Fabasoft®

White Paper

Administration of AI Use Cases in Fabasoft Approve

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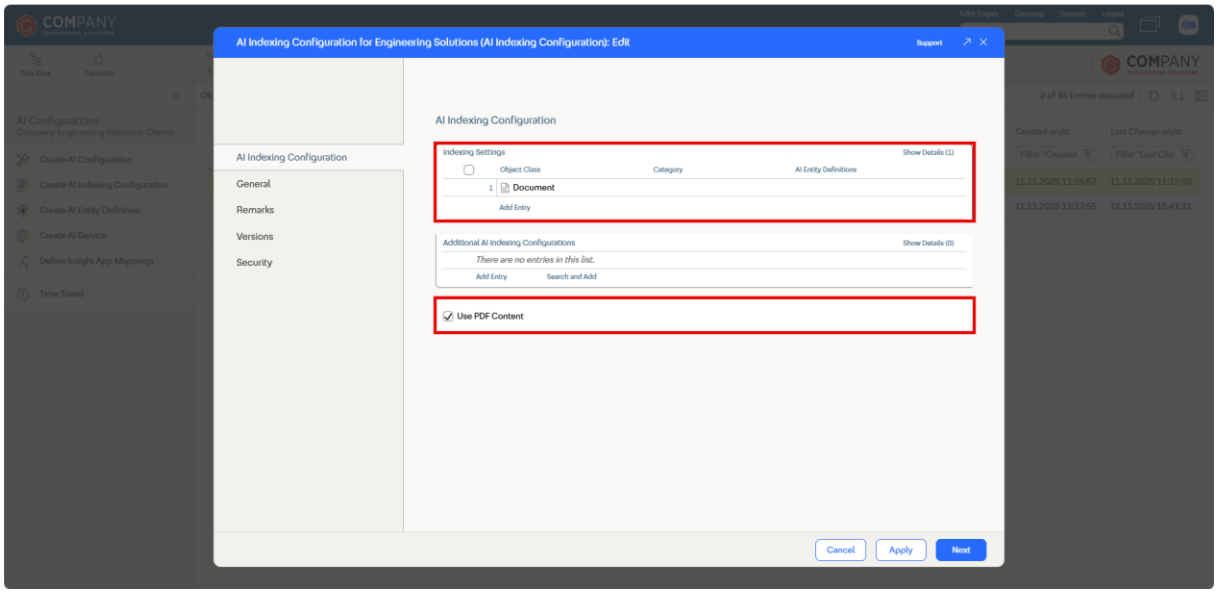
1 About

This whitepaper describes the configuration of AI use cases in context of Fabasoft Approve.

For further information also refer to the Fabasphere online help:
https://help.cloud.fabasoft.com/doc/Administration-Help-Fabasphere-AI-Core-eng/artificial-intelligence.htm

2 Initial AI Setup of the Solution

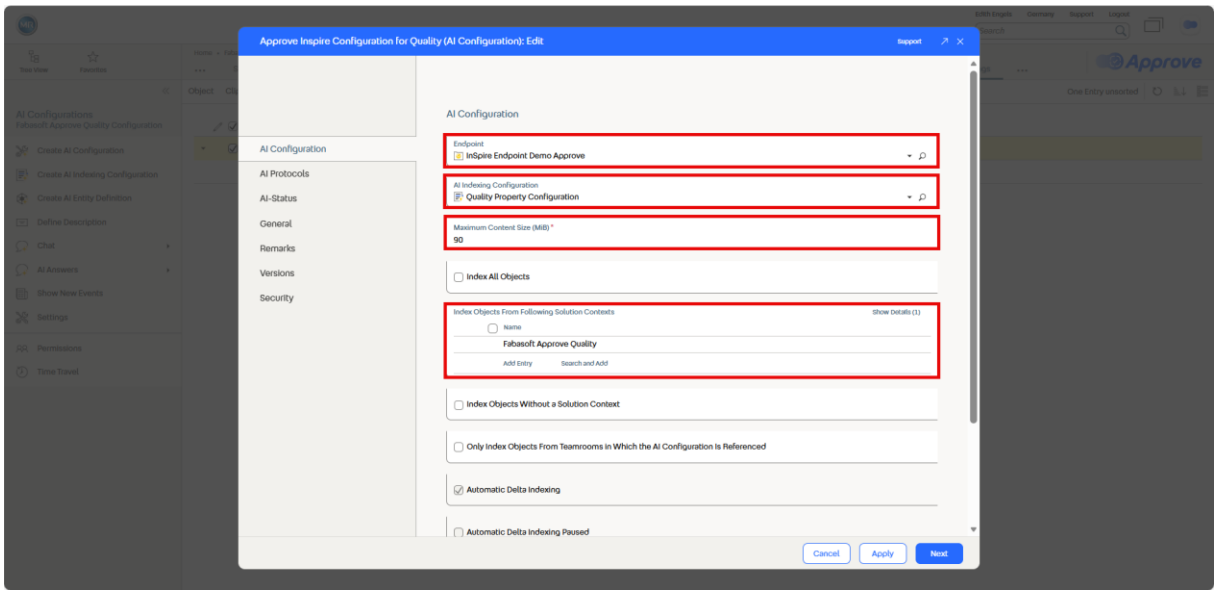
From the Fabasoft Approve dashboard, switch to the configuration by clicking *Switch to Configuration*, navigate to *AI Settings* and select *Create AI Indexing Configuration*, add the object classes that should be added to the AI index in the *Indexing Settings* property and check the *Use PDF Content* box.



