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# Workflow Visualizer

Cavallo Support - 2024-11-22 - [Utilities](#)

## Overview

SalesPad now offers a Workflow Visualizer, a helpful new feature that generates a visual flowchart diagram of your workflow so you can see exactly how your documents route through your processes. Review which queues make up your workflow, where workflow rules will trigger to reroute documents, and which automated plugins run along the way. This tool will help you understand and streamline your existing workflow, see how new changes will affect it, and catch missed configuration and orphaned queues.

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## Setup

### Securities

The Workflow Visualizer is enabled by default. If access needs to be adjusted, there are sub-securities available for the two screens where it is available:

- *Sales Document Workflow Setup > Enable Workflow Visualizer* - Allows users to open Workflow Visualizer. This affects the Sales Document Workflow Setup screen.
- *Workflow Card > Enable Workflow Visualizer* - Allows users to open Workflow Visualizer. This affects the Business Object Workflow Setup screen (used for PO workflow, customer workflow, item workflow, etc).



Sales Document Workflow Setup
Close
Save
Export Workflow
Import Workflow

Sales Document Types

Doc. Type	Doc. ID
BACKORDER	BKORD
INVOICE	CAINV
INVOICE	FULORD
INVOICE	POSINV
INVOICE	RMAINV
INVOICE	SERVINV
INVOICE	SPECINV
INVOICE	STDINV
INVOICE	SVCZERO
ORDER	BLKORD
ORDER	MASTERSO
ORDER	ORDMAN
ORDER	PHINORD
ORDER	REPAIRWO
ORDER	REPORD
ORDER	RMAORD
ORDER	SPECORD

Workflow Queues

New Queue
Delete Selected Queues
Resequence Queues
Workflow Visualizer

Seq	Queue	Button Caption	Plugin	Eval	Print?	Force	Next Queue(s)	Description
10	NEW ORDER	Ready to Pick		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PICK PRINT+	New orders start here
20	MANAGER REVIEW	Ready to Pick		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PICK PRINT+	Order needs manager review
30	BACKORDER	Ready to Pick		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PICK PRINT+	Order has any backordered items
40	PICK PRINT+		Smart Printing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	READY TO PICK	Automatically email fulfillment notification
50	READY TO PICK	Ready to Pack	Run Script	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	READY TO PACK	Order is ready for picking
60	READY TO PACK	Ready to Ship		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	READY TO SHIP	Order is ready for packing
70	READY TO SHIP	Ready to Invoice		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	READY TO INV	Order is ready for shipping
80	READY TO INV			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Order is ready for invoicing

