SAP (IAM)

Intelligent
Asset
Management

Configuring Risk and Criticality Templates

Document Control

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Reference Documents

The following section describes relevant documentation:

Document Name	Description	Sharepoint Link
Risk and Criticality Assessment	Configuring risk and criticality templates	**Risk and Criticality Template creation.pdf**

Contents

1. Configuring risk and criticality templates

1.1 Objective

After completing this lesson, will be able to demonstrate the ability to configure Risk & Criticality Templates effectively, ensuring alignment with organizational requirements and best practices.

1.2 Key Terms

1. **Risk and Criticality Assessments:** Evaluations used to determine the likelihood and consequence of a failure of a technical object.

2. **Assessment Template:** The predefined structure used to conduct a Risk and Criticality Assessment, including questions and potential answers.

3. **Technical Object:** An item within SAP Asset Performance Management, such as equipment, that is subject to risk assessment.

4. **Risk Score Type:** The format of the risk score, which can be Numeric or Alphanumeric, influencing how the risk score will be calculated.

5. **Calculation Method for Impacts:** The formula or method used to calculate the final impact score in the assessment.

6. **Impact Weighting:** Assigning different levels of importance to various impacts in the assessment template.

7. **Dimensions:** Questions within an impact category that contribute to the assessment.

8. **Scales:** The potential answers to each dimension, along with an associated score value indicating severity.

9. **Threshold Data:** The ranges of risk scores that determine the criticality of the assessment results.

10. **Criticalities and Actions:** Categories and corresponding actions derived from the threshold data to indicate necessary responses.
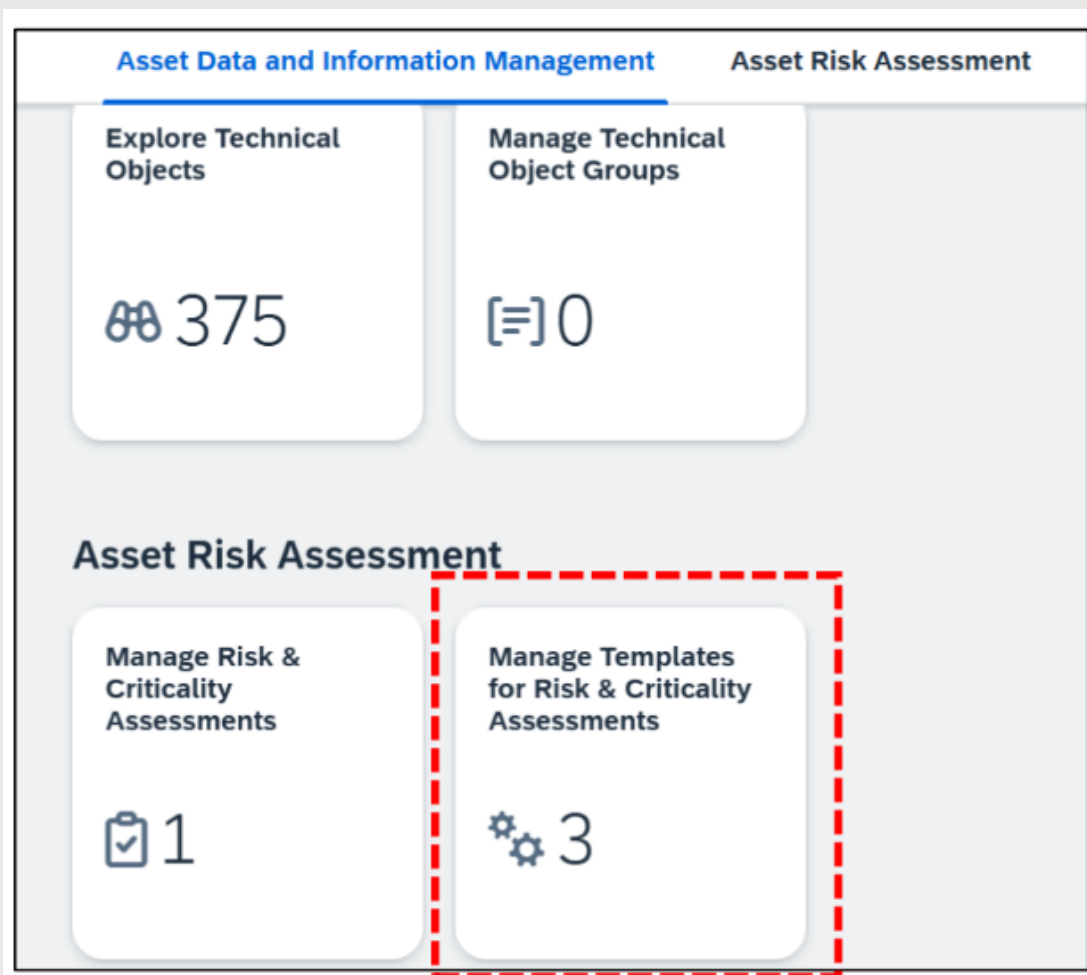
11.**Color Representation:** The use of colors to visually represent different levels of risk or criticality.

