HaydnCSF User Guide

HaydnCSF User Guide

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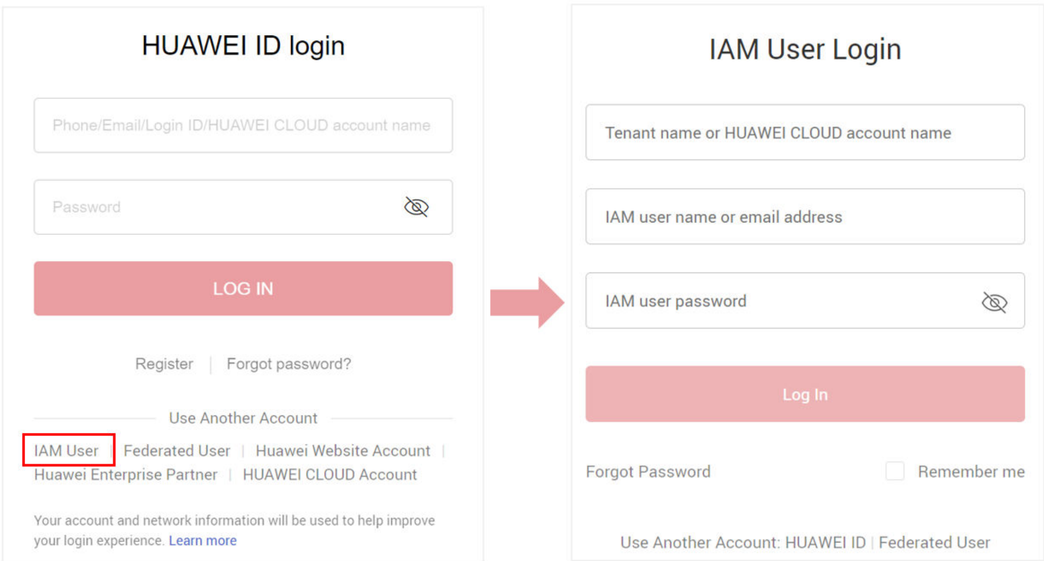
1 Getting Started with HaydnCSF

1.1 Accessing HaydnCSF

Before using the HaydnCSF platform, ensure that you have a Huawei Cloud account or HUAWEI ID. If you do not have one, **register an account or ID**. You can also create an IAM user for accessing the platform.

- Huawei Cloud account or HUAWEI ID: the account for you to use Huawei Cloud services
- IAM user: a user you create in Identity and Access Management (IAM) using your Huawei Cloud account. Each IAM user has their own credentials (password and access keys) and uses cloud resources based on assigned permissions. IAM users cannot make payments themselves. You can use your Huawei Cloud account or HUAWEI ID to pay their bills. For details about how to create an IAM user, see **Creating an IAM User**.

Figure 1-1 Logging in as an IAM user



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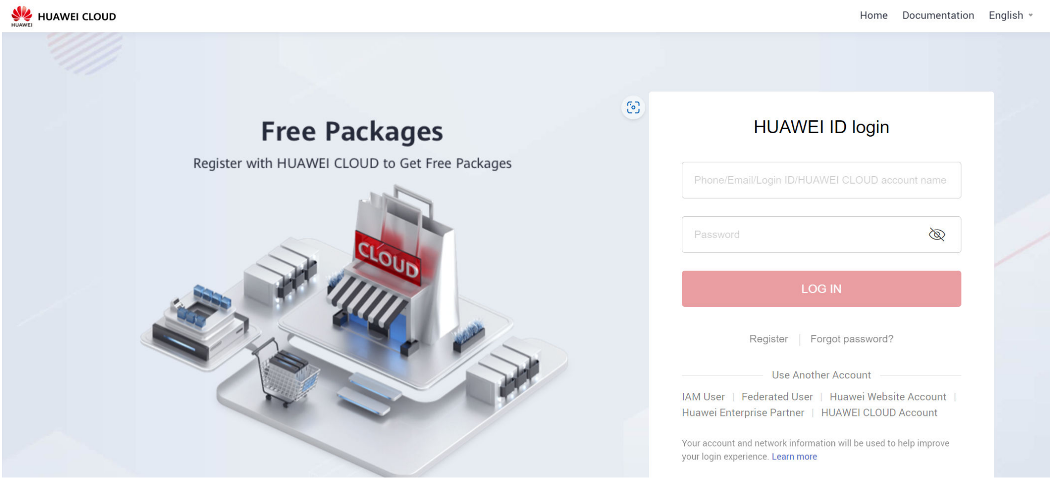
Accessing the HaydnCSF Platform Using a Huawei Cloud Account or HUAWEI ID

1. Visit the Huawei Cloud official website, choose **Solutions** > **By Use Case** > **Haydn Solution Digital Platform**, and click **Try Now**.
2. Enter your Huawei Cloud account or HUAWEI ID and the password.

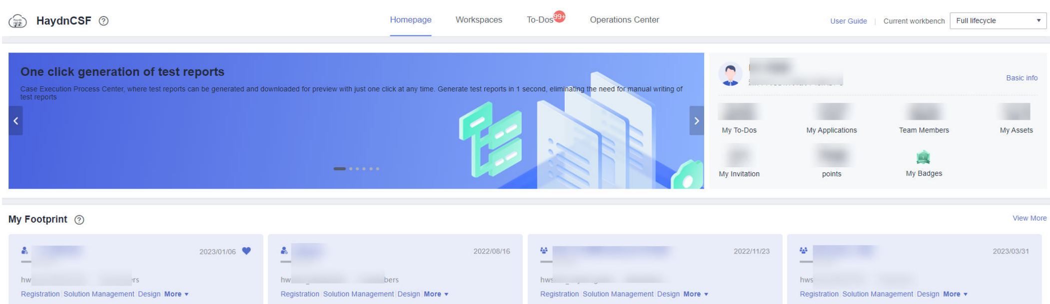
Figure 1-2 Logging in to Huawei Cloud using a Huawei Cloud account or HUAWEI ID



3. If you log in for the first time, read and select the *HaydnCSF Solution Digital Platform Service Statement*.

   You can enter your email address to subscribe to the latest information about the HaydnCSF platform, including the user guide, learning courses, new features, and to-dos. If you subscribe to the platform for the first time, you will receive a subscription confirmation notification. **The subscription is successful only after your confirmation**.
4. Click **Try Now** to go to the homepage of the HaydnCSF platform.

Figure 1-3 HaydnCSF platform homepage



NOTE

- When you access the HaydnCSF platform using a Huawei Cloud account or HUAWEI ID, this account will become an enterprise administrator by default and have all the permissions of the enterprise administrator. For details about HaydnCSF user roles, see **HaydnCSF User Access Permission**. You can also view your roles and email subscriptions in **Personal Information**.
- If you access HaydnCSF for the first time, you need to select the *HaydnCSF Solution Digital Platform Service Statement* to switch to the HaydnCSF platform homepage.

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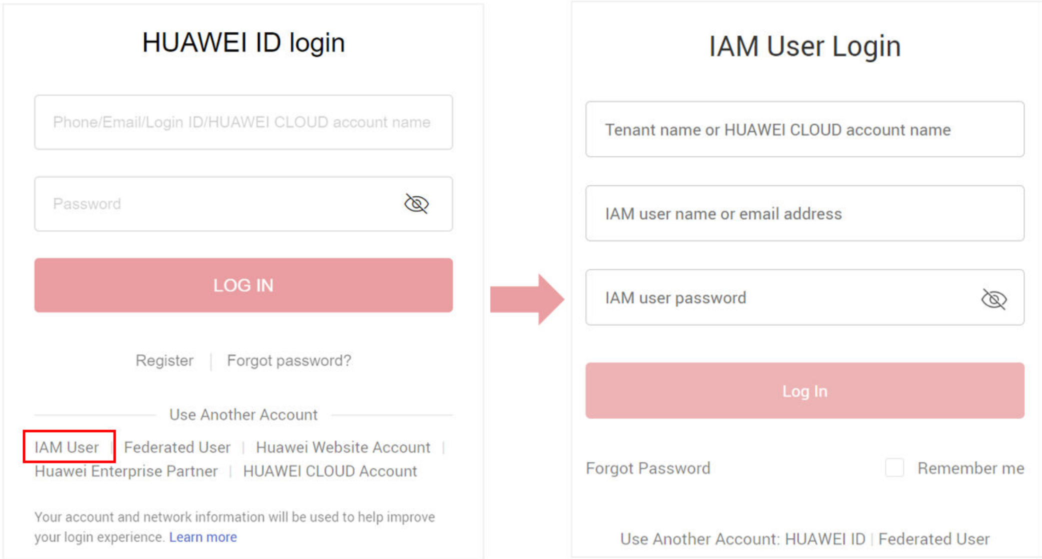
Accessing the HaydnCSF Platform as an IAM User

1. Visit the Huawei Cloud official website, choose **Solutions** > **By Use Case** > **Haydn Solution Digital Platform**, and click **Try Now**.
2. Select **IAM User** for login, enter the account name, IAM username, and password, and click **Log In**.

Figure 1-4 Logging in to Huawei Cloud as an IAM user



3. If you log in for the first time, read and select the *HaydnCSF Solution Digital Platform Service Statement*.

   You can enter your email address to subscribe to the latest information about the HaydnCSF platform, including the user guide, learning courses, new features, and to-dos. If you subscribe to the platform for the first time, you will receive a subscription confirmation notification. **The subscription is successful only after your confirmation**.
4. Go to the HaydnCSF homepage.

NOTE

- **An IAM user that accesses the HaydnCSF platform for the first time will become an enterprise administrator and have all the permissions of the enterprise administrator.**
- Your Huawei Cloud account or HUAWEI ID, and other IAM users that access the HaydnCSF platform are common users, such as architects and test engineers. You can also contact the enterprise administrator to assign the enterprise administrator role to your account or IAM users. For details, see **Setting an Enterprise Administrator**.
- For details about HaydnCSF user roles, see **HaydnCSF User Access Permission**. You can also view your roles and email subscriptions in **Personal Information**.
- If you access HaydnCSF for the first time, you need to select the *HaydnCSF Solution Digital Platform Service Statement* to switch to the HaydnCSF platform homepage.

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1.2 Setting an Enterprise Administrator

What Is an Enterprise Administrator?

There are two types of users on the HaydnCSF platform: enterprise administrators and common users. Enterprise administrators can use the Operations Center, while common users cannot.

- Enterprise administrators can use the Operations Center to manage the users of your enterprise, view reports of your enterprise, and analyze verification efficiency.
- Common users are people in different positions of your enterprise, for example, project manager, architect, and test engineer.

For more information about user roles and their permissions, see **HaydnCSF User Access Permission**.

NOTE

Only enterprise administrators have the permissions on the Operations Center. If your Huawei Cloud account, HUAWEI ID, or an IAM user is used to access the HaydnCSF platform for the first time, this account or IAM user will become an enterprise administrator, who can set roles for other users in the enterprise.

1. Click **Basic info** to view the enterprise user information and contact the enterprise administrator to set a role for you.

Figure 1-5 Basic info

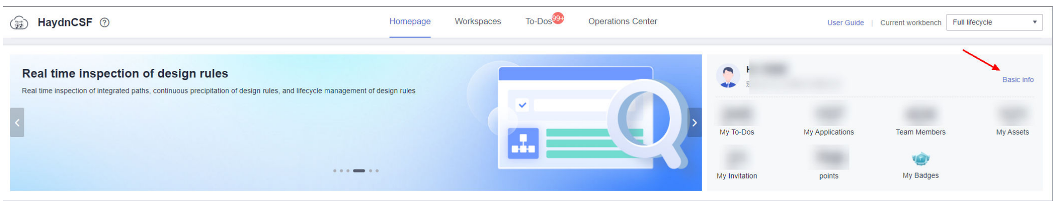

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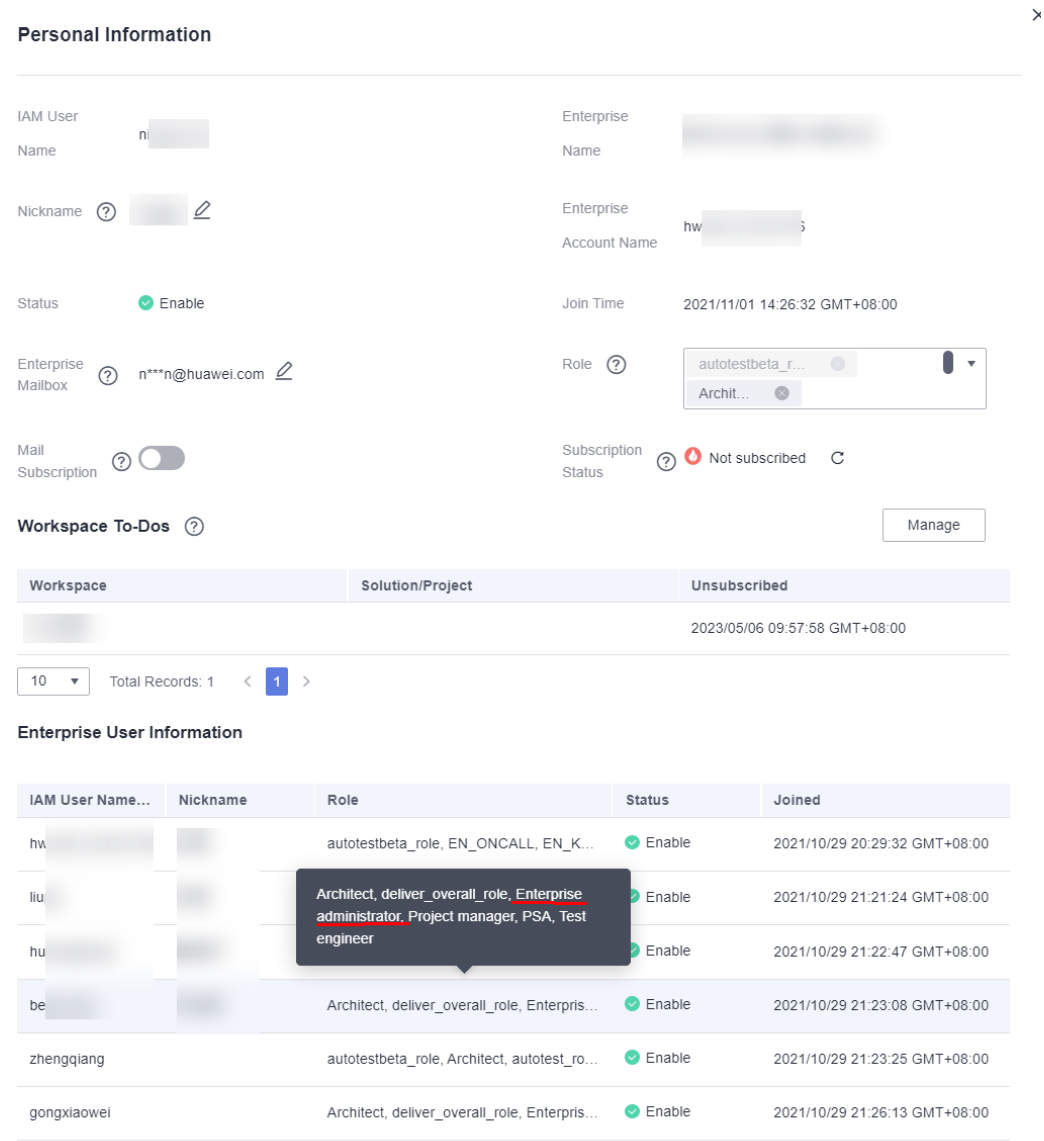
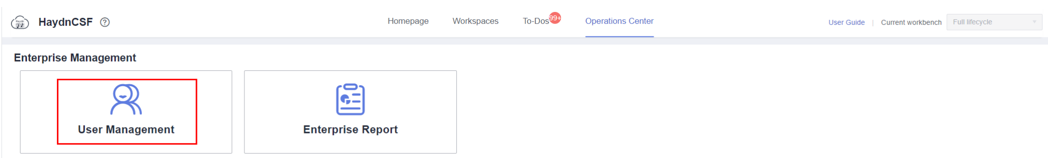
Figure 1-6 Viewing enterprise user information



2. Log in to the HaydnCSF as an enterprise administrator, go to the Operations Center, and click **User Management**.

Figure 1-7 Accessing the **User Management** page as an enterprise administrator



3. Search for the target IAM user by username. On the **User Management** page, you can add, delete, or modify a user, or query users in the enterprise.
4. Click **Edit** in the **Operation** column to change the roles assigned to the IAM user.

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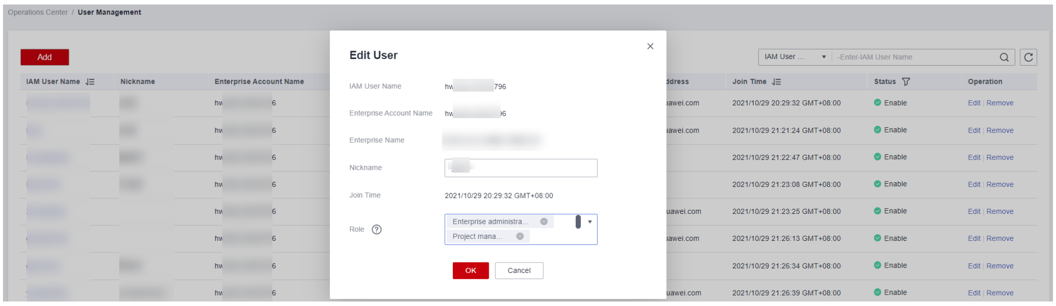
Figure 1-8 Modifying the roles



5. Click **OK**.

   If a user is set to an enterprise administrator, this user can manage other users of the enterprise and view the reports.

What can I do if I cannot obtain the user list on the User Management page as an enterprise administrator?

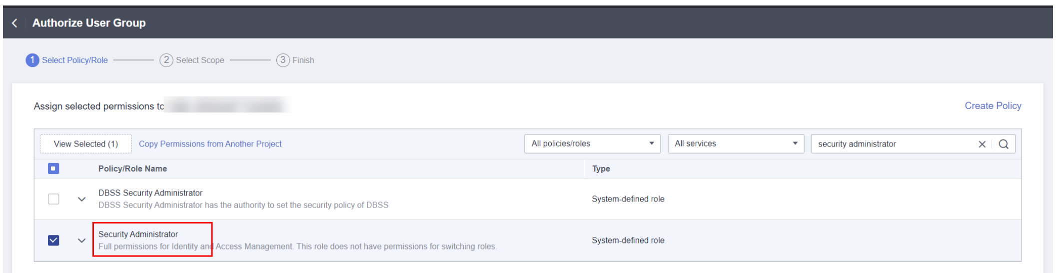
If you use an IAM user to manage users, the IAM user must have the **Security Administrator** permission. (New IAM users do not have any permissions by default and cannot obtain the user list).

1. **Log in to the IAM console** using your Huawei Cloud account or HUAWEI ID.
2. Create a user group (for example, a user group named HaydnCSF enterprise administrators) or use an existing user group, and add the IAM user to the user group.
3. On the **User Groups** page, select the user group you created, for example, HaydnCSF enterprise administrators, and click **Authorize** in the **Operation** column.

Figure 1-9 Authorizing a user group

4. Search for and select **Security Administrator**.

Figure 1-10 Granting the Security Administrator permission to a user



5. Set **Scope** to **All resources**.

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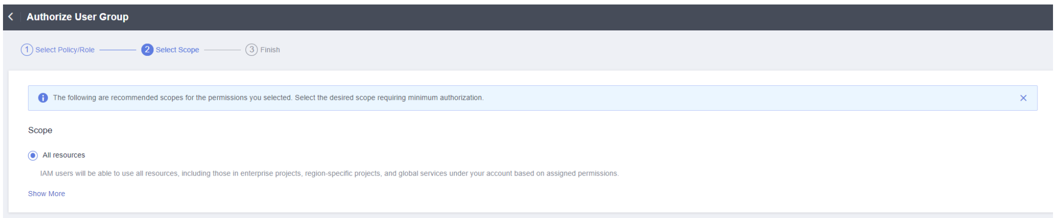
Figure 1-11 Selecting a scope



6. Click **OK**.

NOTE

Only IAM users need to be granted the **Security Administrator** permission. Your Huawei Cloud account or HUAWEI ID has all permissions by default.

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2 Homepage

To improve user experience, the homepage displays the guide for you to get started, the area for you to switch the workbench, your footprint, the solution acceleration field, and some friendly links.

Table 2-1 Sections on the homepage

Section	Description
User Guide	Provides a wizard for you to get started with HaydnCSF quickly.
Current workbench	Allows you to switch the workbench. The options are solution design, baseline building, certification test, custom verification, solution delivery & implementation, and full lifecycle.
My Footprint	Displays recently-visited workspace and favorite workspaces.
Solution workbench (workbench name)	Displays the workbench you select. For example, if you select the solution design workbench, the solutions at different phases are displayed.
Solution Acceleration Field	Displays assets such as architecture templates, test case templates, and solution practices for speeding up solution building.
Links	Provides links to popular modules related to HaydnCSF.

User Guide

User Guide shows the basic functions of each module on HaydnCSF, allowing you to switch to space footprint, solution acceleration field, new space, shortcut entry for space management, and to-do tasks.

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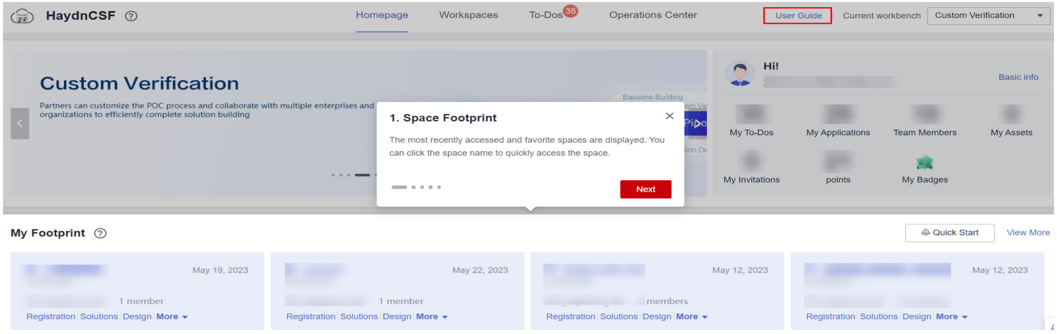
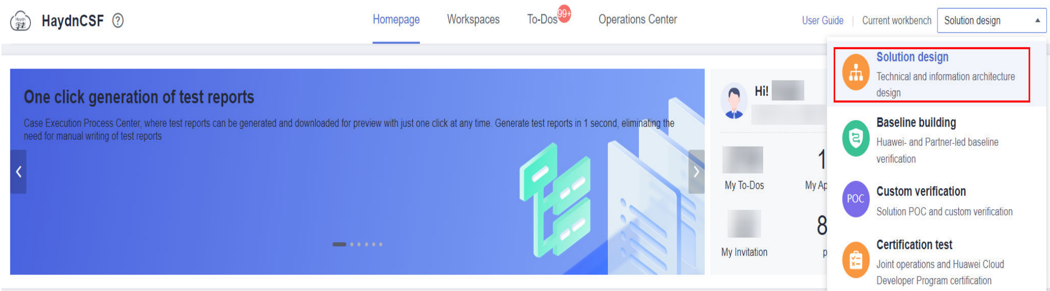
Figure 2-1 User Guide



Current Workbench

You can switch the workbench. The options are solution design, baseline building, certification test, custom verification, solution delivery & implementation, and full lifecycle.

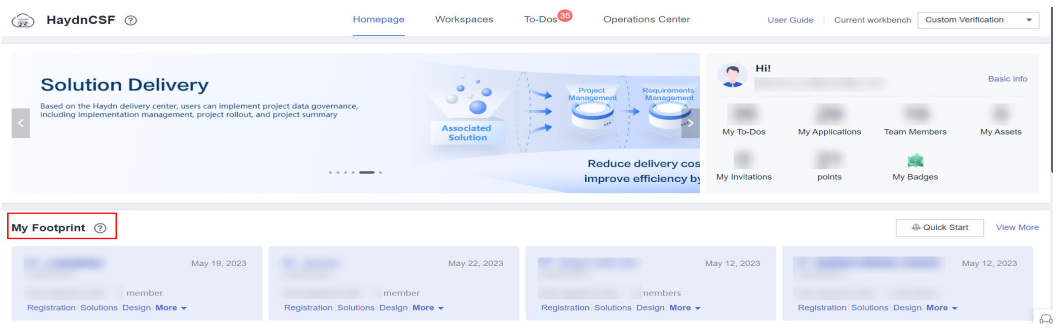
Figure 2-2 Current workbench



My Footprint

My Footprint consists of favorite workspaces and recently-visited workspaces. A maximum of four footprints are displayed at a time, and favorite workspaces are preferentially displayed.

Figure 2-3 My Footprint



In **My Footprint**, you can click the links on the card to perform shortcut operations. The links are described as follows:

- Workspace name: goes to the workspace homepage. For details about the workspace and related operations, see **Workspaces**.

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- **Registration**: goes to the **Solution Registration** page of a workspace. For details about how to register a solution, see **Creating a Solution**.
- **Solutions**: goes to the **Solution Management** page of a workspace. For details about solution management, see **Managing Solutions**.
- **Design**: goes to the homepage of the design center in a workspace. For details about how to design a solution, see **Design Center**.
- **Requirements**: goes to the **Requirement Management** page of a workspace. For details about requirement management, see **Managing Requirements**.
- **Plans**: goes to the **Plan Management** page of a workspace. For details about plan management, see **Managing Plans**.
- **Cases**: goes to the **Case Management** page of a workspace. For details about case management, see **Managing Test Cases**.
- **More**: includes **Resources**, **Issues**, **Reports**, **Members**, and **Reports**.

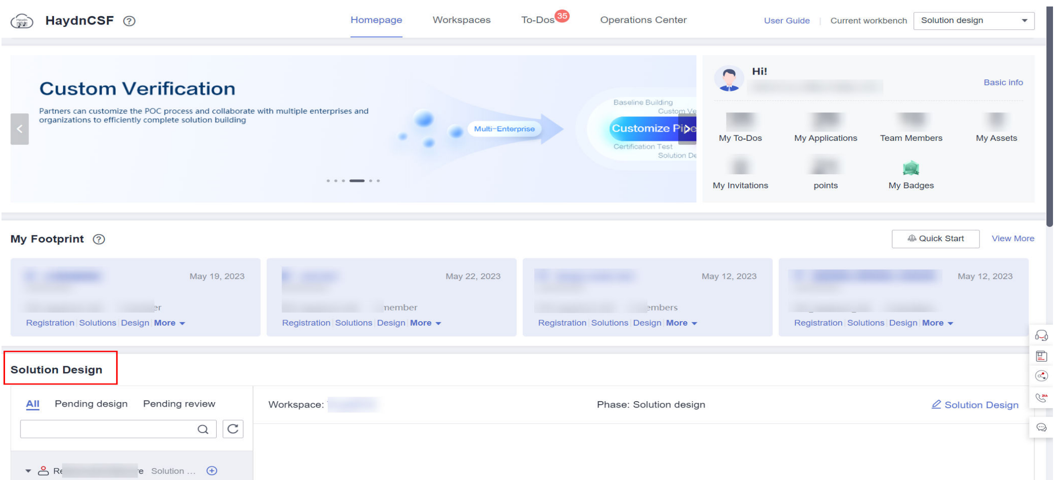
NOTE

If you have fewer than four workspaces, all your workspaces will be displayed in **My Footprint**. You can click **Create Workspace** or **Favorites** on a blank card to quickly access the workspace homepage for management.

Solution Workbench

The content displayed here depends on the workbench you select. For example, if you select the solution design workbench, solutions in different phases are displayed here. If you select the certification test workbench, solutions related to the certification test are displayed.

Figure 2-4 Solution workbench



Solution Acceleration Field

HaydnCSF offers a large number of industry scenario-based solution architecture templates, test case templates, tools & sample code, solution practices, solution information libraries, and data asset models to help partners and customers quickly build and verify solutions. For details, see **Solution Acceleration Field**.

- Architecture templates: The architecture of a verified joint solution can be released to the solution acceleration field and searched and referenced by

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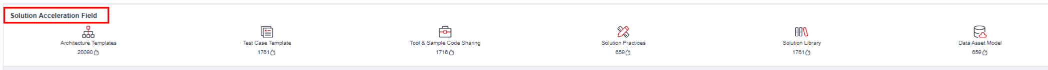
Huawei Cloud frontline personnel, partners' architects, and customers' architects.

- Test case templates: Manual and automated test case templates for industry scenarios can be quickly referenced to your workspace, improving the efficiency of case design and execution.
- Tool & Sample code sharing: Open community for sharing verification tools and sample code helps improve the efficiency of solution pre-integration and verification.
- Solution practices: Huawei Cloud solution practices and best practices of each product are collected here for quick search.
- Solution library: Solution information is provided, covering solution information, architecture design, solution verification, delivery projects, and projects in maintenance.
- Data asset models: Solution information architectures are provided, including theme design, logical model design, physical model design, ETL mapping, and service metric design.

Figure 2-5 Solution Acceleration Field



Links

Links to Partner Center, Seller Center, Developer Center, Solution Practice Center, Huawei Cloud KooGallery, and more

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3 Workspaces

HaydnCSF uses workspaces to isolate information and resources of different users. Only users who have joined a workspace can view the workspace, and their permissions can be controlled using roles.

Creating a Workspace

1. Log in to the HaydnCSF platform and click **Workspaces**. On the displayed page, click **Create**.
   - **Workspace Name**: Name this workspace, for example, **Data Enablement v3.0 Solution Workspace**.
   - **Type**: Select a workspace type from standard workspace, delivery workspace, and O&M workspace.
     - **Standard workspace**: a workspace for solution building and verification, covering scenarios such as architecture design, baseline verification, project POC, and certification test.
     - **Delivery workspace**: a project delivery workspace that can be used for auxiliary design and development implementation such as project management, requirement management, logical model and physical model design.
     - **O&M workspace**: a workspace that provides functions such as unified alarm access, event transfer, ticket management, statistics analysis, and SLA monitoring to meet O&M event management requirements.
   - **Description**: Describe this workspace.

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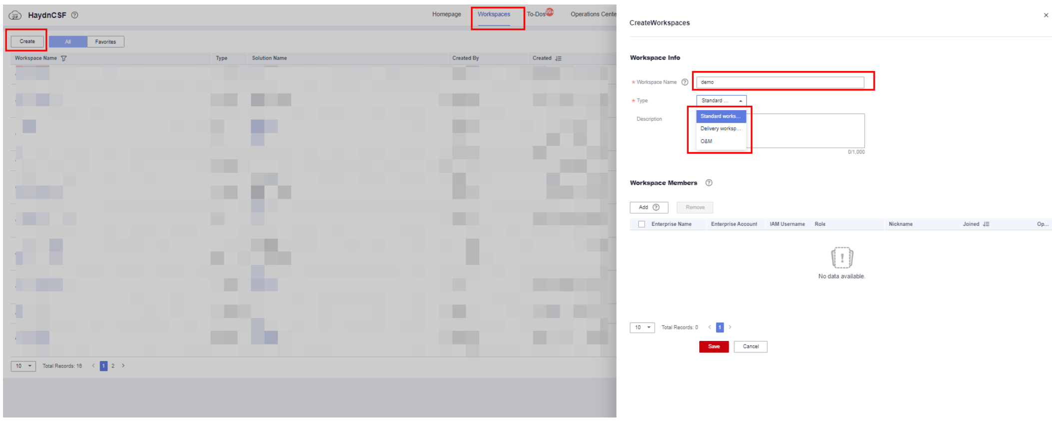
Figure 3-1 Creating a workspace



2. Click **Save**.
3. After a workspace is created, click **Edit** in the **Operation** column to modify the workspace information, as shown in **Figure 3-2**.

NOTE

The delivery center is in the invited test phase. To experience delivery workspaces, contact HaydnCSF service support for help.

Managing Workspace Members

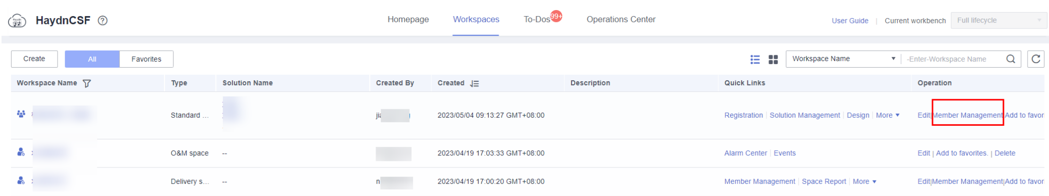
If you are the creator of a workspace or have the administrator or project manager role in the workspace, you can add, delete, modify, and view members in the workspace. Member management is available only in standard workspaces and delivery workspaces.

- **Viewing Workspace Members**

  You can view all members in a workspace.

  a. Log in to the HaydnCSF platform and click **Workspaces**. On the displayed page, locate the workspace and click **Edit** or **Manage Members** in the **Operation** column.

  Figure 3-2 Edit or Manage Members



  b. View the workspace information and members.

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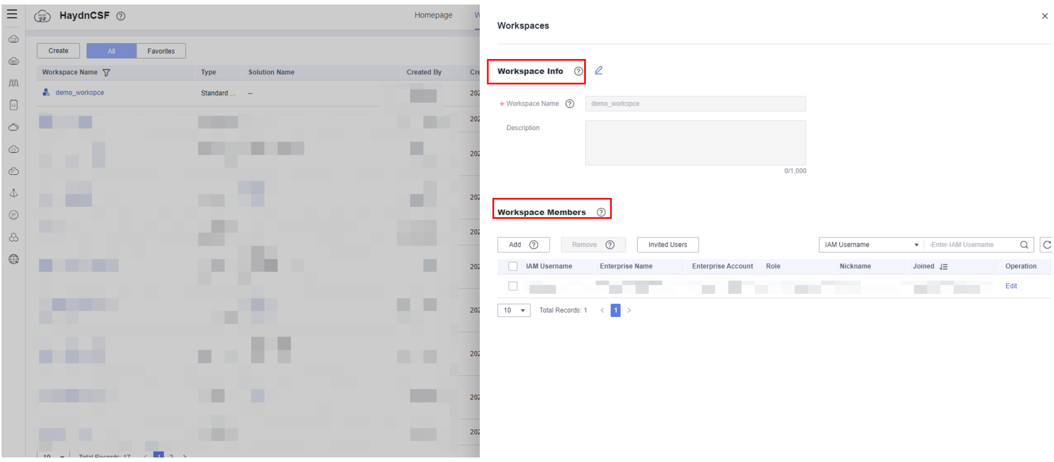
Figure 3-3 Workspace editing page

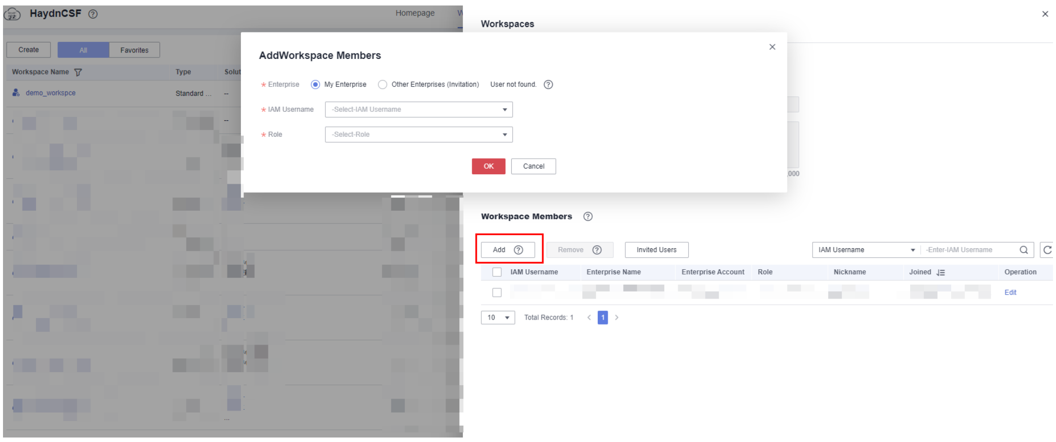


- **Adding Users from Your Enterprise**

  If you have the administrator or project manager role, you can add users in your enterprise as workspace members.

  Locate the workspace and click **Edit** or **Manage Members** in the **Operation** column. Under **Workspace Members** of the displayed page, click **Add**. In the displayed dialog box, select **My Enterprise** for **Enterprise**, and then select an IAM user and role.

  Figure 3-4 Adding a user from your enterprise

  NOTE

  - When you add a user from your enterprise, only IAM users who have been added to HaydnCSF are displayed. If the user you want to add is not displayed in the drop-down list, contact the enterprise administrator to add the user on the **User Management** page of the Operations Center. For details, see **Adding a User**. Alternatively, ask the user to log in to the HaydnCSF platform as an IAM user and add to the workspace as a member. For details, see **Accessing HaydnCSF**.
  - A user can have multiple roles. If you only need to grant the read-only permission to a user, set the user as a visitor when adding the user. For details about the permissions of each role, see **HaydnCSF User Access Permission**.

- **Inviting Users from Other Enterprises**

  If you have the administrator or project manager role, you can invite users in other enterprise as workspace members.

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Locate the workspace and click **Edit** or **Manage Members** in the **Operation** column. Under **Workspace Members** of the displayed page, click **Add**. In the displayed dialog box, select **Other Enterprises (Invitation)** for **Enterprise**, enter the enterprise's account name and IAM username, select a role, and click **OK**. The user who is invited can see your invitation on the **To-Dos** page and will become the member of your workspace after agreeing to the invitation.

Figure 3-5 Inviting a user from another enterprise as a member

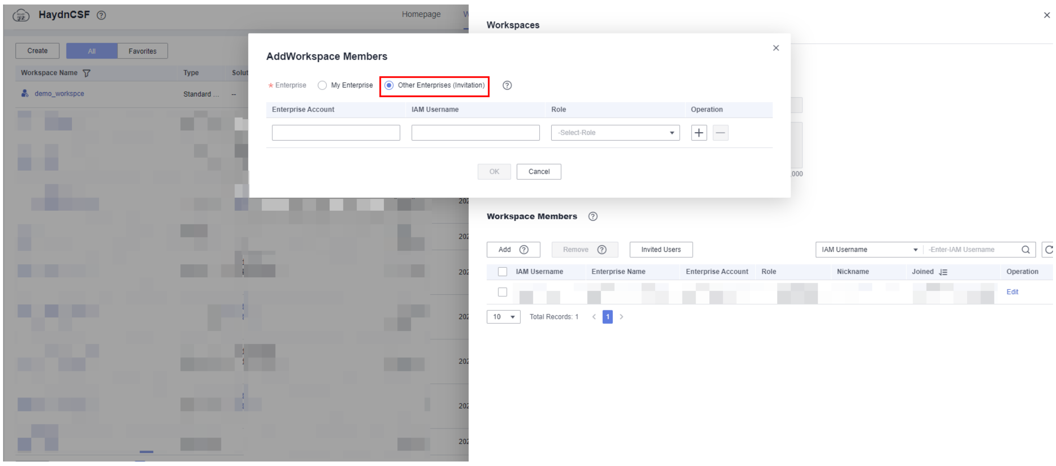
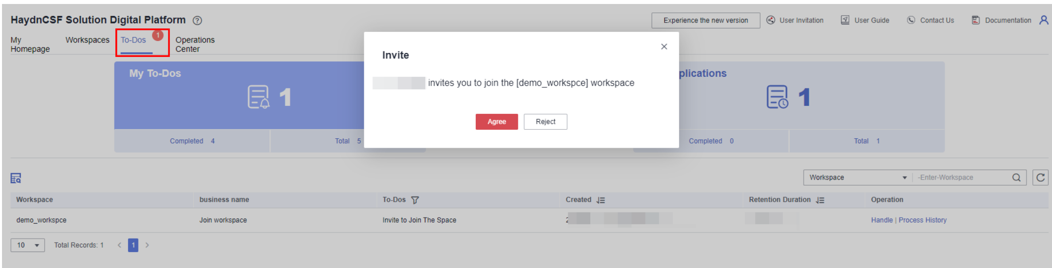


Figure 3-6 Agreeing to the invitation



NOTE

- **Ensure that the users you invite have joined HaydnCSF.** If they have not joined HaydnCSF, you can send **Accessing HaydnCSF** to them. If they have joined HaydnCSF, they can view their account names and IAM usernames in the personal center, as shown in **Figure 3-7**.
- A user can have multiple roles. If you only need to grant the read-only permission to a user, set the user as a visitor when adding the user. For details about the permissions of each role, see **HaydnCSF User Access Permission**.

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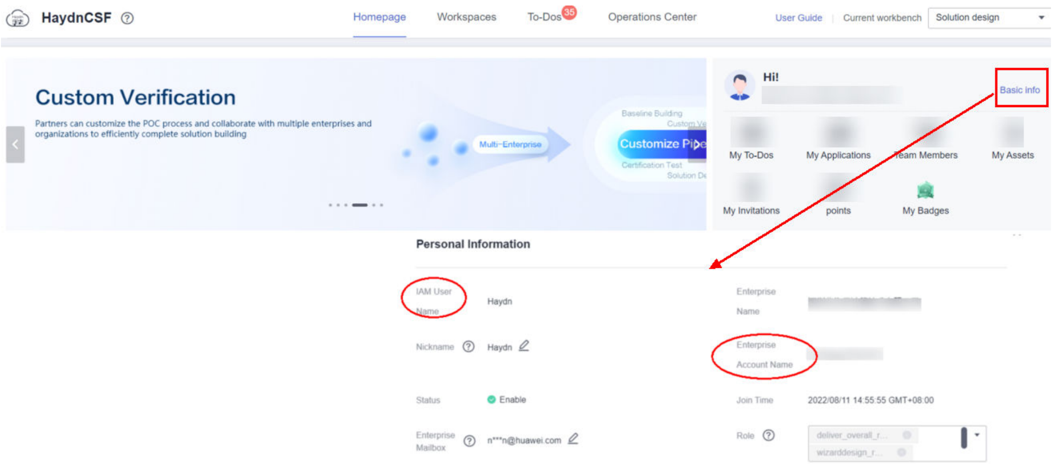
Figure 3-7 Viewing the account name and IAM username

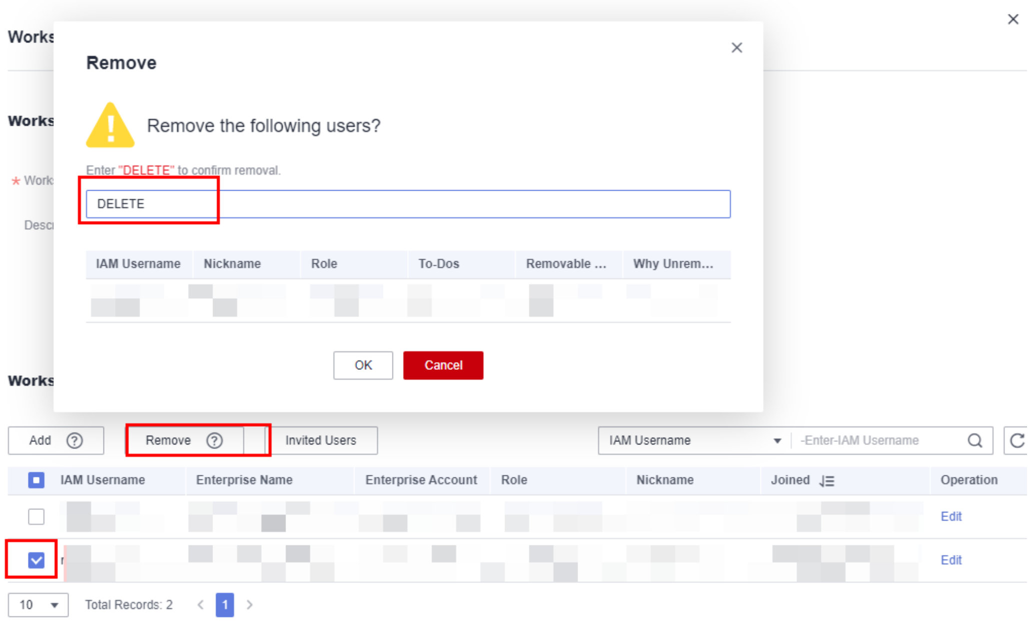


- **Removing Workspace Members**

  If you have the administrator or project manager role, you can remove workspace members.

  Locate the workspace and click **Edit** or **Manage Members** in the **Operation** column. Under **Workspace Members** of the displayed page, select the members and click **Remove** above the member list. In the displayed dialog box, enter **DELETE** in the text box to confirm the removal and then click **OK**.

Figure 3-8 Removing workspace members



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NOTE

In the **Remove Users** dialog box, you can check whether a user can be removed and the reason why the user cannot be removed. As shown in **Figure 3-8**, the member cannot be removed because the member has associated to-do tasks that are not cleared. The member can be removed only after the member completes the to-do tasks in the workspace or transfers the to-do tasks to others.

Adding a Workspace to Favorites

Workspace members can add a workspace to favorites so that the workspace is preferentially displayed in **My Footprint**. Members can also remove a workspace from favorites.

To add a workspace to favorites, locate the workspace and click **Add to Favorites** in the **Operation** column. A heart symbol is displayed in the upper right corner of the workspace card. To remove the workspace from favorites, click **Remove from Favorites** in the Operation column.

Figure 3-9 Adding a workspace to favorites

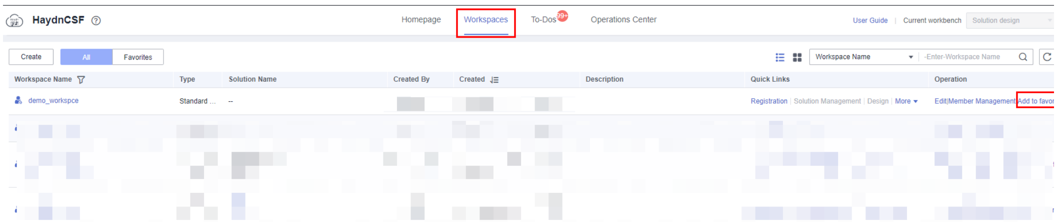
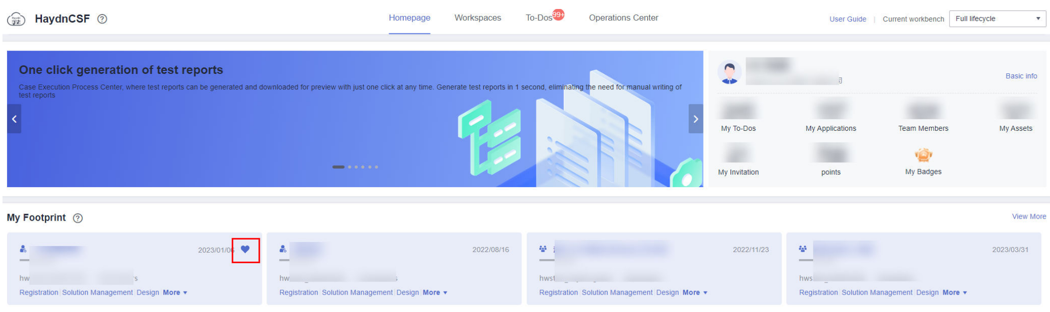


Figure 3-10 Viewing favorite workspaces

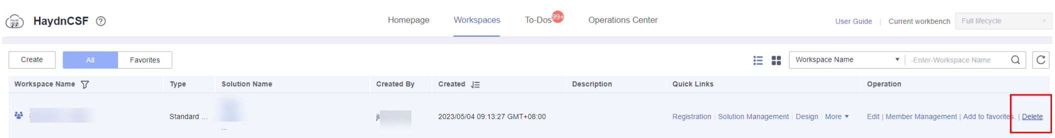


Deleting a Workspace

Only users with administrator role can delete the workspace. Only HaydnCSF administrators can restore the deleted workspaces.

1. Log in to the HaydnCSF platform, click **Workspaces**, locate the workspace, and click **Delete** in the **Operation** column.

Figure 3-11 Entry for deleting a workspace



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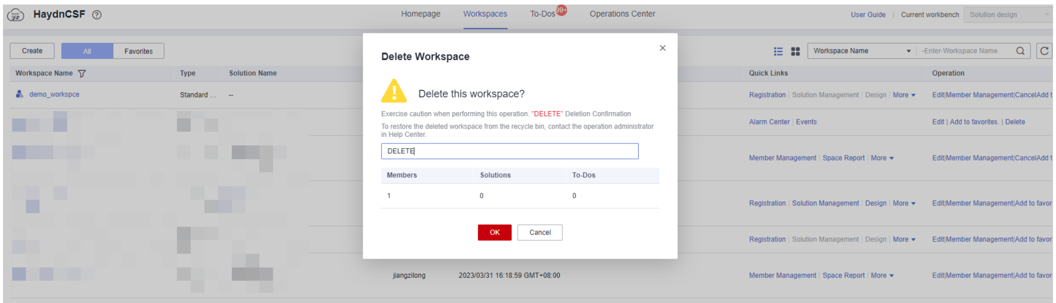
2. In the displayed dialog box, enter **DELETE** and click **OK**.

Figure 3-12 Deleting a workspace



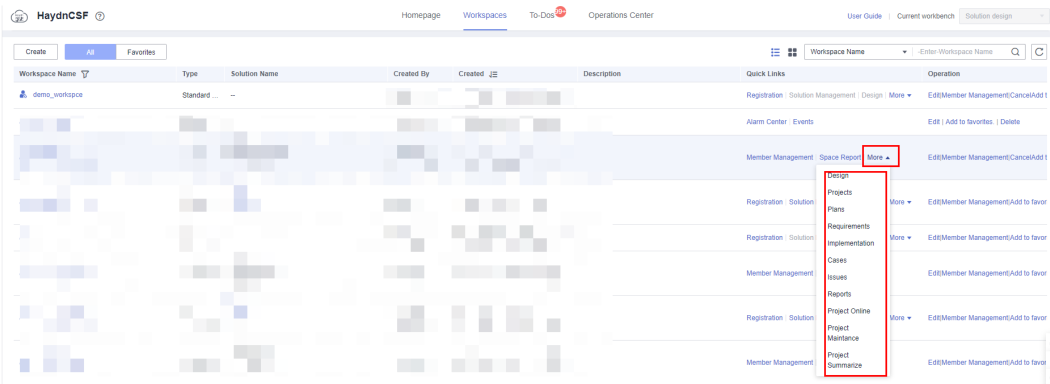
📖 NOTE

If you need to restore the workspace, contact the HaydnCSF administrator. For details, see **Obtaining Help**.

Quick Entries to a Workspace

You can quickly enter some pages such as the solution registration and solution design pages through the shortcut entries.

Figure 3-13 Quick entries to a workspace



The shortcut entries are the same as those on the workspace card in **My Footprint**. For details, see **My Footprint**.

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4 To-Dos

The HaydnCSF platform uses Business Process Engine (BPM) to manage solution design and verification processes. During solution design and verification, you can specify the owners for each phase, such as architecture designers and test case designers, and the owners can view their to-dos on the **To-Dos** page.

To-do tasks are classified into my to-dos and my applications.

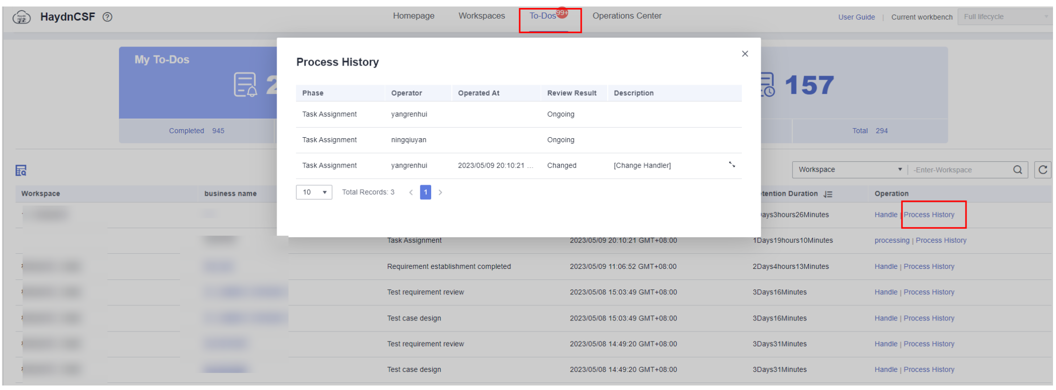
- **My To-Dos**: In each phase of solution verification, if there is an item you need to handle, such as solution design, test case design, and test case execution, a to-do task is generated in **My To-Dos** so that you can quickly handle the task.
- **My Applications**: When you initiate an operation on HaydnCSF, for example, releasing an architecture template to the solution acceleration field or creating an issue ticket, an application is generated in **My Applications** so that you can view the application details.

Handling a To-Do Task

When you receive a new to-do task, you can quickly handle it in **My To-Dos**.

1. Log in to the HaydnCSF platform and click **To-Dos**.
2. Click the **My To-Dos** card.
3. Locate the to-do task and click **View Handling History** in the **Operation** column.

Figure 4-1 View Handling History



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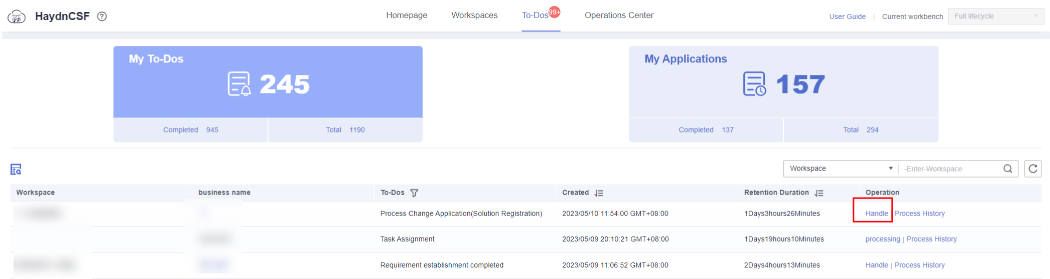
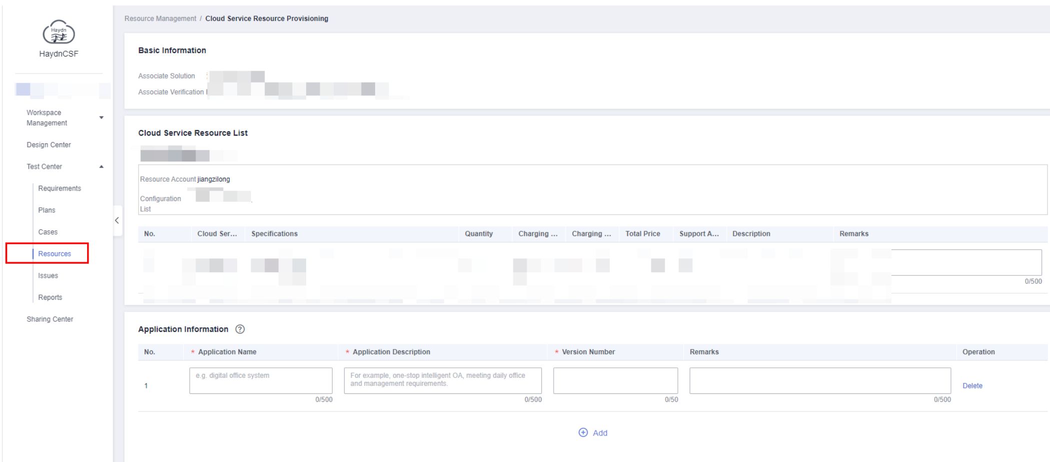
4. Click **Handle** in the **Operation** column to go to the workspace management console.

Figure 4-2 Handling a to-do item



As shown in the figure, the to-do task is to test resource provisioning. After you click **Handle**, the resource management page is displayed. You can submit resource provisioning information on this page.

Figure 4-3 Going to the workspace management console



Viewing My To-Dos

If you have a large number of to-do tasks, you can sort to-do tasks and search for a to-do task by workspace or service name.

Log in to the HaydnCSF platform and click **To-Dos**. On the displayed page, click the **My To-Dos** card.

- By default, to-do tasks are displayed in descending order of the time when they were generated. The latest to-do task is displayed on the top. You can sort the to-do tasks in ascending ordering as needed.
- You can sort to-do tasks by retention duration.
- You can filter to-do tasks by phase and search for a to-do task by workspace name or service name.

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Figure 4-4 Filtering to-dos by phase

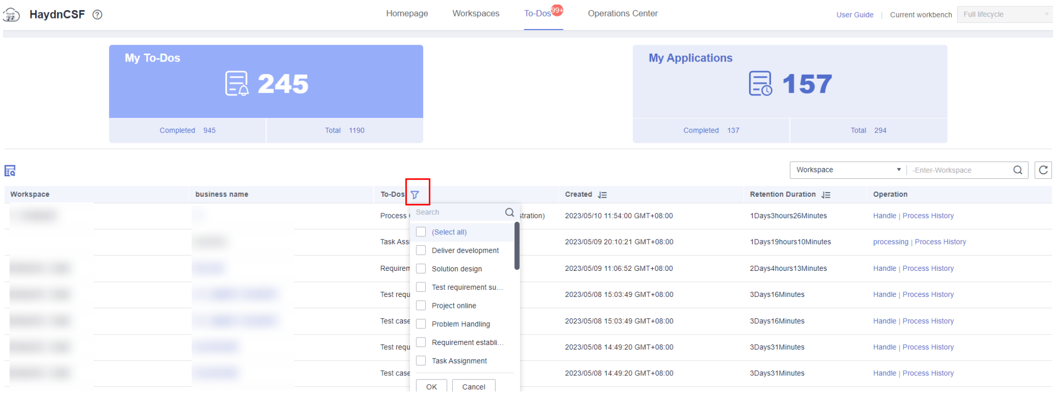


Figure 4-5 Searching for a to-do task by workspace

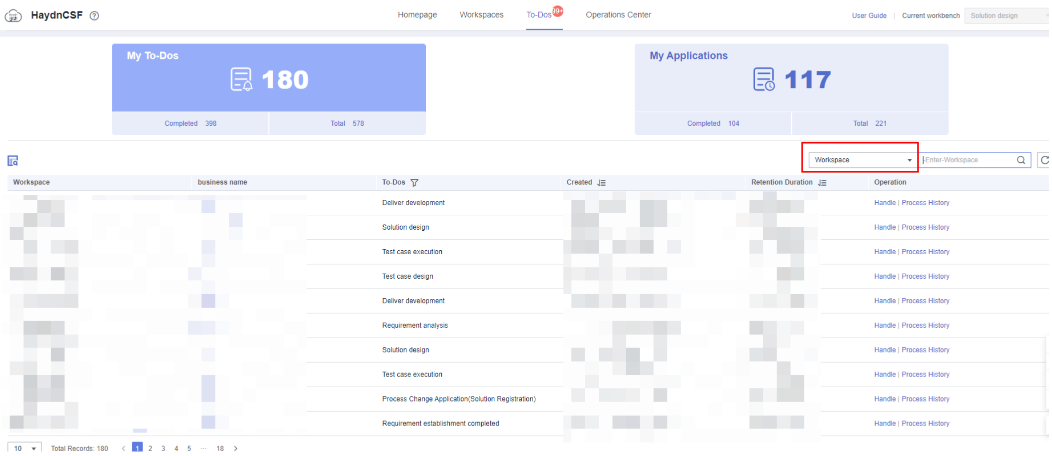
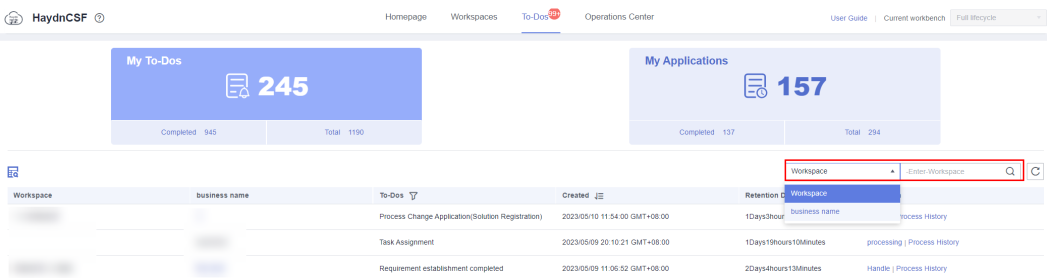


Figure 4-6 Searching for a to-do task by service name



Viewing My Applications

When you initiate an operation in HaydnCSF, for example, releasing an architecture template to the solution acceleration field, creating an issue ticket, or inviting a user of another enterprise to a workspace, an application is generated in **My Applications** so that you can view the application details.

1. Log in to the HaydnCSF platform and click **To-Dos**.
2. Click the **My Applications** card.

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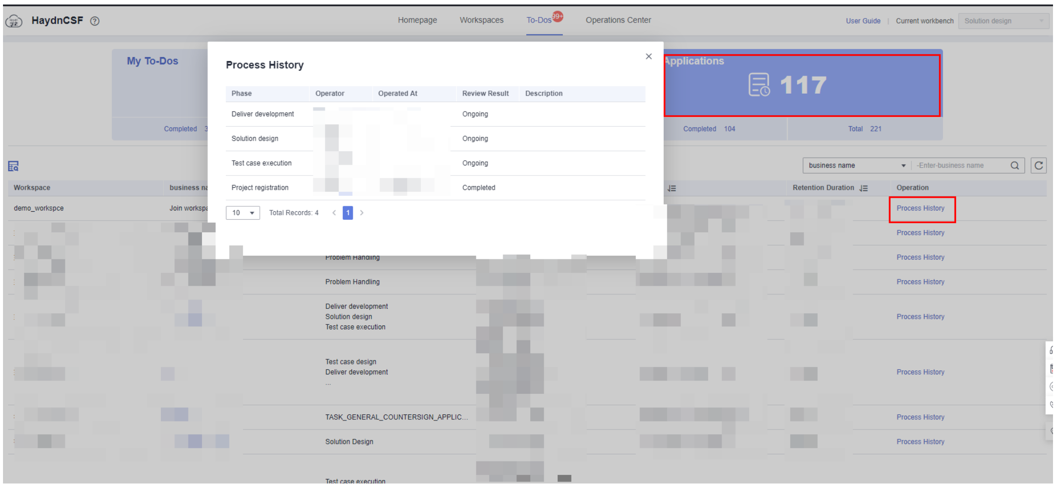
3. Locate the application and click **View Handling History** in the **Operation** column.

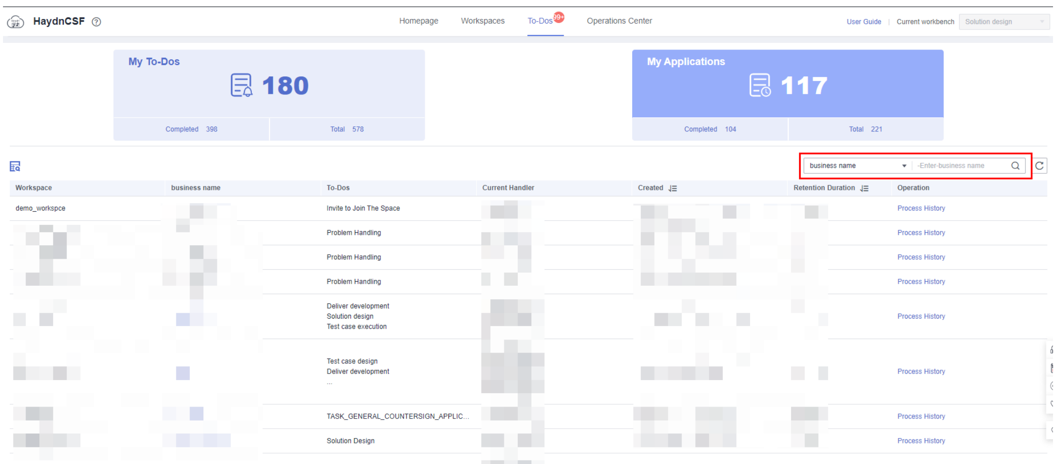
Figure 4-7 View Handling History



4. View applications.

By default, applications are displayed in descending order of the time when they were generated. The latest application is displayed on the top. You can sort applications in ascending ordering of the time when they were generated or by retention duration as needed. You can also search for an application by workspace or service name.

Figure 4-8 Searching for an application



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5 Standard Workspace

5.1 Workspace Management

5.1.1 Managing Solutions

After you create a standard workspace by referring to **Workspaces** and add or invite users to the workspace, you can start to build a solution. There are four phases for building a solution, consisting of solution registration, solution design, solution review, and design completion.

- Solution registration: the draft phase of the solution. The solution has not been submitted to the designer for architecture design. After providing the required information, you can click **Save** to enter this phase.
- Solution design: The registered solution has been submitted to the architect for design. After providing the required information for solution registration, you can click **Submit** to enter this phase.
- Solution review: A project manager or an architect reviews the solution registration information and architecture information. After the design is complete, the architect can click **Submit for Review** to enter this phase. For an agile workflow, the system skips the solution review phase.
- Design completion: After the solution is approved, an architect can submit a test requirement in the Verification Center for solution verification.

NOTE

The HaydnCSF platform allows you to quickly start solution design. If you only need to design the architecture, start architecture design by referring to **Solution Workbench**. The platform automatically creates a workspace and solution for you. You can access the design center with one click.

Creating a Solution

Register a solution and designate the solution designer. Only architects in the workspace can create solutions.

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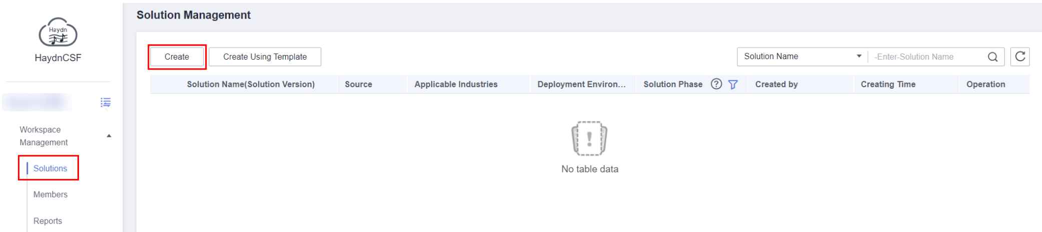
1. Log in to the HaydnCSF platform as an architect and click **Workspaces**. Locate the workspace and click the workspace name. On the displayed **Solution Management** page, click **Create**.

Figure 5-1 Creating a solution



2. Enter the basic information about the solution.

Figure 5-2 Entering solution information

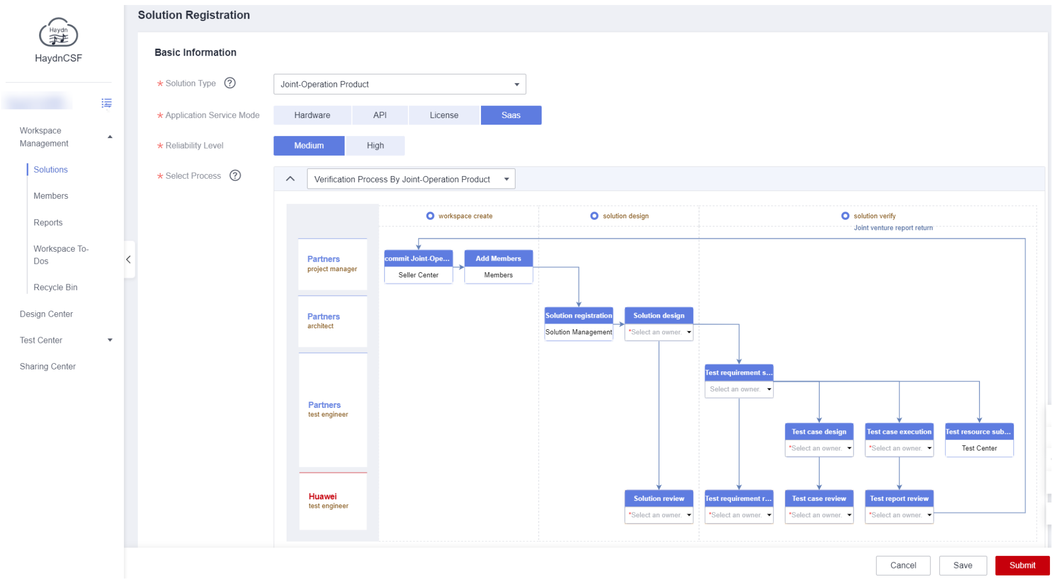


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Table 5-1 Parameters included in basic solution information

Parameter	Description
Solution Type	● Reference architectures: include PPT solutions, 0-1 incubation, and product portfolios that cannot be replicated. Replicability or deliverability is not promised. Problem handling suggestions are provided based on reference architectures. Only product technical support is provided. Delivery verification is required in customer projects (Huawei and partners are responsible for delivery separately). ● Huawei Lead: As the solution owner, Huawei takes the lead in industry scenario and partner selection, initiates a solution, designs and verifies the solution jointly with partners, outputs solution offerings, and specifies the GTM path, customer development strategy, contract signing path, delivery strategy, and O&M strategy. Huawei is responsible for solution competitiveness and business success. ● Partner Lead: A partner who meets the partner-led solution review requirements is the solution owner. The partner takes the lead in solution initiation, designs and verifies the solution jointly with Huawei, outputs solution offerings, and specifies the GTM path, customer development strategy, contract signing path, delivery strategy, and O&M strategy. Huawei PDM and PSA assist partners in ensuring the competitiveness and business success of the solution. ● Joint operations products: products that are jointly operated by Huawei Cloud and partners. There are preset reliability requirements and reliability checks for joint products. ● Developer application building: a joint solution building program for technical partners. It strengthens technical enablement and support for partners during solution and service construction and migration, provides technical capability certification, and provides marketing and business support for certified solutions and services. ● Advanced cloud software: Advanced cloud software certification is to verify that partners' products and software have been reconstructed and optimized using advanced Huawei Cloud technologies and can jointly create more value for customers. ● POC: design and verification before project implementation. ● Development & Migration incentives: competitive software products and solutions in the sector or industry. This product or solution is critical for enhancing Huawei Cloud capabilities or developing in corresponding

Parameter	Description
	industries or customers. After strict process evaluation, the PDM applies for this product or solution for partners. ● Custom verification: The entire process pipeline of solution building and solution verification supports customized skipping of certain phases. ● Other: solutions beyond the above categories. **NOTE** HaydnCSF has been interconnected with the Seller Center. Joint operations products are created, qualified, and selected in the Seller Center, and synchronized to HaydnCSF for verification. If you have completed the creation and review of a joint operations product in the Seller Center, HaydnCSF will automatically create a joint operations product verification workspace and a solution in your account, and synchronize the verification report to the Seller Center after the verification is successful. **If you need to manually create a joint operations product solution, confirm with your ecosystem manager or Huawei certification test engineer who supports the solution. Otherwise, the certification test report of the product cannot be synchronized to the Seller Center.**
Application Service Mode	This option is available only for joint operations products and partner-lead solutions. It indicates the service mode of the product. In subsequent solution design, the HaydnCSF platform will perform reliability check based on different reliability levels in SaaS and license service modes.
Reliability Level	This option is available only for the SaaS and license service modes of joint operations products and partner-lead solutions. It indicates the reliability level of the solution architecture.
Select Process	The process is related to the solution type. For example, if you select **Joint operations products**, the certification test processes related to the joint operations products are displayed here. HaydnCSF presets standard processes for baseline building and certification test. You can also skip specified phases based on your requirements. You need to set the solution designer and solution reviewer. Related owners will receive a to-do notification. If the specified owner is not found, check whether the user is in the workspace and has the architect role. If the user is not in the workspace, add the user and set the architect role by referring to **Adding a Member**.
Associate CSBI	To associate solutions with CSBI, the baseline solution must be initiated and associated here. This is optional for other types of solutions. If the initiation is not completed, the association can be completed through the solution change function after the initiation is completed.

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Parameter	Description
Solution Name	Enter a solution name, for example, **Smart Device Industry Solution**. For joint operations products, enter the product name as the solution name.
Applicable Industries	Select the industries to which the solution applies.
Deployment Environments	Set this parameter based on the base type used in the solution. Multiple base types can be selected.
Solution Version	(Optional) Enter the solution version.

