

Custom workflows

watsonx.governance

Hands-on Lab Guide



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Custom Workflows

Introduction

Identifying and managing approval workflows is a critical part of any AI governance strategy.

These instructions were written for OpenPages 9.1.0.1, running on Cloud Pak for Data 5.2.0 as provisioned in TechZone. Note that subsequent versions of the watsonx governance console (OpenPages), Cloud Pak for Data, and IBM Software Hub may alter the terminology and screens involved with the product. Please contact the lab authors with any major discrepancies. Every effort will be made to keep the lab updated.

This lab assumes that you have performed the actions specified in the [watsonx.governance Level 4 for Practitioners - environment configuration](#) lab, and are signed into that environment.

Use case

For this lab, you will be performing a post-purchase engagement with GlobalCorp, which has purchased the watsonx.governance solution. You will need to work with them to understand their use case approval process, including relevant stakeholders and required reviews. You will then transfer that process into the watsonx governance console so they can efficiently and effectively govern their AI and machine learning use cases. They have provided their current process in a spreadsheet.

Additonal labs in the watsonx.governance Level 4 for Practitioners will explore user management and risk identification.

Create and configure a workflow

Well-defined, automated workflows are critical pieces of AI governance strategies. They streamline the approval process by centralizing necessary information and automatically notifying stakeholders of changes and required actions. They also ensure that all necessary steps are followed, all required information is gathered, and all decisions are documented in a single location accessible to decision makers, auditors, regulators, and anyone else who may need insight into an approval process.

The watsonx governance console provides an extremely powerful, flexible, and customizable workflow builder. In this lab, you will use that tool to build a brand new workflow for approving use case requests. Note that the governance console includes a default use case approval workflow. Your client may prefer to use this existing example as a base and modify it, in which case you can adapt the lab instructions to work with the default workflow.

More information about creating, configuring, and working with workflows can be found in the [documentation](#).

1. Create a new workflow

You will begin by creating a blank workflow.

- From the governance console, click on the **gear icon** (A) to open the administration menu. Click on the **Solution Configuration** menu item (B) to expand it. Click on the **Workflows** menu item (C). The **Workflows** tab opens in your workspace.

You can ignore the warning about your current profile not having access to all the views on the page. The existing default workflow, called **Use Case Request**, can be found in this table if you wish to examine it.

- Click on the **New Workflow** button. The **New Workflow** side panel opens.

- Enter **Custom Use Case Request** in the **Name** field (A). Click on the **Object type** dropdown to expand it and select the **Use Case** menu item (B) to select it. Finally, click on the **Object creation** option (C) beneath **Choose how the workflow starts**. This setting ensures that the workflow will start automatically when the corresponding object type (in this instance, a use case) is created.

- Click on the **Create** button to save your changes. A new tab opens with the workflow design palette. Your workflow has been created, and will automatically save each change.

Workflows consist of stages, which represent the various phases the use case can be in as it goes through the approval process. Next, you will add the different approval stages to the workflow.

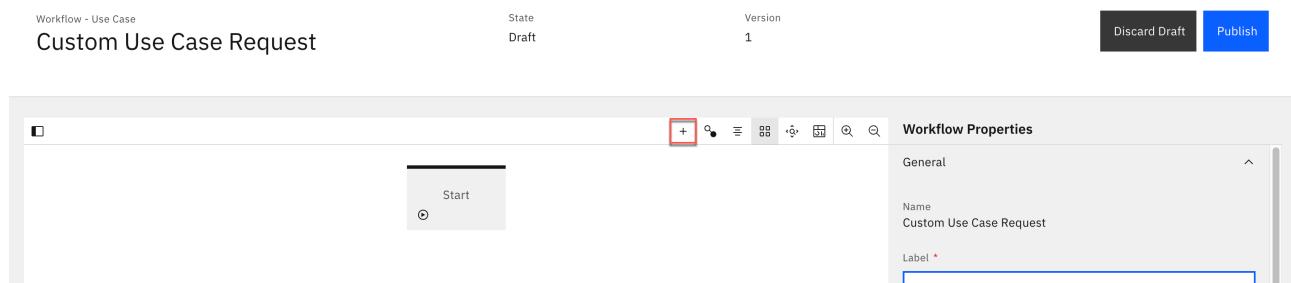
2. Add intermediate stages to the workflow

For this lab, GlobalCorp has requested three different phases that all new AI use cases go through prior to being approved for development:

- An information gathering phase, in which risk and compliance issues are identified
- A legal review, in which the legal department performs any additional oversight
- A technical review from the information technology department to determine the impact on IT systems and infrastructure

The governance console workflow palette allows you to drag and drop the different components such as stages and actions around the interface. It is not critical that your workflow looks exactly like the one shown in the screenshots; just be sure to leave some space between the workflow stage boxes for the actions that you will add in the next section of the lab.

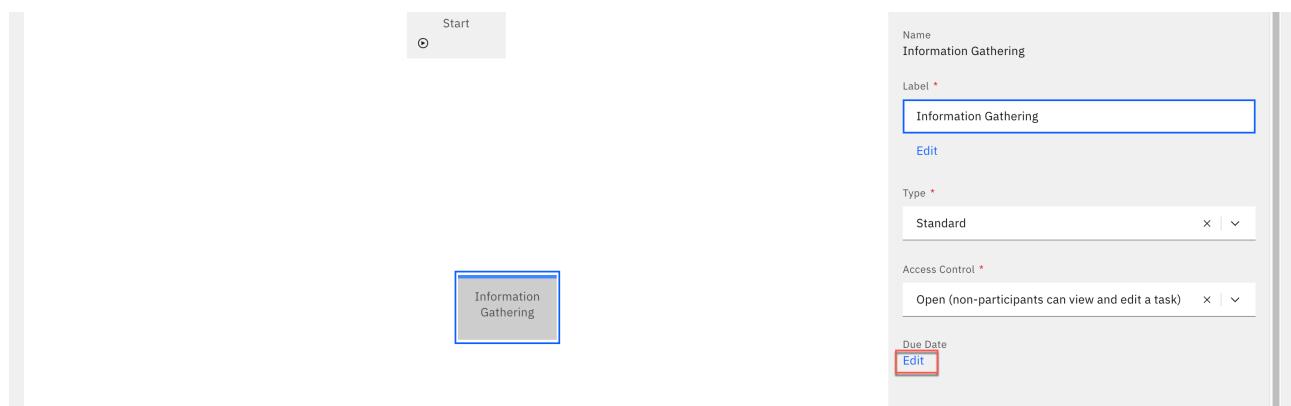
1. Click on the **+** button on the palette toolbar to create a new workflow stage. The [New Stage](#) dialog opens.



2. Enter [Information Gathering](#) in the [Name](#) field and click on the [Create](#) button. The [New Stage](#) dialog closes, the stage appears on the workflow palette, and the [Stage Properties](#) panel appears on the right.

You can view and edit the properties of any stage by clicking on it. Using the stage properties panel, you can designate which users are allowed to view or edit the use case when it is in this particular stage with the [Access Control](#) dropdown. You can also designate a custom view for the use case when it is in this stage using the [Task View Overrides](#) section. For this lab, leave these settings at their defaults and proceed.

3. Click on the [Edit](#) button beneath the [Due Date](#) field to change the due date for the stage. The [Due Date](#) panel opens.

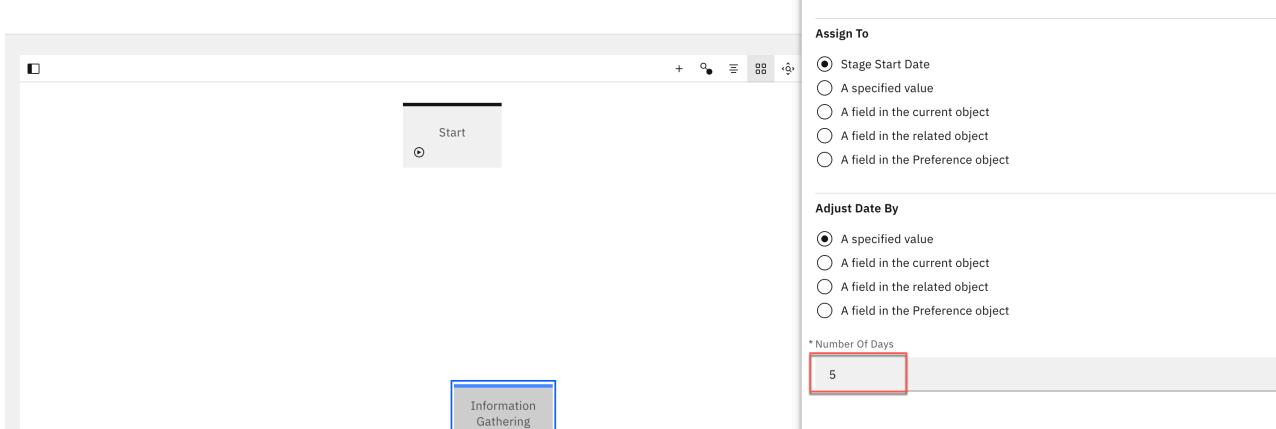


4. Note the different options here for setting a due date. For this stage, enter **5** in the [Number Of Days](#) field to specify that it needs to be performed within five days, then click on the [Done](#) button to save your changes. The [Due Date](#) panel closes.

