your test workflow instances.

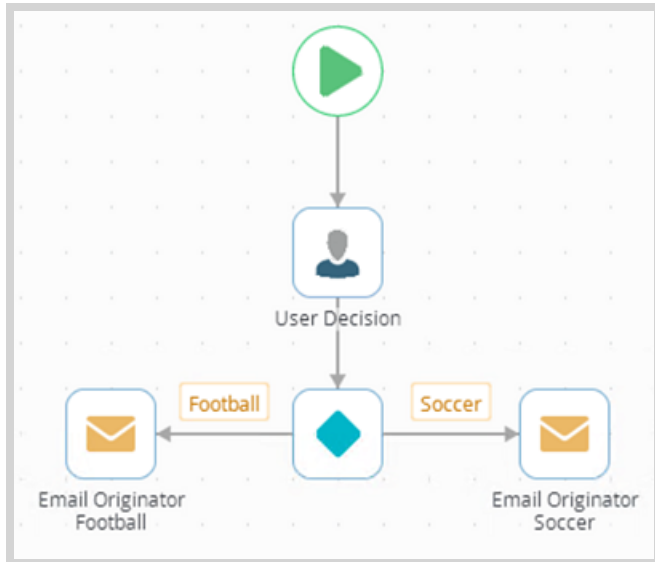
You begin with a review of workflow basics. If you are familiar with K2 workflows, feel free to proceed directly to the first step.

Workflow Design

This workflow will contain one user task and two system tasks. The user task will be assigned to the workflow originator, or more specifically, the person logged into the K2 Management site. You will use SmartActions to reply to the user task email notification, then confirm that one of the system tasks fired off and sent a final email confirmation with the correct task decision indicated.

The diagram below shows the final version of the simple workflow. Essentially, the workflow will start, route a decision task back to the person who started the workflow, asking them whether they prefer the sport "Football" or "Soccer" and then send an email to the originator with the preferred sport. As simple as this scenario sounds, it introduces a number of workflow concepts such as workflow steps, user tasks, system tasks, actions and outcomes.

The simple workflow you will build in this tutorial

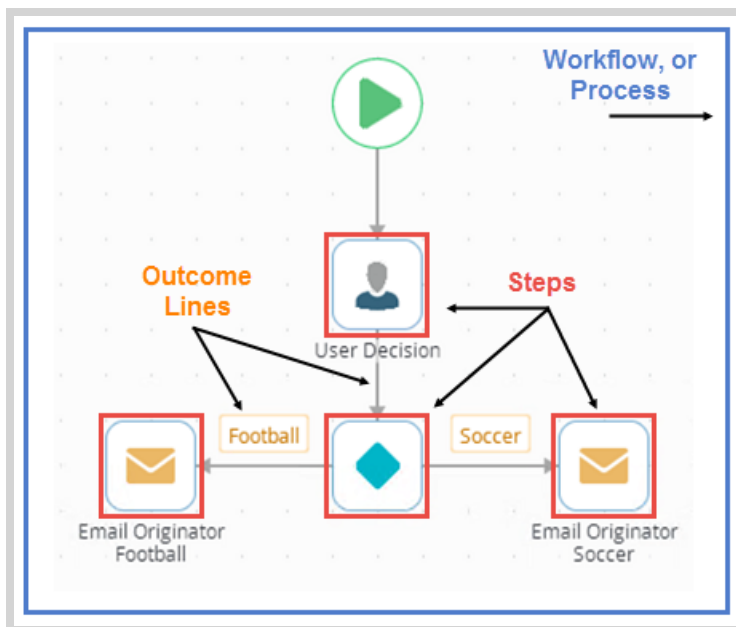


Workflow Concepts: Process, Steps, Activities and Events

Knowing the proper lingo can help you to administer your workflows!

A workflow **process** is a container for all of the elements that make up a workflow. Sometimes a process is referred to as a workflow. In K2 terms, 'workflow' and 'process' refer to the same thing. Workflows built in HTML5 Designer consist of a series of **steps** that contain user or system **tasks**. They are connected by **lines**.

In the image below, there are four **steps**. One of the steps, User Decision, is a **user task** or a task that requires human interaction of some kind (such as making a decision). There are two **system tasks**, both of which send an email. System tasks are performed by the K2 server and do not require any human interaction to run.



When you are ready to begin building the workflow, continue on to [Build a simple Hello World workflow using the HTML5 Designer](#).

Hello World HTML5 Designer Steps

In the next five steps, you will build a very simple workflow using the HTML5 Designer. You will add one user task and two system tasks. After deploying the workflow, you will add workflow rights (or permissions) from the K2 Management site. Finally, you will test the workflow by manually starting a instance of the workflow from the K2 Management site.

Step 1: Create a new workflow in the HTML5 Designer

In Step 1, you will build your workflow using the HTML5 Designer. To access the HTML5 Designer, you will launch K2 Designer, then create the new workflow. The HTML5 Designer launches after you select the new workflow option.

Step 1 Tasks

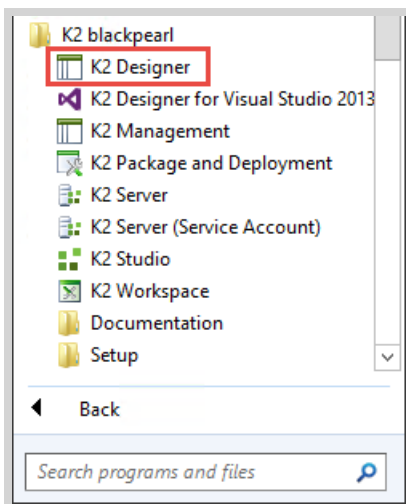
1. Launch K2 Designer from the start menu and create a new category called *K2 Learning* if it doesn't already exist. Under K2 Learning, create a sub-category called *Workflow Samples*
2. From the Workflow Samples category, create a new workflow and name it *Workflow Test*
3. From the HTML5 Designer, add and configure a Task step, naming it *User Decision* and choose the option to notify participants when they receive a task assigned to them. **Customize** the email so that the originator knows to reply to the email with one of the actions as the message body.
4. Add two actions and name them *Football* and *Soccer*
5. Add the originator as the recipient.
6. Add a **Decision** step and apply the **User Decision** actions to the step.
7. Connect the User Decision step to the Decision step.

Step 1 Walkthrough

1. Launch K2 Designer. (**Start > All Programs > K2 blackpearl > K2 Designer**) (Depending on your K2 black-pearl version, the menu items may be slightly different from the image below.)

Note

If you do not see the K2 Designer link, contact your K2 administrator to obtain the URL for designer environment.

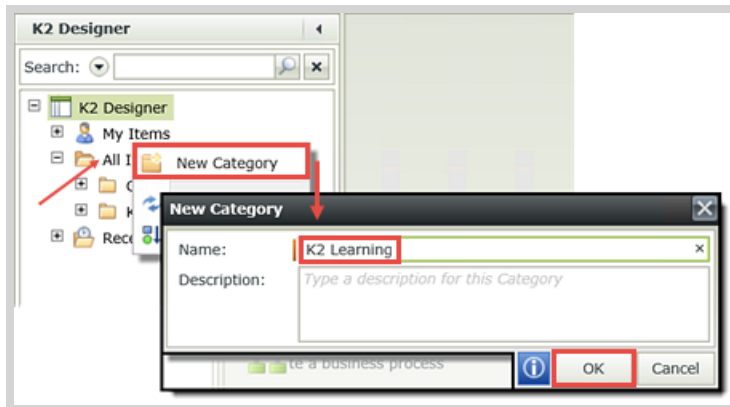


2. Expand the **All Items** node (if it is not already), then determine if the **K2 Learning** category exists. If it does not, right-click **All Items**, then select **New Category**. Name the new category

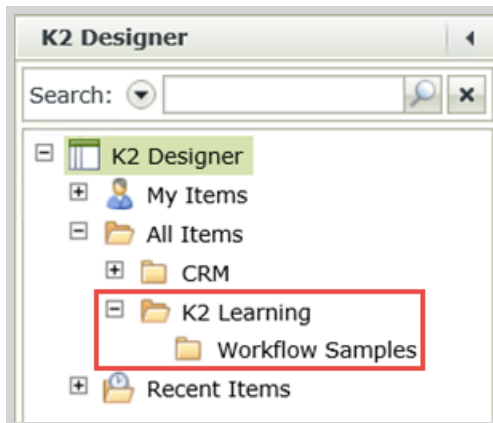
K2 Learning
then click **OK**.

Note

If you are new to K2 Designer, **categories** can be compared to folders. While not required, they help to keep your projects organized and are highly recommended as you build larger, more complex projects.

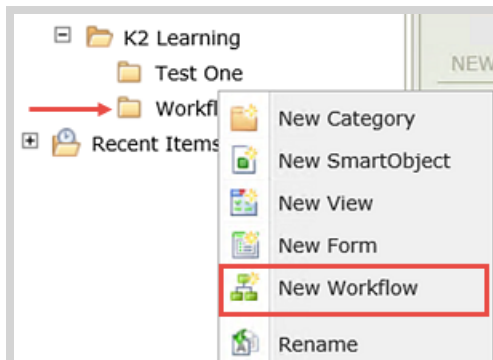


- Right-click the K2 Learning category and create another new category called *Workflow Samples*
Your categories should look similar to the image below.

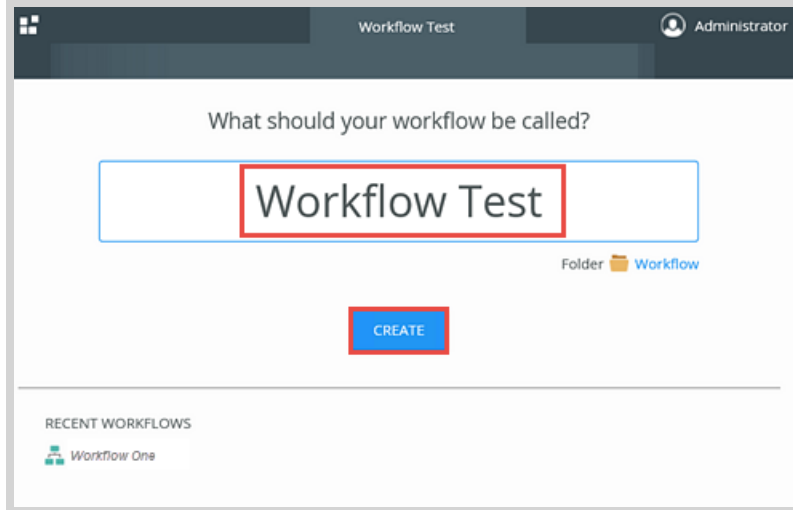


Now that you have your categories in place, you will begin building the workflow.

- Right-click the **Workflow Samples** category and select **New Workflow**.