3. Describe the solution.

   In the **Solution Description** area, enter solution information so that related owners can learn about the solution details. The cover and related attachments can be uploaded.

4. Click **Save** to save the solution as a draft. In this phase, you can edit the solution and submit it for design at any time.
5. Click **Submit**. The solution enters the solution design phase.

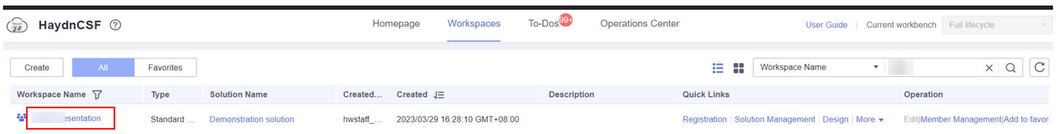
Figure 5-3 Solution registered

Designing a Solution

After a solution is registered, the specified architect can design the solution in the design center.

1. Click the workspace name to enter the solution workspace.

Figure 5-4 Selecting a workspace



2. On the **Solution Management** page, locate the solution and choose **More** > **Design**. Alternatively, in the navigation pane on the left, click **Design Center**.

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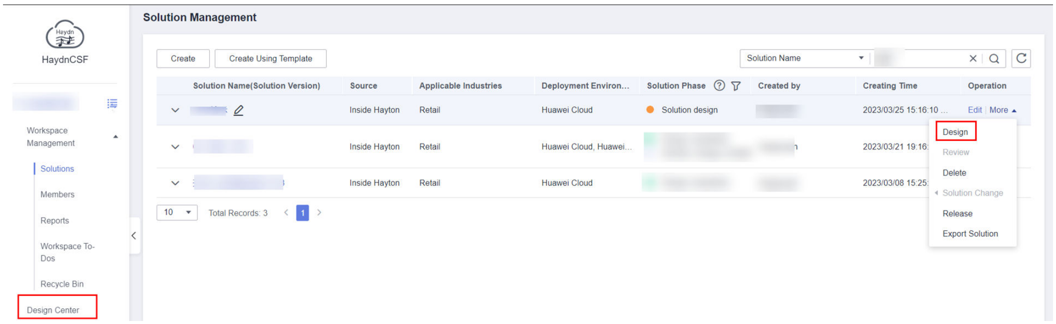
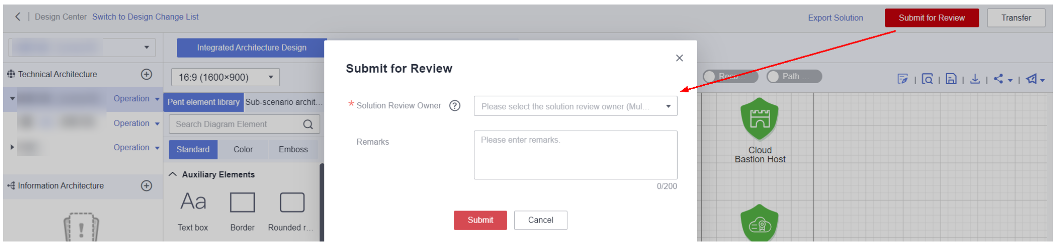
Figure 5-5 Accessing the Design Center



3. Start solution design, including integration architecture design and deployment architecture design. For details, see **Design Center**.
4. Click **Submit for Review** in the upper right corner to submit the solution to the specified personnel for review.

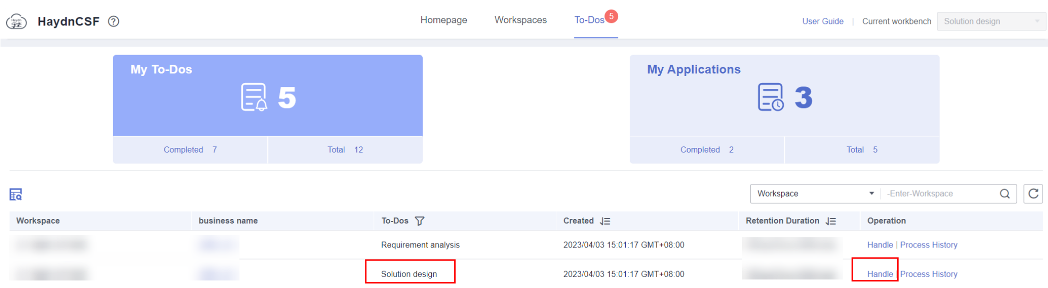
Figure 5-6 Submitting a solution for review



NOTE

- When submitting the solution design for review, you can select only the users who have the architect or project manager role in the workspace.
- If you skip the solution review step when registering a solution, the system will review the solution by default. You only need to click **Submit for Review** in this step and do not need to select a reviewer.
- **All users with the architect role in the workspace can design a solution, but only the solution designer can submit the solution for review.** After the solution is submitted for review, only the solution design owner can modify the solution. The modified content takes effect only after the modification is submitted.

Figure 5-7 Going to the design center through the to-do task



Viewing Solution Details

During or after solution design, all members in the workspace can view solution details, including basic solution information, solution process, and solution design.

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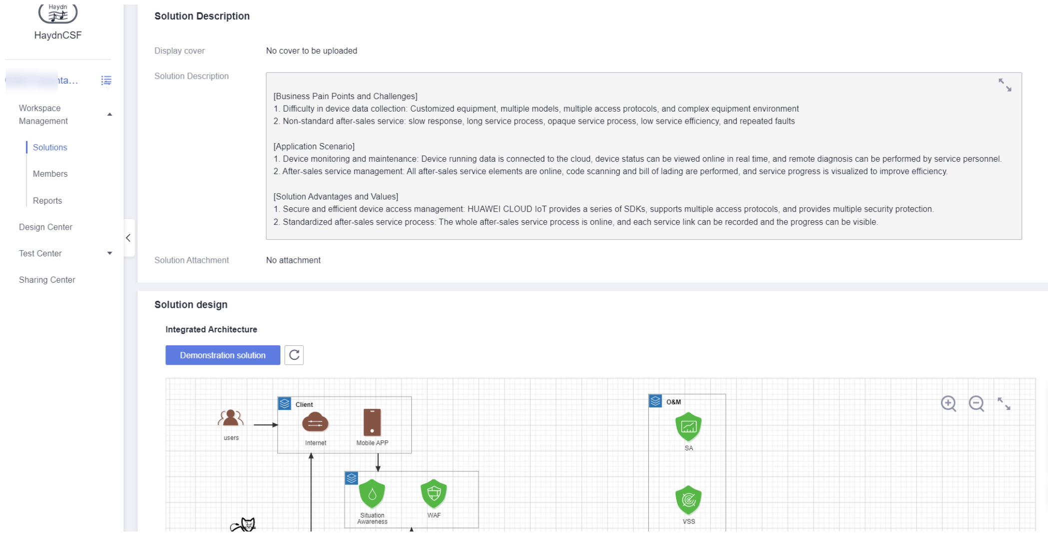
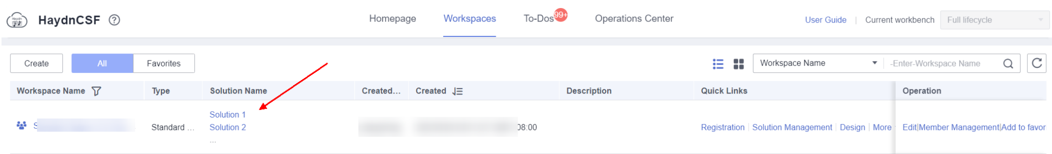
Log in to the HaydnCSF platform, select a workspace, and click the workspace name. In the navigation pane on the left, choose **Solution Management**. Click the solution name to go to the solution details page.

Figure 5-8 Solution details



Alternatively, click the solution name next to the workspace name to go to the solution details page.

Figure 5-9 Going to the solution details page

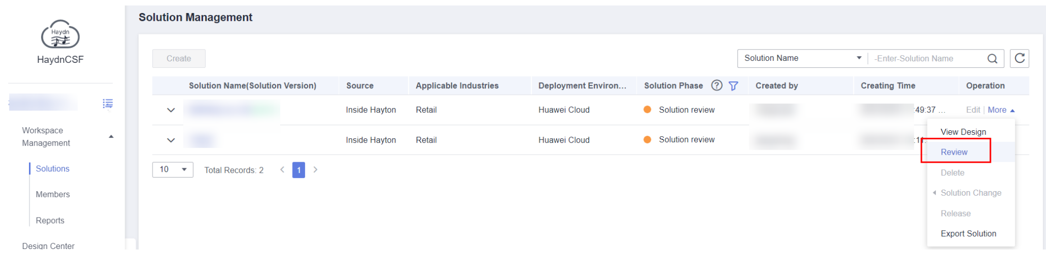


Reviewing a Solution

After the solution design is complete, the solution designer submits the solution for review, as shown in **Figure 5-6**. The specified solution reviewer starts to review the solution.

1. Log in to the HaydnCSF platform as the solution reviewer, click **Workspaces** and then the workspace name, locate the solution, and choose **More** > **Review** in the **Operation** column.

   Figure 5-10 Solution review entry

2. Check the basic information, solution description, and solution design of the solution to be reviewed in sequence.

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3. Set the review result to **Approve**, **Reject**, or **Transfer**.
   - **Approve**: The solution is approved and the solution design is complete.
   - **Reject**: The solution is rejected. If the solution is rejected to the solution registration phase, the solution registrant can edit the solution again. If the solution is rejected to the solution design phase, the solution designer can re-design the solution architecture. After the design is complete, the solution can be submitted for review again.
   - **Transfer**: The review task is transferred to another reviewer. Only users with the project manager or architect role can be selected.

Figure 5-11 Approving or rejecting a solution

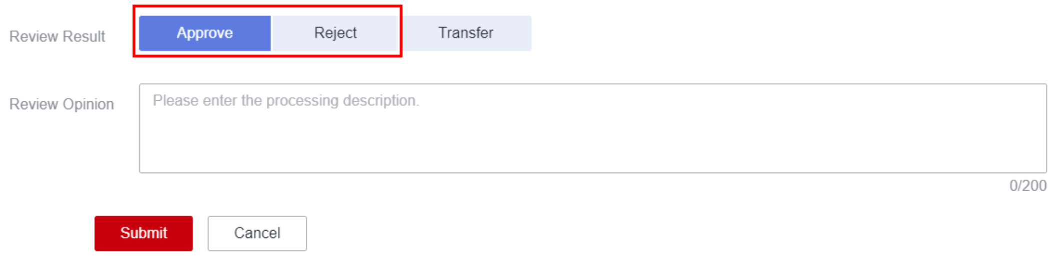
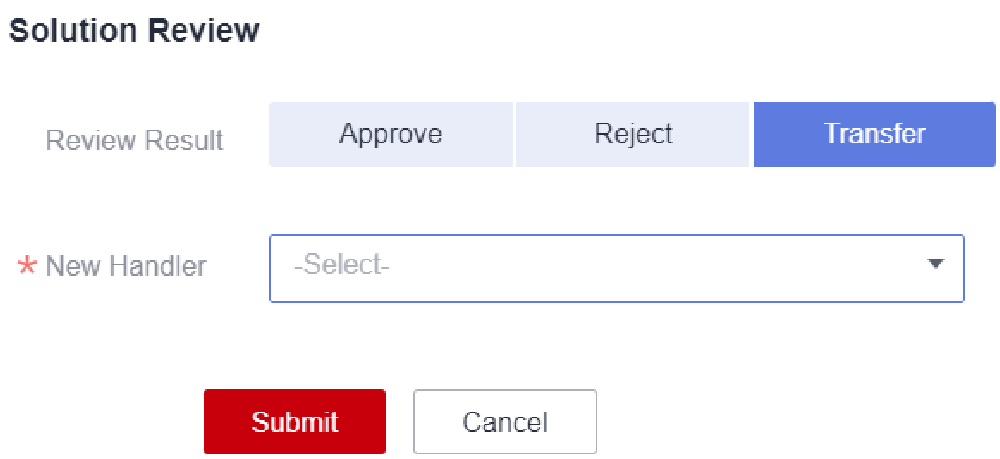


Figure 5-12 Transferring the solution to another reviewer



4. Click the solution name to go to the page that displays the solution details. In the **Process Record** area, view the review details.

NOTE

On the HaydnCSF platform, you can find the corresponding to-do task in **My To-Dos** and click **Handle** in the **Operation** column to go to the **Issue Management** page with one click.

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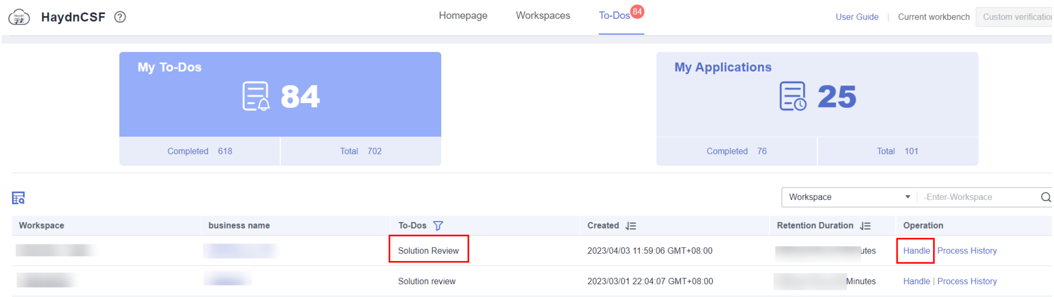
Figure 5-13 Going to the page for managing issues

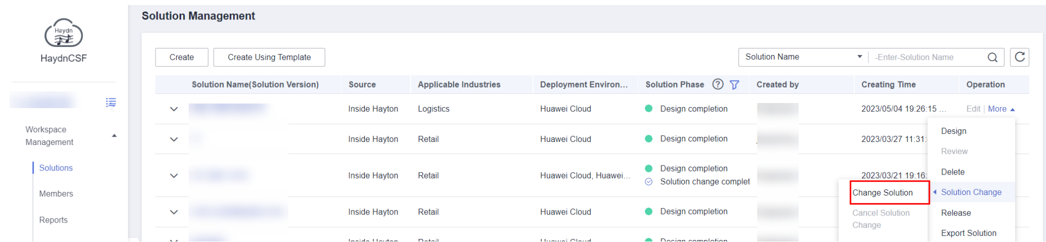


Changing a Solution

After the solution design is complete, the solution cannot be modified. Architects in the workspace can initiate a solution change, for example, changing the solution name, adding or deleting applicable industries, adding deployment environments, modifying (adding) associated CSBIs, and modifying the solution description.

1. Log in to the HaydnCSF platform as an architect and click **Workspaces**. On the displayed page, locate the workspace and click the workspace name, locate the solution, and choose **More** > **Solution Change** > **Change Solution** to initiate a change.

   Figure 5-14 Initiating a solution change

2. Click **OK**.
3. Modify the solution name, applicable industries, and solution description as required, confirm the modification, and click **Submit for Review**. After the solution is submitted, the solution phase changes to **Solution changing**.

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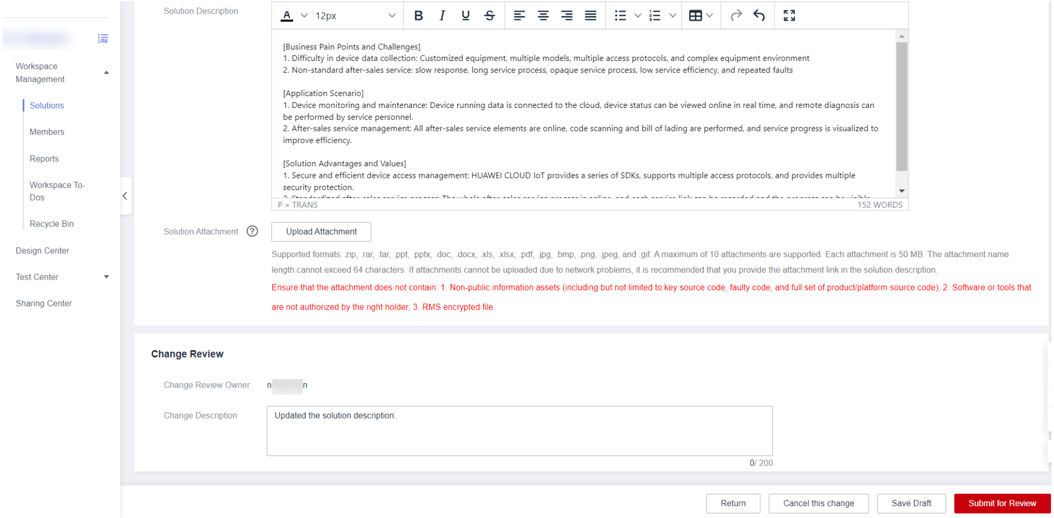
Figure 5-15 Solution change



NOTE

If the review step is skipped during the solution registration, the solution change is automatically approved by the system by default.

4. Wait for the reviewer to review the solution.

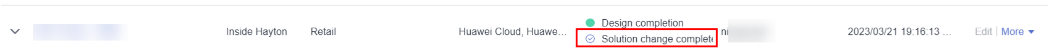
   By default, the change reviewer is the solution reviewer, as described in **Reviewing a Solution**. If you need to change the reviewer, contact the reviewer to transfer the solution to another person.

   – The solution change is approved, and the solution phase changes to **Solution change completed**.

   – If the solution change is rejected, the solution phase changes to **Solution changing**. The change initiator can choose **More** > **Solution Change** in the **Operation** column to edit the content again and submit it for review or cancel the change.

     If you have subscribed to email notifications, you will receive a review notification. You can also view the review comments in the **Process Record** area or view the review result through email notifications.

Figure 5-16 Solution change approved



Reviewing a Solution Change

Only the solution reviewer can review the solution change.

1. Go to the solution change review page.

   Click the workspace name, locate the solution, and choose **More** > **Review** in the **Operation** column. Alternatively, in **My To-Dos**, locate the workspace and click **Handle** in the **Operation** column.

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Figure 5-17 Going to the solution change review page from the **My To-Dos** page

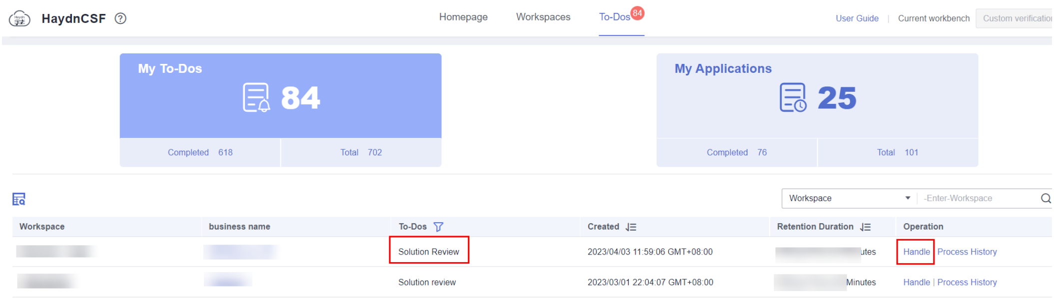
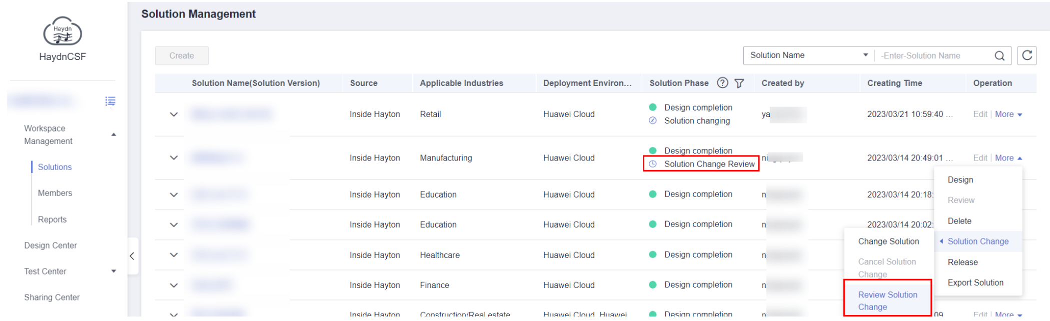
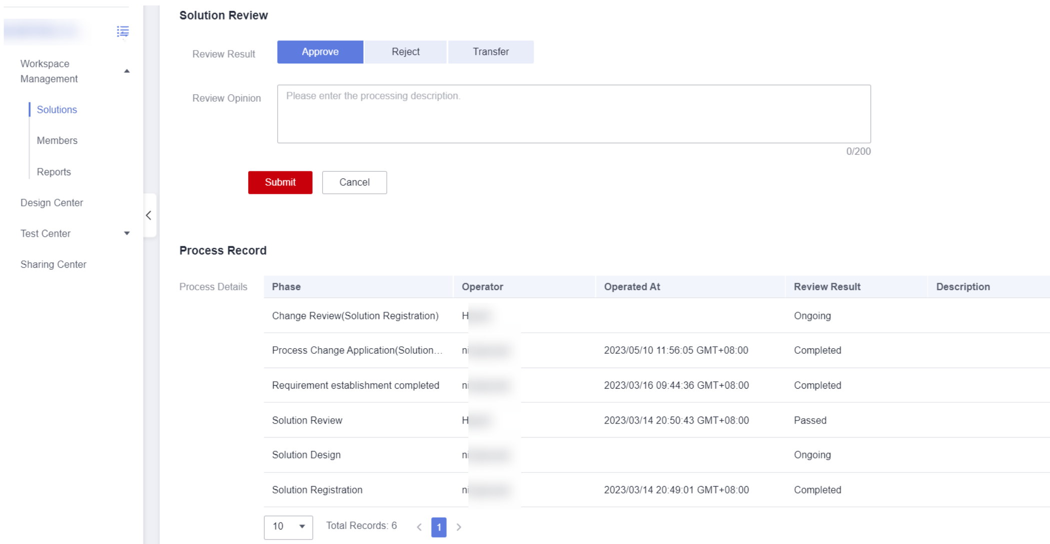


Figure 5-18 Going to the solution change review page from the **Solution Management** page



2. View solution review details. Select **Approve**, **Reject**, or **Transfer** and enter review comments. When transferring a task, you can only select other project managers or architects in the workspace.

Figure 5-19 Solution review details



3. View the solution phase on the **Solution Management** page.
   - Solution change completion: The solution change is approved.
   - Solution changing: The solution change is rejected. The applicant can submit a solution change request again or withdraw the solution change request.

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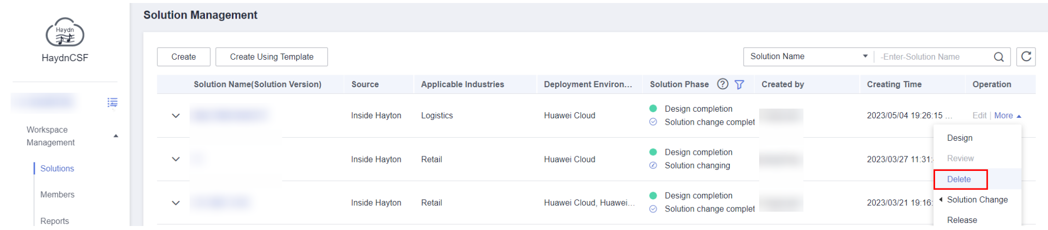
– Solution change review: The solution change review is transferred to another person for handling. The handler reviews the solution change in the same way.

Deleting a Solution

Users with the architect role in the workspace can delete solutions.

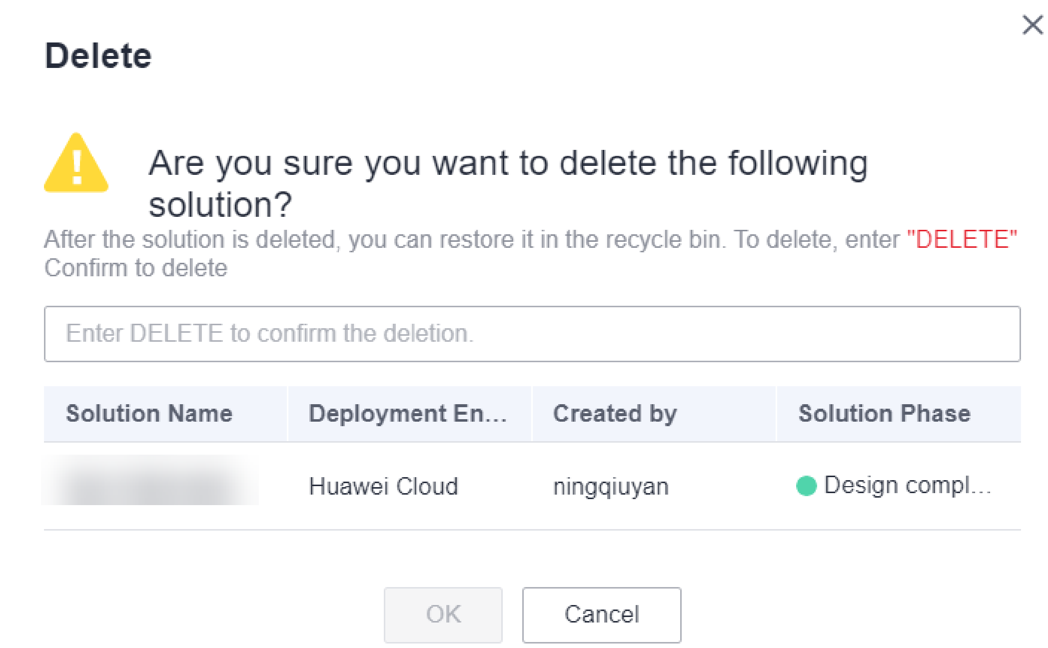
1. Log in to the HaydnCSF platform as an architect, click **Workspaces**, locate the workspace, click the workspace name, locate the solution, and choose **More** > **Delete** in the **Operation** column.

Figure 5-20 Deleting a solution



2. Enter **DELETE** in the text box and click **OK** to delete the solution.

Figure 5-21 Confirming the deletion



NOTICE

- Before deleting a solution, check whether the solution is referenced by a test requirement. If the solution is referenced, delete the test requirement first.
- For details about how to restore a deleted solution, see **Solution Recycle Bin**.

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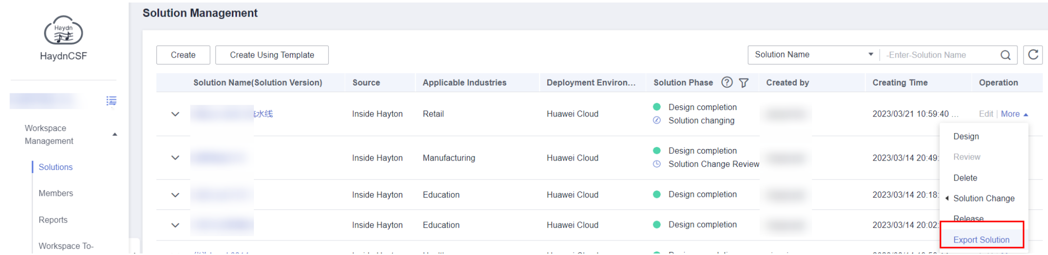
Exporting a Solution in .pptx Format

After a solution is created, you can export the solution information and architecture information to a .pptx file in each phase, such as solution registration and design completion.

- Method 1: Log in to the HaydnCSF platform, click **Workspaces**, locate the workspace, click the workspace name, locate the solution, and choose **More** > **Export Solution**.

  Figure 5-22 Exporting a solution on the **Solution Management** page



- Method 2: Log in to the HaydnCSF platform, click **Workspaces**, and click the workspace name. In the navigation pane on the left, choose **Design Center**. In the upper right corner of the displayed page, click **Export Solution**.

  Figure 5-23 Exporting a solution in the Design Center

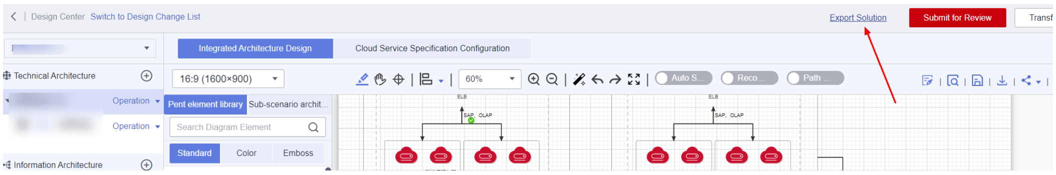
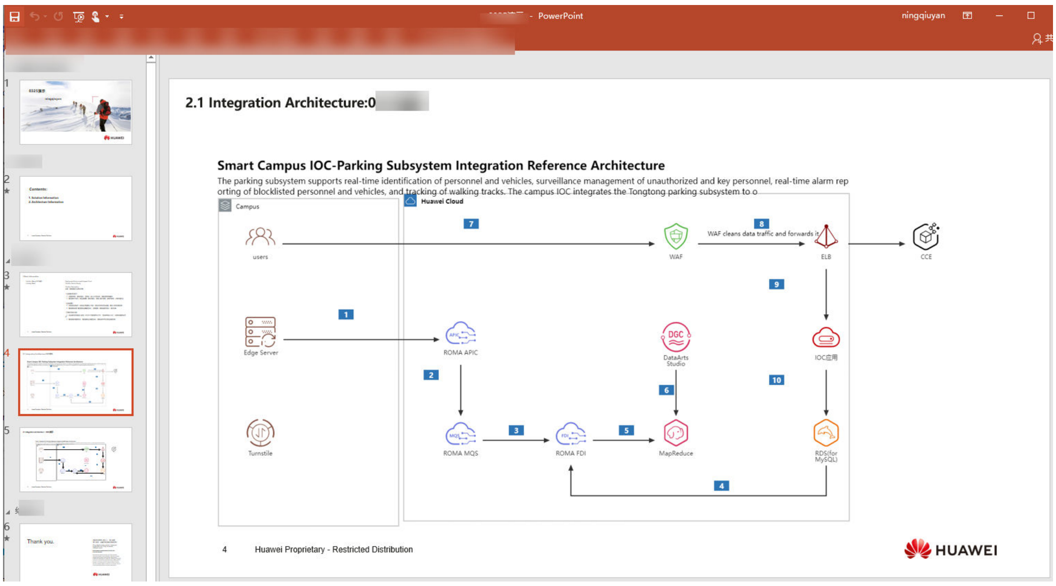


Figure 5-24 Exported solution (example)



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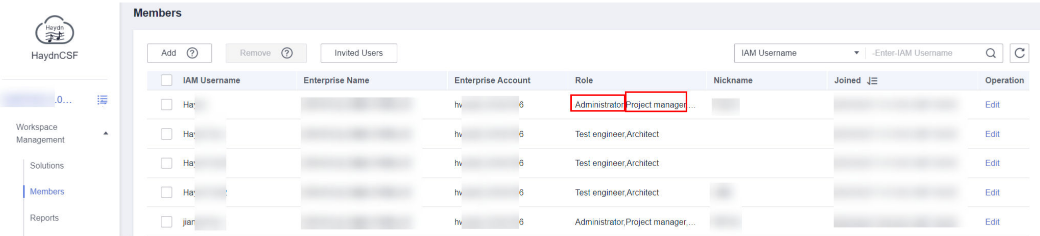
5.1.2 Managing Members

Administrators and project managers in the workspace can add, edit, and remove members in the workspace.

Figure 5-25 Page for member management



Adding a Member

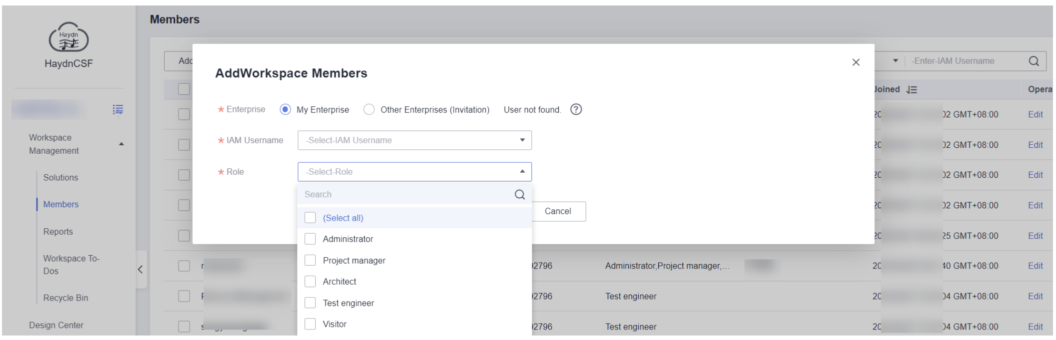
Users from your enterprise or other enterprises can be added to the workspace as members.

- **Adding a User from Your Enterprise**

  Go to the solution workspace. In the navigation pane on the left, choose **Workspace Management** > **Members**. On the displayed page, click **Add**, select **My Enterprise**, select an IAM user, and select a user role for the user.

  You can add a number of members at a time. Select the same role for the members.

  Figure 5-26 Adding a user from your enterprise

  NOTE

  - **What can I do if no user is found?** Only IAM users that have been added to HaydnCSF are displayed in the drop-down list. If the user to be added is not found in the drop-down list, handle the issue using either of the following methods:
    - Method 1: Contact the enterprise administrator to add the user on the **User Management** page in the **Operations Center**. For details, see **Adding a User**.
    - Method 2: Log in to the HaydnCSF platform as the IAM user and add the user to the workspace. Send the link to the user to be added by referring to the operations shown in **Figure 5-27** so that the user becomes a HaydnCSF user.
  - A user can have multiple roles. If you only need to grant the read-only permission to a user, set the user as a visitor when adding the user. For details about the permissions of each role, see **HaydnCSF User Access Permission**.

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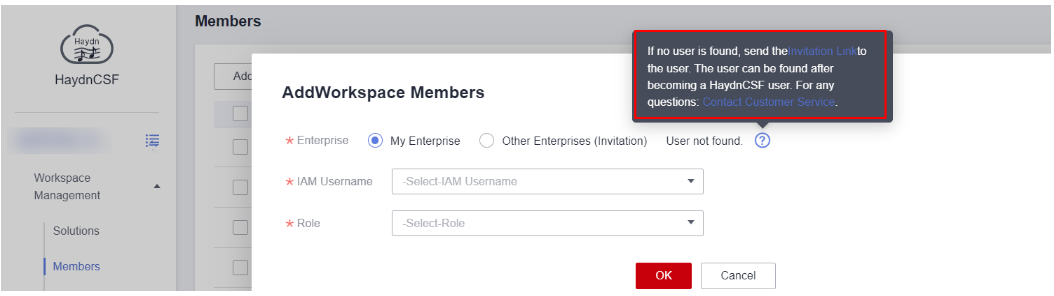
Figure 5-27 User not found



- **Inviting a User from Other Enterprises**

  Click **Add**, select **Other Enterprises (Invitation)**, enter the enterprise account name and IAM username, and click **OK**. The invited user will receive a to-do task in **My To-Dos**. After the user clicks **Handle**, the invitation is successful.

Figure 5-28 Inviting a user from another enterprise as a member

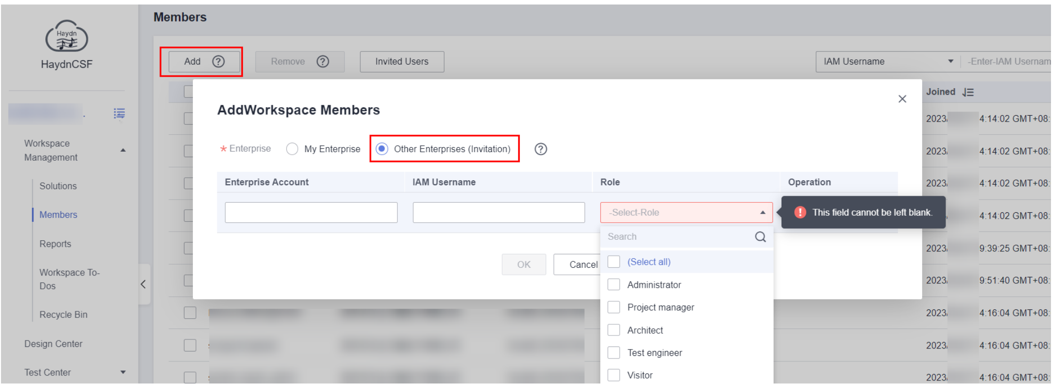
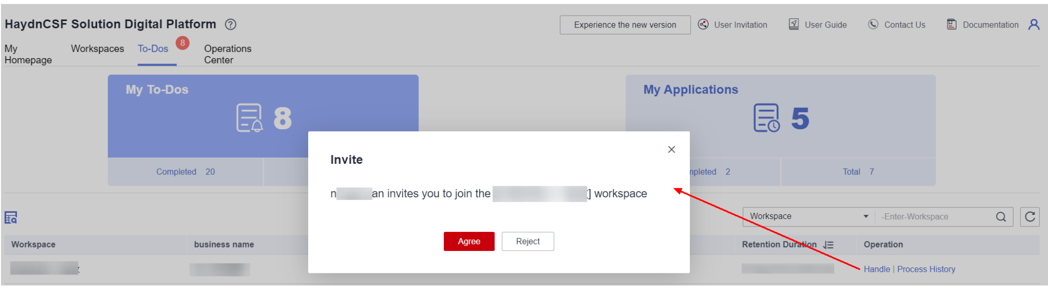


Figure 5-29 To-dos



📖 NOTE

1. **To invite a user of another enterprise, ensure that the user has joined HaydnCSF.** If the user has not joined HaydnCSF, send the link to the user by referring to the operations shown in **Figure 5-27** so that the user becomes a Haydn user. If the user has joined HaydnCSF, the user can view the account name and user name in the personal center to ensure that the information entered during the invitation is correct, as shown in **Figure 5-30**.
2. A user can have multiple roles. If you only need to grant the read-only permission to a user, set the user as a visitor when adding the user. For details about the permissions of each role, see **HaydnCSF User Access Permission**.

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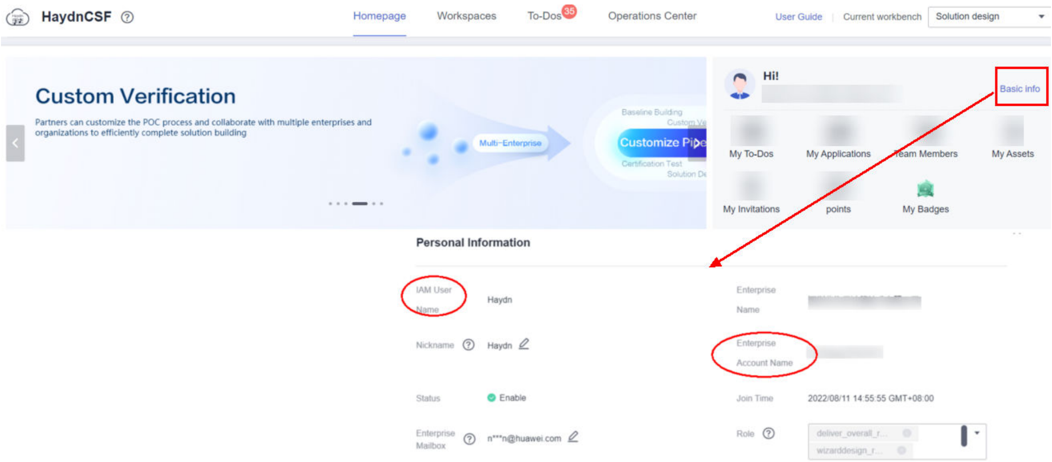
Figure 5-30 Viewing the account name and IAM username

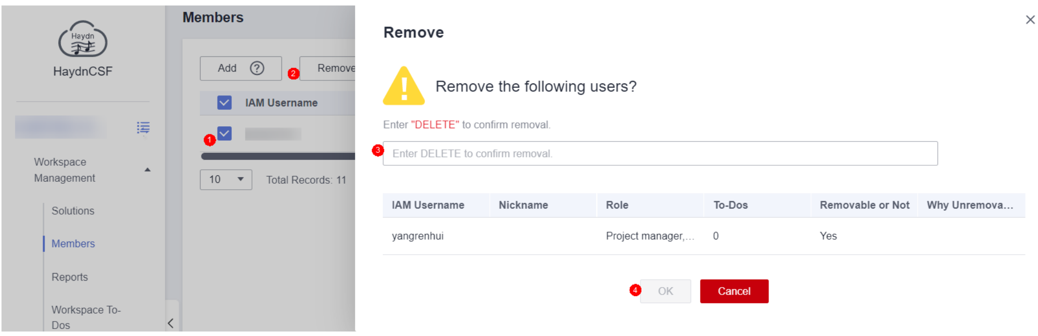


Removing a Workspace Member

Only the project manager or architect in the workspace can remove members. Select the member to be removed and click **Remove**. In the dialog box that is displayed, enter **DELETE** and click **OK** to remove the member from the workspace.

Note that the user to be removed must have no to-do tasks. In the displayed dialog box, you can check whether the user can be removed and the reason why the user cannot be removed.

Figure 5-31 Removing a member



5.1.3 Managing Reports

The HaydnCSF platform allows you to manage solution reports, test requirement reports, and issue reports. (On the HaydnCSF platform, click **Workspaces**. On the displayed page, click the workspace name. In the navigation pane on the left, choose **Reports**.)

Solution Reports

The **Solutions** page consists of three areas: solution phase distribution pie chart, industry distribution pie chart, and solution list in the workspace.

- Solution phase distribution pie chart: All solutions in the workspace are displayed by solution phase. There are four phases: solution registration, solution design, solution review, and design completion.

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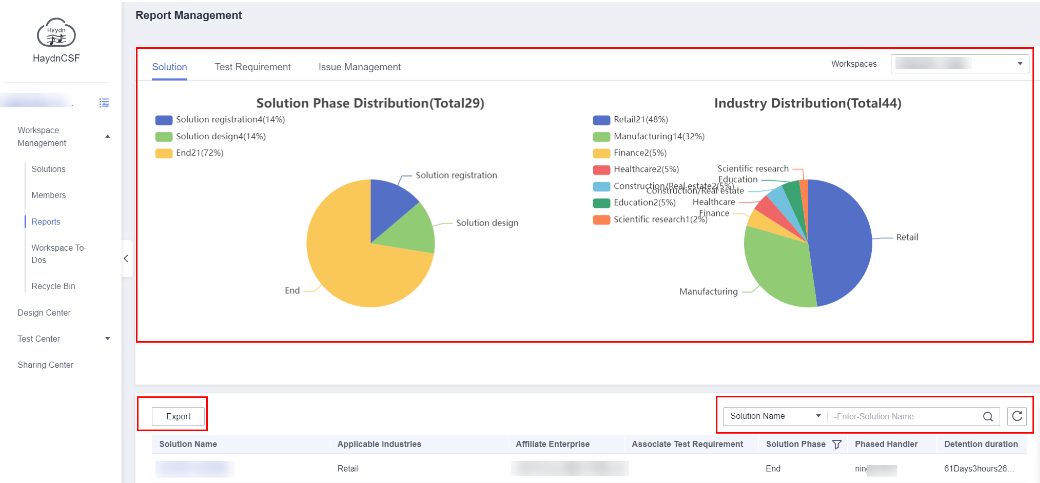
- Industry distribution pie chart: Solutions are displayed by industry that the solutions in the workspace belong to.
- Solution list: You can view the solution name, applicable industries, associated enterprise, associated test requirement, solution phase, handler, and retention duration. You can search for solutions by solution name and export solutions to an .xlsx file.

Figure 5-32 Solution report page

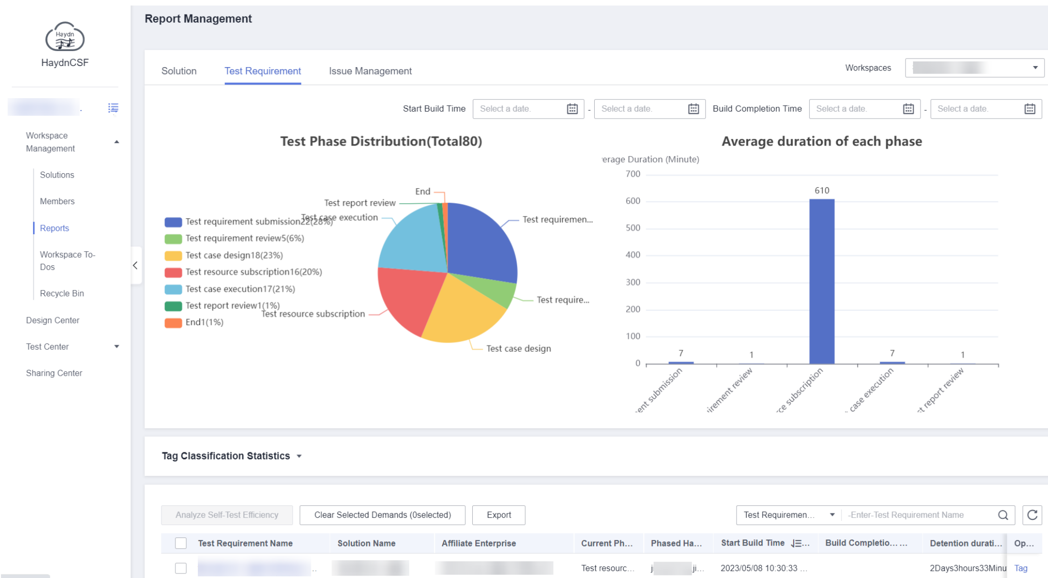


Test Requirement Reports

The **Test Requirements** page consists of three areas: test phase distribution pie chart, bar chart of average phase duration, and test requirement list.

- Test phase distribution pie chart: All test requirements in the workspace are displayed by test phase. There are nine test phases: test requirement submission, test requirement review, test plan formulation, test case design, test case review, test resource provisioning, test case execution, test report review, and completion.

Figure 5-33 Test requirement report page



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- Test requirement list: You can view the test requirement name and solution name, manage labels for requirement tags, and analyze self-test efficiency.
  - Tag management: Manage requirements by user-defined tag. Locate the test requirement and click **Tag** in the **Operation** column. In the displayed dialog box, enter or select a tag, and click **OK**.
  - Self-test efficiency analysis: Select the requirements to be analyzed and click **Analyze Self-Test Efficiency** to view the average solution building duration and average self-test rate.

    Average solution building duration: average building verification duration of a selected solution. Average self-test rate: average self-test rate of the requirements associated with the selected solution.

Figure 5-34 Entry for self-test efficiency analysis

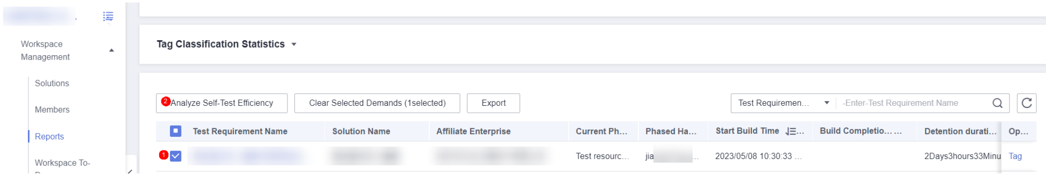
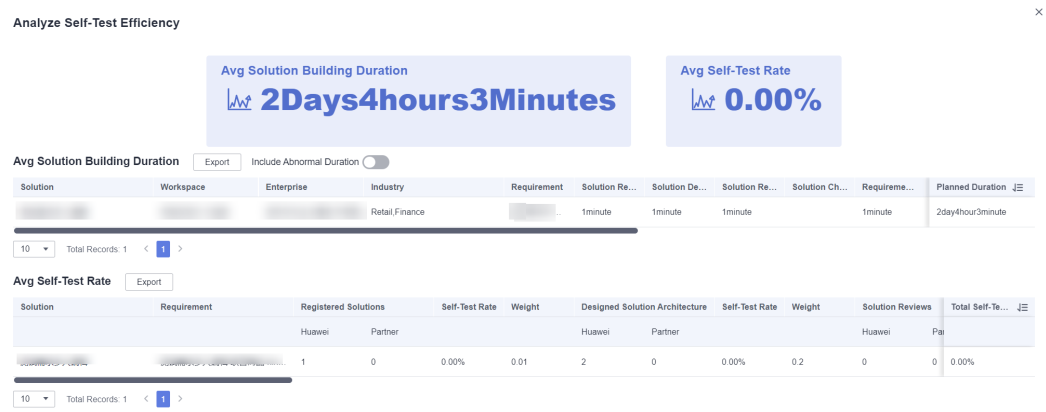
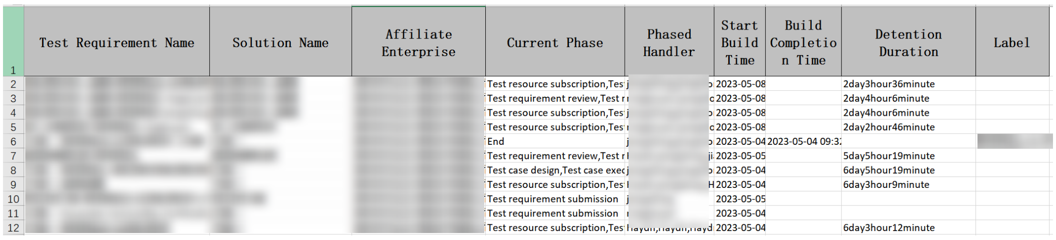


Figure 5-35 Average self-test rate



  - Requirement exporting: Select a test requirement and click **Export** above the requirement list.

Figure 5-36 Requirements displayed in an .xlsx file



	Test Requirement Name	Solution Name	Affiliate Enterprise	Current Phase	Phased Handler	Start Build Time	Build Completion Time	Detention Duration	Label
1									
2	[illegible]	[illegible]	[illegible]	Test resource subscription,Tes	[illegible]	2023-05-08		2day3hour36minute	
3	[illegible]	[illegible]	[illegible]	Test requirement review,Test r	[illegible]	2023-05-08		2day4hour6minute	
4	[illegible]	[illegible]	[illegible]	Test resource subscription,Tes	[illegible]	2023-05-08		2day4hour6minute	
5	[illegible]	[illegible]	[illegible]	Test resource subscription,Tes	[illegible]	2023-05-08		2day2hour46minute	
6	[illegible]	[illegible]	[illegible]	End	[illegible]	2023-05-04	2023-05-04 09:3		[illegible]
7	[illegible]	[illegible]	[illegible]	Test requirement review,Test r	[illegible]	2023-05-05		5day5hour19minute	
8	[illegible]	[illegible]	[illegible]	Test case design,Test case exec	[illegible]	2023-05-04		6day5hour19minute	
9	[illegible]	[illegible]	[illegible]	Test resource subscription,Tes	[illegible]	2023-05-04		6day3hour9minute	
10	[illegible]	[illegible]	[illegible]	Test requirement submission	[illegible]	2023-05-05			
11	[illegible]	[illegible]	[illegible]	Test requirement submission	[illegible]	2023-05-04			
12	[illegible]	[illegible]	[illegible]	Test resource subscription,Tes	haydn,haydn,hayd	2023-05-04		6day3hour12minute	

Issue report page

The Issues page consists of four areas: test requirement distribution pie chart, associated cloud service distribution pie chart, issue closure status pie chart, and issue list.

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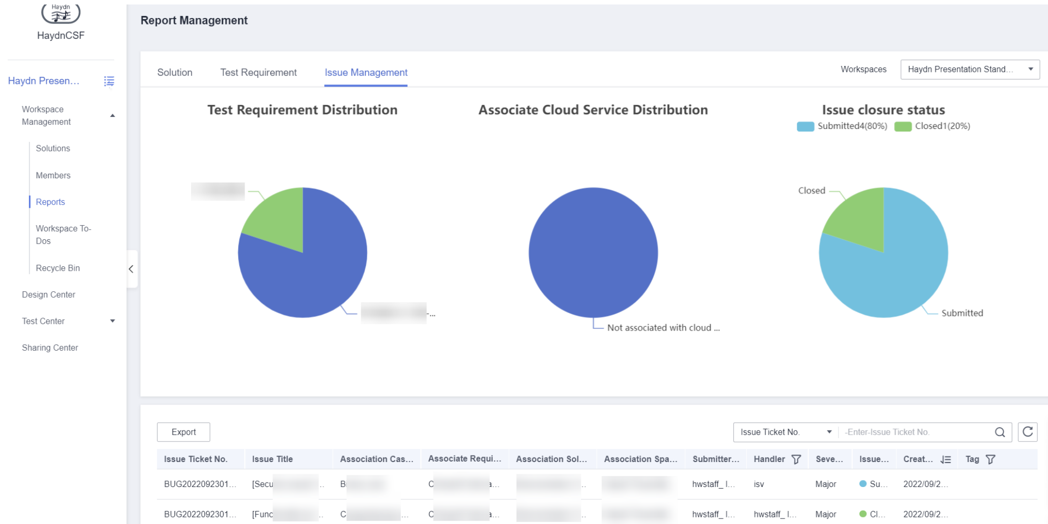
Figure 5-37 Issue report page



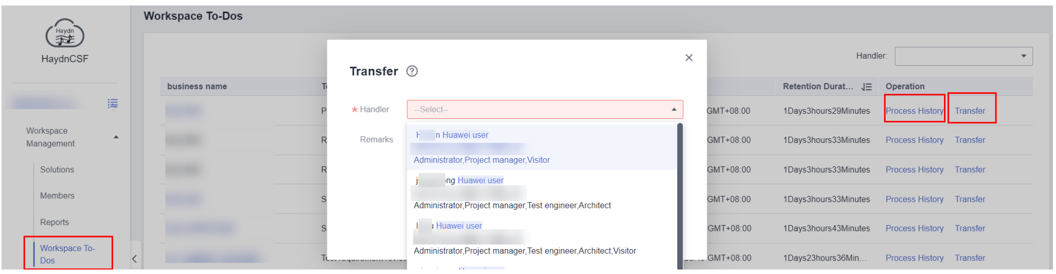
- Test requirement distribution pie chart: All the requirements are displayed by issue in the workspace.
- Associated cloud service distribution pie chart: Issues are displayed by cloud service in the workspace.
- Issue closure status: Verified issue tickets in the current phase in the workspace are displayed. There are five phases: submission, locating, rectification, acceptance, and closure.
- Issue list: You can view information such as the requirement associated with an issue ticket. You can search for an issue by issue ticket number or issue title.

For details about issue management, see **Issue Management**.

5.1.4 Managing Workspace To-Do Tasks

All workspace to-do tasks are displayed in the **To-Dos**. You can transfer to-do tasks to another person for handling. Only the **administrators in the workspace** have the permission on the to-dos.

Figure 5-38 Managing workspace to-do tasks



- Click the name of a to-do task to go to the details page of the to-do task.
- Click **View Handling History** in the **Operation** column to view the process records of the to-do task.

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- Click **Transfer To-Do Task** to transfer the to-do task to another person.

NOTE

If you are not an administrator in the workspace, choose **Workspace Management** > **Members** in the navigation pane on the left to view the member roles and contact the user who has the administrator role to set the administrator role for you.

5.1.5 Managing Recycle Bins

Deleted solutions and requirements are stored in the recycle bins. **Administrators in the workspace** can restore the solutions and requirements in the recycle bins. You can view the restored solutions on the **Solution Management** page and requirements on the **Requirement Management** page.

NOTE

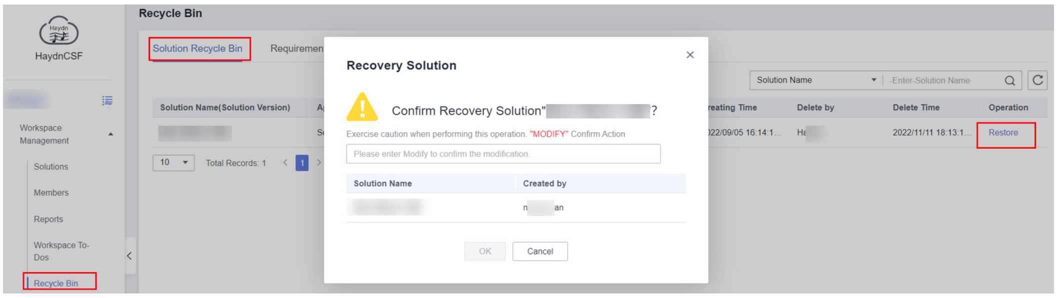
If you are not an administrator in the workspace, choose **Workspace Management** > **Members** in the navigation pane on the left to view the member roles and contact the user who has the administrator role to set the administrator role for you.

Solution Recycle Bin

The solution recycle bin displays the solutions that have been deleted from the workspace. Go to the workspace, choose **Workspace Management** > **Recycle Bins** in the navigation pane on the left, click the **Solution Recycle Bin** tab, locate the solution, click **Restore** in the **Operation** column, and enter **RESTORE** in the text box.

You can view the restored solution on the **Solution Management** page.

Figure 5-39 Restoring a deleted solution



Requirement Recycle Bin

Go to the workspace, choose **Workspace Management** > **Recycle Bins** in the navigation pane on the left, click the **Requirement Recycle Bin** tab, locate the test requirement, click **Restore** in the **Operation** column, and enter **RESTORE** in the text box. You can view the restored test requirement on the **Requirement Management** page.

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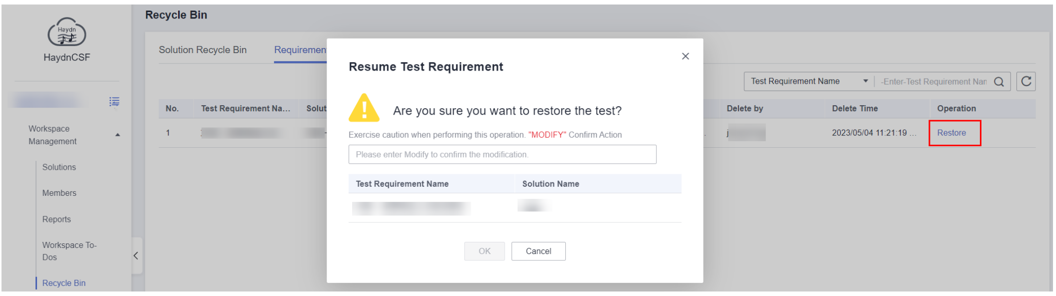
Figure 5-40 Restoring a deleted test requirement



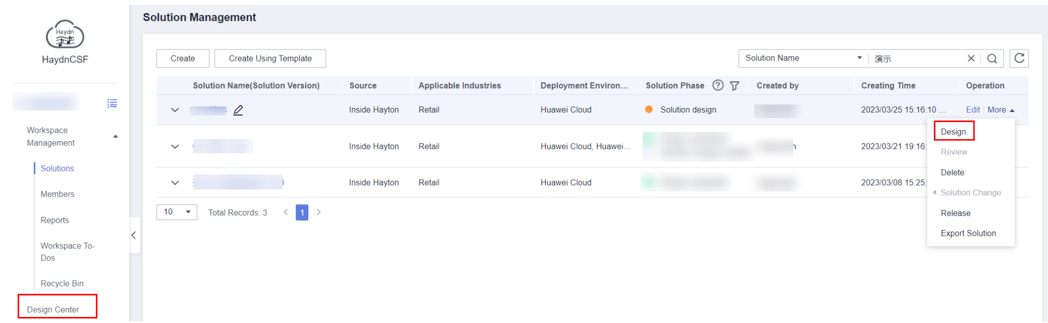
5.2 Design Center

The Design Center is a design engine provided by the HaydnCSF platform for users to design integration architectures, deployment architectures, and automatic deployment architectures.

5.2.1 Designing an Integration Architecture

After a solution is registered, the architects can start to design the solution architecture. (Log in to the HaydnCSF platform as an architect, click **Workspaces**, locate the workspace, and click the workspace name. On the displayed page, locate the solution and choose **More** > **Design**. You can also choose **Design Center** in the navigation pane on the left and then select a solution from the drop-down list.)

Figure 5-41 Design Center



There are three ways to design an integration architecture:

- Design an integration architecture without a template: Create a blank architecture and drag diagram elements to the blank architecture.
- Design an integration architecture using a template from the solution acceleration field: Search for the required architecture template from the solution acceleration field and use it to design an integration architecture.
- Design an integration architecture using an existing architecture: Select an integration architecture that has been added to the workspace and use it to design an integration architecture.

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NOTE

- Only architects can design the architecture. If you are not an architect, contact the administrator or project manager in the workspace set a role for you. For details, see **Managing Members**.
- All architects in the workspace can design the architecture, but only the architecture designer specified in **Creating a Solution** can submit the design for review.
- The deployment environment you select during integration architecture design is the base of the integration architecture. You can select multiple deployment environments, and diagram elements for all the deployment environments you select will be displayed.
  - Example 1: If this solution uses Huawei Cloud and Huawei Cloud Stack as the bases, you can select only Huawei Cloud or Huawei Cloud Stack or both Huawei Cloud and Huawei Cloud Stack as the deployment environment when designing an integration architecture.
  - Example 2: If you select both Huawei Cloud and Huawei Cloud Stack as the bases, the diagram element library displays only the diagram elements for the two bases during integration architecture design to ensure that the integration architecture can be implemented on both bases.

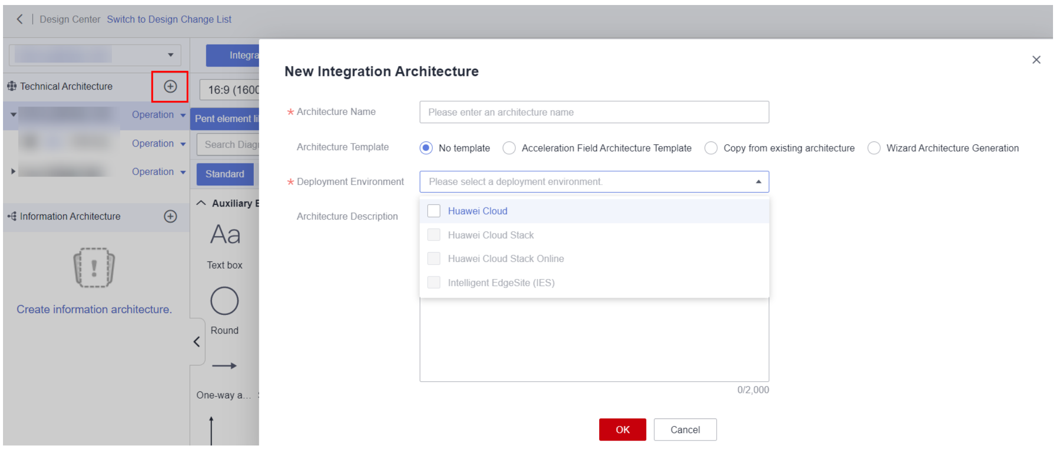
Designing an Integration Architecture Without a Template

Create a blank architecture and drag diagram elements to the blank architecture.

1. On the **Design Center** page, click + in the upper left corner.
2. Enter the architecture name, select **No template**, select the deployment environment, describe the architecture, and click **OK**.

   Before creating an integration architecture, check the solution. If the solution is not the one for which you want to design the integration architecture, select the right solution from the drop-down list in the upper left corner.

   Figure 5-42 Creating an integration architecture without a template

3. Drag diagram elements to the blank architecture to start architecture design. You can click **Recommended Architecture** in the lower right corner to search for a reference architecture.

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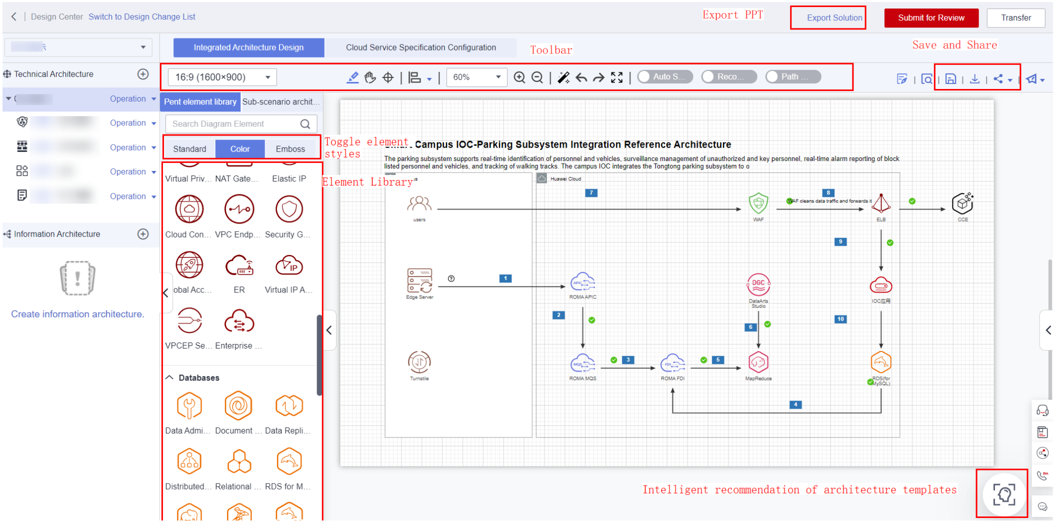
Figure 5-43 Designing an integration architecture



For details, see **Designing an Integrated Architecture on HaydnCSF**.

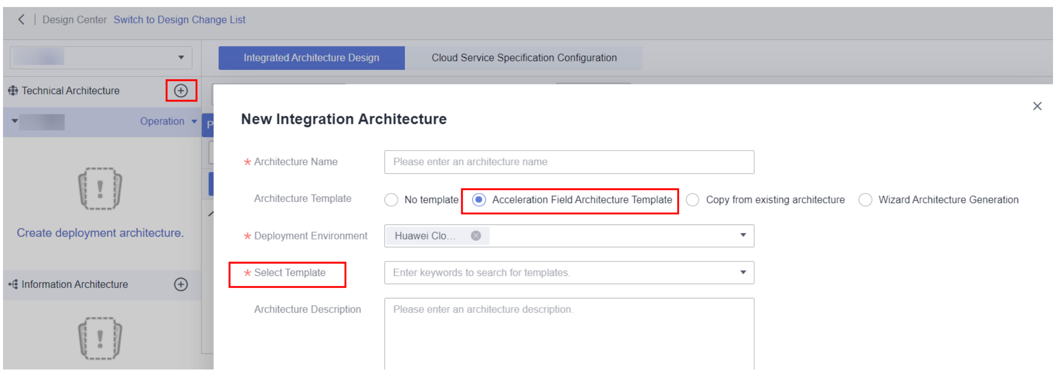
Designing an Integration Architecture Using a Template from the Solution Acceleration Field

The solution acceleration field provides architecture templates for different industries and scenarios. You can search for the right template from the solution acceleration field and then reference the architecture to design your integration architecture.

1. On the **Design Center** page, click + in the upper left corner.
2. Enter the architecture name and select **Architecture template from solution acceleration field**.
3. In the **Select Template** field, enter a keyword to search for the required template, for example, **Office**. Select the right template and click **OK**. You can also click **Operation** next to the architecture and select **View Details** from the drop-down list to go to the architecture details page and ensure that the architecture is the one you want to reference.

   After an architecture is created, you can click **Recommendation** to search for another architecture.

Figure 5-44 Creating an integration architecture using an acceleration field template



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4. Modify the referenced template that is automatically loaded and then save the template.

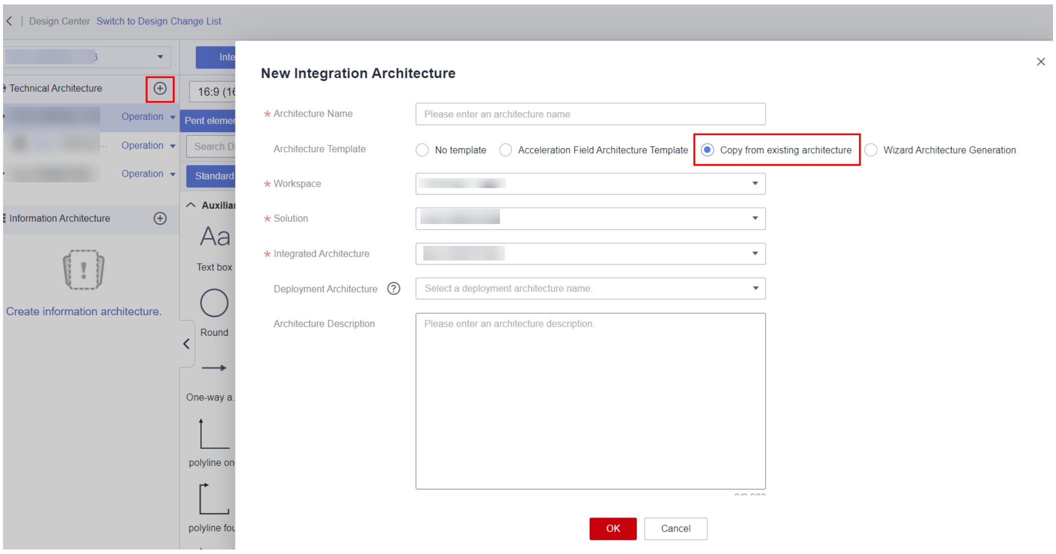
   For details, see **Designing an Integrated Architecture on HaydnCSF**.

Creating an Integration Architecture Using an Existing Architecture

You can copy an architecture from a specified solution in the workspace or from another workspace.

1. On the **Design Center** page, click **+** in the upper left corner.
2. Select **Existing architecture**, select the workspace, solution, integration architecture, and deployment architecture (optional), enter the architecture name and description, and click **OK**.

Figure 5-45 Creating an integration architecture from an existing architecture



3. If the architecture to be copied is in the same workspace and solution, click **Operation** next to the solution name in the upper left corner and select **Copy** from the drop-down list.

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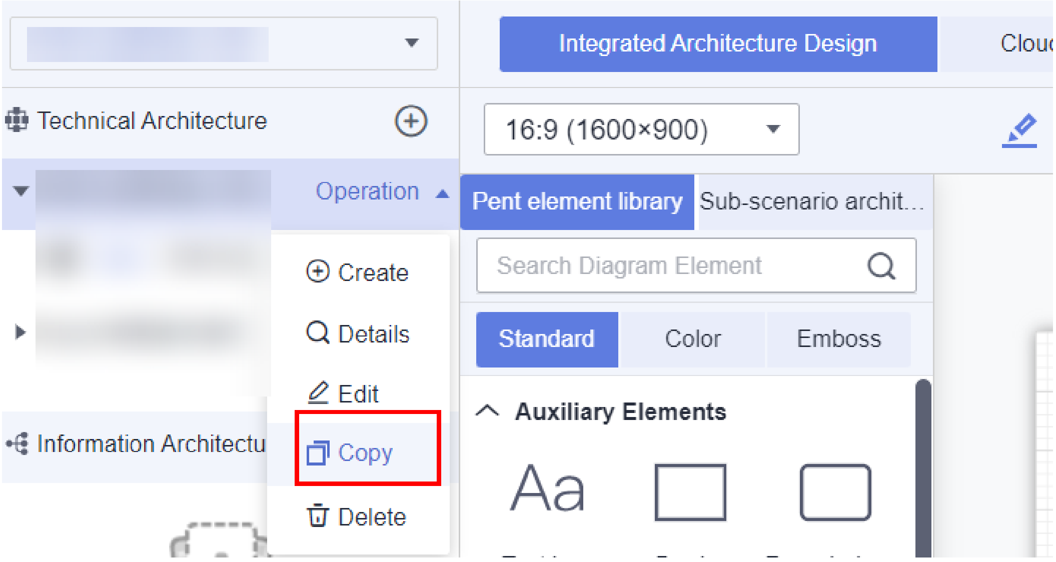
Figure 5-46 Copying an architecture



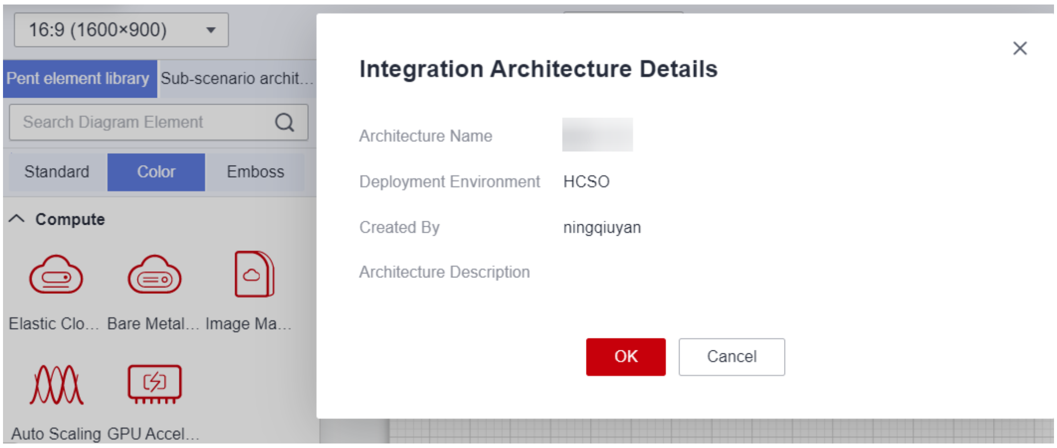
You can also reference the integration architecture in another workspace. For details, see **Designing an Integrated Architecture on HaydnCSF**.