Custom Use Case Request

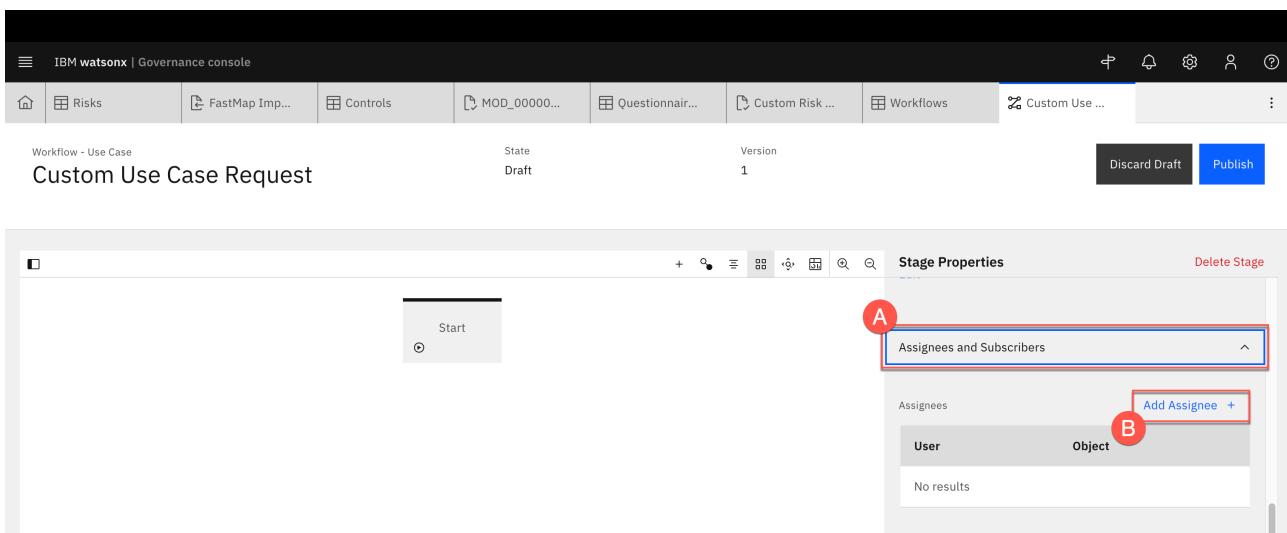
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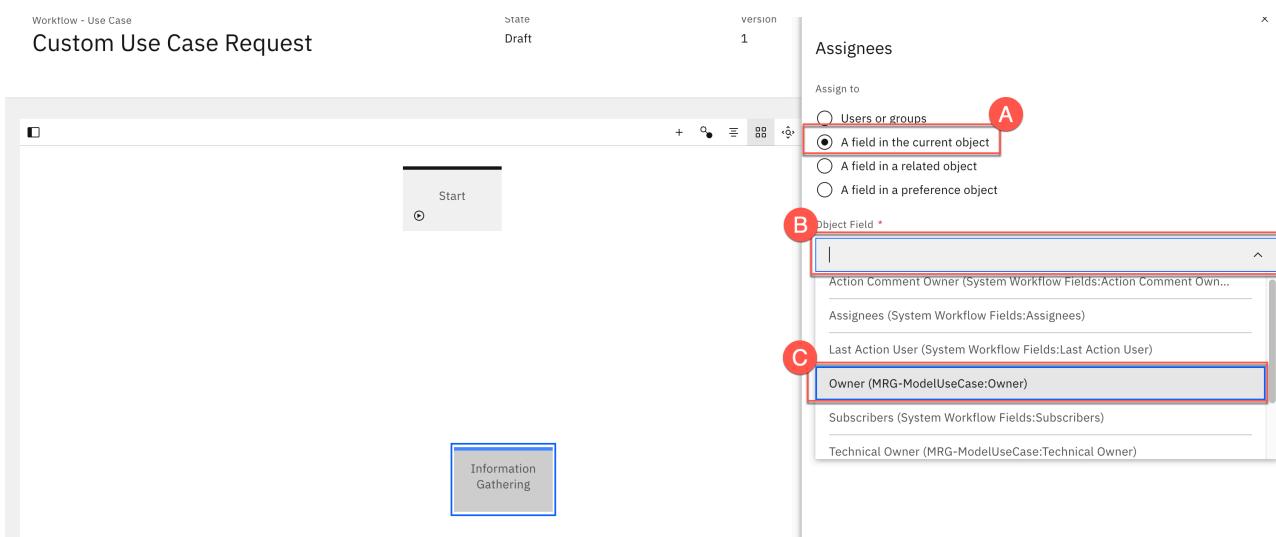
Next, you will assign this stage to a particular user. In this case, GlobalCorp would like the person requesting the use case to own the initial information gathering phase.

- From the **Stage Properties** panel, click on the **Assignees and Subscribers** section (A) to expand it. Click on the **Add Assignee** button (B). The **Assignees** panel opens.

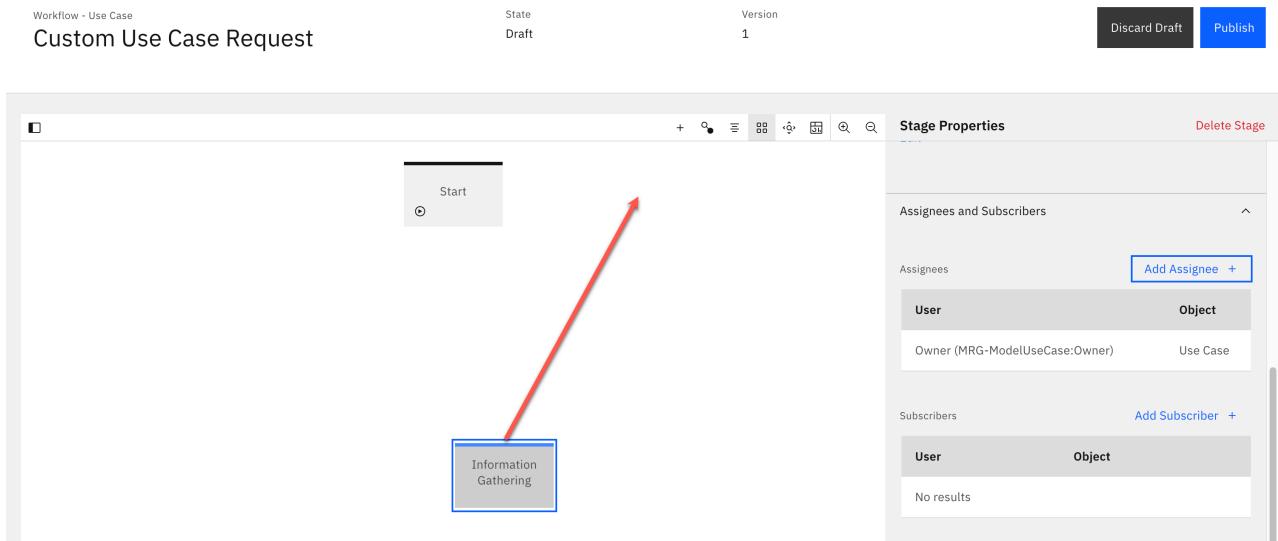


Because you cannot be sure which user will request the use case, you will not be able to assign this step directly to a user or group. Instead, you will need to reference the current object (the use case) to determine the owner.

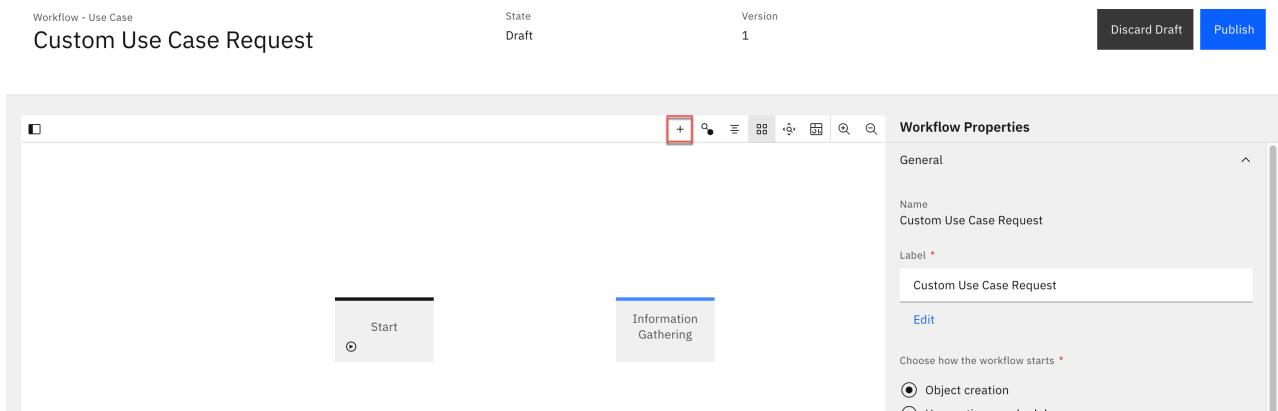
- Click on the **A field in the current object** item (A) to select it. Click on the **Object Field** dropdown (B) to open it. Click on the **Owner (MRG-ModelUseCase:Owner)** item (C) from the dropdown to select it.



- Click on the **Done** button to save your changes and close the **Assignees** panel.
- On the palette, click and drag the **Information Gathering** stage to the area to the right of the **Start** stage, leaving some space between the two. If you need, you can click on a blank area of the palette and drag it to move it.



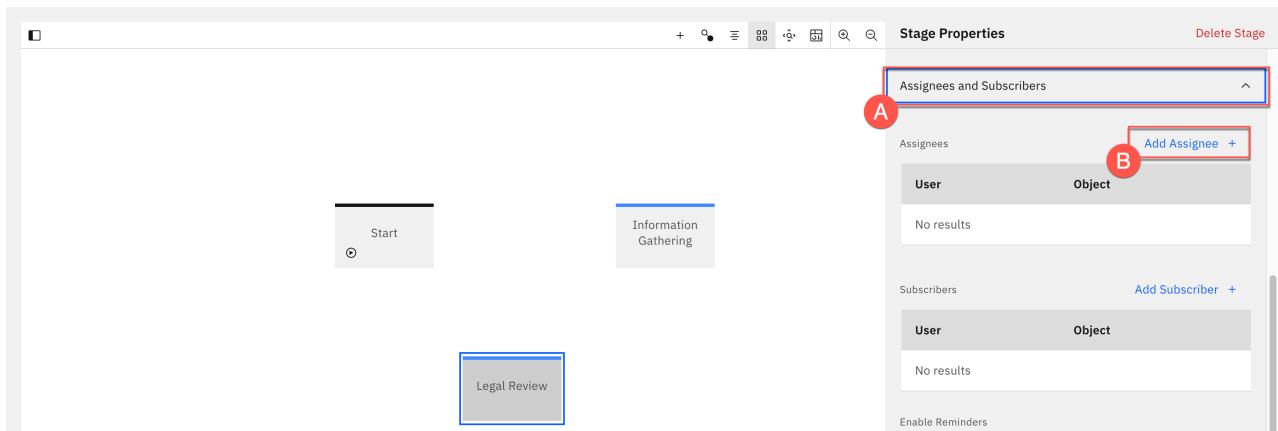
- Click on the **+** button again to create another new stage. The **New Stage** dialog opens.



