

CONFIGURING SAFE® 4.6 IN THE IBM ENGINEERING LIFECYCLE MANAGEMENT (ELM) SOLUTION

Abstract

In this document, we provide step-by-step guidance to configure support for the SAFe 4.6 methodology in ELM tooling, building on an environment configured for SAFe 4.5.

Amy Silberbauer
safeinfo@bg.vnet.ibm.com

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CONFIGURING IBM ENGINEERING LIFECYCLE MANAGEMENT (ELM) FOR SAFE® 4.6

Note: This document includes new solution and application names. Please review this blog post to understand the mapping between old and new names: <insert blog post here>.

INTRODUCTION

Complete end-to-end support for SAFe 4.5 was delivered in version 6.0.6 of the IBM Engineering Lifecycle Management (ELM) solution in June 2018; *beta* templates for earlier ELM versions have been available since mid-2017.

In October 2018, Scaled Agile Inc. announced SAFe 4.6. This document describes how to configure an ELM tooling environment based on the SAFe 4.5 templates to support SAFe 4.6. If you have existing project areas based on SAFe 4.5 templates, you may also use this document to update those environments to include updates made in the SAFe 4.5 templates in the ELM 6.0.6.1 release.

If you are interested in doing these kinds of configurations but you are not starting from a SAFe 4.5-based environment, consult documentation provided in the [Configuring the SAFe® Methodology in ELM](#) article to access additional configuration guidelines as necessary to bring your environment up to the correct level.

To learn more about what's new in ELM SAFe support, refer to the **What's New** presentations available here: [Agile@Scale Overview Series](#).

WHAT'S NEW IN SAFE 4.6?

The template changes covered in this document primarily impact IBM Engineering Requirements Management (DOORS NEXT) and IBM Engineering Workflow Management (EWM). Beyond new templates with the SAFe 4.6 name, there are no content changes in IBM Engineering Test Management (ETM) templates. Each application's template updates are covered in a separate section, so you can easily find what you need for your environment.

KEY CHANGES SUMMARIZED

EWM CHANGES

- Support for ROAMing in the Risk work item type

- Updates to the Process Description
- Generalization of the Learning Milestone work item type to Milestone with “type” of milestone as an attribute
- New Work Item Templates
- Make the WSJF component values *true* Fibonacci by changing the value 20 to 21

DOORS NEXT CHANGES

- New Portfolio Canvas artifact type
- New Value Stream Canvas artifact type

ASSUMPTIONS

The steps in this document assume that:

- You have *existing SAFe 4.5* project areas configured in one of three ways:
 - a. Using the templates delivered in the 6.0.6 or later release of ELM
 - b. Using beta templates provided for use prior to ELM (CLM) 6.0.6
 - c. Configured by hand using the guidelines documentation referenced above
- You have Administrative authority and experience configuring process/project templates.

Note: If you are using the SAFe 4.5 templates released in 6.0.6.1, some of the changes described below may have already been made. If you want to make updates to your SAFe 4.5 environment based on 6.0.6.1 changes, you can use this document.

Note: If you have already customized some of the constructs delivered out of the box with the SAFe templates, some of the instructions and/or screen captures may not match your environment.

EWM SAFE 4.6 CONFIGURATION

In this section, you configure your existing SAFe 4.5-based EWM project area(s) to support SAFe 4.6. Note that in order to complete these updates, you will be using **both** the Browser and the Eclipse interfaces.

Across all of the SAFe levels (Full, Portfolio, Large Solution, Essential), the changes are the same:

- Update of *Learning Milestone* work item type to create a more generalized version called *Milestone with Milestone Type* as an attribute
- *Risk* work item type workflow changes to support the Risk ROAMing capability
- Update to the WSJF component Fibonacci values and associated WSJF calculation
- New Work Item Templates (posted [here](#))

CONFIGURATIONS IN THE BROWSER

1. Launch the EWM Administration Page in your browser, log on as an Administrator and navigate to your existing SAFe 4.5-based project area.

WORK ITEMS

In this section, you update the *Milestone* and *Risk* work item types.

ENUMERATION UPDATES

2. In the Browser user interface, select **Work Items** in the left navigation bar, then select **Enumerations**. Click the **Add...** button and specify a new Enumeration for *Milestone Type*:
 - **Name:** Milestone Type
 - **ID:** milestoneType

Work Items

Types and Attributes
Enumerations
Editor Presentations
Workflows
Change Management Type
Binding

Enumerations [?] Final (ignore)

Define enumerations for work item attributes.

Choose the Enumeration to edit:
User/Business Value

Add Enumeration

Name:
ID: *
External URI:

Choose where to store the Enumeration:
 Process Specification (limits change permissions to project area maintainers)
 Database (allows to configure separate permissions to add new literals)

3. Click OK to save your changes. Scroll to the **Literals** section and click the **Add...** button to create the new literal values: PI Milestone, Fixed-Date Milestone, Learning Milestone:

Literals	
Icon	Name
<input type="text"/>	PI Milestone
<input type="text"/>	Fixed-Date Milestone
<input type="text"/>	Learning Milestone

4. In the **Details** section, set up the default and unassigned literals:

Choose the Enumeration to edit:

Milestone Type

Details

Name:

ID:

Default Literal: *

Unassigned Literal:

External URI:

Literals

Icon	Name	External Value
<input type="checkbox"/>	PI Milestone	
<input type="checkbox"/>	Fixed-date Milestone	
<input type="checkbox"/>	Learning Milestone	

- Click the Save button in the top right corner of the browser window to save your changes.
- Next, update the *Job Size* enumeration to change the value 20 to 21:

Choose the Enumeration to edit:

Job Size

Details

Name:

ID:

Default Literal: *

Unassigned Literal:

External URI:

Literals

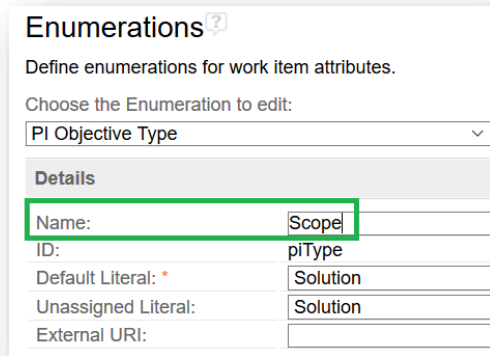
Icon	Name	External Value
<input type="checkbox"/>	Unassigned	
<input type="checkbox"/>	1	
<input type="checkbox"/>	2	
<input type="checkbox"/>	3	
<input type="checkbox"/>	5	
<input type="checkbox"/>	8	
<input type="checkbox"/>	13	
<input type="checkbox"/>	21	

- Repeat this change for the *RROE*, *Time Critical* and *User/Business Value*. Save your changes.

If you are starting with a SAFe 4.5 template from version 6.0.6.1 or later, the enumeration change below has already been made in the template.

Finally, if necessary, update the *PI Objective Type* enumeration to rename it to *Scope*, because it will be used for both *PI Objective* and *Risk* work item types.

8. Select *PI Objective Type* from the enumerations drop-down menu and change the name to *Scope*:



Enumerations [?]

Define enumerations for work item attributes.

Choose the Enumeration to edit:

PI Objective Type

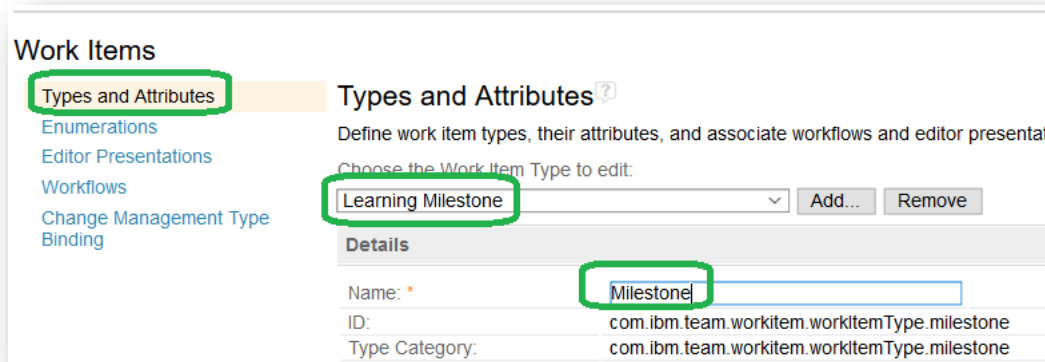
Details

Name:	Scope
ID:	piType
Default Literal: *	Solution
Unassigned Literal:	Solution
External URI:	

9. Save your changes.

WORK ITEM TYPE UPDATES

10. Select **Types and Attributes** from the **Work Items** menu and then choose the *Learning Milestone* work item type to edit it and change the **Name** from *Learning Milestone* to *Milestone*:



Work Items

Types and Attributes [?]

Define work item types, their attributes, and associate workflows and editor presentations.