Multi-Base Adaptation

The Design Center allows you to select more than one base and use diagram elements of different bases to design the architectures. If you select multiple bases, services are filtered based on the bases that match the created solution and architecture, and differences between multiple bases are identified during automatic deployment. If there is no base you need, create an architecture and select the desired base when you create a solution.

As shown in the following figure, the deployment environment is Huawei Cloud Stack Online (HCS Online), and only diagram elements of the HCS Online base are displayed for integration architecture design.

Figure 5-47 Multi-base diagram element adaptation



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5.2.2 Designing a Deployment Architecture

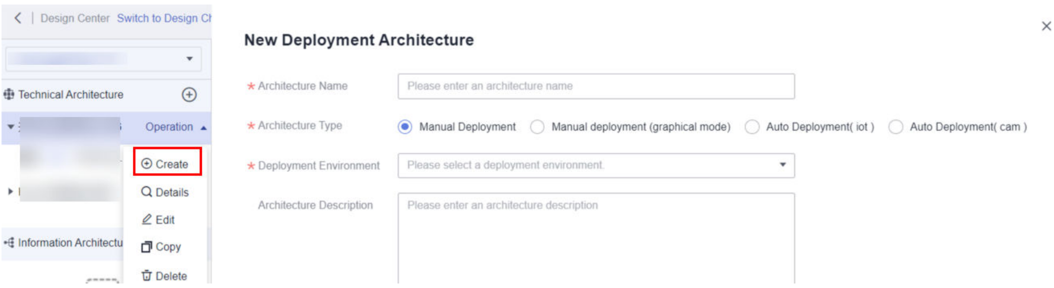
Only architects can design the architecture. If you are not an architect, contact the administrator in the workspace set a role for you (for details, see **Managing Members**). Both manual deployment and automatic deployment are supported.

- Manual deployment: Manually select or enter the cloud services and configurations related to the integration architecture. Resource provisioning and application deployment are performed manually.
- Manual deployment (graphical mode): Set the configuration list in graphical mode.
- Automatic deployment: Orchestrate the deployment architecture for automatic application deployment.

Manual Deployment

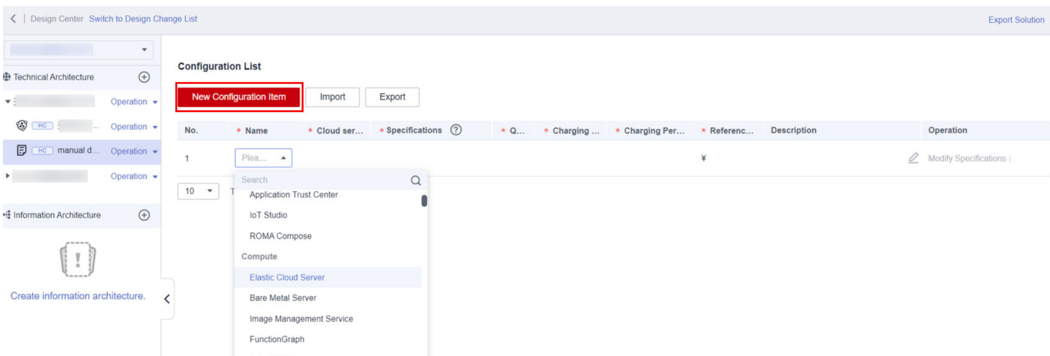
1. Log in to the HaydnCSF platform as an architect, click **Workspaces**, locate the workspace, and click the workspace name. On the displayed page, locate the solution and choose **More** > **Design** in the **Operation** column. You can also choose **Design Center** in the navigation pane on the left and then select a solution from the drop-down list.
2. Under the specified integration architecture, click **Operation** and select **Create**.
3. Enter the architecture name and description, select **Manual deployment** for **Architecture Type**, and click **OK**.

Figure 5-48 Creating a manual deployment architecture



4. Create a configuration item for the manual deployment architecture. Select a cloud service and the corresponding configuration of the cloud service. You can also customize the service and enter the configuration of the service.

Figure 5-49 Adding a configuration item



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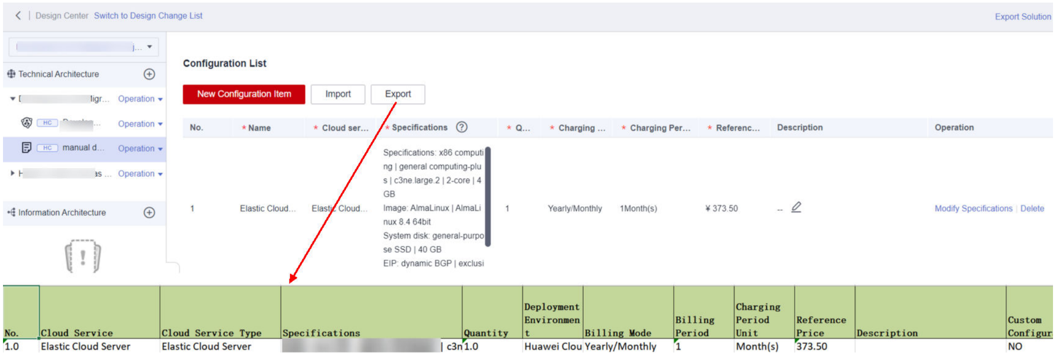
5. You can download the configuration list template, enter the configuration, and import the template.
6. You can export the configuration list to an .xlsx file.

Figure 5-50 Exporting the configuration list

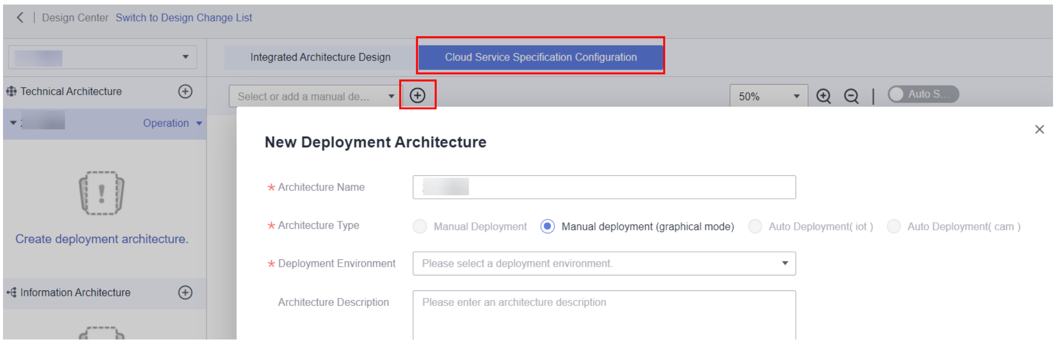


Manual Deployment (Graphical Mode)

1. In the Design Center, under the specified integration architecture, click **Operation** and select **Create**. In the displayed dialog box, select **Manual deployment (graphical mode)** for **Architecture Type**.

   You can also switch to the **Cloud Service Specification Configuration** tab page and then click the plus sign.

Figure 5-51 Creating a manual deployment architecture (graphical mode)



2. On the displayed configuration page, select a diagram element and click **Select Specifications** or **User-defined specification** to configure specifications.

   If the cloud service has a price calculator, the price calculator is automatically loaded, where you can configure the cloud service specifications. After the configuration is complete, save the configuration. A diagram element in red indicates that no specifications are configured.
3. Select other diagram elements in sequence and configure specifications.
4. Click **List Preview** on the right of the configuration page to preview the configured cloud service specifications.

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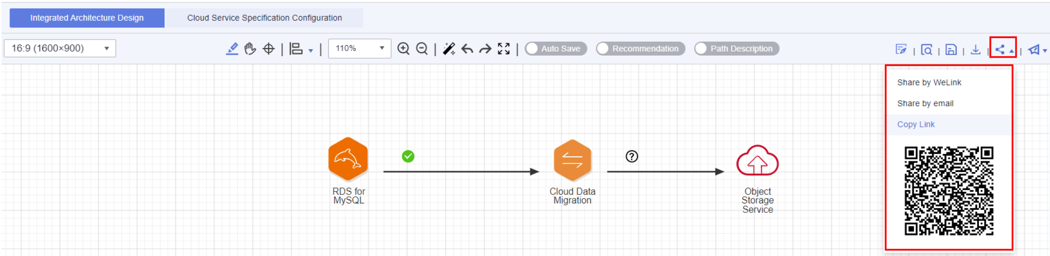
5.2.3 Sharing an Integration Architecture

The HaydnCSF platform allows you to share architecture design through WeLink, WeChat, and email. Users can view the shared architecture without login. All members of the workspace can share integration architectures.

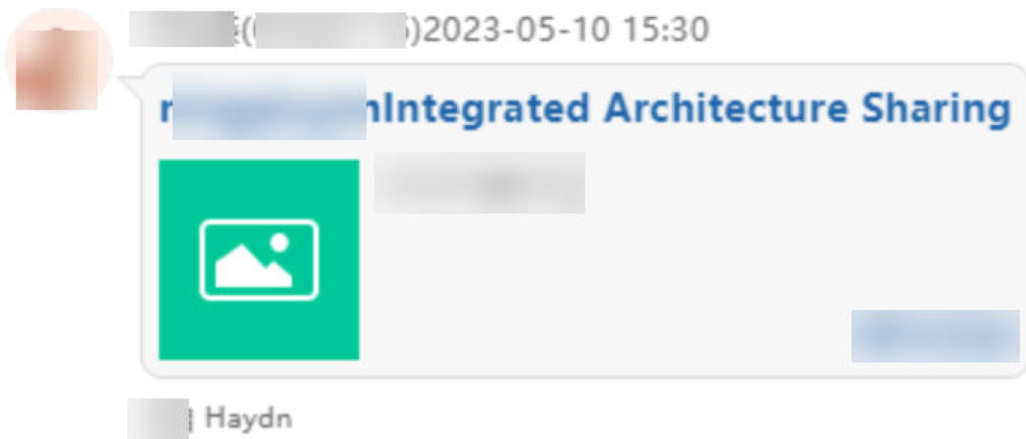
Figure 5-52 Sharing an integration architecture



Sharing an Integration Architecture over WeLink

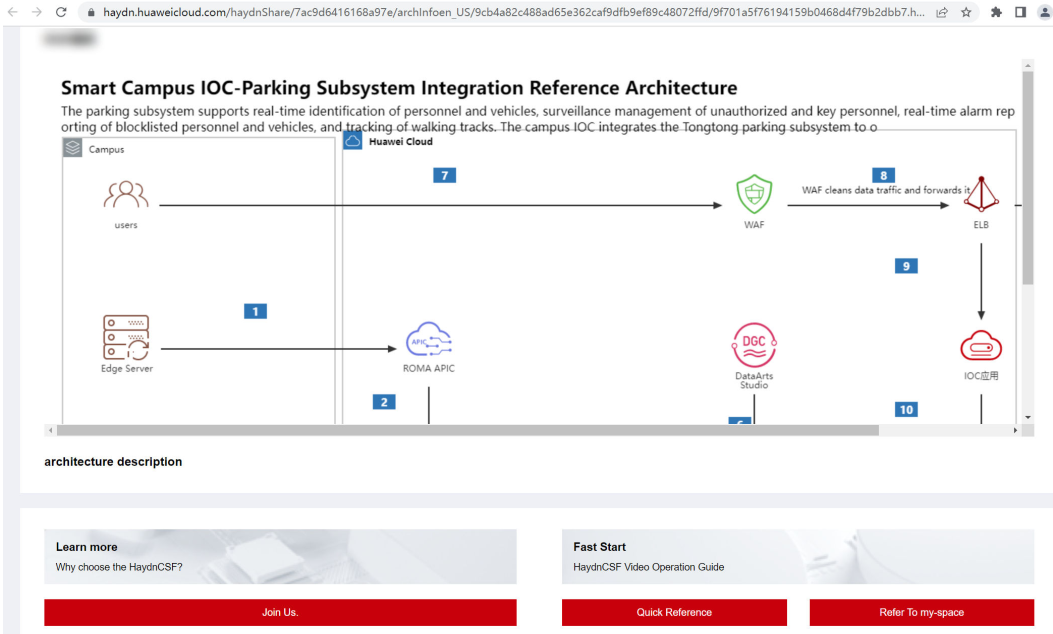
1. Go to the Design Center, select the integration architecture to be shared under the solution, click **Share** in the upper right corner, and select **Share by WeLink**. Ensure that there are no information security risks.
2. Log in to the system using a W3 account.
3. Share the integration architecture to a specific recipient (a W3 account or group).
4. Ensure that the recipient receives a link.

Figure 5-53 Link received by WeLink users



5. Ask the recipient to click the link to view the integration architecture diagram without logging in to HaydnCSF.

Figure 5-54 Viewing the shared integration architecture



6. If the recipient wants to know more about HaydnCSF or needs to log in to HaydnCSF, ask the recipient to click **Join Us** on the page. The recipient can also click **Quick Reference** to reference the architecture. For details, see **Referencing an Integration Architecture with One Click**.

Sharing an Integration Architecture over WeChat

1. Go to the Design Center, select the integration architecture to be shared under the solution, click **Share** in the upper right corner, and select **Share by WeChat**.
2. Send the copied link or QR code to the recipient through WeChat. Ensure that there are no information security risks.
3. Ask the recipient to click the link or scan the QR code to view the integration architecture diagram without logging in to HaydnCSF.

Sharing an Integration Architecture over Email

1. Go to the Design Center, select the integration architecture to be shared under the solution, and click **Share** in the upper right corner.
2. Select **Share by Email** Ensure that there are no information security risks.
3. Enter the email address of the recipient and click **OK**.
4. Ensure that the recipient receives an email. The recipient can view integration architecture diagram by clicking the link in the email without logging in to HaydnCSF.

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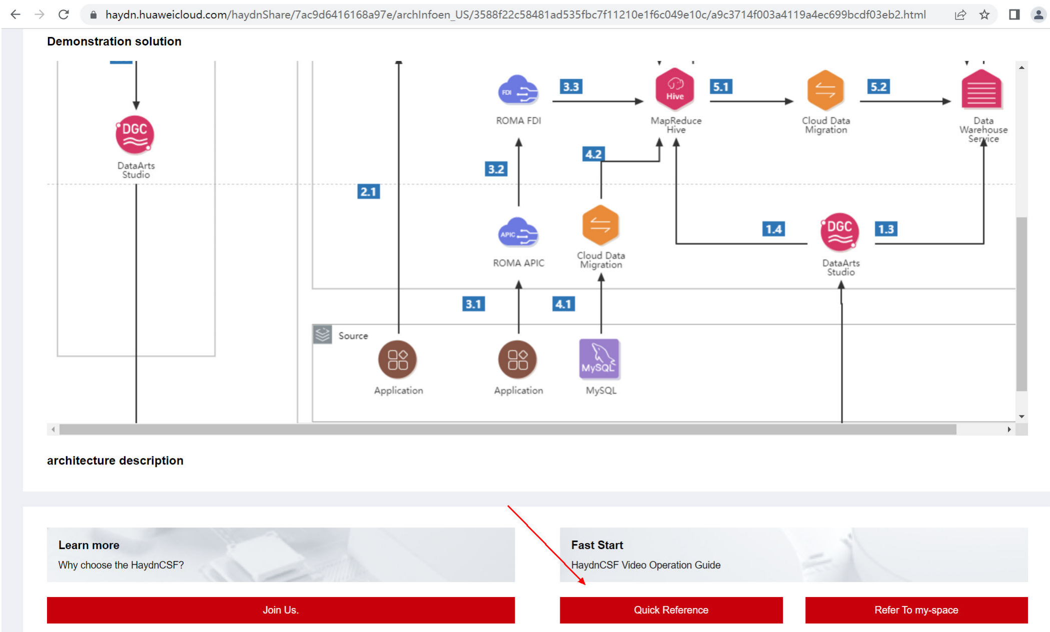
Figure 5-55 Sharing an integration architecture over email

Referencing an Integration Architecture with One Click

If you receive a shared integration architecture, you can view the integration architecture without logging in to HaydnCSF. To reference the shared integration architecture, you can click **Quick Reference**, which allows you to quickly design the architecture without creating a workspace or solution.

Figure 5-56 Referencing an integration architecture with one click



Referencing an Integration Architecture to My Workspace

You can also click **Reference to My Workspace**, select the specified workspace and solution, and change the architecture name to reference to the specified workspace and solution.

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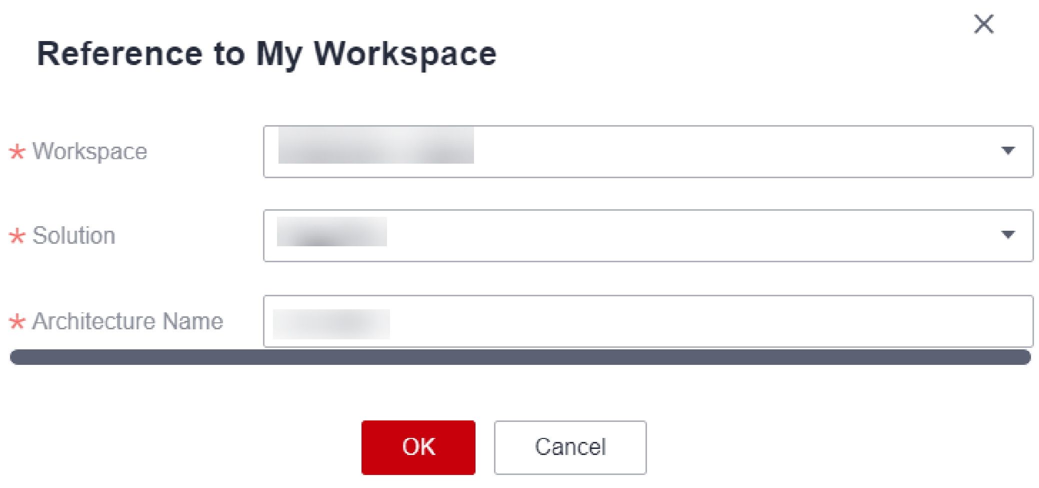
Figure 5-57 Reference to My Workspace



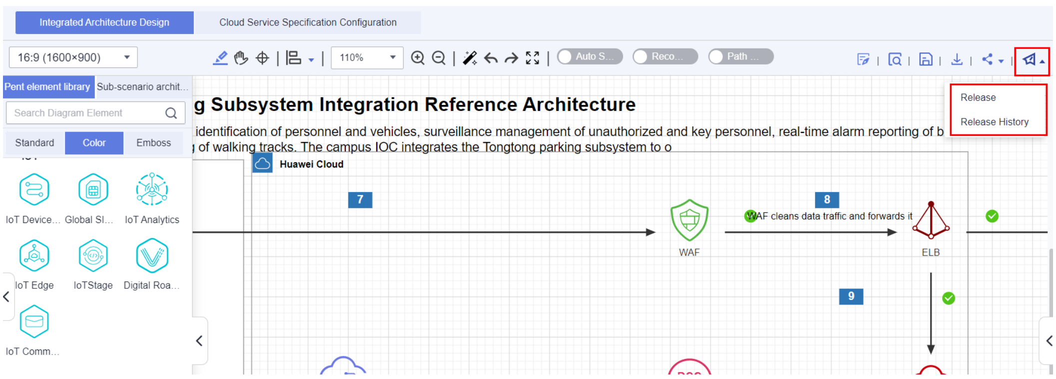
5.2.4 Releasing an Architecture to the Solution Acceleration Field as a Template

You can release the designed architectures to the solution acceleration field so that other HaydnCSF users can view or reference your architectures to quickly complete their architecture design.

Releasing an Architecture to the Solution Acceleration Field

1. In the Design Center, select the integration architecture, click **Release to Solution Acceleration Field** in the upper right corner, and click **Release**. Confirm that the architecture design is complete.

Figure 5-58 Releasing an integration architecture



2. Click **OK**. The page for releasing the architecture template is displayed, where you need to enter all the details.

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Table 5-2 Parameters for publishing an architecture template

Parameter	Description
Template Type	● **Full Architecture Template**: The architecture is a comprehensive scenario architecture and can be referenced when you create an integration architecture in the Design Center. ● **Sub-scenario Architecture Template**: The architecture is designed for a sub-scenario and can be referenced when you create an integration architecture in the Design Center. Also, the architecture will be released to the sub-scenario architecture library in the Design Center, where you can directly reference this sub-scenario architecture template.
Architecture Template Name	Enter a name for the template. The name will be used as the architecture template name when the architecture is released to the solution acceleration field.
Applicable Industries	Select the industries where the architecture can be used. You can select up to 10 industries.
Applicable Scenarios	Select the scenarios where the architecture can be used. You can select up to 10 scenarios.
Deployment Environments	Select the bases of the integration architecture, which depends on the base of the solution that the architecture belongs to. You can select a base when creating a solution or integration architecture.
Available To	Select the scope that the architecture is visible to. ● **Enterprise**: The architecture is visible only to employees in the enterprise, including the Huawei Cloud account/ HUAWEI ID and IAM users in the account. ● **Huawei**: The architecture is visible only to Huawei users (marked by the HaydnCSF operations personnel). ● **Specified personnel**: The architecture is visible to users with specified tags or in specified accounts. ● **All**: The architecture can be viewed and referenced by all HaydnCSF users in the solution acceleration field.
Author Tag	The attribute of the person who releases the architecture, for example, *xx* **industry architect**.
Architecture Template Description	Describe the architecture template in terms of business pain points and challenges, solution description, solution advantages and benefits, and architecture description so that users can quickly understand the architecture details of the solution. You can reference the description when you create or edit the integration architecture in the Design Center and enter a new description.

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Parameter	Description
Solution Template Attachments	Upload attachments related to the architecture template.
Integration Architecture	Details about the integration architecture design. Ensure that the architecture is complete. If you need to modify the architecture, return to the Design Center to modify it and release it again.
Deployment Architecture	If the integration architecture contains a deployment architecture, the deployment architecture will also be released. Ensure that the deployment architecture is complete. If you need to modify the deployment architecture, return to the Design Center to modify it and release it again.

Figure 5-59 Architecture template release details (1)

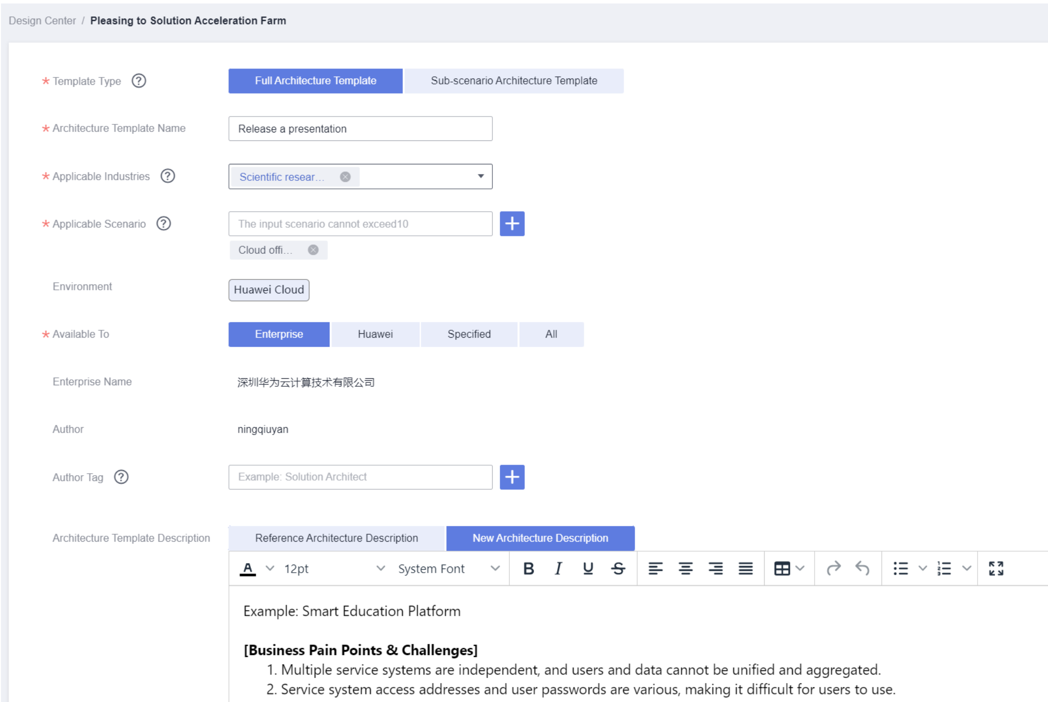

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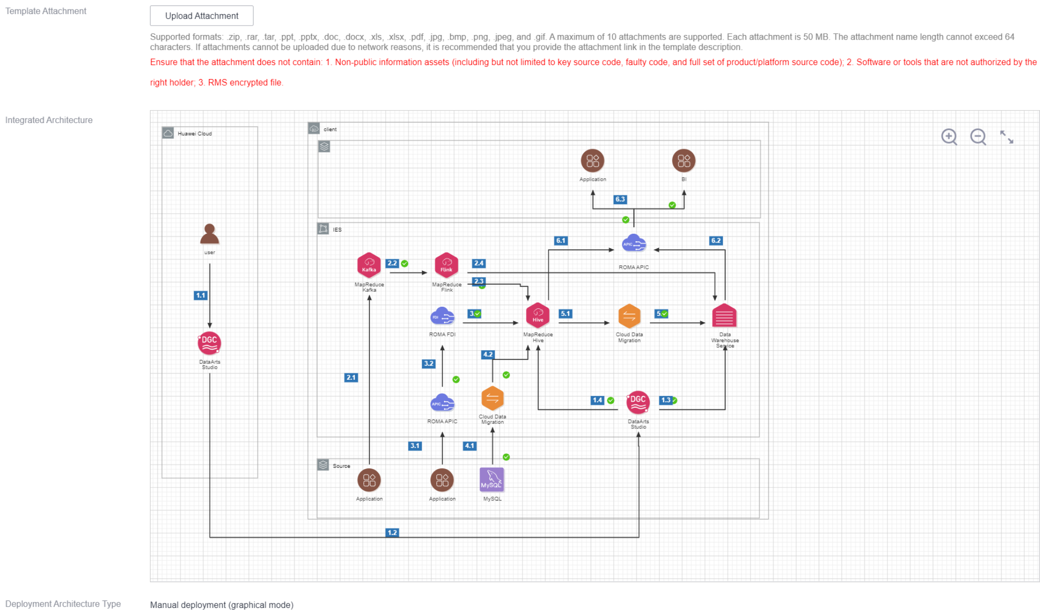
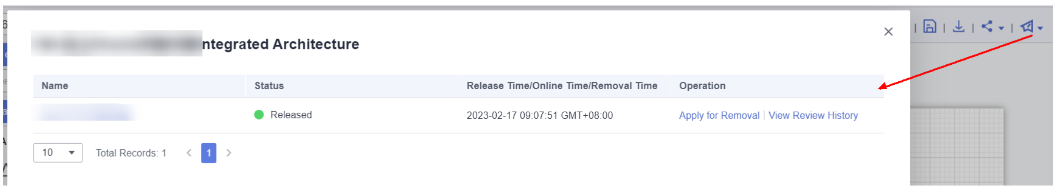
Figure 5-60 Architecture template release details (2)



3. Click **Submit**.
4. Wait for the operations administrator to approve the application. For details about the results, see **Viewing My Applications**. You can also click **Release History** to view the release status of the integration architecture, as shown in **Figure 5-61**.
5. Check that you have received an email notification. The integration architecture will be displayed in the solution acceleration field as an architecture template. HaydnCSF users can reference the architecture template when creating an integration architecture in the Design Center. For details, see **Architecture Templates**.

Figure 5-61 Viewing architecture template release status



5.2.5 Exporting Architecture Design

Exporting Architecture Design as a .pptx File

The Design Center allows you to export the solution design. The designed integration architectures and deployment architectures can be exported as a .pptx file with just one click. Only members in the workspace can export the solution design.

Log in to the HaydnCSF platform, click **Workspaces**, and click the workspace name. In the navigation pane on the left, choose **Design Center**. In the upper right corner of the displayed page, click **Export Solution**.

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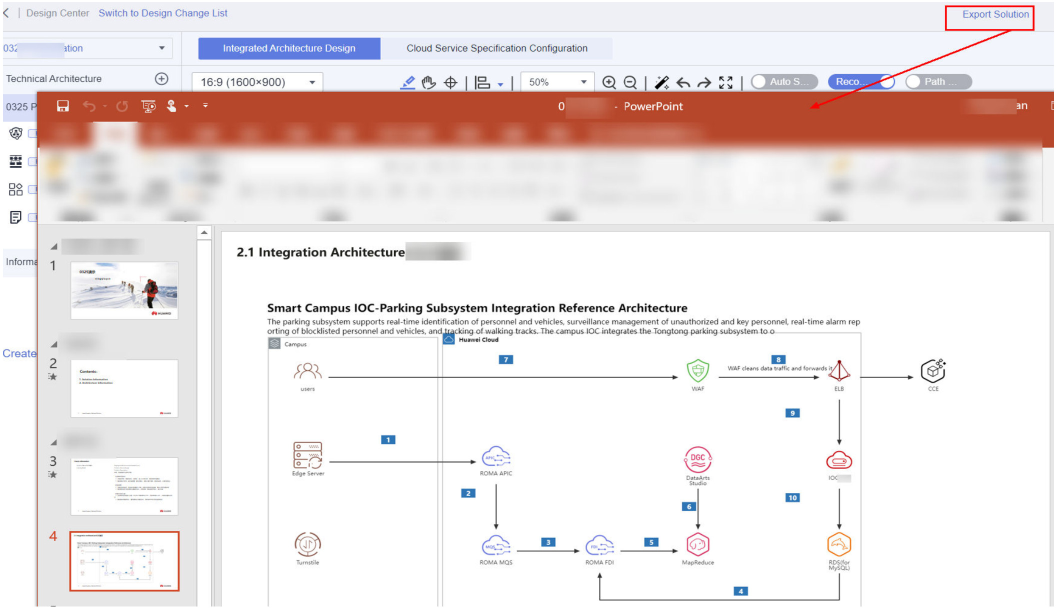
Figure 5-62 Exporting a solution in the Design Center

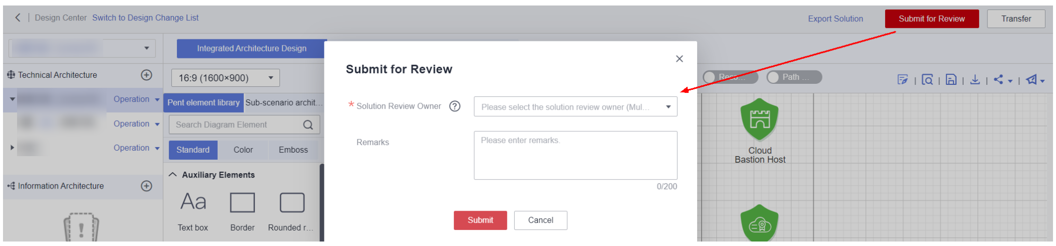


5.2.6 Submitting a Solution Design for Review

After a solution design is complete, you can submit it for review. The solution will be in the design completion phase if the design is approved. Only the solution designer specified in **Creating a Solution** can submit the design for review.

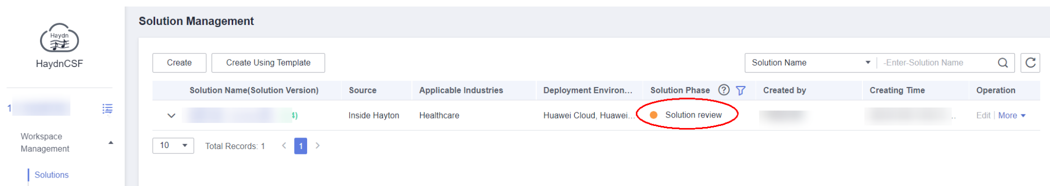
1. Click **Submit for Review** in the upper right corner of the Design Center, select the architecture and solution reviewer, and click **OK**. You can select an architect or project manager in the workspace as the reviewer. Multiple architects or project managers can be selected.

Figure 5-63 Submitting a solution design for review



2. View the solution on the **Solution Management** page. The solution is in the **Solution review** phase.

Figure 5-64 Solution Management page



3. Click the solution name to view the review result on the solution details page.

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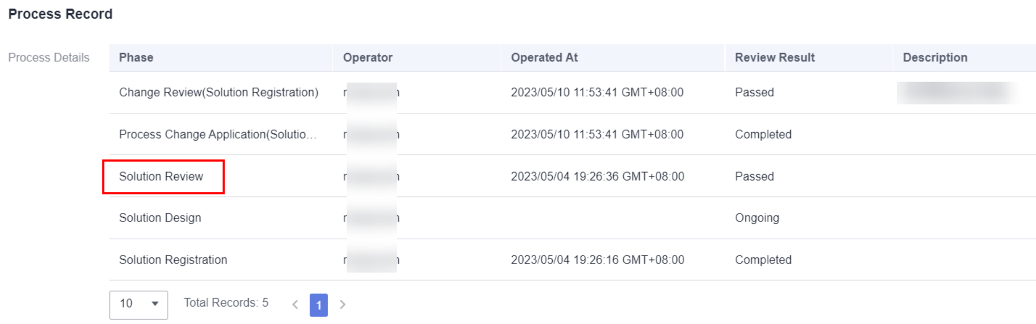
Figure 5-65 Process Record



4. View the solution phase. After the solution design is approved, the solution phase changes to **Design completion**, and solution verification can be started.

   For details about solution design review, see **Reviewing a Solution**. If you have subscribed to the email notification of the HaydnCSF platform, you can receive an email notification for the review result.

5.3 Verification Center

5.3.1 Managing Requirements

The HaydnCSF platform provides a Verification Center where you can perform full-process solution verification from deploying a solution with just one click, carrying out automatic tests, to viewing automatically generated reports.

In the Verification Center, you can also manage the requirements that need to be tested.

NOTE

Once a test requirement is submitted, subsequent processes (test case design, test case execution, and test resource provisioning) can be performed. However, the requirement review must be completed before the report is submitted for review.

Creating a Requirement and Submitting It for Review

Only architects and test engineers are allowed to create test requirements.

Prerequisites

- You are in the workspace and have the architect or test engineer role. For details, see **Adding a Member**.
- A solution has been created and is in the **Design completion** phase. The test requirement must belong to a solution. For details about solution creation and architecture design, see **Managing Solutions**.

Procedure

1. Log in to the HaydnCSF platform, click **Workspaces**, locate the workspace, and click the workspace name. In the navigation pane on the left, choose **Verification Center** > **Requirements**. On the **Requirement Management** page, click **Create**.

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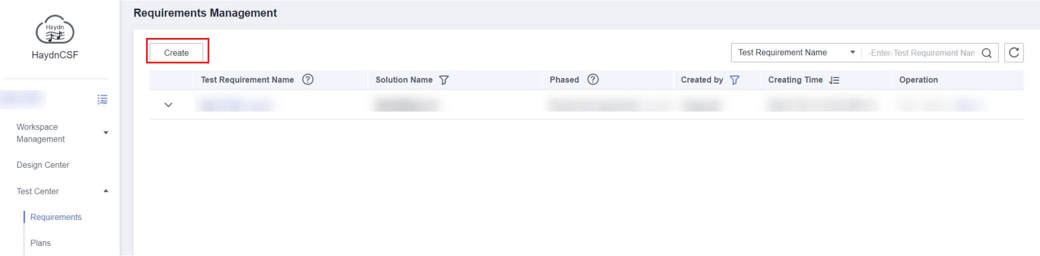
Figure 5-66 Creating a test requirement



2. Select the solution, deployment environment, and integration architecture. You can click **Import Test Plan** to import requirements in batches. For solutions of joint operations products, test requirements and cases can be generated in wizard. Before the import, you can download the template and fill in the template.

Parameter	Description
Solution Name	Select the solution designed in **Creating a Solution** from the drop-down list. Before creating a test requirement, ensure that the solution has been built. You can create more than one requirement for a solution.
Verification Process	Based on the BPM process, HaydnCSF presets verification processes for seven phases: requirement submission, requirement review, plan formulation, test case design, test case review, resource provisioning, test case execution & report generation, and report review. For example, if you select the joint-operations products verification process when creating a solution, the selected verification process will be displayed here. You can define the default handler of each phase. For example, if you specify that the test case design is completed by person A, this person will be selected as the test designer by default. **NOTICE** If you need to perform an automatic performance test, select a user in the same account when specifying the test case designer and executor in this step. This is because a project will be created using the account for the automatic performance test, and the automatic performance test cannot be executed across accounts. If you are not sure about the test case, you can transfer the test case to the test case designer or executor when you need to modify the test case.

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Parameter	Description
Verification Policy	● Verification of multiple bases at a time: If multi-base adaption verification is evaluated in the Design Center, the solution is verified in a deployment environment and is then considered to be suitable for other deployment environments. For details about the evaluation, see haydncsf_04_0015.xml#haydncsf_04_0015/section7696254367. This option can be selected only for solutions that pass the evaluation. ● Verification base by base: The solution is verified separately in each deployment environment. The solution is displayed only after you have selected the deployment environment.
Integration Architecture/ Deployment Architecture	Select the integration architecture and deployment architecture in the development environment, and select the account that the deployment architecture belongs to. A resource provisioning to-do will be generated for the selected deployment account, which will provisions cloud resources.
Test Requirement Name	Enter a name for the test requirement, for example, **xx Solution Joint Operation Verification Requirement**.
Planned Start and End Date	Expected start time and end time of the test requirement.
Test Requirements	Select the test requirement type based on your service requirements. Subsequent test cases will be classified based on the requirement type. Multiple test requirements can be added, for example, a function test requirement and a performance test requirement for a function module. Test requirements can be loaded from a template, imported and exported, and requirements and cases can be generated in wizard mode.
Test Plan	Make a test plan for the test requirements. The start time and end time of the plan must be within the start time and end time of the requirement. You can download the plan template and import the test plan. The test plan can be associated with the processes and owners.
Email Sent To	You can select a user from the drop-down list. The user can receive notifications only after the email subscription of HaydnCSF is enabled. For details about how to enable email subscription, see **Personal Information**.

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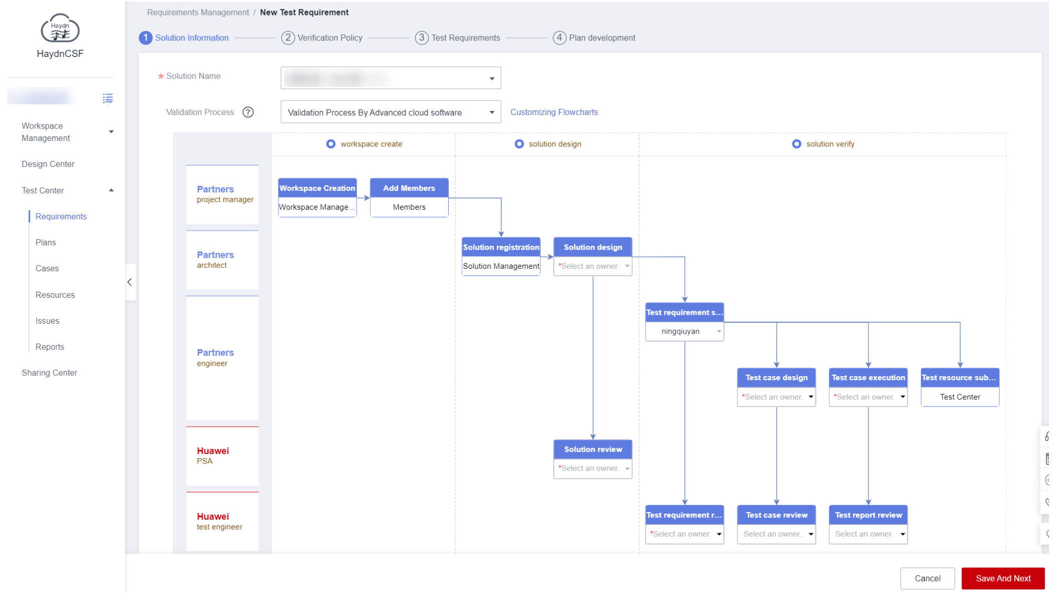
Figure 5-67 Creating a test requirement



3. If there are test standards for some test requirements, such as test requirements of joint operations products certification and of Developer application building verification (for details, see **Solution Acceleration Field**), load requirements from a template or use a wizard to generate requirements.
   - Load requirements from a template: Load the requirement template that has been released in the solution acceleration field. If the requirement contains a test case, the test case will also be loaded and will be displayed on the **Case Management** page. After the loading, you can modify the requirements based on site requirements.
   - Use a wizard to generate requirements: This option is available only for solutions of the joint operations products. Upload the function list, select the reliability level, and describe the integration path based on the guide. HaydnCSF automatically generates requirements and test cases based on the options and displays the test cases on the **Case Management** page. If automatically generated test cases are not included in the template, they need to be supplemented by the test case designer.

NOTE

When a requirement is loaded from a template, the test cases related to the requirement are automatically loaded to the requirement. If the requirement or requirement item is deleted, the test cases are also deleted.

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Figure 5-68 Loading requirements from a template

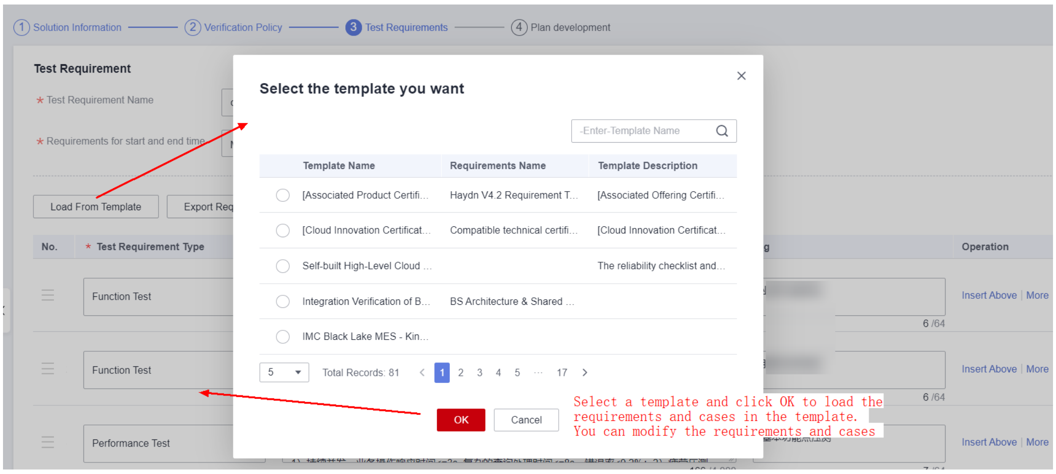


Figure 5-69 Test case under a requirement

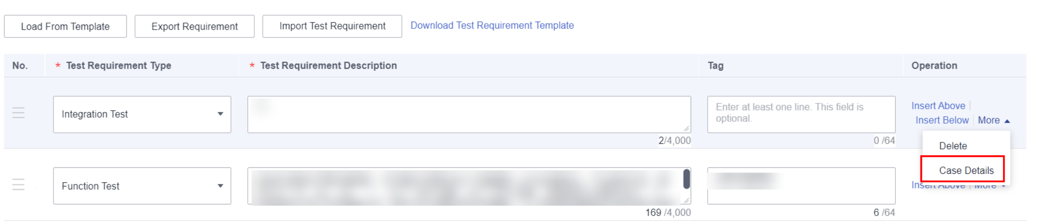
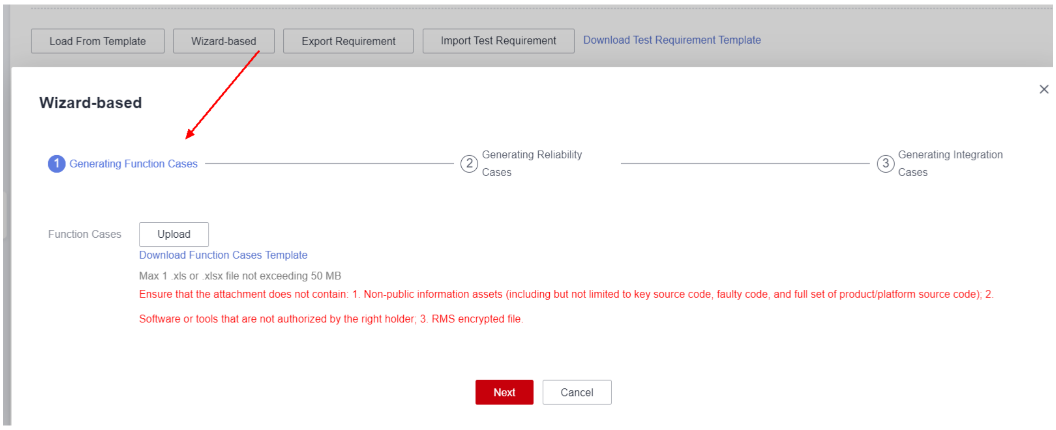


Figure 5-70 Wizard



4. Submit the requirement. If the selected process skips the requirement review, the requirement is automatically approved, and the test case designer can design test cases. If the process is a standard process or a user-defined process that does not skip the requirement review, the requirement reviewer needs to review the requirement.

Editing a Requirement

The requirement creator can edit the requirement in the test requirement submission phase. To edit a test requirement, locate the requirement and click **Edit** in the **Operation** column. You can edit the basic information, requirement details, and test plan, but cannot modify the verification process of the requirement.

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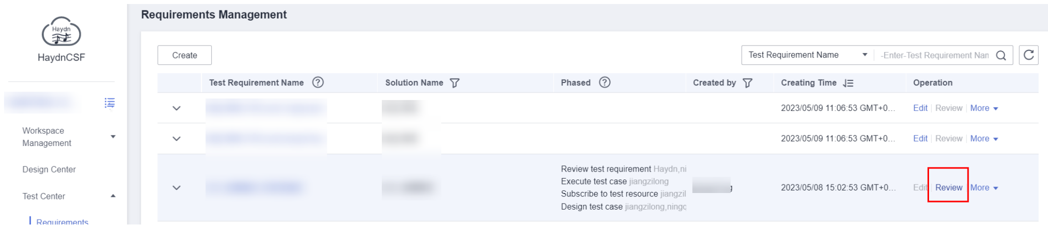
Figure 5-71 Editing a requirement

Reviewing a Requirement

You can select a requirement reviewer when you create a requirement (for details, see **Creating a Requirement and Submitting It for Review**). There are two types of test processes: standard process and quick process. For the quick process, the requirement is automatically reviewed by the HaydnCSF platform.

1. Log in to the HaydnCSF platform as the test requirement reviewer, click **Workspaces**, locate the workspace, click the workspace name. In the navigation pane on the left, choose **Verification Center** > **Requirements**. On the displayed page, locate the requirement and click **Review** in the **Operation** column. You can also go to the Verification Center from **My To-Dos**.

   Figure 5-72 Reviewing a test requirement

2. Check details about the requirement to be reviewed, such as the solution associated with the requirement, test resources, and requirement items.
3. Approve, reject, or transfer the requirement to others.
   - **Approve**: The test requirement is approved and is in the **Test requirement submission** phase. The requirement creator can edit the requirement as required.
   - **Reject**: The requirement is rejected and is in the **Test requirement submission** phase. The requirement creator can edit the requirement and submit it for review again. The requirement must be approved before being submitted for report review.
   - **Transfer**: The review task is transferred to another reviewer.

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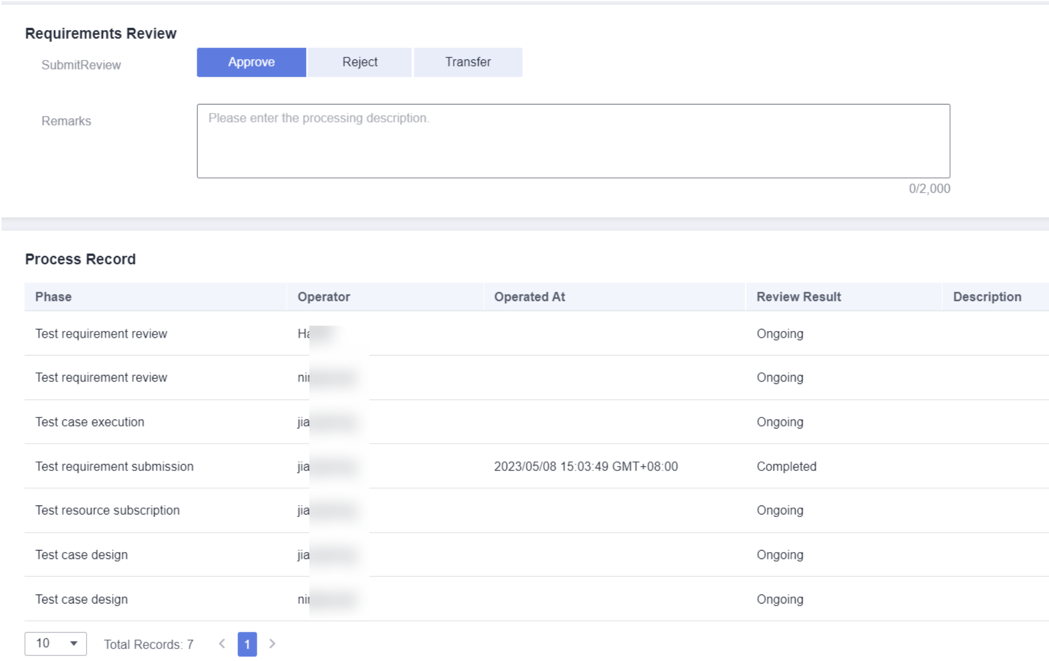
Figure 5-73 Approving, rejecting, or transferring a test requirement



4. View the review comments in the process record of the requirement.

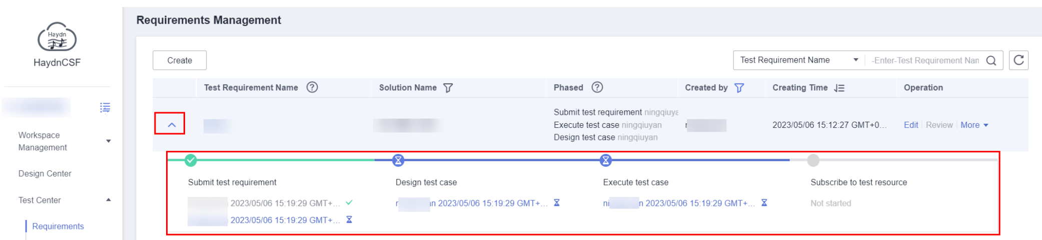
Viewing Requirement Details

All members in the workspace can view test requirement details.

1. Log in to the HaydnCSF platform, click **Workspaces**, locate the workspace, and click the workspace name. In the navigation pane on the left, choose **Verification Center** > **Requirements**.
2. Locate the test requirement and click the down arrow on the left of the requirement name. You can view the whole process and the time, handler, and status of each phase.

   The test requirement and test case design, and test case execution are executed concurrently. After the test requirement is approved, the requirement creator can edit the requirement as long as the requirement is approved before the report is submitted for review.

   Figure 5-74 Requirement process

3. Click the requirement name to go to the requirement details page and view the solution information, test resources, test requirements, and process records related to the requirement.

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Deleting a Test Requirement

The project manager or requirement creator in the workspace can delete the test requirements that are not in the report review phase. Deleted test requirements are moved to the recycle bin. For details about how to restore a deleted test requirement, see **Requirement Recycle Bin**.

Log in to the HaydnCSF platform, click **Workspaces**, locate the workspace, and click the workspace name. In the navigation pane on the left, choose **Verification Center** > **Requirements**, locate the test requirement, and choose **More** > **Delete** in the **Operation** column. Enter **DELETE** in the text box and click **OK** to delete the requirement.

Figure 5-75 Deleting a test requirement

5.3.2 Managing Plans

After a requirement is created, a test plan is automatically generated for the requirement. The project manager in the workspace needs to complete the plan formulation.

Formulating a Plan

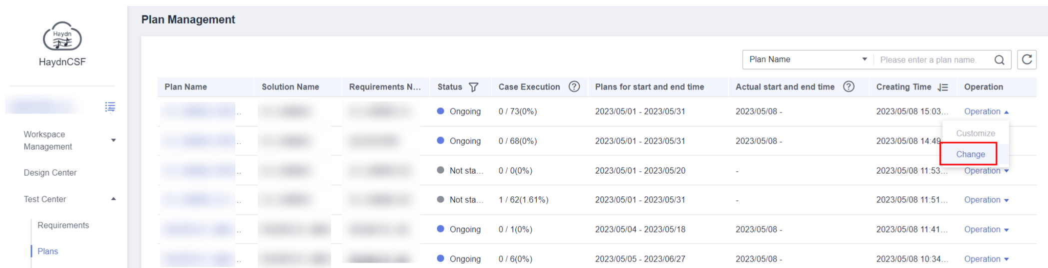
A plan can only be formulated in the phase of test requirement creation. For details, see **Creating a Requirement and Submitting It for Review**.

Changing a Plan

After a plan is developed, it cannot be modified. The project manager in the workspace can modify the plan information by initiating a plan change request.

1. Go to the workspace. In the navigation pane on the left, choose **Verification Center** > **Plans**. On the **Plan Management** page, locate the plan and click **Change** in the **Operation** column.

   Figure 5-76 Changing a plan

2. Modify the plan information, including the plan name, plan start date and end date, task breakdown, owner, and associated process.

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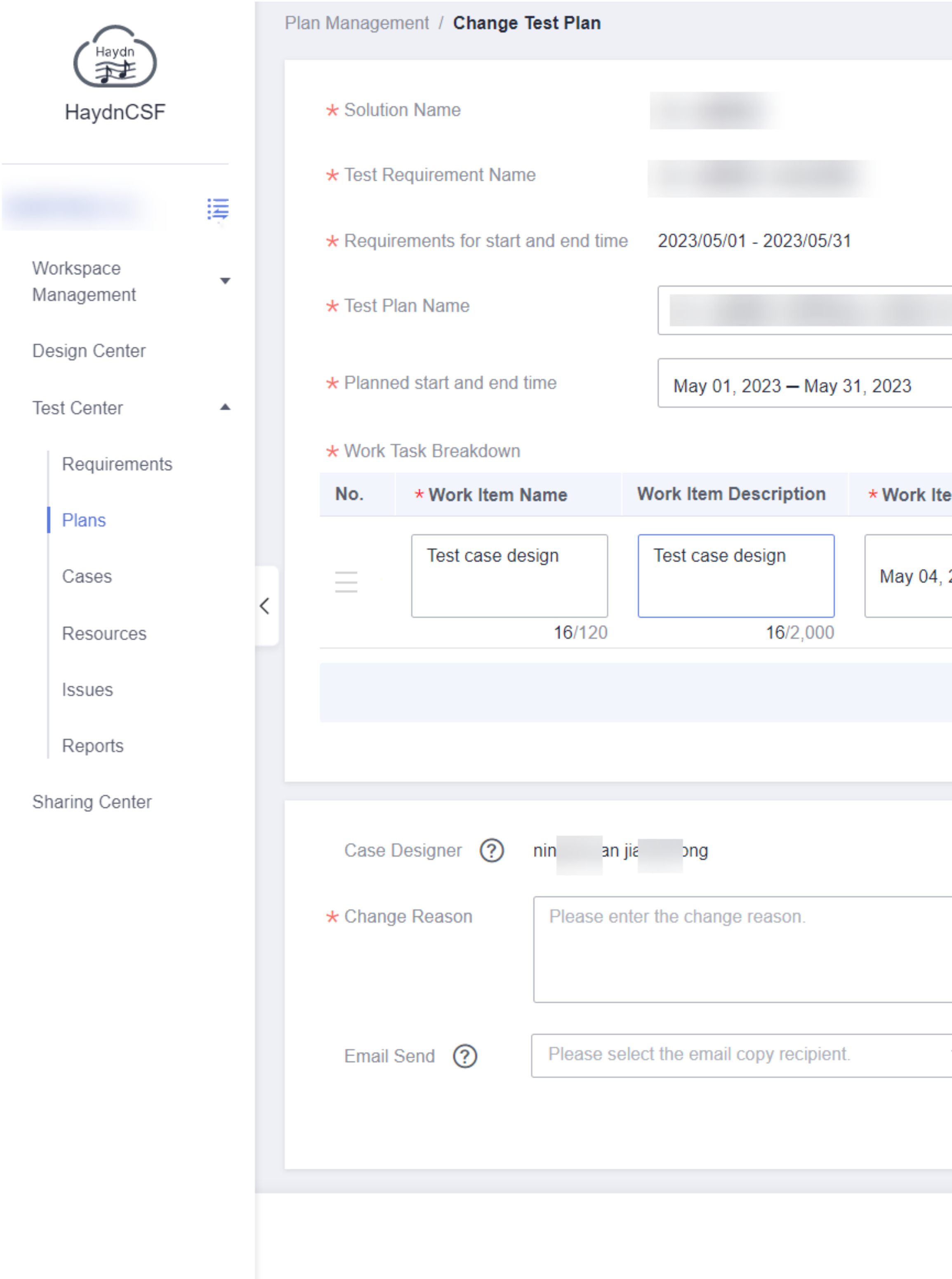
Figure 5-77 Changing a plan



3. Enter the reason of change, choose whether to send an email to the workspace members and click **Submit** to complete the plan change.

5.3.3 Managing Test Cases

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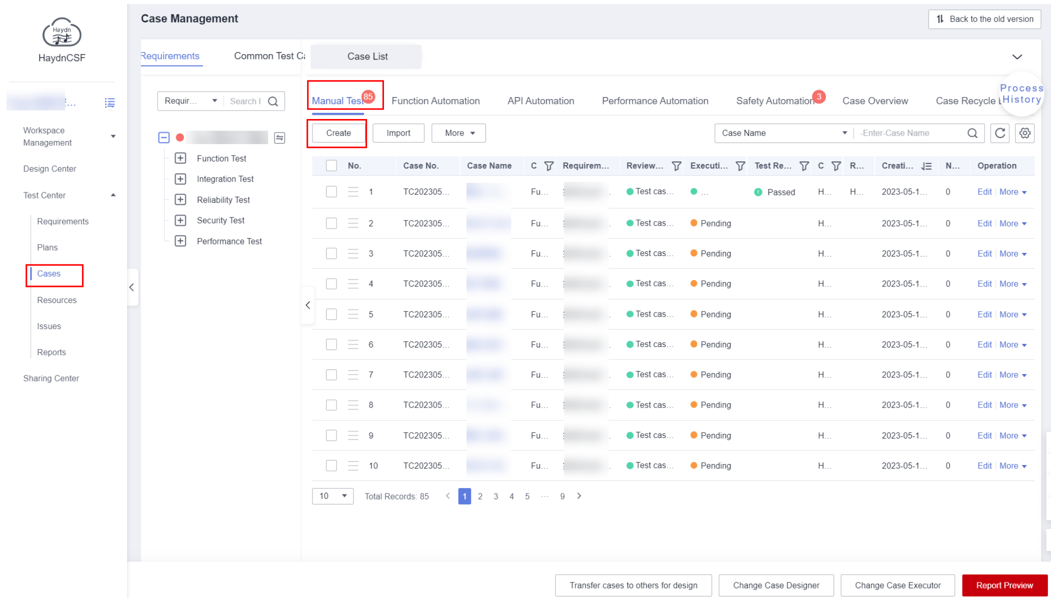
5.3.3.1 Manual Test Cases

After a requirement is created, the test case designer can design test cases. Test cases are classified into manual test cases, function automation test cases, API automation test cases, performance automation test cases, and security automation test cases.

Creating a Manual Test Case

1. Go to the workspace as the test case designer. In the navigation pane on the left, choose **Verification Center** > **Cases**. On the displayed page, click **Manual Test** and then click **Create**.

   Figure 5-78 Creating a manual test case

2. On the displayed page, enter related information and click **OK**. You can insert multiple test steps into a test case, and the step sequence can be adjusted.
   - **Requirement Description**: Select the requirement that the test case belongs to from the drop-down list.
   - **Case Name**: Enter a name for the test case. It is recommended that you standardize the test case name so that the function can be reflected in the test case name.
   - **Deployment Environment**: Select the development environment where the test case is deployed from the drop-down list.
   - **Priority**: Select the importance level of the test case from the drop-down list.
   - **Description**: Describe the test case.
   - **Prerequisites**: Enter the prerequisites for executing the test case.
   - **Test Procedure**: Enter the steps involved in the test case.
   - **Expected Result**: Enter the expected result of each step.
   - **Attachments**: Upload the associated files required by the test case.
3. View the test case statuses. The review status is **To be reviewed**, and the execution status is **To be executed**.

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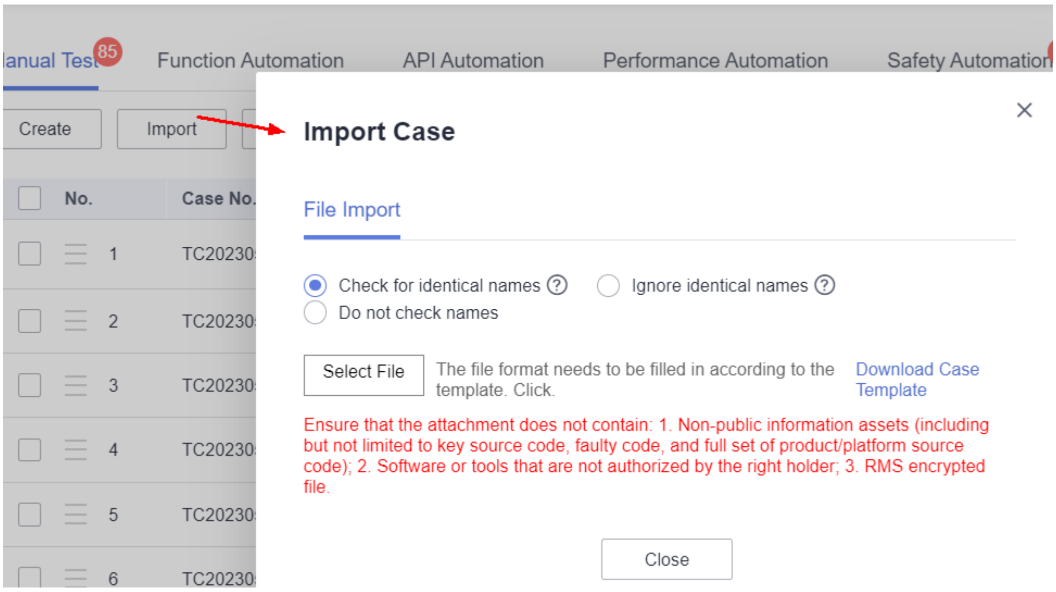
Importing Manual Test Cases

If there are multiple manual test cases, you can import them at a time.

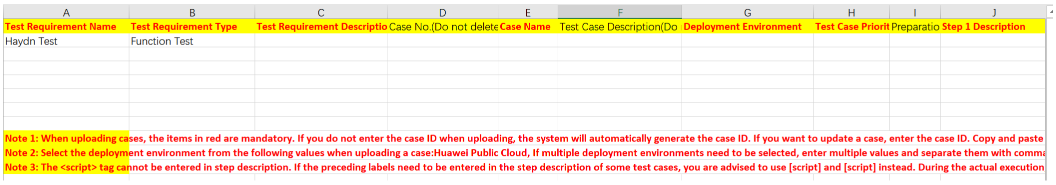
1. Click **Import**. In the **Import Case** dialog box, download the test case template.

Figure 5-79 Importing cases



2. Open the downloaded test case template and fill in the test case information based on the remarks in the test case template.

Figure 5-80 Test case template



NOTICE

- Enter the test case information based on the remarks in the test case template.
- Cells without contents cannot contain spaces or newline characters.
- After filling in the test case information, delete the three lines in red. If the three lines are not deleted, a message will be displayed indicating that the three lines fail to be verified during the import. However, the test cases will still be imported.

---

3. In the **Import Case** dialog box, click **Select File** and select the test case template file. When importing the test cases, you can choose to check for identical test case names.

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- **Check for identical names**: The name of each test case must be unique, including the test cases in the file and the test cases created on the HaydnCSF platform.
- **Ingore identical names**: If there are test cases with the name as existing cases on the HaydnCSF platform, these cases will not be imported. If there are test cases with identical name in the file, only the first case will be imported.
- **Do not check names**: The system does not check whether case names are duplicate and imports all case names.

4. Click **OK** to import the cases.

Editing a Manual Test Case

Manual test cases can be edited by test case designers and executors if there are no reports are being reviewed.

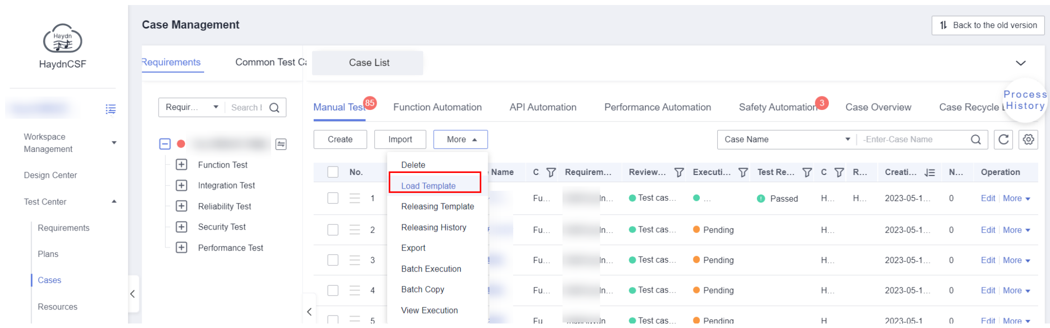
1. Locate the test case and click **Edit** in the **Operation** column.
2. Edit basic information about the test case, comment on the test case (such as providing suggestions), and click **Submit**. The comments will be displayed in the test case details.
3. Click **OK**.

Loading a Template

HaydnCSF allows you to reference test case templates in the solution acceleration field, such as test case templates for joint operations certification and for Developer application building validation.

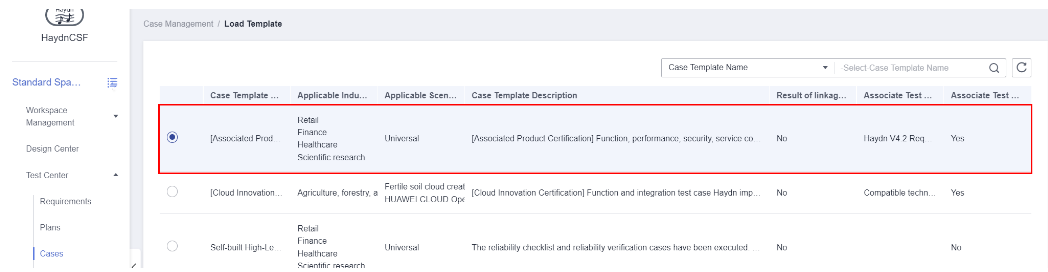
1. Click **More** and select **Load Template**.

Figure 5-81 Loading a template



2. Select the required test case template.

Figure 5-82 Test case templates



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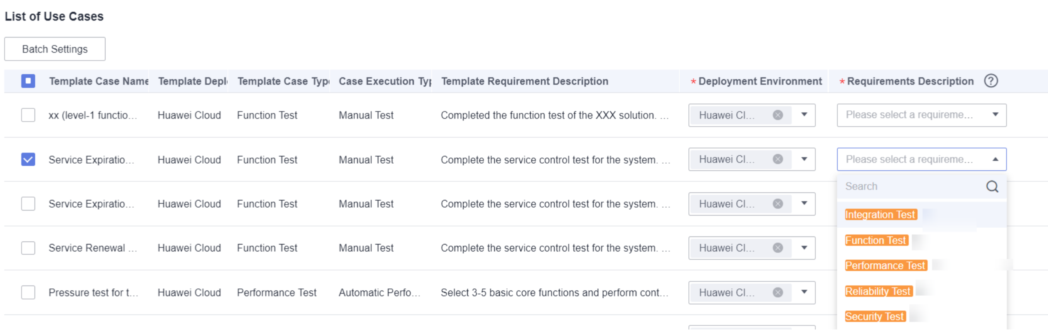
3. View the test cases contained in the selected template at the bottom of the page.
4. Select the required test cases.
5. Select the deployment environment and the test requirement to which the test case is loaded.

Figure 5-83 Test cases



6. Click **OK** at the bottom of the page to load the selected test cases.

Exporting Manual Test Cases

All members in the workspace can export test cases to a local directory.

1. Select the test cases to be exported and choose **More** > **Export**.
2. In the dialog box that is displayed, click **Continue Exporting Cases**.

NOTICE

- If you need to import the exported test cases to the test case list directly, clear the **Case No.** column in the .xlsx file. If you do not clear, existing test cases with the same number will be overwritten. You also need to delete the following columns in the .xlsx file: **No.**, **Case Author**, **Latest Test Result**, **Latest Executor**, **Creation Time**, and **Execution Status**.
- If you only need to export the test cases, ignore the message and continue the exporting.

Deleting Manual Test Cases

Manual test cases can be deleted by test case designers and executors if there are no reports are being reviewed.

- **Deleting a Single Test Case**

  Locate the test case and choose **More** > **Delete** in the **Operation** column.

- **Deleting Test Cases in Batches**

  Select the test cases and choose **More** > **Delete** above the test case list.

Executing a Manual Test Case

Specified test case executor can execute manual test cases. Test case execution is parallel with test case design. The test case can be executed even if the test case

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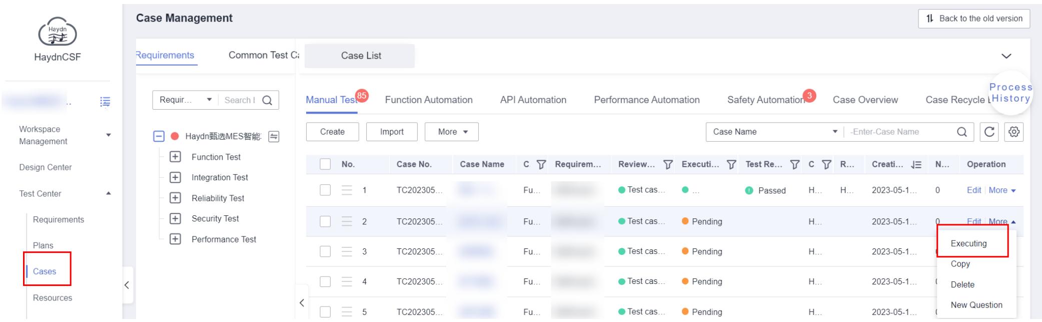
design is not approved. However, the test case review must be completed before the report is submitted for review.