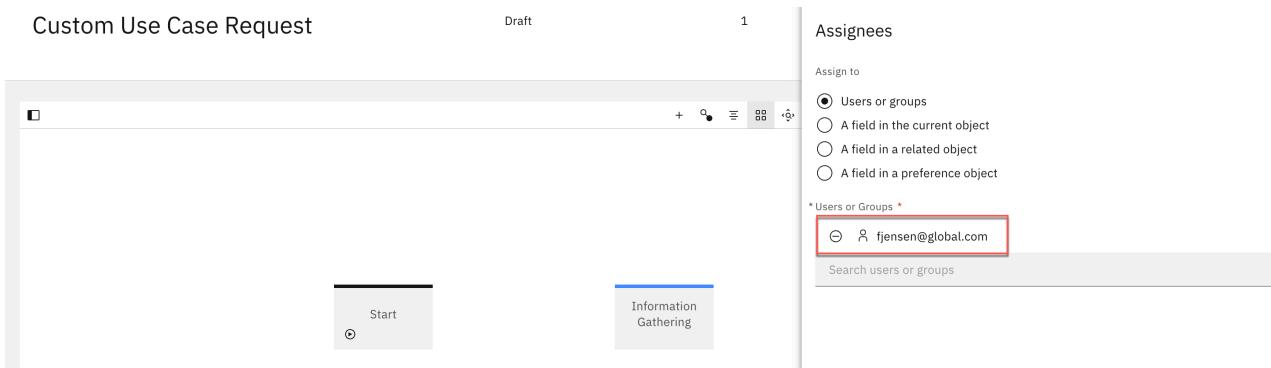
- Enter **Legal Review** in the **Name** field, then click on the **Create** button to create the stage and add it to the palette. The **Stage Properties** panel opens.

You can assign a due date to this stage if you wish. In this case, you know that the stage needs to be performed by the legal department, so you can assign it directly to the correct user.

- Click on the **Assignees and Subscribers** section (A) to expand it. Click on the **Add Assignee** button (B). The **Assignees** panel opens.



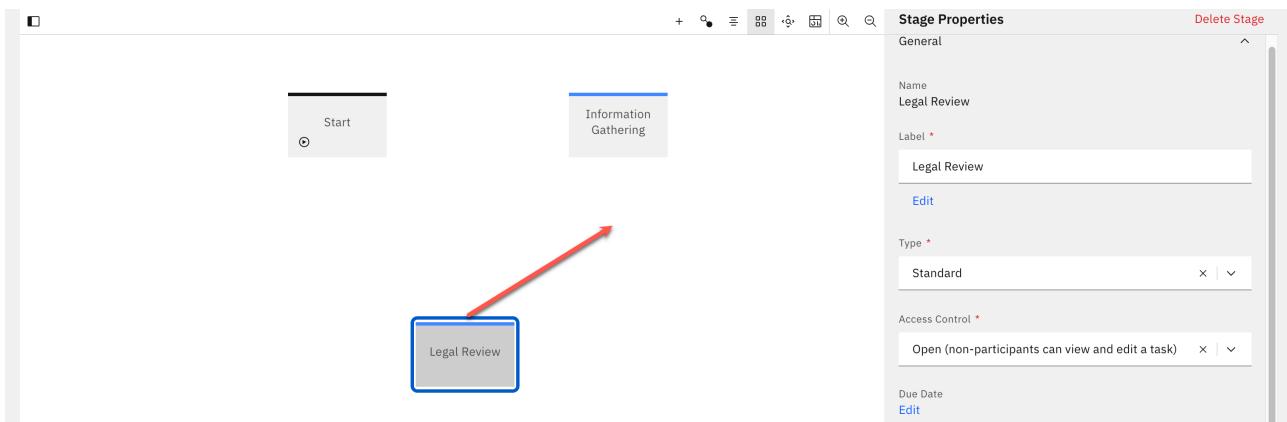
12. Enter the fjensen@global.com user in the **Users or Groups** field. Recall that this user is Frederik Jensen, General Counsel in the Legal department. Note that in a real-world use case, you likely would have created a user group for all legal reviewers and assigned this stage to that group.



13. Repeat steps 11 and 12 to add the [admin](#) user to this stage as well. This will allow the administrator to perform these actions, which will simplify future labs.

14. Click on the **Done** button to save your changes and close the **Assignees** panel.

15. Click and drag the [Legal Review](#) stage to the empty area beneath the [Information Gathering](#) stage.

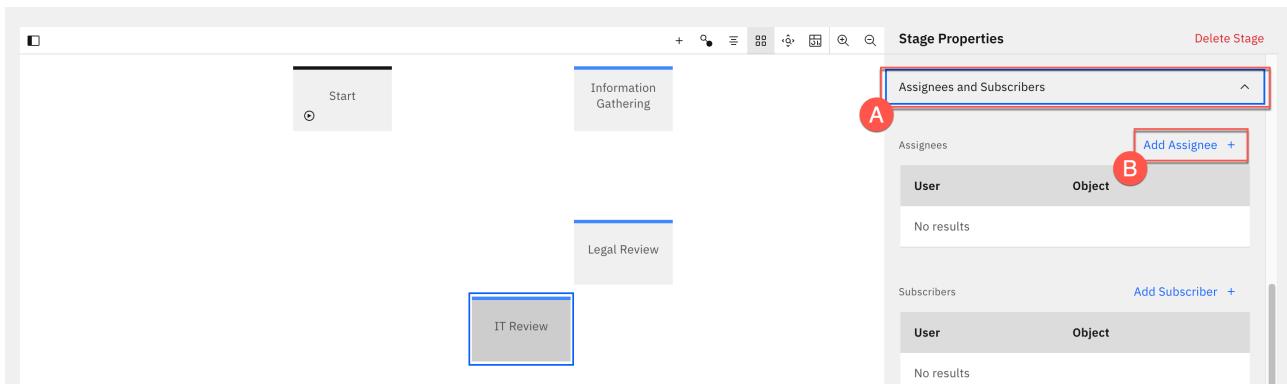


16. Click on the **+** button again to create another new stage. The [New Stage](#) dialog opens.

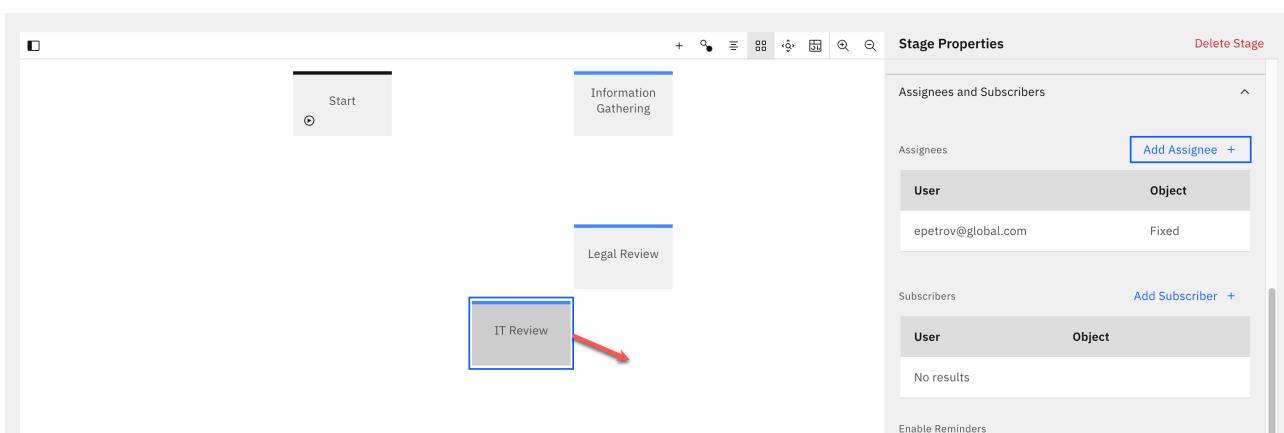
17. Enter [IT Review](#) in the **Name** field, then click on the **Create** button to create the stage and add it to the palette. The **Stage Properties** panel opens.

You can assign a due date to this stage if you wish. In this case, you know that the stage needs to be performed by the IT department, so you can assign it directly to the correct user.

18. Click on the **Assignees and Subscribers** section (A) to expand it. Click on the **Add Assignee** button (B). The **Assignees** panel opens.



19. Enter the epetrov@global.com user in the [Users or Groups](#) field. Recall that this user is Elena Petrov, DevOps specialist in the IT department. Note that in a real-world use case, you likely would have created a user group for all IT reviewers and assigned this stage to that group.
20. Repeat steps 18 and 19 to add the [admin](#) user to this stage as well. This will allow the administrator to perform these actions, which will simplify future labs.
21. Click on the [Done](#) button to save your changes and close the [Assignees](#) panel.
22. Click and drag the [IT Review](#) stage to the empty area beneath the [Legal Review](#) stage.



