Configuring a Windchill ProjectLink 7.0 Workflow and Lifecycle

This information only applies to:

Product Windchill PDMLink with ProjectLink, Revision 7.0, FCS. All other Revisions are not validated.

Last Updated: 11 June 2004

Summary

This document illustrates how to configure a workflow and lifecycle for use in Windchill ProjectLink 7.0.

The business scenario covered within this tutorial enables core internal project participants to collaborate on the approval of a document by leveraging the Windchill ProjectLink workflow engine capabilities. After a document is fully approved, team members outside of the internal approval process will automatically be notified of this event via standard email communication.

Topics include creation of the workflow and lifecycle, creating an assignment task page to display disposition radio buttons and a hyperlink which points to the running workflow, enabling the new lifecycle / workflow for use within the organization, and

finally running the configured workflow by using either an ad-hoc document routing or by simply selecting the type of document during its creation.

Create the workflow

Note: This is a detailed summary of how to create the workflow.
You may wish to use the existing, out of the box, Release Process workflow and perform a Save As to a new name. Should you decide to leverage the existing workflow, you will only need to create the Workflow Process Variable "procMgrLink", Expression robot, Observer Activity, as shown in the following example. Also edit the existing Approval Request Activity Instructions to create the link (procMgrLink) to the running workflow.

Log into Windchill ProjectLink as an Organizational Administrator for the organization you want the workflow to be used in.

Select the Organization tab

Select the Utilities link

Utilities - Microsoft Internet Explorer provided by PTC

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://rfield03d.ptcnet.ptc.com/PL70/netmarkets/jsp/org/listUtilities.jsp?oid=org%7Ewt.inf.container.OrgContainer%3A3926&u8=1

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PTC

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PTC Organzization Description

Search within this organization:

System Administration

Preference Manager	View, create, edit or remove preferences.

Business Administration

Life Cycle Administrator	Create and manage life cycle templates used for defining the phases and transitions of various business objects.
Numbering Schemes Administration	View information on how to control numbers generated for objects.
Object Initialization Rules Administrator	Create and manage initialization rules that set default values for object attributes.
Policy Administrator	Manage administrative domains and the access control, indexing, and notification policies.
Principal Administrator	Support creation and maintenance of Windchill business objects describing users, groups, and organizations.
ProductView Configuration Administrator	Manage the ProductView configurations to set up watermark files that users see when they launch ProductView.
Publish and Thumbnail Control	Control generations of visualization items.
Publish Monitor	View the status of publish jobs.
Publish Scheduler Administrator	Create and execute publish jobs.
Type Manager	Manage the system's type definition hierarchy, allowing users to create, modify, or remove type definitions, to associate att definitions with type definitions, and to constrain the values of those attributes.
Versioning Schemes Administration	View information on how to control identifiers generated for object versions.
Workflow Administrator	Create and manage workflow templates used for automating processes, in which information, tasks, and documents are pas among participants, within the context of specific business objects.

Details | Folders | Members | Creators | Administrators | Groups | Roles | Types | Reports | Templates | Audit Reports | **Utilities**

PTC Home | Project | **Organization**

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Internet

Select the Workflow Administrator link

Workflow Administrator - Microsoft Internet Explorer provided by PTC

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://rfield03d.ptcnet.ptc.com/PL70/wt/clients/workflow/definer/WfAdministrator.jsp?containerOid= Go

Workflow Administrator

Process Templates

Name	Category	Cabinet	Enabled	Context
Approval Process	Default	System	☑	Site
Custom Workflow	Default	System	☑	PTC
Notify Process	Default	System	☑	Site
Release Process	Default	System	☑	Site
ReplicationPublish	Default	System	☑	Site
ReplicationReceive	Default	System	☑	Site
ReplicationSender	Default	System	☑	Site
Review	Default	System	☑	Site
Review Process	Default	System	☑	Site
Submit	Default	System	☑	Site

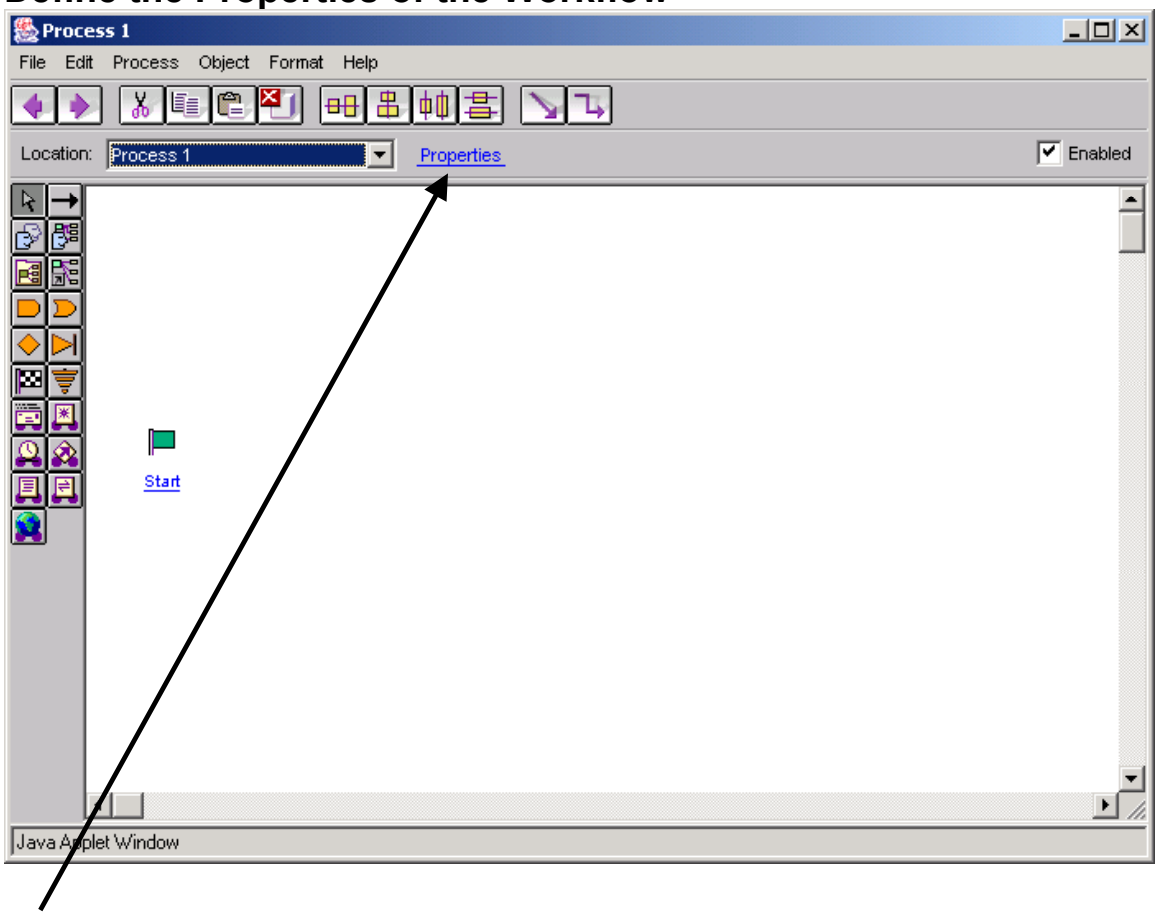
Initiate
Create
Update
View
Delete
Rename...
Save As...
Checkout
Checkin
Undo Checkout
Iteration History
Delete Latest Iteration
Import...
Export...
Help

Applet wt.clients.workflow.definer.ProcessEditor started

Internet

Select the Create button

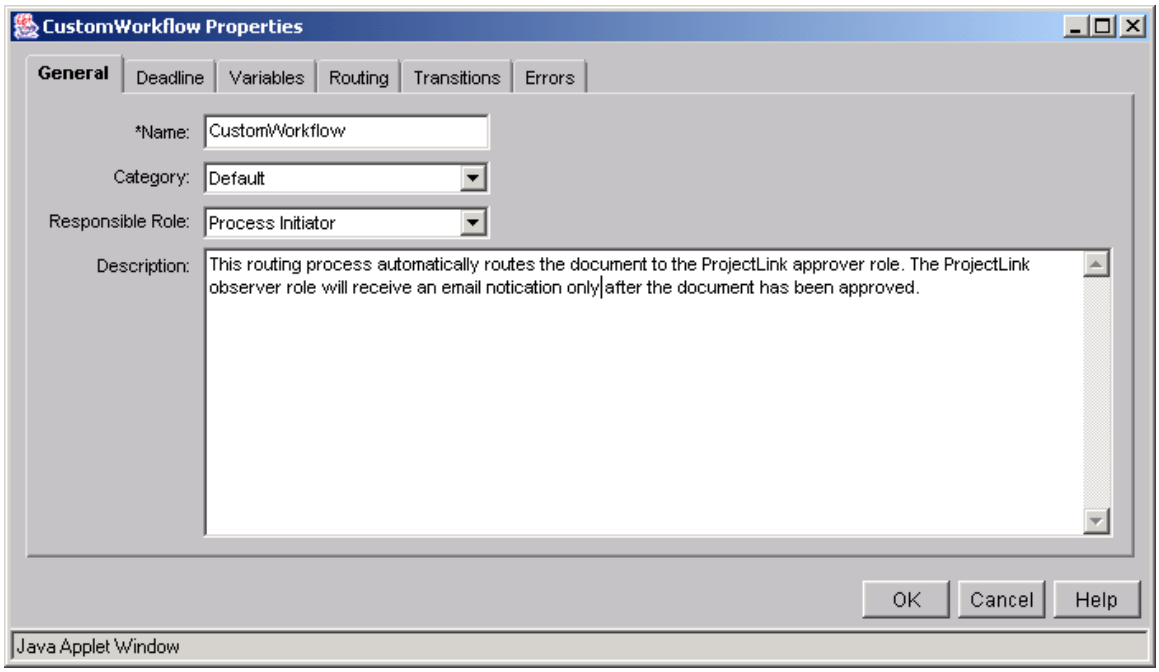
Define the Properties of the Workflow



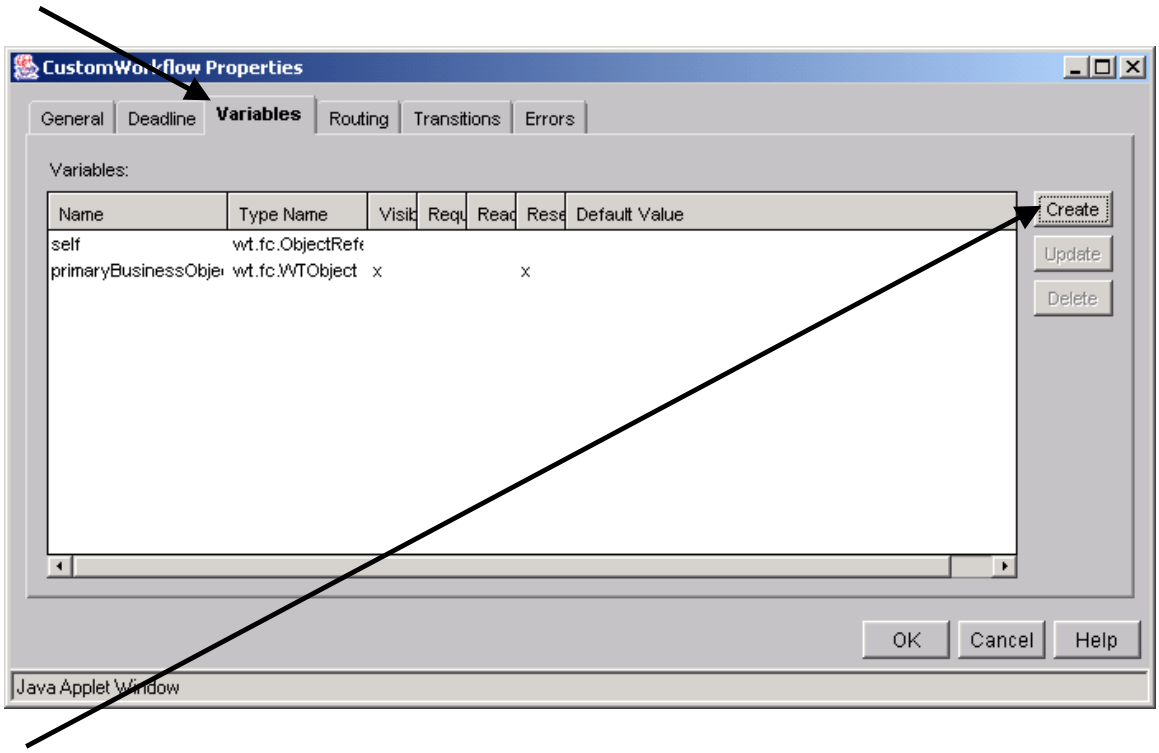
Select the Properties link

The name of this workflow is Custom Workflow.
Complete as shown in the image below.

Note about the purpose of this workflow. The Windchill ProjectLink “Approval” role will be required to approval the document. The Windchill ProjectLink “Reviewer” role will receive a task to review the document and add comments, if desired. Note that this step will not be required. The Windchill ProjectLink “Observer” role will NOT receive any tasks – only an email notification that the document was approved. There will be no user action required (to select the team members) when routing the document, as long as there are users assigned to the Windchill ProjectLink roles approver, reviewer, and observer. Verify that your project team members have users assigned to these three roles

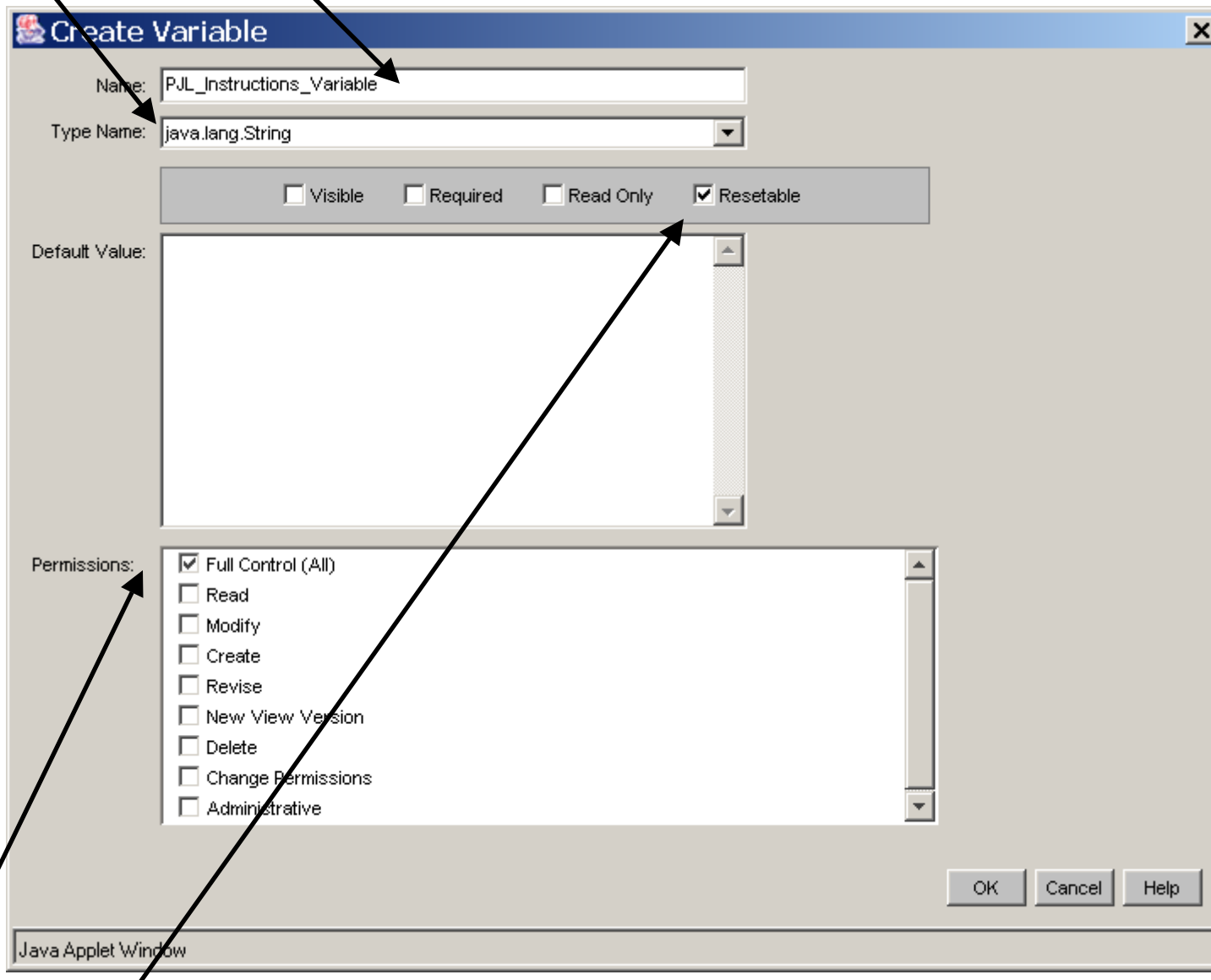


Select the Variables Tab



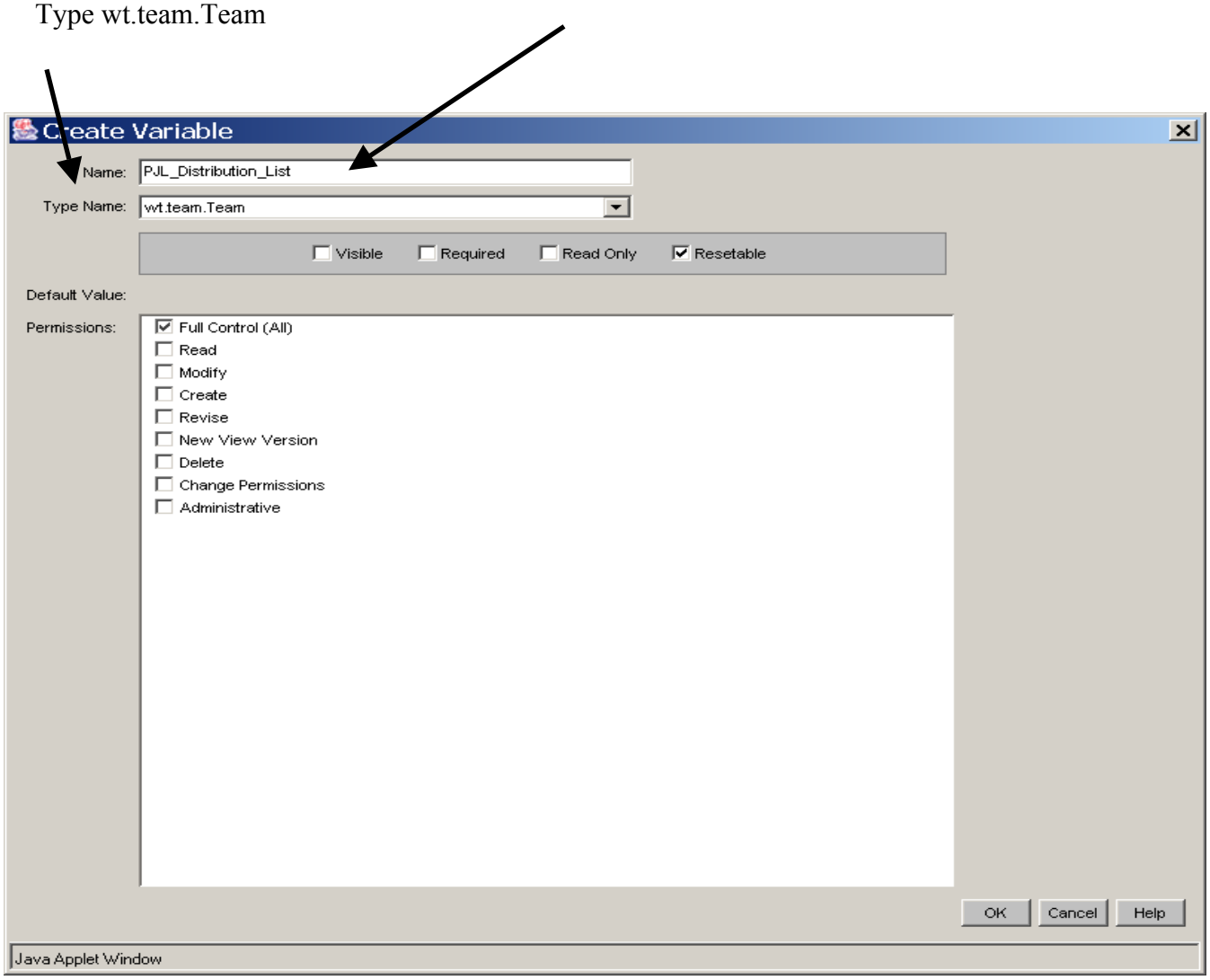
Select the create button

Name is PJL_Instructions_Variable
Type is java.lang.String



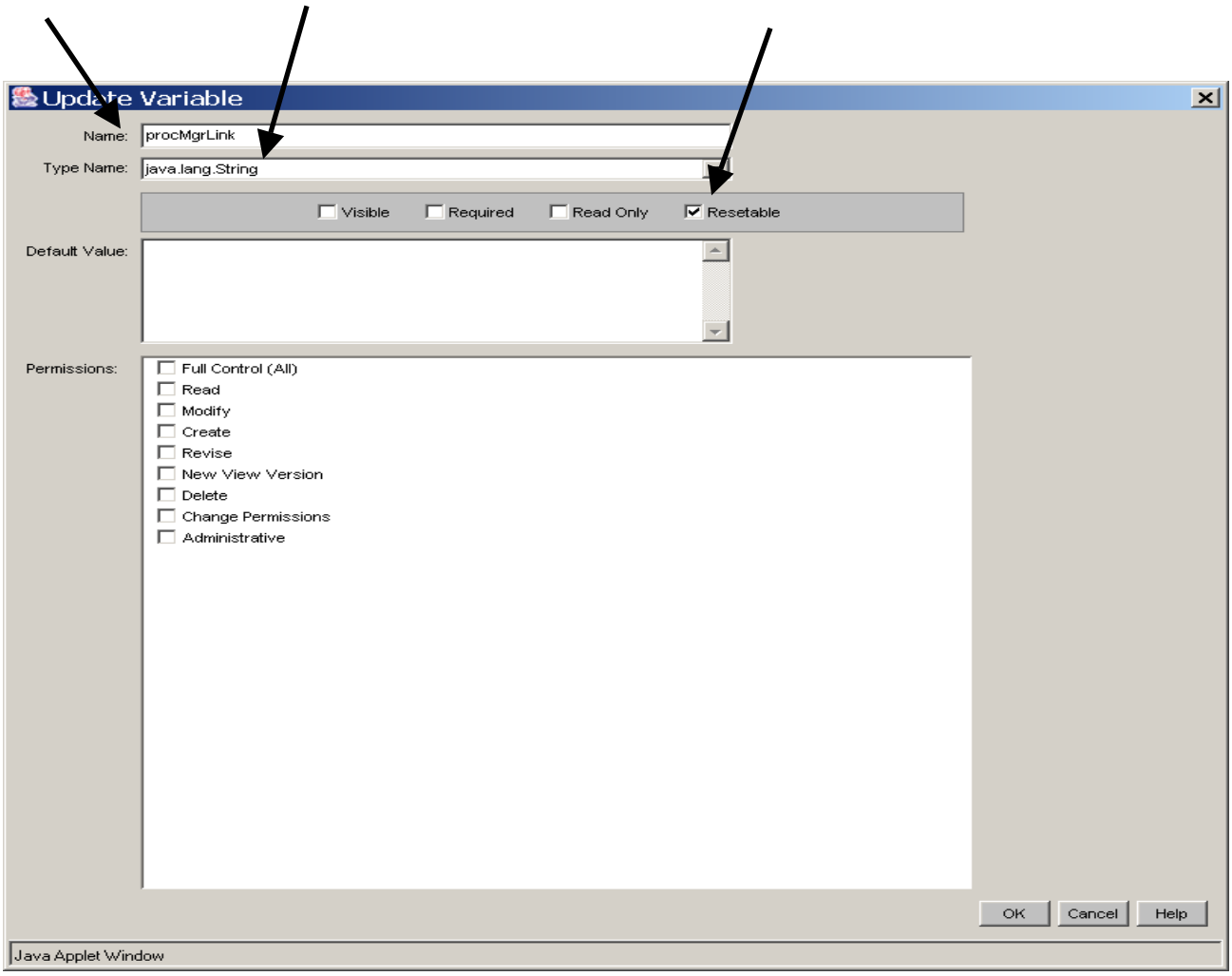
Full Control / Resetable
Select OK

Create another variable called PJL_Distribution_List
Type wt.team.Team



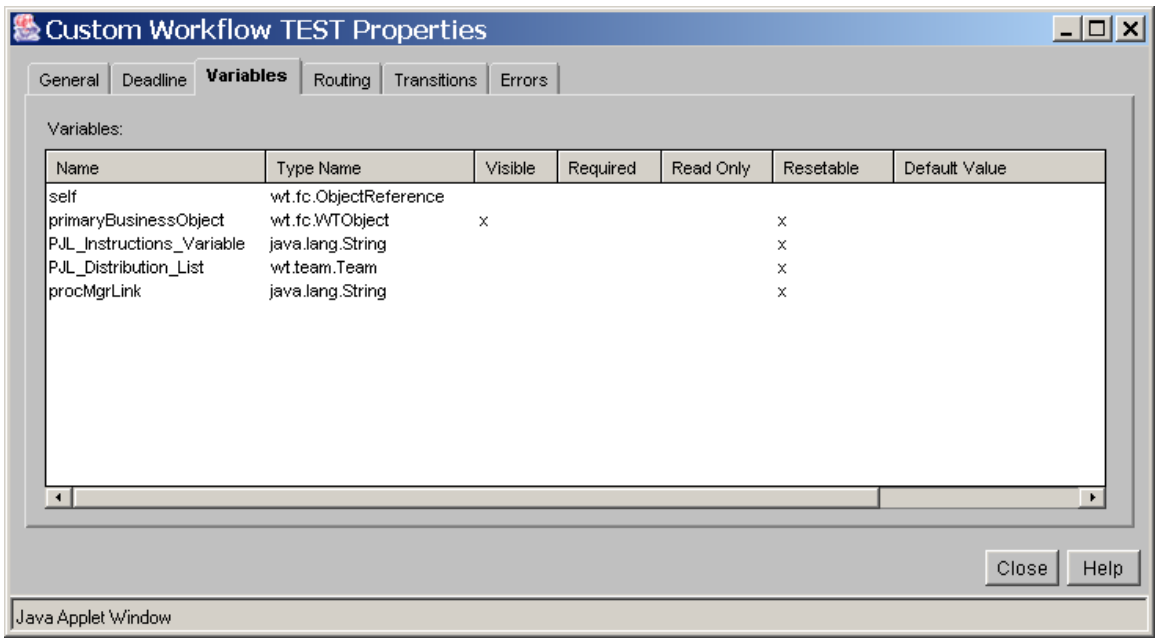
Select OK

Create another variable called procMgrLink. This will enable us to later create a link in the Assignment approval task that will let us see the running workflow.