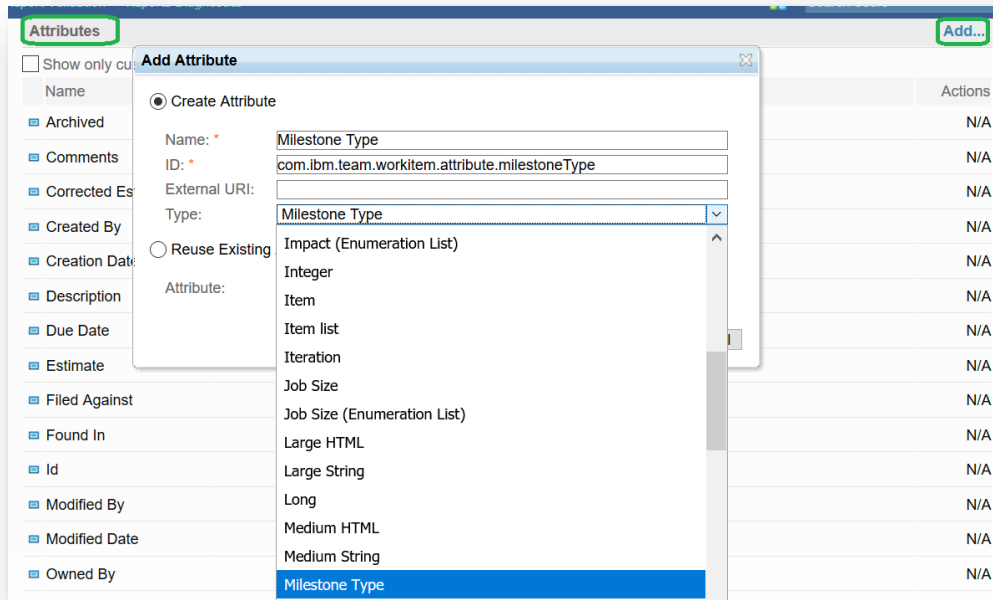
Choose the Work Item Type to edit:

Learning Milestone Add... Remove

Details

Name: *	Milestone
ID:	com.ibm.team.workitem.workitemType.milestone
Type Category:	com.ibm.team.workitem.workitemType.milestone

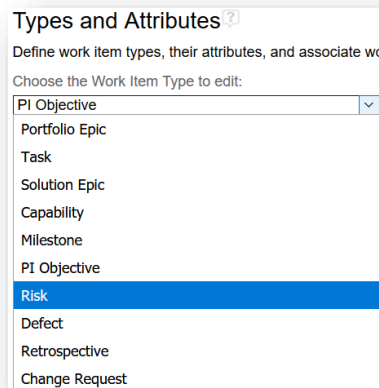
11. Save your changes.
12. Scroll down to the **Attributes** section and click **Add...** to add a new attribute:
 - **Name:** Milestone Type
 - **ID:** com.ibm.team.workitem.attribute.milestoneType
 - **Type:** Milestone Type



13. Save your changes.

If you are starting with a SAFe 4.5 template from version 6.0.6.1 or later, the change to the Risk and PI Objective work item types below have already been made in the template.

14. Scroll back up to the top of the **Types and Attributes** select and choose the *Risk* work item type.



15. Scroll down to the **Attributes** section and click **Add...** to add a new attribute:

- **Name:** Scope
- **ID:** com.ibm.team.workitem.attribute.scope
- **Type:** Scope

16. Save your changes.
17. Return to **Types and Attributes**, select the *PI Objective* work item type, then scroll down to the **Attributes** section.
18. Click to edit the name of the *PI Objective Type* attribute:

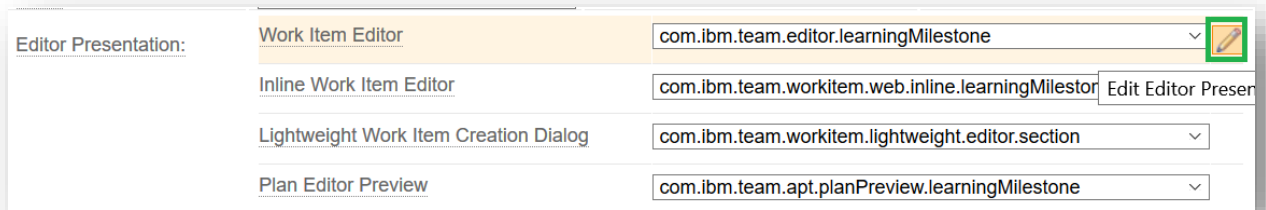
Name	External URI	Type
Achieved Value (%)	Click to add External URI	Integer
Business Value (actual)	Click to add External URI	Business Value (Enumeration)
Business Value (planned)	Click to add External URI	Business Value (Enumeration)
PI Objective Type	Click to add External URI	Scope (Enumeration)

19. Change the name of this attribute to *Scope* and then save your changes:

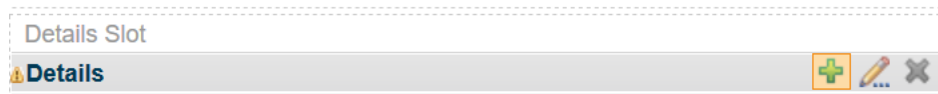
Name	External URI	Type
Achieved Value (%)	Click to add External URI	Integer
Business Value (actual)	Click to add External URI	Business Value (Enumeration)
Business Value (planned)	Click to add External URI	Business Value (Enumeration)
Scope	Click to add External URI	Scope (Enumeration)

EDITORS

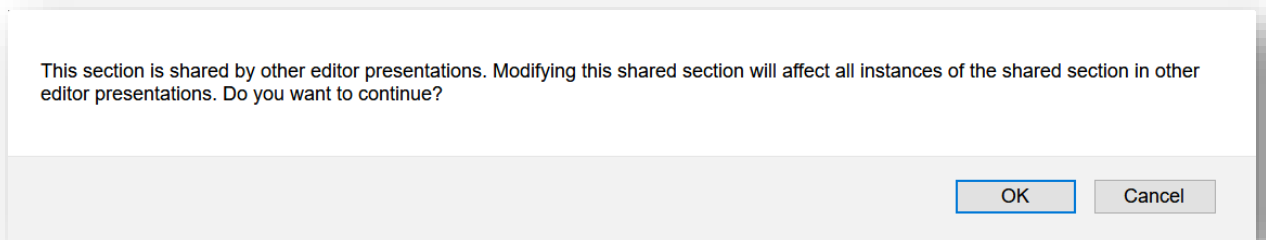
20. With the *Milestone* work item type selected in **Types and Attributes**, navigate to the **Editor Presentation:** section and edit the **Work Item Editor** presentation by clicking the pencil icon:



21. In the editor, click the **+** on the **Details** section to add a new presentation:



22. Click OK on the prompt:



The **Details** section of the *Milestone* work item type is shared across the editors so you only need to change it once.

23. Specify the attribute details:

- **Attribute:** Milestone Type

- **Kind:** Enumeration

Add Presentation

Attribute-based Presentation

Attribute: *

Kind: *

Non-Attribute-based Presentation

Kind:

Label:

Description:

ID:

Properties:

Key	Value	Actions
-----	-------	---------

Add

OK Cancel

24. Click OK. You can use drag-and-drop on the new presentation to move it where you want it:

Details Slot

Details

Type: Tags:

Type Description

Filed Against: Owned By:

Project Area: ABC Project Planned For:

Team Area: XYZ Team **Milestone Type:**

Creation Date:

Created By:

Details

Details Slot

Details + ✎ ✕

Type: Created By:

Type Description Tags:

Milestone Type:

Filed Against: Owned By:

Project Area: ABC Project Planned For:

Team Area: XYZ Team

Creation Date:

25. Click the **+** on the **Details** section again to add another presentation for the Due Date attribute:

- **Name:** Due Date
- **Kind:** Timestamp

Add Presentation ✕

Attribute-based Presentation

Attribute: * ↕

Kind: *

Non-Attribute-based Presentation

Kind:

Label:

Description:

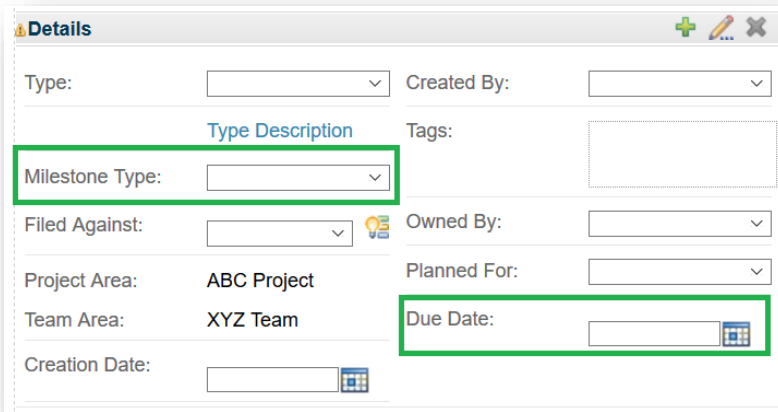
ID:

Properties: **Add**

Key	Value	Actions

OK Cancel

26. Click OK and save your changes. The Milestone editor presentation for the **Details** section should look something like this:

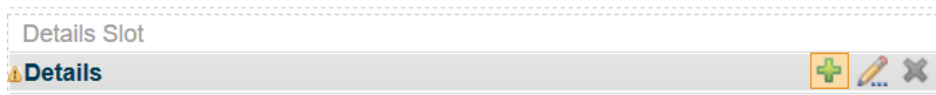


If you are starting with a SAFe 4.5 template from version 6.0.6.1 or later, the change to the Risk work item type presentation editor as shown below has already been made in the template.

