

Joget DX

SLA & Deadlines

 <http://facebook.com/jogetworkflow>

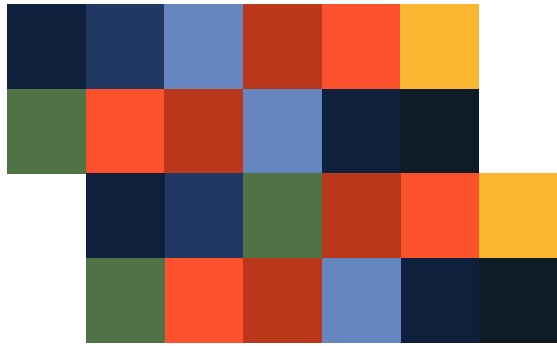
 <http://twitter.com/jogetworkflow>

Prerequisites

1. Good understanding on how to design a Workflow Process with SLA & Deadlines

Content

1. Service Level Agreement (SLA)
2. Deadlines
3. Introduction to Deadline Plugin



Chapter 1

Service Level Agreement (SLA)

Service Level Agreement (SLA) Limit

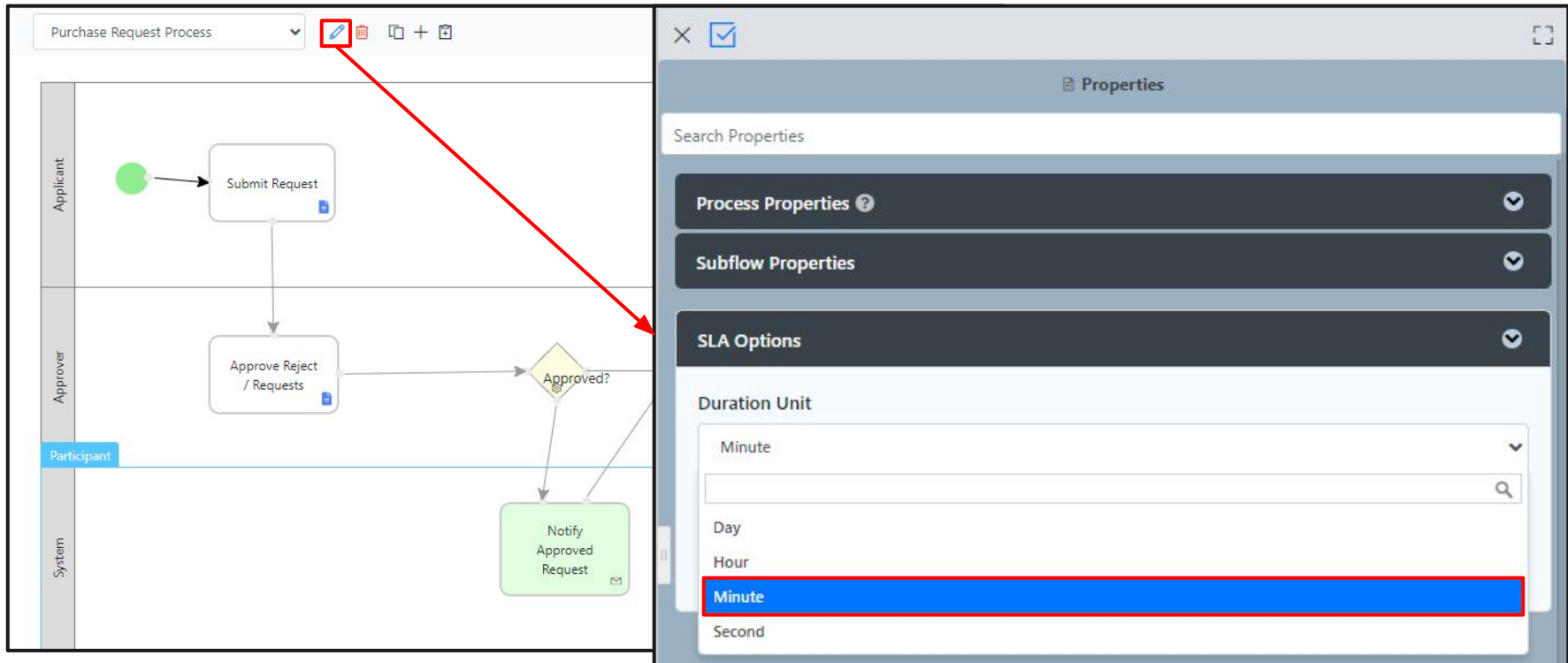
- Why set limits?
 - By setting limits to workflow activities, you are able to define appropriate service levels for your processes.
 - Participants in the workflow can be made aware of adherence to these service levels.
 - You can generate reports to determine the efficiency of your processes e.g. identify bottlenecks, etc.

How to Set SLA Limit?

- Define process-level **duration unit**
(Duration unit will be **shared** among activities in the process)
- Set **SLA Limit** on targeted activity or process
- **SLA** can be affected by the use of Deadline plugins.

Define Duration Unit

- Edit process's properties to set the duration unit.
- Set to **minute**.



The screenshot displays the Joget process editor interface. On the left, a process diagram for 'Purchase Request Process' is shown, involving participants: Applicant, Approver, Participant, and System. The process flow includes a 'Submit Request' task, an 'Approve Reject / Requests' task, a decision diamond 'Approved?', and a 'Notify Approved Request' task. A red box highlights the edit icon (pencil) in the top toolbar, with a red arrow pointing to the 'Properties' panel on the right.

The 'Properties' panel on the right shows the 'Duration Unit' section. The 'Minute' option is selected and highlighted with a red box. The other options are 'Day', 'Hour', and 'Second'.