1.3 Business Scenario

Risk and Criticality assessments are commonly used within preventative maintenance solutions such as APM. Their main function mostly to determine what the likelihood and consequence of a failure occurring on a technical object is. Before making the assessment itself though, the assessment template needs to be made first. This is essentially the structure of how we want the assessment itself to be set up. This will include things such as the questions themselves, the potential answers a user can give for each question, and more. We can reuse templates for the different technical objects we make assessments on.

2. Create the Assessment Template

On the main page of APM, choose the **_Manage Templates for Risk and Criticality Assessments_** tile. The tile is in the Asset Risk Assessment tab and should be the first tile in the row. If not present, you should also be able to locate the tile by going to the search bar at the top, typing Manage Templates for Risk and Criticality Assessments in the Search field, and then hitting the Search button.

Once in the *Manage Templates for Risk & Criticality Assessments* main page, hit the *Create* button to create a new Risk and Criticality Assessment Template. It should be located on the right side of the page next to the group button and filter button.

In here, you will fill out all necessary fields. Here are all the fields and some basic information on them:

New Assessment Template

ℹ️ When impacts are allowed to be marked as not relevant

1. Calculation methods for impacts will only display minimum and maximum options.
2. Dimensions and scales will be the same across all impacts.

Assessment Template: *

NK_Test_DEMO_Assessment_Template

32/40

Description: *

NK_Test_DEMO_Assessment_Template

32/256

Long Text:

0/5000

New Assessment Template

Risk Score Type: *

🔘 Numeric

⚪ Alphanumeric

☐ Disable Criticality Code Sync to SAP ERP

☐ Enable Impact Exclusion for Assessment

Calculation method for impacts: *

Maximum ⌄

| Addition |
| Multiplication |
| Maximum |
| Minimum |

Dimension weighting: *

⊖

New Assessment Template

Risk Score Type: *

🔘 Numeric

⚪ Alphanumeric

☐ Disable Criticality Code Sync to SAP ERP

☐ Enable Impact Exclusion for Assessment

Calculation method for impacts: *

Addition ⌄

Impact weighting: *

⊖

Calculation method for dimensions: *

Addition ⌄

| Addition |
| Multiplication |

New Assessment Template

Risk Score Type: *

(●) Numeric

(○) Alphanumeric

[ ] Disable Criticality Code Sync to SAP ERP

[ ] Enable Impact Exclusion for Assessment

Calculation method for impacts: *

Addition ⌄

Impact weighting: *

⊖

Calculation method for dimensions: *

Addition ⌄

Dimension weighting: *

⊖

Save Cancel

2.1 Required Fields

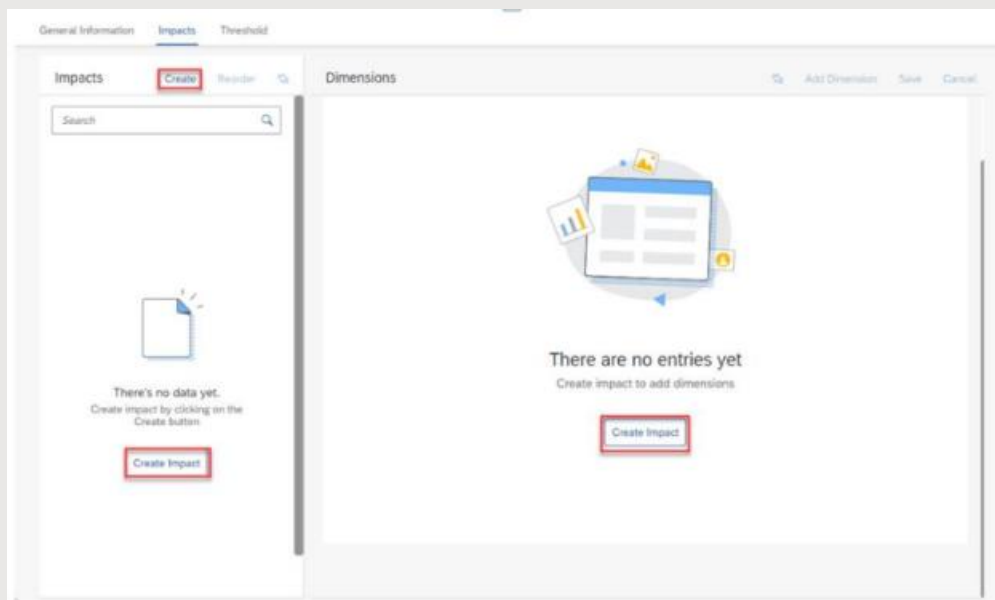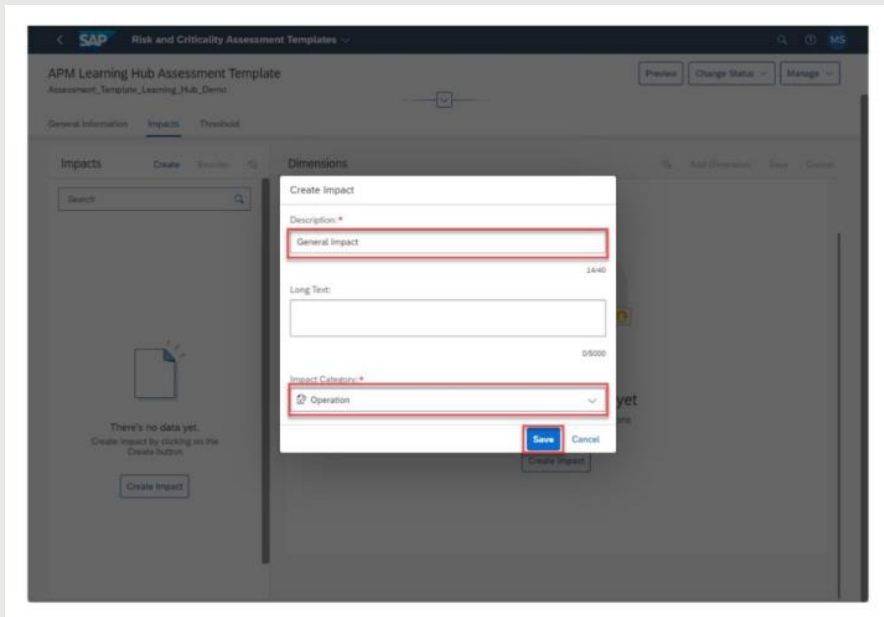| Field	Required	Notes
Assessment Template	Yes	Internal name of template. There are some invalid characters which cannot be used in this field, such as the space character.
Description	Yes	External name of template. This is the template name you will mainly see and reference when using elsewhere.
Long Text	No	Additional information regarding template, which is optional.
Risk Score Type	Yes	Choose Numeric of Alphanumeric. Numeric allows for the further calculation of risk score than alphanumeric does but does not allow for non-numeric values to be used in risk score determination.
Calculation Method for Impacts	Yes	Determine how the impacts will be calculated at the end. The amount of calculation methods to choose from is based on the risk score type chosen above.
Impact Weighting	Yes	If multiple impacts are present in the template, you can manually determine the weight of each impact to make one contribute to the final risk score than the other. Only present with Numeric Risk Score Type.
Calculation Method for Dimensions	Yes	Determine how the dimensions will be calculated at the end. Only present with the Numeric Risk score Type.
Dimension Weighting	Yes	You can manually determine the weight of each dimension in an impact to make one contribute to the risk score of the template more than the other. Only present with Numeric Risk Score Type.

As for how we will fill this out for this lesson, please refer to the screenshot below. As for the text fields here, they can vary for how you fill them out as they are not critical for following this lesson. Once finished, hit the *Save* button at the bottom to continue setting up your assessment template. Now with the actual Risk and Criticality Assessment Template created, we will go ahead with creating the impacts as well as the dimensions that go inside each of the impacts.