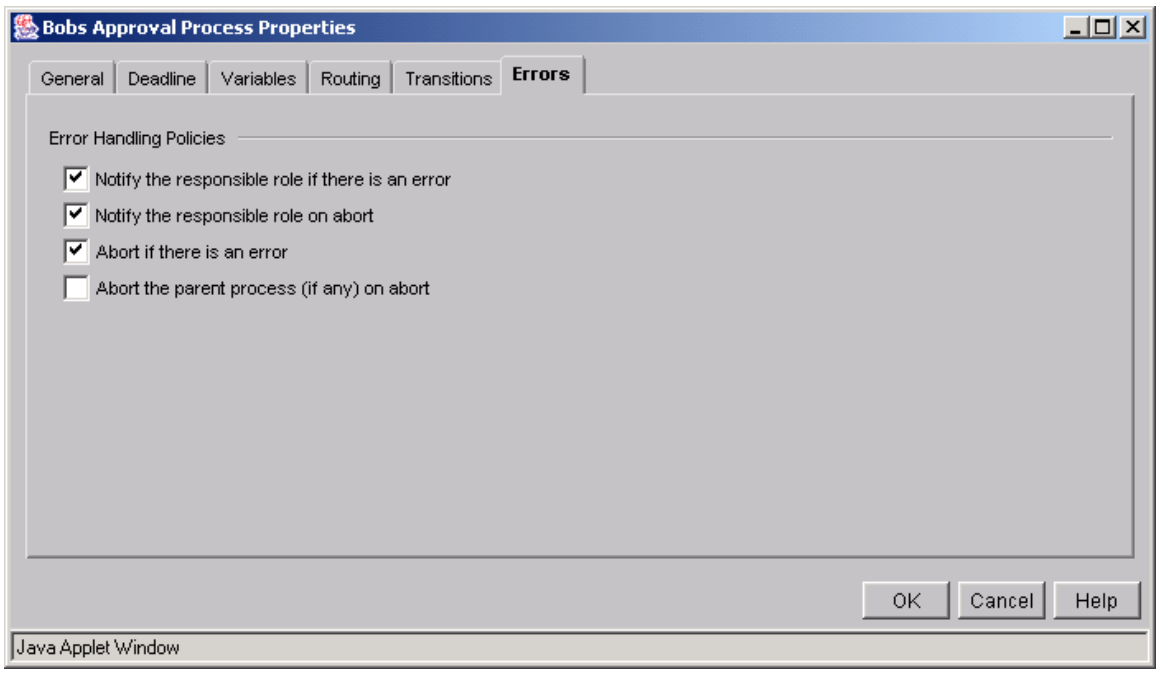
Select OK

Summary of what variables you should have is shown below



Name	Type Name	Visible	Required	Read Only	Resetable	Default Value
self	wt.fc.ObjectReference					
primaryBusinessObject	wt.fc.WTObject	x			x	
PJL_Instructions_Variable	java.lang.String				x	
PJL_Distribution_List	wt.team.Team				x	
procMgrLink	java.lang.String				x	

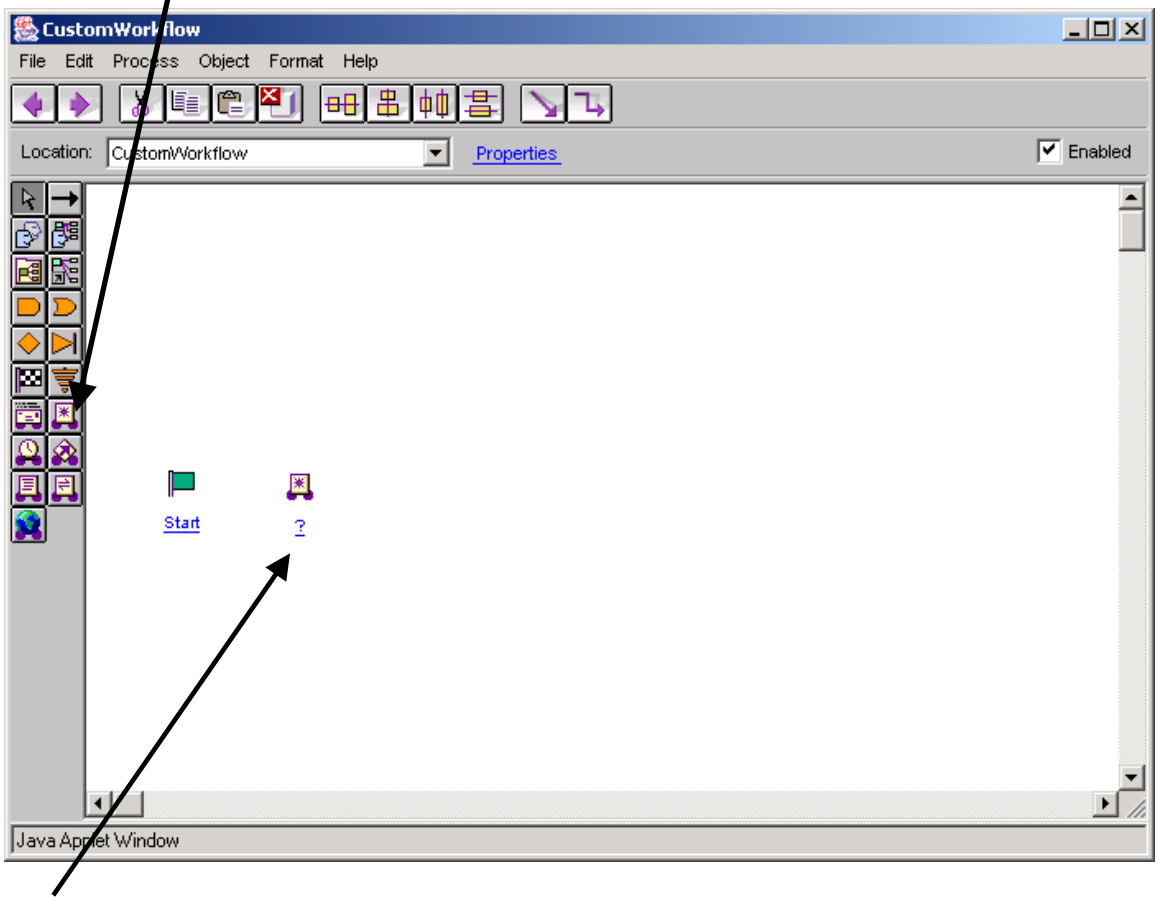
Select the errors tab and fill out accordingly.
Then select OK



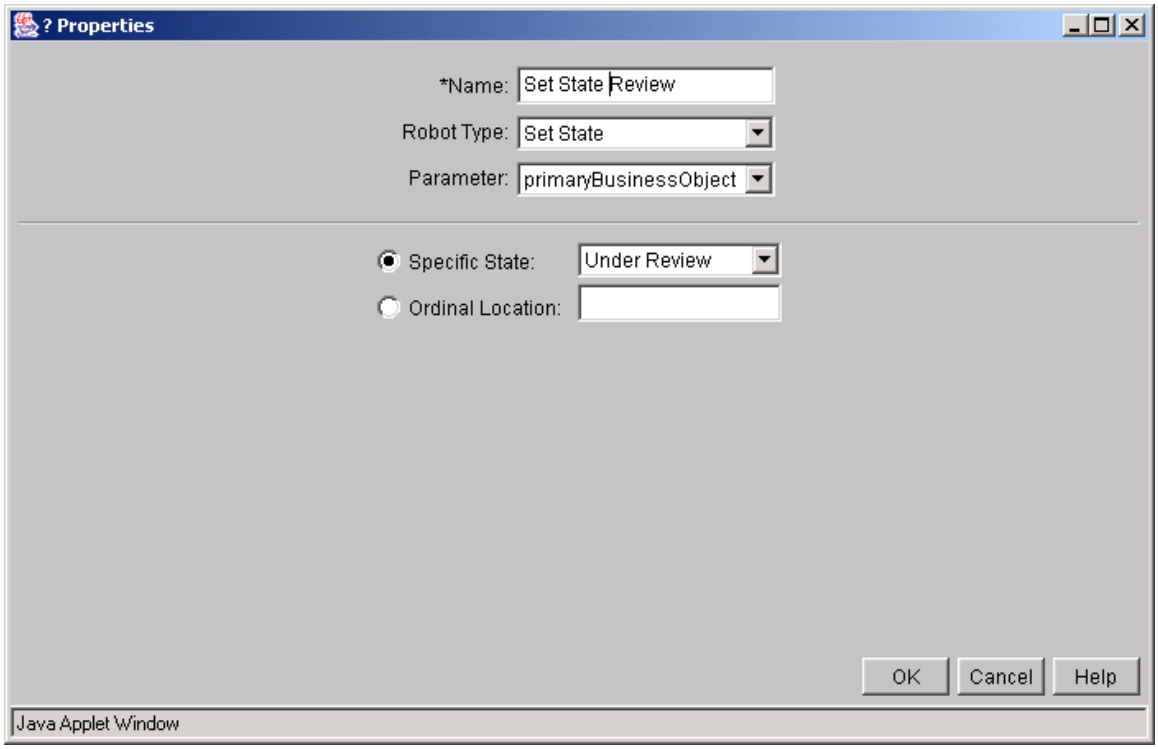
Define the Custom Workflow

Summary

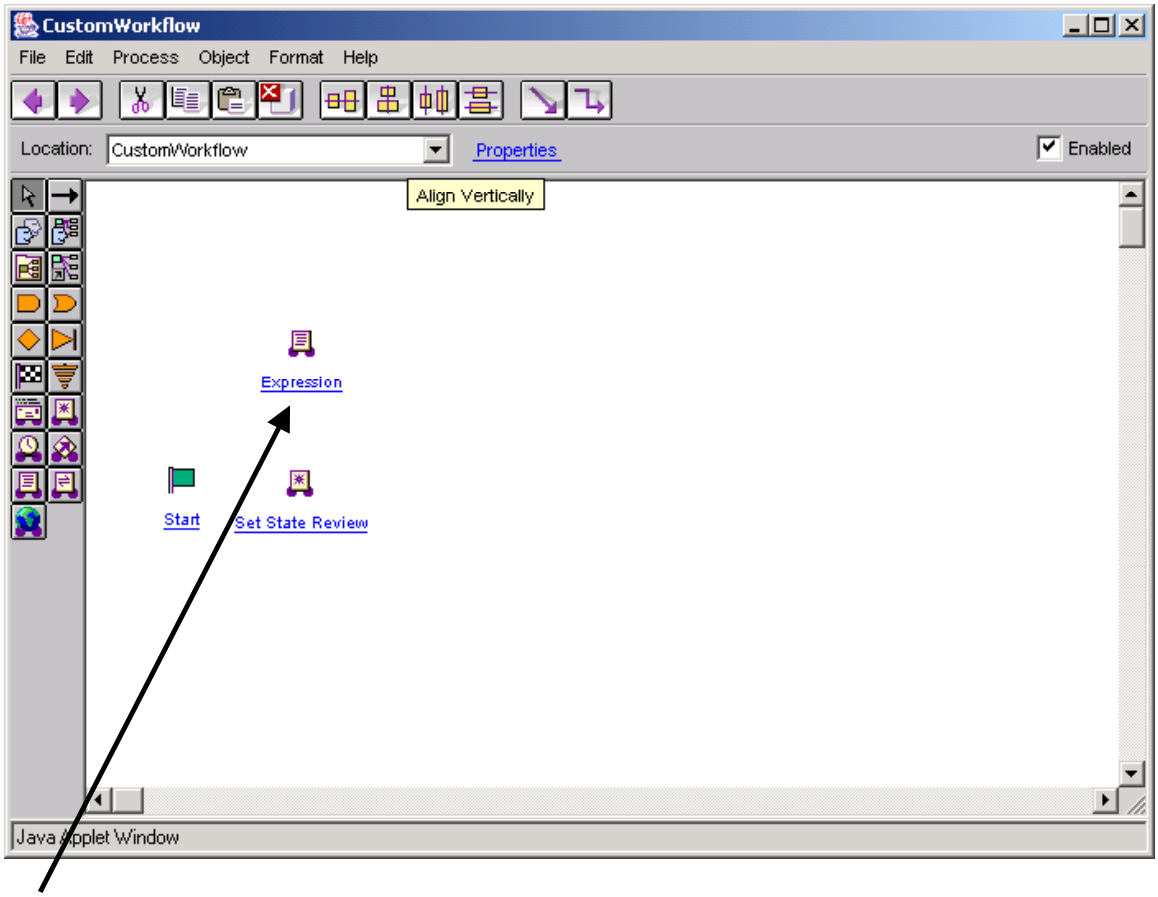
Create a method robot



Select the ? link



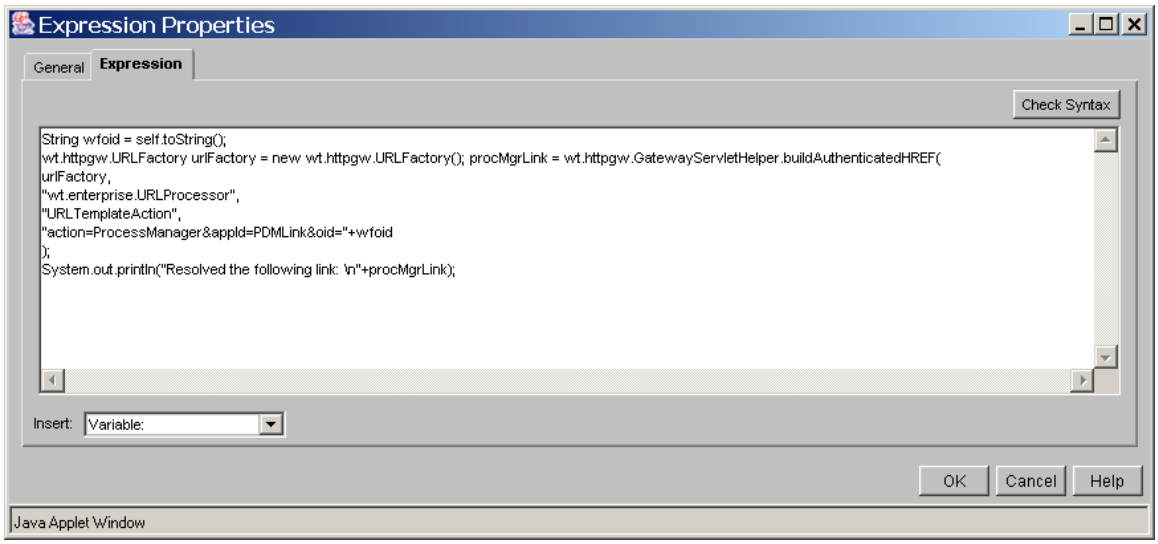
Name, Robot Type, Parameter, and Specific State as shown above.
Select OK



Create an Execute Expression Robot.

This is the step explained earlier about creating a java expression to show a link in the workflow task that will take us to the running workflow.

Select the Expression hyperlink
Select the Expression tab



Enter this code:

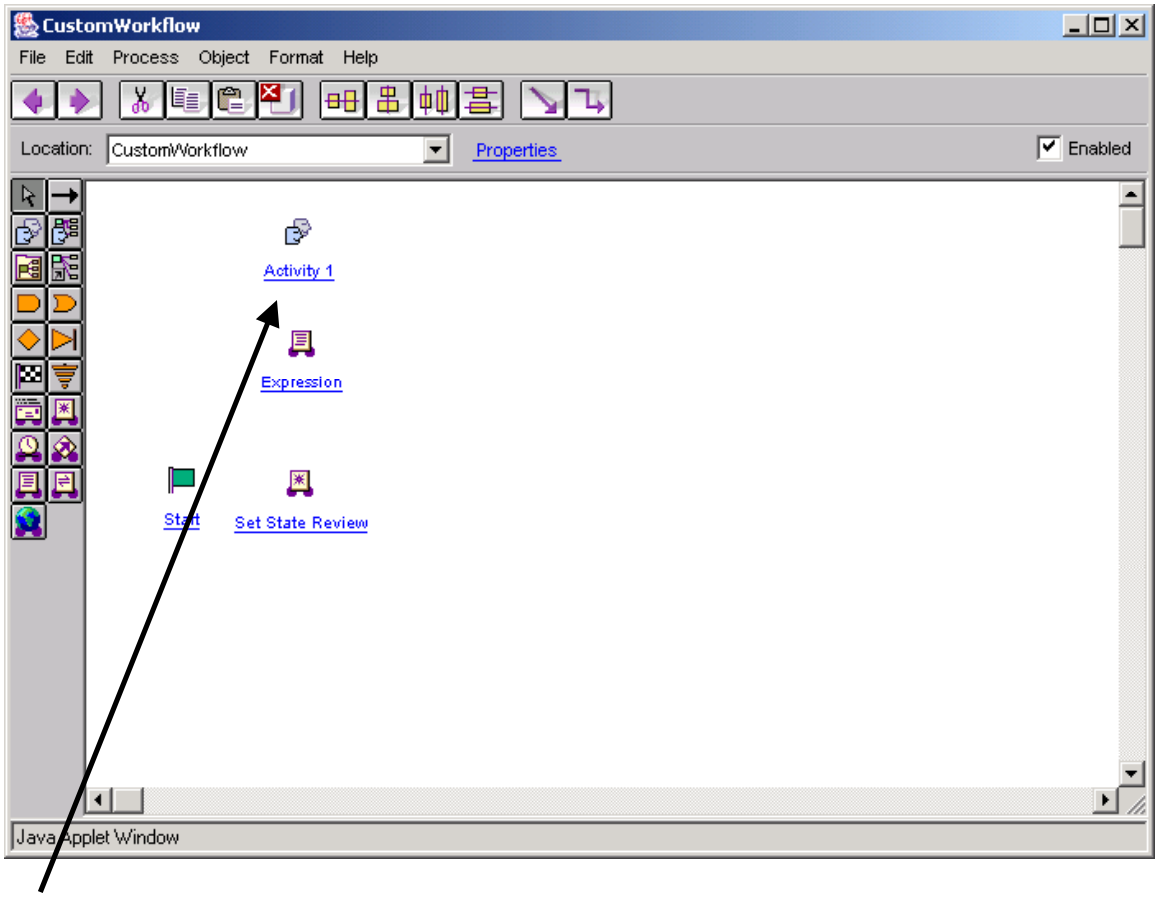
Next line is start of code

```
String wfoid = self.toString();
wt.httpgw.URLFactory urlFactory = new wt.httpgw.URLFactory(); procMgrLink =
wt.httpgw.GatewayServletHelper.buildAuthenticatedHREF(
urlFactory,
"wt.enterprise.URLProcessor",
"URLTemplateAction",
"action=ProcessManager&appId=PDMLink&oid="+wfoid
);
System.out.println("Resolved the following link: \n"+procMgrLink);
```

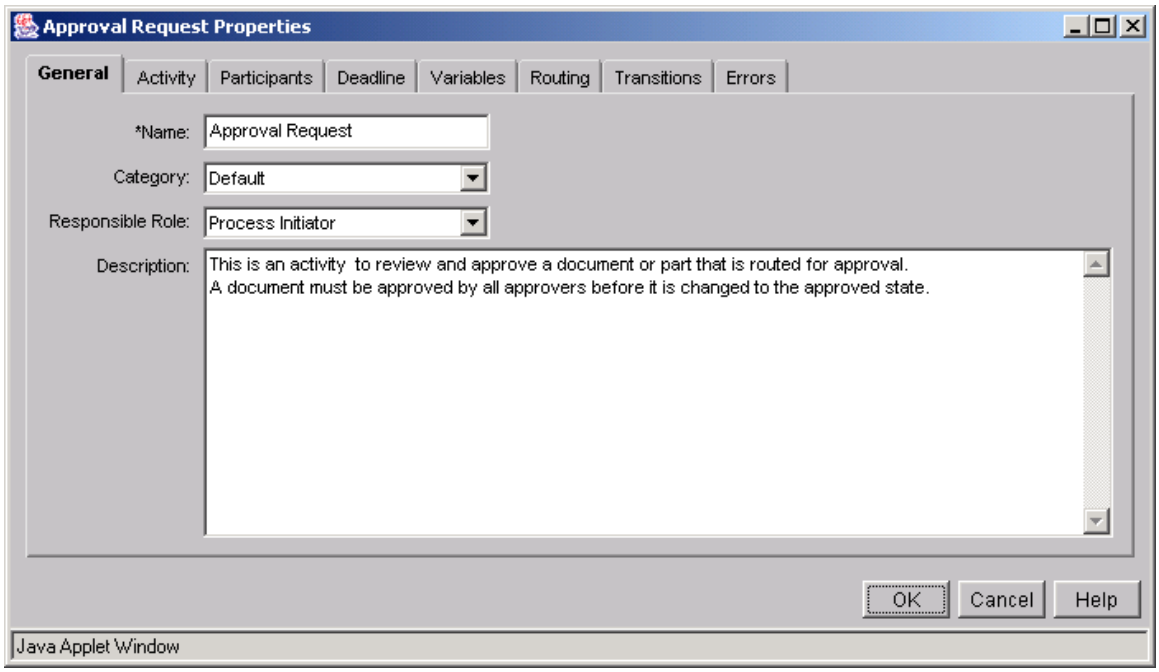
Previous line is end of code

Use the Check Syntax to make sure all is well.

Select OK / OK

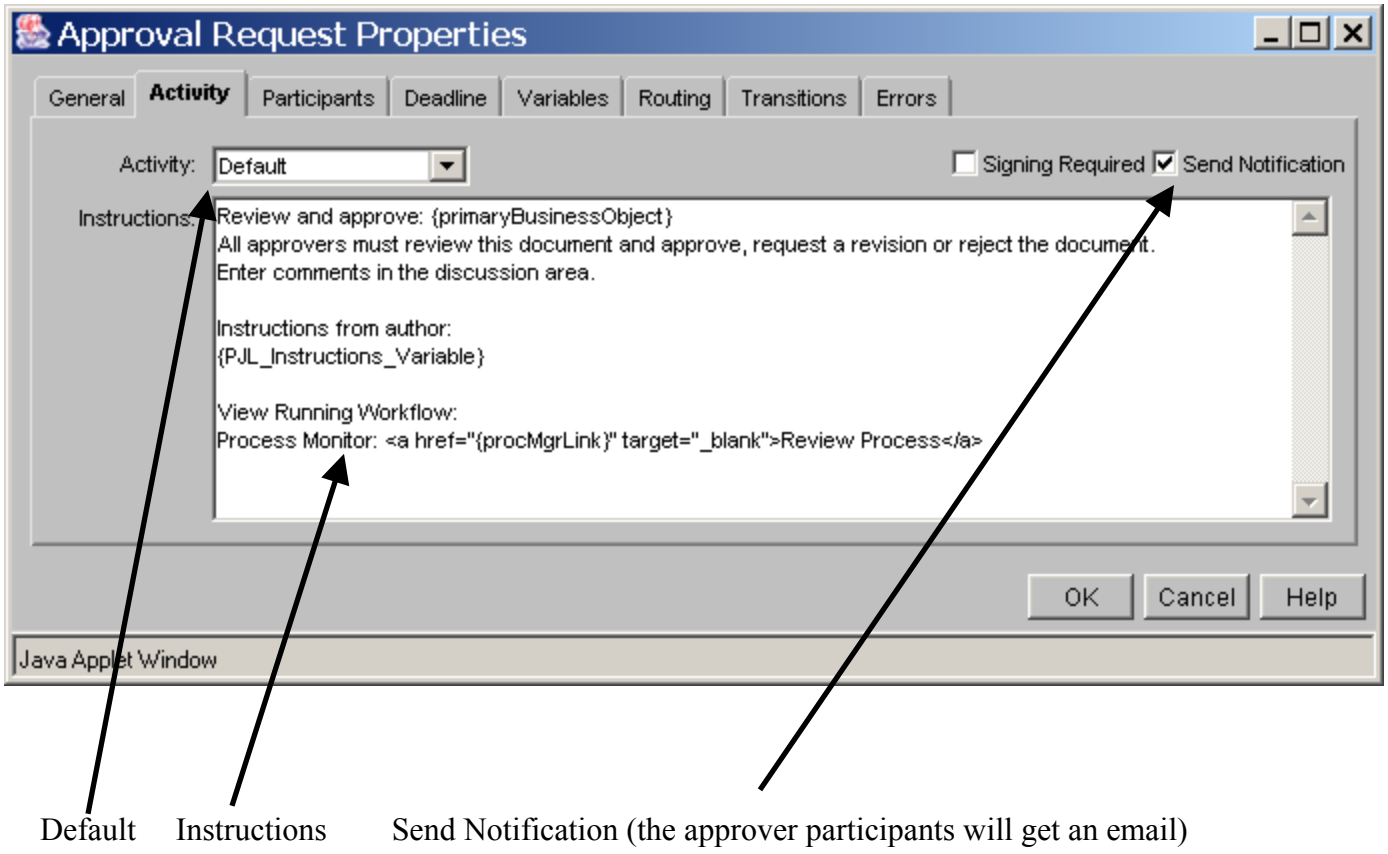


Create an Activity
Select the Activity 1 Hyperlink



Name the activity Approval Request and add a description

Select the Activity tab



Default Instructions Send Notification (the approver participants will get an email)

Note that electronic signature (Signing required) is currently not supported in Windchill ProjectLink

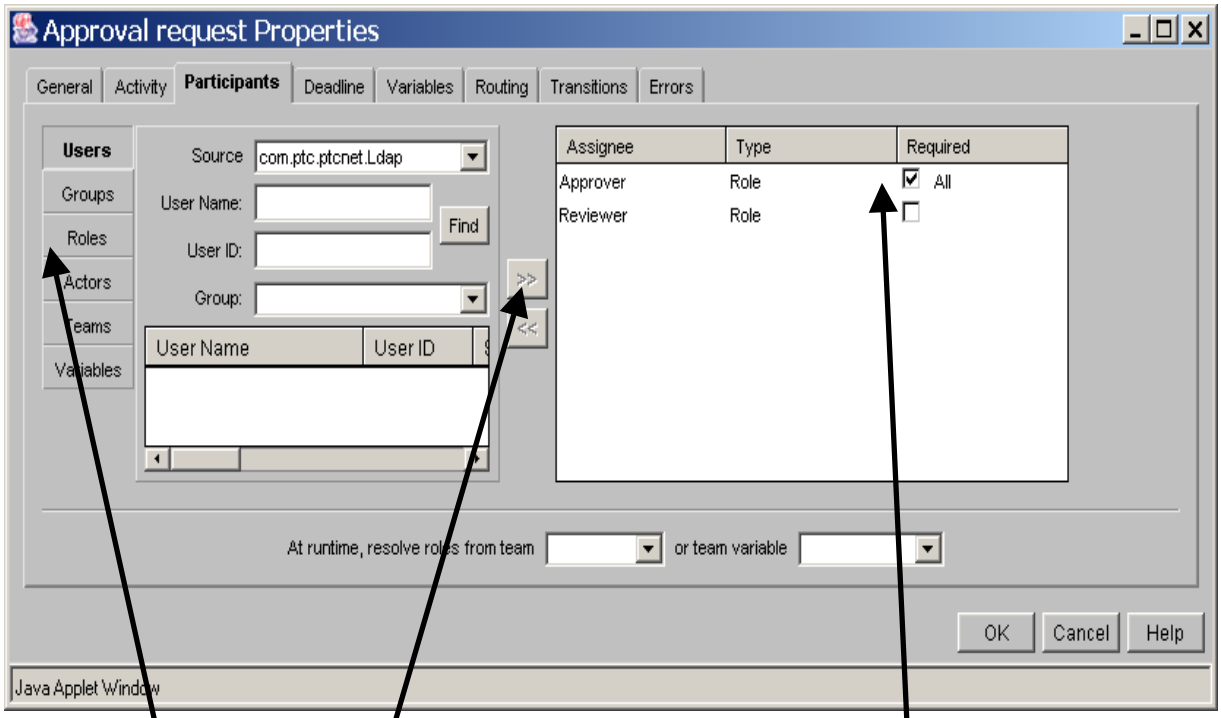
Instructions for your convenience are shown below.

Review and approve: {primaryBusinessObject}
All approvers must review this document and approve, request a revision or reject the document.
Enter comments in the discussion area.

Instructions from author:
{PJL_Instructions_Variable}

View Running Workflow:
Process Monitor: Review Process

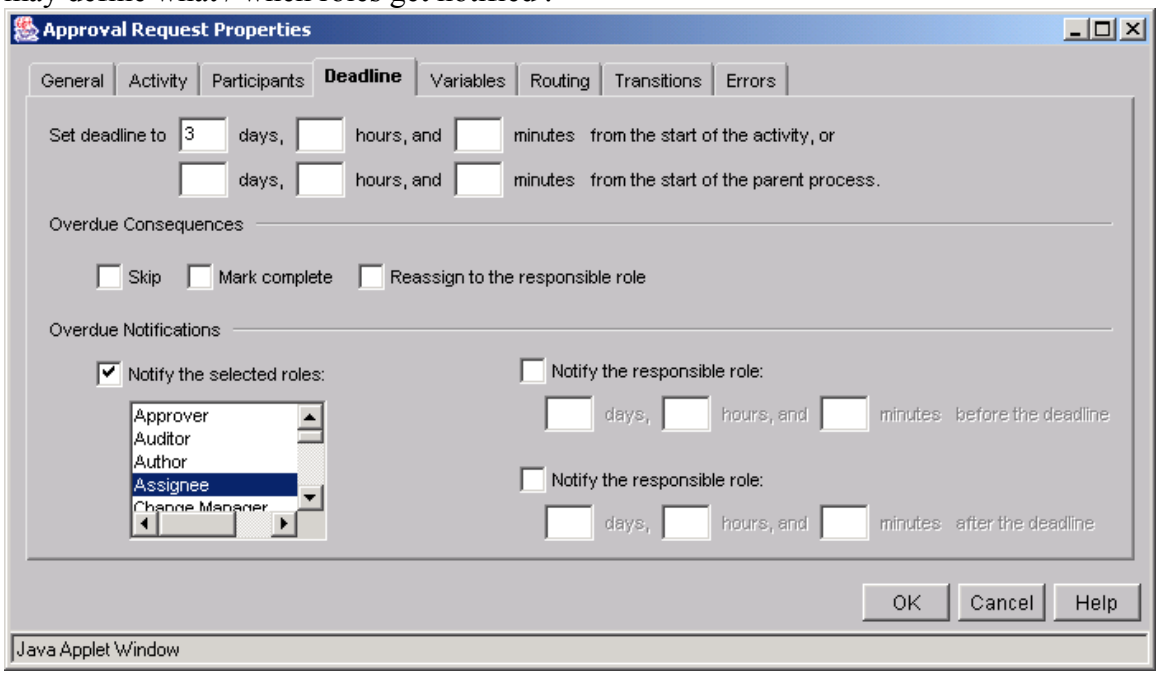
Select the Participants tab. These are the Windchill ProjectLink team member roles that will get this activity.



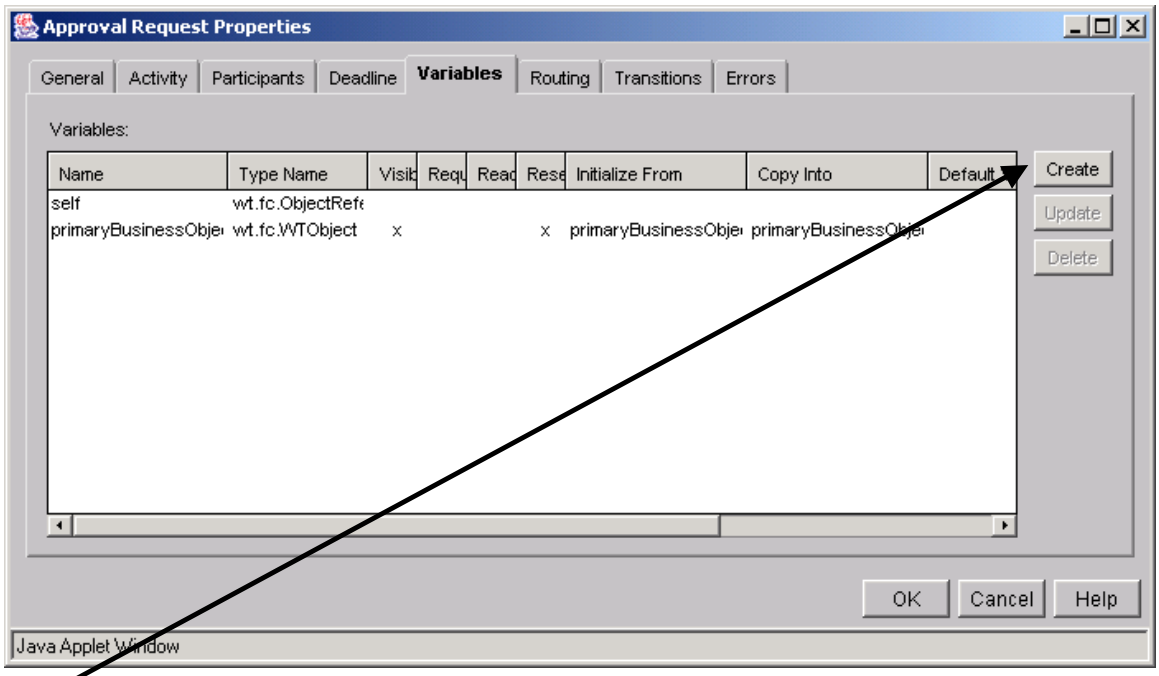
Use the roles tab to add the appropriate roles (Approver and Reviewer). Remove the Creator role. If the Approver required check box is selected then either any, all, or number will need to approve this task. (Select All)

Note we will not be adding the Observer role here. We do not want the observers to receive the approval task but only to be notified that the task has been approved. Also, make sure your Windchill ProjectLink project has these roles and real users assigned to them in the team tab.

