CodeArts Req

Service Overview

Issue 04

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Contents

1 What is CodeArts Req?

Product Overview

CodeArts Req is a requirement management and team collaboration service drawn from Huawei's years of R&D practices. It has multiple out-of-the-box requirement models and object types (requirements, bugs, tasks, etc.) to fit in your scenarios. It supports various R&D modes such as IPD, DevOps, and Lean Kanban, and provides functions including cross-project collaboration, baseline and change management, custom reports, Wiki online collaboration, and document management.

- Req seamlessly integrates with other CodeArts services to provide full lifecycle software management and team collaboration.
- CodeArts Req presets multiple templates for Scrum, Kanban, IPD-system device, IPD-standalone software, and IPD-self-operated software/cloud service projects.
  - Scrum project is suitable for agile software development teams who uphold Scrum methodologies and practices.
  - Kanban project uses cards for interaction. It is suitable for lightweight and simple management of software development teams.
  - IPD-system device project template manages large-scale product development with high-quality and efficiency based on structured processes and powerful cross-project collaboration.
  - IPD-standalone software project template manages large-scale software development with high quality and efficiency based on structured processes and powerful cross-project collaboration.
  - IPD-self-operated software/cloud service project template manages cloud service software with high quality and efficiency, providing E2E customer value requirement management, lightweight and agile planning, and powerful cross-project collaboration.
- Efficient, transparent, and visualized end-to-end project management is made possible due to the multiple basic features provided. These features include requirement planning and management, bug management, sprint planning and management, custom workflows, progress tracking, statistical reports, and project document hosting.

  NOTE

  IPD project templates are available only in the AP-Singapore region.

Features

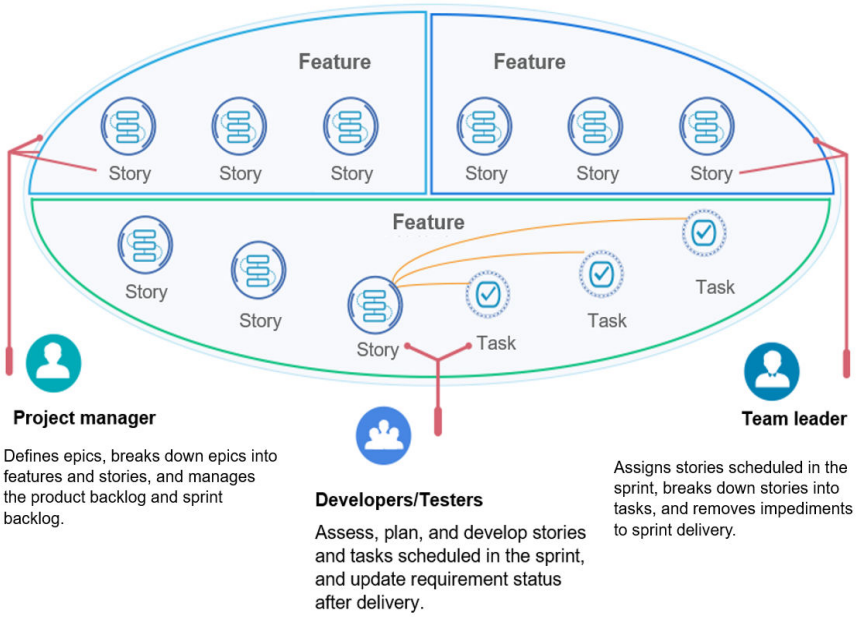
- **Requirement Planning and Breakdown**

  Raw requirements are usually abstract and vague. They need to be analyzed and broken down into minimum-level units that can be delivered in each sprint.

  In Scrum projects of CodeArts Req, requirements can be broken down in the four-layer hierarchy: **Epic > Feature > Story > Task**.

  An abstract and vague epic is divided into multiple features which are further broken down into stories. A story, also called user story, is a minimum deliverable unit that is written from the customers' perspective and under the principles of Independent, Negotiable, Valuable, Estimable, Sized-Appropriately, and Testable (INVEST). After the breakdown, stories are scheduled into one or more sprints based on the manpower of the development team and the estimated finished time of the epic requirement.

  This method leads to continuous delivery and ensures runnable software is produced in every sprint and offered to users for testing. The development team can then collect user feedback, apply changes accordingly in the next sprint, and finally deliver a product that meets the requirements of users and promise business success.

