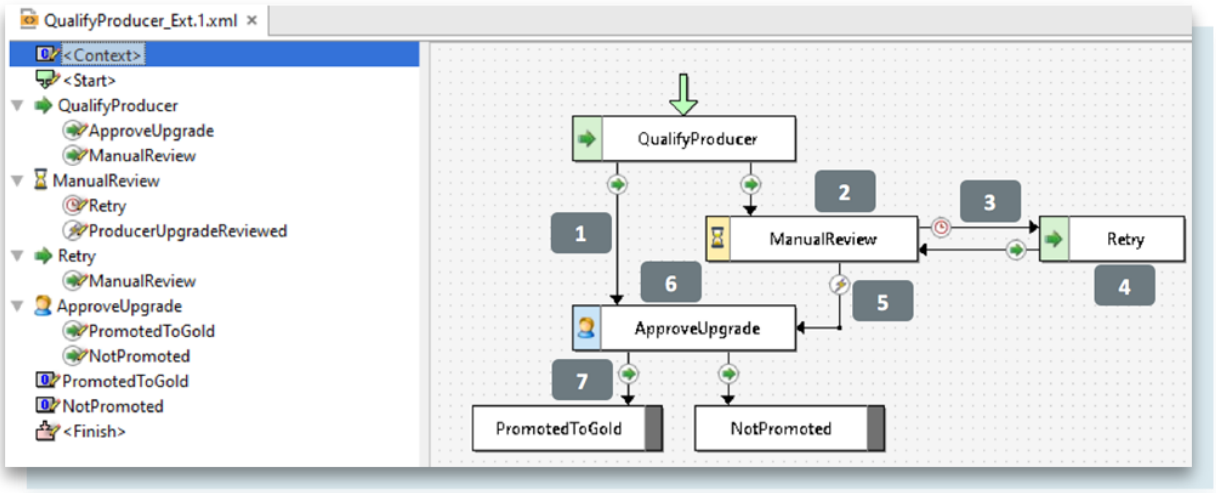
Lesson 7 Workflow Elements

7.1 Add elements to workflow

This is the second of two labs that build a workflow based on the Qualify Producer Workflow scenario. The customer wants to verify that a producer has achieved a certain performance level before they promote the producer to Gold tier.

7.1.1 Requirements

The completed workflow to manage this business process is illustrated in the following graphic. The numbers are callouts to the specifications below the graphic. They do not indicate the order of execution.



Spec 1 If the producer has a minimum of 5 policy periods, no manual review is required, and the workflow progresses directly to the ApproveUpgrade activity step. Otherwise, the ManualReview step is processed next.

Spec 2 The ManualReview manual step creates and assigns a notification activity to a user for the purpose of verifying the producer's qualifications for the promotion. The base assignment rules can be used to determine who is assigned the notification activity.

Spec 3 The timeout branch waits for 1 day before execution resumes at the Retry step.

Spec 4 The Retry auto step counts the number of retries. It creates a notification activity with an urgent priority to notify a user of the number of retries. The base assignment rules can be used to determine who is assigned the notification activity. (This notification activity would normally be assigned to a supervisor, but this requirement is omitted for simplicity in this scenario.)

Spec 5 The ProducerReviewed trigger is invoked by a Producer Reviewed button on the Producer Summary screen.

Spec 6 The ApproveUpgrade activity step creates an approval blocking activity to approve the upgrade of the producer to the gold tier. The subject of the activity should say "Confirm that <producer name> should be promoted to Gold". The activity should be assigned using the assignment rules.

Spec 7 The go branch to the PromotedToGold outcome is executed if the approval activity has been approved. It includes logic to promote the producer to gold. Otherwise, the outcome is NotPromoted.

Spec 8 A BillingCenter user starts the promotion workflow process from the Producer Summary screen by clicking the Promote to Gold button.