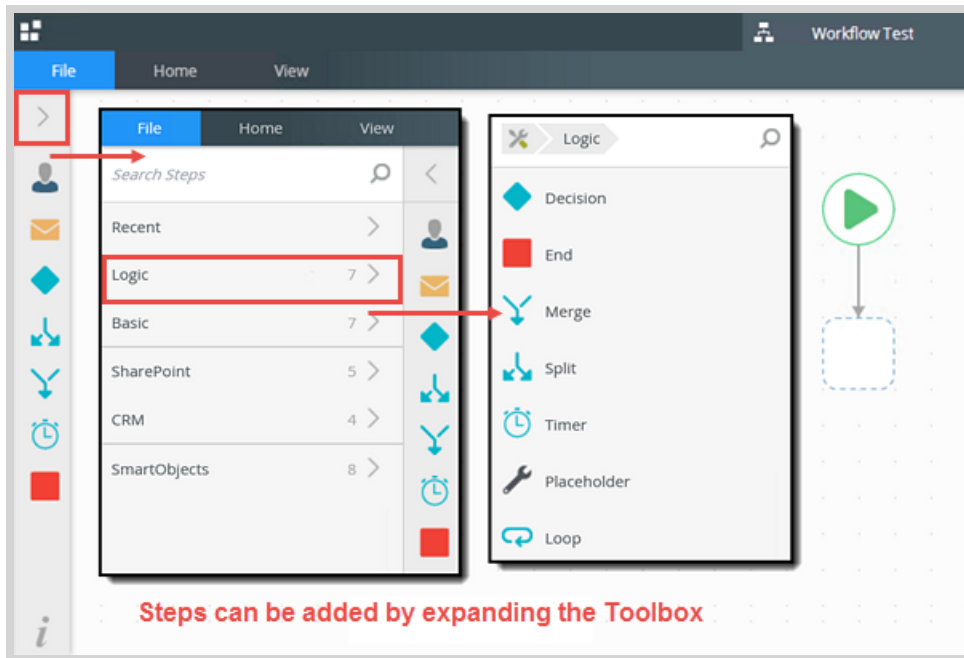


- The HTML5 Designer will open on the Create page. Name the new workflow *Workflow Test*
then click the **Create** button.

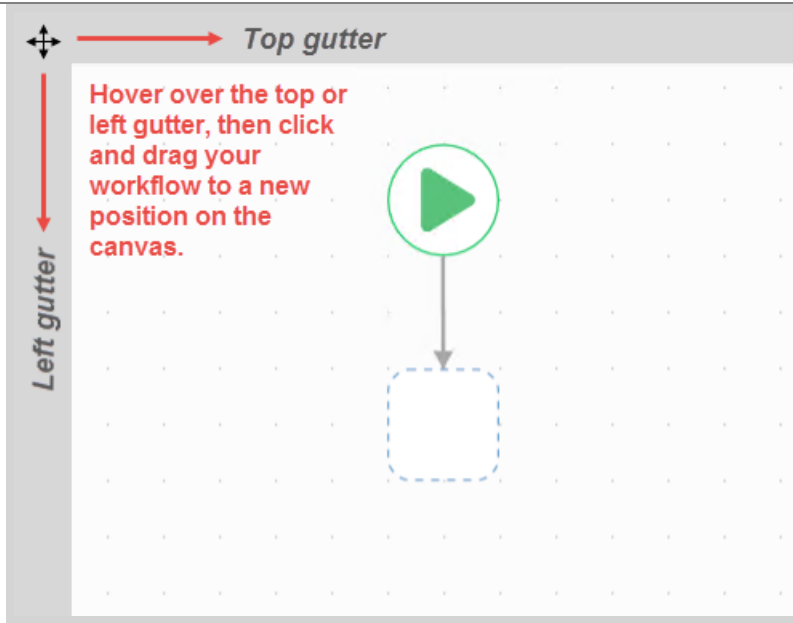


You are now directed to the workflow design environment. The HTML5 Designer's design environment is comprised of three sections: the **Toolbox** on the left-side of the page, the **Design Canvas** in the center of the page, and the **Configuration Panel** on the right.

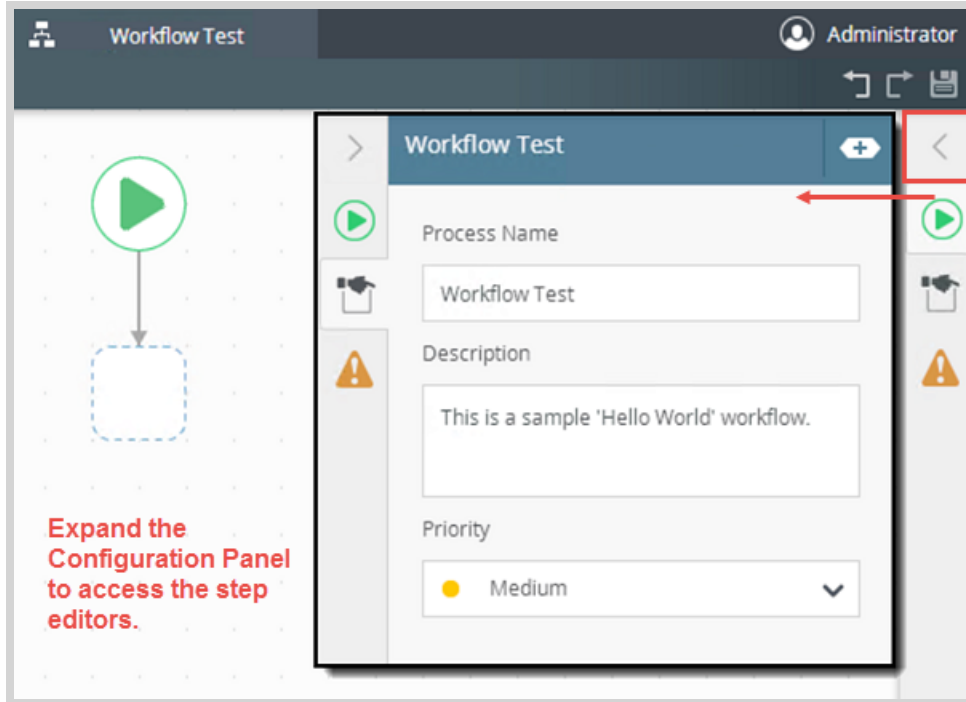
Toolbox. The left-side panel expands to expose available workflow steps. Workflow steps include both user tasks and system tasks. A user task generally requires human interaction of some kind, such as making a decision to approve or not approve a request. System tasks include steps that are performed entirely by the K2 server, such as sending an email or updating a list.

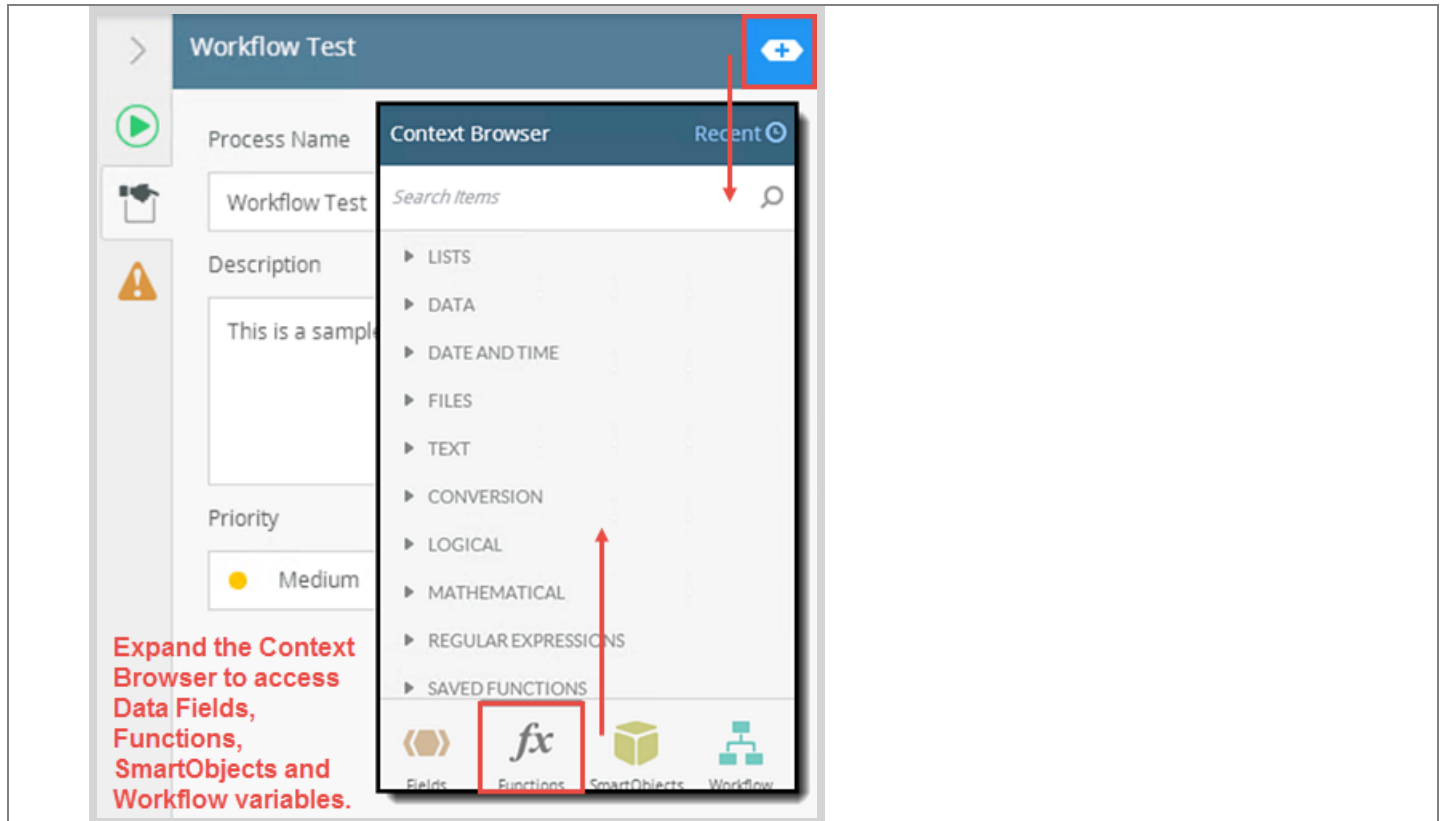


Design Canvas. The design canvas is where you drag and drop the steps you need for constructing your workflow. You can move the entire workflow structure around by hovering over the top or left-side gutter, then clicking and dragging.



Configuration Panel and Context Browser. The right-side of the canvas contains the configuration editors for each workflow step. Here, you will also find the Context Browser, access to Data Fields, Functions, SmartObjects and Workflow variables.



