Lab Guide

Workflow Design Principles 201

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Default Login / Password:

admin / Knowledge16

itil / Knowledge16

employee / Knowledge16

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Lab Goal

This lab explains the following concepts related to simple approvals in workflow:

- How to Create Approvals with Workflow
- Single Approvers

Lab 1.0 Simple Approvals in Workflow

Approval ServiceNow Workflow

ServiceNow Workflow provides three Activities to assign and manage Approvals: **Approval – User**, **Approval – Group**, and **Approval Coordinator**.

The approvals created in workflows interface with the ServiceNow Platform Approval Engine.

The Workflow Engine creates the approvals and then waits for an Approval or Rejection to transition forward.

The interaction between the approval records created by workflow and the tasks being approved or rejected are not part of workflow. They are a part of the Approval Engine. Workflow only creates approvals and reacts to the approval state.

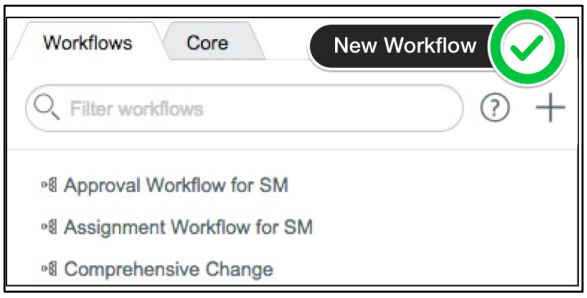
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Create the Knowledge Simple Approval Workflow

1. In the Application Navigator Type filter text, type **workflow** to find the **Workflow** application menu.

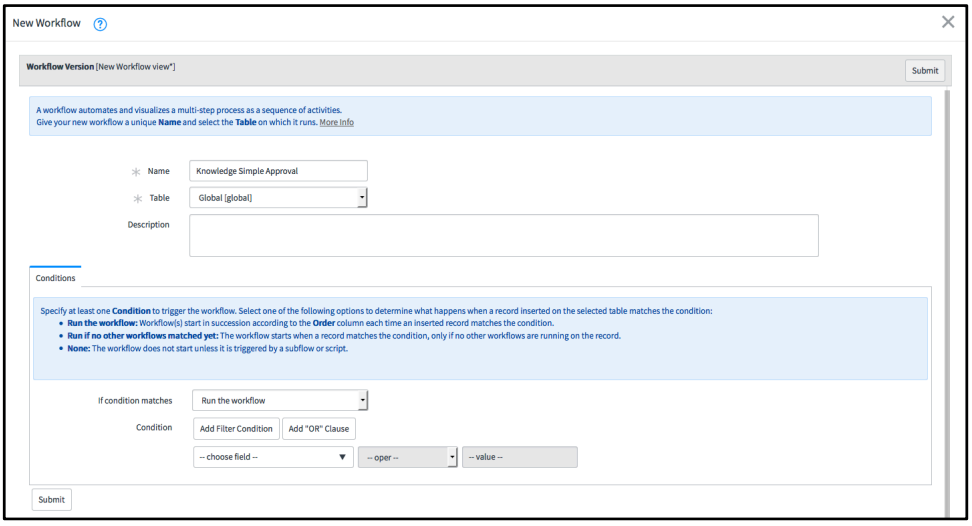
2. Select the **Workflow Editor** module. The Workflow Editor always opens in an adjacent browser tab.

3. Click the **+** symbol to create a **New Workflow** button.



4. Fill out the form as shown:

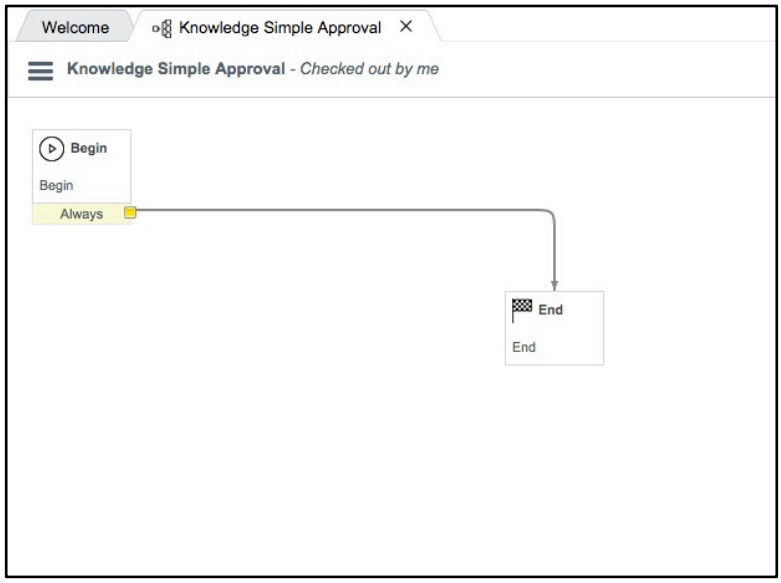
   Name: **Knowledge Simple Approval**
   Table: **Global [global]**



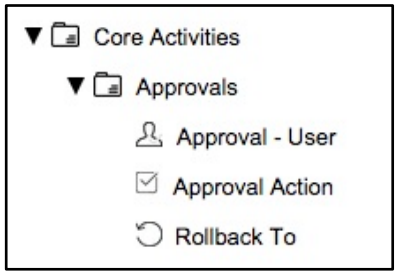
5. Click **Submit**.

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6. Within Core in the Activity Tree, expand the **Approvals Category** folder.



7. The open Approvals folder should look like the example.



These are the global Approval-related Activities available in the Workflow Engine.

- **Approval – User**
  Creates a single **User Approval** record in the database.**Approval Action**
  Updates the current record **associated with the workflow** with an **Approved** or **Rejected** value in the **Approval** field of the Glide record, if the field exists.
- **Rollback To**
  Provides a way to restart portions of a Workflow. If there are Approvals in the restarted portion of the Workflow, the Approval states are rolled back to **Not Yet Requested** or **Requested**, depending on the configuration of the **Rollback To** path.

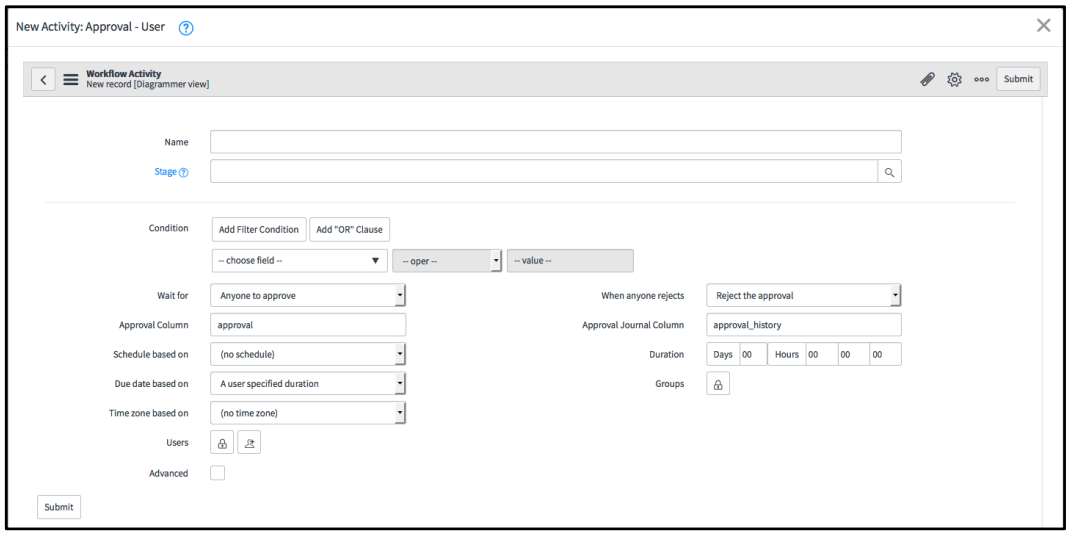
8. Find the **Approval – User** Activity in the **Approvals** folder.

9. Hold the mouse down and drag the Activity onto the canvas. Hover the activity over the Transition Line until the line turns **blue**.

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10. Let go of the mouse.
    Note: In subsequent labs, these steps are abbreviated to **Drag Activity onto the transition.**
11. Fill out the form as shown:

    Name: **Approval One**



12. Select the **Users** lock icon.



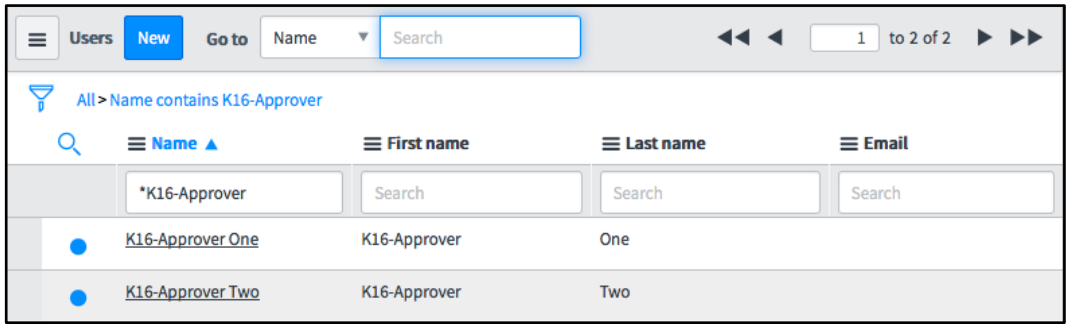
13. Select the **Search** looking glass icon.



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14. Select **K16-Approver One** as the approver.

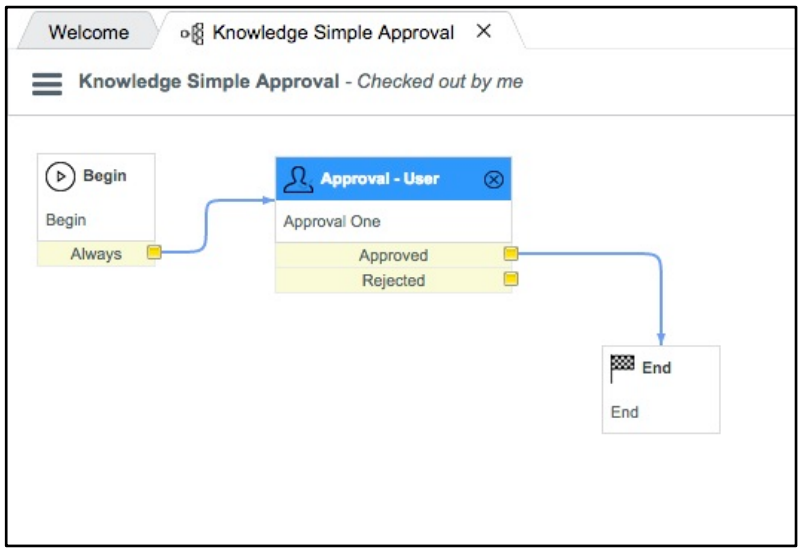
    Note: In subsequent labs, these steps are abbreviated to **User Search icon > User Name.**





15. Click **Submit**.

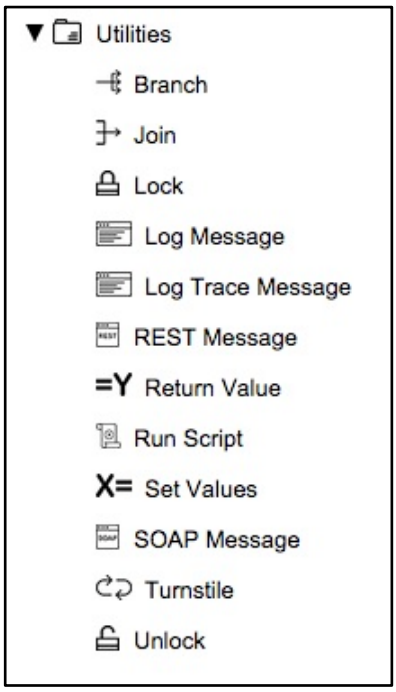
16. The workflow should look like the example.



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Add the Log Message Activities

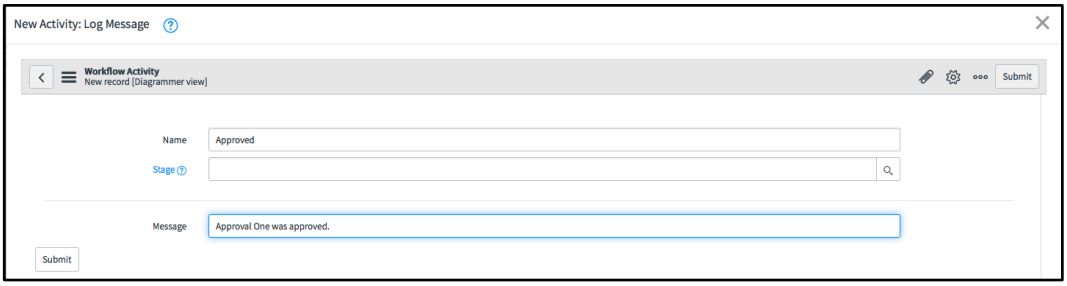
1. In the Activity Tree, expand the **Utilities** folder and locate the **Log Message** Activity.



2. Drag Log Message onto the transition between the **Approved** condition and the **End** Activity.

3. Fill out the form as shown:

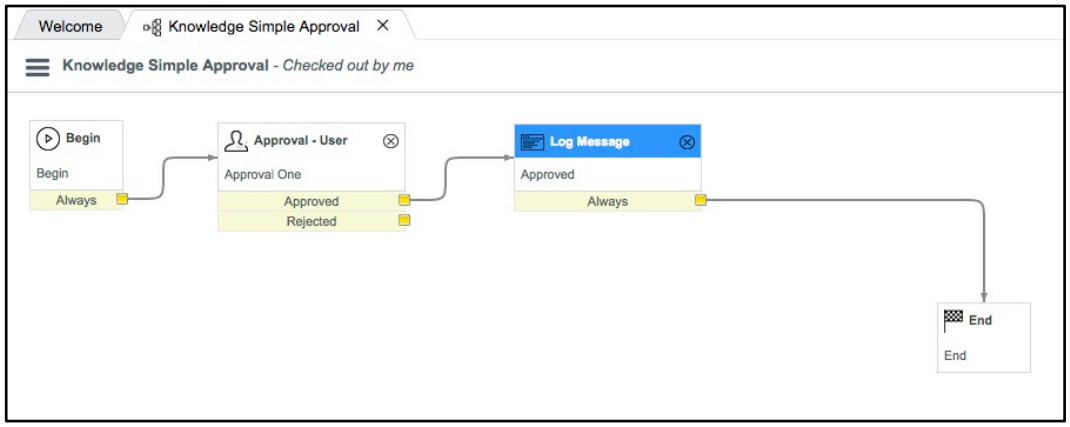
   Name: **Approved**
   Message: **Approval One was approved**.



4. Click **Submit**.

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5. The workflow should look like the example.



Note: You may have to click and drag the Activities on the canvas to spread them out.

6. Find the **Log Message** Activity in the **Utilities** Category Folder in the Activities Tree on the right.

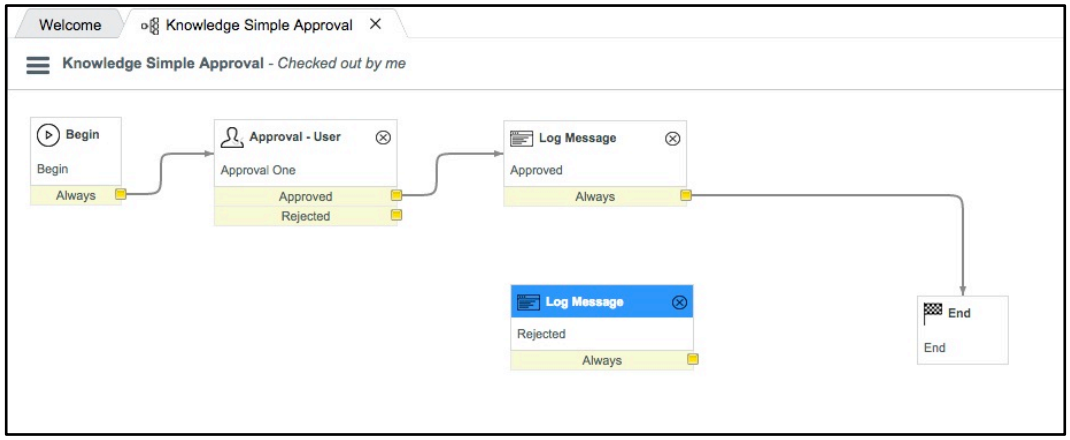
7. Drag the **Log Message** Activity onto the Canvas.

8. Fill out the form:

   Name: **Rejected**
   Message: **Approval One was rejected**.

9. Click **Submit**.

   Note: The Log Message Activity is placed on top of the existing Log Message Activity. Move it off and onto another area of the Workflow Canvas.

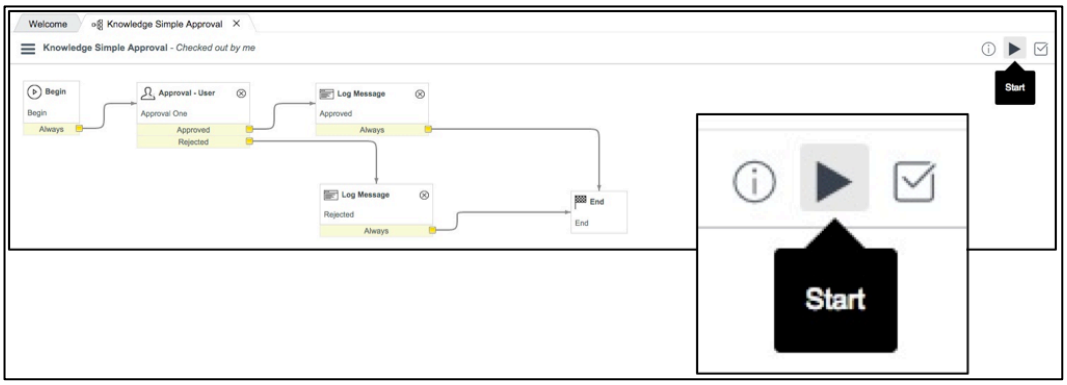


10. Select the **Rejected** node on the **Approval – User** Activity and draw a transition to the **Log Message** Activity.

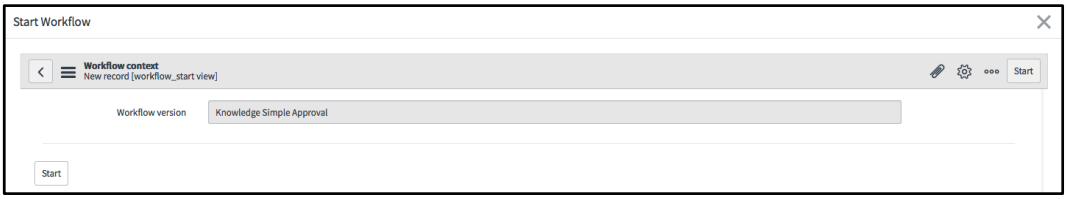
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11. Select the **Always** node on the Rejected **Log Message** Activity and draw a transition to the **End** Activity. Review your work in the next screen capture.

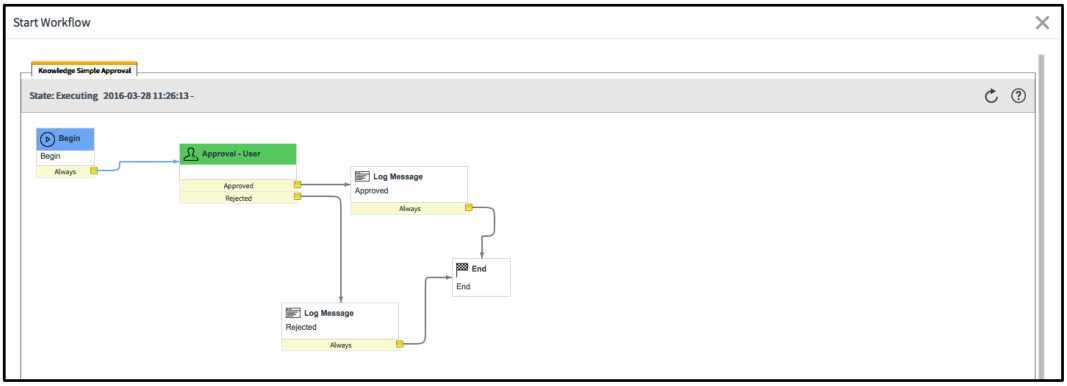
12. Select the **Play** button.



13. Select **Start**.



14. The workflow should look like the example.

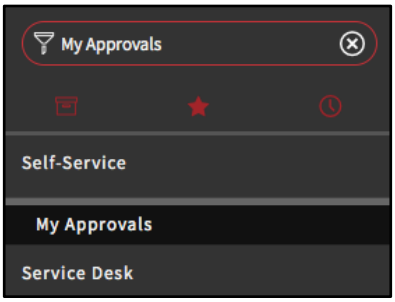


The green state of the **Approval One** Activity indicates that the workflow is waiting for the approver to act on the approval.