  Requirements can be planned and broken down using a mind map in CodeArts Req.

- **Sprint**

  A sprint-based agile software development process is composed of several repetitive cycles. It features continuous delivery and feedback collection, against the linear process of waterfall software development, where a product is delivered only at the end of the process.

  A product is released after each sprint. The feedback collected in a sprint will be used as references in the next sprint for the development team to

continuously improve the software. Adopting the sprint model reduces risks and change costs and improves development efficiency.

You can plan and manage sprints in CodeArts Req.

NOTE

Although both "iteration" and "sprint" refer to a repetitive process, there are some slight differences between them. "Iteration" is a common term used in different agile methodologies, whereas "sprint" is a Scrum term.

- **Custom Statistics Report**

  Data statistics and analysis are the basis for transparent and visualized software project management. However, time-consuming manual data collection and analysis are a real pain to many project managers.

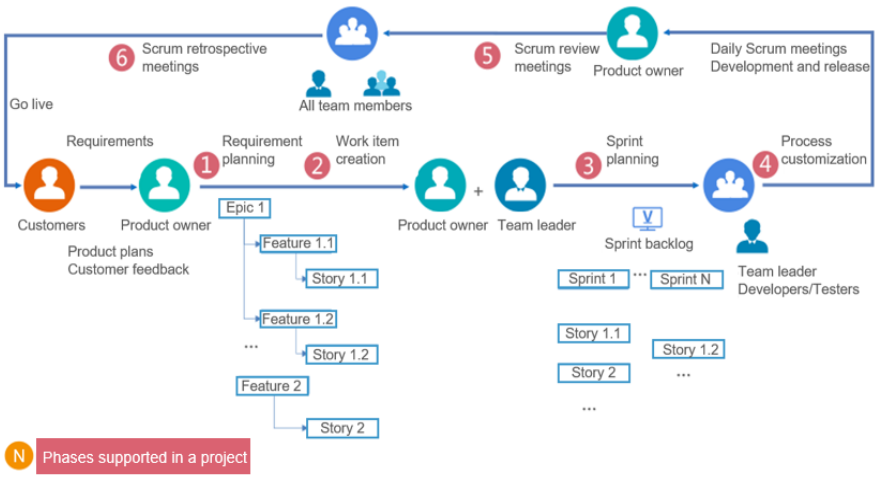
  CodeArts Req supports online data collection and analysis. You can use preset reports or create custom reports as required.

- **Document Hosting**

  Document hosting supports uploading documents in different formats. You can upload project summaries, architecture documents, and product requirement documents to the cloud, so that project members can access and obtain documents via a unified access address at any time. This facilitates information sharing throughout the team and the building of project experience.

Scrum Development Process

- Scrum is a popular agile development method. It enables continuous delivery through repetitive sprints, which are cycles of closed-loop software development from user requirement planning to user feedback collection.
- Sprint planning meetings, daily Scrum meetings, sprint retrospective meetings, and sprint review meetings are keys to simple but efficient project management.



2 Advantages

Professional Methodologies Built on Practice

- Agile and Lean project management methodologies are used as framework.
- The Scrum project template is offered to accommodate standard software development scenarios.
- Requirement planning and breaking down under the Scrum model are supported.
- Sprint plans and timelines present a clear view of project progress.

Built-in R&D Modes

NOTE

IPD projects are available only in the AP-Singapore region.

CodeArts Req absorbs IPD requirement management concepts and practices. It provides various out-of-the-box scenario-based requirement templates to support R&D modes such as IPD, DevOps agile delivery, and Lean Kanban.

- IPD system device
- IPD standalone software
- Scrum

Scenario- and Role-specific Data Analysis

- Custom reports for project managers to compare and analyze data in multiple dimensions.
- Data can be downloaded as charts or tables.

Various Customization Options

- Custom requirement and bug templates.
- Custom settings for requirement and bug workflows, transition direction, and owners for automated transition.
- Custom requirement and bug fields.
- Custom modules and domains.

- Custom roles and permissions.

Large-scale and Efficient Collaboration Across Projects

NOTE

IPD projects are available only in the AP-Singapore region. Cross-project distribution of raw requirements and cross-project delivery of R&D requirements are available in IPD projects.