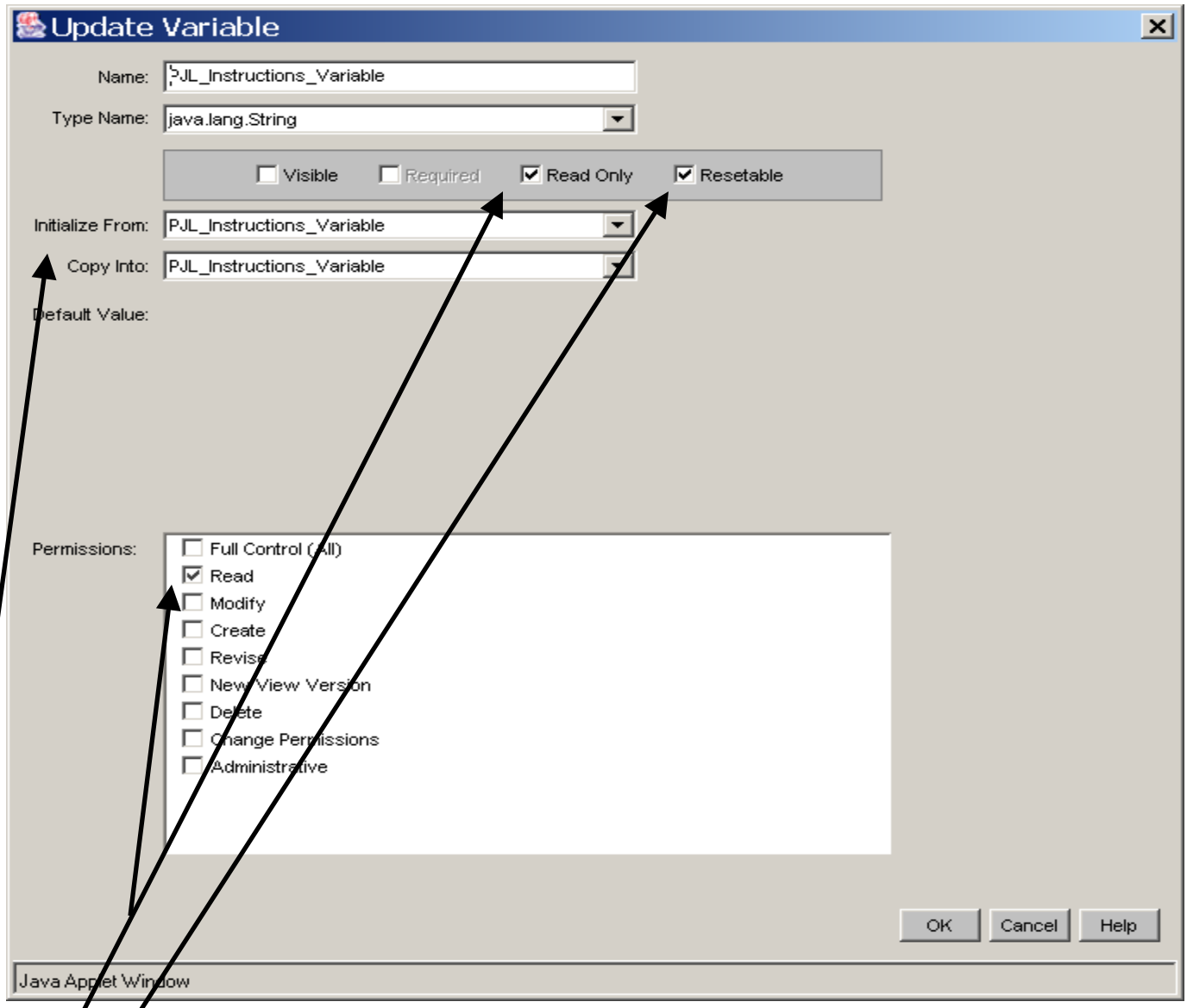
Select the Deadline Tab
Compete as shown. These are the mechanisms to create an escalation procedure. You may define what / when roles get notified .



Select the Variables tab



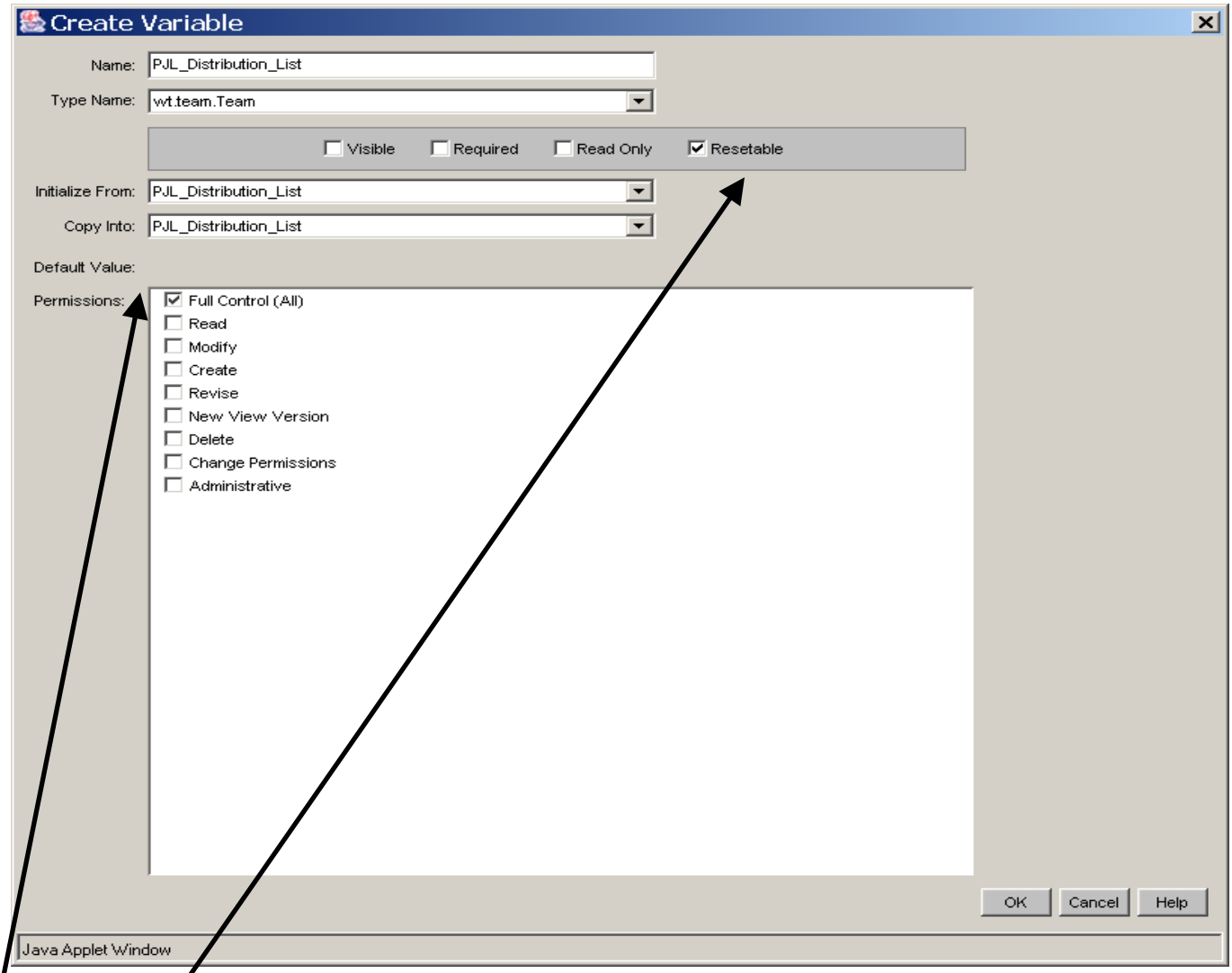
Select the Create button



Read Only
Resetable
Use the Initialize From dropdown to select PJL_Instructions_Variable

Select OK

Repeat this for PJL_Distribution_List



Full Control / Resetable

Repeat this for procMgrLink

Update Variable

Name: procMgrLink

Type Name: java.lang.String

☐ Visible ☐ Required ☑ Read Only ☑ Resetable

Initialize From: procMgrLink

Copy Into: procMgrLink

Default Value:

Permissions:

- ☐ Full Control (All)
- ☑ Read
- ☐ Modify
- ☐ Create
- ☐ Revise
- ☐ New View Version
- ☐ Delete
- ☐ Change Permissions
- ☐ Administrative

OK Cancel Help

Java Applet Window

Read / Read Only / Resetable
Select OK

Summary of variables

Approval request Properties

General | Activity | Participants | Deadline | **Variables** | Routing | Transitions | Errors

Variables:

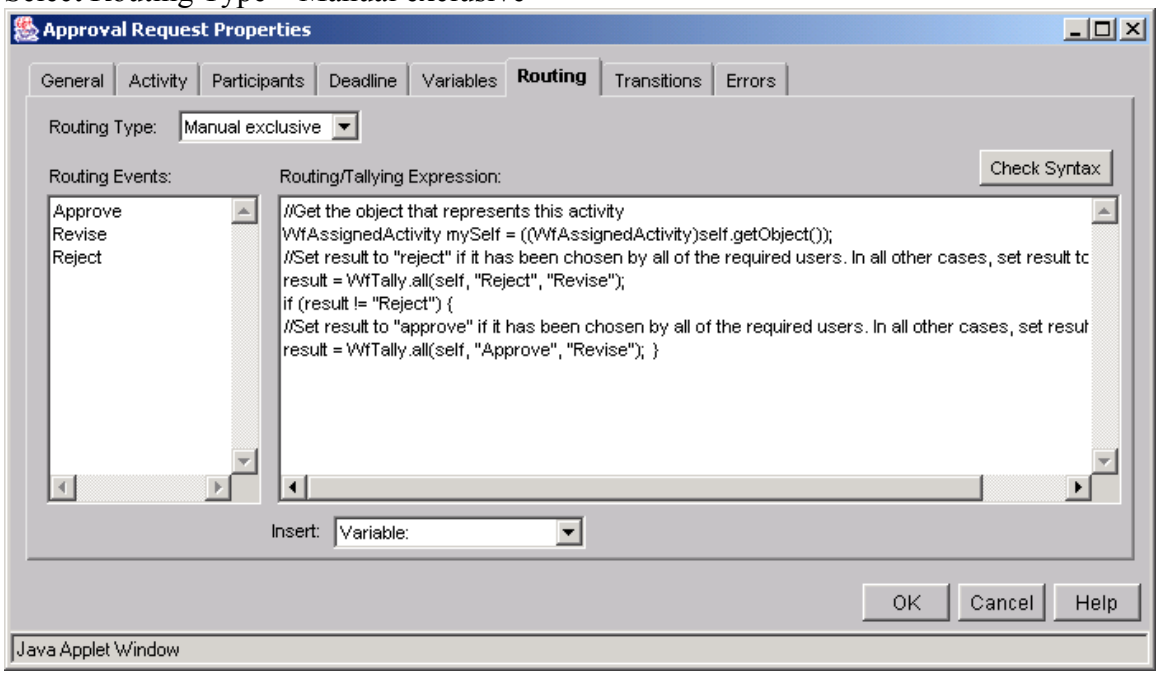
Name	Type Name	Visible	Required	Read Only	Resetable	Initialize From	Copy Into
self	wt.fc.ObjectReference						
primaryBusinessObject	wt.fc.WTObject	x		x	x	primaryBusinessObje	primaryBusinessObject
PJL_Instructions_Variable	java.lang.String			x	x	PJL_Instructions_Vari	PJL_Instructions_Variable
PJL_Distribution_List	wt.team.Team				x	PJL_Distribution_List	PJL_Distribution_List
procMgrLink	java.lang.String			x	x	procMgrLink	procMgrLink

Create | Update | Delete

OK Cancel Help

Java Applet Window

Select the Routing Tab
Select Routing Type – Manual exclusive



Type in the three possible routing events Approve, Revise, and Reject.
Note: These will automatically show up as radio buttons in the assignment task page for the user to enter their disposition of this task.

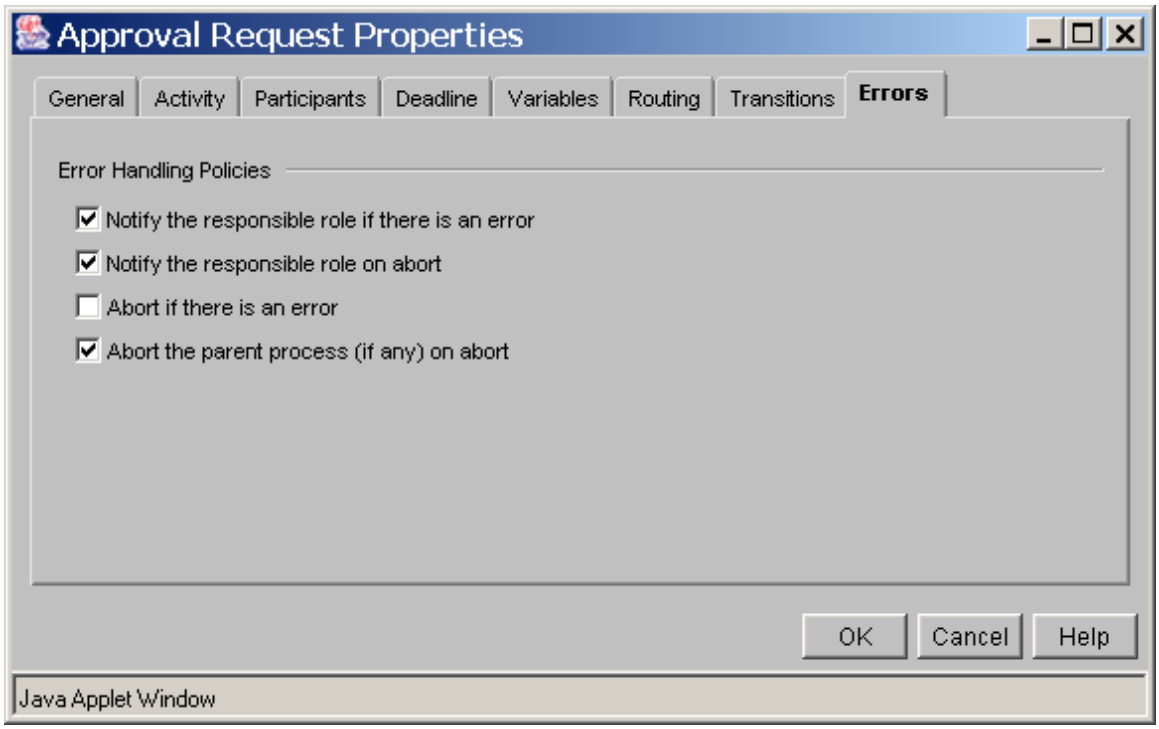
Java code begins on next line:

```
//Get the object that represents this activity
WfAssignedActivity mySelf = ((WfAssignedActivity)self.getObject());
//Set result to "reject" if it has been chosen by all of the required users. In all other cases,
set result to "Revise"
result = WfTally.all(self, "Reject", "Revise");
if (result != "Reject") {
//Set result to "approve" if it has been chosen by all of the required users. In all other
cases, set result to "Revise"
result = WfTally.all(self, "Approve", "Revise"); }
```

Java code ends on previous line.

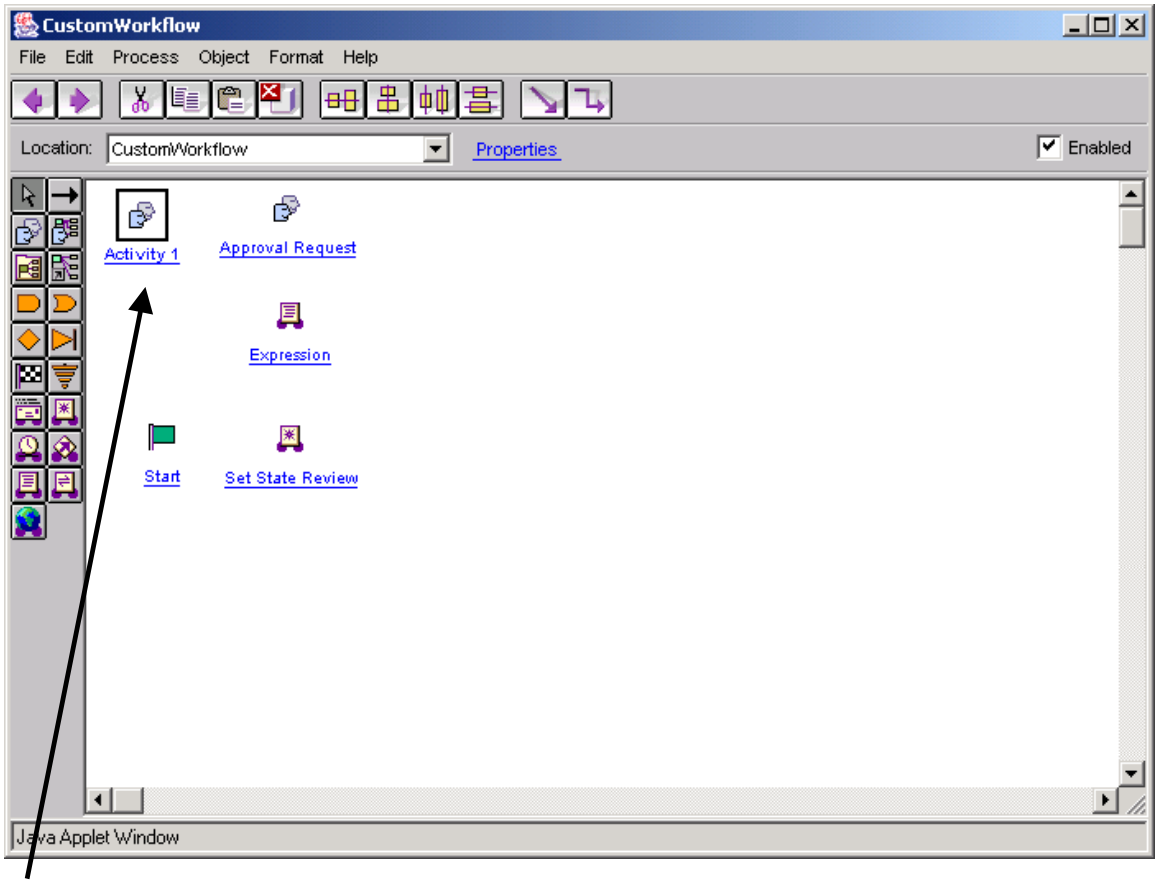
Check Syntax to make sure all is well.

Select the errors tab



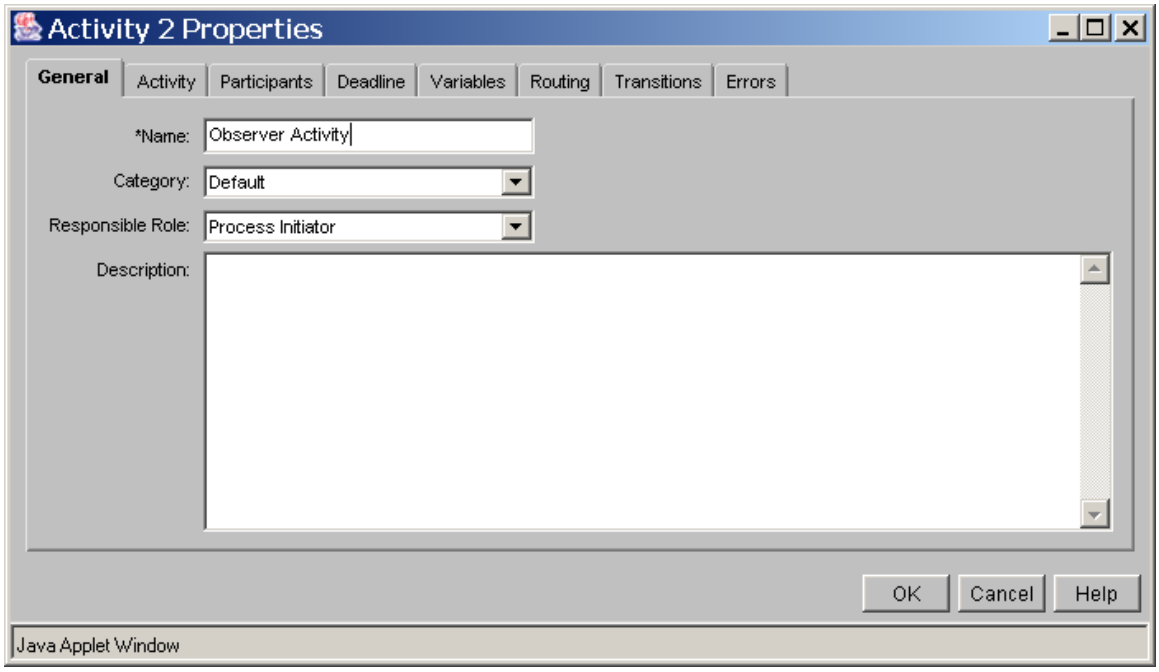
Select OK

Create a new Activity



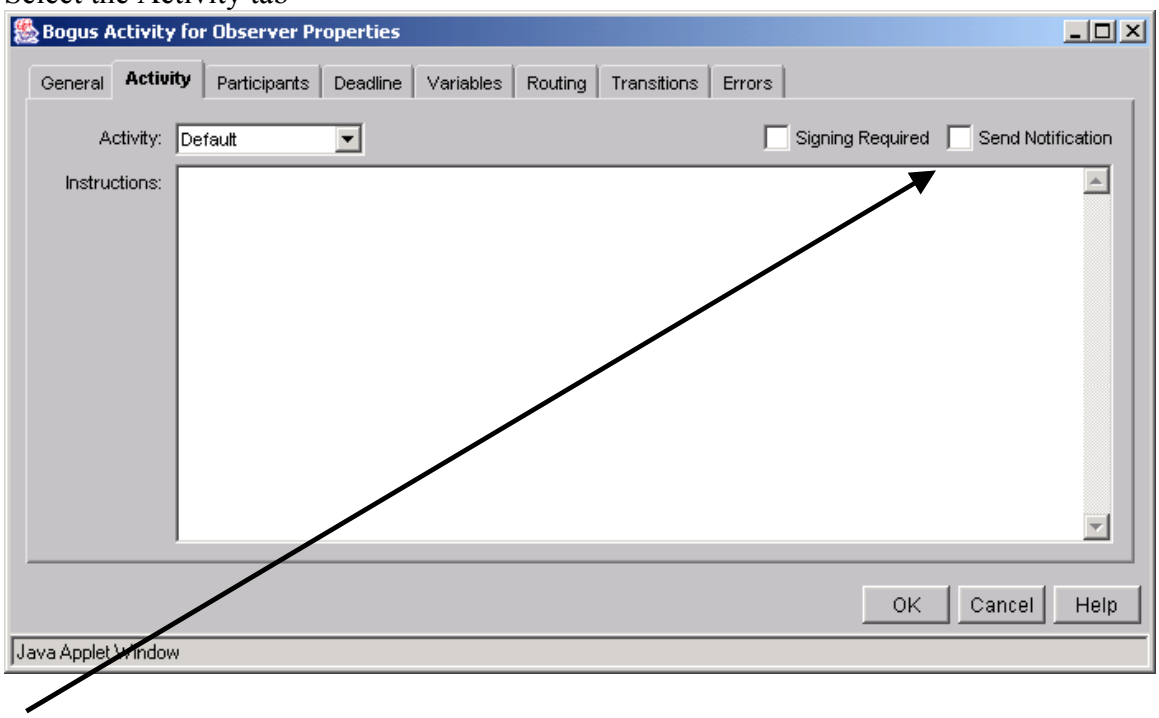
Select the Activity 2 hyperlink

Name the activity



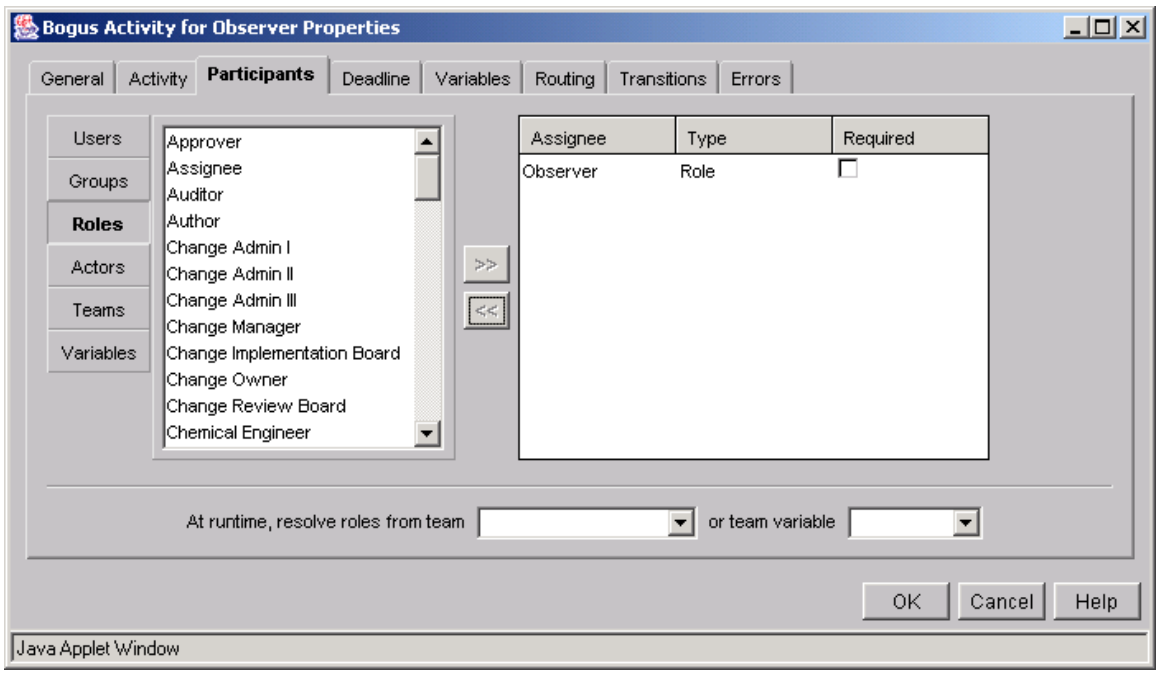
Note: This activity is going to be an unattached workflow activity. The only purpose of this activity is to initialize the Observer role so that it will show up in the Route user interface "Define the Distribution List" when the user is actually routing the document. The bottom line is that unless users are selected during the route, they will not be part of the PJL_Distribution_List and will never receive notification from the workflow.

Select the Activity tab



Note that the send notification is unchecked. This is because we don't want them to receive any tasks but only an email that the task has been approved. We will define the email robot later in this document.

