



Using Your First Process Tool

<https://github.com/radservice/rad-community/fork>

Prerequisites

- Able to design a Process Flow.
- Understand the differences between activity and tool.

Content

1. Introduction to Process Tool
2. Using Email Tool in Process
3. Using Process Tool Plugin in Post Form Submission Processing



Chapter I

Introduction to Process Tool

What Does It Mean?

- Being a plugin, it means that it is possible to add/extend the default functionalities of what we already have.

Locating Available Process Tool Plugins

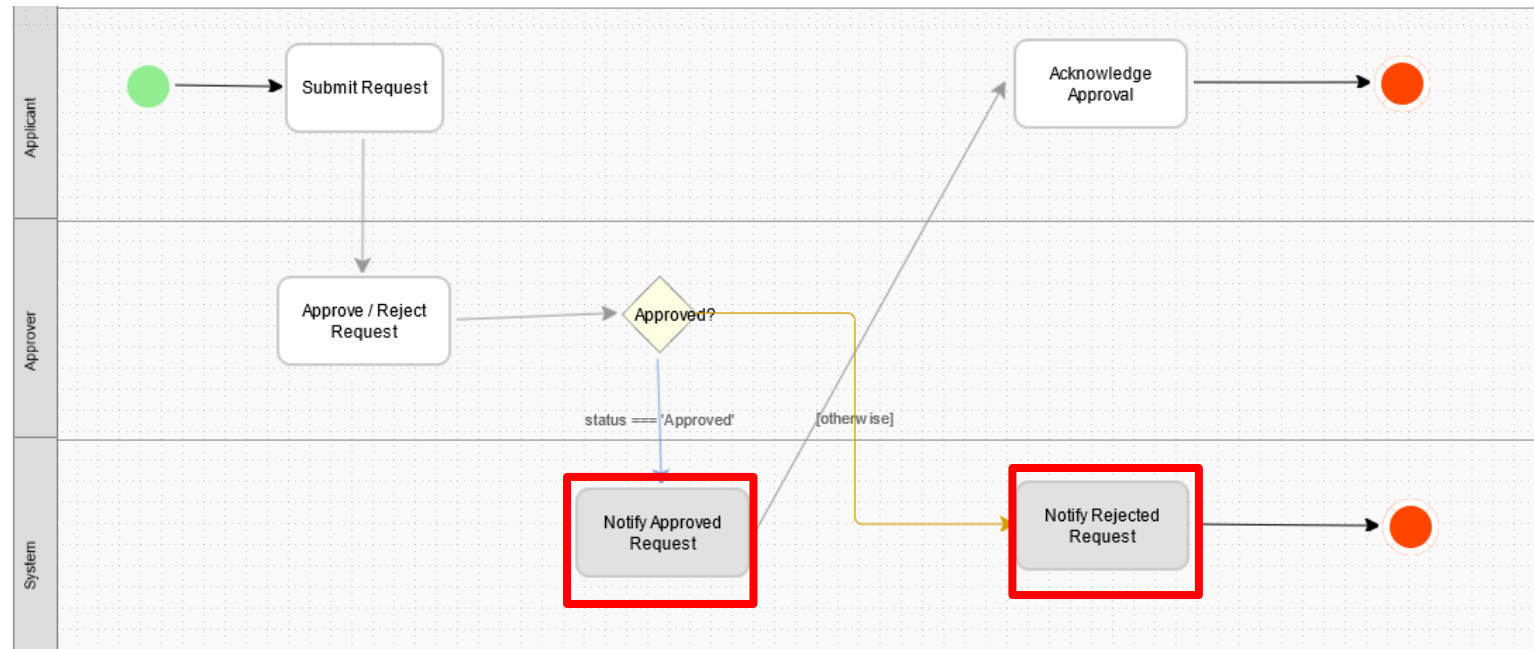
- System Settings -> Manage Plugins -> Process Tool

The screenshot shows the 'System Settings' interface. On the left sidebar, 'Manage Plugins' is highlighted with a red box. The main area shows a list of installed plugins. A dropdown menu is open, showing a list of plugin types, with 'Process Tool' highlighted by a red box. The table below lists various plugins with their descriptions and versions.