Process Properties

Subflow Properties

SLA Options

Duration Unit

Minute

Day

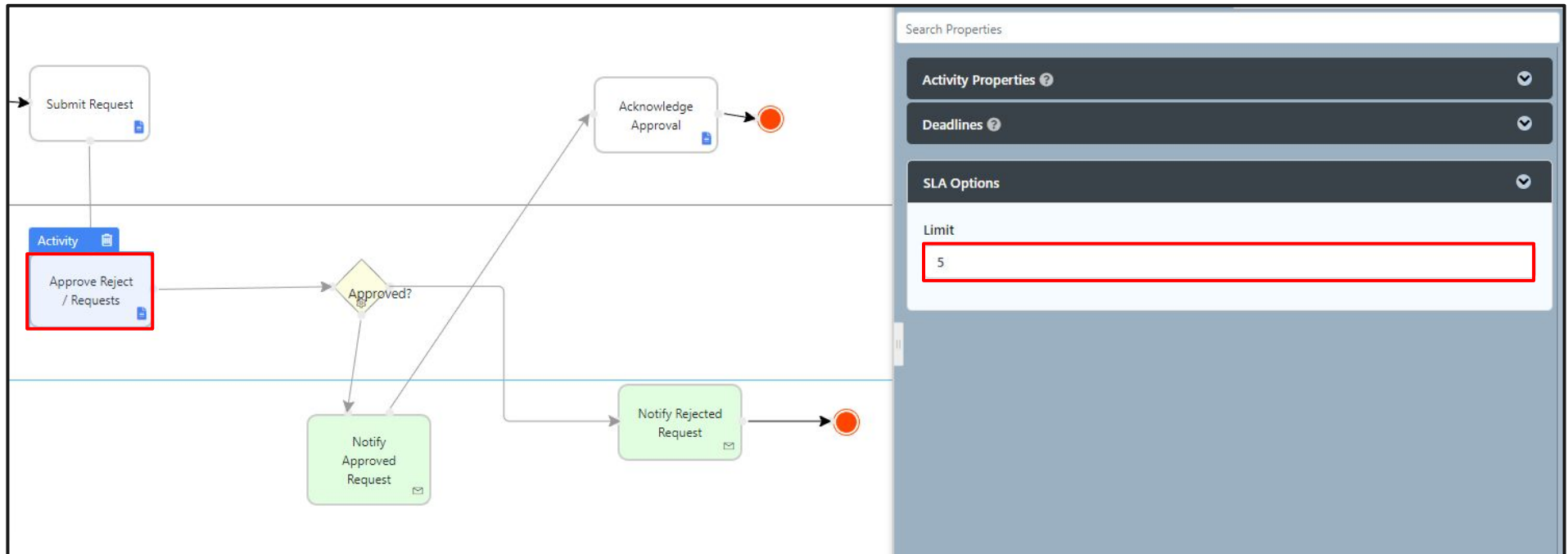
Hour

Minute

Second

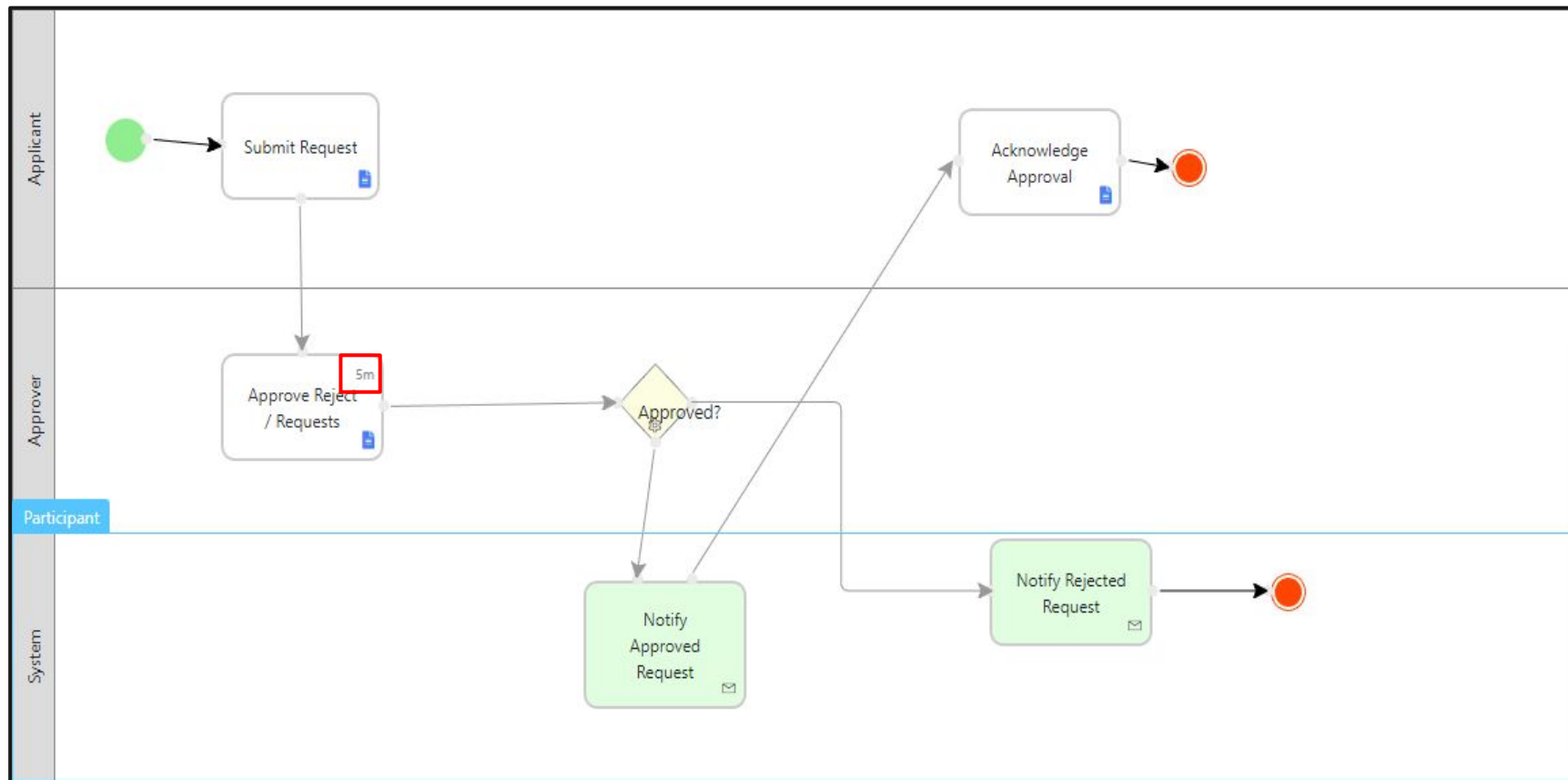
Set SLA Limit on Activity

- Set “**5**” in **Approve / Reject Request** activity.
(Duration unit was set earlier to **minute**)




SLA Limit Indicator

- SLA will be reflected in process diagram itself.



Service Level Monitor

- For activities that have defined **limits**, task assignments will have **due dates**.
- When processes that have limits are deployed, you will notice that the **Service Level Monitor** column in the Inbox will display a **colour coded square** .
- The colour of the Service Level Monitor will change from **GREEN** to **YELLOW** as the due date approaches. Once the due date is reached, the colour will be **RED**.

