CONFIGURING SAFE® 3.0 IN CLM

Abstract

This document provides step-by-step guidance to configure support for the SAFe 3.0 methodology in CLM tooling for existing project areas or in versions of the solution that are older than CLM 6.0.

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Table of Contents

Introduction

Complete end-to-end support for SAFe 3.0 was delivered in version 6.0.1 of the IBM Collaborative Lifecycle Management (CLM) solution via out-of-the box templates. This capability is perfect for organizations just getting started with SAFe, creating new project areas to orchestrate delivery of products and applications across the organization. If you have existing projects, or your CLM environment has not been upgraded to V6.x, this document is for you!

Below you will find sections for configuring SAFe 3.0 support in each of the CLM applications:

- Rational Team Concert: Portfolio, Program, Team
- Rational DOORS Next Generation: Portfolio
- Rational Quality Manager: Portfolio

The step-by-step guidelines enable you to create roles, artifacts, and plans that support the typical SAFe activities -- you can choose how much or how little SAFe enablement you need in your tooling infrastructure.

> For further information on the Scaled Agile Framework®, consult the Scaled Agile, Inc. web site: http://scaledagileframework.com/.
>
> For further details on IBM's support for SAFe, visit our web site: http://jazz.net/safe.

Considerations

The degree to which you follow all of the instructions in these guidelines depends upon your starting point and your goals. Choose from one or more of the following options.

Configuring Existing Project Areas

If you are adding SAFe support to an existing project area, you may want to skip some of the steps that might negatively impact ongoing work. For example, you may not want to re-purpose the Epic work item type to be a Program Epic. Details are provided in the relevant sections.

If you ultimately want to produce a reusable SAFe template as a result of configuring an existing project area, you can do so by applying SAFe-related updates in the project area process as desired, then export the updated process template. At that point, you can proceed to configure things like the timeline and team area hierarchy in the template.

Creating a New SAFe Template

If you are creating a new SAFe template from scratch, you will create a "dummy" project area based on the out-of-the-box Scrum process template as your starting point. In this case, you will likely want to follow all of the instructions below, customizing as necessary to suit your organizational requirements.

Assumptions

The configuration examples provided in this article are generated using CLM 6.0.2, which can be obtained from the Downloads tab on https://jazz.net/.

Guidance provided includes details about the configuration steps specifically and assumes:

- Skills in configuring the CLM applications using the Application Administration tools. It is likely that a Tools Administrator would be executing these configuration steps, but any user with Jazz Admin authority can do this.

See the **IBM Rational Help > Administering** section of the online help for more information, for example:
`https://[hostname]:9443/clmhelp/index.jsp?re=1&topic=/com.ibm.help.common.jazz.calm.doc/topics/c_node_jts_administering.html&scope=null`

- You are logged in with a user id that has Jazz Admin authority

Support for All SAFe Levels

The CLM solution supports all three levels of SAFe 3.0, as shown in Figure 1 below.

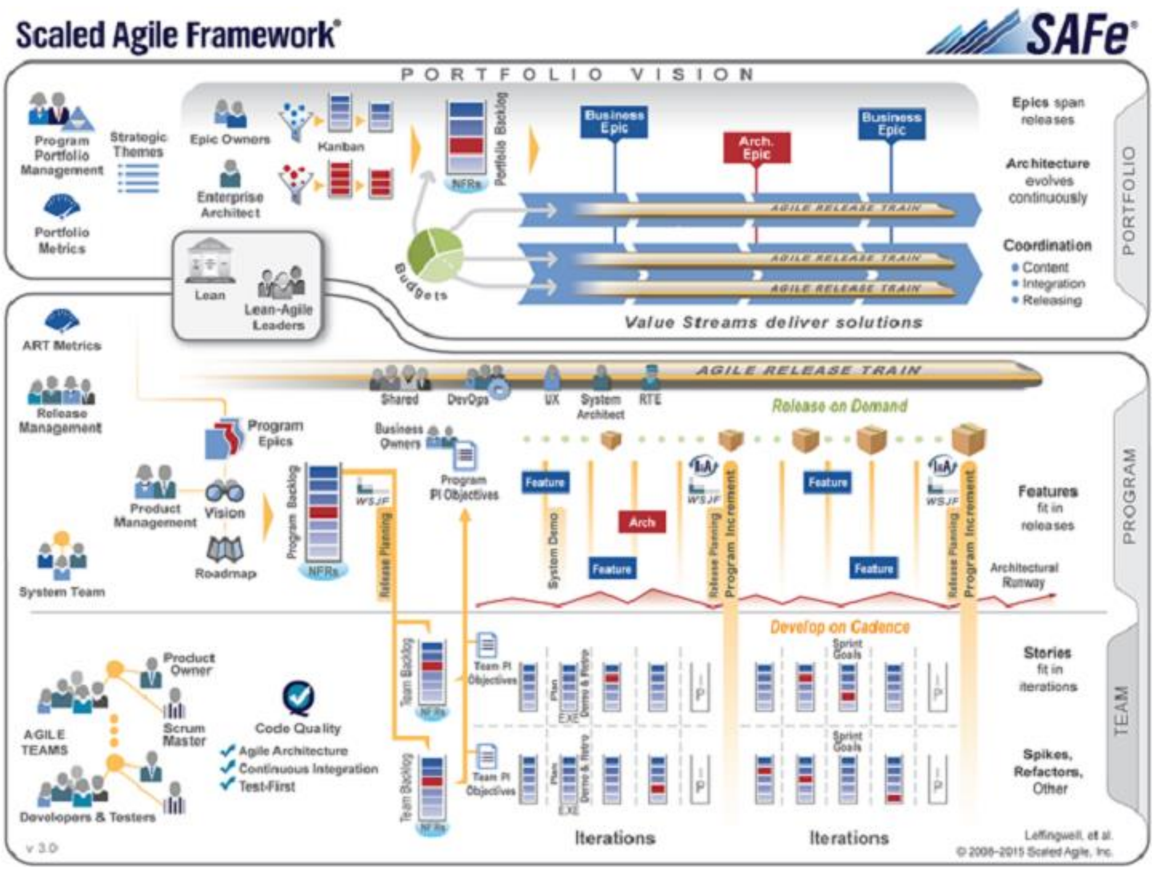


Figure 1: IBM's SAFe Program Support - "Big Picture"

Out of the box, the SAFe Portfolio level is supported via templates in each of the three CLM applications:

- Rational DOORS Next Generation for the typical "business" artifacts: Strategic Theme, Lightweight Business Case, Value Stream
- Rational Team Concert for the "engineering" artifacts and workflow: Portfolio Epic, Kanban, WSJF ranking
- Rational Quality Manager for the "testing" artifacts: Test Suites, Test Plans, Test Cases

The SAFe Program/Team level is supported in Rational Team Concert only via a single template. By default, Teams are Team Areas within a Program Project Area.

The instructions below are provided based on the out-of-the-box support. If your existing topology is different, or you don't use all of the CLM applications, simply apply the steps applicable to your environment as appropriate. For example, if you are not using RDNG or RQM but you still want SAFe Portfolio capabilities, configure RTC only (in which case you will not have Strategic Theme, Lightweight Business Case or Value Stream artifacts). If you want to combine all levels in a single RTC Project Area that's okay. Similarly, if you want Teams in Project Areas separate from the Program, that's also okay. Use your best judgement to determine which steps to follow and where to apply changes to your process. To help you decide, Table 1 describes the mapping of SAFe concepts to CLM concepts.

SAFe Level	SAFe Concept	CLM Concept	Notes
Portfolio	Strategic Theme	RDNG Artifact	Template provided
	Value Stream	RDNG Artifact	
	Lightweight Business Case	RDNG Artifact	Template provided
	Kanban	RTC Plan View	Implemented via workflow on Portfolio Epic
	Portfolio Backlog	RTC Plan View	
	Portfolio Roadmap	RTC Plan View	JRS Report is also provided for 6.0.1 or later
	Portfolio Epic	RTC Work Item Type	Epic Type (business, architectural) attribute on work item type
Program	Agile Release Train	RTC Timeline	Timeline in RQM is synchronized
	Roadmap & Vision	RTC Plan View	Vision is conceptual, informed by Roadmap plan JRS report is also provided for 6.0.1 or later
	Program Backlog	RTC Plan View	WSJF-ranked list of Features
	Architectural Runway	RTC Plan View	
	Program Epic	RTC Work Item Type	Epic Type (business, architectural) attribute on work item type
	Feature	RTC Work Item Type	Feature Type (business, architectural, NFR) attribute on work item type
	Program PI Objective	RTC Work Item Type	PI Objective work item type with Program/Team attribute
	Epic Kanban	RTC Plan View	Implemented via workflow on Portfolio Epic
Team	Story	RTC Work Item Type	
	Team PI Objective	RTC Work Item Type	PI Objective work item type with Program/Team attribute
	Team Backlog	RTC Plan View	
<All Levels>	Role	RTC Role	Assigned to appropriate Project Area or Team Area Created in the Project Area for the right level

Table 1: Mapping SAFe Concepts to CLM

Now, let's get started!

Configuring SAFe 3.0 in Rational Team Concert

In this section, we describe how to configure SAFe in a project area based on the **Scrum** template for both the Portfolio and Program/Team levels. This project area can be one that is for an active project in your environment or it can simply be a project area you've created for the sole purpose of developing a SAFe template. The instructions map directly to the SAFe template content that has been delivered as of CLM 6.0.1. Note that:

- You can start with any process template. We chose Scrum because it already includes some artifacts suitable for SAFe support but if you already have your own process in place, apply these steps to that process.
- If you are updating a predefined (out-of-the-box) template, you must make a copy of it before customizing it in order to avoid potential issues when upgrading to a newer version of Rational Team Concert that could result in your changes being overwritten. To do this, export a predefined template and then re-import it with a different ID. Be aware that, once you do this, your process template is your own and will not be enhanced as a result of a software upgrade.
- You can use these guidelines to customize the process in a topology that involves multiple RTC Project Areas. In this case, apply the steps in the correct project areas that represent the appropriate level of SAFe.
- You can perform the configurations once and export your updated process for use in creating other RTC Project Areas.
- You can also establish a “master” process that can be inherited into the child processes.

SAFe Program

Launch the Change and Configuration Management **Server Administration** page in your browser:

1. Open a web browser and enter the URL for the Change and Configuration Management Application Administration page for your installation, for example: `https://[hostname]:9443/ccm/admin`
2. Log on as a Jazz Admin user.
3. Select **Project Areas > Active Project Areas** and select the project area you want to configure (or create a new one for the purpose of applying these configuration steps).

SAFe Roles

In RTC, roles are used mostly to control permissions. SAFe prescribes roles that play a part in the overall process, but not all of those roles must be articulated in RTC. Table 2 below contains the set of SAFe roles we suggest you create as a minimum. Those roles in *italics* come out of the box with the Scrum template. As you find you need to control permissions at a more granular level, you can always create the necessary roles.

We suggest that you do not delete any roles that are already configured, even if you do not intend to use them, as this may cause inconsistencies in the template configuration.

Table 2: SAFe Program Roles

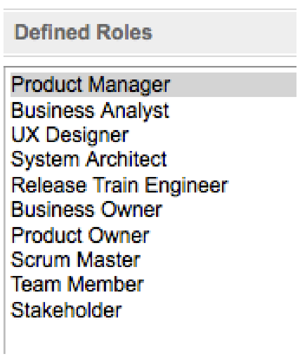
SAFe Level	SAFe Role	Comments
Program	Product Manager	
	Release Train Engineer	
	Business Analyst	
	UX Designer	
	System Architect	

Team	Business Owner	
	Product Owner	*Comes OOTB with Scrum*
	Scrum Master	
	Team Member	

Create the Roles

1. Select **Roles** in the left pane.
2. For each role in the table above (that does not exist with the process template used to create your Project Area), click the **Create Role** button to create a new role:
    a. Provide the role Name supplied in the table above. Use the Name as the Identifier.
    b. If desired, consult the SAFe web site for a description that can be used.
3. (Optional) Change the order in which the roles appear to be grouped by SAFe level (Program, Team) for easier assignment later. The Roles that are not used should be moved to the bottom.

The resulting roles created in our example are shown in below.

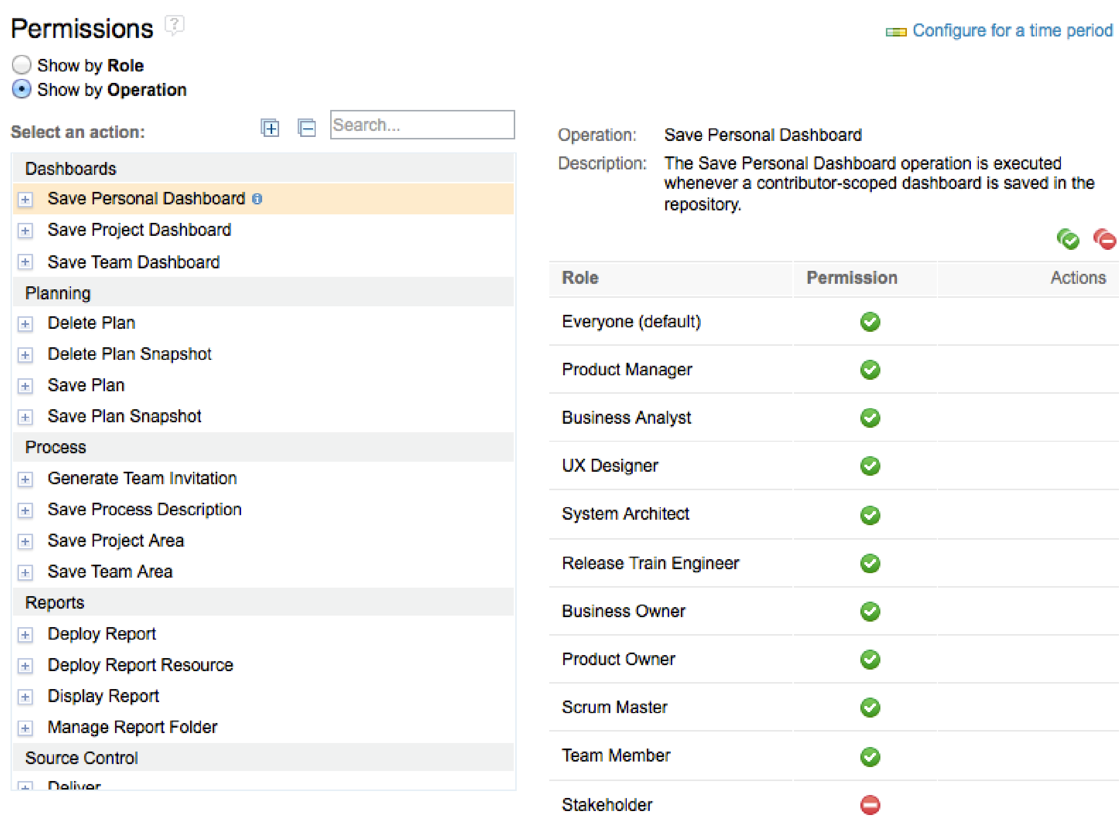


Configure Project Permissions

Now that the roles are created, proceed to update the Project Permissions.

You can remove permissions for roles that you do not want to use (e.g. Stakeholder).

1. Select **Permissions** in the left pane. Note that default permissions are set for you based on the process template used to create your project area.
2. Click the **Show by Operation** radio button.
3. Scroll to the **Dashboards** section and expand the options.
4. Under **Save Personal Dashboard**, click the at the top of the **Actions** column in the **Role** table to *Grant permission to all roles*:



5. Repeat this process to update permissions for the following activities and roles shown in Table 3.

Table 3: Update Permissions

<table>
<tr><th>Activity</th><th>Grant Permissions</th><th>Remove Permissions (optional)</th></tr>
<tr><td>Dashboards > Save Project Dashboards</td><td>Release Train Engineer
Product Manager</td><td>Product Owner
Scrum Master
Team Member</td></tr>
<tr><td>Dashboards > Save Team Dashboards</td><td>Release Train Engineer
Product Manager</td><td>Team Member</td></tr>
<tr><td>Planning (All)</td><td rowspan="8">Product Manager
Release Train Engineer</td><td rowspan="8">Team Member</td></tr>
<tr><td>Process > Generate Team Invitation</td></tr>
<tr><td>Process > Save process Description > Modify process description</td></tr>
<tr><td>Process > Save Team Area</td></tr>
<tr><td>Reports > Deploy Report</td></tr>
<tr><td>Reports > Manage Report Folder</td></tr>
<tr><td>Work Items > Save Category</td></tr>
</table>

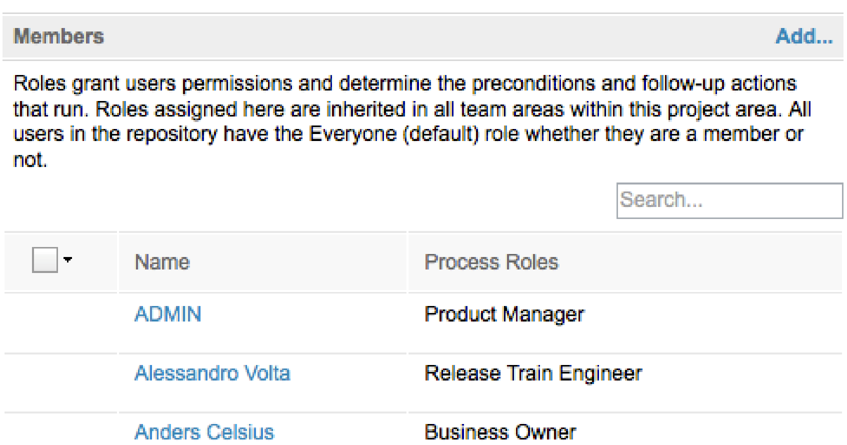
Process > Save process Description > Create process description **Process > Save process Description > Delete process description**	Product Manager Scrum Master	
Process > Save Project Area	Product Manager Release Train Engineer	Product Owner Scrum Master
Reports > Display Report	Everyone	
Work Items > Delete Query		
Work Items > Save Attachment > Modify attachment		
Work Items > Save Query		
Save Work Item		
Work Items > Save Enumeration	Release Train Engineer Product Manager	
Work Items > Save Release		
Save Work Item > Bulk work item operation		

6. Save your changes.

Create/Assign Users to Roles

Define the Users in your Portfolio and assign them to Roles.

1. Select **Users > Create User** from the menu bar to create users and assign them the appropriate Client Access License. Save your changes after creating each user.
2. Return to your project area home page via **Project Areas > Active Project Areas.**
3. Scroll to the **Members** section and add the Admin, Product Manager, and any Program Team Member users with their associated roles. Give the Admin the Product Manager role. For example:



4. Save your changes. When prompted to send Team Invitations, make your selection.
5. Repeat this process for each of the Teams.

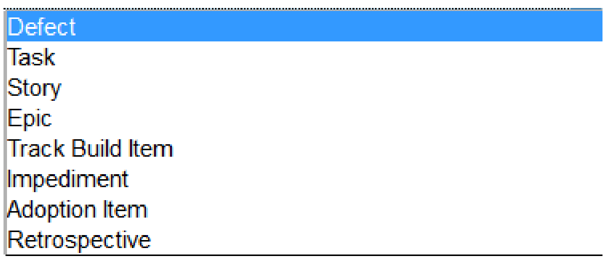
Congratulations! You have successfully configured your roles, permissions, and users for your SAFe program instance.

SAFe Artifacts

SAFe artifacts that require workflow and are used in planning are instantiated as RTC work items. For each SAFe artifact, you will create a work item type (or re-use an existing one), define the set of customized attributes for that work item type, and then associate the work item type with Editor Presentation views and a Workflow. Attributes may be re-used across work item types.

For reference, consult [Customizing work items] in the IBM Knowledge Center for more details on configuration of work items. This help topic contains links to existing articles on jazz.net. You may also want to review the descriptions of these artifacts on the [Scaled Agile Framework] web site.

The Scrum process template creates the work item types shown below.



Many of these are sufficient to support SAFe Teams; our focus is to create the additional work item types:

- Program Epic (re-purposed Epic)
- Feature
- PI Objective
- Risk

Note: If you have existing Epics, we suggest you do not re-purpose the Epic. Instead, create a new, distinct Program Epic work item type by following instructions similar to those for the Feature work item type. Later, you can decide whether your Epic should be a SAFe Program Epic or (more likely) a SAFe Feature.

Create the Enumerations

The Enumeration data types must be created first so that we can use those data types when creating attributes to add to work item types. Table 4 shows the set of Enumerations to be created.

Table 4: Enumerations

Enumeration	RTC ID	Enum Values	Default	Unassigned
Epic Type	epicType	Architectural Business	Business	Business
Feature Type	featureType	Architectural Business NFR	Business	Business
Job Size	jobSize	Unassigned 1, 2, 3, 5, 8, 13, 20 *Note: You can create a single enum for the **Fibonacci sequence** and reuse it for all of the*	Unassigned	Unassigned
User/Business Value	ubVal			
Time Criticality	timeCrit			

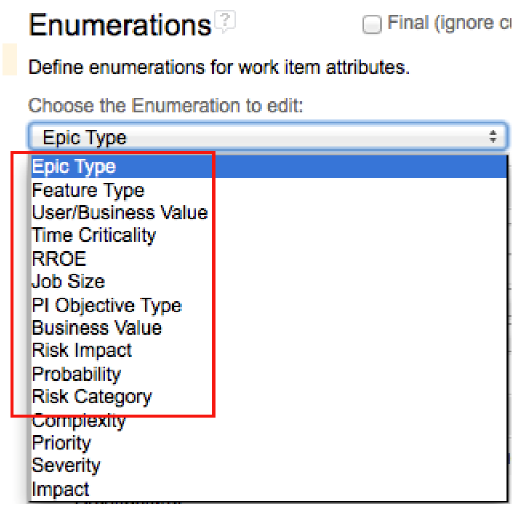
RROE	rroe	*attributes that require that data type if you wish.*		
PI Objective Type	piType	Program Team	Program	Program
Business Value	businessValue	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1	1
Risk Impact	riskimpact	20% - Minor, 40% - Moderate, 60% - Major, 80% - Critical, 100% - Blocker	20% - Minor	None
Probability	probability	20% - Very Low, 40% - Low, 60% - Moderate, 80% - High, 100% - Very High	20% - Very Low	None
Risk Category	riskcategory	Socio-cultural, Political, Economic, Competitive, Technology, Regulatory/legal, Uncertainty/risk, Market	Socio-cultural	None

To create the enumerations, perform these steps:

1. Select **Work Items** from the left navigation pane.
2. In the *Work Items* box, select **Enumerations**.
3. Click the **Add…** button to bring up the **Add Enumeration** wizard.
4. For each enumeration,
    a. Specify the Name and ID, for example: `Epic Type, epicType`
    b. Take all other defaults and click **OK**.
    c. Specify the values by clicking **Add…** in the Literals table.
    d. For each literal value,
        i. Provide a Name and an icon (if desired) and click **OK**. For example: `Architectural.` *You will get an error about having no default value, which can be ignored. You will specify that in a minute.*

    e. When you have specified all of the literal values, choose a **Default Literal** from the drop-down list, for example: `Unassigned`
    f. Choose the literal value to be used when none has been specified from the **Unassigned Literal** drop-down list, for example: `Unassigned`
    g. Save your changes.

The resulting Enumerations are shown below:



Create the Work Item Types

As you perform the steps to create the work item types, use Table 5: Work Item Types & Customized Attributes as a reference. This table shows the set of Work Item Types by SAFe level, along with the customized attributes, data types for those attributes and suggested RTC IDs. Each Work Item Type groups customized attributes based on the Editor Presentation section, which you will use later when customizing the presentation views.

> *As you go through customizations for work item types, You may find it easier to have hard copy representations of* Table 5: Work Item Types & Customized Attributes *below as well as* Table 6: Editor Presentations *as you perform the steps to create the work item types and associated editor presentation views.*

Table 5: Work Item Types & Customized Attributes

SAFe Level	Attribute Name	Data Type	RTC ID	Notes
Program	**Program Epic** (Overview tab)			
	Epic Type	Epic Type (Enumeration)	com.ibm.team.workitem.attribute.epicType	Architectural, Business
	Value Statement	Wiki	com.ibm.team.workitem.attribute.valueStatement	
	Job Size	Job Size (Enumeration)	com.ibm.team.workitem.attribute.jobSize	
	User/Business Value	User/Business Value (Enumeration)	com.ibm.team.workitem.attribute.ubVal	
	Time Criticality	Time Criticality (Enumeration	com.ibm.team.workitem.attribute.timeCrit	
	RR/OE	RROE (Enumeration)	com.ibm.team.workitem.attribute.rroe	
	WSJF	Integer	com.ibm.team.workitem.attribute.wsjf	
	Feature (Overview tab)			
	Feature Type	Feature Type (Enumeration)	com.ibm.team.workitem.attribute.featureType	Architectural, Business, NFR
	Job Size	Job Size (Enumeration)	com.ibm.team.workitem.attribute.jobSize	Reused definitions

	User/Business Value	User/Business Value (Enumeration)	com.ibm.team.workitem.attribute.ubVal	
	Time Criticality	Time Criticality (Enumeration	com.ibm.team.workitem.attribute.timeCrit	
	RROE	RROE (Enumeration)	com.ibm.team.workitem.attribute.rroe	
	WSJF	Integer	com.ibm.team.workitem.attribute.wsjf	
	Feature (Acceptance tab)			
	Acceptance Criteria	Large HTML	Com.ibm.team.apt.attribute.acceptanceCriteria	
Program /Team	**PI Objective (Overview tab)**			
	PI Objective Type	PI Objective Type (Enumeration)	com.ibm.team.workitem.attribute.piType	
	Achieved Value (%)	Integer	com.ibm.team.workitem.attribute.achievedValue	Calculated: % achieved value = value (actual) / value (planned) * 100
	Business Value (Planned)	Business Value (Enumeration)	com.ibm.team.workitem.attribute.busValuePlanned	Scale of 1-10
	Business Value (Actual)		com.ibm.team.workitem.attribute.busValueActual	
Team	**Risk (Overview tab)**			
	Contingency Plan	Large HTML	com.ibm.team.workitem.attribute.contingencyPlan	
	Exposure (%)	Long	com.ibm.team.workitem.workItemType.risk.exposure	
	Identification Date	Timestamp	Com.ibm.team.workitem.workitemType.risk.identificationdate	
	Impact	Risk Impact (Enumeration)	com.ibm.team.workitem.workItemType.risk.impact	
	Mitigation Plan	Large HTML	com.ibm.team.workitem.attribute.mitigationPlan	
	Occurrence Date	Timestamp	com.ibm.team.workitem.workItemType.risk.occurrencedate	
	Probability	Probability (Enumeration)	com.ibm.team.workitem.workItemType.risk.probability	
	Risk Category	Risk Category (Enumeration)	com.ibm.team.workitem.workItemType.risk.riskcategory	

Create the Program Epic

1. In the *Work Items* box, select **Types and Attributes.**
2. Select `Epic` from the work item drop-down list to display the details.
3. In the **Details** section, change the Name of the work item type to `Program Epic`.
4. Click OK when you are prompted to change the built-in attribute.
5. At the top of the **Attributes** table, click to *Show only custom attributes*. The set of attributes disappears (because you do not yet have any customized attributes).
6. For each Program Epic attribute shown in Table 5 above:
    a. Click the **Add…** button to bring up the **Add Attribute** wizard.

b. Specify the Name and ID, for example: `Epic Type`, `com.ibm.team.workitem.attribute.epicType`
c. Use the Type drop-down list to select the associated data type, for example: `Epic Type`

   Note: For enumerations, pick the ***Enumeration*** *type, not* ***Enumeration List*** *type*.

d. Click OK to add the new attribute.

7. When you have finished creating all of the customized attributes for the Program Epic, save your changes.

In Create Attribute Customizations and Workflows, we will create the WSJF calculation as well as the default Value Statement.