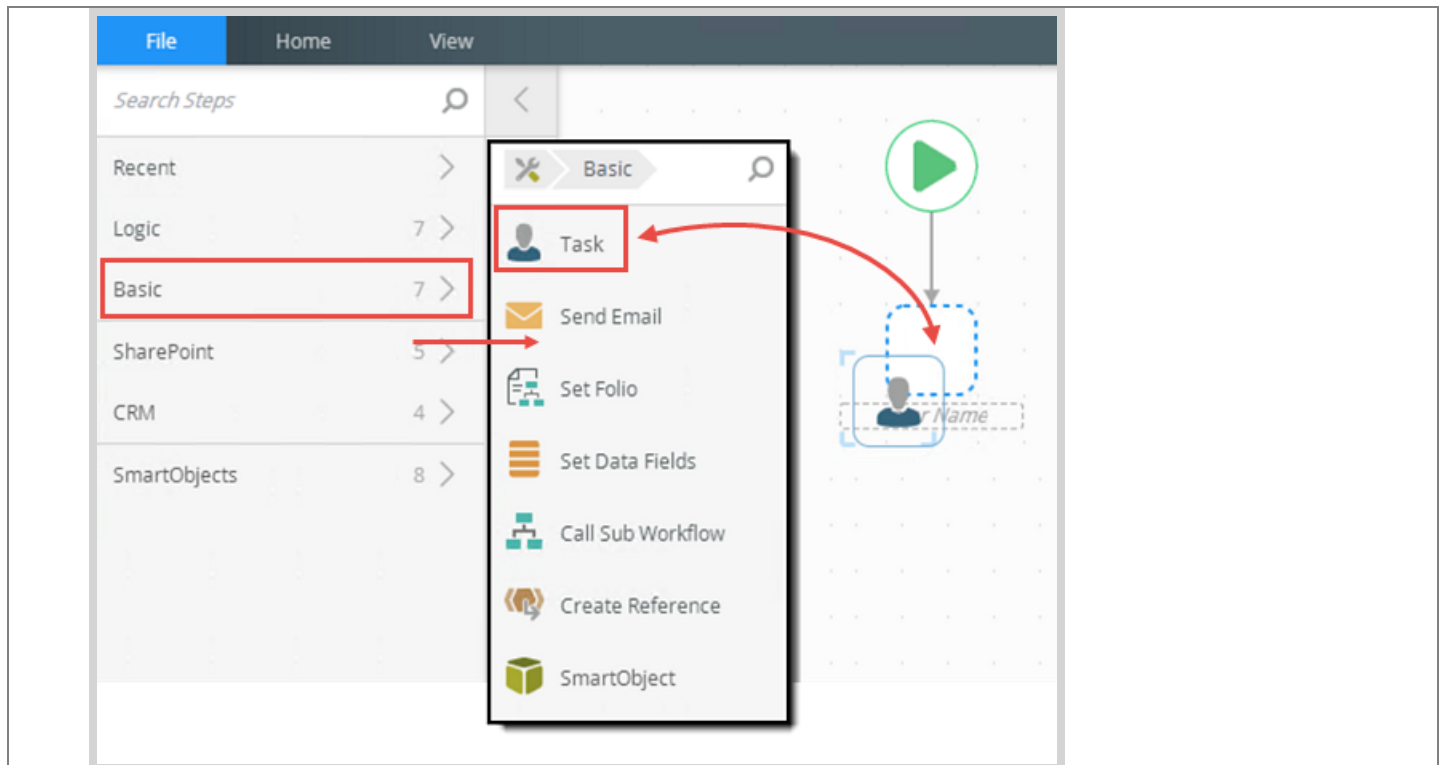


Now that you have a basic idea of the design environment layout, you will begin building your workflow. The first step you will add to the canvas will be a user task that is assigned to the workflow originator, or more specifically, the person who started an instance of the Workflow Test from the K2 Management site.

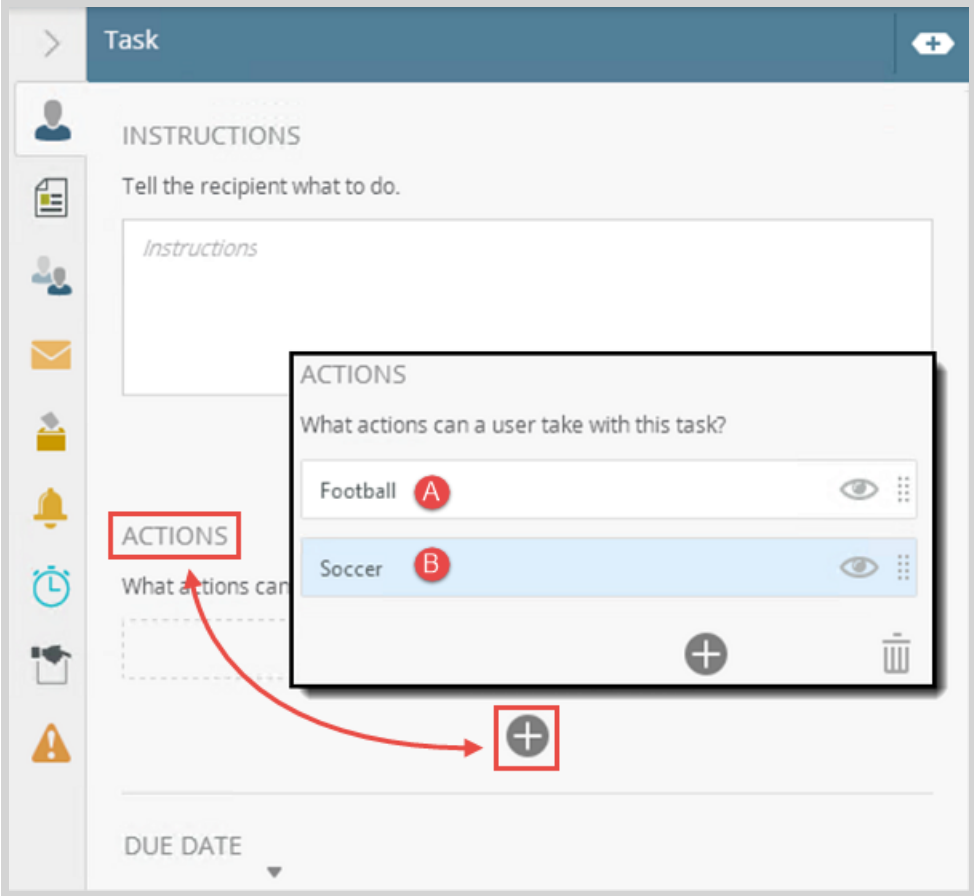
Note

Workflows are also referred to as processes. An *instance* of a process is a single occurrence of the workflow. In other words, each time a workflow is started, a new process instance is created. A single process could have many process instances. Just know that the terms workflow and process are the same and that a single occurrence of a workflow is known as a workflow instance or process instance.

- Expand the **Toolbox**, then expand the **Basic** node. Drag and drop a **Task** step into the placeholder.

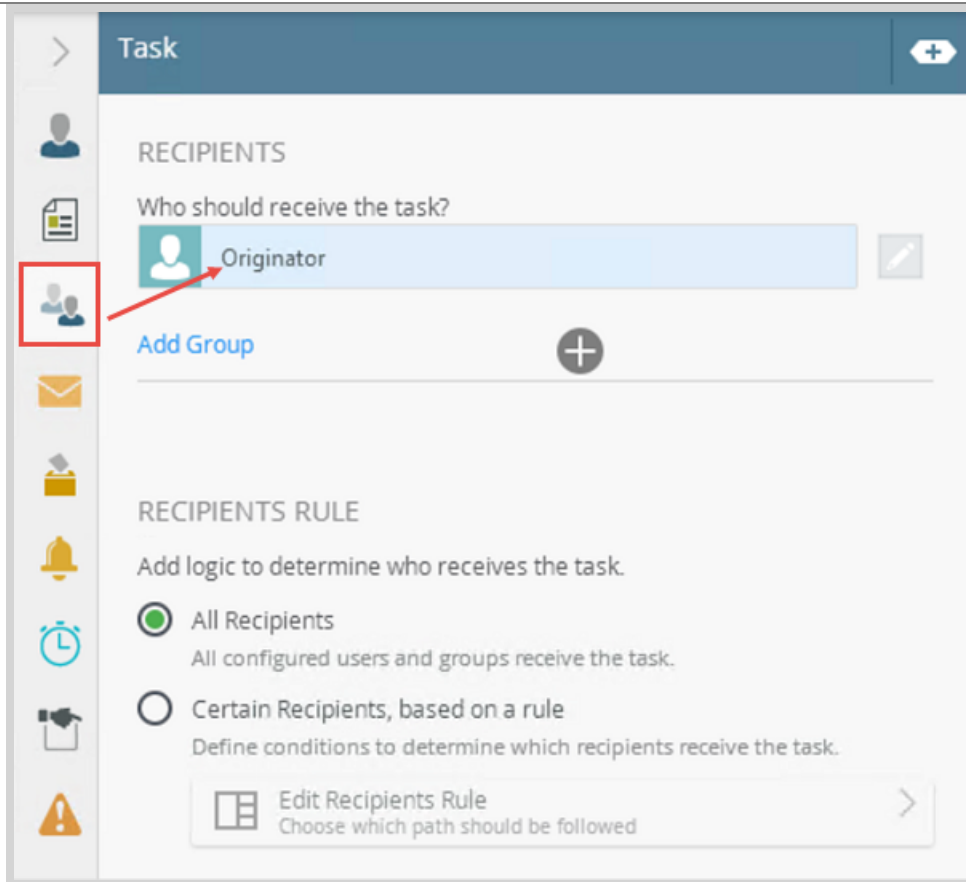


7. With the Task still highlighted (it will have a bold blue border), expand the **Configuration Panel**. The Task tab is the first pane to open. Locate the **Actions** section, then click the **Add** icon. Highlight and delete the *New Action* watermark, then enter *Football* for the first action. Click the **Add** icon once again and add a second action called *Soccer*



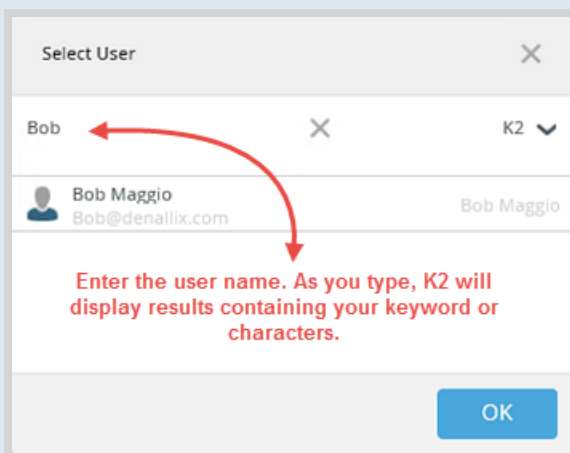
Next, you'll assigned the task to a recipient (destination user). In this case, you will assign the task back to the originator, or person who started the workflow in the first place.

8. Still in the Configuration Panel, click the **Recipients** tab. Confirm that the default recipient is **Originator**. The remaining settings on this screen are fine as is.



