

SAP (IAM)

Intelligent
Asset
Management



Execution of a Risk and Criticality Assessment

Document Control

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Reference Documents

The following section describes relevant documentation:

Document Name	Description	Sharepoint Link
Risk and Criticality Assessment	Execution of a Risk and Criticality Assessment	Risk and Criticality Assessment.pdf

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1. Execution of a Risk and Criticality Assessment

1.1 Objective

To perform a Risk & Criticality Assessment with proficiency, utilizing the configured templates and effectively analyzing asset failure risks and criticality.

1.2 Key Terms

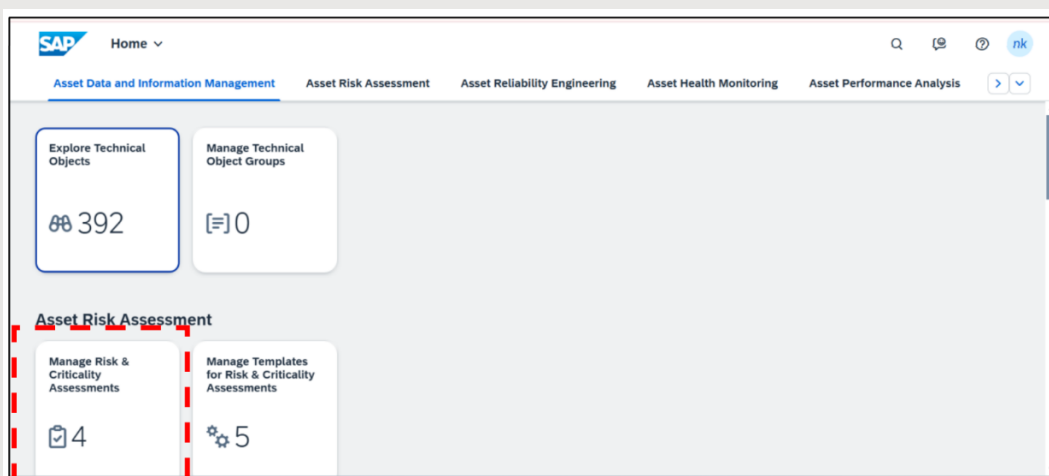
1. **Risk and Criticality Assessments:** The process of evaluating the likelihood and consequence of asset failure.
2. **Current Risk:** The level of risk after all mitigation efforts have been applied to the technical object.
3. **Unmitigated Risk:** The level of risk before any mitigation efforts have been applied.
4. **Dimensions:** Specific factors or questions within an impact category that contribute to the risk assessment.
5. **Impacts:** Categories or groupings of dimensions that are evaluated in the assessment.
6. **Risk Matrix:** A tool used to visualize and determine risk levels based on the combination of different dimensions.
7. **Risk Score:** The quantitative value representing the level of risk associated with a technical object.
8. **Status (Created, In Process, Released):** The stages of the assessment process, indicating the progress and completion state.

1.3 Execution

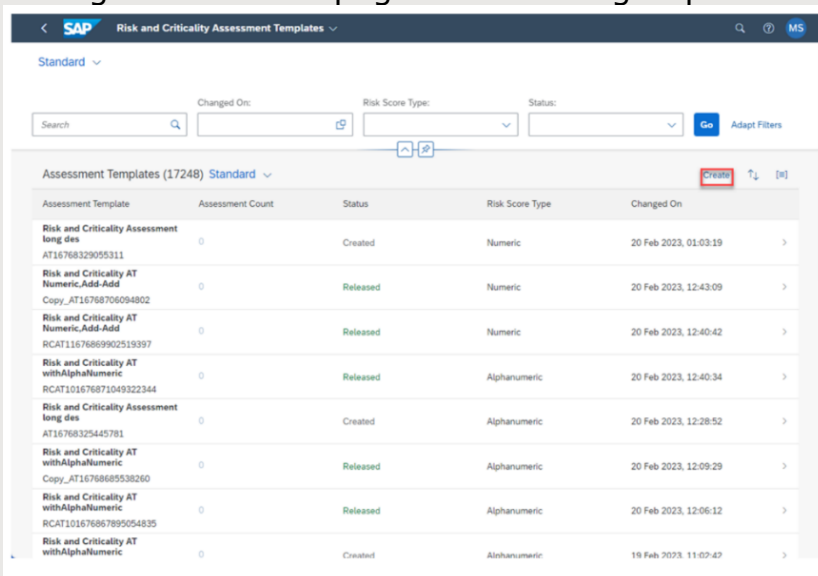
With our Risk and Criticality Assessment Template now created, we can now use this template for an actual Risk and Criticality Assessment. Here, we will assign an actual technical object and go through the exact evaluation setup that we created beforehand. The template created earlier can be used for multiple different Risk and Criticality Assessments if desired. If there are no templates previously made, you will not be able to create an assessment.