Note: Only instances of the object classes listed in the *Indexing Settings* property will be added to the AI index. If you also select a *Category* only instances with the matching category will be added to the AI index.

Note: In the *Additional Indexing Configurations* field, you can select a predefined AI configuration that is used to complement the settings defined in the *Indexing Settings* field.

Next, select *Create AI Configuration*, create an AI configuration and edit the properties. Select the endpoint in the *Endpoint* property. If no endpoints appear in the drop down, select *Find more entries* to start a search for all available endpoints. Select the AI indexing configuration created in the previous step in the *AI Indexing Configuration* property, and enter a *Maximum Content Size (MiB)* (e. g. "90"). In the *Index Objects From Following Solution Contexts* field, add the Fabasoft Approve App you are configuring the AI integration for, e.g. "Fabasoft Approve Quality". Then click *Next* to continue.

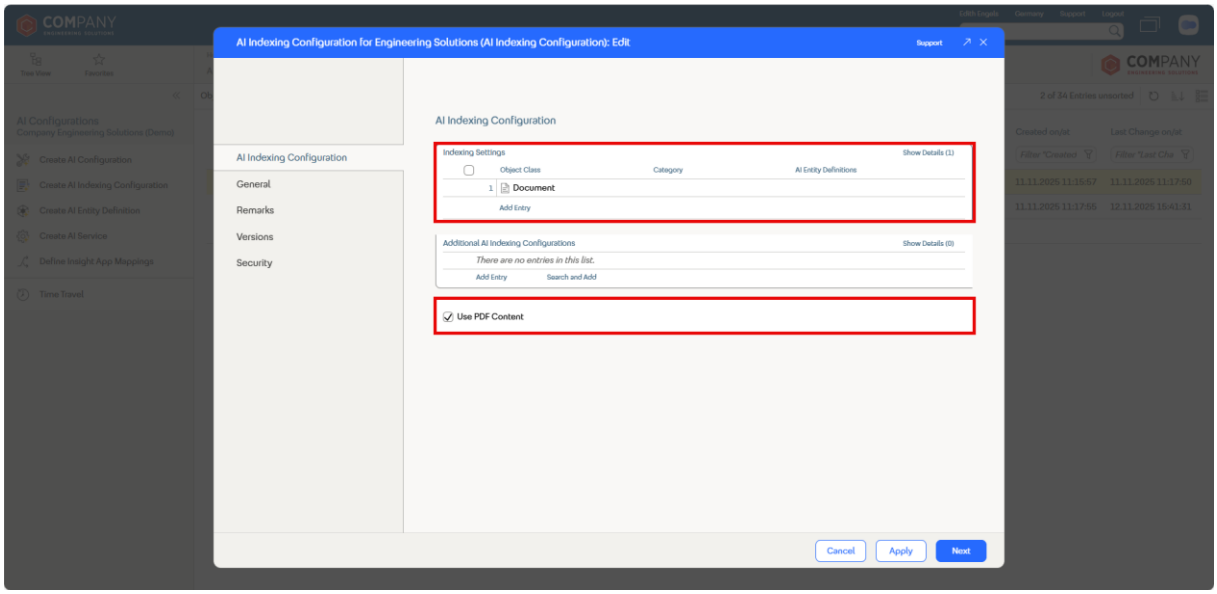


The *Default AI Configuration* field on the *AI Configuration Settings* form page in the *Settings* of the configuration determines, which AI configuration is used in context of the solution. If no value has been defined yet, the created AI configuration is automatically added as default AI configuration for the solution.