1. Locate the test case and choose **More** > **Execute** in the **Operation** column.

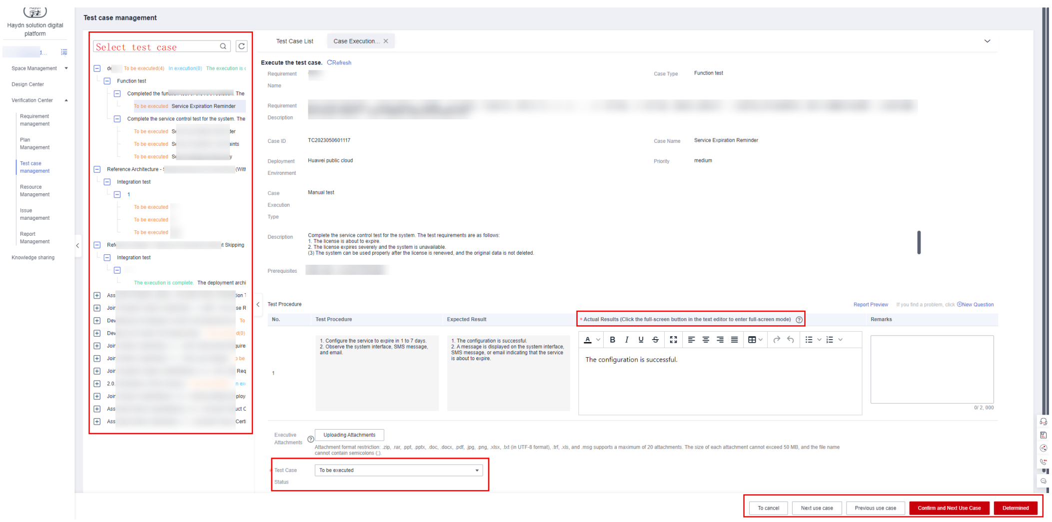
Figure 5-84 Executing a manual test case



2. On the test case execution page, enter related information based on the execution results. You can click the maximize icon to display the rich text box in full screen.
   – **Actual Result**: actual execution result of a step. The text box can be maximized and screenshots can be pasted.
   – (Optional) **Remarks**: remarks about the test case execution
   – (Optional) **Attachments**: attachments for the test case execution
   – **Case Status**: There are three options: **Pending**, **Executing**, or **Completed**.
   – **Result Remarks**: remarks on the execution result of the test case.

   If the test case status is set to **Completed**, you must select an execution result from **Passed**, **Failed**, **Passed conditionally**, and **N/A**.

Figure 5-85 Manual test case execution



3. Click **OK** to save the execution information of the test case. You can click **Previous Case** or **Next Case** to quickly go to the execution page of the previous or next test case.

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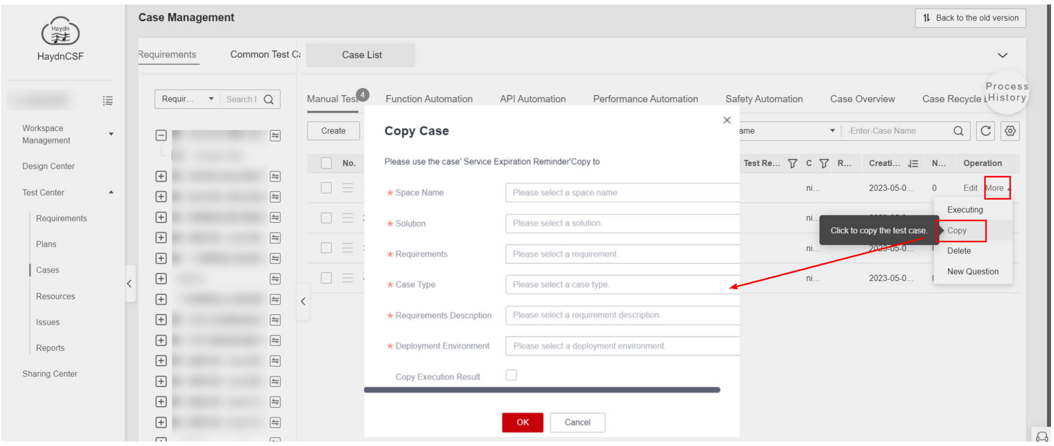
Copying a Manual Test Case

Test cases can be copied to a specified test requirement in the workspace.

1. Locate the test case and choose **More** > **Copy** in the **Operation** column.
2. Configure the parameters as follows:
   - **Workspace**: workspace where the test case will be copied
   - **Solution**: solution that the test case can be used for
   - **Requirement**: test requirement that the test case will be copied to
   - **Case Type**: type of the test case
   - **Requirement Description**: description of the requirement that the test case is copied to
   - **Deployment Environment**: development environment where the test case will be deployed

   Click **OK**.

Figure 5-86 Copying a test case

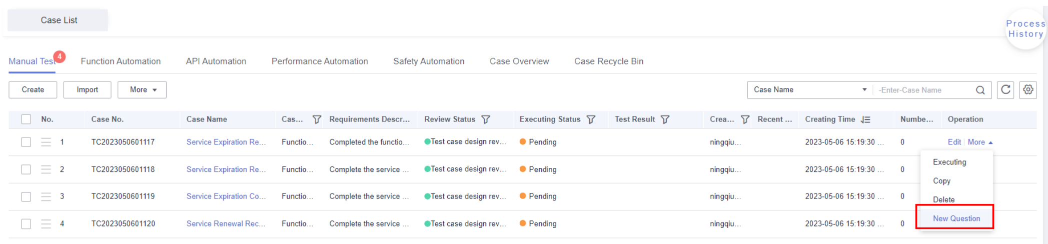


Associating a Test Case with an Issue

Members in the workspace can create issues for test cases on the **Case Management** page or **Case Execution** page.

1. Locate the test case.
   - Choose **More** > **Create Issue** in the **Operation** column.

     Figure 5-87 Creating an issue on the **Case Management** page

   - Choose **More** > **Create Issue** in the **Operation** column. On the test case execution page, click **Create Issue**.

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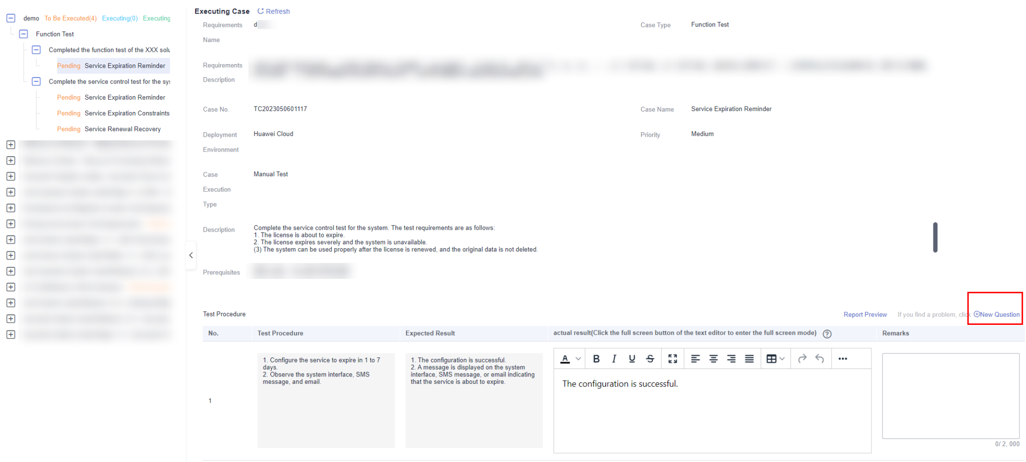
Figure 5-88 Creating an issue on the **Case Execution** page



2. On the issue creation page, enter related information.

   Parameters marked with a red asterisk (*) are mandatory.

   – **Issue Title**: Enter a title for the issue. The title can consist of the person who raises the issue, issue type, and brief description.
   – **Issue Description**: Describe the issue (such as the procedure for reproducing the issue and the symptom).
   – Associated solution, requirement, requirement type, requirement description, and test case name are automatically displayed.
   – **Associated Cloud Service**: Select the cloud services associated with the issue.
   – **Service Ticket No.**: You need to create a service ticket in the Huawei Cloud service ticket system to obtain the service ticket number.
   – **Severity**: Select the severity of the issue.
   – **Responsible Owner**: Select the person who will handle the issue.
   – **Expected Rectification Date**: Specify the deadline for handling the issue.
   – **Overdue Reminder**: An email will be sent if the expected rectification date expires.
   – **Tag**: identifies the issue.

   Click **OK**.

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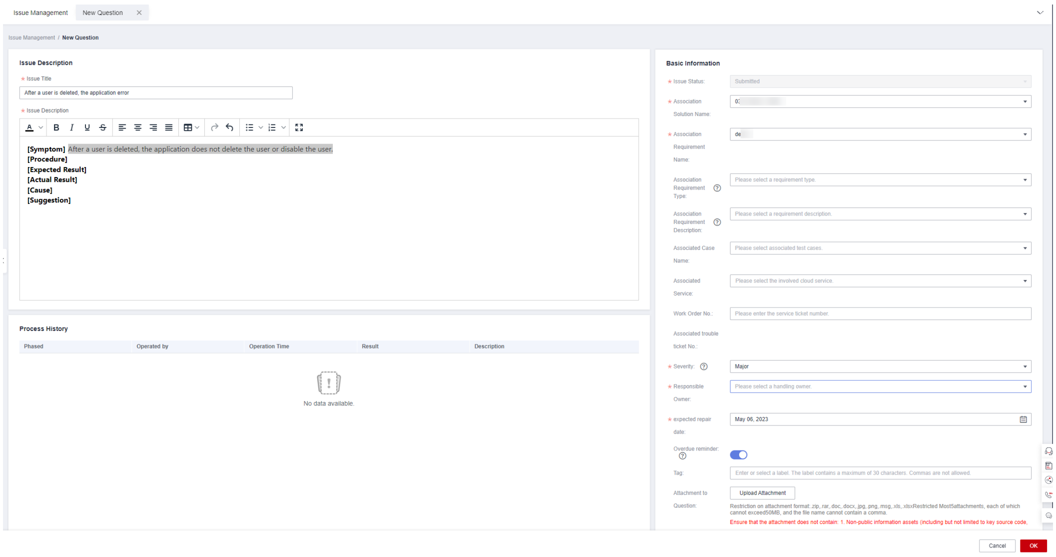
Figure 5-89 Page for creating an issue



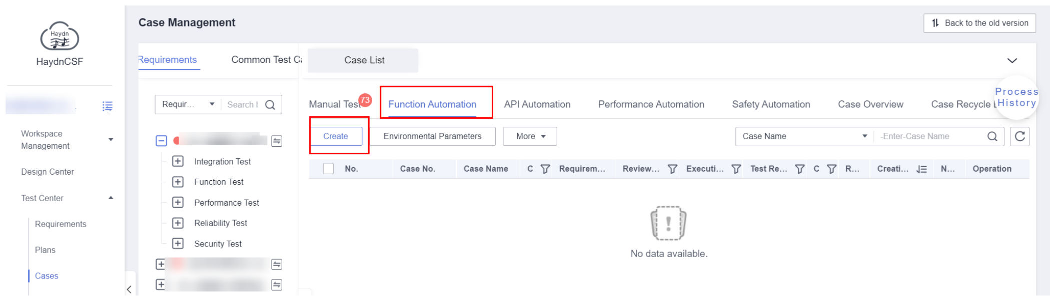
5.3.3.2 Function Automation Test Cases

Creating a Function Automation Test Case

Test case designers can create function automation cases.

1. On the **Case Management** page, click **Function Automation** and then click **Create**.

Figure 5-90 Function Automation



2. Enter the required information and click **OK**. Parameters marked with a red asterisk(*) are mandatory.

Table 5-3 Parameters for creating a function automation test case

Parameter	Description
Requirement Description	Select a value that a binary scan test case belongs to from the drop-down list.

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Parameter	Description
Case Name	Enter a name for the test case. It is recommended that you standardize the test case name so that the function can be reflected in the test case name.
Deployment Environments	Select the environment for deploying the test case from the drop-down list based on the associated requirement.
Priority	Select the importance level of the test case from the drop-down list.
Description	Describe the test case.
Prerequisites	Enter the prerequisites for executing the test case.
Expected Result	Enter the expected result of each step.
Attachments	Upload the associated files required by the test case.

Test Script Attachment	Upload the compressed test script file of the test case. The following is an example of the test script attachment:
	`testcase`
	`├── __init__.py`
	`├── entry.py`
	`├── case_01.py`
	`├── case_02.py`
	`└── sub_dir_01`
	`    ├── __init__.py`
	`    ├── case_01.py`
	`    └── case_02.py`
	In this example, the **testcase** folder is compressed into a .zip package and used as the test script attachment.

Script Path	Enter the relative path of the script execution entry file in the script attachment, for example, **testcase/entry.py**.
Test with UI	Determine whether you want the script to contain the test on the UI.

Automatic Script Compilation Guide

The compilation of HaydnCSF-compatible function automation scripts must be based on the Pi-Star automation framework. The function automation test case compilation guide and sample code have been released in the solution acceleration field.

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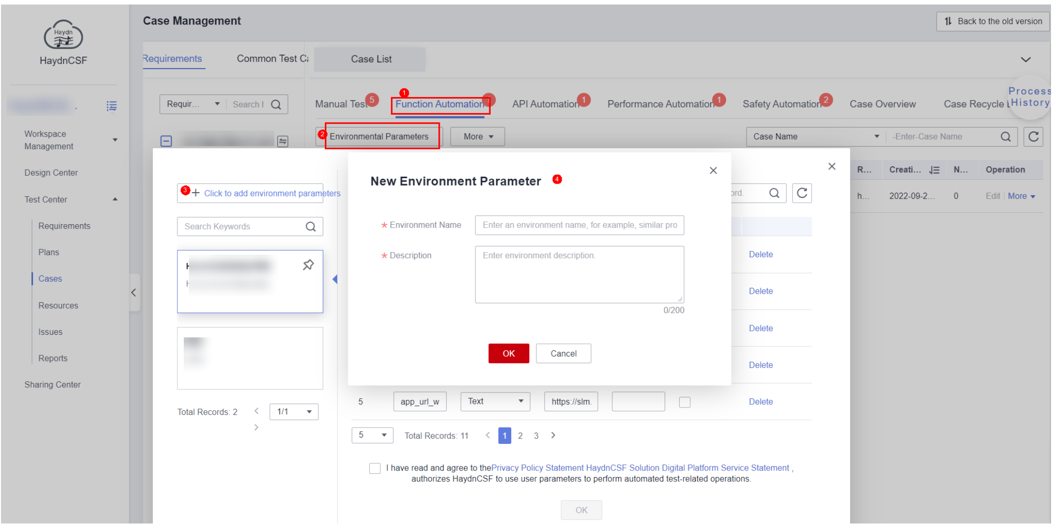
Adding Environment Parameters

Environment parameters are used during test case execution. For example, you can set the user name and password required in the function automation script as environment parameters and directly reference them in the script.

1. On the function automation test case list page, click **View Environment Parameters**. In the displayed dialog box, click **Add Environment Parameter**. In the displayed dialog box, enter the environment name and description, and click **OK**.

Figure 5-91 Environment parameters for function automation



2. Click **Add**, enter the parameter name and value, read and agree to the *Privacy Policy Statement* and *HaydnCSF Solution Digital Platform Service Statement*, and click **OK**. (Multiple lines can be added.)

   If there are multiple environment parameters, these marked with a pin are default environment parameters. You can click the pin or setting an icon to set the environment parameters to default parameters.

   – **Parameter Name**: The script obtains parameters by referencing parameter names.

   – **Value**: The script obtains the parameter values by referencing the parameter names.

   If a parameter needs to be encrypted, select the encryption icon next to the **Description** column. In the displayed dialog box, click **OK**.

Uploading an Automation Script Dependency Package

You can upload dependency packages that are missing in the Python script execution environment of HaydnCSF. On the function automation test case list page, click **More** and then select **Upload Automation Script Dependency Package**. In the displayed dialog box, click **Upload Attachment**, select a file, and click **OK**.

For details about the attachment requirements, see the description in the dialog box for uploading the dependency package.

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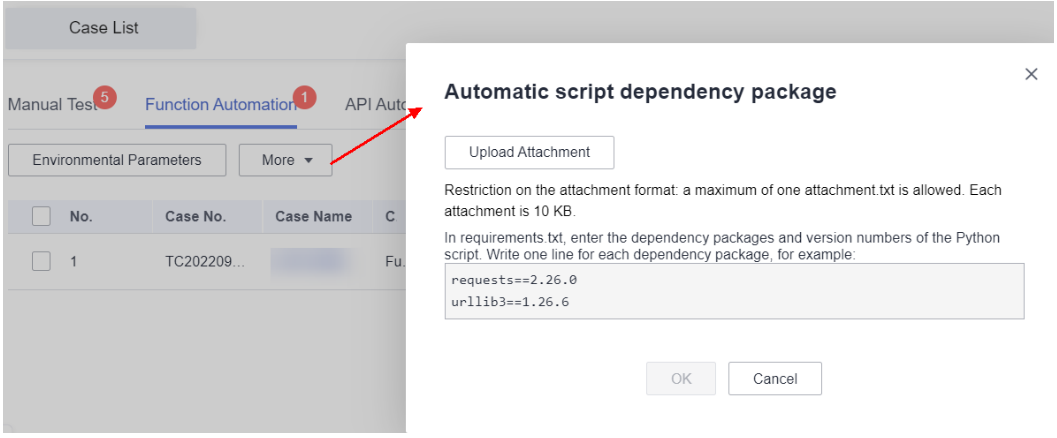
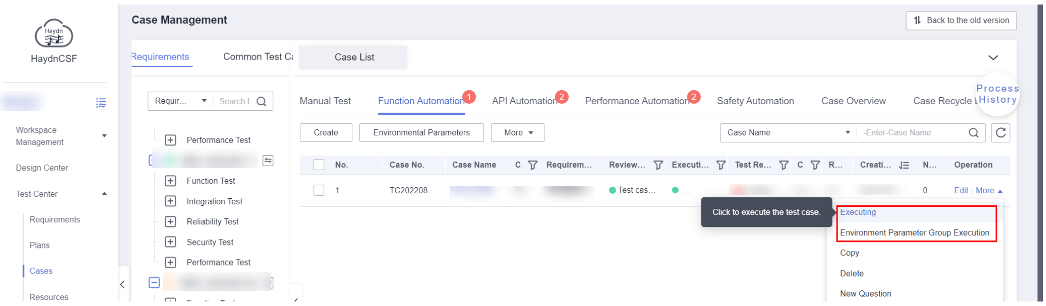
Figure 5-92 Uploading an automation script dependency package



Executing Function Automation Test Cases

After a function automation test case is created, the test case executor can directly execute the test case without submitting the test case design.

Figure 5-93 Executing function automation test cases



- **Executing a Single Case**
  - Use default environment parameters to execute the test case.

    Locate the test case and choose **More** > **Execute** in the **Operation** column. Default environment parameters are used to execute the test case.
  - Select environment parameters and execute the test case. This method is suitable to the scenario where multiple groups of environment parameters are set. You can customize the environment parameters.
- **Executing Multiple Cases**

  Execute a suite of test cases at a time.

  a. On the function automation test case list page, click **More** and then select **Manage Suite**.

  b. On the displayed page, click **Create Suite**.

  c. Enter the suite name and click **Add**. In the dialog box that is displayed, select the test cases to be added to the suite and click **OK**. After the configuration, click **OK**.

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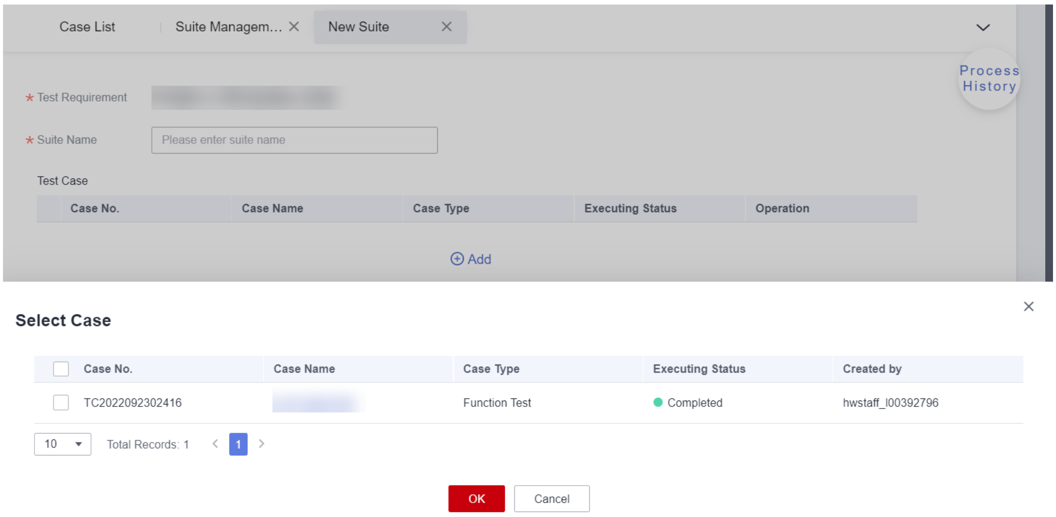
Figure 5-94 Creating a suite

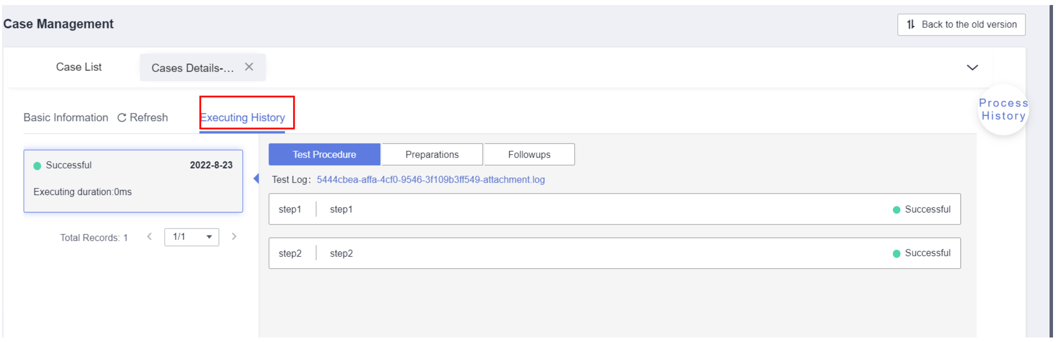


d. On the test case execution management page, locate the suite and click **Execute** (default environment parameters) or click **Execute Environment Parameters by Group** to select an environment parameter group.

Viewing Execution Results

1. Click the test case name or go to the suite management page and click the suite name to view the execution results.
2. Click each step to view the execution result of each step.

Figure 5-95 Viewing the execution results



5.3.3.3 API Automation Test Cases

In an API automation test, requests are directly sent to the application and the response content is verified to ensure that the API is normal and can receive response.

Creating an API Automation Test Case

Test case designers can create API automation test cases.

1. On the **Case Management** page, click **API Automation** and then click **Create**.

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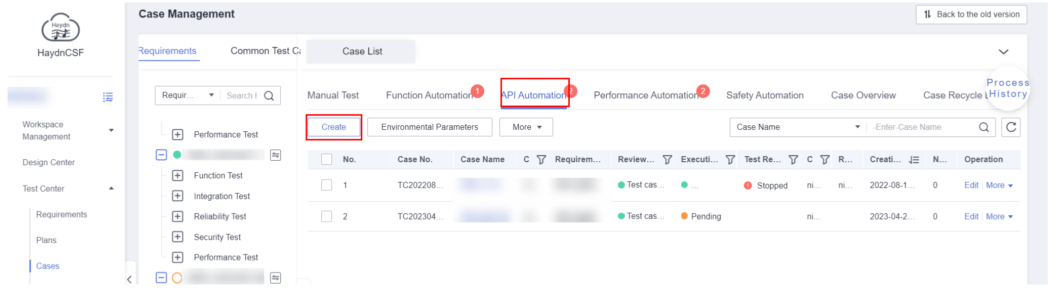
Figure 5-96 Creating an API automation test case



2. Enter the test case information and click **Confirm and Compile Script**. Parameters marked with a red asterisk (*) are mandatory.

Table 5-4 Parameters for creating an API automation test case

Parameter	Description
Requirement Description	(Mandatory) Select the requirement that the test case belongs to from the drop-down list.
Case Name	(Mandatory) Enter a name for the test case. It is recommended that you standardize the test case name so that the function can be reflected in the test case name.
Deployment Environments	(Mandatory) Select the environment for deploying the test case from the drop-down list based on the associated requirement.
Priority	(Mandatory) Select the importance level of the test case from the drop-down list.
Description	Describe the test case.
Prerequisites	Enter the prerequisites for executing the test case.
Expected Result	Enter the expected result of each step.
Attachments	Upload the associated files required by the test case.

3. Add a request. On the **Test Script** tab page, click **URL Request** in the **New Step** area, select the request type and protocol, and enter the URL, URL parameters, request headers, and request body.

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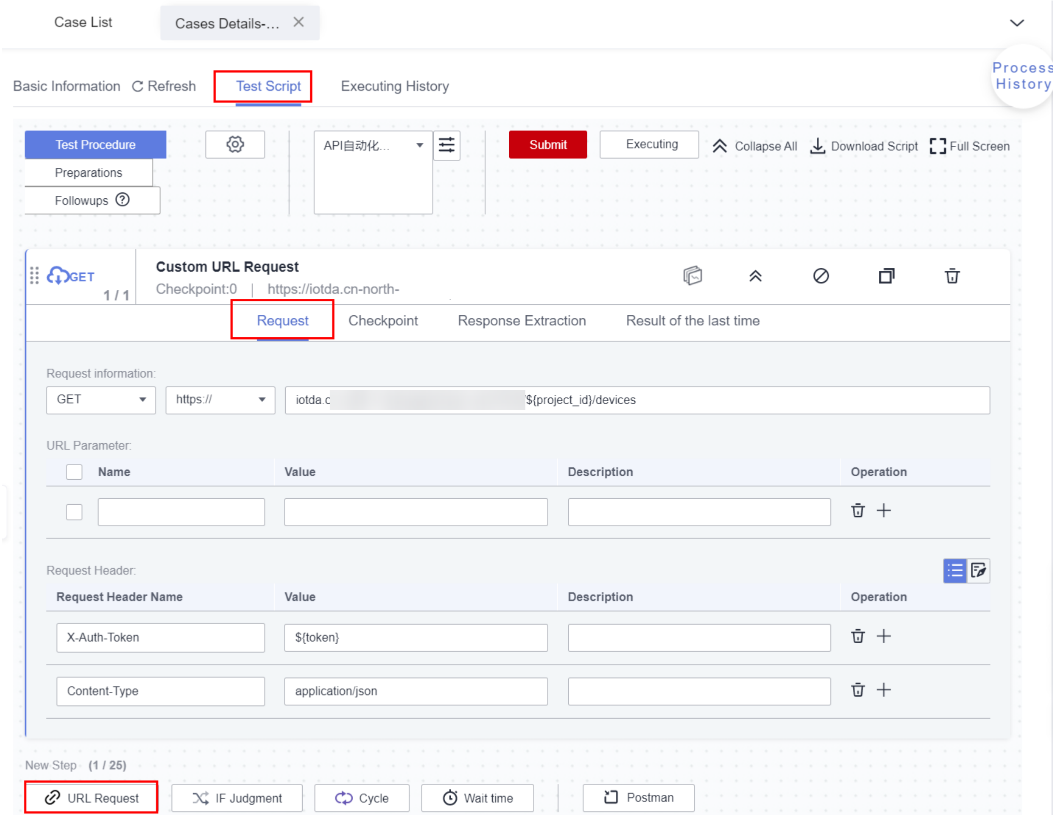
Figure 5-97 Adding a request



4. (Optional) Add a checkpoint: Check whether the response body meets the expectation and set the source, properties, comparison operator, and target value of the checkpoint.
5. (Optional) Add response extraction: Extract some values from the response body as parameters of other requests, select the source and properties of the response body, and set the output parameters.

   URL requests in subsequent steps can use the response body extracted in the previous step by adding request parameters.

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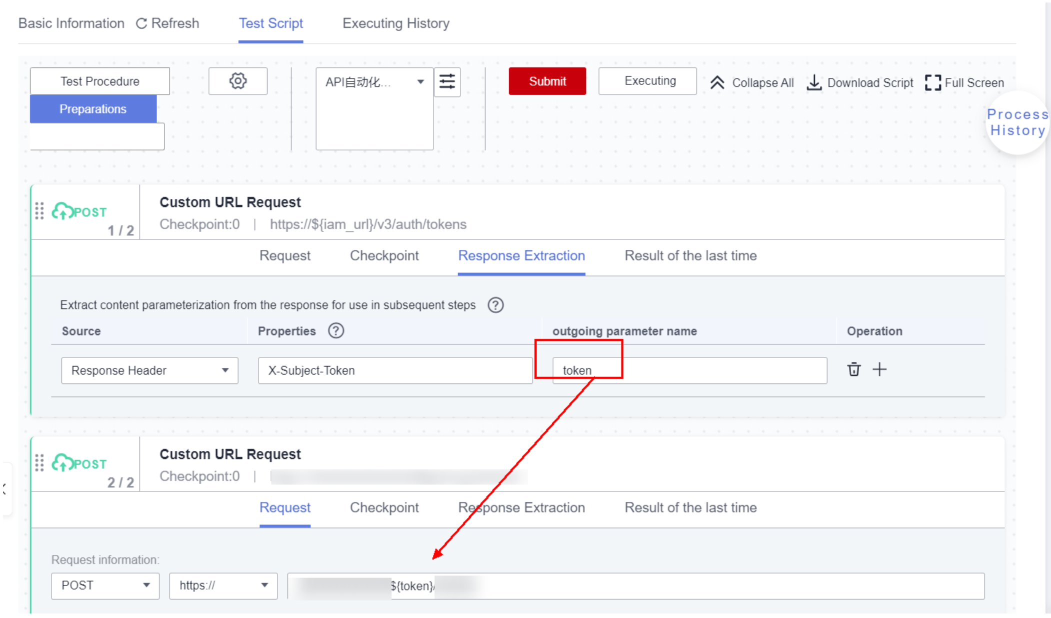
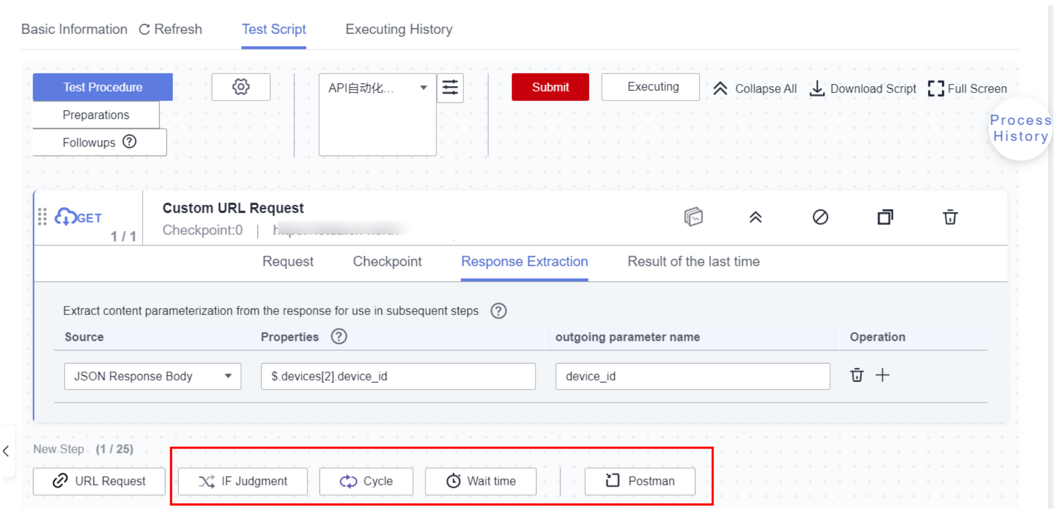
Figure 5-98 Extracting response



6. Choose to insert an IF judgment and a cycle.
   - **IF judgment**: determines the next step based on the result of a parameter.
   - **Cycle**: runs a step cyclically for *n* times.
   - **Wait Time**: waits for *n* seconds.

Figure 5-99 Script editing page



Importing a Postman Script

Collection files of Postman can be imported for API automation tests.

1. Go to Postman, select **Collections**, click the setting icon, and select **Export**.

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Figure 5-100 Postman (1)

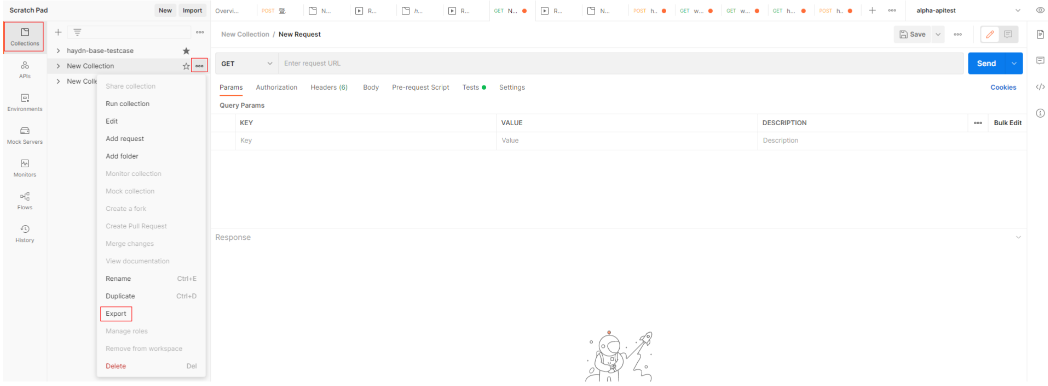
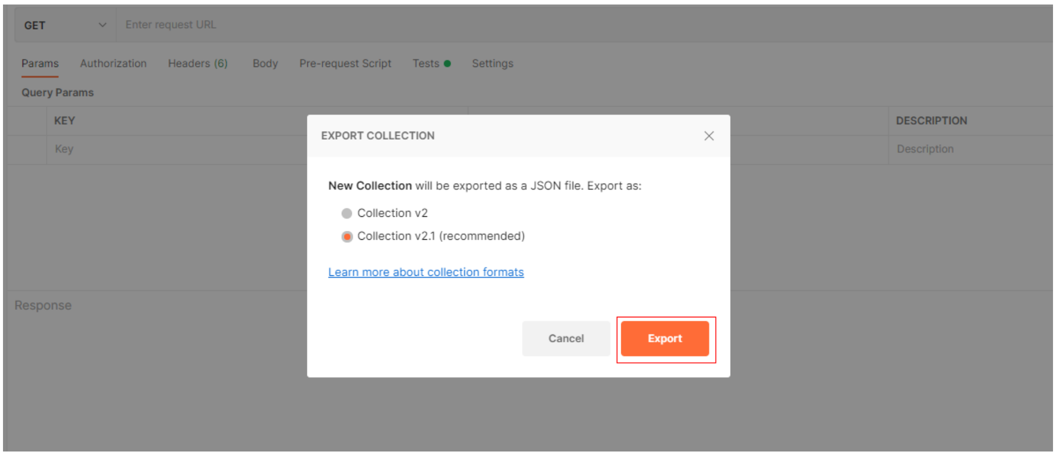
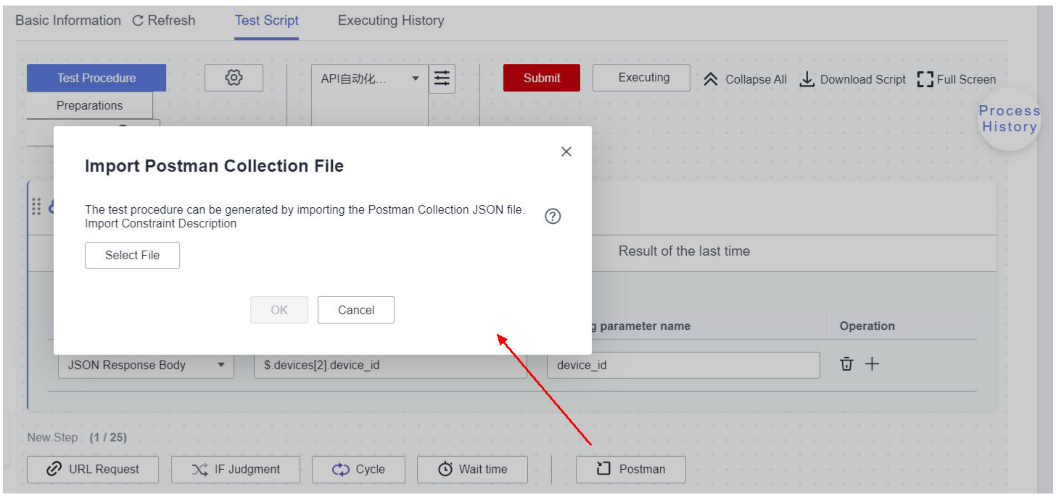


Figure 5-101 Postman (2)



2. Go to the **Test Script** tab page by referring to **Creating an API Automation Test Case**, click **Postman** in the **New Step** area near the bottom of the page, select the file exported from Postman in the previous step, import the file to HaydnCSF, and click **Submit**.

Figure 5-102 Importing a Postman file



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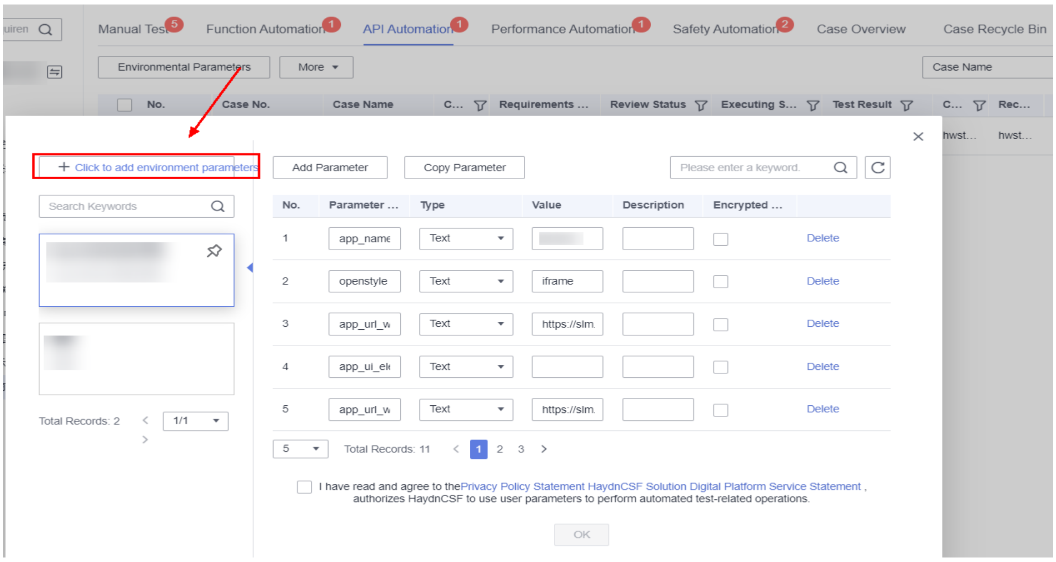
Adding Environment Parameters

You can add parameters required for executing test cases. To reference environment parameters, enter **$**.

1. Click **View Environment Parameters**. In the displayed dialog box, click **Add Environment Parameter**. In the displayed dialog box, enter the environment name and description, and click **OK**.

Figure 5-103 Adding environment parameters



2. Click **Add**, enter the parameter name and value, read and agree to the agreements, and click **OK**.

NOTE

If a parameter needs to be encrypted, select the encryption icon next to the **Description** column. In the displayed dialog box, click **OK**.

Figure 5-104 Environment parameters

Executing an API Automation Test Case

After an API automation test case is created, the test case executor can directly execute the test case without submitting the case design.

Locate the test case and choose **More** > **Execute** in the **Operation** column. In the displayed dialog box, select environment parameters and click **OK**.

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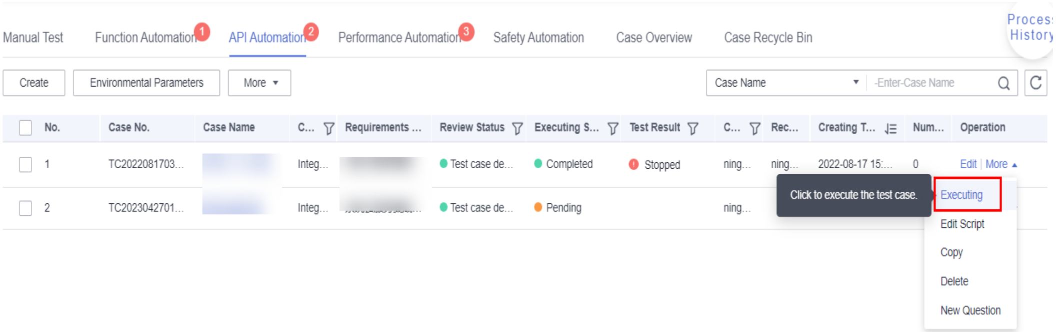
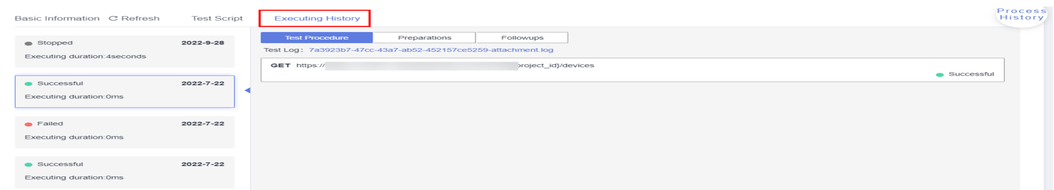
Figure 5-105 Executing an API automation test case



Viewing Execution Results

Click the test case name to go to the test case details page and view the execution results on the **Execution History** tab page.

Figure 5-106 Execution History



5.3.3.4 Performance Automation Test Cases

Integration with CodeArts PerfTest allows you to perform high-concurrency tests using multiple protocols, flexibly customize multi-protocol packet content, transactions, and test task models, and view performance statistics in multiple dimensions, such as concurrency, RPS, and response latency, in real time or offline.

Authorizing Performance Automation Delegation

You need to authorize HaydnCSF to use CodeArts PerfTest to manage test resources for automated performance tests. HaydnCSF will display a dialog box when you use performance automation. You only need to click **Authorize** in the dialog box. You do not need to manually create an agency.

Table 5-5 CodeArts PerfTest delegation

System-defined Role	Description	Type	Dependencies
ServiceStage Administrator	Users granted these permissions can perform all operations on test resources of all users in CodeArts PerfTest, such as adding, deleting, modifying, and querying test resources.	System-defined role	None

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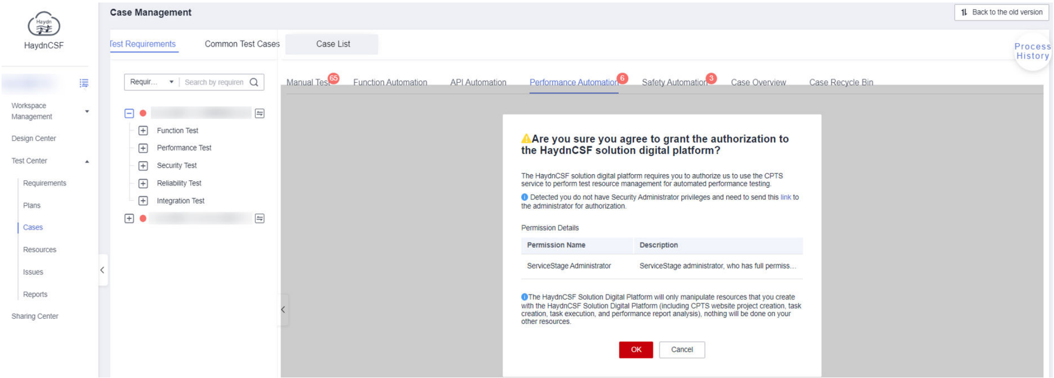
Figure 5-107 CodeArts PerfTest delegation



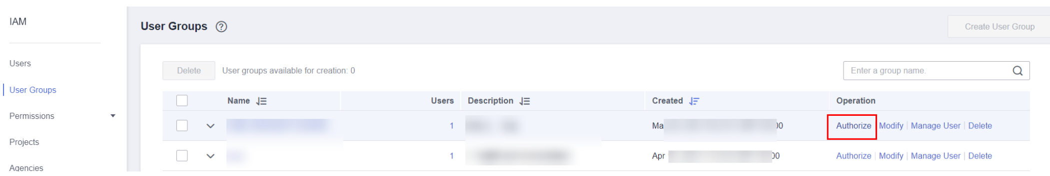
What can I do if authorization fails?

If a message is displayed indicating that the authorization fails due to lack of permissions, check whether your account has the authorization permission. (By default, IAM users do not have the permission and cannot perform authorization.) There are two ways to handle this issue:

- Method 1: Send the link in the dialog box to a user who has permissions under your account for authorization.
- Method 2: Contact the administrator of your account to grant permissions.

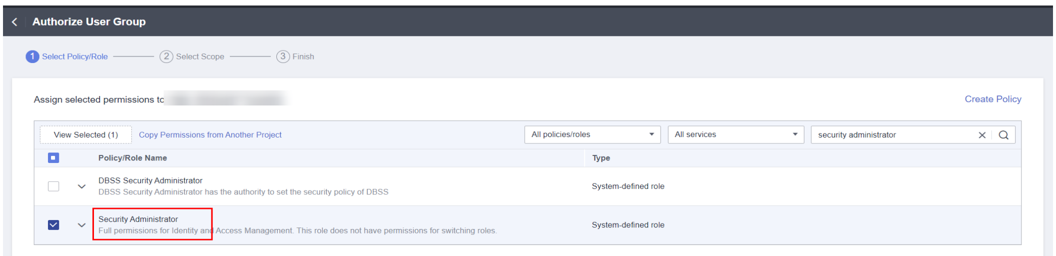
1. **Log in to the IAM console** using your Huawei Cloud account, HUAWEI ID, or an account with administrator permissions.
2. Create a user group with a custom name for easy identification and add IAM users to the user group.
3. On the **User Groups** page, select the user group you created, and click **Authorize** in the **Operation** column.

Figure 5-108 Authorizing a user



4. Search for and select **Security Administrator**.

Figure 5-109 Granting the Security Administrator permission to a user



5. Set **Scope** to **All resources**.

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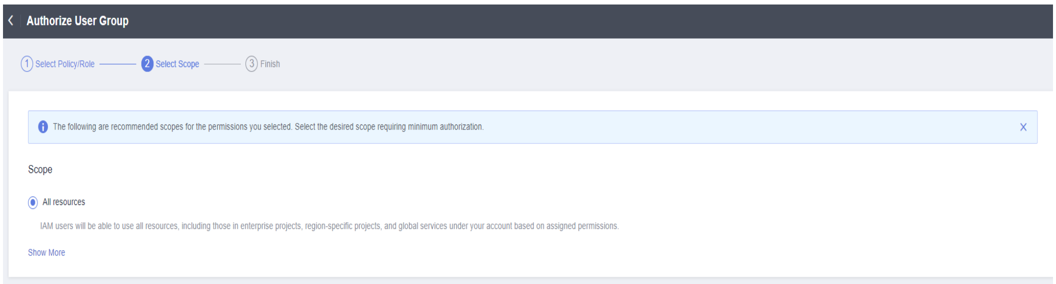
Figure 5-110 Selecting a scope



6. Click **OK**.

Adding the Performance Automation Permission

To use HaydnCSF performance automation, you must have the required permission.

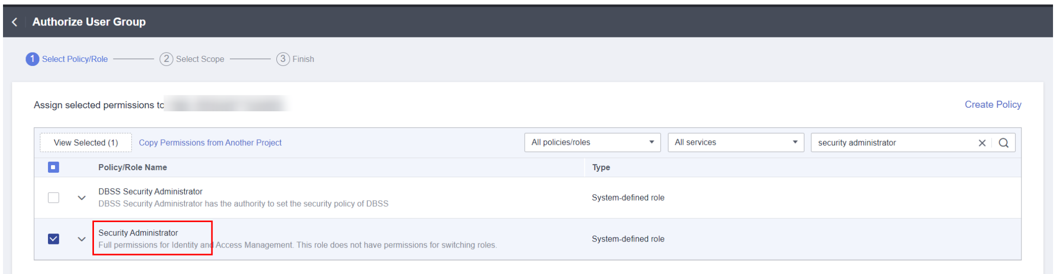
By default, the Huawei Cloud account or HUAWEI ID has all permissions, but IAM users do not have any permissions. If you use an IAM user, contact your account administrator to grant you the permission to use performance automation.

Table 5-6 CodeArts PerfTest permissions

System-defined Role	Description	Type	Dependencies
ServiceStage Administrator	Users granted these permissions can perform all operations on test resources of all users in CodeArts PerfTest, such as adding, deleting, modifying, and querying test resources.	System-defined role	None

1. **Log in to the IAM console** using your Huawei Cloud account, HUAWEI ID, or an account with administrator permissions.
2. Create a user group with a custom name for easy identification, for example, **CodeArts PerfTest Permissions**, or use an existing user group, and add IAM users to which the permissions need to be granted to the user group.
3. On the **User Groups** page, select the user group you created, and click **Authorize** in the **Operation** column.
4. Search for and select **ServiceStage Administrator**.

Figure 5-111 Granting permissions to a user group



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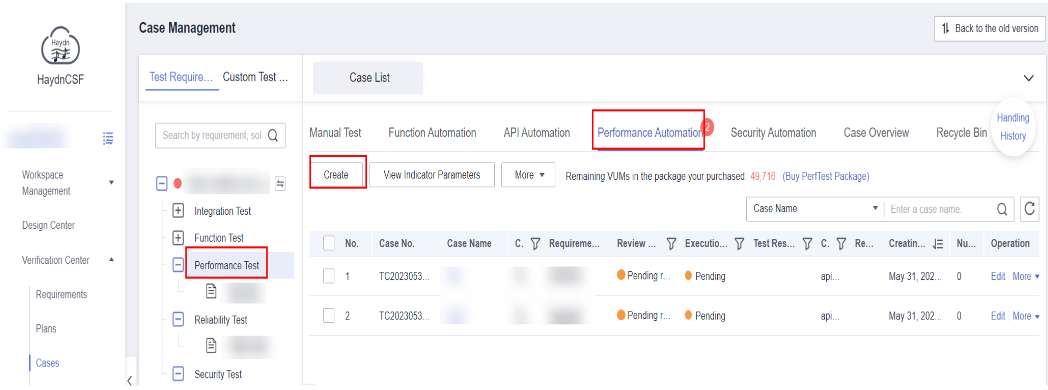
5. Set **Scope** to **All resources**.
6. Click **OK**.

Creating a Performance Automation Test Case

Test case designers can create performance automation test cases.

1. On the **Case Management** page, click the **Performance Automation** tab. Select a performance test requirement and click **Create**.

Figure 5-112 Creating a performance automation test case



2. Fill in the required information. If you need to manually supplement the execution content, enable **Manual Test Procedure** and enter the steps and expected results. Click **OK**.

Table 5-7 Parameters for creating a performance automation test case

Parameter	Description
Requirement Description	(Mandatory) Select the requirement that the test case belongs to from the drop-down list.
Case Name	(Mandatory) Enter a name for the test case. It is recommended that you standardize the test case name so that the function can be reflected in the test case name.
Deployment Environments	(Mandatory) Select the environment for deploying the test case from the drop-down list based on the associated requirement.
Priority	(Mandatory) Select the importance level of the test case from the drop-down list.
Description	Describe the test case.
Prerequisites	Enter the prerequisites for executing the test case.

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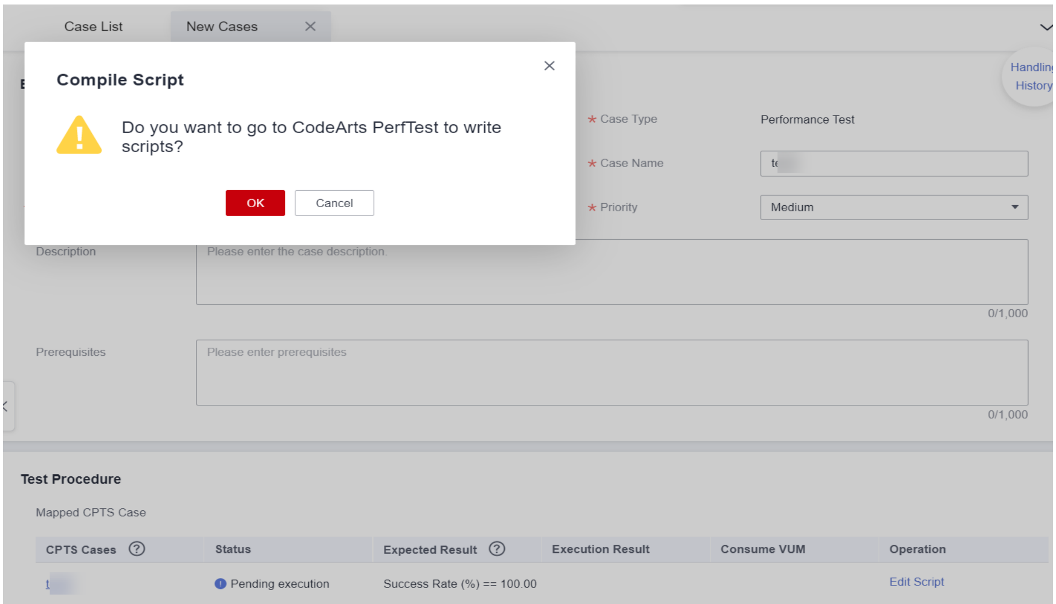
Parameter	Description
Expected Result	Enter the expected result of each step.
Attachments	Upload the associated files required by the test case.

3. In the displayed dialog box, click **OK** to compile the script.

Figure 5-113 Going to CodeArts PerfTest for compiling a script



4. Configure the test case script.
   - **Packet**: indicates the data sent between applications. For details, see the **CodeArts PerfTest User Guide**.
   - **Think Time**: indicates the waiting time between operations. For details, see the **CodeArts PerfTest User Guide**.
   - **Response Extraction**: The output of the previous packet is extracted as the input of the next packet. For details, see the **CodeArts PerfTest User Guide**.
   - **Checkpoint**: Check whether the content returned by the server is correct. For details, see the **CodeArts PerfTest User Guide**.

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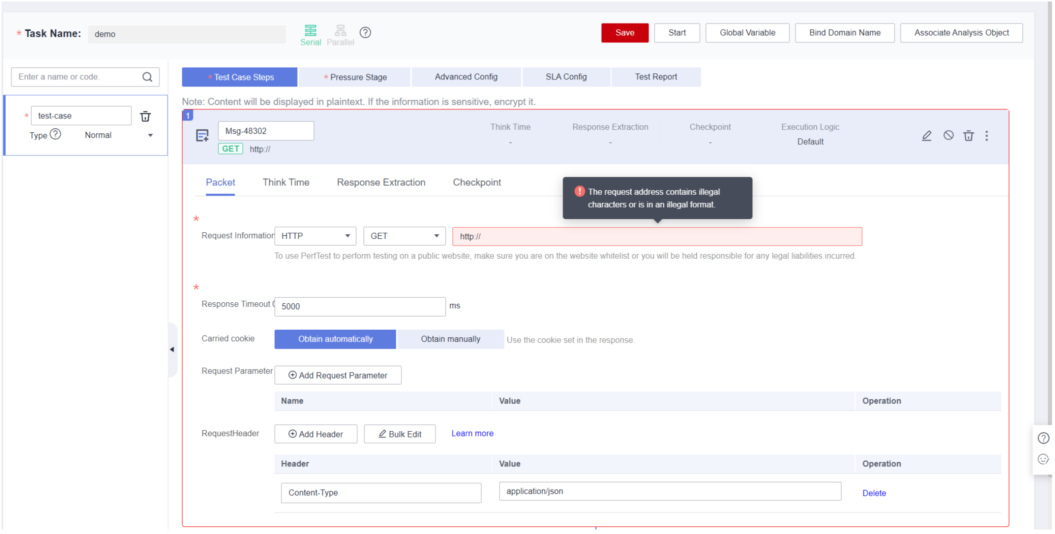
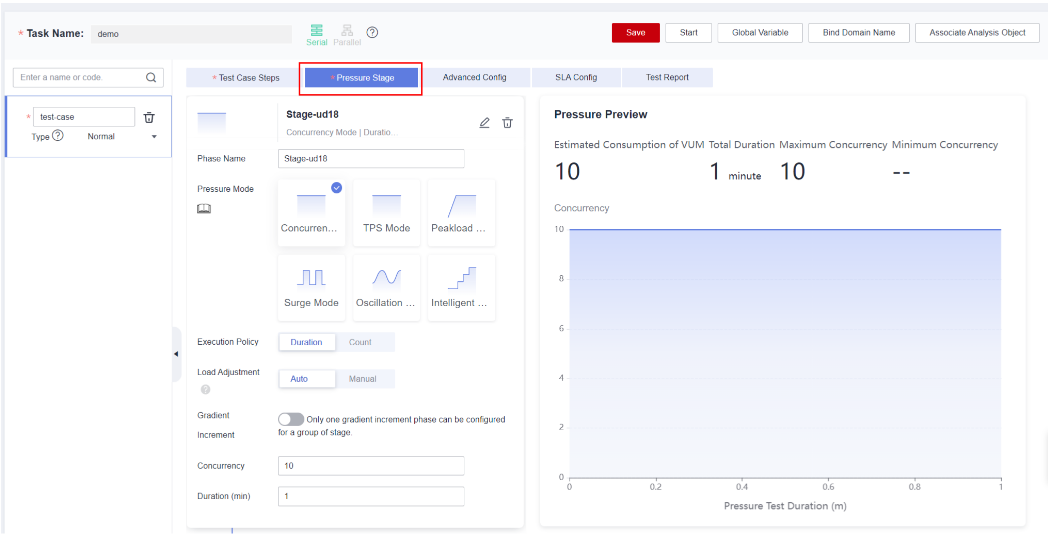
Figure 5-114 Script compilation (1)



5. Edit the pressure configuration and save it. For details, see the **CodeArts PerfTest User Guide**.

Figure 5-115 Script compilation (2)



Adding Indicator Parameters

Indicator parameters, such as the latency, error rate, and RPS, are used to measure whether the automatic performance tests are passed. You need to add indicator parameters before executing performance automation test cases.

1. On the **Performance Automation** tab page, click **View Indicator Parameters**.
2. In the displayed dialog box, click **Add Indicator Parameter**, enter the parameter name and description.
3. Select an indicator parameter and add an indicator for the parameter, for example, **Success Rate**.

   If there are multiple indicator parameters, these marked with a pin are default indicator parameters.

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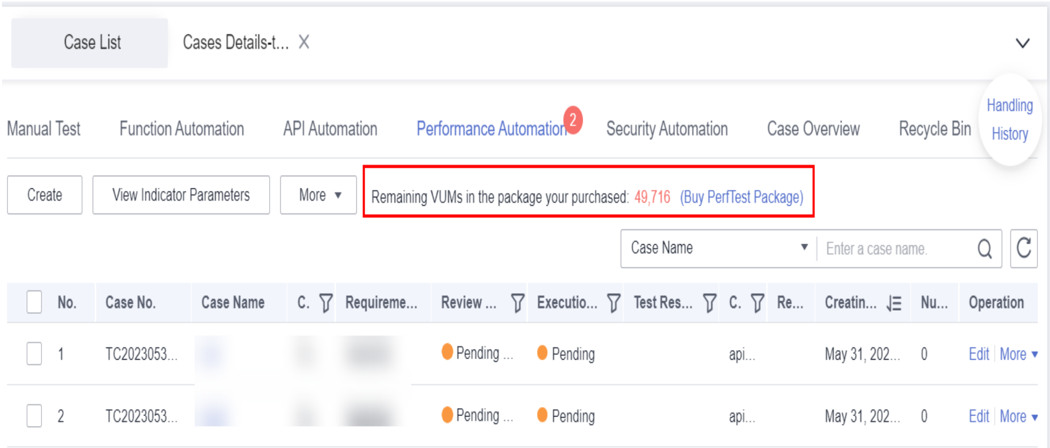
Figure 5-116 Parameters required for adding indicator parameters for performance automation

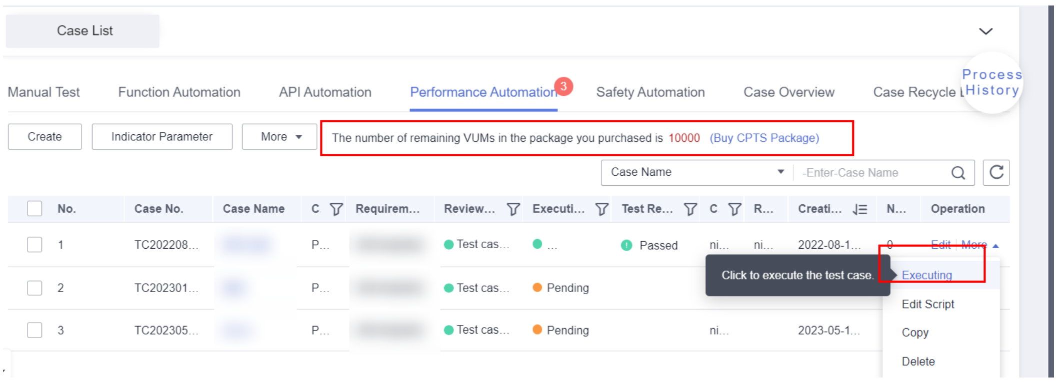


Executing a Performance Automation Test Case

After performance automation test cases are designed, the test case executor can execute the performance automation test cases. Locate the test case and choose **More** > **Execute** in the **Operation** column.

Prerequisites: You have purchased the PerfTest package so that the performance automation project can be started.

Figure 5-117 Executing a performance automation test case



CAUTION

Click the link in the preceding figure to buy a PerfTest package. If the service is deployed in a region other than Beijing 4, the test is not affected as long as the service can be accessed.

Procedure

- Method 1: Use the default parameters.

  Click **Execute**. By default, the selected indicator parameters are used for execution.

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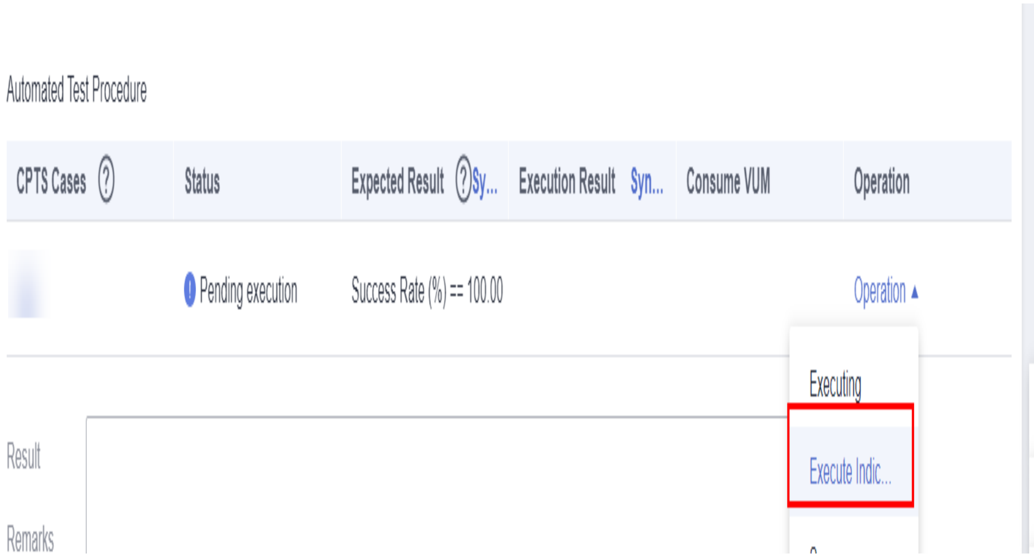
Figure 5-118 Executing a performance automation test cases using default parameters



- Method 2: Specify an indicator parameter group. Locate the test case and choose **More** > **Execute Environment Parameters by Group**. Select the indicator parameters and click **OK**.

Figure 5-119 Executing a performance automation test case using an indicator parameter group

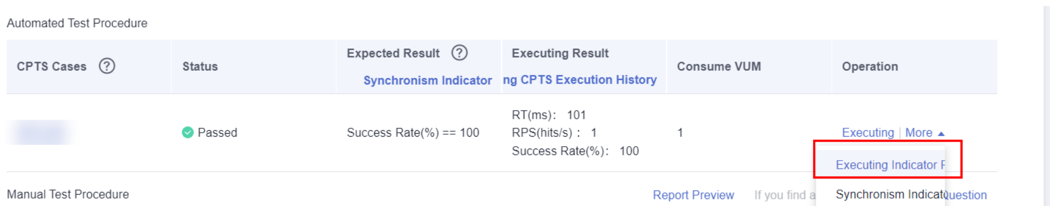


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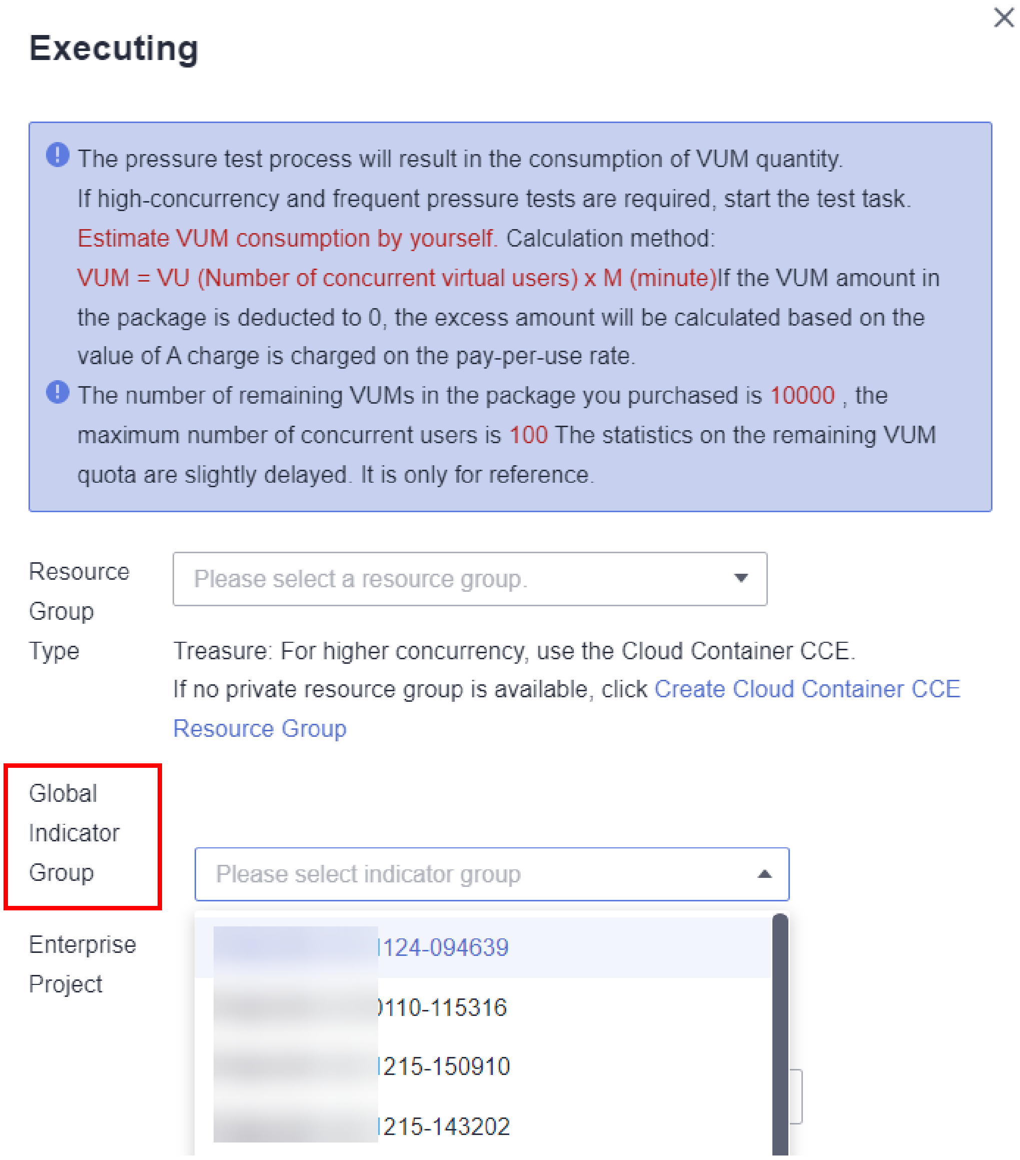
Figure 5-120 Selecting an indicator parameter group



> **NOTICE**
>
> - To use CodeArts PerfTest for performance testing, you need to purchase a pay-per-use or yearly/monthly package PerfTest package in advance.
> - If you have executed performance automation test cases on CodeArts PerfTest, you can synchronize the execution records from CodeArts PerfTest to HaydnCSF.

Viewing Execution Results

1. Click the test case name to go to the test case details page.
2. Click the **Execution History** to view the execution results.
3. Click the execution report link to obtain the real-time execution results. (The execution page is refreshed in real time.)

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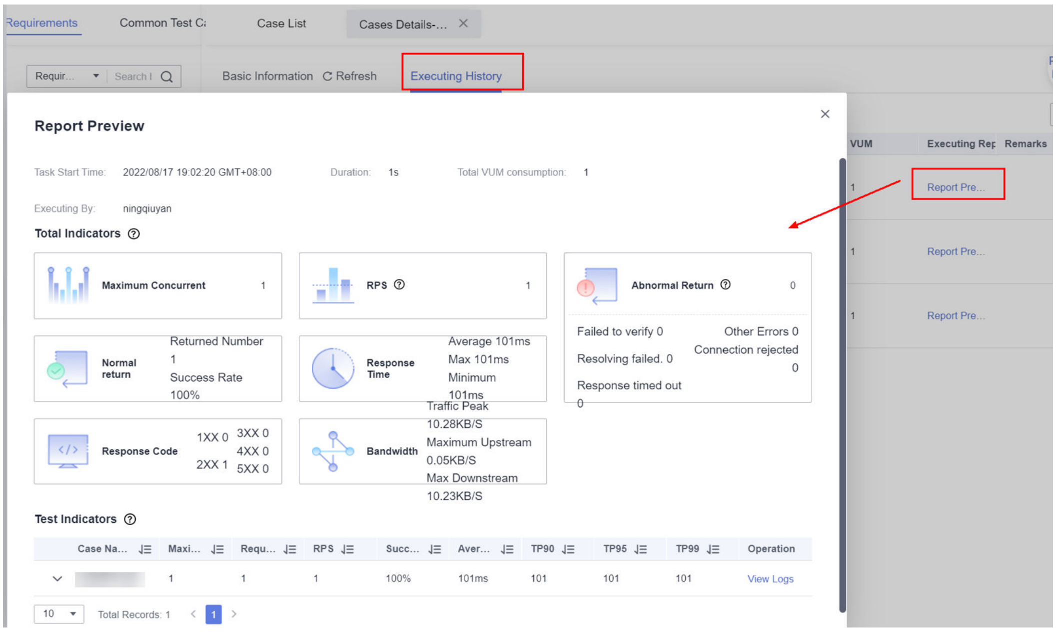
Figure 5-121 Execution results



5.3.3.5 Security Automation Test Cases (New Version)

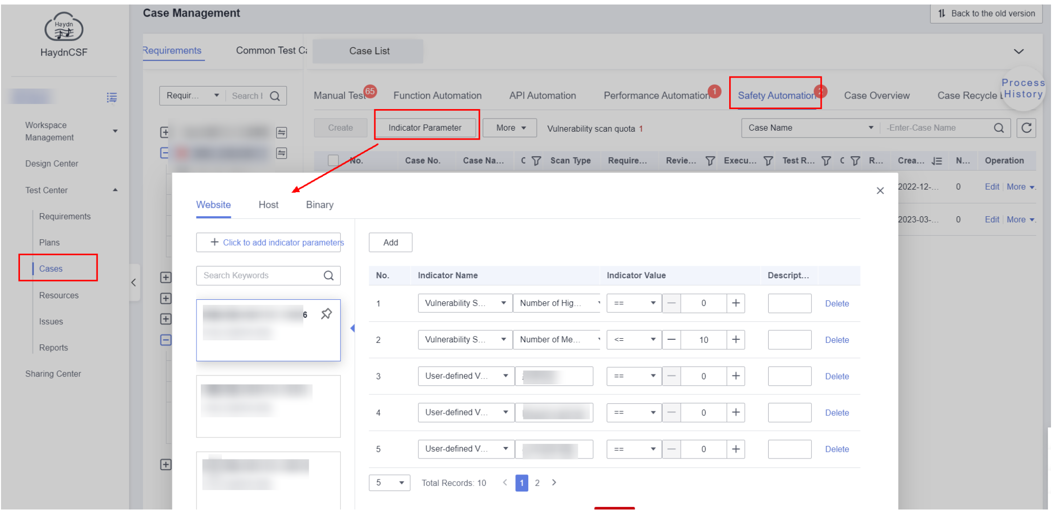
HaydnCSF supports website, host, and binary scans. After a scan is complete, a scan report is generated for you to view vulnerability details and solutions. After a requirement is created, a security automation test case can be designed and executed.