Impacts are essentially a grouping of dimensions (dimensions in this case are essentially questions) that are based on one of the predetermined categories given. We can create one or more impacts for the assessment template. To create your first impact, switch to the Impacts tab at the top and choose one of the many *Create Impact* buttons on the page.
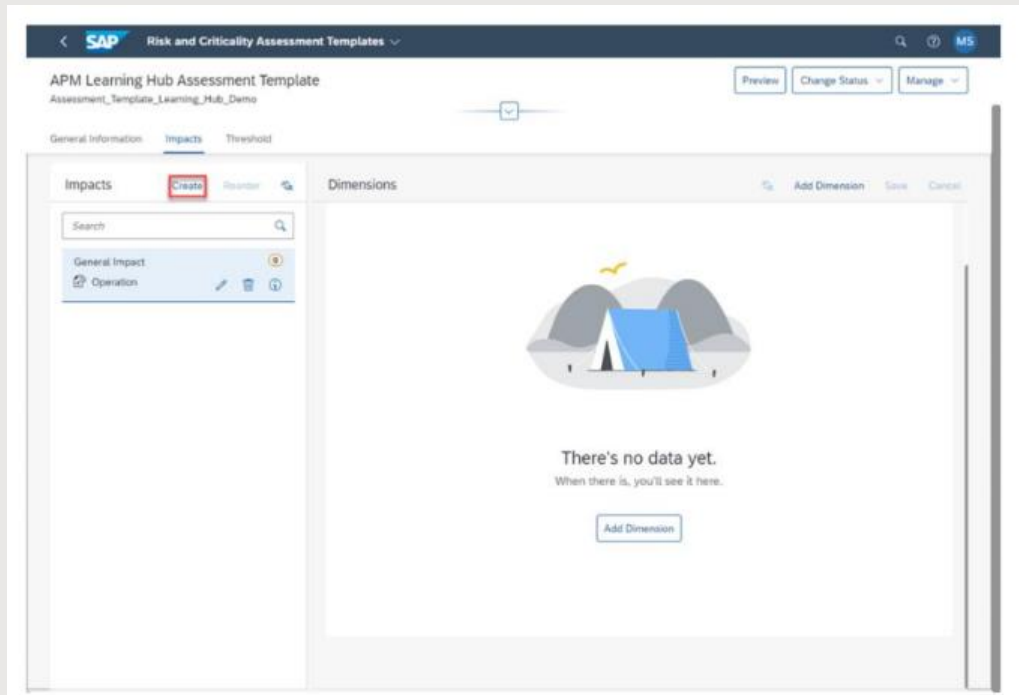
3. Create Impacts, Dimensions, and Scales

Now with the actual Risk and Criticality Assessment Template created, we will go ahead with creating the impacts as well as the dimensions that go inside each of the impacts. Impacts are essentially a grouping of dimensions (dimensions in this case are essentially questions) that are based on one of the predetermined categories given. You can create one or more impacts for the assessment template. To create your first impact, switch to the Impacts tab at the top and choose one of the many Create Impact buttons on the page.

In the *Create Impact* pop-up, provide a Description as well as an Impact Category from the
dropdown. The Long Text is optional and is there to provide further detail to the impact if necessary. Once finished, choose *Save* button.
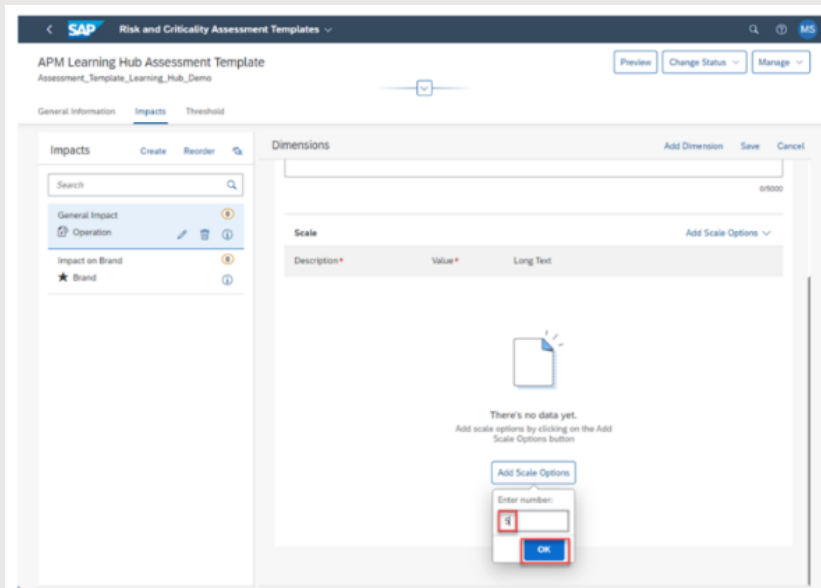
We can also create another impact if we would like to. Only one impact is required for a Risk and Criticality Assessment Template, but more can be created if desired. For this guide, we will make another impact. To create another impact, choose the *Create* button on the left side of the page that is above the list of impacts for your assessment template (although there is only one impact for now). I will make my impact based on the potential brand value loss if technical object failure were to happen.