Note

To change the user or group the task is currently assigned to, hover over the recipient bar until you see the down-arrow on the right side. Click it and select the browse option. To add an additional user or group, click the Add icon. To delete a user or group, click to highlight the bar, then click the Trash Can icon. (Remember though, you must have at least one recipient for a user task.)



In the next step, you will configure the email task notification that will be sent to the originator after the workflow has started. This email will contain the two actions previously configured (Football and Soccer), along with instructions for the originator on how to action the task assigned to them.

9. Click the **Task Notification** tab. CHECK the boxes to **Send email task notification** and **Customize Notification**. For the **Subject** line, enter *Choose your favorite sport*

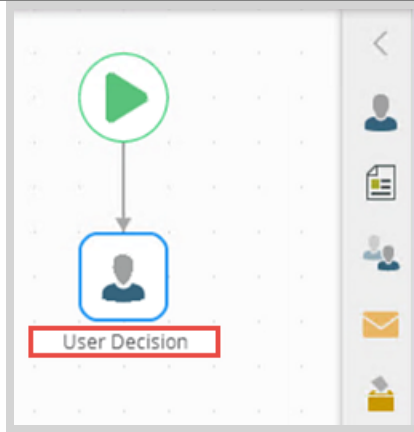
then enter the following for the message **Body**, just under the Dear Participant line:
Which sport do you prefer? Reply to this email with either "Football" or "Soccer" as the message body.

The screenshot shows the 'Task' configuration panel in K2. The 'TASK NOTIFICATION' section is expanded, showing options to 'Send an email task notification to the recipients when the task is created'. Two checkboxes are checked: 'Send email task notification' and 'Customize Notification'. The 'SUBJECT' field contains the text 'Choose your favorite sport'. The 'BODY' field contains the text: 'Dear **Task** **Participant Name**,
 Which sport do you prefer? Reply to this email with either "Football" or "Soccer" as the message body.
 Use the following link to open the worklist item:
 Worklist Item Link
 Clear
 Open Text Editor Insert Field

Note

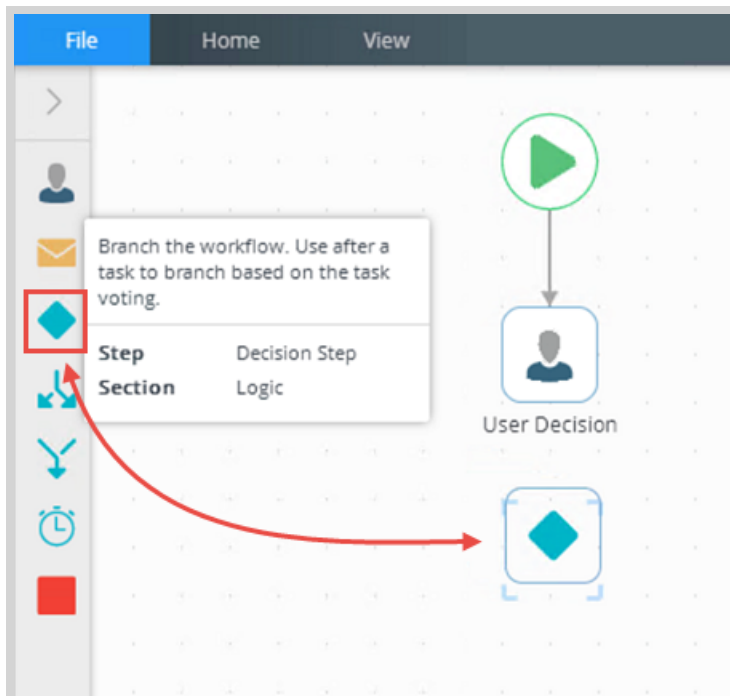
By selecting the 'Notify' option, K2 will send the task-assigned user(s) an email notifying them that they have a task to complete. Users can also view their tasks from the K2 Worklist web part as well (if using SharePoint), but an email offers convenience. Another convenience K2 offers is a technology called **SmartActions**. SmartActions make it possible for the user to simply reply to the email with one of the actions entered as the message body. For example, say a user task has two actions (approved and not approved) configured for their user task. The user could simply reply to the email and enter 'approved' as the message body. K2 will read the reply and proceed accordingly with the workflow. In this way, the user does not have to open a form to submit their decision. Of course, you do not have to use SmartActions, but they are available as a feature for your end-users to use when responding to an assigned task.

- There are no other edits for this task, so collapse the **Configuration Panel**. Click the **Task** label and change the label to *User Decision*

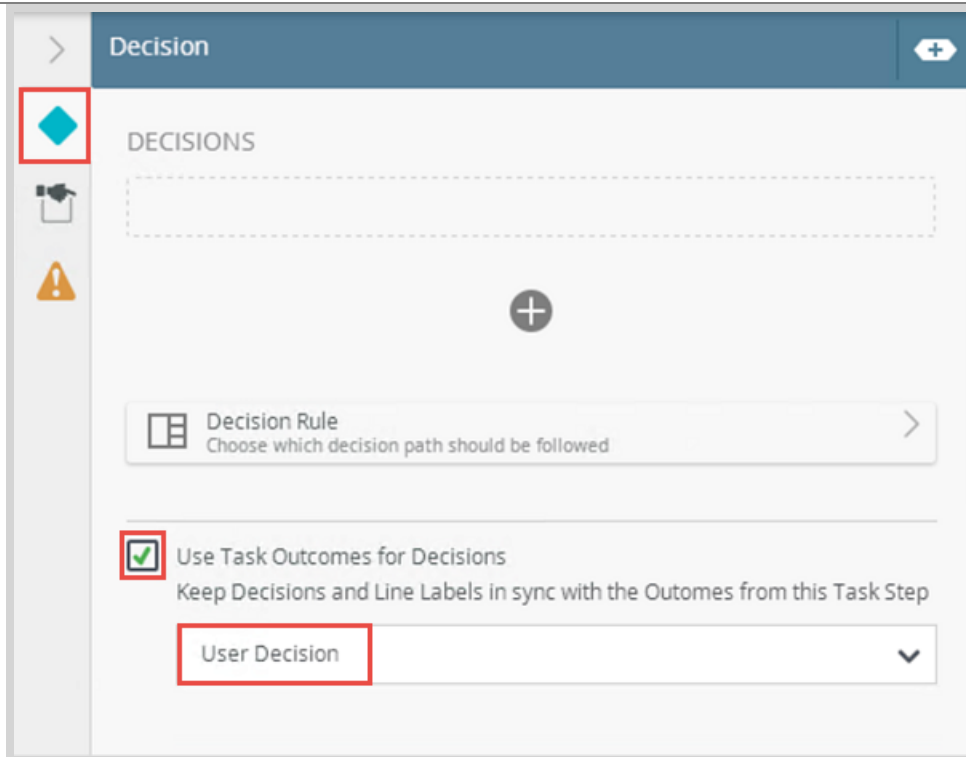


In the next step, you will add the decision step that generates the outcome lines for the two actions (Football, Soccer).

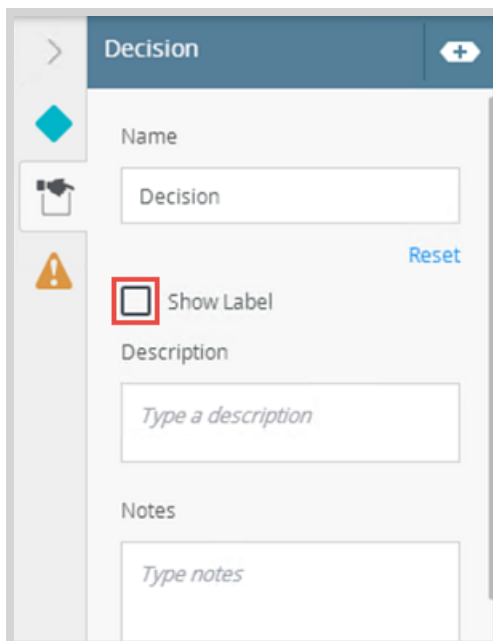
- Expand the Toolbox, then expand the Basic node. Drag a **Decision** step to just below the **Task** step. Alternatively, you can drag the steps from the Favorites column as well, if they are displayed.



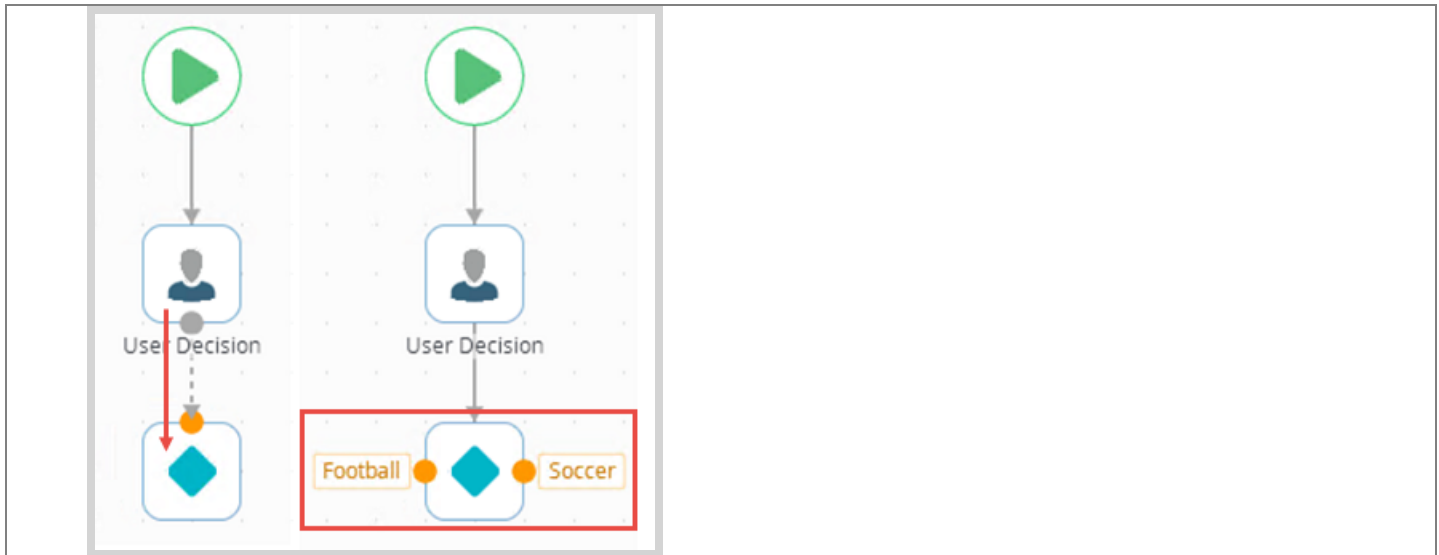
- With the Decision step still highlighted (it will have a bold blue border), expand the **Configuration Panel**. The Decision tab will open. CHECK the option to **Use Task Outcomes for Decisions**, then select the **User Decision** task.