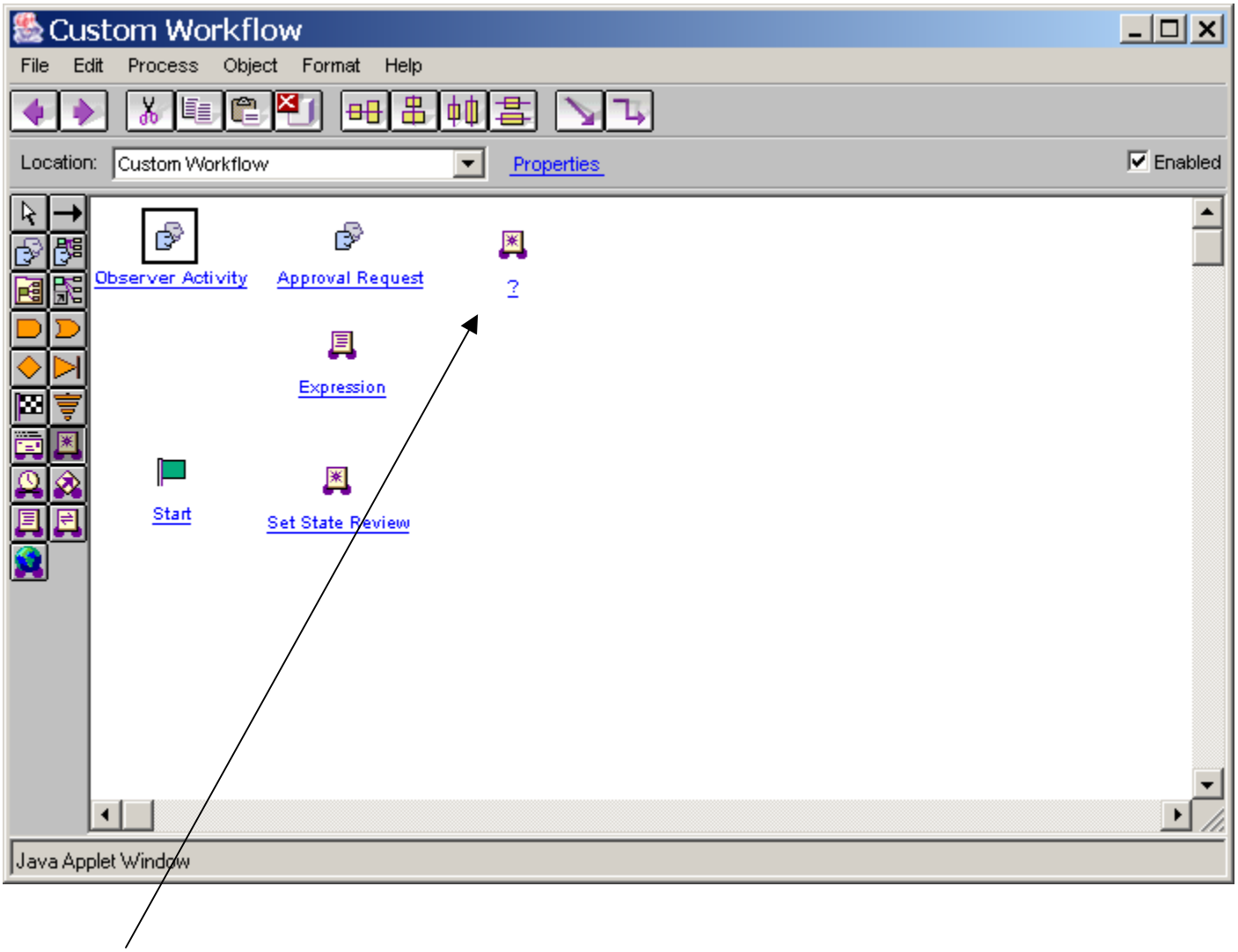
Select the Participants tab



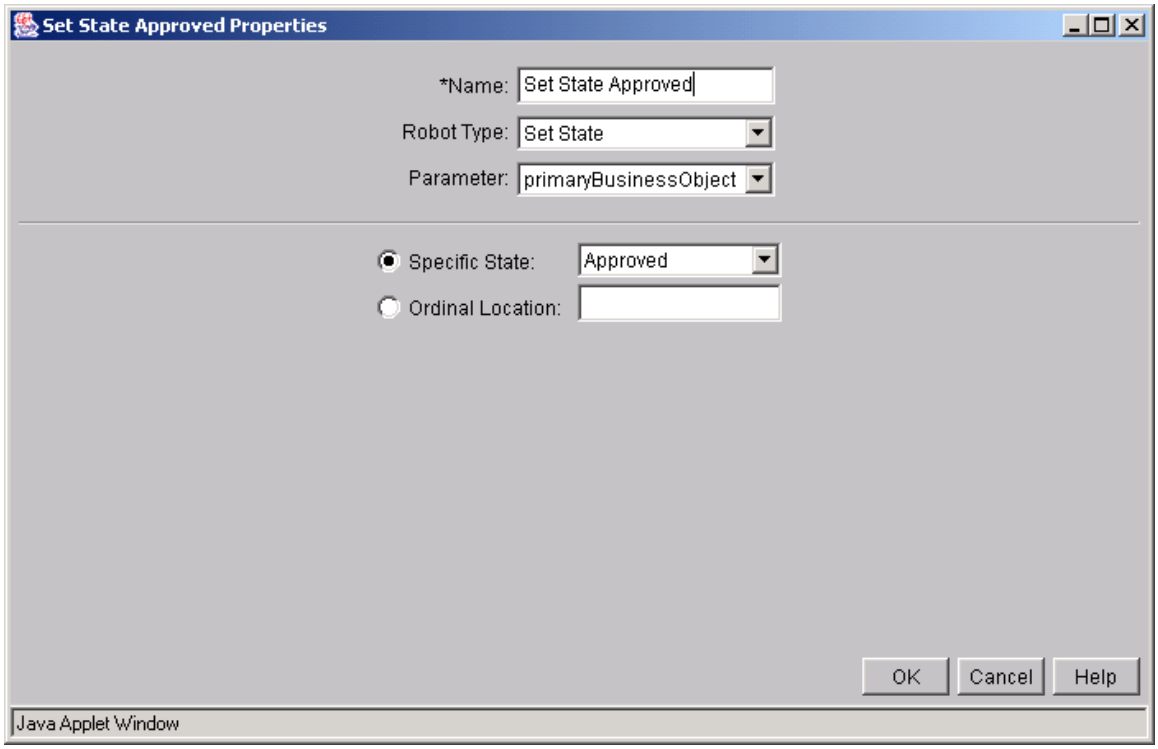
Use the roles tab to add the Observer role.
Remove the Creator role

All other tabs can be left to the default
Select OK

Create a method robot

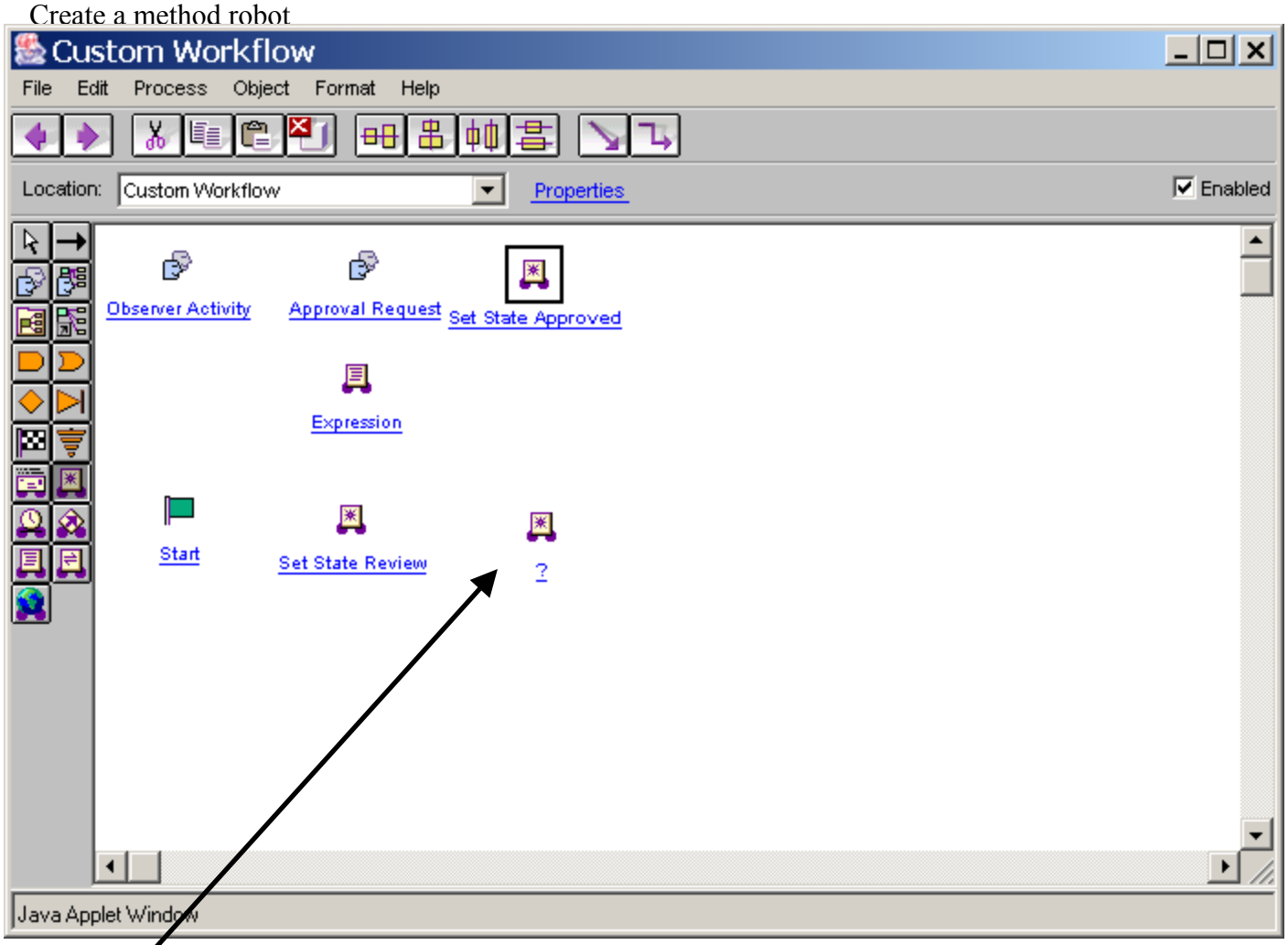


Select the ? hyperlink

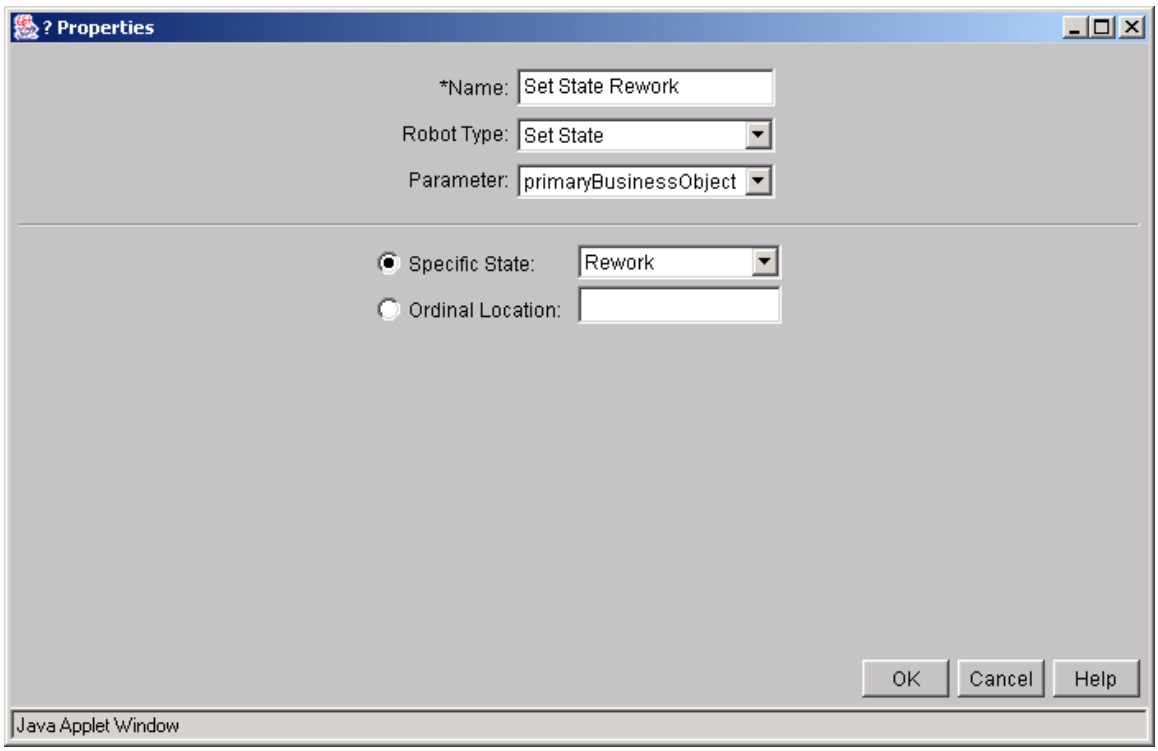


Name is Set State Approved
Robot Type Set State
Specific State Approved
Select OK

Create a method robot

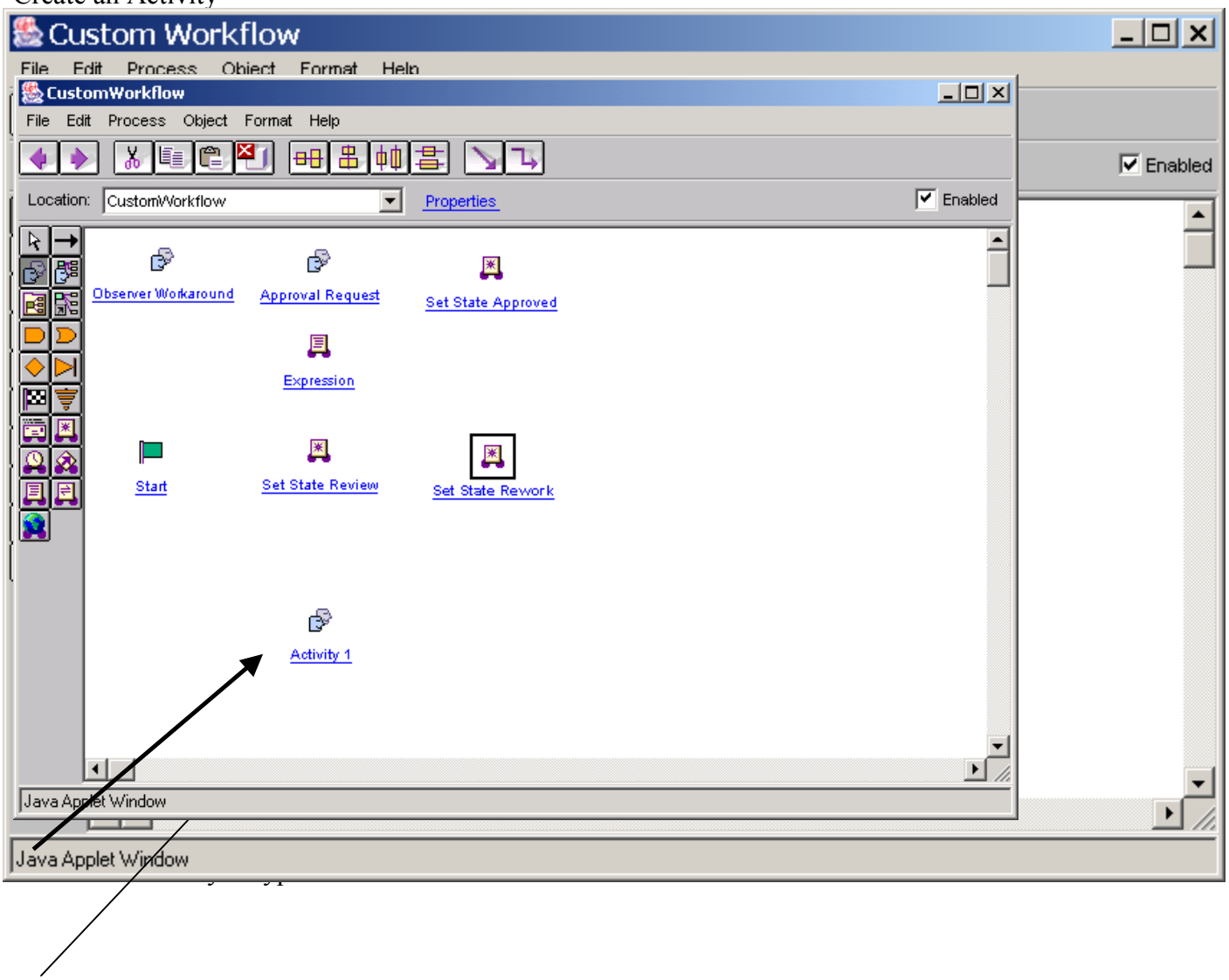


Select the ? hyperlink

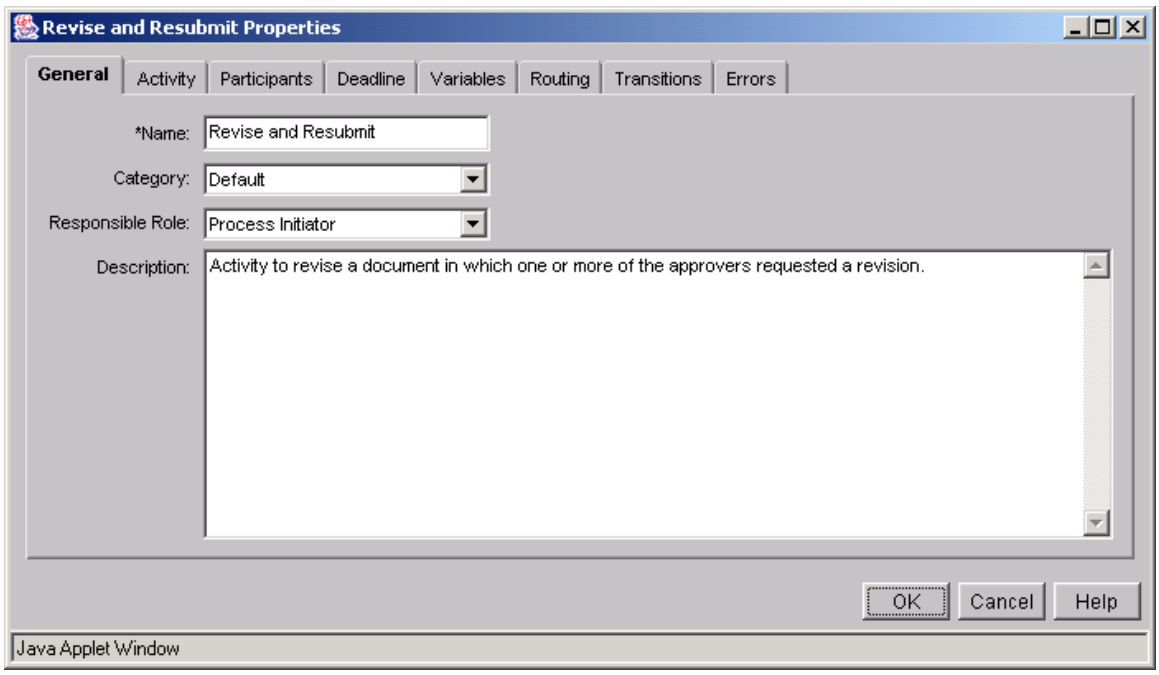


Set as shown and select OK

Create an Activity

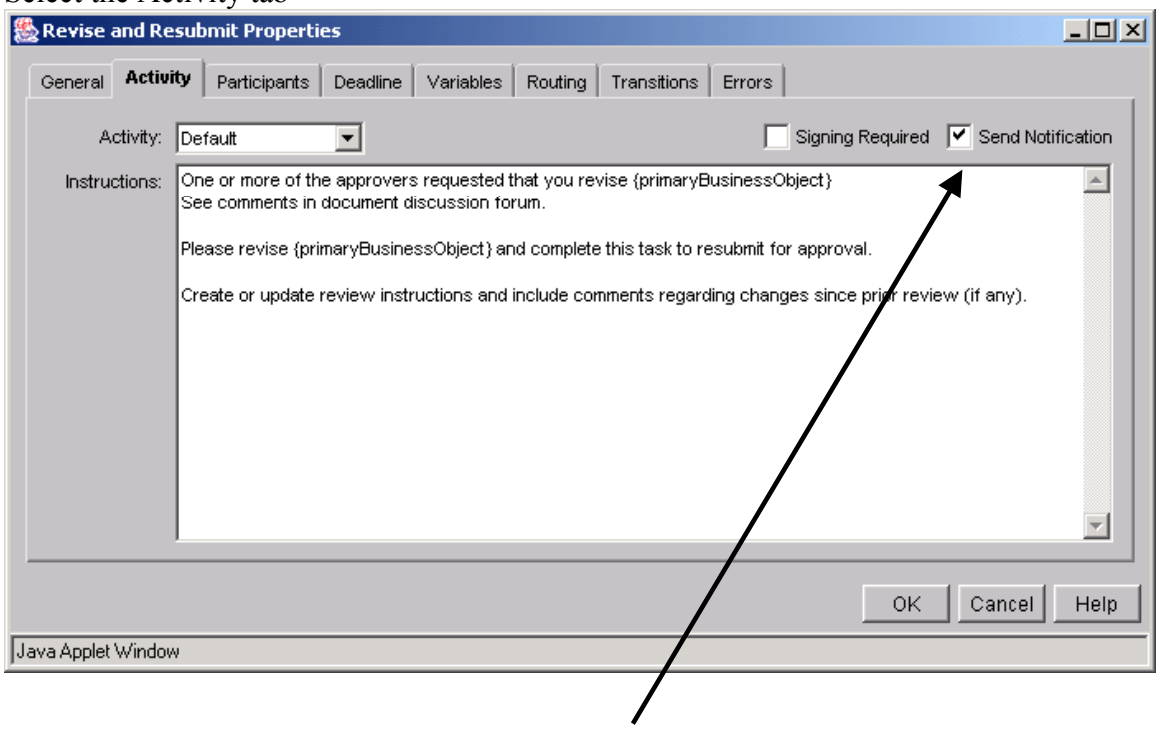


Select Activity hyperlink



Name is Revise and Resubmit

Select the Activity tab



Send Notification

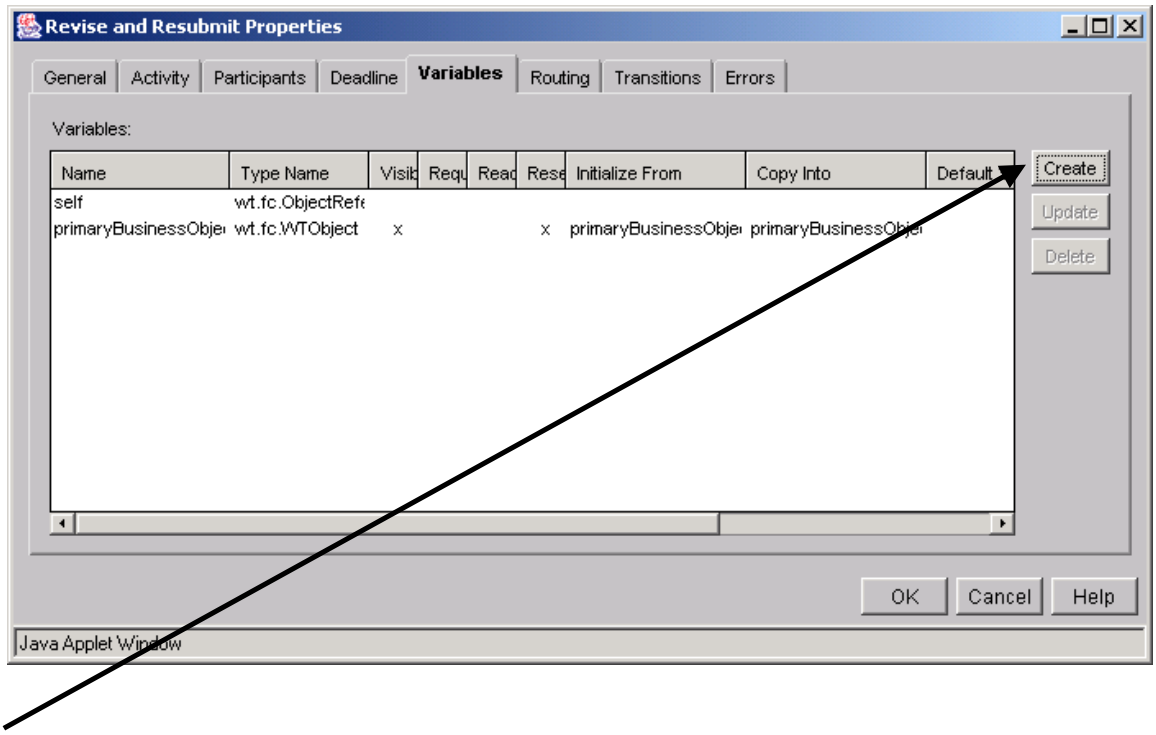
Instructions shown below for your convenience

One or more of the approvers requested that you revise {primaryBusinessObject}
See comments in document discussion forum.

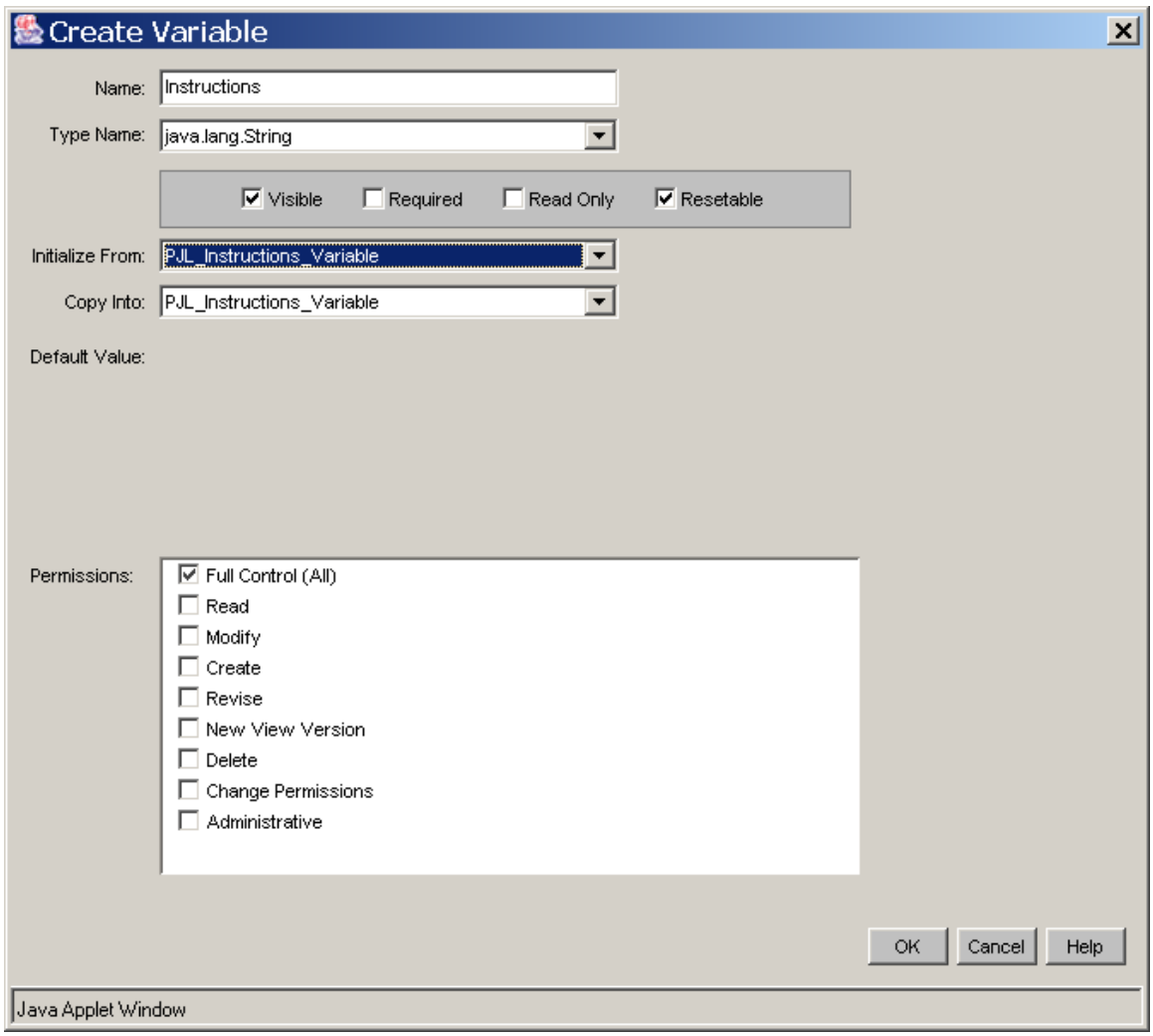
Please revise {primaryBusinessObject} and complete this task to resubmit for approval.

Create or update review instructions and include comments regarding changes since prior review (if any).