2. Creating an Assessment

On the main page of APM, choose the Risk and Criticality Assessments tile. The tile is in the **Assessment Management** tab and should be the second 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 "**Risk and Criticality Assessments**" in the search field, and then hitting the **search** button.



Once in the Risk and 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 sort button.



You will then be brought to the Create Assessment pop-up on the screen.

New Assessment

Assessment: *

NK_Risk_Criticality_Assessment_Demo

35/40

Description: *

NK_Risk_Criticality_Assessment_Demo

35/256

Long Text:

0/5000

Risk Type: *

☒ Current Risk
 ☐ Unmitigated Risk

Currency *

United States Dollar x

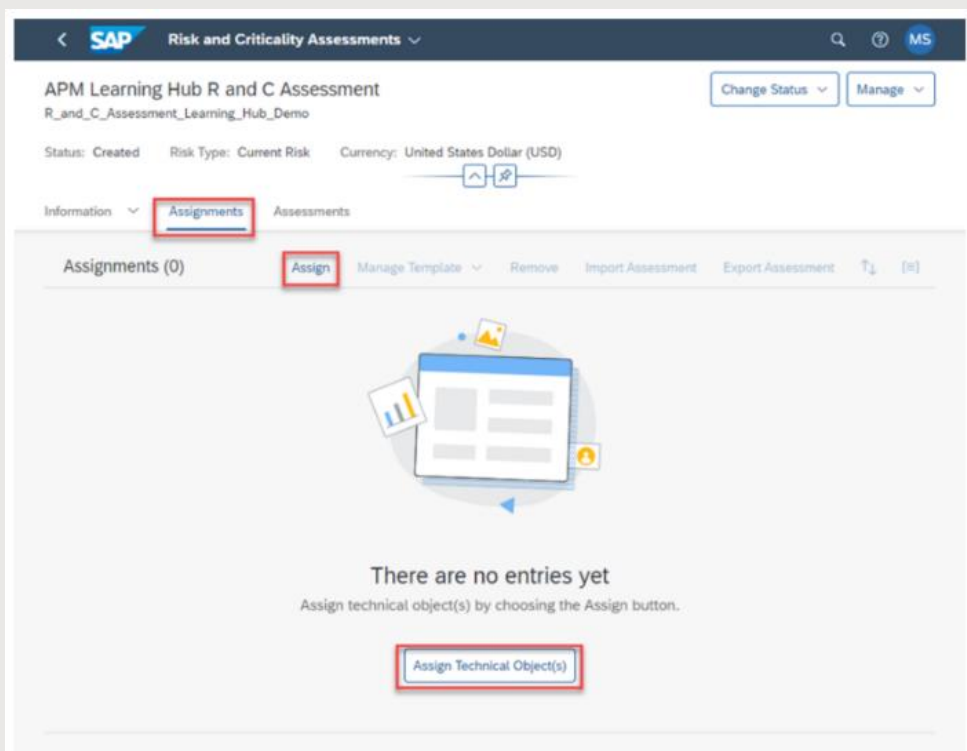
Save

Cancel

- Fill out all required fields. The Assessment and Description fields serve the same purpose as the Assessment Template and Description fields found within the Risk and Criticality Assessment Template creation pop-up.
- For the **Risk Type** option, choose Current Risk rather than Unmitigated Risk. Current Risk is the amount of risk present with the Technical Objects being used in the assessment after all risk mitigation efforts have been expended. Unmitigated risk is the opposite with it representing all present risk associated with a Technical Object before any risk mitigation efforts have occurred.
- For the Currency field, select the currency you wish to use when determining financial impact within the assessment. Long Text is optional to put in and is simply there to allow for additional information relating to assessment.
- Once finished, choose the **Save** button to continue with the actual assessment.