Create the Feature

1. In the *Work Items* box, select **Types and Attributes** and click the **Add…** button.
2. Specify the Name and ID: `Feature`, `com.ibm.team.workitem.workItemType.feature`
3. Select *Add a new type category* in the **Type Category** box, by default the ID is repeated here: `com.ibm.team.workitem.workItemType.feature`
4. Click OK.
5. Specify an icon for the work item type, if desired.
6. At the top of the **Attributes** table, click to *Show only custom attributes* if it is not already selected.
7. For each Feature attribute shown in Table 5 above:
   a. Click the **Add…** button to bring up the **Add Attribute** wizard.
   b. If the attribute is shared by another work item type, select *Reuse Existing Attribute* and select the desired attribute from the drop-down list. Otherwise, select *Create Attribute* and specify the Name, ID and Type shown in the table.
   c. Click OK to add the new attribute.
8. When you have finished creating all of the customized attributes for the Feature, save your changes.

Create the PI Objective

1. In the *Work Items* box, select **Types and Attributes** and click the **Add…** button.
2. Specify the Name and ID: `PI Objective`, `com.ibm.team.workitem.workItemType.piObjective`
3. Select *Add a new type category* in the **Type Category** box, by default the ID is repeated here: `com.ibm.team.workitem.workItemType.piObjective`
4. Click OK.
5. Specify an icon for the work item type, if desired.
6. At the top of the **Attributes** table, click to *Show only custom attributes* if it is not already selected.
7. For each PI Objective attribute shown in Table 5 above:

a. Click the **Add…** button to bring up the **Add Attribute** wizard.
b. If the attribute is shared by another work item type, select *Reuse Existing Attribute* and select the desired attribute from the drop-down list. Otherwise, select *Create Attribute* and specify the Name, ID and Type shown in the table.
c. Click OK to add the new attribute.

8. When you have finished creating all of the customized attributes for the PI Objective, save your changes.

Create the Risk

1. In the *Work Items* box, select **Types and Attributes** and click the **Add…** button.
2. Specify the Name and ID: `Risk, com.ibm.team.workitem.workItemType.risk`
3. Select *Add a new type category* in the **Type Category** box, by default the ID is repeated here: `com.ibm.team.workitem.workItemType.risk`
4. Click OK.
5. Specify an icon for the work item type, if desired.
6. At the top of the **Attributes** table, click to *Show only custom attributes* if it is not already selected.
7. For each Risk attribute shown in Table 5 above:
    d. Click the **Add…** button to bring up the **Add Attribute** wizard.
    e. If the attribute is shared by another work item type, select *Reuse Existing Attribute* and select the desired attribute from the drop-down list. Otherwise, select *Create Attribute* and specify the Name, ID and Type shown in the table.
    f. Click OK to add the new attribute.
8. When you have finished creating all of the customized attributes for the Risk, save your changes.

Create Attribute Customizations and Workflows

To perform the configurations in this and following sections, you must use the RTC Eclipse client. Ensure you have saved all changes in the RTC browser before proceeding.

In this section, you will create the calculation for the customized WSJF attribute, the default Value Statement and the workflows for the work item types created above. The Program Epics have a separate workflow related to the SAFe Kanban planning process. Features and PI Objectives have their own specific workflows distinct from the Program Epics.

1. Start the RTC Eclipse client and connect to (or create) the workspace for the project area you are configuring.
2. From the **Jazz Administration** perspective, in the **Team Artifacts** view, select your project area, right-click and select Open. Note: If you have not used the Eclipse client previously, you will need to create a repository connection, log in, and connect to your project area.
3. Select the **Process Configuration** tab and navigate to **Project Configuration > Configuration Data > Work Items**.

Create Calculated WSJF

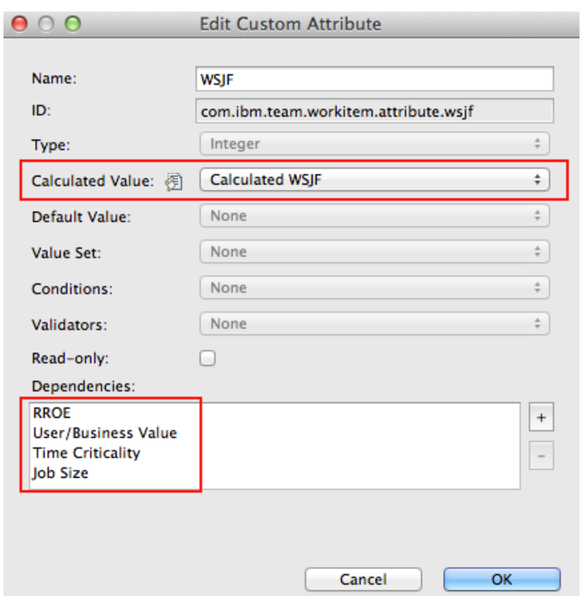
1. Navigate to **Attribute Customization,** select **Calculated Values** and click the **Add…** button.

2. Specify the Name: `Calculated WSJF`
3. Select `Script Based Calculated Value` for the **Provider**, click OK.
4. In the **Script** box, copy-paste the following (be sure to change the attribute RTC IDs if necessary):

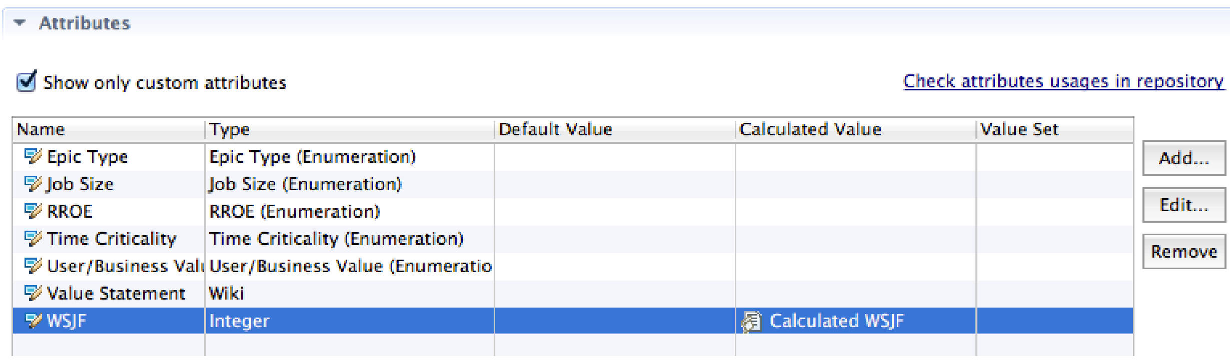
```
/* Licensed Materials - Property of IBM
* (c) Copyright IBM Corporation 2015. All Rights Reserved.
*
* Note to U.S. Government Users Restricted Rights:
* Use, duplication or disclosure restricted by GSA ADP Schedule
* Contract with IBM Corp.
******************************************************************************/
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;

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

                    // Time Criticality
                    timeCrit= calc(timeCritLabel, 0);

                    // RR/OE
                    rroe= calc(rroeLabel, 0);

                    // Job Size
                    jobSize= calc(jobSizeLabel, 1);

                    var costOfDelay= ubVal + timeCrit + rroe;

                    var wsjfInt= Number(costOfDelay / jobSize);
                    var wsjfStr= String(costOfDelay / jobSize);

                    return wsjfInt;

                    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 '20':
                                        result= 20;
                                        break;
                        }
                return result;
                }
        }
        });
})();
```

5. Save your changes.
6. Navigate to **Work Items > Types and Attributes** and select the **Program Epic** work item type**.**
7. Scroll down to the **Attributes** section, select the `WSJF` attribute and click **Edit….**
8. Set the **Calculated Value** and **Dependencies** and click **OK:**



9. The `WSJF` attribute will be updated as shown below:



10. Save your changes.

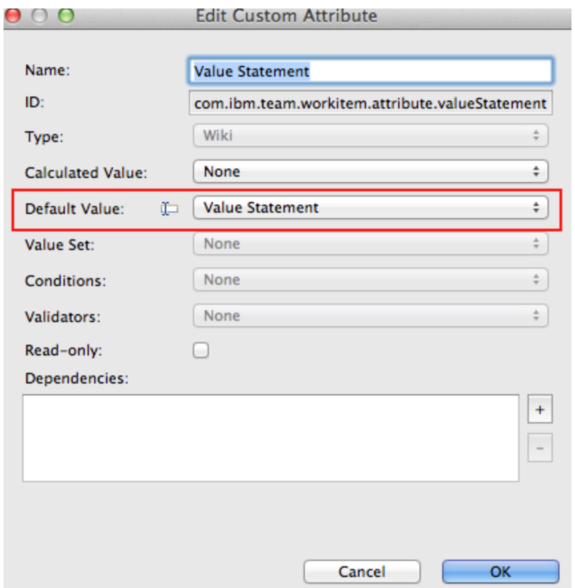
Create Value Statement default

1. Select **Default Values** and click the **Add…** button (make sure you refresh to pick up any changes you have made in the browser!).
2. Specify the Name: `Value Statement`
3. Select `Wiki` for the **Provider**, click OK.
4. In the **Configuration** box, copy-paste the following text:

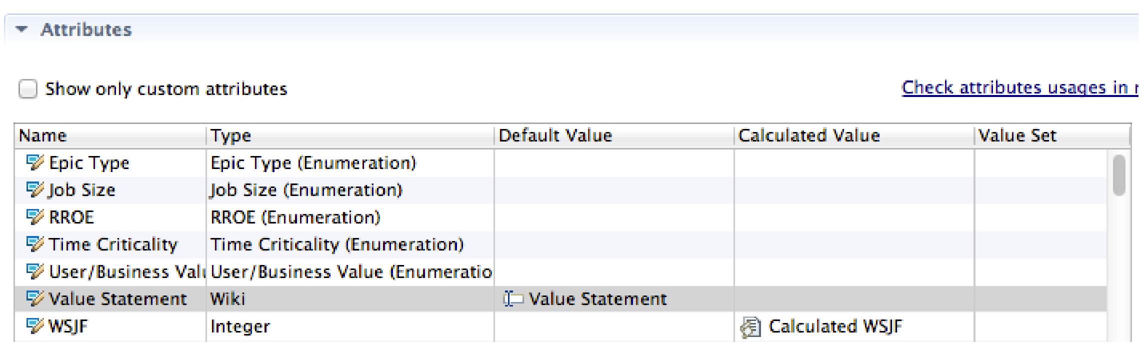
```
Forward-Looking Position Statement:


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">


Scope:


Success Criteria:
* Criterion 1
* Criterion 2


In Scope:
* x
* y
```

```
Out of Scope:
* x
* y

NFRs:
* Non-functional requirement 1
* Non-functional requirement 2
```

5. Save your changes.
6. Navigate to **Work Items > Types and Attributes** and select the **Program Epic** work item type**.**
7. Scroll down to the **Attributes** section, select the `Value Statement` attribute and click **Edit….**
8. Set the **Default Value** and click **OK:**



9. The Value Statement attribute will be updated as shown below:



10. Save your changes.

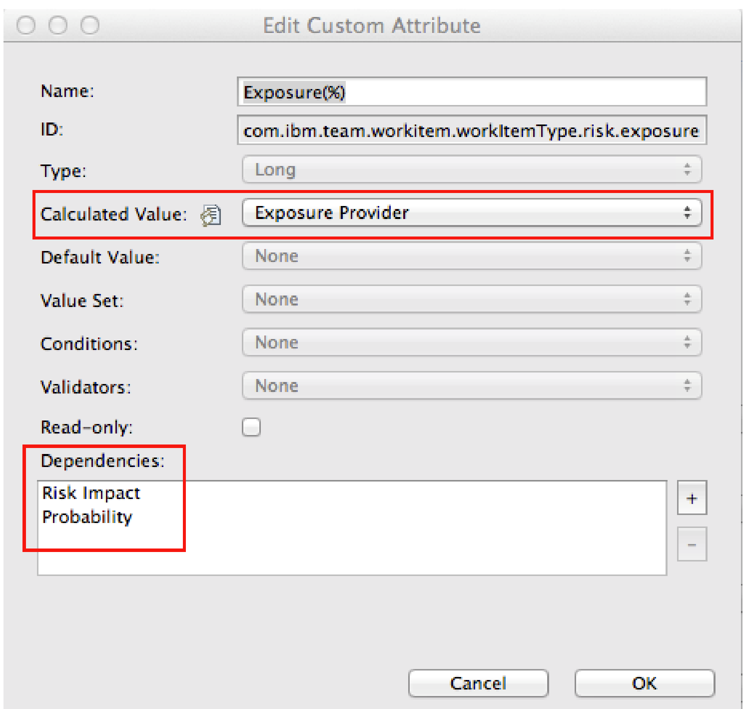
Create Exposure Provider

1. Select **Calculated Values** and click the **Add…** button.
2. Specify the Name: `Exposure Provider`
3. Select `Script Based Calculated Value` for the **Provider**, click OK.
4. In the **Script** box, copy-paste the following:

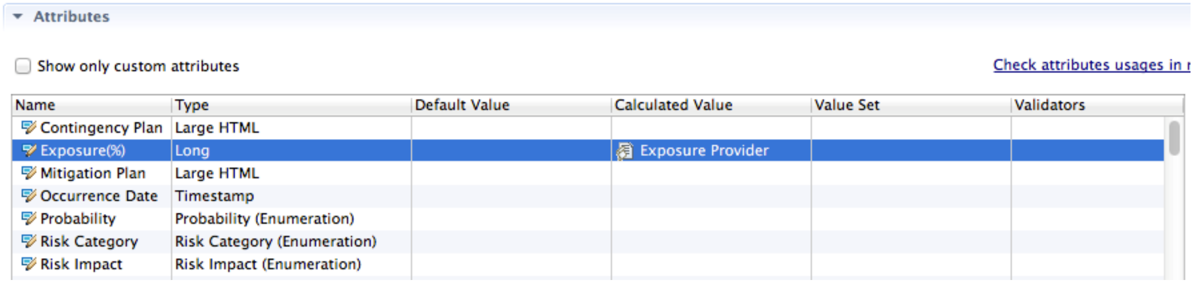
```
/*******************************************************************************
 * Licensed Materials - Property of IBM
 * (c) Copyright IBM Corporation 2010. All Rights Reserved.
 *
 * Note to U.S. Government Users Restricted Rights:
 * Use, duplication or disclosure restricted by GSA ADP Schedule
 * Contract with IBM Corp.
 *******************************************************************************/

dojo.provide("com.ibm.team.tpt.shared.common.internal.providers.ExposureProvider");

(function() {

dojo.declare("com.ibm.team.tpt.shared.common.internal.providers.ExposureProvider",
null, {

   getValue: function(attribute, workItem, configuration) {

      var impactAttribute= configuration.getChild("impactAttribute").getIdentifier();
      var probabilityAttribute=
configuration.getChild("probabilityAttribute").getIdentifier()

      var impact= this.__getLastIntSegment(workItem.getValue(impactAttribute));
      var probability=
this.__getLastIntSegment(workItem.getValue(probabilityAttribute));

      return (impact * probability) / 100;
   },

   __getLastIntSegment: function(identifier) {
      if (identifier != null) {
```

```
            var lastSeparator= identifier.lastIndexOf('.');
            var numberString= identifier.substring(lastSeparator+2);
            return parseInt(numberString, 10);
        }
        return -1;
    },

    __sentinel: null
});

})();
```

5. Save your changes.
6. Navigate to **Work Items > Types and Attributes** and select the **Risk** work item type**.**
7. Scroll down to the **Attributes** section, select the `Exposure(%)` attribute and click **Edit….**
8. Set the **Calculated Value** and **Dependencies** and click **OK:**



9. The Exposure(%) attribute will be updated as shown below:



Name	Type	Default Value	Calculated Value	Value Set	Validators
Contingency Plan	Large HTML				
Exposure(%)	Long		Exposure Provider		
Mitigation Plan	Large HTML				
Occurrence Date	Timestamp				
Probability	Probability (Enumeration)				
Risk Category	Risk Category (Enumeration)				
Risk Impact	Risk Impact (Enumeration)				

10. Save your changes.

Create Achieved Value Provider

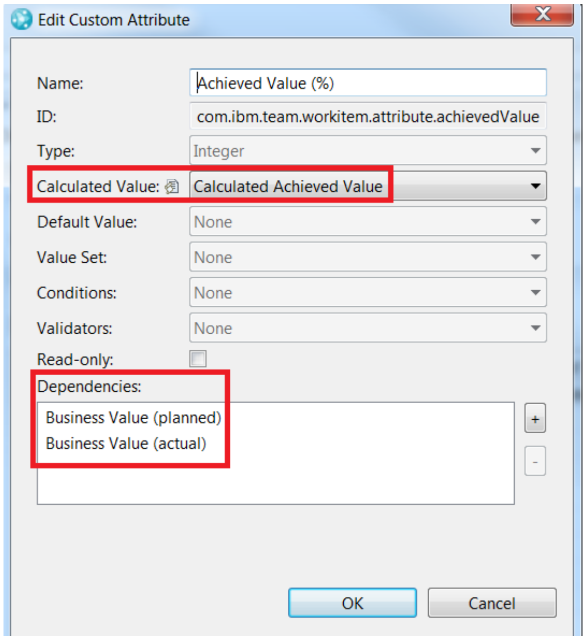
1. Select **Calculated Values** and click the **Add…** button.
2. Specify the Name: `Achieved Value Provider`
3. Select `Script Based Calculated Value` for the **Provider**, click OK.
4. In the **Script** box, copy-paste the following:

```
/*******************************************************************************
 * Licensed Materials - Property of IBM
 * (c) Copyright IBM Corporation 2015. 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.achievedValueProvider");

(function() {

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

getValue: function(attribute, workItem, configuration) {
          // Grab the enumeration label for business value attributes
          var busValuePlannedLabel=
workItem.getLabel("com.ibm.team.workitem.attribute.busValuePlanned");
          var busValueActualLabel=
workItem.getLabel("com.ibm.team.workitem.attribute.busValueActual");

          // Declare the numeric business value attributes
          var busValPlanned= 0, busValActual= 0;
```

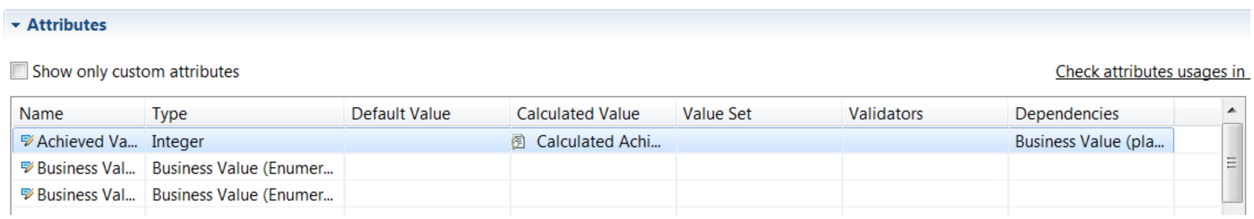
```
        // Set the numeric attributes based on the enumeration label
        // Business Value (planned)
        busValPlanned= calc(busValuePlannedLabel, 1);

        // Business Value (actual)
        busValActual= calc(busValueActualLabel, 1);

        var achievedValueRatio= Number(busValActual / busValPlanned);

        var achievedValue= achievedValueRatio * 100;

        return achievedValue;

    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 '4':
                                    result= 4;
                                    break;
                            case '5':
                                    result= 5;
                                    break;
                            case '6':
                                    result= 6;
```

```
                break;
            case '7':
                result= 7;
                break;
            case '8':
                result= 8;
                break;
            case '9':
                result= 9;
                break;
            case '10':
                result= 10;
                break;
        }
    return result;
    }
  }
 });
})();
```

5. Save your changes.
6. Navigate to **Work Items > Types and Attributes** and select the **PI Objective** work item type**.**
7. Scroll down to the **Attributes** section, select the `Achieved Value (%)` attribute and click **Edit….**
8. Set the **Calculated Value** and **Dependencies** and click **OK:**



9. The Achieved Value (%) attribute will be updated as shown below:



10. Save your changes.

Create or Customize Workflows

Perform these steps in the RTC Eclipse client to create the workflows.

> *Note: Work item types need to have an associated work flow and not be set to None, else you would run into the issue described in [After 5.0.2 update from 4.x, Plans fail to load due to a NullPointerException (347055)]*

Customize the Epic Workflow

1. In the **Workflows** editor, select `Epic Workflow` from the *Choose the Workflow to edit* drop-down list.
2. Create the following **State Groups**:

State Groups

Name	Category	OSLC Groups
New	Open	
Funnel	Open	
Analysis	In Progress	In Progress
Backlog	In Progress	In Progress
In Progress	In Progress	In Progress
Done	Closed	Closed
Invalid	Closed	
Closed	Closed	Closed

3. Specify the following **States:**

States

Configure the States for this Workflow. For each State, set the order in which Actions will appear throughout th

Name	Group	Show resolution	Description
Rejected	Closed	☐	
Draft	Funnel	☐	
Approved	Backlog	☐	
Analyzing	Analysis	☐	
Implementing	Backlog	☐	
Reviewed	Analysis	☐	
Done	Closed	☐	
Ready (for Approval)	Analysis	☐	

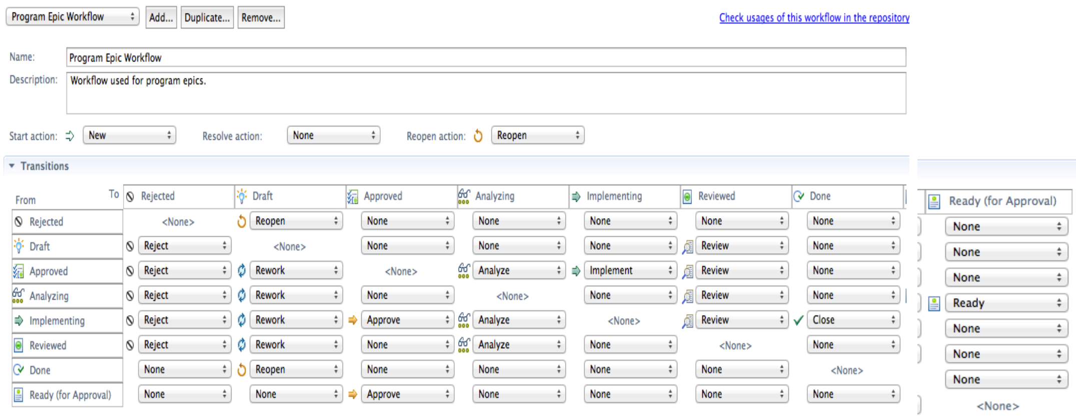
4. Specify the following **Actions:**

Actions

Configure the Actions for this Workflow. For each Action that will have Resolution

Name	Target State	Description
Analyze	Analyzing	
Approve	Approved	
Close	Done	
Implement	Implementing	
New	Draft	
Ready	Ready (for Appr…	
Reject	Rejected	
Reopen	Draft	
Review	Reviewed	
Rework	Draft	

5. Specify the following **Workflow** and **Transitions**:



From \ To	Rejected	Draft	Approved	Analyzing	Implementing	Reviewed	Done	Ready (for Approval)
Rejected	<None>	Reopen	None	None	None	None	None	None
Draft	Reject	<None>	None	None	None	Review	None	None
Approved	Reject	Rework	<None>	Analyze	Implement	Review	None	None
Analyzing	Reject	Rework	None	<None>	None	Review	None	Ready
Implementing	Reject	Rework	Approve	Analyze	<None>	Review	Close	None
Reviewed	Reject	Rework	None	Analyze	None	<None>	None	None
Done	None	Reopen	None	None	None	None	<None>	None
Ready (for Approval)	None	None	Approve	None	None	None	None	<None>

6. Save your changes.

Create the Feature Workflow

Perform these steps to create the workflow for the Feature work item type.

1. In the **Workflows** editor, select the **Add…** button to create a new Feature Workflow.
2. In the **Create New Workflow** window, specify the Name and ID: `Feature Workflow`, `com.ibm.team.workitem.feature.workflow`
3. Specify the following **States**:

States

Configure the States for this Workflow. For each State, set the order in which Actions will appear throug

Name	Group	Show resolution	Description
New	New	☐	
Implementing	In Progress	☐	
Integration	In Progress	☐	
Testing	In Progress	☐	
Done	Done	☐	
Invalid	Invalid	☐	

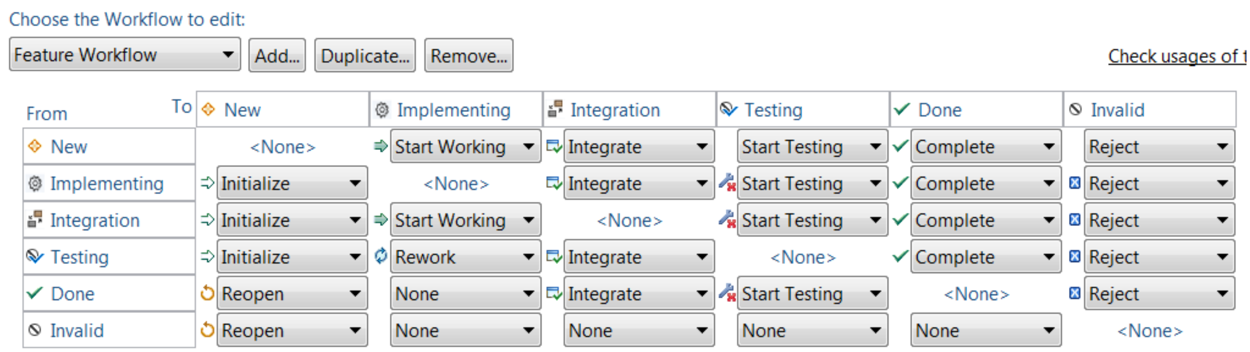
4. Specify the following **Actions**:

Actions

Configure the Actions for this Workflow. For each Action that will have Resolution

Name	Target State	Description
Complete	Done	
Initialize	New	
Integrate	Integration	
Reject	Invalid	
Reopen	New	
Rework	Implementing	
Start Testing	Testing	
Start Working	Implementing	

5. Specify the following **Workflow and Transitions**:

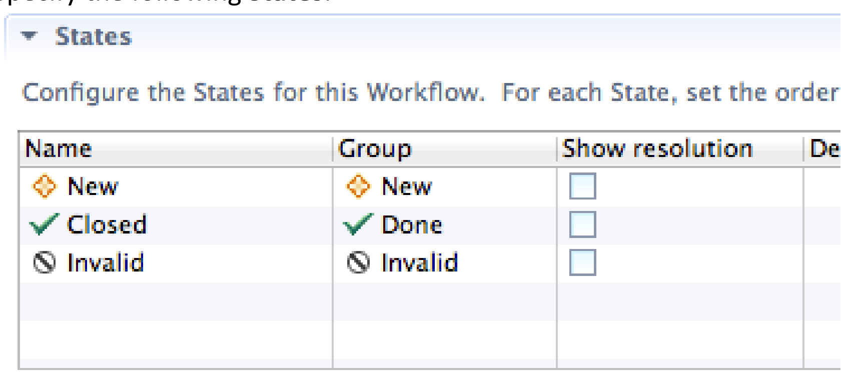


6. Save your changes.

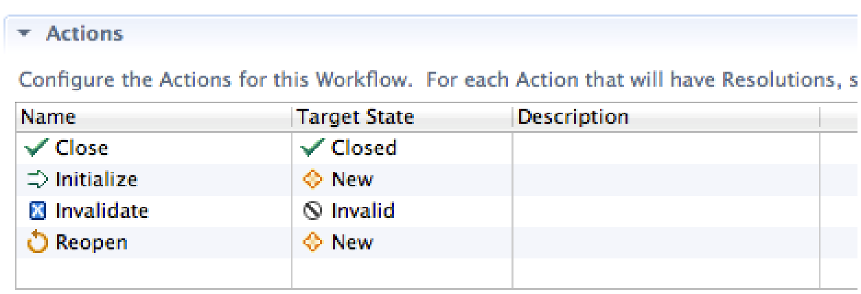
Create the PI Objective Workflow

Perform these steps to create the workflow for the PI Objective work item type.