PLUGIN	DESCRIPTION	PLUGIN VERSION
<input type="checkbox"/> App Message Variable		5.0.0
<input type="checkbox"/> App Resource Variable	resource URL by file name	6.0.0
<input type="checkbox"/> Assign Button	Complete Button	5.0.0
<input type="checkbox"/> Assign Button	Withdraw Button	5.0.0
<input type="checkbox"/> Bean Shell	Standard Java syntax	5.0.0
<input type="checkbox"/> Bean Shell Validator	Standard Java syntax	5.0.0
<input type="checkbox"/> Bean Shell Decision	Executes standard Java syntax	7.0.0
<input type="checkbox"/> Check Box	Check Box Element	5.0.0

What Is a Process Tool?

- Process Tool plugin is used as part of the process flow – mapped to the Tool entity in a process flow.



Chapter Review

We have learnt to:

1. Understand Process Tool Plugin and being part of the RADS ecosystem.
2. Able to list down available Process Tool Plugins in the system.



Chapter 2

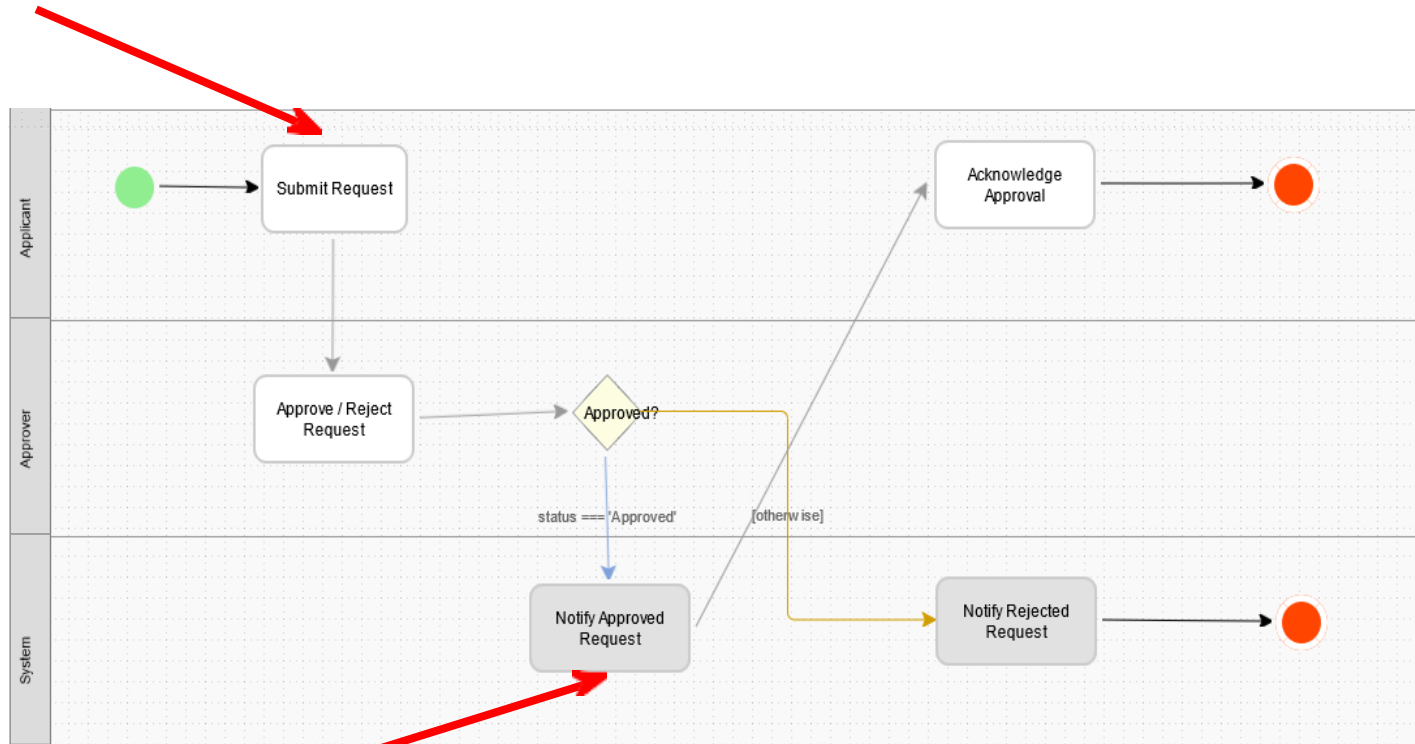
Using the Email Tool In Process

Email Tool - Process Tool Plugin

- Email Tool is one of many Process Tool plugins available.
- Process Tool plugins are extensible through RADS's Plugin architecture.

Note About the Mapping

- Activity is mapped to Form



- Tool is mapped to Process Tool

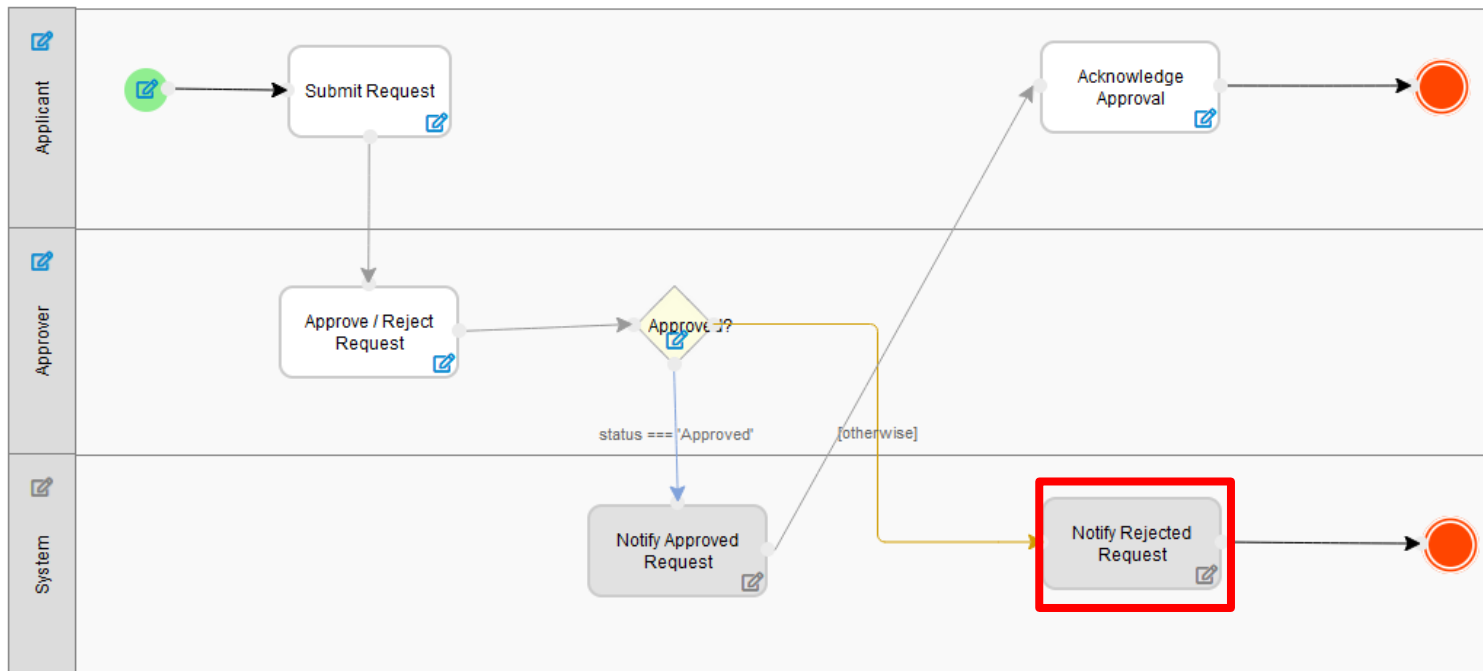
Adding the Email Tool

- On “Map Tools to Plugins”, click on “Add/Edit Plugin” for “Notify Rejected Request” tool.

