

Custom Workflow Guide

Version 15.7



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Introduction to Custom Workflows

ImageQuest is a full-featured enterprise-level digital content management system. But it can do more than just store documents. Many ImageQuest users are aware of the Accounts Payable Workflow feature, which allows financial documents to flow through approval processes and validate against external general ledger systems. However, it is important to know that ImageQuest also allows customers to define their *own* workflows by making Custom Workflow Definitions. With Custom Workflows, customers can

- Set attribute values dynamically based on values of other attributes
- Generate approval tasks and route them to users or roles based on conditional logic
- Create parallel tasks
- Send notifications based on conditional logic
- Rotate pages
- Assign general ledger coding tasks
- And more!

This guide will walk through a simple example custom workflow in order to give a feel for how workflows can be configured with an intuitive drag-n-drop workflow designer.

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ImageQuest Support (877) 475-7778 <u>support@informasoftware.com</u> <u>https://www.informasoftware.com/support</u>

Requirements

- ImageQuest must be installed and licensed
- The Workflow Engine module must be licensed
- At least one Document Type must be configured for use with a custom workflow
- Workflow Settings must be properly configured and enabled in IQadministrator
- For custom workflows with GL Code Approval tasks, an ODBC compliant data source for GL Codes must be available for lookup and validation.

Workflow Designer

Creating Your First Workflow

This section walks through creating a simple custom workflow definition, showcasing basic attribute operations, approval requests, and flow logic. This example uses a Document Type called "Invoice" with text attributes for invoice name and invoice number, a numeric currency attribute for invoice amount, and a list attribute for invoice status. The purpose of the workflow will be to set the invoice status of the document automatically for certain invoice amount values and to send the document for manual approval for other invoice amount values.

Custom workflow definitions can be viewed and managed on the Workflow Definitions screen of IQadministrator (which is only accessible to the ImageQuest administrator). To create your first workflow definition, click the "New" button. This opens the Workflow Designer.

Cabinet: DemoCabinet	~			IQadministrator						- 0	×
File											
DemoCabinet ^			Workflow Definitions					믊			
 Manage Users and Roles Manage Document Types Manage Document Groups Saved Queries Document Destruction Rules Destroy Deleted Documents OCR Settings Attribute Lookup Configuration Notification Rules Workflow Settings Workflow Definitions Manage File Storage Configure IQfolder Configure IQmfp (OXPd) 		buttons at the botto file. Use the buttor	om of the sci is in the grid ding differen	ows administrators to defin reen to create a new work to activate/deactivate, ed t revisions of the workflow w Guide. Created On	flow usin lit and im . For doo	g the Work port/expor	flow Designe t your existii n and details	er or to Import an ex ng workflows. Expan	disting d Inding a	lefinitio workfle	on from ow
								Impo	rt	N	lew

There are four main areas in the Workflow Designer, designated as follows.

- 1. Activities Activities are actions or logical flow operators that can be added to your custom workflow. Examples would be setting a document attribute or making a decision about where an approval task should be assigned.
- Workflow Canvas This is where activities are dropped, connected, and edited to form a workflow. Each activity shows as an element on the canvas with a title and often some options. It is worth noting that some activities contain *other* activities, in which case you are able to drill down into parent activity's own canvas.
- 3. **Properties Panel** Each activity can have its own properties, such as Display Name or input/output variables. These can be edited in the Properties Panel.
- 4. **Variables** The Variables tab is used to define variables, which can be used for tracking workflow state, for storing and setting attributes, and for conditional logic.