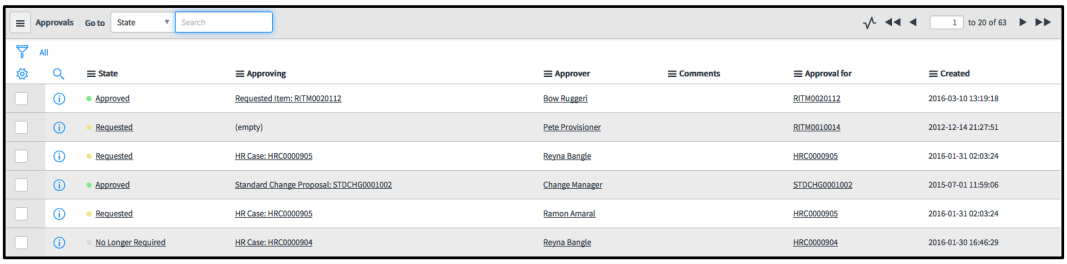
15. Return to the main ServiceNow tab.

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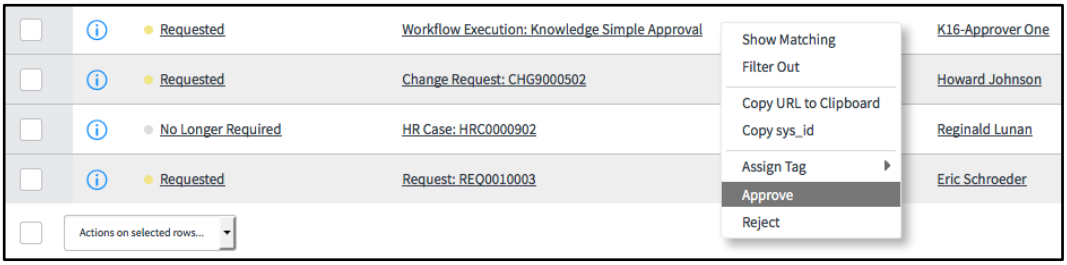
16. Navigate to **Self-Service > My Approvals**.



17. Clear the breadcrumb to display **ALL** approvals.



18. In the list view, find the **K16-Approver One** record and right-click the **State** field. Change the State to **Approved**.

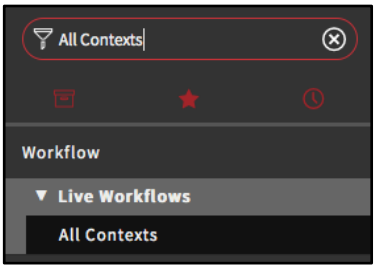


Note: In subsequent labs, these steps are abbreviated to **approve the record from the list State field**.

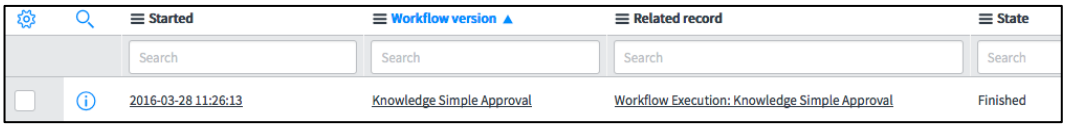
19. Return to the **Workflow Editor** in the right tab.

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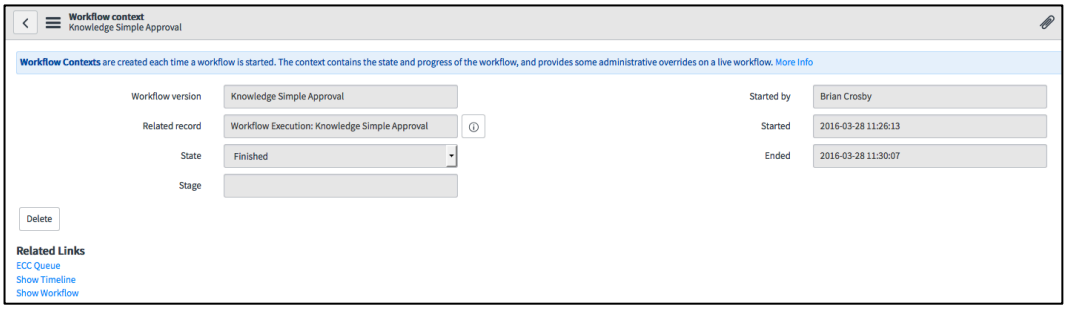
20. Navigate to **Workflow > Live Workflows > All Contexts**.



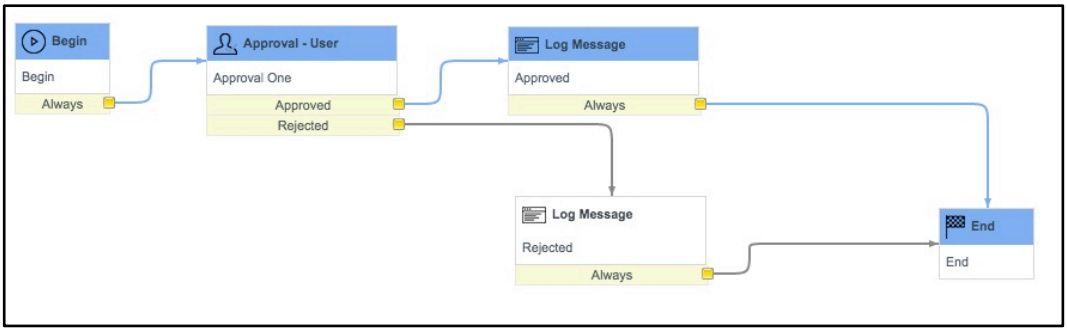
21. Find the most recent run of your workflow.



22. Click into workflow and click **Show Workflow**.



23. Click the **Refresh** icon in the Workflow Context view. The workflow should look like the example.



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Lab Goal

This lab explains how to Rollback Approvals within ServiceNow.

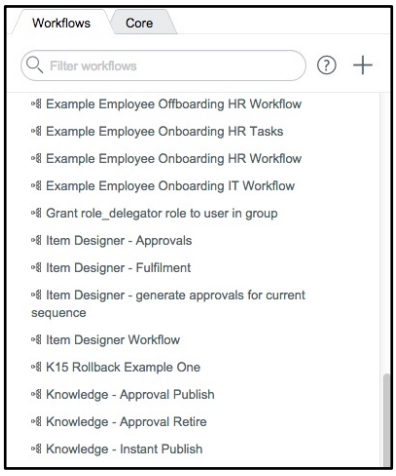
Lab 2.0 Rollback Approvals

Approval ServiceNow Workflow

In many business process definitions, approvals are requested before work can be performed.

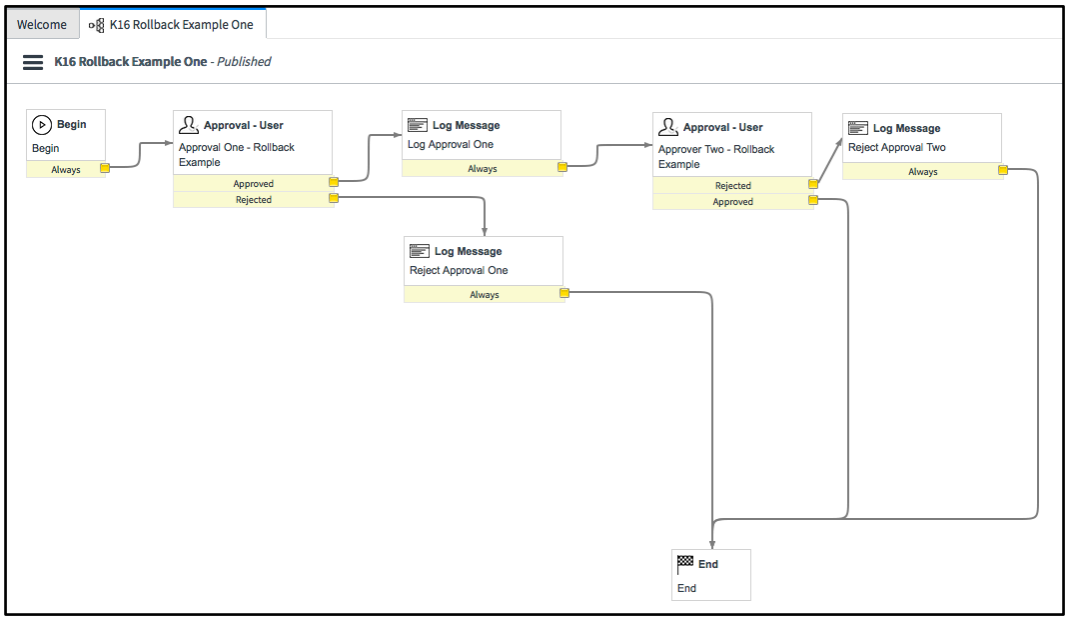
However, approvals can also be requested as work is progressing. In the event that subsequent approvals are rejected or tests or tasks fail, the Workflow Editor offers the **Rollback To** Activity. This Activity allows the process designer to return to an earlier place in a process and restart. The **Rollback To** Activity adjusts the state of User Approvals and Tasks that are part of a rolled back set of activities.

1. In the Workflow Editor click the **Workflows** tab.

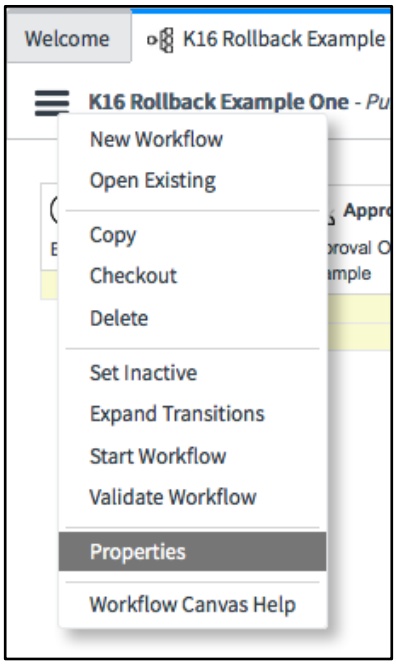


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2. Find and select the **K16 Rollback Example One** workflow.
   The screen should look like the example.

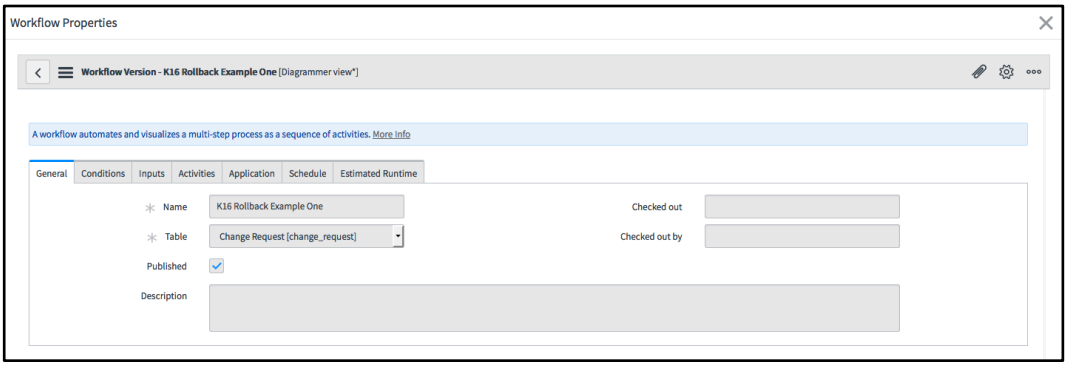


3. Select **Menu > Properties**.



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4. The screen should look like the example.

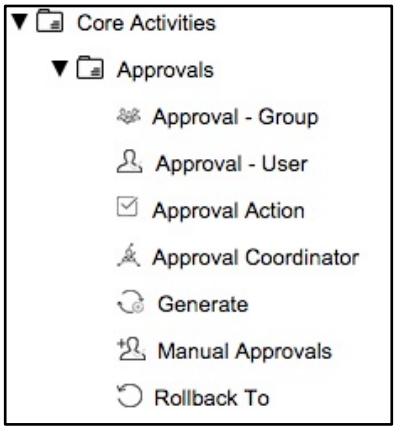


Notice that this workflow is on the **Change Request** Table**. Change Request** is a Task table, because this workflow is based on a Task table, there are more approval options that can be included in the workflow.

Notice also that this workflow is configured to run only when the Priority field is set to **4 – Low**.

5. Close the Workflow Properties window using the **X** in the upper-right corner of the form.

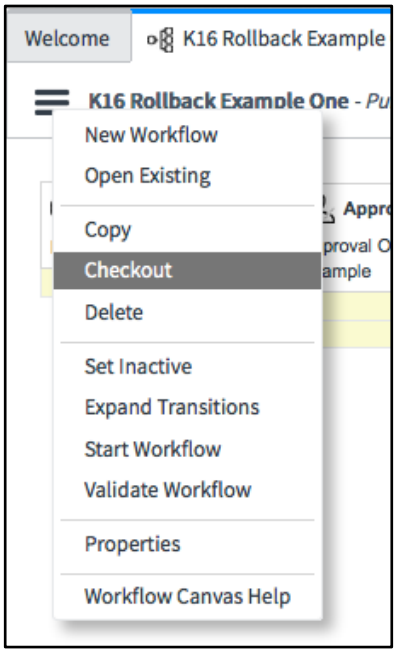
6. Expand the **Approvals Category** in the Activities Tree.



The new Approval Activities appear in the Activity Tree for Task tables because they rely on columns in the Task table for their execution.

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7. Select **Menu > Check Out**.

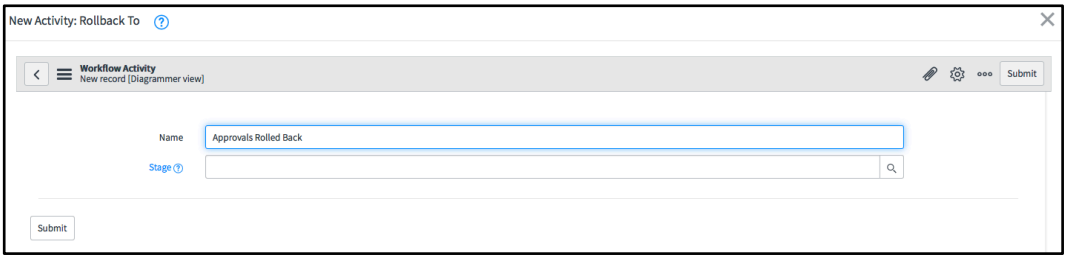


The Workflow is now checked out to you and is ready to edit.

8. Click the **Rollback To** Activity in the **Approvals** folder.

9. Fill out the form as shown:

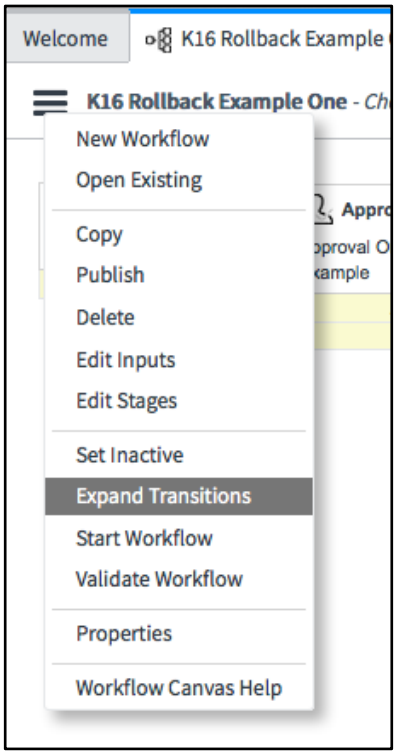
Name: **Approvals Rolled Back**



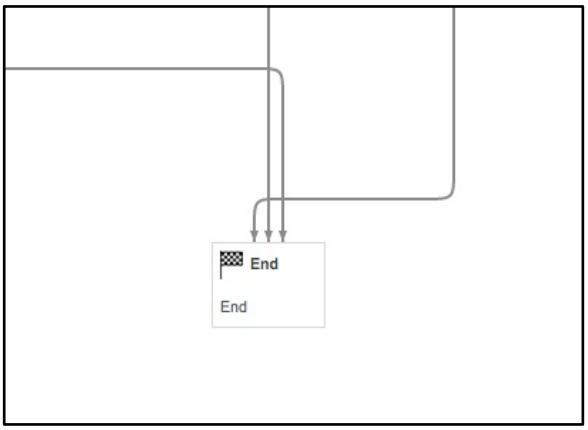
10. Click **Submit**.

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11. Select **Menu** > **Expand Transitions**.



12. The Transistions into the End Activity expands.

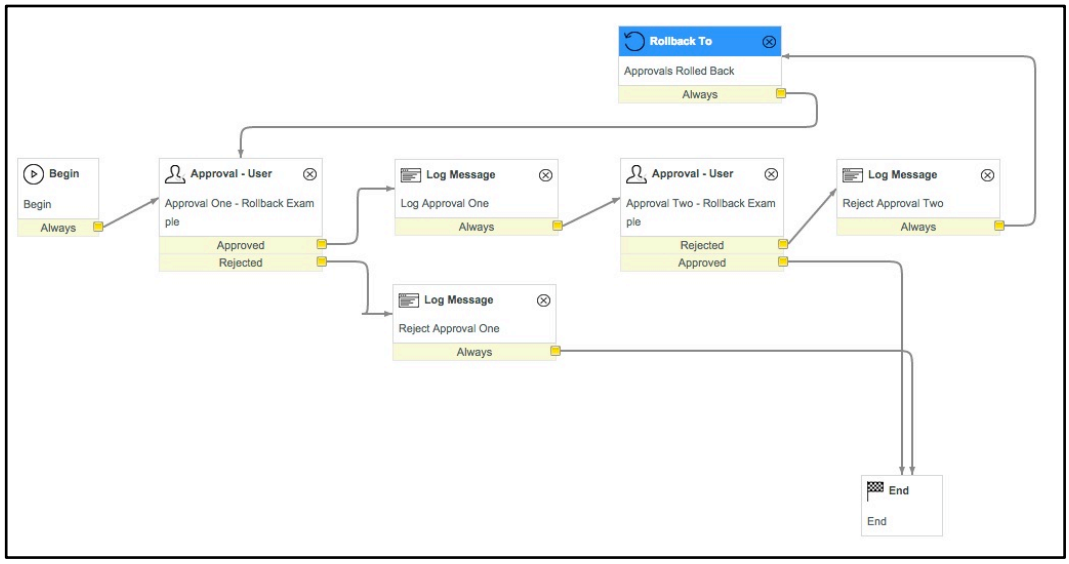


13. On the **Reject Approval Two Log Message** Activity, select the transition from the **Always** node and draw a transition to the **Rollback To** Activity.

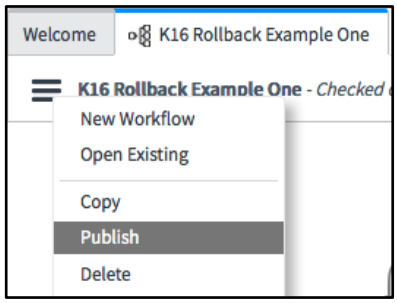
14. On the **Rollback To** Activity, select the **Always** node and draw a transition to the **Approval One** Activity.

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15. Arrange the activities so all the transition lines are clear.



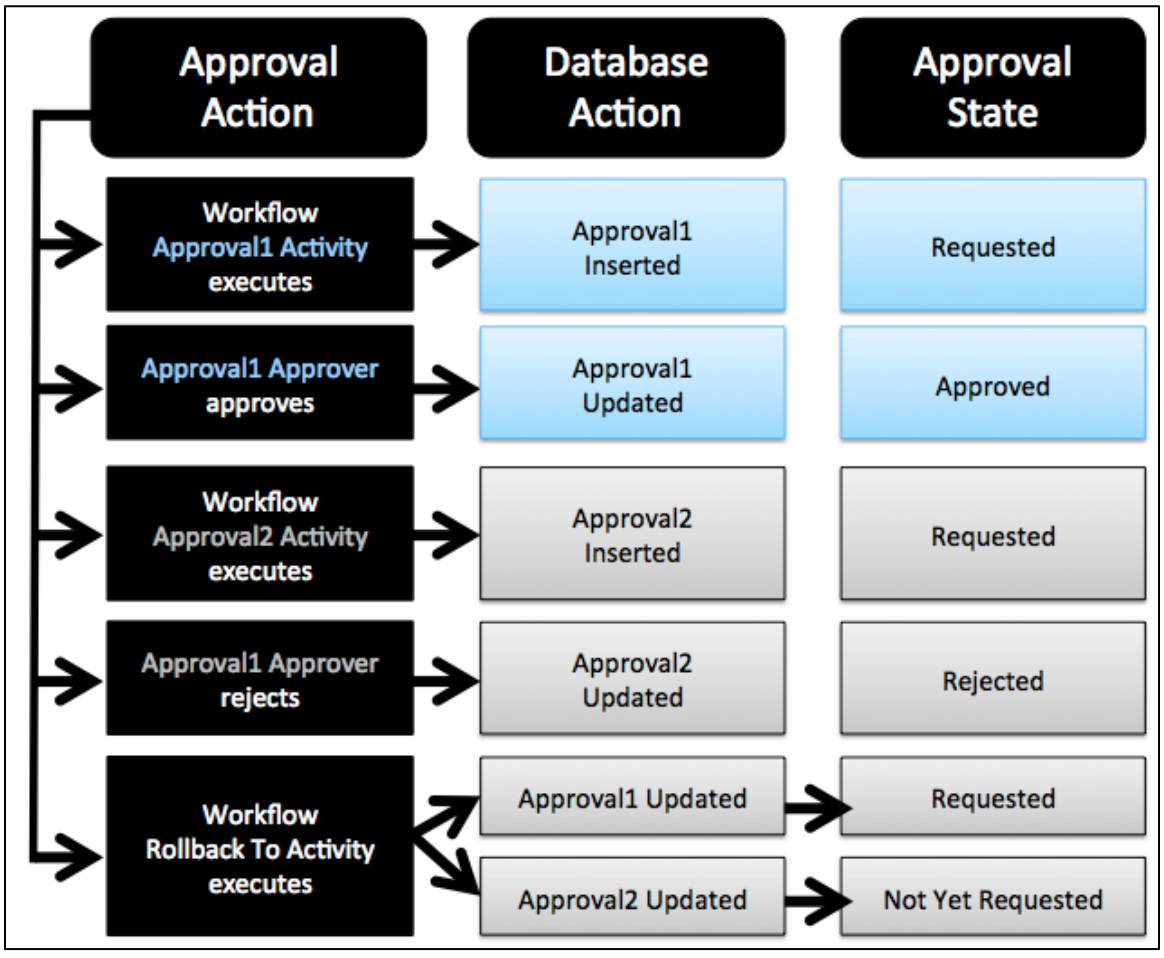
16. From the **Menu**, select **Publish**.