7.1.2 Tasks

1. Modify the QualifyProducer_Ext workflow created in the previous lesson.
    a. Create two new outcomes PromotedToGold and NotPromoted.
    b. Create activity step ApproveUpgrade with a go branch to PromotedToGold.
    c. Edit Activities tab of ApproveUpgrade step.
    d. Edit PromotedToGold branch condition and execution script.
    e. Add a new go branch from ApproveUpgrade to NotPromoted step.
    f. Create QualifyProducer auto step and go branch to ApproveUpgrade activity step.
    g. Point <Start> block to QualifyProducer step.
    h. Delete DefaultOutcome outcome step.
    i. Create a new Manual Step called ManualReview.
    j. Create the ManualReview notification activity on the Notifications tab.
    k. Add a new trigger type called ProducerUpgradeReviewed_Ext.
    l. In the workflow, add a new TRIGGER branch from ManualReview to the ApproveUpgrade step.
    m. Remove the timeout branch from ManualReview step.
    n. Add an integer column Count to QualifyProducer_Ext workflow entity and restart the server.
    o. Create a go branch from QualifyProducer step to ManualReview step.
    p. Initialize counter in ManualReview go branch execution script.
    q. Add a condition to ApproveUpgrade go branch.
    r. Create an auto step called Retry with go branch to ManualReview step.
    s. Create Retry notification activity.
    t. Increment counter in Retry step enter script.
    u. Create a new timeout branch from ManualReview step to Retry step.
2. Reload Workflow Engine.
3. Add workflow start code and trigger branch code to ProducerDetailScreen.pcf file.
    a. Add workflow start code and trigger branch code
    b. Create Promote To Gold button on the ProducerDetailScreen.pcf toolbar.
    c. Create Producer Reviewed button on the ProducerDetailScreen.pcf toolbar.
4. Reload changed classes and reload UI.

7.1.3 Testing procedure

1. Test the ManualReview functionality:

a. In BillingCenter, add a producer with two policies

b. QuickJump: Run Producer with2Policies

c. Modify the producer's tier to Silver.

d. Click Promote to Gold to start the workflow.

e. Navigate to Administration → Monitoring → Workflows.

f. Search for QualifyProducer_Ext workflows.

g. Confirm that the workflow step is ManualReview.

h. Execute the Retry timeout branch by selecting Manage Workflows button.

Search for notification activities and look for one with a priority of High and a subject that includes the number of retries.

i. Execute the Retry timeout branch again.

j. Find the new notification activity and confirm that the retry count has increased by 1.

k. On the Producer Summary screen, click Producer Reviewed button to invoke the trigger branch.

l. Confirm that the workflow step is now ApproveUpgrade.

m. Click the Workflow Type link for the workflow to verify an approval activity was generated.

n. Search for the approval activity and Approve the activity

o. Confirm that the workflow outcome is PromotedToGold.

p. Revisit the Producer Summary screen to confirm that the promotion has taken place.

2. In BillingCenter, add a producer with ten policies

a. QuickJump: Run Producer with10Policies

b. Modify the producer's tier to Bronze.

c. Click Promote to Gold to start the workflow.

d. Navigate to Administration → Monitoring → Workflows.

e. Search for QualifyProducer_Ext workflows.

f. Confirm that the workflow step is ApproveUpgrade and an approval activity was created.

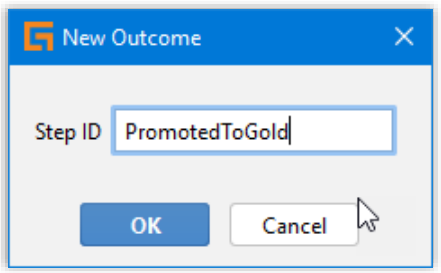
7.1.4 Solution

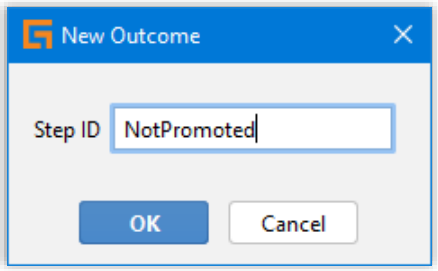
Solution

Exact details on how to complete the exercise.

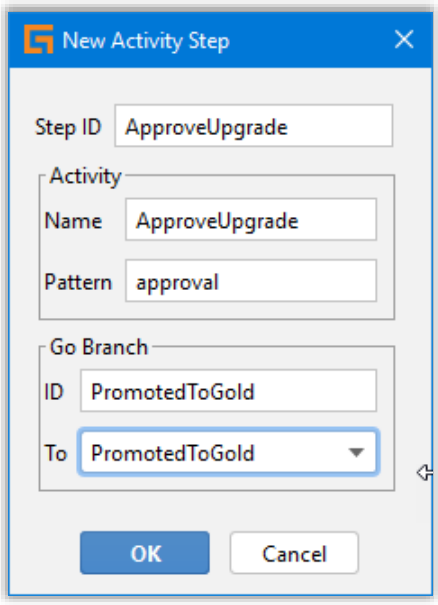
1. Modify the QualifyProducer_Ext workflow created in the previous lesson.

a) Create two new outcomes PromotedToGold and NotPromoted.