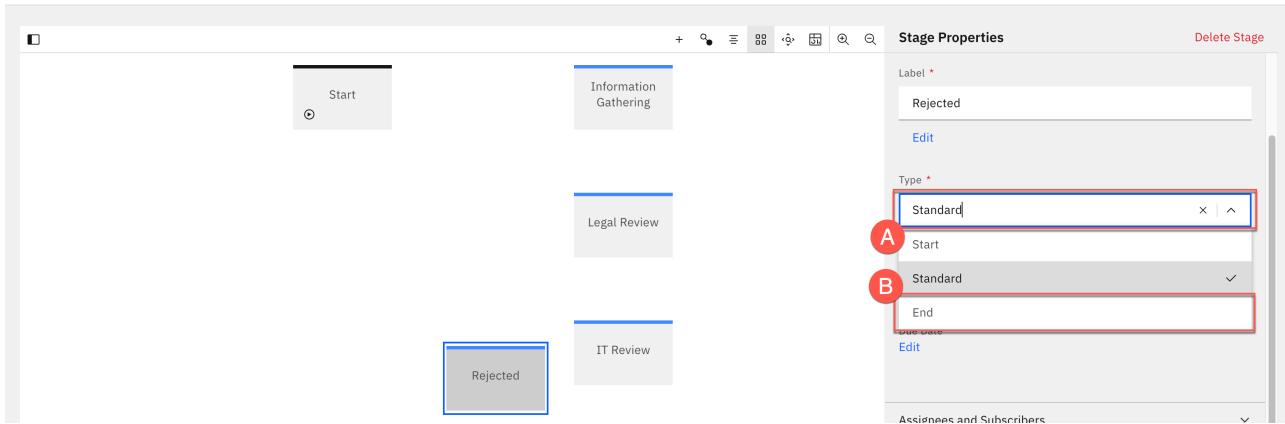
(i) You have successfully added all the stages necessary for GlobalCorp's review. However, in order for the workflow to be published, it needs a stage with a [Start](#) type, as well as a stage with an [End](#) type.

If you click on the [Start](#) stage on the palette, you can see that, in the [Stage Properties](#) panel, the [Type](#) is set to [Start](#), so that requirement is fulfilled. For this use case, you will add a pair of [End](#) stages: one for approved use case requests, and one for rejected use case requests.

3. Add end stages to the workflow

The method for adding end stages is very similar to that of adding intermediate stages.

1. Click on the [+](#) button again to create another new stage. The [New Stage](#) dialog opens.
2. Enter [Rejected](#) in the [Name](#) field, then click on the [Create](#) button to create the stage and add it to the palette. The [Stage Properties](#) panel opens.
3. From the [Stage Properties](#) panel, click on the [Type](#) dropdown (A) to open it. Click on the [End](#) option (B) from the dropdown to select it. The options in the [Stage Properties](#) panel change to reflect the new stage type.

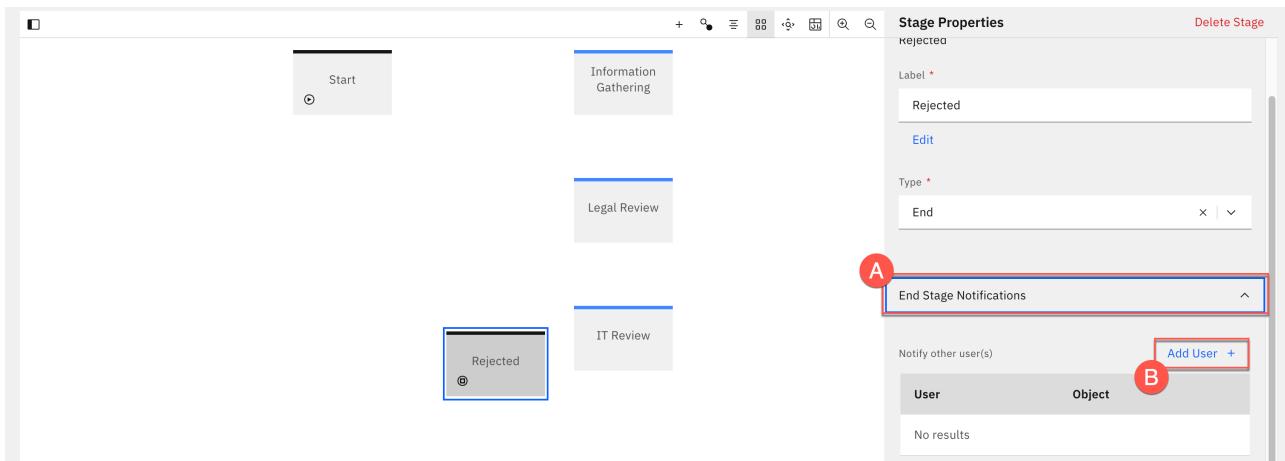


GlobalCorp would like to notify the use case owner that their use case has been rejected.

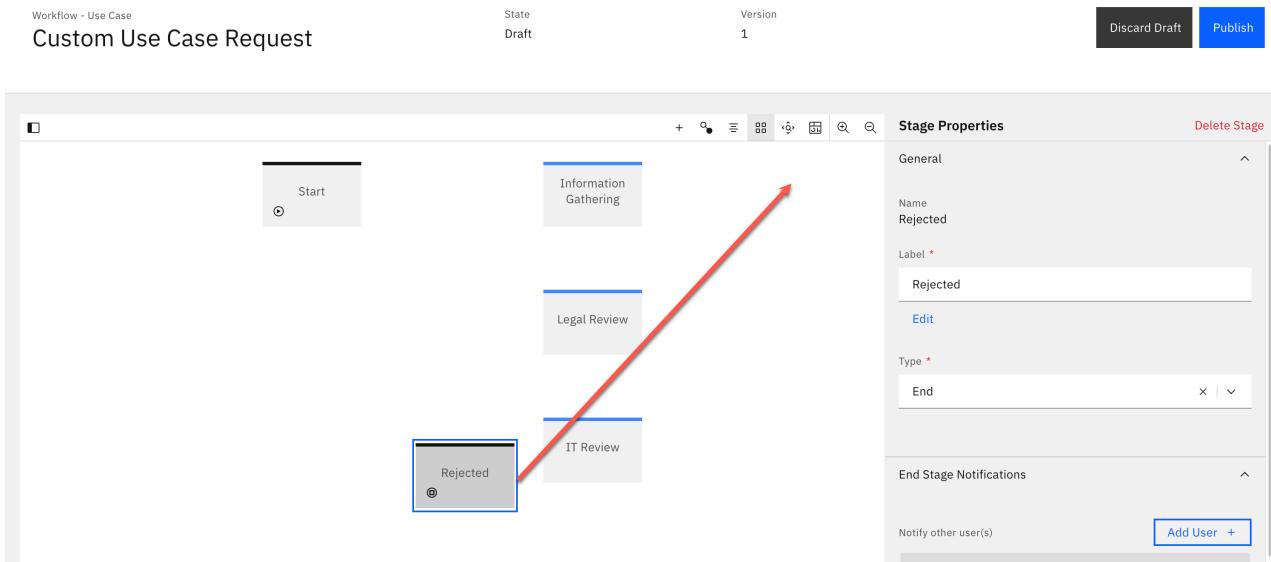
4. Click on the [End Stage Notifications](#) section header (A) to expand it. Note that if you do not see this section header, you may need to click onto a blank spot on the palette to deselect the stage, then click on the new [Rejected](#) stage once again to re-select it.

Note that you have the option here to customize an email template, which is beyond the scope of this lab.

Click on the [Add User](#) button (B). The [Notify other user\(s\)](#) panel opens.



5. As you did when you assigned the use case owner to the [Information Gathering](#) stage, click on the [A field in the current object](#) option.
6. Click on the [Object Field](#) dropdown to expand it, and select [Owner \(MRG-ModelUseCase:Owner\)](#) from the list.
7. Click on the [Done](#) button to save your changes and close the [Notify other user\(s\)](#) panel.
8. Click and drag the [Rejected](#) stage to the blank space on the palette to the right of the [Information Gathering](#) stage.



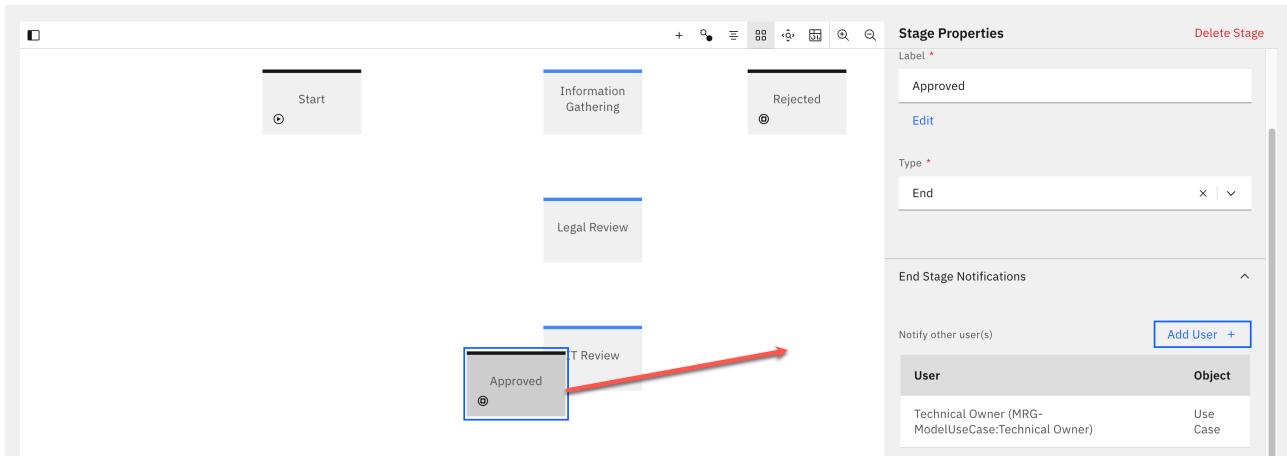
9. Click on the **+** button again to create another new stage. The [New Stage](#) dialog opens.
10. Enter [Approved](#) in the **Name** field, then click on the [Create](#) button to create the stage and add it to the palette. The [Stage Properties](#) panel opens.
11. From the [Stage Properties](#) panel, click on the [Type](#) dropdown to open it.
12. Click on the [End](#) option from the dropdown to select it. The options in the [Stage Properties](#) panel change to reflect the new stage type.

For use cases that have been approved, you will want to send the use case to the technical owner to begin development. The process is nearly identical to adding the notification for the rejected use case request.

13. Click on the [End Stage Notifications](#) section header to expand it.
14. Click on the [Add User](#) button. The [Notify other user\(s\)](#) panel opens.
15. Click on the [A field in the current object](#) list item (A) to select it. Click on the [Object Field](#) dropdown to expand it, then click on [Technical Owner \(MRG-ModelUseCase:Technical Owner\)](#) from the list (B) to select it.