Adding Indicator Parameters

Indicator parameters, such as vulnerability quantity statistics, compliance statistics, and security configurations, are used to measure whether the automatic security tests are passed. You need to add indicator parameters before executing security automation test cases. If you load a security automation test case (such as the test case for joint operations) from a requirement template or test case template with indicator parameters, the indicator parameters will be loaded synchronously.

1. On the **Case Management** page, click **Security Automation** and then click **View Indicator Parameters**.

Figure 5-122 Adding indicator parameters for security automation tests



2. In the displayed dialog box, click the scanning object (**Website**, **Host**, or **Binary**), and click **Add Indicator Parameter**. In the displayed dialog box, enter the indicator name and description, and click **OK**.
3. Select the new indicator, click **Add** to configure the indicator name (such as **Vulnerability Statistics**) and value, and click **OK**.

   You can group indicator parameters. For example, if there are multiple indicator parameters for scanning a website, the group marked with a pin is the default group. If no group is specified for test case execution, the default group will be selected by default.

Website Scan

Disguised as a common user, VSS uses web crawlers and add-ons to analyze websites and discover potential security threats. With a rich set of built-in scan rules, VSS also provides dynamic scan rate adjustment to prevent downtime.

Prerequisites

If a firewall or other security policies are configured for your website, IP addresses used by VSS for scanning the website will be blocked mistakenly as malicious attackers. To avoid this, add the following IP addresses to the trustlist before using VSS:

119.3.232.114, 119.3.237.223, 124.70.102.147, 121.36.13.144, 124.70.109.117, 139.9.114.20, and 119.3.176.1

Procedure

Step 1 Create a test case for scanning the website.

1. Log in to the HaydnCSF platform and access the desired workspace. In the navigation pane on the left, choose **Verification Center** > **Cases**. On the **Case Management** page, select the security test requirement that a website scan test case belongs to from the test requirement tree. If no requirement is available, create it by referring to **Creating a Requirement and Submitting It for Review**.

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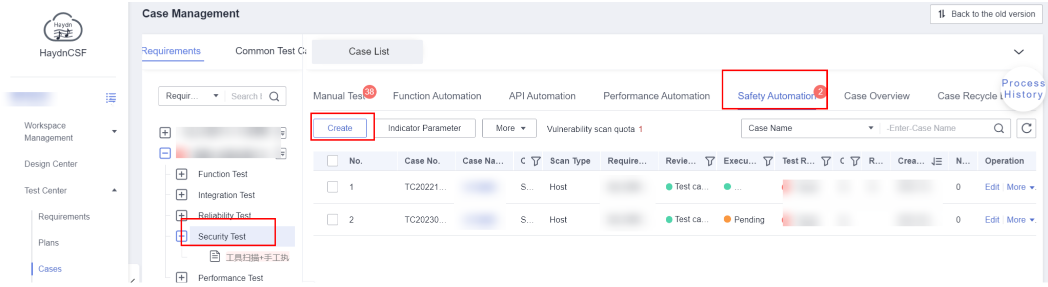
Figure 5-123 Creating a security automation test case



2. Click **Create** and configure parameters.

Table 5-8 Parameters required for creating a security automation test case

Parameter	Description
Requirement Description	(Mandatory) Select the requirement that the test case belongs to from the drop-down list.
Case Name	(Mandatory) Enter a name for the test case. It is recommended that you standardize the test case name, for example, *xx* **website scan**.
Deployment Environments	(Mandatory) Select the environment for deploying the test case from the drop-down list based on the associated requirement.
Priority	(Mandatory) Select the importance level of the test case from the drop-down list.
Vulnerability Scan	(Mandatory) Select **Website** from the drop-down list.
Description	Describe the test case.
Prerequisites	Enter the prerequisites for executing the test case.
Step Description	Enter the website scan steps.
Expected Result	Enter the expected result of each step.
Attachments	Upload the associated files required by the test case.

3. Configure parameters for the website to be scanned.

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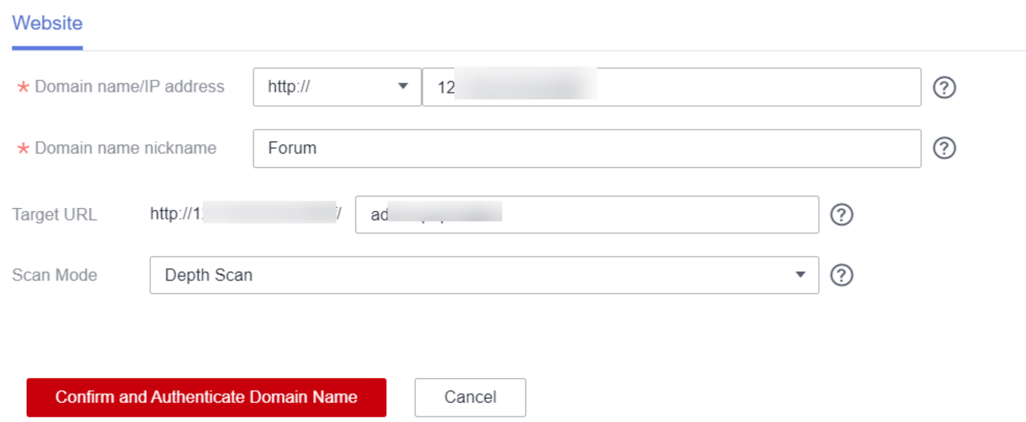
Table 5-9 Parameters required for the website scan

Parameter	Description
Domain Name/IP Address	Enter the domain name and IP address accessible from the public network.
Domain Alias	Enter a name that helps you to identify your website domain name.
Target URL	Homepage URL where the automatic crawling starts from, for example, **http://www.domain.com/home**. Enter a complete URL.
Scan Mode	**Quick Scan**: detects vulnerabilities within a short time. **Standard Scan**: detects more vulnerabilities with a longer time. **Depth Scan**: detects the most vulnerabilities with the longest time. Select this option for the solution of joint operations products.

Figure 5-124 Website parameters



4. Click **Confirm and Authenticate Domain Name**.

NOTE

If you have loaded a security automation test case from the test case template (the loading method is the same as that in **Loading a Template**), click **Edit** to go to the editing page.

Step 2 Authenticate the domain name.

On the displayed case details page, click **Authenticate**. Read the instructions carefully. If the conditions are met, select **I have read and understand the above requirements.** and **I have read and agree Vulnerability Scan Service Statement.** Click **Complete Authentication**.

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Figure 5-125 Authentication entry of domain names

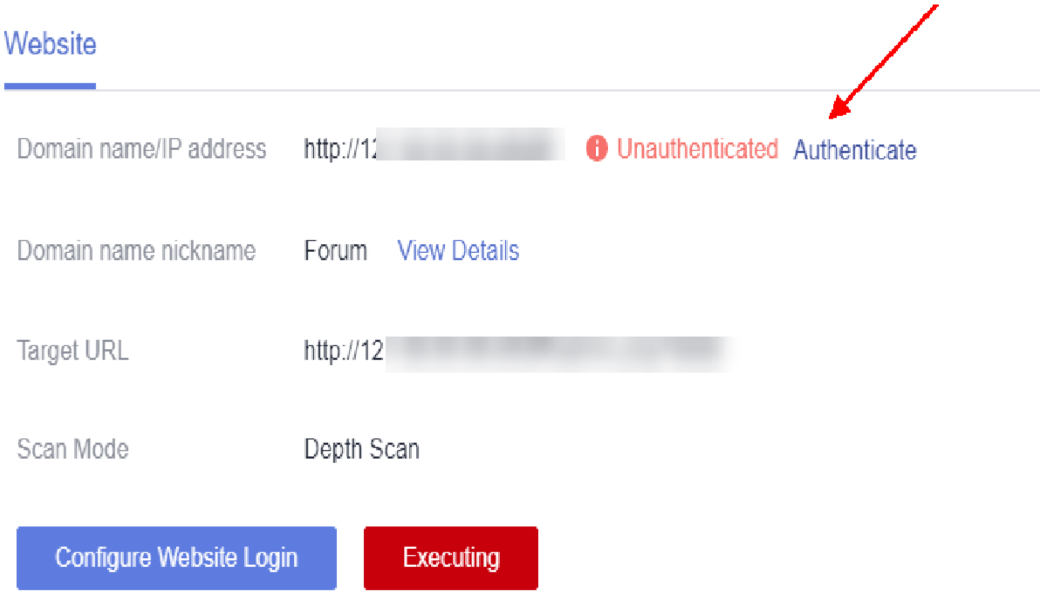
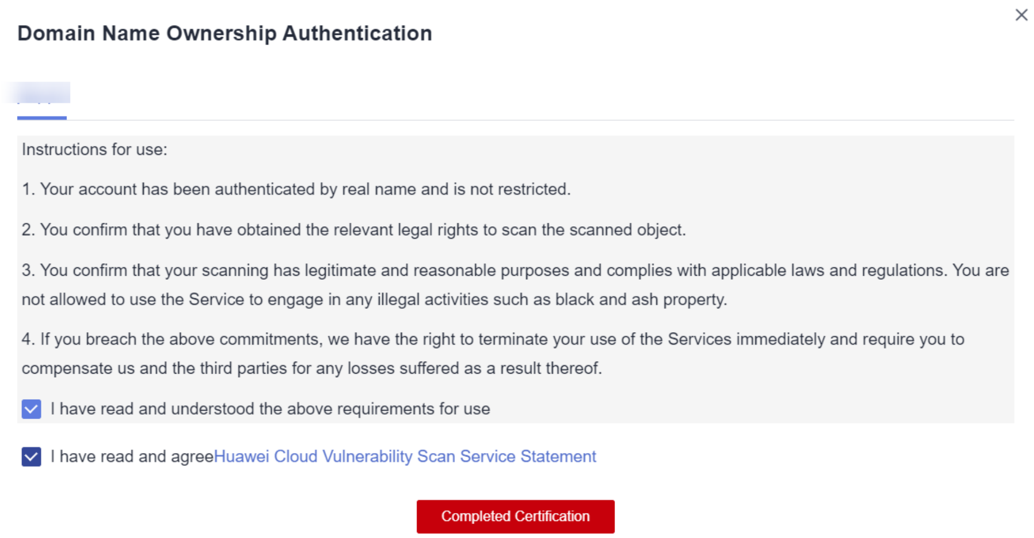


Figure 5-126 Rules that domain name authentication is not required



Step 3 Configure website login.

If your website is accessible to logged-in users only, configure login parameters so that VSS performs a thorough scan.

1. On the basic test case information page, click **Configure Website Login**.
2. In the **Configure Website Login** dialog box, configure the parameters as required. **Table 5-10**describes the parameters.

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Figure 5-127 Website login parameters

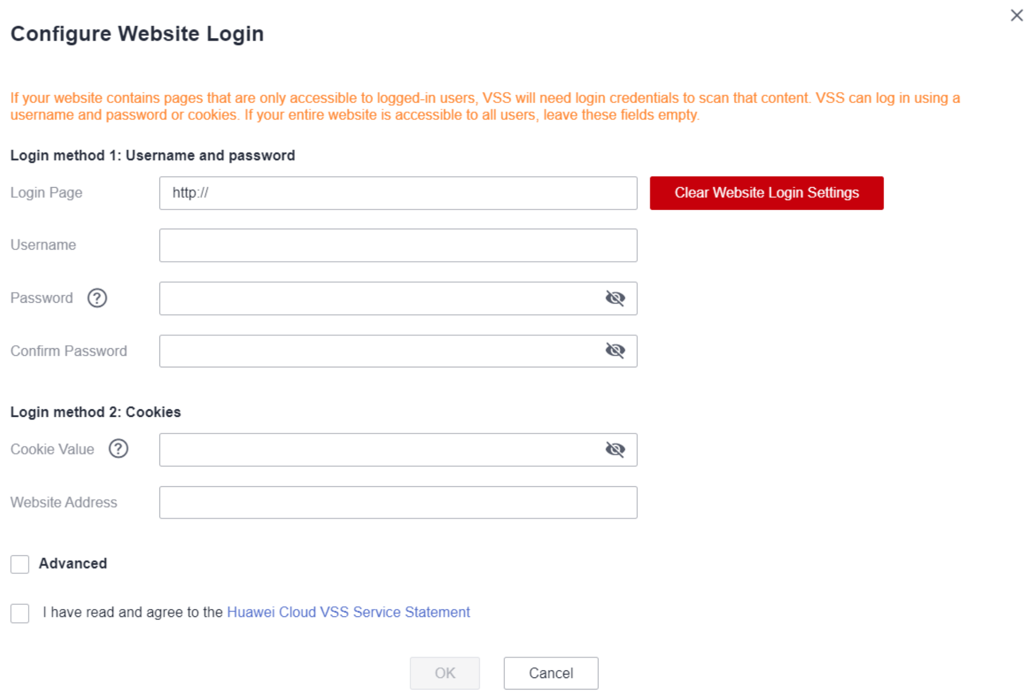

Table 5-10 Parameters required for website login

Parameter	Description
Configure Website Login If your website is accessible to logged-in users only, configure login parameters so that VSS performs a thorough scan. – If your website requires only a username and password for logins, use method 1. – If there are other access restrictions in addition to username and password, such as a dynamic verification code, use method 2.	
Login method 1: Username and password	
Login Page	Address of the website login page.
Username	Username for logging in to the website.
Password	Password for logging in to the website.
Confirm Password	Confirm password for logging in to the website.
Login method 2: Cookies	

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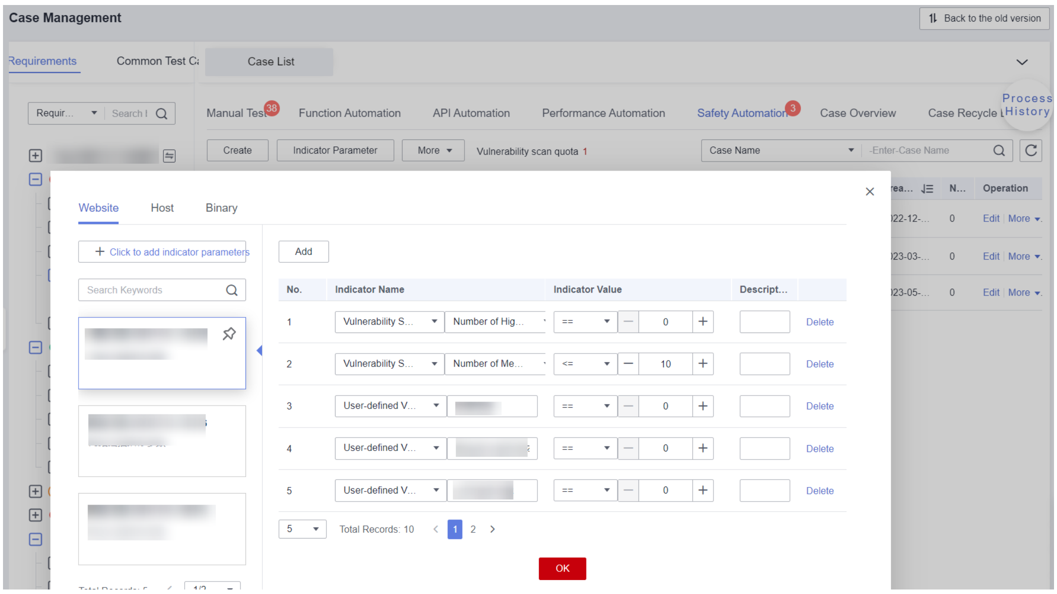
Parameter	Description
Cookie Value	Cookie value for logging in to the website. For details about how to obtain the cookie value, see How Do I Obtain the Cookie Value of the Website? **NOTE** – If no cookie values are obtained, add a custom header in **Advanced Settings**. – When you add a header, obtain the HTTP request header of the related session. For example, HTTP request headers that contain **Token** or **Session**.
Website Address	Enter a website that is only accessible to logged-in users for VSS to quickly determine whether your login information is valid.
Advanced Settings - Custom Header	HTTP request headers. A maximum of five HTTP request headers can be added. If the website to be scanned requires a special HTTP request header, you can configure one.

3. Select **I have read and agree to the Vulnerability Scan Service Statement.** and click **OK**.

Step 4 Add indicator parameters.

On the **Case Management** page, click **Security Automation**. On the displayed page, click **View Indicator Parameters**. In the displayed dialog box, click **Website** and **Add Indicator Parameter**, and configure parameters for comparing the test case execution result with the security scan report. For details, see **Adding Indicator Parameters**.

Figure 5-128 Indicator parameters



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NOTE

If you load the security automation case from a case template with indicator parameters, the indicator parameters will be loaded synchronously. You can modify the indicator parameters on the indicator parameter page as required.

Step 5 Execute the test case.

- Method 1: Use default indicator parameters to execute the test case.
- Method 2: Use indicator parameters in a group to execute the test case. Select this option when you want to select indicator parameters in a group from multiple groups. Select the group in the displayed dialog box.

Figure 5-129 Executing the test case by default indicator parameters

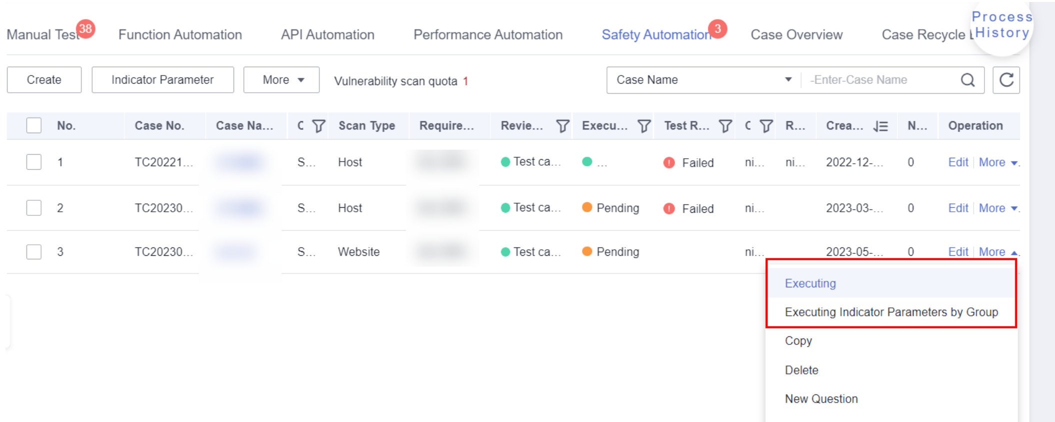
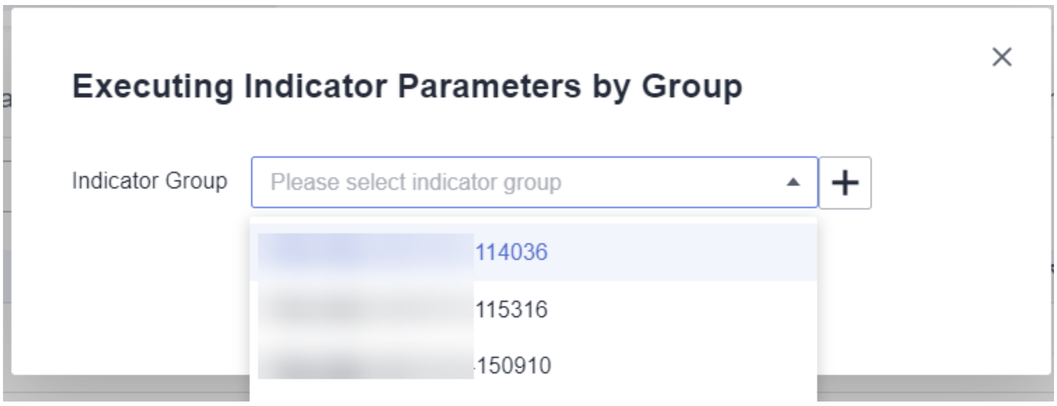


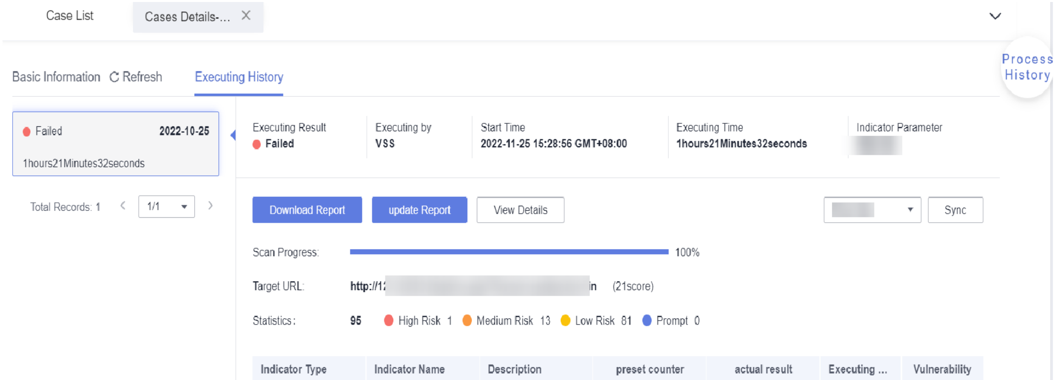
Figure 5-130 Executing the test case by indicator parameters in a group



Step 6 Click the test case name to go to the case details page to view the execution result.

Under **Execution History**, view the detailed website scan result. You can click **View** in the **Vulnerability** column to view the solution or download the report to view the detailed analysis.

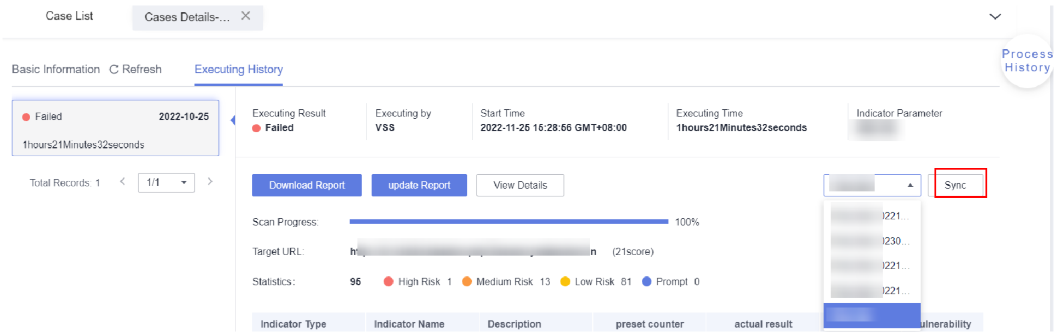
Figure 5-131 Website scan result



Step 7 If new indicator parameters are required for checking the result, modify the indicator parameters under **Execution History**.

For example, you have created two indicator parameter groups. After using the indicator parameters in one group to scan the website successfully, you can use the indicator parameters in the other group to check the website scan result. After the change, click **Sync** to update the website scan report.

Figure 5-132 Synchronizing the new indicator parameters



Step 8 If the website scan fails, rectify the fault based on the solution and scan the website again.

----End

Host Scan

After VSS is authorized to access your hosts (using usernames and passwords), it automatically detects vulnerabilities and unsafe baseline settings in host OSs and middleware against the latest vulnerability libraries, helping you detect host security risks in a timely manner.

VSS can detect vulnerabilities, unsafe baseline settings, and compliance issues on Linux hosts.

Step 1 Create a test case for scanning hosts.

1. Log in to HaydnCSF, access the workspace, and choose **Verification Center** > **Cases**. On the **Case Management** page, select the security test requirement that a host scan test case belongs to from the test requirement tree. If no requirement is available, create it by referring to **Creating a Requirement and Submitting It for Review**.

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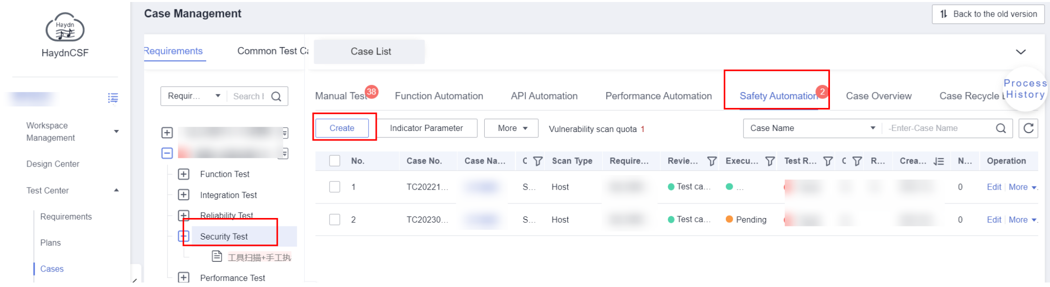
If you have loaded a security automation test case from the test case template (the loading method is the same as that in **Loading a Template**), click **Edit** to go to the editing page.

Figure 5-133 Creating a security automation test case



2. Click **Create** and configure parameters.

Table 5-11 Parameters required for the host scan

Parameter	Description
Requirement Description	(Mandatory) Select the requirement that the test case belongs to from the drop-down list.
Case Name	(Mandatory) Enter a name for the test case. It is recommended that you standardize the test case name, for example, *xx* **host scan**.
Deployment Environments	(Mandatory) Select the environment for deploying the test case from the drop-down list based on the associated requirement.
Priority	(Mandatory) Select the importance level of the test case from the drop-down list.
Vulnerability Scan	(Mandatory) Select **Host** from the drop-down list.
Description	Describe the test case.
Prerequisites	Enter the prerequisites for executing the test case.
Step Description	Enter the host scan steps.
Expected Result	Enter the expected result of each step.

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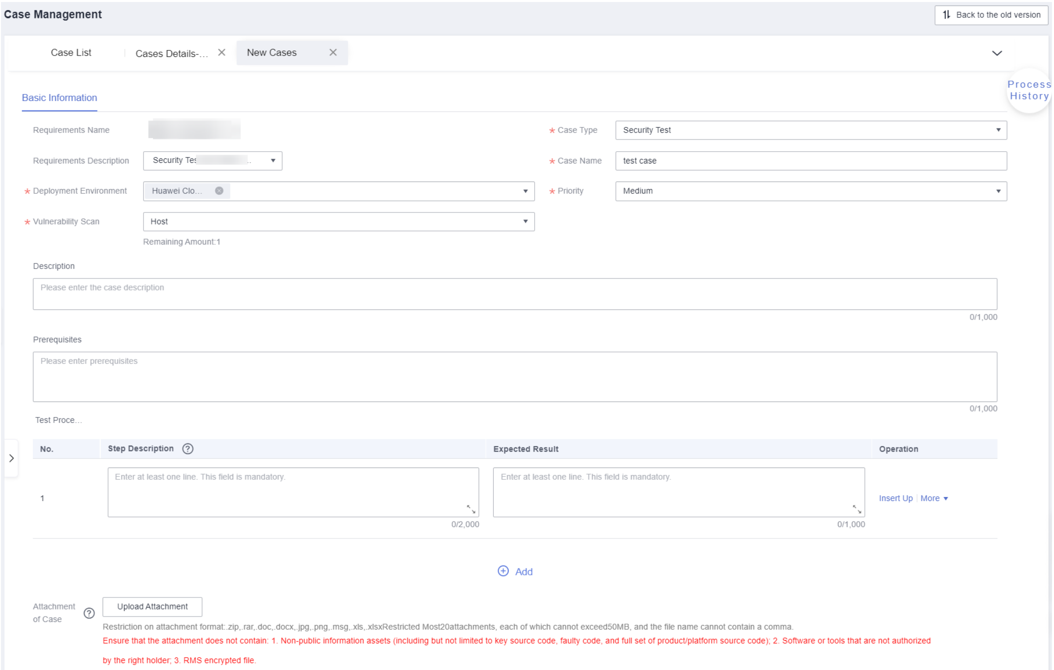
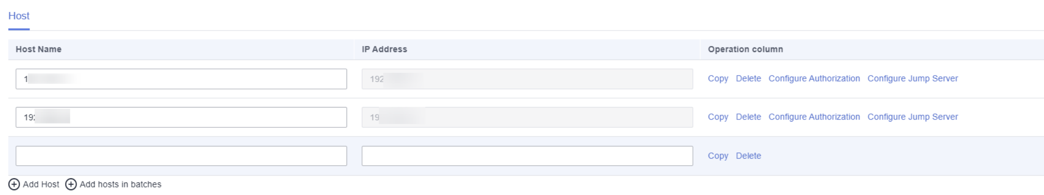
Parameter	Description
Attachments	Upload the associated files required by the test case.

Figure 5-134 Basic Information



3. Configure parameters for the hosts to be scanned.
   - **Host Name**: Enter a unique name for each host for easy identification.
   - **IP Address**: Enter the IP address of each host.

Figure 5-135 Parameters for the hosts to be scanned



NOTE

- If you have multiple hosts to be scanned and the hosts can be accessed from the public network, directly add the hosts.
- If your hosts can be accessed only through a proxy IP address (private IP address), a jump server is required. Enter the internal IP address of each host in this step and configure the jump server in the next step.

4. Click **Confirm and Configure Hosts**.

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Step 2 Add a jump server.

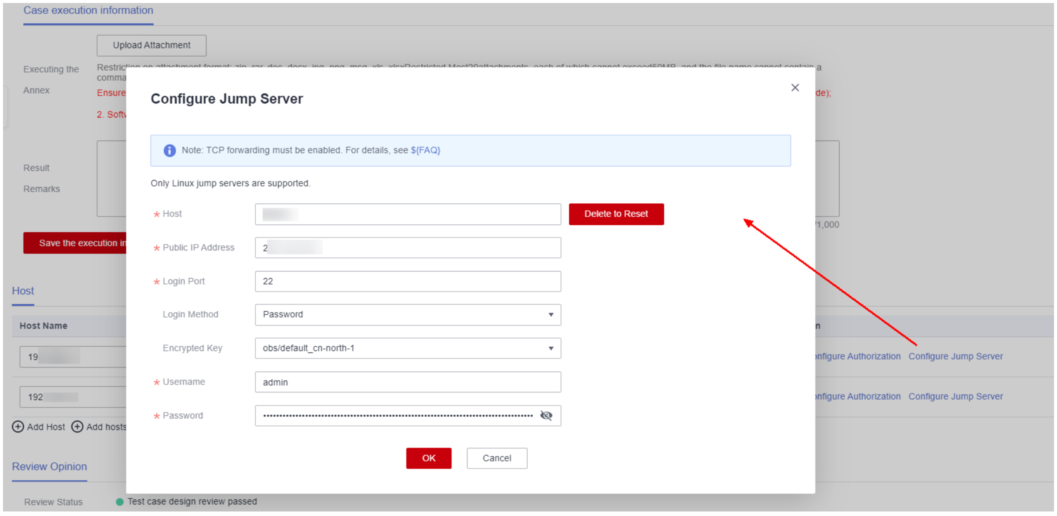
If your hosts can be accessed only through the proxy IP address, configure the jump server first. If the hosts can be accessed from the public network, skip this step.

Click **Configure Jump Server** next to the host to be scanned. In the displayed dialog box, configure parameters. Currently, only Linux jump servers can be added.

Table 5-12 Parameters required for configuring a jump server

Parameter	Description
Host	Enter a jump server name.
Public IP Address	Enter a public IP address bound to the jump server.
Login Port	Enter a port number for logging in to the SSH account. Ensure that the port has been added to the security group for the host to access VSS.
Login Method	The options are password login and key login.
Encrypted Key	An encryption key must be used to protect the login password or key of the host from being stored or disclosed. You can select an existing encrypted key (if any). If no encrypted key is available, click the key creation button to create a default master key used for VSS.
Username	Enter a user name for logging in to the jump server. The default value is **root**.
Password	Set the password of the **sudo** user and click the encryption icon to encrypt the password.

Figure 5-136 Configure Jump Server



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Step 3 Configure host authorization.

Click **Configure Authorization** in the **Operation** column, configure parameters, and click **OK**.

Figure 5-137 Configure Authorization

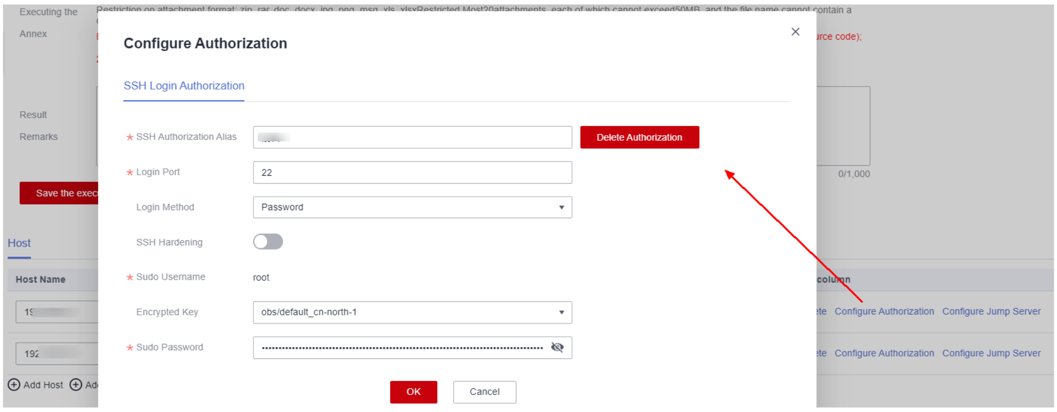

Table 5-13 Parameters required for Linux host authorization

Parameter	Description
SSH Authorization Alias	Enter an SSH account name.
Login Port	Enter a port number for logging in to the SSH account. Ensure that the port has been added to the security group for the host to access VSS.
Login Method	The options are **Password** and **Key**.
Encrypted Key	An encryption key must be used to protect the login password or key of the host from being stored or disclosed. You can select an existing encrypted key (if any). If no encrypted key is available, click **Create Key** to create a default master key used for VSS.
SSH Hardening	If this option is enabled, you can log in as a common user and then switch to the **root** user.
Sudo Username	The default value is **root**.
Sudo Password	Set the password of the **sudo** user and click **Encrypted** to save the password.

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NOTE

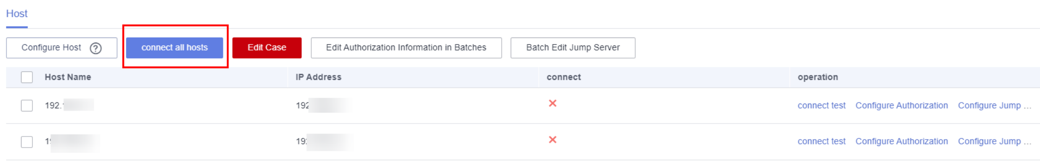
If you no longer want VSS to scan hosts, cancel the authorization. After that, VSS will be unable to detect all host vulnerabilities. Click **Configure Authorization** in the **Operation** column of the scanned host. In the displayed dialog box, click **Delete Authorization**.

Step 4 Test the connectivity between hosts.

In the **Host** area, click **Check All Connectivity**. Subsequent scans can be performed only after all host connectivity tests are successful.

For details, see What Can I Do If a Host Connectivity Test Fails?

Figure 5-138 Host connectivity test

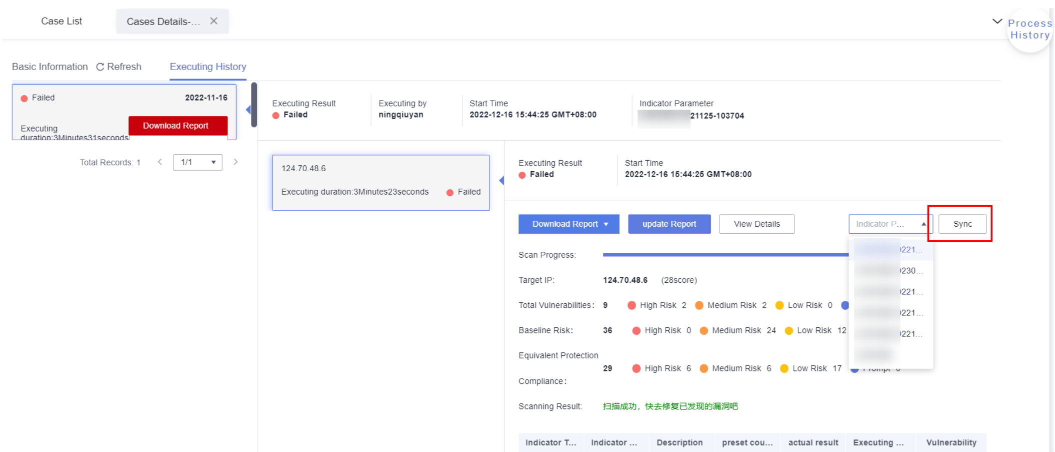


Step 5 Execute the test case.

- Method 1: Use default indicator parameters to execute the test case. Locate the test case and choose **More** > **Execute**.
- Method 2: Use indicator parameters in a group to execute the test case. Select this option when you want to select indicator parameters in a group from multiple groups. Select the group in the displayed dialog box.

Step 6 Click the test case name to go to the case details page to view the execution result.

Under **Execution History**, view the detailed host scan result. You can click **View** in the **Vulnerability** column to view the solution or download the report to view the detailed analysis.



Step 7 If new indicator parameters are required for checking the result, modify the indicator parameters under **Execution History**, as shown in the preceding figure.

For example, you have created two indicator parameter groups. After using the indicator parameters in one group to scan the hosts successfully, you can use the indicator parameters in the other group to check the host scan result. After the change, click **Sync** to update the host scan report.

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Step 8 If the host scan fails, rectify the fault based on the suggestions and scan the hosts again.

----End

Binary Scan

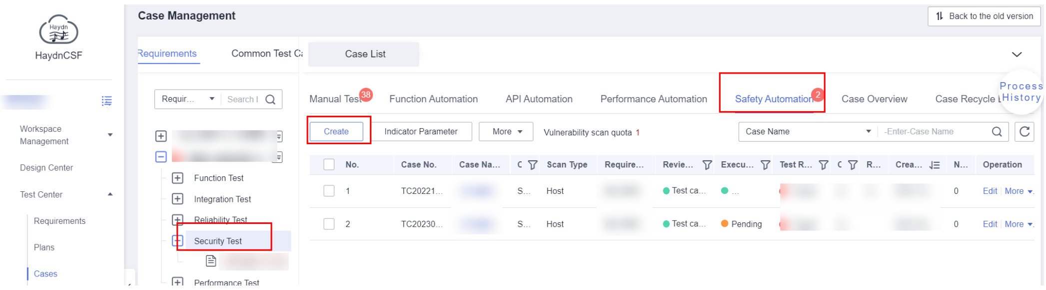
Binary scan is to scan binary files decompressed from your software or firmware packages using component feature identification and static detection technologies, and various risk detection rules to obtain the component BOM list and potential risk list and output a professional analysis report.

Procedure

1. Create an indicator parameter, which is used to check whether the binary scan is successful based on the scan result. For details, see **Adding Indicator Parameters**.
2. Log in to HaydnCSF, access the workspace, and choose **Verification Center** > **Cases**. On the **Case Management** page, select the security test requirement that a binary scan case belongs to from the test requirement tree. If no requirement is available, create it by referring to **Creating a Requirement and Submitting It for Review**.

   If you have loaded a security automation case from the case template (the loading method is the same as that in **Loading a Template**), click **Edit** to go to the editing page.

   Figure 5-139 Creating a security automation test case

3. Click **Create** and configure parameters.

Table 5-14 Parameters required for the binary scan

Parameter	Description
Requirement Description	(Mandatory) Select the requirement that the test case belongs to from the drop-down list.
Case Name	(Mandatory) Enter a name for the test case. It is recommended that you standardize the test case name, for example, *xx* **binary scan**.

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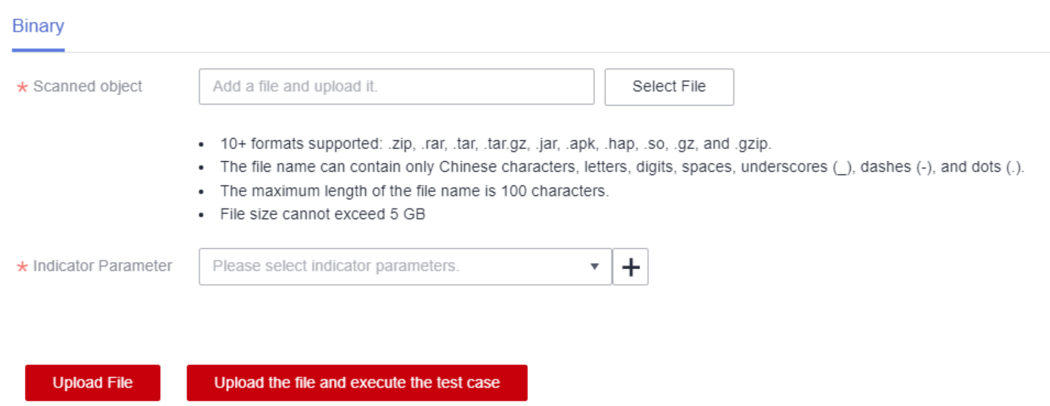
Parameter	Description
Deployment Environments	(Mandatory) Select the environment for deploying the test case from the drop-down list based on the associated requirement.
Priority	(Mandatory) Select the importance level of the test case from the drop-down list.
Vulnerability Scan	(Mandatory) Select **Binary** from the drop-down list.
Description	Describe the test case.
Prerequisites	Enter the prerequisites for executing the test case.
Step Description	Enter the binary scan steps.
Expected Result	Enter the expected result of each step.
Attachments	Upload the associated files required by the test case.

4. Upload the object (product software or firmware package) to be scanned.
5. Select an indicator parameter that can be used to determine whether the binary scan case passes the security test.

Figure 5-140 Configuring the binary scan object



6. Save the configurations and execute the test case.
   – **Execute**: The uploaded binary package will not be saved and is only for executing the test case.

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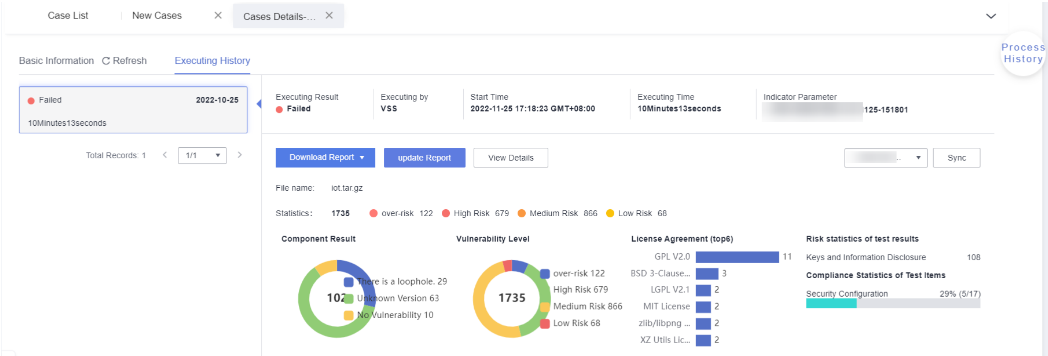
– **Upload File**: The uploaded binary package will be stored for three days by default.
– **Upload File and Execute Test Case**: The uploaded binary package will be stored for three days by default and the test case will be executed.

7. After the test case execution is complete, go to the execution history page to view the execution result and details.

   Under **Execution History**, select the new indicator parameter from the drop-down list and click **Sync**. If the binary scan fails, rectify the fault based on the suggestions and scan the binary package again.

Figure 5-141 Execution result of the binary test case

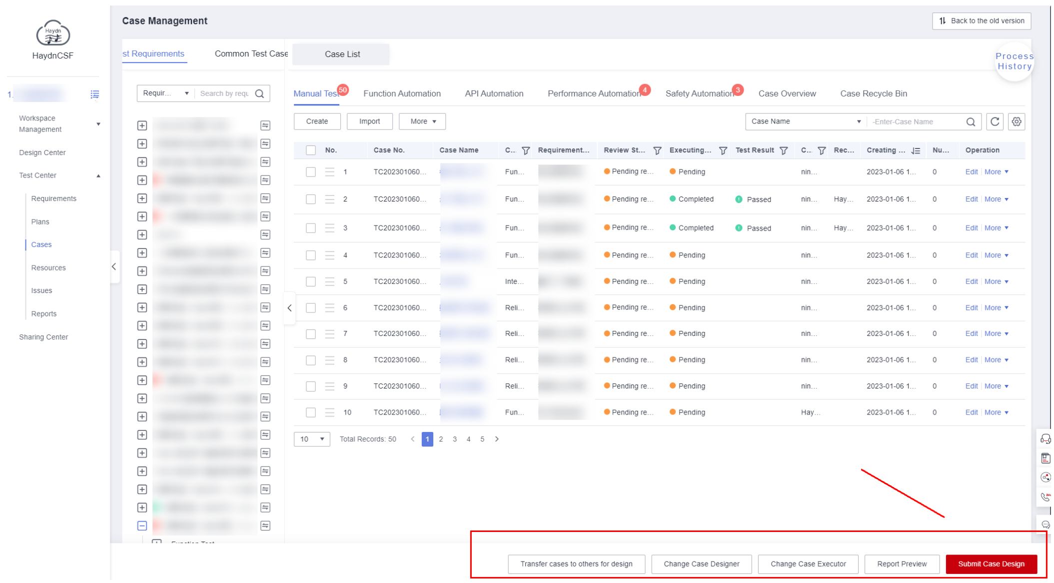


5.3.3.6 Test Case Submission

Case designers can design and submit test cases. Test cases can be designed and executed concurrently. Test cases that are not reviewed can be executed, but they need to be reviewed before the report review.

1. On the **Case Management** page, click **Submit Case Design** in the lower corner. All test cases to be reviewed are automatically selected by default.

Figure 5-142 Submitting test case design



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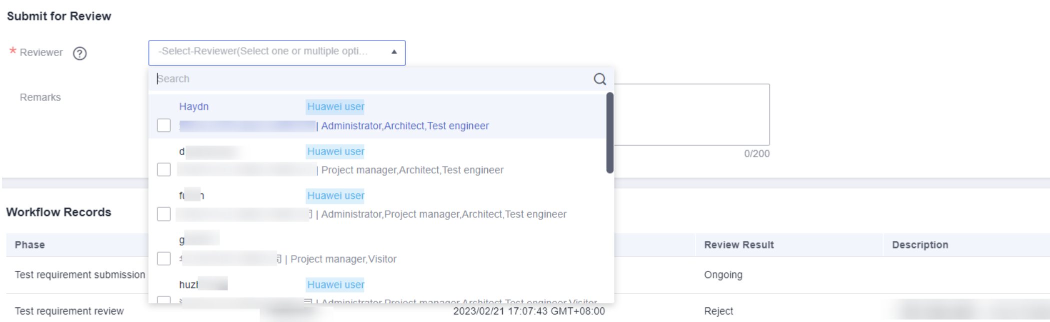
2. On the displayed page, select a test case (if you do not select any test cases, all test cases will be submitted) and the reviewer, and click **OK**. A review to-do task is generated.

Figure 5-143 Page for submitting the case design for review



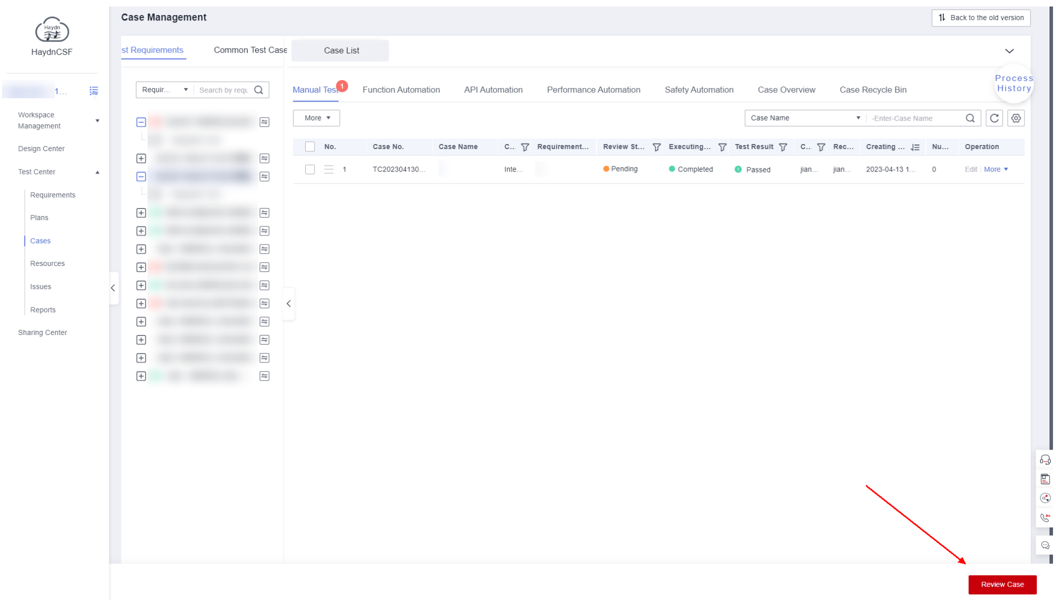
3. View the review result in the email received after the review is complete (for details, see **Test Case Review**). If your email address has not been bound to your account, view the review result on the requirement details page.
4. Edit this test case or add a test case as required. Perform the preceding steps to submit the modified or new test case for review.

5.3.3.7 Test Case Review

Specified reviewers can review submitted test cases.

1. On the **Case Management** page, click **Review Case** in the lower corner. Alternatively, review a test case on the **To-Dos** page.

Figure 5-144 Case Management



2. On the test case review page, approve or reject a test case and enter the review comments.
   - **Test case design review passed/failed**: review result of a test case

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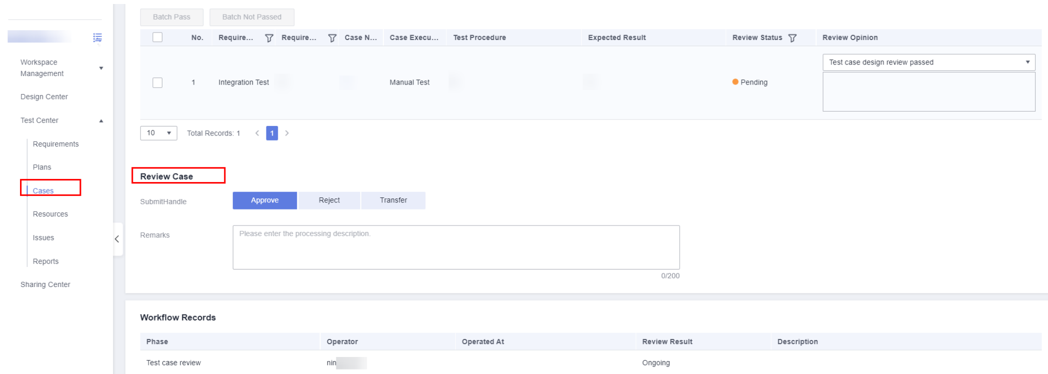
- **Comments**: review comments on a test case
- **Approve**: Approve the test case design.
- **Reject**: Reject the test case design.
- **Transfer**: Transfer the test case review to other handlers. A review to-do task is generated for the selected handler.

Figure 5-145 Page for reviewing test cases



3. Click **OK**.

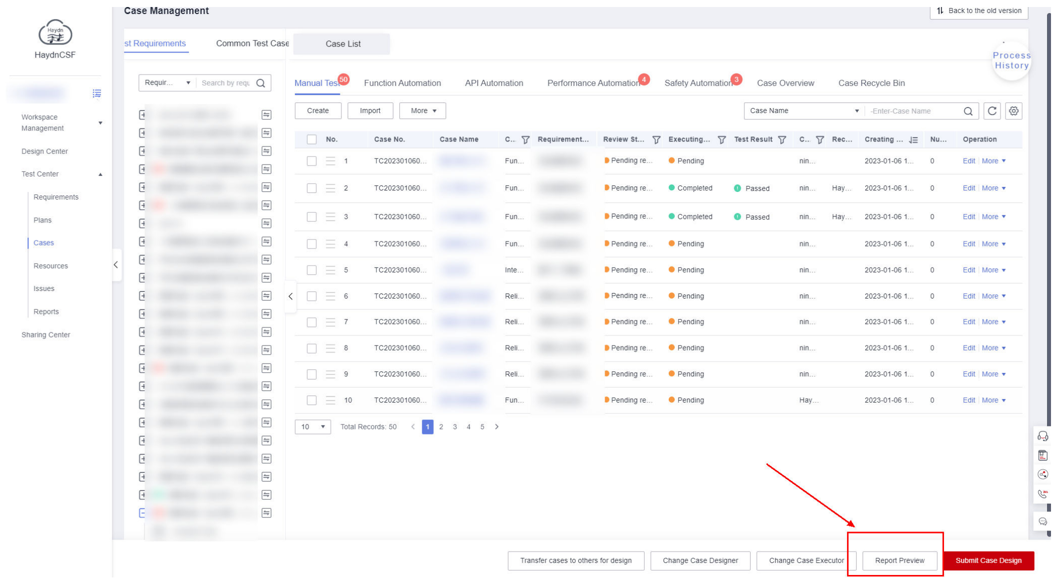
5.3.3.8 Report Generation

Report Preview

Case designers and executors can preview test reports during test case design and execution.

1. On the **Case Management** page, click **Report Preview**.

Figure 5-146 Report preview entry



2. On the **Report Preview** page, view case execution result pie chart and associated issue closure pie chart, case list, issue list, and other basic report information.

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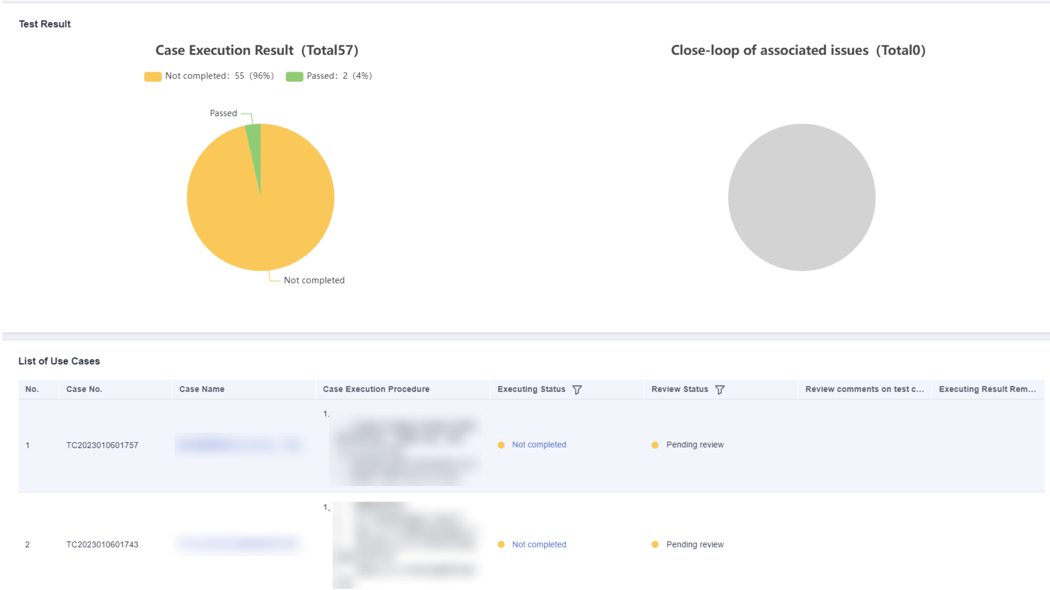
Figure 5-147 Report preview

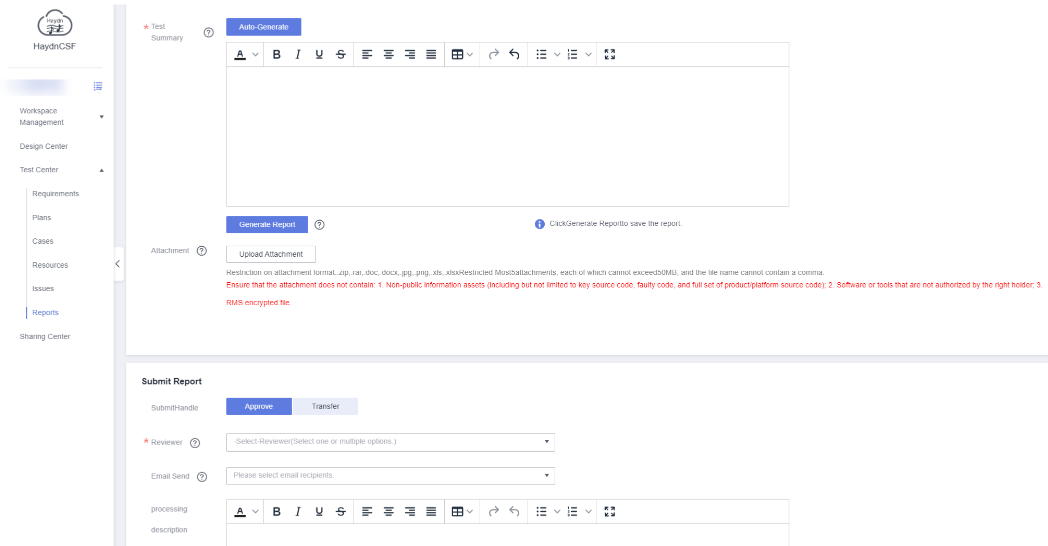


Report Generation and Submission

The test case executor can generate a report on the report preview page.

1. Enter the test summary in **Test Summary**, or click **Auto Generate** and **Generate Report** to generate a report in Word or Excel format. Click the link to download the report to your PC.
2. Select a report reviewer and click **Submit**. The report reviewer will receive a to-do task.

Figure 5-148 Generating and submitting a report



Report Review

1. On the **Report Management** page, locate the report and click **Review** in the **Operation** column to go to the review page. Alternatively, locate the report in

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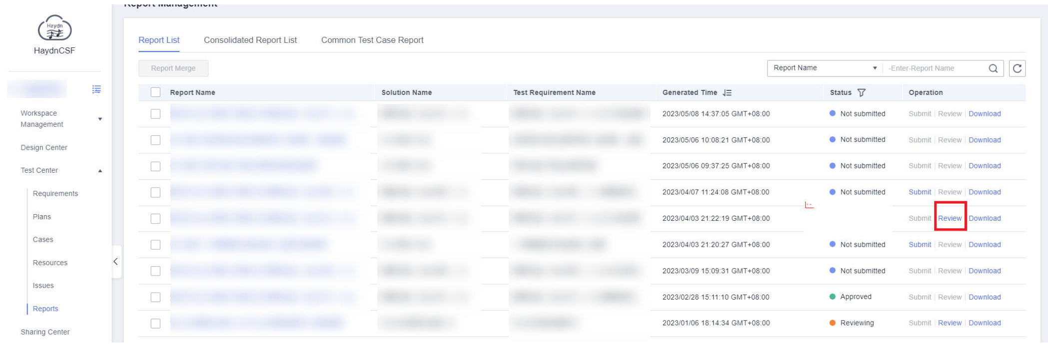
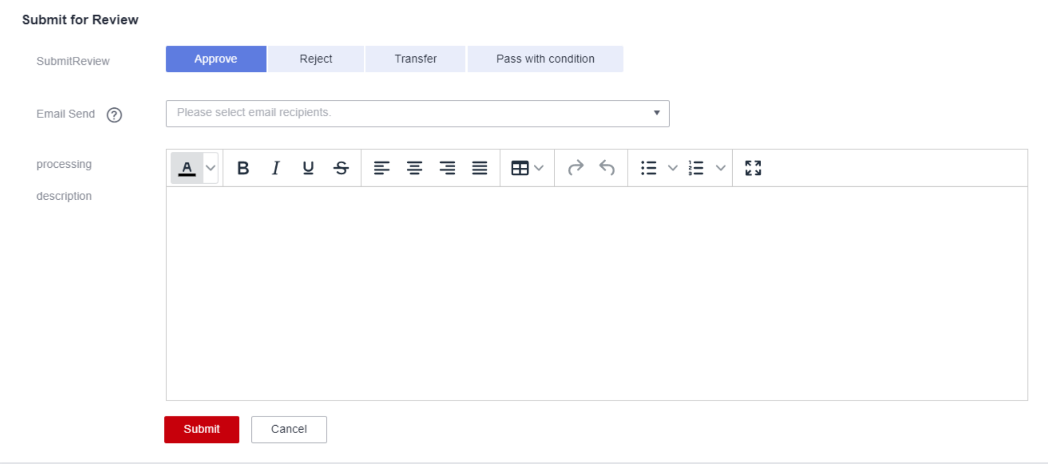
my to-dos list and click **Handle** in the **Operation** column to go to the review page.

Figure 5-149 Report review entry



2. Review the report test status on the review page, or download the report for review.
3. Enter review comments to complete the review.

Figure 5-150 Report review



5.3.3.9 Test Case Overview

Under **Case Overview**, the system displays all test cases of a requirement and their review and execution statuses in pie charts and lists.

- **Case Type Overview**: The number and proportion of test cases are displayed based on the test type.
- **Execution Overview**: The number and proportion of test cases are displayed based on their execution statuses.
- **Test Result Overview**: The number and proportion of test cases are displayed based on their execution statuses (passed, failed, passed with conditions, and N/A).
- Test case list: basic information about all test cases

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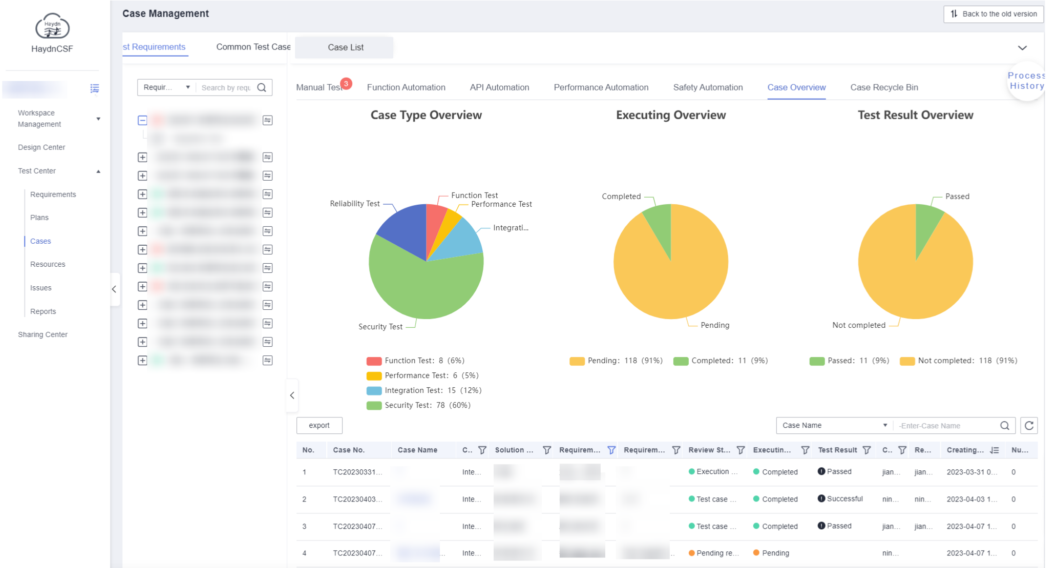
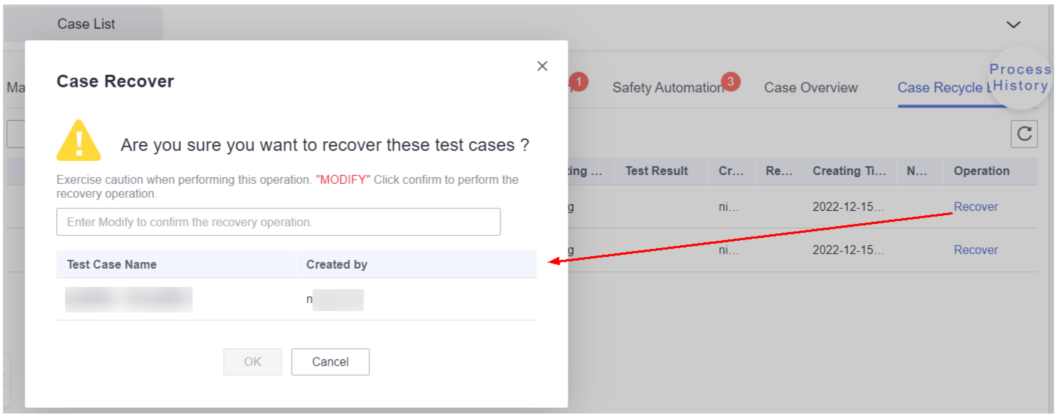
Figure 5-151 Test case overview



5.3.3.10 Recycle Bin

The recycle bin displays the test cases that are deleted from the requirement. You can restore the test cases that are deleted accidentally.



5.3.3.11 Test Case Template Release

You can release a test case as a test case template in the solution acceleration field. After the release is successful, other users can reference your template.

1. On the **Case Management** page, locate the requirement and choose **More** > **Release Template**.

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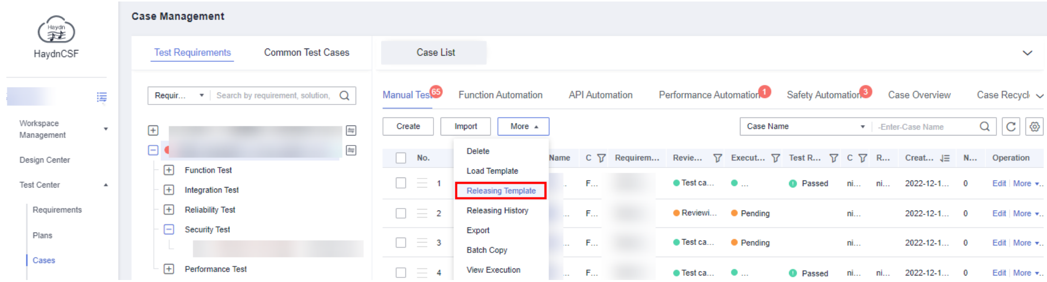
Figure 5-152 Releasing a test case as a template



2. Configure parameters for template release.

Figure 5-153 Template release parameters

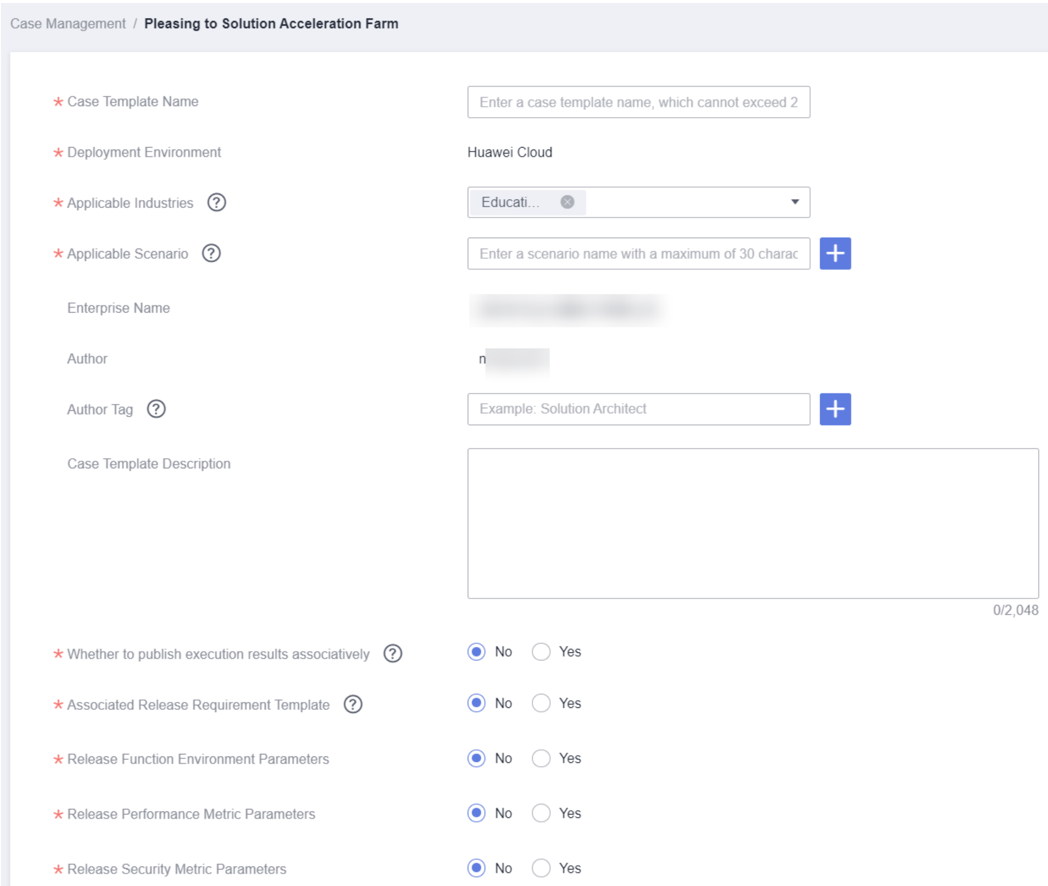


Table 5-15 Parameters required for releasing a test case as a template

Parameter	Description
Case Template Name	Name of a test case template, which is user-defined.
Deployment Environments	Environment base for deploying a test case template, which is automatically displayed and cannot be modified.

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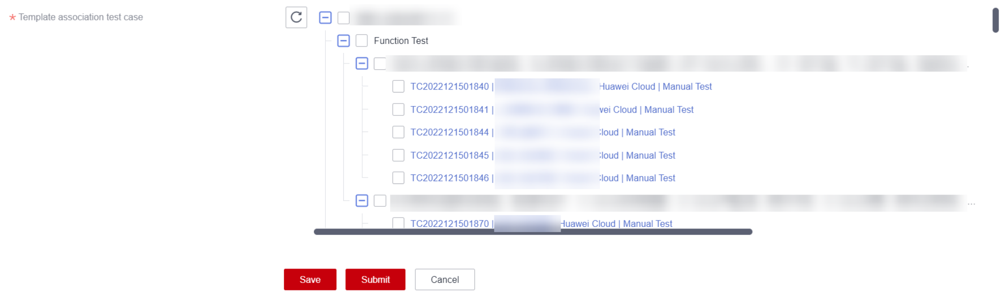
Parameter	Description
Applicable Industries	Industries that a test case template applies to. You can select up to 10 industries.
Applicable Scenarios	Scenarios that a test case template applies to. You can select up to 10 scenarios.
Case Template Description	Supplementary information about the test case template, which is user-defined and will be displayed in the test case templates of the solution acceleration field. Describe the template in detail so that other users can quickly understand this template.
Release Execution Results	**Yes**: The released template contains the last execution result.
Release Requirement Template	**Yes**: The released template contains test case requirements. Users can directly reference the requirements and test cases when creating requirements.
Release Function Environment Parameters	**Yes**: The released template contains environment parameters specifying function and API automation in the released test case. You can select a group for the environment parameters from the drop-down list.
Release Performance Indicator Parameters	**Yes**: The released template contains indicator parameters specifying performance in the released test case. You can select an indicator parameter from the drop-down list.

3. Select the test case to be released.

Figure 5-154 Page for releasing a test case template



Click **Submit**. After the application is approved, the test case can be released using the test case template of the solution acceleration farm. For details, see **Test Case Templates**.

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4. View the review result in the email received after the review is complete. If your email address has not been bound to your account, click **My Release History** to view the review result.