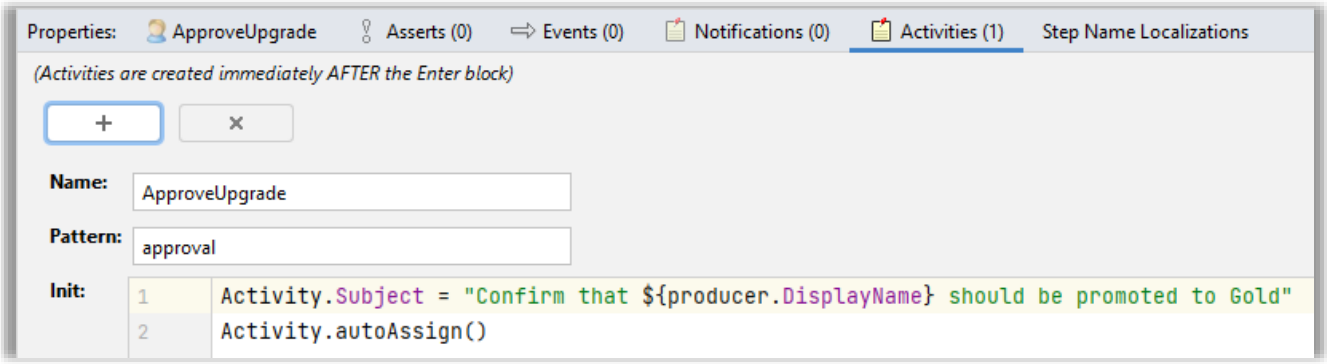




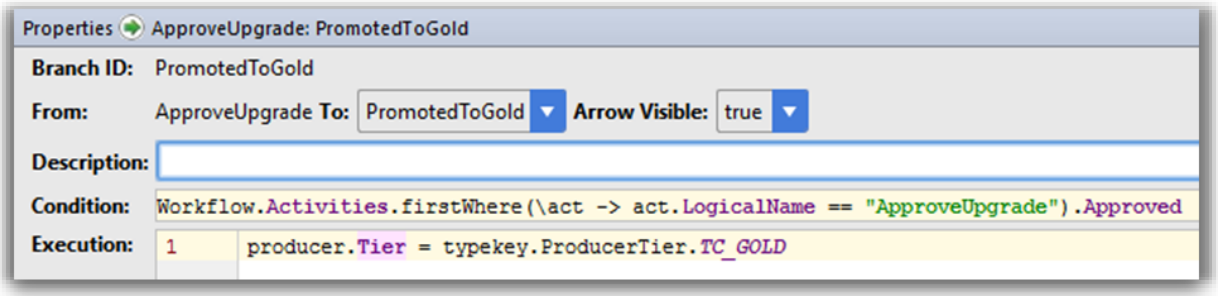
b) Create activity step ApproveUpgrade with a go branch to PromotedToGold.



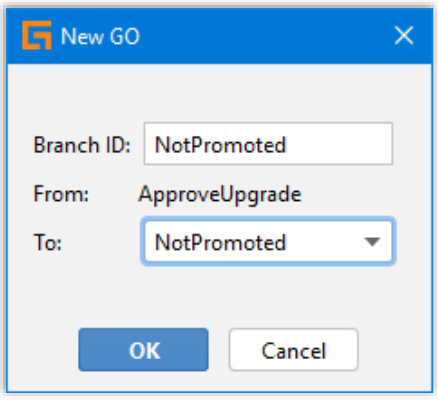
c) Edit Activities tab of ApproveUpgrade step.