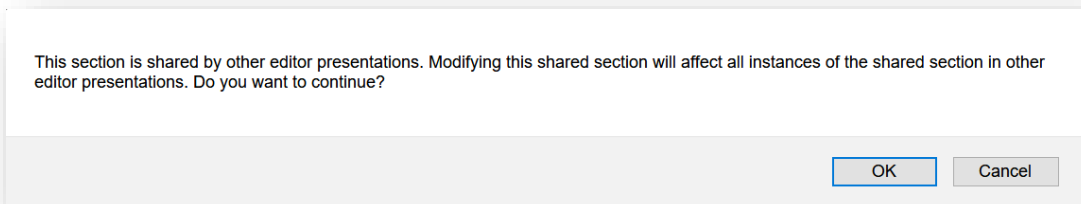
27. Return to **Types and Attributes**, select the *Risk* work item type, navigate to the **Editor Presentation:** section and edit the **Work Item Editor** presentation by clicking the pencil icon:



28. In the editor, click the **+** on the **Details** section to add a new presentation:



29. Click OK on the prompt:



The **Details** section of the *Risk* work item type is shared across the editors so you only need to change it once.

30. Specify the attribute details:

- **Attribute:** Scope
- **Kind:** Radio Group

Add Presentation

Attribute-based Presentation
Attribute: *
Kind: *

Non-Attribute-based Presentation
Kind:

Label:
Description:
ID:

Properties: Add

Key	Value	Actions
-----	-------	---------

OK Cancel

31. Click OK. You can use drag-and-drop on the new presentation to move it where you want it and then save your changes. The *Risk* editor presentation for the **Details** section should look something like this:

Details

Type:
Identified For:
Resolution Date:
Resolved By:
Probability:
Impact:
Exposure (%):
Risk Category:
Occurrence Date:
Creation Date:
Created By:
Project Area: ABC Project
Team Area: XYZ Team
Filed Against:
Tags:
Owned By:
Priority:

Scope: option1 option2


32. Save your changes.

PLAN ATTRIBUTES

In this section, we update the **Plan Attributes** based on the changes made to attributes above.

If you are starting with a SAFe 4.5 template from version 6.0.6.1 or later, some of these changes may already exist in your template.

33. In the Browser user interface, select **Planning > General** in the left navigation bar and then scroll to the **Attribute Mapping** section.



34. Click  **Add...** in the top right of the section and add the following attributes:

- *Exposure (%)*
- *Impact*
- *Milestone Type*
- *Occurrence Date*
- *Probability*
- *Risk Category*
- *Scope*

35. Save your changes.

36. In the left navigation bar, select **Planning > Plan Types and Views** and then scroll to the **Plan View Elements** section.

37. In the **Grouping** box, make the following changes:

- Click the  to add:
 - *Milestone Type*
 - *Risk Category*
 - *Scope*
- Select *PI Objective Type* and click  to remove it.

38. Save your changes.

Congratulations! You've made the basic updates to Work Items, now we need to move to the Eclipse client to apply workflow changes to the *Risk* work item type and create a new plan view for the Risk ROAM Board.

CONFIGURATIONS IN THE ECLIPSE CLIENT

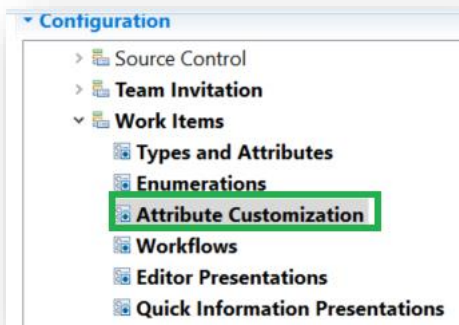
The remainder of the Portfolio updates will be done in the Eclipse client.

1. Launch the EWM Administration Page in your browser and log on as an Administrator and navigate to your existing SAFe 4.5-based project area.
1. Right-click on the Repository Connection, choose **Managed Connected Project Areas** and select your project area to connect to it.
2. Right-click to open your project area for editing.

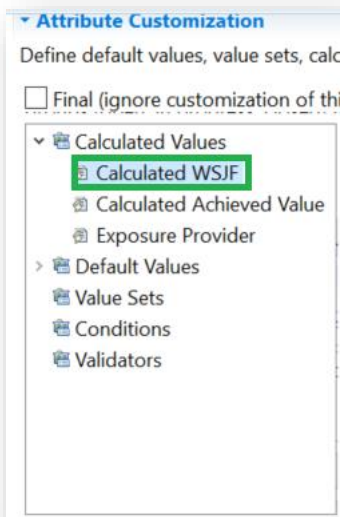
CALCULATED ATTRIBUTE UPDATES

Because we changed the WSJF component values used to calculate the WSJF, we must now update the script used to do that calculation.

3. Navigate to *Project Configuration > Configuration Data > Work Items > Attribute Customization* in the **Configuration** box on the left:



4. In the **Attribute Customization** section, expand the twisty next to *Calculated Values* and select *Calculated WSJF*:



5. Edit the script to change the value 20 to 21, as highlighted below in **bold red** text. Feel free to simply replace the script with this version.

```

/*****
* Licensed Materials - Property of IBM
* (c) Copyright IBM Corporation 2019. All Rights Reserved.
*
* Note to U.S. Government Users Restricted Rights:
* Use, duplication or disclosure restricted by GSA ADP Schedule
* Contract with IBM Corp.
*****/
dojo.provide("com.ibm.team.workitem.attribute.wsjfValueProvider");

(function() {

```



```

var doDebug= true;
var scriptName= "wsjfCalculator";

dojo.declare("com.ibm.team.workitem.attribute.wsjfValueProvider", null, {

    getValue: function(attribute, workItem, configuration) {
        // Grab the enumeration label for each of the WSJF component
attributes
        var jobSizeLabel=
workItem.getLabel("com.ibm.team.workitem.attribute.jobSize");
        var ubValLabel=
workItem.getLabel("com.ibm.team.workitem.attribute.ubVal");
        var timeCritLabel=
workItem.getLabel("com.ibm.team.workitem.attribute.timeCrit");
        var rroeLabel=
workItem.getLabel("com.ibm.team.workitem.attribute.rroe");

        // Declare the numeric WSJF attributes
var jobSize= 0, ubVal= 0, timeCrit= 0, rroe= 0, wsjf= 0;

        // Set the numeric attributes based on the enumeration label
        // User/Business Value
ubVal= calc(ubValLabel, 0);
        if (ubVal == 0) {
            return wsjf;
        }

        // Time Criticality
timeCrit= calc(timeCritLabel, 0);
        if (timeCrit == 0) {
            return wsjf;
        }

        // RR/OE
rroe= calc(rroeLabel, 0);
        if (rroe == 0) {
            return wsjf;
        }

        // Job Size
jobSize= calc(jobSizeLabel, 0);
        if (jobSize == 0) {
            return wsjf;
        }

var costOfDelay= ubVal + timeCrit + rroe;

wsjf= parseFloat(costOfDelay / jobSize).toFixed(2);

return wsjf;

function calc(a_label, default_val) {
    var result= default_val;
    switch (a_label) {
        case '1':
            result= 1;
            break;
        case '2':

```

```

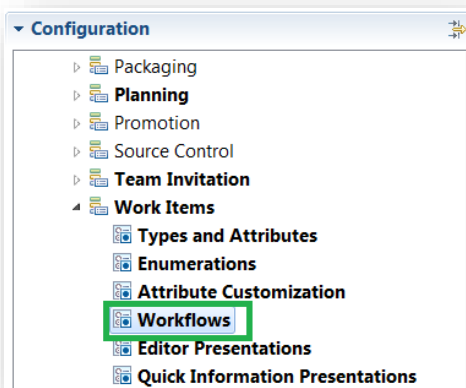
        result= 2;
        break;
    case '3':
        result= 3;
        break;
    case '5':
        result= 5;
        break;
    case '8':
        result= 8;
        break;
    case '13':
        result= 13;
        break;
    case '21':
        result= 21;
        break;
    }
    return result;
}
});
})();