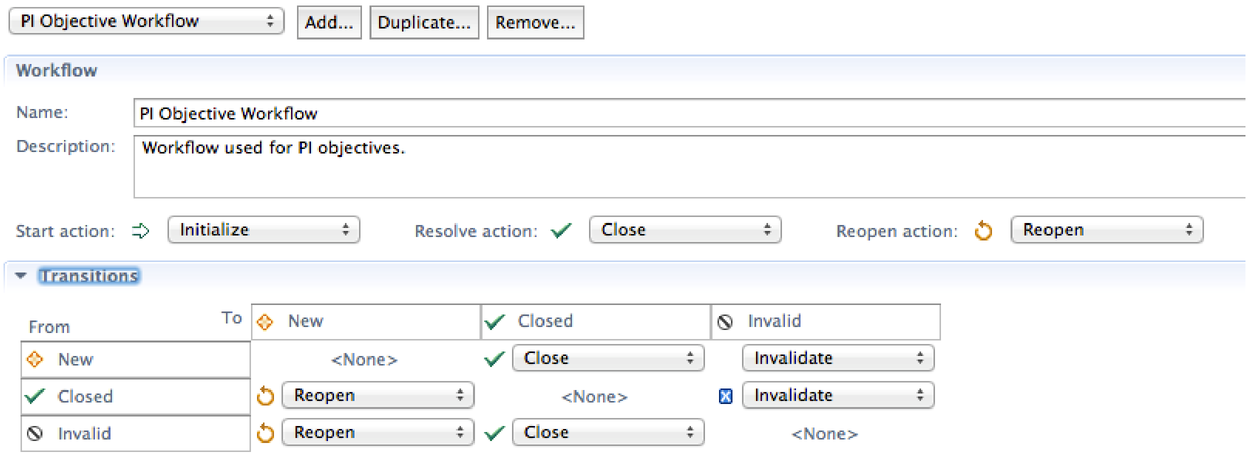
1. In the **Workflows** editor, select the **Add…** button to create a new PI Objective Workflow.
2. In the **Create New Workflow** window, specify the Name and ID: `PI Objective Workflow, com.ibm.team.workitem.piObjective.workflow`
3. Specify the following **States**:



4. Specify the following **Actions**:



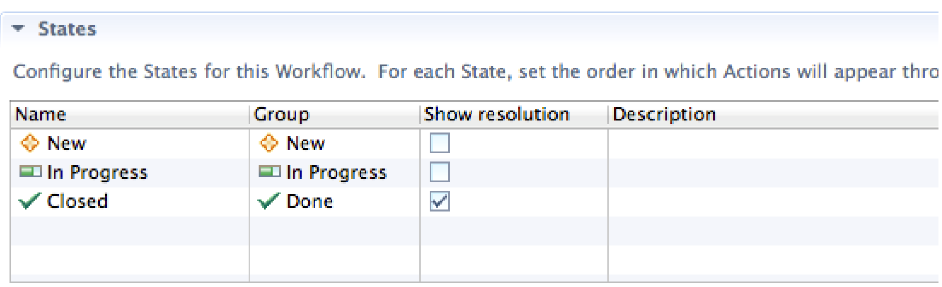
5. Specify the following **Workflow and Transitions**:



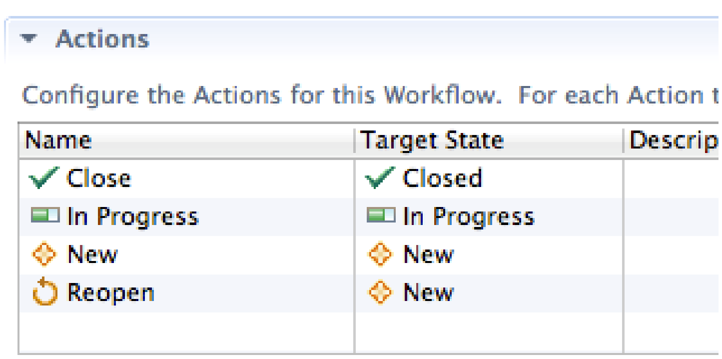
6. Save your changes.

Create the Risk Workflow

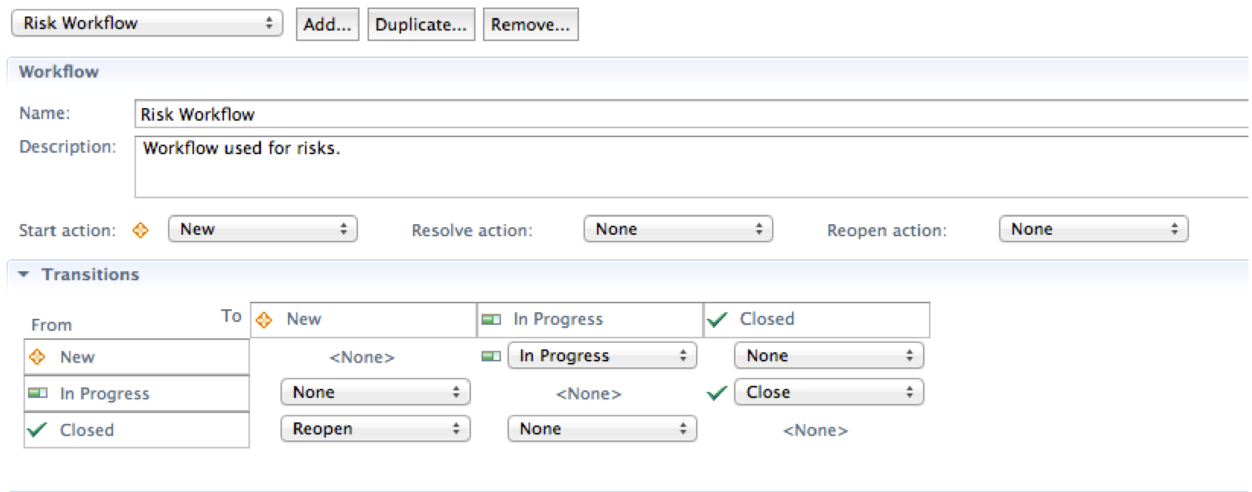
1. In the **Workflows** editor, select the **Add…** button to create a new Risk Workflow.
2. In the **Create New Workflow** window, specify the Name and ID: `Risk Workflow`, `com.ibm.team.workitem.risk.workflow`
3. Specify the following **States**:



4. Specify the following **Actions**:



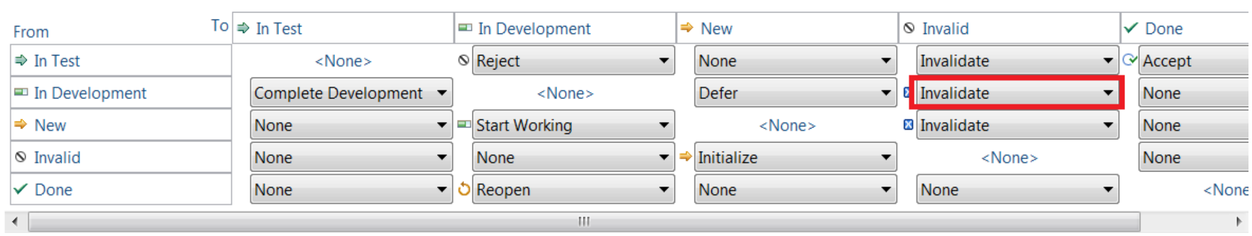
5. Specify the following **Workflow and Transitions**:



6. Save your changes.

Update Story Workflow

1. In the **Workflows** editor, select the **User Story Workflow**.
2. Navigate to the **Transitions** table and update it to allow a transition from *In Development* to *Invalid*:



3. Save your changes.

Associate Workflows

Return to the RTC Application Administration tool in the browser to complete the association to workflows. Make sure you refresh your browser to pick up the changes made in the RTC client.

1. Select **Work Items** from the left navigation pane.
2. In the *Work Items* box, select **Types and Attributes**.
3. Choose the `Program Epic` work item type from the *Choose the Work Item Type to edit:* drop-down list.
4. Set the Workflow to `Program Epic Workflow` (probably already set).
5. Repeat this process to set the workflows for the rest of the work item types:
   - Feature: `Feature Workflow`
   - PI Objective: `PI Objective Workflow`
   - Risk: `Risk Workflow`
6. Save your changes.

Create Presentation Views

The last step in this section is to create new (or customize existing) presentation views for each of the work item types you have created. Table 6 contains the set of Editor Presentations and their RTC IDs for each of the work item types. Not all of the presentations require updates but you will need to set the presentations for each of the work item types.

Note: The below sections provide details of the attribute and non-attribute based values added to the presentations, you could add separators or order the attributes differently as per your requirement.

Table 6: Editor Presentations

Work Item Type	Editor Presentation	RTC ID	Updates?	New?
Program Epic	Work Item Editor	com.ibm.team.apt.editor.epic	Yes	No
	Inline Work Item Editor	com.ibm.team.workitem.web.inline.epic	Yes	No
	Lightweight Work Item Creation Dialog	com.ibm.team.workitem.lightweight.editor.section	No	No
	Plan Editor Preview	com.ibm.team.apt.planPreview.epic	Yes	No
Feature	Work Item Editor	com.ibm.team.editor.feature	Yes	Yes
	Inline Work Item Editor	com.ibm.team.workitem.web.inline.feature	Yes	Yes
	Lightweight Work Item Creation Dialog	com.ibm.team.workitem.lightweight.editor.section	No	No
	Plan Editor Preview	com.ibm.team.apt.planPreview.feature	Yes	Yes
PI Objective	Work Item Editor	com.ibm.team.editor.piObjective	Yes	Yes
	Inline Work Item Editor	com.ibm.team.workitem.web.inline.piObjective	Yes	Yes
	Lightweight Work Item Creation Dialog	com.ibm.team.workitem.lightweight.editor.section	No	No
	Plan Editor Preview	com.ibm.team.apt.planPreview.piObjective	Yes	Yes
Risk	Work Item Editor	com.ibm.team.workitem.editor.risk	Yes	Yes
	Inline Work Item Editor	com.ibm.team.workitem.web.inline.risk	Yes	Yes
	Lightweight Work Item Creation Dialog	com.ibm.team.workitem.lightweight.editor.section	No	No
	Plan Editor Preview	com.ibm.team.apt.planPreview.risk	Yes	Yes

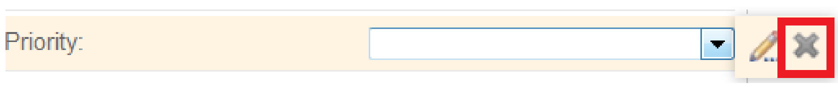
You will use this table, along with Table 5 above, to edit the presentations.

Customize the Program Epic Editor Presentations

The Program Epic editors already exist, so you will just be customizing them. Some of the configurations will be reused as you create editors for the other work item types.

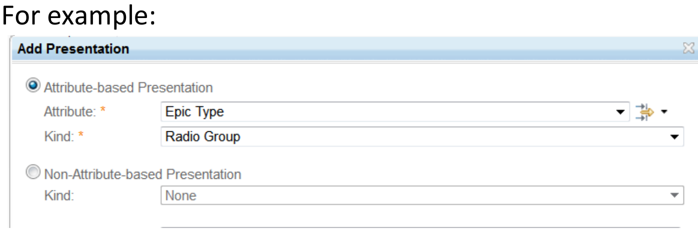
> *Note: If you already have Epic work items and you are creating a new Program Epic work item, you will also want to create new editors rather than re-purposing the Epic editors. The instructions for the Feature in the next section describe the steps required to create new editors.*

1. Select **Types and Attributes** from the **Work Items** section.
2. Select `Program Epic` from the work item drop-down list to display the details.
3. In the **Editor Presentation** section, edit the *Work Item Editor* view by clicking on the pencil next to the RTC ID drop-down list.
4. With the **Overview** tab selected, remove the `Priority, Resolution Date` and `Resolved By` attributes by hovering over each one and clicking the X. For example:

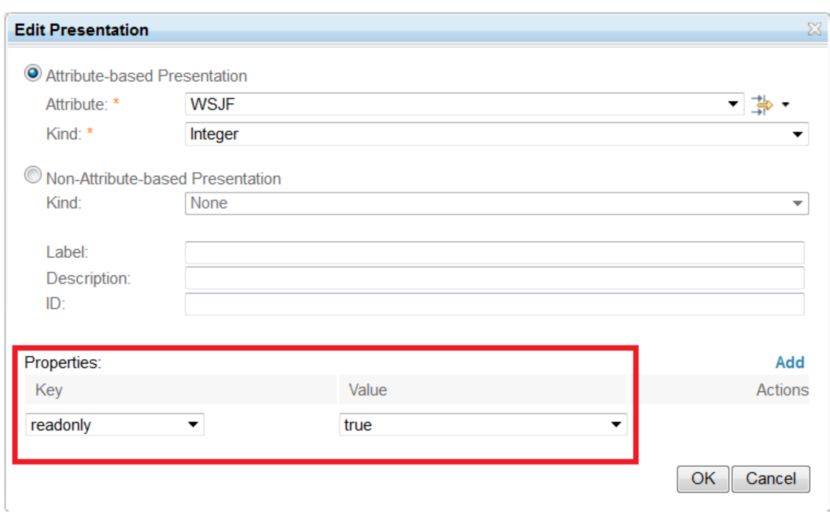


5. Click the  in the Details bar to add presentations for `Epic Type, WSJF, Job Size, User/Business Value, Time Criticality` and `RROE:`
   - `Epic Type` (Kind: `Radio Group`)

     For example:



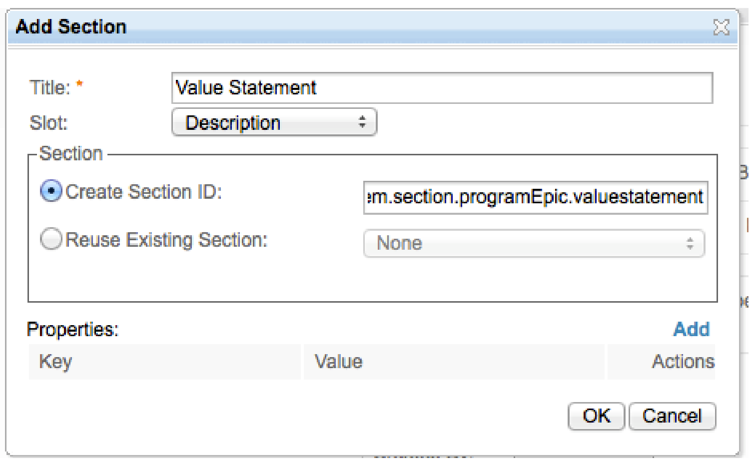
   - `WSJF` (make sure you make this read-only!):



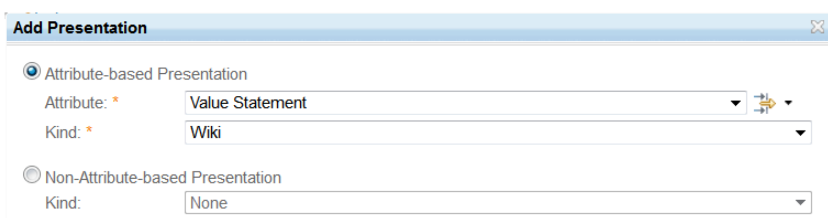
- `Job Size` (Kind: `Enumeration`)
- `User/Business Value` (Kind: `Enumeration`)
- `Time Criticality` (Kind: `Enumeration`)
- `RROE` (Kind: Enumeration)

6. Replace the **Description** with the **Value Statement**:
   a. Click the **X** to remove the **Description** section.

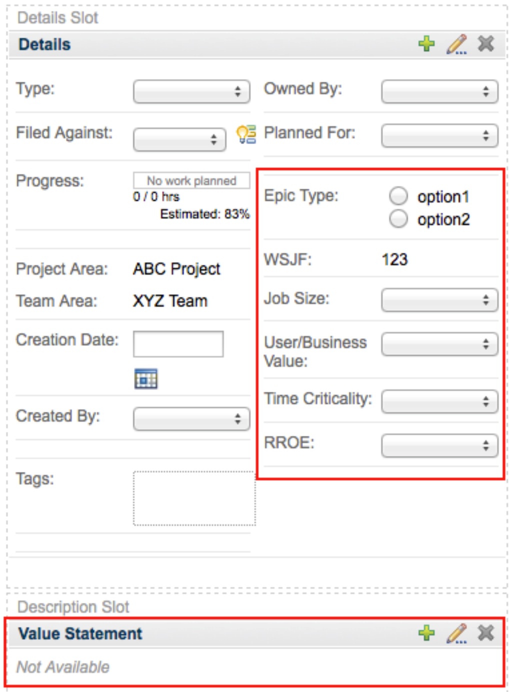
   b. Add a new section called `Value Statement` in the Description slot with ID `com.ibm.team.workitem.section.programEpic.valuestatement`:



   c. Add the `Value Statement` attribute to this section:

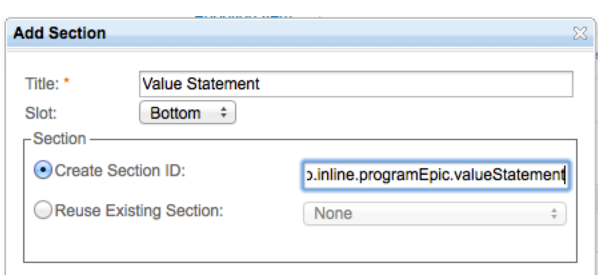


Your updated **Overview** should look similar to this:



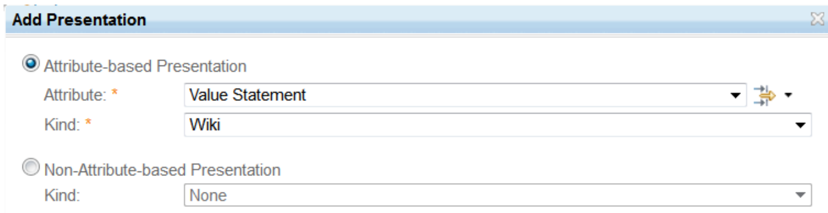
7. Save your changes.
8. Edit the *Inline Work Item Editor* in the same way by returning to the **Types and Attributes**, selecting `Program Epic` from the work item drop-down list and clicking the pencil next to the RTC ID for this editor.
9. Select the **Epic** tab in the left pane.
10. In the **Details** slot, remove the `Priority` attribute by hovering over it and clicking the X.
11. In the **Details** slot, add the `Epic Type`:
    - `Epic Type` (Kind: `Radio Group`)
12. Replace the **Description** with the **Value Statement**:
    d. Click the **X** to remove the **Description** section.

    e. Add a new section called `Value Statement` in the Bottom slot with ID `com.ibm.team.workitem.web.inline.programEpic.valueStatement`:



f. Drag-and-drop `Value Statement` between `Quick Info` and `Discussion` sections.

g. Add the `Value Statement` attribute to this section:



13. Save your changes.
14. Repeat these steps for the *Plan Editor Preview*. For the Value Statement, create a new section ID: `com.ibm.team.apt.planPreview.programEpic.valueStatement`

Note: You may need to choose "Show already configured attributes to see attribute-based presentations you have added to other views.

15. Save your changes.
16. Test your changes to the Program Epic work item editor by creating a new Program Epic .

Create the Feature Editor Presentations

Refer to Table 6 to see the set of Feature editors to be created.

1. Select **Editor Presentations** from the **Work Items** section.
2. Click the **Add...** button to create a new editor presentation.
3. Specify the *Work Item Editor* ID: `com.ibm.team.workitem.editor.feature`
4. Add the default Work Item Header by clicking Add Header and reusing existing section `com.ibm.team.workitem.header.default`.
5. Add the **Overview** tab by clicking to the right of the **Add Section** label:
   - Title: `Overview`
   - Layout: `Overview Layout`
   - Tab ID: `com.ibm.team.tab.feature.overview`
6. Add the **Acceptance** tab by clicking to the right of the **Add Section** label:
   - Title: `Acceptance`
   - Layout: `Custom Attributes Layout`
   - Tab ID: `com.ibm.team.feature.tab.acceptancetest`

7. Repeat this process to create the rest of the tabs, but choose to *Reuse Existing Tab*:
    - **Links**

      Title: `Links`
      Layout: `Links Layout`
      Tab ID: `com.ibm.team.workitem.tab.links`
    - **Approvals**

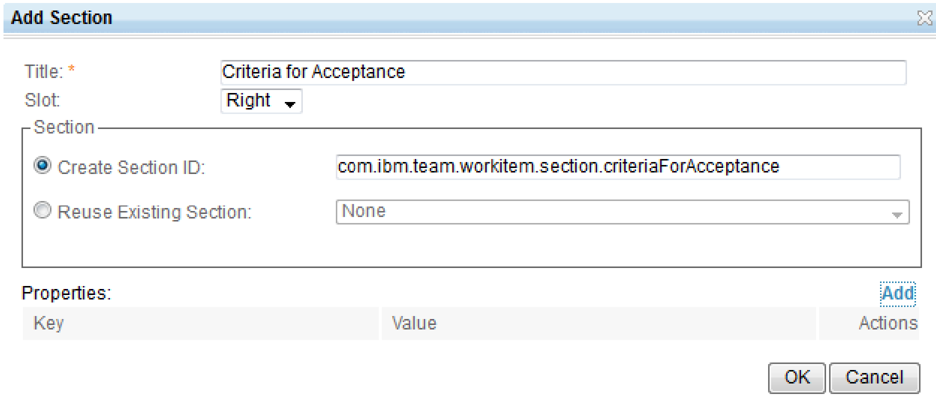
      Title: `Approvals`
      Layout: `Approvals Layout`
      Tab ID: `com.ibm.team.workitem.tab.approvals`
    - **History**

      Title: `History`
      Layout: `History Layout`
      Tab ID: `com.ibm.team.workitem.tab.history`
8. Customize the **Overview** tab by adding these sections:
    - **Title:** `Details`, **Slot:** `Details`, **Create Section ID**: `com.ibm.team.editor.workitem.feature.section.details`
    - **Title:** `Description`, **Slot:** `Description`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`
    - **Title:** `Discussion`, **Slot:** `Discussion`, **Reuse Existing Section**: `com.ibm.team.workitem.section.discussion`
    - **Title:** `Quick Information`, **Slot:** `Quick Information`, **Reuse Existing Section**: `com.ibm.team.workitem.section.quickinformation`

9. In the **Details** section, add these presentations:
    - **Attribute:** `Type`, **Kind:** `Enumeration`
    - **Attribute:** `Filed Against`, **Kind:** `Category`
    - **Non-Attribute-based Presentation, Kind:** `Work Progress`
    - **Non-Attribute-based Presentation, Kind:** `Team and Project Area`
    - **Attribute:** `Creation Date`, **Kind:** `Timestamp`
    - **Attribute:** `Created By`, **Kind:** `Contributor`
    - **Attribute:** `Tags`, **Kind:** `Tags`
    - **Attribute:** `Owned By`, **Kind:** `Contributor`
    - **Attribute:** `Planned For`, **Kind:** `Iteration`
    - **Attribute:** `Feature Type`, **Kind:** `Radio Group`
10. Save your changes.
11. Select the **Acceptance Criteria** tab and then the **+ Add Section** to add a section, specifying these details:

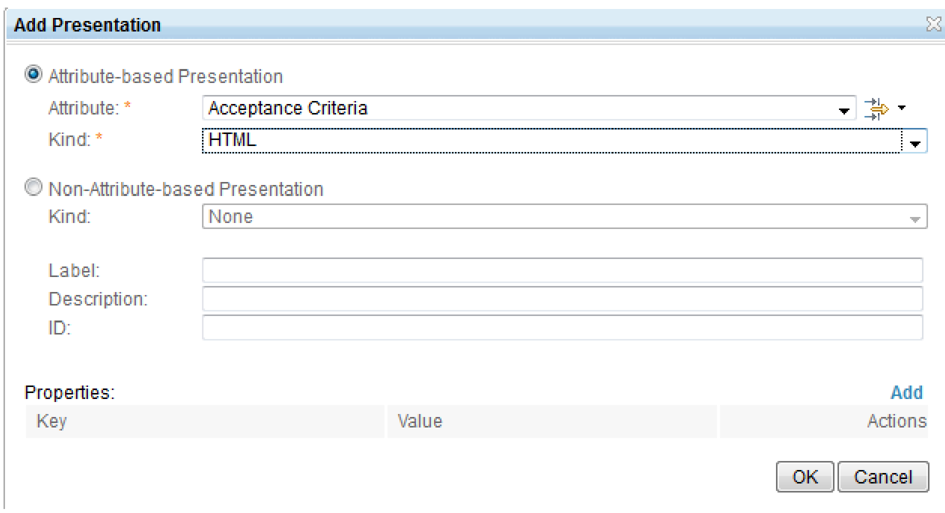
    Title : `Criteria for Acceptance`

Slot : `Right`
Create Section ID : `com.ibm.team.workitem.section.criteriaForAcceptance`



12. In the new **Criteria for Acceptance** section, click the **+** to add an attribute, specifying these details:

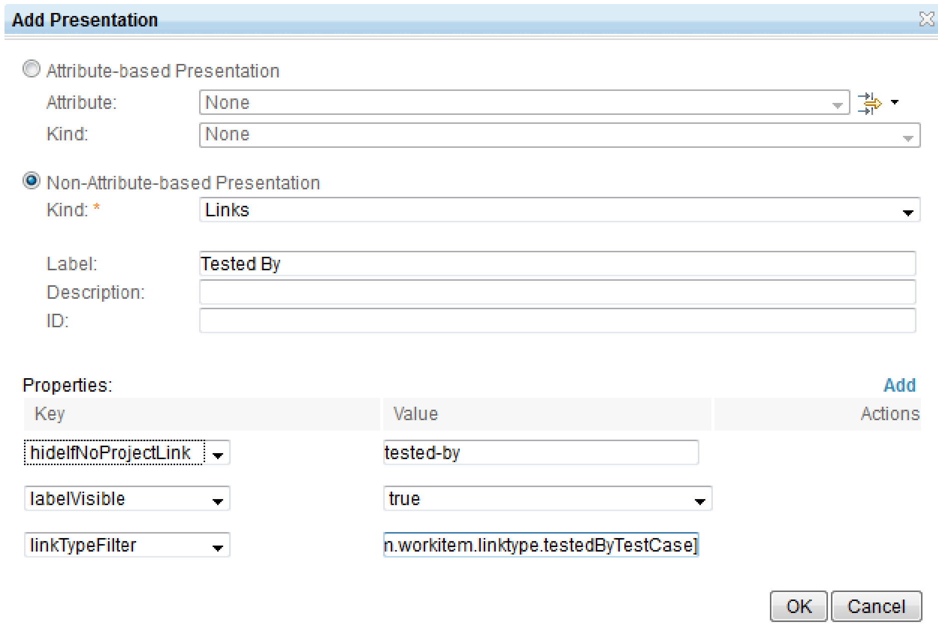
    Attribute : `Acceptance Criteria`
    Kind : `HTML`



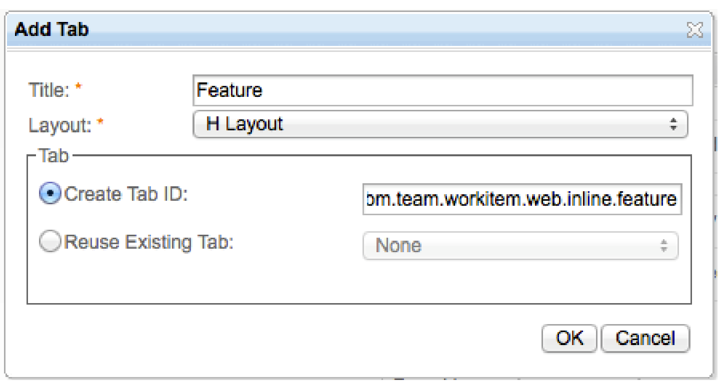
13. Add another attribute to the **Criteria for Acceptance** section, specifying these details:

Non-Attribute-based Presentation
Kind : `Links`
Label : `Tested By`
Properties:

hideifNoProjectLink `tested-by`
labelVisible `true`
linkTypeFilter `[com.ibm.team.workitem.linktype.testedByTestCase]`



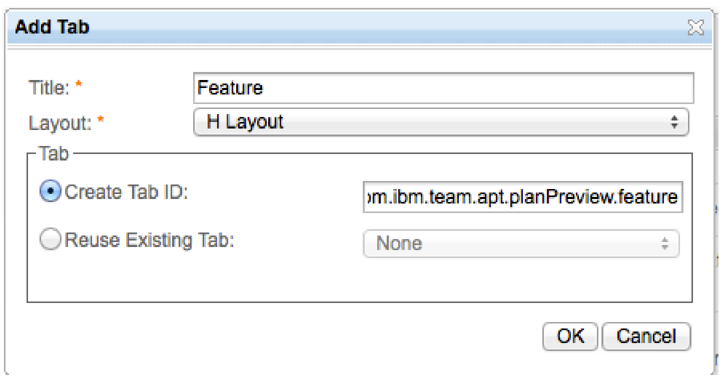
14. Save your changes.
15. Select the `com.ibm.team.workitem.web.inline` editor presentation.
16. Click below the `Retrospective` tab to create to add a new tab for `Feature` with tab ID `com.ibm.team.workitem.web.inline.feature`:



17. Add these sections:
    - **Title:** `Details`, **Slot:** `Left`, **Create Section ID**: `com.ibm.team.workitem.web.inline.feature.details`
    - **Title:** `Description`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`
    - **Title:** `Discussion`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.section.discussion`
    - **Title:** `Quick Info`, **Slot:** `Right`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.section.quickinformation`

- **Title:** `Summary`, **Slot:** `Top`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.default.summary`

18. Add these presentations to the **Details** section:
    - **Non-Attribute-based Presentation, Kind:** `Workflow State`
    - **Attribute:** `Filed Against`, **Kind:** `Category`
    - **Non-Attribute-based Presentation, Kind:** `Work Progress`
    - **Attribute:** `Tags`, **Kind:** `Tags`
    - **Attribute:** `Owned By`, **Kind:** `Contributor`
    - **Attribute:** `Planned For`, **Kind:** `Iteration`
    - **Attribute:** `Feature Type`, **Kind:** `Radio Group`
19. Save your changes.
20. Select the `com.ibm.team.apt.planPreview` editor presentation.
21. Add a new Tab for **Feature** with ID `com.ibm.team.apt.planPreview.feature`:



22. Add these sections:
    - **Title:** `Details`, **Slot:** `Left`, **Create Section ID**: `com.ibm.team.apt.planPreview.feature.section.details`
    - **Title:** `Description`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`
    - **Title:** `Discussion`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.discussion`
    - **Title:** `Quick Info`, **Slot:** `Right`, **Reuse Existing Section**: `com.ibm.team.workitem.section.quickinformation`
    - **Title:** `Summary`, **Slot:** `Top`, **Reuse Existing Section**: `com.ibm.team.apt.planPreview.default.section.summary`

23. Add these presentations to the **Details** section:
    - **Attribute:** `Filed Against`, **Kind:** `Category`
    - **Non-Attribute-based Presentation, Kind:** `Work Progress`
    - **Attribute:** `Tags`, **Kind:** `Tags`
    - **Attribute:** `Owned By`, **Kind:** `Contributor`

- **Attribute:** `Feature Type`, **Kind:** `Radio Group`

24. Save your changes.
25. Return to the **Types and Attributes** and specify the new editors:
    - *Work Item Editor*: `com.ibm.team.editor.feature`
    - *Inline Work Item Editor:* `com.ibm.team.workitem.web.inline.feature`
    - *Plan Editor:* `com.ibm.team.apt.planPreview.feature`
26. Save your changes.
27. Test your changes to the Feature work item editors by creating a new Feature.