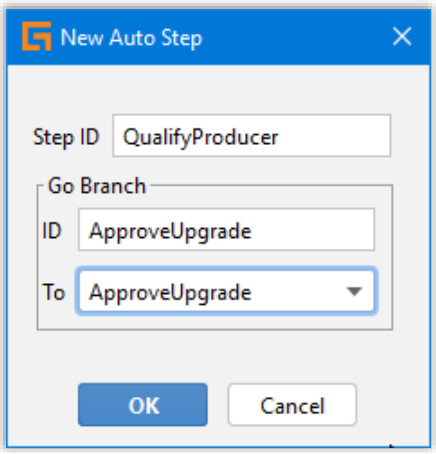
d) Edit PromotedToGold branch condition and execution script.



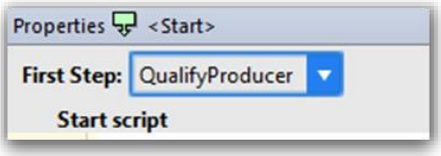
e) Add a new go branch from ApproveUpgrade to NotPromoted step.



f) Create new QualifyProducer auto step and go branch to ApproveUpgrade activity step.

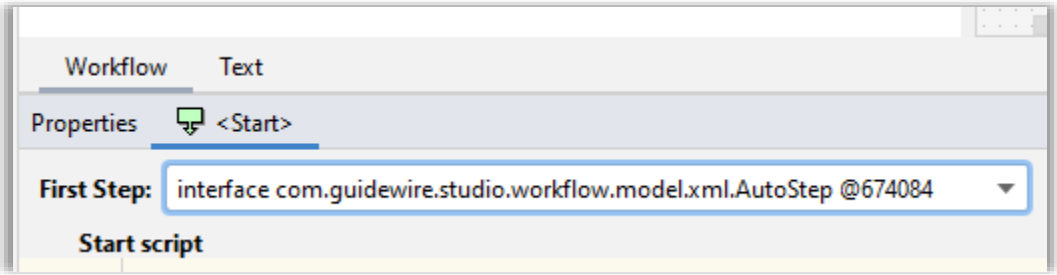


g) Point <Start> block to QualifyProducer step.

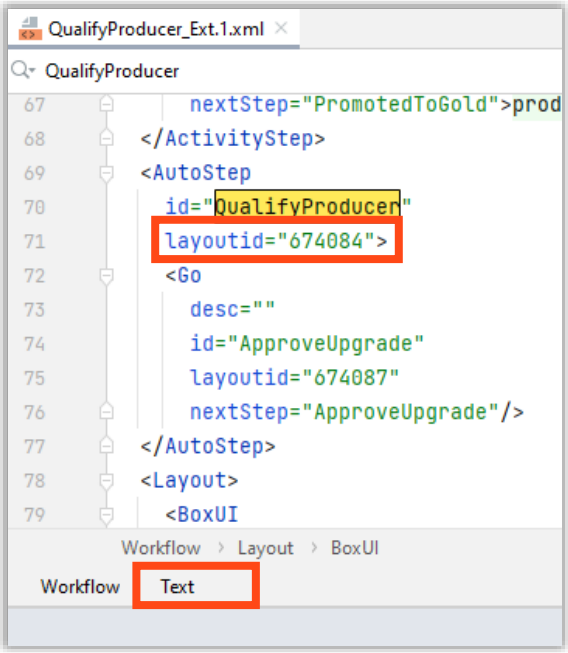


Tip

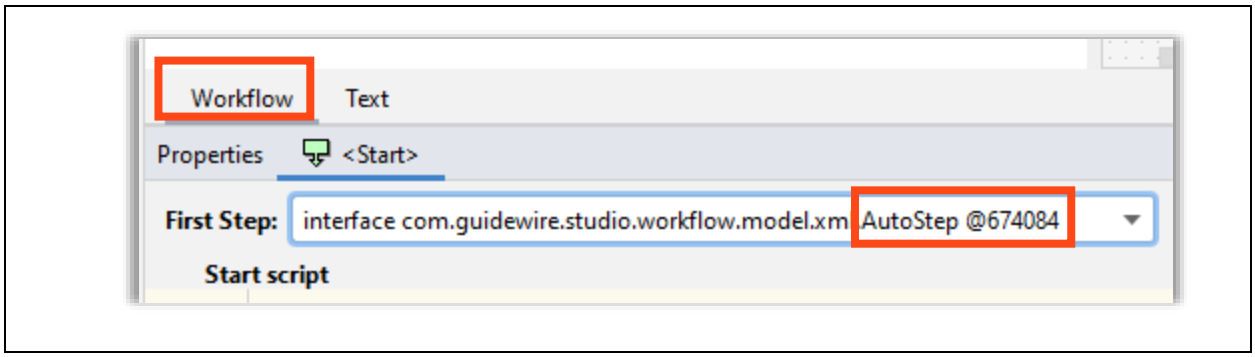
If the dropdown list in a workflow step does not display the step names as shown above, but strings with IDs like in the screenshot below, follow the steps to identify and select the desired step.