```

6. Save your changes.

WORKFLOW UPDATES

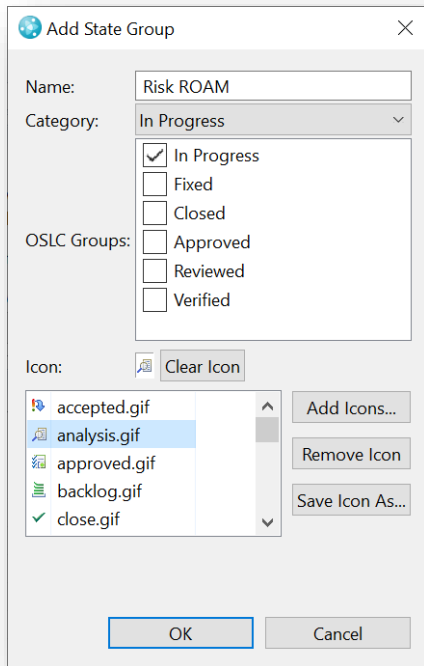
7. Navigate to *Project Configuration > Configuration Data > Work Items > Workflows* in the **Configuration** box on the left:



8. Select *Risk Workflow* in the **Choose the Workflow to Edit:** selection list.

9. Scroll to the **State Groups** section at the bottom of the page. Click the **Add...** button to add a new State Group:

- **Name:** Risk ROAM
- **Category:** In Progress
- **OSLC Groups:** In Progress



10. Scroll to the **Resolutions** section and add *Owned* and *Resolved* resolutions. Add icons as desired. Your updates should look something like this:

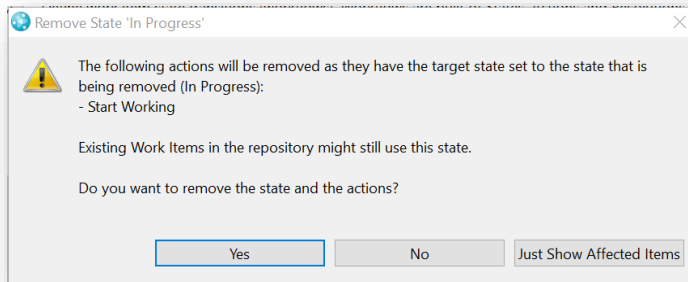
Resolutions		
Name	External URI	Group
⊙ Avoided		None
! Transferred/S...		None
✓ Mitigated		None
! Accepted		None
⊙ Invalid		None
⇒ Owned		None
✓ Resolved		None

11. Save your changes.
12. Scroll up to **States** section and make the following changes:
- Click the **Add...** button to add the following states:
 - *Resolved*:
 - **Group:** Risk ROAM
 - **Description:** Category for Risk ROAMing activity indicating that the risk is no longer a concern.
 - *Accepted*:
 - **Group:** Risk ROAM

- **Description:** Category for Risk ROAMing activity indicating that the risk is understood and accepted as a risk to be managed.
 - *Mitigated:*
 - **Group:** Risk ROAM
 - **Description:** Category for Risk ROAMing activity indicating that a plan to mitigate the risk is identified.
 - *Owned:*
 - **Group:** Risk ROAM
 - **Description:** Category for Risk ROAMing activity indicating that someone has taken ownership because the risk cannot be resolved at the moment.
 - *Invalid:*
 - **Group:** Closed
 - **Description:** The risk is invalid and should be closed as such.

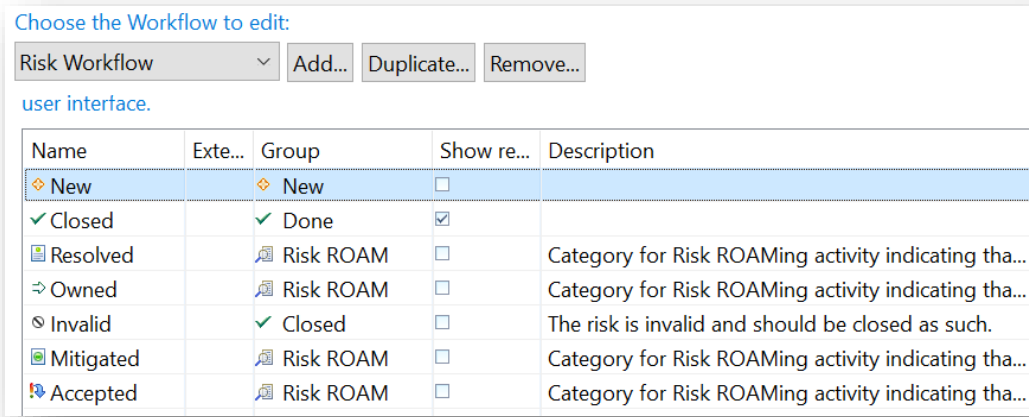
Add icons if you wish.

- Select the *In Progress* state and click the **Remove** button to remove it from the list. Click Yes when notified that the associated *Start Working* action will also be removed:



- Leave the *Show resolution* selected for the **Closed** state, or select it if it is not selected.

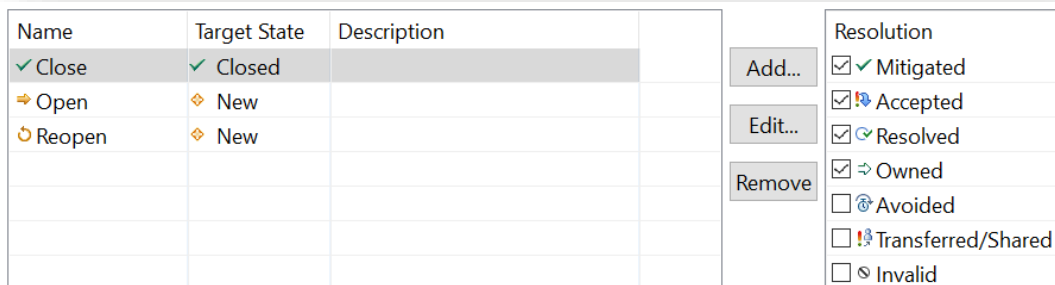
Your states should look similar to this:



13. Scroll down to **Actions**, select the *Closed* state and make the following changes to the Resolutions:

- De-select *Avoided*, *Transferred/Shared*, and *Invalid*
- Select *Resolved* and *Owned*

Your changes should look something like this:



14. Click the **Add...** button to add the following actions:

- *Resolve*:
 - **Target State:** Resolved
 - **Description:** Set the Risk to the Resolved category.
- *Accept*:
 - **Target State:** Accepted
 - **Description:** Set the Risk to the Accepted category.
- *Mitigate*:
 - **Target State:** Mitigated
 - **Description:** Set the Risk to the Mitigated category.
- *Invalidate*:
 - **Target State:** Invalid
 - **Description:** Close the Risk as invalid.
- *Own*:

- **Target State:** Owned
- **Description:** Set the Risk to the Owned category.

Add icons if you wish. Your actions should look similar to this:

Name	Target State	Description
Accept	Accepted	Set the Risk to Accepted cate...
Close	Closed	
Invalidate	Invalid	Close the Risk as invalid.
Mitigate	Mitigated	Set the Risk to the Mitigated ...
Open	New	
Own	Owned	Set the Risk to the Owned cat...
Reopen	New	
Resolve	Resolved	Set the Risk to the Resolved c...

15. Finish the workflow changes by setting up the transitions. Scroll up to the **Transitions** section and ensure that your transition look like this:

Start action: Open Resolve action: Close Reopen action: Reopen

Duplicate Resolution: None

Transitions

From	To	New	Closed	Invalid	Owned	Mitigated	Accepted	Resolved
New		<None>	None	Invalidate	Own	Mitigate	Accept	Resolve
Closed		Reopen	<None>	None	None	None	None	None
Invalid		Reopen	None	<None>	None	None	None	None
Owned		Reopen	Close	Invalidate	<None>	Mitigate	Accept	Resolve
Mitigated		Reopen	Close	Invalidate	Own	<None>	Accept	Resolve
Accepted		Reopen	Close	Invalidate	Own	Mitigate	<None>	Resolve
Resolved		Reopen	Close	Invalidate	Own	Mitigate	Accept	<None>

16. Save your changes.

If you are starting with a SAFe 4.5 template from version 6.0.6.1 or later, the workflow changes below for Solution Epic, Capability and Feature Workflows have already been made in the Full, Large Solution and Essential templates.

17. Scroll up to the **Choose the Workflow to Edit:** selection list.

18. If you are updating a Full or Large Solution SAFe environment, select the *Solution Epic Workflow*. If you are updating an Essential SAFe environment, select the *Program Epic Workflow*.