Select the Variables tab

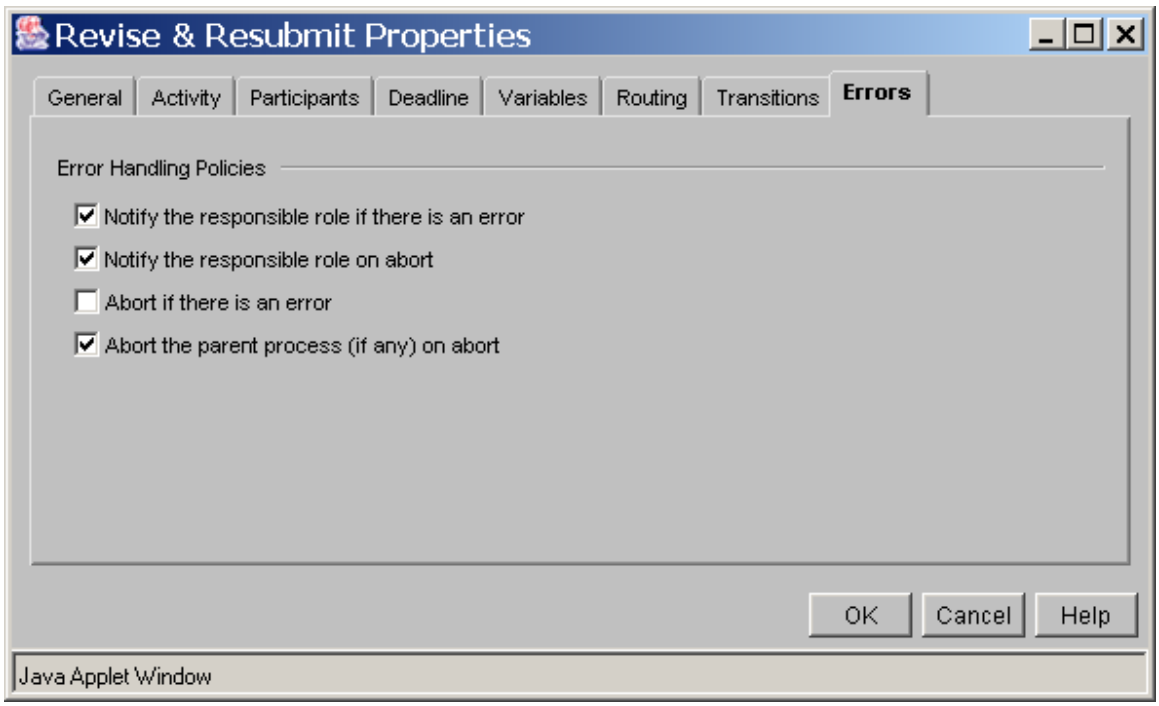


Select the create button



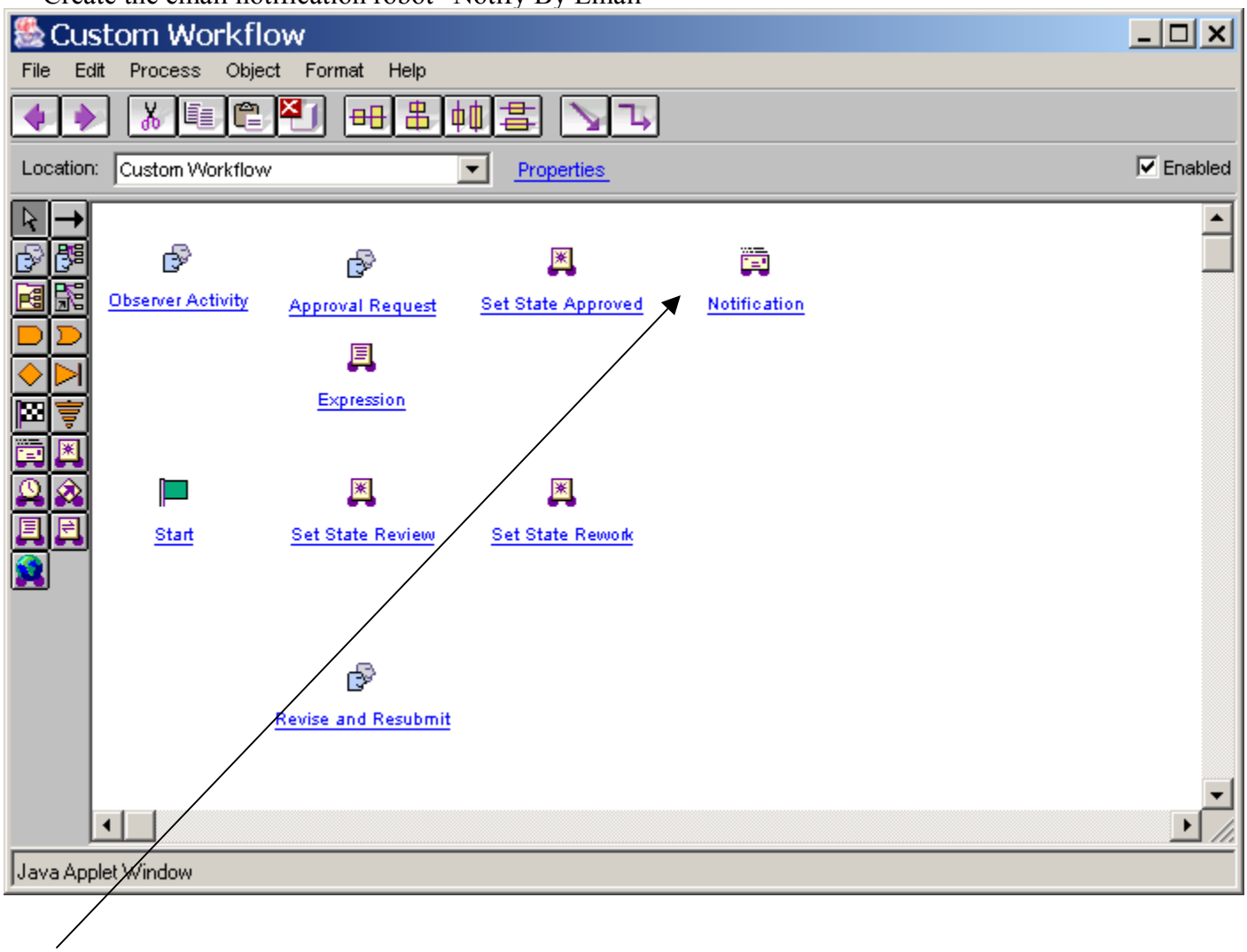
Complete as shown
Select OK

Select the errors tab

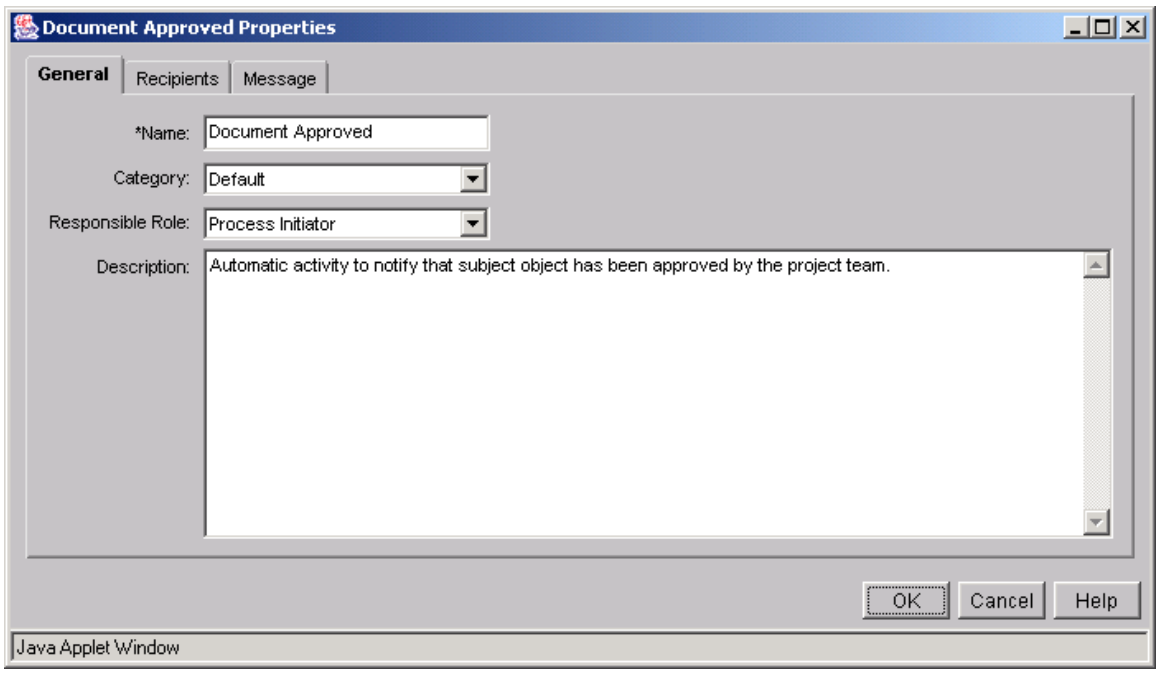


Select Ok

Create the email notification robot “Notify By Email”

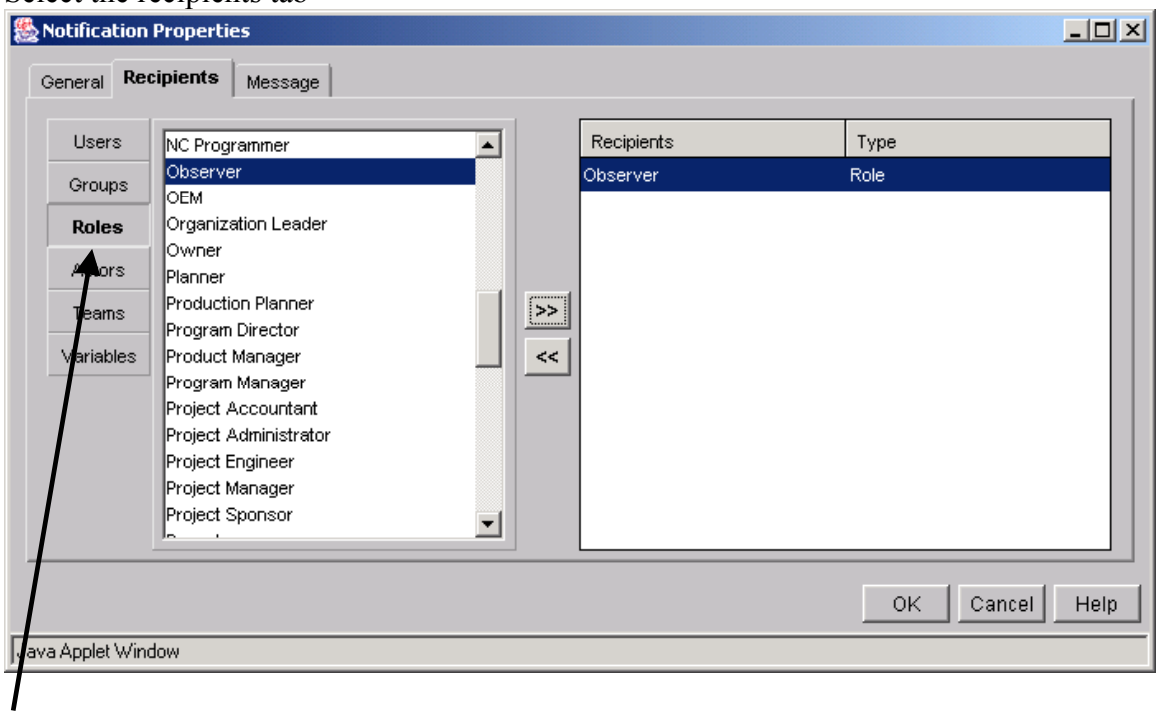


Select the Notification link

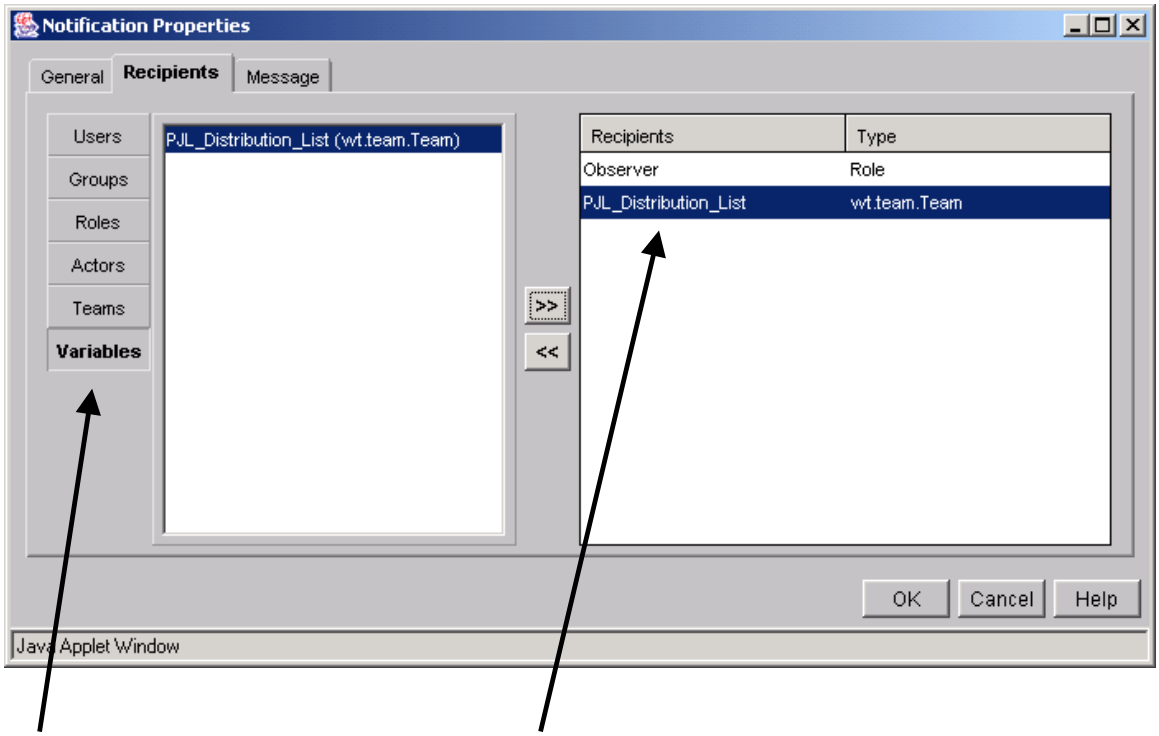


Name is Document Approved

Select the recipients tab

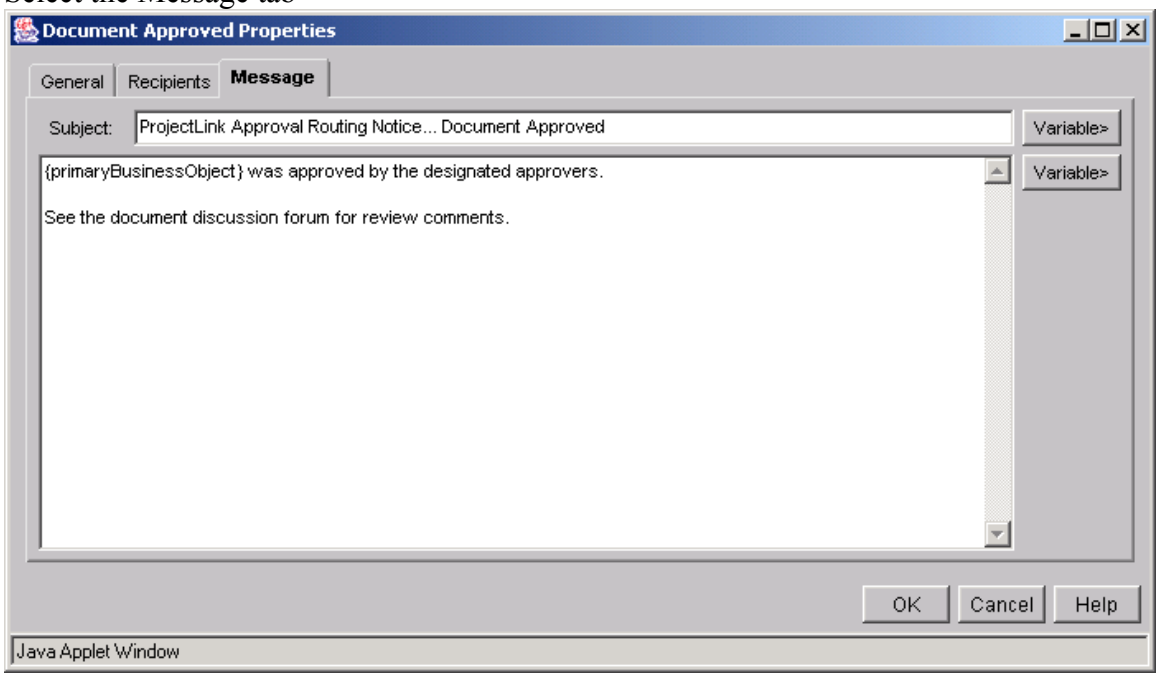


Use the Roles tab to add the Observer Role



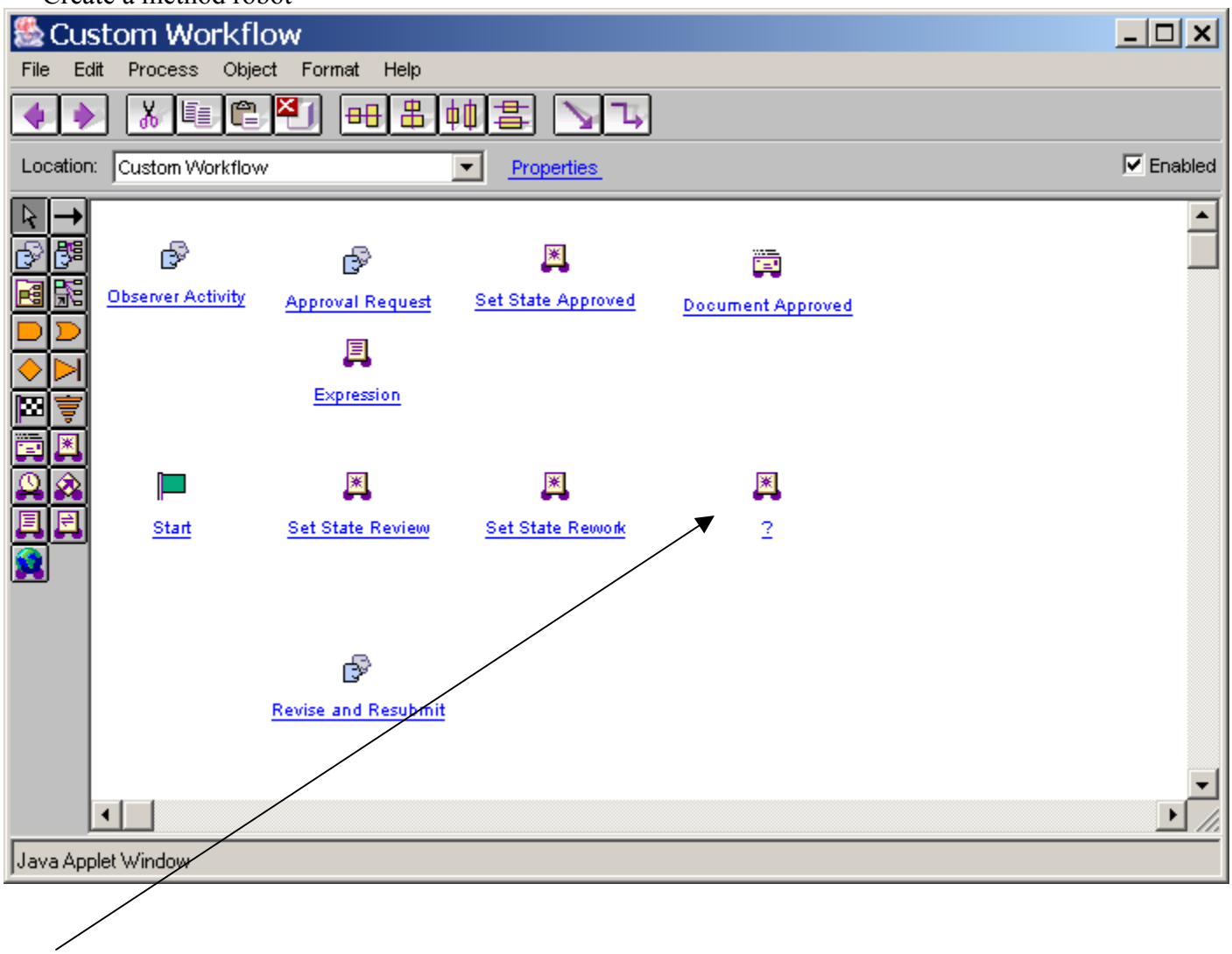
Use the Variables tab to add PJL_DistributionList

Select the Message tab

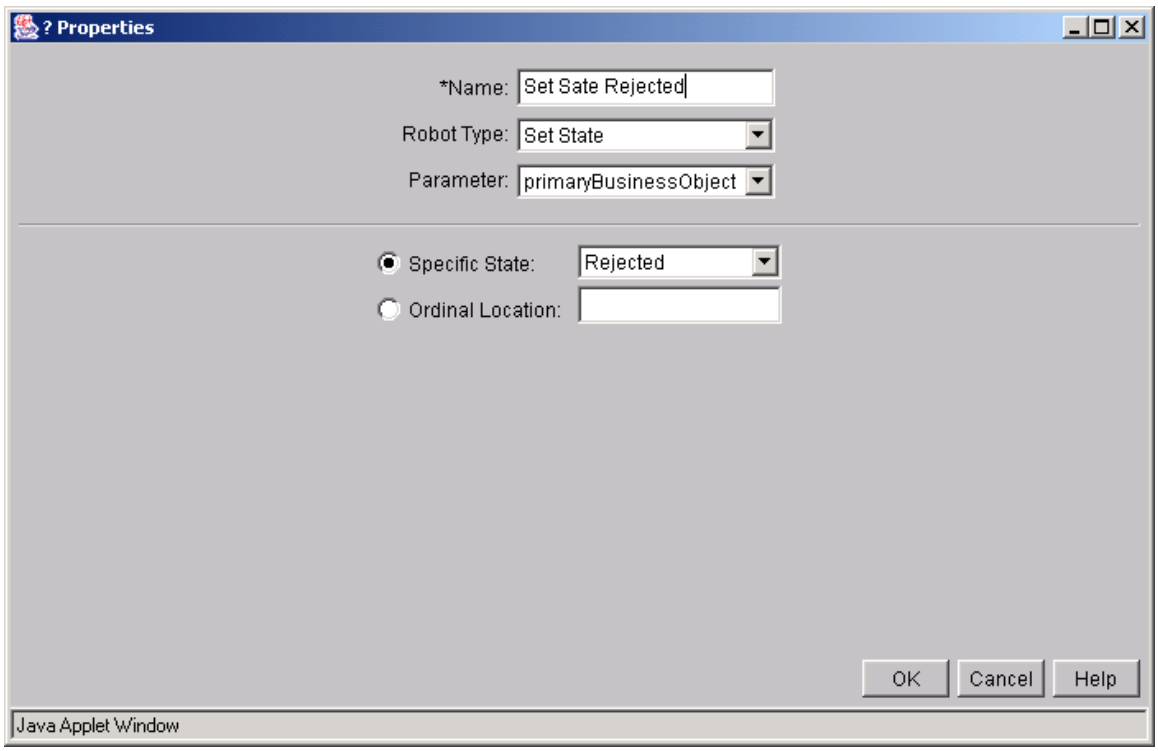


Compete as shown (Use the Variable button for the {primaryBusinessObject}
Select OK

Create a method robot

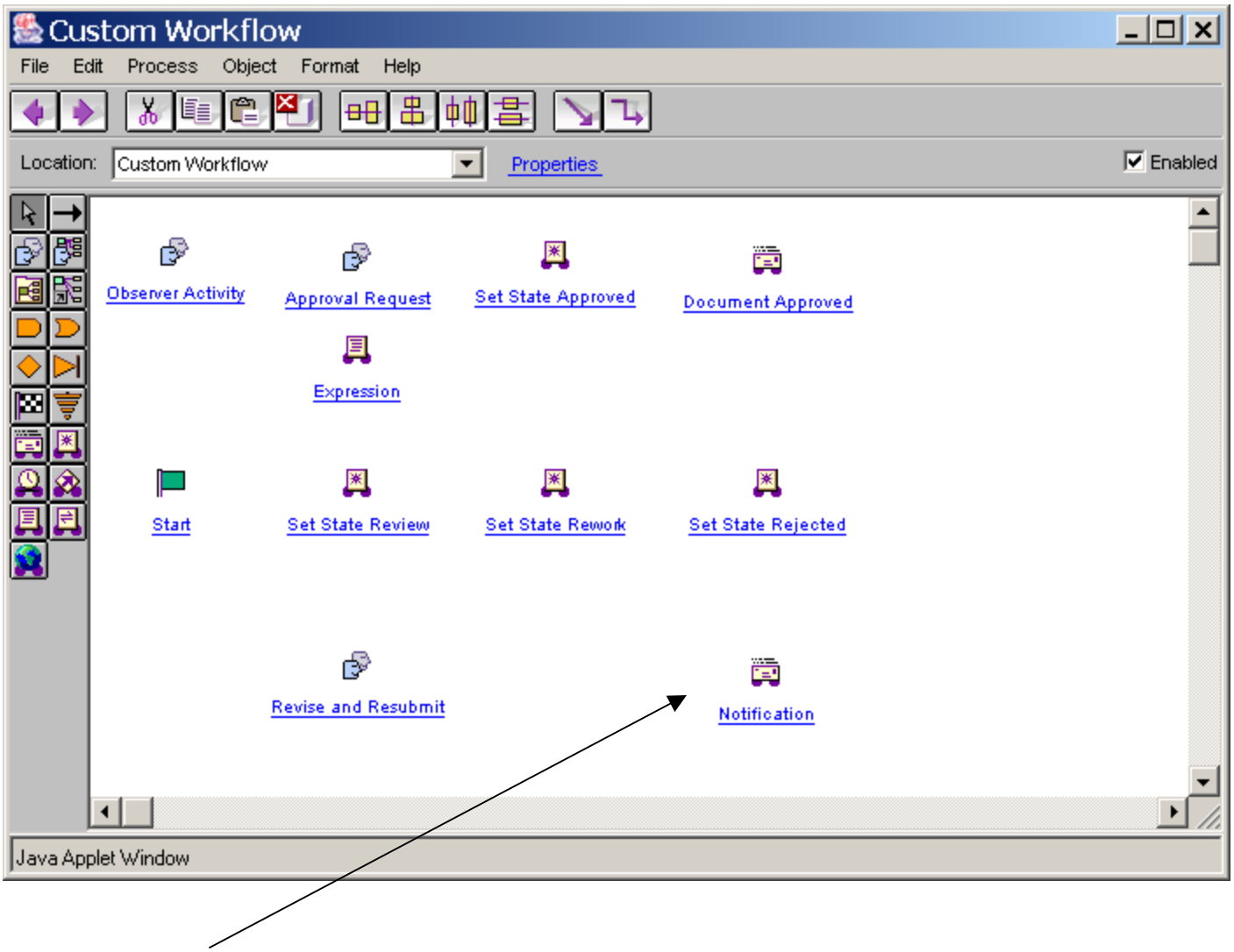


Select the ? hyperlink

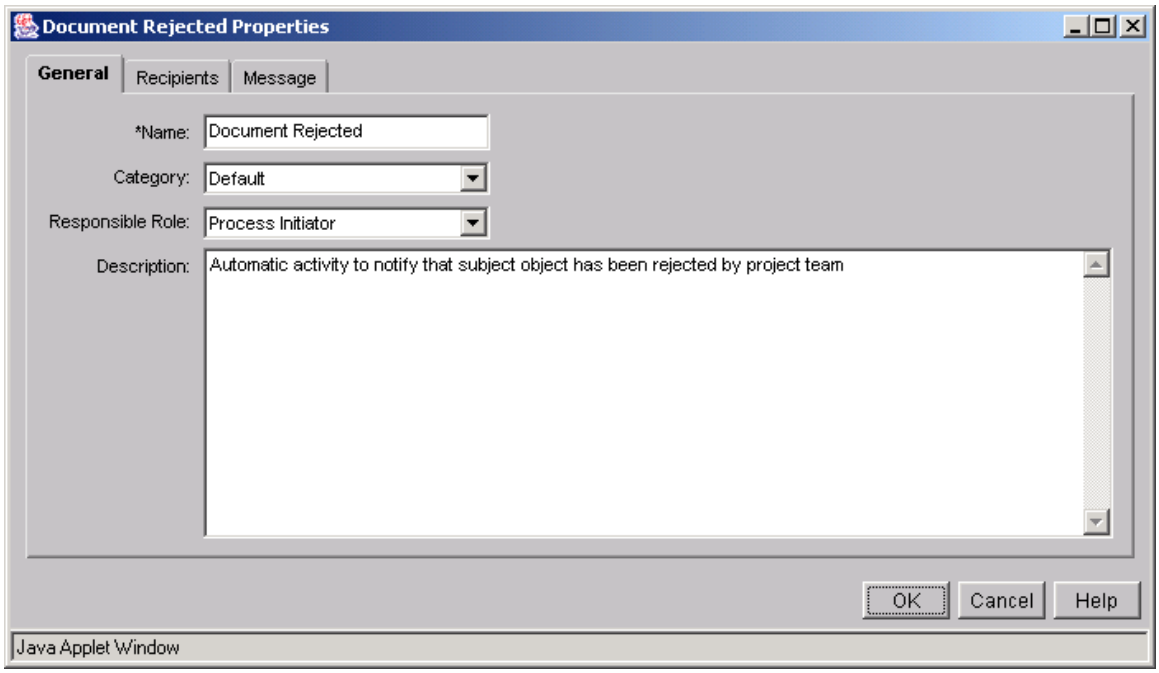


Complete as shown – Select OK

Create the email notification robot “Notify By Email”