- In the workflow designer, go to the “Text” tab at the bottom.
- Find the desired step, for example, the QualifyProducer AutoStep element. Note down its LayoutID, for example: 674084, which may vary in different environments.



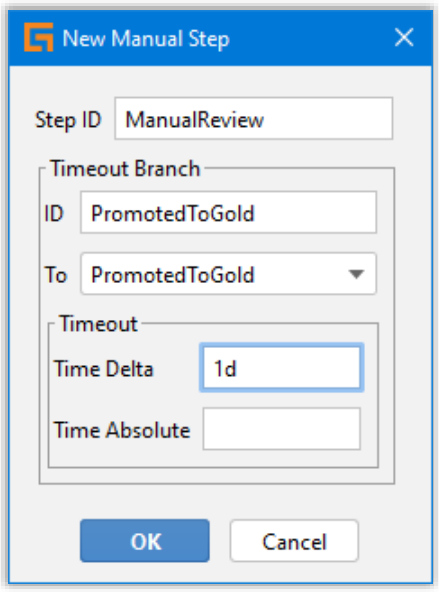
- Go back to the Workflow tab at the very bottom of the designer.
- Click the Start block and select the desired step, for example, the QualifyProducer AuoStep, with the corresponding LayoutID in the First Step dropdown menu.



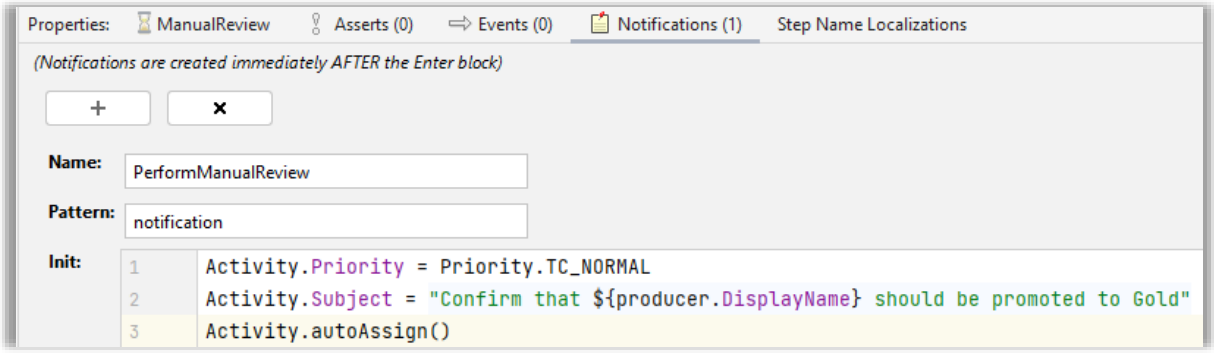
h) Delete DefaultOutcome outcome step.

i) Create a new Manual Step called ManualReview.

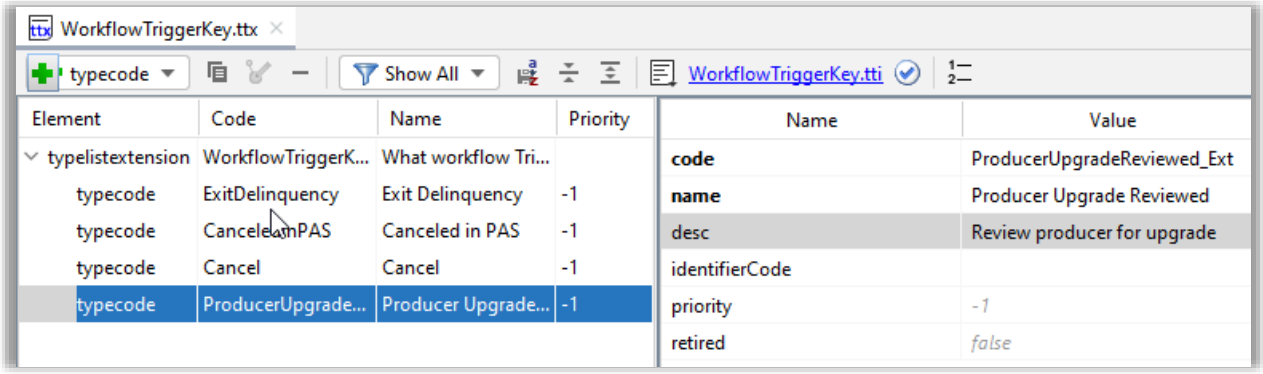
- Use the Timeout Branch populated by default (the **ID** and **To** fields) and 1d as the Time Delta. (This branch will be removed later as we have to create the necessary step first.)