Provides powerful cross-project requirement breakdown and collaboration capabilities for large R&D teams to accelerate information transfer and improve efficiency.

- Raw requirements can be distributed across projects.
- R&D requirements can be distributed across projects.

All-round Requirement Tracing

Streamlines data silos during requirement development and connects design documents, code, cases, and bugs generated during requirement development to form an all-round tracing relationship network.

- Requirement work items
- Bugs
- Wikis
- Test cases
- Code committing records
- Code branches

Mind Maps

You can plan requirements of agile Scrum projects in a unified manner and break down the plan layer by layer (**Epic > Feature > Story > Task**) in mind maps to ensure implementation of an organization's strategic plans.

- You can create multiple mind maps.
- You can break down sub-requirements using mind maps.
- You can export images by one click.

3 Use Cases

Internet Enterprises

- Frequent market changes demand quick responses from Internet enterprises.
- CodeArts Req upholds the agile development methodologies and facilitates continuous delivery for Internet enterprises. They can implement iterative software development and quickly and continuously release services to meet changing user needs.
- Internet enterprises can either use CodeArts Req independently or adopt the entire DevOps platform. The latter allows them to manage the entire application development lifecycle from requirement planning to service release, improving end-to-end development efficiency.

IPD R&D

NOTE

IPD R&D is available only in the AP-Singapore region.

- Large-scale and complex product R&D, large-scale R&D teams, cross-project and cross-region collaboration, high requirements on product quality, strong process control, many decision-making points, and long delivery period ranging from 2 to 6 months. Examples: communications equipment, automobiles, Enterprise Resource Planning (ERP) software, and network management software.
- IPD-system device or IPD-traditional software requirement model manages projects, and continuously promotes efficient collaboration and business development within the enterprise. It is based on capabilities such as cross-project collaboration, baseline change review, and end-to-end traceability.

ISVs

- It is always a challenge for independent software vendors (ISVs) to ensure efficient team collaboration when developers are located in different offices and using different development tools and environments. ISVs also need to tackle rapidly changing customer requirements and frequent reworks with faster responses.
- CodeArts Req enables simple but efficient collaboration and offers cloud-based file hosting where documents can be centrally managed, so ISVs can enhance team collaboration, sharing, and consistency management.

Traditional Software Enterprises

- For traditional software enterprises who are transforming toward an Internet Plus model, insufficient knowledge of the Internet industry and gaps between the new and existing management and delivery modes often result in a drop in software development throughput on the initial stage.
- CodeArts Req offers requirement and bug management and tracking, and agile sprint management. It assists traditional software enterprises in mastering the principles and practice of agile, iterative delivery.

  Powerful customization is also available in CodeArts Req. Traditional software enterprises can tailor workflows for the transition phase to ensure smooth transformation.

Software Outsourcing Enterprises

- Software outsourcing enterprises often cannot keep a real-time track of product roadmaps and project progress since they do not have a software development management platform that can provide insights into project data.

  Product quality can be verified only after delivery, and it is challenging for them to meet with ever-changing requirements and high quality standard of the contracting parties.
- Powerful data reporting and analysis of Req allow software outsourcing enterprises to monitor the project progress, risks, and quality in real time.

  They can also practice the agile, iterative software development model for continuous delivery and user feedback collection, so that risks can be detected as soon as possible instead of in the final delivery.

4 Features

4.1 Multiple Built-in IPD Requirement Models

NOTE

IPD requirement models are available only in the AP-Singapore region.

Based on Huawei Integrated Product Development (IPD) requirement management concepts and practices, CodeArts Req provides multiple out-of-the-box scenario-based requirement templates and supports multiple R&D modes such as IPD R&D, DevOps agile delivery, and lean kanban. You can select a project template based on the enterprise scale, service requirements, and application scenarios.

Various project templates bridge the gap between projects and products.