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About the Rollback To and the Approval and Task Records

The **Rollback To** Activity walks back through the executed transitions until it finds the Workflow Activity that the **Rollback To** transition arrow is pointing to. As the **Rollback To** Activity is walking back through the model, if it encounters an Approval it sets that approval state to **Not Yet Requested** if it is not the Workflow Activity that the **Rollback To** transition is pointing to. Once the approval value is reset, the **Rollback To** Activity continues back along the transition path until it finds the Activity it is pointing to. If that activity is also an Approval, then that Approval is set to **Requested**. These changes of approval state are made directly to the User Approval record in the database.

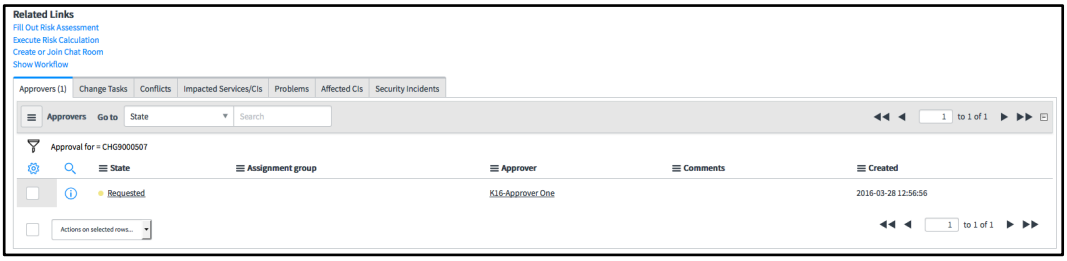


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Rollback To and the Executing Records

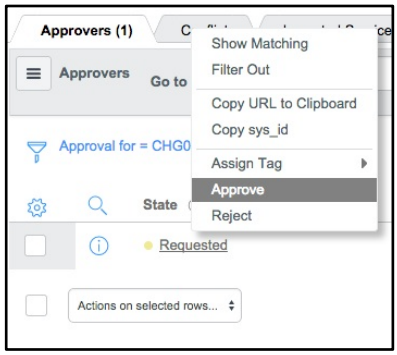
If a **Rollback To** is transitioning, all the activities encountered in the **Rollback To** transition have executed and are stored as Finished in the Activity History Related List of the Workflow Context. As the **Rollback To Activity** encounters activities, their state in the Activity History Related List of the Workflow Context is set to restarted.

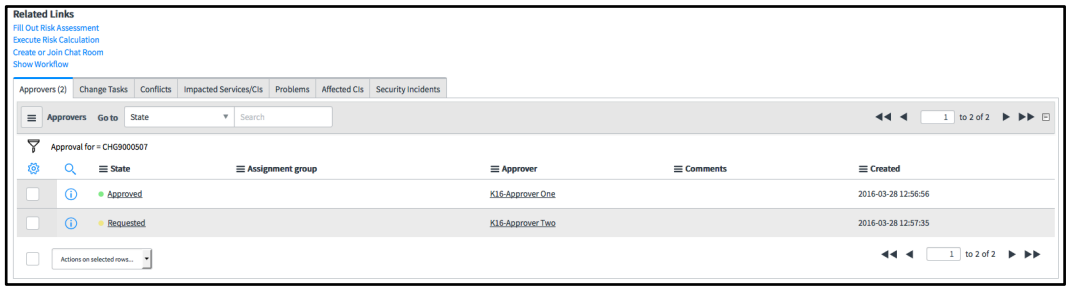
1. Return to the Main tab of the ServiceNow instance.
2. Navigate to **Change > Create New**.
3. Select **Normal**.
4. Right-click in the form header and select **Save**.
5. With tabs active, scroll down the form and find the **Approvals** Related List.



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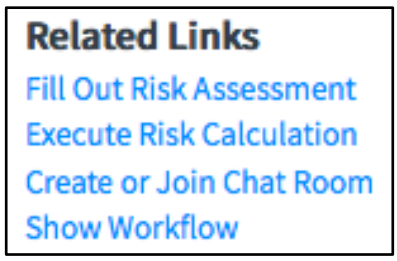
6. Right-click and select **Approve**.





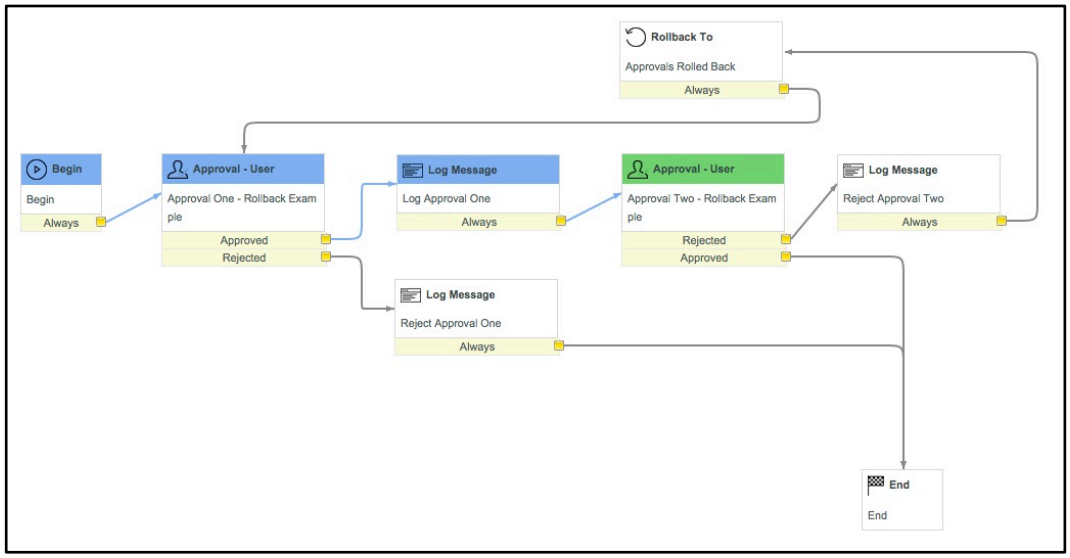
Notice that a second Approval, **K16-Approver Two**, appears in the list. This is the Approval that transitions to the **Rollback To** Activity. Verify this.

7. Select **Show Workflow** from the Related Links list.



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8. The workflow should look like the example.



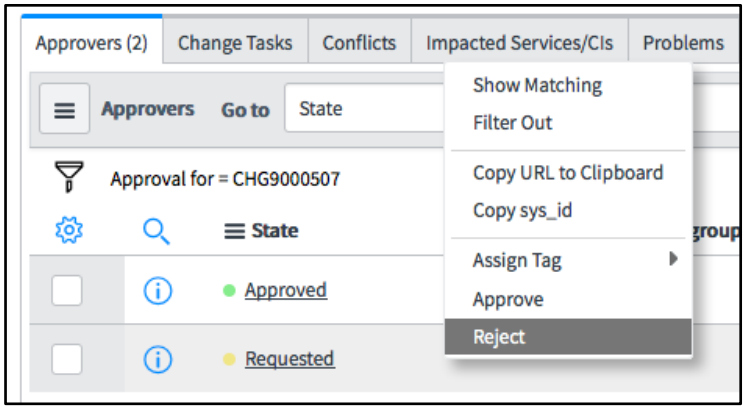
The **green** Activity is the **current** Activity. Notice the Reject Condition transitions to the Rollback To.

9. Close the browser tab of the **Workflow Context** view.

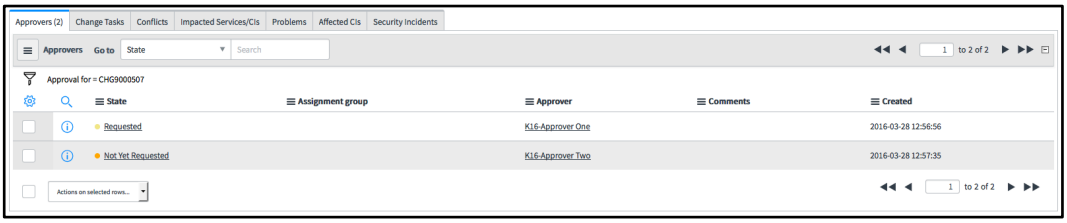
10. Find the **Requested** Approval for the K16 Approver Two in the Related List of the Change Request.

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11. Right-click and select **Reject**.



QUESTION: Why is the state of K16-Approver Two not **Rejected**?
QUESTION: Why is the state of K16-Approver Two not **Requested**?
QUESTION: Why is the state of K16-Approver One **Requested?**

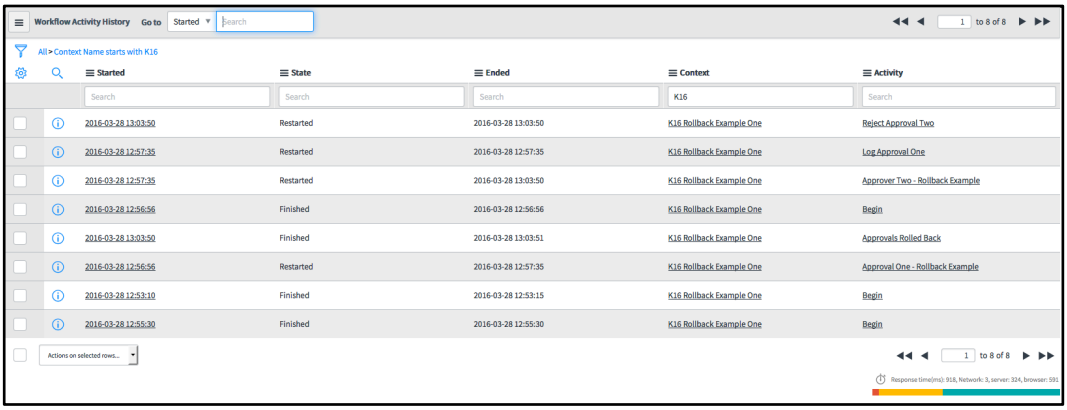


12. Navigate to **Workflow > Live Workflows > History**.

13. Filter on the correct **Context** to see your K16 Rollback Example One workflow history.

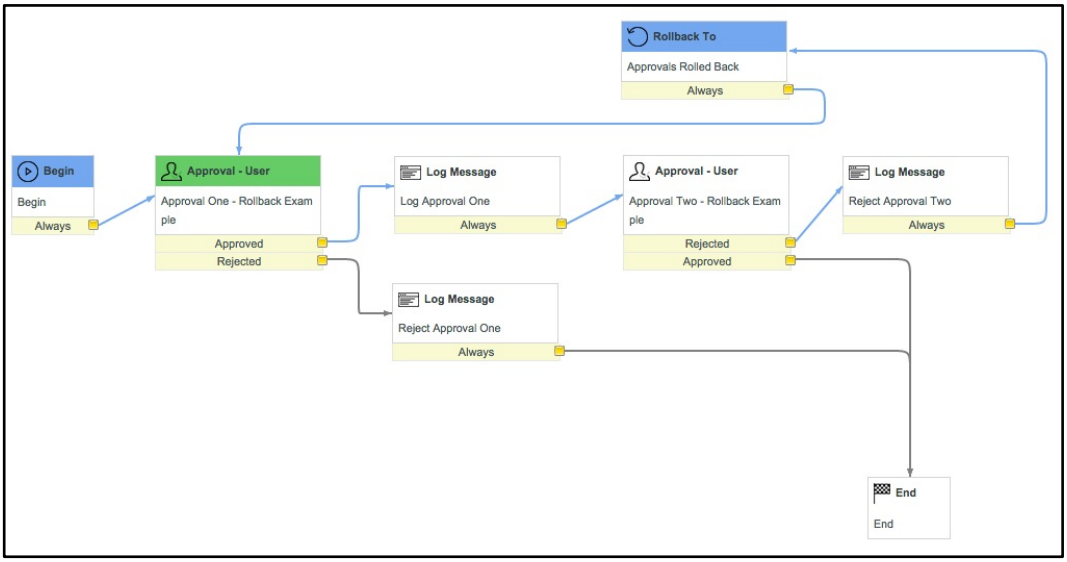
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14. The list should look like the example.



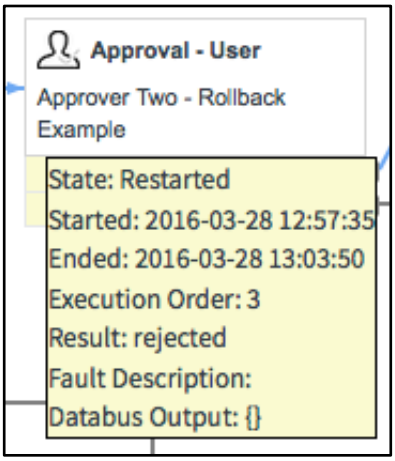
Notice the State of some of the Activities is **Restarted**. These restarted Activities are the Activities that were in the transition path between the **Rollback To** Activity and the **Approval One** Activity. To verify this, select **Show Workflow** link from the Related Links list on the Workflow Context form.

15. Navigate to **Workflow** Contexts and find your workflow. The workflow should look like the example.



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16. Hover the mouse over the **Approval Two** Activity.



Notice that the hover status reflects both that the Approval was Restarted and the Rejected status of the Approval Activity.

17. Close the **Workflow Context** browser tab.

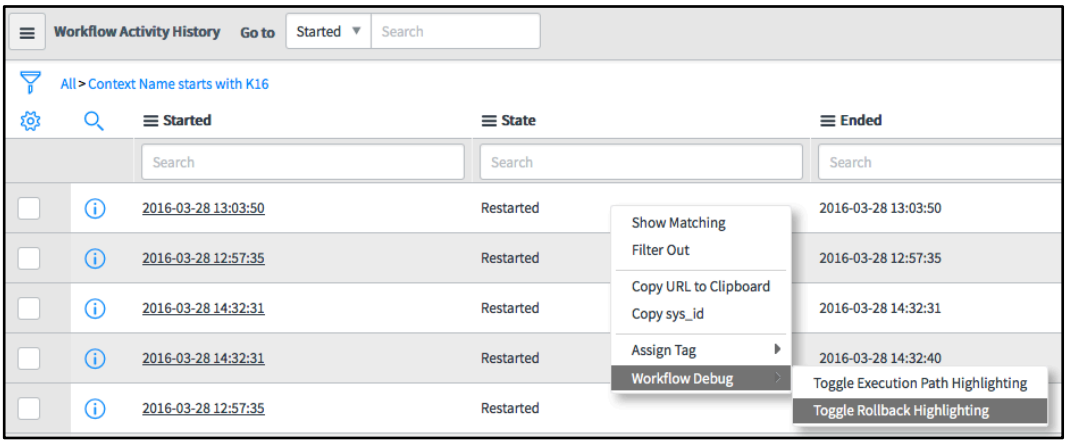
18. Navigate back to the change request.

19. Scroll to the Approvals Related list.

20. Right-click and select **Approve** the **Requested K16 Approval One**.

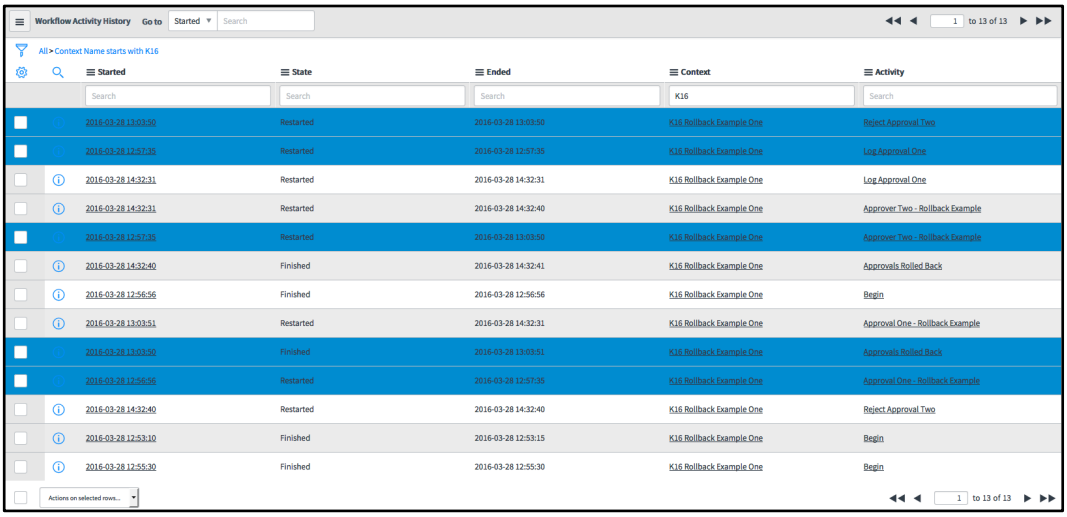
21. Right-click and select **Reject** the **Requested K16 Approval Two**.

22. Navigate to Workflow **History** list, right click on a **Restarted** Activity.



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23. Select **Workflow Debug > Toggle Rollback Highlighting**.



All the activities that were part of a single **Rollback To** execution are colored together. N**otice** there is another set of Restarted Activities. These were part of a different **Rollback To** execution. This coloring is useful when debugging large workflows with multiple rollback paths. If you click another Restarted Activity, the related records highlight in another color.

24. Navigate back to the original change request.

25. Scroll to the Approvals Related List.

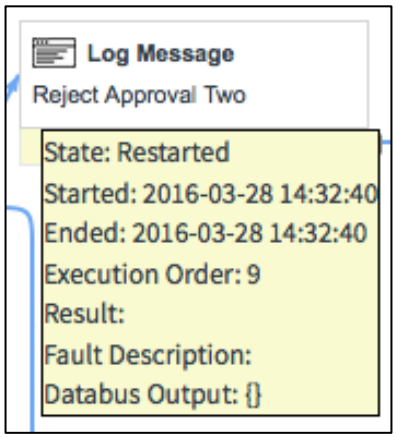
26. Right-click and select **Approve** the **Requested K16 Approval One**.

27. Right-click and select **Approve** the **Requested K16 Approval Two**.

28. Select the **Show Workflow** from the **Related Links** list.

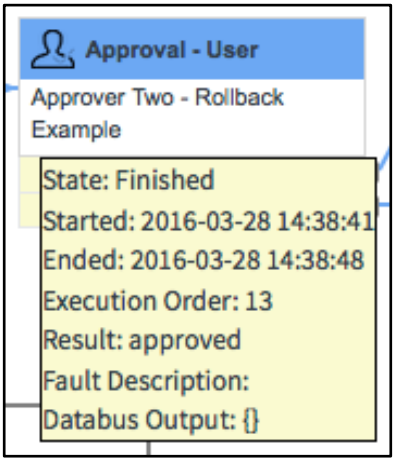
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29. Hover over the Log Message **Reject Approval Two**.



Notice that the Log Message is **Restarted**. This is because the final State of Approval Two went down the Approved path so the Log Message Reject Approval Two was not re-executed.

30. Hover over the **Approval Two** message.



Notice that its state is **Finished.** The Workflow Context Diagram reflects the most recent state of an Activity, even if it has multiple states in the Activity History.

Use the Timeline View

There are times in debugging when being able to see all the states graphically is useful. For that, the context has a timeline view of the Workflow.

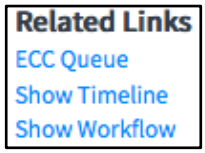
1. Close the browser tab of the **Workflow Context**.