3 Initial AI Setup for AI Answers/Chat with Teamrooms

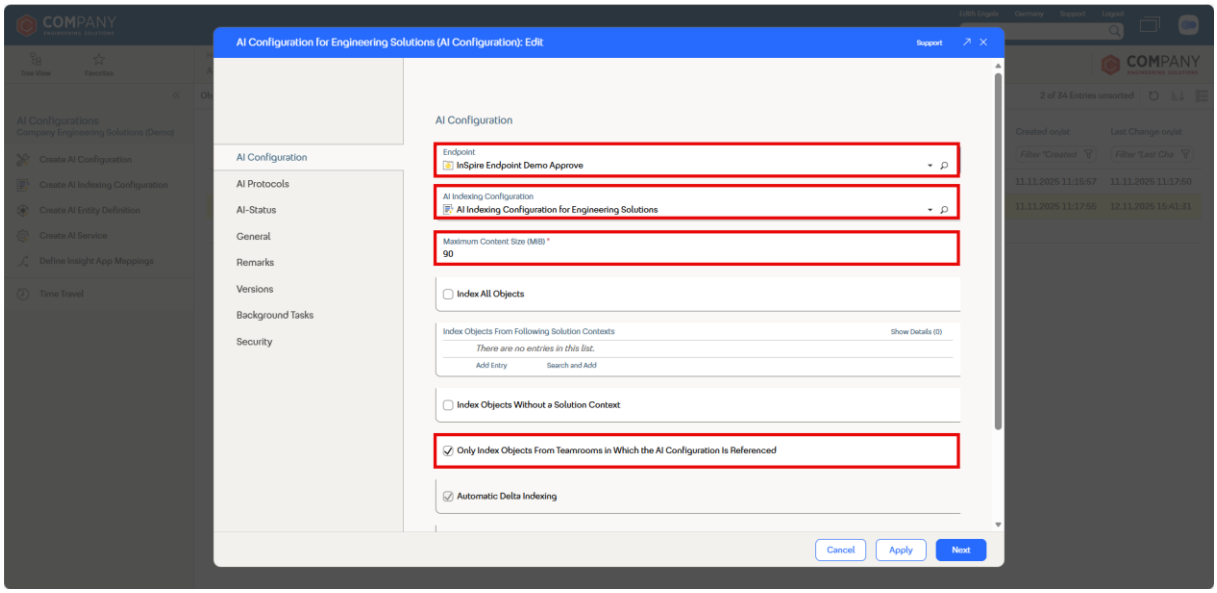
In the first step, an AI configuration and associated configuration objects must be created and configured by the owner of the Fabasphere organization.

In your Fabasphere organization, navigate to *Advanced Settings > AI Configurations* and select *Create AI Indexing Configuration*, add the objects classes that should be added to the AI index in the *Indexing Settings* property and check the *Use PDF Content* box.



Note: Only instances of the object classes listed in the *Indexing Settings* property will be added to the AI index. If you also select a *Category* only instances with the matching category will be added to the AI index.

Next, select *Create AI Configuration*, create an AI configuration and edit the properties. Select the endpoint in the *Endpoint* property. If no endpoints appear in the drop down, select *Find more entries* to start a search for all available endpoints. Select the AI indexing configuration created in the previous step in the *AI Indexing Configuration* property, enter a *Maximum Content Size (MiB)* (e. g. "90"), and check the *Only Index Objects From Teamrooms in Which the AI Configuration is Referenced* box.



Open the context menu for the AI configuration and select *Define as Default*.

Navigate to the Teamroom where you want to enable the chat feature and select *Settings* from its context menu. Enable the *Enable Mindbreeze AI for "Ask Questions"* property on the *AI Settings* form page.

To trigger the initial population of the AI index, select *Index Fully in Background* from the context menu of the AI configuration.

4 Interactive Exploded View, 360° Views and AI Entity Definitions

The *Interactive Exploded View* is a visualization concept that allows users to explore complex information structures by "exploding" an entity into its constituent elements—such as components, related documents, and contextual relationships—through hyperlinks that lead directly to corresponding 360° views.