13. Click the **Properties** tab. Confirm the option to **Show Label** is **UNCHECKED**. You don't need a label for this decision since this is a simple workflow. As you build more complex workflows, you can use this label option to describe in detail each step of your workflow structure. There are no further edits, so collapse the **Configuration Panel**.



14. On the design canvas, click the bottom of the **User Decision** step to activate the outcome line (a plus sign will appear), then drag down into the **Decision** step so that you have joined the two steps together. Click anywhere on the design canvas to set the line. Notice now, there are two outcome lines representing the two actions previously configured (Football and Soccer).



REVIEW

In Step 1 you created a new workflow in the HTML5 Designer and added a simple user Task. You configured two outcomes, Football and Soccer, and added the originator as the recipient, or person assigned the task. When you start a new instance of the workflow, K2 will send an email notification to the originator. You also configured two actions for the user task and applied them to a decision step.

Step 2: Add system tasks to send email confirmations

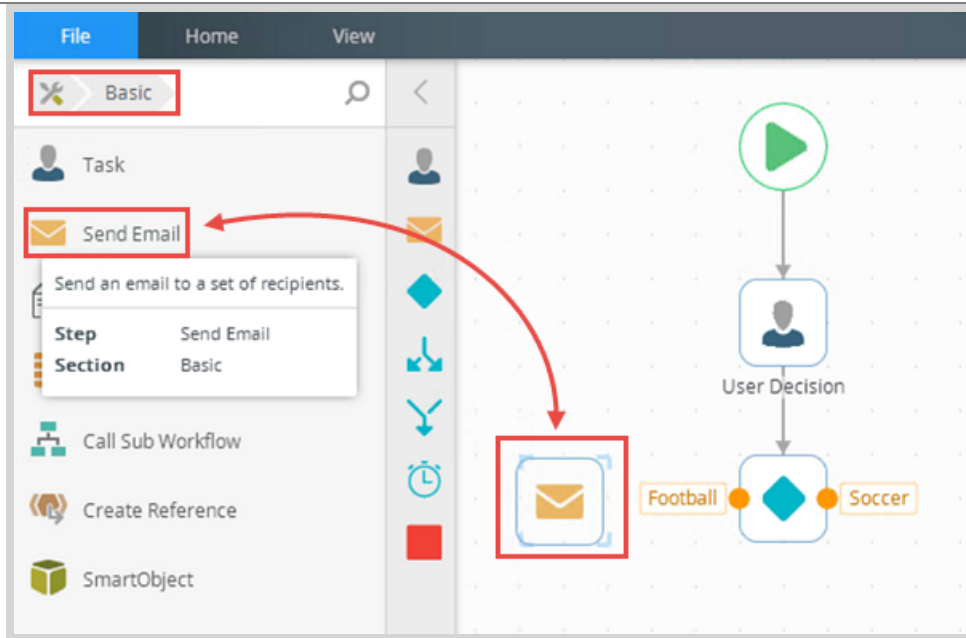
In Step 2, you will add and configure two system tasks, one for each of the outcomes (Football or Soccer) you configured in Step 1. The system tasks will send an email to the workflow originator indicating which of the two actions were selected as the outcome.

Step 2 Tasks

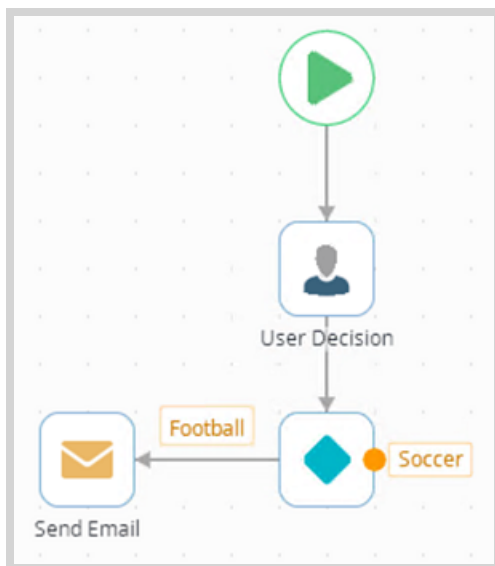
1. From the **Toolbox > Basic** node, add an email step to the football outcome line. Change the label to *Email Originator Football* then connect the decision step to the email step.
2. From the **Configuration Panel**, set the subject line to *Test Workflow* then append the Workflow **Folio** to the end of the subject line content. (Context Browser > Workflow > Workflow > Folio) Configure the message body to read *You chose Football.*
3. Repeat the steps above and add an email step for the Soccer outcome line, again using the Folio as part of the Subject line.

Step 2 Walkthrough

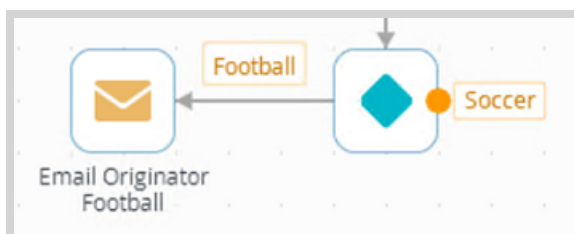
1. Expand the **Toolbox**, then expand the **Basic** node. Drag a **Send Email** step onto the design canvas, so that it lines up just left of the **Football** outcome line. (If your outcome lines are switched, that's OK. Just line up the email step with the Football outcome line.)



2. Click anywhere on the design canvas to refocus your mouse, then click and drag the **Football** outcome line to the **Send Email** step, to connect the two steps. Click anywhere on the design canvas to set the line.



3. Change the label name to *Email Originator Football*

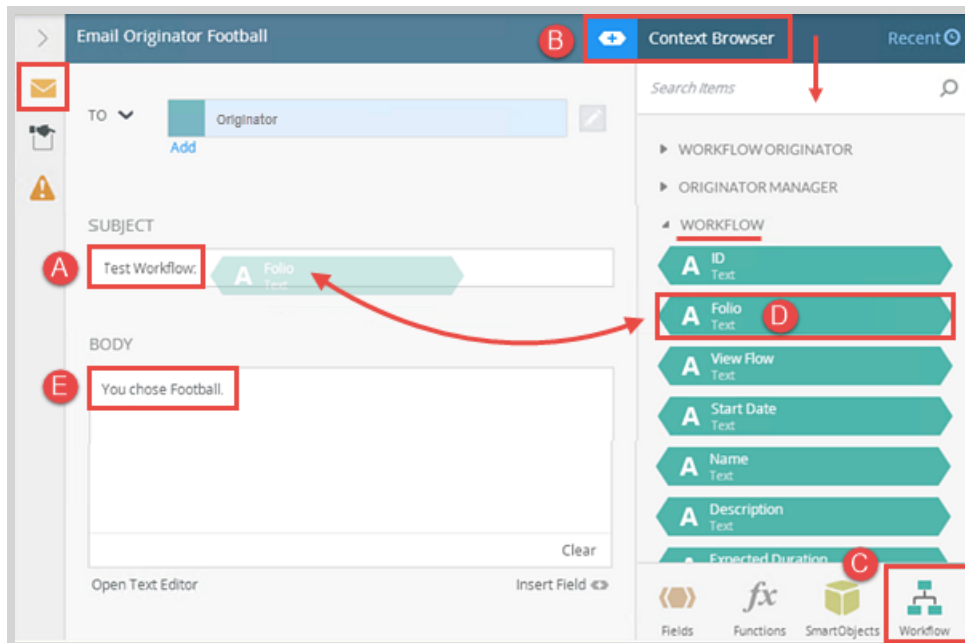


The next step may seem a bit complex, but once you understand the concepts, it will all make sense. In this step, you are going to configure the email properties. For the subject, you will use a variable as part of the subject line. Variables are explained in the NoteBox below, but this step will introduce you to the Context Browser and how to add and use variables throughout your workflow.

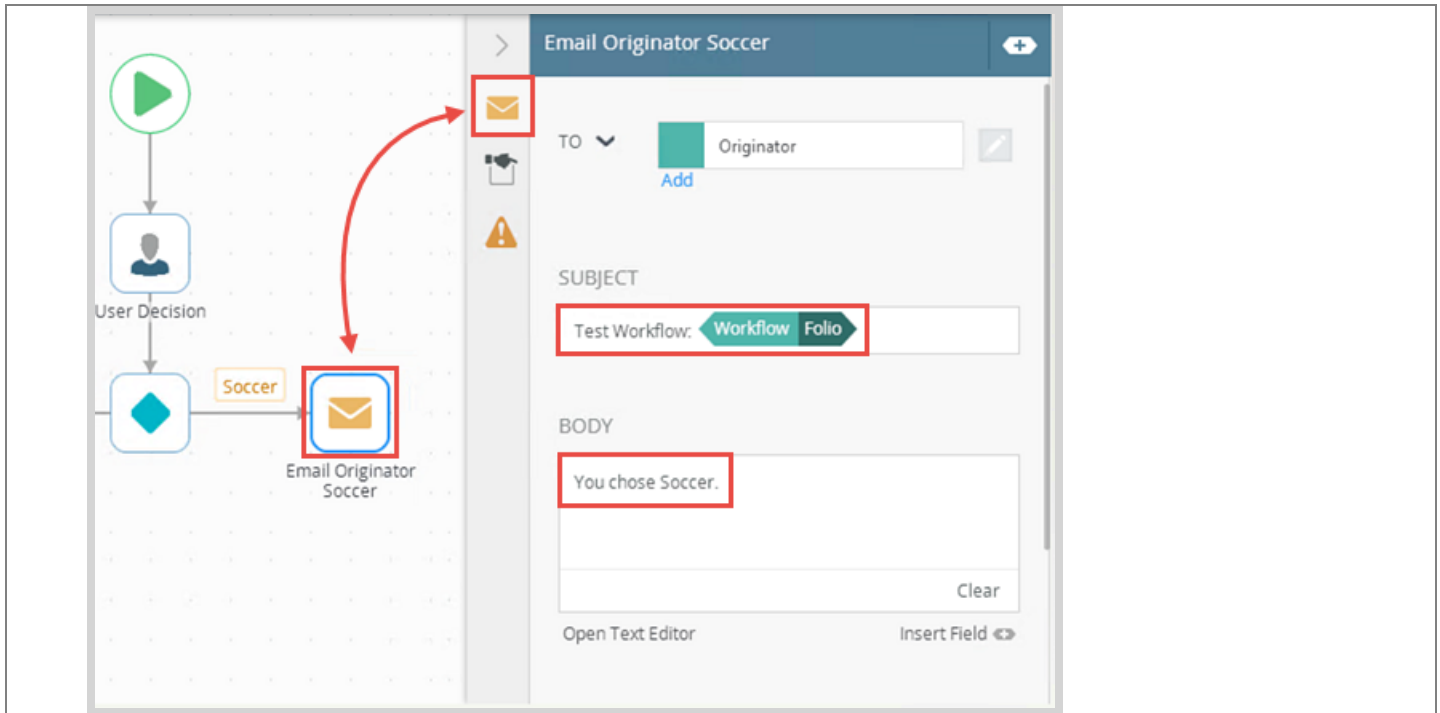
4. Click to highlight the **Email Originator Football** step (there will be a bold blue border), then expand the **Configuration Panel**. Click to expand the **Mail** panel. Confirm the recipient (**To**) property shows the **Originator**. For the **Subject** line, enter *Test Workflow:* then click the **Context Browser** button at the top of the screen. (It will look like a blue plus-sign with a white background.) At the bottom of the screen, click the **Workflow** button. Expand the **Workflow** node. Drag the **Folio** property into the email Subject line, just after the text you just entered. For the message **Body**, enter *You chose Football.* Collapse the **Configuration Panel** when you have configured the email settings.