2. Select the **Workflow > Live Workflows > All Context** and open the finished **K16 Rollback Example One**.

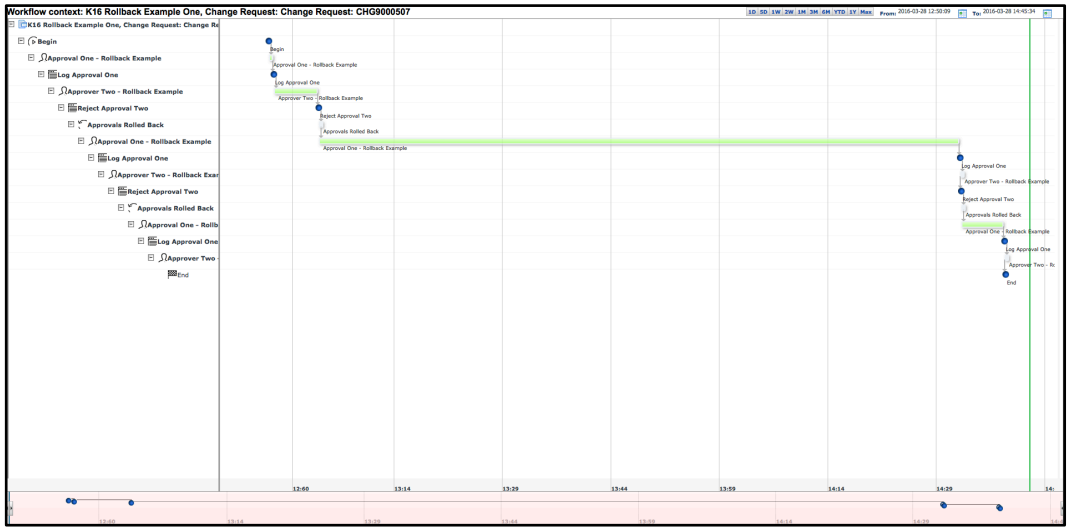
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3. Scroll to the bottom of the **Workflow Context**.

4. Select the **Show Timeline**.



5. In this view, it is possible to see all the occurrences of the Reject of Approval Two.



Summary

The Workflow Editor allows the designer to rollback the workflow and restart at different points of a process.

If there are Approvals in the rollback path, they are set to **Not Yet Requested**, even if they were previously approved.

If the Rollback To Activity transitions directly to an Approval, that approval is set to **Requested**, even if it was previously approved.

All activities that are in the **Rollback To** transition path are already executed and in the **Activity History** Related List of the Workflow Context. The status of these activities is set to **Restarted**.

Once the workflow begins to re-execute from the point of rollback, all the newly executing activities have an individual record on the **Activity History** related list. Because of this, it is possible to see the entire execution of the workflow in a linear format using the Timeline feature in the **Workflow Context**.

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Lab Goal

This lab explores simple workflow tasks and explains how to assign tasks to Change Requests and Rollback.

Lab 3.0
Simple Tasks in Workflow

Tasks in ServiceNow Workflow

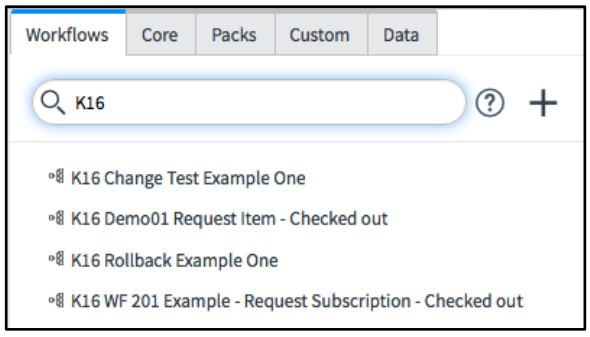
The ServiceNow Workflow Editor provides three Activities to assign and manage Tasks using the Create Task Activity.

The tasks created from within a workflow typically appear inside a Related List of the Current record.

The Workflow Engine creates the tasks and then waits for a **Complete** or **Incomplete** state to transition forward.

The interaction between the state change of tasks and the Workflow Engine is through the update of the Current record. The update event invokes the Glide Script Engine and fires the update event into the Workflow.

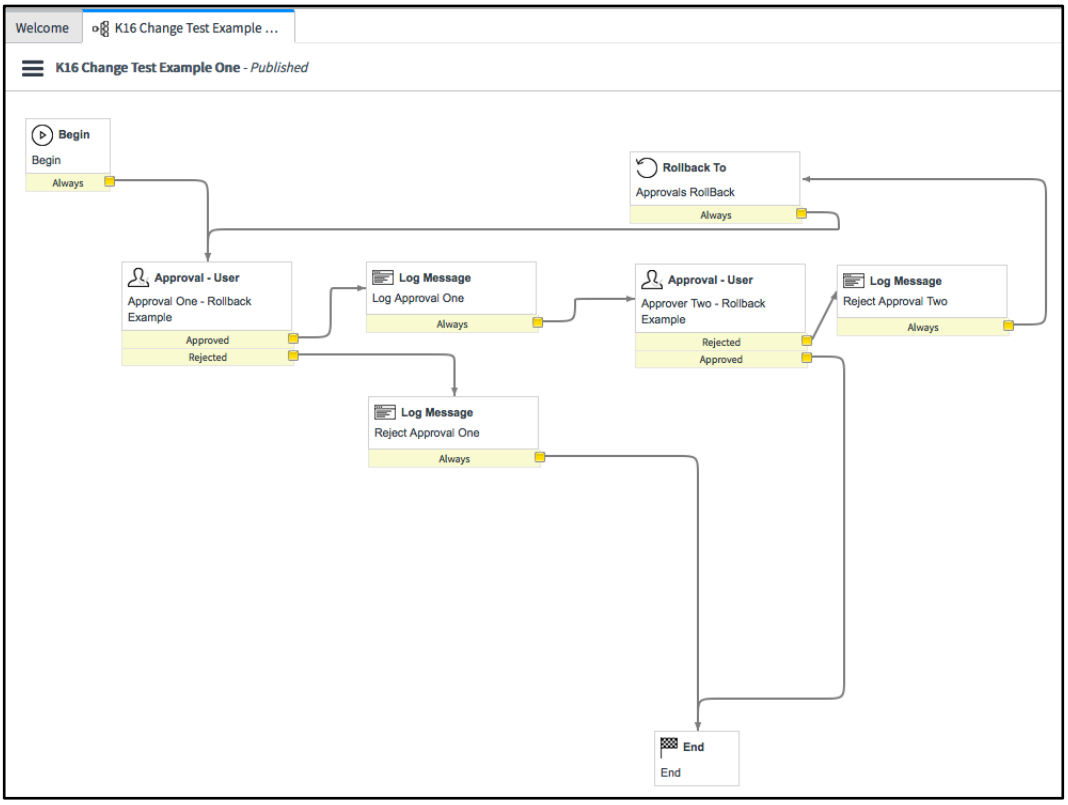
1. In the Workflow Editor select the **Workflows** tab section from within the canvas.



2. Locate and select the **K16 Change Test Example One** workflow.

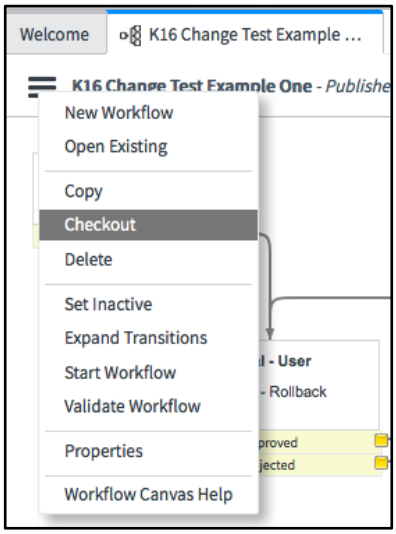
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3. The workflow should look like the example.



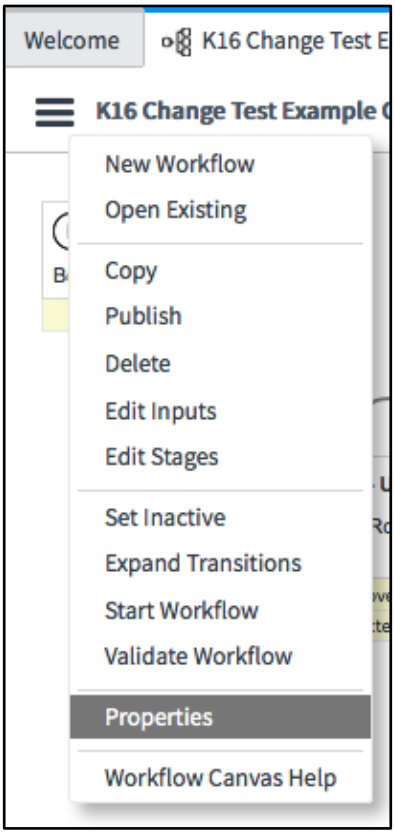
Notice that this is similar to the last Workflow and the test steps are familiar.

4. Select **Menu > Check Out**.



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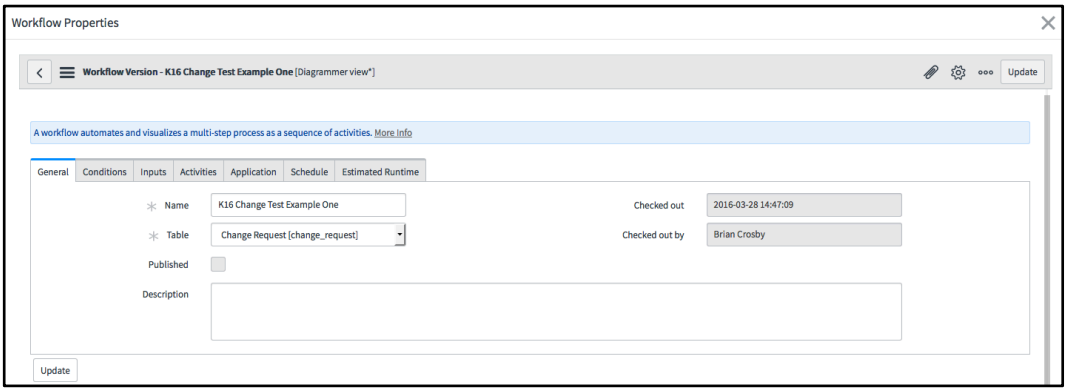
5. Select **Gear Menu > Properties**.

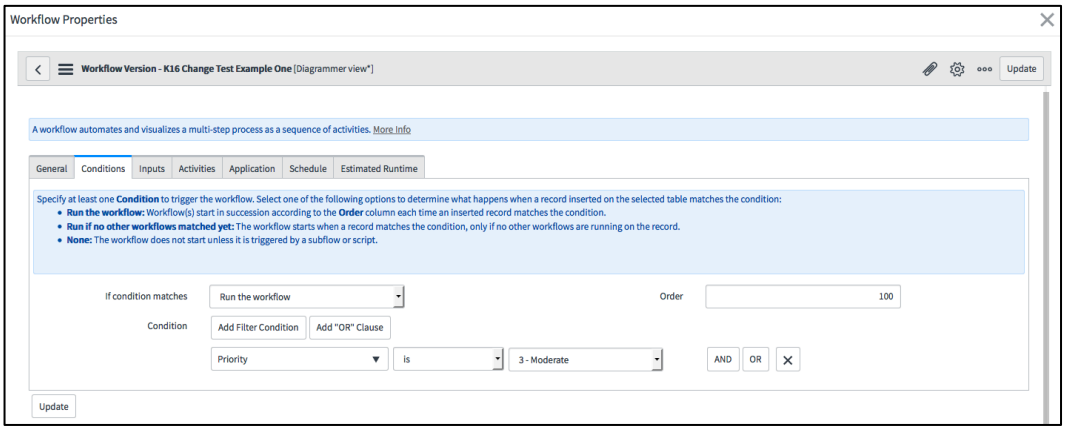


Notice that this workflow is on the **Change Request** Table**.** Because the other workflow is also on **Change Request** a different condition is set.

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6. This workflow is configured to run only when the Priority field is set to **3 – Moderate**. As you test this time, you must change the Priority on the Change Request.



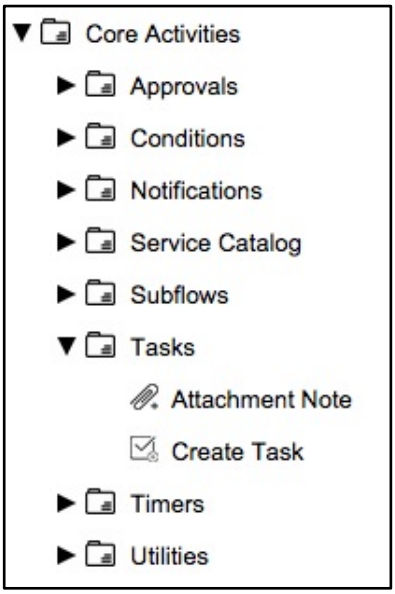


7. Close the **Workflow Properties** window using the **X** in the upper-right corner of the form.

8. Expand the **Tasks** Category in the **Activities Tree** within the **Core** tab.

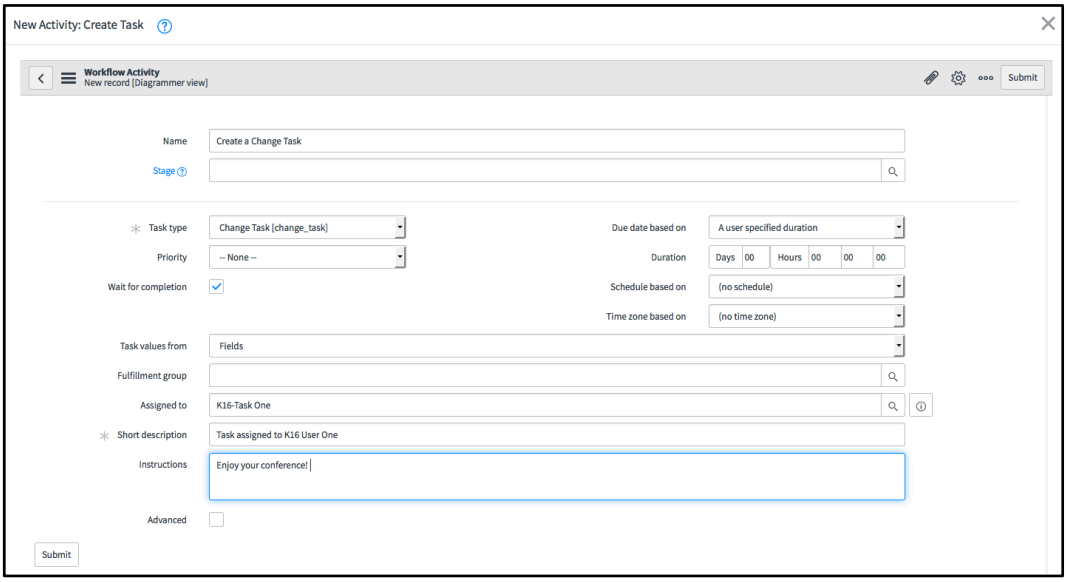
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9. Drag the **Create Task Activity** onto the transition between **Log Approval One** and **Approval Two – Create Task Example**.



10. Fill out the form as shown:

    Name: Create a Change Task
    Task Type: Change Task [change_task]
    Assigned to: K16 Task One User
    Short Description: Task assigned to K16 User One
    Instructions: Enjoy your conference!



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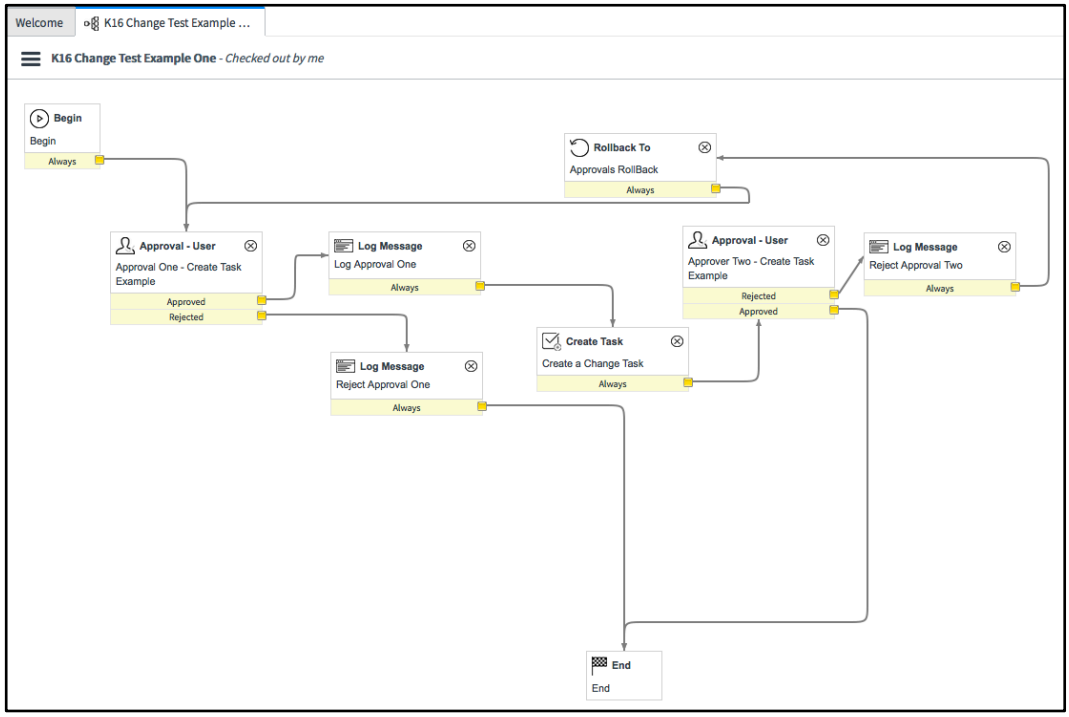
11. Notice the **Wait for Completion** check box.



When checked, this causes the Workflow to wait for the task to be in a State of Complete or Incomplete prior to transitioning to the next Activity.

12. Click **Submit**.

13. The screen should look like the example.



QUESTION: Find the Create Task in the Rollback Path. What is the state of the Create Task in the Workflow Context **Activity History** Related List if the Approval Two Activity is Rejected?

Tasks have rolled back states, just like the Approvals did in the previous lab.

If a Task is in the path of a rollback, its State is set to **Pending**. If a task is the target of a **Rollback To** transition, the task state is set to **Open**.

14. Select **Publish** from the menu.

15. Return to the main tab of the ServiceNow instance.

16. Navigate to **Change > Create New**.

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17. Select **Normal**.

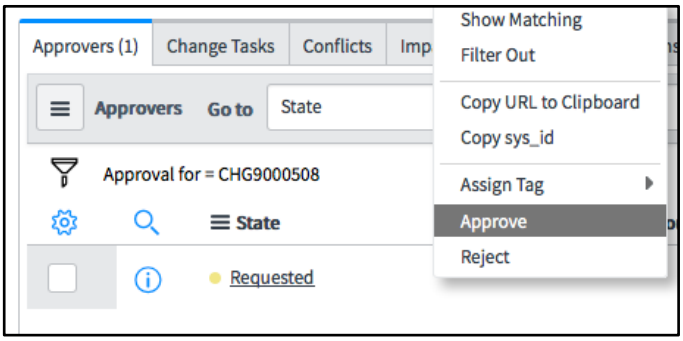
18. Set the Priority: **3 –Moderate**.

19. Right-click in the form header. Select **Save**.

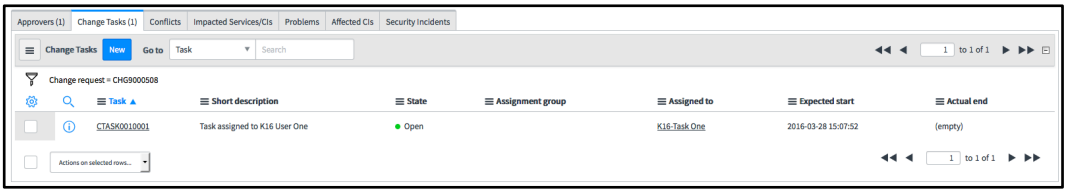
20. Scroll to the Related Lists.

21. Select the **Approver** tab.

22. Right-click and select **K16-Approver One** the Requested Approval to approve.

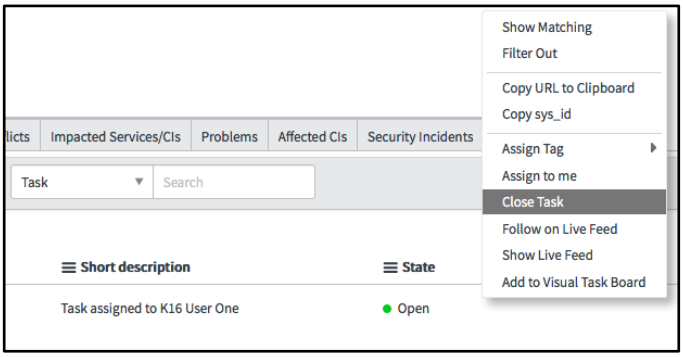


23. Select the **Change Tasks** Related List.



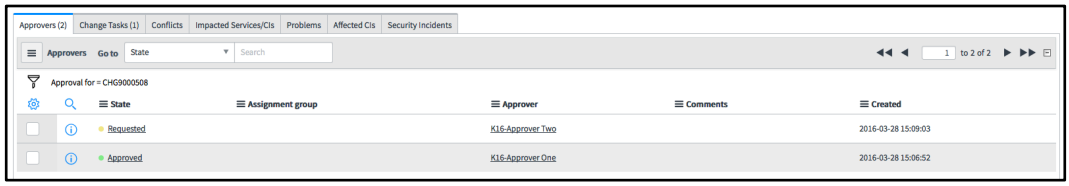
Notice now the new task has been added to the Change Request.