The screenshot displays the RAD Service interface for configuring a process. On the left, a sidebar contains navigation options: 'Design App: purchaseRequestion' (with 'Version 1' and 'Published' buttons), 'Forms & UI', 'Processes' (selected), 'Properties & Export', 'Logs', and 'All Apps'. The main area at the top has buttons for 'Design Process', 'Configure Mapping', 'Update via Saved XPD...', and 'Run Process'. Below these, the 'Process name' is set to 'Purchase Request Process'. A workflow diagram is shown, featuring a start node, a 'Submit Request' activity, a 'Reject Request' activity, a decision diamond, and an 'Approve Request' activity, all leading to end nodes. Below the diagram, a 'Show Additional Info' link is present. A row of tabs includes 'Map Participants to Users', 'Map Activities to Forms', 'Map Tools to Plugins' (highlighted with a red box), 'Map Routes to Plugins', and 'Variable List'. Under the 'Map Tools to Plugins' tab, a message states 'This is the list of tools defined in the Workflow design:'. A search bar is provided. Two tools are listed: 'Notify Approved Request' (ID: notifyApprovedRequest) and 'Notify Rejected Request' (ID: notifyRejectedRequest). The 'Notify Rejected Request' tool is highlighted with a red box, and its 'Add/Edit Plugin' button is also highlighted with a red box.

Alternative Tool Plugin Mapping

- Click on “Configure Mapping” and click on “Notify Rejected Request” tool.



Configuring the Email Tool

- Select “Email Tool” from the available Process Tools.

MAP TOOLS TO PLUGINS - NOTIFY REJECTED REQUEST (NOTIFYREJECTEDREQUEST)

Search

PLUGIN NAME	PLUGIN DESCRIPTION	PLUGIN VERSION
Bean Shell Tool	Executes standard Java syntax	5.0.0
Database Update Tool	Executes SQL INSERT and UPDATE statement on MySQL, Oracle or SQL Server database	5.0.0
Email Tool	Sends email message to targeted recipient(s)	5.0.0
Json Tool	Reads a JSON feed URL, and inserts formatted data into form data table or workflow variable	5.0.0
Multi Tools	Enable the use of multiple tools	7.0.0
Simple TensorFlow AI Tool	Run TensorFlow session and store the output into form data table or workflow variable.	7.0.0

15 Page 1 of 1 Displaying 1 to 6 of 6 items

Configuring the Email Tool

- Set up your mail information.
- Click “Next” to set up the email server.

PLUGIN CONFIGURATION - NOTIFY REJECTED REQUEST (NOTIFYREJECTEDREQUEST)

Configure Email Tool ⓘ

Configure Email Tool > SMTP Settings > Attachments

To (Specific email address)

To (Participant ID)

CC

BCC

Subject

Message

HTML Content? ☐

Configuring the Email Tool

- Set up the email server.

PLUGIN CONFIGURATION - NOTIFY REJECTED REQUEST (NOTIFYREJECTEDREQUEST)

SMTP Settings

Configure Email Tool > SMTP Settings > Attachments

From ?

SMTP Host ?

SMTP Port ?

Security ?

SMTP Username

SMTP Password

Good To Know

- Try the SMTP settings with an email client (e.g Outlook, Thunderbird) before using it with Email Tool.
- Make sure that your firewall allows outgoing email messages to be sent from Java.exe

Good To Know

- Email settings can be set in System Settings for better maintainability.