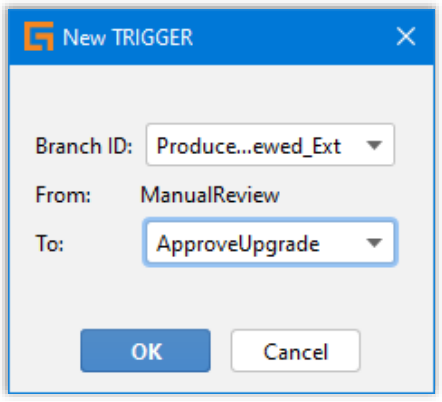
j) Create the ManualReview notification activity on the Notifications tab.



k) Add a new workflow trigger type called ProducerUpgradeReviewed_Ext.

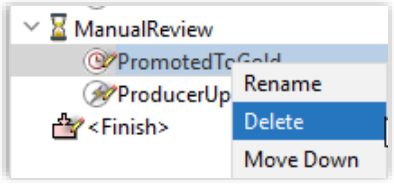


l) In the workflow, add a new TRIGGER branch from ManualReview to the ApproveUpgrade step.

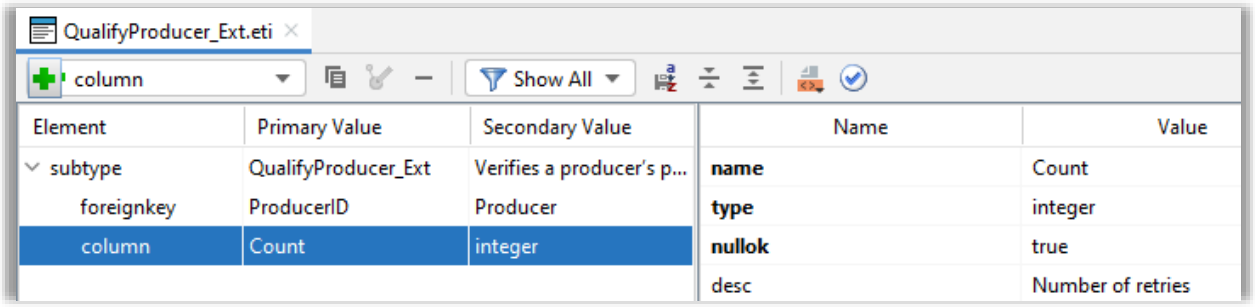


m) Remove the timeout branch from ManualReview step.

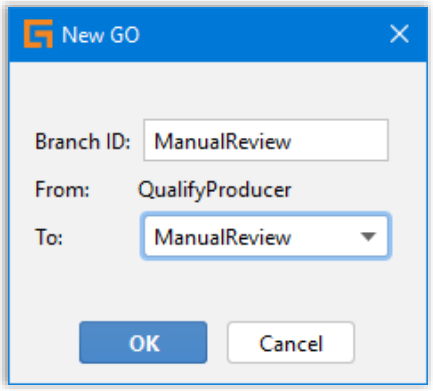
- The manual step must have a timeout branch defined in the dialog at creation time in the product version being used for training. We cannot delete this branch when it is the only branch. But there is a trigger branch now, so the timeout branch can be deleted. Another timeout branch will be added later to point to the Retry step.



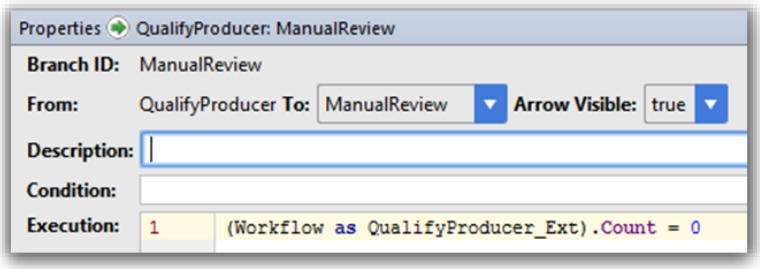
n) Add an integer column Count to QualifyProducer_Ext workflow entity and restart the server.