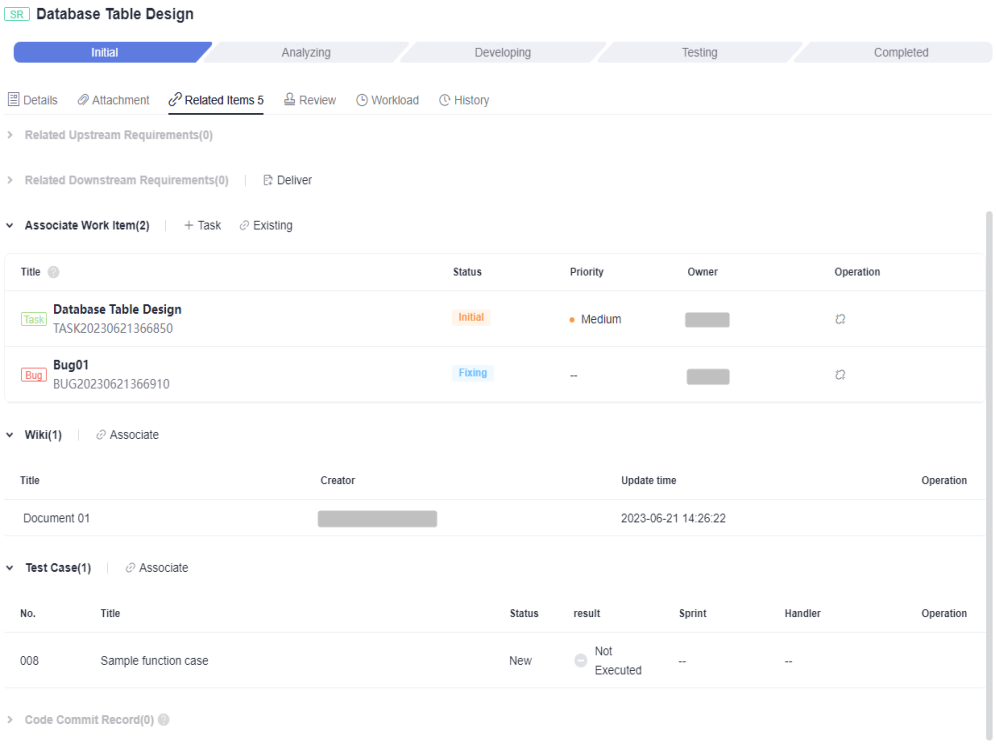
1. IPD-system device project is oriented to large-scale product development based on structured process and powerful cross-project collaboration.
   - Application scenarios: Complex products with embedded software that evolves with hardware. Examples: communications devices, automobiles, home appliances, and consumer electronics.
   - Features: software and hardware adaptation involved, fixed product requirements, industry standards available, long development period (6–9 months), high requirements on product quality and stability, many decisions to make, and mainly waterfall development. IPD-system device project template manages large-scale product development with high-quality and efficiency based on structured processes and powerful cross-project collaboration.
   - Requirement management is the core process of Huawei integrated product development (IPD). This template provides a structured R&D process for systems/devices based on best practices of product requirement management. You can manage raw requirements and feature trees, break down and assign requirements, set baselines, make changes, and enjoy cross-project collaboration. The requirement model is as follows:

2. IPD-standalone software project template manages large-scale software development with high quality and efficiency based on structured processes and powerful cross-project collaboration.
   - IT application and platform software with standard hardware or independent of dedicated hardware. Examples: ERP, CRM, databases, and network management software.
   - R&D features: Independent software deployment and sales, frequent requirement changes, quick planning, agile development, agile release, and short delivery period (2–3 months or faster). IPD-standalone software manages large-scale software development with high quality and efficiency with structured processes and powerful cross-project collaboration.
   - Requirement management is the core process of Huawei integrated product development (IPD). This template provides a structured R&D process for independent software based on best practices of product requirement management. You can manage raw requirements and feature trees, break down and assign requirements, set baselines, make changes, and enjoy cross-project collaboration. The requirement model is as follows:

4.2 End-to-end Traceability

The later risks are identified, the greater the rectification costs and negative impact. By streamlining data silos in the requirement process and connecting design documents, code, cases, and bugs, Req forms a traceable relationship network. Risks are identified in advance and problems are visualized in real time for high-quality R&D.

- Req presents a clear requirement development process and identifies requirement risks.
- The following shows an example.