19. Update the transitions as follows:

- Add a transition **from** *Analyzing* to *Reviewing*
- Add a transition **from** *Ready (for Approval)* to *Reviewing*

Your updates should look like this:

From	To	Draft	Accepted	Rejected	Approved	Analyzing	Reviewing
Draft		<None>	None	Reject	None	None	Review
Accepted		Reopen	<None>	None	None	None	None
Rejected		Reopen	None	<None>	None	None	None
Approved		Reopen	Accept	None	<None>	Rework	Review
Analyzing		Reopen	None	Reject	None	<None>	Review
Reviewing		Reopen	None	Reject	None	Analyze	<No
Ready (for Approval)		Reopen	None	Reject	Approve	Rework	Review

20. If you are updating a Full or Large Solution SAFe environment, select the *Capability Workflow*. If you are updating an Essential SAFe environment, select the *Feature Workflow*.

21. Update the transitions as follows:

- Add a transition **from** *Validating on Staging* to *Accepted*
- Add a transition **from** *Approved* to *Analyzing*
- Add a transition **from** *Accepted* to *Rejected*

Your updates should look like this:

From	To	Draft	Accepted	Analyzing	Ready (for Approval)	Approved	Rejected
Draft		<None>	None	Analyze	None	None	Reject
Accepted		Reopen	<None>	None	None	None	Reject
Analyzing		Reopen	None	<None>	Ready	None	Reject
Ready (for Approval)		Reopen	None	None	<None>	Approve	Reject
Approved		Reopen	None	Analyze	Ready	<None>	Reject
Rejected		Reopen	None	None	None	None	<None>
Implementing		Reopen	Accept	None	None	None	Reject
Validating on Staging		Reopen	Accept	None	None	None	None
Deploying to Production		Reopen	None	None	None	None	None
Releasing		Reopen	Accept	None	None	None	None

22. Save your changes.

PLANNING (FULL, PORTFOLIO, LARGE SOLUTION LEVELS)

In this section, you will create a new Plan View for the Risk ROAMing Board for the **Portfolio Backlog** and **Solution Backlog** plan types. You also update existing Kanban-based plan views to exclude the Risk ROAMing lanes. This is done in the XML source.

23. Click on the **Process Configuration Source** tab.

24. Search for `planConfigurationElement` to locate the section of XML where you can define a new plan filter:

```
<configuration-data final="false"
id="com.ibm.team.apt.configuration.planConfigurationElement"
xmlns="http://com.ibm.team.apt.configuration/planConfigurationElement">
```

25. Add the following XML to define a filter to exclude all work item types except for Risks:

```
<filter description="Exclude all work item types except risks."
id="com.ibm.team.apt.filter.excludeNonRisks"
```

```

implementation="com.ibm.team.apt.shared.ui.internal.filter.WorkItemTypeFilter"
name="All except risks">
  <parameters>
    <parameter key="include-types"
      value="com.ibm.team.workitem.workItemType.risk"/>
    <parameter key="isPreDefinedFilter" value="true"/>
  </parameters>
</filter>

```

26. Add the following XML in the same section to add the **probability** attribute as a sorting attribute:

```

<sortmode id="com.ibm.team.apt.sortmode.probability"
implementation="com.ibm.team.apt.shared.ui.internal.sortmode.GenericPlanItemSorter"
name="Probability">
  <parameters>
    <parameter key="attribute"
      value="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.
probability"/>
  </parameters>
</sortmode>

```

27. Save your changes.

28. Search for **planTypes** to locate the section of XML where you will update the existing **Portfolio Backlog** and **Solution Backlog** plan types to include a new Risk ROAMing board plan view:

```

<configuration-data xmlns="http://com.ibm.team.apt.configuration/planTypes"
id="com.ibm.team.apt.configuration.plantypes">

```

29. Add the following XML to the **"Portfolio Backlog"** and **"Solution Backlog"** plan type(s):

```

<planmode definition="com.ibm.team.apt.viewmodes.internal.riskROAMBoard"/>

```

30. Search for the definition of the new **Risk ROAM** state group added above:

```

<stateGroupDefinition category="inprogress"
icon="processattachment:/workflow/analysis.gif" id="sg12" name="Risk ROAM"
oslcGroup="oslc-inprogress"/>

```

31. Using the **id="xxx"** value, do a global replace to change that value to **"riskroam"** every place it appears. Given the example above, you would change all occurrences of **"sg12"** to **"riskroam"**.

32. Save your changes.

33. Search for **planModes** to locate the section of XML where you will define the details for the Risk ROAMing Board plan view:

```

<configuration-data xmlns="http://com.ibm.team.apt.configuration/planModes"
final="false" id="com.ibm.team.apt.configuration.planmodes">

```

34. Copy this XML in the planModes section to define the new Risk ROAMing Board plan view (for simplicity, add it to the end of the configuration section):

```

      <planmode
id="com.ibm.team.apt.viewmodes.internal.riskROAMBoard" name="Risk ROAMing Board"
progressMode="NONE">
        <columns>
          <column attribute="com.ibm.team.apt.attribute.summary"
width="100">

```



```

        <parameters>
            <parameter key="SMALL" value="true"/>
            <parameter key="MEDIUM" value="true"/>
            <parameter key="LARGE" value="true"/>
        </parameters>
    </column>
    <column attribute="com.ibm.team.apt.attribute.owner"
width="0">
        <parameters>
            <parameter key="SMALL" value="true"/>
            <parameter key="MEDIUM" value="true"/>
            <parameter key="LARGE" value="true"/>
        </parameters>
    </column>
    <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.impact"
width="0">
        <parameters>
            <parameter key="SMALL" value="true"/>
            <parameter key="MEDIUM" value="true"/>
            <parameter key="LARGE" value="true"/>
        </parameters>
    </column>
    <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.probab
ility" width="0">
        <parameters>
            <parameter key="SMALL" value="false"/>
            <parameter key="MEDIUM" value="true"/>
            <parameter key="LARGE" value="true"/>
        </parameters>
    </column>
    <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.riskCa
tegory" width="0">
        <parameters>
            <parameter key="SMALL" value="false"/>
            <parameter key="MEDIUM" value="true"/>
            <parameter key="LARGE" value="true"/>
        </parameters>
    </column>
    <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.attribute.scope"
width="0">
        <parameters>
            <parameter key="SMALL" value="false"/>
            <parameter key="MEDIUM" value="false"/>
            <parameter key="LARGE" value="true"/>
        </parameters>
    </column>
</columns>
<viewmode
definition="com.ibm.team.apt.internal.viewmode.kanban">
    <parameters>
        <parameter key="funnel" value="true"/>
        <parameter key="review" value="true"/>
        <parameter key="analysis" value="true"/>
        <parameter key="backlog" value="true"/>

        <parameter key="implementation" value="true"/>
        <parameter key="inprogress" value="true"/>
        <parameter key="deployment" value="true"/>
        <parameter key="invalid" value="true"/>
    </parameters>

```



```
<configuration-data final="false"
id="com.ibm.team.apt.configuration.planConfigurationElement"
xmlns="http://com.ibm.team.apt.configuration/planConfigurationElement">
```

42. Add the follow XML to define a filter to exclude all work item types except for Risks:

```
<filter description="Exclude all work item types except risks."
id="com.ibm.team.apt.filter.excludeNonRisks"
implementation="com.ibm.team.apt.shared.ui.internal.filter.WorkItemTypeFilter"
name="All except risks">
  <parameters>
    <parameter key="include-types"
value="com.ibm.team.workitem.workItemType.risk"/>
    <parameter key="isPreDefinedFilter" value="true"/>
  </parameters>
</filter>
```

43. Add the following XML in the same section to add the **probability** attribute as a sorting attribute:

```
<sortmode id="com.ibm.team.apt.sortmode.probability"
implementation="com.ibm.team.apt.shared.ui.internal.sortmode.GenericPlanItemSorter"
name="Probability">
  <parameters>
    <parameter key="attribute"
value="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.
probability"/>
  </parameters>
</sortmode>
```

44. Save your changes.

45. Search for **planTypes** to locate the section of XML where you will update the existing **Program Backlog** plan types to include a new Risk ROAMing board plan view:

```
<configuration-data xmlns="http://com.ibm.team.apt.configuration/planTypes"
id="com.ibm.team.apt.configuration.plantypes">
```

46. Add the following XML to the "Program Backlog" plan type(s):

```
<planmode definition="com.ibm.team.apt.viewmodes.internal.riskROAMBoard"/>
```

47. Search for the definition of the new **Risk ROAM** state group added above:

```
<stateGroupDefinition category="inprogress"
icon="processattachment:/workflow/analysis.gif" id="sg12" name="Risk ROAM"
oslcGroup="oslc-inprogress"/>
```

48. Using the `id="xxx"` value, do a global replace to change that value to `"riskroam"` every place it appears. Given the example above, you would change all occurrences of `"sg12"` to `"riskroam"`.