Note

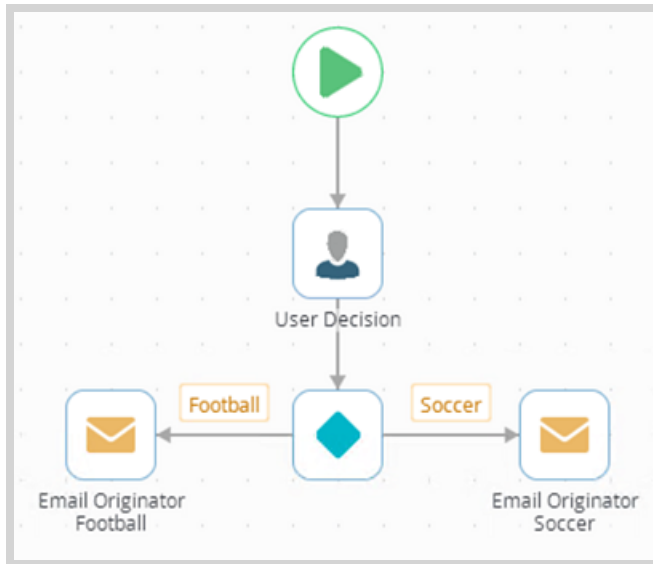
The HTML5 Designer **Context Browser** has a number of nodes where you can drag and drop *variables* into the workflow configuration settings. (Variables have a solid-colored background, making it easy to distinguish them as you go.) At runtime, K2 replaces the variables with actual *live* data. For example, in the *Workflow Context Browser*, you will find variables that return the Start Date, Priority and Folio, to name a few. *Functions* allow you to perform calculations, add and manipulate date and time values, and apply logical or conditional statements. *Fields* allow you to create workflow-specific data fields that can be referenced throughout the workflow structure.



5. Repeat the previous step and add an email step for the **Soccer** side. Change the label to *Email Originator Soccer* then connect the **Decision** step to the **Email Originator Soccer** step. Configure the email **Subject** line to read *Test Workflow [Folio]* then drag the Folio property from the **Context Browser > Workflow > Workflow** node. Configure the message **Body** so that it reads *You chose Soccer.* Collapse the **Configuration Panel** when you have configured the email settings.



Your workflow should look like the image below.



REVIEW

In Step 2 you added two email events (which are system tasks) to the workflow, one for the football outcome line and one for the soccer outcome line. You configured a simple email message for both events. When you test your workflow, you will confirm that K2 sends the correct email message, depending on which user task action was selected. Notice too, that you haven't manually *saved* your workflow thus far. The HTML5 Designer saves-as-you-go, meaning, each time you make a change, K2 saves that change automatically.

Step 3: Deploy the workflow

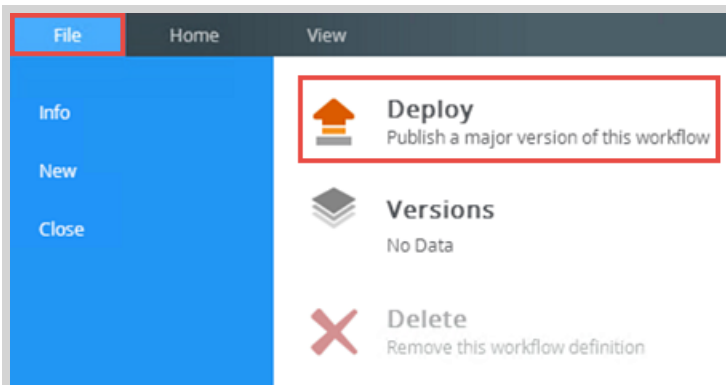
Before you can start the Workflow Test workflow, it must be deployed to the K2 server. Deploying a workflow publishes it and makes it available to your users. If you make any changes to the workflow, you must deploy the workflow again to expose those changes to your users.

Step 3 Tasks

1. Deploy the workflow.

Step 3 Walkthrough

1. Deploy the workflow. (**File > Deploy**)



When you see the deployment successful bar, you are ready to move to the K2 Management site to set permissions and test the workflow!



REVIEW

In Step 3 you deployed the Workflow Test workflow to the K2 server. Now that the workflow has been deployed, you have one more step before you can test it. You must assign process rights, or workflow permissions, to the users that will be starting the workflow.

Step 4: Assign process rights from the K2 Management site

Before you can begin testing your workflow, you need to assign process rights, or permissions to the workflow. You need to tell K2 who can start this workflow and to what extent their permissions cover. For this project, you will assign all domain users start and view rights, meaning all users can start the workflow and view reports based on the process instance. You assign rights from the K2 Management site.

If you are not familiar with the K2 Management site, this step will serve as an introduction to this management and administration tool. From the K2 Management site, you can manage permissions, fix workflow errors, stop and start existing process instances and view workflow progression in the form of a flow chart, called View Flow (plus much more...). Since you are only testing a basic workflow, this tutorial does not cover any of these features and others found in the management site, but you should explore this tool as time allows. There are other tutorials as well, which focus specifically on administering K2 using the K2 Management site.

Step 4 Tasks

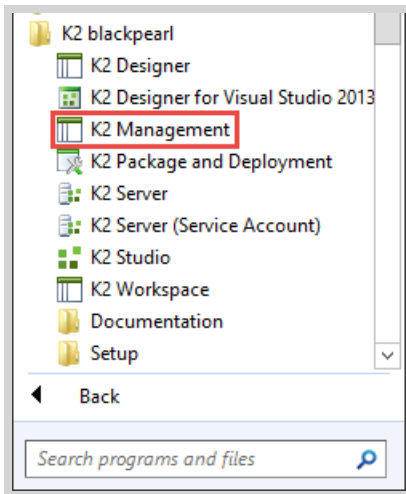
1. In the K2 Management site, assign all domain users start and view rights to the Workflow Test workflow.

Step 4 Walkthrough

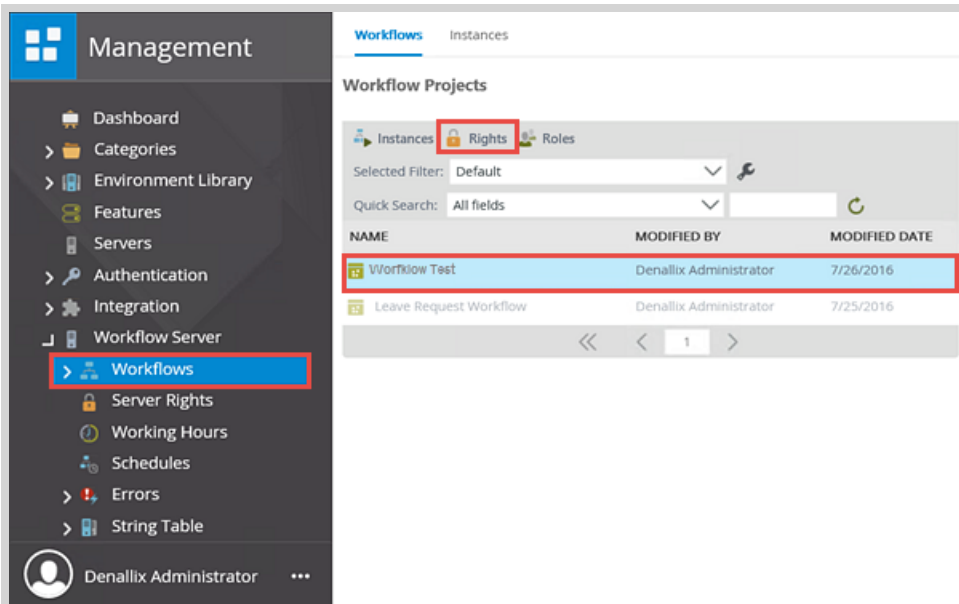
1. Launch the K2 Management site (**Start > All Programs > K2 blackpearl > K2 Management**)

Note

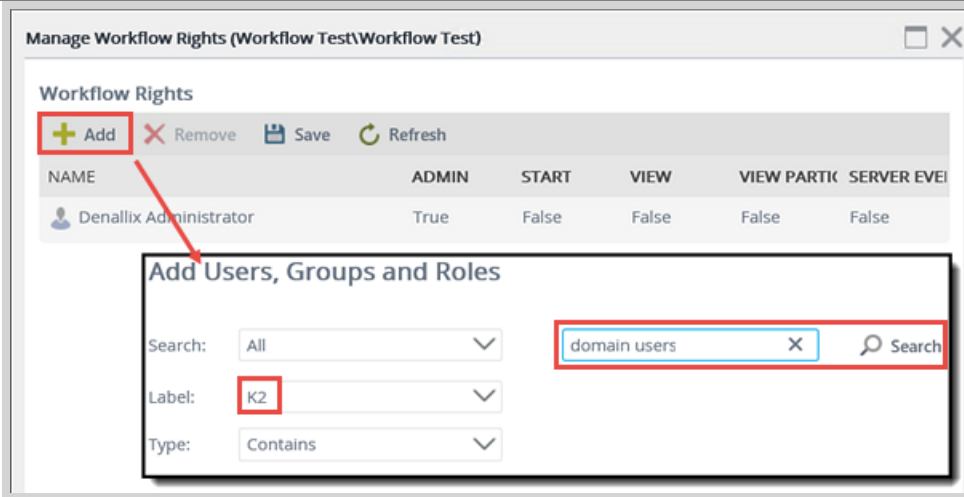
If you do not see the K2 Management site link, contact your K2 administrator to obtain the URL to the K2 Management site.