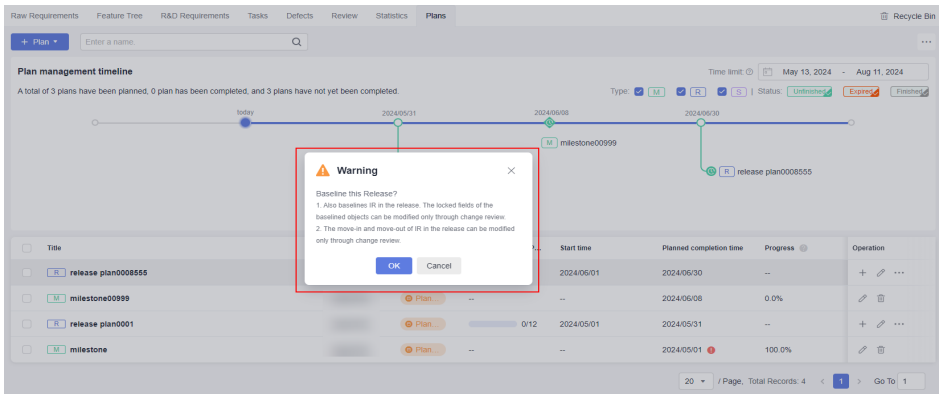


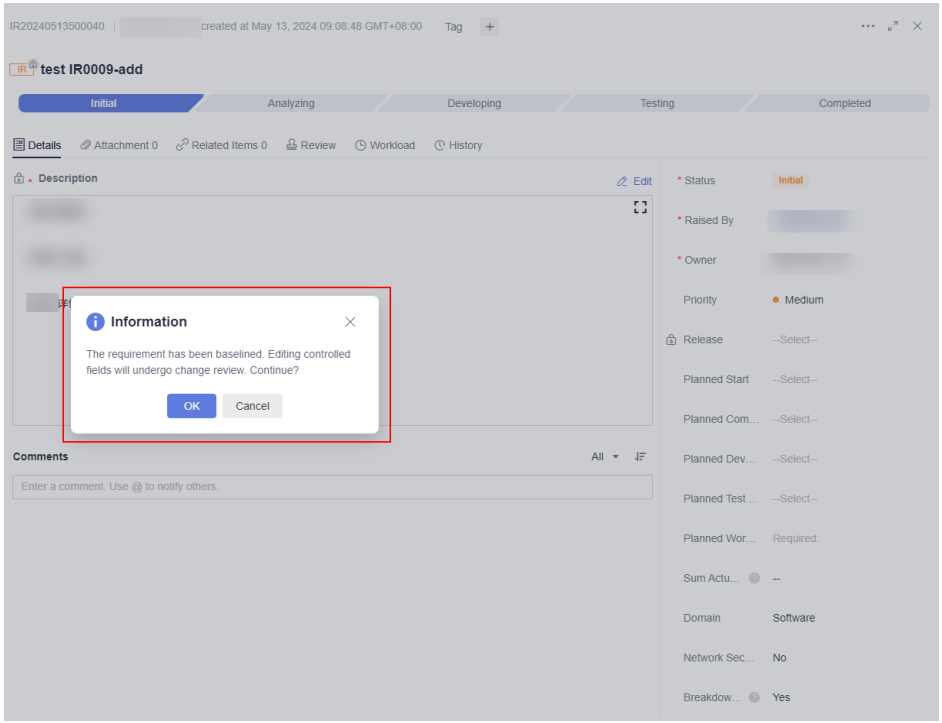
4.3 Baseline Management and Change Review

> **NOTE**
>
> IPD projects are available only in the AP-Singapore region. Baseline management and change review are available in IPD projects.

A product goes through a complex R&D process from planning to release. The IPD method of Req manages these processes by version baselines, change requests of controlled fields, change reviews, and change management. Baseline changes must reach specified gate thresholds before going to the next stage to keep teams on the right track.

- Information of baselined requirements cannot be modified, including the current PI/sprint tile, planned start time, planned end time, planned workload. The R&D requirements, tasks, and bugs under the current PI/sprint are baselined synchronously.
- To change baselined requirements, perform another round of change review for them.
- The following shows an example.