The screenshot shows the 'Workflow - Use Case' section for a 'Custom Use Case Request'. The workflow has four stages: 'Start', 'Information Gathering', 'Legal Review', and 'Rejected'. A red circle labeled 'A' highlights the radio button for 'A field in the current object'. A red circle labeled 'B' highlights the dropdown menu under 'Object Field' with the entry 'Technical Owner (MRG-ModelUseCase:Technical Owner)' selected. The top navigation bar includes 'Risks', 'FastMap Imp...', 'Controls', 'MOD_00000...', 'Questionnair...', 'Custom Risk ...', 'Workflows', and 'Custom Use ...'. The top right has icons for 'Done', 'Save', 'Cancel', and 'Help'.

16. Click on the [Done](#) button to save your change and close the [Notify other user\(s\)](#) panel.
- At this point, you could repeat the steps above to add the user case owner to the notification list.
17. Click and drag the [Approved](#) stage to the open area on the palette to the right of the [IT Review](#) stage.



Now that you have successfully added stages to the workflow, you will need to link them together via actions.

4. Add the initial action to the workflow

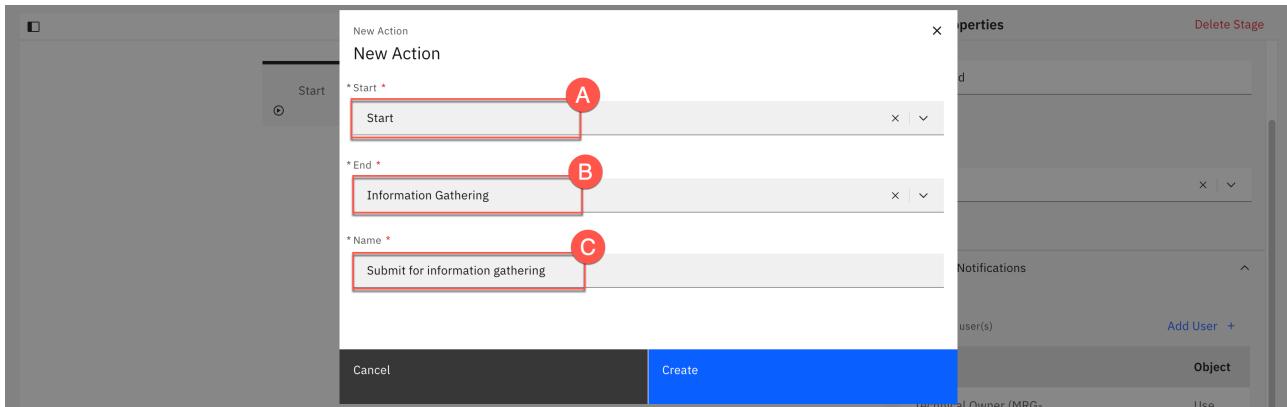
In governance console workflows, actions link the different stages of the workflow and represent the steps that must be taken to move between the stages. You will now go through the workflow one stage at a time, adding relevant actions.

To create actions, you can hover your mouse pointer over a stage until small black dots appear on each side of the stage's box. Then you can click and drag the dot to the stage you wish to link with the action. However, for the purposes of this lab, you will use the buttons on the palette control panel to create the actions.

- From the workflow palette control bar, click on the [Create a new workflow action](#) button. The [New Action](#) window opens.

The screenshot shows the governance console interface with a workflow titled 'Custom Use Case Request'. The workflow has stages: Start, Information Gathering, and Rejected. The 'Start' stage is currently expanded, showing its details in the Stage Properties panel. A red box highlights the 'Start' dropdown in the palette control bar.

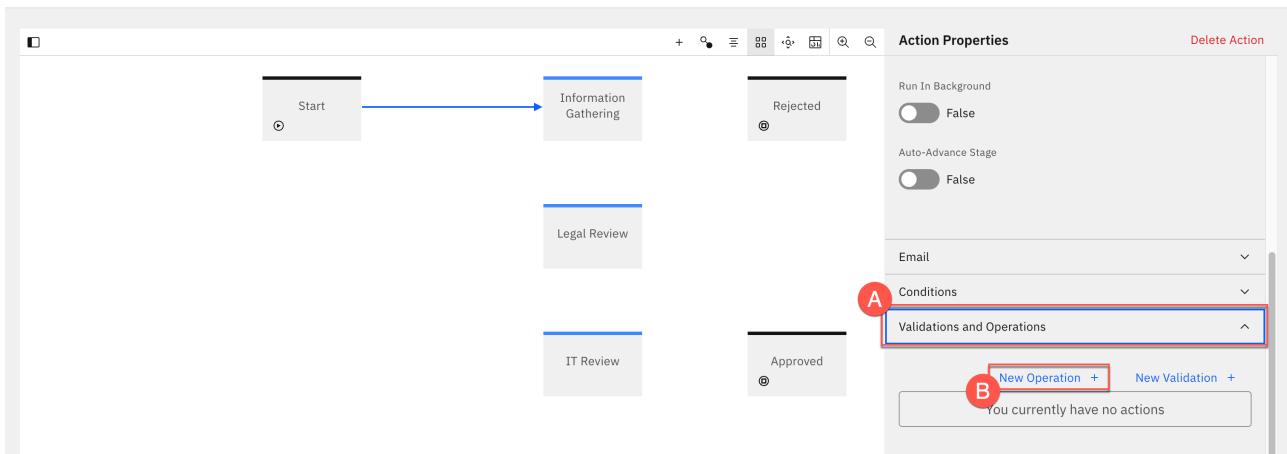
- Click on the [Start](#) dropdown to expand it, and click on [Start](#) (A) to select the starting stage. Click on the [End](#) dropdown to expand it, and click on [Information Gathering](#) (B) to select the information gathering stage. Enter [Submit for information gathering](#) in the [Name](#) field (C). Note that, when working with a use case, this text is what will appear in the [Actions](#) menu for the user to select when they wish to take this action and progress the use case to the [Information Gathering](#) stage.



- Click on the **Create** button to create the action. The **New Action** window closes, and the action appears as an arrow on the palette linking the two stages. The **Action Properties** panel opens on the right. Note that you can re-open this panel at any time by clicking on the arrow representing the action on the palette.

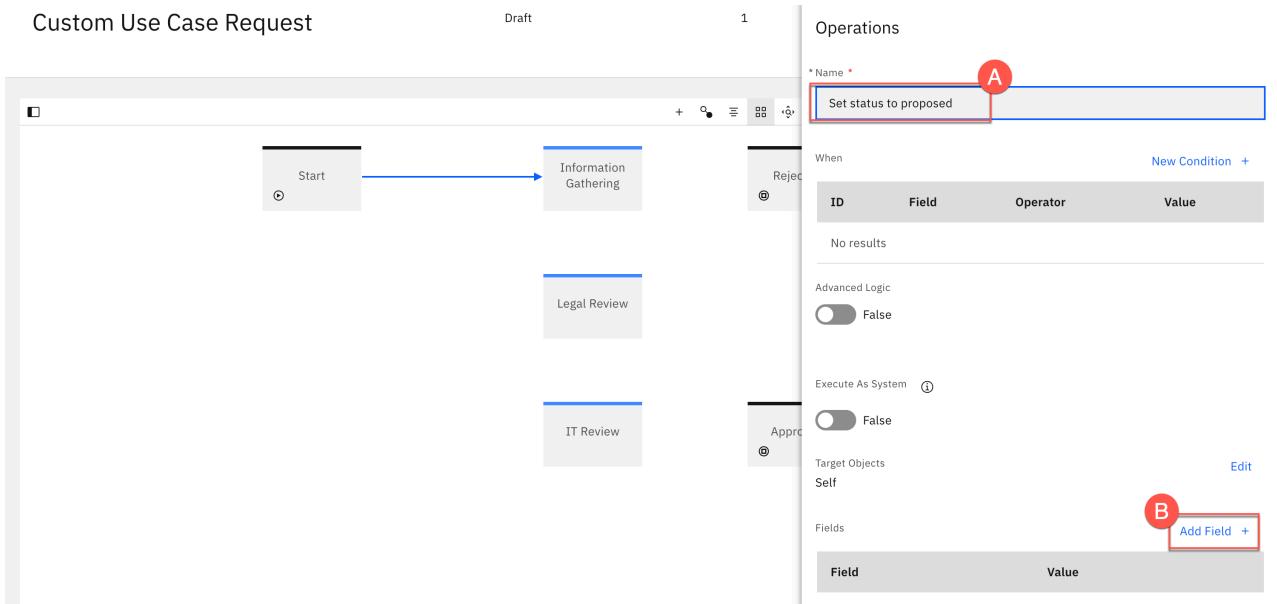
At this point, the action has been created, and users going through the workflow will have an action to take in their menu to progress the use case to the next phase. However, the action needs to do more than just move the use case through the workflow. It also needs to change the use case request status, which can be specified as an **Operation**.

- From the **Action Properties** panel, click on the **Validations and Operations** section header (A) to expand it. Click on the **New Operation** button (B). The **Operations** panel opens.



Take a brief moment to click on the **Operation** dropdown and see the different options available that you can perform, including creating objects or starting other workflows. When you are finished, leave the value set to **Set fields** and proceed.