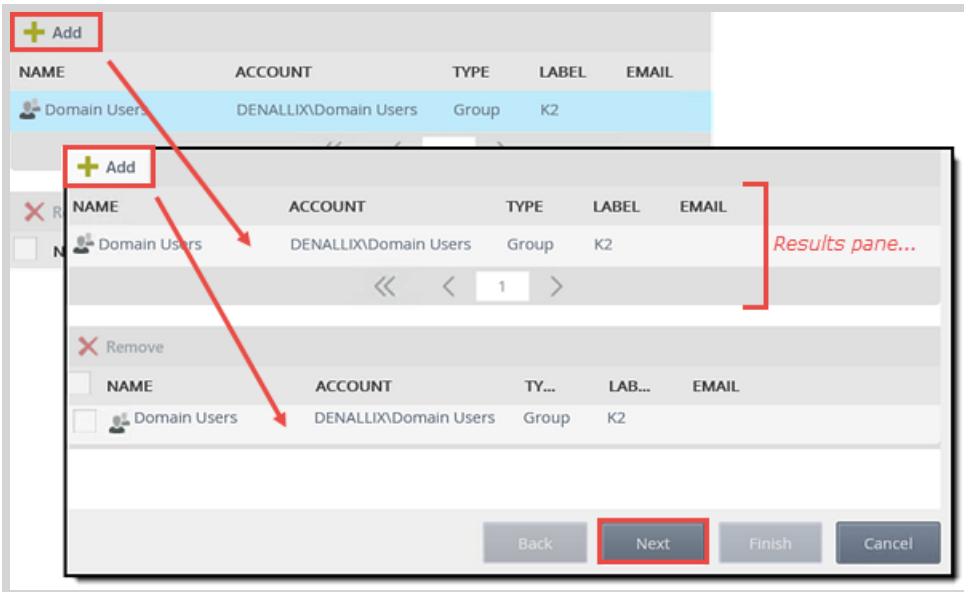
2. From the Management menu, expand the **Workflow Server** node, then click **Workflows**. A list of deployed processes, or workflow projects, will appear in the central pane. Locate the **Workflow Test** workflow, then click to highlight it. Click the **Rights** button in the toolbar. (Your list of workflow projects may be different from the image below.)



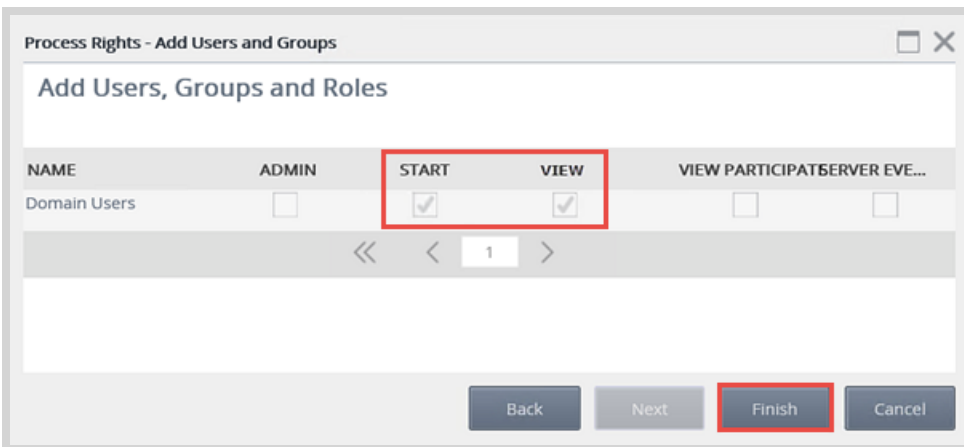
3. On the **Workflow Rights** screen, click **Add**. On the **Add Users, Groups and Roles** screen, confirm the **Label** is set to K2, then in the search text box, enter *domain users* then click the **spyglass** or **Search** button.



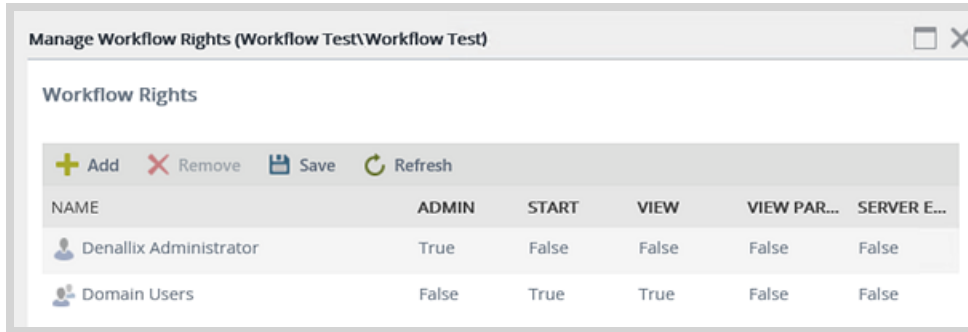
4. You should see domain users appear in the results section. Click to highlight **Domain Users**, then click **Add**. Click **Next** to continue.



5. CHECK the boxes for **Start** and **View**, then click **Finish**.



6. You should see the permissions for all domain users have been added to this process. (If you are not working on a K2-provided VM, you will not see the Denallix Administrator entry.) **Close** the workflow rights window.



REVIEW

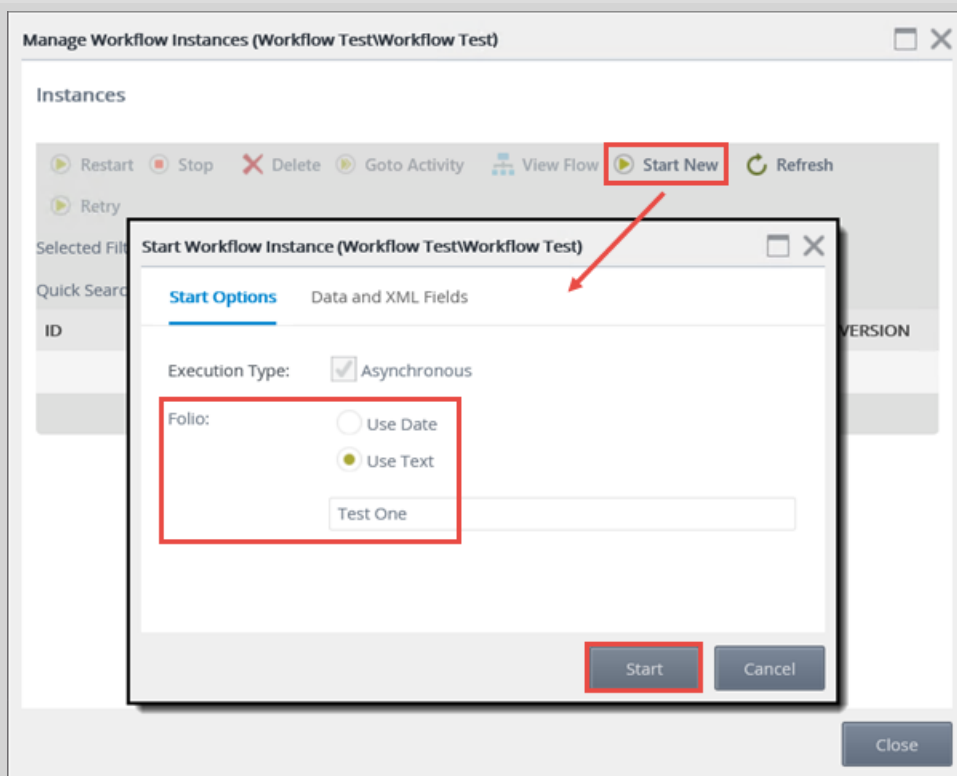
In Step 4 you assigned process rights, or workflow permissions to all domain users to start the workflow and view the Workflow Test workflow reports. You assigned the permissions from the K2 Management site, which also served as a simple introduction, if this is your first time accessing it.

Step 5: Start a new process instance of Workflow Test workflow

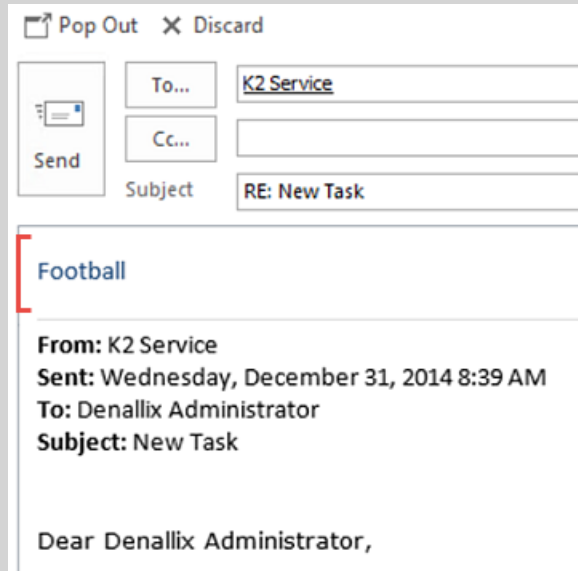
To test your application, you will start an instance of the Workflow Test workflow from the K2 Management site. (A process instance is a single occurrence of a process, or workflow.) The process should then send a user task notification email to the workflow originator (this would be the person logged into the K2 Management site... you!). Using SmartActions, the user will reply to the email, choosing one of the outcome actions configured in the prior steps (Football or Soccer). A second confirmation email should then be sent back to the originator with the correct decision indicated.

Step 5 Tasks

1. In the K2 Management site, start a new instance of the Workflow Test workflow. Use the text option for the folio and enter any text you like.



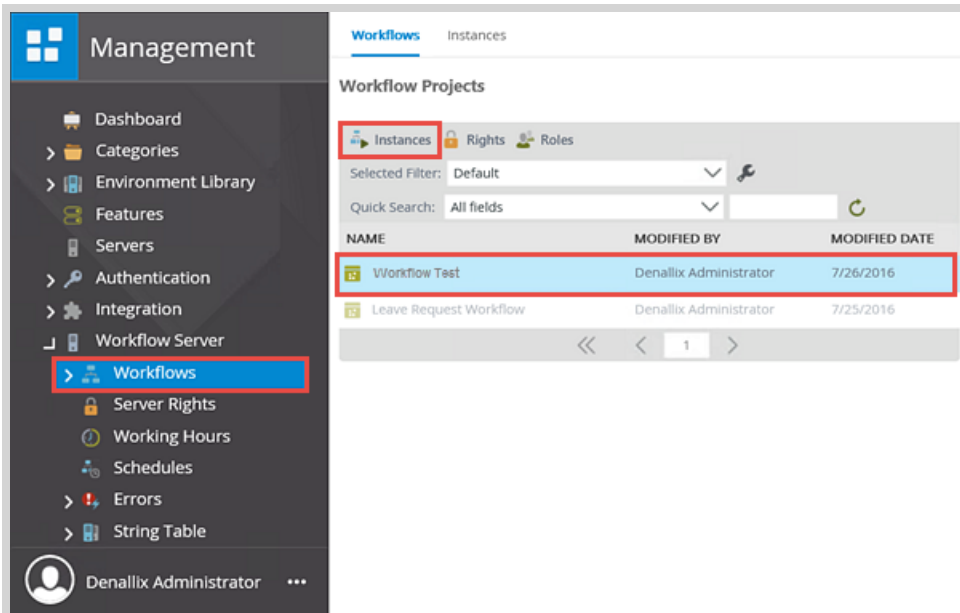
- Confirm that the task notification email was received. Reply to the email with one of the actions in the message body.