Figure 5-155 Test Case Template

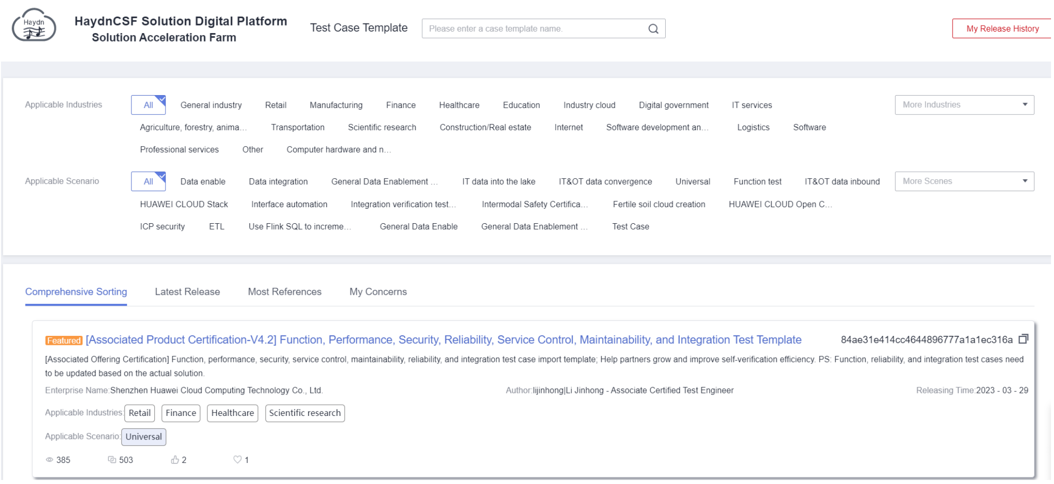
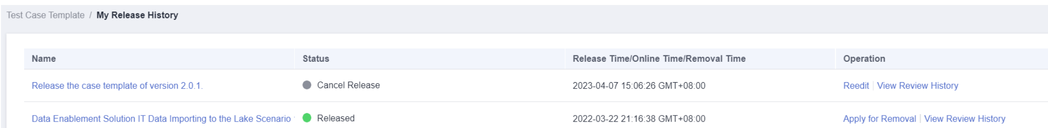


Figure 5-156 My Release History



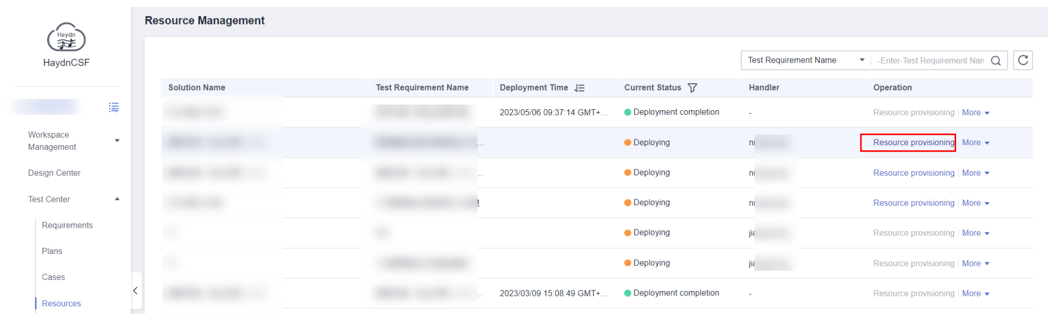
5.3.4 Resource Management

Manual Resource Provisioning

Resource provisioning owners can provision resources for designed test cases. Resources are specified when a requirement is created. If you want to change the resources, edit the requirement.

1. Access the desired workspace and choose **Verification Center** > **Resources**. On the **Resource Management** page, locate the requirement and click **Provision** in the **Operation** column.

Figure 5-157 Resource provisioning page



2. Confirm the cloud service resource information. If other applications or technology stacks, such as Nginx, are involved, add the application or technology stack information.

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Figure 5-158 Cloud service resource list

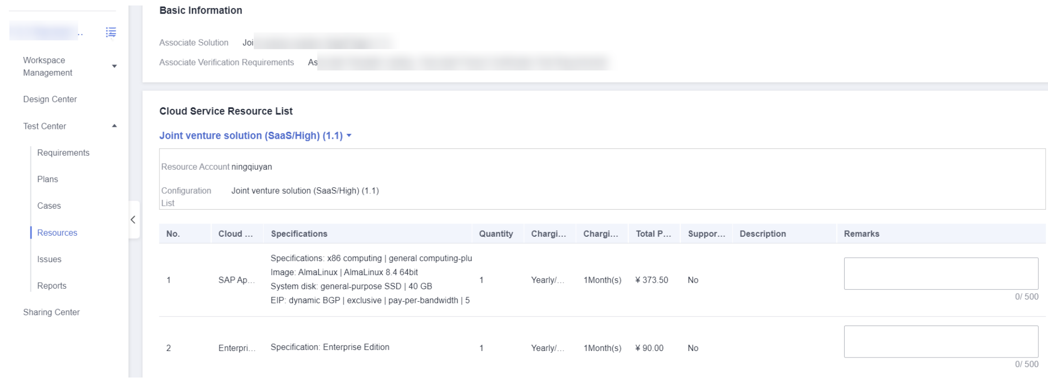
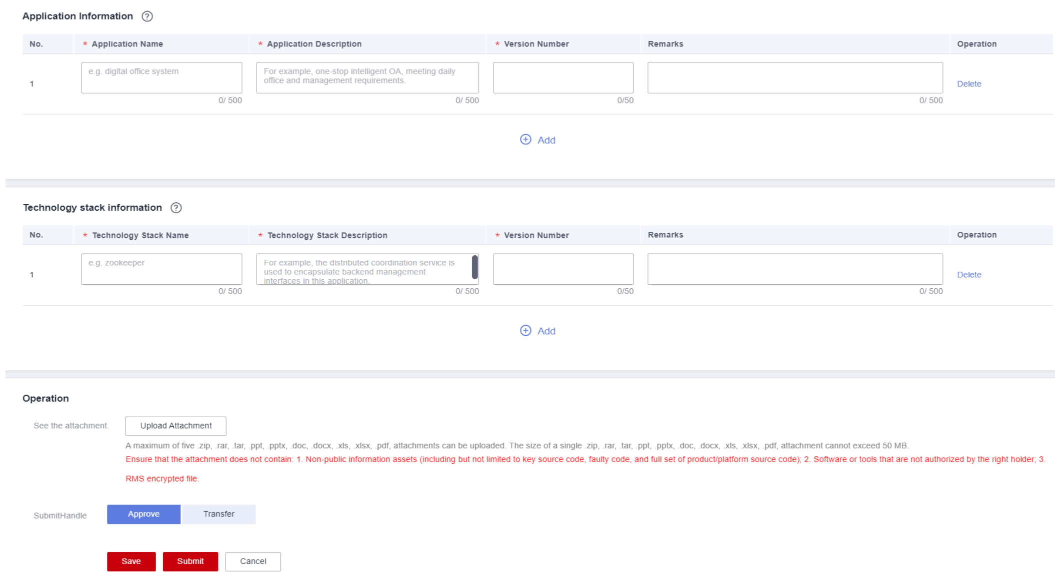


Figure 5-159 Application or technology stack information



3. Click **Submit** or **Transfer**.

Deployment Details

After resources are deployed, members in the workspace can view the deployment details on the resource management page.

1. Access the workspace and choose **Verification Center** > **Resources**. On the displayed page, locate the desired requirement and choose **More** > **Deployment Details**.
2. On the deployment details page, view the cloud service resource list and application or component information.

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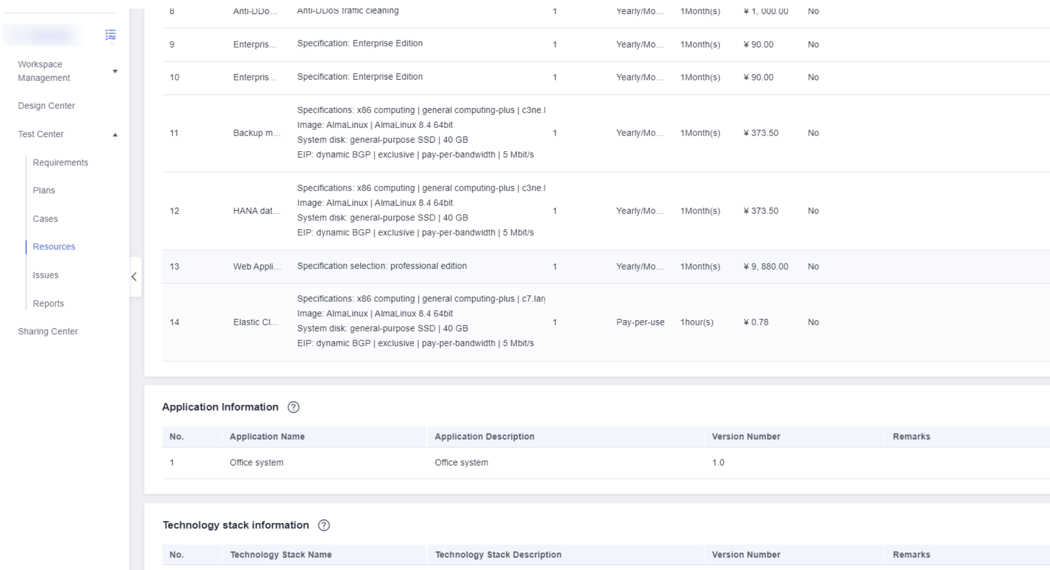
Figure 5-160 Deployment details page

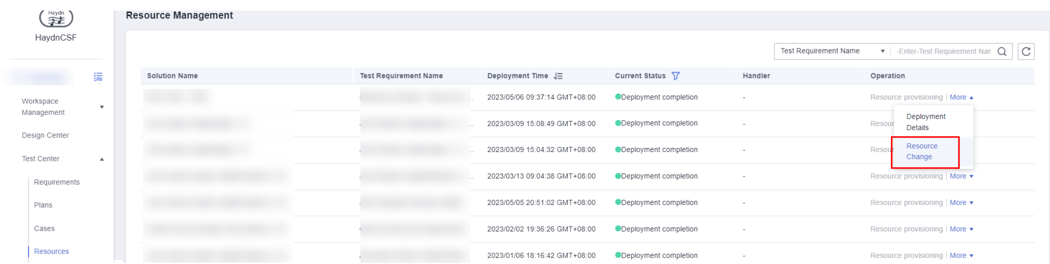


Resource Changes

After resources are deployed, the resource provisioning owner can initiate resource changes on the resource management page.

1. Access the workspace and choose **Verification Center** > **Resources**. On the displayed page, locate the desired requirement and click **Change**.

Figure 5-161 Resource change entry



2. On the resource change details page, modify cloud service resource remarks and application or component information.
3. Submit the modification.

5.3.5 Issue Management

Creating an Issue Ticket

Navigation path 1: Log in to HaydnCSF, select the desired workspace, and choose **Verification Center** > **Issues**. On the **Issue Management** page, click **Create** to create an issue ticket.

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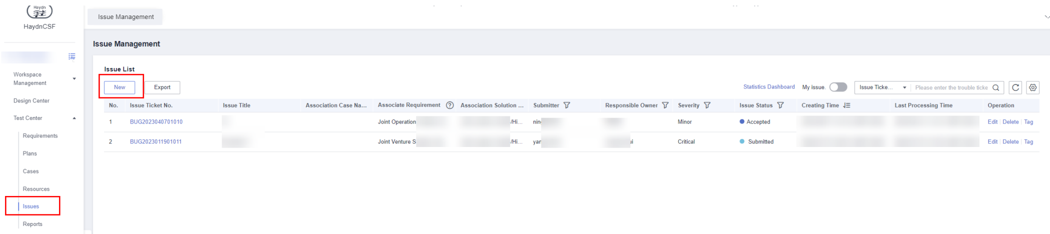
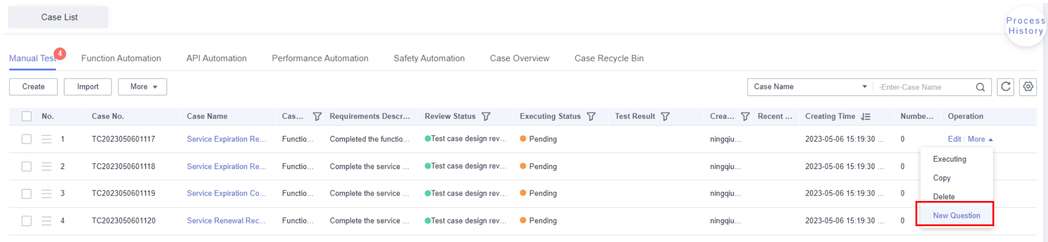
Figure 5-162 Issue Management



Navigation path 2: Log in to HaydnCSF, select the desired workspace, and choose **Verification Center** > **Cases**. On the **Case Management** page, choose **More** > **Create Issue** to create an issue ticket.

Figure 5-163 Case Management



1. On the displayed page, configure parameters under **Issue Description** and **Basic Information**. Parameters marked with a red asterisk (*) are mandatory.

   Figure 5-164 Creating an issue

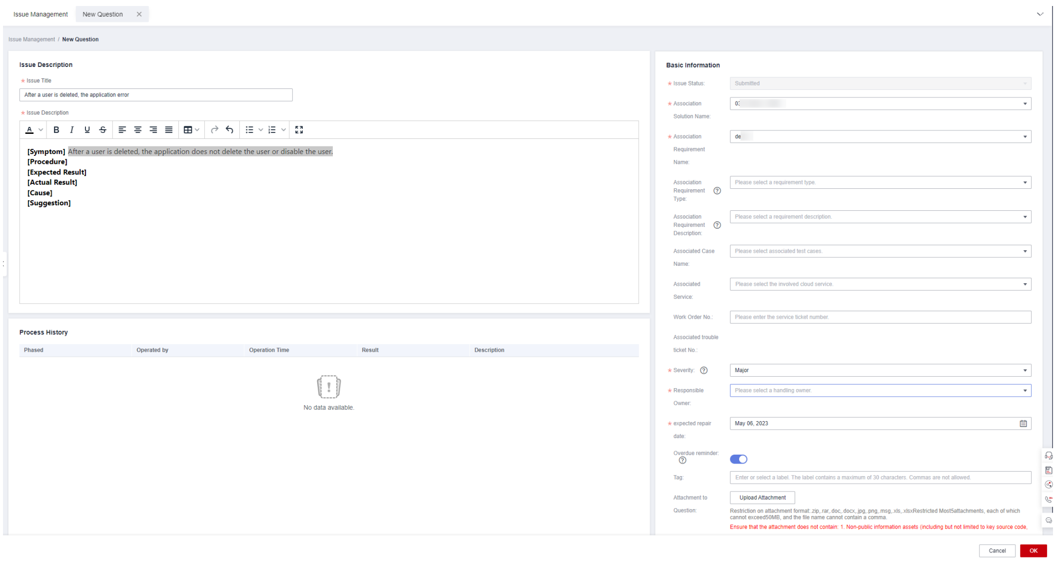
   

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Table 5-16 Parameters required for creating an issue

Parameter	Description
Issue Title	Enter a title for the new issue ticket. The title can contain key information such as the issue proposer, cloud service, or test case name.
Issue Description	Describe the issue in detail.
Associated Solution	Select the solution associated with the issue from the drop-down list.
Associated Requirement	Select the requirement associated with the issue from the drop-down list.
Requirement Type	Select the type of the requirement associated with the issue from the drop-down list.
Associated Case	Enter the name of the test case in which the issue occurs.
Service Ticket No.	If there is no issue ticket, create one as prompted and then enter the ticket ID.
Severity	● **Critical**: Critical issues that paralyze the system, for example, incorrect code, infinite loops, database deadlocks, and abnormal database connection or communication. As a result, the system or application breaks down, the system is suspended, or the data is lost. The key functions also become unavailable, and their modules or related modules are abnormal. ● **Major**: Major issues that congest services, for example, major statement errors, API errors, and database tables, service rules, and default values without integrity constraints. As a result, some key functions become unavailable and the data is lost. The auxiliary functions also become unavailable and their modules are abnormal. ● **Minor**: Common functional issues, for example, information errors, invalid module functions, incorrect log content, and unsatisfactory user experience and efficiency. As a result, some auxiliary functions are adversely affected, but can be used. ● **Information**: Non-functional issues, for example, spelling mistakes, non-standard interfaces, unclear descriptions, test object issues, and other issues proposed by testers. As a result, some software defects cause inconvenience to the operators, but have little impact on function implementation.

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Parameter	Description
Responsible Owner	Select an owner in the workspace who is responsible for handling the issue from the drop-down list.
Expected Rectification date	Select an expected date when the issue is resolved.
Overdue Reminder	A notification email will be sent for overdue tickets. This function is enabled by default.
Tag	Add a tag to the issue for users to easily query the issue by the tag on the **Issue Management** page.

2. Upload the related attachments and click **OK**.

Handling an Issue Ticket

After an issue ticket is created, the responsible owner will receive a to-do task and can view the issue details.

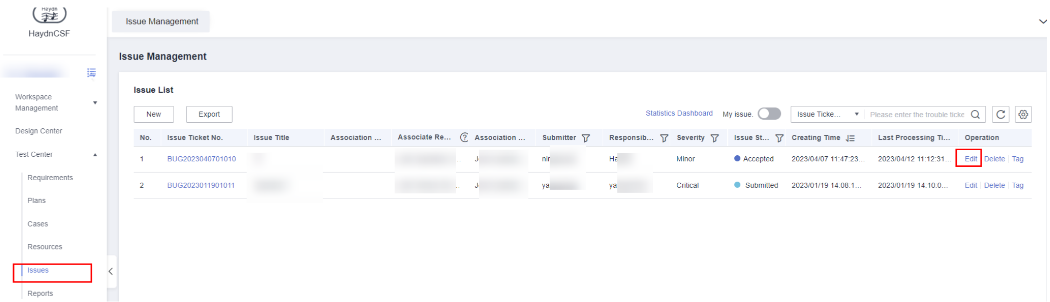
The responsible owner can handle the issue as follows:

1. Go to the issue details page as a user of any role. (The issue status is **Submitted**.)
2. Review the issue and check whether the issue is reasonable.
3. If the issue is reasonable, handle or rectify the issue. The issue status is changed to **Acceptance**. Enter the handling description, and change the responsible owner to the issue submitter.
4. Perform acceptance on the issue.
   - If the acceptance is passed, the issue status is changed to **Closed**.
   - If the acceptance fails, the issue status is changed to **Repair**. The issue will be rejected to the responsible owner again until the issue passes the acceptance and the issue status is **Closed**.

Procedure

1. Go to the **Issue Management** page, locate the issue ticket, and click **Edit** in the **Operation** column.

Figure 5-165 Issue Management



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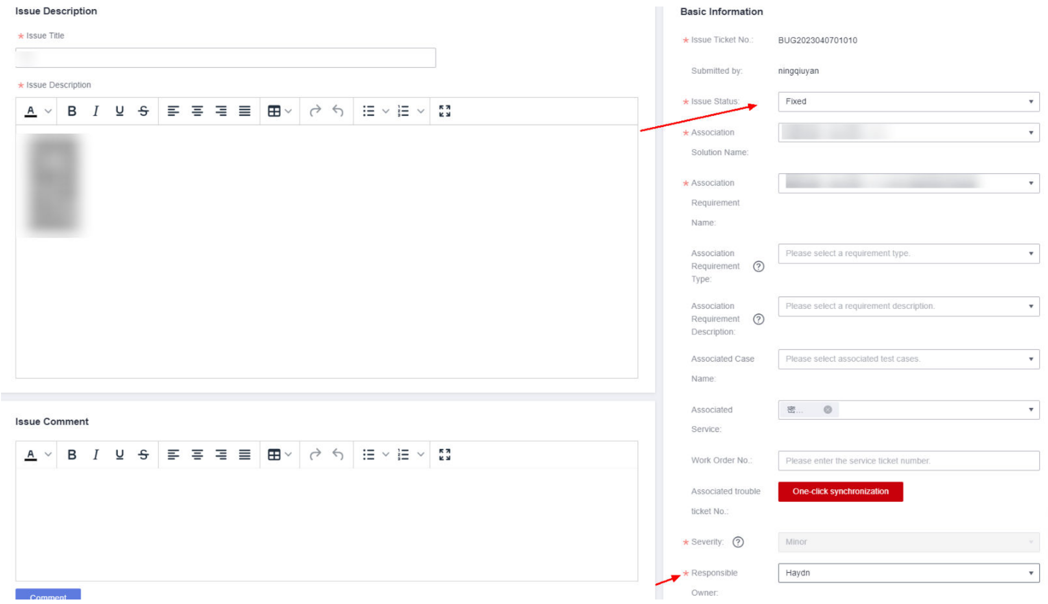
2. Enter the handling description and other information, change the issue status to **Acceptance**, and wait for acceptance. The issue submitter is selected as the responsible owner by default.

Figure 5-166 Editing the issue

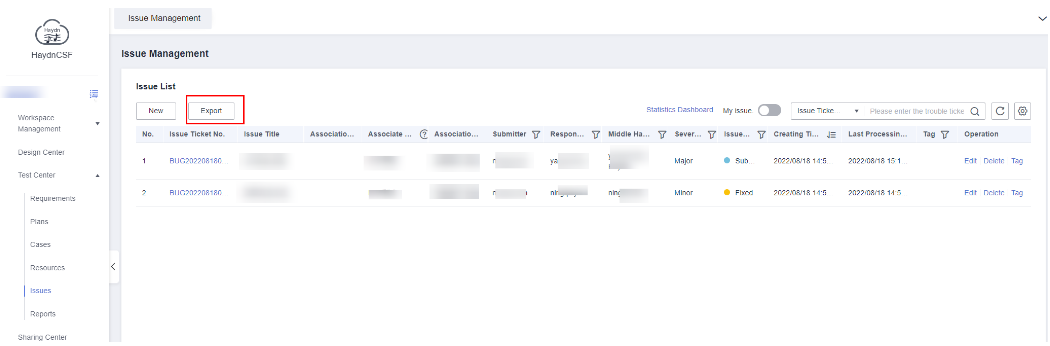


3. Check that the issue has been resolved, enter acceptance comments, and change the issue status to **Closed**.

Export the Issue Ticket

On the **Issue Management** page, click **Export** to export the issue ticket.

Figure 5-167 Issue Management



Issue Dashboard

On the **Issue Management** page, click **Statistics Dashboard** to view the issue closure status.

- **Test Requirement Distribution**: displays the proportion of issues in different requirements.
- **Associated Cloud Service Distribution**: displays the number and proportion of cloud services associated with issues.

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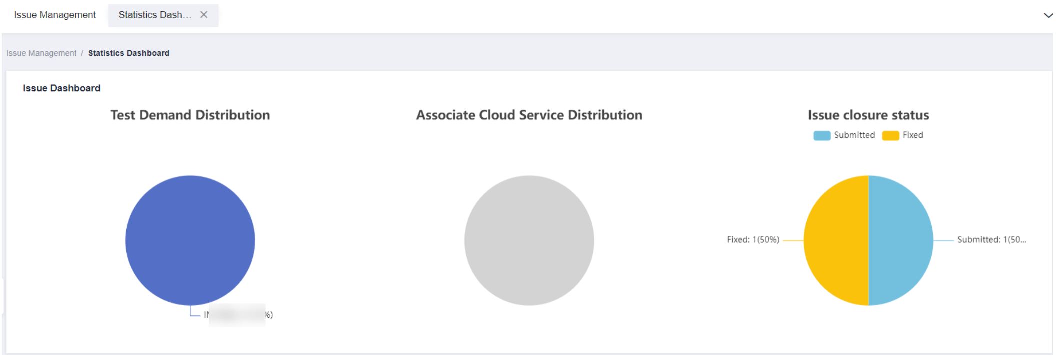
- **Issue Closure Status**: displays the proportion of issues in each phase.

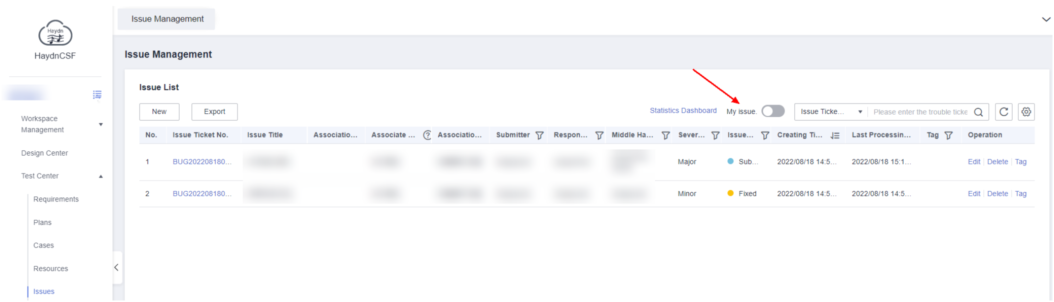
Figure 5-168 Issue Dashboard



Viewing My Issues

On the **Issue Management** page, you can click **My issue** to view the issues handled by yourself.

Figure 5-169 Viewing my issues

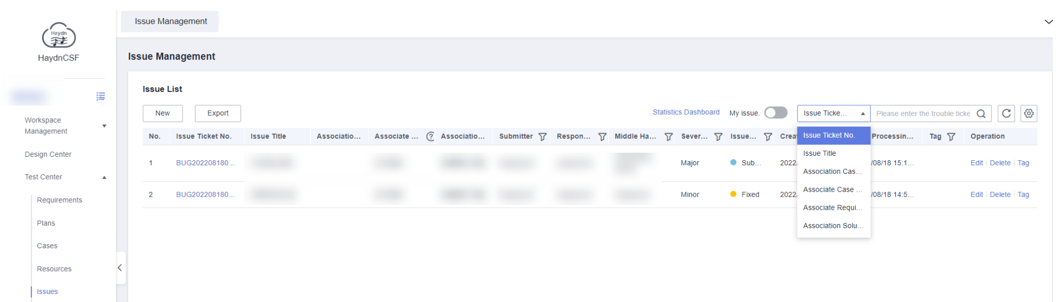


Querying Issues

On the **Issue Management** page, you can quickly query issues by search criteria and filtering conditions.

- Search criteria: The current options are the issue ticket ID, issue title, associated test case name, associated test case ID, associated requirement, and associated solution.
- Filtering conditions: The current options are the issue submitter, responsible owner, severity, status, creation time, and tag.

Figure 5-170 Querying issues



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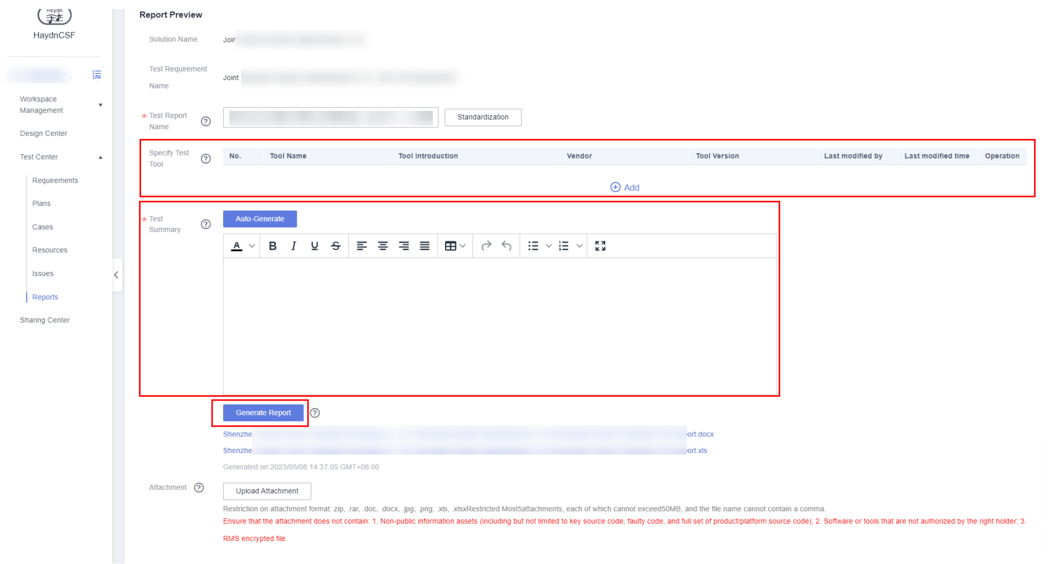
5.3.6 Report Management

Submitting a Test Report for Review

A test case executor can preview a report, generate a report, and submit a report for review on the case management page. For details, see **Report Generation and Submission**.

A report can be submitted to multiple reviewer. If one reviewer rejects the report, the report fails the review and needs to be submitted again. The review result will be sent to the submitter with an email address bound to HaydnCSF.

Figure 5-171 Submitting a report for review

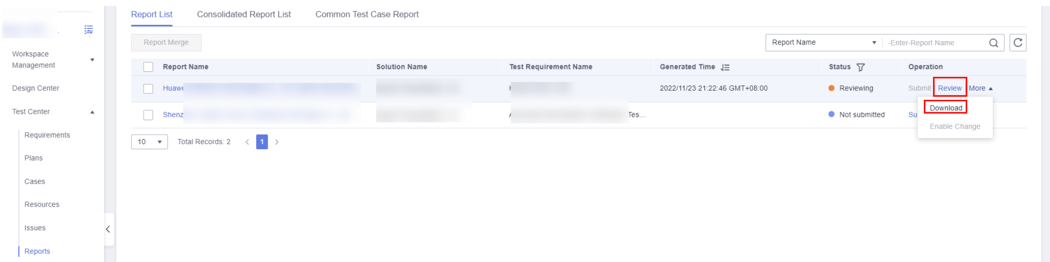


Reviewing a Test Report

1. Log in to HaydnCSF as the report reviewer, select the workspace, and choose **Verification Center** > **Reports**. On the displayed page, locate the report and click **Review** in the **Operation** column.

   All users in the workspace can click **Download** to download the test report to the local PC.

   Figure 5-172 Report management

2. On the report review details page, view the test case execution result and review comments. A report reviewer can approve or reject a report and enter the review comments.

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Figure 5-173 Report review details

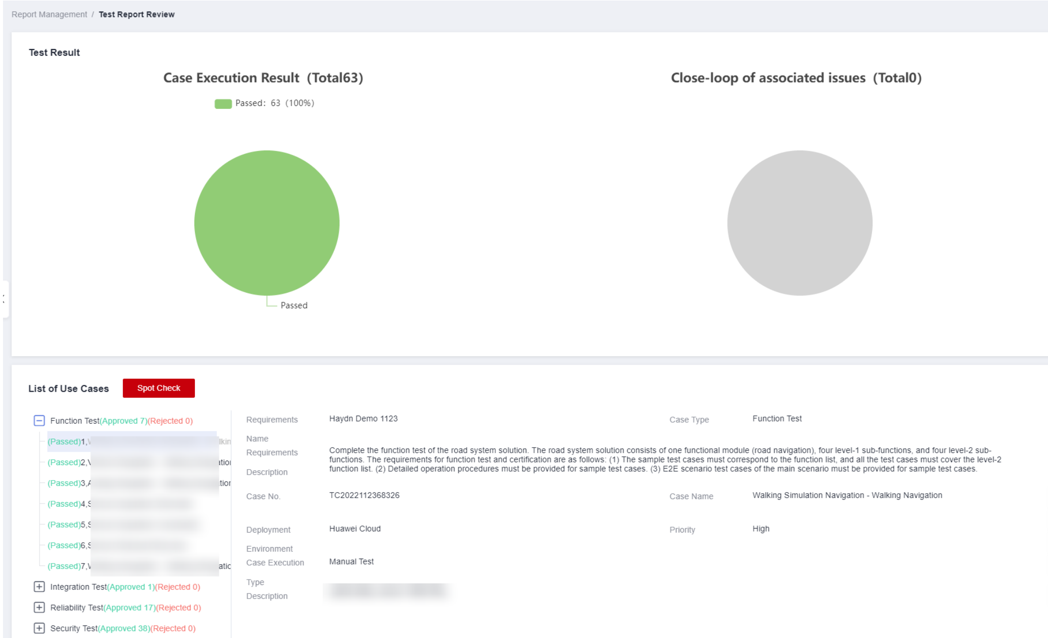
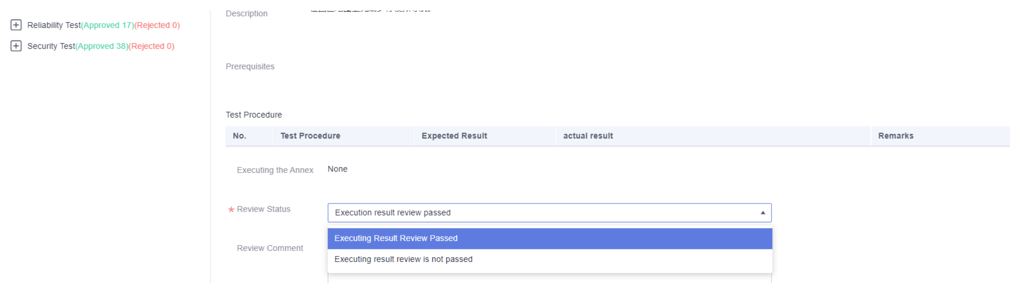


Figure 5-174 Test case execution result



3. Check all the content and approve or reject the report, transfer the report to others, or approve the report when specific conditions are met. Enter the handling description and click **Submit**.

   The status of the report will be approved, rejected, reviewing, or approved with conditions.

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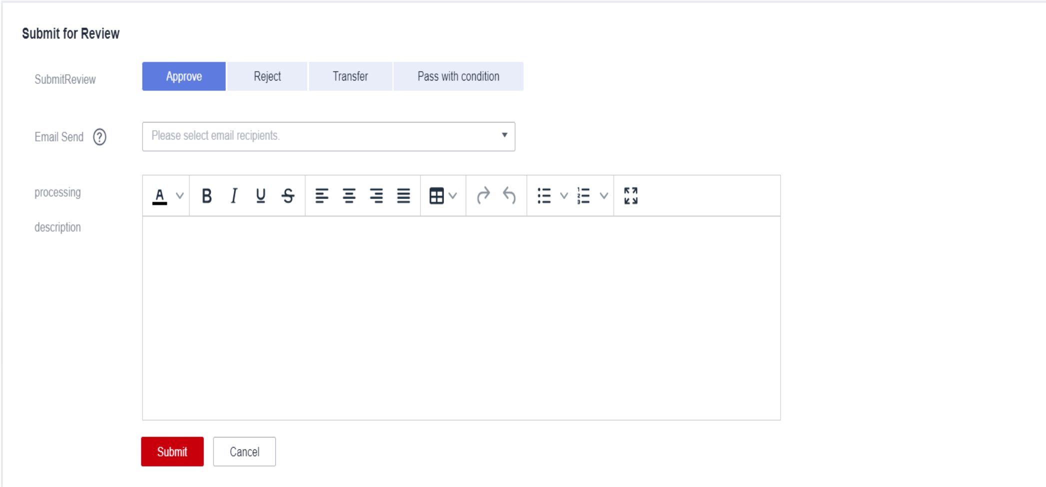
Figure 5-175 Report review



4. On the report management page, view the review status of each report.

5. Click the report name to go to the report details page and view the case execution result and other review information.

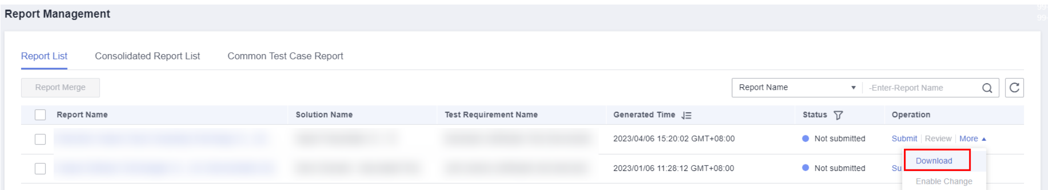
NOTE

The multi-person review process is similar to the single-person review process. However, if there are multiple reviewers, the report status is approved until the report is approved by all reviewers. If the report is rejected by any reviewer, the report needs to be submitted for review again.

Downloading a Test Report

Access the workspace as the member and choose **Verification Center** > **Reports**. On the displayed page, locate the generated report and click **Download**.

Figure 5-176 Downloading a test report



Consolidating Reports in the Report List

Different reports of a solution can be consolidated in the report list. The procedure is as follows:

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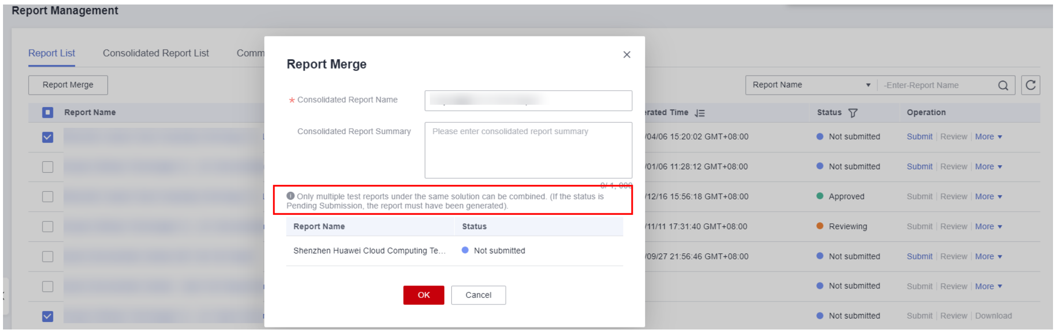
1. Access the workspace and choose **Verification Center** > **Reports**. On the displayed page, select two reports of a solution and click **Report Merge**.

Figure 5-177 Report management



2. In the displayed dialog box, modify the consolidated report name, enter the consolidated report summary, and click **OK**.
3. Wait for about 5 minutes. In the consolidated report list, the consolidated report is in the consolidating state and will be changed to the consolidated state until the consolidation is complete.
4. Download, update, or delete the consolidated report.

   If you want to update the consolidated report, modify its name and summary, and determine whether to update the associated test report. (If the associated test report has no change, it is unavailable.)

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6 O&M Workspace

6.1 Introduction to O&M Event Center

The Haydn O&M Event Center is a one-stop O&M digital platform providing monitoring, alarms, notifications, event conversion, and ITIL-based event SLA management.

For details about how to use the O&M Event Center, see **Performing One-Stop O&M on HaydnCSF** of *Getting Started*.

Unified Access of Alarm Sources

The Haydn O&M Event Center can receive alarms from seven sources (Cloud Eye, Zabbix, eSight, AOM, Prometheus, Grafana, and SkyWalking) by service.

Automatic Event Generation

Transfer rules can be configured for alarms to be automatically converted to events.

Refined Scheduling of O&M Engineers

Each service supports refined scheduling. Event tickets can be automatically allocated to O&M engineers based on the scheduling.

Multi-Channel Notifications of O&M Events

O&M events can be sent to on-duty engineers through multiple channels, such as emails, SMS messages, and group messages from DingTalk, WeCom, or WeLink.

Flexible SLA Management of O&M Events

SLAs are controllable and manageable for O&M events and can be configured for each service based on event response and handling. If an SLA expires, a notification will be sent by IM group, email, and SMS message.

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6.2 Getting Started with O&M Event Center

Flowchart description

1. Create an O&M workspace.

   You need to create an O&M workspace first and then use the O&M Event Center whose all functions are displayed in the O&M workspace.

   Log in to HaydnCSF and click **Workspaces**. Click **Create**. Set **Type** to **O&M**, enter the workspace name, and click **Save**.

   Figure 6-1 Workspaces

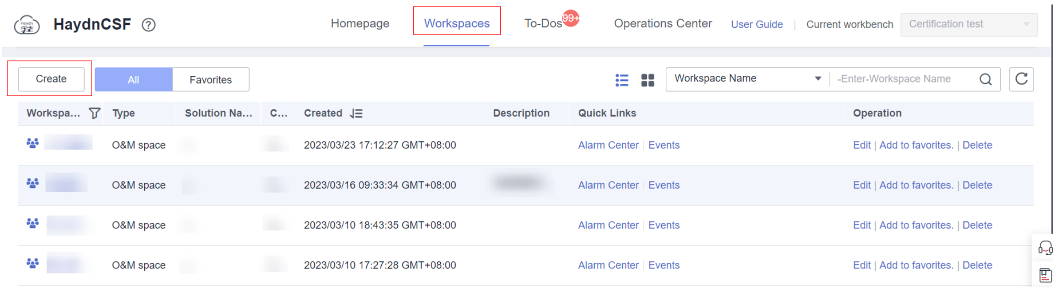
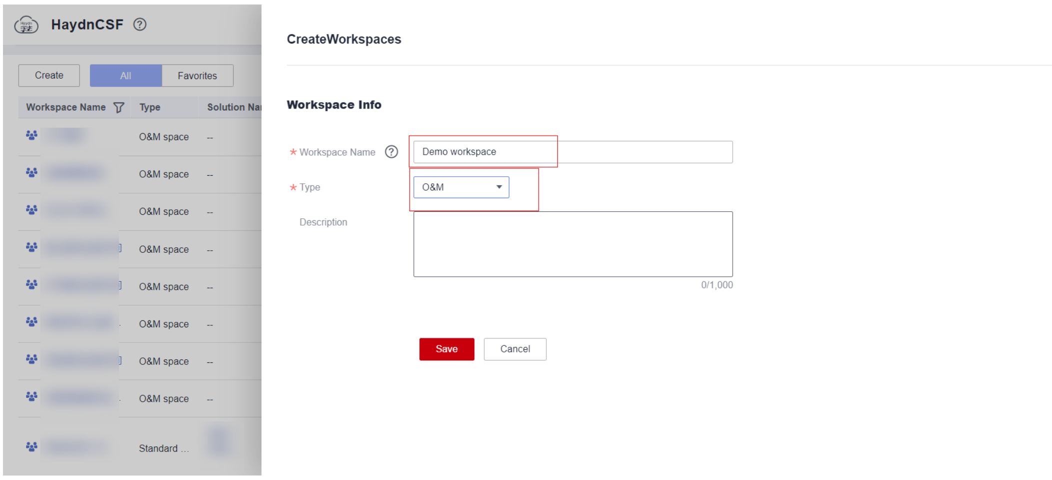
   

   Figure 6-2 New O&M workspace

2. Create projects as the minimum units of project management. For details, see **Creating a Project**.
3. Create services and manage O&M events by service. For details, see **Creating a Service**.
4. Add users. For details, see **Adding a User**.
5. Create user groups to manage users. An administrator group and an O&M engineer group are recommended. For details, see **Creating a User Group**.
6. Authorize user groups to manage user permissions, including O&M administrator policies, O&M engineer policies, and customer policies. For details, see **Authorizing a User Group**.
7. Schedule O&M engineers to respond to events in a timely manner. For details, see **Scheduling a User Group**.

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8. Configure SLA management policies. For details, see **SLA Management**.
9. Integrate monitoring sources to implement unified monitoring of infrastructure and applications. For details, see **Integration Configuration**.
10. Configure rules to convert alarms to events. For details, see **Creating a Transfer Rule**.
11. Manually create events. For details, see **Creating an Event**. (If the alarms reported by the monitoring sources integrated in **9** are matched with the rules in **10**, event tickets will be automatically created.)
12. Respond to events. For details, see **Responding to an Event**.
13. Handle events. For details, see **Handling an Event**.
14. Verify events. For details, see **Verifying an Event**.

6.3 Homepage

On the **Workspaces** page of the HaydnCSF platform, you can click the O&M workspace name to go to the O&M workspace homepage.

- **Operation process**

  The operation process is displayed on the homepage. You can click **Get Started** to view details about each step.

Figure 6-3 O&M workspace homepage

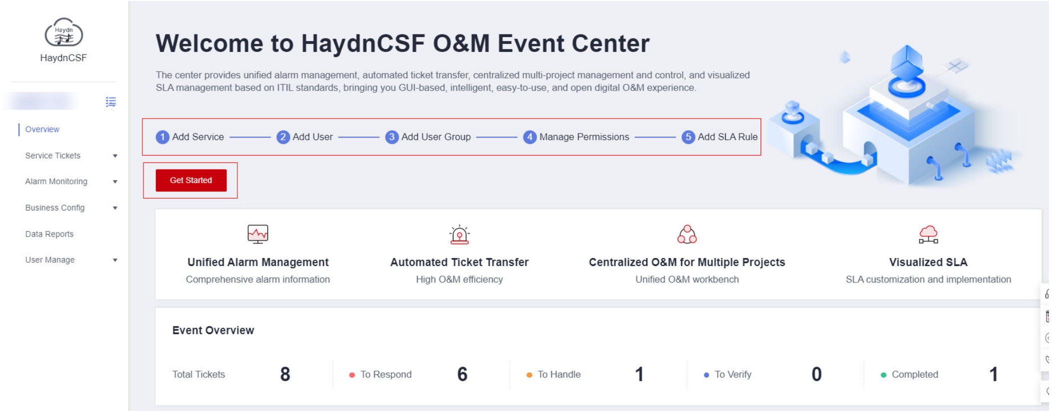
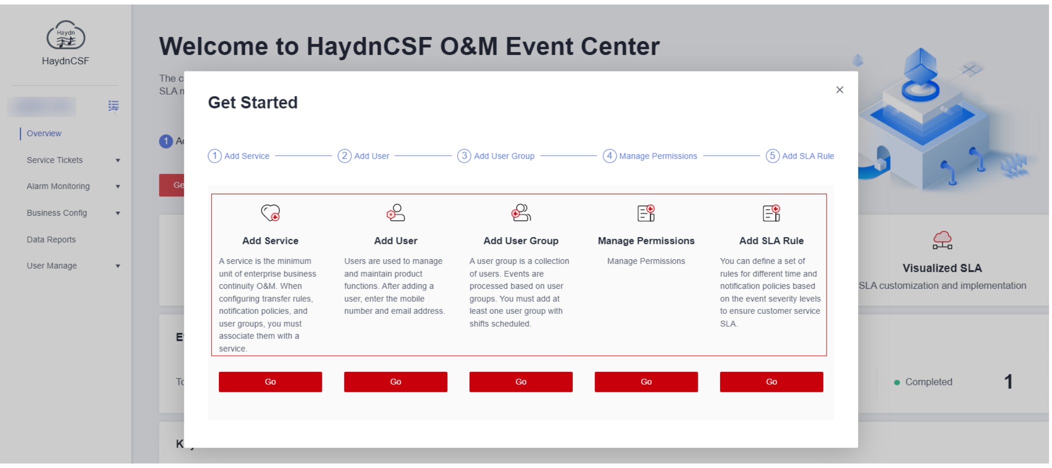


Figure 6-4 Get Started



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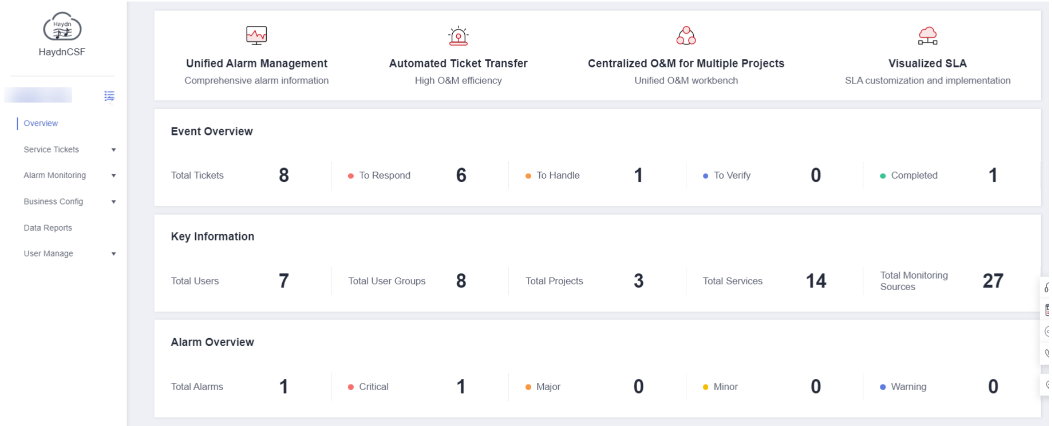
- **Information overview**

  On the homepage, you can view information about **Event Overview** (displaying the number of O&M events in each status), **Key Information** (displaying the numbers of total users, total user groups, total projects, total services, and total monitoring sources), and **Alarm Overview** (displaying the number of alarms at each alarm severity).

  Figure 6-5 Homepage overview



6.4 Service Ticket Management

6.4.1 Event Management

Events occur when indicators exceed their thresholds during system running. They can be manually created or automatically generated by the alarm monitoring module. Their severity ranges from P1 to P5 on HaydnCSF. P1 is the most severe level.

- P1: All core services of customers are adversely affected. For example, all systems break down, causing all core services to be unavailable.
- P2: Some core services of customers are adversely affected. For example, some key applications or functions do not work, causing multiple core services to be unavailable.
- P3: A single core service is adversely affected. For example, a single application or function does not work, causing a core service to be unavailable.
- P4: Common services are adversely affected, but alternative solutions are available. If faults cannot be rectified in time, the production process may be affected.
- P5: There are customer consultation or backend data query issues, but services are not affected.

Creating an Event

Access the desired O&M workspace and choose **Service Tickets** > **Events**. Click **Create Event** and configure parameters **Event Name** (summarize the event), **Event Description** (describe the event), **Project**, **Service**, and **Event Severity**.

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After an event is created, on-duty members will receive a notification.

Figure 6-6 Creating an event

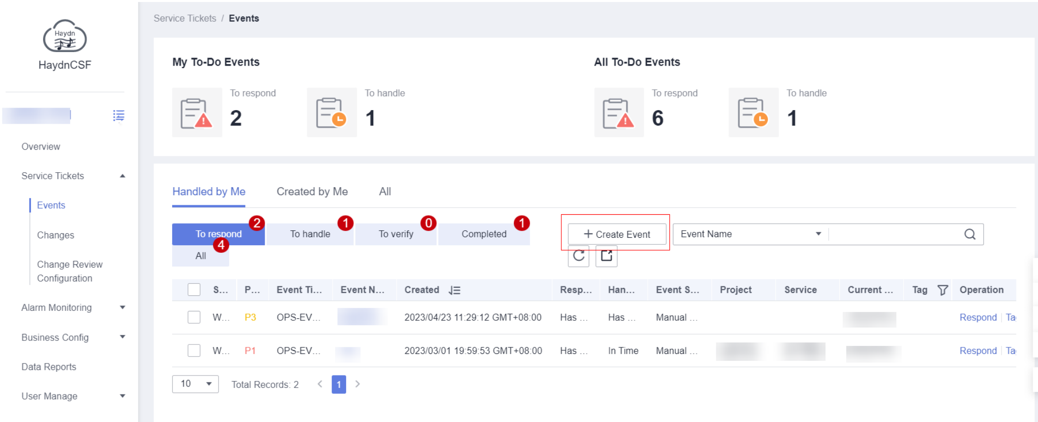
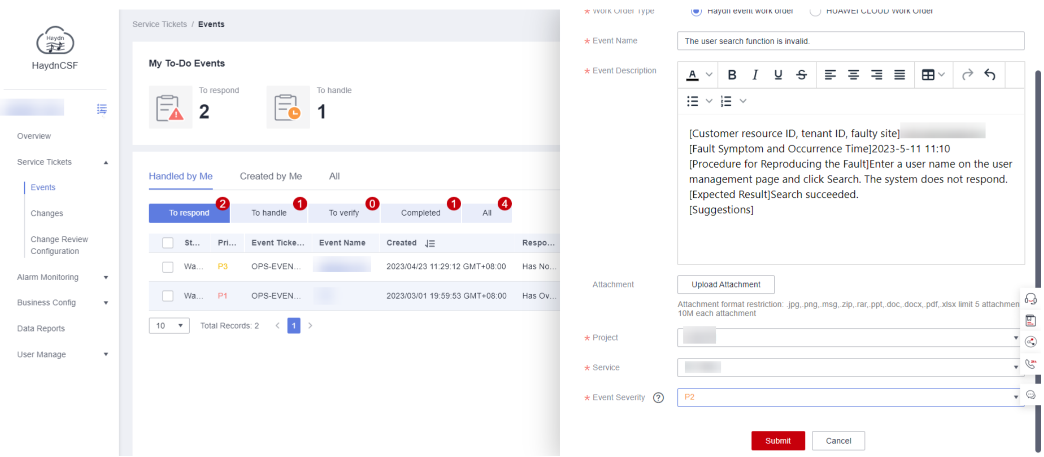


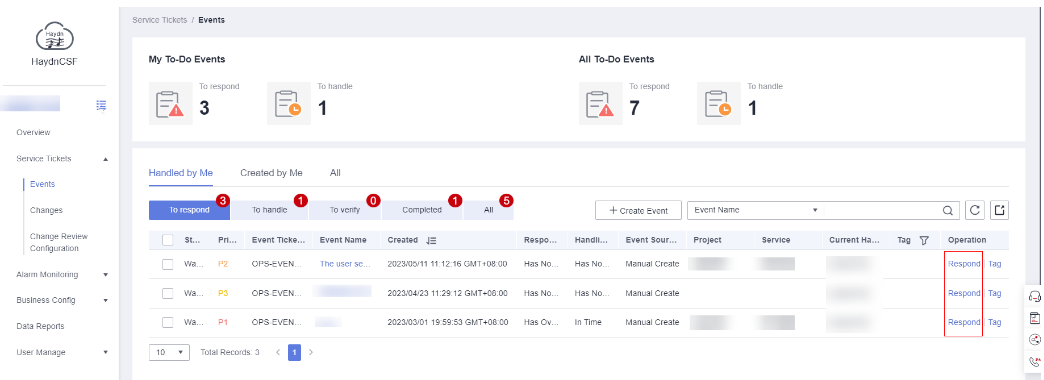
Figure 6-7 Configuring parameters



Responding to an Event

The status of a new event is **To respond**, indicating that an O&M engineer needs to acquire the basic information about the event.

Figure 6-8 Responding to an event



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NOTE

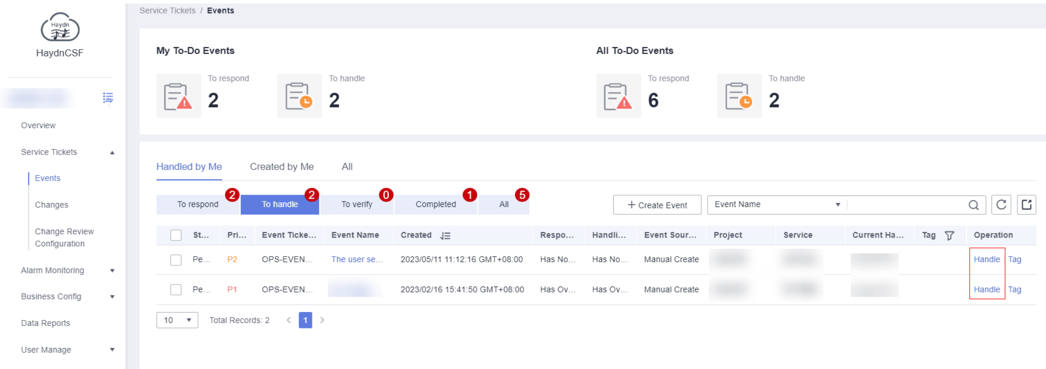
- If the O&M engineers in a user group associated to a service are not scheduled, all O&M engineers can respond to events of the service as the handlers.
- If the O&M engineers in a user group associated to a service have been scheduled, only the on-duty O&M engineer can respond to events of the service as the handler. For details about scheduling operations, see **Scheduling a User Group**.

Handling an Event

The status of a responded event is **To handle**, indicating that the handler needs to handle the event.

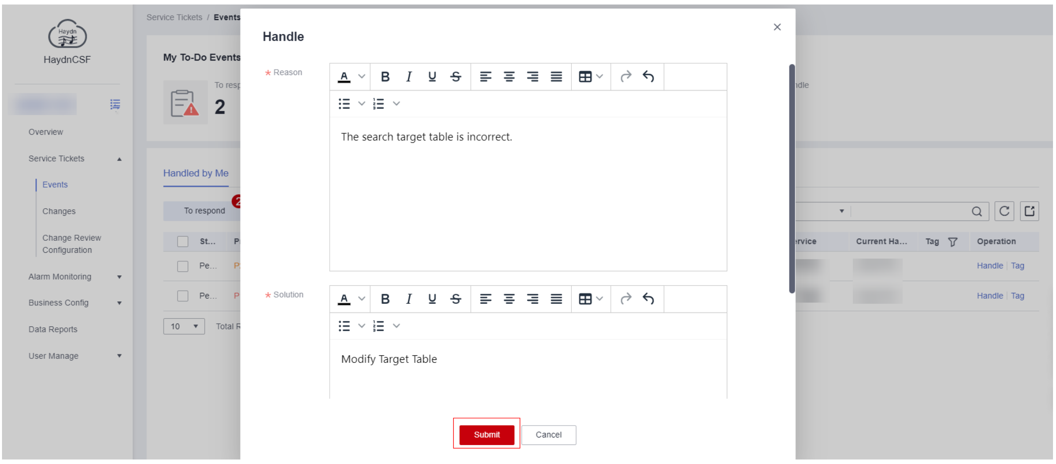
1. Locate the responded event and click **Handle** in the **Operation** column.

Figure 6-9 Handling an event



2. Enter the event reason and solution and click **Submit**.

Figure 6-10 Submitting an event



How can I transfer an event to other engineers?

If you are not responsible for handling an event or the service that an event belongs to is incorrect, you can transfer the event to engineers of other services.

Click the event name to go to the **Details** page. In the lower right corner, click **Transfer**. In the displayed dialog box, select the service and recipient.

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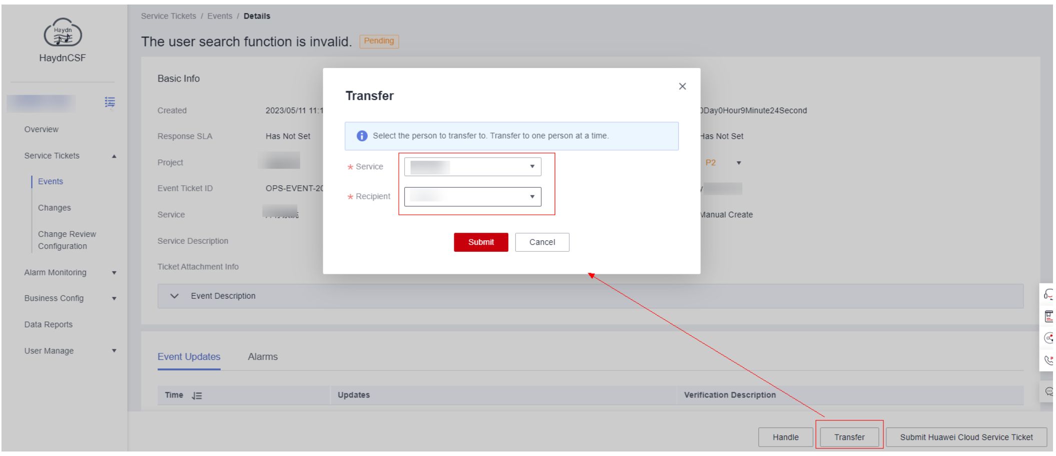
Figure 6-11 Transfer



Verifying an Event

The status of a handled event is **To verify**, indicating that the event creator needs to verify the event.

Locate the handled event and click **Verify** in the **Operation** column. In the displayed dialog box, configure **Verification Result** and **Description**. The options of **Verification Result** are as follows:

- **Unresolved**: The event is not resolved successfully and its status becomes **To handle**.
- **Resolved**: The event has been resolved and its status is **Completed**.

Click **Submit**.

Figure 6-12 Event verification entry

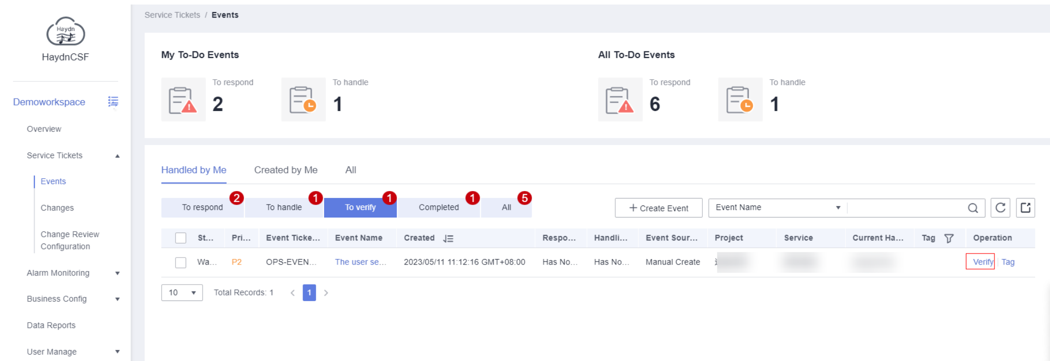


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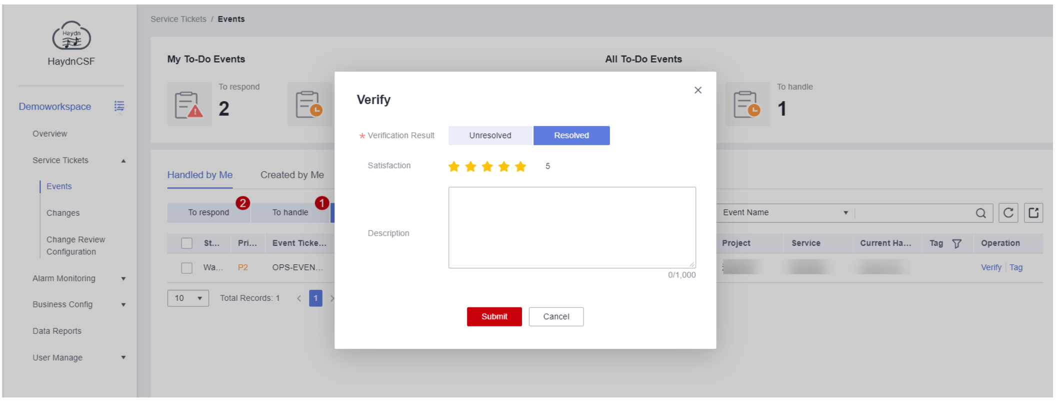
Figure 6-13 Verifying an event



NOTE

If the verified event is not accepted, the acceptance will be automatically triggered 14 working days later.

6.4.2 Change Management

O&M engineers sometimes need to change and adjust services, such as version update. This module displays the management process of such operations.

Adding a Change

O&M engineers can manually add a change.

Access the O&M Event Center and choose **Service Tickets** > **Changes**. Click **Add Change** and configure parameters.

Table 6-1 Parameters required for adding a change

Parameter	Description
Change Subject	Enter a title for the change, for example, **User Management Version Update**.
Change Reason	Enter the change reason.
Change Content	Enter the change content.
Attachment	Upload the reference attachment, which must contain the change solution, change meeting review minutes, and change approval email screenshot.
Project	Select the project that the changed object belongs to.
Service	Select the service that the changed object belongs to.
Change Impact	Enter the change impact.

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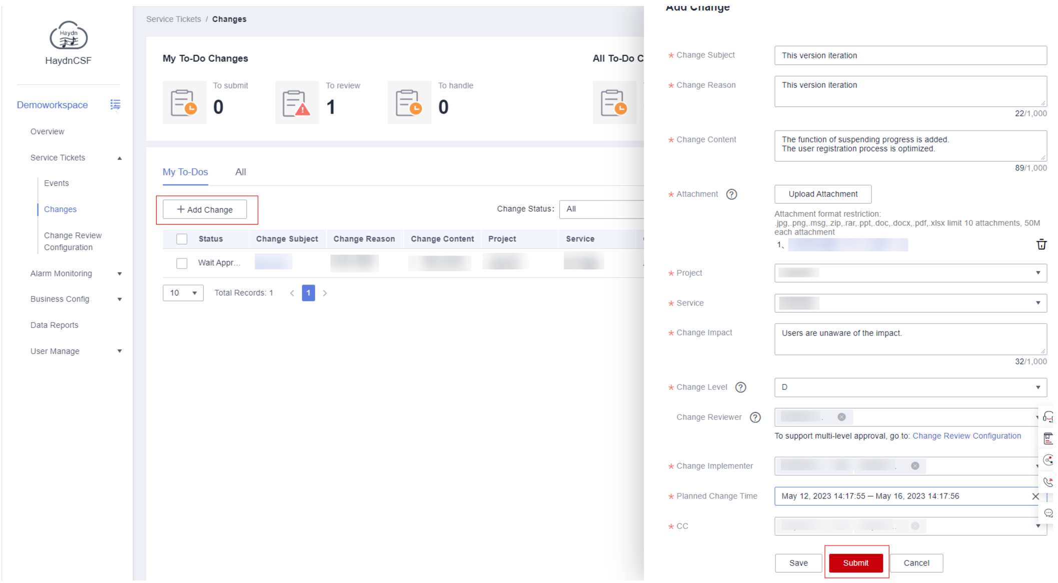
Parameter	Description
Change Level	Select the level of the change impact on users. • **A**: Changes that cause the customers' service systems to be unavailable and services to be interrupted for 5 seconds or longer. • **B**: Changes that cause the customers' service systems to be unavailable and services to be interrupted for less than 5 seconds. • **C**: Changes that are perceived by customers but do not interrupt services and require customers' assistance. • **D**: Changes that do not interrupt services and are not perceived by customers.
Change Reviewer	Select a reviewer to approve the change. This parameter is mandatory for level-A to level-B changes. For details about multi-level approval, see **Change Review Configuration**.
Change Implementer	Select the engineer who implements the change.
Planned Change Time	Plan the start and end time of the change.
CC	Select the recipient of the email notification for the change.

Figure 6-14 Adding a change



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6.4.3 Change Review Configuration

Administrators can configure the change review process, including reviewers and review rules. Reviewers can perform change operations based on the configured process.

In the O&M workspace, choose **Service Tickets** > **Change Review Configurations**. Click **Add Change Review Config** and configure parameters.

Figure 6-15 Change review parameters

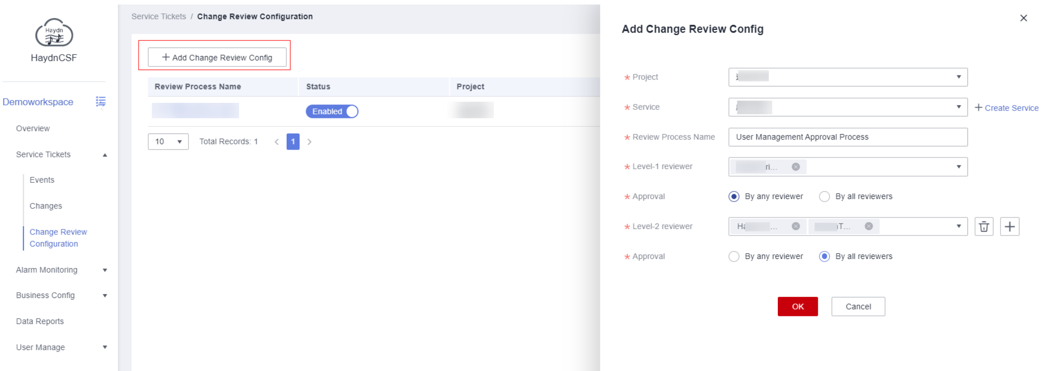

Table 6-2 Parameters required for the change review

Parameter	Description
Project	Select the project that the review process belongs to.
Service	Select the service that the review process belongs to.
Review Process Name	Enter a name for the review process.
Level-1 Reviewer	Click the plus sign (+) on the right to add reviewers of more levels.
Approval	The options are as follows: ● **By any reviewer**: The change at this level can be approved by any reviewer. ● **By all reviewers**: The change at this level must be approved by all reviewers.

6.5 Alarm Monitoring

6.5.1 Alarm Center

On **Alarm Center**, you can view all alarm information and clear alarms. If you want to convert an alarm to an event, configure a transfer rule by referring to **Transfer Rules**.

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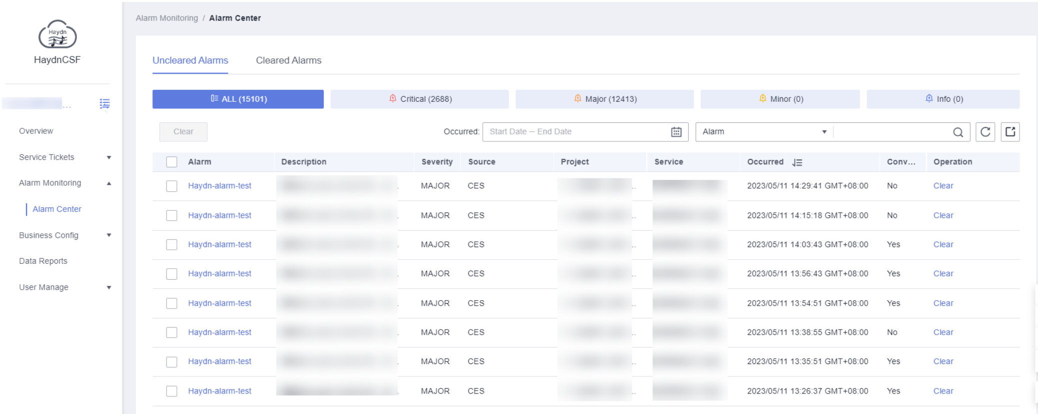
- You can filter alarms by alarm status (**Uncleared Alarms** or **Cleared Alarms**) and alarm severity (**Critical**, **Major**, **Minor**, or **Info**).
- You can click **Clear** above the alarm list to clear the selected alarms.

Figure 6-16 Alarm Center



6.6 Business Configurations

6.6.1 Project Management

All objects in an O&M workspace belong to specific projects. Before managing O&M events, you need to create at least one project.

Creating a Project

Create an O&M project as an O&M administrator. Access the O&M workspace, choose **Business Config** > **Projects**. On the displayed page, click **Create**. In the displayed dialog box, configure parameters as follows:

- **Project**: (Mandatory) Enter the name of the project that the O&M object belongs to.
- **Solution Name**: (Optional) Select the solution associated with the project. If there is no required solution, check whether the solution has been released as a solution template.
- **Customer Primary Account**: (Optional) Enter the primary account of the project.
- **Project Description**: (Optional) Describe the project.

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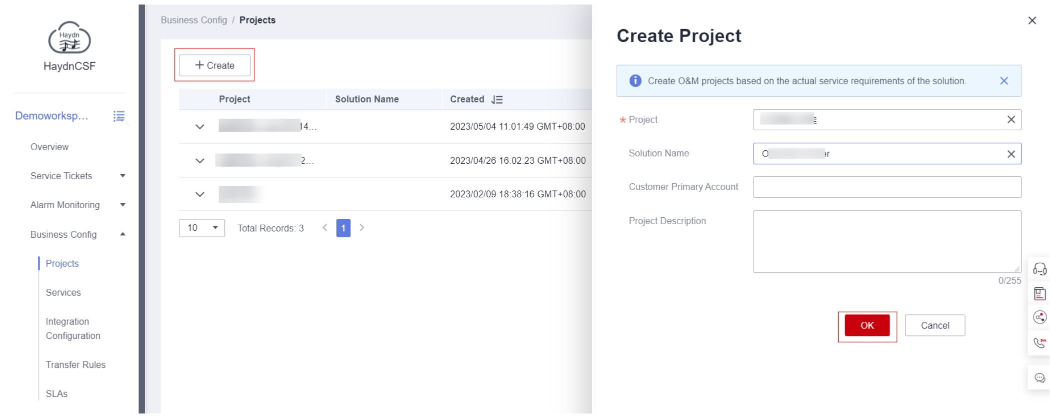
Figure 6-17 Creating a project



Operating a Project

An O&M administrator can edit, delete, or clone a created project as follows:

- Editing a project: Click **Edit** in the **Operation** column of the created project and modify the project name, associated solution, primary account, and project description.
- Deleting a project: Click **Delete** in the **Operation** column of the created project. Note that deleted projects cannot be restored.
- Cloning a project: Click **Clone** in the **Operation** column of the created project. Its associated services, integration configurations, transfer rules, SLAs, and user groups will be cloned synchronously.

6.6.2 Service Management

A service is the minimum unit of enterprise business continuity O&M and a specific module in an O&M project. When configuring transfer rules, notification policies, and user groups, you must associate them with specific services. For example, if the network system of a project is maintained by a professional team, the network system can be specified as a service. The event ticket, user group, and SLA modules must be bound to the service.

Creating a Service

Create a service as an O&M administrator. Access the O&M workspace, choose **Business Config** > **Services**. On the displayed page, click **Create**. In the displayed dialog box, configure parameters as follows:

- **Service**: (Mandatory) Enter a service name.
- **Project**: (Mandatory) Select the project that the service belongs to.
- **Service Description**: (Optional) Describe the service in detail.