The screenshot shows a web application interface for configuring SMTP settings. On the left is a sidebar with a menu containing: 'System Settings' (selected), 'General Settings', 'Datasource & Profile Settings', 'Directory Manager Settings', 'Manage Plugins', and 'Manage Messages'. The main content area is titled 'SMTP SETTINGS' and contains several input fields: 'Host' with the value 'smtp.sample.com', 'Port' with the value '587', 'Security' with the value 'TLS', 'Username' with the value 'sender@sample.com', 'Password' (masked with dots), and 'From Email Address' with the value 'sender@sample.com'. A 'Submit' button is located at the bottom of the form.

SMTP SETTINGS	
Host	smtp.sample.com
Port	587
Security	TLS
Username	sender@sample.com
Password
From Email Address	sender@sample.com
<button>Submit</button>	

Exercise

- Test out the Email Tool functionality by going through the Workflow Process.
 - Make sure that the recipient's email is defined.
 - Take note of the server log if your email fails to reach.

```
INFO net.purwana.rads.apps.app.lib.EmailTool$1 - EmailTool: Sending email
from=no-reply@example.com, to=cc=, subject=Rejected Purchase Request Notification
ERROR net.purwana.rads.apps.app.lib.EmailTool$1 -
org.apache.commons.mail.EmailException: At least one receiver address required
org.apache.commons.mail.EmailException: At least one receiver address required
    at org.apache.commons.mail.Email.buildMimeMessage(Email.java:1148)
    at
org.apache.commons.mail.MultiPartEmail.buildMimeMessage(MultiPartEmail.java:254)
    at org.apache.commons.mail.HtmlEmail.buildMimeMessage(HtmlEmail.java:513)
    at org.apache.commons.mail.Email.send(Email.java:1266)
    at
net.purwana.rads.apps.app.lib.EmailTool$1.run(EmailTool.java
:196) at java.lang.Thread.run(Thread.java:619)
```

Tip: Common Mail Servers

Googlemail - Gmail	Server:	Authentication:	Port:
SMTP Server (Outgoing Messages)	smtp.gmail.com	SSL	465
	smtp.gmail.com	StartTLS	587
POP3 Server (Incoming Messages)	pop.gmail.com	SSL	995
Please make sure, that POP3 access is enabled in the account settings. Login to your account and enable POP3.			

Outlook.com	Server:	Authentication:	Port:
SMTP Server (Outgoing Messages)	smtp.live.com	StartTLS	587
POP3 Server (Incoming Messages)	pop3.live.com	SSL	995

Yahoo Mail	Server:	Authentication:	Port:
SMTP Server (Outgoing Messages)	smtp.mail.yahoo.com	SSL	465
POP3 Server (Incoming Messages)	pop.mail.yahoo.com	SSL	995

Source: <http://www.arclab.com/en/amlc/list-of-smtp-and-pop3-servers-mailserver-list.html>

Chapter Review

We have learnt to:

1. Map a Process Tool to a Process Tool Plugin
2. Configure Email Tool Plugin



Chapter 3

Using Process Tool in Post Form Submission Processing

Form Post Submission Processing

- Introduced in version 5, a Process Tool plugin is also known as a Form Post Submission Processing plugin.
- A Process Tool plugin can be attached to an individual form and invoked upon form submission.

Form Post Submission Processing

- In Form's properties, **Post Form Submission Processing** settings can be found.

The screenshot displays the 'FORM BUILDER' interface for a form titled 'purchaseRequestForm v1.1 - Submit Request (Published)'. The interface includes tabs for 'DESIGN FORM', 'PROPERTIES', 'PREVIEW', and 'SAVE'. The 'PROPERTIES' tab is active, showing various configuration sections. The 'Post Form Submission Processing' section is highlighted, indicating the current settings for post-submission actions. This section includes a description: 'Run a tool after a form is submitted. Only applicable for primary form, in form grid and list grid'. It features a 'Post Processing Tool' dropdown menu and a 'Run Tool on' dropdown menu. The 'Run Tool on' dropdown is open, showing options: 'Data creation', 'Data update', and 'Both data creation and update'. The 'Both data creation and update' option is selected and highlighted in blue. At the bottom of the interface, there are navigation buttons: '< Prev' and 'Next >'. The 'Data Binder' section above shows 'Load Binder' and 'Store Binder' both set to 'Workflow Form Binder'. The 'Permission' section shows 'Permission' and 'Unauthorized Message' fields.