3. Assign Assessment Template(s) Technical Object(s)

We can assign one or more Technical Objects within our APM system to perform the assessment on. Choose the **Assignments** tab near the top of the page. Once there, choose the **Assign** button in the row of buttons underneath the Assignments tab or choose the **Assign Technical Object(s)** button in the center of the page.



Select one or more Technical Objects from the list of provided Technical Objects. Feel free to utilize the filters and the search bar present on the top of the page as well to more easily locate the Technical Object(s) that will be used. Make sure that when you want to apply filters, you choose the Go button to reevaluate the list of applicable Technical Objects. For this demonstration, I will select one Technical Object, that being the Pressure Vessel. Once finished, choose the **OK** button at the bottom.

SAP Risk and Criticality Assessments

Select Technical Objects

Search









Technical Object Type: Category: Object Type: Maintenance Plant:

Planning Plant: Planner Group: Criticality: Cost Center:

Main Work Center: Class: Status: Superior Functional Location:

Superordinate Equipment: Sort Field: Failure Data Profile:

Select Technical Objects

<input checked="" type="checkbox"/>	 Compressor-BP4C Equip no - 10000310 10010333	Machines (M)	Rotary Compressors (9200)	MOD12234	SIEMENS	Highly Critical (A)	Installed
<input type="checkbox"/>	 10231783	Machines (M)					Available
<input type="checkbox"/>	 10231782	Machines (M)					Available
<input type="checkbox"/>	 Pump_Gear 10211727	Machines (M)					Available
<input type="checkbox"/>	 Pump_Gear 10211728	Machines (M)					Available
<input type="checkbox"/>	 Pump_Gear 10211729	Machines (M)					Available
<input type="checkbox"/>	 Pump_Gear 10211730	Machines (M)					Available
<input type="checkbox"/>	 Pump_Gear 10211731	Machines (M)					Available
	Pump_Gear						

With the Technical Object now assigned to our Assessment, we now need to assign the Assessment Template itself to our Technical Object. We need to assign an Assessment Template for each Technical Object that we are using. To do this, check the Technical Object(s) that we are assigning a particular Assessment Template to. Once checked, choose the **Manage Template** button and the **Assign** sub-button that appears underneath it.

NK_Risk_Criticality_Assessment_Demo

Risk Type: Current Risk Status: Created

Currency: United States Dollar (USD)

Information ▾ **Assignments** Assessments

The Export Assessment button will be enabled only if the selected technical object has the same assessment template.

Technical Object	Assessment Template	Disable Criticality Code Sync to SAP ERP	Risk Score	Criticality	Action	Impacts
Compressor- BP4C Equip no - 10000310 10010333			Not Assessed			

Either scroll through the list or use the filters to find the Assessment Template you wish to use. Again, make sure if using the filters, you choose the Go button to apply the filters on the page. Choose the **Assign** button to select that Assessment Template for your Technical Object(s).

Assign Assessment Template

Search

Q

Risk Score Type:

Changed On:

Go

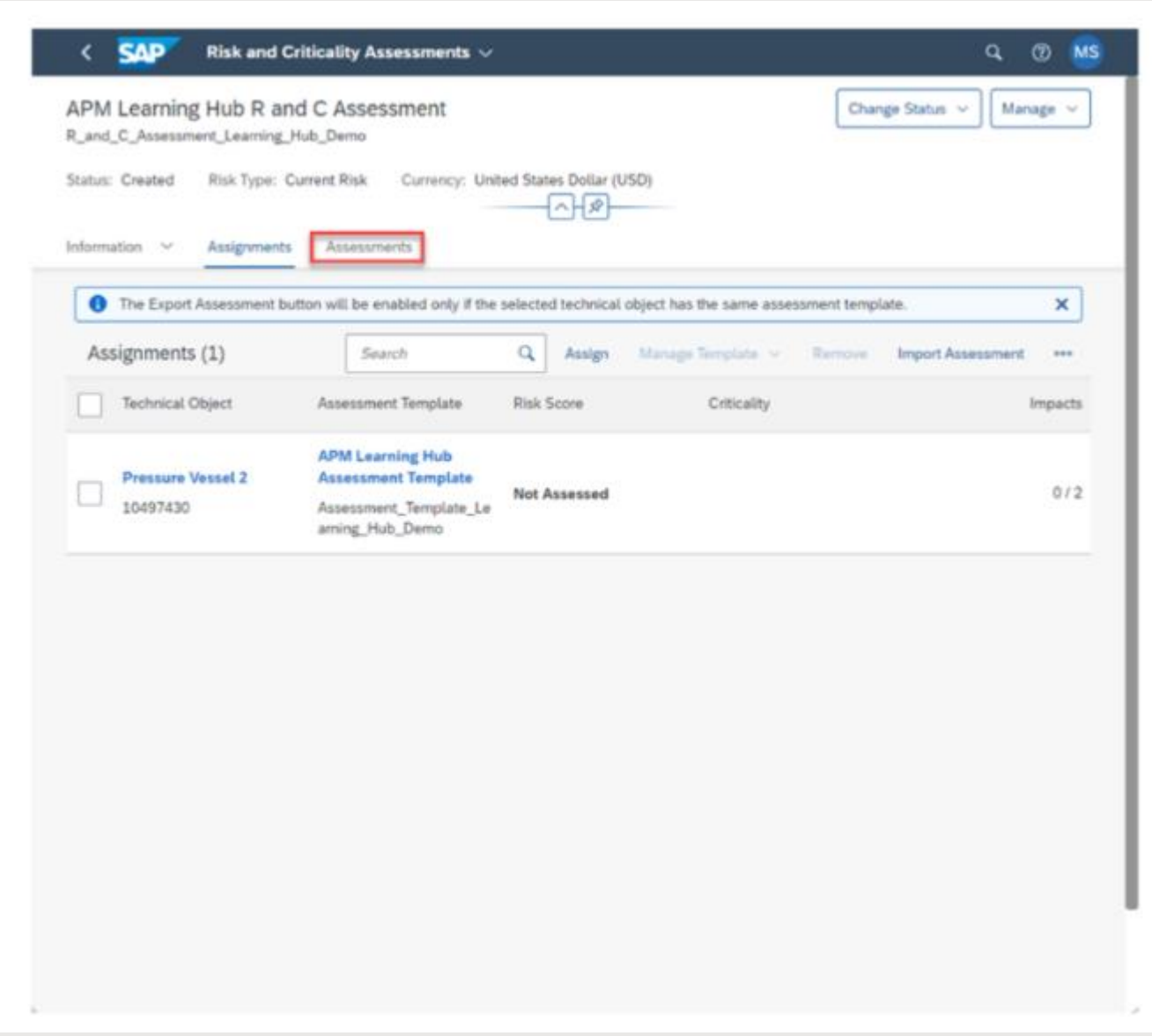
Hide Filter Bar

Assessment Templates (3)

	Assessment Template	Version	Enable Impact Exclusion for Assessment	Disable Criticality Code Sync to SAP ERP	Risk Score Type	Changed On
<input type="radio"/>	Multi_Stage_Compressor_System_TEMPLATE 1_Multi_Stage_Compressor_System_TEMPLATE	1	Yes	No	Numeric	Dec 03, 2024, 10:21:09 AM
<input type="radio"/>	Assessment_template_TESTING Assessment_template_TESTING	1	Yes	No	Numeric	Dec 02, 2024, 10:22:03 AM
<input type="radio"/>	Harsha_RC_ASSESSMENT Harsha_RC_ASSESSMENT	1	No	No	Numeric	Dec 01, 2024, 03:40:50 PM

AssignCancel

With our Assessment Template assigned to our Technical Object, we can now actually perform the assessment itself. Switch to the **Assessments** tab to perform the Risk and Criticality Assessment on our Technical Object.