😞 Informa Workflow Designer		×
File 1.		3.
Search	Workflow Title: New Workflow	Informa.ImageQuest.Core.Workflow.Activities.
▲ Document Approval		
RequestApproval2	RootWorkflow 2. Expand All Collapse All	Search: Clear
SendNotification		Misc
A Document Attributes		DisplayName RootWorkflow
🕒 GetTextAttribute		DocumentTypes (Collection)
GetNumericAttribute		
🕒 GetIntegerAttribute		
GetListAttribute	RootWorkflow	
GetDateTimeAttribute	Select the document types for this workflow:	
GetTrueFalseAttribute		
GetDocumentGroup	MrP Scan	
GetDocumentType		
SetTextAttribute		
SetNumericAttribute		
🔊 SetIntegerAttribute		
SetListAttribute		
SetDateTimeAttribute		
SetTrueFalseAttribute		
SetDocumentGroup	\bigtriangledown	
Custom Activities	Drop your workflow actions here.	
AssignDefaultGLCode		
GenerateGLCodeReport		
GLCodeApproval2		
InvoiceApproval		
MarkExportStatus		
RotatePages	Variables Imports 🔍 🗸 🔽 🖬	1
Standard Activities		
Assign		
Assign <t></t>	4.	
Sequence		
Delay		
TryCatch		
< >		

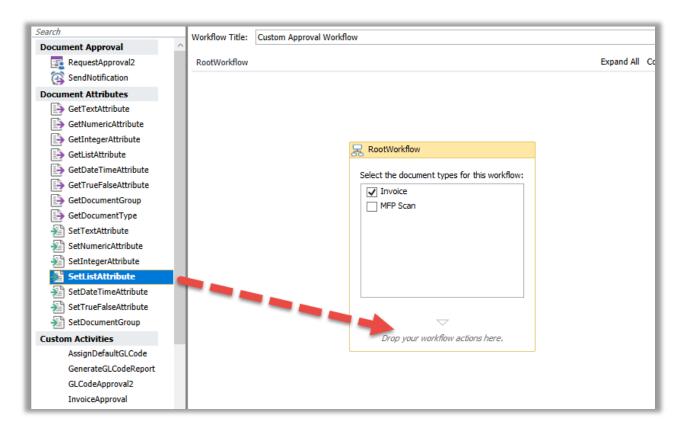
First, give the workflow a name, as in the screenshot below. This is the name that will appear in the "Action" column in the Work Queue in IQdesktop.

뭈	Informa Workflow Designer				
File	2				
Sea	nrch		Workflow Title:	Custom Approval Workflow	
4	Document Approval	^			
	RequestApproval2 SendNotification		RootWorkflow		
	SendNotification				

Next, check the Invoice document type in the "RootWorkflow" activity on the canvas. This tells the workflow to execute whenever a new document of type Invoice is created in ImageQuest. Note: multiple document types may be selected to run the same workflow on multiple document types.

RootWorkflow						
Select the document types for this workflow:						
✓ Invoice						
MFP Scan						
\bigtriangledown						
Drop your workflow actions here.						
MFP Scan						

Next, let us set the Invoice Status attribute of the document to reflect that it has entered the workflow. Drag the "SetListAttribute" activity from the left onto the workflow canvas.



This adds a SetListAttribute activity to the canvas. Note that activities can be given custom names. We will call this one "Set Invoice Status" and select the "Invoice Status" as the attribute to be set.

\bigtriangledown
Set Invoice Status
Document Attribute
Invoice Status
New Value
Enter a new value
Auto-add new list items?
\bigtriangledown

Set the new value to be "In Process", which is one of the values in the invoice status list. Note that this must be in quotations marks to denote that we are providing a text value. Also, the value entered must exist in the list or the workflow will fail.

\bigtriangledown
1 Set Invoice Status 🛛 🔅
Document Attribute
Invoice Status
New Value
"In Process"
Auto-add new list items?

Now let us do some logic. First, add a Flowchart activity beneath the "Set Invoice Status" activity. A Flowchart activity allows for easy implementation of conditional workflow paths.

ExistsInCollection <t></t>		
Control Flow		New Value
DoWhile		"In Process"
Switch <t></t>		Inflocess
		Auto-add new list items?
ForEach <t></t>		
If		\bigtriangledown
Parallel		
ParallelForEach		
Pick	Variables Imports	
While		
Flowchart Activities		
Flowchart	T	
FlowDecision		
FlowStep		
FlowSwitch	~	
< >		

Once the activity is added, rename it to "Approval Flowchart".