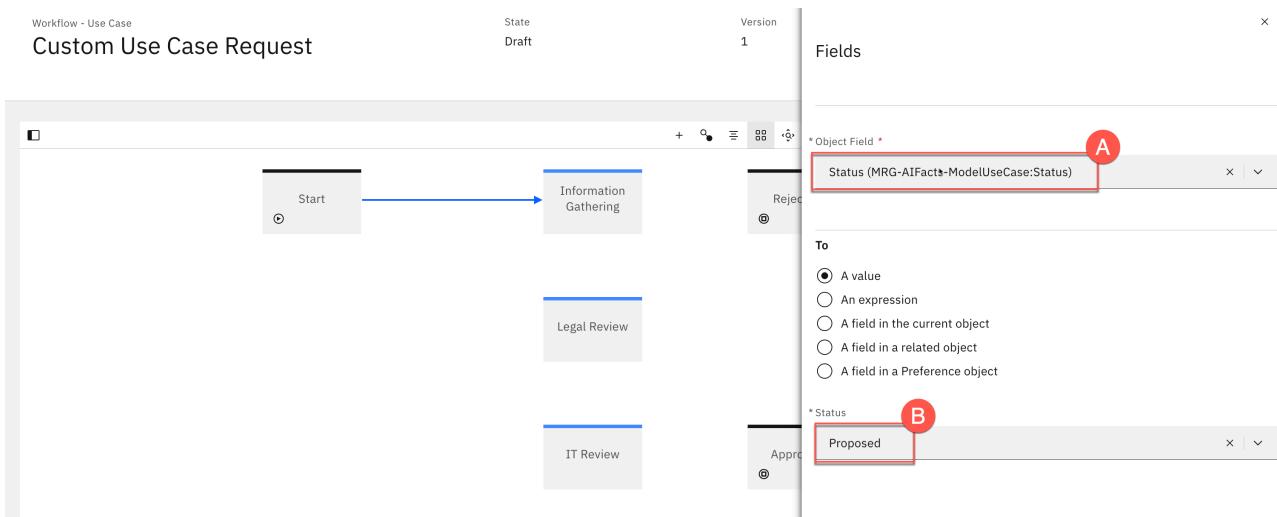
- Enter **Set status to proposed** in the **Name** field (A). This name is useful for people wishing to edit or debug the workflow, as it will help them understand in plain language what the operation is doing. Click on the **Add Field** button (B). The **Fields** panel opens.



6. Click on the **Object Field** dropdown to open it. The options here include all the different fields available for the use case request. Click on **Status (MRG-AIFacts-ModelUseCase>Status)** (A) to select it.

Choosing the object field automatically updates the second dropdown to the different status designations for a use case request.

Click on the **Status** dropdown to open it, then click on **Proposed** (B) to select it. This will cause the action to change the use case request's **Status** field to **Proposed** when it is taken.



7. Click on the **Done** button to close the **Fields** panel.

8. Click on the **Done** button to close the **Operations** panel.

The initial action is complete. You will now add further actions to define the workflow.

5. Add rejection actions

From the **Information Gathering** stage onward, the workflow needs to allow for the use case to progress forward to subsequent stages. However, it also should allow the stage owner to reject the request. In this section, you will provide that capability.

1. From the workflow palette control bar, click on the **Create a new workflow action** button. The **New Action** window opens.

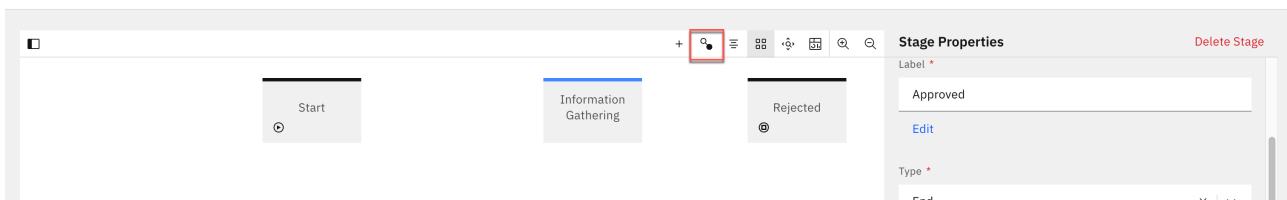
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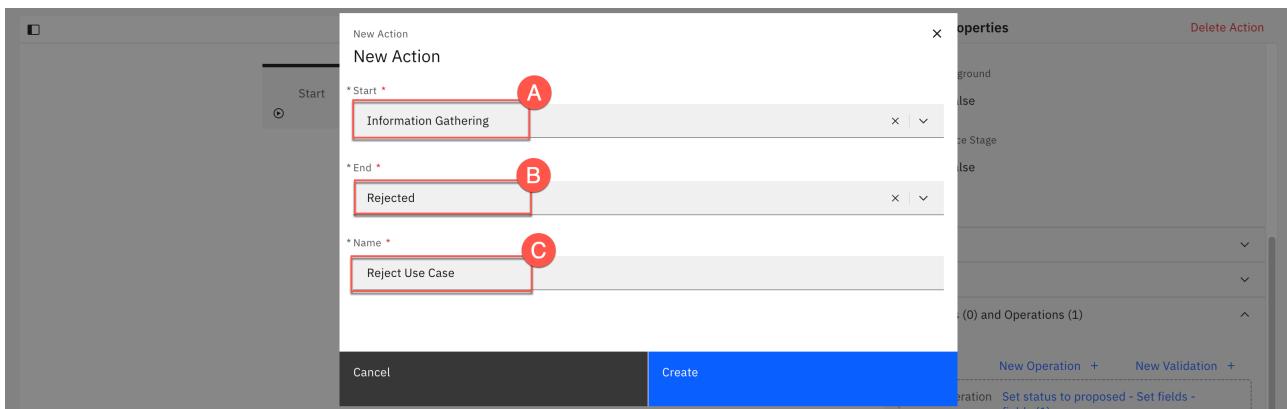
Version
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[Discard Draft](#)

[Publish](#)



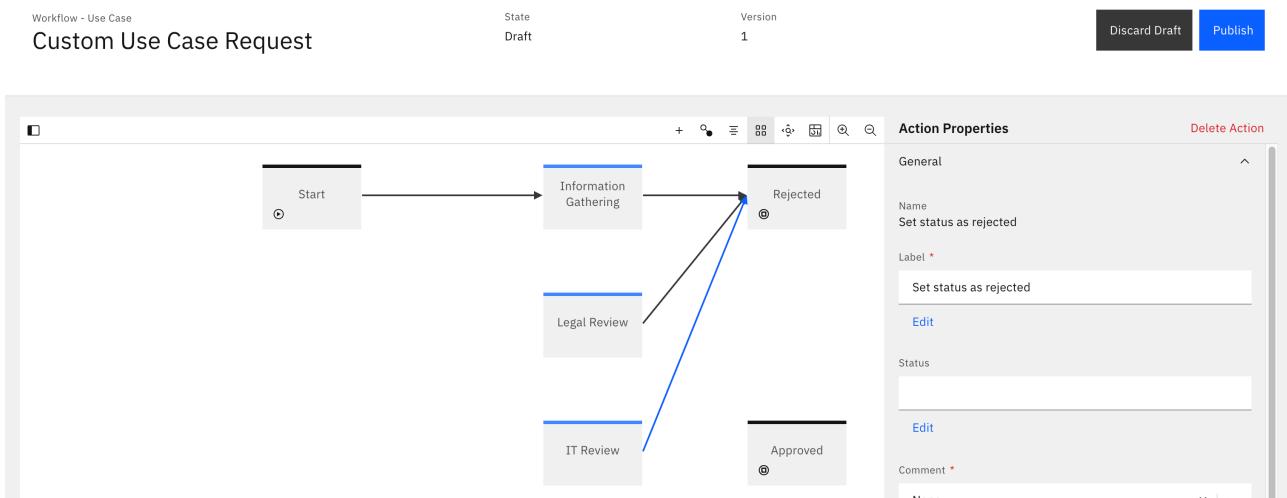
- Click on the [Start](#) dropdown to expand it, and click on [Information Gathering](#) (A) to select the relevant stage. Click on the [End](#) dropdown to expand it, and click on [Rejected](#) (B) to select the [Rejected](#) stage. Enter [Reject Use Case](#) in the [Name](#) field (C). Again, this is the text that will display in the [Actions](#) menu when working with the use case request.



- Click on the [Create](#) button to create the action. The [New Action](#) window closes, and the action appears as an arrow on the palette linking the two stages. The [Action Properties](#) panel opens on the right.

As with the previous action you created, this action should change the use case status.

- Repeat steps 4-8 from the previous section to create an [Operation](#) called [Set status as rejected](#). The operation should set the use case [Status](#) field to [Rejected](#).
- Repeat steps 1-4 above to create similar rejection actions from the [Legal Review](#) stage and the [IT Review](#) stage. When you are finished, your workflow should resemble the screen below:

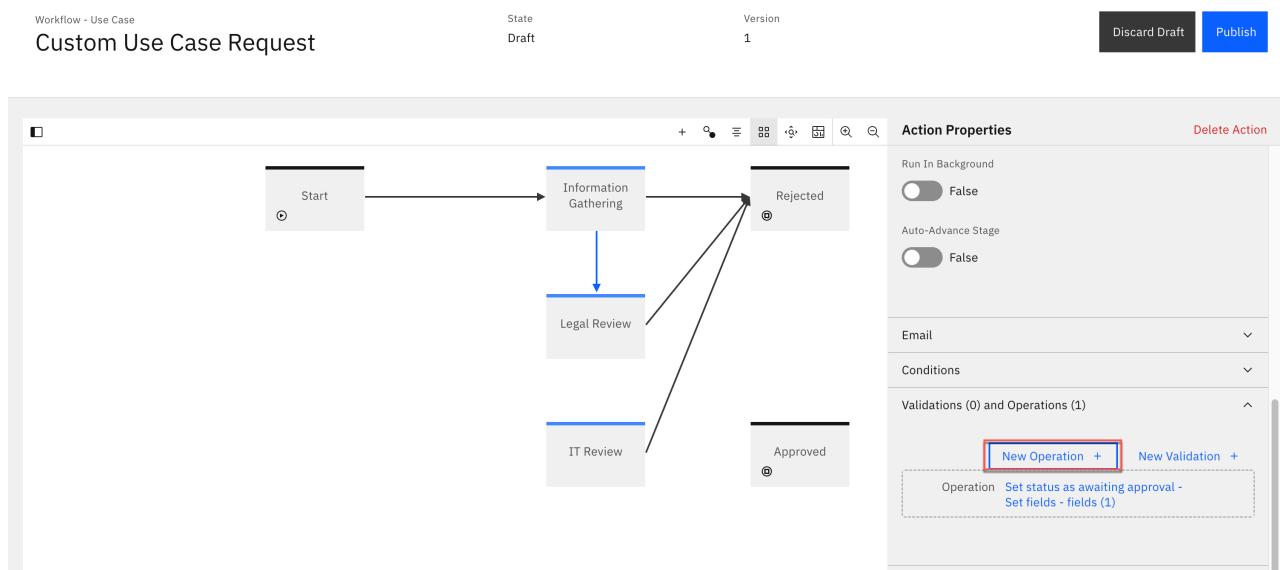


You may now proceed to creating actions that allow the use case to progress towards approval.