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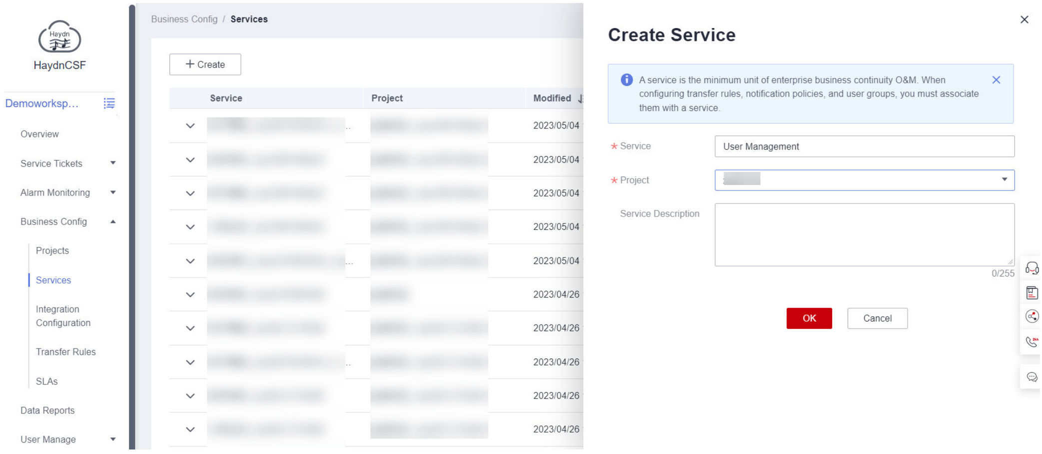
Figure 6-18 Creating a service



Operating a Service

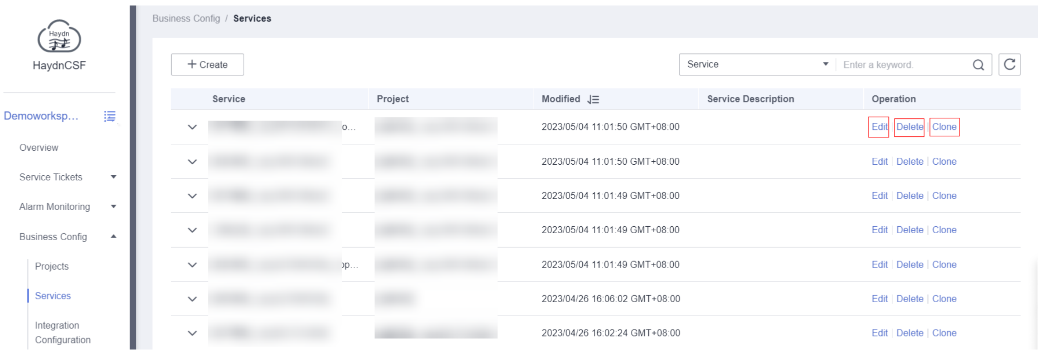
An O&M administrator can edit, delete, or clone a created service as follows:

- Editing a service: Click **Edit** in the **Operation** column of the created service and modify the service name and description. The project name cannot be modified.
- Deleting a service: Click **Delete** in the **Operation** column of the created service. Note that deleted services cannot be restored.
- Cloning a service: Click **Clone** in the **Operation** column of the created service. Its integration configurations, transfer rules, SLAs, and user groups will be cloned synchronously.

O&M administrators can edit the name and description of a new service.

Go to the service management page, click **Edit** to edit the name and description, and click **OK**.

Figure 6-19 Operating a service



6.6.3 Integration Configuration

O&M engineers and administrators can create integration configurations. The integration configurations enable you to easily and quickly integrate with existing open-source and third-party monitoring systems to centrally collect and manage alarms of all monitoring systems in a service group.

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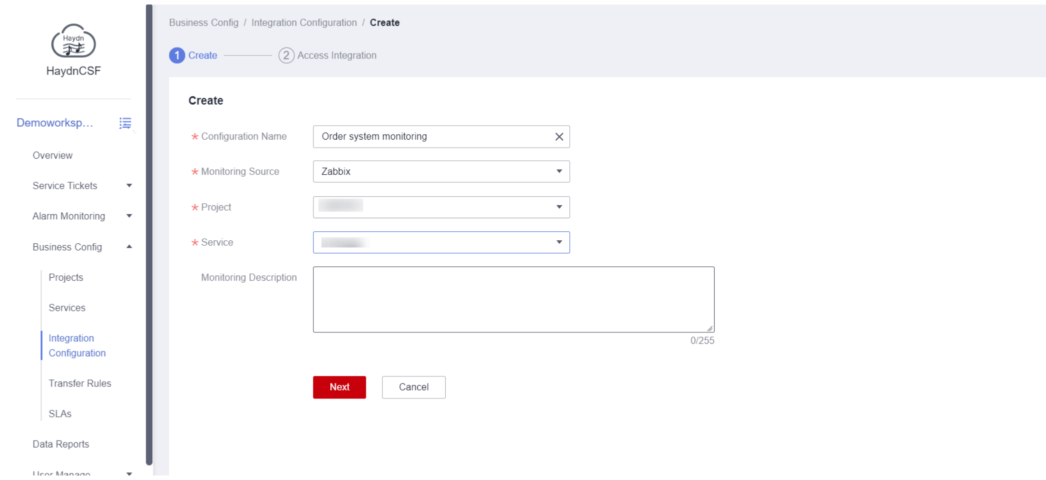
Creating an Integration Configuration

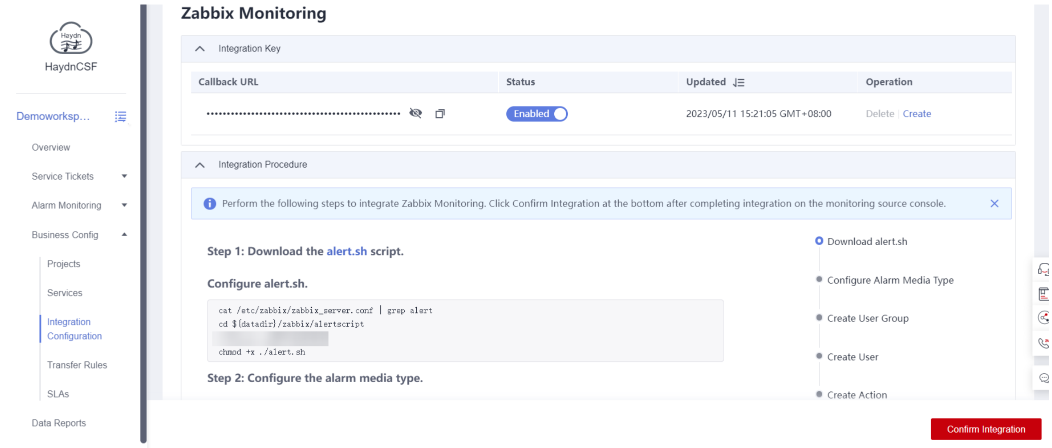
1. Access the workspace, choose **Business Config** > **Integration Configurations**. On the displayed page, click **Create**.
2. In the displayed dialog box, configure the following parameters and click **Next**.
   - **Configuration Name**: Enter a configuration name.
   - **Monitoring Source**: Select a monitoring source (alarm source) from the drop-down list. The current options are Cloud Eye, Zabbix, eSight, AOM, Prometheus, Grafana, and SkyWalking.
   - **Project**: Select the project that the monitoring source belongs to from the drop-down list.
   - **Service**: Select the service that the monitoring source belongs to from the drop-down list. Currently, alarms are monitored by service.
   - **Monitoring Description**: Describe the monitoring.

Figure 6-20 Creating an integration configuration



3. Complete the integration configuration based on the procedure guide of the monitoring source.

Figure 6-21 Access Integration



4. Click **Confirm Integration**.

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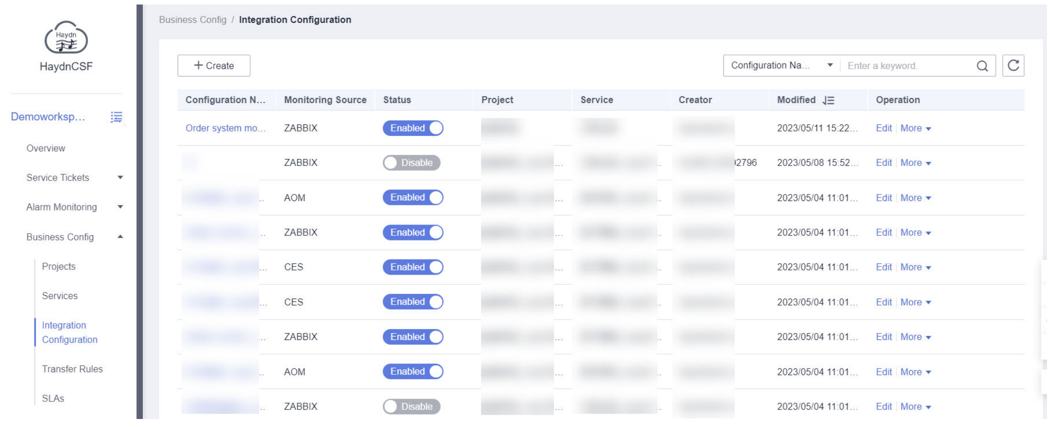
Enabling Monitoring

You can enable or disable integrated monitoring sources.

- **Enable**: Alarms generated by monitoring sources will be synchronized to **Alarm Center** of the O&M Event Center. If such alarms need to be converted to events, you can configure transfer rules by referring to **Transfer Rules**.
- **Disable**: Alarms generated by monitoring sources will not be displayed in the O&M Event Center.

Figure 6-22 Monitoring source status



6.6.4 Transfer Rules

After matching original alarms with transfer rules, the system can automatically assign event tickets and send them to task handlers.

Creating a Transfer Rule

O&M engineers and administrators can create transfer rules.

1. Access the workspace, choose **Business Config** > **Transfer Rules**, and click **Create**.
2. In the displayed dialog box, configure **Rule Name**, **Project**, **Service**, and **Description**.

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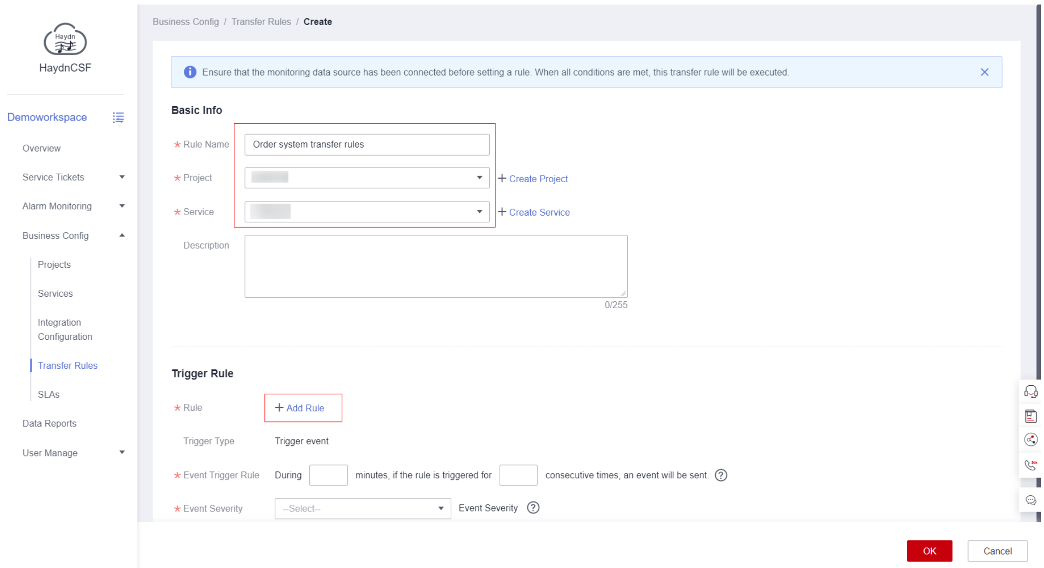
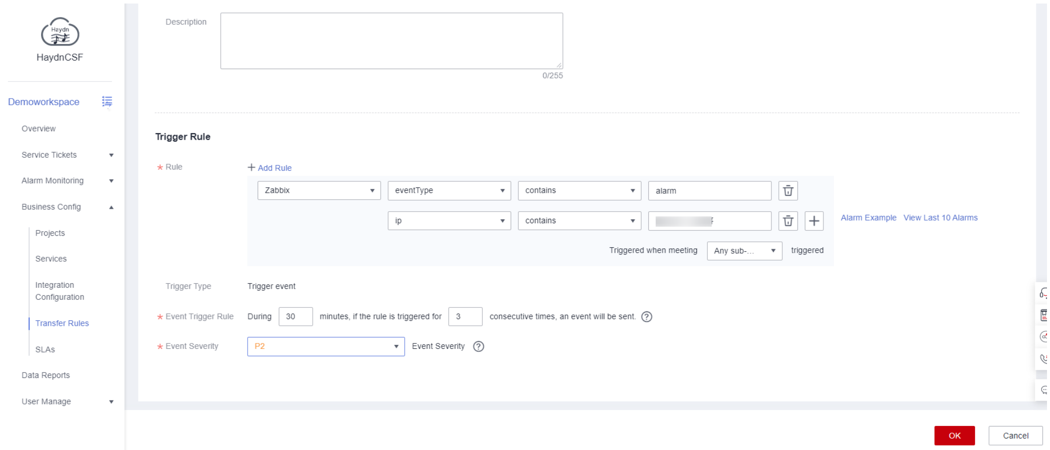
Figure 6-23 Creating a transfer rule



3. Under **Trigger Rule**, configure parameters to specify the conditions for triggering an alarm generated by a monitoring source. For example, if an alarm generated by Cloud Eye contains the keyword **Major** and is triggered three times within 30 minutes, a P2 event will be generated and sent to the corresponding service.

Figure 6-24 Trigger Rule



6.6.5 SLA Management

SLA management manages O&M efficiency, which measures O&M engineers' timeliness of responding to and handling events. O&M administrators can create SLAs.

Access the O&M workspace, choose **Business Config** > **SLAs**, click **Create**, and configure parameters.

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Table 6-3 Parameters required for SLA management

Parameter	Description
SLA Management Name	Enter an SLA name.
SLA Management Description	Describe the SLA.
Project	Select the project that the SLA belongs to.
Service	Select the service bound to the SLA.
SLA Management Rule	Select the event level of the SLA.
Event Response SLA/Event Handling SLA	There are two types of SLA: event response SLA and event handling SLA.
Response Time/ Handling Duration	Enter the time you spend on responding to and handling an event, respectively.
Timeout Notification Object	Select the users to be notified when the event response or handling time exceeds the threshold.
Notification Channel	Notifications can be sent by SMS message or email. Note: If you want to receive SMS or email notifications, ensure that you have subscribed to email or SMS notifications. For details, see **Users**.
Notification Group	If an event is not responded or handled in a timely manner, a notification will be sent to the user group.

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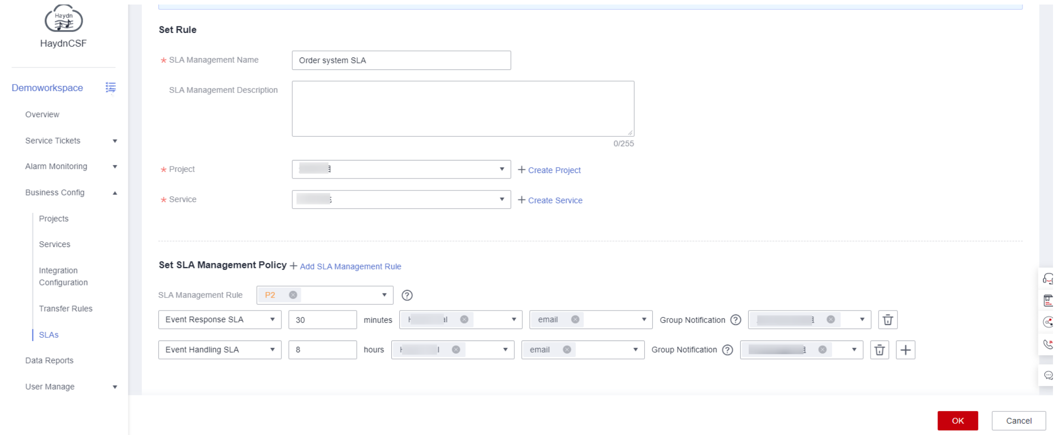
Figure 6-25 Creating an SLA



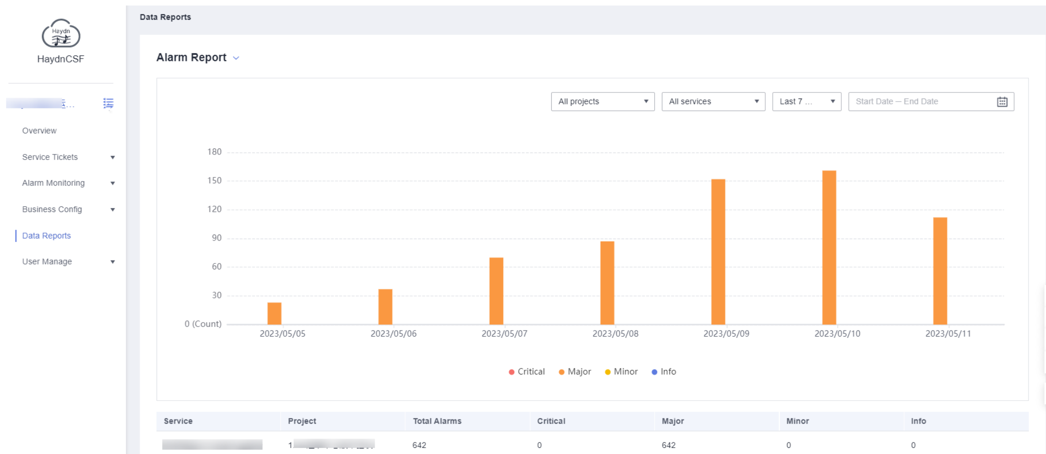
6.7 Data Reports

Data reports include the alarm report, event report, event statistics analysis report, and event scoring report.

Alarm Report

In the bar chart, the horizontal axis represents the date on which alarms are generated and the vertical axis represents the number of alarms. The number of alarms of each severity is displayed using colored cylinders. In the lower part of the page, the list displays the number of alarms of each severity for each service. Alarms can be filtered by project, service, last *n* days, and start and end time.

Figure 6-26 Alarm Report



Event Report

The number and severity of service events in projects are displayed in charts. In the lower part of the page, the list displays the new events and event phases of each service in the statistical period. Events can be filtered by project, service, last *n* days, and start and end time.

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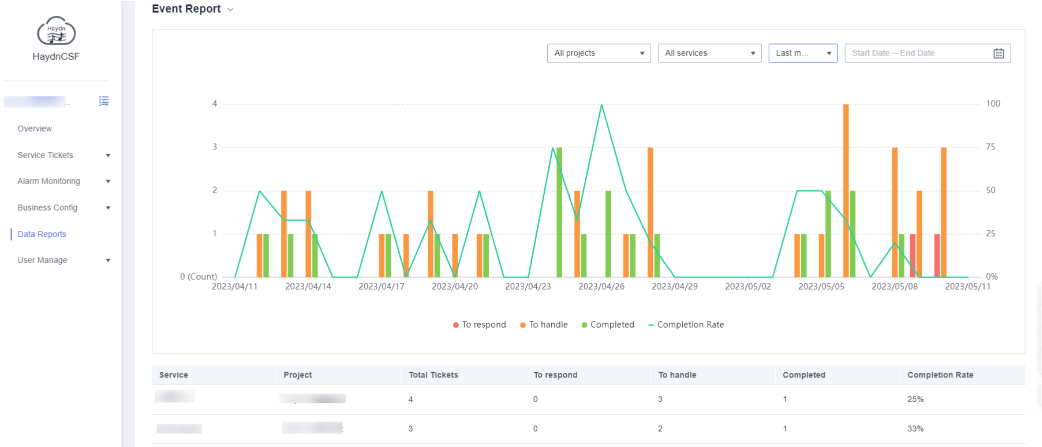
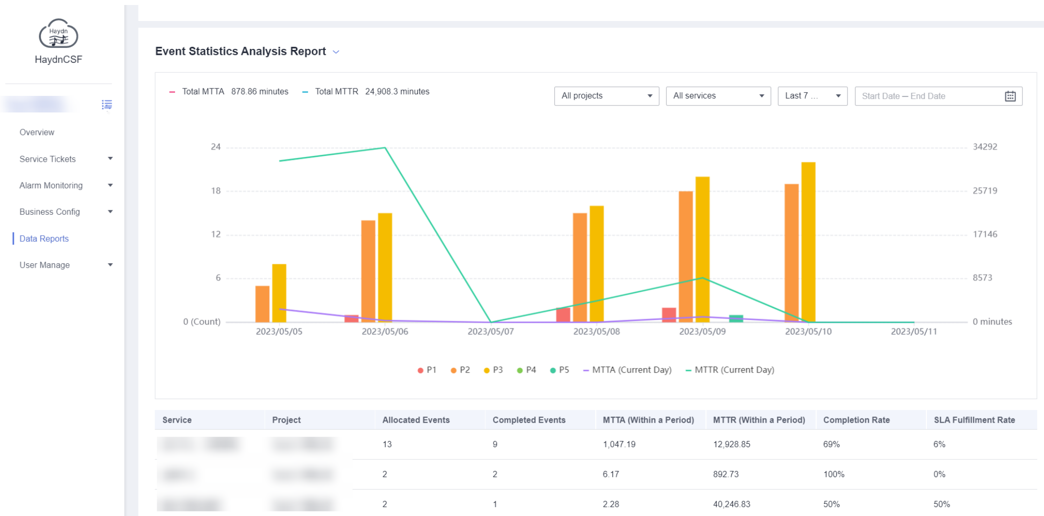
Figure 6-27 Event Report



Event Statistics Analysis Report

1. The MTTA and MTTR trends of events are displayed in charts.
   - In the bar chart, the horizontal axis represents the date on which events are generated, the left vertical axis represents the number of new events, and the right vertical axis represents the event response and handling time (minute).
   - Different colors of bars show event severities in different phases.
   - The purple line indicates the average event response duration, and the green line indicates the average event handling duration.
2. In the lower part of the page, the list displays the number of events allocated to each service and each project, number of completed events, MTTA, MTTR, completion rate, and SLA fulfillment rate in the statistical period.
3. Events can be filtered by project, service, last *n* days, and start and end time.

Figure 6-28 Event statistics analysis report



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NOTE

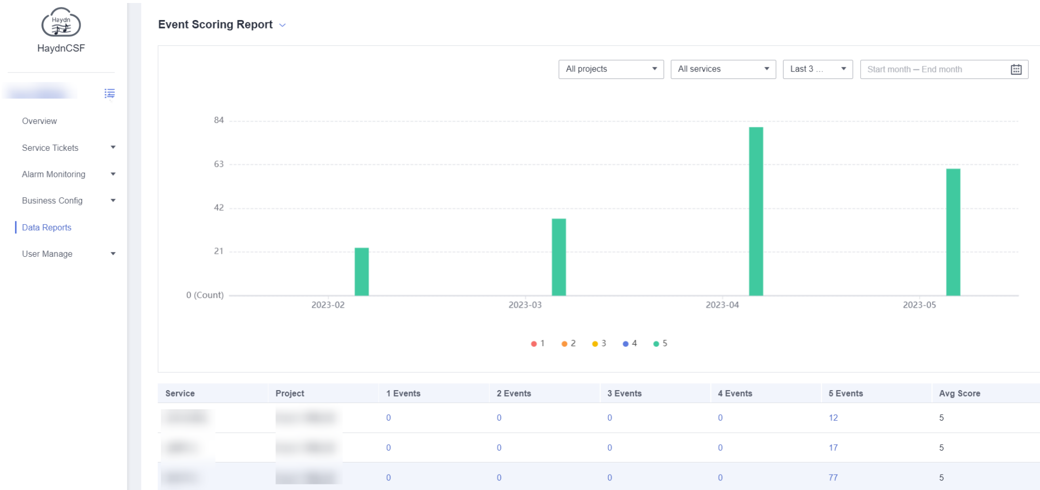
MTTA: mean time to acknowledge, which is the average time from when events are created to when engineers acknowledge the events. To calculate your MTTA, add up the time between event and acknowledgement, and then divide by the number of events.

MTTR: mean time to resolve, which is the average time from when events are responded to when events are resolved. To calculate your MTTR, add up the time between event response and resolution, and then divide by the number of events.

Event Scoring Report

Acceptors score events that pass the acceptance to show their satisfaction.

Figure 6-29 Event Scoring Report



6.8 User Management

6.8.1 Users

Adding a User

O&M administrators can add users to an O&M workspace.

Access the desired workspace, choose **User Manage** > **Users**. On the displayed page, click **Add** to add a user from your enterprise or invite a user from other enterprises.

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Figure 6-30 Adding a user from your enterprise

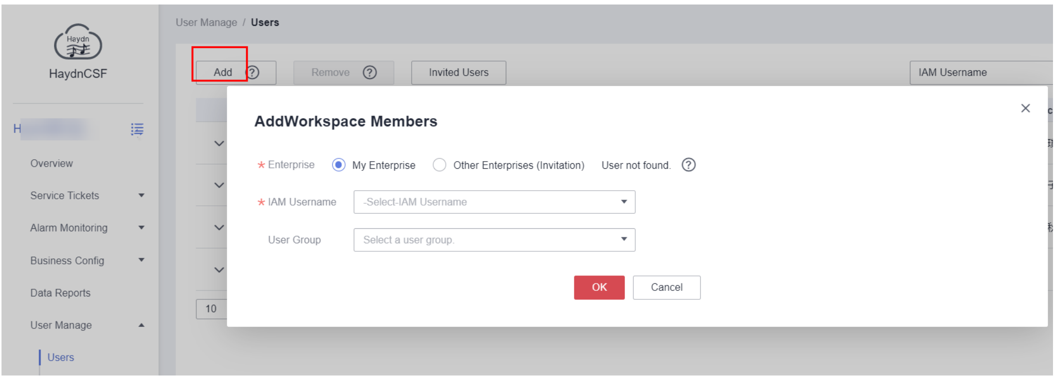
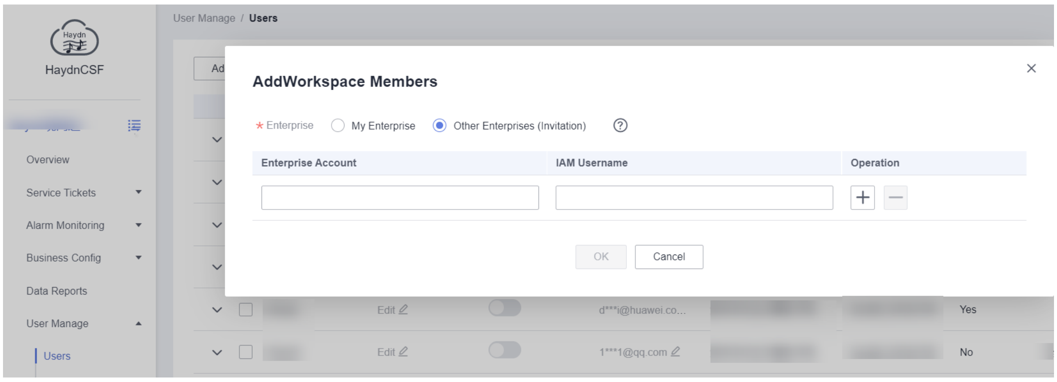


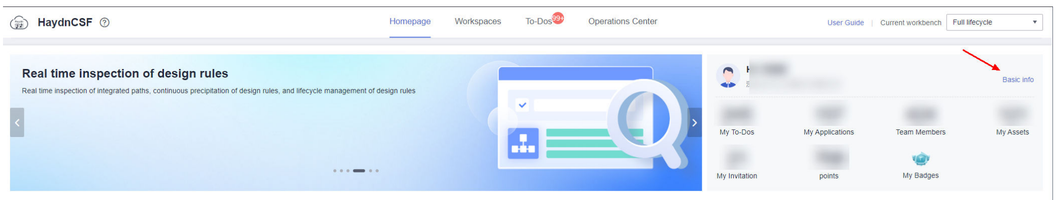
Figure 6-31 Inviting a user from other enterprises



What can I do if no user is found?

1. **When you add a user from your enterprise,** only IAM users who have been added to HaydnCSF are displayed. If the user you want to add is not displayed in the drop-down list, contact the enterprise administrator to add the user on the **User Management** page of the Operations Center. For details, see **Adding a User**. Alternatively, ask the user to log in to the HaydnCSF platform as an IAM user and join the workspace as a member. For details, see **Accessing HaydnCSF**.
2. **Ensure that the users you invite have joined HaydnCSF.** If they have not joined HaydnCSF, you can send **Accessing HaydnCSF** to them. If they have joined HaydnCSF, they can view their account names and IAM usernames in the personal center, as shown in the following figure.

   Figure 6-32 Viewing personal information

3. If the user you invite from other enterprises has a Huawei Cloud account instead of an IAM account, enter the enterprise account name in both the enterprise account and IAM username.

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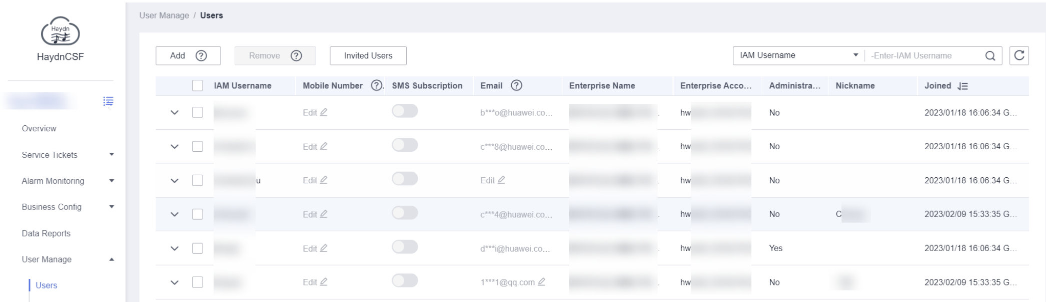
4. Click **Invite Users** to view all invited users.

User List

Users can be filtered by IAM username or enterprise account name. Users can set their mobile numbers, email addresses, and nicknames.

Figure 6-33 User list



NOTE

- After your email address is bound, you can receive event information. If you need SMS notifications, bind your mobile number and enable the subscription function.
- If an event is triggered during event addition, event response, event handling, or event acceptance, an email and SMS message will be sent to the project O&M administrator and user group members.

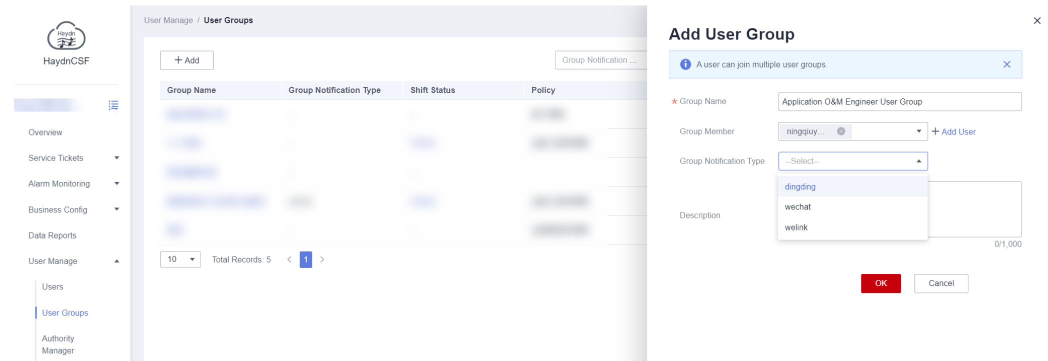
6.8.2 User Groups

Creating a User Group

O&M administrators can create user groups to manage users. A user can be added to multiple user groups.

Access the O&M workspace, choose **User Management** > **User Groups**. On the displayed page, click **Add**. In the displayed dialog box, configure parameters.

Figure 6-34 Creating a user group



Authorizing a User Group

A user group owner can authorize a user group and bind the user group to a service and management policy. The events of the service can be synchronized to

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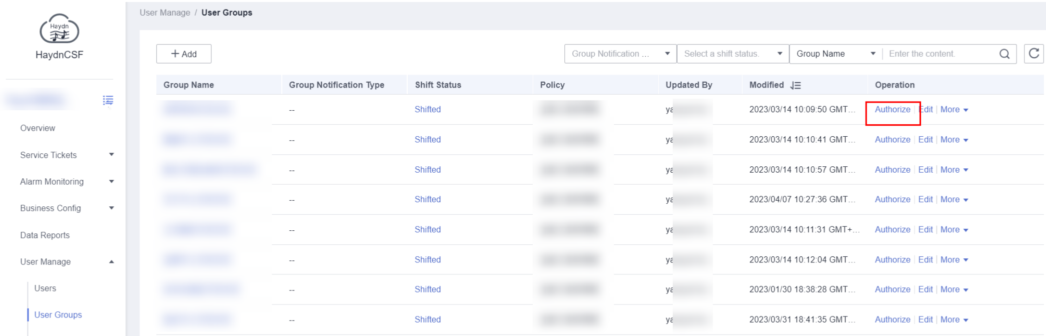
the members of the user group. By default, the user group creator is the owner, which is the administrator. For details, see **Managing Owners**.

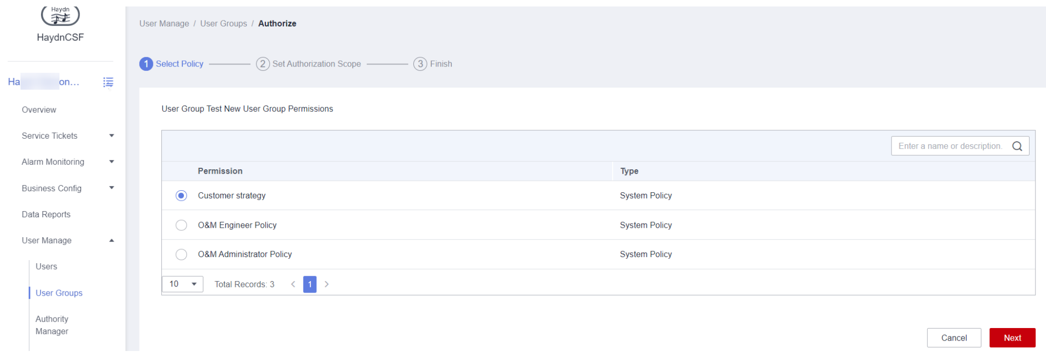
1. Locate the user group and click **Authorize** in the **Operation** column.

Figure 6-35 User group authorization entry



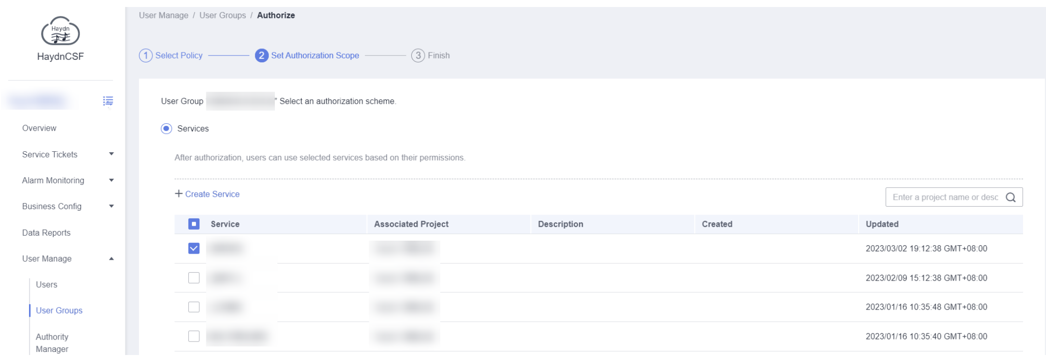
2. Select a management policy for the user group. The options are as follows:
   - **Customer Policy**: project-level policy, which allows users to create and view event tickets.
   - **O&M Engineer Policy**: service-level policy, which allows users to add integration configurations, create transfer rules, and handle event tickets.
   - **O&M Administrator Policy**: project-level policy, which allows users to add services, add integration configurations, create transfer rules, create SLA rules, and create O&M user groups.

Figure 6-36 Select Policy



3. Select one or more services for the user group.

Figure 6-37 Set Authorization Scope



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Scheduling a User Group

The members in a user group are on duty in turn by event. When an event is generated, on-duty members need to respond to the event by default and handle the event.

The user group owner can schedule shifts for the members. By default, the user group creator is the owner, which is the administrator. For details, see **Managing Owners**.

- **Quick scheduling**

  In quick scheduling, you can select members and a shift duration.

  – **Shift Work**: Each member is on duty for a shift.

  – **Co-duty**: All members are on duty for a shift.

Figure 6-38 User group scheduling entry

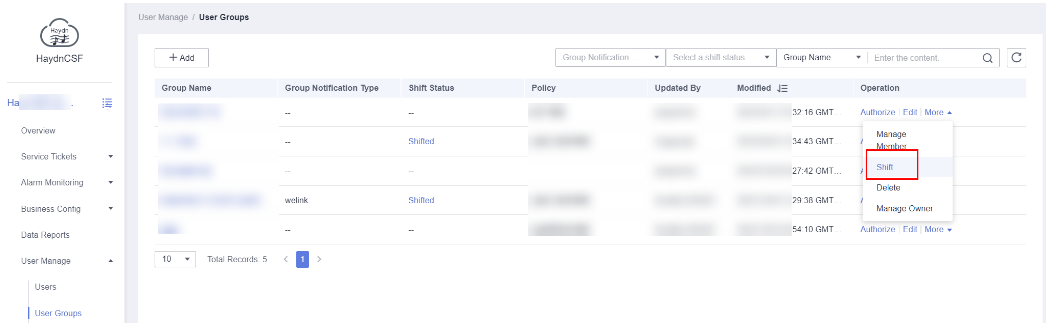

Figure 6-39 Configuring parameters

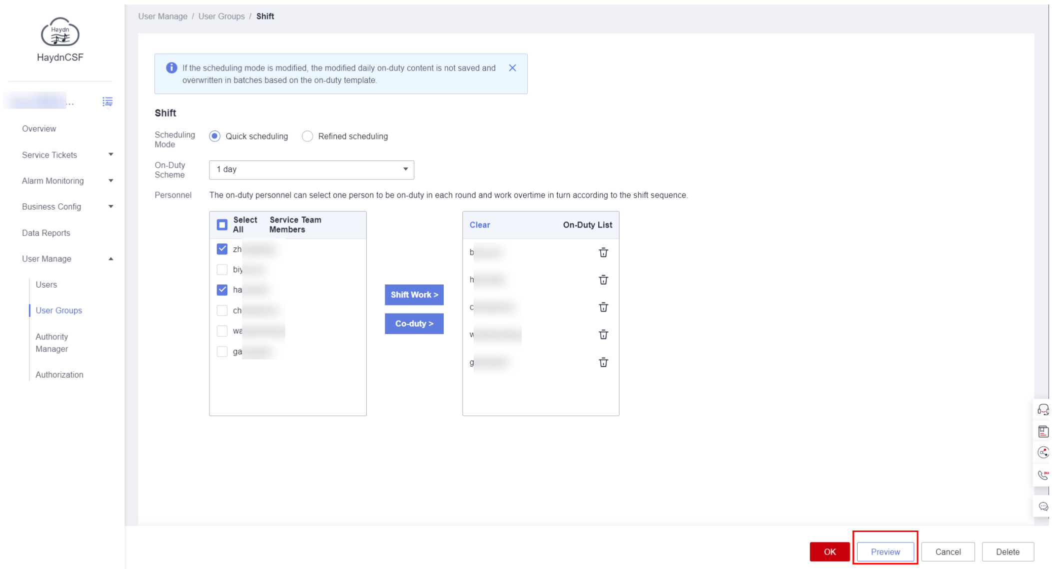

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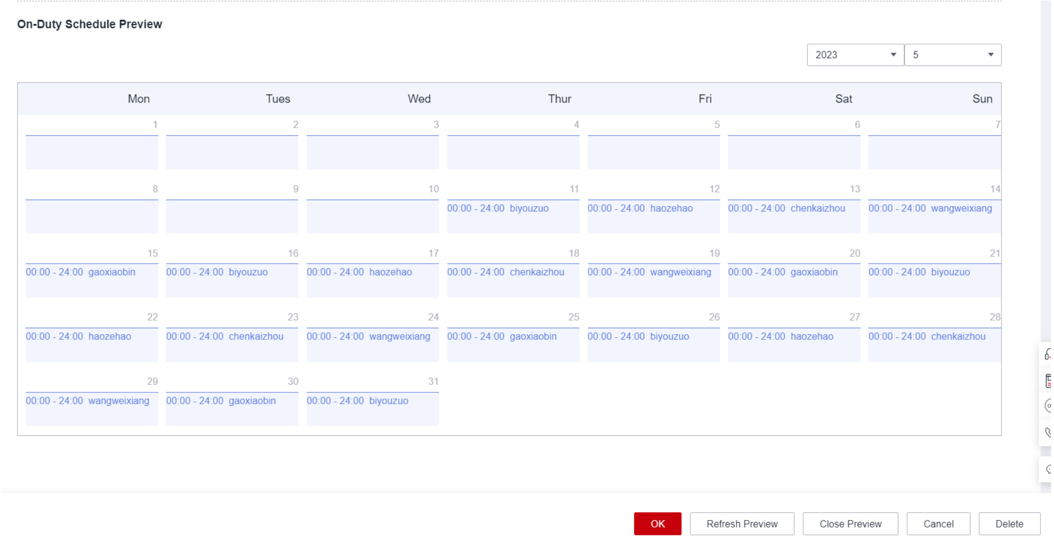
Figure 6-40 On-Duty Schedule Preview



- **Refined scheduling**

  In refined scheduling, the start and end time and on-duty members of each shift can be specified. The following uses morning and evening shifts as an example:

  a. Configure the basic shift information.

  You can configure a scheduling template, which can be used to quickly and automatically generate a scheduling table of multiple days, but the subsequent scheduling is configured based on the scheduling table. You can configure actual scheduling table as required.

Table 6-4 Parameters required for shift scheduling

Parameter	Description
Cycle	The number of days in a shift. It is also the number of days in a scheduling table generated using a scheduling template. The unit is day.
Shift Settings	Start and end time of a shift, which cannot overlap or be missing. The total duration of each shift must be 24 hours.
Cyclic On-Duty Schedule	On-duty members of a shift. You can select multiple members for a shift.

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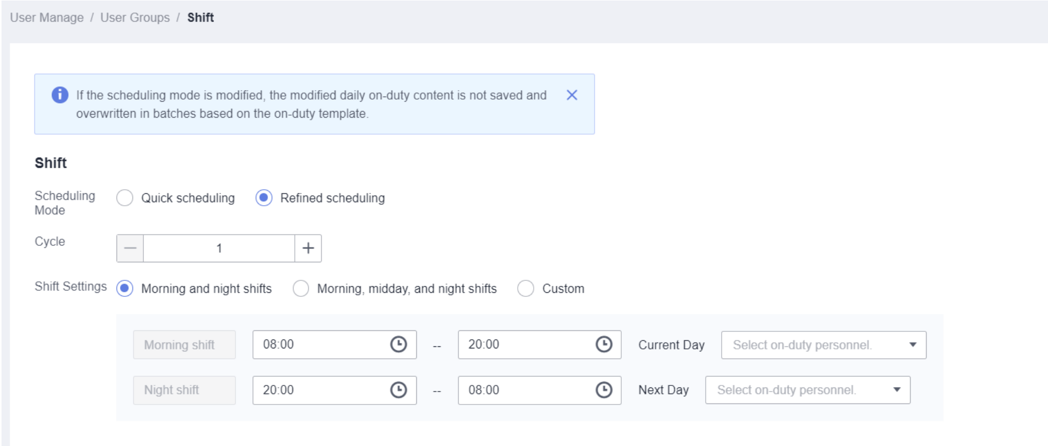
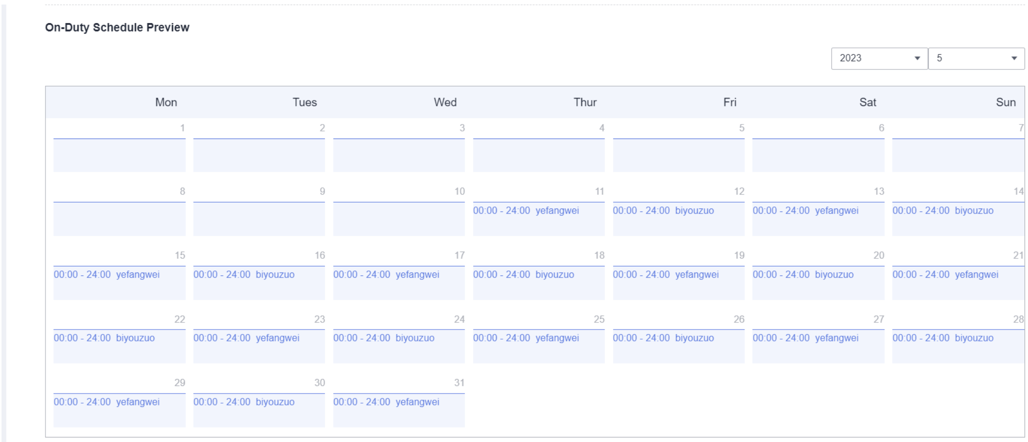
Figure 6-41 Refined scheduling



b. View details on the **On-Duty Schedule Preview** page.

Figure 6-42 On-duty schedule preview



Managing Owners

A user group owner (creator) is an administrator. Only the owner can perform operations, such as authorization, editing, member management, shift scheduling, deletion, and owner management, on the user group.

On the **User Groups** page, locate the user group and choose **More** > **Manage Owner**. Select a user or remove the selected user to set the owner. The owner can select members of other user groups.

6.8.3 Permissions

This module displays the operation permissions specified by customer, O&M engineer, and O&M administrator policies. If a message indicates that the operation is restricted or some functions are unavailable, you can check whether the permissions are sufficient.

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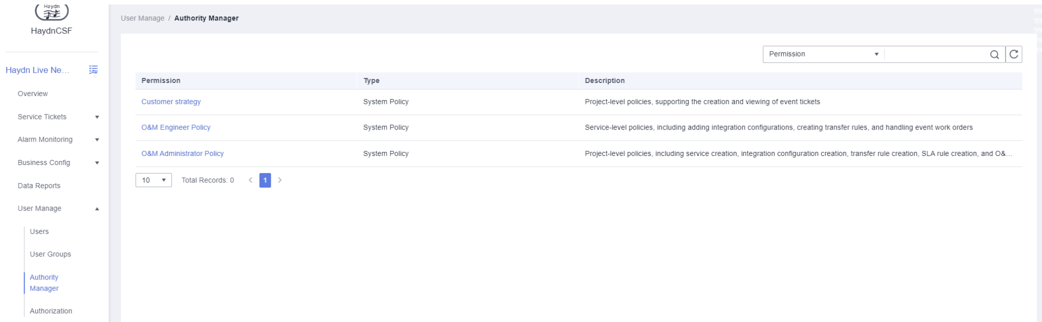
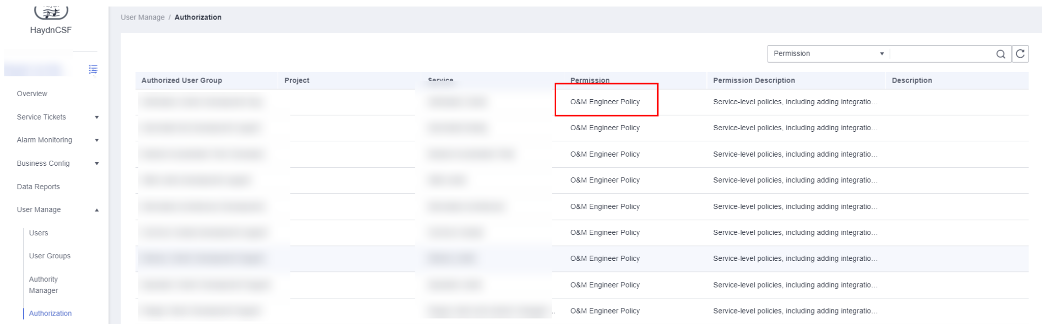
Figure 6-43 Permissions



6.8.4 Authorizations

This module displays the policy authorizations of user groups. You can click a permission name to view the authorization details.

Figure 6-44 Authorizations



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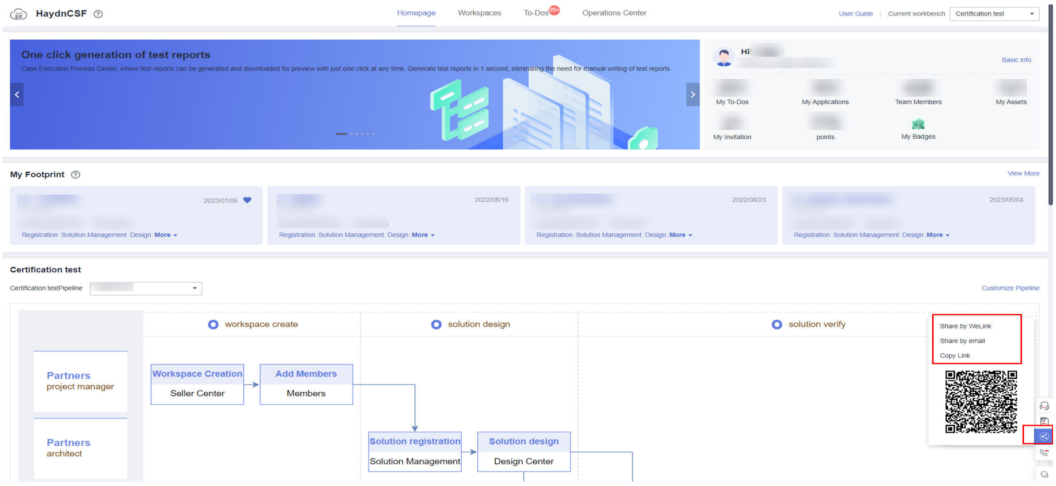
7 Auxiliary Functions

User Invitation

This function is used to invite a user to become a HaydnCSF user. You can use WeLink, email, or WeChat to invite other users.

Figure 7-1 User invitation page



- **Share by WeLink**
  a. Log in to HaydnCSF and click **Homepage**. In the lower right corner, click **User Invitation** and **Share by WeLink**.
  b. Filter the latest 50 sessions or search for WeLink colleagues by employee ID in the dialog box for sharing the HaydnCSF link displayed after the WeLink authentication is successful.

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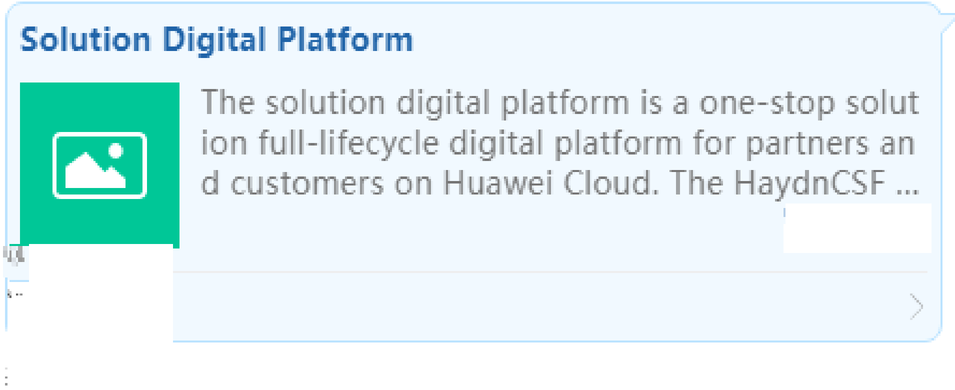
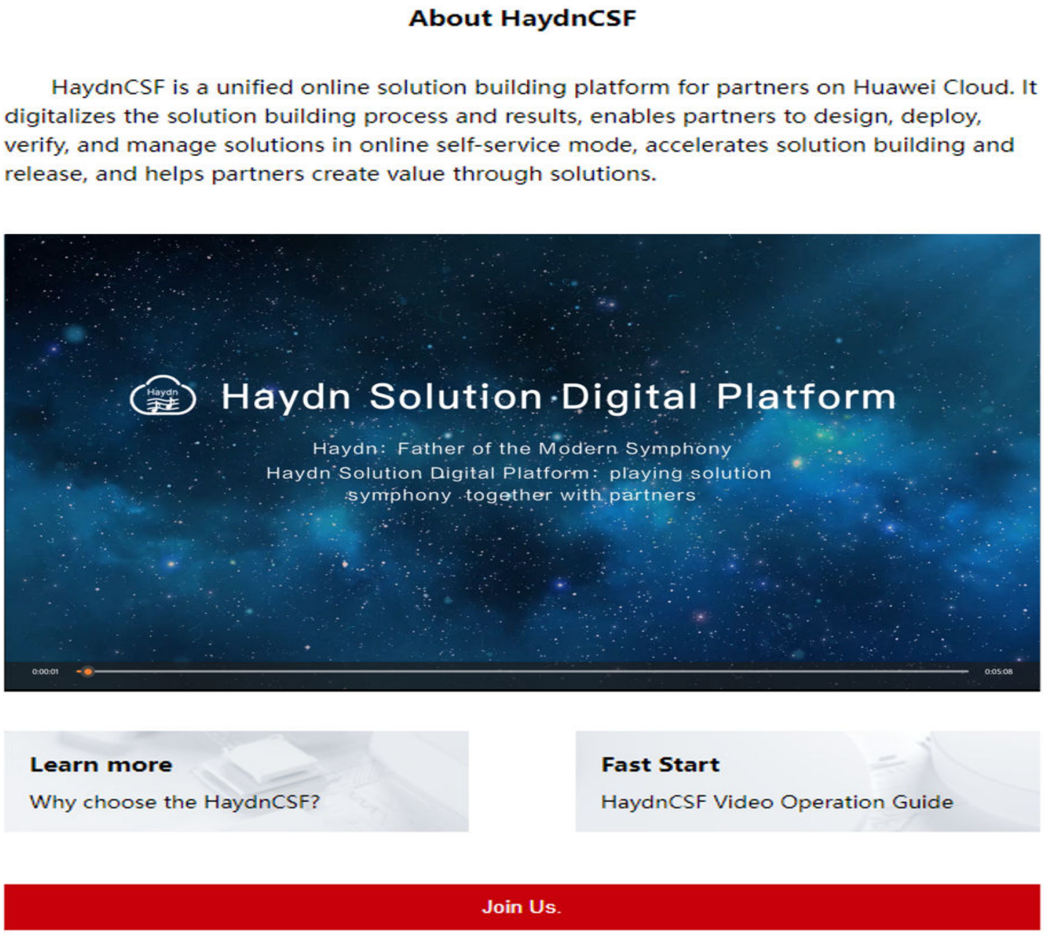
Figure 7-2 Invitation card automatically sent after successful WeLink sharing



The invited user can click the link to access the HaydnCSF details page.

Figure 7-3 HaydnCSF details page



c. Click **Immediate Use**.

d. On the displayed Huawei Cloud login and registration page, enter your Huawei Cloud account or HUAWEI ID and password to log in to HaydnCSF. If you log in for the first time, the service signing page will be displayed. Select the service agreement to go to HaydnCSF. For details, see Accessing the HaydnCSF Platform.

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- **Share by email**
  a. In the lower right corner on the homepage, click **User Invitation** and **Share by email**.
  b. Enter the email address of the user to be invited and click **OK**.
     The invited user can click the link in the email to access the HaydnCSF invitation details page.

Figure 7-4 Email information

- **Share by WeChat**
  a. In the lower right corner on the homepage, click **User Invitation** and **Copy Link** or save the QR code.
  b. Send the text in the copied link or QR code to your WeChat friend.
     The invited user can click the link in the text or scan the QR code to go to the Haydn details page, and click **Join Us**. The Haydn login and registration page is displayed.

Personal Information

On the homepage of HaydnCSF, click **Basic info** in the upper right corner. On the displayed page, you can view information such as the IAM username, enterprise name, enterprise account name, and enterprise users.

Figure 7-5 Entry for the Personal Information page

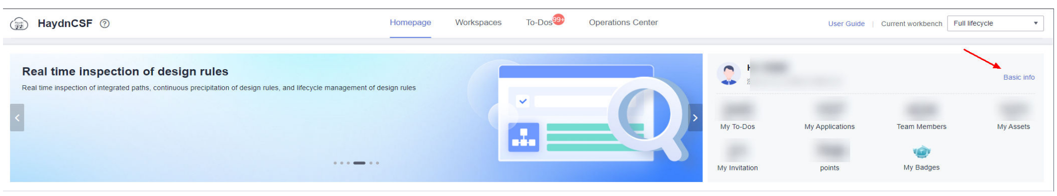

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Table 7-1 Parameters of personal information

Parameter	Description
IAM Username	Name of a user you created in IAM using your Huawei Cloud account or HUAWEI ID.
Enterprise Name	Name of an enterprise that a user belongs to.
Enterprise Account Name	Name of an enterprise account that has IAM users as members.
Nickname	This parameter can be modified. Your name is recommended, which will be displayed as a test report operator or comment author.
Status	A user can be in the enabled or disabled state. The enterprise administrator can choose **Operations Center** > **User Management** to change the status.
Enterprise Mailbox	This parameter can be modified. You can click the edit icon to delete an email address if required, and then click the check mark.
Role	Role of a user on HaydnCSF, which can be a project manager, architect, and/or test engineer. You can contact the enterprise administrator to assign the enterprise administrator role to your user. For details about the permissions of each role, see **HaydnCSF User Access Permission**.
Mail Subscription	Email subscription can be enabled or disabled. If the email subscription is enabled, to-do notifications from HaydnCSF will be sent to the enterprise email address set by the user.
Subscription Status	Whether your email address has subscribed to HaydnCSF to-do notifications. If you have enabled email subscription, a subscription confirmation email will be sent to your email address. Click the confirmation link in the email to complete the subscription. If you do not want to receive such emails, you can cancel the subscription. Note that you cannot receive any to-do notifications from HaydnCSF after unsubscription. ● **Subscribed**: You have enabled email subscription and clicked the confirmation link in the email. You will receive to-do notifications from HaydnCSF. ● **Not subscribed**: – 1. Email subscription is not enabled. – 2. Email subscription is enabled but not confirmed in the email. You can go to your mailbox and click the confirmation link to complete the subscription. If you have not received the subscription email, you can request for resending.

Parameter	Description
Enterprise User Information	Information about users in your enterprise who have joined HaydnCSF, including the IAM username, alias, role, status, and time when they joined HaydnCSF. You can view the enterprise administrator of your enterprise. If you want to add more roles or change the account status, contact the enterprise administrator.
Workspace To-Dos	Emails can be unsubscribed by workspace. If you have enabled email subscription but do not want to receive to-do notifications from a workspace, you can unsubscribe from the workspace. After unsubscription, you will not receive any to-do notifications from the workspace.

NOTE

You must enter your email address before enabling email subscription. After the email subscription is enabled, you will receive an email about the subscription. Click the confirmation link in the email to complete the subscription.

User Guide

The user guide mainly includes getting started, FAQ, and best practices. You can enter a keyword to search for information.

- User guide: provides operation guide and introduction of each module on HaydnCSF. After you select or search for a module, the user guide on the module will be displayed in the HaydnCSF documentation.
- Getting started: provides simple cases to help you quickly understand how to use HaydnCSF.
- FAQ: provides answers to common questions of users. After you select a center, the FAQ about the center will be displayed in the HaydnCSF documentation.
- Best practices: provides best practices for quickly verifying solutions on HaydnCSF, for example, the best practice for testing joint operations. After you select a solution, the best practices of the solution will be displayed in the HaydnCSF documentation.

Obtaining Help

On any HaydnCSF page, click **HaydnCSF Customer Service** in the lower right corner of the page. On the displayed page, you can view hot FAQs or enter your question. If the answer is not found, you can click **Call agent** for assistance.

You can also click the group chat icon in the lower right corner of the page to scan the QR code to join the Haydn support group for assistance.

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Figure 7-6 HaydnCSF Customer Service

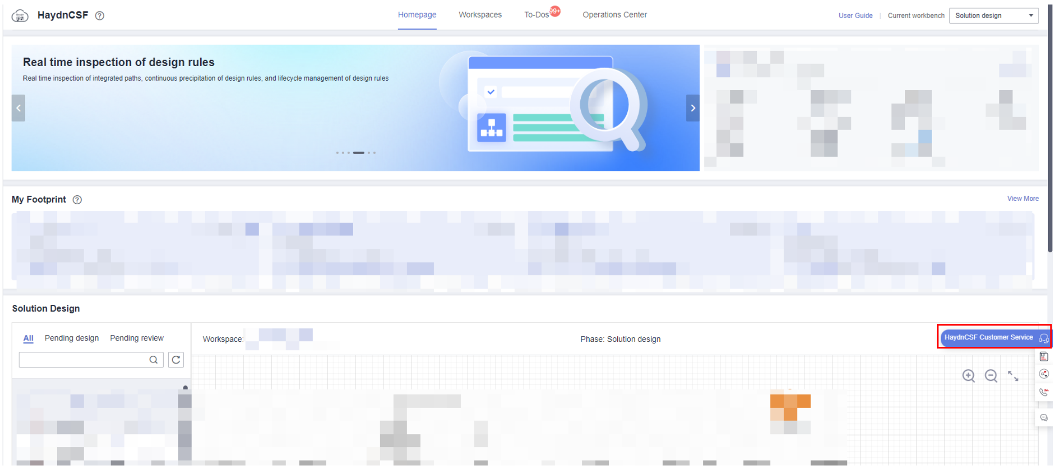
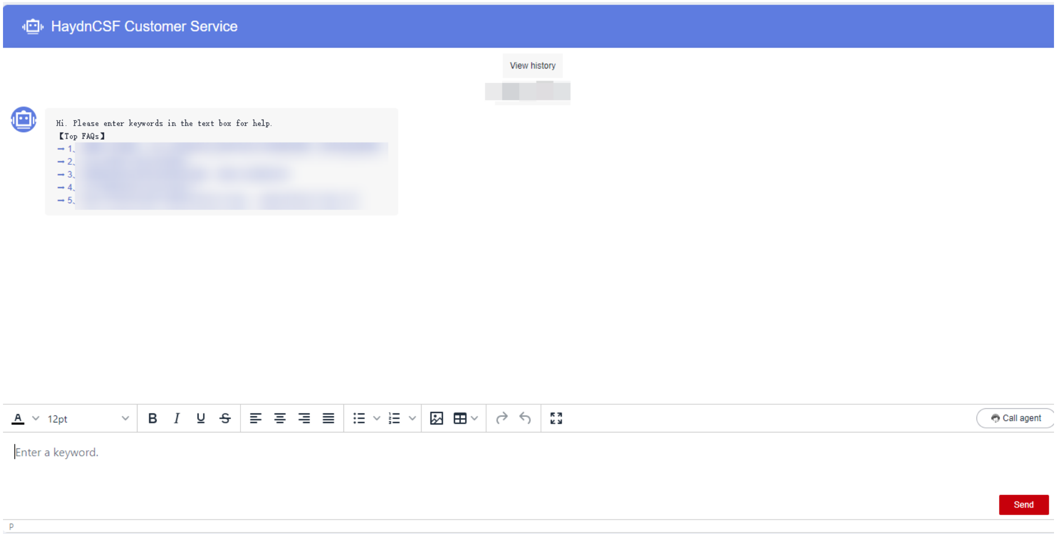


Figure 7-7 Obtaining help



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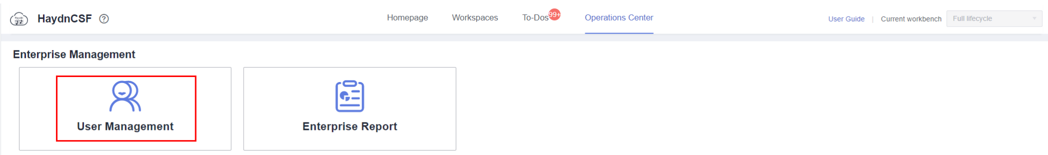
8 User Management

Enterprise administrators can manage the users of your enterprise, including adding, editing, removing, and querying users. For details about how to become an enterprise administrator, see **Setting an Enterprise Administrator**.

Adding a User

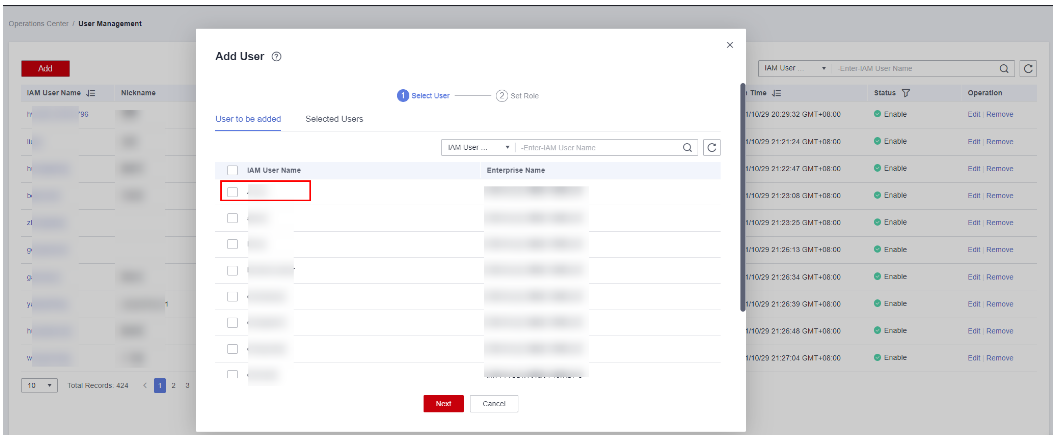
1. Choose **Operations Center** > **User Management**.

   Figure 8-1 User Management

2. Click **Add** in the upper left corner, select the user to be added, and click **Next**.

   Figure 8-2 Add User

3. Select a role or multiple roles as required and click **OK**.

   There are two types of users on the HaydnCSF platform: enterprise administrators and common users. Enterprise administrators can use the Operations Center, while common users cannot.

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- Enterprise administrators can use the Operations Center to manage the users of your enterprise, view reports of your enterprise, and analyze verification efficiency.
- Common users are people in different positions of your enterprise, for example, project manager, architect, and test engineer.

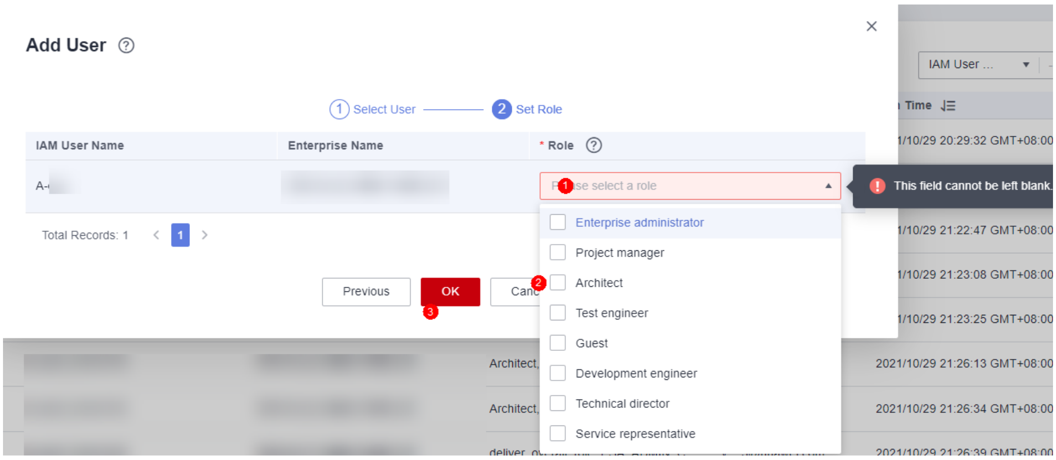

Figure 8-3 Assigning permissions to a role

4. Add the user to the workspace. The user needs to read and select the HaydnCSF Service Statement first, and then log in to the HaydnCSF platform as the IAM user.

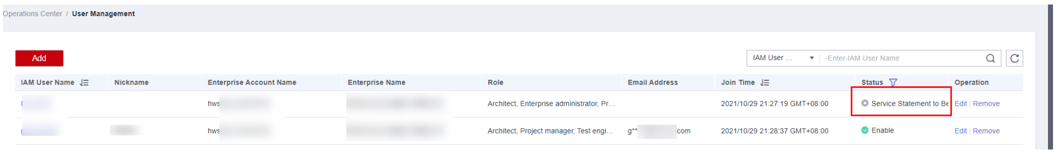

Figure 8-4 User list

What can I do if I cannot obtain the user list on the User Management page as an enterprise administrator?

If you use an IAM user to manage users, the IAM user must have the **Security Administrator** permission. (New IAM users do not have any permissions by default and cannot obtain the user list).

1. **Log in to the IAM console** using your Huawei Cloud account or HUAWEI ID.
2. Create a user group (for example, HaydnCSF enterprise administrators) or use an existing user group, and add the IAM user to the user group.
3. On the **User Groups** page, select the user group you created, for example, HaydnCSF enterprise administrators, and click **Authorize** in the **Operation** column.

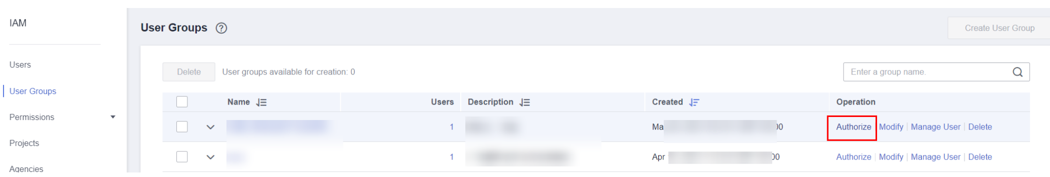

Figure 8-5 Authorizing a user

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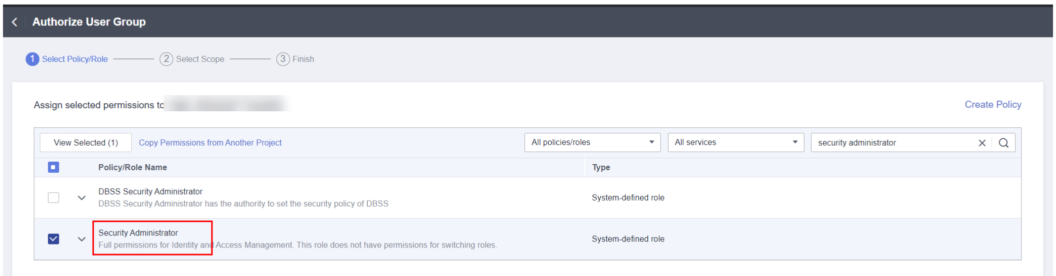
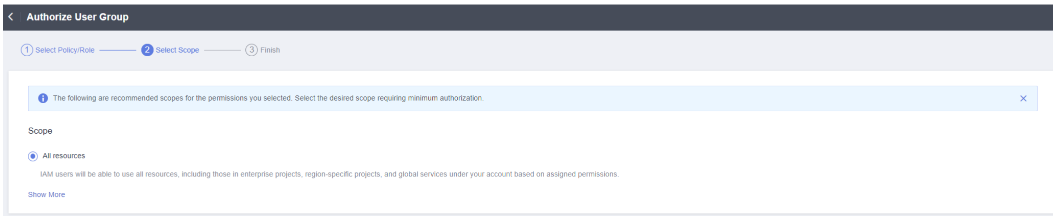
4. Search for and select **Security Administrator**.

Figure 8-6 Granting the Security Administrator permission to a user



5. Set **Scope** to **All resources**.

Figure 8-7 Selecting a scope



6. Click **OK**.

NOTE

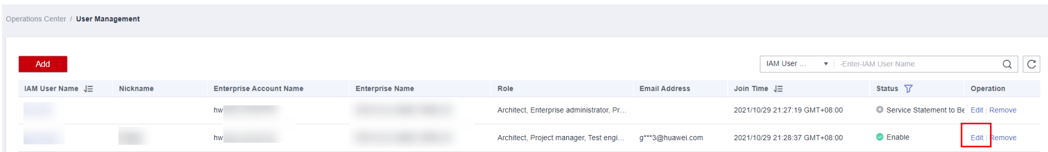
Only IAM users need to be granted the **Security Administrator** permission. Your Huawei Cloud account or HUAWEI ID has all permissions by default.

Editing a User

Enterprise administrators can edit the user permissions of your enterprise.