Create the PI Objective Editor Presentations

Refer to Table 6 to see the set of PI Objective editors to be created.

1. Select **Editor Presentations** from the **Work Items** section.
2. Click the **Add…** button to create a new editor presentation.
3. Specify the *Work Item Editor* ID: `com.ibm.team.editor.piObjective`
4. Add the default Work Item Header by clicking Add Header and reusing existing section `com.ibm.team.workitem.header.default.`
5. Add the **Overview** tab by clicking to the right of the **Add Section** label:
    - Title: `Overview`
    - Layout: `Overview Layout`
    - Tab ID: `com.ibm.team.tab.piObjective.overview`
6. Repeat this process to create the rest of the tabs, but choose to *Reuse Existing Tab*:
    - **Links**
      Title: `Links`
      Layout: `Links Layout`
      Tab ID: `com.ibm.team.workitem.tab.links`
    - **Approvals**
      Title: `Approvals`
      Layout: `Approvals Layout`
      Tab ID: `com.ibm.team.workitem.tab.approvals`
    - **History**
      Title: `History`
      Layout: `History Layout`
      Tab ID: `com.ibm.team.workitem.tab.history`
7. Customize the **Overview** tab by adding these sections:
    - **Title:** `Details`, **Slot:** `Details`, **Create Section ID**: `com.ibm.team.editor.workitem.piObjective.section.details`
    - **Title:** `Description`, **Slot:** `Description`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`

- **Title:** `Discussion`, **Slot:** `Discussion`, **Reuse Existing Section**: `com.ibm.team.workitem.section.discussion`
- **Title:** `Quick Information`, **Slot:** `Quick Information`, **Reuse Existing Section**: `com.ibm.team.workitem.section.quickinformation`

8. In the **Details** section, add these presentations:
   - **Attribute:** `PI Objective Type`, **Kind:** `Radio Group`
   - **Attribute:** `Achieved Value (%)`, **Kind:** `Integer`
   - **Attribute:** `Business Value (planned)`, **Kind:** `Enumeration`
   - **Attribute:** `Business Value (actual)`, **Kind:** `Enumeration`
9. Save your changes.
10. Select the `com.ibm.team.workitem.web.inline` editor presentation.
11. Add a new Tab for **PI Objective**:
    - **Title:** `PI Objective`, **Layout:** `H Layout`, **Create Tab ID :** `com.ibm.team.workitem.web.inline.piObjective`
12. Add these sections:
    - **Title:** `Details`, **Slot:** `Left`, **Create Section ID**: `com.ibm.team.workitem.web.inline.piObjective.details`
    - **Title:** `Description`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`
    - **Title:** `Discussion`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.section.discussion`
    - **Title:** `Quick Info`, **Slot:** `Right`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.section.quickinformation`
    - **Title:** `Summary`, **Slot:** `Top`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.default.summary`

13. Add these presentations to the **Details** section:
    - **Attribute:** `PI Objective Type`, **Kind:** `Radio Group`
    - **Attribute:** `Achieved Value (%)`, **Kind:** `Integer`
    - **Attribute:** `Business Value (planned)`, **Kind:** `Enumeration`
    - **Attribute:** `Business Value (actual)`, **Kind:** `Enumeration`
14. Save your changes.
15. Select the `com.ibm.team.apt.planPreview` editor presentation.
16. Add a new Tab for **PI Objective**:
    - **Title:** `PI Objective`, **Layout:** `H Layout`**, Create Tab ID :** `com.ibm.team.apt.planPreview.piObjective`
17. Add these sections:
    - **Title:** `Details`, **Slot:** `Left`, **Create Section ID**: `com.ibm.team.apt.planPreview.piObjective.section.details`

- **Title:** `Description`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`
- **Title:** `Discussion`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.discussion`
- **Title:** `Quick Info`, **Slot:** `Right`, **Reuse Existing Section**: `com.ibm.team.workitem.section.quickinformation`
- **Title:** `Summary`, **Slot:** `Top`, **Reuse Existing Section**: `com.ibm.team.apt.planPreview.default.section.summary`

18. Add these presentations to the **Details** section:
    - **Attribute:** `PI Objective Type`, **Kind:** `Radio Group`
    - **Attribute:** `Achieved Value (%)`, **Kind:** `Integer`
    - **Attribute:** `Business Value (planned)`, **Kind:** `Enumeration`
    - **Attribute:** `Business Value (actual)`, **Kind:** `Enumeration`
19. Save your changes.
20. Return to the **Types and Attributes** and specify the new editors:

    Work Item Editor: `com.ibm.team.editor.piObjective`

    Inline Work Item Editor: `com.ibm.team.workitem.web.inline.piObjective`

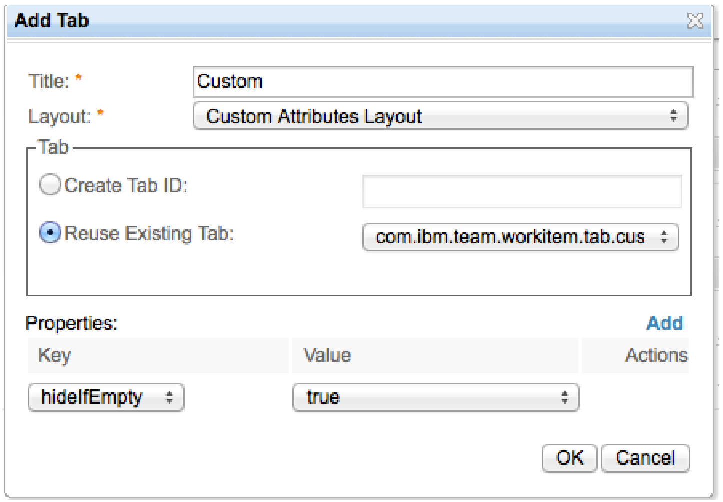
    Plan Editor: `com.ibm.team.apt.planPreview.piObjective`
21. Save your changes.
22. Test your changes to the PI Objective work item editors by creating a new PI Objective.

Create the Risk Editor Presentations

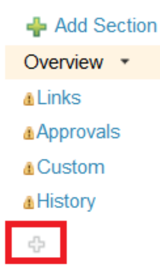
Refer to Table 6 to see the set of Risk editors to be created

1. Select **Editor Presentations** from the **Work Items** section.
2. Click the **Add…** button to create a new editor presentation.
3. Specify the *Work Item Editor* ID: `com.ibm.team.workitem.editor.risk`
4. Add the default Work Item Header by clicking Add Header and reusing existing section `com.ibm.team.workitem.header.default`.
5. Add the **Overview** tab by clicking to the right of the **Add Section** label:
    a. Title: `Overview`
    b. Layout: `Overview Layout`
    c. Tab ID: `com.ibm.team.workitem.tab.overview.risk`
6. Repeat this process to create the rest of the tabs, but choose to *Reuse Existing Tab*:
    - **Links**
      Title: `Links`
      Layout: `Links Layout`
      Tab ID: `com.ibm.team.workitem.tab.links`

- **Approvals**
  Title: `Approvals`
  Layout: `Approvals Layout`
  Tab ID: `com.ibm.team.workitem.tab.approvals`
- **History**
  Title: `History`
  Layout: `History Layout`
  Tab ID: `com.ibm.team.workitem.tab.history`
- **Custom** (make sure you set the hideIfEmpty properties to true!):
  Title: `Custom`
  Layout: `Custom Attributes Layout`
  Tab ID: `com.ibm.team.workitem.tab.customAttributes`

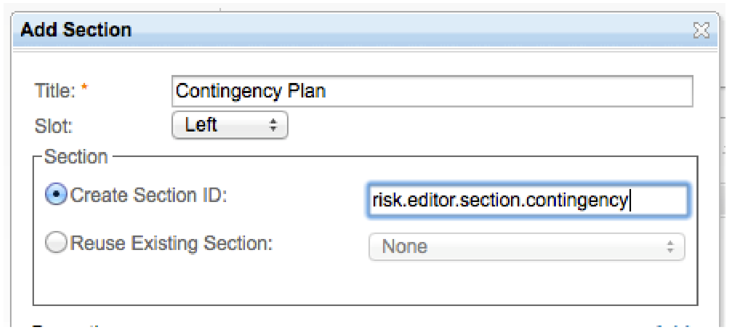


7. Click below the `History` tab to create a new `Risk Planning` tab:

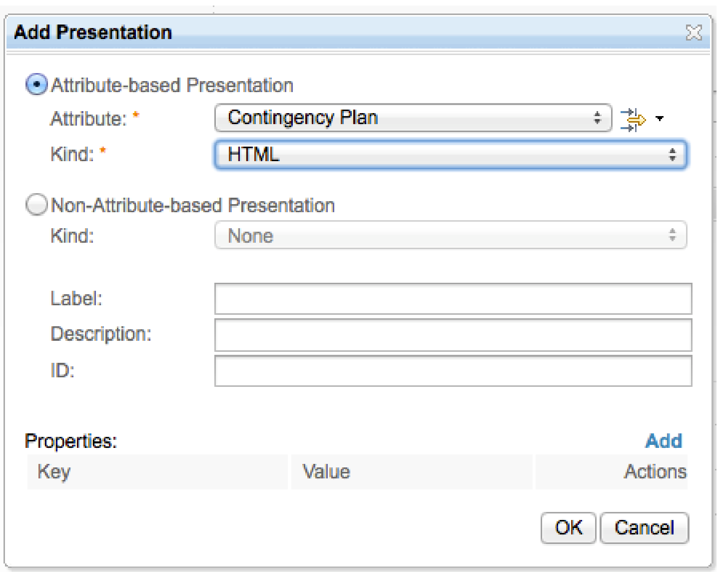


- **Risk Planning**:
  Title: `Risk Planning`
  Layout: `H Layout`
  Tab ID: `com.ibm.team.workitem.tab.planning.risk`

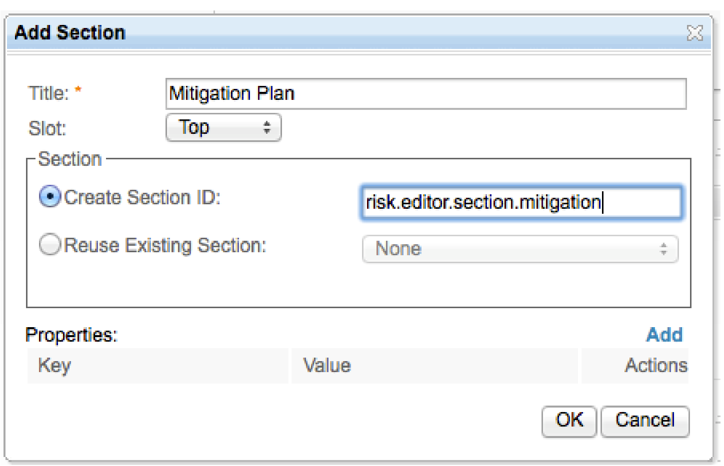
8. Add a section with ID `risk.editor.section.contingency` for **Contingency Plan** by clicking the Add Section:



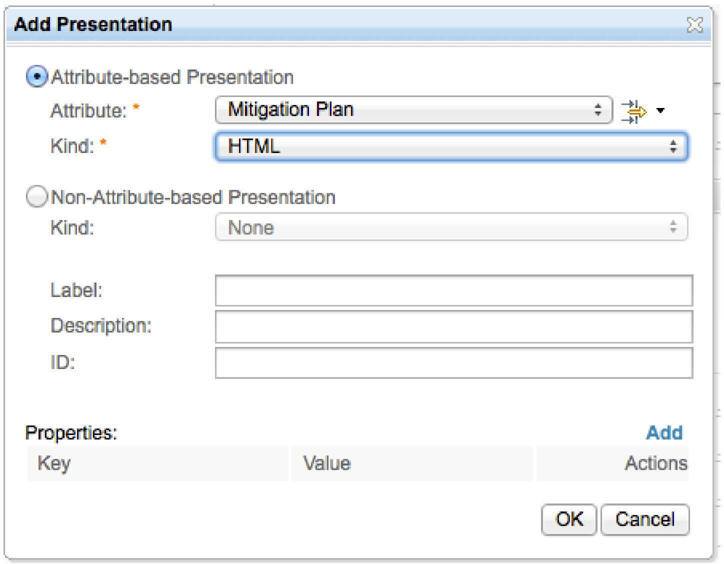
9. Add presentations to the **Contingency Plan** section:



10. Add a section with ID `risk.editor.section.mitigation` for **Mitigation Plan** by clicking the Add Section :



11. Add presentations to the **Mitigation Plan** section:



12. Save your changes.
13. Customize the **Overview** tab by adding these sections:
    - **Title:** `Details`, **Slot:** `Details`, **Create Section ID**: `com.ibm.team.workitem.section.details.risk`
    - **Title:** `Description`, **Slot:** `Description`, **Create Section ID**: `com.ibm.team.workitem.section.description_risk`
    - **Title:** `Discussion`, **Slot:** `Discussion`, **Reuse Existing Section**: `com.ibm.team.workitem.section.discussion`
    - **Title:** `Quick Information`, **Slot:** `Quick Information`, **Reuse Existing Section**: `com.ibm.team.workitem.section.quickinformation`

14. In the **Details** section, add these presentations:
    - **Attribute:** `Type`, **Kind:** `Enumeration`
    - **Attribute:** `Filed Against`, **Kind:** `Category`
    - **Non-Attribute-based Presentation, Kind:** `Team and Project Area`
    - **Attribute:** `Creation Date`, **Kind:** `Timestamp`
    - **Attribute:** `Created By`, **Kind:** `Contributor`
    - **Attribute:** `Planned For`, **Kind:** `Iteration`, **`Label`**`: Identified For`
    - **Attribute:** `Resolution Date`, **Kind:** `Timestamp`
    - **Attribute:** `Resolved By`, **Kind:** `Contributor`
    - **Attribute:** `Probability`, **Kind:** `Enumeration`
    - **Attribute:** `Impact`, **Kind:** `Enumeration`
    - **Attribute:** `Exposure(%)`, **Kind:** `Long`
    - **Attribute:** `Risk Category`, **Kind:** `Enumeration`
    - **Attribute:** `Tags`, **Kind:** `Tags`
    - **Attribute:** `Owned By`, **Kind:** `Contributor`
    - **Attribute:** `Occurrence Date`, **Kind:** `Timestamp`

- **Attribute:** `Priority`, **Kind:** `Enumeration`

15. Save your changes.
16. Select the `com.ibm.team.workitem.web.inline` editor presentation.
17. Add a new Tab for **Risk**:
    - **Title:** `Risk`, **Layout:** `H Layout`, **Create Tab ID :** `com.ibm.team.workitem.web.inline.risk`
18. Add these sections:
    - **Title:** `Details`, **Slot:** `Left`, **Create Section ID**: `com.ibm.team.workitem.web.inline.risk.details`
    - **Title:** `Description`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`
    - **Title:** `Discussion`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.section.discussion`
    - **Title:** `Quick Information`, **Slot:** `Right`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.section.quickinformation`
    - **Title:** `Summary`, **Slot:** `Top`, **Reuse Existing Section**: `com.ibm.team.workitem.web.inline.default.summary`

19. Add these presentations to the **Details** section:
    - **Non-Attribute-based Presentation, Kind:** `Workflow State`
    - **Non-Attribute-based Presentation, Kind:** `Workflow Resolution`
    - **Attribute:** `Filed Against`, **Kind:** `Category`
    - **Attribute:** `Risk Category`, **Kind:** `Enumeration`
    - **Attribute:** `Probability`, **Kind:** `Enumeration`
    - **Attribute:** `Impact`, **Kind:** `Enumeration`
    - **Attribute:** `Owned By`, **Kind:** `Contributor`
    - **Attribute:** `Priority`, **Kind:** `Enumeration`
    - **Attribute:** `Exposure(%)`, **Kind:** `Long (readonly)`
    - **Attribute:** `Planned For`, **Kind:** `Iteration`, **Label:** `Identified For`
    - **Attribute:** `Occurrence Date`, **Kind:** `Timestamp`
20. Save your changes.
21. Select the `com.ibm.team.apt.planPreview` editor presentation.
22. Add a new Tab for **Risk**:
    - **Title:** `Risk`, **Layout:** `H Layout`, **Create Tab ID :** `com.ibm.team.apt.planPreview.risk`
23. Add these sections:
    - **Title:** `Details`, **Slot:** `Left`, **Create Section ID**: `com.ibm.team.apt.planPreview.risk.section.details`
    - **Title:** `Description`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.description`

- **Title:** `Discussion`, **Slot:** `Bottom`, **Reuse Existing Section**: `com.ibm.team.workitem.section.discussion`
- **Title:** `Quick Info`, **Slot:** `Right`, **Reuse Existing Section**: `com.ibm.team.workitem.section.quickinformation`
- **Title:** `Summary`, **Slot:** `Top`, **Reuse Existing Section**: `com.ibm.team.apt.planPreview.default.section.summary`

24. Add these presentations to the **Details** section:
    - **Attribute:** `Filed Against`, **Kind:** `Category`
    - **Attribute:** `Tags`, **Kind:** `Tags`
    - **Attribute:** `Probability`, **Kind:** `Enumeration`
    - **Attribute:** `Impact`, **Kind:** `Enumeration`
    - **Attribute:** `Owned By`, **Kind:** `Contributor`
    - **Attribute:** `Priority`, **Kind:** `Enumeration`
    - **Attribute:** `Exposure(%)`, **Kind:** `Long (readonly)`
    - **Attribute:** `Risk Category`, **Kind:** `Enumeration`
    - **Attribute:** `Occurrence Date`, **Kind:** `Timestamp`
25. Save your changes.
26. Return to the **Types and Attributes** and specify the new editors:
    Work Item Editor: `com.ibm.team.workitem.editor.risk`
    Inline Work Item Editor: `com.ibm.team.workitem.web.inline.risk`
    Plan Editor: `com.ibm.team.apt.planPreview.risk`
27. Save your changes.
28. Test your changes to the PI Objective work item editors by creating a new Risk.

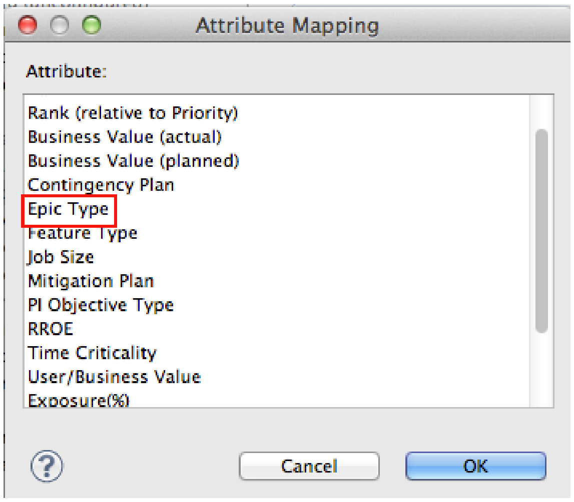
Congratulations! You have successfully created all of the SAFe Program artifacts!

SAFe Backlog, Roadmap & Kanban

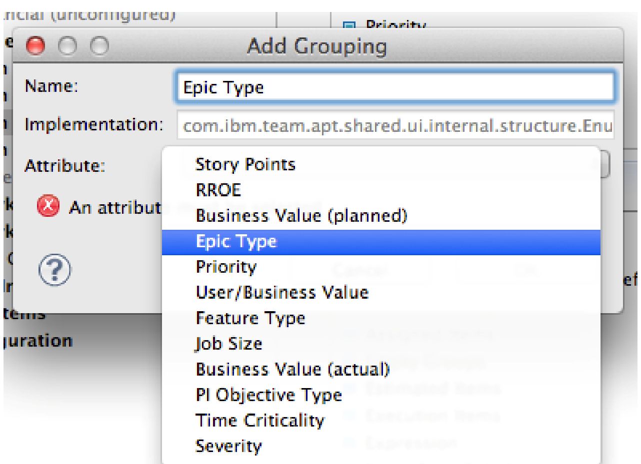
In support of the Program Backlog, Roadmap and Kanban concepts in SAFe, you will configure plan views. Before doing that, you need to ensure that the customized attributes you've created above are available for those plan views.

You must do this in the RTC Eclipse client.

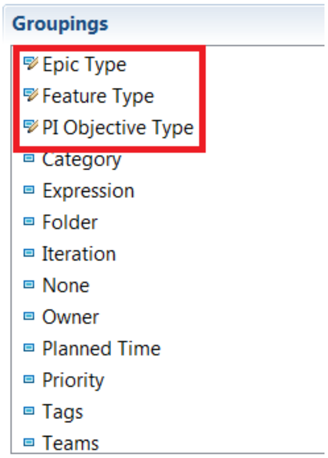
1. Return to the RTC Eclipse client and refresh to ensure you've picked up any changes made in the browser.
2. In the **Process Configuration** tab, navigate to **Project Configuration > Configuration Data > Planning > Plan Attributes**.
3. Expand the **Attribute Mapping** section.
4. Click **Add,** select the `Epic Type` attribute and click OK:



5. Repeat this step to add the following attributes to the mapping:
   - `Achieved Value (%)`
   - `Business Value (actual)`
   - `Business Value (planned)`
   - `Epic Type`
   - `Feature Type`
   - `Job Size`
   - `PI Objective Type`
   - `RROE`
   - `Time Criticality`
   - `User/Business Value`
   - `WSJF`
6. Save your changes.
7. Navigate to **Plan View Elements**.
8. In the **Groupings** box, click to add the `Epic Type` grouping:



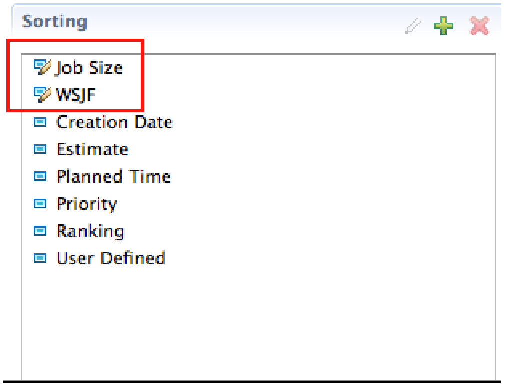
9. Repeat this process to add groupings for `Feature Type` and `PI Objective Type`. Your **Groupings** box should look similar to this:



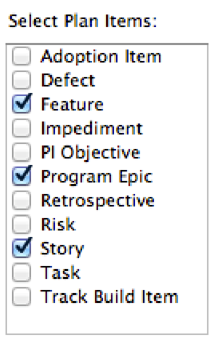
10. In the **Sorting** box, add `Job Size` attribute.
11. Add `WSJF` attribute as a sorter, this needs to be done using the **Process Configuration Source** tab:
    - Click the **Process Configuration Source** tab and search for a configuration data section with this ID: `com.ibm.team.apt.configuration.planConfigurationElement`. If it exists then, add the xml snippet for the new sort mode as a child of that section else add this entire section below as a new configuration data.