6. Add information gathering actions

From the [Information Gathering](#) stage, users should be able to progress the use case to the legal team for review. As part of that process, the risk identification questionnaire you created in the previous lab should also be attached to the use case.

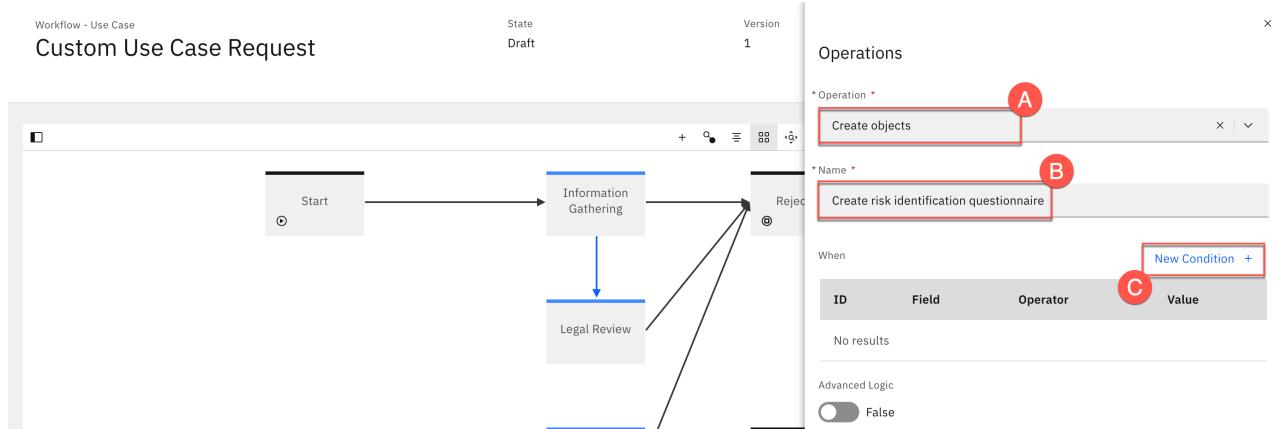
1. Create a new action called [Submit for Legal Review](#) starting from the [Information Gathering](#) stage and ending at the [Legal Review](#) stage.
2. From the [Action Properties](#) on the stage, click on the [Validations and Operations](#) section header to expand it.
3. Follow the steps from previous sections to create an operation called [Set status as awaiting approval](#) that sets the [Status](#) field for the use case to [Awaiting Use Case Approval](#).
4. With that operation in place, click on the [New Operation](#) button once again. The [Operations](#) panel opens.



5. Click on the [Operation](#) dropdown to open it, then click on the [Create objects](#) item (A) to select it. Enter [Create risk identification questionnaire](#) into the [Name](#) field (B).

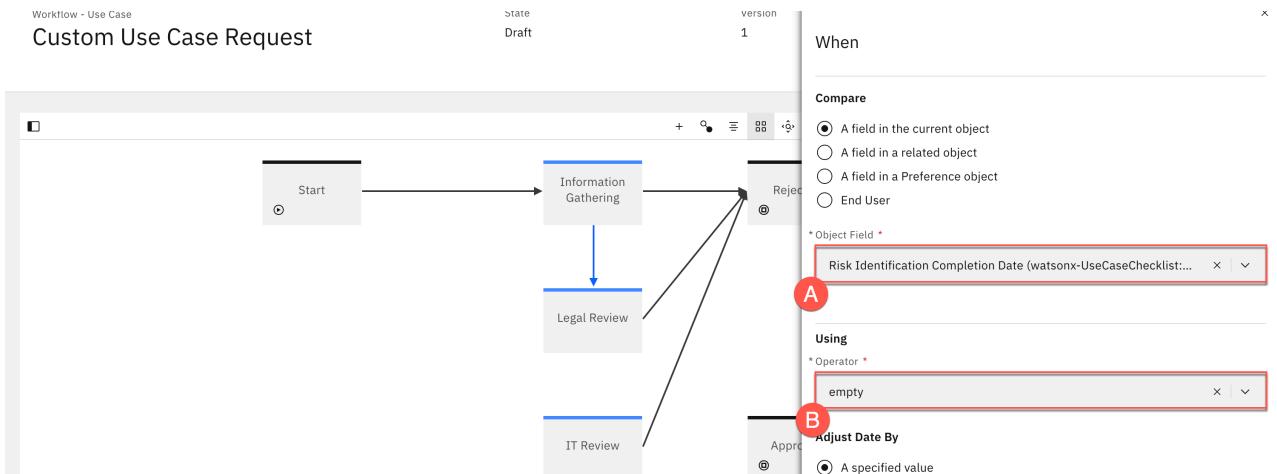
This operation should only be performed if the questionnaire has not already been completed. This can be specified using a [Condition](#).

Click on the [New Condition](#) button (C). The [When](#) panel opens.



6. Click on the [Object Field](#) dropdown to open it, then click on the [Risk Identification Completion Date...](#) item (A) to select it. In the [Using](#) section, click on the [Operator](#) dropdown to open it, then click on the

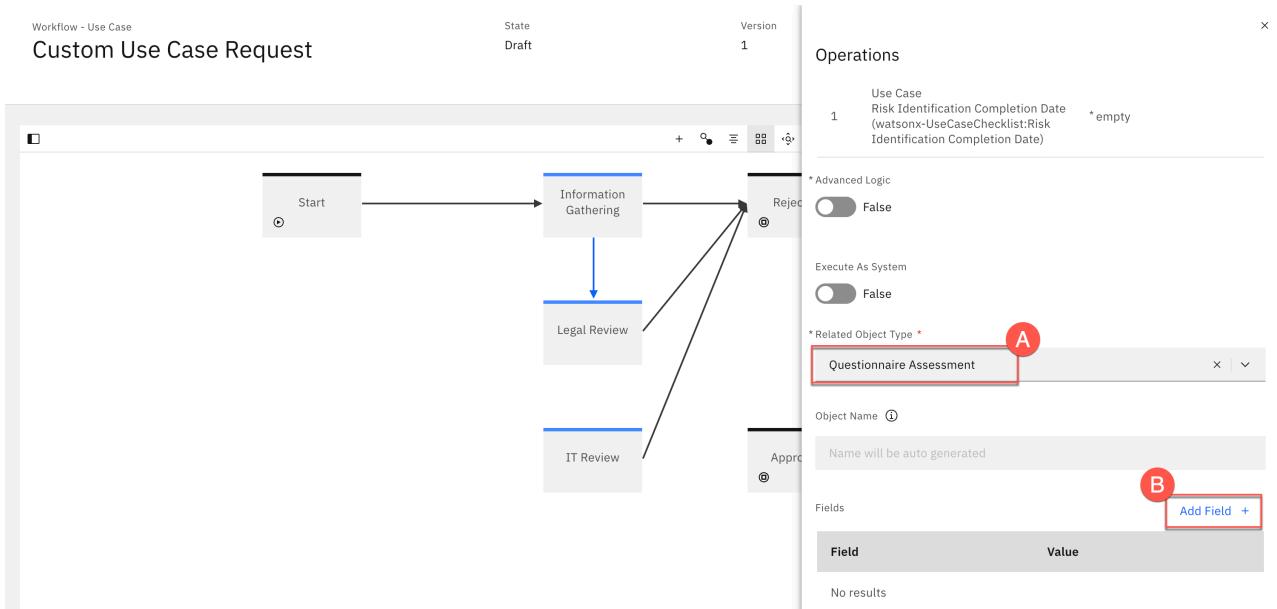
empty item (B) to select it.



Completing the risk identification questionnaire causes the [Risk Identification Completion Date](#) object to be populated in the use case parent object. If this field is empty, it means that the risk identification questionnaire has not been completed, so the action to create it can proceed.

7. Click on the [Done](#) button to close the [When](#) panel and return to the [Operations](#) panel.

8. Click on the [Related Object Type](#) dropdown to open it, then click on the [Questionnaire Assessment](#) item (A) to select it. Click on the [Add Field](#) button (B). The [Fields](#) panel opens.



9. Click on the [Object Field](#) dropdown to open it, then click on the [AI Assessment Type...](#) item to select it.

10. Click on the [AI Assessment Type](#) dropdown to open it, then click on the [Risk Identification](#) item to select it. The items in this list are from the [AI Assessment Workflow](#) that you edited in the previous lab. In that lab, you replaced the default risk identification questionnaire with the custom one you created for the [Risk Identification](#) step. Therefore, when this action is taken, it will refer to that [AI Assessment Workflow](#) to create a copy of the custom risk assessment questionnaire and attach it to the parent use case.

11. Click on the [Done](#) button to close the [Fields](#) panel.

12. Click on the [Done](#) button to close the [Operations](#) panel.

The action to progress to legal review and create the questionnaire has been completed. Next, you will look at the actions available from the legal review stage.