Auto-add new list items?
\bigtriangledown
္မေနာက္ Approval Flowchart 🛛 😣
Double-dick to view
\bigtriangledown

Double-click the activity to open the flowchart. Notice that certain activities like Flowchart activities have their own canvases. You can navigate up the canvas tree by using the links above the canvas.

Workflow Title:	Custom Approval Wor	kflow					
RootWorkflow	> Approval Flowchart				Expand All	Collapse	: All
							\sim
🖧 Approv	val Flowchart						
			Start				

The Approval Flowchart will set the invoice status to "Completed" for invoice amount values below \$100. For other values, a manual approval process will be invoked.

To achieve this, we must obtain the invoice amount value, which we will store in a variable for future reference. First, the variable must be created. Click the Variables tab near the bottom of the screen and then click into the "Create Variable" area.

Name	Variable t	type Scope	Default	
Create Variable				
-				
Variables Imports			٩,	· 🗆 🗆

Enter *InvoiceAmount* as the variable name, then select "Browse for Types..." in the Variable Type dropdown.

Name	Variable type	Scope	Default			
InvoiceAmount	String ~	Approval Flowchar	Enter a VB expres			
Create Variable	Boolean					
	Int32	Int32				
	String					
	Object					
	Informa.ImageQ	uest.Core.Workflov	v.ApprovalState			
	Browse for Type	5				
Variables Imports			a –			

Search for "System.Decimal", select "Decimal" as shown below, and click "OK." (Note: numeric attribute values must be stored in Decimal variables.)

Browse and Select a .Net Type	?	×
Type Name: System.Decimal		
DecimalNumberConverter DecimalZeroNumberConverter		^
 Microsoft.VisualBasic [10.0.0.0] 		
 Microsoft.VisualBasic.CompilerServices 		
DecimalType		
mscorlib [4.0.0.0]		
System		
 System.Runtime.CompilerServices 		
DecimalConstantAttribute		\sim
ОК	Can	cel

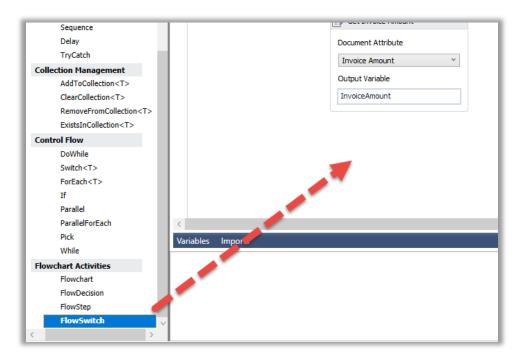
Next, it is time to get the invoice amount value to store in the variable. This is done by adding a GetNumericAttribute activity. After adding the activity to the canvas, change its name to "Get Invoice Amount" and select "Invoice Amount" in the Document Attribute dropdown. Also set *InvoiceAmount* as the Output Variable so that the attribute value is stored in the *InvoiceAmount* variable.

Search	Workflow Title: Custom Approval Workflow	
Document Approval		
RequestApproval2	RootWorkflow > Approval Flowchart	
SendNotification		
Document Attributes	🖧 Approval Flowchart	
GetTextAttribute		
🕒 GetNumericAttribute		
🕒 GetIntegerAttribute		
🕒 GetListAttribute		Start
📑 GetDateTimeAttribute		
🕒 GetTrueFalseAttribute		Get Invoice Amount
GetDocumentGroup	_	
GetDocumentType		Document Attribute
🔊 SetTextAttribute		Invoice Amount
🔊 SetNumericAttribute		
🔊 SetIntegerAttribute		Output Variable
🔊 SetListAttribute		InvoiceAmount
🔊 SetDateTimeAttribute		
SetTrueFalseAttribute		

Finally, hover over the "Start" node until handles appear on the edges. Click and drag from the bottom handle to the Get Invoice Amount activity in order to connect them.