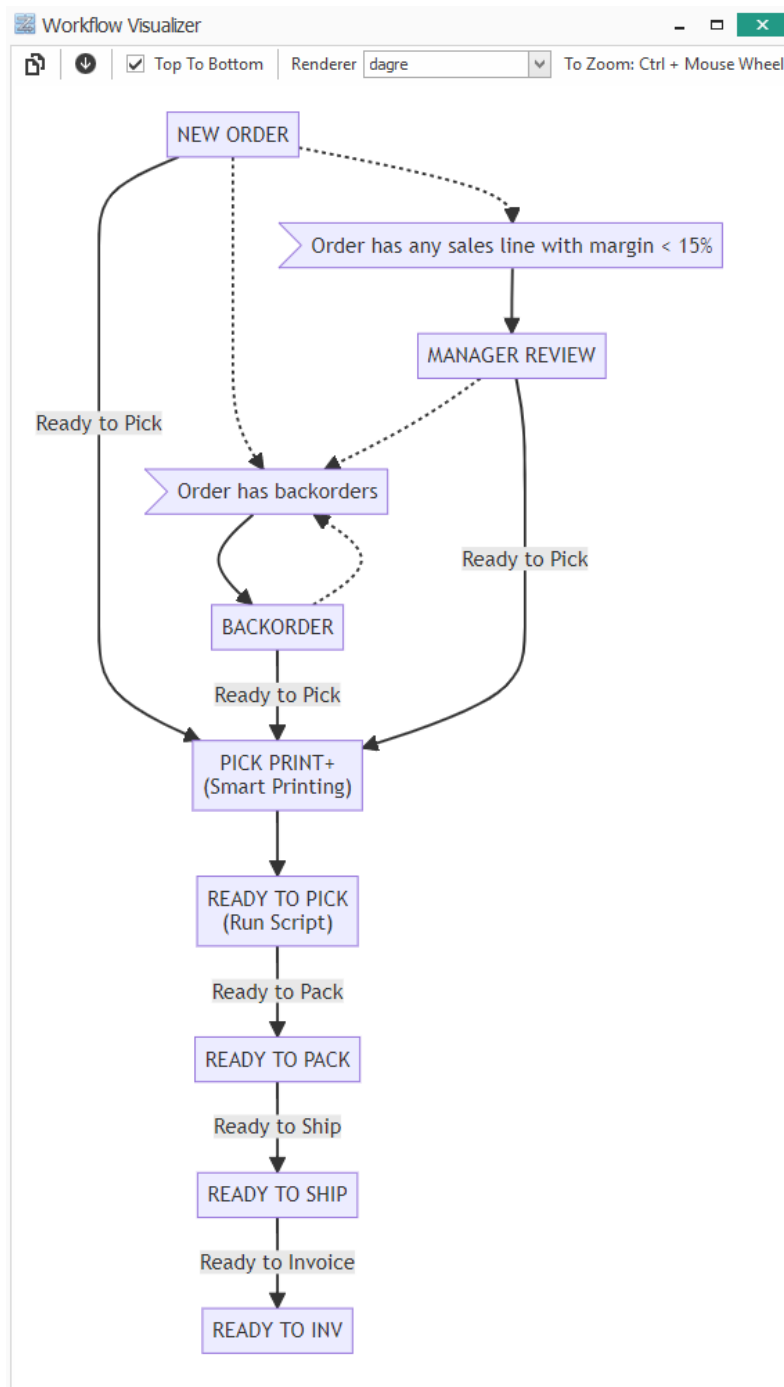
Workflow Rules

New Rule
Delete Selected Rules
Copy To
Resequence Rules

Seq	Description	Eval When In Queue	Move To Queue	Enabled
10	Order has any sales line with margin < .15%	NEW ORDER	MANAGER REVIEW	<input checked="" type="checkbox"/>
20	Order has backorders	NEW ORDER; MANAGER REVIEW; BACKORDER	BACKORDER	<input checked="" type="checkbox"/>

In the Sales Document Workflow Setup screen, there is a new Workflow Visualizer button available at the top right of the screen. Clicking this button launches a popup window that generates the flowchart diagram for the currently selected workflow.

The window can be resized as needed, and the flowchart can be scrolled vertically and horizontally. Hold CTRL while scrolling with the mouse wheel to zoom in and out.



## Flowchart Structure

### Workflow Queues

In the flowchart, each workflow queue is displayed as a rectangle, which indicates a step in the workflow process. Arrows connect the queues, leading from the originating queue and pointing toward the destination queue. If that connection has a Button Caption configured in workflow, then that caption will be displayed on the arrow.

### Workflow Rules

Workflow rules appear as flags. Arrows pointing into workflow rules show when that rule will be checked. If the rule passes, then the document would continue along the path that leads away from that rule. If the rule fails, then the next rule is checked, and this continues until no rules are left; then the document would continue along the path that leads to a queue instead of a rule. One of the renderer options shows these conditional paths as dotted lines, and the other shows them as solid lines.

## Workflow Plugins

Workflow plugins are noted in the same rectangle as the queue to which they are attached, shown in parentheses after the workflow queue name. This means that documents forwarding out of that queue will trigger that plugin.

This includes processing like Run Scripts and Smart Printing, although it does not include any more specific information regarding the scripts or printed/emailed reports.