4.4 Efficient Cross-Project Collaboration

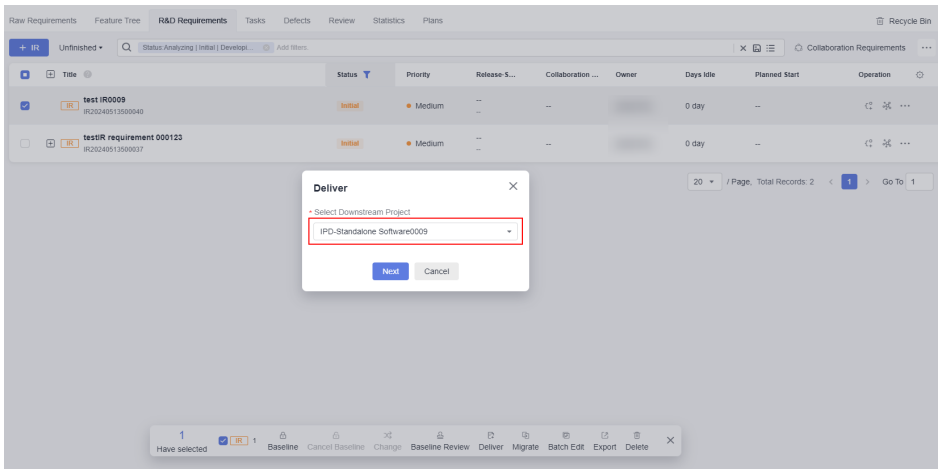
NOTE

IPD projects are available only in the AP-Singapore region. Cross-project collaboration of R&D and raw requirements is available in IPD projects.

Large-scale product development involves exceptionally increasing costs of collaboration and project communication. Connecting projects, people, and work items like a mesh means that teams are no longer restrained by organization levels and function domains when communicating and exchanging information.

- Distribute R&D requirements to downstream projects.
- Distribute raw requirements to other projects.

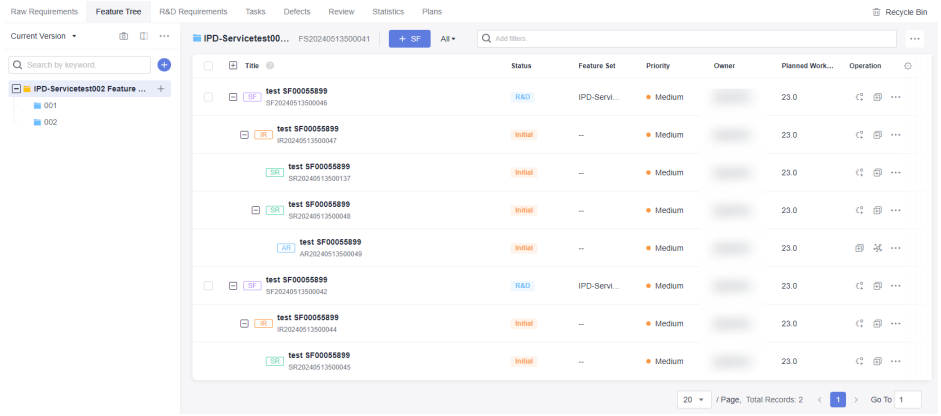
The following shows an example.



4.5 Feature Management

Features are the core assets of a product and are always iterating. Full management includes a feature tree to better manage features, prevent asset loss, and enable fast cross-generation feature inheritance and development.

- Product/Service SFs are the key to solving PBs. Features are a collection of major selling points or highlights of a product. Each feature is an end-to-end solution that can meet specific business value requirements of customers. Some features can be sold separately via license control.
- Req provides different feature templates based on the work item types. For example, for a feature, you can describe its background, value, and details.
- Feature management includes features and feature trees.