Now we want to make a decision based on the invoice amount value. First, add a FlowSwitch to the canvas. The FlowSwitch activity tells the workflow to follow different paths depending on certain conditions.



[Get Invoice Amount	
	Document Attribute	
	Invoice Amount	
	Output Variable	
	InvoiceAmount	
	Switch	

When placed, the FlowSwitch prompts to select a type. From the dropdown, select "Boolean".

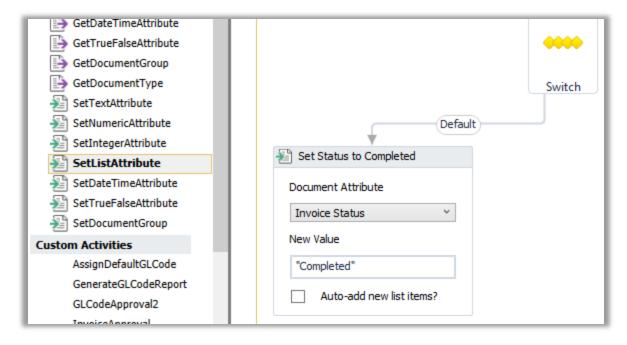
Select the FlowSwitch and click the ellipsis in the Properties Panel to edit the expression.

Sy	System.Activities.Statements.FlowSwitch <syst< th=""></syst<>									
•	Az↓	Search:		Clear						
	Misc									
L	Expre	ssion	Enter o	и VB ег 🛄						
Γ			_							

We will auto-complete the document if the value is less than \$100. To do this, write the following expression to check whether the *InvoiceAmount* variable is less than 100. Then click "OK."

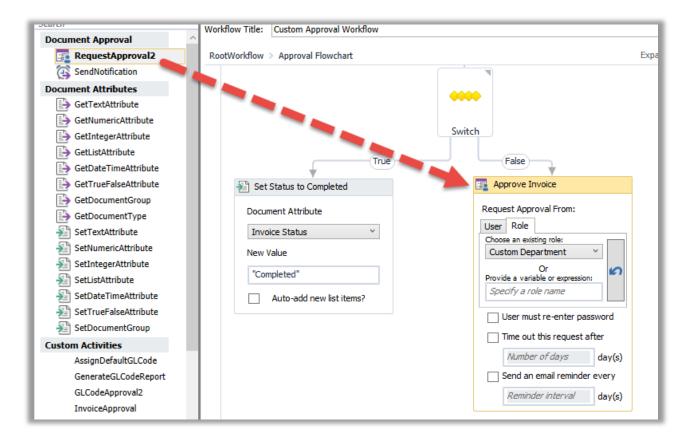
Expression Editor		?	×
Expression (Boolean)			
InvoiceAmount < 100			
-	OK	Ci	ancel

Next, add a SetListAttribute activity to the flowchart canvas. Rename the activity and enter the Document Attribute and New Value as shown below. Also, connect the Switch activity to the new SetListAttribute activity. Notice that a "Default" descriptor is added.



Click on the "Default" descriptor and then uncheck "IsDefaultCase" in the Properties Panel. Next, set the Case value to "True". This tells the workflow to follow the path to the "Set Status to Completed" activity if the *InvoiceAmount* variable is less than 100. Next, we will define a path for when the *InvoiceAmount* is not less than 100.

If the *InvoiceAmount* is 100 or greater, we will send it for manual approval. To do this, add a RequestApproval2 activity to the canvas. Rename the activity, select the "Role" tab, and select an existing role as shown below. In this example, an approval work item will be generated for the "Custom Department" role.



The result of the approval task must be stored in a variable. Create a new variable called "ApprovalResult" and give it a type of "Informa.ImageQuest.Core.Workflow.ApprovalState." (If this is not in the dropdown, search for it.)

Name		Variable type	Scope	Default			
InvoiceAmount		Decimal	Approval Flowchart	Enter a VB expre			
ApprovalResult		Informa.Imag ×	Approval Flowchart	Enter a VB expre			
Create Variable		Boolean					
		Int32					
		String					
		Object					
	\rightarrow	Informa.ImageQuest.Core.Workflow.ApprovalState					
<u> </u>		System.Double					
Variables Imports		System Decimal					

Next, in the Properties Panel for the Approve Invoice activity, type "ApprovalResult". This stores the result of the approval task in the ApprovalResult variable.