## Flowchart Generation Options

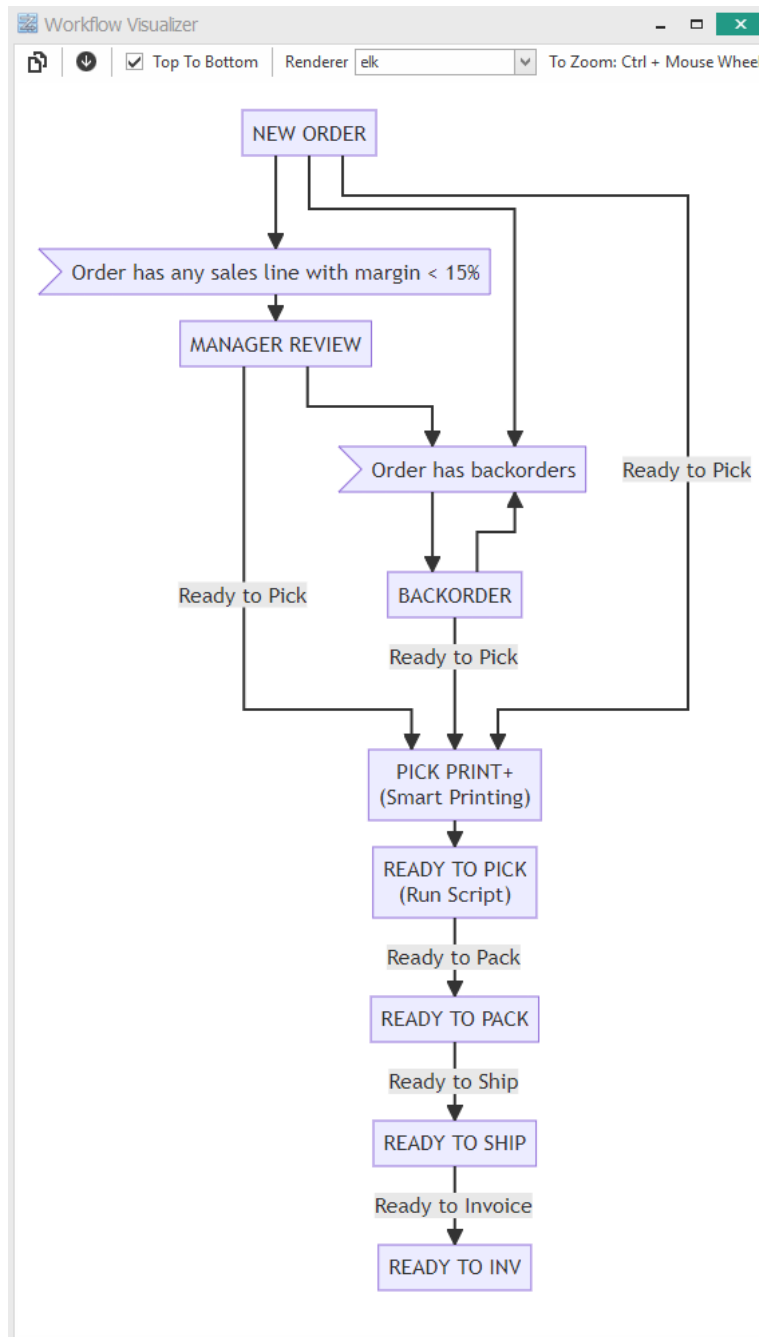
There are a few options available to change how the flowchart diagram is created:

### Top To Bottom

- When checked, the flowchart will flow from top to bottom.
- When unchecked, the flowchart will flow from left to right.

### Renderer

- The dagre renderer creates the flowchart with curved lines instead of straight lines, and with dotted lines to indicate the conditional workflow rule paths. The previous screenshot uses the dagre renderer.
- The elk renderer creates the flowchart with straight lines and no dotted lines. The following screenshot uses the elk renderer.



## Flowchart Export

There are two options for exporting the flowchart at the top left of the Workflow Visualizer popup window.

The Download SVG button will download the entire visual flowchart diagram as an SVG file, which can be launched for viewing at any time. This lets you save your visual workflow for later reference, and refer to it when making changes.