49. Save your changes.

50. Search for **planModes** to locate the section of XML where you will define the details for the Risk ROAMing Board plan view:

```
<configuration-data xmlns="http://com.ibm.team.apt.configuration/planModes"
final="false" id="com.ibm.team.apt.configuration.planmodes">
```

51. Copy this XML in the planModes section to define the new Risk ROAMing Board plan view (for simplicity, add it to the end of the configuration section):

```

        <planmode id="com.ibm.team.apt.viewmodes.internal.riskROAMBoard"
name="Risk ROAMing Board" progressMode="NONE">
    <columns>
        <column attribute="com.ibm.team.apt.attribute.summary"
width="100">
            <parameters>
                <parameter key="SMALL" value="true"/>
                <parameter key="MEDIUM" value="true"/>
                <parameter key="LARGE" value="true"/>
            </parameters>
        </column>
        <column attribute="com.ibm.team.apt.attribute.owner"
width="0">
            <parameters>
                <parameter key="SMALL" value="true"/>
                <parameter key="MEDIUM" value="true"/>
                <parameter key="LARGE" value="true"/>
            </parameters>
        </column>
        <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.impact
" width="0">
            <parameters>
                <parameter key="SMALL" value="true"/>
                <parameter key="MEDIUM" value="true"/>
                <parameter key="LARGE" value="true"/>
            </parameters>
        </column>
        <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.probab
ility" width="0">
            <parameters>
                <parameter key="SMALL" value="false"/>
                <parameter key="MEDIUM" value="true"/>
                <parameter key="LARGE" value="true"/>
            </parameters>
        </column>
        <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.workItemType.risk.riskca
tegrory" width="0">
            <parameters>
                <parameter key="SMALL" value="false"/>
                <parameter key="MEDIUM" value="true"/>
                <parameter key="LARGE" value="true"/>
            </parameters>
        </column>
        <column
attribute="com.ibm.team.apt.attributes._com.ibm.team.workitem.attribute.scope"
width="0">
            <parameters>
                <parameter key="SMALL" value="false"/>
                <parameter key="MEDIUM" value="false"/>
                <parameter key="LARGE" value="true"/>
            </parameters>
        </column>
    </columns>
    <viewmode definition="com.ibm.team.apt.internal.viewmode.kanban">
        <parameters>
            <parameter key="funnel" value="true"/>
        </parameters>
    </viewmode>
</planmode>

```

```

        <parameter key="review" value="true"/>
        <parameter key="analysis" value="true"/>
        <parameter key="backlog" value="true"/>
        <parameter key="implementation" value="true"/>
        <parameter key="inprogress" value="true"/>
        <parameter key="deployment" value="true"/>
        <parameter key="invalid" value="true"/>
        <parameter key="invalid-Rejected" value="true"/>
        <parameter key="invalid-Invalid" value="true"/>
        <parameter key="closed-Rejected" value="true"/>
        <parameter key="closed-Done" value="true"/>
        <parameter key="closed-Closed" value="true"/>
        <parameter key="done-Done" value="true"/>
        <parameter key="done-Accepted" value="true"/>
    </parameters>
</viewmode>
<groupmode definition="com.ibm.team.apt.groupmode.none"/>
<sortmode definition="com.ibm.team.apt.sortmode.probability"/>
<filters>
    <filter definition="com.ibm.team.apt.filter.excludeNonRisks"/>
</filters>
<colors>
    <color enabled="true" expression="scope:Program"
label="Program" priority="0" value="#f7941d"/>
    <color enabled="true" expression="scope:Team" label="Team"
priority="1" value="#6495ED"/>
</colors>
</planmode>

```

52. Save your changes.

53. Search for `programKanbanBoard` to locate the section of XML where you will update the Portfolio Kanban plan view to exclude the Risk ROAMing Board lanes from the board:

```
<planmode id="com.ibm.team.apt.viewmodes.internal.programKanbanBoard"
```

54. Scroll to the `viewmode` section and add these XML lines:

```

<parameter key="riskroam" value="true"/>
<parameter key="riskroam-Mitigated" value="true"/>
<parameter key="riskroam-Owned" value="true"/>
<parameter key="riskroam-Accepted" value="true"/>
<parameter key="riskroam-Resolved" value="true"/>

```

Repeat these steps for the `featureKanbanBoard` plan view.

55. Save your changes.

Congratulations! You have completed the SAFe 4.5 configuration for your EWM (RTC) environment!

DOORS NEXT SAFE 4.6 TEMPLATE CONFIGURATION

In this section, you configure your existing SAFe 4.5-based DOORS Next project area(s) to support SAFe 4.6.

To support SAFe 4.6, we are collapsing 4 project templates into two: Portfolio-level (Full, Portfolio and Large Solution SAFe configurations) and Program-level (Essential SAFe configuration). There are no

required changes to the Essential SAFe configuration so no updates are required in that template. The following changes apply to the Portfolio level only:

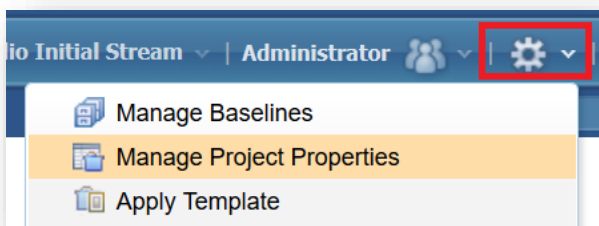
- Add a new **Portfolio Canvas** artifact and associated template
- Add a new **Value Stream Canvas** artifact and associated template

SAFE 4.6 PORTFOLIO CONFIGURATIONS

1. Launch DOORS Next in your browser and navigate to the your SAFe 4.5 portfolio-level project area to be updated.

PORTFOLIO CANVAS ARTIFACT TYPE

2. Select *Manage Project Properties* from the **Administration** drop-down menu:



3. Select **Artifact Types** and then click **+ New Type...** to create a new artifact type:



4. Specify these details:

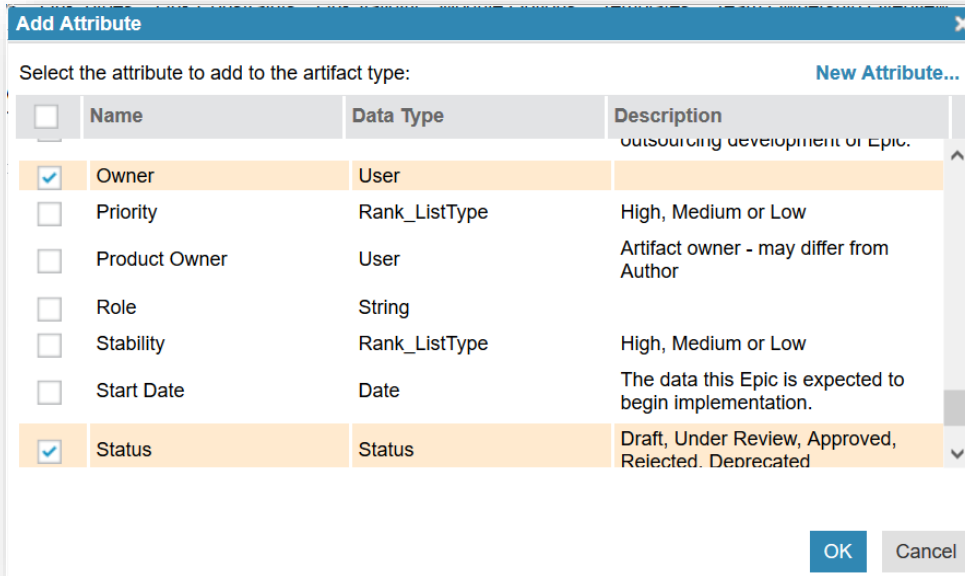
Name: [SAFe] Portfolio Canvas

Description: In SAFe, the Portfolio Canvas is used to capture details about how the portfolio intends to drive value for an organization by creating, designing and delivering solutions that align with the goals and strategy of the enterprise.

Default artifact format: Text

Preferred link types: Informs >, Satisfied By <

- In the **Artifact Attributes** pane, select **+ Add Attribute...** and then click the checkbox next to *Owner* and *Status* to add the attributes to the artifact:



- Click OK, then save your changes.

VALUE STREAM CANVAS ARTIFACT TYPE

- Select **Artifact Types** and then click **+ New Type...** to create a new artifact type:



- Specify these details:

Name: [SAFe] Value Stream Canvas

Description: In SAFe, the Value Stream Canvas is used to elaborate the details of each value proposition that supports the portfolio. The Value Stream Canvas can be used to capture emerging understanding about a specific Value Stream.