In	Informa.ImageQuest.Core.Workflow.Activities.Request								
•	Search: Clear								
L	Approved	Result							
L	CompletedByUser	8 expre							
L	DisplayName	Approve Ir	nvoice						

Next, we must set the invoice status based on the result of the approval activity. To do this, add another FlowSwitch activity, this time with a type of "Informa.ImageQuest.Core.Workflow.ApprovalState." In the Properties Panel, set the Expression value to "ApprovalResult" so that the FlowSwitch activity evaluates based on the value of the ApprovalResult variable.

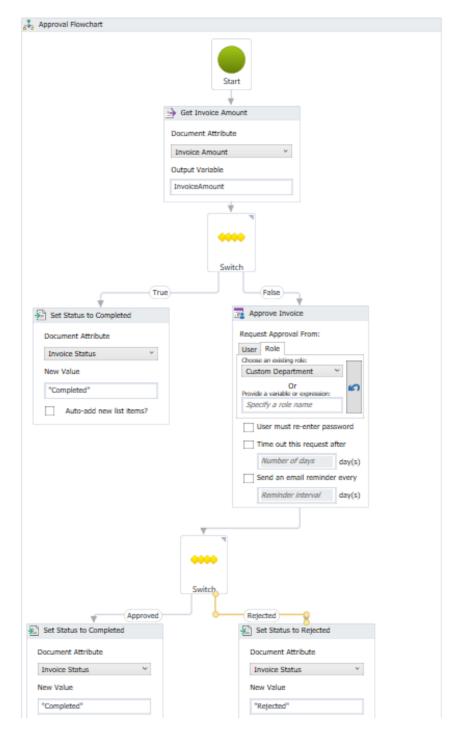
Search:	Clear
Misc	
Expression Appro	valResult

Finally, set the invoice status attribute based on the value of the ApprovalResult. As shown below, two SetListAttribute activities are adde. If the ApprovalResult is "Approved", the status is set to "Completed", and if the ApprovalResult is "Rejected", the status is set to "Rejected".

	Switch
Approved	Rejected
🔊 Set Status to Completed	🔊 Set Status to Rejected
Document Attribute	Document Attribute
Invoice Status	Invoice Status
New Value	New Value
"Completed"	"Rejected"
Auto-add new list items?	Auto-add new list items?

This completes the workflow. Zooming out, we can see an overview of the flowchart, which executes the following logic:

- If the Invoice Amount is less than 100, set the Invoice Status to "Completed".
- Otherwise, request approval from the Custom Department.
 - o If the approval result is "Approved", set the Invoice Status to "Completed".
 - o If the approval result is "Rejected", set the Invoice Status to "Rejected".



To save the workflow, go to the File menu on the top-left of the window and choose "Save." Close the workflow designer by choosing File \rightarrow Close.

On the Workflow definitions screen, check the "Active" box for the workflow you just created in order to activate it.

	Workflow Definitions									꿆	
buttor file. U shows	Custom Workflow Definitions allows administrators to define custom workflow processes around your business practices. Use buttons at the bottom of the screen to create a new workflow using the Workflow Designer or to Import an existing definition file. Use the buttons in the grid to activate/deactivate, edit and import/export your existing workflows. Expanding a workflow shows details regarding different revisions of the workflow. For documentation and details regarding this feature, please refet the ImageQuest Custom Workflow Guide.					tion fr flow	om				
Id	Workflow Title	Created By	Created On	Active	Running	Completed	Current Def				
± 2	Custom Approval	INFORMA\	1/17/2018	~	0	0	2		+	→	×
	$\begin{array}{c c c c c c c c c c c c c c c c c c c $										

Testing the Workflow

To test the custom workflow, simply import a document with the Invoice document type. First, we will test the scenario where the Invoice Amount is less than \$100. In this example, we import the following.