1. Select the user you created and click **Edit** in the **Operation** column.

Figure 8-8 User Management - Edit



2. In the displayed dialog box, modify the nickname and role permissions as required and click **OK**.

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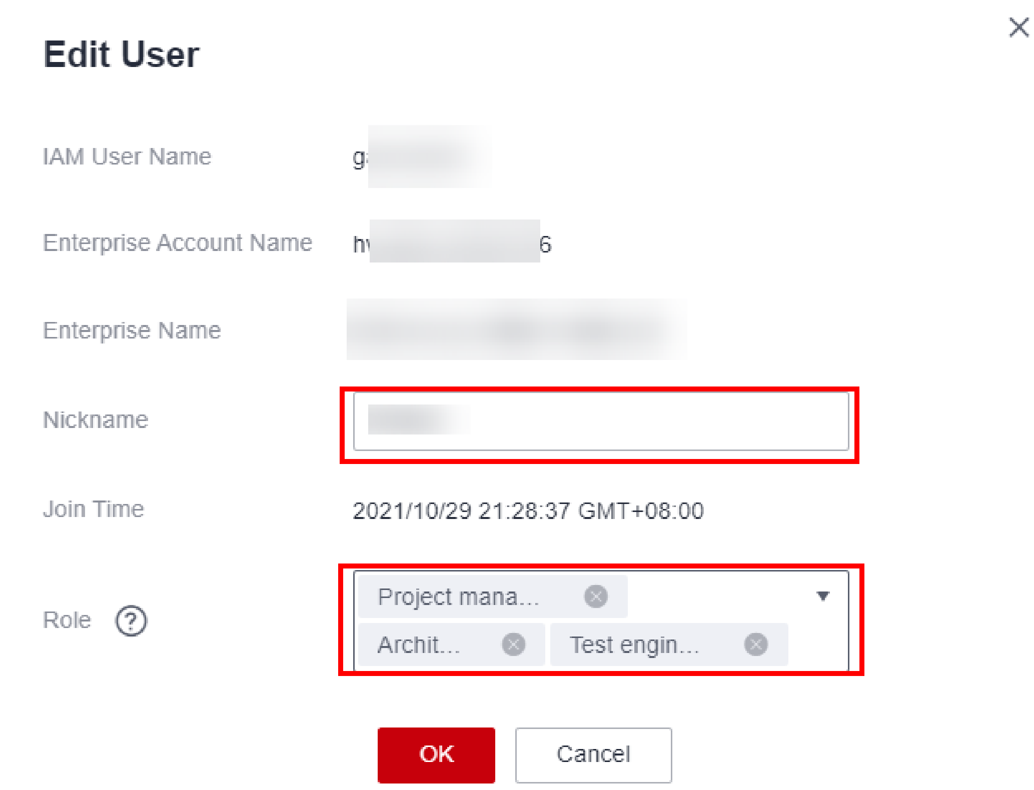
Figure 8-9 Edit User - OK



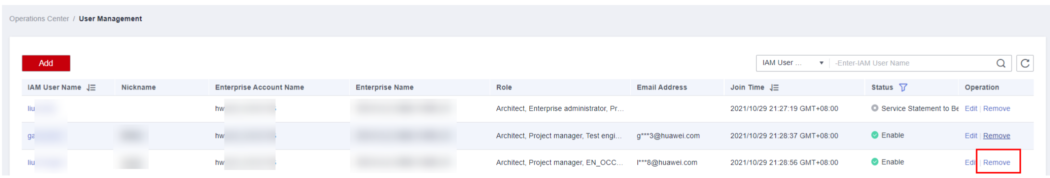
3. Check that the configurations take effect.

Removing a User

Enterprise administrators can remove a user from your enterprise.

1. Select the user you created and click **Remove** in the **Operation** column.

Figure 8-10 Removing a user



2. In the displayed dialog box, enter **REMOVE** and click **OK**.

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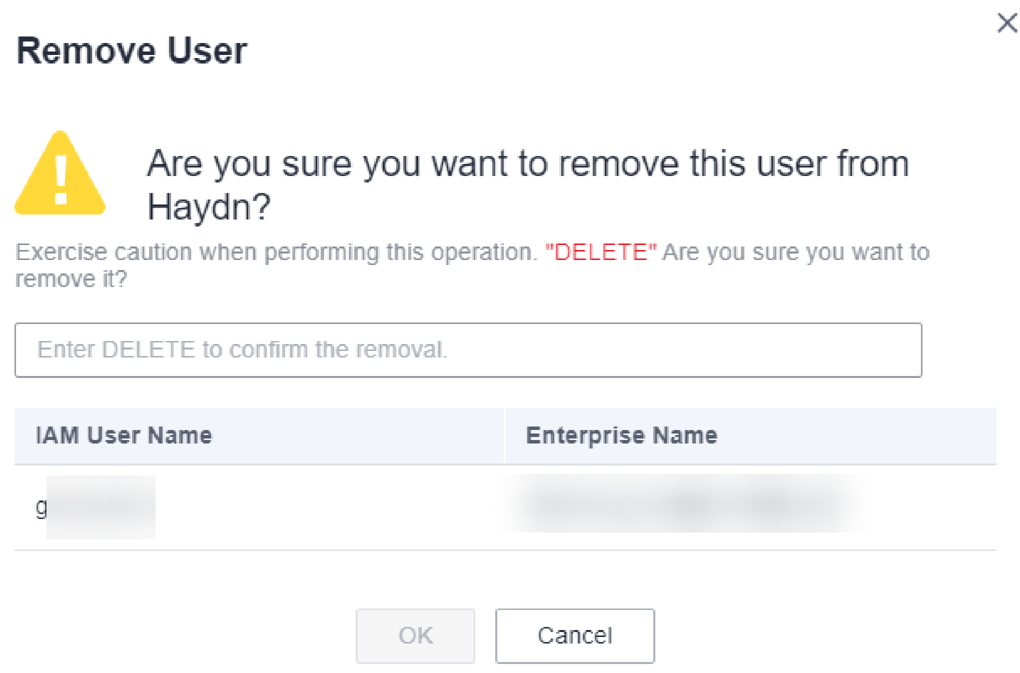
Figure 8-11 Confirming removal



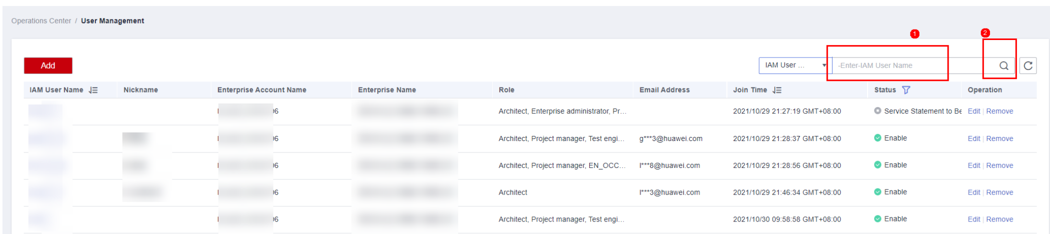
NOTE

A user who has a to-do task or a workspace cannot be removed. The user must complete the to-do task or delete the workspace first.

Querying a User

On the **User Management** page, enter the IAM username in the search box in the upper right corner to query a user.

Figure 8-12 Searching for a user



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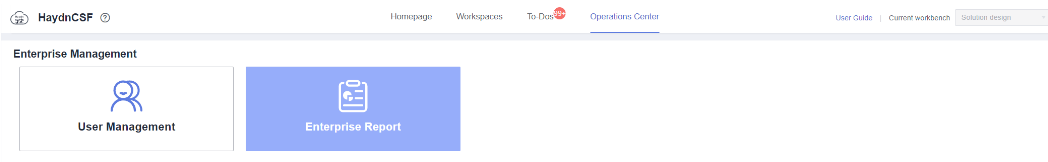
9 Enterprise Report

Enterprise administrators can view solutions, requirements, and issue reports of their own enterprises in enterprise reports and customize efficiency analysis. For details about how to become an enterprise administrator, see **Setting an Enterprise Administrator**.

Figure 9-1 Operations Center



Solution Reports

The **Solutions** page consists of three areas: solution phase distribution pie chart, industry distribution pie chart, and solution list in the workspace. The statistics are derived from all user-built solutions of your enterprise.

- Solution phase distribution pie chart: All solutions of your enterprise are displayed by solution phase. There are four phases: solution registration, solution design, solution review, and design completion.
- Industry distribution pie chart: Solutions are displayed by industry that the solutions in the workspace belong to.
- Solution list: You can view the solution name, applicable industries, associated enterprise, associated test requirement, solution phase, handler, and retention duration. You can search for solutions by solution name and export solutions to an .xlsx file.

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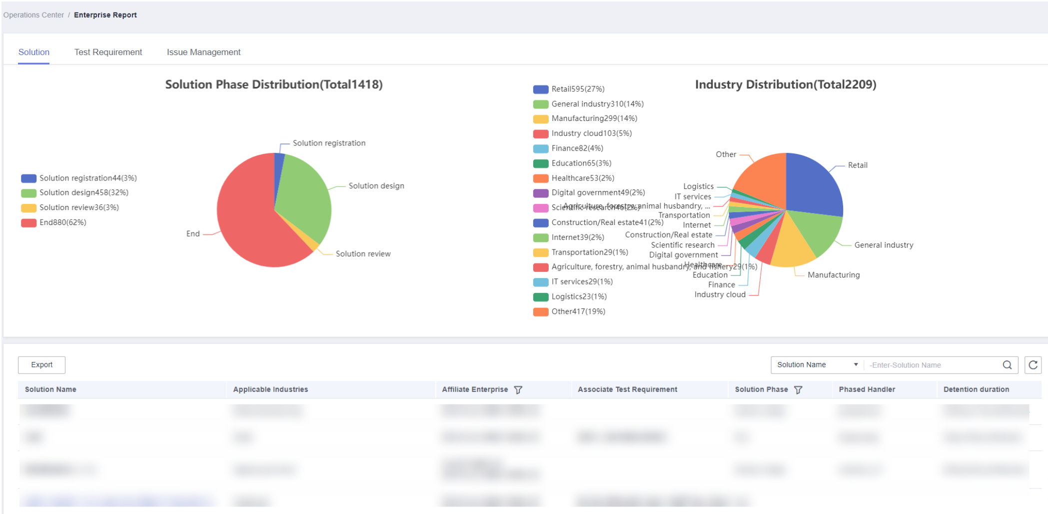
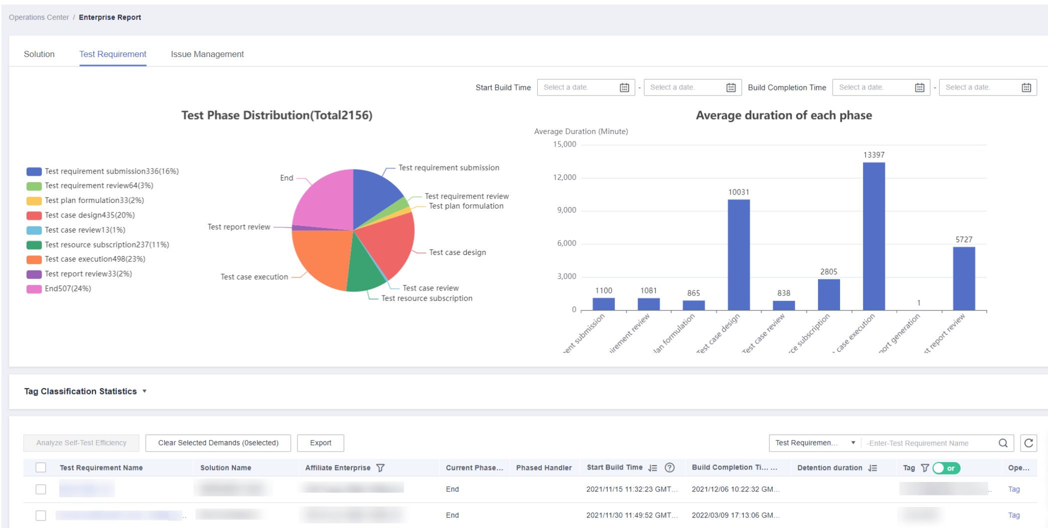
Figure 9-2 Solutions



Requirement Reports

The **Test Requirements** page consists of three areas: test phase distribution pie chart, average phase duration bar chart, and test requirement list. The statistics are derived from all user-built test requirements of your enterprise.

Figure 9-3 Test Requirements



- Test phase distribution pie chart: All test requirements of your enterprise are displayed by test phase. There are nine test phases: test requirement submission, test requirement review, test plan formulation, test case design, test case review, test resource provisioning, test case execution, test report review, and completion.
- Average phase duration bar chart: The average phase duration of all test requirements of your enterprise is displayed. There are nine phases: test requirement submission, test requirement review, test plan formulation, test

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case design, test case review, test resource provisioning, test case execution, test report generation, and test report review.

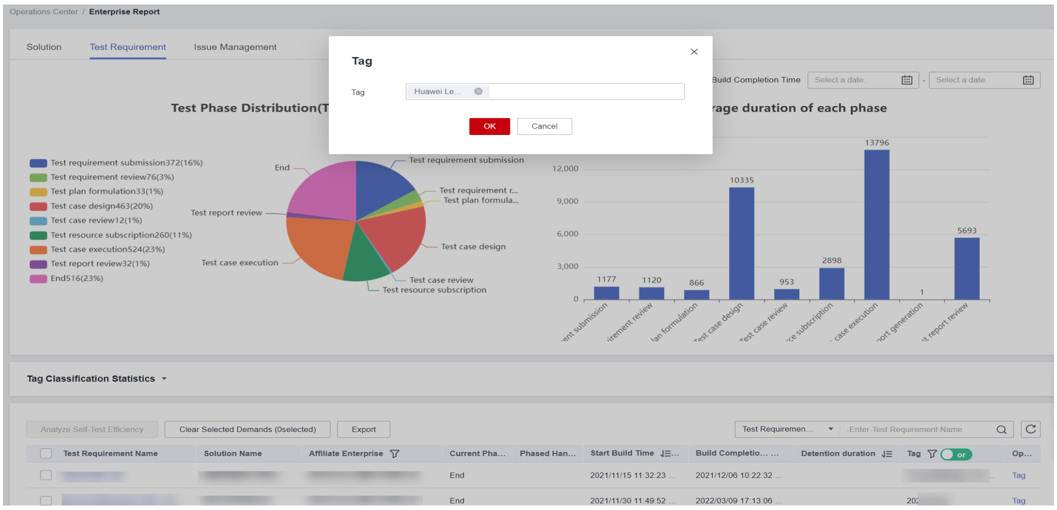
- Test requirement list: You can view information such as the test requirement name and solution name, manage labels for requirement tags, and analyze self-test efficiency.

Tagging Test Requirements

Users can tag test requirements and manage them by tag on the **Test Requirements** page.

Locate the test requirement and click **Tag** in the **Operation** column. In the displayed dialog box, enter or select a tag, and click **OK**. If you need to add, delete, or modify a new tag, click **Tag** again.

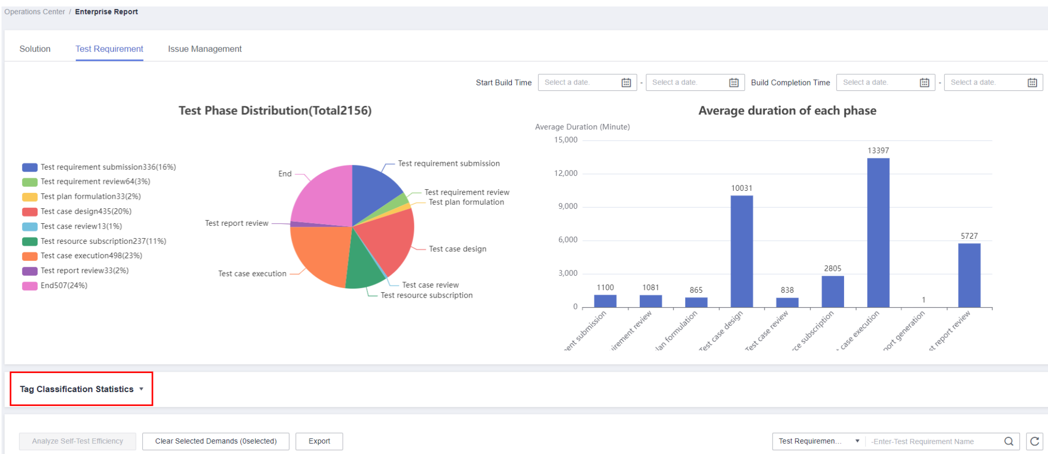
Figure 9-4 Tag



Collecting Statistics by Tag Classification

After tags are created, you can collect statistics on all requirements by tag classification. The following figure shows the entry for **Tag Classification Statistics**.

Figure 9-5 Tag Classification Statistics



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You can click **Tag Classification Statistics** and move the cursor over each bar to view the required quantity and phase distribution of each tag. The horizontal axis represents the tag name and the vertical axis represents the required quantity.

Figure 9-6 Tag classification statistics bar chart

Analyzing Self-Test Efficiency

On the **Test Requirements** page, you can select the requirements to be analyzed and click **Analyze Self-Test Efficiency** to view the average solution building duration and average self-test rate.

Figure 9-7 Self-test efficiency analysis entry

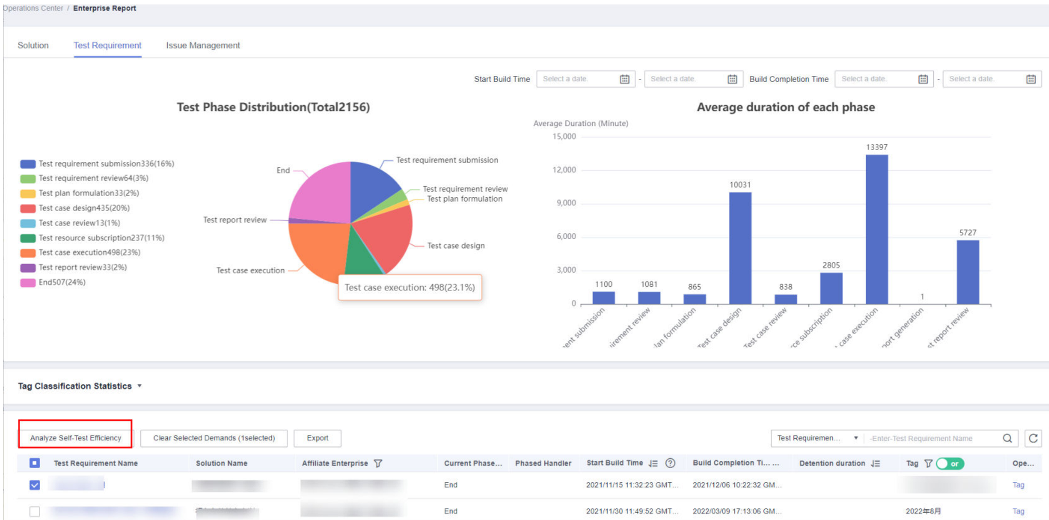
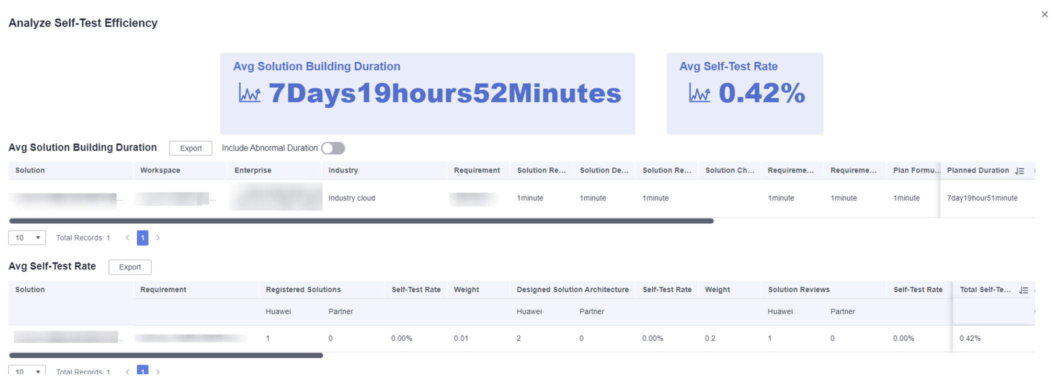


Figure 9-8 Analyze Self-Test Efficiency



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- **Avg Solution Building Duration**: average building solution of the selected solution.
- **Avg Self-Test Rate**: average self-test rate of requirements of the selected solution.

NOTE

The self-test rate is the percentage of registered solutions, designed solutions, or reviewed solutions participated by partners. For example, if the total number of registered solutions is 2 and the number of registered solutions participated by partners is 1, the self-test rate in the solution registration phase is 50% (1/2). The average self-test rate is the value calculated based on the weight of the self-test rate in each phase.

Exporting a Requirement Report

On the **Test Requirements** page, you can click **Export** to export all user requirements of your enterprise to an .xlsx file.

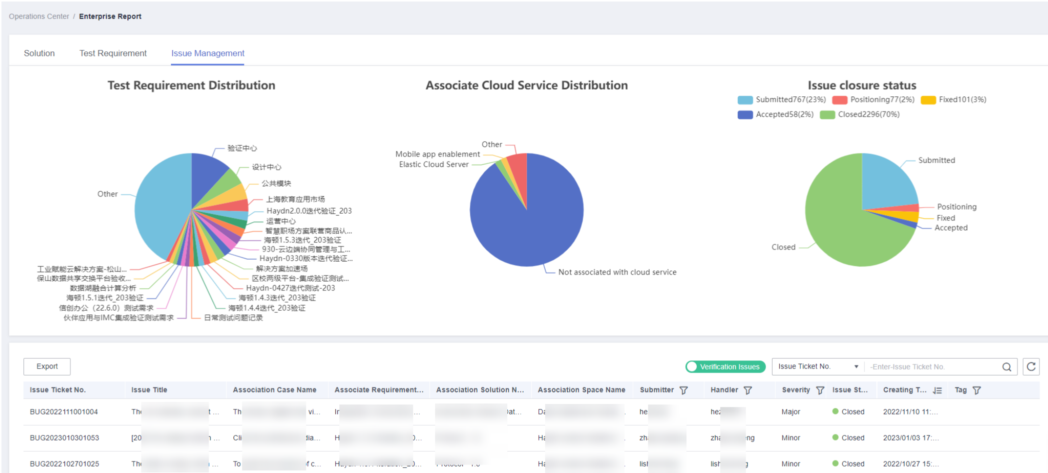
Figure 9-9 Export entry

Issue Reports

The **Issue Management** page consists of four areas: test requirement distribution pie chart, associated cloud service distribution pie chart, issue closure status pie chart, and issue list. The statistics are derived from all user-built issue tickets of your enterprise.

- Test requirement distribution pie chart: All the requirements of your enterprise are displayed by issue.
- Associated cloud service distribution pie chart: Issues of your enterprise are displayed by cloud service.
- Issue closure status: Verified issue tickets of your enterprise in the current phase are displayed. There are five phases: submission, locating, rectification, acceptance, and closure.
- Issue list: All issue tickets of your enterprise are displayed. You can view information such as the requirement associated with an issue ticket. You can search for an issue by information such as issue ticket number or issue title.

Figure 9-10 Issue Management



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10 Solution Acceleration Field

10.1 Introduction

In the solution acceleration field of HaydnCSF, best solutions are continuously accumulated for sharing. The solution acceleration field consists of:

- Architecture templates: The Huawei Cloud solution team has accumulated more than 600 reference architecture templates, covering more than 300 solution scenarios. Partners can release the architecture of a verified joint solution to the solution acceleration field. The architecture can be searched and referenced by Huawei Cloud frontline personnel, partners' architects, and customers' architects.
- Test case templates: Common test cases for scenarios can be abstracted as test case templates, which can be quickly reused in similar scenarios to greatly improve the efficiency of test case design and execution. There are manual and automatic test case templates, and standard test case template sets released for scenarios such as joint operations and developers application building.
- Tool & sample code sharing: The Huawei Cloud verification team continuously accumulates in-house tools or sample code for solution building and verification, and sample code for solution practices and for product integration. Partners can use tools or sample code to quickly pre-integrate and verify cloud services.
- Solution practices: Huawei Cloud solution practices and best practices of each product are collected here for quick search. The sample code and architecture templates in the best practices will be released to the **Tool & Sample Code Sharing** and **Architecture Templates** modules.
- Design rules: The connectivity of the users' architecture design can be checked in real time based on design rules to ensure the optimal architecture design path and improve the architecture design quality and efficiency. The design rules in the design center are used to check the connectivity of cloud services paths, which are not displayed in the solution acceleration field.
- Solution library: Solution information is provided, covering solution information, architecture design, solution verification, delivery projects, and projects in maintenance.

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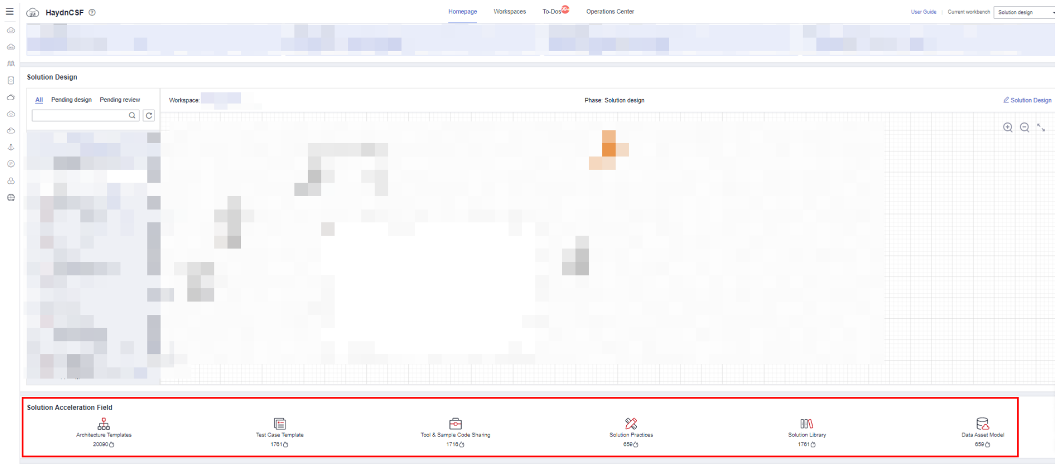
- Data asset models: Solution information architectures are provided, including theme design, logical model design, physical model design, ETL mapping, and service metric design.

Figure 10-1 Solution acceleration field entry



10.2 Architecture Templates

The Huawei Cloud solution team has accumulated more than 600 reference architecture templates, covering more than 300 solution scenarios. Partners can release the architecture of a verified joint solution to the solution acceleration field. The architecture can be searched and referenced by Huawei Cloud frontline personnel, partners' architects, and customers' architects.

Visit the Huawei Cloud official website, choose **Solutions** > **By Use Case** > **Haydn Solution Digital Platform**, and click **Try Now**. In the lower right corner, click **Architecture Templates** under **Solution Acceleration Field**.

Querying an Architecture Template

You can apply for releasing an integration architecture in the design center to the solution acceleration field. After the integration architecture is approved, it becomes an architecture template. For details about how to release integration architectures, see **Releasing an Architecture to the Solution Acceleration Field**. To query an architecture template, you can:

- Enter keywords such as the template name, applicable industry, or applicable scenario.
- Filter by template type, deployment environment, applicable industry, and applicable scenario, or select more industries and scenarios on the right of **More Industries** and **More Scenarios**.
- View comprehensive sorting, latest releases, most references, and my concerns.

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Figure 10-2 Querying an architecture template

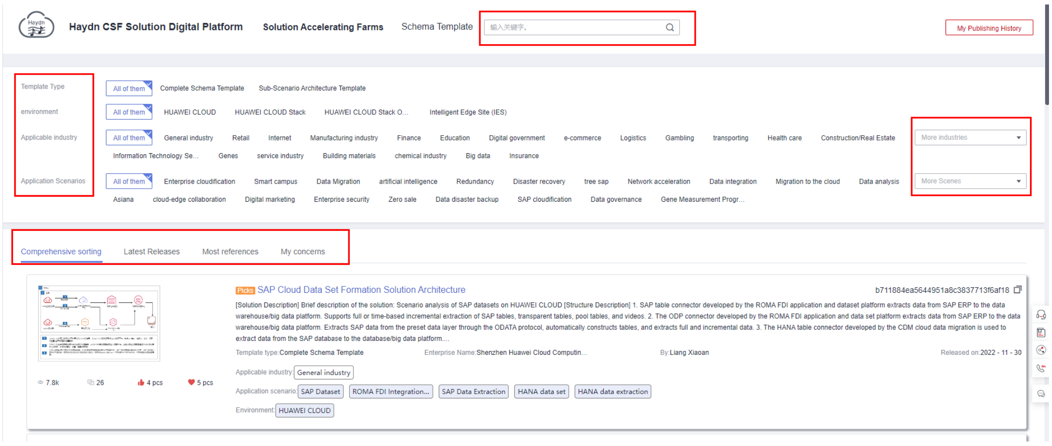
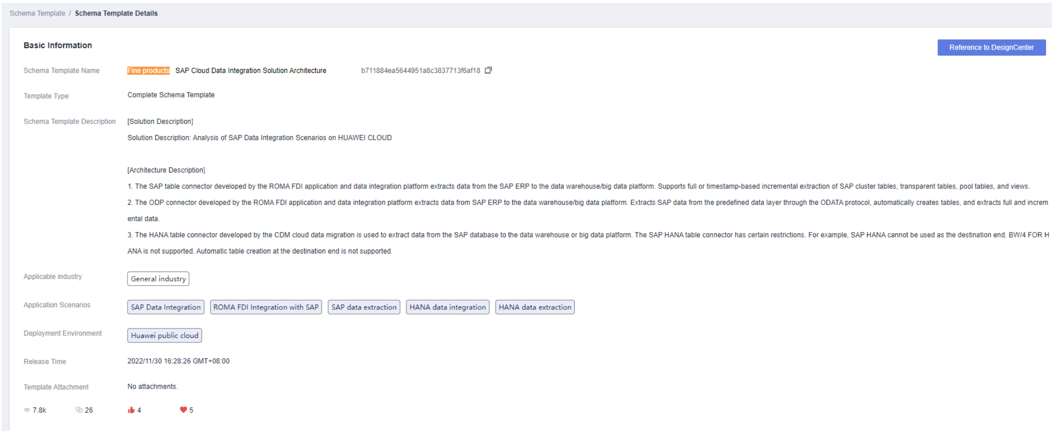


Figure 10-3 Architecture template details



Referencing an Architecture Template

Under **Solution Acceleration Field**, click **Architecture Templates**. On the displayed page, click the architecture template name. On the **Architecture Template Details** page, view details about the architecture template.

1. In the upper right corner, click **Reference to Design Center** to reference the architecture template to a specified solution.
   - **Workspace**: Select the workspace that the architecture is to be referenced to.
   - **Solution**: Select the solution that the architecture is to be referenced to.
   - **Architecture Name**: Enter a name for the architecture.
   - **Architecture Description**: Describe the architecture.

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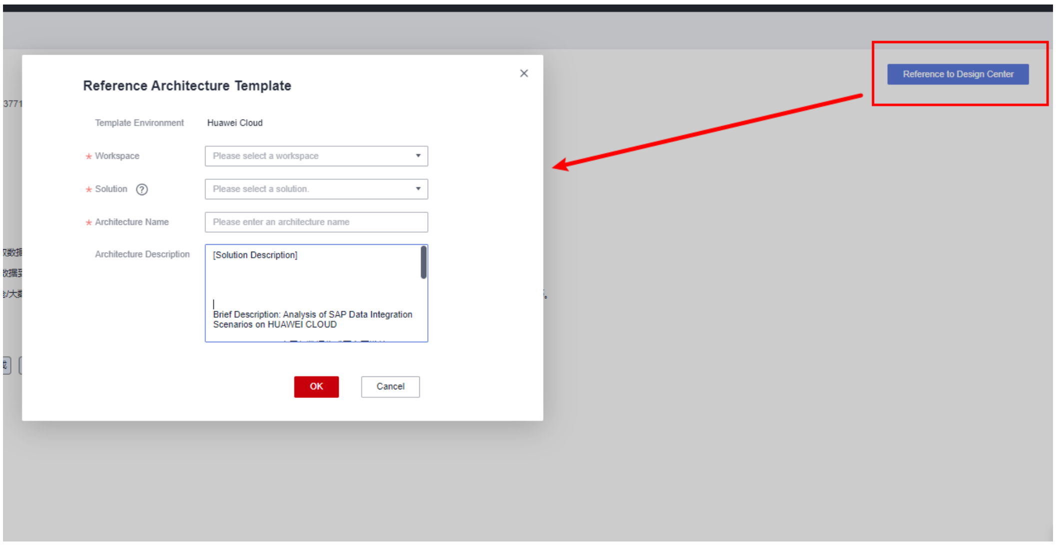
Figure 10-4 Referencing the solution architecture to the design center



2. Click **OK** and wait until the template is imported.
3. Go to the workspace selected in **1** to verify that the referenced architecture has been loaded to the specified solution.

Giving an Architecture Template a Like

You can click the **Liked** icon to give a released architecture template a like on the **Architecture Template** or **Architecture Template Details** page. By default, the architecture templates are sorted by the number of views, references, likes, and favorites.

Figure 10-5 Liked and Favorited on the Architecture Template page

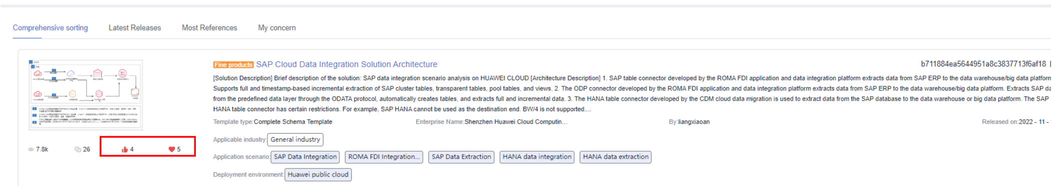
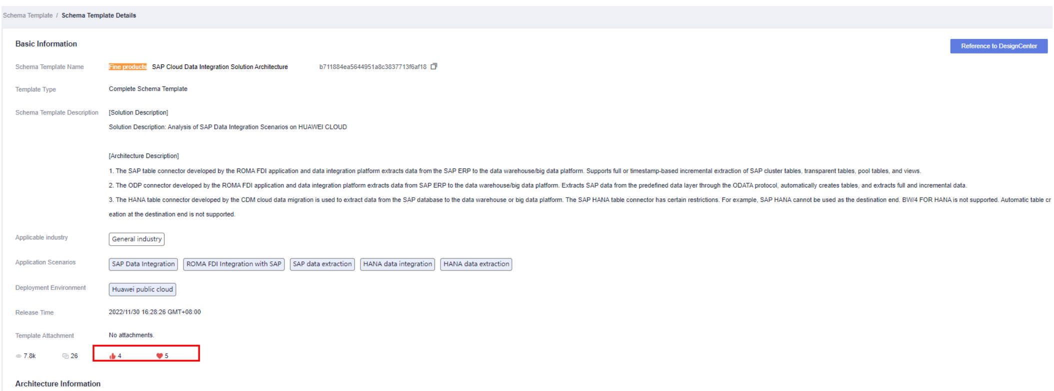


Figure 10-6 Liked and Favorited on the Architecture Template Details page



Adding an Architecture Templates to Favorites

You can click the **Favorited** icon to add a released architecture template to favorites on the **Architecture Template** or **Architecture Template Details** page. By default, architecture templates are sorted by the number of references, likes, and favorites, as shown in **Figure 10-5** and **Figure 10-6**.

My Release History

Architecture templates can be released to the solution acceleration field by HaydnCSF users. For details about the release process, see **Releasing an Architecture to the Solution Acceleration Field as a Template**. On the **Architecture Template** page, you can click **My Release History** to view the release details of each architecture.

You can click **Apply for Removal** to remove an architecture.

Figure 10-7 My Release History entry

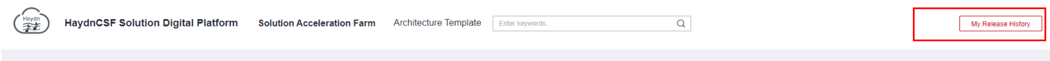
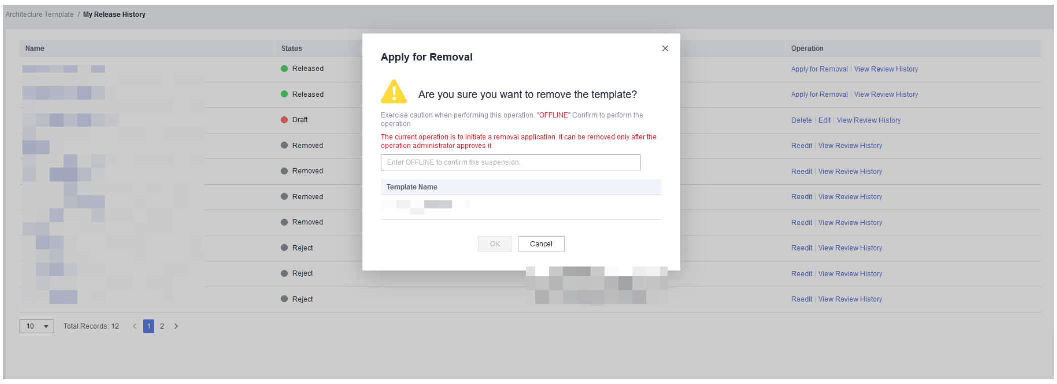


Figure 10-8 My Release History



10.3 Test Case Templates

Common test cases for scenarios can be abstracted as test case templates, which can be quickly reused in similar scenarios to greatly improve the efficiency of test case design and execution.

Visit the Huawei Cloud official website, choose **Solutions** > **By Use Case** > **Haydn Solution Digital Platform**, and click **Try Now**. In the lower right corner, click **Test Case Templates** under **Solution Acceleration Field**.

Querying a Test Case Template

You can apply for releasing a test case in the design center to the solution acceleration field. After the test case set is approved, it becomes a test case template. For details about how to release a test case template, see **Test Case Template Release**. To query a test case template, you can:

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- Enter keywords such as the template name, applicable industry, or applicable scenario.
- Filter by applicable industry and scenario, or select more industries and scenarios on the right of **More Industries** and **More Scenarios**.
- View comprehensive sorting, latest releases, most references, and my concerns.

Figure 10-9 Querying a test case template

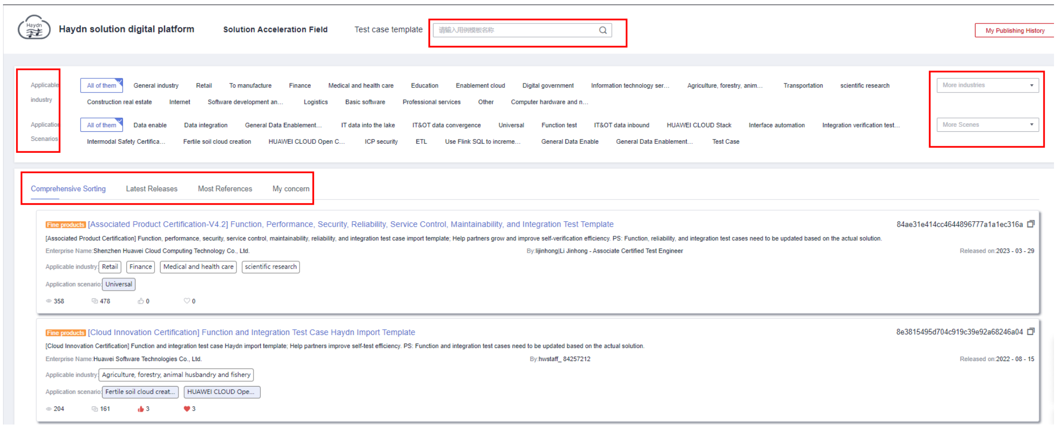


Figure 10-10 Test case template details

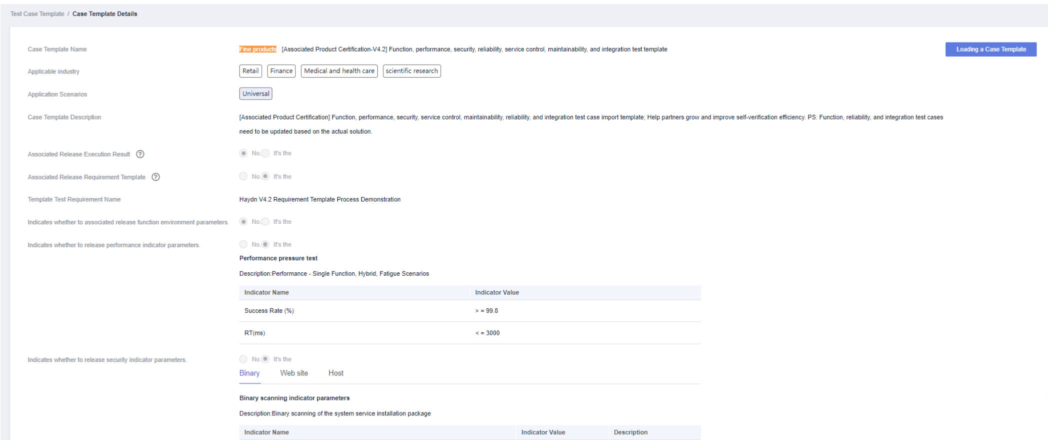
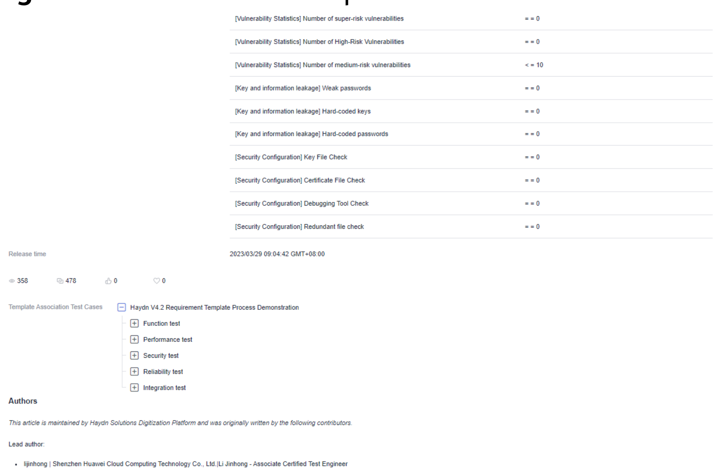


Figure 10-11 Test case template details



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Referencing a Test Case Template

Currently, test cases of IMC integration automation, standards of jointly operated product certification, and test cases of developers' application building have been released as test case templates for partners to quickly reference and complete case design.

Under **Solution Acceleration Field**, click **Test Case Templates**. On the displayed page, click the test case template name. On the **Case Template Details** page, view details about the test case template.

1. In the upper right corner, click **Load Case Template** to reference one or more test cases in the test case template to the specified test requirement. Set parameters as follows:
   - **Workspace**: Select the workspace that the test case template is to be referenced to.
   - **Test Requirement**: Select the requirement that the test case template is to be referenced to.
   - **Deployment Environment**: The default value is the deployment environment when the test case template is released. You can select a new value.
   - **Requirement Description**: Select a requirement item under the test requirement that a test case belongs to.
   - **Performance Indicator Parameters**: (Optional) If a case template contains a performance indicator parameter, you can determine whether to reference it.
   - **Security Indicator Parameters**: (Optional) If a case template contains a security indicator parameter, you can determine whether to reference it.

Figure 10-12 Loading a test case template

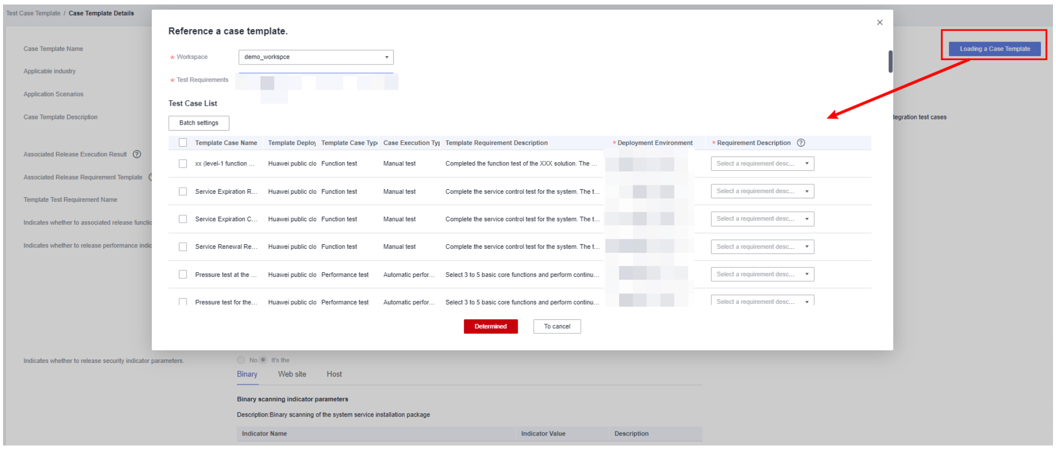

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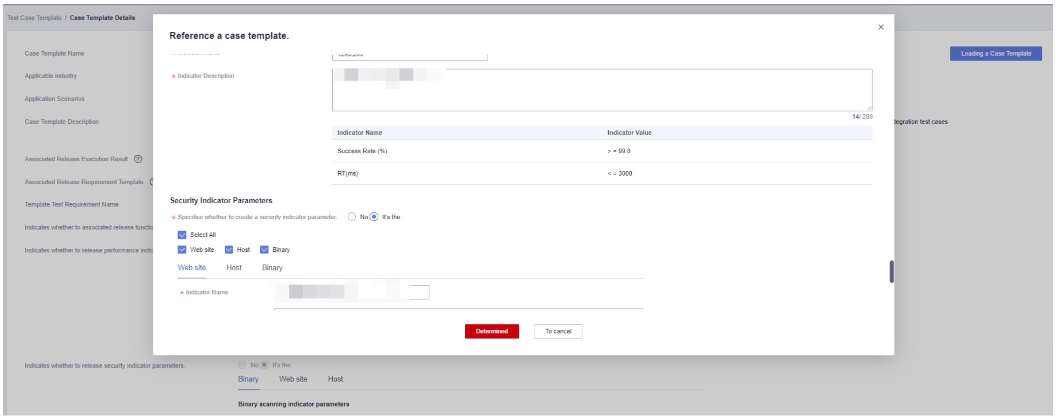
Figure 10-13 Selecting parameters related to a test case

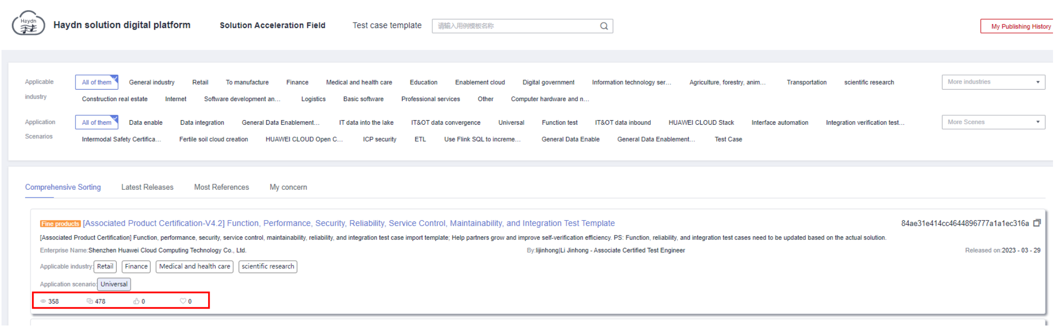


2. Click **OK** and wait until the template is imported.
3. Go to the test center selected in 1 to verify that the referenced test case has been loaded to the specified test requirement.

Giving a Test Case Template a Like

You can click the **Liked** icon to give a released test case template a like on the **Test Case Template** or **Case Template Details** page. By default, test case templates are sorted by the number of references, likes, and favorites.

Figure 10-14 Liked and Favorited on the Case Template Details page



Adding a Test Case Template to Favorites

You can click the **Favorited** icon to add a released test case template to favorites on the **Test Case Template** or **Case Template Details** page. By default, test case templates are sorted by the number of references, likes, and favorites, as shown in Figure 10-14.

10.4 Tool & Sample Code Sharing

The Huawei Cloud verification team continuously accumulates in-house tools or sample code during solution building and verification. Partners can use tools or sample code to quickly pre-integrate and verify cloud services. Other users can view and use the tools or sample code shared by a user during solution building and verification on HaydnCSF.

Log in to HaydnCSF and click **Try Now**. In the lower right corner, click **Tool & Sample Code Sharing** under **Solution Acceleration Field**. On the **Tools &**

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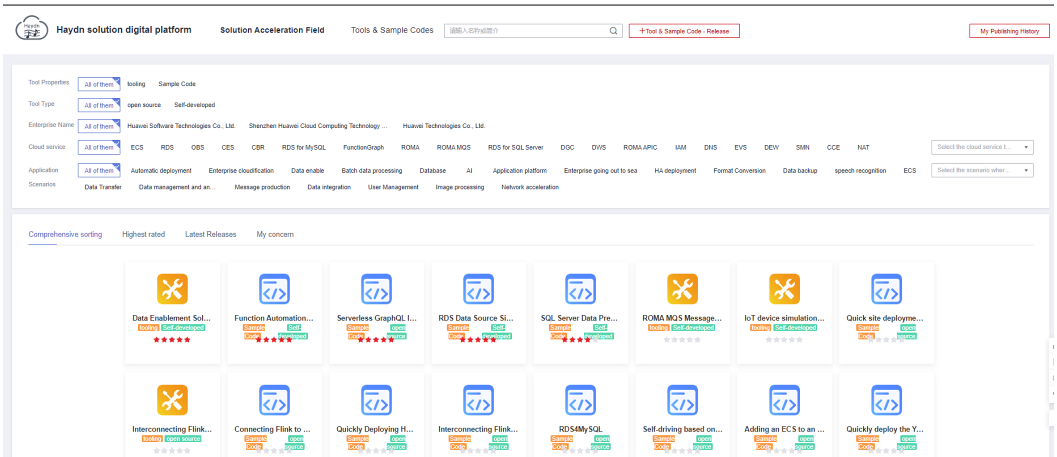
Sample Code page, you can perform related operations, such as **Releasing Tools or Sample Code**, **Querying the Tool or Sample Code**, **Downloading the Tool or Sample Code**, and **Giving Comments on the Tool or Sample Code**.

Figure 10-15 Tools & Sample Code



Releasing Tools or Sample Code

All HaydnCSF users can apply for their own tools or sample code.

1. On the **Tools & Sample Code** page, click **Release Tools & Sample Code**.
2. On the displayed page, configure parameters as prompted.
   a. Configure parameters under **Basic Information**.

Figure 10-16 Basic Information

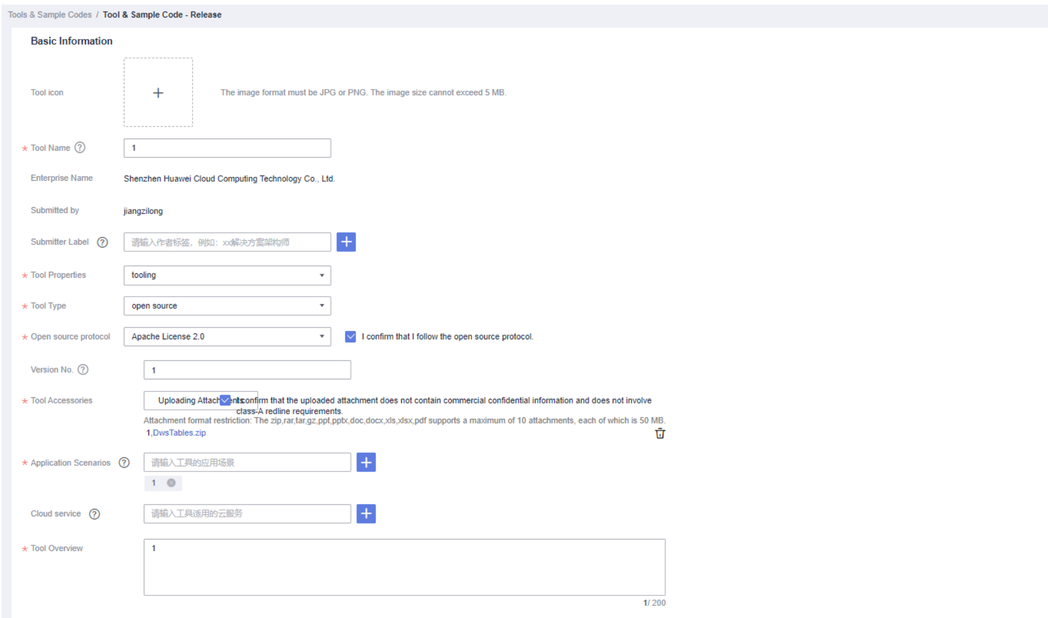


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Table 10-1 Parameters required for releasing tools or simple code

Parameter	Description
Tool Icon	Image of the tool or sample code to be uploaded, which must be in JPG or PNG format and cannot exceed 5 MB.
Tool Name	Name of the tool or sample code, which is user-defined. It is recommended that you enter a name based on naming rules for easier identification and search.
Tool Property	**Tools**: Code packages that have been compiled and can be run directly or after parameters are configured as required. **Sample Code**: Source code and reference examples.
Tool Type	**Open Source**: The tool or sample code is modified based on the source code. If you select this value, **Open Source Protocol** is mandatory. **Self-developed**: The tool or sample code is developed by Huawei Cloud.
Version Number	Version number of the tool or sample code, which is user-defined.
Tool Attachments	Attachments related to the tool or sample code, which are in the format of .zip, .rar, .tar, .gz, .ppt, .pptx, .doc, .docx, .xls, .xlsx, or .pdf. You can upload up to 10 attachments with each not exceeding 50 MB. Tool file (source file or compiled file), sample code file (source file or compiled file), user guide, and application scenario architecture diagram are recommended. With these files, users can correctly use the tool or sample code.
Applicable Scenarios	Scenarios that the tool applies to. You can add up to 10 scenarios.
Cloud Services	Cloud services that the tool applies to. You can add up to 10 cloud services.
Tool Introduction	Brief definition of the tool or sample code. For example, the sample code uses shell scripts for automatic FTP upload and download.

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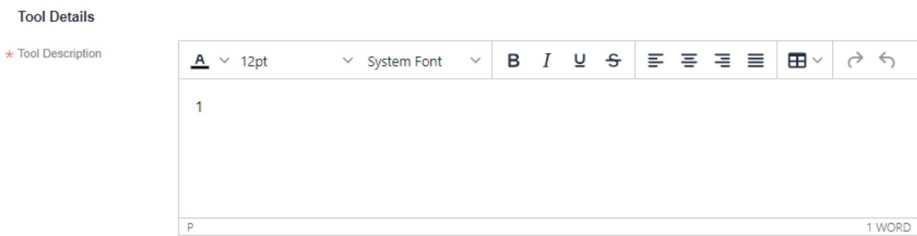
NOTE

1. Ensure that the tool or sample code to be released does not involve confidential business information or EAR. When uploading an attachment, select **I confirm that the uploaded attachment does not contain commercial confidential information and does not involve type-A redline requirements. If you are not sure whether the referenced third-party library is subject to the type-A redline requirements, submit a ticket to contact HaydnCSF on-call engineers in Help Center.**
2. Ensure that the tool or sample code to be released can run properly and does not contain sensitive information, including but not limited to the IP address, password, key, and AK/SK.

b. Configure **Tool Description** under **Tool Details**.

Describe the tool or sample code to be released.

Figure 10-17 Tool or sample code details



c. Configure **Use Scenario** under **Use Scenario**.

Enter the application scenario of the tool or sample code to be released. It is recommended that you upload the architecture diagram to display the application scenario.

Figure 10-18 Applicable scenario of the tool or sample code

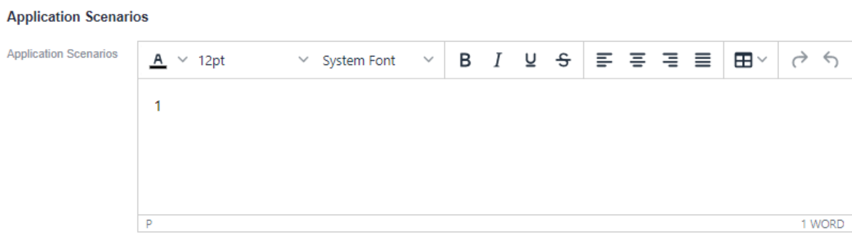
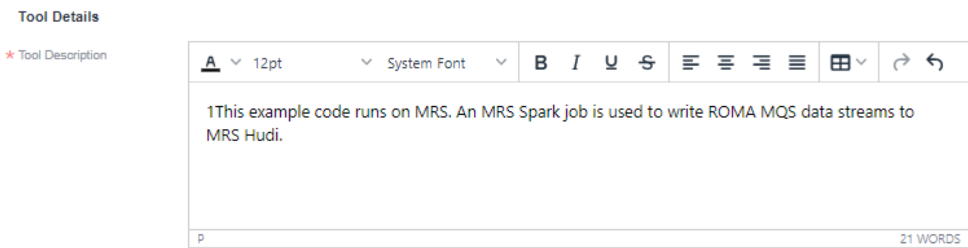


Figure 10-19 Example of the tool or sample code



d. Configure parameters under **Frequently Asked Questions**.

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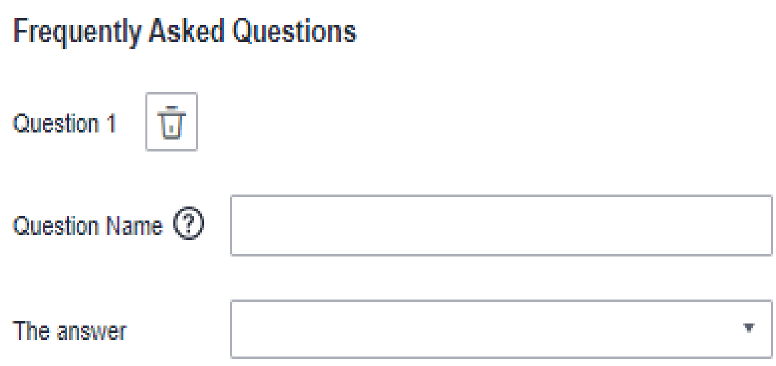
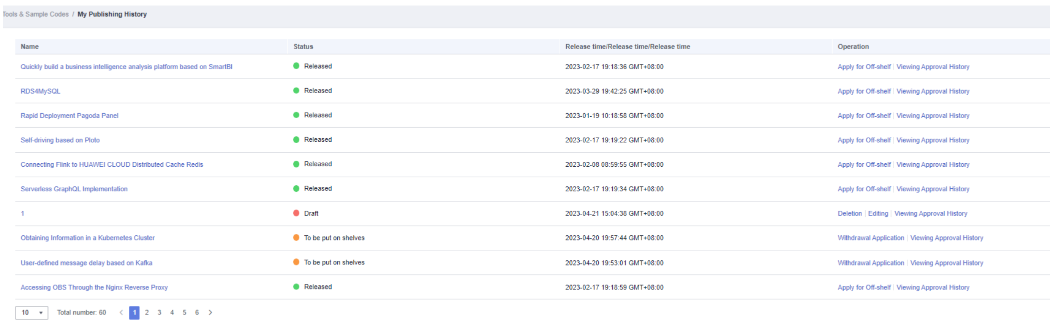
Configure **Question Name** and **Answer** as required to help users quickly use the tool or sample code. You can add multiple questions and answers.

Figure 10-20 FAQ



3. Confirm the parameter configurations and click **Submit** to share the tool or sample code.
4. The HaydnCSF operations administrator will review the tool or sample code. You can choose **To-Dos** > **My Applications** to view your application, or subscribe to the email of HaydnCSF to receive the application result notification.

Figure 10-21 Application status of the tool or sample code



Tools & Sample Codes / My Publishing History

Name	Status	Release time/Release time/Release time	Operation
Quickly build a business intelligence analysis platform based on SmartBI	Released	2023-02-17 19:18:36 GMT+08:00	Apply for Off-shelf | Viewing Approval History
RDS4MySQL	Released	2023-03-29 19:42:25 GMT+08:00	Apply for Off-shelf | Viewing Approval History
Rapid Deployment Pagoda Panel	Released	2023-01-19 10:18:58 GMT+08:00	Apply for Off-shelf | Viewing Approval History
Self-driving based on Ploto	Released	2023-02-17 19:19:22 GMT+08:00	Apply for Off-shelf | Viewing Approval History
Connecting Flink to HUAWEI CLOUD Distributed Cache Redis	Released	2023-02-08 08:59:55 GMT+08:00	Apply for Off-shelf | Viewing Approval History
Serverless GraphQL Implementation	Released	2023-02-17 19:19:34 GMT+08:00	Apply for Off-shelf | Viewing Approval History
1	Draft	2023-04-21 15:04:38 GMT+08:00	Deletion | Editing | Viewing Approval History
Obtaining Information in a Kubernetes Cluster	To be put on shelves	2023-04-20 19:57:44 GMT+08:00	Withdrawal Application | Viewing Approval History
User-defined message delay based on Kafka	To be put on shelves	2023-04-20 19:53:01 GMT+08:00	Withdrawal Application | Viewing Approval History
Accessing OBS Through the Nginx Reverse Proxy	Released	2023-02-17 19:18:59 GMT+08:00	Apply for Off-shelf | Viewing Approval History

10 Total number: 60 < 1 2 3 4 5 6 >

Release History of Tools or Sample Code

On the **Tools & Sample Code** page, click **My Release History** on the right. On the displayed page, you can view the list and status of tools and sample code released by yourself. You can also apply for removing them.

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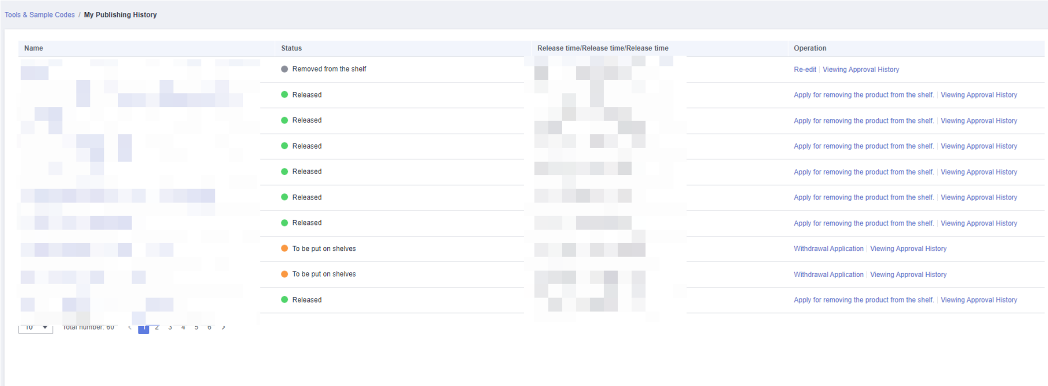
Figure 10-22 My release history

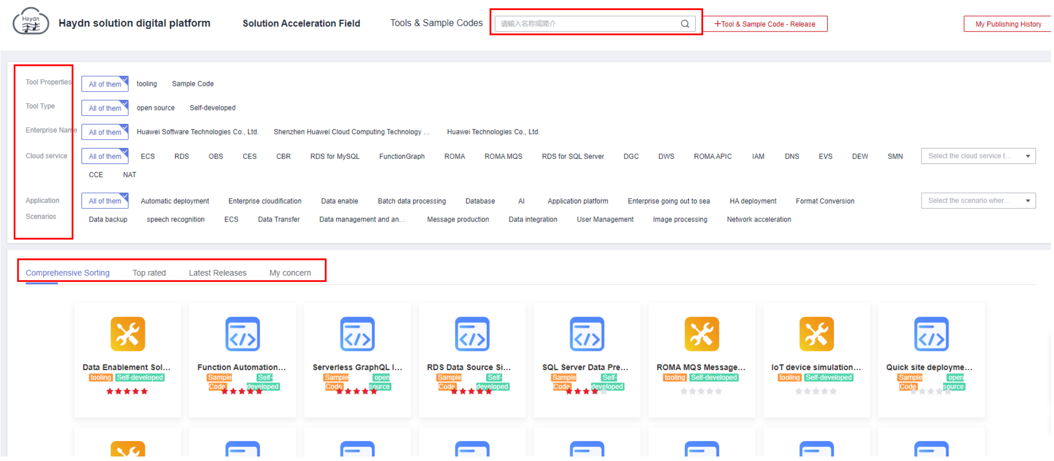


Querying the Tool or Sample Code

After the release application is approved, tools or sample code will be displayed on the **Tools & Sample Code** page. To query tools or sample code, you can:

- Enter the name or description.
- Filter by tool property, tool type, enterprise name, cloud service, or applicable scenario.
- View comprehensive sorting, highest rating, latest releases, and my concerns.

Figure 10-23 Querying the tool or sample code



Downloading the Tool or Sample Code

Click the tool or sample code name. On the details page, you can view the introduction, attachments, details, application scenarios, FAQ, and user comments.

Click **Download** to download the attachments and decompress them.

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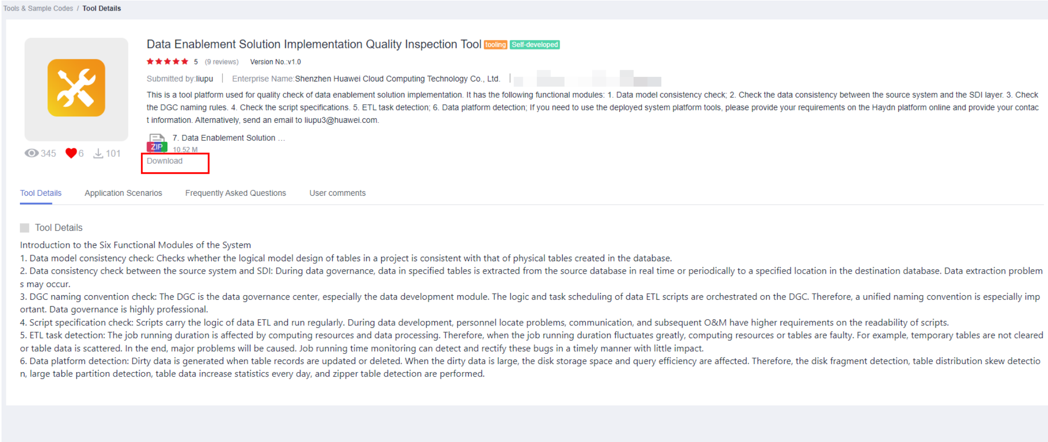
Figure 10-24 Downloading the tool or sample code

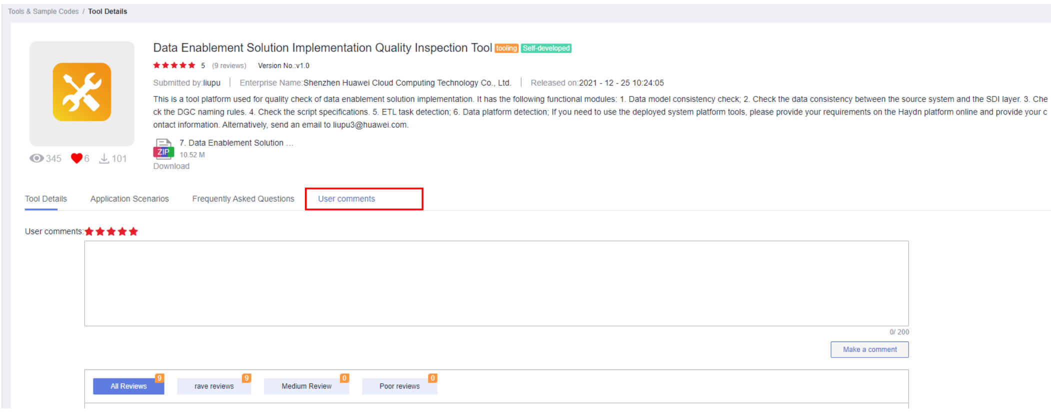


Giving Comments on the Tool or Sample Code

Click the tool or sample code name. On the details page, click **User Comments**. User comments will be displayed on this tab page.

- Score: Score the tools or sample code on a scale from one to five stars (with five being the highest rating).
- Comments: Enter the comments.

Figure 10-25 Giving comments on the tool or sample code



10.5 Solution Practices

Huawei Cloud solution practices and best practices of each product are collected on HaydnCSF for quick search. You can choose **Solution Acceleration Field** > **Solution Practices** to query a solution.

NOTE

The sample code or architecture template included in a solution will also be released to the solution acceleration field.

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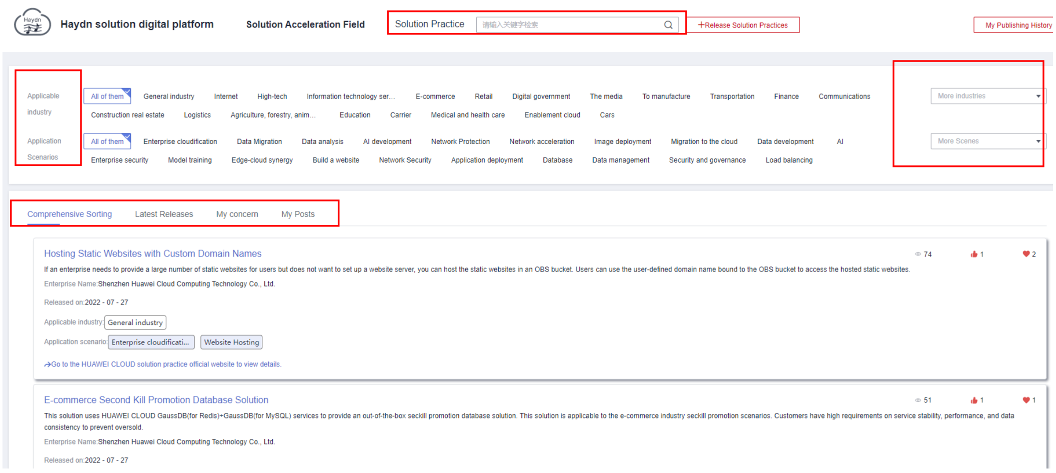
Querying a Solution

On the **Solution Practices** page, you can query a solution using keywords, applicable industry, and applicable scenario. The following information can be obtained: solution name, applicable industry, applicable scenario with description, solution architecture description and advantages, and full text.

Figure 10-26 Common search of a solution



Releasing a Solution

1. On the **Solution Practices** page, click **Release Solution Practices**.
2. On the displayed page, configure parameters as prompted.

Table 10-2 Parameters required for releasing a solution

Parameter	Description
Solution Attachment	(Mandatory) You can upload only one attachment with a size of not exceeding 50 MB. The attachment must be in .docx format and its name contains a maximum of 64 characters. Ensure that the attachment does not contain non-public information assets (including but not limited to key source code, faulty code, and full set of product or platform source code), unauthorized software or tools, and RMS-encrypted files.
Link to Official Website	Link to a solution on the Huawei Cloud official website. Generally, Huawei Cloud solution practices and best practices of each cloud service are linked.
Practice Name	Name of the solution.
Enterprise Name	Name of the authenticated enterprise that the current account belongs to, which is automatically displayed.
Applicable Industries	Industries that a solution applies to. You can select up to 10 industries.

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Parameter	Description
Applicable Scenarios	Scenarios that a solution applies to. You can select up to 10 scenarios. Note: After entering a scenario name, click + to add the scenario.
Applicable Scenario Description	Describe the applicable scenario.
Solution Architecture	(Optional) Solution architecture of a solution. You can upload only JPG or PNG diagrams with the size of not exceeding 10 MB, and describe the solution architecture. You can upload multiple groups of solution architectures.
Solution Advantages	Advantages of the solution.

3. Click **Save** to save the solution draft, and click **Submit** to submit the solution.
4. Wait for the HaydnCSF operations administrator to approve the application. You can view the release status of the solution in **My Release History**.

My Release History

On the **Solution Practices** page, click **My Release History** in the upper right corner. On the displayed page, you can view the release status and time, and apply for removing a released solution.

Figure 10-27 Solution release history