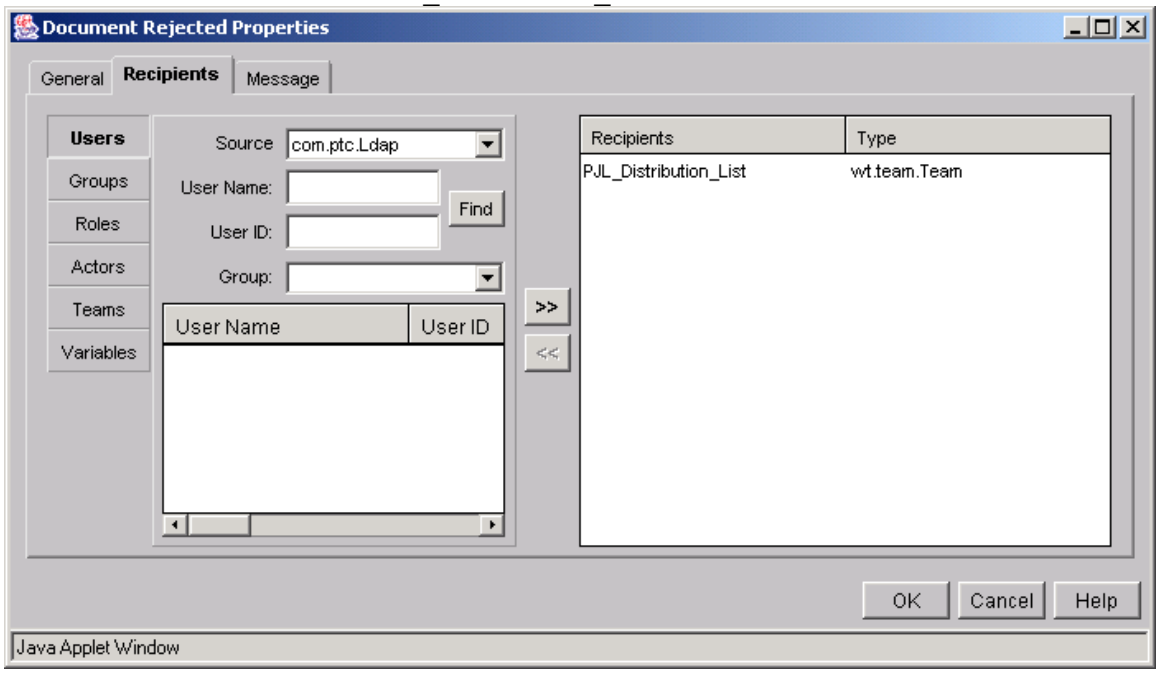


Select the notification hyperlink

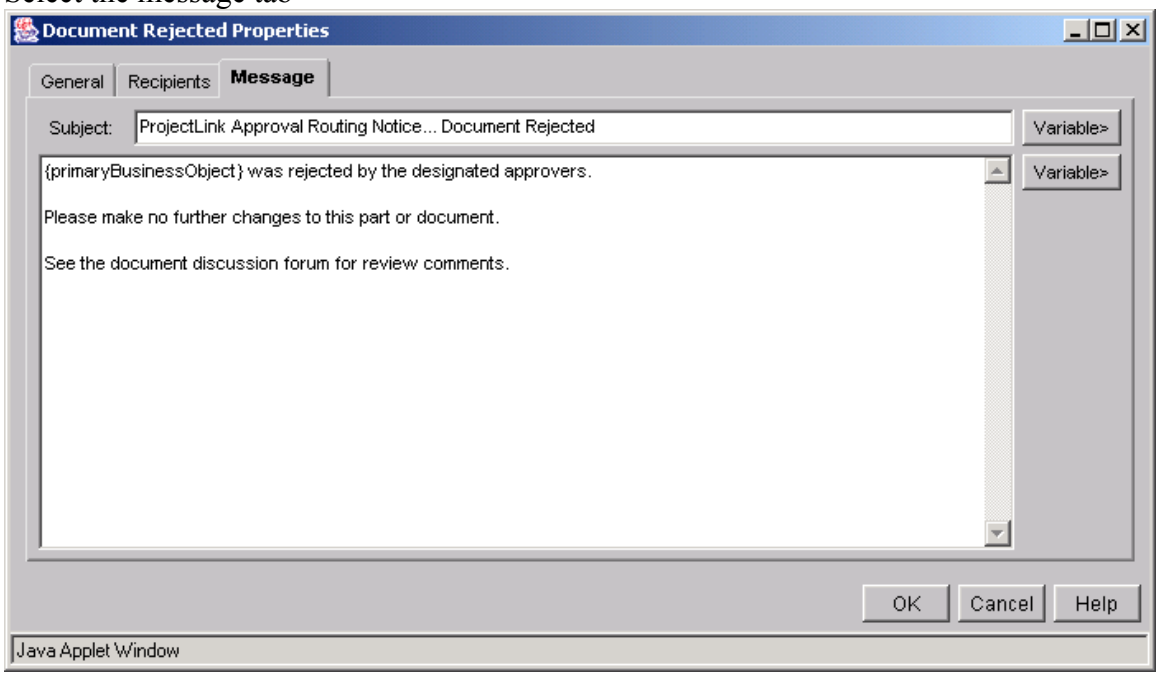


Name is Document Rejected

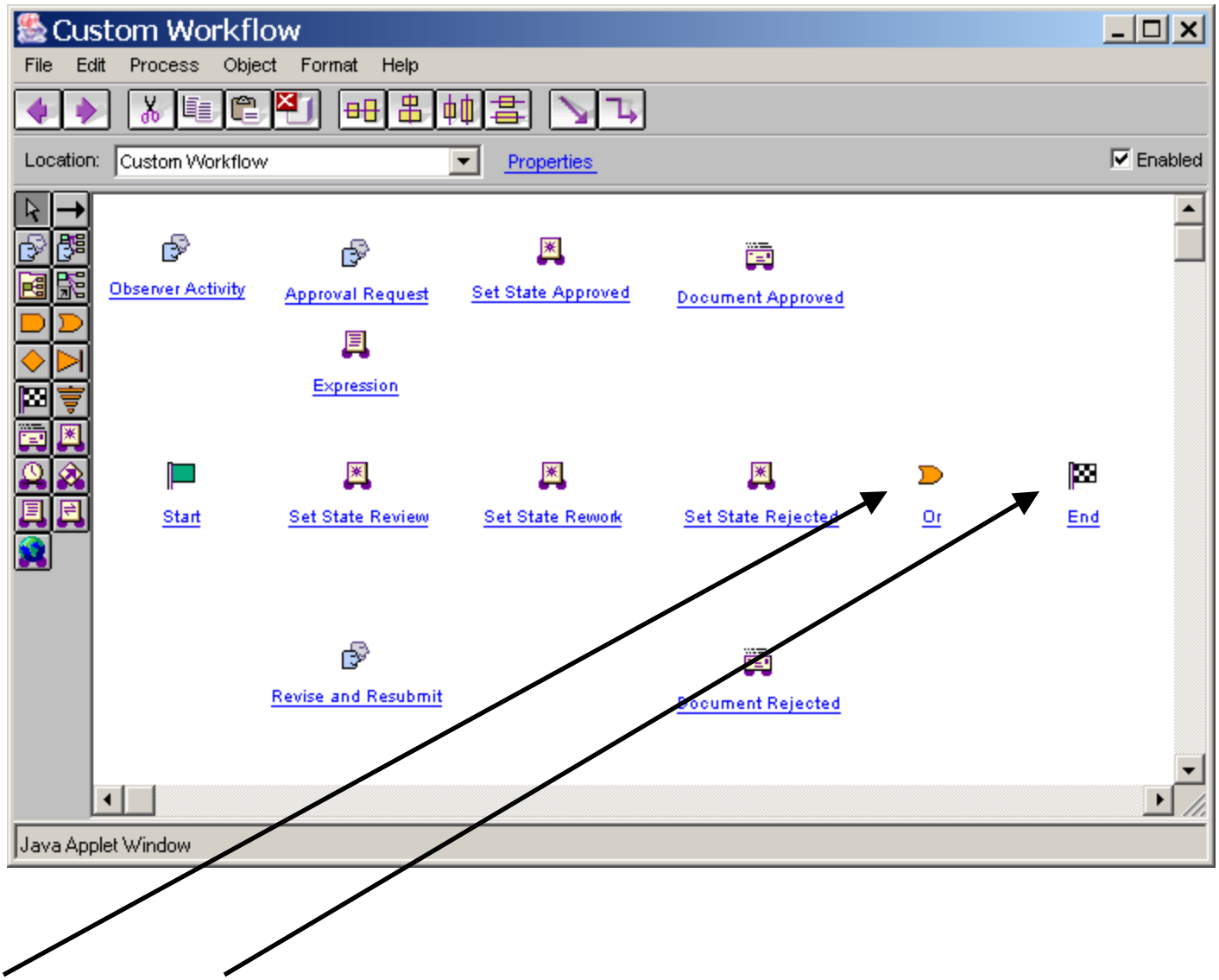
Select the Recipients tab
Use the Variables tab to add PJL_Distribution_List



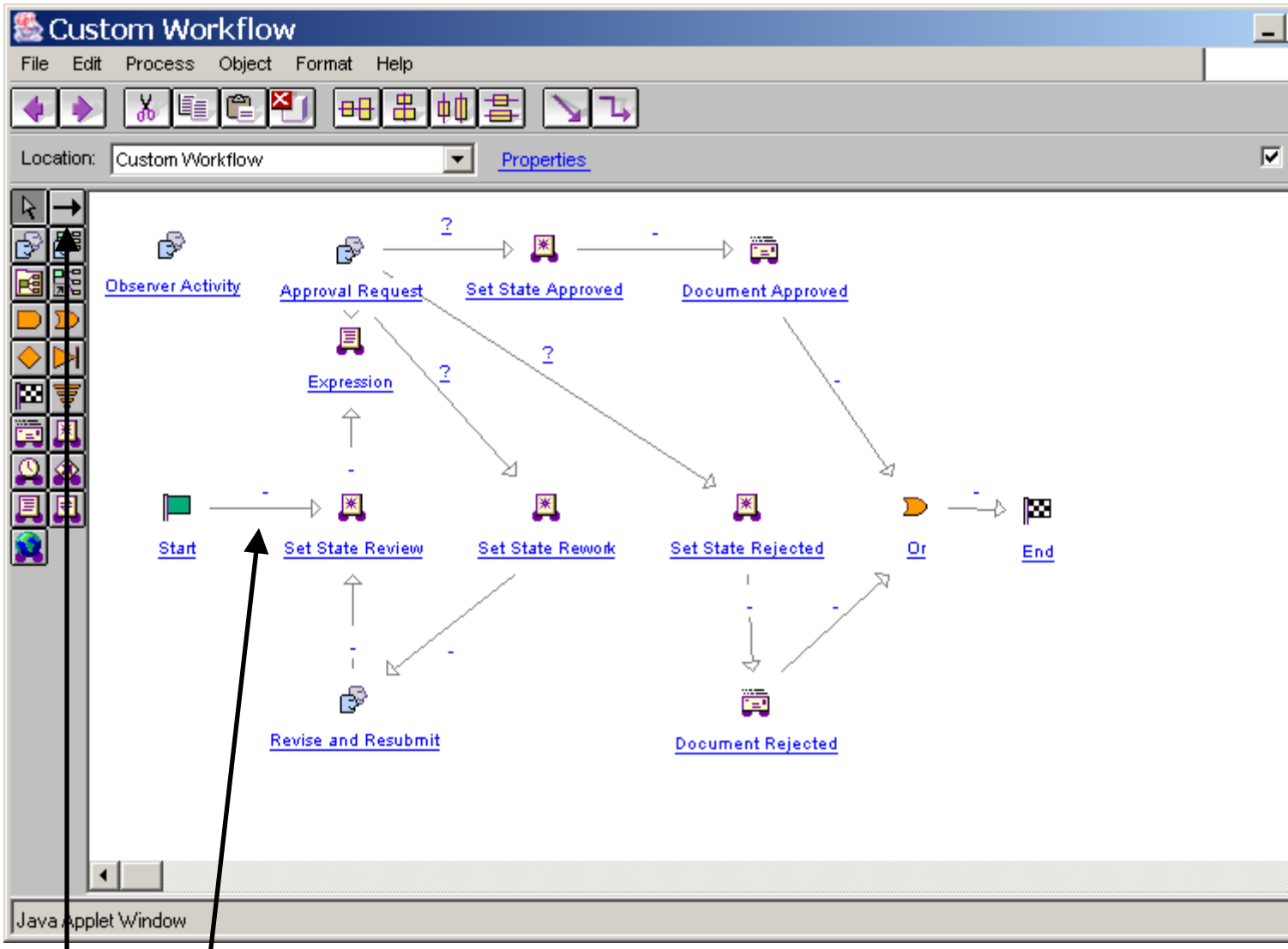
Select the message tab



Select OK

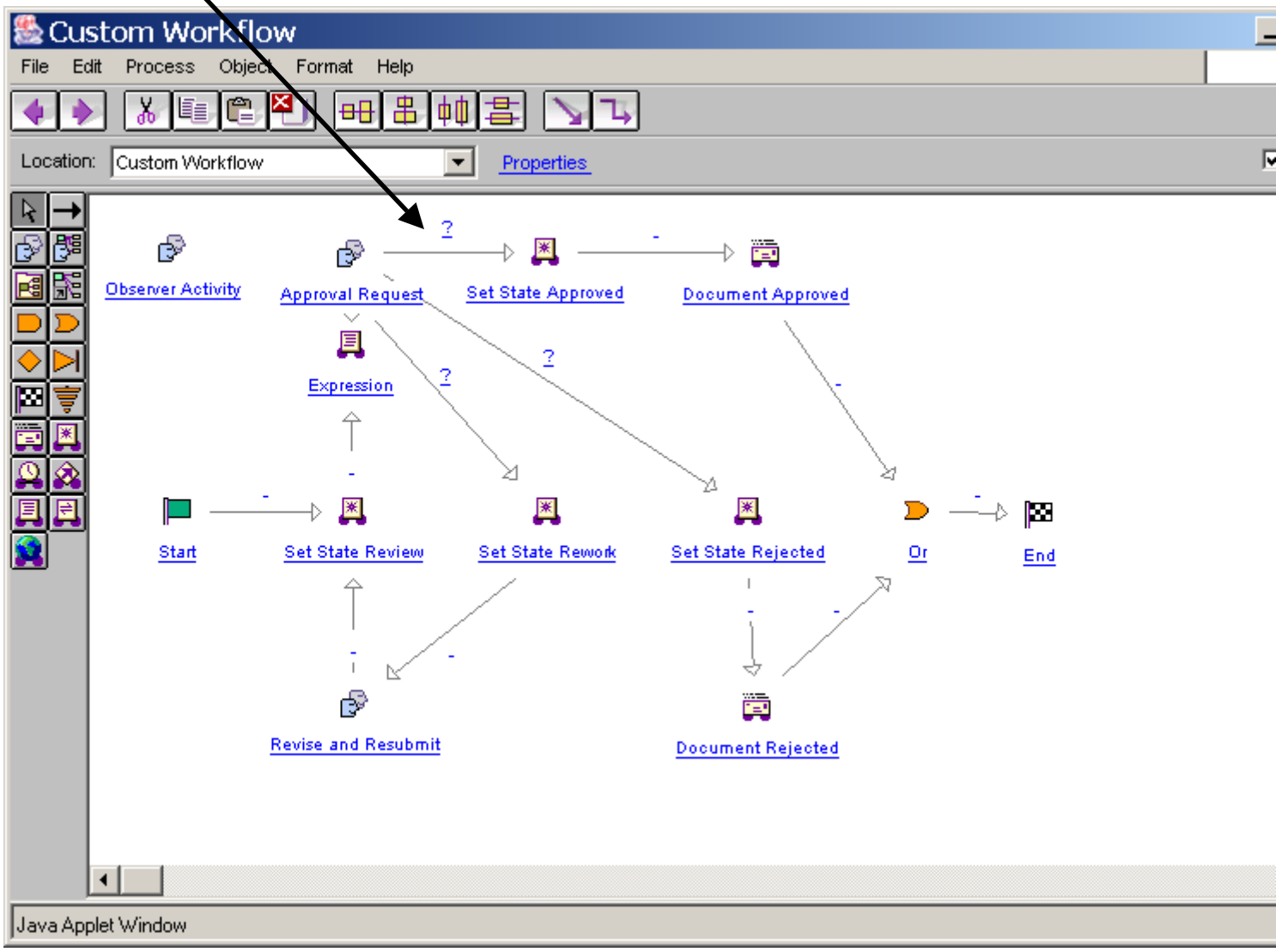


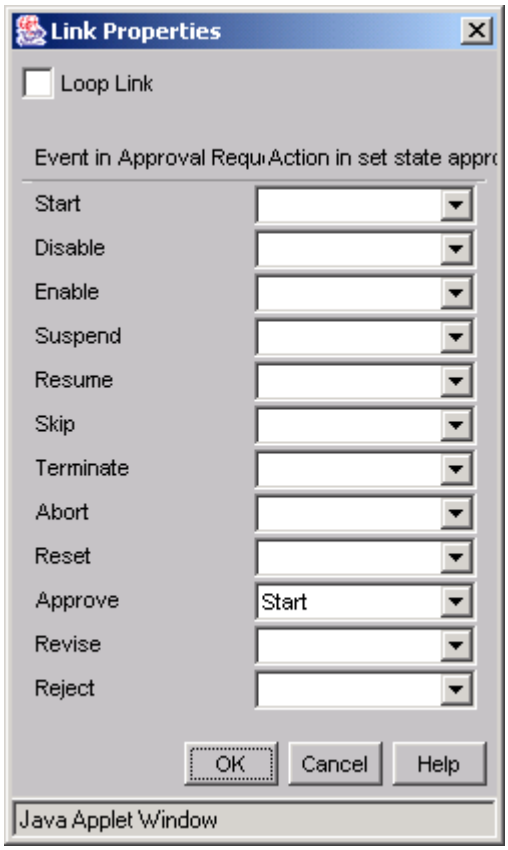
Create an Or connector and an End



Use the Action icon to connect everything as shown (13 places)