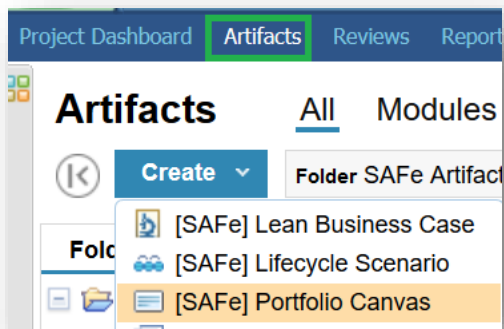
Default artifact format: Text

Preferred link types: Informs >, Satisfies >

9. Add the *Owner* and *Status* attributes, then save your changes.

PORTFOLIO CANVAS ARTIFACT TEMPLATE

10. Selects **Artifacts** from the menu bar and then *Create* > *[SAFe] Portfolio Canvas*:



11. Specify these details:

12. Click OK to edit the new artifact.
13. Select the following text and copy-paste it into the new artifact:

[Portfolio Name] Portfolio Canvas

Type description

Brief Description

<Indicate whether this Portfolio Canvas represents the as-is or desired to-be state of the Portfolio.>

Value Propositions

<Describe the Value Streams that deliver value for the Portfolio. If you have created Value Stream artifacts, provide the link in the table below. >

Value Streams	Solutions	Customer Segments	Channels	Customer Relationships	Budget	KPIs/Revenue
---------------	-----------	-------------------	----------	------------------------	--------	--------------

[Link to Value Stream artifact]	List of solutions provided by this value stream	Customers serviced by this value stream	Channels used by this value stream to reach customers	Types of customer relationships maintained by this value stream	Value Stream budget (can also be derived from the linked Value Stream artifact)	How is the performance of this value stream evaluated?
---------------------------------	---	---	---	---	---	--

Resources & Activities

Key Partners

<Describe the partners and suppliers that support the Portfolio, including the resources and value they provide.>

Key Activities

<Describe the key activities required to deliver value for the Portfolio. These could be things like trade shows, customer interactions, synchronizations with other Portfolios, or standard SAFe events.>

Key Resources

<Describe the resources required to develop, market and maintain delivery of value.>

Cost Structure & Revenue Streams

Cost Structure

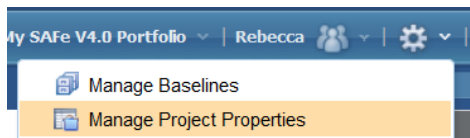
<Provide any details about the most significant costs related to Portfolio, such as licensing, process, operational or development expenses.>

Revenue Streams

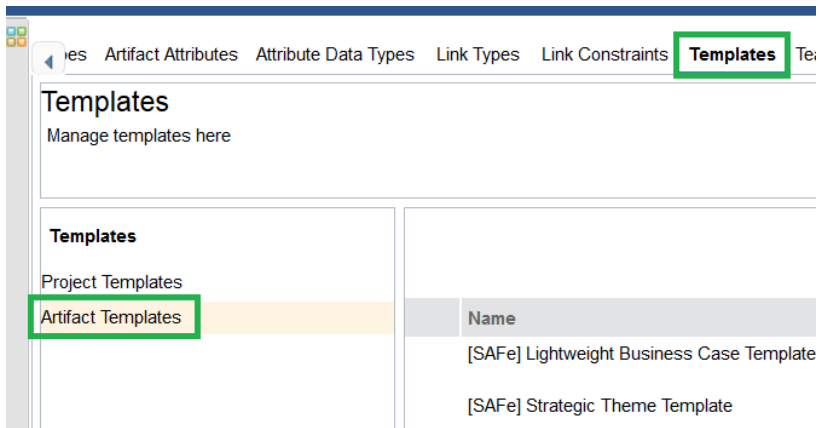
<Provide any details about the revenue streams for the Portfolio: what, who, how.>

14. Click Save and then Done.

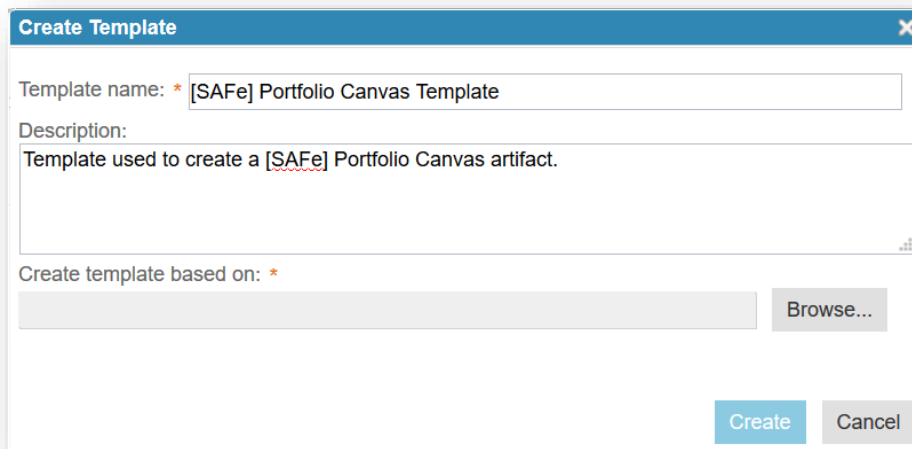
15. Select **Manage Project Properties** from the **Administration** drop-down menu:



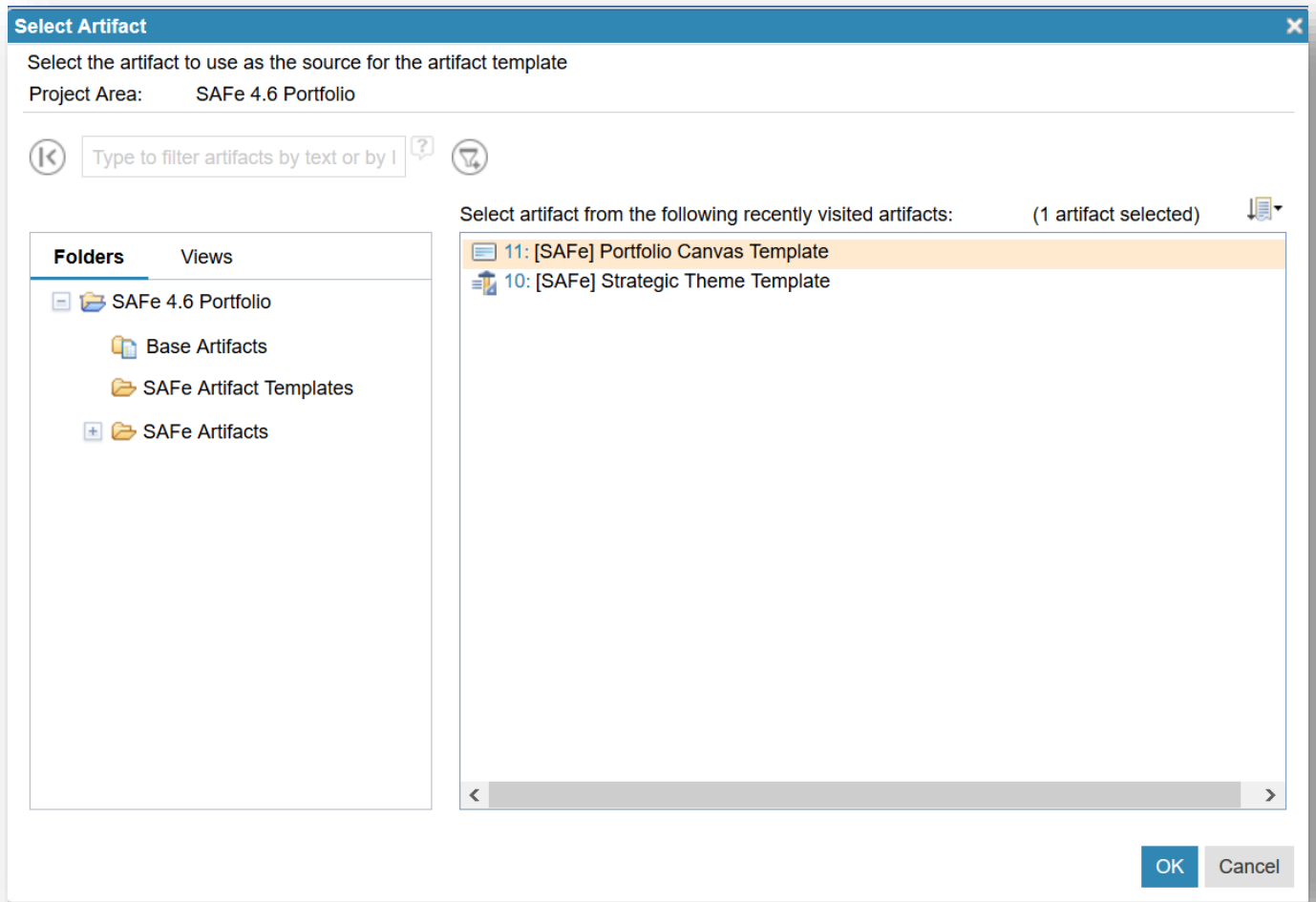
16. Click **Templates** on the menu bar, then **Artifact Templates** in the **Templates** pane:



17. Click **+ New Template ...** to create a new artifact template for the Portfolio Canvas:



18. In the *Create template based on:* section, click the **Browse...** button and select the **[SAFE] Portfolio Canvas Template** artifact:



19. Click OK and then click the **Create** button to create the new artifact template.

VALUE STREAM CANVAS ARTIFACT TEMPLATE

20. Selects **Artifacts** from the menu bar and then *Create > [SAFe] Value Stream Canvas*. Note that you may need to select **Other ...** to bring up the dialog before selecting this artifact type.