4. Assessments Tab and Changing Status to In Process

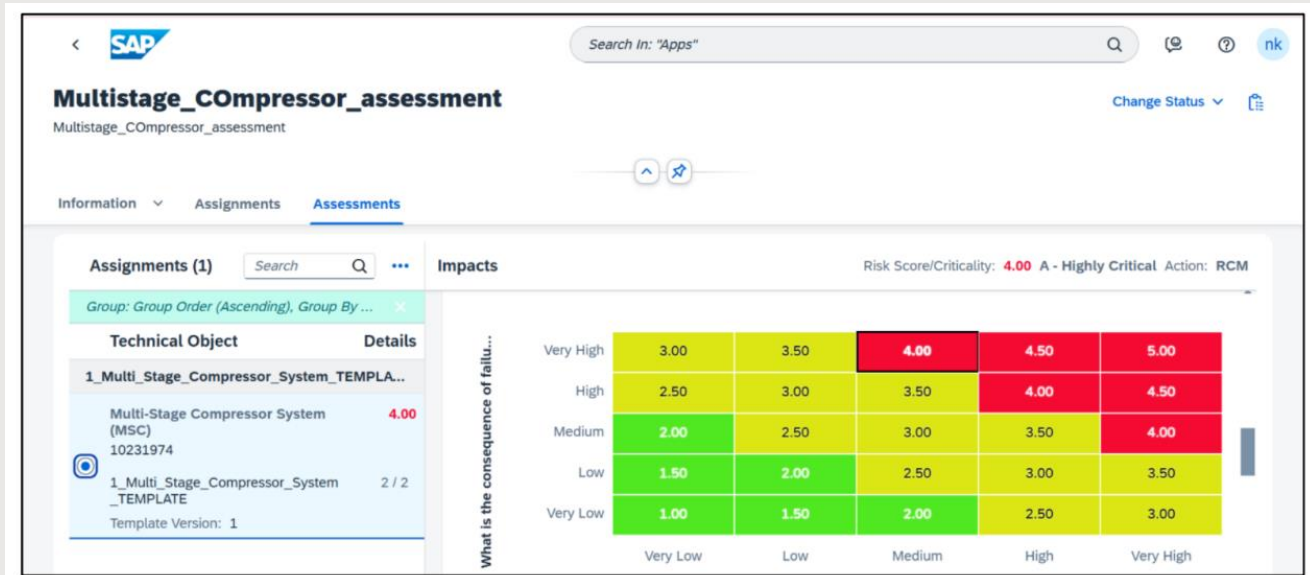
In the Assessments tab, we can see all the Technical Objects that we assigned to our Assessment. For us to perform an assessment on one of these Technical Objects, we need to check it from the list. Once checked, you will see the Assessment Template that has been assigned to the Technical Object. Now we can perform the actual assessment itself. One thing to do before performing the assessment however is changing the status of our overall assessment from Created to In Process. We will eventually need to change the status to Released, which only is available while the Assessment is In Process. choose the **Change Status** button at the top right of the page and choose the In Process sub-button underneath it. Note that the Delete sub button underneath the **Manage** button will be gone now.

The screenshot shows the SAP interface for a 'Multistage Compressor assessment'. The 'Assessments' tab is active, displaying a table of impacts and risk details. The overall risk score is 4.00, categorized as 'A - Highly Critical' with an action of 'RCM'. The table lists impacts such as 'General Impact' (4.00), 'Environmental Impact' (3.50), and an 'Overall' score of 4.00. Financial risks are also shown, with a total of 1,200.00 USD.

Impacts	Risk	Financial Risk	Exclude Impact from Assessment
General Impact	4.00	1,000.00 USD	<input type="checkbox"/>
Environmental Impact	3.50	200.00 USD	<input type="checkbox"/>
Overall	4.00	1,200.00 USD	

Fill out the Dimensions for Each Impact within your Assessment. You can provide optional notes as well. Also make sure to enter in a Financial Risk for the impact if desired. For each impact, a risk matrix will appear showing how two of the dimensions in the impact compare to each other and what the risk score and threshold level would be given the combination of the two Dimensions. You can choose one of the scores within the matrix and have the respective dimension