7. Add legal review actions

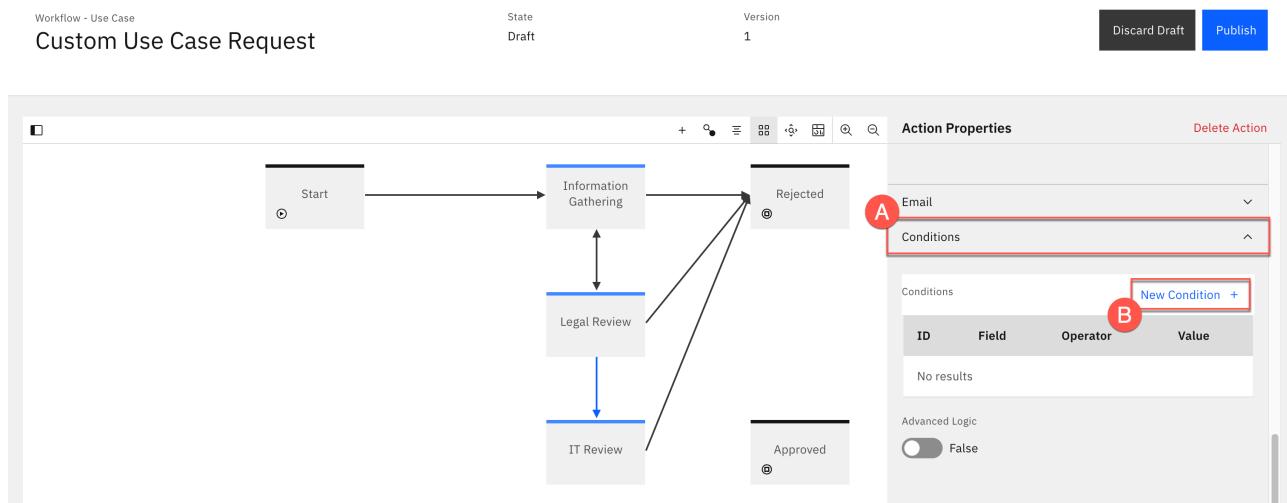
For use cases in the [Legal Review](#) stage, two different actions should be possible. First, the user should be able to return it to the [Information Gathering](#) stage if they feel the information submitted is incorrect or insufficient.

Second, they should be able to approve the use case for the next stage, but only if the risk assessment questionnaire has been completed.

1. Create a new action called [Return to owner](#) starting from the [Legal Review](#) stage and ending at the [Information Gathering](#) stage. The action should also perform the [Set status to proposed](#) operation.

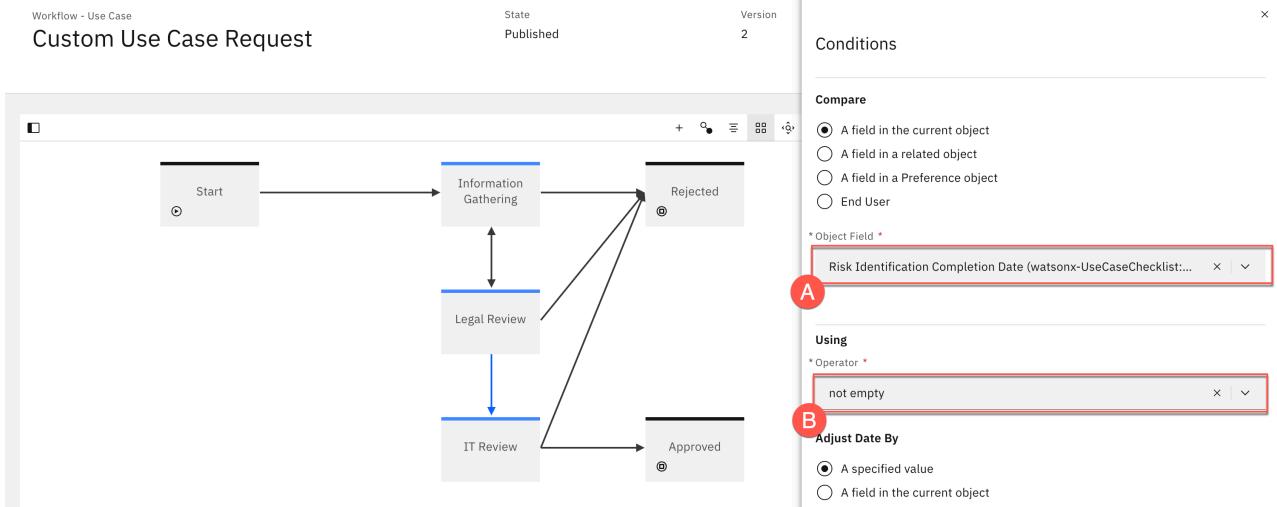
When you have added this action, note that the action arrow between the two stages now points in both directions; you can open the [Action Properties](#) panel for each action by clicking one end of the arrow.

2. Create a new action called [Approve for IT Review](#) starting from the [Legal Review](#) stage and ending at the [IT Review](#) stage. The [Action Properties](#) panel will open for this new action, which will allow you to specify that this will only be available once the risk assessment questionnaire is complete.
3. Click on the [Conditions](#) section header (A) to expand it. Click on the [New Condition](#) button (B). The [Conditions](#) panel opens.



4. Click on the [Object Field](#) dropdown to open it, then click on [Risk Identification Completion Date...](#) (A) from the list to select it. Click on the [Operator](#) dropdown to open it, then click on [not empty](#) (B) from the list to select it.

This configures the action to only be available if the risk identification completion date field on the use case contains a value, indicating that the questionnaire has been completed.



5. Click on the **Done** button to close the **Conditions** panel.

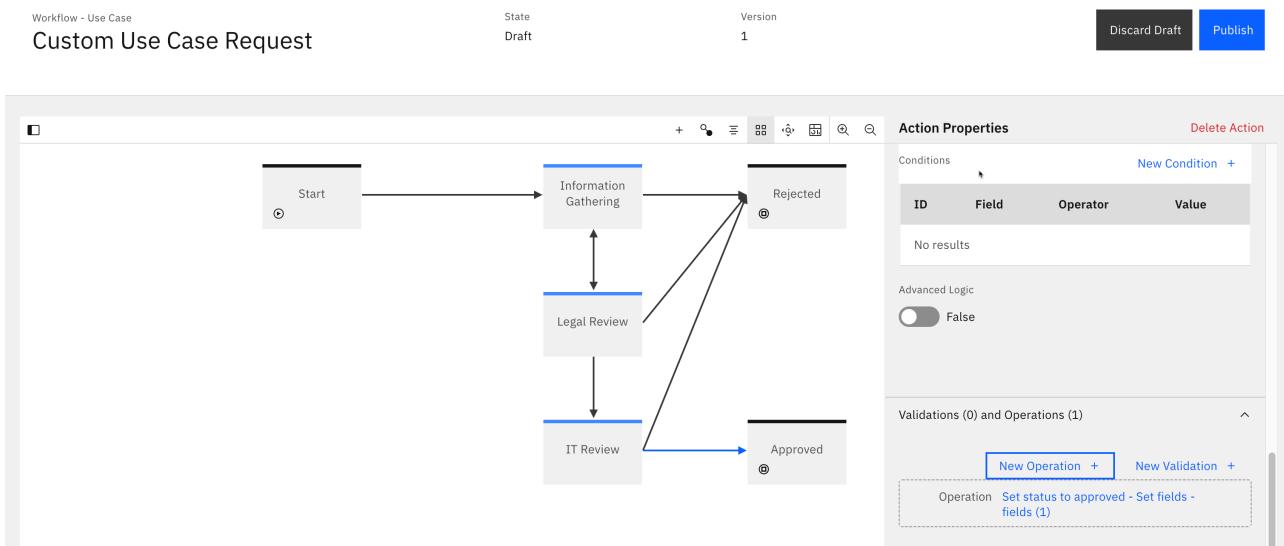
The workflow is nearly finished.

8. Add the final approval action and publish the workflow

The last step before the workflow is ready for publication is to add the action to send it to the **Approved** stage.

1. Create a new action called **Approved for Development** starting at the **IT Review** stage and ending at the **Approved** stage. The action should have an operation called **Set status to approved** defined that sets the use case status to **Approved for Development**.

When you have created this action, your workflow should resemble the screenshot below:



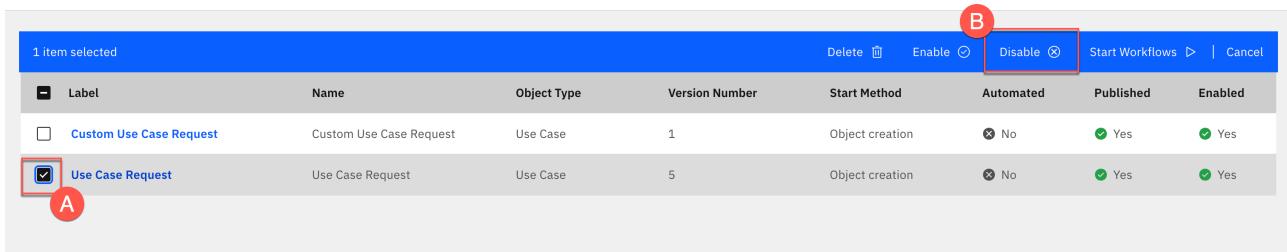
2. Click on the **Publish** button to publish the workflow.

Finally, you currently have two different workflows defined to automatically start when a use case request is created: your custom workflow and the default system workflow. You will now need to disable the default workflow.

3. Click on the **Workflows** tab in your workspace to switch to it. If it is no longer open, you can click on the **gear icon** to open the administration menu, click on the **Solution Configuration** menu item to expand it, then click on the **Workflows** menu item to re-open the tab.
4. Enter **use case request** in the **Search** bar to narrow the list of workflows.

5. Locate the [Use Case Request](#) workflow in the table and check the box to the left of it (A) to select it.
 Click on the [Disable](#) button (B) to disable the workflow.

Workflows (2) Workflow Instances



Workflows (2) <small>Workflow Instances</small>								
1 item selected								
Label	Name	Object Type	Version Number	Start Method	Automated	Published	Enabled	
<input type="checkbox"/> Custom Use Case Request	Custom Use Case Request	Use Case	1	Object creation	No	Yes	Yes	Edit Delete Enable Disable Start Workflows
<input checked="" type="checkbox"/> Use Case Request	Use Case Request	Use Case	5	Object creation	No	Yes	Yes	Edit Delete Enable Disable Start Workflows

The [Custom Use Case Request](#) workflow will now automatically start when a use case request is created.

Conclusion

In this lab, you created a custom workflow from scratch to correspond to a client's approval requirements. You explored stages, and assigning those stages to users or user groups. You saw how actions can be used to link stages together and perform operations to change different elements of the use case. You also saw how to use conditions to place requirements on executing the actions.