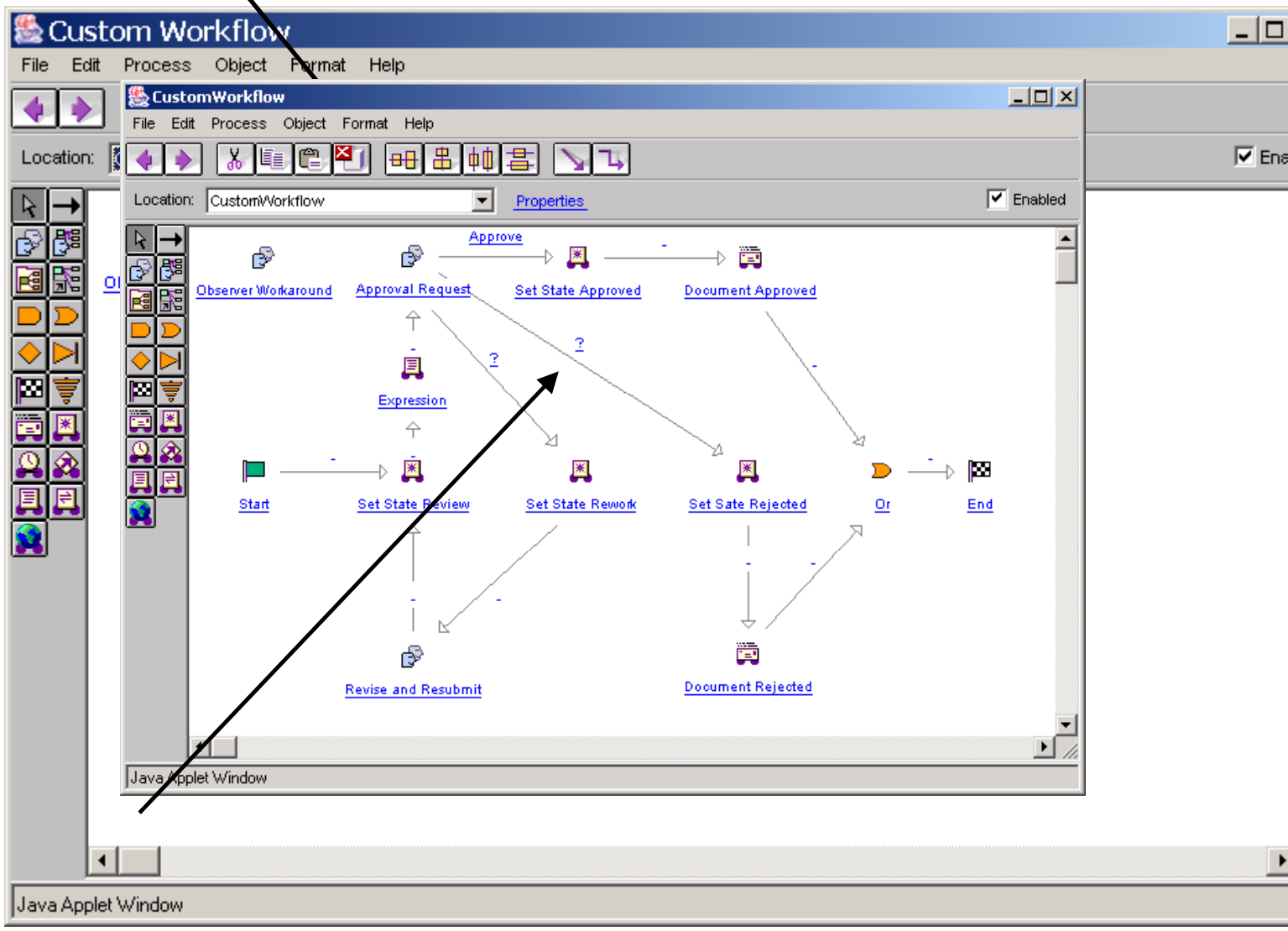
Select the ? hyperlink

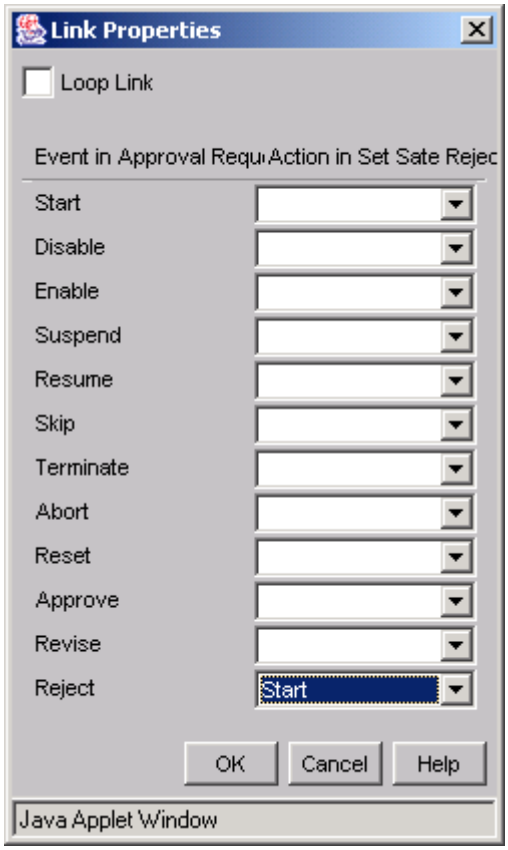




Select the Start dropdown from the Approve event. Select OK

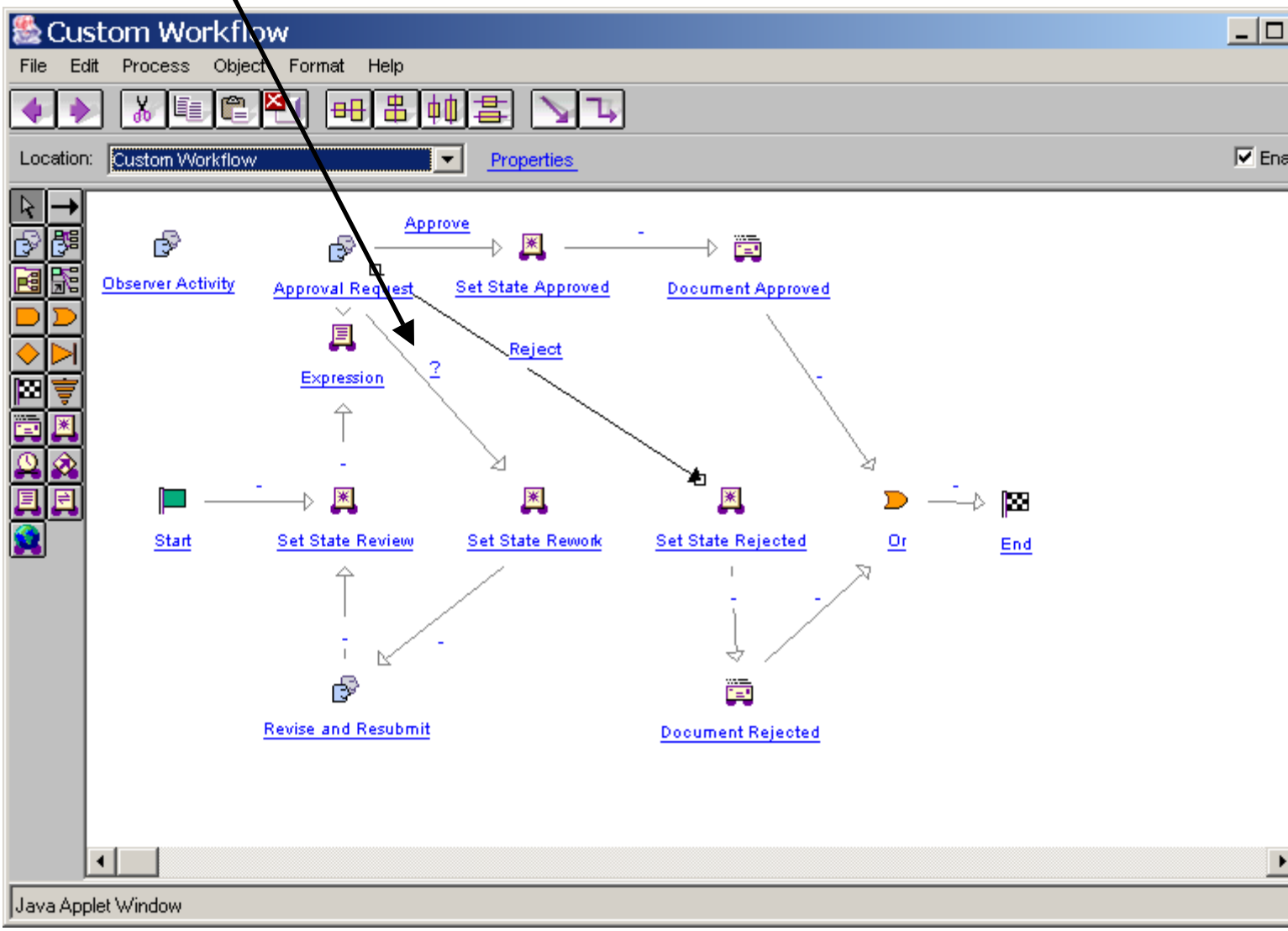
Select the ? hyperlink

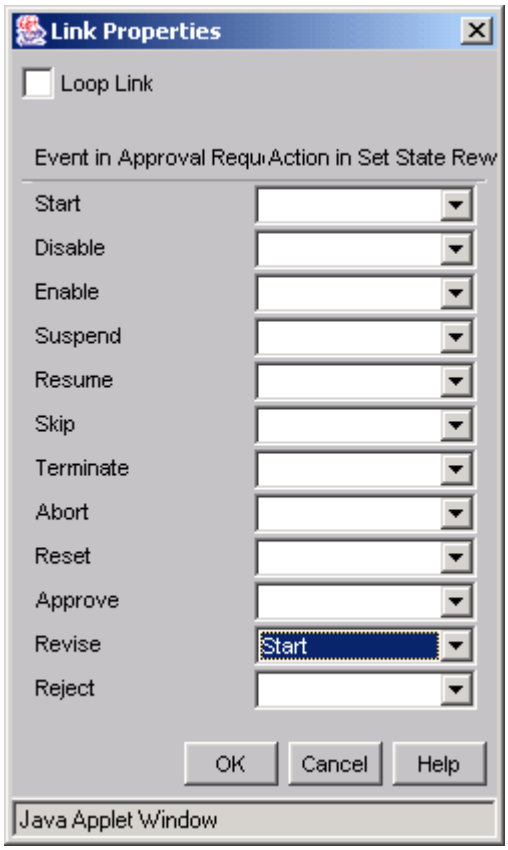




Select the Start dropdown from the Reject event
Select OK

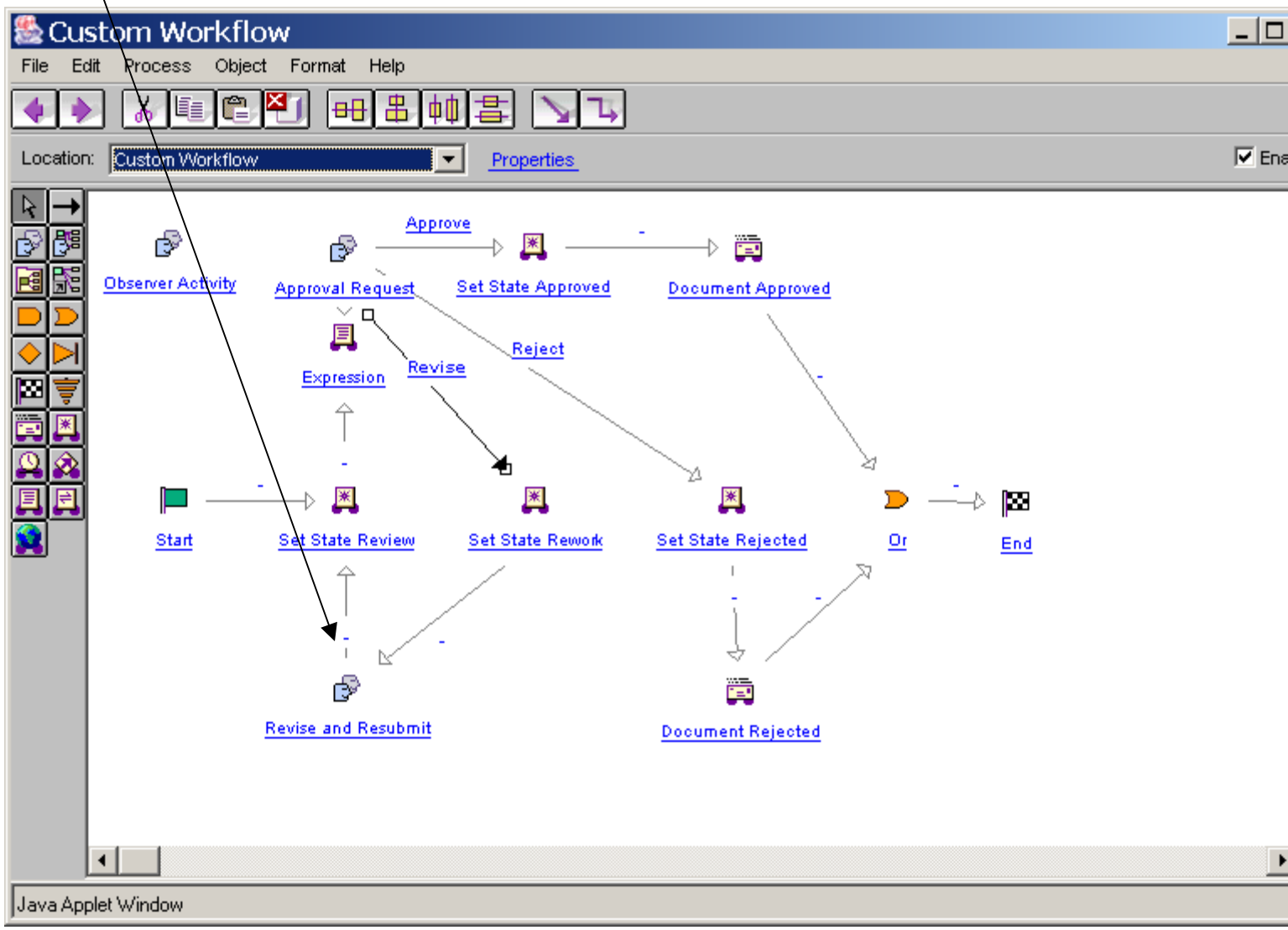
Select the ? hyperlink

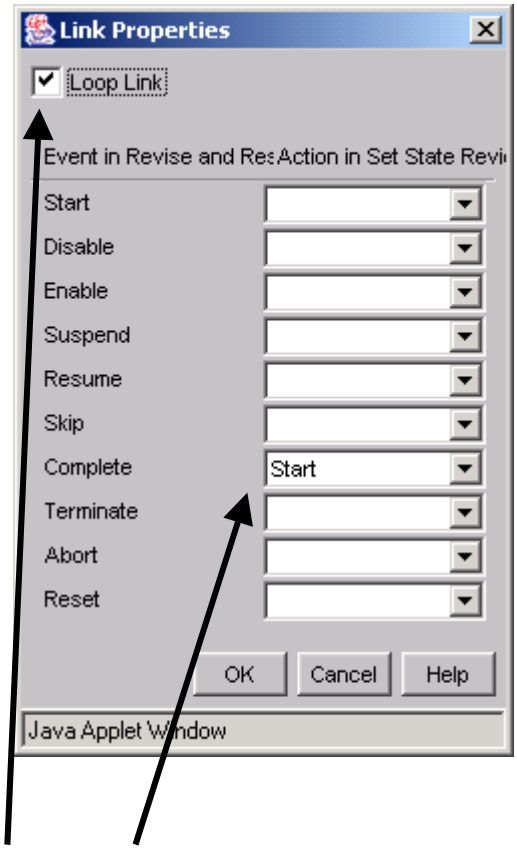




Select the Start dropdown from the Revise event
Select OK

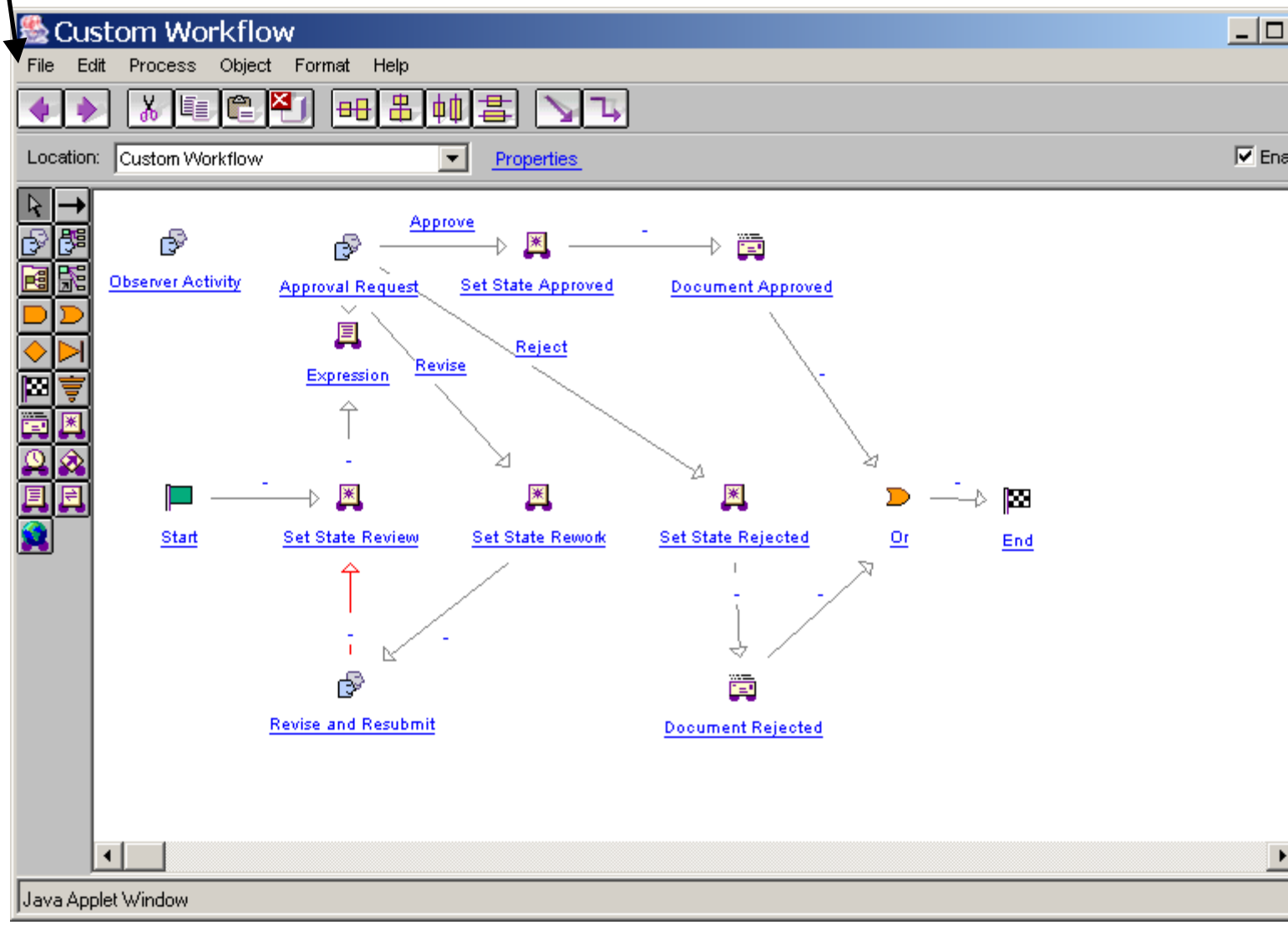
Select the - hyperlink



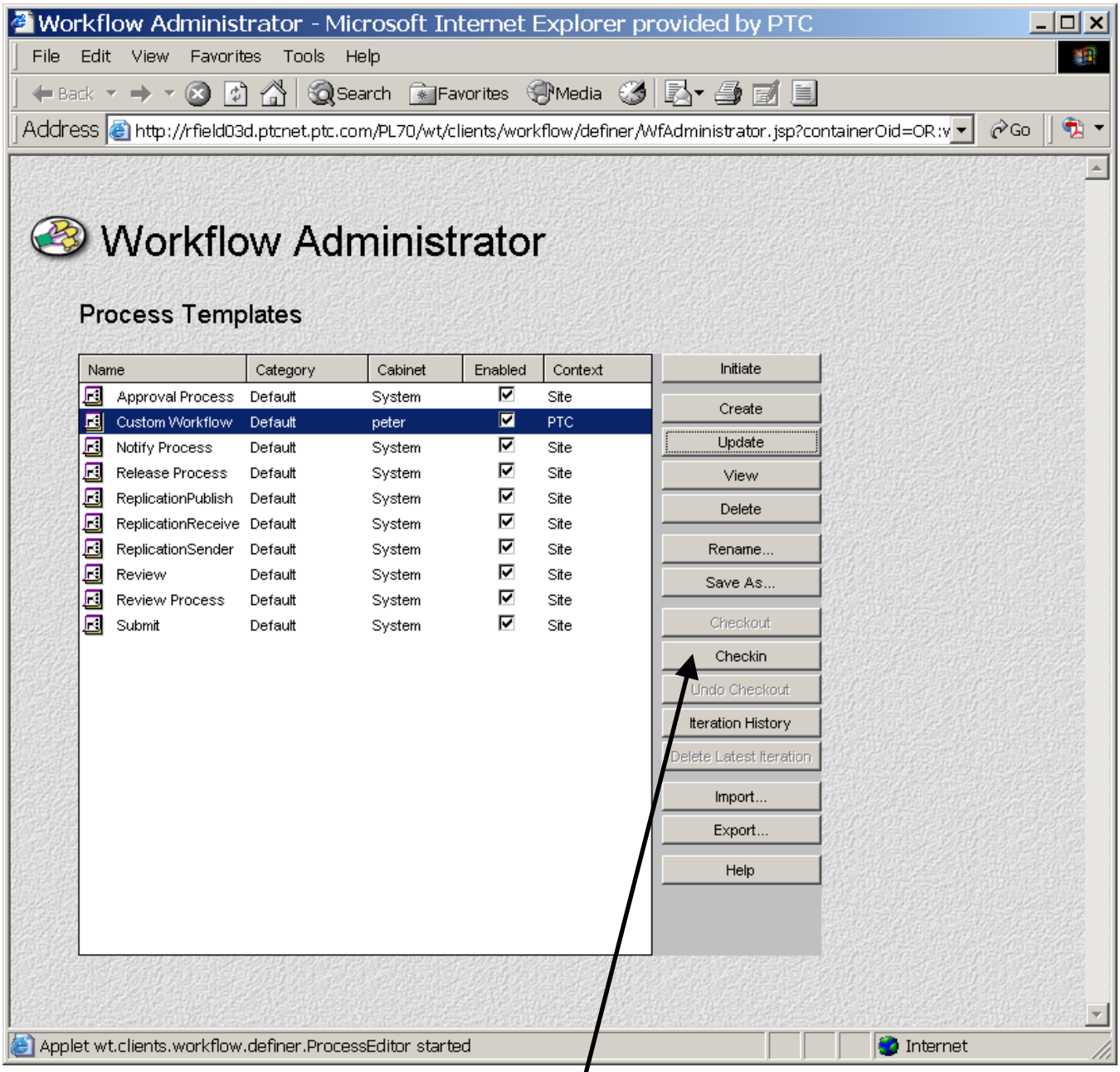


Loop Link and Start from the Complete event
Select OK

Use File / Save to save the workflow



Then Exit the workflow editor.

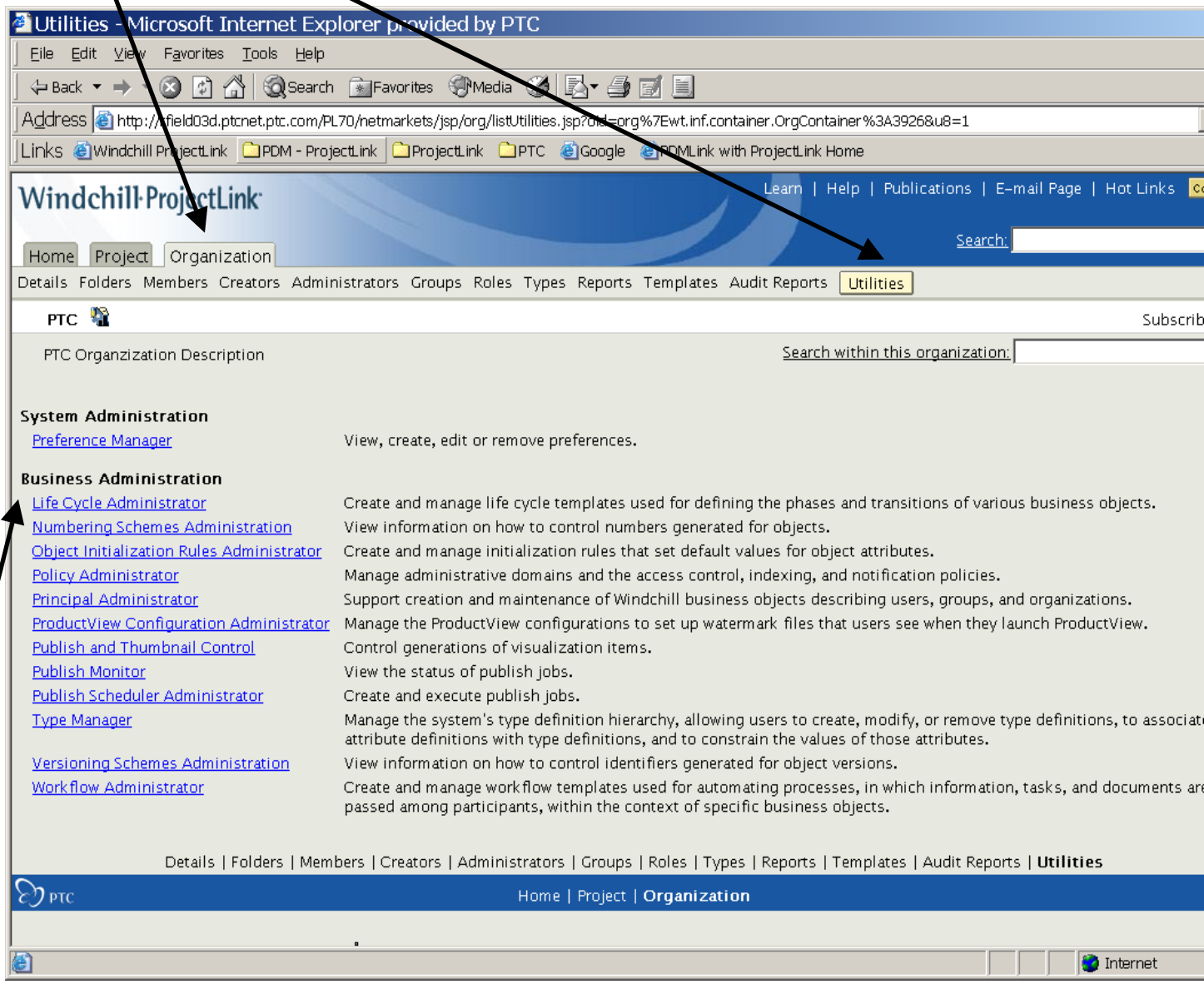


Select the new workflow and use the “Checkin” button
The Cabinet should show “System” and the context should show the administrator’s organization.

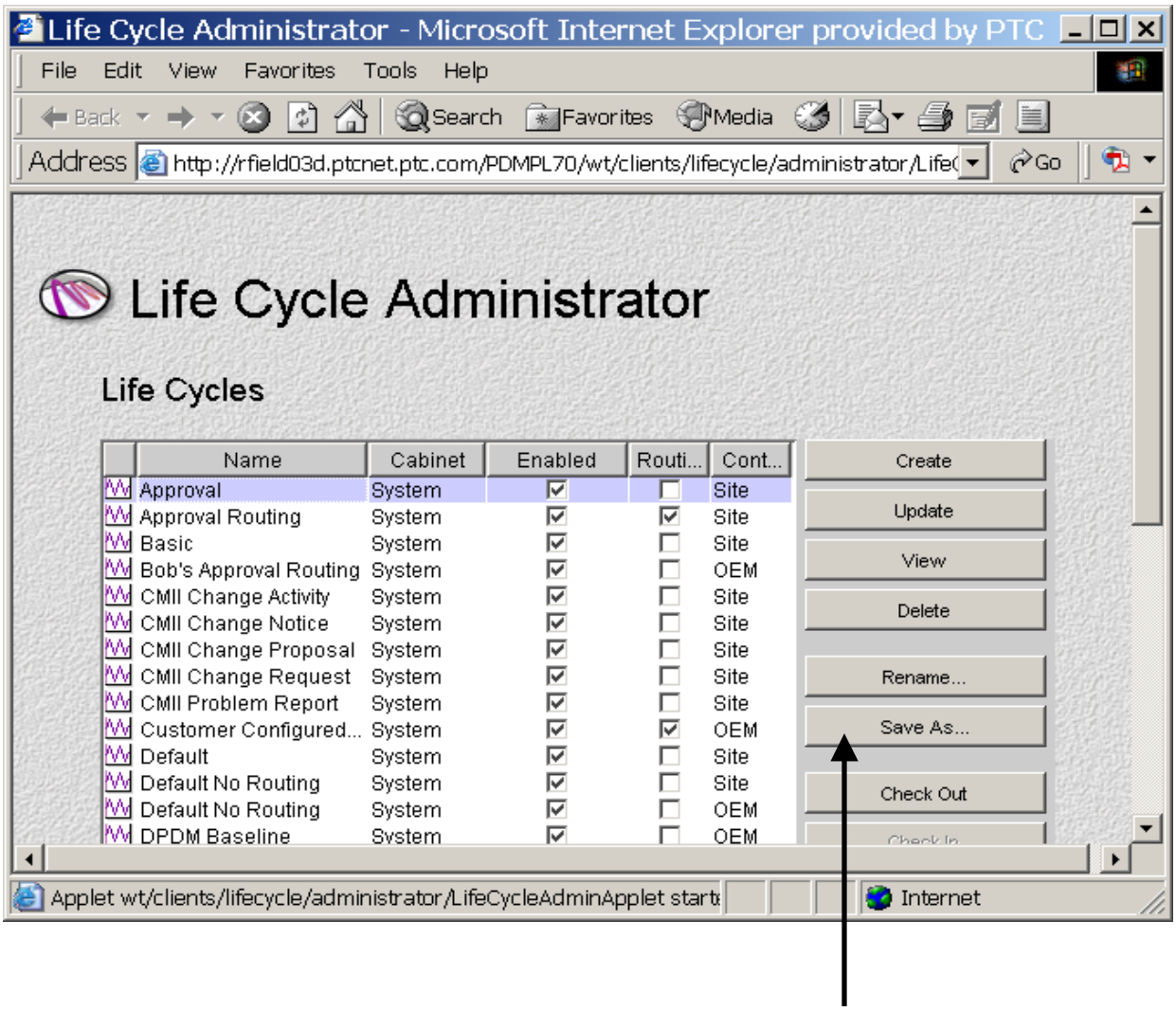
Create the lifecycle

Log into Windchill ProjectLink as an Organizational Administrator where you want the lifecycle to be used in.

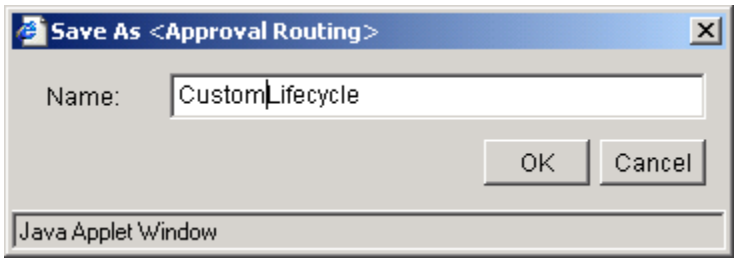
Select the Organization / Utilities tab



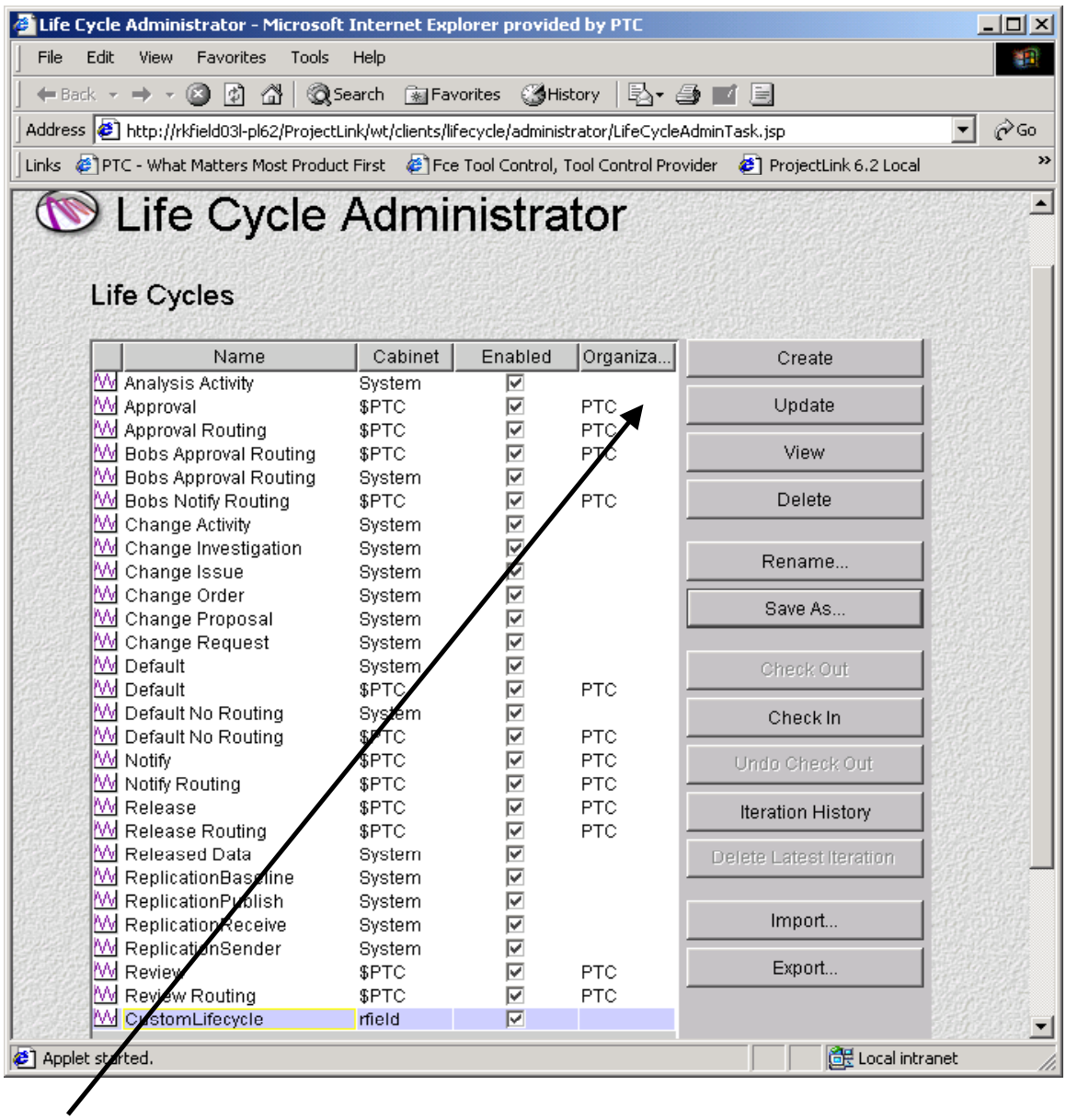
Select the Lifecycle Administrator



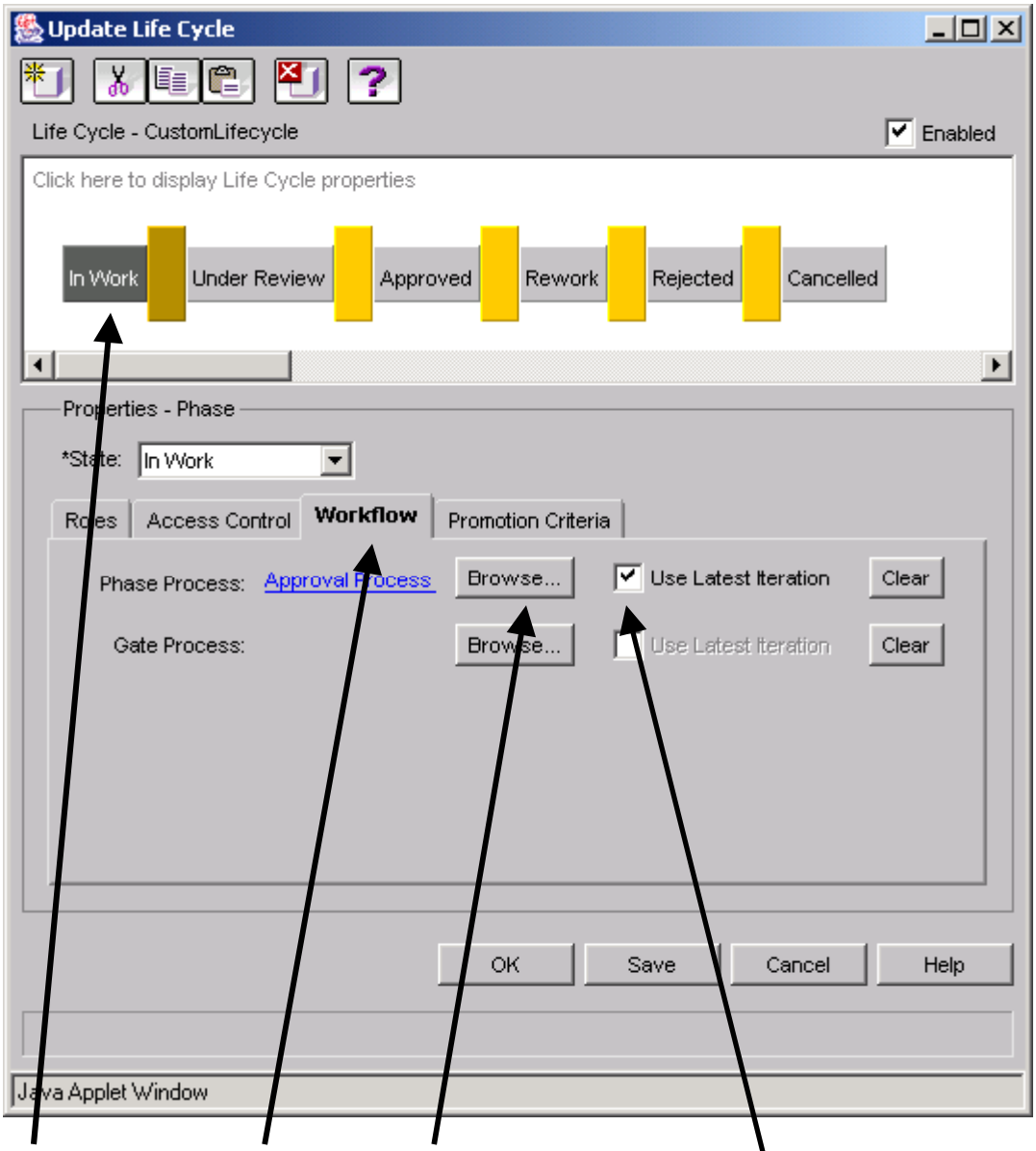
Select the existing Approval Life Cycle and choose the Save As button.
Note: Do NOT modify the existing lifecycle.