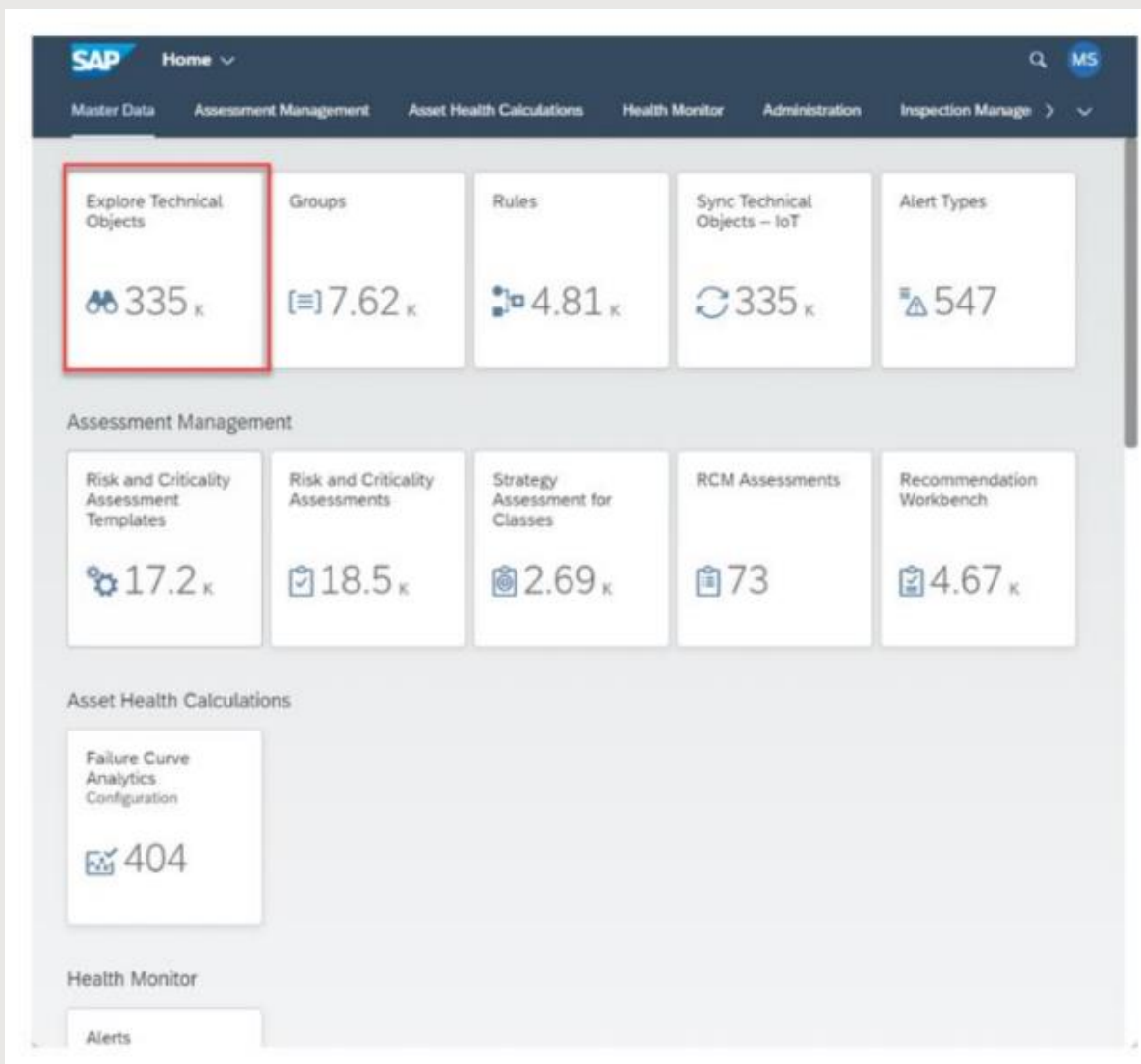
values be filled in automatically to the Dimension drop down. Once all necessary values are put in, choose the **Save** button to save all the attributes you've listed. Repeat this process for all other technical objects you need to assess.