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

    <sortmode description="Sorts work items by WSJF"
id="com.ibm.team.apt.sortmode.wsjf"
implementation="com.ibm.team.apt.shared.ui.internal.sortmode.GenericPlanItem
Sorter" name="WSJF">

          <parameters>

              <parameter key="attribute"
        value="com.ibm.team.apt.attributes._com.ibm.team.workitem.attribute.w
        sjf"/>

                  <parameter key="sortorder" value="descending"/>

          </parameters>

    </sortmode>

</configuration-data>
```

12. Your **Sorting** box should look similar to this:



13. Save your changes.
14. Navigate to **Work Item Type Categorization**.
15. Select `Feature` as a Plan Item in addition to `Program Epic` and `Story`:



16. Save your changes.

You are now ready to create plans and plan views to track some of the key activities that are part of the SAFe process. Use RTC in the browser to do this.

Kanban Planning

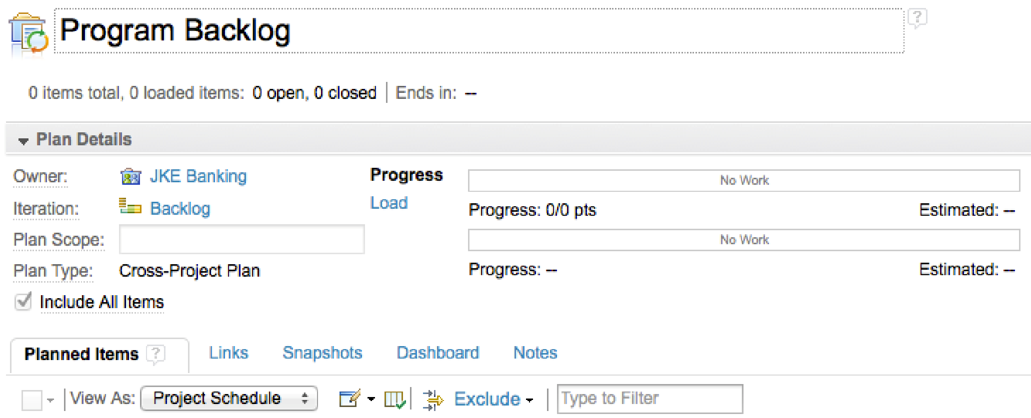
The Kanban planning process in SAFe is an activity performed on Program Epics. Use the Kanban board to move Program Epics through the triage and evaluation process.

Program Epics are a refinement of Portfolio Epics within the scope of a single Agile Release Train. In this section, we will create the Program Backlog with a Kanban view to support the Kanban process described by SAFe.

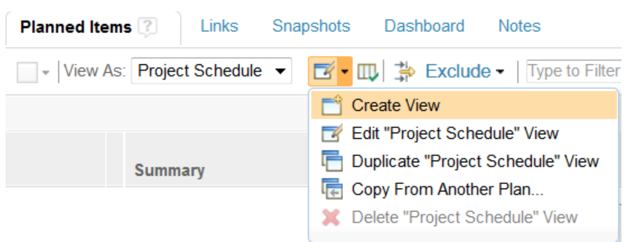
1. Return to your project area in the browser:
   - Launch RTC in the browser: `https://<your host>:9443/ccm/web/projects`
   - Click on **Explore Dashboard** in the project area you are configuring.
2. Select the **Plans > Create Plan > Cross-Project Plan** menu option. Note: You can use any plan type, in this example we picked the Cross-Project Plan
3. Name the plan and set the Owner and Iteration:
   - Name: `Program Backlog`
   - Owner: *`[Program Timeline]`*

- Iteration: `Backlog`

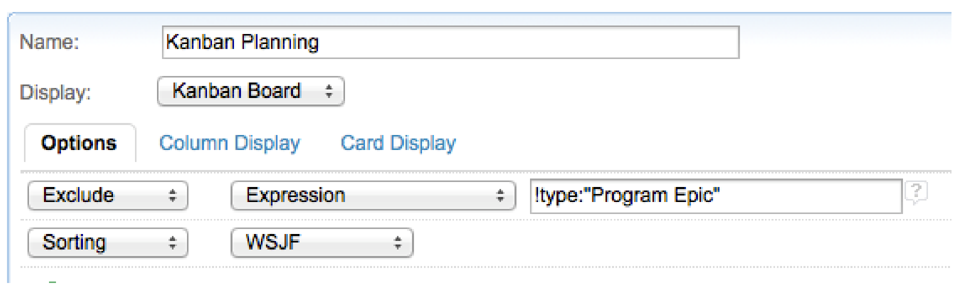
4. Save your changes to create the plan. The default (Project Schedule) plan view is displayed.



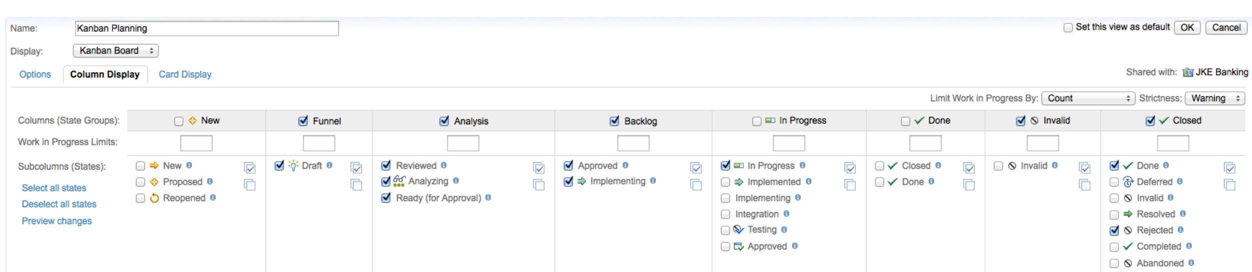
5. Create a new view:



6. Set the **Name** and **Display** values: `Kanban Planning, Kanban Board.` Exclude all except Program Epics, Sorting `WSJF`

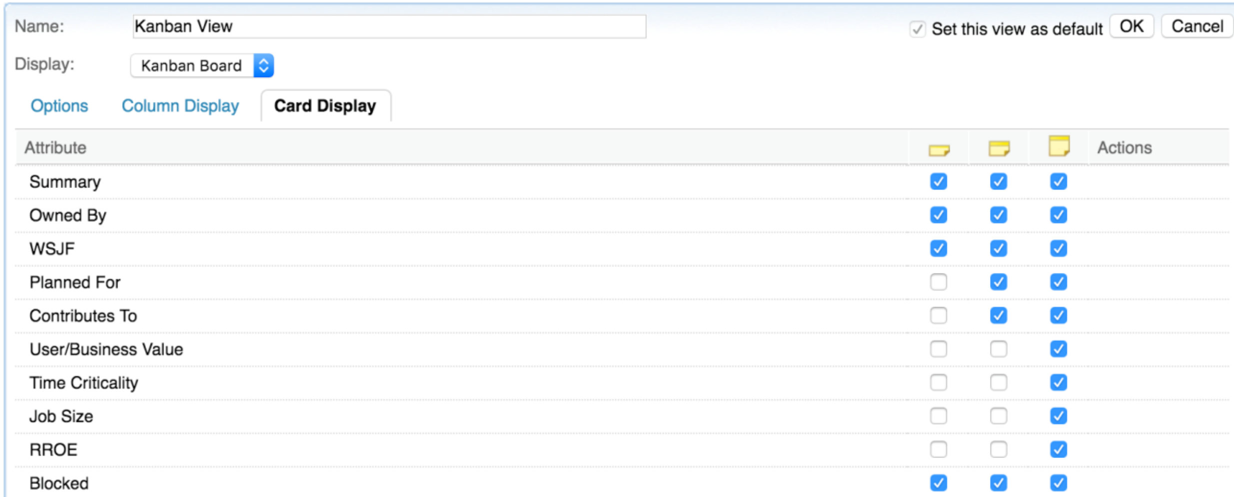


7. Click on **Column Display** to configure this view based on the Program Epic Workflow set up in Customize the Epic Workflow:

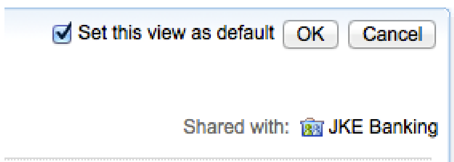


You can configure the WIP limits specific to your organization.

8. Click on **Card Display** to add attributes to you Kanban cards:



9. Click the **Set this view as default** checkbox and then OK:



10. Save your changes.

As you start executing the Kanban planning process, you can revisit your plan view to make changes based on your organization's needs.

Additional Plans may prove useful, some suggestions are provided in Table 7.

Table 7: Suggested Plans Views

Plan View	Display	Options	Column Display
Roadmap	Tree (Contributes To -> Tracks or Parent -> Children)	Sorting : WSJF Exclude: Resolved Items	Summary Id WSJF Status Planned For
WSJF Ranked List	Flat	Exclude: Resolved Items Exclude: Expression (!type: Feature) Sorting: WSJF	Summary Id Status WSJF Job Size User/Business Value Time Criticality RROE
Architectural Runway	Tree (Contributes To -> Tracks or Parent -> Children)	Exclude: Resolved Items Exclude: Expression (!type: Feature) Sorting: WSJF	Id Planned For WSJF

Team-Based Planning

RTC comes with a quick and easy planning capability called Quick Planner. This alleviates the complexity of having to create static Plans and Plan Views and, for Teams, enables planning in a more dynamic way. Quick Planner can be access via **Plans > Quick Planner** from the menu. Views are provided out of the box for:

- Incoming Work
- Backlog
- Iteration Planning
- Team's Work

Quick Planner enables visualization of work by iteration and by state, in textual (tree view) as well as Kanban views.

Dashboards & Reports

RTC provides several out-of-the-box dashboard widgets and reports that align well with the SAFe guidance for measuring health, status, and improvements at the Team level. Some of these can also be applied to the Program (and Portfolio) levels. In addition, we provide separately downloadable archive files with Jazz Reporting Service-based reports developed specifically for SAFe. If you are configuring an existing project area in CLM 6.0 or later, you can take advantage of the JRS reports. Visit the **SAFe Reports** link on the external SAFe site for details (see References for more information).

The Project Area dashboard can be customized to add tabs with widgets and reports suitable for the Program and Team, making it easy for users to find the information at the right scope for their role in the organization. Visit the configuration topics linked from the external SAFe site for details (again, see References for more information).

Congratulations! You have successfully configured a SAFe Program process! You can now begin working in a SAFe way immediately, or you can export a SAFe Program RTC process template for use later. Instructions on how to do this are provided in Create RTC Process Templates below.

SAFe Portfolio

Launch the Change and Configuration Management **Server Administration** page in your browser:

1. Open a web browser and enter the URL for the Change and Configuration Management Application Administration page for your installation, for example: `https://[hostname]:9443/ccm/admin`
2. Log on as a Jazz Admin user.
3. Select **Project Areas > Active Project Areas** and select the project area you want to configure.

SAFe Roles

Table 8 below contains the set of SAFe Portfolio roles we suggest you create as a minimum.

SAFe Level	SAFe Role	Comments
Portfolio	Portfolio Manager	
	Business Analyst	
	IT Director	
	Stakeholder	

	Enterprise Architect	
	Program Lead	

Table 8: SAFe Portfolio Roles

Create the Roles

1. Select **Roles** in the left pane.
2. For each role in the table above (that does not exist with the process template used to create your Project Area), click the **Create Role** button to create a new role:
    a. Provide the role Name and Cardinality supplied in the table above. Use the Name as the Identifier.
    b. If desired, consult the SAFe web site for a description that can be used.

The resulting roles created in our example are shown in below.

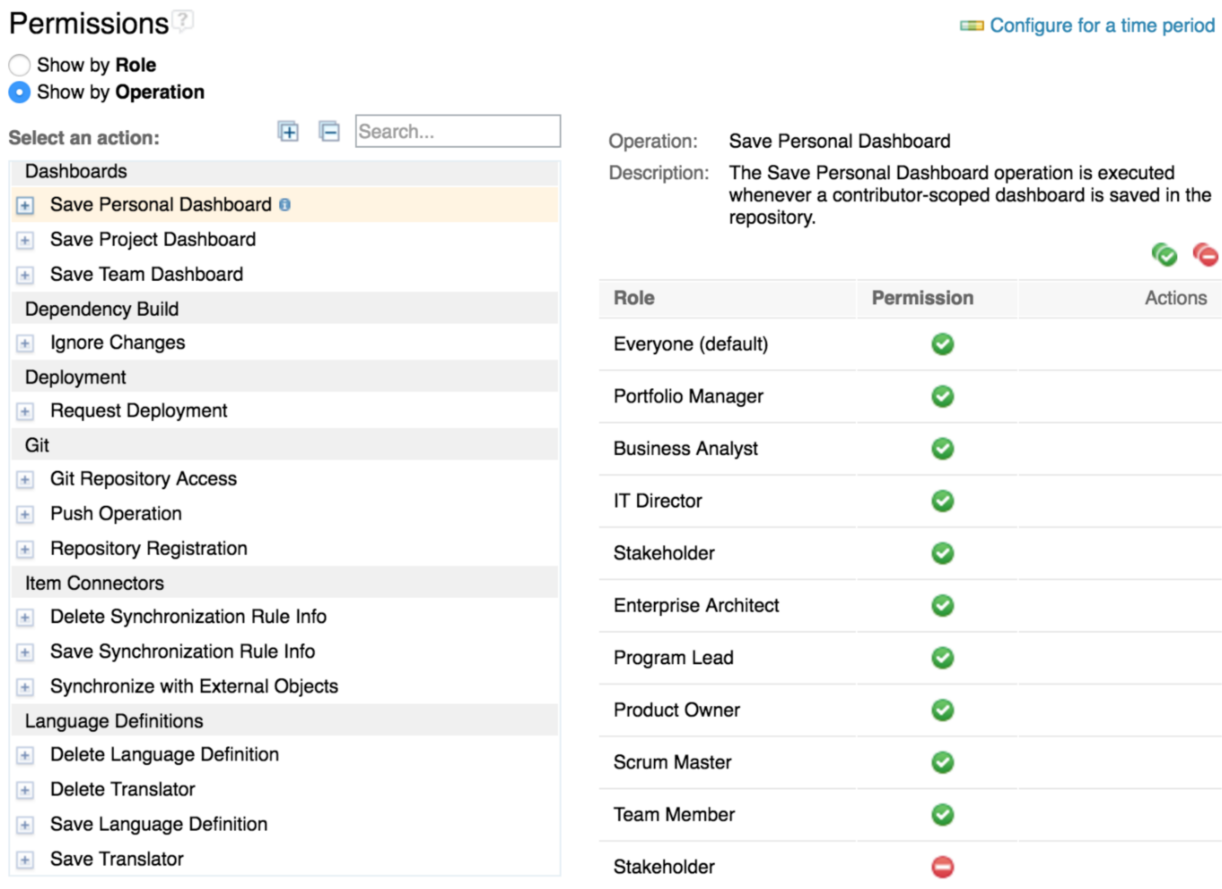
Configure Project Permissions

Now that the roles are created, proceed to update the Project Permissions.

1. Select **Permissions** in the left pane. Note that default permissions are set for you based on the process template used to create your project area.
2. Click the **Show by Operation** radio button.
3. Scroll to the **Dashboards** section and expand the options.

You can remove permissions for roles that you do not want to use (e.g. Stakeholder).

4. Under **Save Personal Dashboard**, click the at the top of the **Actions** column in the **Role** table to *Grant permission to all roles*:



5. Repeat this process to update permissions for the following activities and roles shown in Table 3.

Table 9: Update Permissions

Activity	Grant Permissions	Remove Permissions (optional)
Dashboards > Save Project Dashboards	Portfolio Manager	Product Owner Scrum Master Team Member
Dashboards > Save Team Dashboards	Portfolio Manager Business Analyst Enterprise Architect Program Lead	
Planning (All)	Portfolio Manager Business Analyst Enterprise Architect Program Lead	Team Member
Process > Generate Team Invitation		
Process > Save process Description > Modify process description		
Process > Save Team Area		
Reports > Deploy Report		

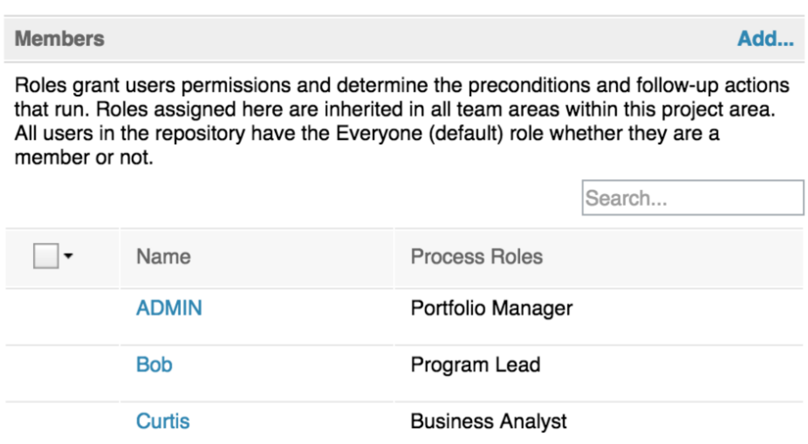
Reports > Manage Report Folder		
Work Items > Save Category		
Process > Save process Description > Create process description Process > Save process Description > Delete process description	Portfolio Manager Business Analyst Enterprise Architect Program Lead	
Process > Save Project Area	Portfolio Manager	Product Owner Scrum Master
Reports > Display Report	Everyone	Team Member Stakeholder
Work Items > Delete Query		
Work Items > Save Attachment > Modify attachment		
Work Items > Save Query		
Save Work Item (All except Bulk work item operation)		
Work Items > Save Enumeration	Portfolio Manager	
Work Items > Save Release		
Save Work Item > Bulk work item operation		

6. Save your changes.

Create/Assign Users to Roles

Define the Users in your Portfolio and assign them to Roles.

1. Select **Users > Create User** from the menu bar to create users and assign them the appropriate Client Access License. Save your changes after creating each user.
2. Return to your project area home page via **Project Areas > Active Project Areas.**
3. Scroll to the **Members** section and add the Admin, Portfolio Manager, and any Program Lead users with their associated roles. Give the Admin the Portfolio Manager role. For example:



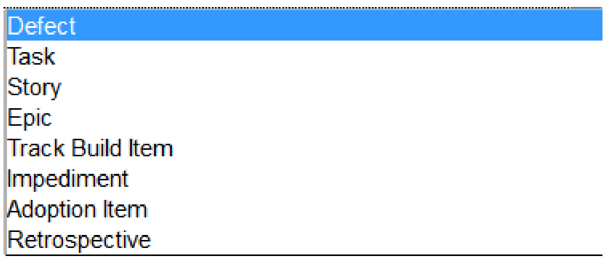
4. Save your changes. When prompted to send Team Invitations, make your selection.
5. Repeat this process for any other role you want to assign to your users.

Congratulations! You have successfully configured your roles, permissions, and users for your SAFe Portfolio project area.

SAFe Artifacts

SAFe artifacts that require workflow and are used in planning are instantiated as RTC work items. At the SAFe Portfolio level, there is only one work item type you need to create: Portfolio Epic. For reference, consult Customizing work items in the IBM Knowledge Center for more details on configuration of work items. This help topic also contains links to existing articles on jazz.net. You may also want to review the descriptions of these artifacts on the Scaled Agile Framework web site.

The Scrum process template creates the work item types shown below.



The Task work item type will be reused. Beyond that, you can remove all other work item types if you wish as they are not part of the SAFe 3.0 support.

Create the Enumerations

The Enumeration data types must be created first so that we can use those data types when creating attributes to add to work item types. Table 10 shows the set of Enumerations to be created.

Table 10: Enumerations

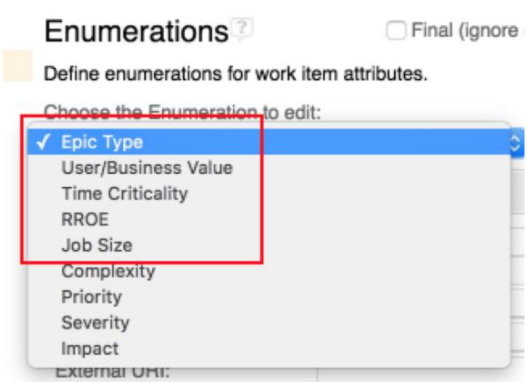
Enumeration	RTC ID	Enum Values	Default	Unassigned
Epic Type	epicType	Architectural Business	Business	Business
Job Size	jobSize	Unassigned 1, 2, 3, 5, 8, 13, 20 *Note: You can create a single enum for the **Fibonacci sequence** and reuse it for all of the attributes that require that data type.*	Unassigned	Unassigned
User/Business Value	ubVal			
Time Criticality	timeCrit			
RROE	rroe			

To create the enumerations, perform these steps:

1. Select **Work Items** from the left navigation pane.
2. In the *Work Items* box, select **Enumerations**.
3. Click the **Add…** button to bring up the **Add Enumeration** wizard.
4. For each enumeration,

a. Specify the Name and ID, for example: `Epic Type, epicType`
b. Take all other defaults and click **OK**.
c. Specify the values by clicking **Add…** in the Literals table.
d. For each literal value,
    i. Provide a Name and an icon (if desired) and click **OK**. For example: `Architectural.` You will get an error about having no default value, which can be ignored. You will specify that in a minute.
e. When you have specified all of the literal values, choose a **Default Literal** from the drop-down list, for example: `Unassigned`
f. Choose the literal value to be used when none has been specified from the **Unassigned Literal** drop-down list, for example: `Unassigned`

The resulting Enumerations are shown below:



Create the Work Item Types

As you perform the steps to create the work item types, use Table 11 as a reference. This table shows the Portfolio Epic and its related attributes – if you configured the SAFe Program above, you'll recognize this is the same as the Program Epic.

Table 11: Work Item Types & Customized Attributes

SAFe Level	Attribute Name	Data Type	RTC ID	Notes
Portfolio	**Portfolio Epic** (Overview tab)			
	Epic Type	Epic Type (Enumeration)	com.ibm.team.workitem.attribute.epicType	Architectural, Business
	Value Statement	Wiki	com.ibm.team.workitem.attribute.valueStatement	
	Job Size	Job Size (Enumeration)	com.ibm.team.workitem.attribute.jobSize	
	User/Business Value	User/Business Value (Enumeration)	com.ibm.team.workitem.attribute.ubVal	

	Time Criticality	Time Criticality (Enumeration	com.ibm.team.workitem.attribute.timeCrit	
	RR/OE	RROE (Enumeration)	com.ibm.team.workitem.attribute.rroe	
	WSJF	Integer	com.ibm.team.workitem.attribute.wsjf	

Create the Portfolio Epic

1. In the *Work Items* box, select **Types and Attributes.**
2. Select `Epic` from the work item drop-down list to display the details.
3. In the **Details** section, change the Name of the work item type to `Portfolio Epic`.
4. Click OK when you are prompted to change the built-in attribute.
5. At the top of the **Attributes** table, click to *Show only custom attributes*. The set of attributes disappears (because you do not yet have any customized attributes).
6. For each Portfolio Epic attribute shown in Table 11 above:
    a. Click the **Add…** button to bring up the **Add Attribute** wizard.
    b. Specify the Name and ID, for example: `Epic Type`, `com.ibm.team.workitem.attribute.epicType`
    c. Use the Type drop-down list to select the associated data type, for example: `Epic Type`

       *Note: For enumerations, pick the **Enumeration** type, not **Enumeration List** type*.
    d. Click OK to add the new attribute.
7. When you have finished creating all of the customized attributes for the Portfolio Epic, save your changes.

In Create Attribute Customizations and Workflows, we will create the WSJF calculation as well as the default Value Statement.

Create Attribute Customizations and Workflows

To perform the configurations in this and some subsequent sections, you must use the RTC Eclipse client. Ensure you have saved all changes in the RTC browser before proceeding.

In this section, you will create the calculation for the customized WSJF attribute, the default Value Statement and the workflows for the work item types created above. The Portfolio Epics have a separate workflow related to the SAFe Kanban planning process.

1. Start the RTC Eclipse client and connect to (or create) the workspace for the project area you are configuring.
2. From the **Jazz Administration** perspective, in the **Team Artifacts** view, select your project area, right-click and select Open. Note: If you have not used the Eclipse client previously, you will need to create a repository connection, log in, and connect to your project area.
3. Select the **Process Configuration** tab and navigate to **Project Configuration > Configuration Data > Work Items**.

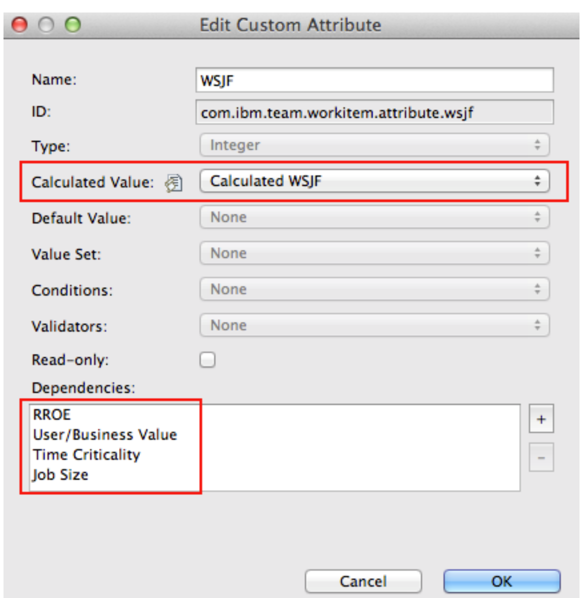
Create Calculated WSJF

1. Navigate to **Attribute Customization**, select **Calculated Values** and click the **Add…** button.
2. Specify the Name: `Calculated WSJF`
3. Select `Script Based Calculated Value` for the **Provider**, click OK.
4. In the **Script** box, copy-paste the following (be sure to change the attribute RTC IDs if necessary):

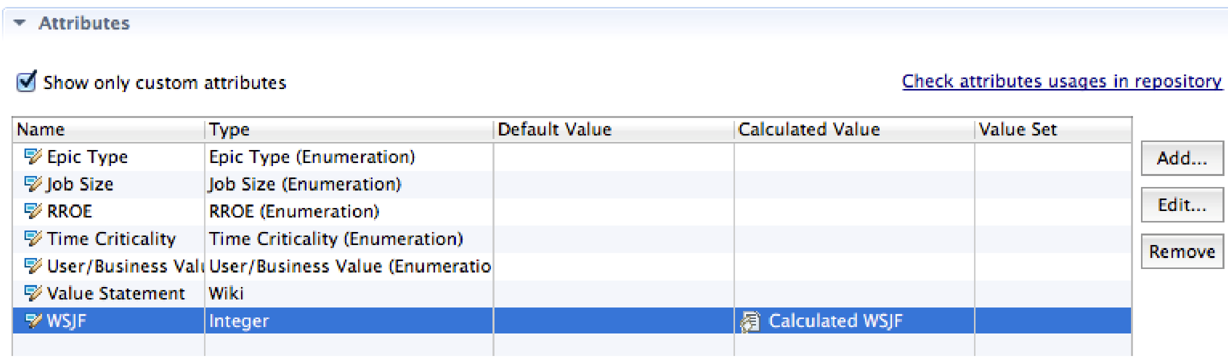
```
/* Licensed Materials - Property of IBM
* (c) Copyright IBM Corporation 2015. All Rights Reserved.
*
* Note to U.S. Government Users Restricted Rights:
* Use, duplication or disclosure restricted by GSA ADP Schedule
* Contract with IBM Corp.
*******************************************************************************/
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;

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

                    // Time Criticality
                    timeCrit= calc(timeCritLabel, 0);

                    // RR/OE
                    rroe= calc(rroeLabel, 0);

                    // Job Size
                    jobSize= calc(jobSizeLabel, 1);

                    var costOfDelay= ubVal + timeCrit + rroe;

                    var wsjfInt= Number(costOfDelay / jobSize);
                    var wsjfStr= String(costOfDelay / jobSize);

                    return wsjfInt;