24. Right-click and select **Close Task**.



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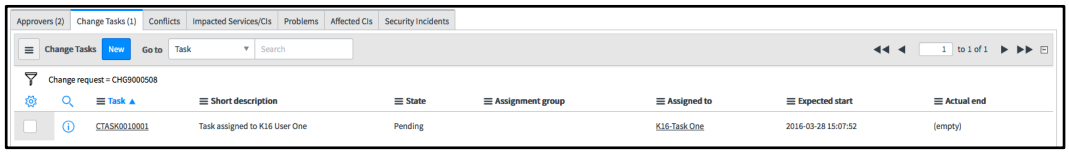
25. Select the **Approvers** Related List.



QUESTION: You are going to Reject the Requested Approval. What will be the new State of K16-Approval One? Approval Two?

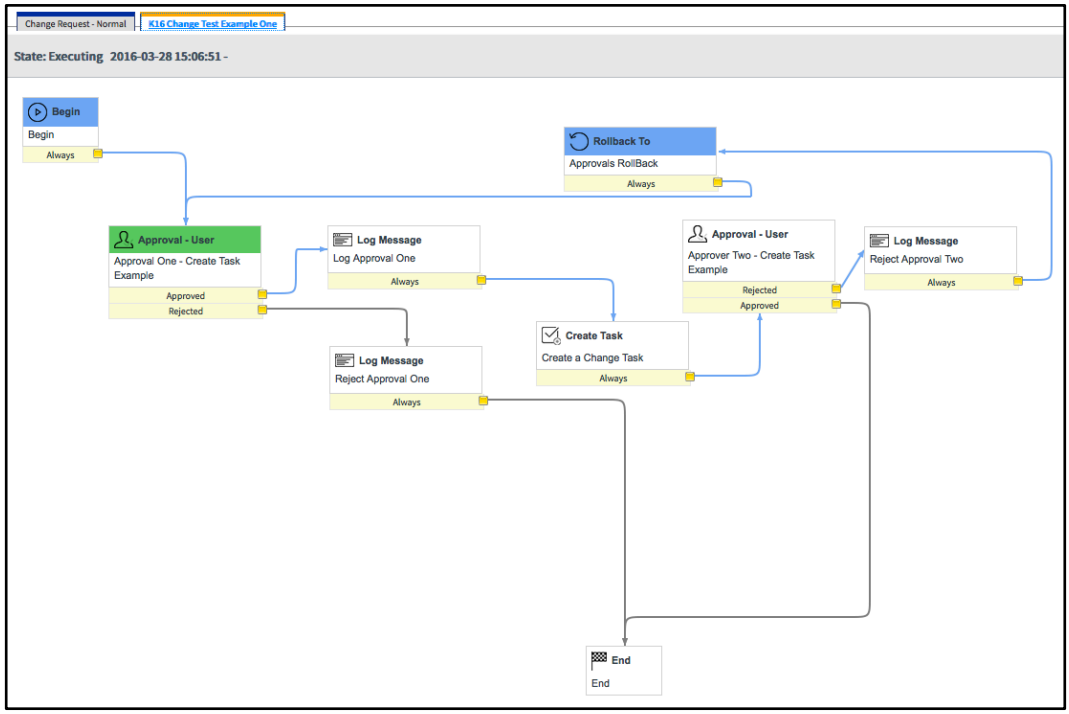
26. Right-click and select **Reject** the K16-Approver Two Requested Approval.

27. Reselect the **Change Tasks** Related List.



Note the rolled back state of the Change Task is set to **Pending**.

28. Select **Show Workflow** from the Related Links list. The workflow should look like the example.



29. Close the browser tab of the **Workflow Context** view.

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30. Reselect the **Approvers** Related List.

31. Right-click and select **Approve** the K16-Approver One Requested Approval.

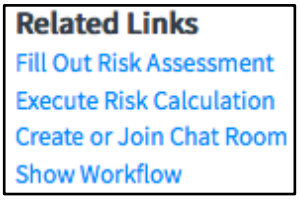
32. Reselect the **Change Tasks** Related List.

33. Right-click and select **Close Task.**

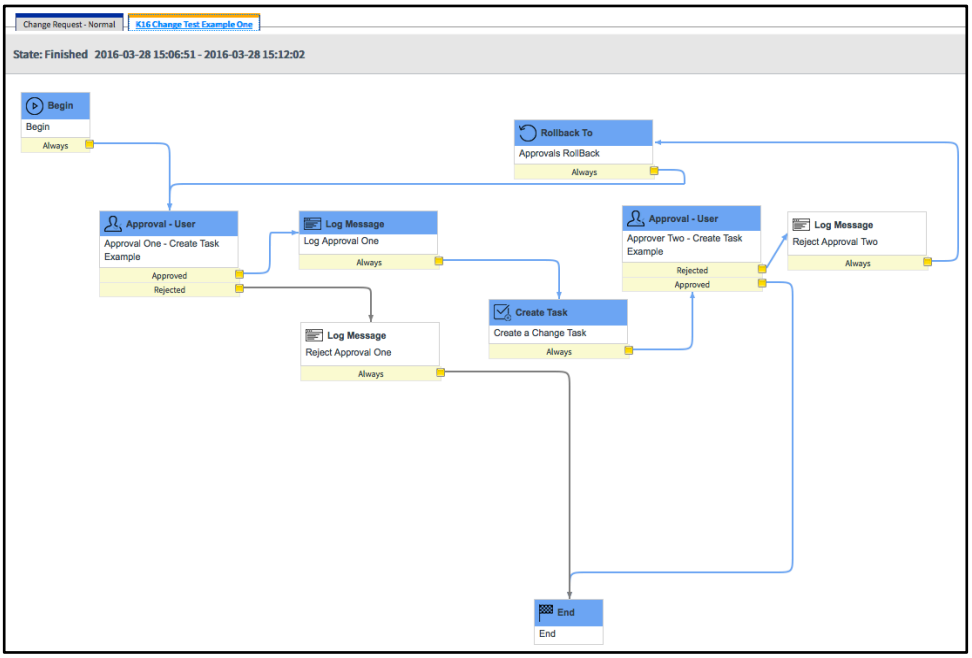
34. Reselect the **Approvers** Related List.

35. Right-click and select **Approve** the K16-Approver Two Requested Approval.

36. Select the **Show Workflow** link for the **Related Links** list.



37. The workflow context should look like the example.



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Summary

The Workflow Editor provides a way to assign tasks to the Current record using **Create Task** Activity.

The Create Task Activity allows the designer to decide if the workflow should wait for the task to complete before transitioning to the next Activity. If the designer selects **Wait for Complete,** the Workflow inserts the task into the database and wait for an update from that record. When the user changes the state of the task, the Workflow Engine is notified of the update event and the Activity finishes and transitions to the next Activity.

Completed tasks have a State change when they are in a rollback path.

- The state of Tasks in a rollback path is set to **Pending**.
- Tasks that are the destination of a **Rollback To** Activity are set to **Open**.

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Lab Goal

This lab explores the Service Catalog and Workflow. In this lab, you assign Workflows to Catalog Items and you add Tasks.

Lab 4.0 Service Catalog & Workflow

ServiceNow Workflow with Service Catalog

One of the most powerful ways of automating a process is to make it available to users through the Service Catalog.

A Workflow is associated with a product in the Service Catalog through the Catalog Item definition. Once associated with a Catalog Item, the workflow runs after the SC Request Item that contains the Requested Items is approved.

Workflows that are written to process a Catalog Item are associated with the Service Catalog Request Item (RITM) table. Through this association the Workflow has access to the variable values of the RITM. Workflows can be written to make decisions based on the values of the RITM variables.

As you know, a workflow runs for a specific table. If a workflow needs to leverage RITM variable mapping, the workflow must be associated with the Service Catalog Request Item table.

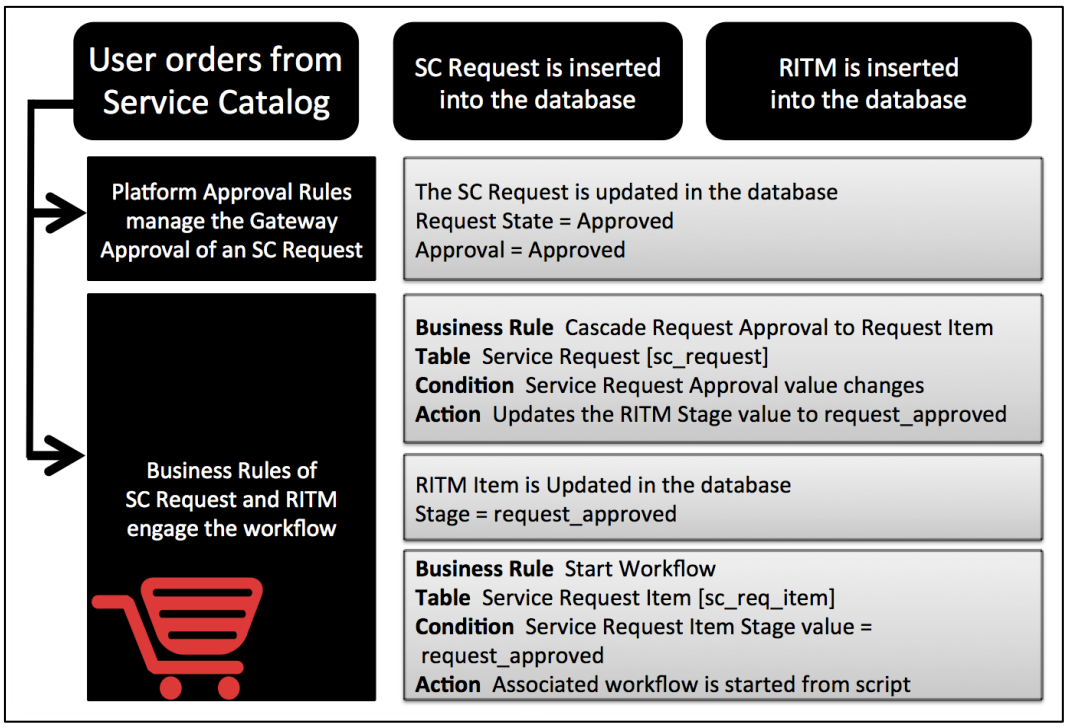
Workflows that are associated with a Catalog Item do not follow the default Workflow Engine behavior as the previous example using Change Request. In the previous example when a Change Request record was inserted, the Workflow Engine examined the conditions of the Workflow, (in the examples Priority-3 or Priority-4). If the conditions were met, the Workflow was automatically started.

When using the Service Catalog, the Workflows are associated with the RITM. That RITM however, is part of a Service Request. If the Service Request is not approved or does not succeed, then the RITM that is a part of that Request cannot be allowed to succeed.

In this way the Approval of the SC Request is gating the execution of the workflows associated with the items it contains. For this reason the approval of the SC Request is called the **Gateway Approval**. Unless and until the SC Request is approved the RITM workflows will not execute. However, the RITM is inserted into the database at the same time as the parent SC Request is.

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The Workflow associated with the RITM is started from within a series of Business Rules that evaluate the **Approval** status of the SC Request.

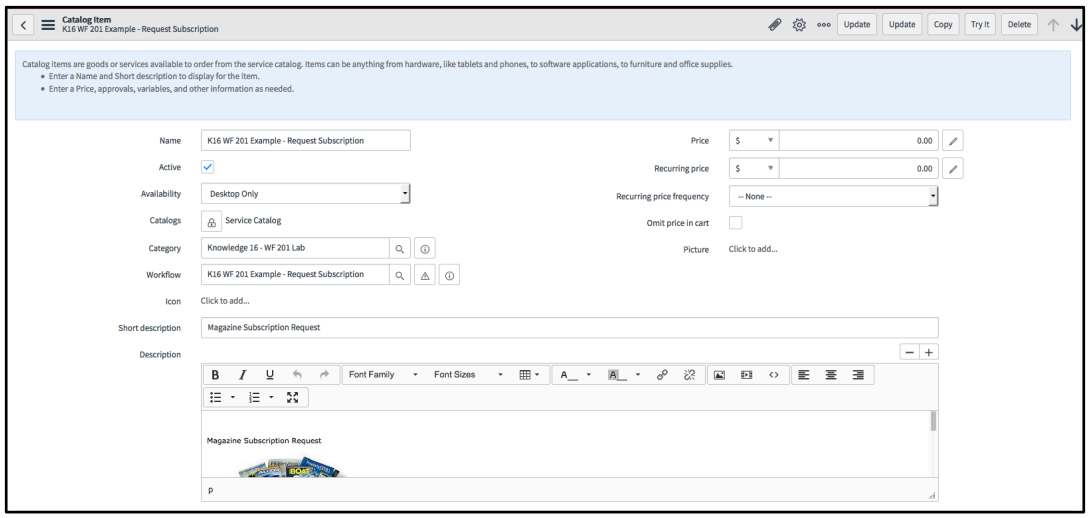


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Associate a Workflow with a Service Catalog Item

1. Navigate to **Service Catalog > Maintain Items**.

2. Select the **K16 WF 201 Example – Request Subscription**. You may need to switch to the Advanced View. Click the View name to select the Advanced View.



3. **Note**: The purpose of this lab is to demonstrate the association of Service Catalog and Workflow. Learning how to build Catalogs, Add Items to Catalogs, etc., is a part of the Service Catalog labs and is highly recommended for anyone interested in writing workflows for Service Catalog Items.

4. Notice the Workflow field. This field creates the association between the Service Catalog Item and the Workflow assigned to this field. In this case the Workflow assigned is **K16 WF 201 Example - Request Subscription**. It is this field in the RITM that is read from inside the **Run Workflow** Business Rule in the Gateway Approval process discussed earlier.

5. Scroll to the bottom of the form and find the **Variables** Related List. There are three records. The variables that belong to this Catalog task are available for read and write within the **K16 WF 201 Example - Request Subscription** Workflow.

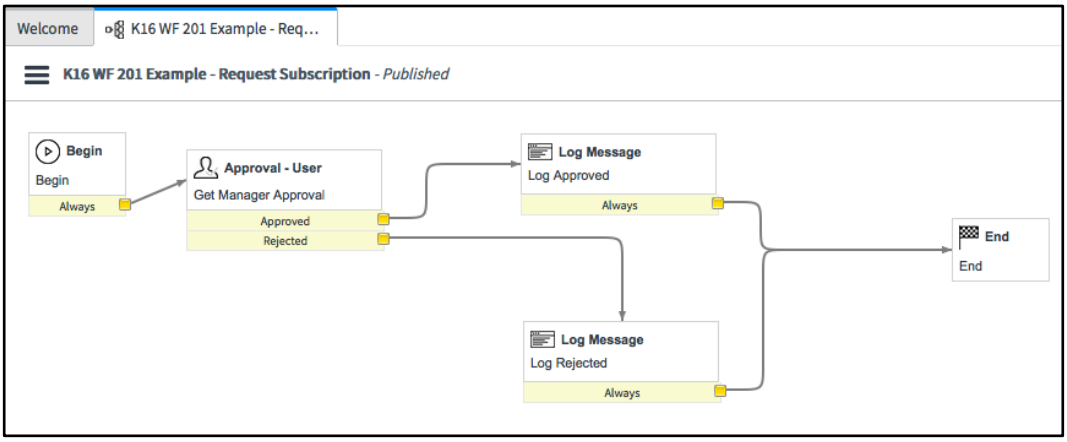
6. Return the Workflow Editor in the adjacent browser tab.

7. Click **Open**.

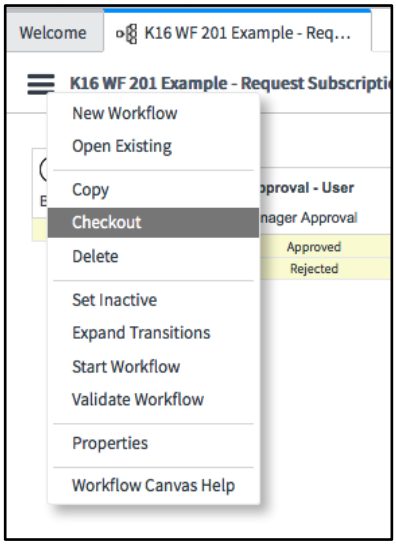
8. Select the **K16 WF 201 Example - Request Subscription**.

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9. The workflow should look like the example.

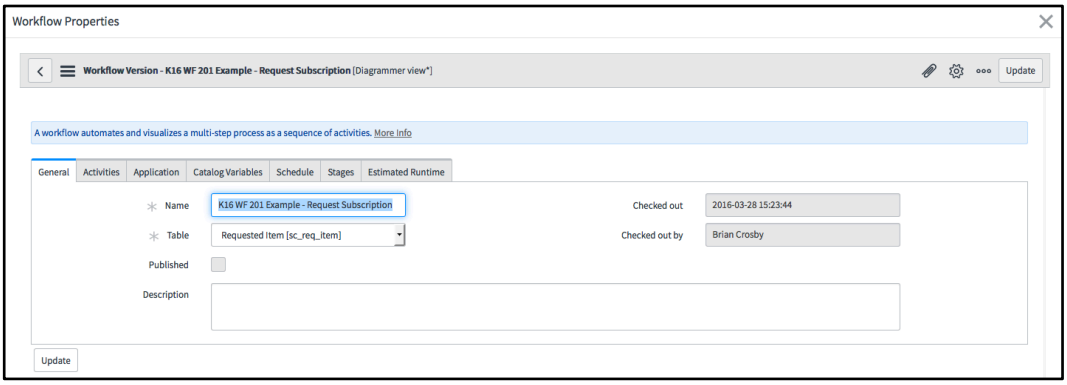


10. Select **Menu > Check Out**.



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11. Select **Menu > Properties**.

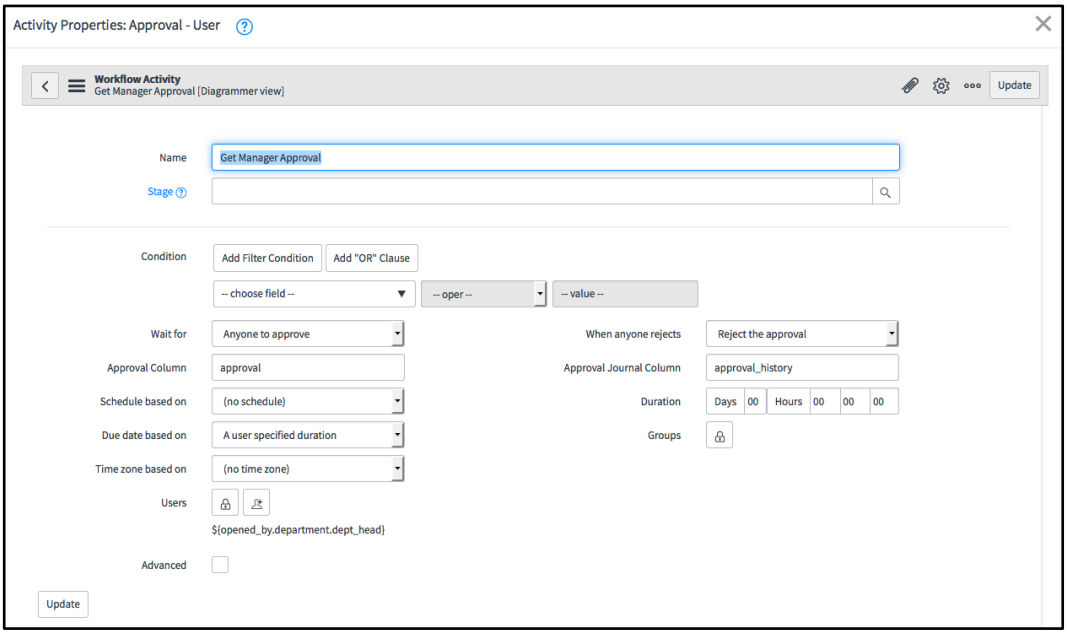


This Workflow is written against the Request Item table. Notice that there are no conditions available for this workflow. Because the Workflow Engine does not evaluate the Request Item Glide Record to determine if it should run or not, there is no point in configuring conditions.

QUESTION: If the Workflow Engine does not determine the conditions that run a Workflow against an RITM, what does?

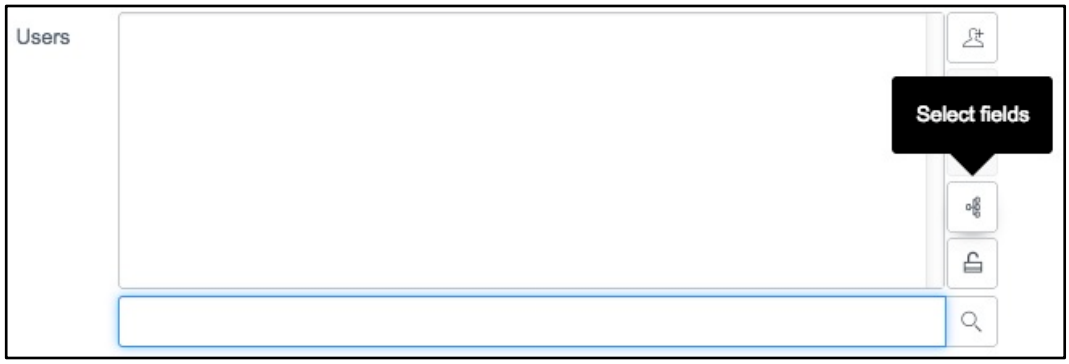
12. Close the **Workflow Properties** form using the **X** in the upper-right corner.