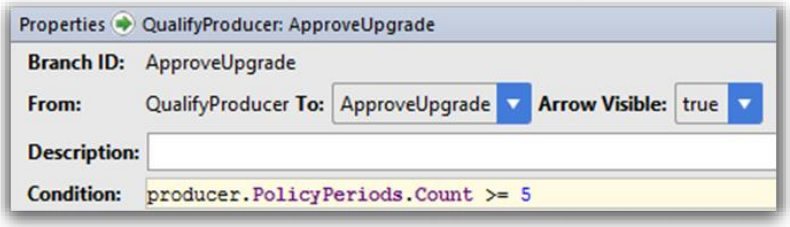
o) Create a go branch from QualifyProducer step to ManualReview step.



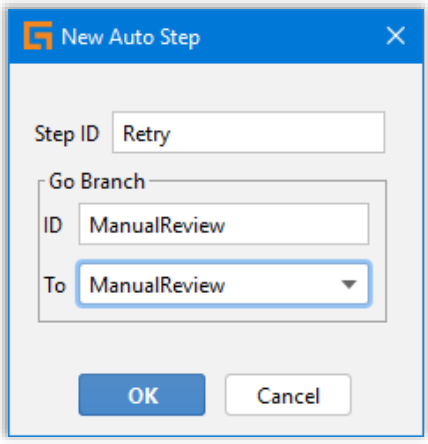
p) Initialize counter in ManualReview go branch execution script.



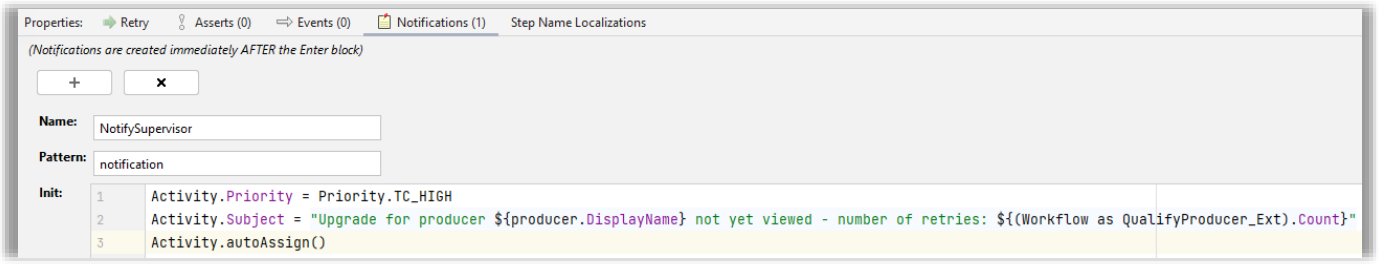
q) Add a condition to ApproveUpgrade go branch.



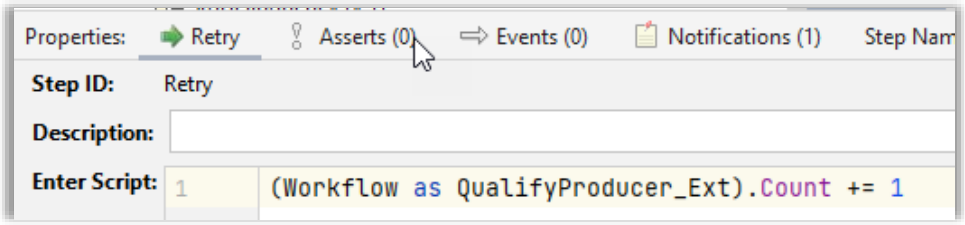
r) Create an auto step called Retry with go branch to ManualReview step.