FORM BUILDER purchaseRequestForm v1.1 - Submit Request (Published)

DESIGN FORM PROPERTIES PREVIEW SAVE

Advanced

Edit Form > Advanced

Data Binder

Load Binder Workflow Form Binder ✕ +

Store Binder Workflow Form Binder ✕ +

Permission

Permission *

Unauthorized Message

Post Form Submission Processing

Run a tool after a form is submitted. Only applicable for primary form, in form grid and list grid

Post Processing Tool *

Run Tool on

Data creation *

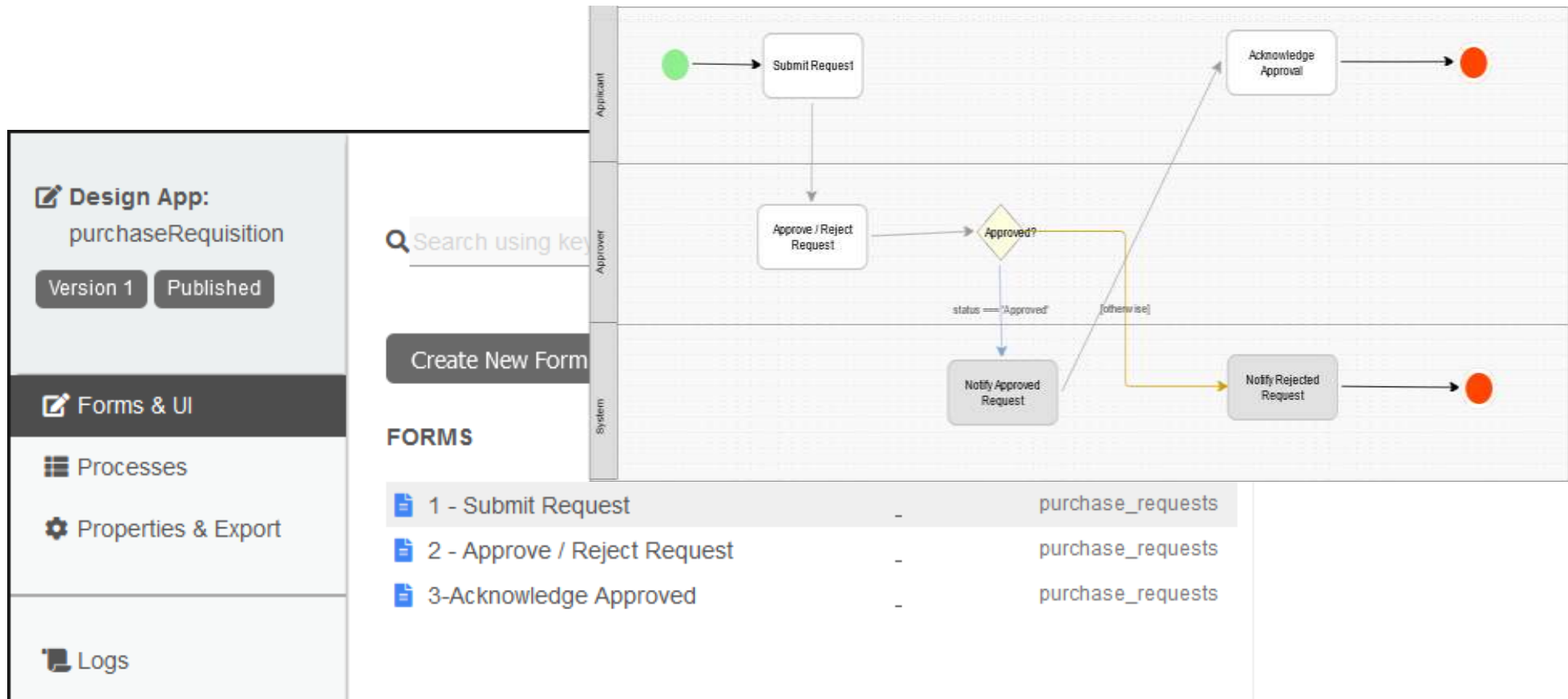
Data creation

Data update

Both data creation and update

< Prev Next >

Identify the Form To Apply To



Add Process Tool To the Form

- In the form identified, open the form in the Form Builder.
- Go to the properties, configure the **Post Form Submission Processing** settings.