13. Double-click the **Get Manager Approval** Activity.



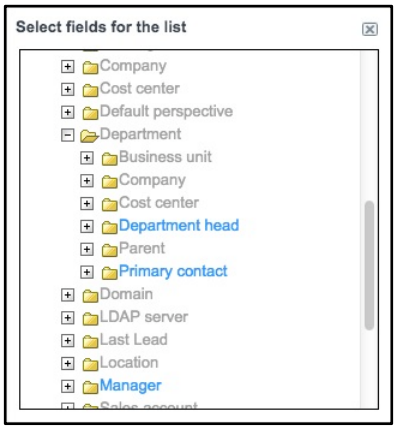
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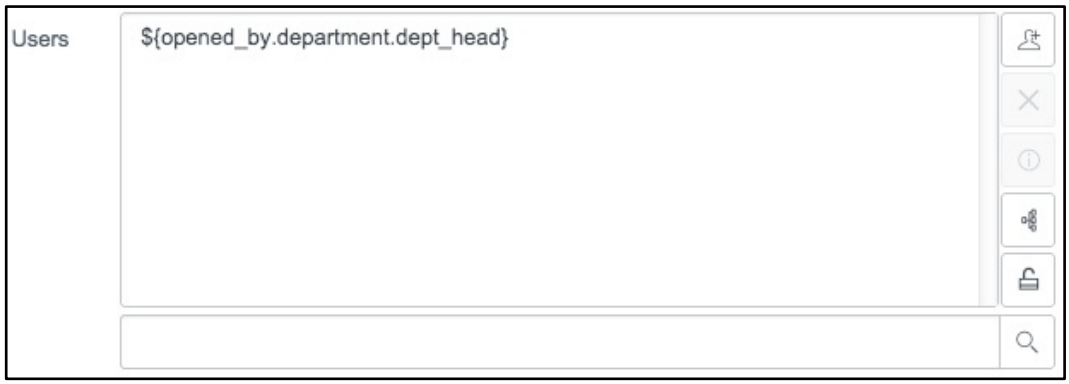
14. Click the **Users Lock** icon.



15. Click the **Select** users (**Tree** icon) to the right of the entry field. Dot walk to follow this path:

    Opened by > Department > Department Head.





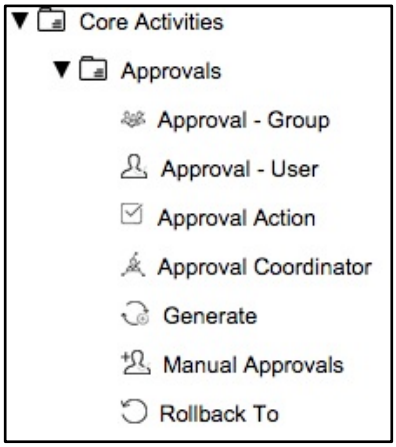
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16. The ${ } notation interprets the values inside as a dot walk of the current record.
    In this case the Current record is an **sc_req_item** Glide Record that has a reference field **opened_by**, which is a **sys_user** reference.

    The **sys_user** table has a manager field. The tree is a code assist tool for dot walking to assignment fields within the current record.

17. Click **Update** on the Approval Form.

18. In the **Activities Tree**, open the **Approvals** Category folder and select **Approval Action**.



19. Drag an **Approval Action** onto the transition between **Approval – User** and **Log Approved** Log Message.

    The Approval Action is used to set the Approval state of the RITM record based on the outcome of the Approval.

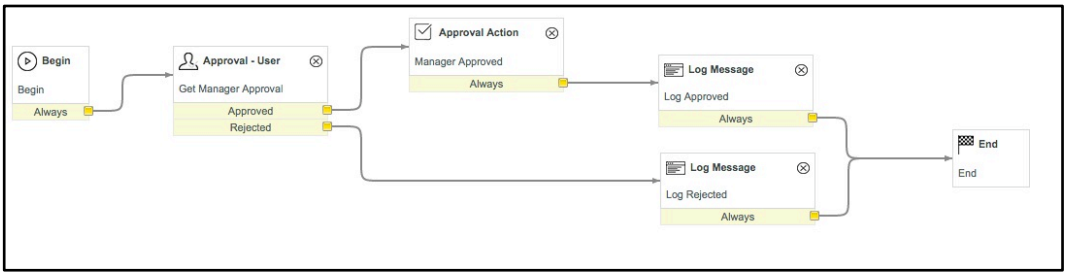
20. Fill out the fields as follows:

    Name: **Manager Approved**
    Action: **Mark task approved**

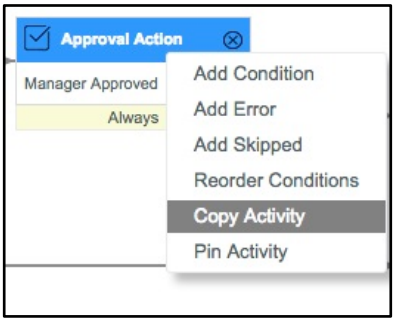
21. Click **Submit**.

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22. The Workflow Process should now look like the example.

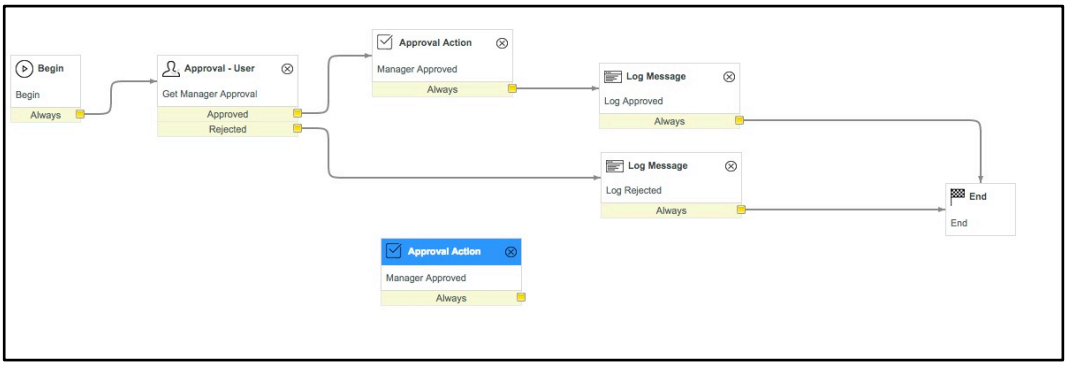


23. Right-click the white portion of the Manager Approved Activity.



24. Select **Copy Activity**.

25. The screen should look like the example.

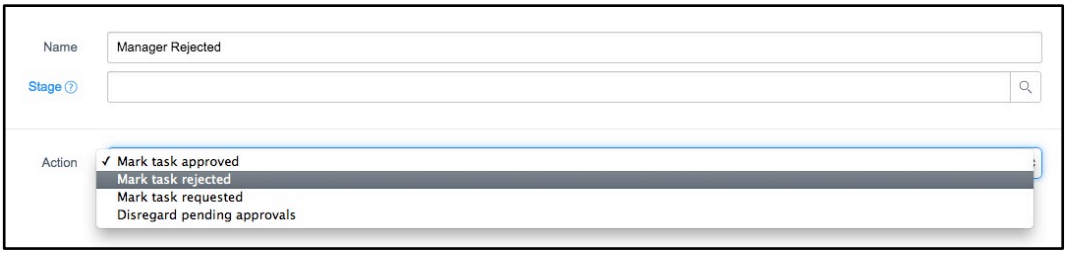


26. Double-click the duplicated **Manager Approved**.

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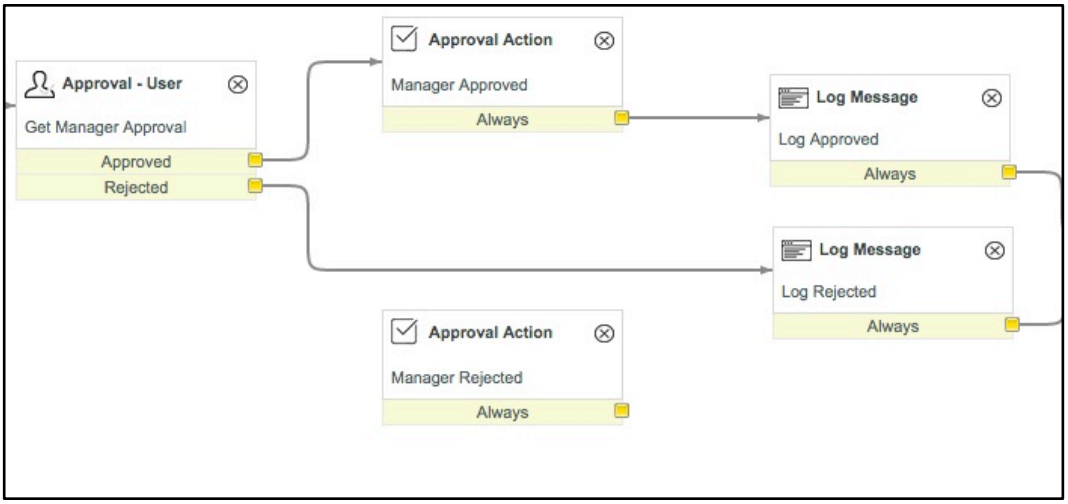
27. Fill the form out as follows:

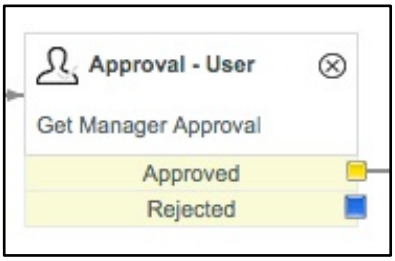
    Name: **Manger Rejected**
    Action: **Mark task rejected**



28. Click **Update**.

29. Move the transition end point of the **Rejected** condition to the **Approval Action Manager Rejected**.

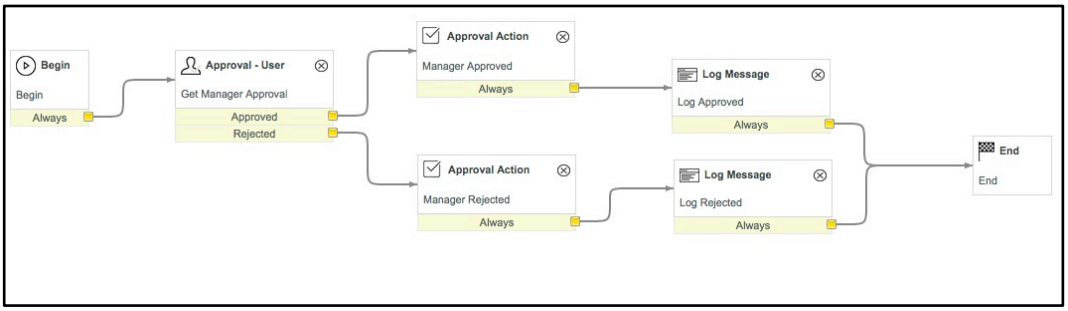




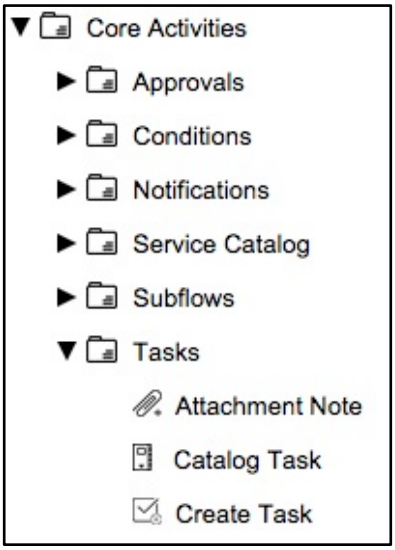
30. Create a transition from **Manager Rejected** to **Log Rejected**.

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31. The screen should look like the example.



32. In the Activity Tree, expand the **Tasks Category** folder.



QUESTION: There is a new Task in the Tasks folder that was not there earlier for Change Request. What can you assume about the Catalog Task Activity Definition?

33. Drag a **Catalog Task** onto the transition between **Log Approved** and **End** Log Message.

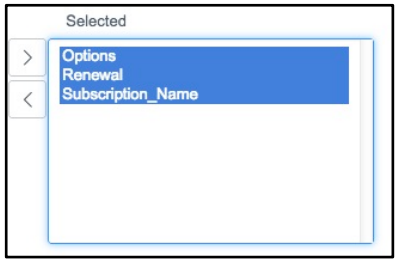
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34. The screen should look like the example.



Notice the variables in the Slush Bucket. These are the variables that are declared in the **Variables** Related List of the Catalog Item you looked at earlier. These variables can be moved to the Selected field and provided to the User who will be assigned the task.

35. Select the three variables from the Available list and move them to the **Selected** list.

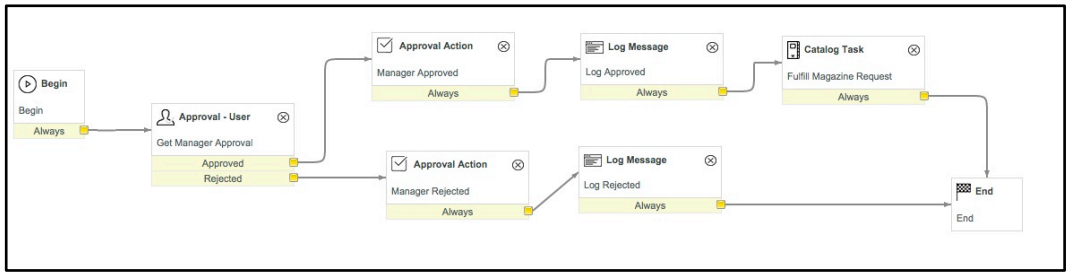


36. Fill out the rest of the form as follows:

Name: **Fulfill Subscription Task**
Priority: **3 – Moderate**
Assigned to: **K16Task – TwoUser**
Short description: **Magazine Subscription Order Fulfillment**
Instructions**: Please order this magazine**

37. Click **Submit**.

38. The workflow should look like the example.



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39. Publish workflow.

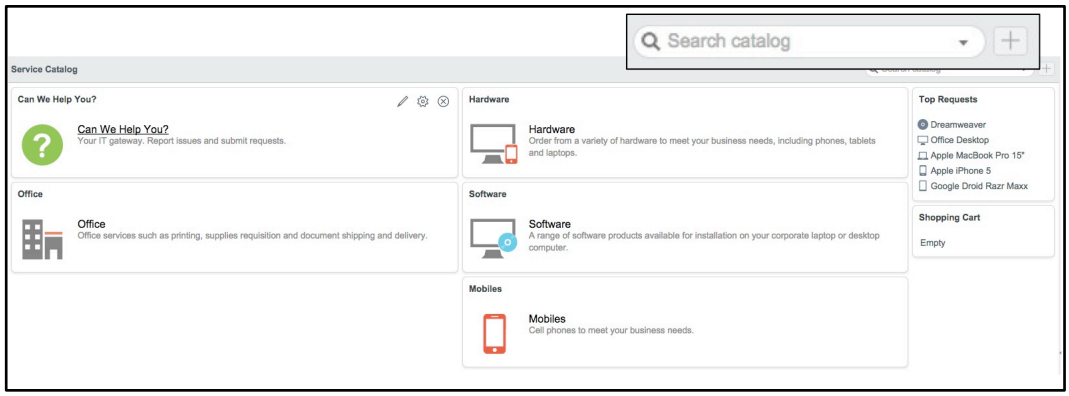
40. Return to the main ServiceNow tab.

Add Service Catalog K16 Category

1. Navigate to **Self Service** > **Service Catalog**.

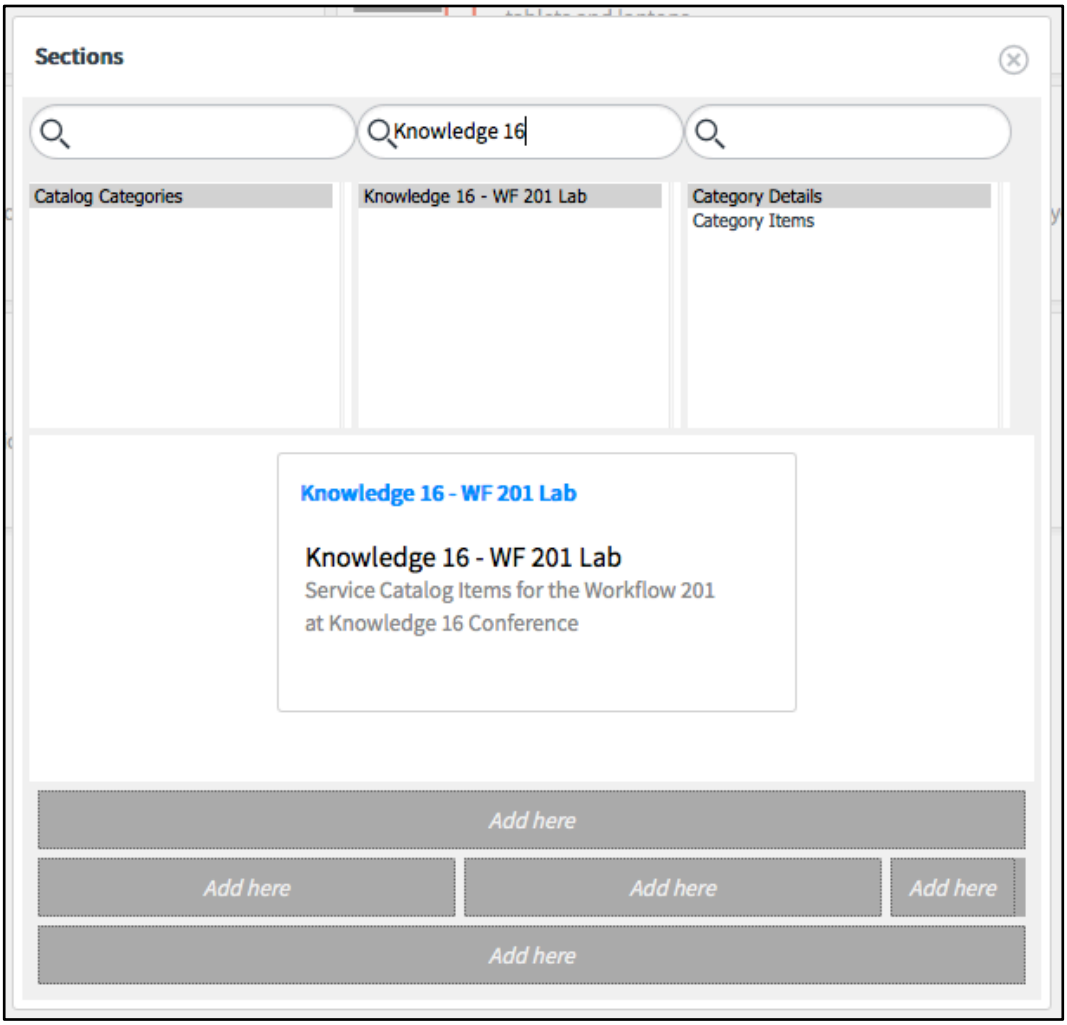
2. Add the **Knowledge16 – WF 201 Lab** category.

3. Click the **+** in the top-right corner of the screen.



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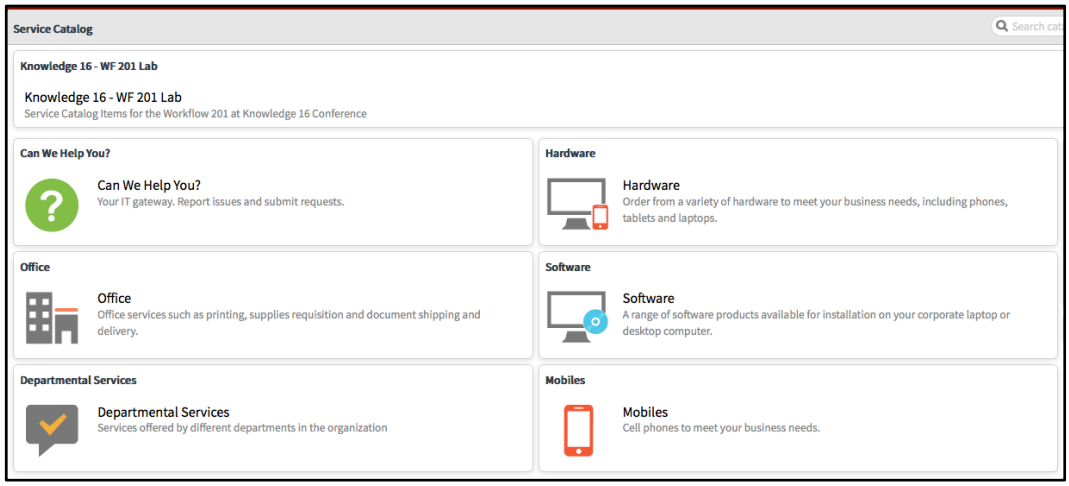
4. Select the **Knowledge 16 - WF 201 Lab** category.