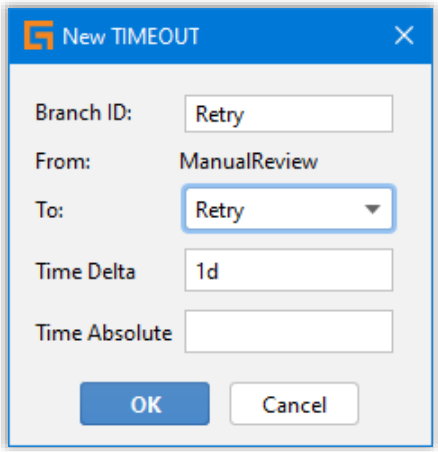
s) Create Retry notification activity.



t) Increment counter in Retry step enter script.



u) Create a new timeout branch from ManualReview step to Retry step.



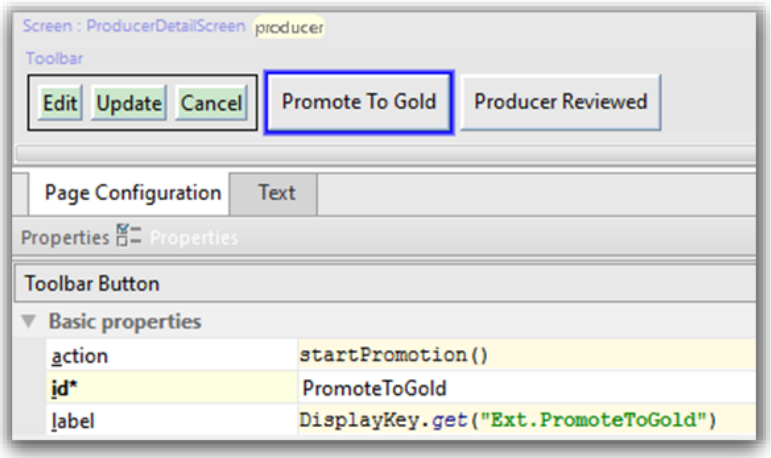
2. Reload Workflow Engine.
   a) UI: ALT+SHIFT+T
   b) UI: Internal Tools → Reload → Reload Workflow Engine
3. Add workflow start code and trigger branch code to ProducerDetailScreen.pcf file.
   a) Add workflow start code and trigger branch code

Properties: Properties (x) Variables Code (x) Required Variables

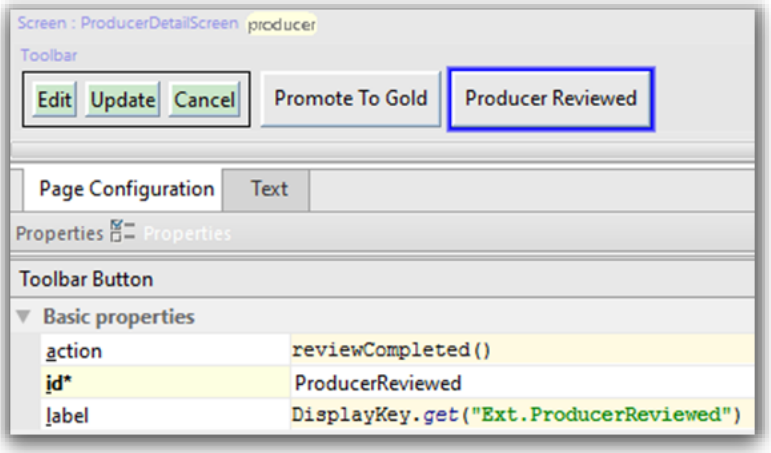
```
function startPromotion() : void {
  if (!CurrentLocation.InEditMode) {
    CurrentLocation.startEditing()
    var wf = new QualifyProducer_Ext()
    wf.ProducerID = producer
    wf.start()
    CurrentLocation.commit()
  }
}

function reviewCompleted() : void {
  if(!CurrentLocation.InEditMode) {
    CurrentLocation.startEditing()
    var wf = producer.QualifyProducerWorkflows_Ext.firstWhere(\wf -> wf.State == WorkflowState.TC_ACTIVE)
    wf.invokeTrigger(WorkflowTriggerKey.TC_PRODUCERUPGRADEREVIEWED_EXT)
    CurrentLocation.commit()
  }
}
```

   b) Create Promote To Gold button on the ProducerDetailScreen.pcf toolbar.



   c) Create Producer Reviewed button on the ProducerDetailScreen.pcf toolbar.



4. Reload changed classes and reload UI.
    a. Studio: Run → Debugging Actions → Reload Changed Classes
    b. UI: ALT+SHIFT+L
    c. Or restart the server