The screenshot displays the 'FORM BUILDER' interface for a form titled 'purchaseRequest v1.1 - Submit Request (Published)'. The 'PROPERTIES' tab is active, showing various configuration sections. The 'Post Form Submission Processing' section is highlighted with a red rectangle. This section includes a description: 'Run a tool after a form is submitted. Only applicable for primary form, in form grid and list grid.' It features a 'Post Processing Tool' dropdown menu and a 'Run Tool on' dropdown menu. The 'Run Tool on' menu is open, showing options: 'Data creation', 'Data update', and 'Both data creation and update', with the last option selected. Navigation buttons '< Prev' and 'Next >' are visible at the bottom.

FORM BUILDER purchaseRequest v1.1 - Submit Request (Published)

DESIGN FORM PROPERTIES PREVIEW SAVE

Advanced

Edit Form > Advanced

Data Binder

Load Binder Workflow Form Binder X -

Store Binder Workflow Form Binder X -

Permission

Permission *

Unauthorized Message

Post Form Submission Processing

Run a tool after a form is submitted. Only applicable for primary form, in form grid and list grid.

Post Processing Tool *

Run Tool on Data creation *

Data creation

Data creation

Data update

Both data creation and update

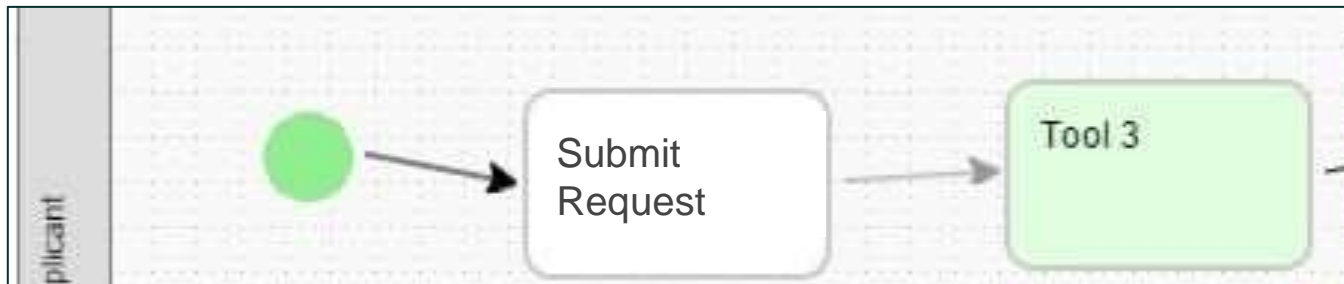
< Prev Next >

Which Processing Tool to choose?

- You may choose any Process Tool plugin of your preference or re-use the Email Tool that you have learned earlier.

Discussion

- If there's a Process Tool mapped to a Form (Submit Request) and there's a Tool (Tool 3) to be followed after in the process flow, which tool executes first?



Discussion

- With the ability to add a Process Tool to individual form, there seems to be a continuation/flow by having the form itself. What's the significance of having it versus having the Process Tool in a Workflow Process?

Module Review

- Understand Process Tool Plugin and being part of the RADS ecosystem.
- Able to list down available Process Tool Plugins in the system.
- Map a Process Tool to a Process Tool Plugin.
- Map a Form to a Process Tool Plugin.
- Configure Email Tool Plugin.

Stay Connected With RADS

- rads.purwana.net
- <https://github.com/radservice/rad-community>