21. Specify these details:

Create Artifact

Initial content:

Name:
The name can be automatically created based on the content, or you can type one.

Type

Artifact type: *

Artifact format: *

Populate Artifact Values

Template:
You can populate the artifact with information from an artifact template.

Location

Folder:

Tags:

Open artifact

22. Click OK to edit the new artifact.
23. Select the following text and copy-paste it into the new artifact:

[Value Stream Name] Value Stream Canvas

[Type description](#)

Brief Description

*<Briefly describe the value stream and provide a link to the **Value Stream** artifact.>*

[Value Proposition](#)

<"Promise of the Value Stream" ... For [customers] who [do something] the [solution] is a [something - the "how"] that [provides this value]. Unlike [competitor, current solution, or non-existing solution] our solution [does something better - the "why"].>

[Solutions](#)

<Systems, products, services, applications>

Solution Content

<Link(s) to **Solution Context** artifacts.>

People and Locations

<Estimated number of people, by geography, in the engineering value stream>

Customer Segments

<Customer segments served>

Channels

<Paths used to reach each customer segment>

Customer Relationships

<Type of relationship each customer segment expects the business to establish and maintain>

KPIs/Revenue

<Key performance indicators for measuring value delivery>

Economic Framework

<Set of decision rules that align everyone to the financial objectives of the solution>

===== **For Solution Trains (Multi-ART Value Streams)** =====

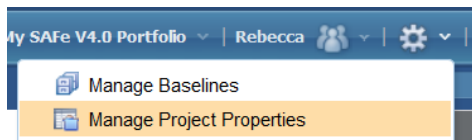
Programs (ARTs) and Suppliers

<Programs and Suppliers, including their respective responsibilities. Include links to the **Program** artifacts.>

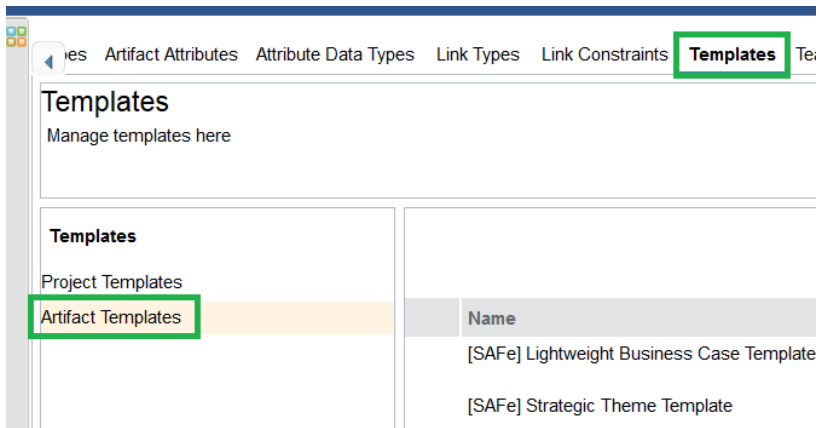
Value Stream Roles

Role	Resource(s)	Comments
Solution Train Engineer		
Solution Management		
Solution Architect/Engineer		

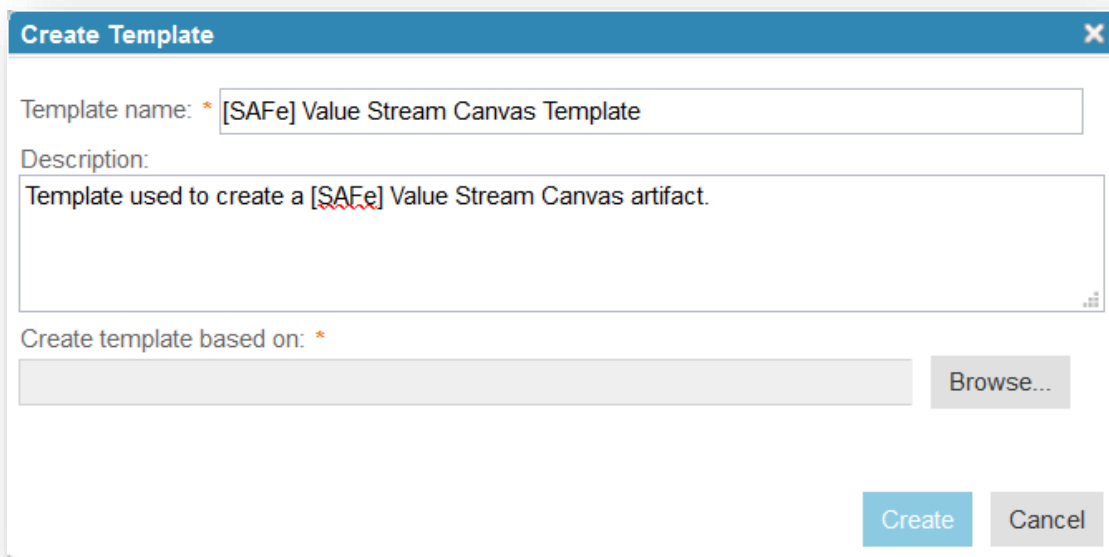
- 24. Click Save and then Done.
- 25. Select **Manage Project Properties** from the **Administration** drop-down menu:



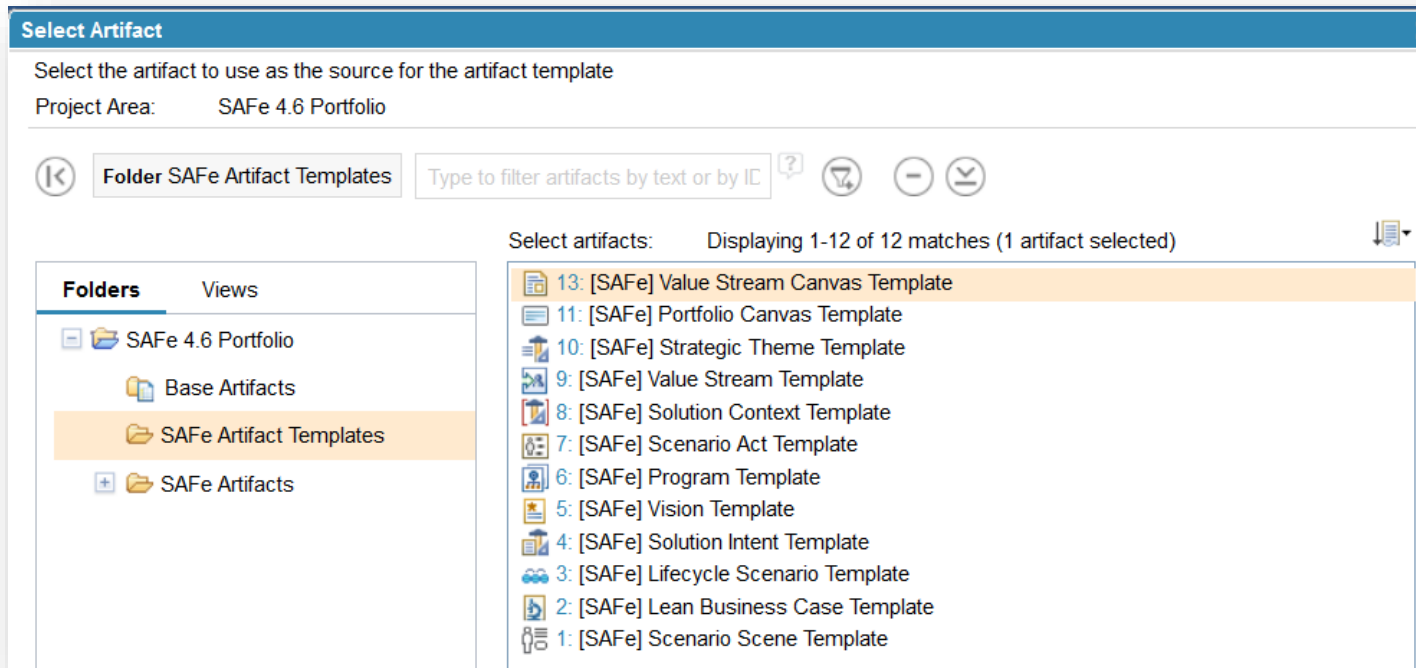
- 26. Click **Templates** on the menu bar, then **Artifact Templates** in the **Templates** pane:



27. Click **+ New Template ...** to create a new artifact template for the Value Stream Canvas:



28. In the *Create template based on:* section, click the **Browse...** button and select the **[SAFe] Value Stream Canvas Template** artifact:



29. Click OK and then click the **Create** button to create the new artifact template.

Congratulations! You have completed the SAFe 4.6 configuration for your Rational DOORS Next Generation Portfolio environment!