The Copy To Clipboard button will copy the flowchart code to the clipboard. This is useful when there is an issue with the network or the renderer that is causing the visual flowchart to not appear properly in SalesPad.

```
Workflow Visualizer
[Copy] [Download] [Top To Bottom] Renderer: dagre To Zoom: Ctrl + Mouse Wheel

flowchart TB
  10["NEW ORDER"]-->R20>"Order has backorders"
  10["NEW ORDER"]-->R10>"Order has any sales line with margin < 15%"
  10["NEW ORDER"]-->|"Ready to Pick"|40["PICK PRINT+  
(Smart Printing)"]
  30["BACKORDER"]-->R20>"Order has backorders"
  30["BACKORDER"]-->|"Ready to Pick"|40["PICK PRINT+  
(Smart Printing)"]
  40["PICK PRINT+  
(Smart Printing)"]-->50["READY TO PICK  
(Run Script)"]
  50["READY TO PICK  
(Run Script)"]-->|"Ready to Pack"|60["READY TO PACK"]
  60["READY TO PACK"]-->|"Ready to Ship"|70["READY TO SHIP"]
  70["READY TO SHIP"]-->|"Ready to Invoice"|80["READY TO INV"]
  80["READY TO INV"]
  20["MANAGER REVIEW"]-->R20>"Order has backorders"
  20["MANAGER REVIEW"]-->|"Ready to Pick"|40["PICK PRINT+  
(Smart Printing)"]
  R20>"Order has backorders"-->30["BACKORDER"]
  R10>"Order has any sales line with margin < 15%"-->20["MANAGER REVIEW"]
```

When a network or renderer issue occurs, the flowchart code remains displayed in the Workflow Visualizer popup window. However, you can still view the flowchart by copying that code using the Copy To Clipboard button and pasting it into the code side of the online Mermaid flowchart renderer. Continue to the next section for more information on Mermaid.

## Mermaid Flowchart Renderer

SalesPad uses an open source flowchart generator named Mermaid to create the visual flowchart diagrams. Mermaid's API is called with the workflow code that is generated in SalesPad, and Mermaid renders the visualization that is displayed in SalesPad. The only data sent to Mermaid is the flowchart code, with no other identifying information, and that code is not stored by Mermaid.

Network issues or Mermaid API version issues could cause the flowchart to not display properly within SalesPad. When this happens, the Copy To Clipboard button can be used to copy the flowchart code, and then you can navigate to [mermaid.live](https://mermaid.live) and paste into the code section on the left, replacing all code that was already there. This will allow you to view and interact with the flowchart diagram within Mermaid's interface, and the flowchart can still be downloaded from Mermaid via the Actions in the lower left.

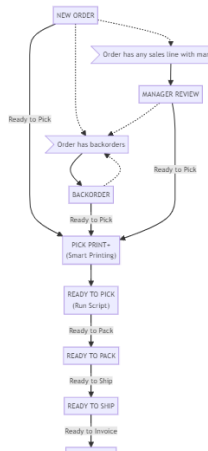
Mermaid 10.8.0 Live Editor

THEME SECURITY DOCUMENTATION TUTORIAL MERMAID CLI

Mermaid </> Code Config Auto sync DOCS

```
1 %%{init: {'flowchart': {'defaultRenderer': 'dagre'}}}%%
2 flowchart TB
3 10["NEW ORDER"]-->R20>"Order has backorders"
4 10["NEW ORDER"]-->R10>"Order has any sales line with margin < 15%"
5 10["NEW ORDER"]-->|"Ready to Pick"|40["PICK PRINT+  
(Smart Printing)"]
6 30["BACKORDER"]-->R20>"Order has backorders"
7 30["BACKORDER"]-->|"Ready to Pick"|40["PICK PRINT+  
(Smart Printing)"]
8 40["PICK PRINT+  
(Smart Printing)"]-->50["READY TO PICK  
(Run Script)"]
9 50["READY TO PICK  
(Run Script)"]-->|"Ready to Pack"|60["READY TO PACK"]
10 60["READY TO PACK"]-->|"Ready to Ship"|70["READY TO SHIP"]
11 70["READY TO SHIP"]-->|"Ready to Invoice"|80["READY TO INV"]
12 80["READY TO INV"]
13 20["MANAGER REVIEW"]-->R20>"Order has backorders"
14 20["MANAGER REVIEW"]-->|"Ready to Pick"|40["PICK PRINT+  
(Smart Printing)"]
15 R20>"Order has backorders"-->30["BACKORDER"]
16 R10>"Order has any sales line with margin < 15%"-->20["MANAGER REVIEW"]
17
```

