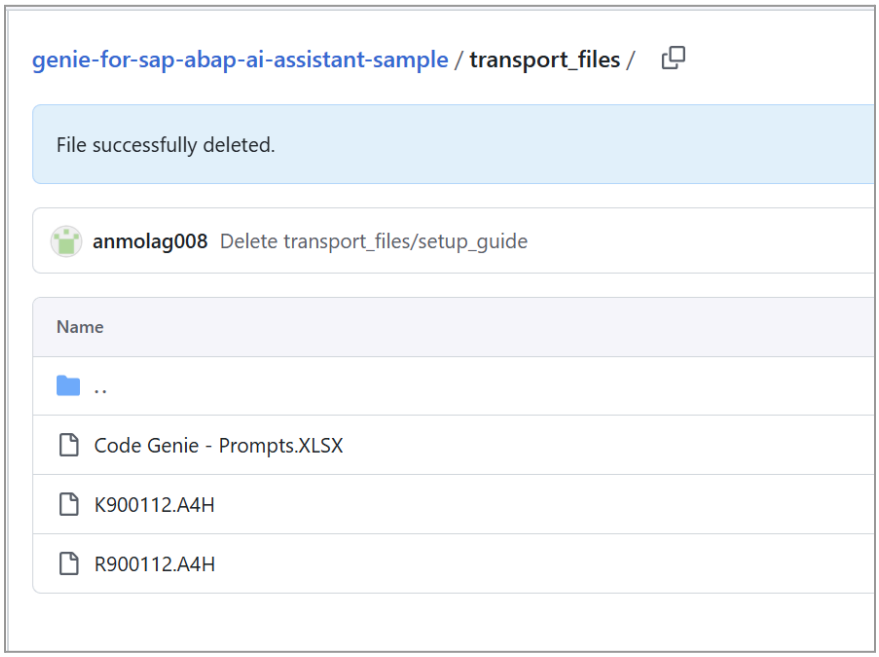
Code Genie: Setup Guide

This comprehensive guide provides clear, step-by-step instructions for configuring Code Genie within your SAP system. It covers everything from managing access and model keys to whitelisting ABAP packages and maintaining prompt templates, ensuring a smooth and effective implementation.

Before You Begin: Prerequisites

Ensure the following conditions are met before proceeding with the setup:

- **ABAP SDK Version:** Your SAP system must have ABAP SDK version 1.9 or higher installed. If not, please follow the installation guide.
    - https://cloud.google.com/solutions/sap/docs/abap-sdk/on-premises-or-any-cloud/latest/install-config
- **Code Genie Transport and Prompt files:**
    - Download the transport files “K900112.A4H” and “R900112.A4H” via link https://github.com/google/genie-for-sap-abap-ai-assistant-sample/tree/main/transport_files
    - Download file “Code Genie - Prompts.XLSX” from the same directory.



Note: Please review the Code Genie tool before importing the transport files to your system and take necessary approvals from your system administrator. Google does not provide official support to this tool.

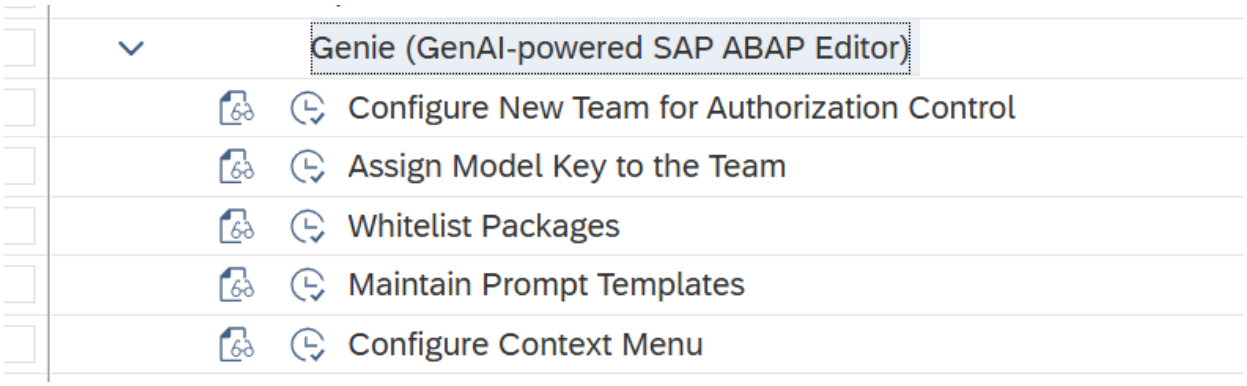
Step 1: Import Code Genie transport and Administrator Authorization setup

1. **Transport Import:** Work with your BASIS/Release Management team to import Code Genie K9 and R9 files into your SAP system via tcode STMS. Please make sure you have ABAP SDK 1.9 or higher already installed in your system, otherwise Code Genie transport import will fail.

   Note that if you have ABAPGit installed in your system, you can directly import the tool in your system without the K9 and R9 files.

2. **Administrator Authorization:** The user designated as the Genie administrator (responsible for configuration maintenance) must be assigned the SAP authorization object `S_TABU_DIS` with the authorization group `ZCA_GENIE`.

Note: An IMG node has been provided to set up Code Genie once imported. Please use this node's sub-menu and follow the below instructions.



Step 2: Configure Teams for Authorization Control

This step details how to define which teams within your organization can access and utilize specific Code Genie AI features.