5. Add to one of the **Add Here** dropzones.

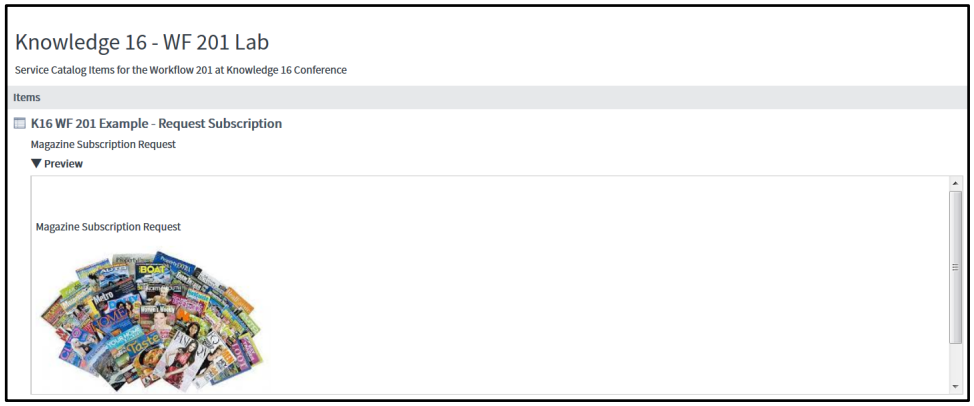
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6. The catalog should now have the K16 – WF 201 Lab category.



7. Click the **K16 Lab** Category.

8. The screen should now look like the example.



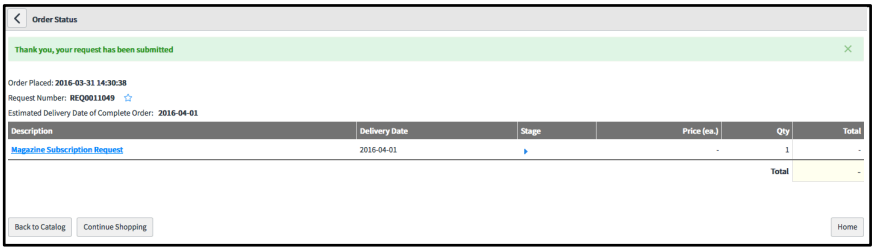
9. Select the **K16 WF 201 Example – Request Subscription**.

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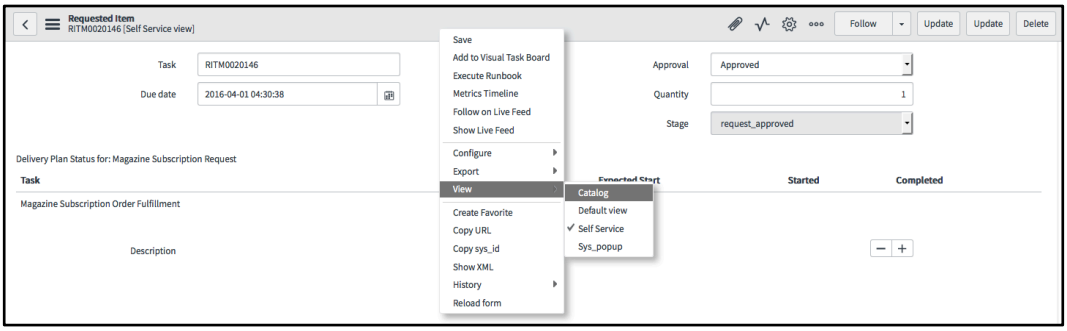
10. Add values to the questions and select **Order Now**.



11. Select the link to the Requested Item by clicking the **description**.

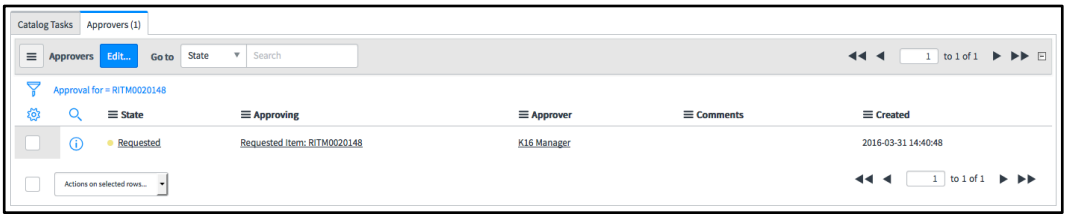


12. Switch to the **Catalog View**.



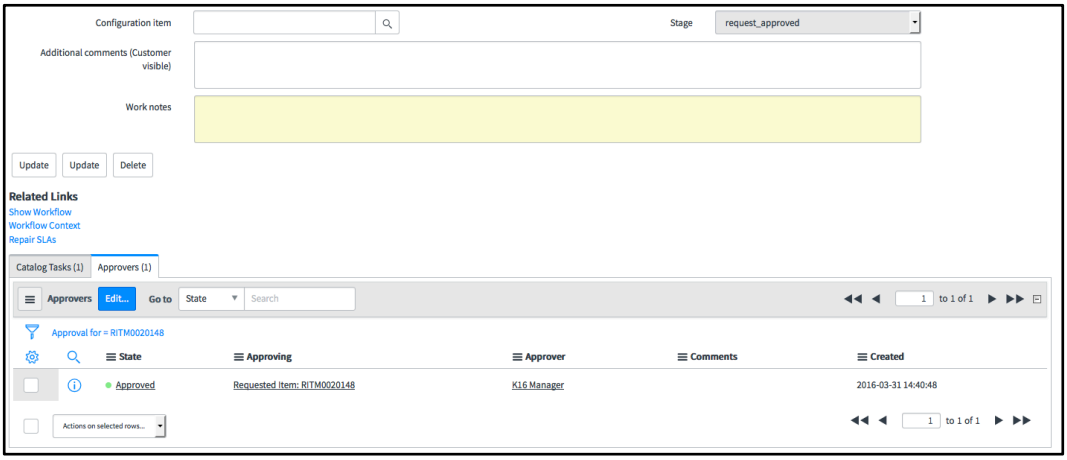
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13. Scroll to the **Approvers** Related List.



QUESTION: Looking at the screen capture above and remembering your dot walk assignment in the Approval User Activity, what can you assume about the K16 Manager? Think of your dot walk.

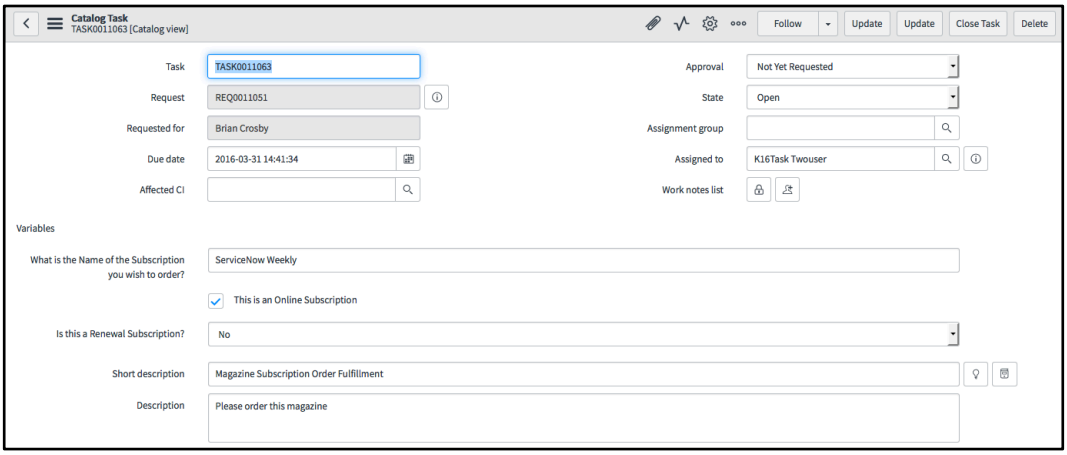
14. Right-click and select **Approve**, the K16 Manager approval. Notice that a Catalog Task record has been added and the Stage has updated. The workflow has updated the Stage field.



QUESTION: Look at the Stage field. How did the value change from Requested to **request_approved**?

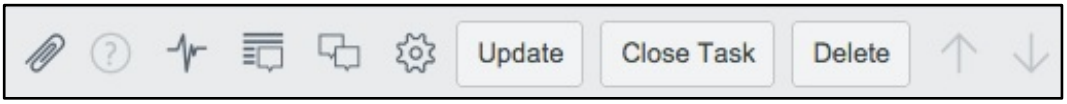
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15. In the **Catalog Tasks** Related List, open the **Task** record.



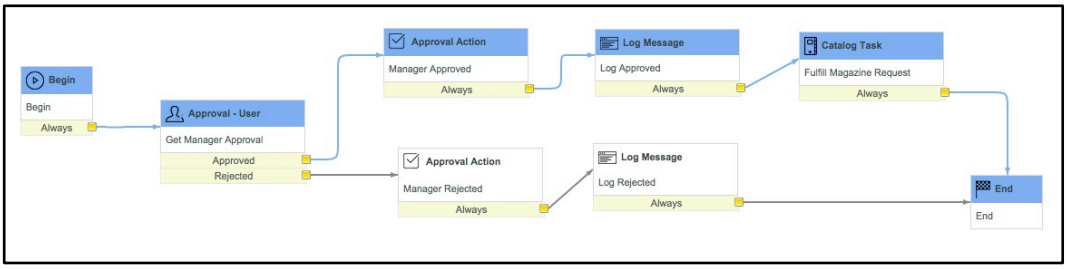
QUESTION: How did the variables for the RITM get onto the Catalog Task form?

16. Click **Close Task**.



Show Workflow

1. In the Request Item form, select the **Show Workflow** link in the Related Links list.
2. The workflow context should look like the example.



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Summary

The Service Catalog and Workflow Engine work together to fulfill Service Catalog Requests. Because of this the Workflow Engine does not evaluate the conditions of a Workflow that are written against the **Requested Item** [**sc_req_item**] table.

Workflows are assigned to Catalog Items in the **Maintain Items** module of the **Service Catalog Application**. When a Catalog Item, that has a workflow assigned to it, is ordered from the Service Catalog, the workflow does not start immediately. The progress of the Request Item (RITM) is waiting behind a **Gateway Approval**. Once the Gateway Approval is approved, the Workflow of the RITM starts from within the Run Workflow Business Rule on the **sc_req_item**. This Business Rule is triggered by an update to the RITM record from a Business Rule on the parent **sc_request**.

So the Workflow Engine knows not to start a workflow that is associated with an RITM from within the Glide event (insert, update, delete or cancel). Instead, the RITM workflows are started by Business Rules pending the Gateway approval of the Service Catalog Request.

The Workflow Editor offers Activities that provide a designer a way to access the variable values of the RITM and to read and write values of the current record.

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Lab Goal

This lab explores the Stages in workflow in the Service Catalog. It explains how to track Catalog Items with Stages, add Tasks, and add Stages.

Lab 5.0 Introduction to Stages in Workflow

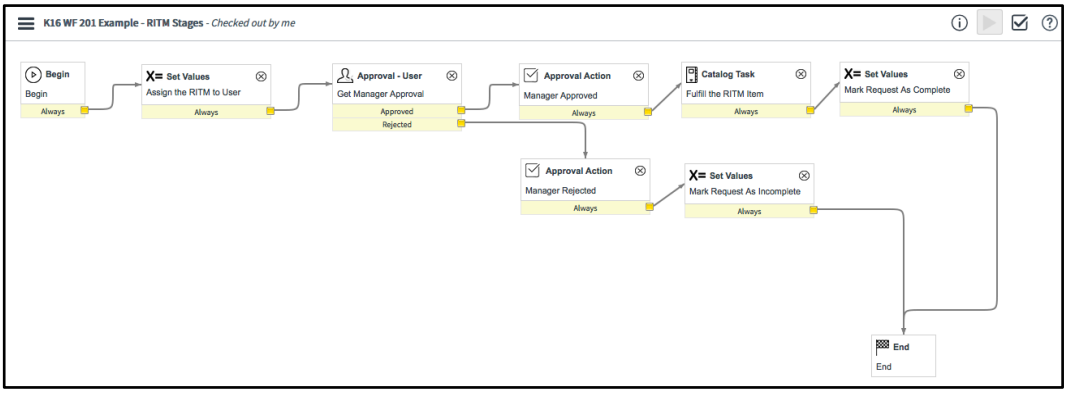
Stages in Workflow with Service Catalog

The Workflow Editor provides a way to help a user track a process through the use of Stage icons. The designer may choose to assign a Stage to an Activity in the Workflow that represents a significant point in the process being automated. As the workflow progresses through the Activities and encounters a Stage, the Workflow Engine updates the value of the stage icons.

The overall states of the Stages are stored in the Workflow Context.

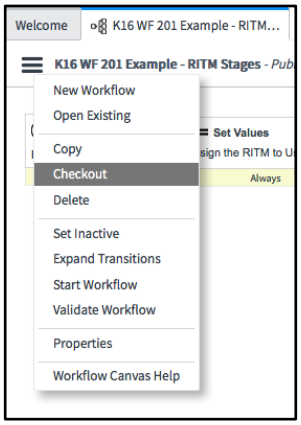
Note: This section on Stages is an introduction to add completion to the Service Catalog and Workflow Relationship.

1. Navigate to **Workflow > Workflow Editor**.
2. Click **Open**.
3. Select the **K16 WF 201 Example - RITM Stages**.

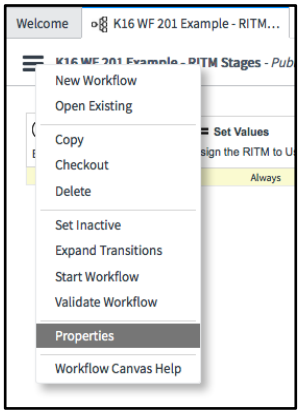


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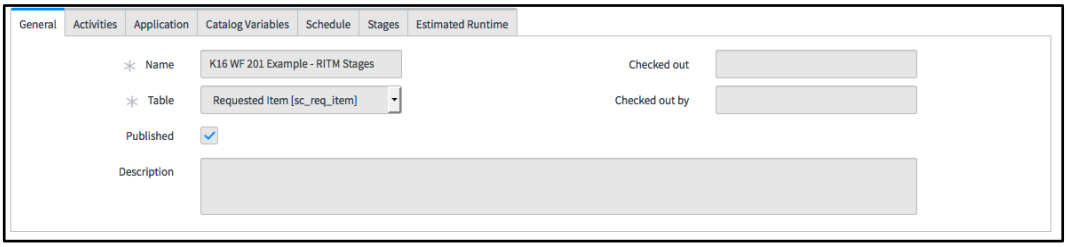
4. Select **Menu > Check Out**.



5. Select **Menu > Properties**.

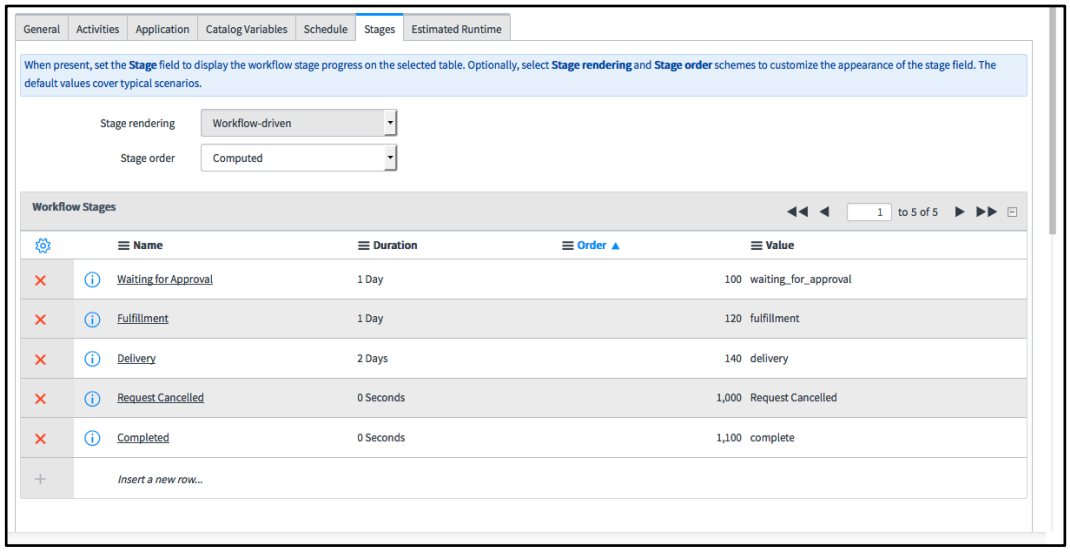


Notice that this workflow is also on the **sc_req_item** table.



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6. Click the **Stages** tab.



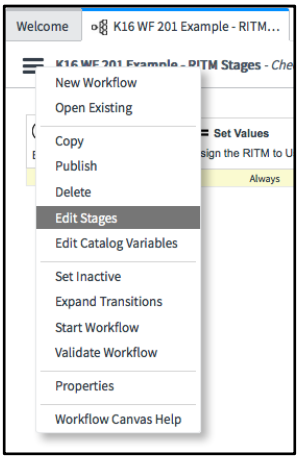
Notice the two stage properties in the right column of the **Workflow Properties** form.

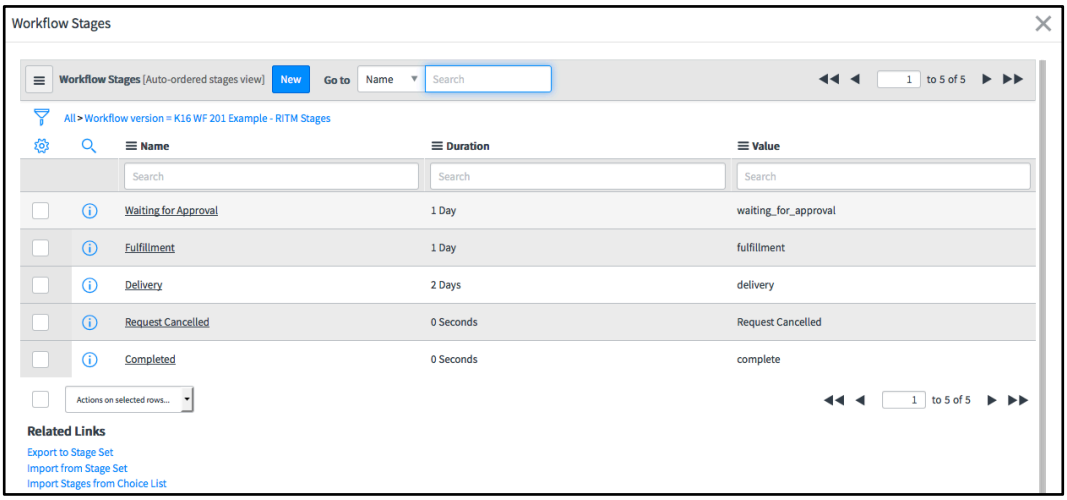
- Stage Rendering: **Linear**
  The order that the stages are drawn in the icon list will be the order that the user specifies.
- Stage Order: **User Specified**
  When the rendering is Linear, the Icon Stage order always follows the ordering that is specified in the Stage Definition.

7. Close the **Properties** form.

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8. Select **Menu > Edit Stages**.





This list represents the stages that are available for assignment in this workflow. Notice the Order values. This is the order the icons appear in the list of Request Items.