Import to ImageQuest	- 0	\times
۲۹۳ ۲۰۰۶ Invoice 2012-01-01.pdf Pa	ge 1 of 3 < > Zoom: Entire Page -	
Select Document Type:		
Invoice 🗸		
Invoice Name	Informa Software PURCHASE ORDER	
Test Invoice 1 5	Purtuse Orientia: A0224	
Invoice Number	Purchana Colem Pair - AU-2024 Purchana Colem Ziaki - 1030/2001 Termes - Nat 30 Stray Visi: Q-Hinkny	
12345 5	Bill Te: Ship Te: Informa Software Informa Software	
Invoice Amount	2300 Malland Center Parkway 2300 Malland Center Parkway Bute 220 Malland, FL 12751 Balanda, FL 12751	
\$98.00 5		
Transis Chatra	Product Number Product Description Onder Ony. Unit Price Ext. Price PINA456-8 Ball point pers, Black 200 2.25 70.00	
Invoice Status	PENJHS6-B Bull port pen, Black 200 2.35 70.00 PADI0735-Y Legal pad, Yillow 25 1.25 31.25	
• 5	DVD4211 DVD 13 Peck 4 25.95 103.80	
:	APPROVED	
	Notes:	
	Please ship by 12/1/2008.	
Route		
Route To:		
V 5		
Message:		
^		
✓		
Perform text extraction or OCR for keyword searching.	OK Cance	el

After importing, searching for the document reveals that its Invoice Status has automatically been set to "Completed," as is expected in this case. The Workflow History tab for the document shows that the custom workflow was run. The "Closed" status indicates that the workflow has completed.

Workflow Histor	ry						т×
.							
Workflow Name	Originator	Status	Started	LastUpdated	Message	Exported	ExportStatus
E Custom Appro	Administrator (User)	Closed	1/15/2018 2:44:17 PM	1/15/2018 2:44:17 PM			DoNotExport
🔓 History 📄	Notes 🛛 💽 Workf	low History	🙀 Active Work Items				

In the next example, the Invoice Amount is greater than \$100, so there should be an extra approval step. First, we import the document.

lmport to ImageQuest						- 0	×
Invoice 2012-01-01.pdf	Page 1	of 3 <	> Zoon	n: Entir	e Page 🛛		
Select Document Type:							
Invoice 🗸							
Invoice Name		Informa Softwar	e		<u>Pl</u>	JRCHASE ORDER	
Test Invoice 2 5		Purchase Order No: AD3224 Purchase Order Date: 11/30/201					
Invoice Number		Terms: Net 30 Ship Via: Delivery					
654321 5		Bill Te: Informa Software 2300 Malitand Center Parkway		2300	sa Software Maitiand Contor Parkway		
Invoice Amount		Suite 220 Mattand, FL 32751		Suite Maite	220 end, FL, 32751		
\$250.00 to		Product Number	Product Description	Order Qty.	Unit Price	Ext. Price	
Invoice Status		PEND456-B PAD8733-Y	Ball point pen, Black	200	2.35	70.00	
✓ 5		DVD4211	Legal pad, Yellow DVD 10 Pack	4	1.25 25.95	31.25 103.80	
1						APPROVED	
						APPROVED	
		Notes:					
		Please ship by 12/1/20	08.				
Route							
Route To:							
V 5							
Message:							
Perform text extraction or OCR for keyword searching	р. g.					ОК	Cancel

After import, a search for the document reveals that its Invoice Status is "In Process."