Defining SLA Indicator

- Medium Warning Level
 - Color: Yellow
 - Default Value: 20% of elapsed time.
- Critical Warning Level
 - Color: Red
 - Default Value: 50% of elapsed time.
- Can be changed in the System Settings. (System wide effect)

Medium Warning Level	<input type="text"/>
	default: 20
Critical Warning Level	<input type="text"/>
	default: 50

Service Level Monitor

- SLA Indicator will be seen in the task Inbox.

Purchase Requisition Portal

Sat, 24 Sep 2022

Home > Purchase Requisition > Inbox

Admin Admin






Welcome

Purchase Requisition

Submit New Request

Inbox

10 Show

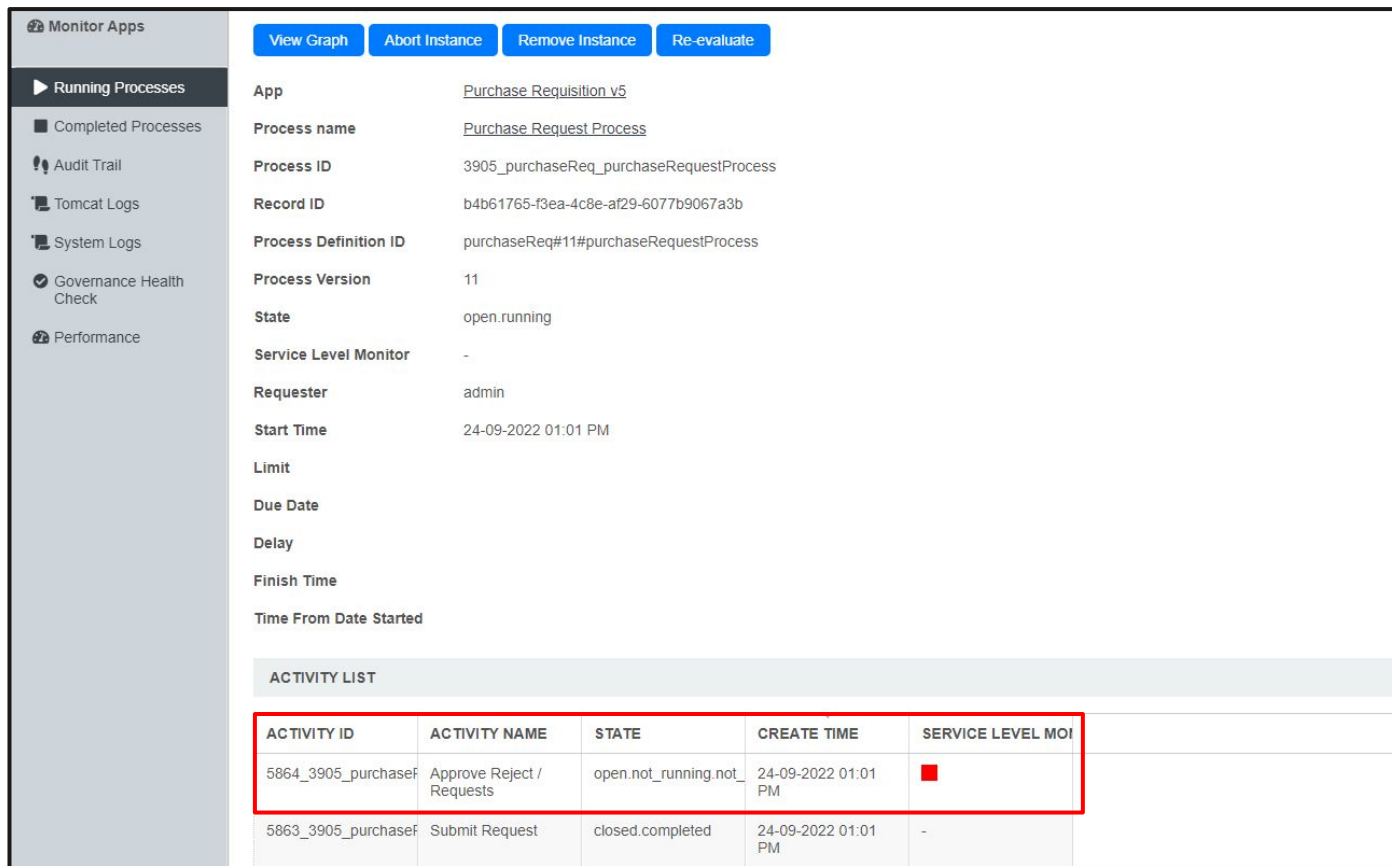
Activity Name	Process Name	Date Created	Service Level Monitor	Due Date
Approve Reject / Requests	Purchase Request Process	24-09-2022 01:01 PM		24-09-2022 01:06 PM
Approve Reject / Requests	Purchase Request Process	24-09-2022 12:56 PM		24-09-2022 01:01 PM
Approve Reject / Requests	Purchase Request Process	24-09-2022 12:56 PM		24-09-2022 01:01 PM
Approve Reject / Requests	Purchase Request Process	24-09-2022 12:50 PM		24-09-2022 12:55 PM
Approve Reject / Requests	Purchase Request Process	24-09-2022 12:50 PM		24-09-2022 12:55 PM
Acknowledge Approval	Purchase Request Process	23-09-2022 04:20 PM	-	-
Submit Request	Purchase Request Process	23-09-2022 04:13 PM	-	-

7 items found, displaying all items.

CSV | Excel | XML | PDF

Process Monitoring

- SLA Indicator is also available in the Process Monitoring module for the administrator.