With the second impact created, we will now start adding in our dimensions to the impacts. Choose the impact from the list on the left that you wish to add dimensions to the selected impact will be denoted by a blue highlight as well as the edit and delete buttons appearing. Once the impact is selected, hit one of the Add Dimension buttons on the page.

On the Dimension portion of the page, add in the Description and optional Long Text. Once added, we're going to choose one of the Add Scale Options buttons to integrate the potential answers we can give to this dimension as well as the associated score value for each answer.

When adding in the scale options, you must denote the number of answers that you can give for the scale. For this case, we will add in five answers. Choose the *OK* button when finished.
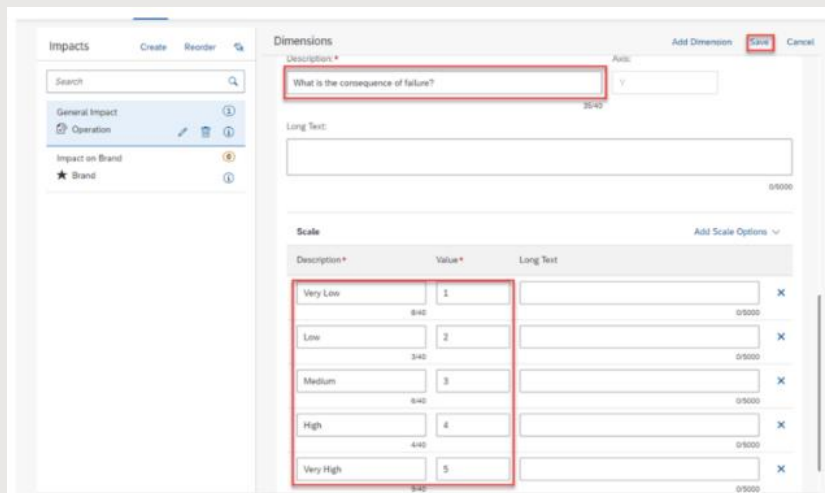
Here, we need to add in a Scale Description and value. The Scale Value should have a higher value associated with it if it is of a higher severity. The Description just denotes a general idea of what the value represents (ex. low, medium, high, etc.). If you need to change the amount of scale options, just hit the Add Scale Options button again. Remove a Scale Option by choosing the X icon to the right of the scale option itself.
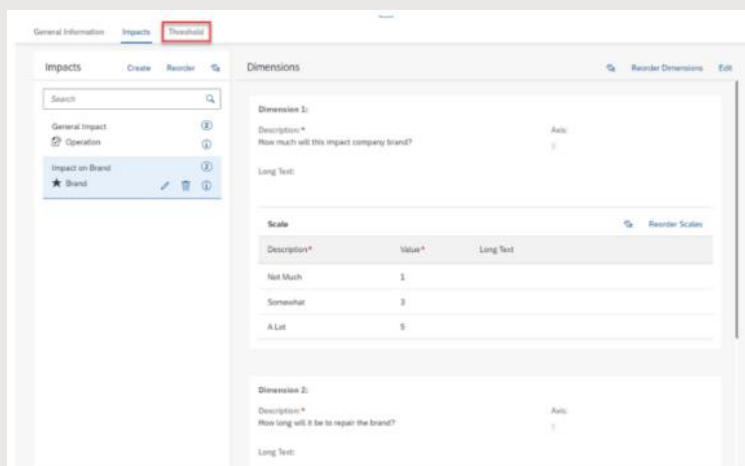
We are not done just yet as we need to add in another Dimension for this Impact. To do that, choose Add Dimension at the top of the page.

Repeat the same process for the new Dimension. Add in the Description, the Scale Options, and fill out the Scale Options with all necessary values. Once all Dimensions are added in for the Impact selected here, choose the *Save* button to save all changes to the Impact.