With all the Technical Objects assessed here, now we can go ahead and publish our assessment. To do this, choose the **Change Status** button and choose the Released sub-button underneath it. The status can only be set to **Released** if it is in the In Process status. Change the status to In Process, then change it again to Released.

5. Viewing the Assessment on the Technical Object

Now, with our assessment completed and released, we can view the assessment on our Technical Object. To do this, go back to the main page and open the Explore Technical Objects tile, which is the first tile in the Master Data section.



The screenshot shows the SAP 'Explore Technical Objects' page. The table lists various technical objects with columns for Technical Object, Category, Object Type, Model Number, Manufacturer, Superior Functional Location, Risk Score, and Criticality. A pop-up window titled 'Risk and Criticality' is displayed over one of the rows, showing details about the assessment, including the risk score (15.00) and criticality (Medium (B)).

Technical Object	Category	Object Type	Model Number	Manufacturer	Superior Functional Loc...	Risk Score	Criticality
302221425							
EZE-EQUIP-202302221037	Machines (M)	Pressure parts (8037)	325541	Air Con	APM Automation Functional Location	33	Low (C)
10497432							
EZE-EQUIP-202302221034	Machines (M)	Pressure parts (8037)	325541				High (A)
10497431							
Pressure Vessel 2 10497430	Machines (M)	Pressure parts (8037)	325541			15.00	High (A)
10497429	Machines (M)	Pressure parts (8037)	325541				High (A)
10497428	Machines (M)	Pressure parts (8037)	325541				High (A)
Pressure Vessel 2 10497427	Machines (M)	Pressure parts (8037)	325541	Air Con	APM Automation Functional Location (AUTO-API-FUNL)		High (A)
OCT14_T3_1 27005836	Machines (M)	Crusher (8011)					Medium (B)
Pressure Vessel 2 10497426	Machines (M)	Pressure parts (8037)	325541	Air Con	APM Automation Functional Location (AUTO-API-FUNL)		High (A)
test floc with space TEST-F C-23 3-TEST	Technical system - standard (M)				Sample equipment. (TEST)		

From the Explore Technical Objects page, find the Technical Object that you were previously assessing. You will notice now that in the Risk Score Column here is the final Risk Score we gave within our assessment. If we choose the **Risk Score** from this page or within the **Technical Object's** main page, we can see more information pertaining to the assessment done on it as well as have the option to View the actual assessment from here. Choose the **View** button to see the Assessment.

6. Conclusion

5.1 Steps:

1. Initiating the Assessment:

- a. Access the Risk and Criticality Assessments section via the **Assessment Management** tab.
- b. Use the **Create** button to start a new assessment.

2. Creating the Assessment:

- a. In the pop-up, complete all necessary fields, including Assessment name, Description, and select '**Current Risk**' to factor in mitigations.
- b. Choose the appropriate currency for financial impact assessment.
- c. Optional: Provide additional details in Long Text.

3. Assigning Technical Object(s):

- a. Use the **Assignments** tab to assign technical objects for the assessment.
- b. Filter and select the desired objects (for example, a Pressure Vessel).

4. **Assigning the Assessment Template:** Check the assigned technical objects and use the Manage Template button to attach the appropriate assessment template.

5. Conducting the Assessment:

- a. Switch to the **Assessments** tab to view and assess the technical

objects.

- b. Change the assessment status from Created to In Process.
- c. Complete the dimensions for each impact, including financial risk where applicable.

6. **Assessment Matrix:**

- a. For each impact, utilize the risk matrix to correlate dimensions and determine risk scores and threshold levels.
- b. Save attributes and repeat for all technical objects in the assessment.

7. **Publishing the Assessment:** Change the status from In Process to Released to finalize and publish the assessment.

8. **Viewing Assessment Results:**

- a. Locate the technical object via the ***Explore Technical Objects*** section.
- b. Review the final Risk Score and additional details of the assessment by viewing the completed assessment.

5.2 Outcome:

Completion of these steps ensures a thorough Risk and Criticality Assessment is conducted, with the final risk score reflecting the comprehensive evaluation of all technical objects involved. The process also details how to transition from template creation to practical assessment execution, crucial for consistent and reliable risk management within APM systems.