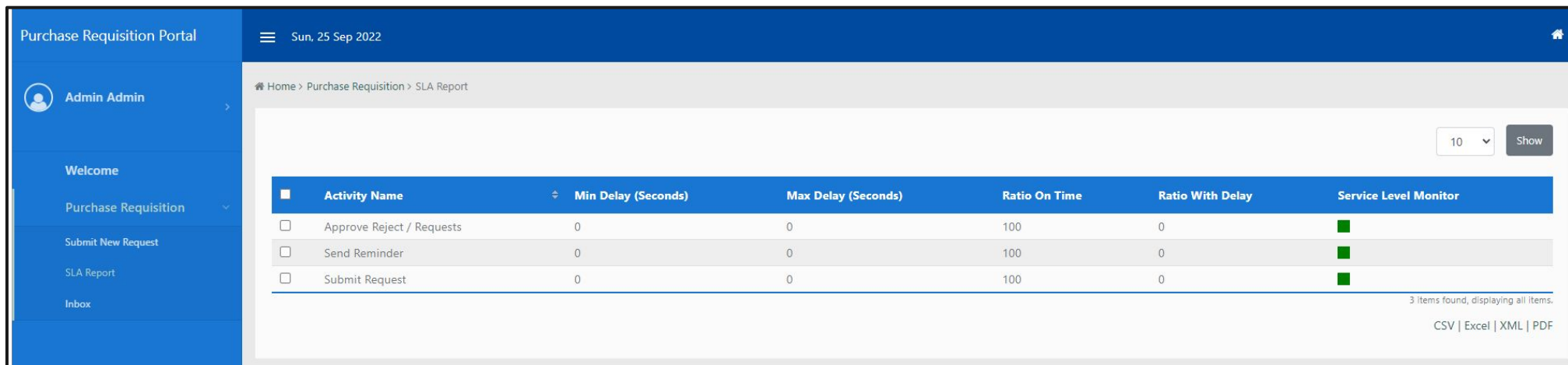


The screenshot displays the 'Monitor Apps' interface. On the left is a sidebar with navigation options: Monitor Apps, Running Processes (selected), Completed Processes, Audit Trail, Tomcat Logs, System Logs, Governance Health Check, and Performance. The main area shows details for a process named 'Purchase Request Process' (App: Purchase Requisition v5). Above the details are buttons: View Graph, Abort Instance, Remove Instance, and Re-evaluate. The process details include Process ID, Record ID, Process Definition ID, Process Version, State (open.running), Service Level Monitor, Requester (admin), Start Time, Limit, Due Date, Delay, Finish Time, and Time From Date Started. Below the details is an 'ACTIVITY LIST' table.

ACTIVITY ID	ACTIVITY NAME	STATE	CREATE TIME	SERVICE LEVEL MOI
5864_3905_purchaseReq	Approve Reject / Requests	open.not_running.not	24-09-2022 01:01 PM	■
5863_3905_purchaseReq	Submit Request	closed.completed	24-09-2022 01:01 PM	-

SLA Report on UI

- SLA Report can also be made available for end user (e.g. Manager) to inspect.
- Remember to enable the **Process Data Collector Plugin** before using the SLA Report menu.



The screenshot shows the 'Purchase Requisition Portal' interface. The left sidebar contains a user profile 'Admin Admin', a 'Welcome' message, and a 'Purchase Requisition' menu with options: 'Submit New Request', 'SLA Report', and 'Inbox'. The main content area displays the 'SLA Report' for 'Sun, 25 Sep 2022'. It includes a table with 7 columns: 'Activity Name', 'Min Delay (Seconds)', 'Max Delay (Seconds)', 'Ratio On Time', 'Ratio With Delay', and 'Service Level Monitor'. The table lists three activities: 'Approve Reject / Requests', 'Send Reminder', and 'Submit Request', all with 0 seconds delay and 100% on-time ratio. A 'Show' button and a dropdown menu are located at the top right of the table. Below the table, it states '3 items found, displaying all items.' and provides links for 'CSV | Excel | XML | PDF'.

Activity Name	Min Delay (Seconds)	Max Delay (Seconds)	Ratio On Time	Ratio With Delay	Service Level Monitor
Approve Reject / Requests	0	0	100	0	■
Send Reminder	0	0	100	0	■
Submit Request	0	0	100	0	■

- Reference:
<https://dev.joget.org/community/display/DX8/SLA+Report+Menu>

Chapter Review

- Set SLA limit to workflow activity, which enables the implementation of service level monitoring.

Exercise

- Tweak the SLA settings to only turn to **YELLOW** when half of the remaining time elapsed and...
- Change to **RED** when all the remaining time runs out.



Chapter 2

Deadlines

Deadlines and Exceptions

- For each activity, Deadline(s) can be set.
- Deadlines act as a timer which triggers an Exception transition to another activity when a specified duration has elapsed
- Deadlines that has reached its elapsed duration will be queued and then be picked up by the **Deadline Checker**.