We can make go back and make any direct edits to the Dimensions and Scales for the Impact by choosing the *Edit* button. If we need to reorder the *Dimensions* or *Scales* for the Impact, either choose the *Reorder Dimensions* or *Reorder Scales* buttons respectively. Add all necessary Dimensions and Scales to the rest of your Impacts. Once finished, you can move over to the Threshold tab to configure threshold values for your risk scores.

4. Configure Threshold Data

On the Threshold tab, you can determine ranges for risk scores and what that ultimately signals. By default, there are two thresholds with a risk score threshold value determined for each of them. For our demonstration, we will have three thresholds instead of two. For us to add in additional thresholds, we need to choose the *Add Threshold* button and specify how many additional Thresholds to add in. If we already have two thresholds and we need to have three total, we are going to add in one threshold for this case. Specify the number of thresholds you wish to add and choose the *OK* button when finished.
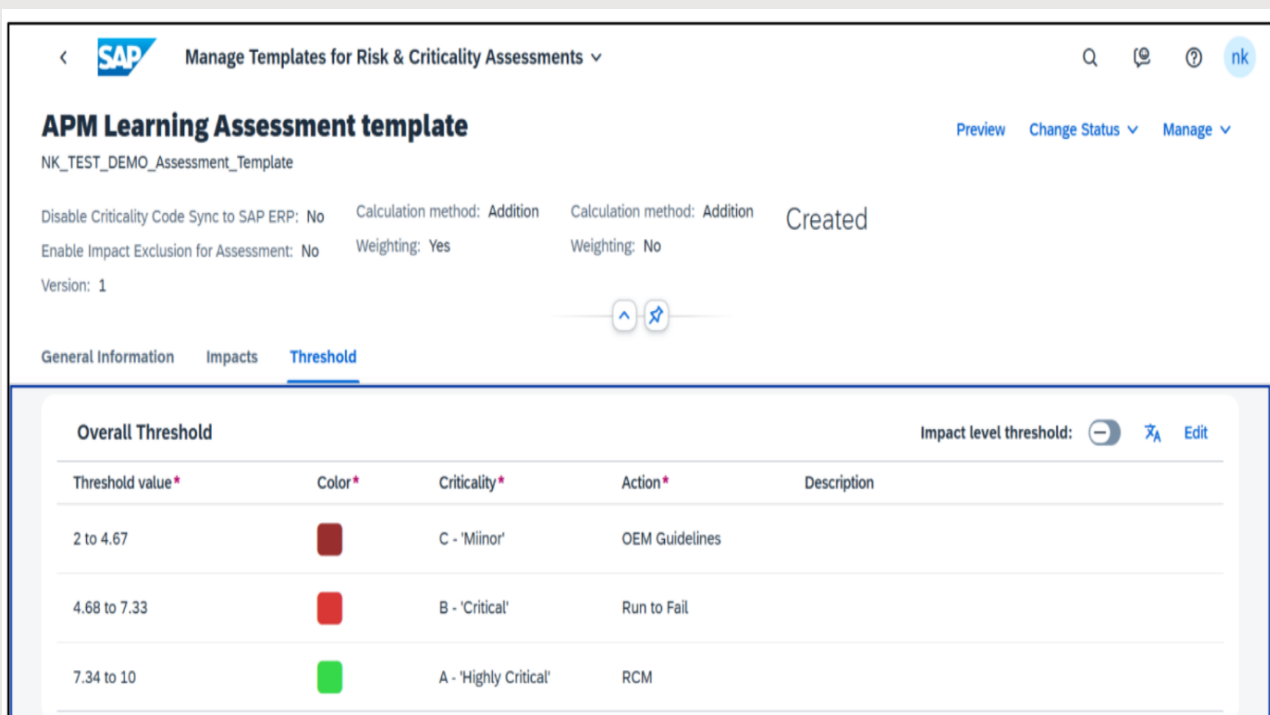

With all our thresholds put in, we are going to modify our Threshold Values, Criticalities, and Actions. The minimum and maximum Threshold Values are left unalterable, but the thresholds in-between can be altered. When the end threshold of a range is entered, it will automatically update the start threshold of the following range. This is also true in the opposite direction. The Criticality and Action sections are chosen via a dropdown. Choose whichever values you think work best for your scenario. Once finished, we will select the Color representation for each section. Choose the *Select* button for one of the thresholds in the *Color* column.