Drag a column header here to group by that column										
X		8		CreateDateTime	PageCount	DocumentType	Invoice Name	Invoice Number	Invoice Amount	Invoice Status
			7.	1/15/2018 2:44:13 PM		Invoice	Test Invoice 1	12345	\$98.00	Completed
			7.	1/15/2018 2:47:52 PM		Invoice	Test Invoice 2	654321	\$250.00	In Process

Also, the Workflow History panel shows that there is an active work item assigned to the Custom Department role for approving the document. The "Executing" status indicates that the workflow is still in process; in this case, it is pending the completion of the approval work task.

	orkflow Histo	ory									 ж
-					I						
Wor	kflow Name		Originator		Status	Started	LastUpdated	Message	Exported	ExportStat	us
	Custom Approval		Administrato	r (User)	Executing	1/15/2018 2:48:04 PM	1/15/2018 2:48:04 PM			DoNotExpo	ort
	Work Items	1			·						
	Assigned To			Approval St	ate	Completed On	Completed By	Revision		Comment	
	Custom Depart	ment ((Role)	Pending					0		
5	History	Note	es 📴 W	orkflow Histo	ory 🙀 Active Wo	rk Items					

Looking in the Work Queue for a member of the Custom Department role, we see that a work item is pending completion. Here, we open the work item and choose to reject it.

Complete Workflow Task Document Attributes Provide comments on t	-	Space	Invo
Document Attributes Workflow Task Document Type: Invoice Invoice Name Provide comments on travided. Once your travided. On	ask is completed select A k Complete.	space	
Document Type: Invoice V Invoice Name Test Invoice 2 Invoice Number 654321 Invoice Amount \$250.00 To Invoice Status	ask is completed select A k Complete.		
Document rype: Invoice provided. Once your t Invoice Name t Test Invoice 2 to Invoice Number for 654321 to Invoice Amount to \$250.00 to Invoice Status for	ask is completed select A k Complete.		
Test Invoice 2 Invoice was reviewed a Invoice Number 654321 Invoice Amount \$250.00 Invoice Status	-	^	
Invoice Number 654321 Invoice Amount \$250.00 Invoice Status	nd rejected.	^	
654321 ↔ Invoice Amount ↔ \$250.00 ↔ Invoice Status ↓			
Invoice Amount \$250.00 5 Invoice Status			
\$250.00 to Invoice Status			
Invoice Status			
In Process v to			
5			
5 			
		~	I
O Approved			
	Rejected		
	Rejected Complete	Cancel	

Searching for the document reveals that the Invoice Status has now been updated to "Rejected." If we had instead approved the work item, the Invoice Status would have been set to "Completed."

Drag a	Drag a column header here to group by that column											
×		8		CreateDateTime	PageCount	DocumentType	Invoice Name	Invoice Number	Invoice Amount	Invoice Status		
			2	1/15/2018 2:44:13 PM		Invoice	Test Invoice 1	12345	\$98.00	Completed		
			2	1/15/2018 2:47:52 PM		Invoice	Test Invoice 2	654321	\$250.00	Rejected		

The Workflow History panel shows details regarding the status of the workflow and the related work item(s).

vv	orkflow History											т ×
÷												
Wor	kflow Name	Originator		Status	Started	L	LastUpdated	Message		Exported		ExportStatus
Ξ 0	ustom Approval	Administrate	or (User)	Closed	1/15/2018 2:48	3:04 PM 1	1/15/2018 2:53:07 PM					DoNotExport
	Work Items											
	Assigned To		Approval Sta	te Completed On			Completed By Revision			Comm		ent
Custom Department (Role		ment (Role) Rejected			1/15/2018 2:52:59 PM		John Smith/jsmith (User)		0		Invoice was reviewed and r	

Other Notes

Below are a few important items to note when working with custom workflows.

- Workflow definitions cannot be renamed once created.
- Workflow definitions cannot ever be deleted once a work item has been processed.
- Once a workflow definition has been used to process a document, a subsequent edit to the workflow definition is saved as a revision to the original definition. *Documents introduced under the old definition revision will continue using the old definition* while new documents will use the new revision. Thus, a workflow definition may have multiple active revisions at once.

Closing Notes

This guide was meant to be a high-level overview of the Custom Workflow feature in ImageQuest. While this example was simple, Custom Workflows can be used to facilitate complex business processes requiring multiple stages of approval, general ledger coding, and data reconciliation with external systems. Please reach out to Informa Software for further help and instruction.