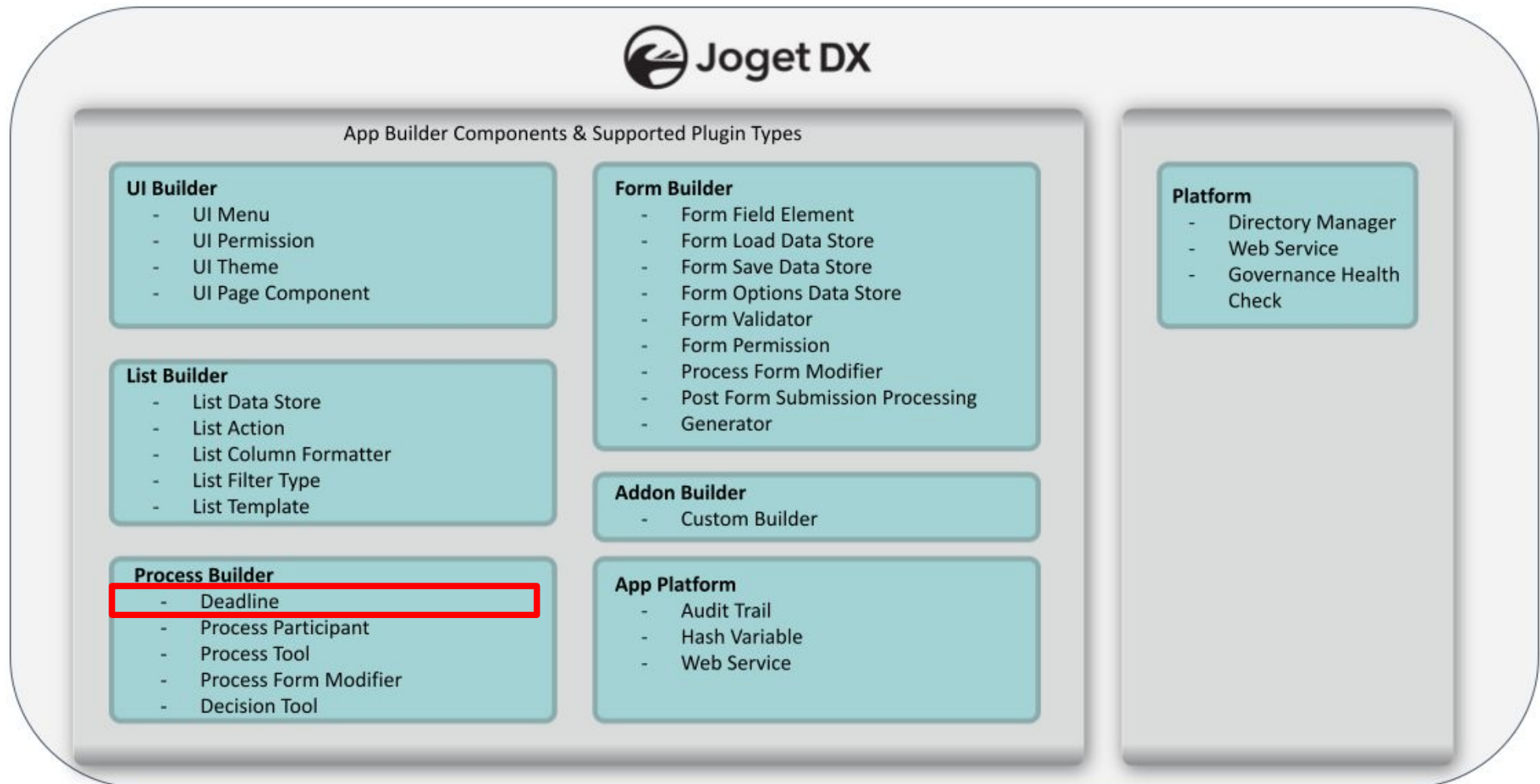


Deadline reached



EXCEPTION

Plugin Types



Deadlines

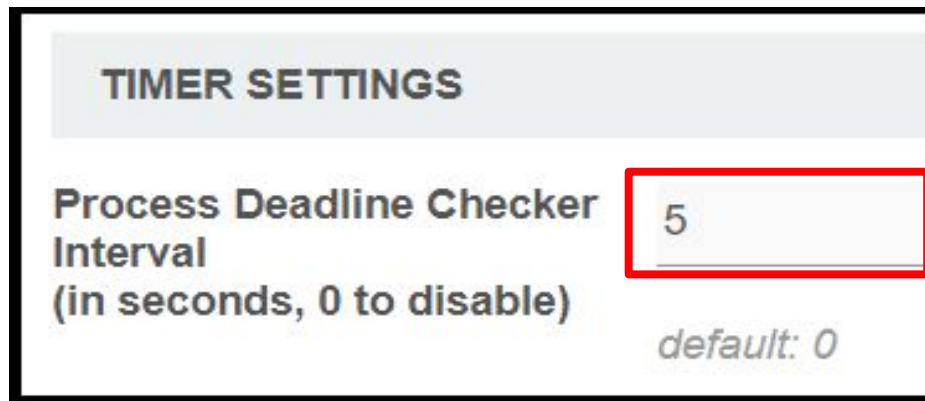
- Deadline execution can be **synchronous** or **asynchronous**.
- For **synchronous** execution, the current activity will no longer be active when the deadline is triggered.
 - Used in cases such as approval escalation.
- For **asynchronous** execution, the next activity will be executed while the current activity is still waiting.
 - Used in cases such as sending reminders.
- Multiple deadlines are supported for each activity.

Deadline Checker

- The Deadline Checker kicks in at **specified intervals** when enabled.
- **Deadlines due** at the time will be **picked up** and processed in batches of 10 by the Deadline Checker until finish.
- The deadline checker will resume counting only when it completes processing all pending deadline tasks.
- Set an appropriate interval that suits your environment.

Activating Deadline Checker

- The **Process Deadline Checker** MUST be enabled under **System Settings** > **General Settings** for deadlines to work.
- This will enable periodic checks on activities' pending deadline tasks as defined by the **checker interval**.



TIMER SETTINGS

Process Deadline Checker Interval
(in seconds, 0 to disable)

5

default: 0

Deadline Checker Discussion

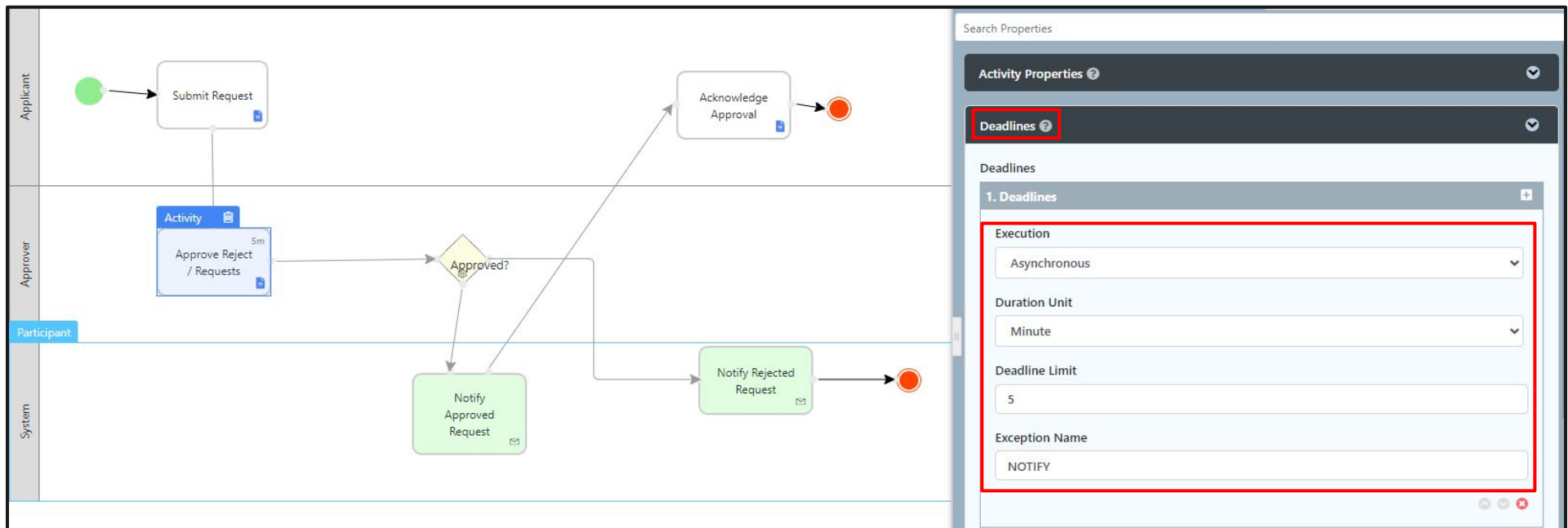
- What will the timeline be like for a Deadline set at 1 minute and Deadline Checker at 1 hour?
(Think of the mailman analogy)

Setting Deadlines and Exceptions

- **Deadlines** are set at **activities**.
- **Exceptions** are set at **transitions**.
- Exceptions transition to another **activity** or **tool**.
- These are required for the deadline feature to work.