                    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 '20':
                                        result= 20;
                                        break;
                        }
                return result;
                }
        }
    });
})();
```

5. Save your changes.
6. Navigate to **Work Items > Types and Attributes** and select the **Portfolio Epic** work item type**.**
7. Scroll down to the **Attributes** section, select the `WSJF` attribute and click **Edit….**
8. Set the **Calculated Value** and **Dependencies** and click **OK:**



9. The `WSJF` attribute will be updated as shown below:



10. Save your changes.

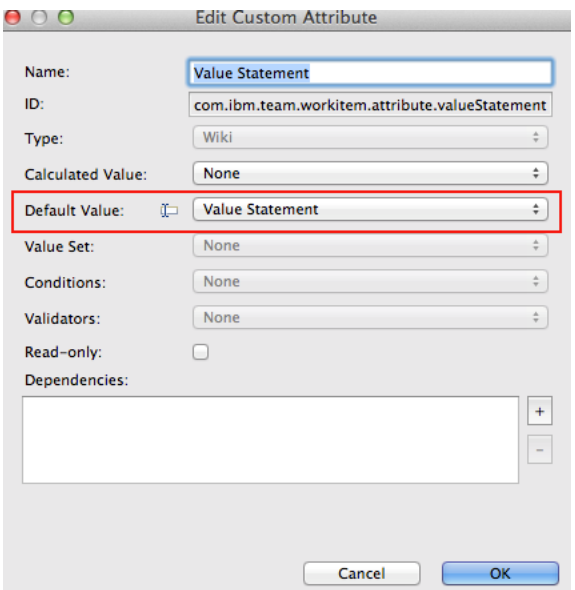
Create Value Statement default

1. Select **Default Values** and click the **Add…** button (make sure you refresh to pick up any changes you have made in the browser!).
2. Specify the Name: `Value Statement`
3. Specify `Wiki` for the **Provider**, click OK.
4. In the **Configuration** box, copy-paste the following text:

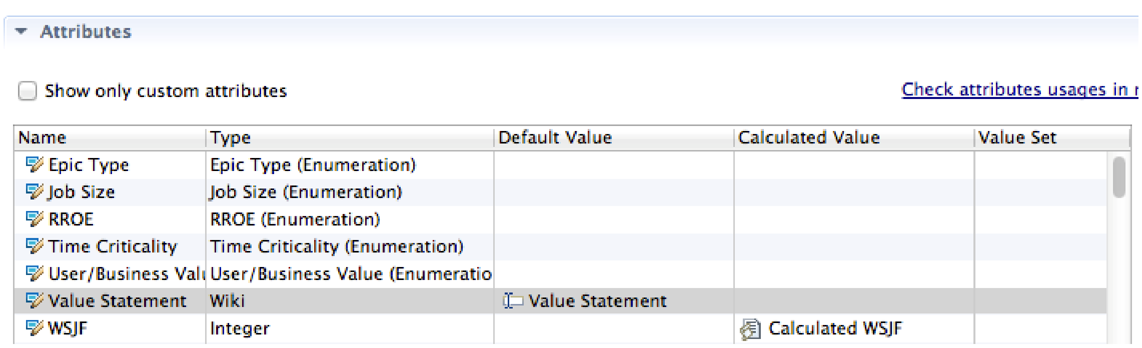
```
Forward-Looking Position Statement:


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">


Scope:


Success Criteria:
* Criterion 1
* Criterion 2


In Scope:
* x
* y
```

```
Out of Scope:
* x
* y

NFRs:
* Non-functional requirement 1
* Non-functional requirement 2
```

5. Save your changes.
6. Navigate to **Work Items > Types and Attributes** and select the **Portfolio Epic** work item type**.**
7. Scroll down to the **Attributes** section, select the `Value Statement` attribute and click **Edit….**
8. Set the **Default Value** and click **OK:**



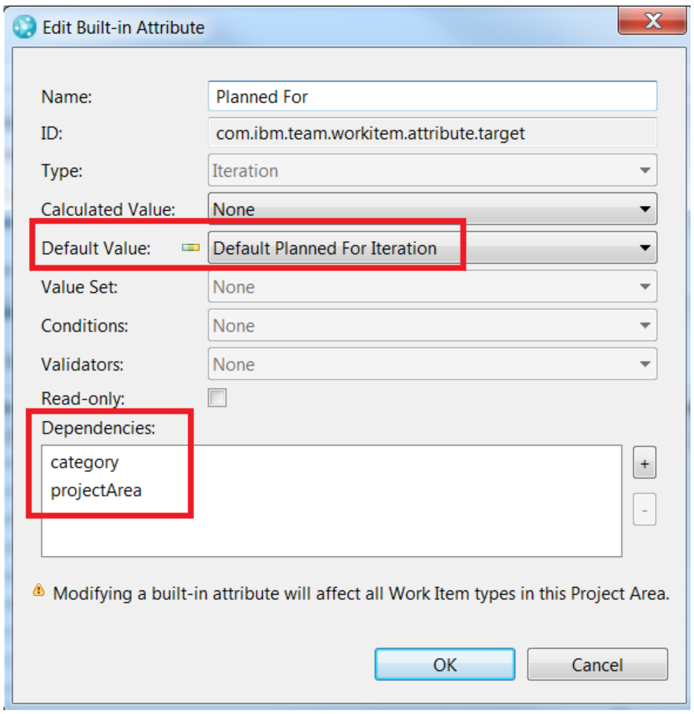
9. The Value Statement attribute will be updated as shown below:



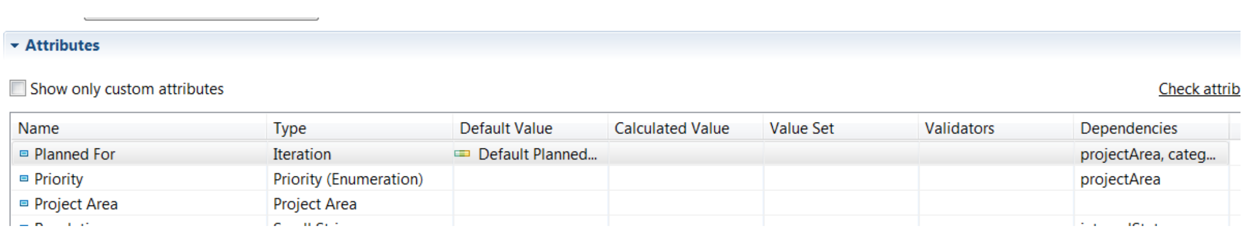
10. Save your changes.

Create Default Planned For Iteration default

11. Select **Default Values** and click the **Add…** button (make sure you refresh to pick up any changes you have made in the browser!).
12. Specify the Name: `Default Planned For Iteration`
13. Specify `Iteration` for the **Provider**, click OK.
14. In the **Configuration** box, copy-paste the following text, specify `/portfolio-timeline/backlog` for the **Iteration** value.
15. Save your changes.
16. Navigate to **Work Items > Types and Attributes** and select the **Portfolio Epic** work item type**.**
17. Scroll down to the **Attributes** section, select the `Planned For` attribute and click **Edit….**
18. Set the **Default Value** and click **OK:**



19. The attribute will be updated as shown below:



20. Save your changes.

Create or Customize Workflows

Perform these steps in the RTC Eclipse client to create the workflows.

Customize the Epic Workflow

1. In the **Workflows** editor, select `Epic Workflow` from the *Choose the Workflow to edit* drop-down list.
2. Create the following **State Groups**:

State Groups

Name	Category	OSLC Groups
New	Open	
Funnel	Open	
Analysis	In Progress	In Progress
Backlog	In Progress	In Progress
In Progress	In Progress	In Progress
Done	Closed	Closed
Invalid	Closed	
Closed	Closed	Closed

3. Specify the following **States:**

States

Configure the States for this Workflow. For each State, set the order in which Actions will appear throughout th

Name	Group	Show resolution	Description
Rejected	Closed	☐	
Draft	Funnel	☐	
Approved	Backlog	☐	
Analyzing	Analysis	☐	
Implementing	Backlog	☐	
Reviewed	Analysis	☐	
Done	Closed	☐	
Ready (for Approval)	Analysis	☐	

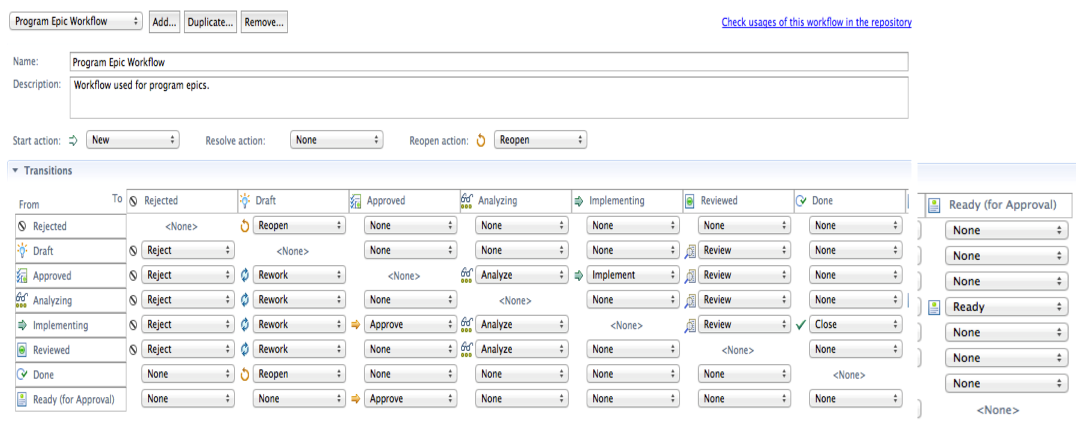
4. Specify the following **Actions:**

Actions

Configure the Actions for this Workflow. For each Action that will have Resolution

Name	Target State	Description
Analyze	Analyzing	
Approve	Approved	
Close	Done	
Implement	Implementing	
New	Draft	
Ready	Ready (for Appr…	
Reject	Rejected	
Reopen	Draft	
Review	Reviewed	
Rework	Draft	

5. Specify the following **Workflow** and **Transitions**:



6. Save your changes.

Create Presentation Views

The last step in this section is to create new (or customize existing) presentation views for each of the work item types you have created. Table 12 contains the set of Editor Presentations and their RTC IDs for each of the work item types. Not all of the presentations require updates but you will need to set the presentations for each of the work item types.

Note: The below sections provide details of the attribute and non-attribute based values added to the presentations, you could add separators or order the attributes differently as per your requirement.

Table 12: Editor Presentations

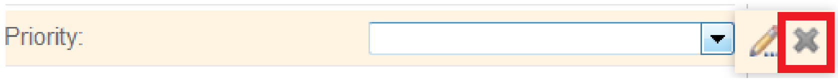
Work Item Type	Editor Presentation	RTC ID	Updates?	New?
Portfolio Epic	Work Item Editor	com.ibm.team.apt.editor.epic	Yes	No
	Inline Work Item Editor	com.ibm.team.workitem.web.inline.epic	Yes	No
	Lightweight Work Item Creation Dialog	com.ibm.team.workitem.lightweight.editor.section	No	No
	Plan Editor Preview	com.ibm.team.apt.planPreview.epic	Yes	No

You will use this table, along with Table 12 above, to edit the presentations.

Customize the Portfolio Epic Editor Presentations

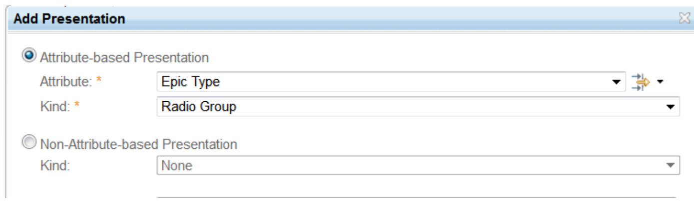
The Portfolio Epic editors already exist, so you will just be customizing them. Some of the configurations will be reused as you create editors for the other work item types.

1. Select **Types and Attributes** from the **Work Items** section.
2. Select `Portfolio Epic` from the work item drop-down list to display the details.
3. In the **Editor Presentation** section, edit the *Work Item Editor* view by clicking on the pencil next to the RTC ID drop-down list.
4. With the **Overview** tab selected, remove the `Priority`, `Resolution Date` and `Resolved By` attributes by hovering over each one and clicking the X. For example:

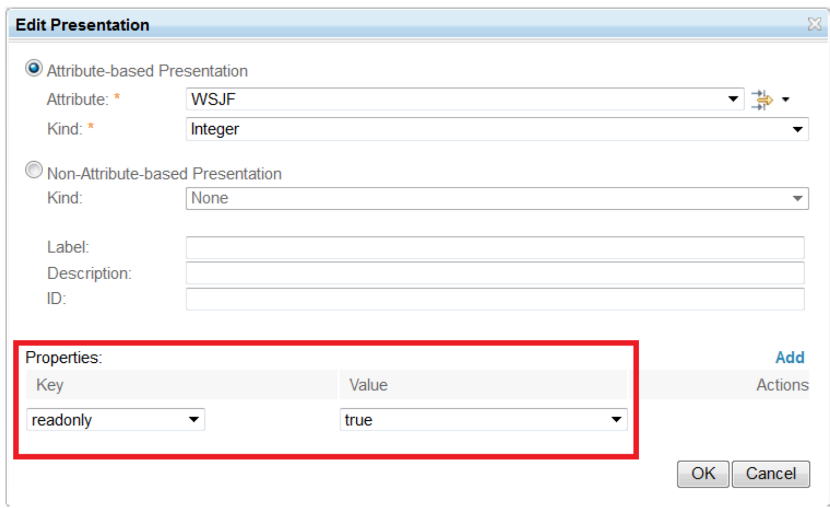


5. Click the  in the Details bar to add presentations for `Epic Type`, `WSJF`, `Job Size`, `User/Business Value`, `Time Criticality` and `RROE`:
    - `Epic Type` (Kind: `Radio Group`)

      For example:

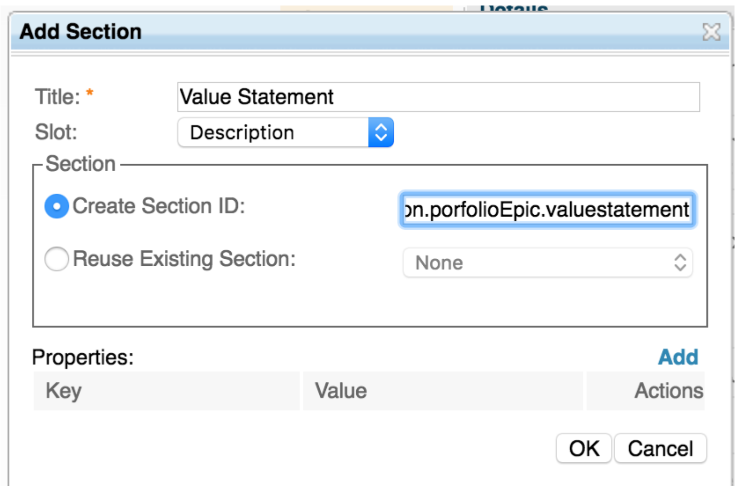
    - `WSJF` (make sure you make this read-only!):

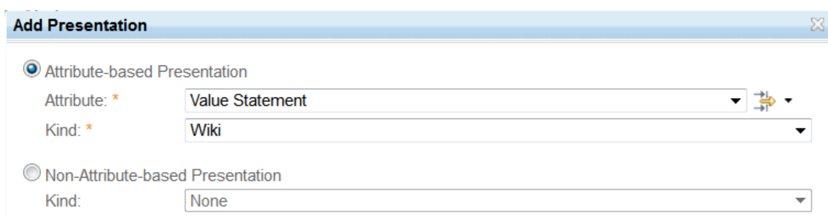
    - `Job Size` (Kind: `Enumeration`)
    - `User/Business Value` (Kind: `Enumeration`)
    - `Time Criticality` (Kind: `Enumeration`)
    - `RROE` (Kind: Enumeration)
6. Replace the **Description** with the **Value Statement**:
    a. Click the **X** to remove the **Description** section.

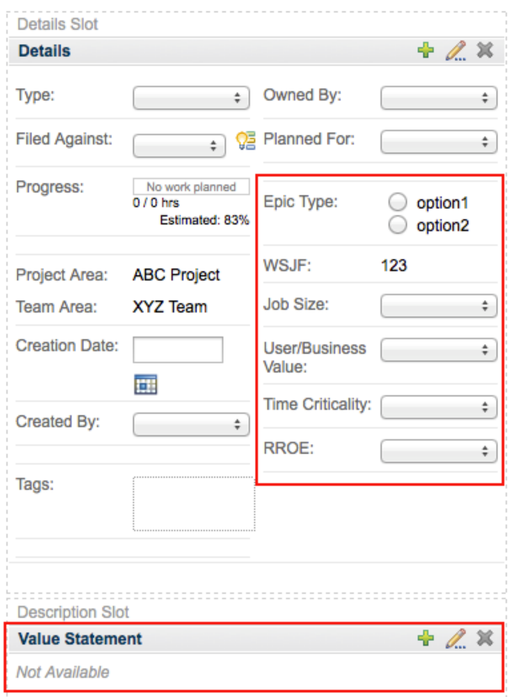
    b. Add a new section called `Value Statement` in the Description slot with ID `com.ibm.team.workitem.section.porfolioEpic.valuestatement`:



c. Add the `Value Statement` attribute to this section:



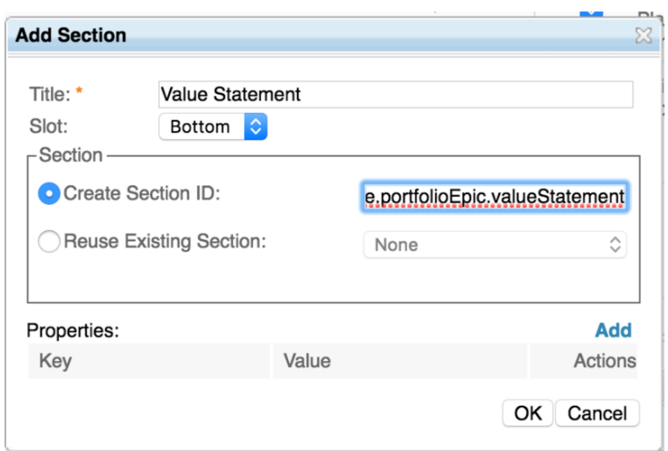
Your updated **Overview** should look similar to this:



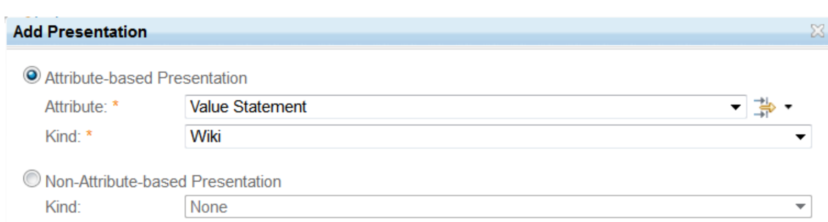
7. Save your changes.

8. Edit the *Inline Work Item Editor* in the same way by returning to the **Types and Attributes**, selecting `Portfolio Epic` from the work item drop-down list and clicking the pencil next to the RTC ID for this editor.
9. Select the **Epic** tab in the left pane.
10. In the **Details** slot, remove the `Priority` attribute by hovering over it and clicking the X.
11. In the **Details** slot, add presentations for `Epic Type, WSJF, Job Size, User/Business Value, Time Criticality` and `RROE Epic Type` as you did above.
12. Replace the **Description** with the **Value Statement**:
    a. Click the **X** to remove the **Description** section.

    b. Add a new section called `Value Statement` in the Bottom slot with ID `com.ibm.team.workitem.web.inline.portfolioEpic.valueStatement`:



    c. Drag-and-drop `Value Statement` between `Quick Info` and `Discussion` sections.
    d. Add the `Value Statement` attribute to this section:



13. Save your changes.

14. Repeat these steps for the *Plan Editor Preview*. For the Value Statement, create a new section ID: `com.ibm.team.apt.planPreview.portfolioEpic.valueStatement`

15. Save your changes.
16. Test your changes to the Portfolio Epic work item editor by creating a new Portfolio Epic.

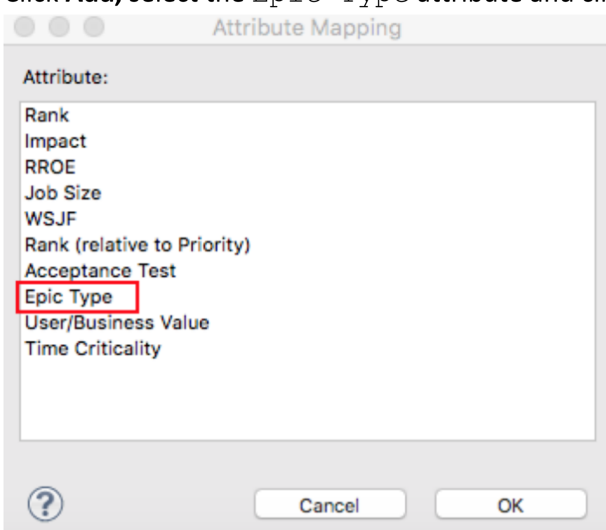
Congratulations! You have successfully created all of the SAFe Portfolio artifacts!

SAFe Backlog, Roadmap, & Kanban

In support of the Program Backlog, Roadmap and Kanban concepts in SAFe, you will configure plan views. Before doing that, you need to ensure that the customized attributes you've created above are available for those plan views.

You must do this in the RTC Eclipse client.

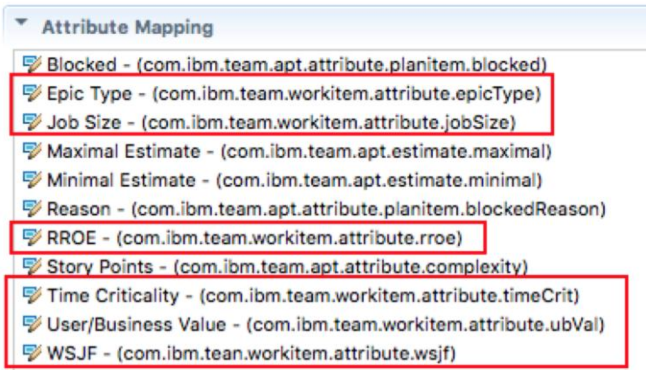
1. Return to the RTC Eclipse client and refresh to ensure you've picked up any changes made in the browser.
2. In the **Process Configuration** tab, navigate to **Project Configuration > Configuration Data > Planning > Plan Attributes**.
3. Expand the **Attribute Mapping** section.
4. Click **Add,** select the `Epic Type` attribute and click OK:



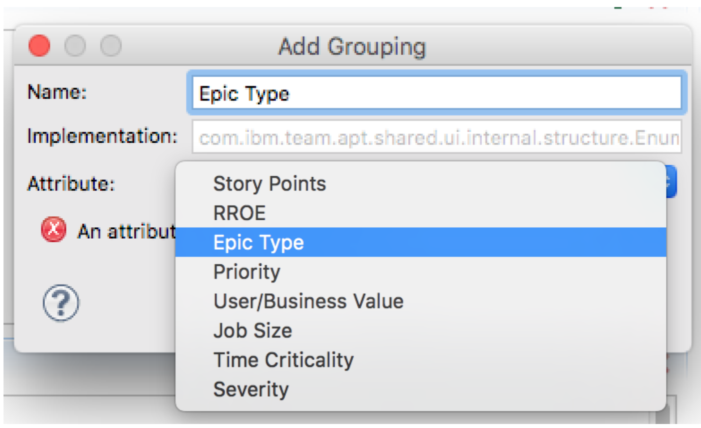
5. Repeat this step to add the following attributes to the mapping:
   - `Epic Type`
   - `Job Size`
   - `RROE`

- `Time Criticality`
- `User/Business Value`
- `WSJF`

6. Save your changes.
7. The resulting Attribute Mapping should look like this:



8. Navigate to **Plan View Elements**.
9. In the **Groupings** box, click to add the `Epic Type` grouping:

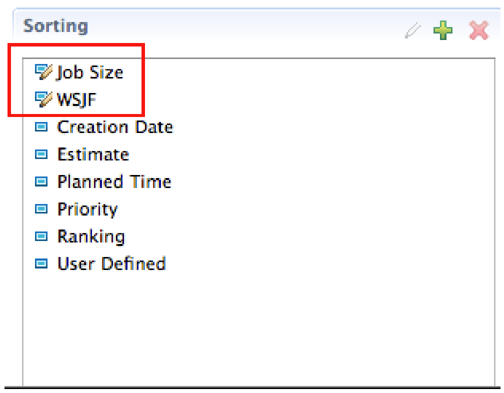


10. In the **Sorting** box, add `Job Size` attribute.
11. Add `WSJF` attribute as a sorter, this needs to be done using the **Process Configuration Source** tab:
    - Click the **Process Configuration Source** tab and search for a configuration data section with this ID: `com.ibm.team.apt.configuration.planConfigurationElement`. If it exists then, add the xml snippet for the new sort mode as a child of that section else add this entire section below as a new configuration data.

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

   <sortmode description="Sorts work items by WSJF"
id="com.ibm.team.apt.sortmode.wsjf"
implementation="com.ibm.team.apt.shared.ui.internal.sortmode.GenericPlanItem
Sorter" name="WSJF">
```

```
                <parameters>
                    <parameter key="attribute"
value="com.ibm.team.apt.attributes._com.ibm.team.workitem.attribute.wsjf"/>
                        <parameter key="sortorder" value="descending"/>
                </parameters>
            </sortmode>
        </configuration-data>
```

12. Your **Sorting** box should look similar to this:



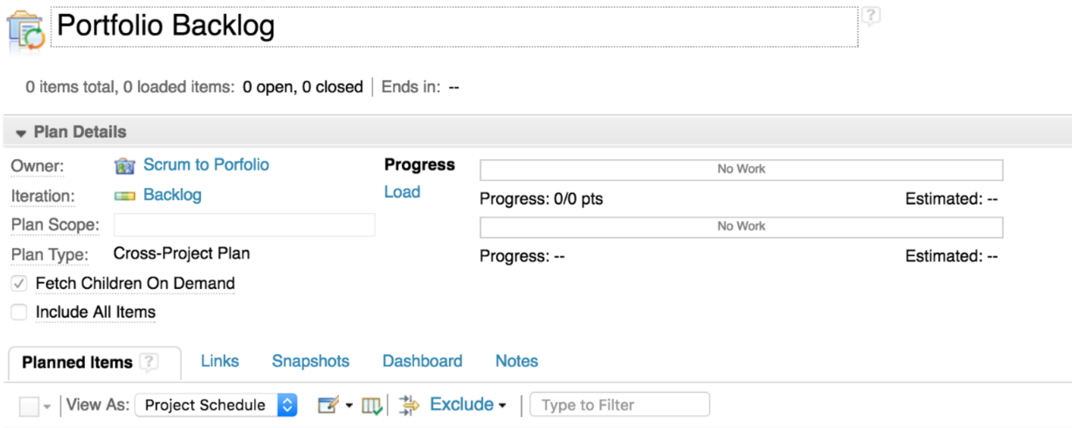
13. Save your changes.

You are now ready to create plans and plan views to track some of the key activities that are part of the SAFe process. Use RTC in the browser to do this.

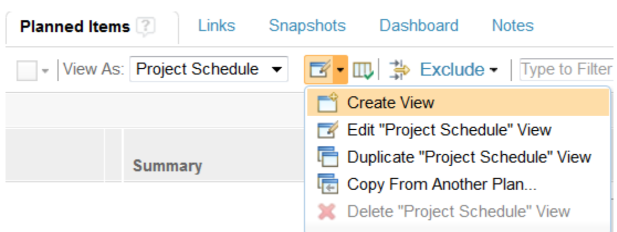
Kanban Planning

The Kanban planning process in SAFe is an activity performed on Portfolio Epics. Use the Kanban board to move Portfolio Epics through the triage and evaluation process. In this section, we will create the Portfolio Backlog with a Kanban view to support the Kanban process described by SAFe.

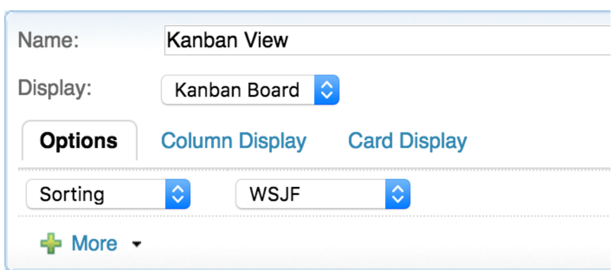
1. Return to your project area in the browser:
    - Launch RTC in the browser: `https://<your host>:9443/ccm/web/projects`
    - Click on **Explore Dashboard** in the project area you are configuring.
2. Select the **Plans > Create Plan > Cross-Project Plan** menu option. Note: You can use any plan type, in this example we picked the Cross-Project Plan
3. Name the plan and set the Owner and Iteration:
    - Name: `Portfolio Backlog`
    - Owner: *`[Portfolio Timeline]`*
    - Iteration: `Backlog`
4. Save your changes to create the plan. The default (Project Schedule) plan view is displayed.