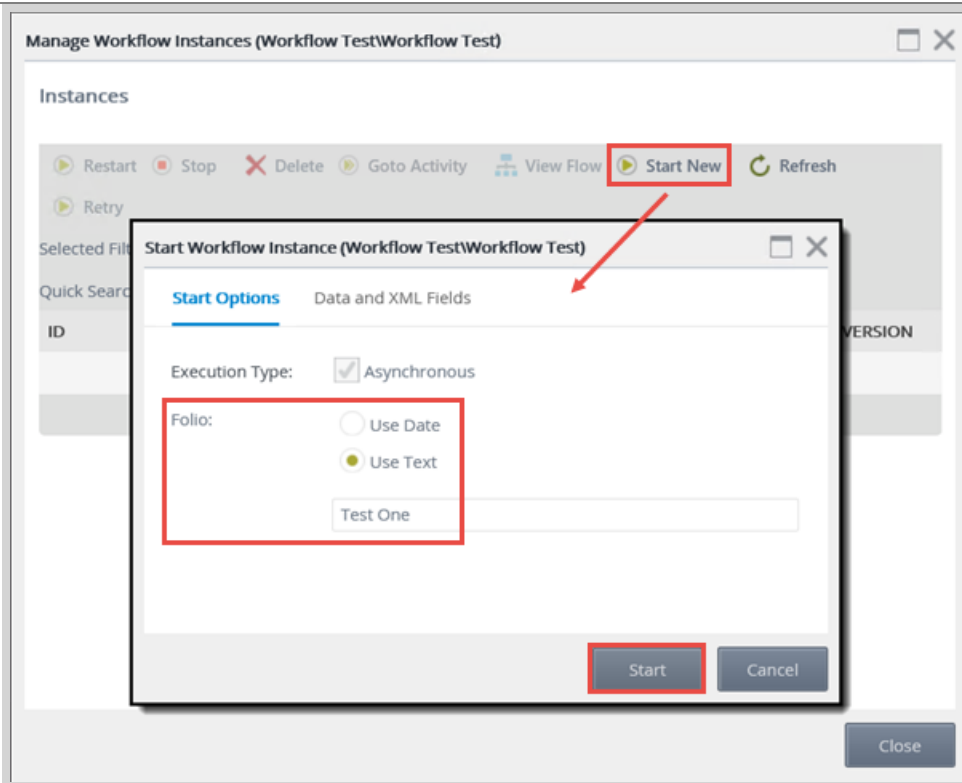
- Confirm that the correct email confirmation was received in that it matches the task action you replied with in the prior step. Confirm the folio you entered shows up at the end of the email subject line.

Step 5 Walkthrough

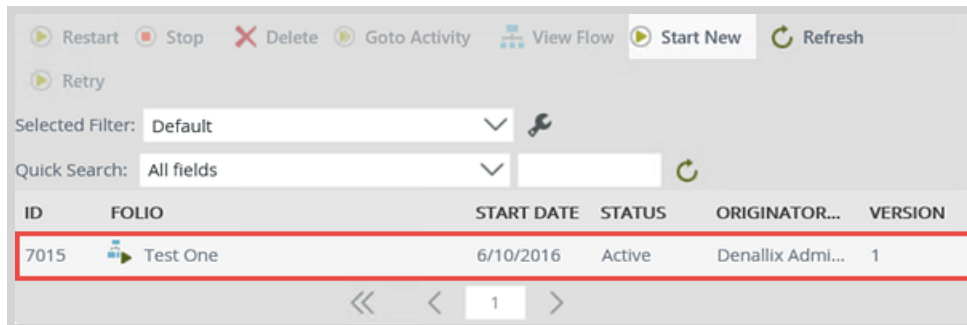
- In the K2 Management site, expand the Workflow Server node (if necessary) then click **Workflows** to expose the deployed workflow projects in the central pane. Click to highlight the **Workflow Test** workflow, then click the **Instances** button in the toolbar.



- On the **Instances** screen, click the **Start New** button in the toolbar. Change the **Folio** to the **Use Text** option and enter *Test One* in the text box (you may have to delete the default date value first), then click the **Start** button. Click **OK** when you see the success dialogue.



You should now see the process instance in the central pane, with the status set to active. This confirms that K2 has started the Workflow Test process instance. Notice the **Folio** value reflects the manually entered text from the previous step. This same value should appear on the final email as part of the subject line as well.



Note

What is the Folio? The folio is a text field that is commonly used to distinguish one process instance from another process instance (of the same workflow). The folio is not required, nor does it have to be unique. Since all processes, or workflows, will have the same process name, using a unique folio value will aid in identifying the individual process instances of the workflow. This is especially useful when viewing workflow reports having many process instances.

To make the folio unique, you can use a combination of fields, such as a customer name combined with an order number. Setting the folio value typically comes from properties found in the context browser. The property values are variables that are replaced at runtime by actual content specific to the process instance.

You can also use the folio as a variable throughout your workflow. For example, if you assign a customer name as the folio, you can use the folio to customize emails so that the customer is referenced by their name.

Three instances of the same workflow showing unique folio values

The screenshot shows a table with the following columns: ID, FOLIO, START DATE, STATUS, ORIGINATOR, and VERSION. The 'FOLIO' column is highlighted with a red box. The data rows are:

ID	FOLIO	START DATE	STATUS	ORIGINATOR	VERSION
7017	Test Three	6/10/2016	Active	Denallix Administrator	1
7016	Test Two	6/10/2016	Active	Denallix Administrator	1
7015	Test One	6/10/2016	Active	Denallix Administrator	1

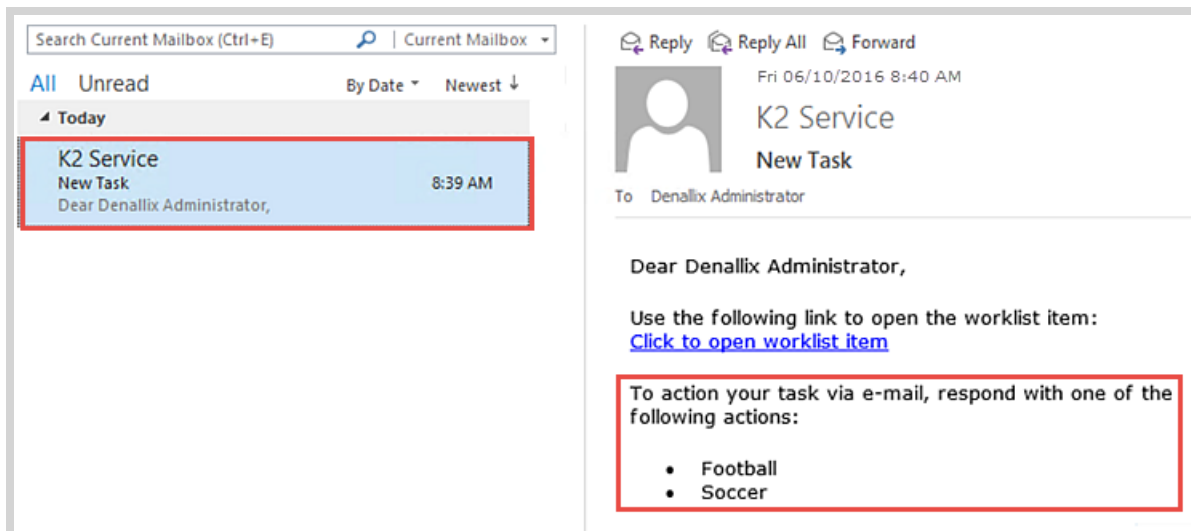
- Open the workflow originator's **Outlook**. Confirm that the task notification email was received.

Note

If you are using a K2-provided VM, open a new tab in your browser, then click the **OWA** link found in the favorites bar. Enter the following credentials, then click **sign in**:

Domain\user name: *Denallix\Administrator*

Password: *K2pass!*

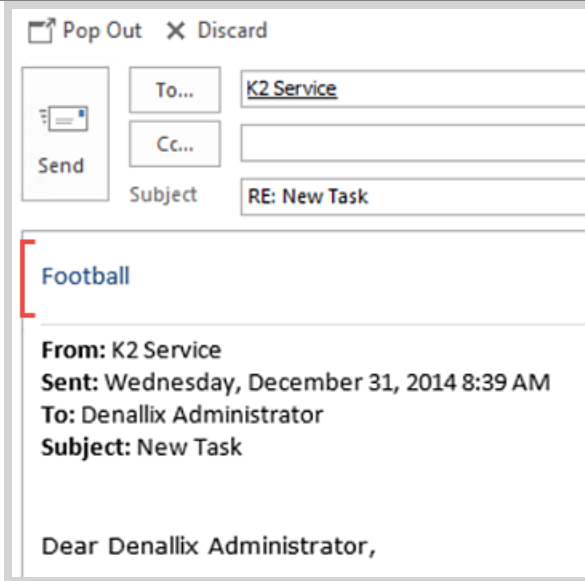


Notice in the message body, there is an option to action the task via e-mail. This is called **SmartActions** and it means that you can simply reply to the email with one of the action options in the body of the email. K2 will *read* the action and move the workflow along accordingly.

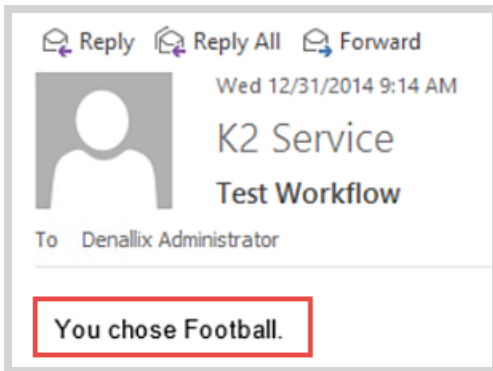
Note

In your test sample, you are starting an instance of the workflow directly from the K2 Management site. In the real world, your workflow will likely start when a form has been submitted. SmartActions give your users the option of taking action on the task without having to open the form itself. Of course, if you need the user to open the form (to review form content, for example) you can simply not check the SmartActions options when you are configuring the user task.

- Reply to the email with one of the actions in the message body.



5. You'll likely get an email indicating your SmartAction was successful. Wait a minute or two, then confirm the email event configured in the steps above is received. Confirm that the correct email was received in that it matches the task action you replied with in the prior step. Last, confirm that the email subject line contains the folio value for the process instance.



REVIEW

In this step you started an instance of the Workflow Test workflow from the K2 Management site. After confirming that a task notification email was received, you actioned the task using SmartActions, which allowed you to simply reply to the email with your action decision in the message body. If using this workflow to verify installation integrity, all of these actions confirm K2's workflow server, management site, task actions and Exchange installation configurations are functioning.

This concludes the Hello World (HTML5 Designer) tutorial. Explore other K2 tutorials to learn more advanced concepts for K2 SmartObjects, K2 smartforms, K2 for SharePoint, Administering K2 and Reporting in K2.

Summary

This introductory tutorial provided you with the steps for building workflows using the HTML5 Designer. You also had a brief introduction to the K2 Management site. Explore the designer and management sites often to become familiar with the features and tools available for building more complex processes!