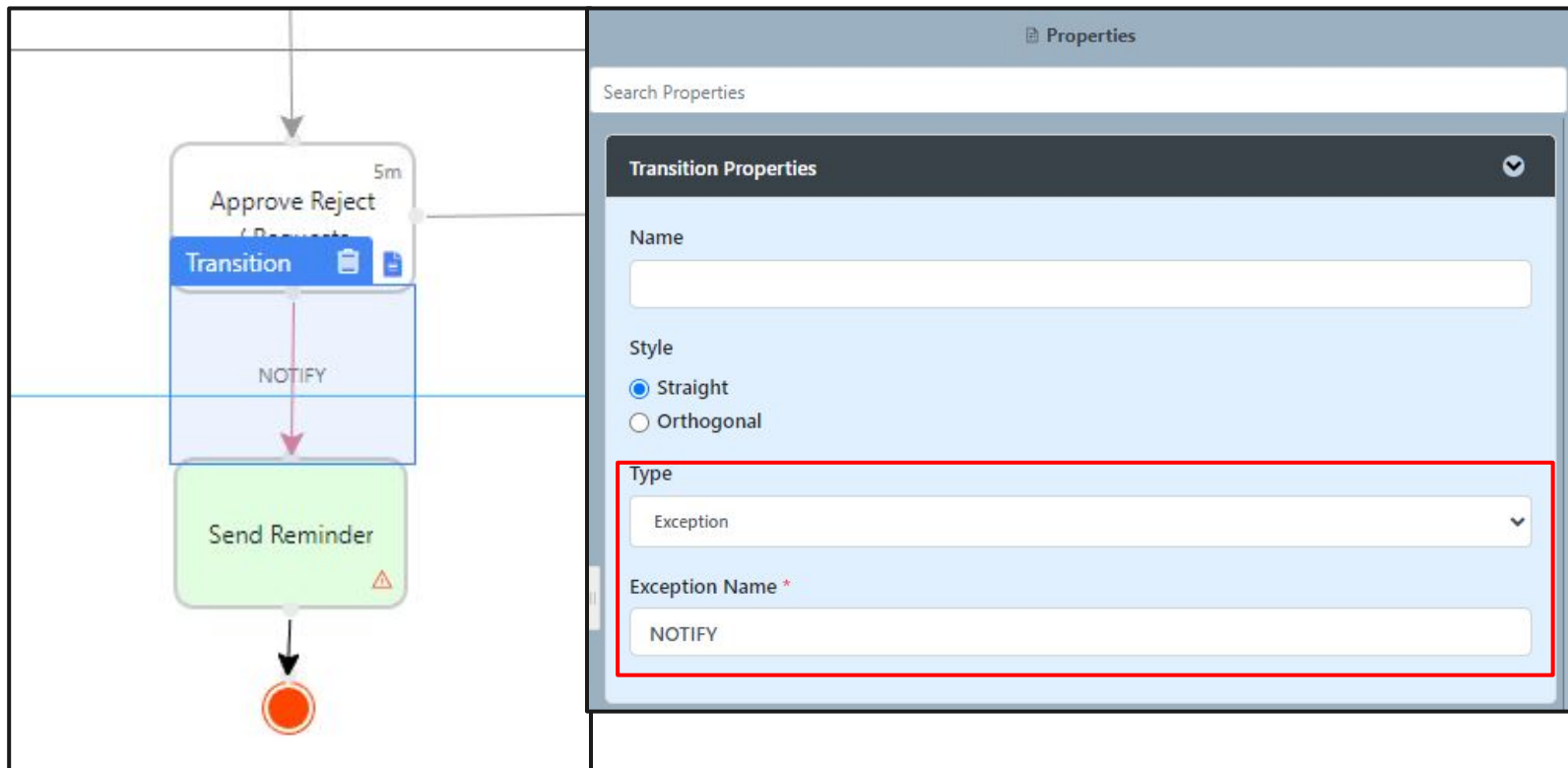
Add a New Deadline

- Add a new Deadline to the **Approve / Reject Request** activity.
- Add **Asynchronous** deadline, set it to 5 minutes.
- Set an exception name. It **must** be unique.