1. **Identify or Create New Teams:** Based on your organizational structure and access requirements for AI features, identify existing teams or create new ones in your SAP system.
2. **Assign the `ZCA_GENIE` Authorization Object:** Your SAP security team must assign the `ZCA_GENIE` authorization object to the relevant team roles. During this assignment, you will specify:
    - **Team Name (`ZGN_TEAM` Field):** Enter the exact name of the team to which you are granting access.
    - **AI Features (`ZGN_FEATUR` Field):** Select the specific Code Genie AI features that the team is allowed to use. You can choose from the following values:
        - `G_EXPLAIN`: To enable "Explain Code" functionality.
        - `G_REVIEW`: To enable "Code Review" functionality.
        - `G_CODE`: To enable "Suggest Code" functionality.
        - `G_AUT`: To enable "Suggest ABAP Unit Test" functionality.
        - `G_TRANS`: To enable "Language Translate" functionality.
    - **Recommendation:** To maximize the utility of Code Genie, we recommend enabling access to all functionalities for teams. However, you have the flexibility to tailor access based on your specific team needs and responsibilities.

Step 3: Assign Model Key to Teams

This step describes how to link a Google Cloud Model Key to your configured teams and understand the default logging of usage statistics.

1. **Generate a Google Cloud Model Key:**
    - Follow the instructions provided in the official Google Cloud documentation to generate a unique Model Key for your team. The relevant document can be found here: https://cloud.google.com/solutions/sap/docs/abap-sdk/on-premises-or-any-cloud/latest/authentication
    - **Model Recommendation:** For the best results and compatibility with the pre-configured prompts, we recommend using the `gemini-2.5-flash` model. If you opt for other models, adjustments to the prompt templates might be necessary.
2. **Assign the Model Key to the Team:** Once generated, assign this unique Model Key to the team you configured in Step 1.

3. **Understand Detailed Tool Usage Statistics (Default Behavior):** By default, Code Genie automatically captures comprehensive tool usage statistics. This includes:
    - User ID
    - Feature used (e.g., Explain Code, Code Review)
    - Timestamp of the interaction
    - SAP Object Package and Name
    - The exact prompt sent to the AI model
    - The code submitted to the model, along with its line count
    - The response received back from the model

    This detailed information is invaluable for monitoring usage patterns, analyzing performance, troubleshooting potential issues, and ensuring compliance with your organization's policies.

4. **Disable Detailed Usage Statistics (Optional):** If your organization's data privacy policies do not permit the logging of detailed usage statistics, you have the option to disable this feature. Disabling it will prevent the logging of user IDs, prompts, code content, and AI model responses.

Step 4: Whitelist ABAP Packages

This step outlines the process for specifying which ABAP packages Code Genie is authorized to access. This whitelisting is critical for ensuring compliance with legal requirements regarding the use of generative AI (GenAI) with SAP code.

1. **Current Whitelisting Policy (Update):**
    - **Important:** As of the latest update, SAP permits the use of standard SAP objects for "explainability" use cases.
    - Therefore, you can maintain a single entry with the wildcard value * (an asterisk) under the "Whitelist Packages" node within your Code Genie configuration if your organization permits. This setting will enable Code Genie to process all ABAP packages, including both custom (Z- or Y-namespace) and standard SAP packages.
2. **User Responsibility and Legal Compliance:** It is imperative to only whitelist packages in strict accordance with your company legal guidelines and policy. Any user who whitelists standard SAP packages or custom packages without proper legal authorization assumes full responsibility for any resulting legal implications. If you have any questions regarding permissible use, please consult your legal team.

Step 5: Maintain Prompt Templates

This step describes how to manage the AI prompt templates used by Code Genie features, which is essential for optimizing performance and maintaining traceability of prompt evolution.

1. **Access Prompt Maintenance Node:** The Code Genie administrator can maintain and manage the prompts for various AI features within the designated prompt maintenance node.
2. **Best Practices for Prompt Management:** To ensure a clear history, traceability, and optimal performance, adhere to the following guidelines:
    - **Avoid Modifying or Deleting Existing Prompts:** To preserve a comprehensive history of prompt evolution and to track changes over time, do not modify or permanently delete existing prompt entries.
    - **Disable Obsolete Prompts Instead of Deleting:** If a prompt becomes outdated or is no longer required, disable it rather than deleting it. This ensures it is no longer actively used by the system but remains accessible for future reference or audit purposes.
    - **Add New Prompts with Sequential Numbering:** When introducing new or improved prompt templates for a specific Code Genie feature, assign them the next sequential number in the series. This practice maintains a logical order and facilitates effective version control.
3. **Initial Prompts and Future Updates:**
    - Refer to the "Code Genie - Prompts.XLSX" file, which contains the initial set of prompts that need to be maintained through this "Maintain Prompt Templates" node.
    - The Code Genie development team is continuously working to refine and improve prompts to enhance the accuracy and effectiveness of the AI model responses. These improved prompts will be communicated to you periodically. The administrator should then add these new prompts to the system, strictly following the best practices outlined above.
    - By adhering to these guidelines, you will ensure a well-organized and traceable prompt repository, which is crucial for maximizing the performance and efficiency of Code Genie's AI features.

Step 6: Configure Context Menu

This step details the process for maintaining Code Genie feature-related entries within the standard SAP table `TSE_CTXT_MENU`, which controls the options displayed in context menus.

1. **Understand Table Classification and Caution:** The `TSE_CTXT_MENU` table is classified as a System table (delivery class 'S'). This means it is typically managed and edited solely by SAP. While the system allows for display and maintenance of this table, any changes you make are considered modifications to a standard SAP object. Therefore, these changes should be handled with extreme caution.
2. **Execute Only in Development Client:** It is **strongly recommended** that you execute this configuration program *only* in your SAP development client. Modifying system tables directly in other environments (e.g., Quality, Production) can have severe and unintended consequences on your SAP system's stability and functionality.
3. **Consult Your SAP Team:** If you have any concerns, questions, or require assistance regarding the modification of the `TSE_CTXT_MENU` table, please consult with your internal SAP team or SAP support.