9. Select the **New** button.





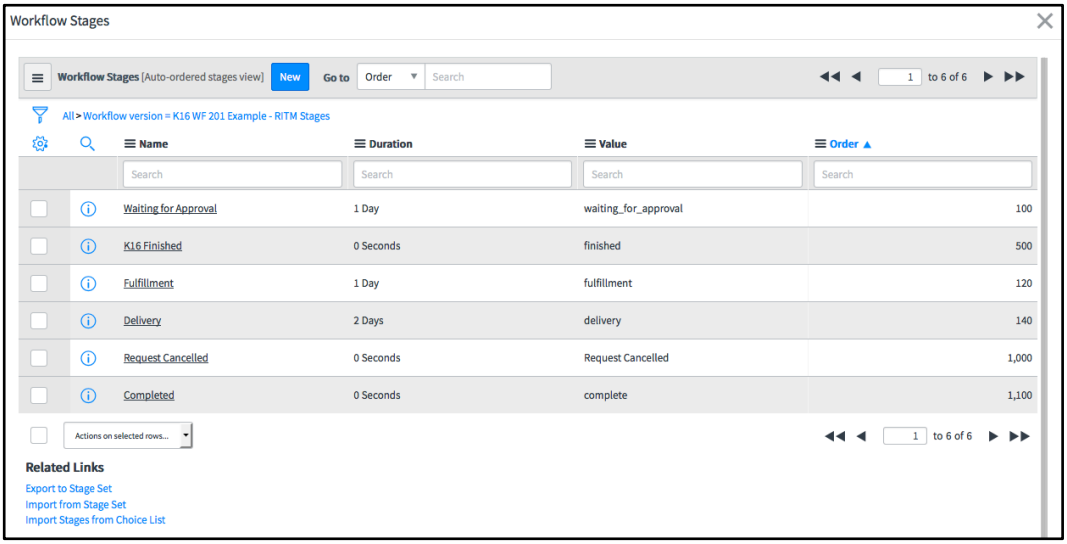
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10. Fill out the forms as follows:

    Name: **K16 Finished**
    Value: **finished**



11. Click **Submit**.



12. Close the list.

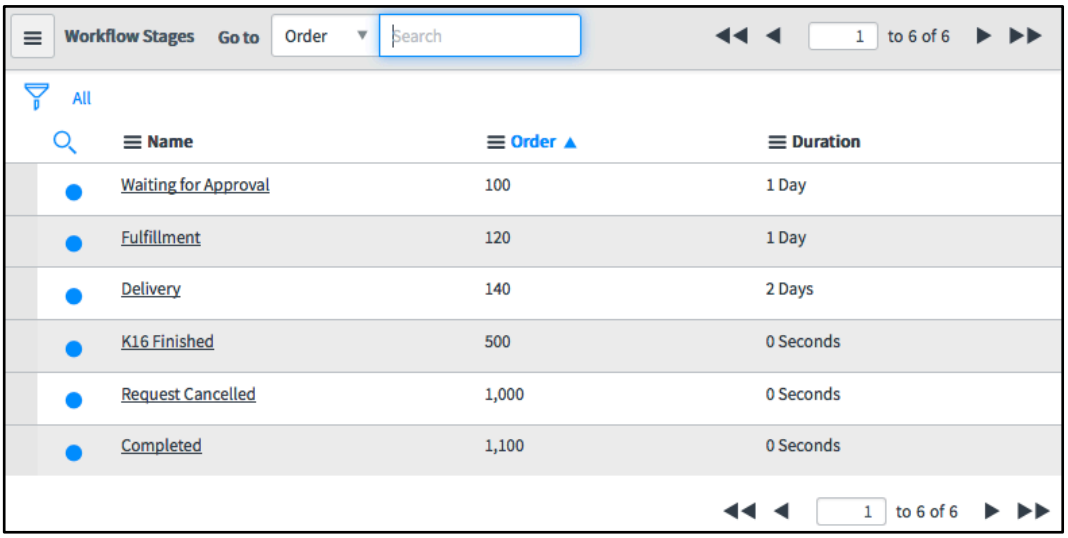
13. Double-click the **Assign the RITM to User** Activity.



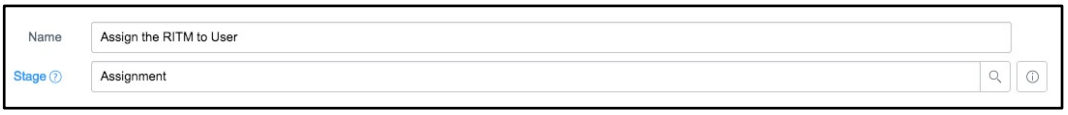
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14. Click the **Search** icon.



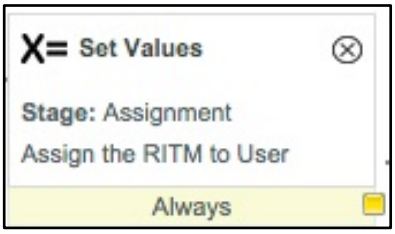


15. Select **Assignment**.



16. Click **Update**.

17. Notice the Stage now displays in the Activity.



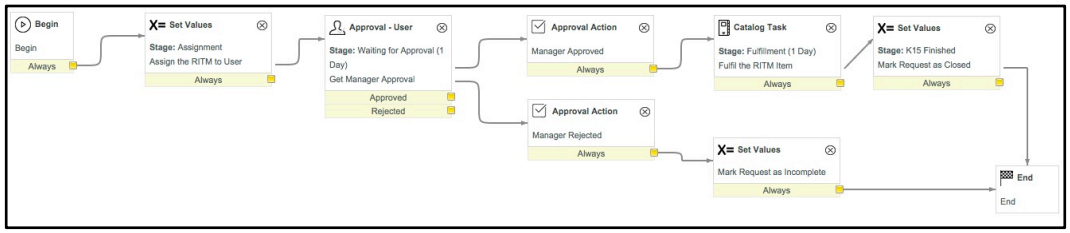
18. In the Get Manager Approval Activity, assign the **Waiting Approval** stage.

19. In the Fulfill the RITM item Activity, assign the **Fulfillment** stage.

20. In the Mark RITM as Closed Activity, assign the **K16 Finished** stage.

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21. The workflow process should look like the example.



Note: A Catalog Item named **K16 WF 201 – Stage Catalog Example** has been preconfigured for you to run this workflow.

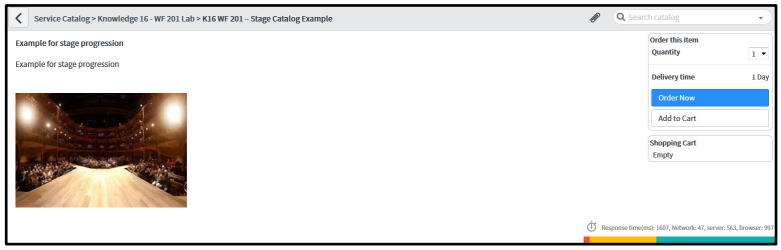
22. Return to the main ServiceNow tab.

23. Navigate to **Self-Service > Service Catalog**.

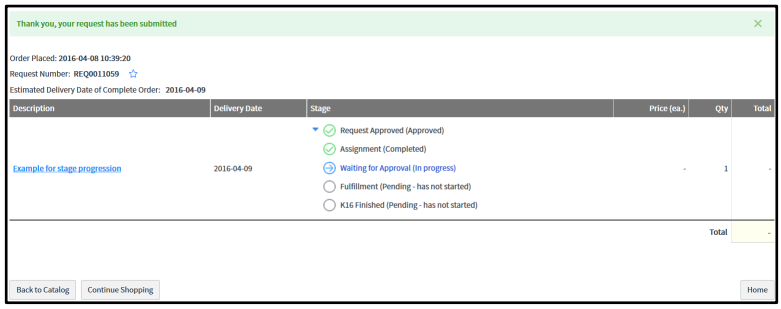
24. Select the **Knowledge 16** -**WF 201 Lab** Category.

25. Click **Knowledge 16 WF 201 - Stage Catalog Example**.

26. Select the **Order Now** button.



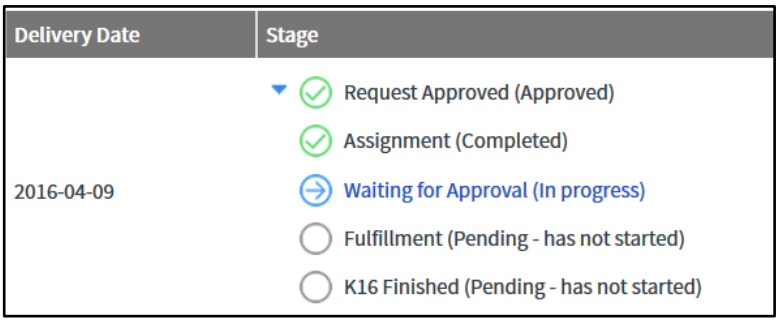
27. Review the Order Status.



Notice the Icons in the Stage column are the stages that were added to each relevant Activity in the **K16 WF 201 Example - RITM Stages.**

Approved is at the top of the list. You did not have an **Approved** stage!

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If there is a **Gateway Approval** that is part of the process, that approval state appears at the top of the icon list for Service Catalog Items.

28. Select the **K16 WF201 – Stage Catalog Example** link on the order form.

    Note: If the **Self Service view** is active, switch to the **Catalog** view. This will make it easier to work through this portion of the lab.

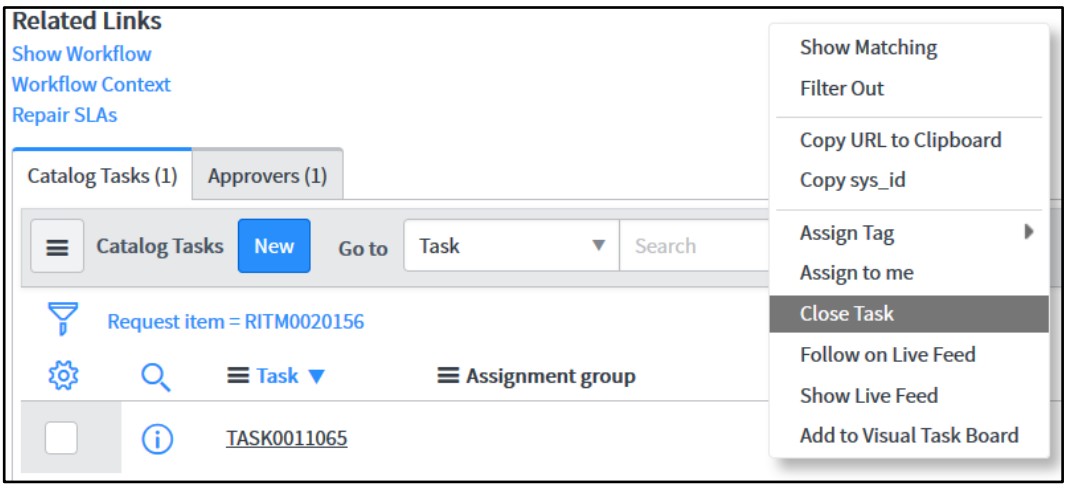
29. Scroll to the Related Lists.

30. Select the **Approvers** Related List.

31. Right-click and select **Approve** the **K16 Manager** Approval.

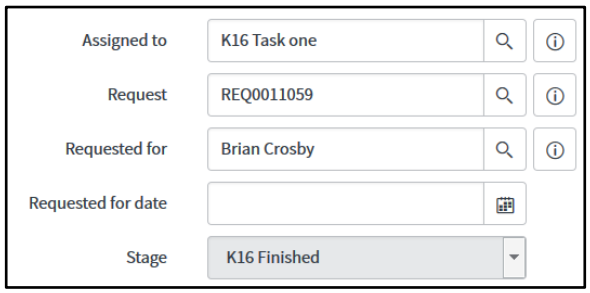
32. Select the **Catalog Tasks**.

33. Right-click and select **Close Task** on the **Open** task.

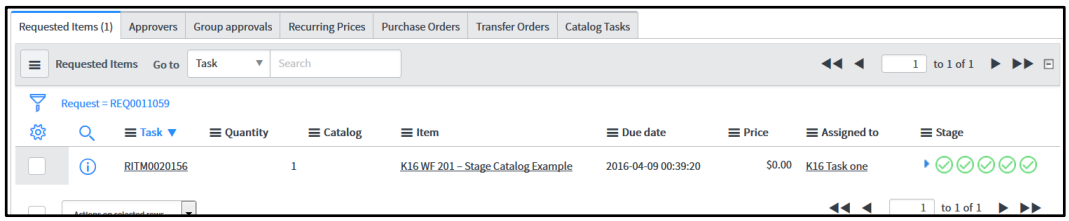


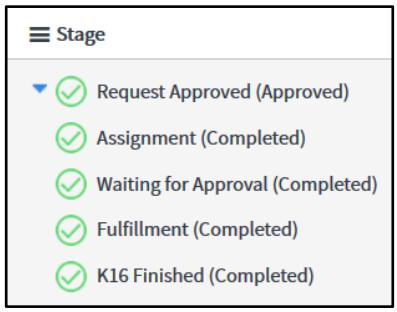
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34. In the Request field, select the form icon. Notice that the coding of the icons represents all the Stages.



Within the Request Form you see the Requested Items Tab. This tab contains the stage fields seen earlier in the lab.





SUMMARY

The Workflow Engine allows a designer to define stages that represent significant points in the progression of the process. Stages are assigned to Activities in a workflow. By assigning the Stages to the Activities of a Service Catalog Item, the Workflow Engine can report the status of the process. This status is reflected in the Stage Column of the RITM record using colored icons.

This stage summary provides a nontechnical view of the workflow progression to the Service Catalog customers, making it a powerful element of workflow design.

This lab demonstrates one method of defining and reflecting stages using the Linear Renderer in the Workflow Properties. There is a suite of Stage Renderers and Configurations that are available in the Workflow Engine. These are covered in more detail in the Workflow 301 lab.

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Extra Credit – Lab Goal

Extra Credit Lab Introduction to Variables

This lab explores the concept of leveraging variables within a workflow.

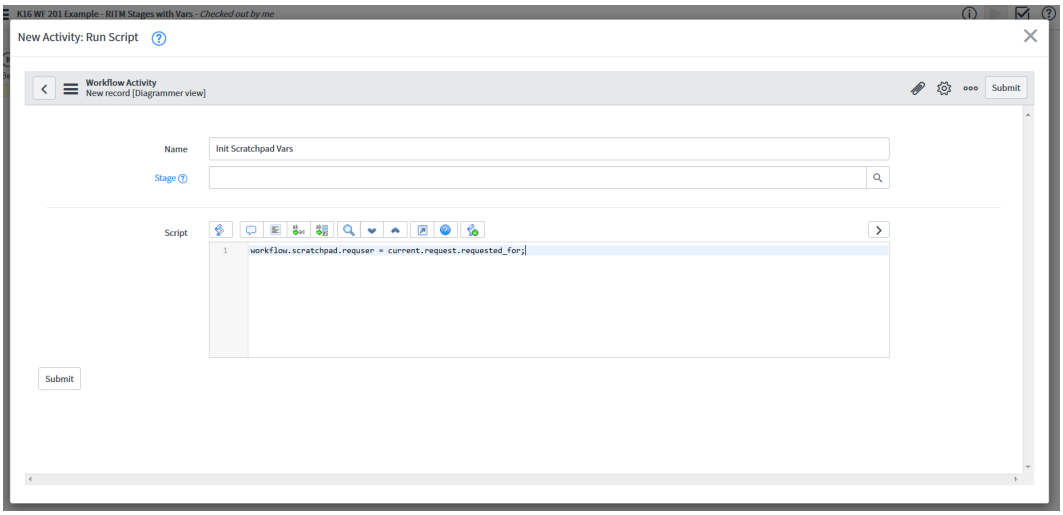
Now that you have a firm understanding of how workflows operate and how to leverage them within a Catalog, explore extending this capability. There often is a scenario when you need input from the user and/or a system variable to make some type of decision. The options are nearly limitless on how you can leverage this capability.

This extra credit aims to demonstrate one means to leverage variables that are passed to the workflow via a Catalog Item Request. Initialize these variables by storing them within the workflow context stratchpad. The stratchpad is a special field that allows workflow activities to communicate data to subsequent activities. The data stored in this variable is represented as a JSON datatype.

As you work through this lab you will notice that is not as many screen shots and descriptive language. This is on purpose as this lab is EXTRA CREDIT. If you have any issue or questions, feel free to flag down a Guru to assist.

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1. Open the K16 WF 201 – Stage Catalog Example.
2. Navigate to the **K16 WF 201 Example RITM Stages**.
3. Copy the workflow to **K16 WF 201 Example RITM Stages with Vars**.
4. Add **Run Script** activity to the workflow and fill in as below.



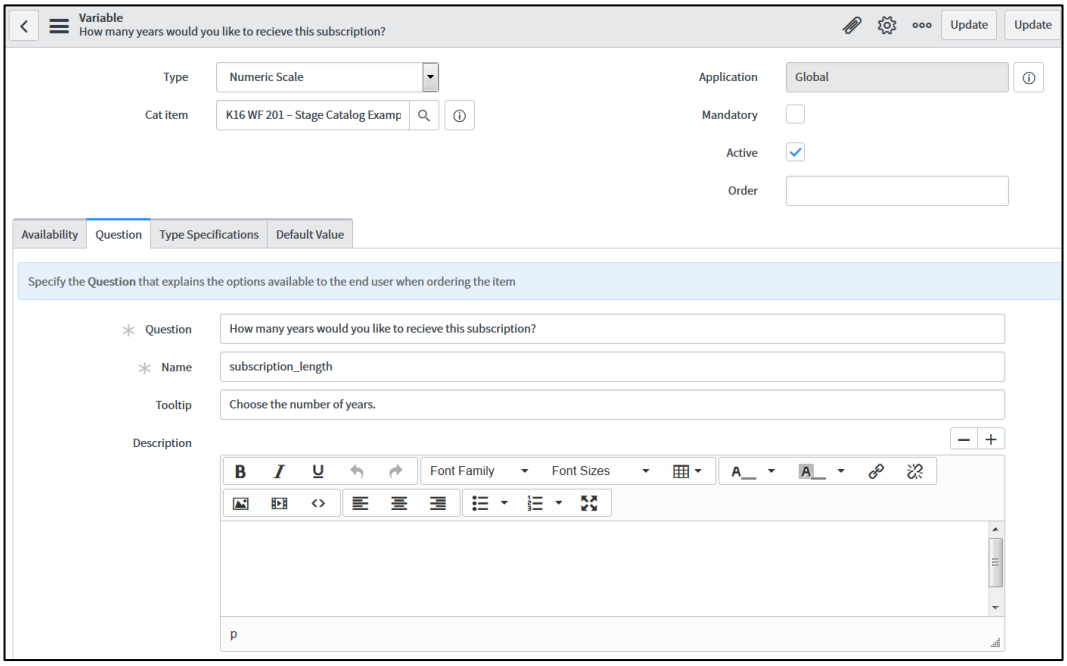
5. Publish the workflow and update the K16 WF 201 – Stage Catalog Example to reflect the new workflow.
6. Request the new Item.
7. Navigate to **Workflow > Live Workflows > Active Contexts**.
8. Select the context with a related record that matches your Requested Item.

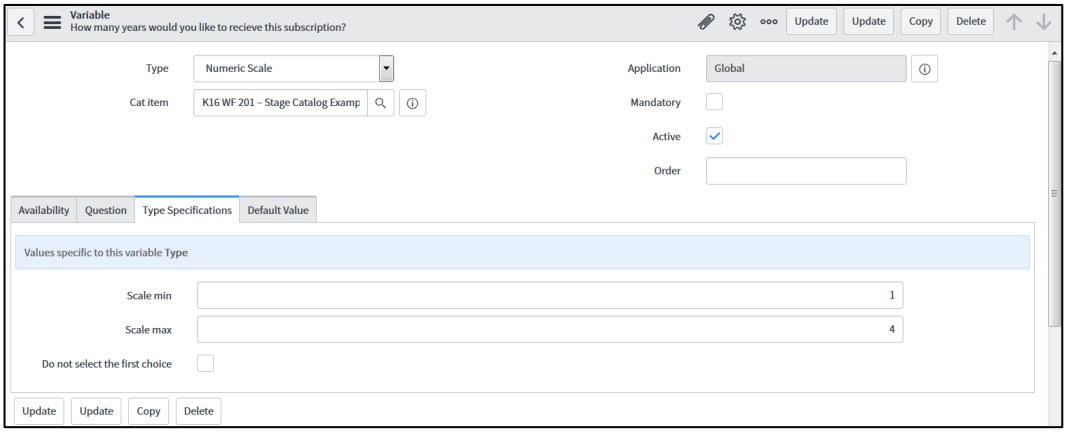
   QUESTION: Why is the scratchpad variable not available on the form? How would you add them to the form for debugging purposes?

   Hint: The scratchpad is an attribute of the workflow.
9. Go back to the K16 WF 201 – Stage Catalog Example catalog item and add a new variable.

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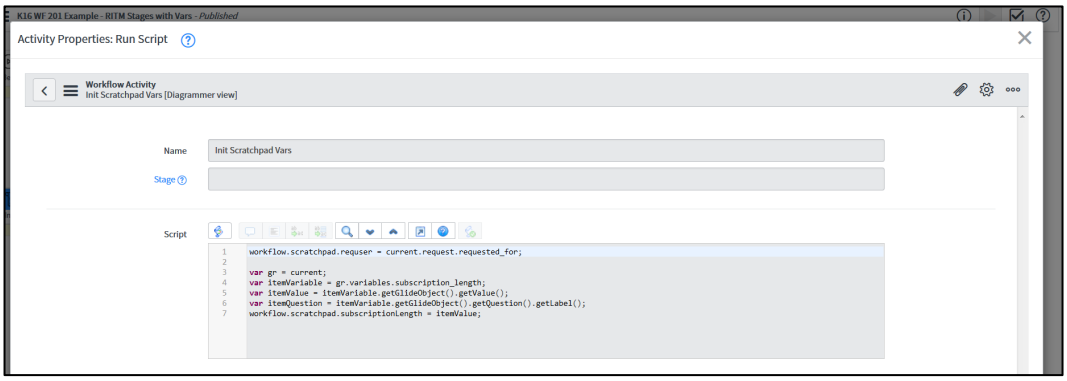
10. Add a variable to understand how long the Magazine Subscription should be in place. Fill in the new variable as below.





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11. Update the **K16 WF 201 Example - RITM Stages with Vars** workflow and the **Init Scratchpad Vars** activity within the workflow to create a new Scratchpad variable to store the **subscription_length** variable just created.



12. Add a new condition to leverage this variable. If the subscription length is greater than one year, require a director level approval.

13. Test your Catalog Item. Does it work? Think about what other scenarios you could leverage the scratchpad and variables to fulfill. If time permits, implement one and validate with a Lab Guru when complete.

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