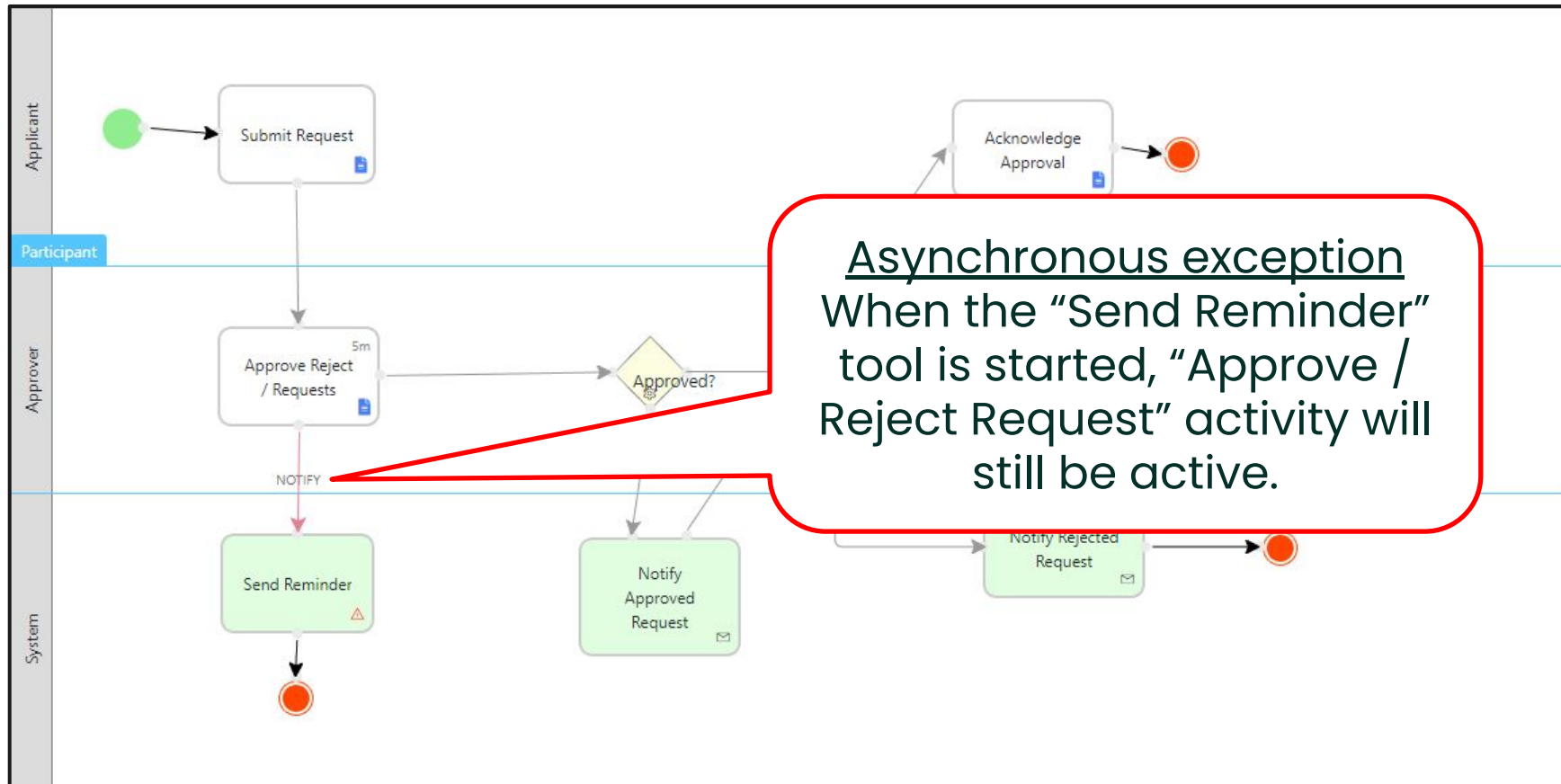


Add a New Deadline

- Add a new Tool, name it as **Send Reminder**.
- Link them up and set transition type to **Exception**. Set the exception name as the one declared earlier.



Setting Deadlines and Exceptions



Process Monitoring

- Study on how deadline would affect your process instance in Process Monitoring.
- Differentiate types of “state” of activity/process.
 - closed.completed
 - closed.terminated
 - close.aborted
 - open.not_running.not_started

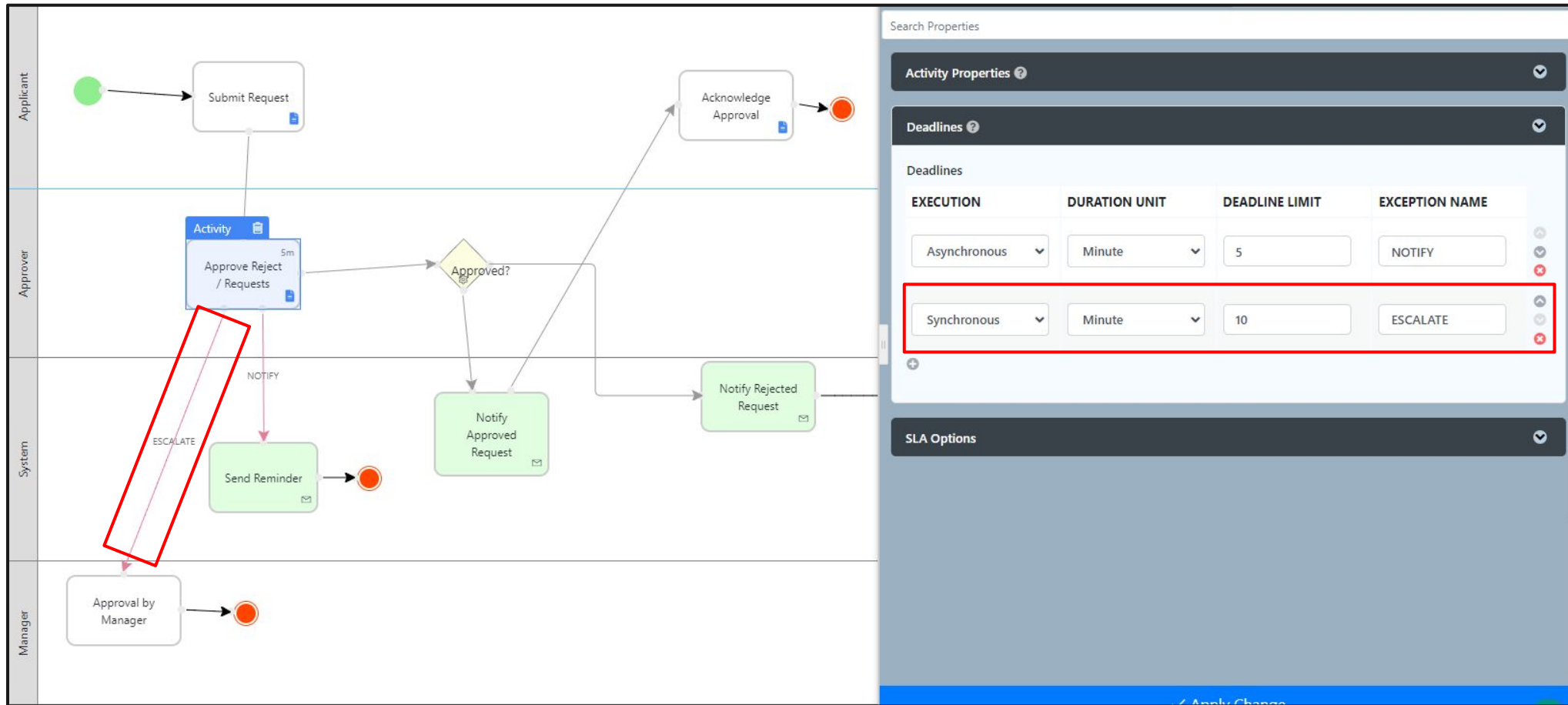
Exercise 1

- Verify that the deadline works as designed by mapping the newly created Tool to a Email Tool plugin.
- Configure the Email Tool accordingly.
- Test if the Email Tool is triggered by the Deadline by starting up a new process instance.
- Optionally, you may use Bean Shell Tool to output to the server log to test this too.

Exercise 2

- Add a second level approval for when the first level approver does not respond in certain period, the second approver will take over.
- Choose the appropriate time frame and type of deadline.
- Configure the new participant's mapping accordingly after deployment of the new process flow.

Exercise 2



Good To Know

- One activity may contains one or more Deadlines.
- Each Deadline has its own Duration Unit, unlike SLA.

Good To Know

- It is also possible to set use a **Workflow Variable** as the Deadline limit.
(Remember to declare the Workflow Variable and set the value according to the date format defined)

Important Note

- SLA will **NOT** manipulate the flow of your Workflow Process, Deadline **will**.
- Deadlines will highly unlikely get triggered on the dot as it depends on the **Deadline Checker Interval cycle & deadline tasks processing times**.
- Deadline interval will begin again only after all deadline tasks in queue has completed processing.
- Do NOT set deadlines on Tool, it's only meant for Activities.