Diagram Pan & Zoom FULL SCREEN SAVE TO MERMAID CHART



> Sample Diagrams

> History

> Actions

## Finding Workflow Issues

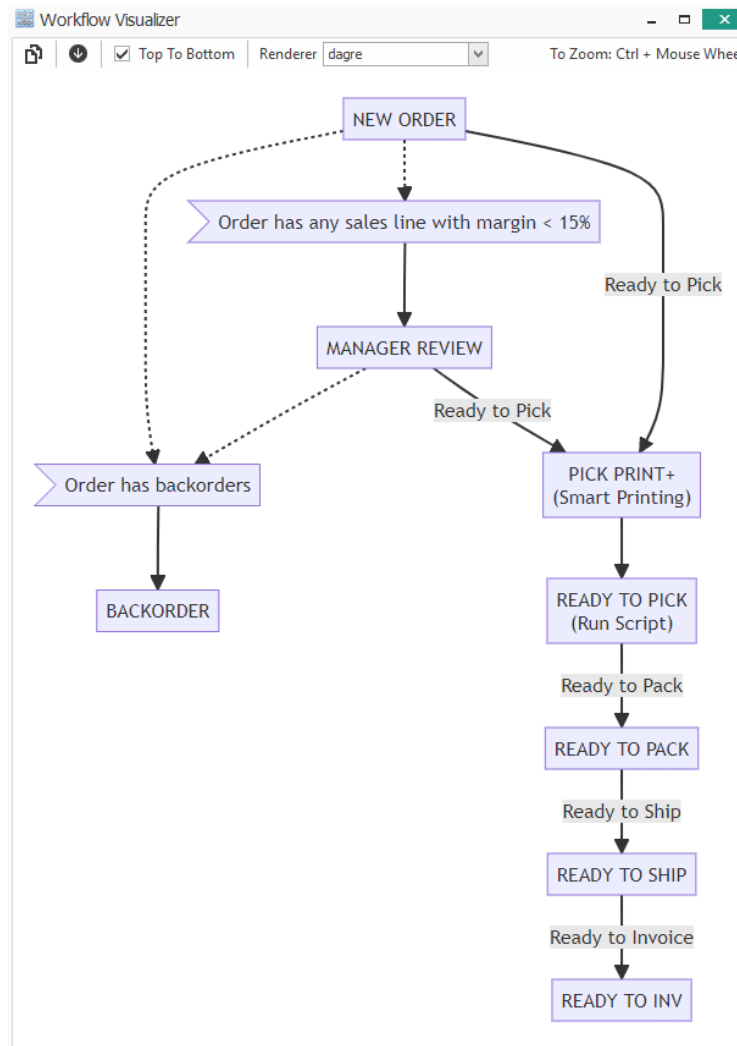
Visual flowchart diagrams make it much simpler to find some kinds of issues in workflow, such as dead end

queues and orphaned queues.

## Dead End Queues

When a workflow queue does not have a configured Next Queue, then it is a dead end. This means that opening a document that is in that queue will not show the Forward button to forward that document in workflow. This may be intentional if the queue is the final queue in the workflow (e.g. an order's last queue before it is transferred to invoice), or if a process requires a user to manually change the current queue in order to move sales documents out of that queue (e.g. a manager review queue where the manager must decide where the order needs to go next).

Any queue that has arrows leading into it, but no arrows leading out of it, is a dead end queue. In the following workflow example, the READY TO INV queue is an intentional end queue. But the BACKORDER queue has been erroneously disconnected from its Next Queue. This would be fixed by setting the BACKORDER queue's Next Queue back to PICK PRINT+, which would make it match the previous screenshots again.



## Orphaned Queues

When a workflow queue does not have a configured Next Queue, and it is not a Next Queue for any other queues, then it is an orphaned queue. This could be intentional if a process requires users to manually move documents to a particular queue, and then users also need to manually move documents out of that queue. This is typically not advisable because it interrupts the flow of workflow.

Any queue that does not have arrows connecting it to or from any other queues is an orphaned queue. In the following workflow example, the READY TO INV queue is displayed at the top without any connections. This would be fixed by setting the READY TO PACK queue's Next Queue back to READY TO INV, which would make it match the previous screenshots again.