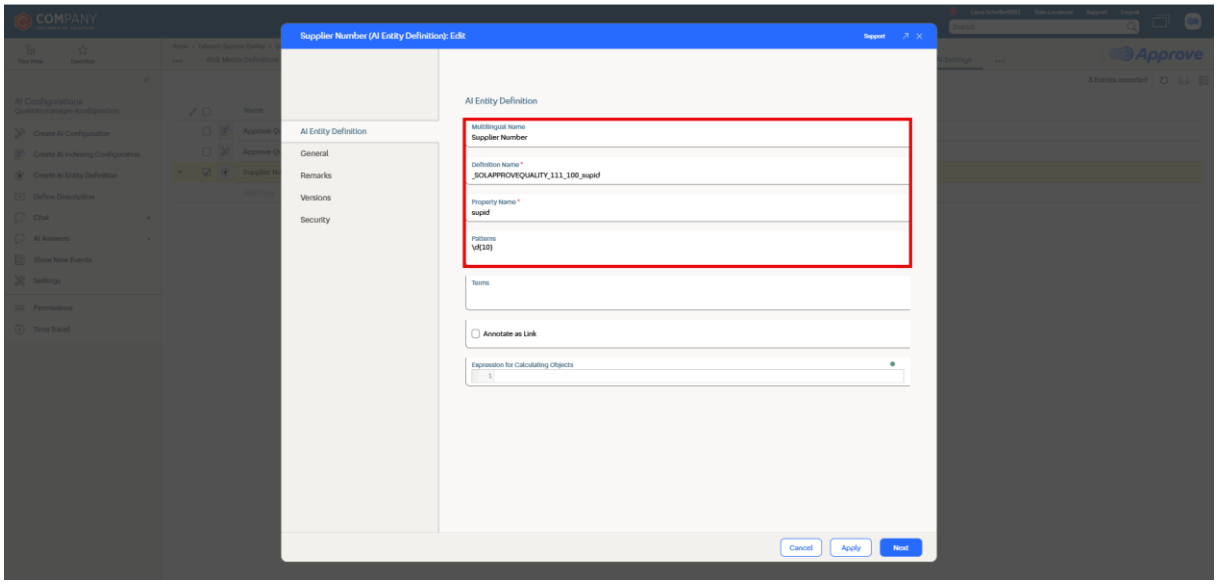
A 360° view is a consolidated, holistic view of an entity (e.g. supplier, customer, project, etc.) that draws together data from multiple sources and presents it in a unified interface. Fabasoft Approve provides preconfigured 360° views for many object classes that can be customized or extended using Fabasoft app.ducx.

An AI Entity Definition is a structured description of an object that the AI uses to identify and link to a 360° view from within an interactive exploded view.

4.1 Creating AI Entity Definitions

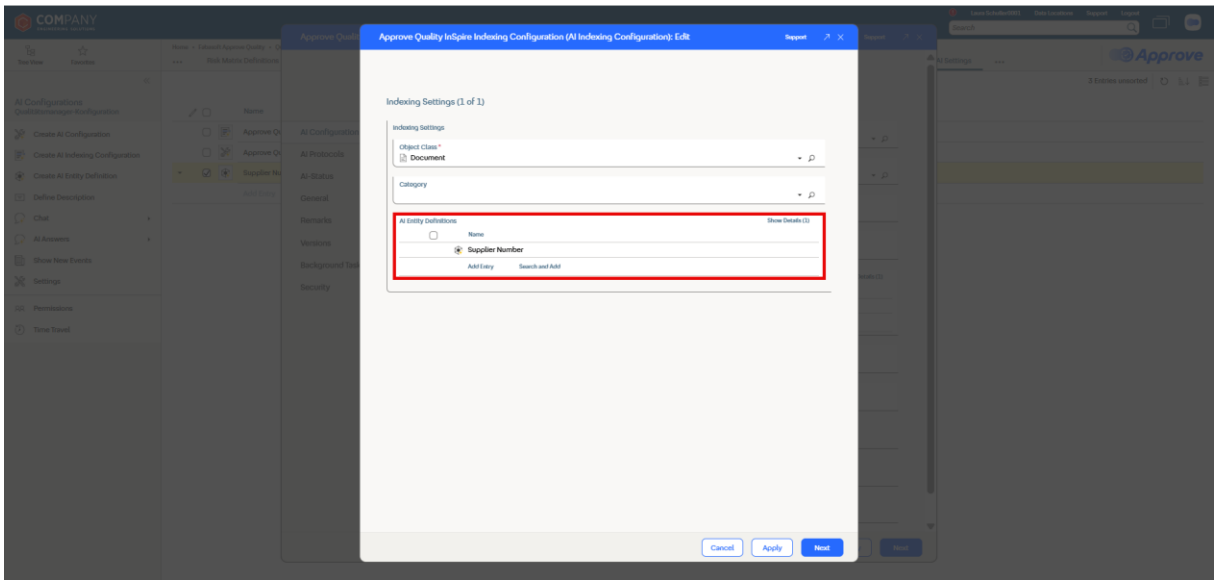
To create a new AI entity definition, switch to the configuration and navigate to the *AI Settings* form page. Select *Create AI Entity Definition* and provide the following information:

- *Multilingual Name*: Enter a name for the AI entity definition, e.g. "Supplier Number".
- *Definition Name*: In this field you must enter the fully qualified reference of the property the AI entity definition should be bound to. Prefix it with "_" and replace the "@", "." and ":" characters in the reference with "_".
  Example: If you want to bind the AI entity definition to the *ID* (`SOLAPPROVEQUALITY@111.1001:supid`) property of a supplier enter "_SOLAPPROVEQUALITY_111_100_supid".
- *Property Name*: In this field, you must enter the short reference of the property the AI entity definition should be bound to.
  Example: If you want to bind the AI entity definition to the *ID* (`SOLAPPROVEQUALITY@111.1001:supid`) property of a supplier enter "supid".
- *Patterns*: In this field, you have to provide one or more regular expressions for the recognition of the objects you want to be able to identify. For example, if you want to create an AI entity definition for suppliers, and in your system all suppliers are identified by a 10 digit number in the *ID* (`SOLAPPROVEQUALITY@111.1001:supid`) property enter "\d{10}".



After you have created all the desired AI entity definitions, you have to add them to your AI indexing configuration:

1. Open the properties of the AI indexing configuration.
2. Reference the created AI entity definitions in *AI Entity Definitions* field of the *Indexing Settings* field for the desired entry or entries (e.g. object class "Document").
3. Click *Next* to save your changes.

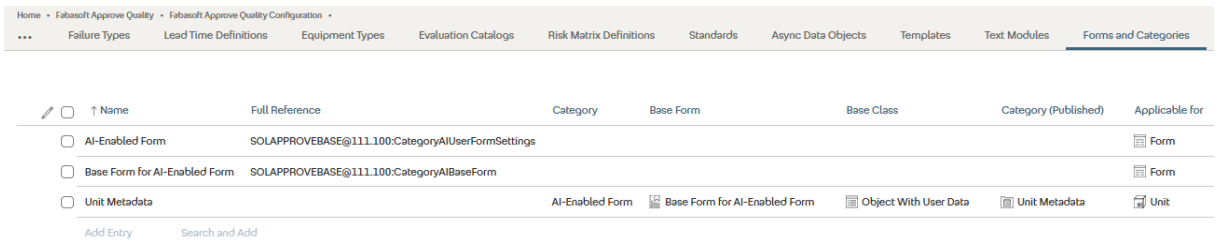


5 Configuration of AI Forms

Fabasoft Approve allows you to use the AI to populate forms.

To define a form that can then be populated with the help of AI, carry out the following steps:

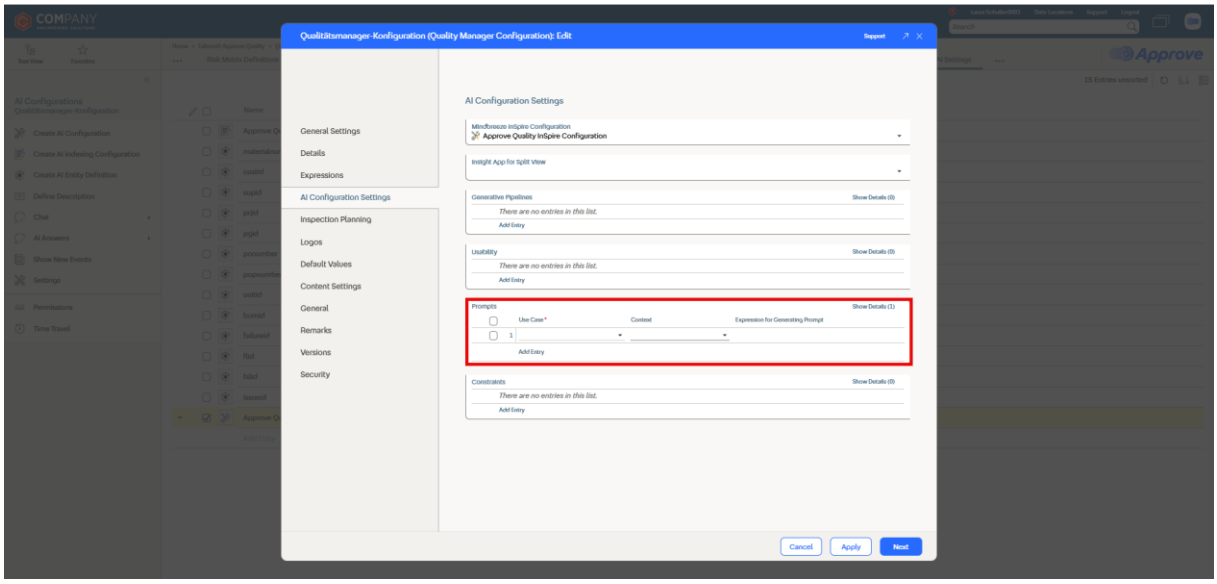
1. Switch to the configuration and navigate to the *Forms and Categories* form page.
2. Click *Search and Add* and select "AI-Enabled Form" (`SOLAPPROVEBASE@111.100:CategoryAIUserFormSettings`).
3. Click *Search and Add* and select "Base Form for AI-Enabled Form" (`SOLAPPROVEBASE@111.100:CategoryAIBaseForm`).
4. Create a new form and define the desired form fields.
5. Open the properties of the form and select "AI-Enabled Form" in the *Category* field. This will automatically assign "Base Form for AI-Enabled Form" as its *Base Form*, and the *AI Settings* form page will appear.
6. Navigate to the *AI Settings* form page and set the desired context in the *Context Objects* field to determine which documents will be used by the LLM for generating the responses for the form fields.
7. Click *Next* to save your changes.
8. Select *Release for Usage* from the form's context menu.



For objects with a category that originates from an AI-enabled form, the *Answer Form* use case is then displayed in the task pane and the object's context menu.

6 Modification of Prompts

In order to make modifications to the prompts used when an LLM is invoked as part of an AI use case, navigate to the configuration, click *Settings* to open the settings add or modify the desired entry in the *Prompts* field.



The *Expression for Generating Prompt* must return the new prompt to be used to invoke the LLM. The default prompt is provided in the "::prompt" parameter.

6.1 Container and Pipeline Combination

Use Case	Container/Attribute	Pipeline
Change Site	`SAQIssue`	`ExtractAttributeValue`
Determine Risk	`SAQIssue.issueseverity`	`GenerateTableValues`
Translate	`SAQIssue`	`GenerateTranslation`
Select Related Issues	`SAQIssue`	`SimilaritySearch`
Update Problem Summary	`SAQIssue.issueproblemsummary`	`GenerateSummary`
Suggest Corrections	`SAQIssue.issuecorrections`	`GenerateTableValues`
Update Corrections Summary	`SAQIssue.issued3correctionssummary`	`GenerateSummary`

Suggest Causes	SAQIssue.objcauses	GenerateTableValues
Determine Direct and Root Cause	SAQIssue.objcauses	GenerateSummary
Update Cause Identification Summary	SAQIssue.objcauses	GenerateSummary
Suggest Corrective Actions	SAQIssue.issuecorrectiveactions	GenerateTableValues
Update Corrective Actions Summary	SAQIssue.issue5definecorrectiveactionssummary	GenerateSummary
Suggest Preventive Actions	SAQIssue.issuepreventiveactions	GenerateTableValues
Update Preventive Actions Summary	SAQIssue.issued7definepreventiveactionssummary	GenerateSummary
Update Summary	SAQIssue.issued8completeprocesswhatsummary SAQIssue.issued8completeprocesshowsummary SAQIssue.issued8completeprocesswhysummary SAQIssue.issued8completeprocessdonesummary SAQIssue.issued8completeprocesslessonslearnedsummary	GenerateSummary
Generate Why	SAQCause.cswhy	Reasoning
Generate Answer/Reason	SAQCause.csthereforeSAQCause.csshortdescription	Reasoning
Suggest Failure Modes	SAQFunction	GenerateTableValues
Suggest Effects and Causes	SAQFailureMode	SemanticRelationExtraction
Answer with AI	SAQChecklistSAQChecklistStructureElement	AnswerQuestionsAsync
Populate Issue Using AI	SAQIssue	GenerateTableValues