Chapter Review

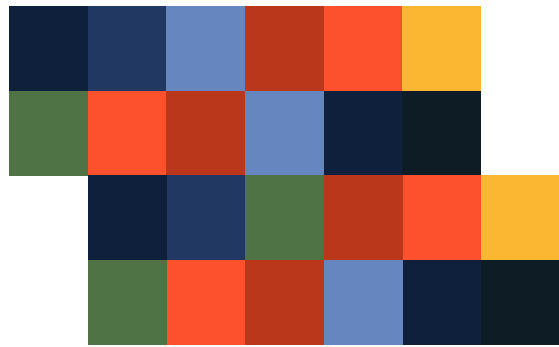
1. Set deadline and design exception handling.
2. Understand the difference between Synchronous and Asynchronous deadline.
3. Understand the overall deadline behavior

Reference:

<https://dev.joget.org/community/display/DX8/Deadlines+and+Escalations>

Just In Case...

- You can download the base Purchase Requisition app – **11.3.jwa** to observe and interact with SLAs and Deadlines.



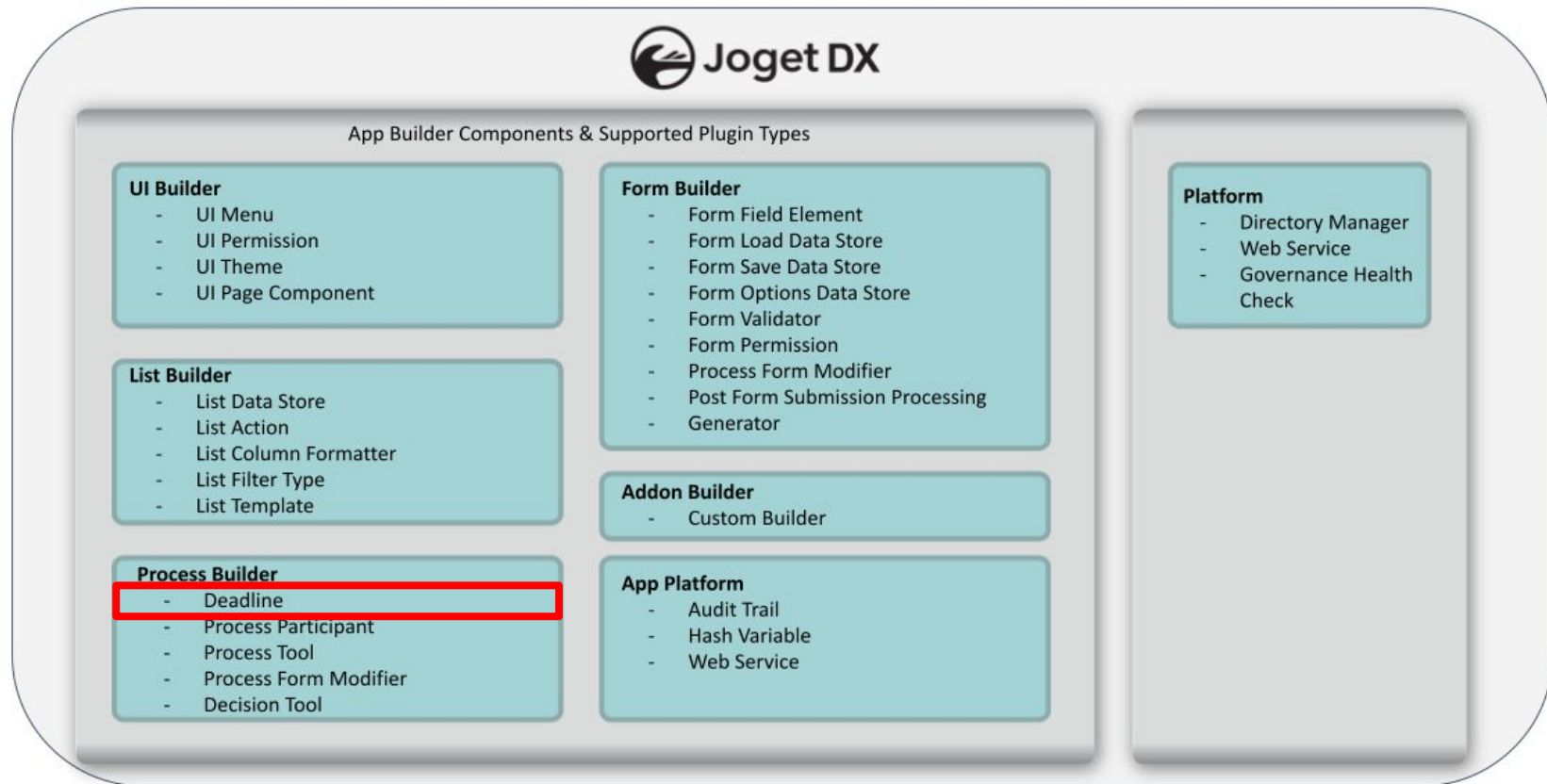
Chapter 3

Introduction to Deadline Plugin

Deadline Plugin

- **Deadline plugin** will influence the calculation of **SLA** and **Deadlines** in a process flow.

Plugin Types



Office Working Hour Deadline Plugin

- **Office Working Hour Deadline Plugin** is an essential addition to the working environment where **SLAs** and **deadlines** are implemented.
- This plugin will intercept and override how calculations are made by Joget when calculating due dates for SLAs and deadlines imposed on a process.
- The Office Working Hour Deadline plugin takes the following into account during calculations:
 - Holidays
 - Working Hours
 - Working Days

Exercise

Consider a synchronous deadline where:

- Activity started at : Friday 5.50pm
- Deadline trigger set to : 30 minutes
- Last deadline checked : 5.55pm
- Deadline interval : every 1 hour
- Office Hours : Weekdays 9am – 6pm

Ignoring the deadline task processing time,
when does the synchronous deadline trigger?

Exercise – Optional

- Configure the Office Working Hour Deadline plugin into your existing App.
- Observe the changes to the due dates on SLA and Deadline.

Chapter Review

- Able to understand the impact of Deadline plugins to Deadline and SLAs calculations.

Module Review

1. Set SLA limit to workflow activity, which enables the implementation of service level monitoring.
2. Set deadline and design exception handling.
3. Understand the difference between Synchronous and Asynchronous deadline.
4. Understand the overall deadline behavior
5. Understand the Deadline Plugin and its purposes.

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