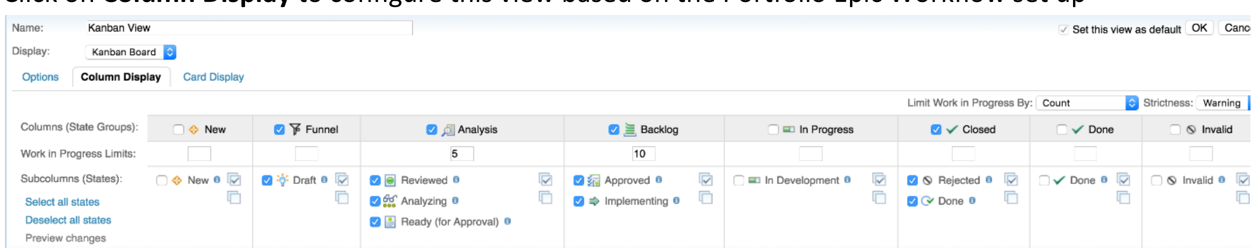
5. Create a new view:



6. Set the **Name** and **Display** values: `Kanban View`, `Kanban Board`. Exclude all except Portfolio Epics, Sorting `WSJF`

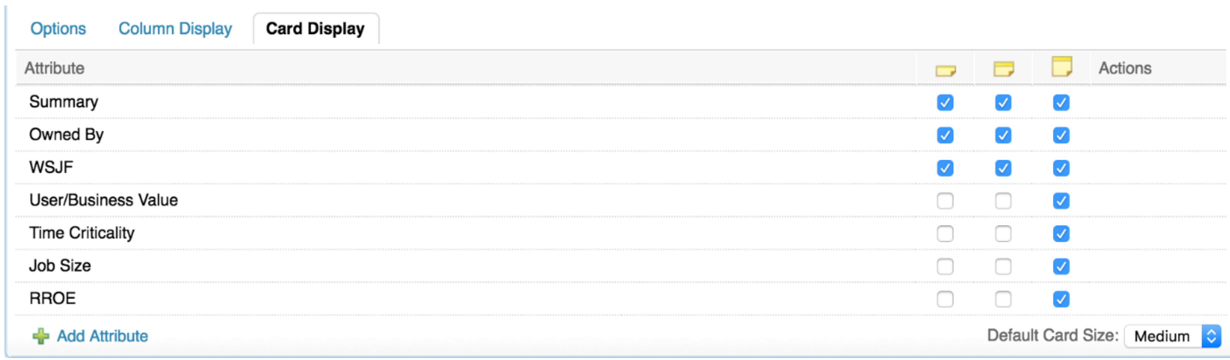


7. Click on **Column Display** to configure this view based on the Portfolio Epic Workflow set up

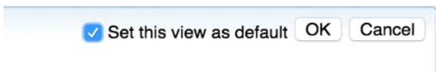


You can configure the WIP limits specific to your organization.

8. Click on **Card Display** to add attributes to you Kanban cards:



9. Click the **Set this view as default** checkbox and then OK:



10. Save your changes.

As you start executing the Kanban planning process, you can revisit your plan view to make changes based on your organization's needs.

Additional Plans may prove useful, some suggestions are provided in Table 13.

Table 13: Suggested Plans Views

SAFe Level	Plan View	Display	Options	Column Display
Portfolio	Roadmap	Tree (Contributes To -> Tracks or Parent -> Children)	Sorting : WSJF Exclude: Resolved Items	Summary Id WSJF Status Planned For Filed Against

Dashboard & Reports

As mentioned above in the SAFe Program configuration section, some of the out-of-the-box dashboard widgets and reports provides for agile teams may also be repurposed for the SAFe Portfolio. More likely, however, you will need the SAFe Portfolio reports we have provided in the separately downloadable archive file for CLM 6.0.1. If you are on an older version of CLM, you will not be able to take advantage of these reports. Visit the **SAFe Reports** link on the external SAFe site for details (see References for more information).

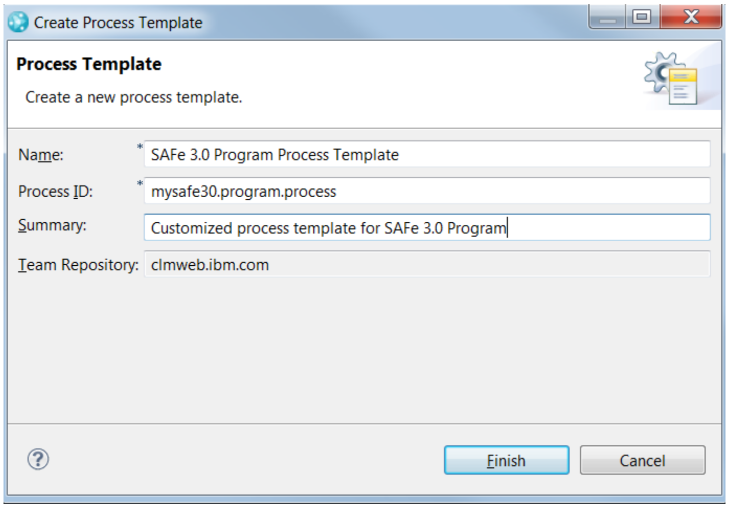
Congratulations! You have successfully configured a SAFe Portfolio process! You can now begin working in a SAFe way immediately, or you can export a SAFe Portfolio RTC process template for use later. Instructions on how to do this are provided in Create RTC Process Templates below.

Create RTC Process Templates

To create your own SAFe RTC process templates, perform these steps in the RTC Eclipse client.

1. Right-click on the project area you have configured for the SAFe Program and select **Extract Process Template…**
2. Specify the following:

    Name: [SAFe 3.0 Program Process Template]
    Process ID: mysafe30.program.process
    Summary: Customized process template for SAFe 3.0 Program



3. Click Finish. The new process template is opened for editing. Leave it opened and return to the Project Area hierarchy.
4. Right-click on the project area you have configured for the SAFe Portfolio and select **Extract Process Template…**
5. Specify the following:

    Name: [SAFe 3.0 Portfolio Process Template]
    Process ID: mysafe30.portfolio.process
    Summary: Customized process template for SAFe 3.0 Portfolio

6. Click Finish. The new process template is opened for editing.

You can now make any adjustments to your template that you did not want to make in an active project area, if necessary. Congratulations, you have successfully configured SAFe 3.0 in your RTC environment! If you wish to continue with SAFe Portfolio level configurations for RDNG and RQM, follow instructions in the remaining sections.

Configuring SAFe 3.0 in Rational DOORS Next Generation

In this section, we describe how to configure your RDNG instance to support a SAFe Portfolio. The instructions map directly to the SAFe template content that has been delivered as of CLM 6.0.1.

1. Launch RDNG in your browser and logon on as an administrator. Navigate to the **All Projects** view.

2. Select an existing RDNG project area to configure or select *Create Project Area* from the **Administration** drop-down menu option to create a new one. If you're creating a new one, you can use any existing *project* template you choose (optional). The default *process* template is fine.

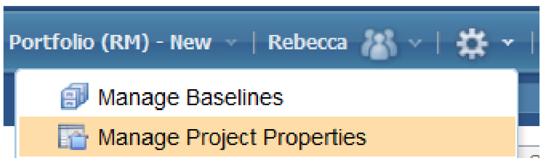
Folders

In this section, you update the folder structure to provide a place to store the artifact templates.

1. Navigate to browse artifacts.
1. In the **Filter by Folder** pane on the left, create a new folder and call it `SAFe Artifact Templates`.

SAFe Attributes

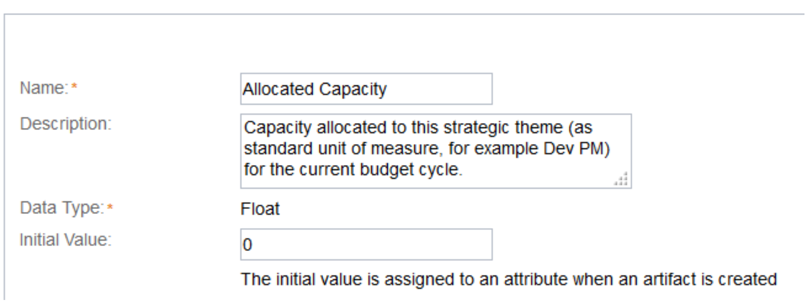
1. Select *Manage Project Properties* from the **Administration** drop-down menu:



2. Select **Artifact Attributes** from the menu bar:

3. In the **Artifact Attributes** box, click **+ New Attribute…** and specify these details:

   Name: `Allocated Capacity`
   Description: `Capacity allocated to this strategic theme (as standard unit of measure, for example Dev PM) for the current budget cycle.`
   Data Type: `Float`
   Initial Value: `0`



4. Repeat these steps to create the remaining attributes, as specified:

   Name: `Allocated Investment`

Description: Sum of estimated investment for all work completed, in progress of planned for this strategic theme as roll up from Portfolio Epics. Only *approved* Epics are included in the roll-up. [Manual roll-up]
Data Type: Float
Initial Value: 0

Name: Budgeted Capacity
Description: Capacity (in standard unit of measure, for example Dev PM) available to this strategic theme for the current budget cycle.
Data Type: Float
Initial Value: 0

Name: Budgeted Investment
Description: Expected/planned/budgeted investment for the current budget cycle as a percentage relative to all strategic themes.
Data Type: Float
Initial Value: 0

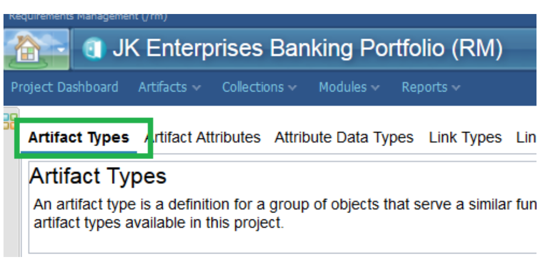
Name: Total Market Opportunity
Description: Total market size in dollars (millions).
Data Type: Float
Initial Value: 0

Name: Outsourced Development
Description: Indicates recommendation for outsourcing development of an Epic.
Data Type: Boolean

SAFe Artifacts

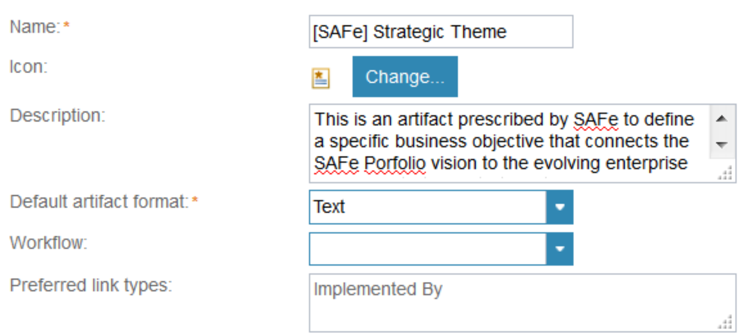
In this section, you create the Strategic Theme, Value Stream, and Lightweight Business Case artifacts associated with a SAFe Portfolio.

1. Select **Artifact Types** from the menu bar:



2. In the **Artifact Types** box, click **+ New Type…** and specify these details:

Name: `[SAFe] Strategic Theme`
Icon: <any>
Description: `This is an artifact prescribed by SAFe to define a specific business objective that connects the SAFe Portfolio vision to the evolving enterprise business strategy. Strategic themes define differentiators for the business.`
Default artifact format: `Text`
Preferred link types: `Implemented By`



3. In the **Artifact Attributes** pane, select + **Add Attribute...** to add: *Allocated Capacity, Allocated Investment, Budgeted Capacity, Budgeted Investment, Owner, Status,* and *Total Market Opportunity* attributes. The resulting set of attributes should look like this:

Artifact Attributes — Remove

Name	Data Type
Allocated Capacity	Float
Allocated Investment	Integer
Budgeted Capacity	Integer
Budgeted Investment	Float
Owner	User
Status	Status
Total Market Opportunity	Integer

4. Click **Save** to save your changes.
5. Repeat these steps to create *[SAFe] Value Stream* and *[SAFe] Lightweight Business Case,* specifying these details:

Name: `[SAFe] Value Stream`
Icon: <any>
Description: `This artifact is prescribed by SAFe to define a long-lived system that delivers value. Value Streams are realized by Programs (Agile Release Trains).`
Default artifact format: `Text`
Preferred link types: `Implemented By`
Attributes: `Owner`

Name: `[SAFe] Lightweight Business Case`
Icon: <any>
Description: `A Lightweight Business Case is an artifact prescribed by SAFe to capture the results of analysis as part of the Portfolio Epic Kanban process.`
Default artifact format: `Text`
Preferred link types: `Implemented By`
Attributes: `Outsourced Development, Owner, Status`

Return to the *Browse Artifacts* view.

SAFe Artifact Templates

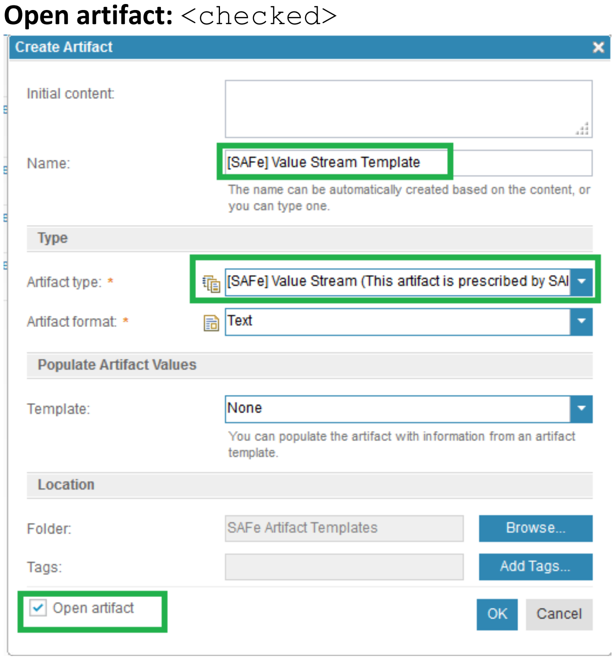
Now that the SAFe artifacts exist, you will create templates and persist them.

1. Click on the **SAFe Artifact Templates** to select it, then create a new *[SAFe] Value Stream* artifact:

   Note: If you do not see the artifact type in the list, you need to click **More…** and then specify the type in the **Create Artifact** dialog box:

1. Specify these details:

   Name: `[SAFe] Value Stream Template`
   Template: `None`
   Open artifact: `<checked>`



2. Copy and paste the following text into your new artifact:

   ### [Value Stream Title]

   ### Summary

<Describe the Value Stream in terms of the capabilities and value to the business and to customers.

Example: Provides customers with a fast, consistent banking experience online or via mobile devices. <remove>

Customer(s)

<Describe the customers that use capabilities provided by this Value Stream.>

Example: Personal banking customers, small business owners. <remove>

Triggers

<Describe the customer activities that trigger usage of the capabilities delivered by this Value Stream.>

Example: Open a new bank account, transfer money, check balances, check recent activity, bill pay, budget management, initiate loans, plan for retirement. <remove>

Inputs

<Describe the inputs involved in the trigger activities.>

Example: New bank account (with customer information), logon to existing accounts (with customer information), new loan. <remove>

Outputs

<Describe the outputs involved in the trigger activities.>

Example: Account opened, money transferred or deposited, bills paid. <remove>

Includes

<Describe the products, subsystems, applications or components that are included in this Value Stream.>

Example: Bank Account Management, Retirement Planning, Loan Management.<remove>

3. Click **Done**:

4. Click **SAFe Artifact Templates** in the breadcrumb trail at the top of your artifact to return to that folder.
5. Repeat these steps to create the *Strategic Theme* template using the text below:

Strategic Theme

Summary:

<Summarize the theme.>

Example: As a company, we want to expand our customer base by delivering capabilities in our applications that attract small business owners to use our services.>

Description:

<Provide a short description>

Example: This theme drives the delivery of capabilities in our financial services applications specifically aimed at attracting the small business owner by:

- *Connecting our investment customers with small business owners*
- *Providing business services to support "green" initiatives*
- *Offering seasonal loans for retailers>*

6. Again, repeat these steps to create the *Lightweight Business Case* template using the text below:

Lightweight Business Case for [Epic Name]

Success Criteria

<Describe how the success of the Epic will be measured>.

Example: 10% gain in share of enterprise agile market, 5% improvement in performance

In Scope:

...

...

...

Out of Scope:

...

...

...

Non-functional Requirements:

...

...

...

Stakeholders/Sponsors:

<List the key business sponsors who will be supporting the initiative>

Users and Markets Affected:

<Describe the user community of the solution and/or any markets affected>

Products, Programs and Services Affected:

<Identify the products, programs, services, teams, departments, etc., that will be (potentially) impacted by this Epic>

Impact on Sales, Distribution, Deployment:

<Describe any impact on how the solution/product is sold, distributed or deployed>

Analysis Summary:

<Brief summary of the analysis that has been completed to create this initial business case>

Estimated Investment:

Estimated Effort: *<Dev PY/PM, Story Points, ...>*

Estimated Cost: *<Based on effort>*

Estimated Return on Investment:

Type of Return: *<market share, increased revenue, improved productivity, new markets served, etc.>*

Estimated Revenue: *<revenue, return on investment or other applicable financial metric>*

Estimated Development Timeline:

Start Date:

Completion Date

Incremental Implementation Strategy:

<Epics are defined as a single whole, but each epic undergoes incremental implementation. Describe it here.>

Sequencing and Dependencies:

<Describe any constraints for sequencing the Epic and identify any potential dependencies with other Epics.>

Milestones or Checkpoints:

<Identify potential milestones or checkpoints for re-evaluation of this Epic.>

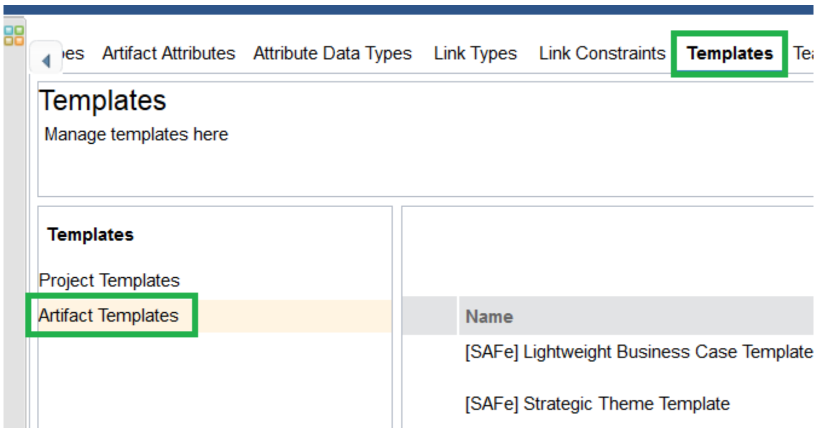
Attachments:

<Attach any supporting docs.>

Persist Artifact Templates

In this section, you will create persistent artifact templates for all of the templates you created in the previous section.

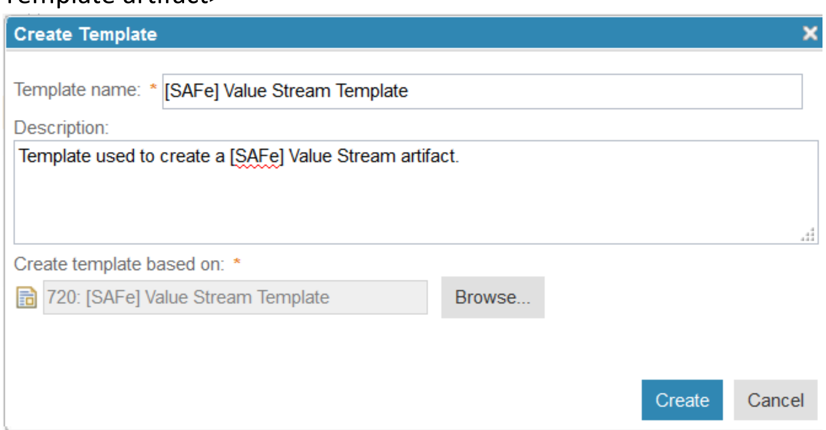
1. Return to the **Manage Project Properties** page.
2. Click **Templates** on the menu bar, then **Artifact Templates** in the **Templates** pane:



3. For each *[SAFe] xxx Template* you created, create a new Artifact Template:

   a. Click + **New Template...** :
   b. Specify these details:

   Template name: `[SAFe] Value Stream Template`
   Description: `Template used to create a [SAFe] Value Stream artifact.`
   Create template based on: <Browse to the SAFe Artifact Templates folder and select Template artifact>



   c. Click **Create**.
   d. Repeat the steps above for the following templates:

   Template name: `[SAFe] Strategic Theme`
   Description: `Template used to create a [SAFe] Strategic Theme.`

   Template name: `[SAFe] Lightweight Business Case Template`
   Description: `Template used to create a [SAFe] Lightweight Business Case artifact.`

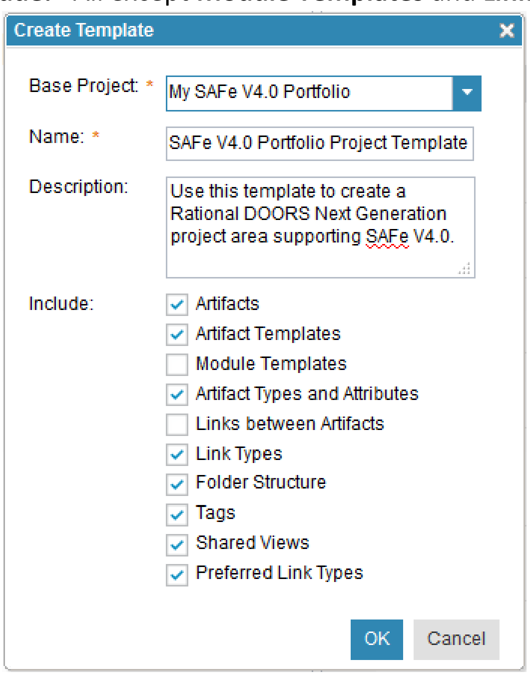
Create the SAFe 3.0 Portfolio Project Template

You now have a Rational DOORS Next Generation project area configured to support SAFe 3.0 and can create a new project template.

1. On the **Manage Project Properties** page, click **Templates** on the menu bar, then **Project Templates** in the **Templates** pane. Select **+ New Template…** to add a new project template:

2. In the **Create Template** dialog, specify these details:

Base Project: `My SAFe 3.0 Portfolio`
Name: `SAFe 3.0 Portfolio Project Template`
Description: `Use this template to create a Rational DOORS Next Generation project area supporting SAFe 3.0.`
Include: <All except **Module Templates** and **Links between Artifacts**>



3. Click **OK** and then **Finish** when the process is complete. You should see your new template is in the list of Project Templates. You can save it by selecting the template, right-clicking and then selecting **Download.**

Congratulations! You have completed the SAFe 3.0 configuration for Rational DOORS Next Generation.

Configuring SAFe 3.0 in Rational Quality Manager

In this section, we describe how to configure your RQM instance to support a SAFe Portfolio. The instructions map directly to the SAFe template content that has been delivered as of CLM 6.0.1.

Timelines and Iterations

Launch the Quality Management **Server Administration** page in your browser:

1. Open a web browser and enter the URL for the Change and Configuration Management Application Administration page for your installation, for example: `https://[hostname]:9443/ccm/admin`
2. Log on as a Jazz Admin user.
3. Select **Project Areas > Active Project Areas** and select the project area you want to configure or create a new one.
4. Select to **Manage Project Timelines** and create the timeline and iterations that correspond to your timeline structure in the RTC SAFe Portfolio project area.

Role Permissions

Add the Display Report permission to the Test Team Contributor role so Portfolio reports will work.

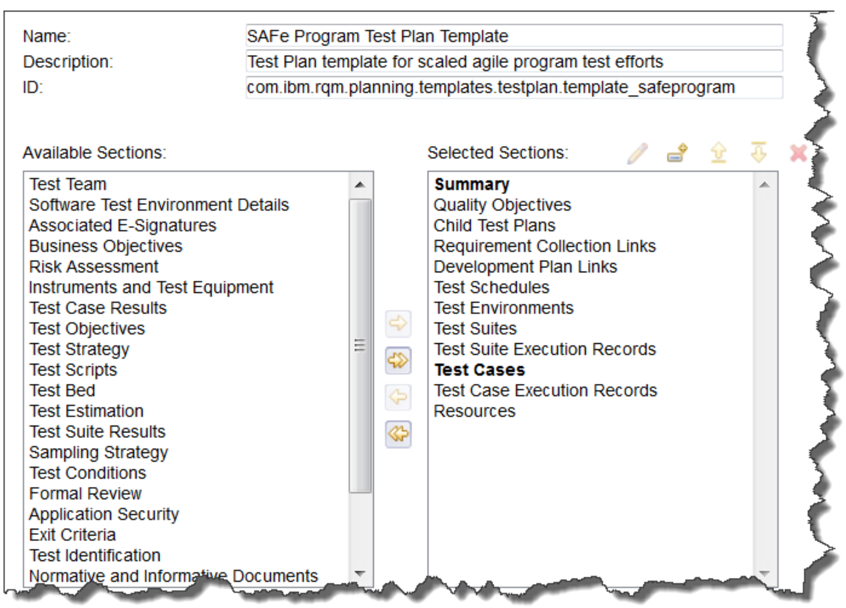
1. Under **Manage This Project Area**, select **Permissions**, then **Test Team Contributor**.