The name is CustomLifecycle
Select OK

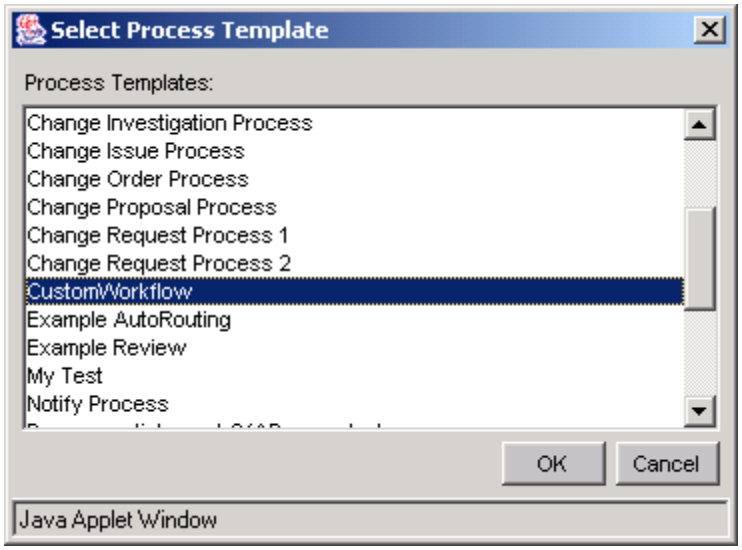


Select the new lifecycle and select the Update button

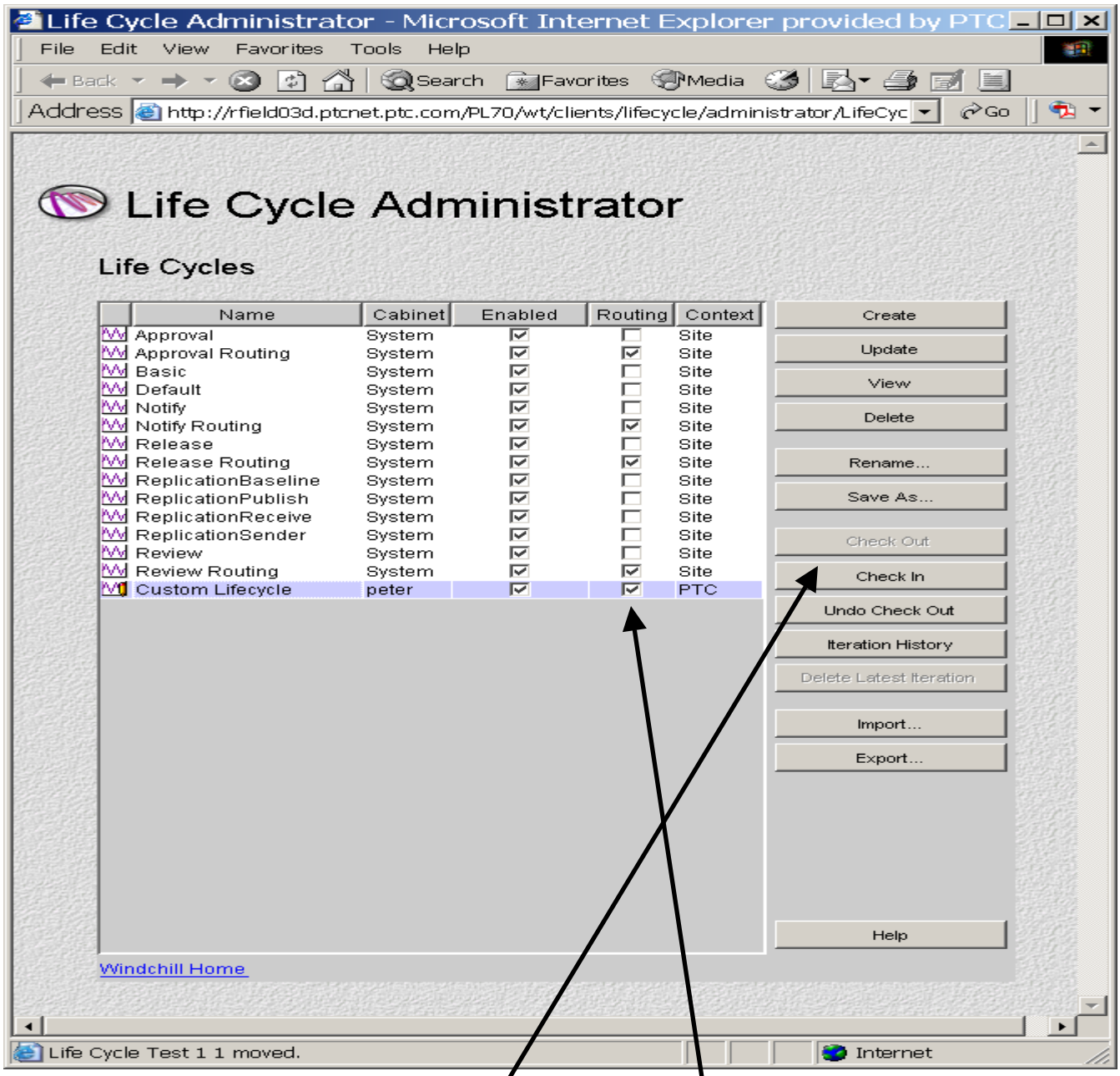


Select In Work phase, Workflow tab, then the Browse button

To always use the latest workflow iteration



Select the “CustomWorkflow” workflow.
Select OK / OK



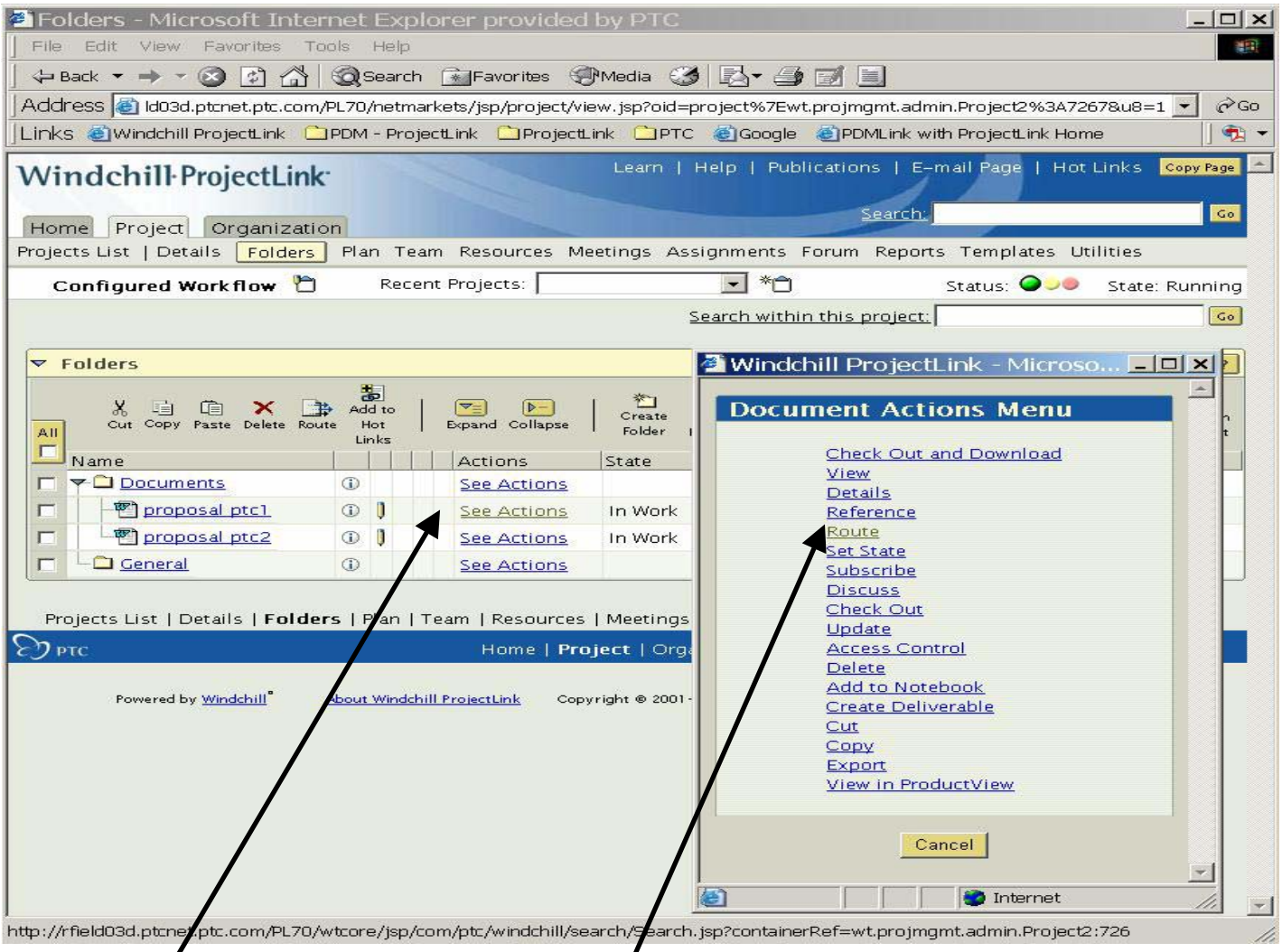
Select the new life cycle and pick the Check In button / OK

The context should show the organization of your Organization Administrator.

Make sure the lifecycle is enabled and there is a check box for routing. When routing a document in Windchill ProjectLink, these enabled routing **lifecycles** will be displayed in the Route user interface.

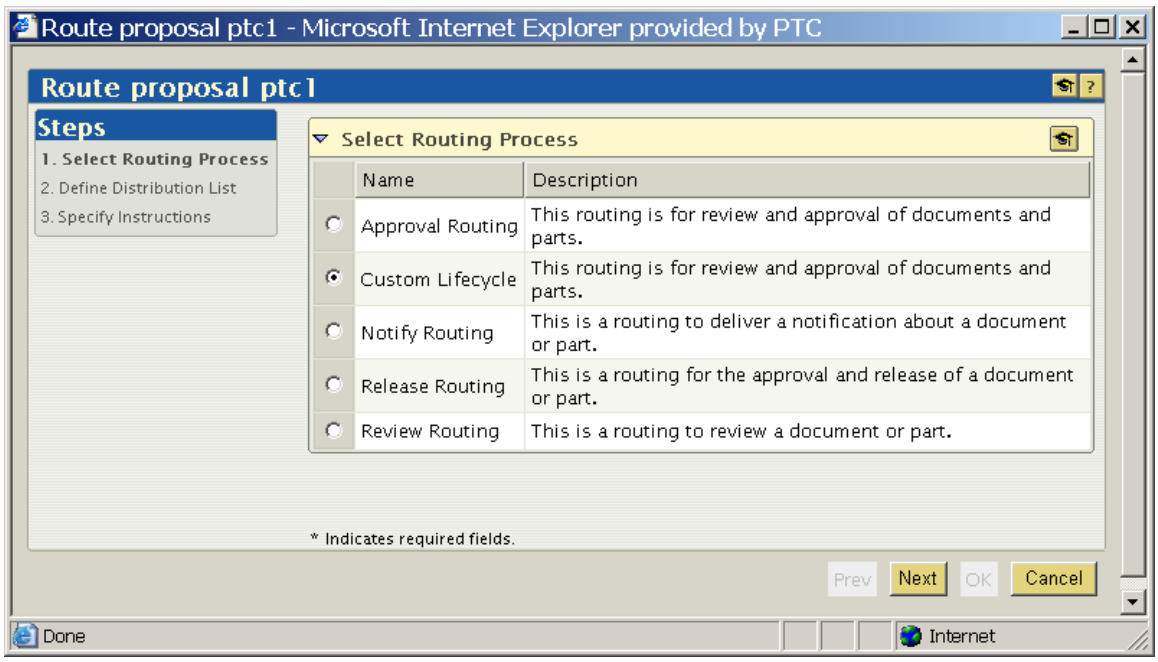
Clear your Tomcat Work directory and restart your method server.

Congratulations you are now ready to use the configured workflow and lifecycle by leveraging an ad-hoc routing.



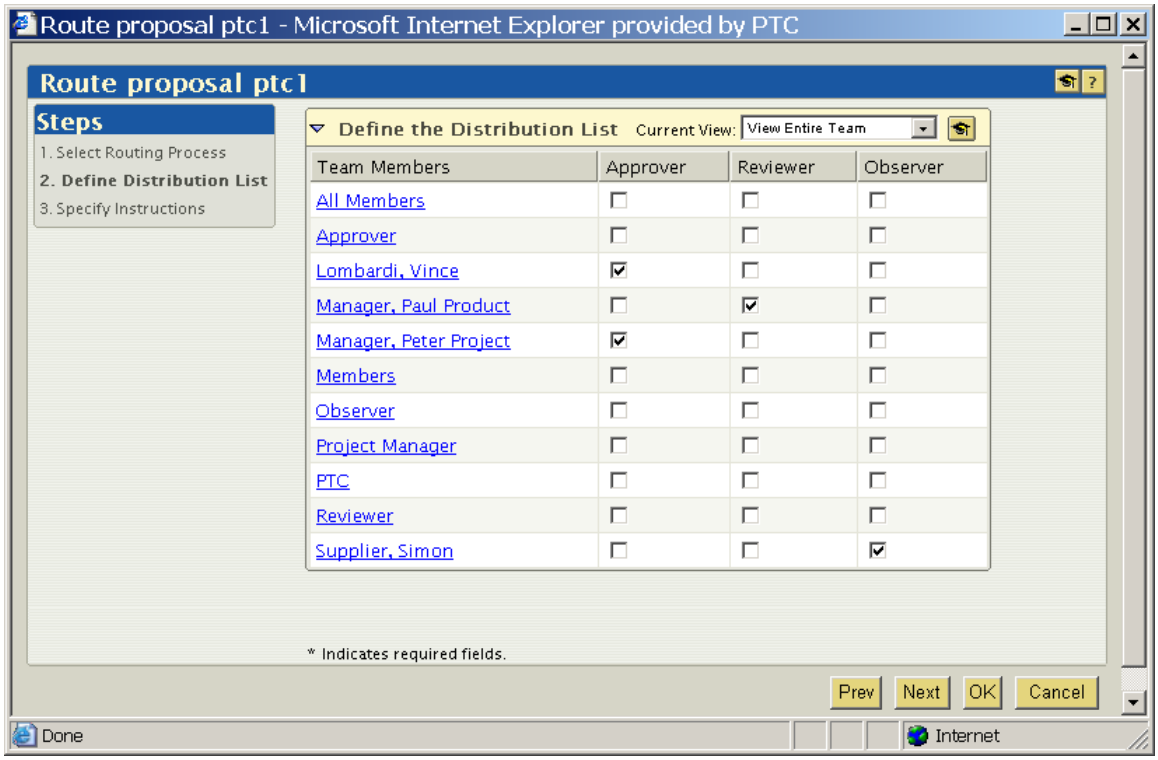
Select See Actions from a document / Select Route

Select the Custom Lifecycle routing

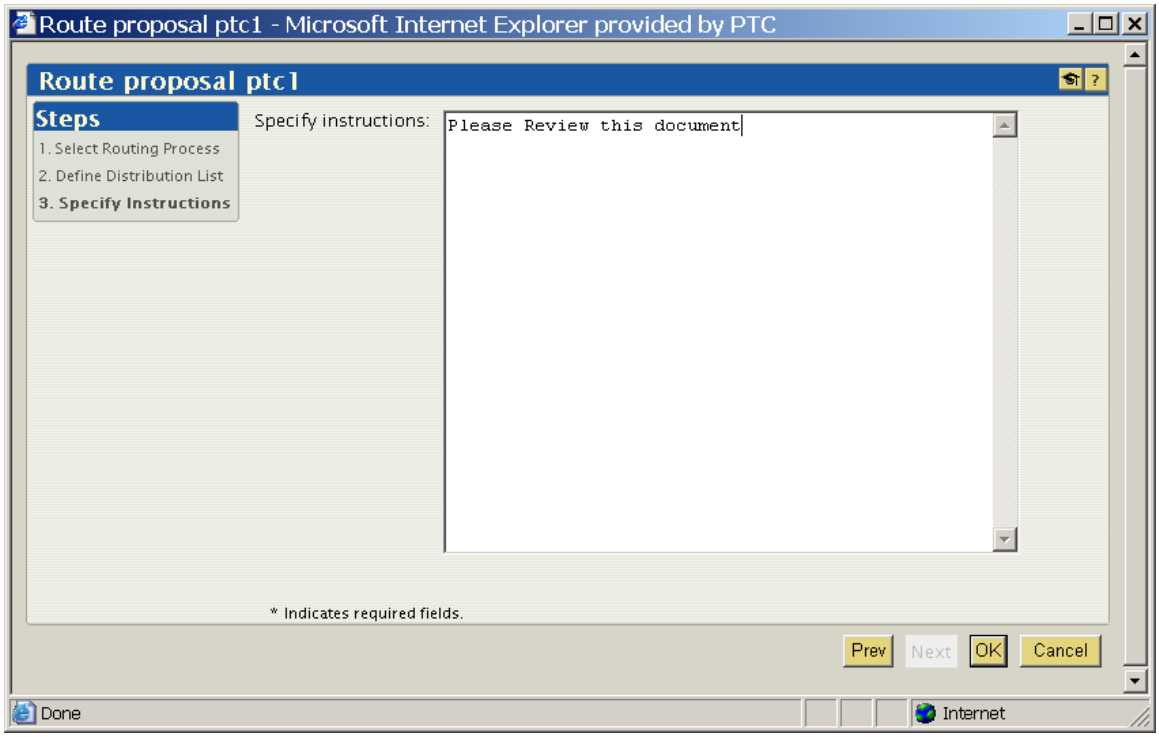


Select Next

Note that all the team members are automatically populated from the project team roles.



Select Next



Enter any instructions
Select OK

This concludes the process to initiate the workflow. You may now proceed with the assigned tasks to verify that all team members are included in the approval. Also verify that the observer role receives an email that the document was finally approved.

Below is the new assignment task page we have created.

Workflow Process we are using

Windchill - Microsoft Internet Explorer provided by PTC

File Edit View Favorites Tools Help

Address http://rfield03d.ptcnet.ptc.com/PDMPL70/netmarkets/jsp/work/view.jsp?oid=work%7Ewt.workflow.work.WorkItem%3A2325013

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Projects List | Details | Folders | Plan | Team | Resources | Meetings | Assignments | Forum | BOM | Workspaces | Reports | Templates | Utilities

XF8000 Vendor Collaboration Proj... Recent Projects: Status:

Approval request

Project: XF8000 Vendor Collaboration Project

Subject: proposal ptc1 See Actions

State: In Work | Under Review | Approved | Rework | Rejected | Cancelled

Deadline: Jun 16, 2004

Owner: Peter Project Manager

Process: Custom Workflow

Instructions: Review and approve: proposal ptc1
All approvers must review this document and approve, request a revision or reject the document.
Enter comments in the discussion area.

Instructions from author:
Please review this document

View Running Workflow:
Process Monitor: Review Process

Routing History:

Routing History: (Routed By/Date/Version: Peter Project Manager/Jun 11, 2004/A.1)

Team Members	Roles	Status	Comments	Date
Peter Project Manager	Approver			
Vince Lombardi	Approver			
Bugs Bunny	Reviewer			
Simon Supplier	Observer			

Comments:

- Approve
- Revise
- Reject

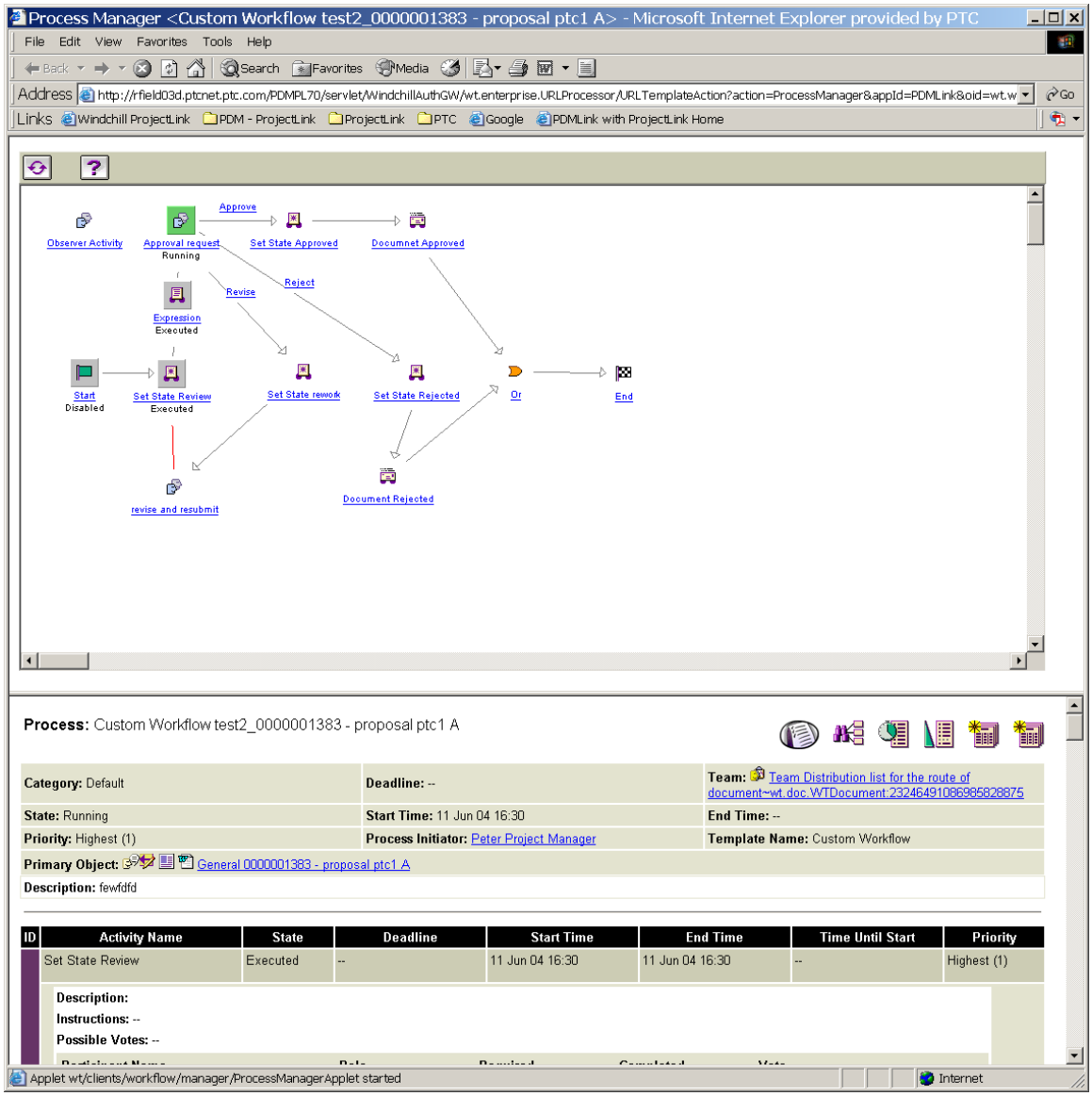
Complete Task

javascript:javascript:launchWindow('http://rfield03d.ptcnet.ptc.com/PDMPL70/wt/helpfiles/help_en/online/o

Internet

Instructions Disposition Radio Buttons New link to the running workflow

Navigating the “Review Process” Hyperlink, we now see the running workflow



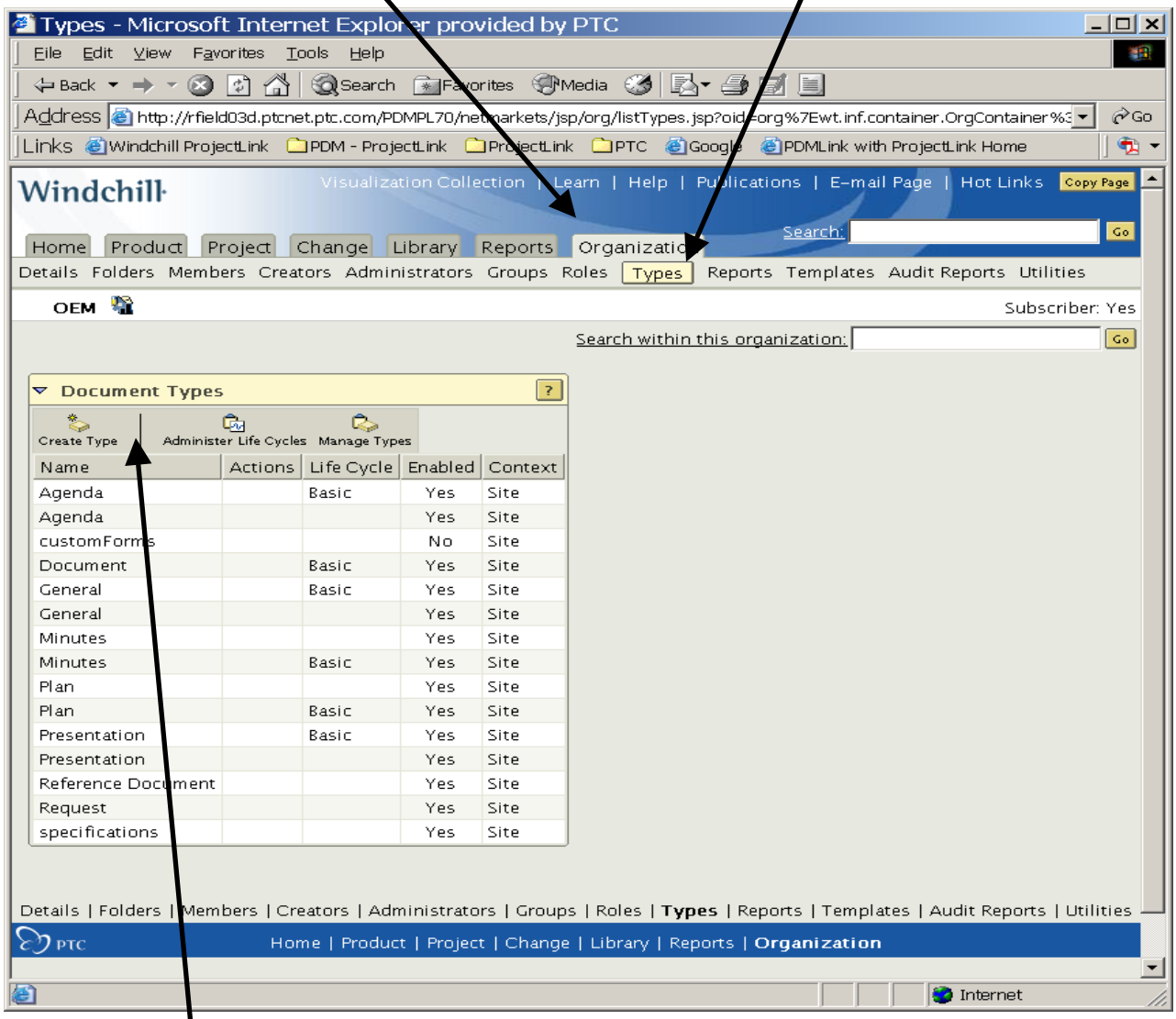
Enforce use of the workflow and lifecycle by leveraging a document template.

To create the document template:

YOU MAY NEED LOG IN AS THE EXCHANGE ADMINISTRATOR

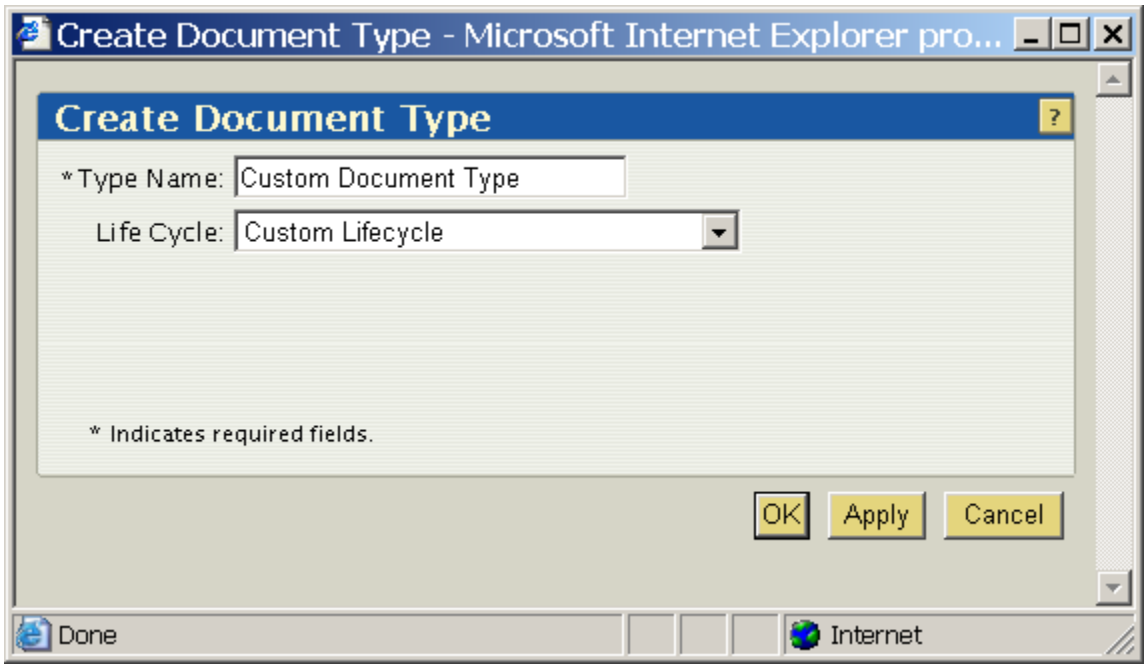
Select the Organization Tab

Types



Create Type

Give it a name
Use the Custom Lifecycle you have created.



Now create a document, which will use the new document type and workflow

Folders - Microsoft Internet Explorer provided by PTC

File Edit View Favorites Tools Help

Address http://rfield03d.ptcnet.ptc.com/PDMPL70/netmarkets/jsp/project/view.jsp?oid=project%7Ewt.projmgmt.admin.Project2%3A2205488&u8=1

Windchill

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XF8000 Vendor Collaboration Proj... Recent Projects: Status: State: Running

Search within this project:

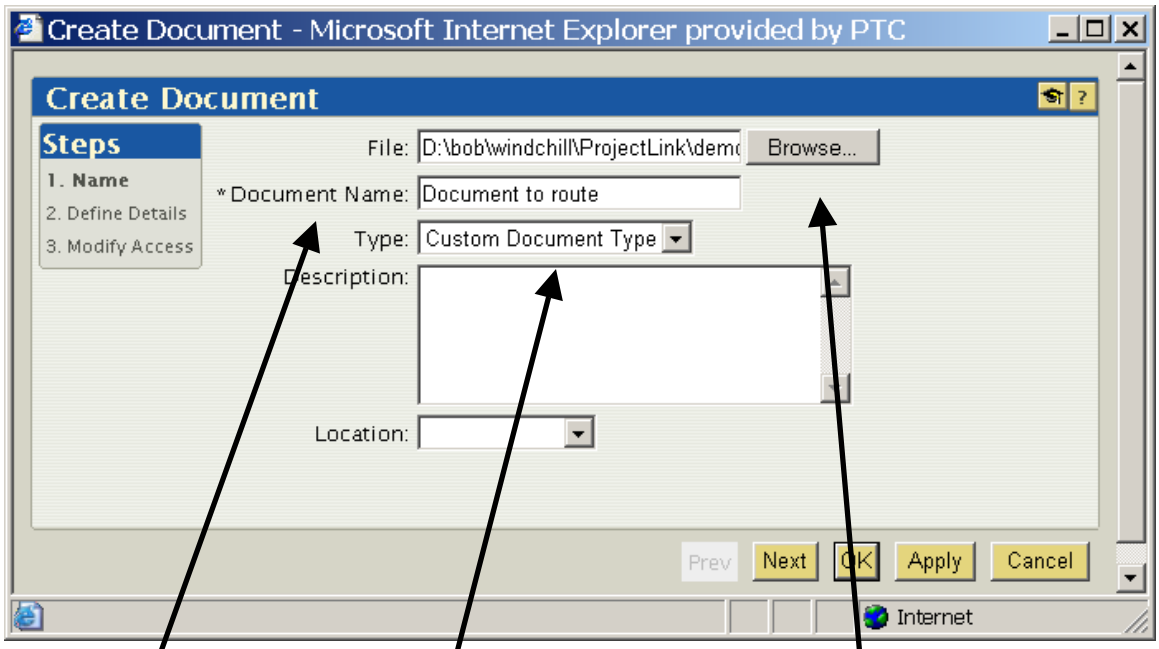
Folders Current View: Folders and Contents

Cut Copy Paste Delete Route Add to Hot Links Expand Collapse Create Folder Assign Attributes Create Document Create Multiple Documents Create from Template Create Part Create Link Access Control Refresh Project

Name	Actions	State	Modified By	Last Modified
Contracts	See Actions			Mar 25, 2004, 10:24 AM
Designs	See Actions			Mar 25, 2004, 10:24 AM
XF8000 Phone CAD Models	See Actions			Mar 25, 2004, 11:43 AM
mot_st_ant_00776_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_hinge_10554_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_keypad_98756_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_lcd_g2l_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_low_84899_.asm	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_low_ext_77334_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_low_in_77894_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM
mot_st_low_out_77674_.prt	See Actions	In Work	Dave Design Engineer	Mar 25, 2004, 11:40 AM

Internet

Create Document



Browse to your document

Give it a name

Select the new document type / OK

The configured workflow will automatically be launched and your business process scenario will be enforced.