With all our thresholds put in, we are going to modify our Threshold Values, Criticalities, and Actions. The minimum and maximum Threshold Values are left unalterable, but the thresholds in-between can be altered. When the end threshold of a range is entered, it will automatically update the start threshold of the following range. This is also true in the opposite direction. The Criticality and Action sections are chosen via a dropdown. Choose whichever values you think work best for your scenario. Once finished, we will select the Color representation for each section. Choose the *Select* button for one of the thresholds in the *Color* column.

Here we can determine the color either by selecting the color and transparency via their respective sliders as well as the color picker on the top. You can also manually set the hex code, RGBA values (Red Green Blue & Alpha transparency), or HSLA values
(Hue Saturation Lightness & Alpha transparency). I will be putting in shades of green, yellow, and red for each threshold from lowest to highest values. Once all the color and transparency values are put int, choose *OK* and repeat this for all other thresholds.

While we can also establish thresholds for each of the individual impacts by choosing the Impact level threshold toggle, we will skip over this for our demonstration. With all the necessary information for the Thresholds put in, choose save button to confirm all the values here. With this out of the way, we can either choose the *Preview* button at the top to get a general idea as to how this Assessment Template will behave in an actual Risk and Criticality Assessment or choose the *Change Status* button and the Released button that appears underneath it once chosen. This finalizes the Assessment Template for publishing. With this out of the way, we can either choose the *Preview* button at the top to get a general idea as to how this Assessment Template will behave in an actual Risk and Criticality Assessment or choose the *Change Status* button

and the *Released* button that appears underneath it once chosen. This finalizes the Assessment Template for publishing.

Preview

ⓘ 1) Changes made in the preview screen are not saved.
    2) Financial risks and notes will be available in the assessment.   ⊠

˅   **General Impact:** ⟳ **Operation**   ▦

1. What is the likelihood of failure?

	Description	Value	Long Text
○	Very Low	1	
○	Low	2	
○	Medium	3	
○	High	4	
○	Very High	5	

Note:

Close

Preview

Note:

0/5000

2. What is the consequence of failure?

	Description	Value	Long Text
○	Very Low	1	
○	Low	2	
○	Medium	3	
○	High	4	
○	Very High	5	

Note:

Close

Now that your Assessment Template is released, it can be used to make Risk and Criticality Assessments in APM.

5. Conclusion

5.1 Objective:

To learn how to create a Risk and Criticality Assessment Template within a Preventative Maintenance Solution, specifically for Asset Performance Management (APM) systems.

5.2 Overview:

Risk and Criticality assessments are integral to APM, aiming to predict the likelihood and consequences of failures in technical objects. Creating an assessment template is the first step, which involves setting up a structure for the assessment-defining questions, possible answers, and more. These templates are reusable for different technical objects.

5.3 Process:

1. **Access the Template:**
   a. Navigate to the Risk and Criticality Assessment Templates tile in the assessment management tab.
   b. Use the search bar if the tile isn't visible.
   c. Initiate a new template creation by choosing Create.

2. **Input Template Information:**
   a. Fill out all required fields.
   b. Details for fields can be flexible and non-critical for this demonstration
   c. Save the template to proceed.

3. **Create Impacts, Dimensions, and Scales:**
   a. Impacts: Categorize groups of dimensions (questions).
   b. Dimensions: The individual questions within each impact category.
   c. Scales: Define potential answers and their severity scores.

4. **Setting up Impacts:**
   a. Create at least one impact, with the option to create more.
   b. Provide a description and select a category.
   c. Save each impact as it's created.

5. **Adding Dimensions and Scales:**
   a. Select an impact and add dimensions.
   b. For each dimension, integrate scale options that reflect potential answers.
   c. Assign a severity value to each scale option.
   d. Save changes to each impact after adding dimensions and scales.

6. **Configuring Threshold Data:**
   a. Determine risk score ranges that signal specific conditions.
   b. Alter threshold values, criticalities, and actions.
   c. Assign colors to each threshold to visually represent severity levels.
   d. Save to confirm all threshold settings.

7. **Finalizing the Template:**
   a. Preview the template for an overview of its functionality.
   b. Change the status to Released to finalize and publish the template.

5.4 Outcome:

Upon completion of this process, the assessment template is ready for use in conducting Risk and Criticality Assessments within APM. Further application of this template in actual assessments will be discussed in the following lesson.