2. Find **Reports** > **Display Report** and click **Grant Permission**.

Artifact Templates

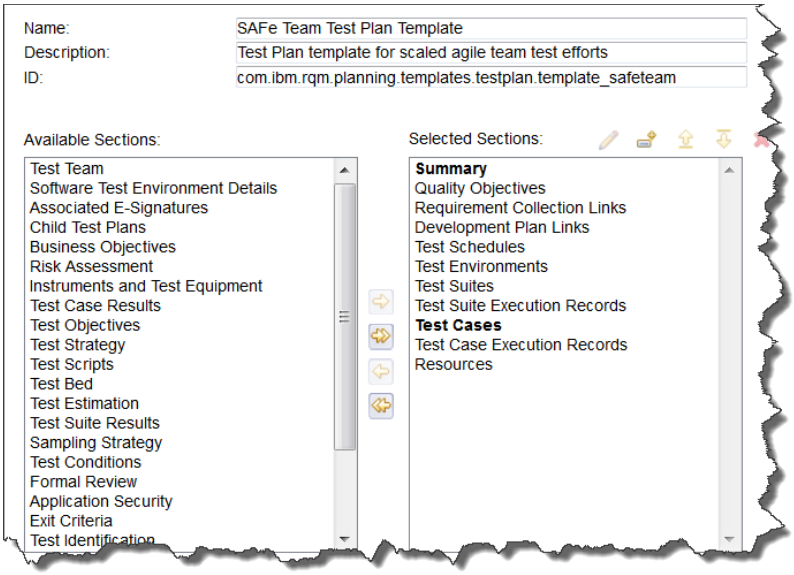
Program Test Plan Template

1. Under **Manage Artifact Templates**, create a new template with the following **Name**, **Description**, **ID** and ordered **Selected Sections**:



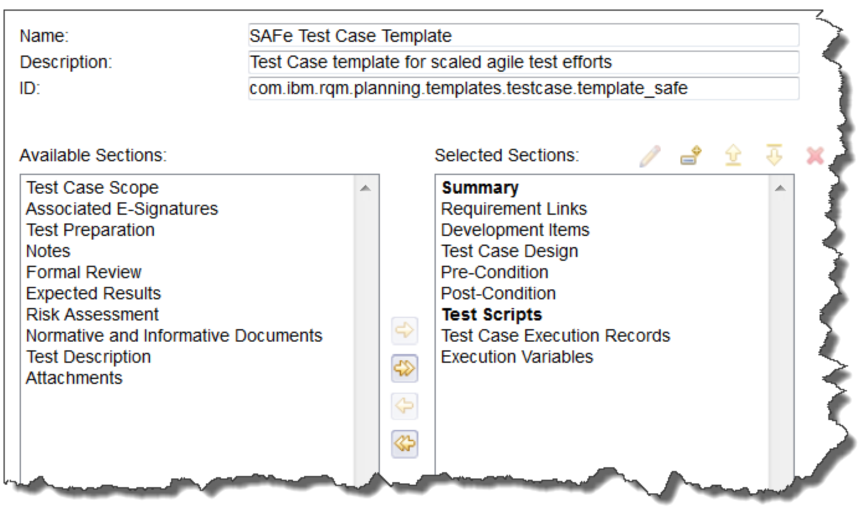
Team Test Plan Template

1. Under **Manage Artifact Templates**, create a new template with the following **Name**, **Description**, **ID** and ordered **Selected Sections**:



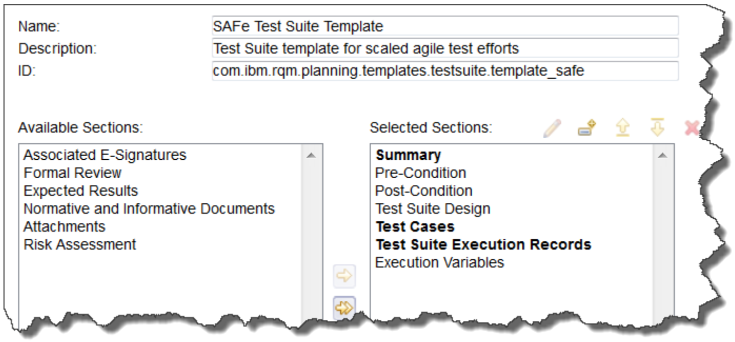
Test Case Template

1. Under **Manage Artifact Templates**, create a new template with the following **Name**, **Description**, **ID** and ordered **Selected Sections**:



Test Suite Template

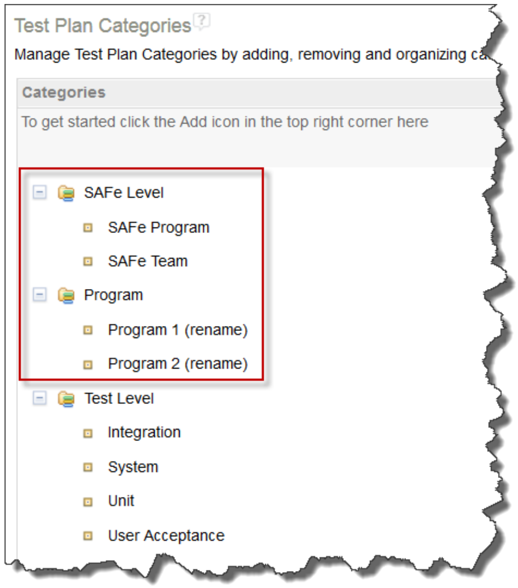
1. Under **Manage Artifact Templates**, create a new template with the following **Name**, **Description**, **ID** and ordered **Selected Sections**:



Artifact Categories

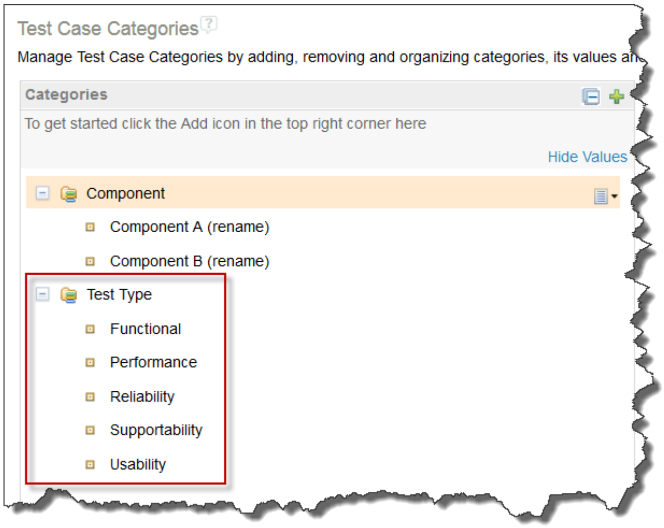
Test Plan Categories

1. Under **Manage Project Properties**, select **Artifact Categories** > **Test Plan Categories**.
2. Remove the existing categories unless they are in use.
3. Add the following categories and values:
    a. **SAFe Level**
        i. SAFe Program
        ii. SAFe Team
    b. **Program**
        i. Program 1 (rename to your first program name)
        ii. Program 2 (rename to your second program name)
        iii. (Additional programs as needed)
    c. **Test Level**
        i. Integration
        ii. System
        iii. Unit
        iv. User Acceptance



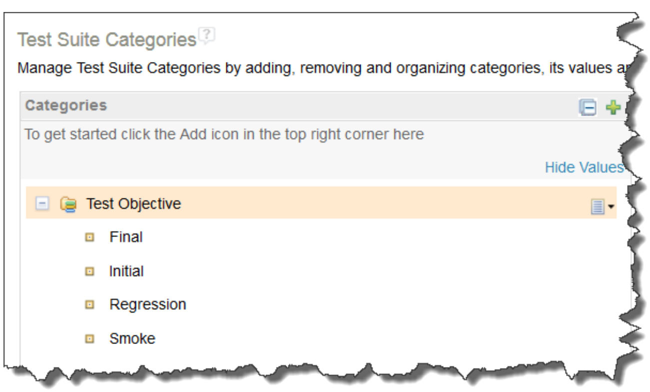
Test Case Categories

1. Under **Manage Project Properties**, select **Artifact Categories** > **Test Case Categories**.
2. Remove the existing categories unless they are in use.
3. Add the following categories and values:
   a. **Component**
      i. Component A (rename to your first component name)
      ii. Component B (rename to your second component name)
      iii. (Additional components as needed)
   b. **Test Type**
      i. Functional
      ii. Performance
      iii. Reliability
      iv. Supportability
      v. Usability



Test Suite Categories

1. Under **Manage Project Properties**, select **Artifact Categories** > **Test Suite Categories**.
2. Remove the existing categories unless they are in use.
3. Add the following category and values:
    a. **Test Objective**
        i. Final
        ii. Initial
        iii. Regression
        iv. Smoke



Related Sites

1. Under **Manage Project Properties**, select **Properties** > **Related Sites**.
2. Remove the existing values unless they are in use.
3. Add the following Names and URLs:

a. Rational Quality Manager on Jazz.net: https://jazz.net/products/rational-quality-manager/

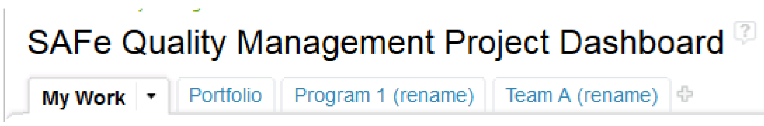
b. IBM's Support for SAFe: https://ibm.biz/safesupport

c. IBM Knowledge Center for Collaborative Lifecycle Management: http://www-01.ibm.com/support/knowledgecenter/SSYMRC/clm_family_welcome.html

d. Scaled Agile Framework (SAFe): http://scaledagileframework.com/

Dashboard

1. Create the following tabs on your project dashboard:



2. Add the indicated widgets and configure them:

   a. **My Work**:

      i. **Getting Started**

      ii. **Customize Your Dashboard**

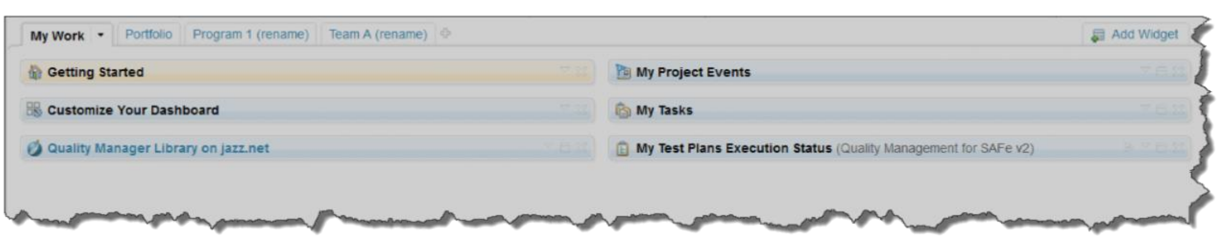
      iii. **Quality Manager Library on jazz.net**

      iv. **My Project Events**

      v. **My Tasks**

      vi. **My Test Plans Execution Status**:

         1. For **Test plan filters**, select "*Current User*" for **Owner**.



   b. **Portfolio**:

      i. **Team Members**

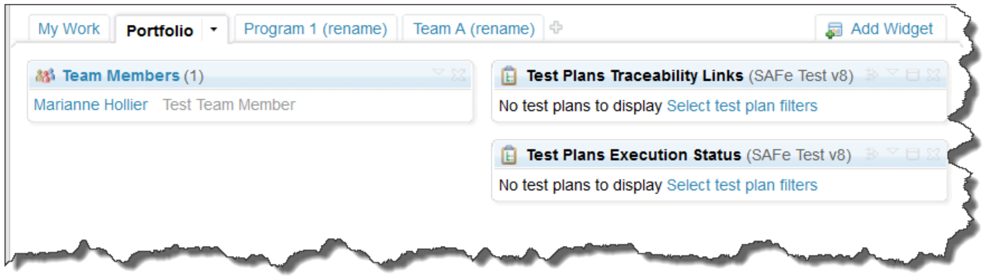
      ii. **Test Plans Traceability Links**:

         1. For **Test plan filters**, select "*SAFe Program*" for **SAFe Level**.

         2. For **Display Settings**, remove "*Validates Requirement Collection*."

iii. **Test Plans Execution Status**:

1. **For Test plan filters**, select "*SAFe Program*" for **SAFe Level**.



c. **Program 1 (rename)**:

i. Rename the tab to your program name.

ii. **Test Plans Traceability Links**:

1. For **Test plan filters**, select your program name for **Program**.

iii. **Test Plans Execution Status**:

1. For **Test plan filters**, select your program name for **Program**.

iv. **Execution Status using TCER Count**:

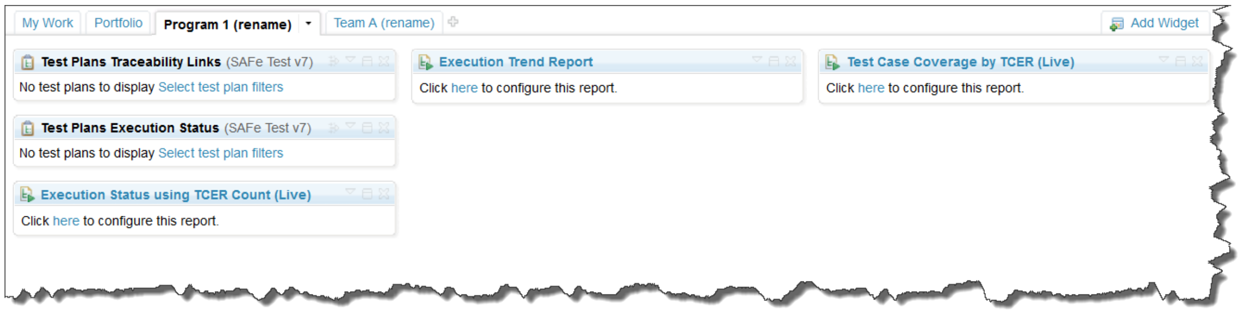
1. For **Report**, select your program-level test plan under **Test Plan** and select "*Yes*" under **Include Child/Master Test Plans**.

v. **Execution Trend Report**:

1. For **Report**, select your program-level test plan under **Test Plan**, select "*Sprint 1.1*" under **Iteration**, select "*Days*" under **Chart Grouping**, and select "*Show Computed Values*" under **Computed Values**.
2. Rename the widget under **Appearance** to "**Sprint 1.1**".
3. Duplicate the **Sprint 1.1** widget to create trend reports for additional iterations.

vi. **Test Case Coverage by TCER (Live)**:

1. For **Report**, select your program-level test plan under **Test Plan** and select "*Yes*" under **Include Child/Master Test Plans**.



d. **Team A (rename)**:

i. Rename the tab to your team name.

ii. **Test Plans Execution Status**:

1. For **Test plan filters**, select the owner of the test plan for **Owner** and select "SAFe Team" for **SAFe Level**.

iii. **Test Cases Traceability Links**:

1. For **Test case filters**, select your team test plan under **Test Plan**.

iv. **TCER Status Counts (Live)**:

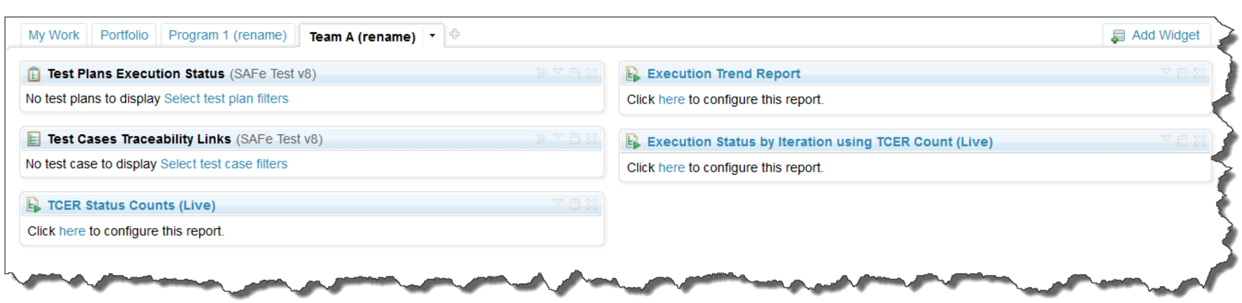
1. For **Report**, select your team-level test plan under **Test Plan**.

v. **Execution Trend Report**:

1. For **Report**, select your team-level test plan under **Test Plan**, select "*Sprint 1.1*" under **Iteration**, select "*Days*" under **Chart Grouping**, and select "*Show Computed Values*" under **Computed Values**.
2. Rename the widget under **Appearance** to "**Sprint 1.1**".
3. Duplicate the **Sprint 1.1** widget to create trend reports for additional iterations.

vi. **Execution Status by Iteration using TCER Count (Live)**:

1. For **Report**, select your team-level test plan under **Test Plan**.

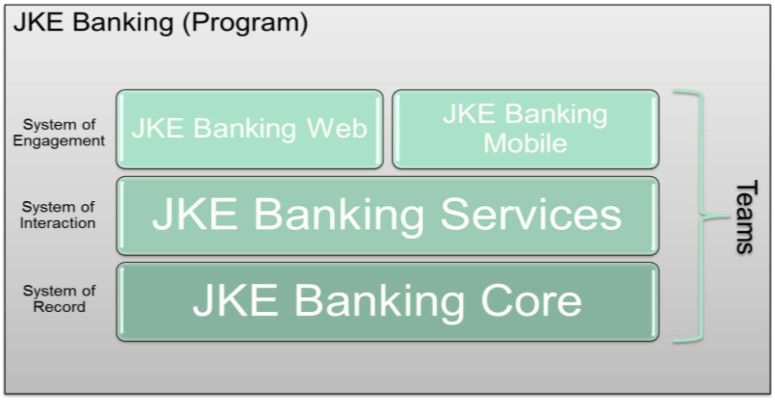


References

- IBM's Support for SAFe: https://ibm.biz/safesupport (or http://jazz.net/safe)
- Learn about SAFe 4.0 support: https://jazz.net/blog/index.php/2016/03/18/ready-to-get-started-on-your-safe-4-0-transformation/
- SAFe Reporting: https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/W54ecb028c53d_48b0_9d5e_4584a00489d3/page/SAFe%20Reporting
- Configuring the SAFe Portfolio Environment in CLM: https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/W54ecb028c53d_48b0_9d5e_4584a00489d3/page/Configuring%20the%20SAFe%20Portfolio%20Environment%20in%20CLM
- Configuring the SAFe Program Environment in RTC: https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/W54ecb028c53d_48b0_9d5e_4584a00489d3/page/Configuring%20the%20SAFe%20Program%20Environment%20in%20Rational%20Team%20Concert
- Configuring the SAFe Team Environment in RTC: https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/W54ecb028c53d_48b0_9d5e_4584a00489d3/page/Configuring%20a%20SAFe%20Team%20Area%20with%20Rational%20Team%20Concert
- IBM Knowledge Center for Collaborative Lifecycle Management: http://www-01.ibm.com/support/knowledgecenter/SSYMRC/clm_family_welcome.html
- Scaled Agile Framework (SAFe): http://scaledagileframework.com/

Appendix 1: Setting Up a SAFe Program – An example

In this section, we guide you through creation of a SAFe Program using an example Program**, JKE Banking**, with four Teams, as shown below:



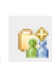
Create the Program RTC Project Area

Launch the Change and Configuration Management **Server Administration** page in your browser:

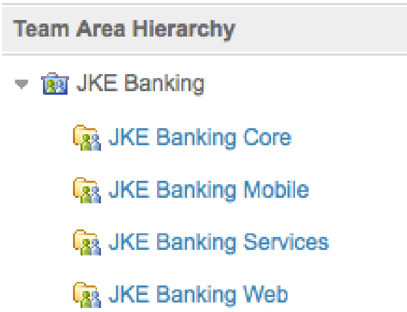
1. Open a web browser and enter the URL for the Change and Configuration Management Application Administration page for your installation, for example: `https://[hostname]:9443/ccm/admin`
2. Log on as a Jazz Admin user.
1. Select **Project Areas > Create Project Area** menu option.
2. Provide the project area name to represent the SAFe Program, and a Summary and Description if desired: `JKE Banking`
3. In the Process box, select the Scrum process (or whatever you have in place).
4. Save your changes (you will create Roles later in this exercise). The new project area is displayed.

Create the RTC Team Areas for the SAFe Teams

This section assumes you are creating a new RTC Project Area for SAFe. If you already have an RTC Project Area in place and you want to customize that existing project area to support SAFe, you can continue to Create the RTC Team Areas for the SAFe Teams *or skip this step entirely. Note that the examples provided throughout assume an infrastructure based on the example shown in* ***Error! Reference source not found.*** *above.*

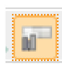
1. In the Team Area Hierarchy area, select the icon  to create Team Areas to represent each of the SAFe Teams contributing work to your SAFe Program:
   - `JKE Banking Web`
   - `JKE Banking Mobile`
   - `JKE Banking Services`
   - `JKE Banking Core`

Your **Team Area Hierarchy** should look similar to the example shown below:

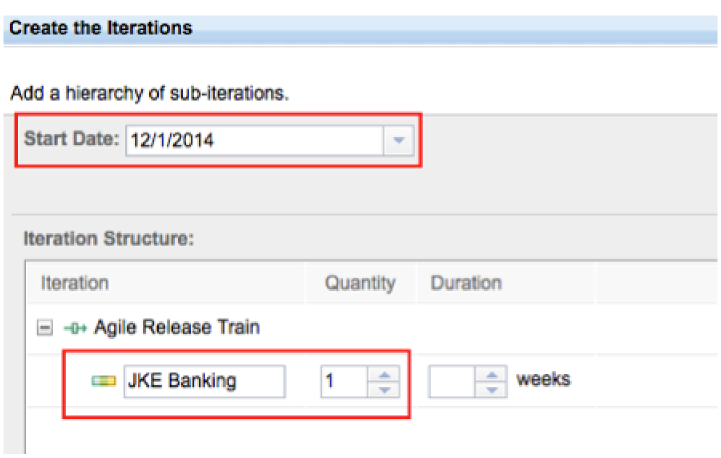


Create the Program Timeline

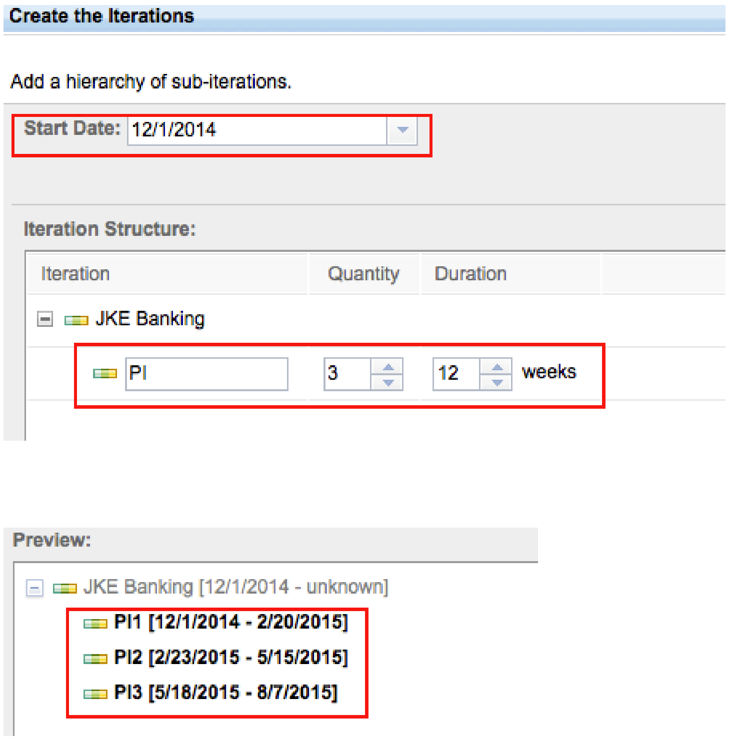
In the topology that supports a single RTC Project Area for the SAFe Program with Teams as Team Areas, the Project Timeline is associated with the Program.

1. Return to the JKE Banking Project Area main page and select **Timelines** from the left pane.
2. Select `Main Development [Project Timeline]` and click **Edit Properties.** Rename the timeline: `Agile Release Train.` Do not specify the duration, since the ART is a continuous release train.
3. Select the `Release 1.0` iteration and click **Archive** to remove it from the timeline. The archived iteration should disappear from the timeline. If it does not disappear, click the **Show Archive** toggle button  so that archived iterations are not displayed.
4. Select the `Agile Release Train` timeline and click **Create Iterations** to create the Program iteration, providing the Program name: `JKE Banking`.

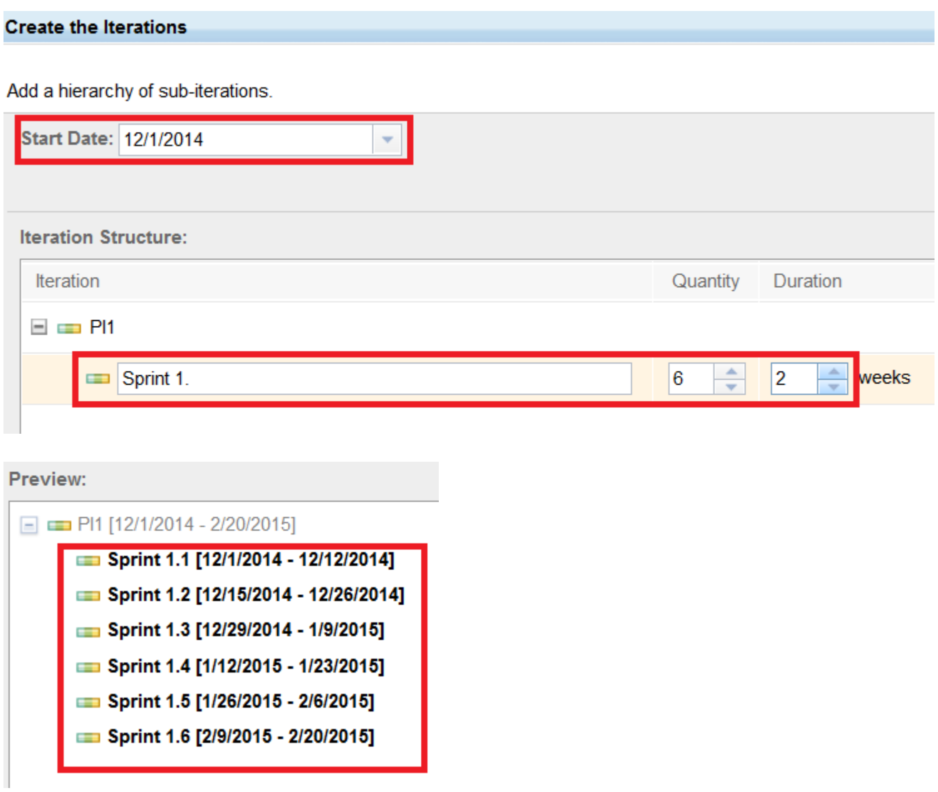
Note: You could also just edit this iteration and rename it to represent the JKE Banking ART, but we are highlighting some of timeline configuration capabilities, so we chose to archive this iteration.



5. Select the `JKE Banking` Program iteration; click **Create Iterations** to create Program Increments with start and end dates and duration for your organization.



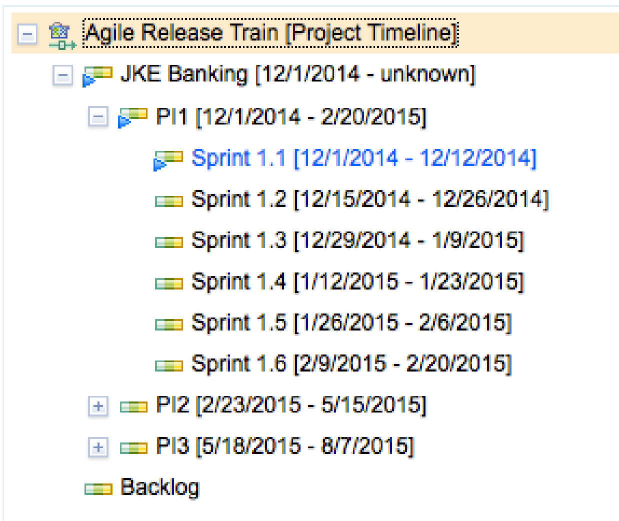
6. Select the first Program Increment, click **Create Iterations** and add Sprints with the duration appropriate for your organization:



Repeat this process for each of the remaining Program Increments, adjusting the Sprint prefix so that it is easy to identify Sprints within Program Increments, for example: `Sprint 1.` (for PI1), `Sprint 2.` (for PI2), `Sprint 3.` (for PI3).

7. Set the current iteration to `JKE Banking > PI1 > Sprint 1.1` by clicking the Set Current Iteration button.
8. Move the `Backlog` iteration to the bottom (after `JKE Banking ART`) by dragging it.
9. Save your changes.

The resulting timeline customized in our example is shown below:



Create the Work Item Categories

For your Project and each of your Teams Areas representing the SAFe Program and SAFe Teams, you will want a work item category that enables work to be assigned specifically to that Program or Team.

1. Return to the JKE Banking Project Area by selecting **Project Areas > JKE Banking.**

2. Select **Categories** in the left pane. Notice that a default category is already created for the SAFe Program (i.e. RTC Project Area).

3. In the Actions column next to JKE Banking, click the then **Add Category** to add a new category. Provide the Program name: `JKE Banking`. Click OK.

4. Repeat this process, clicking the then **Add Category** in the Actions column next to `JKE Banking` to add categories for each of your teams.
5. Associate the Team Areas with the Program(s) and Teams by selecting the `JKE Banking [Project Area] [inherited]` link next to each category and navigating to the appropriate Project/Team Area to select it. Click the Associate button.
6. Save your changes.

The resulting work item categories and associated Team Areas in our example are shown below:

Categories	Associated Project/Team Area
Unassigned <Root Category>	JKE Banking [Project Area]
JKE Banking	JKE Banking [Project Area] [inherited]
JKE Banking Core	JKE Banking Core
JKE Banking Mobile	JKE Banking Mobile
JKE Banking Services	JKE Banking Services
JKE Banking Web	JKE Banking Web

Congratulations! Your Project Area configuration is complete.