4.6 Customers' Raw Requirements Management

NOTE

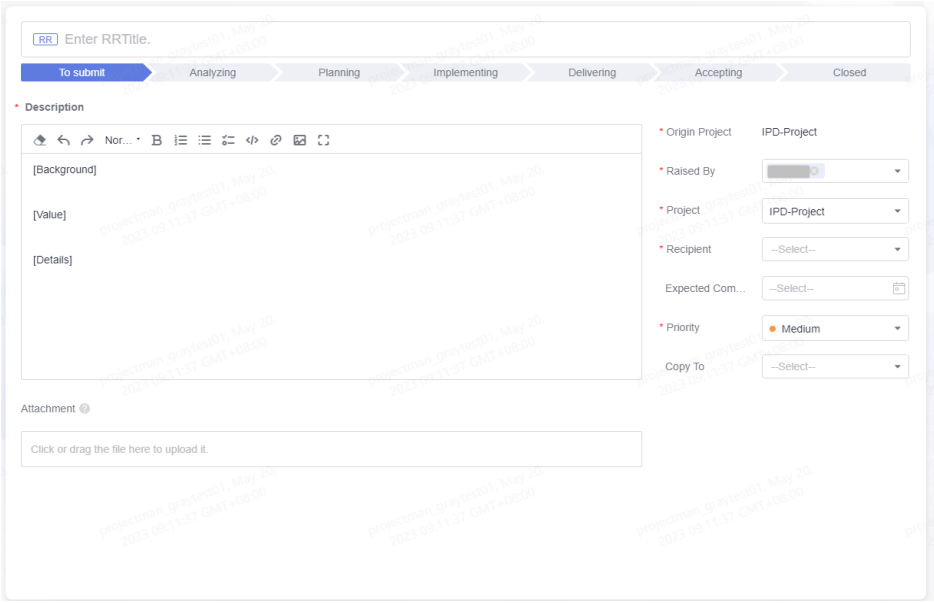
IPD projects are available only in the AP-Singapore region. Customer raw requirement management is available in IPD projects.

Successful products are made to meet customer needs. To address both customer and market requirements, requirement management tools should not be limited to the R&D phase. With a complete process from customer requirement collection,

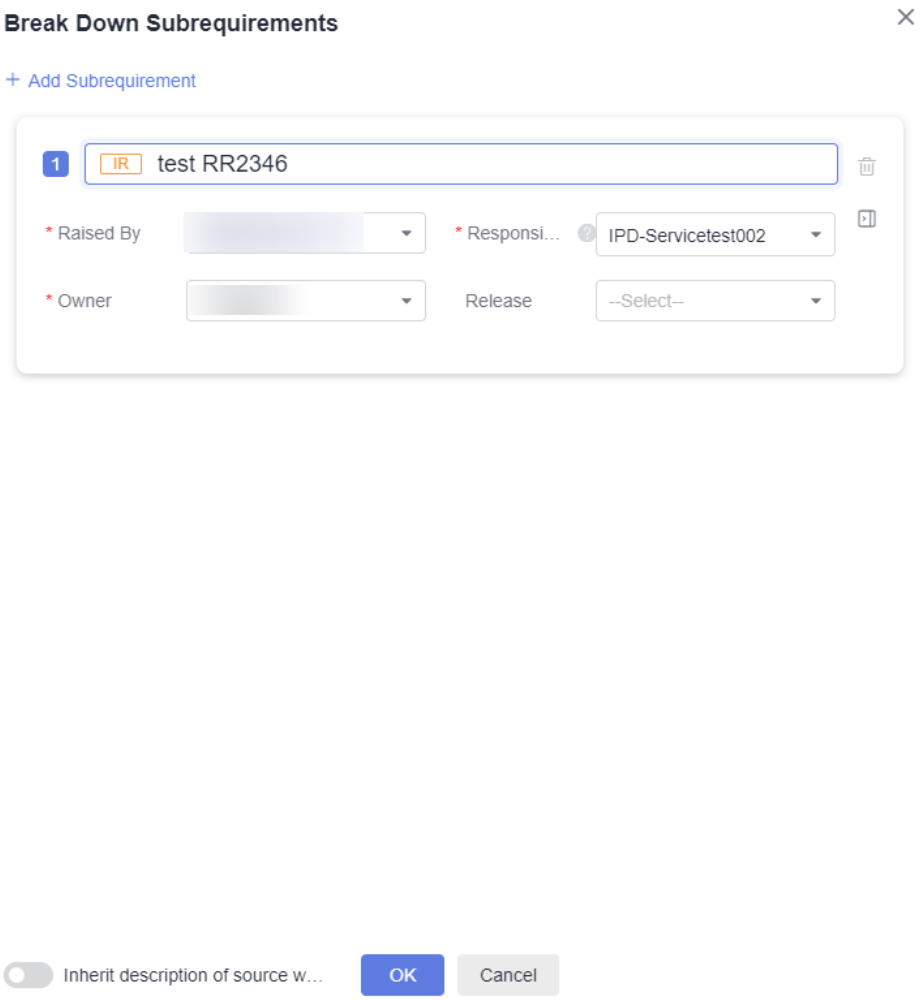
valuable requirement decision-making, requirements delivery to acceptance, progress and dynamics are transparent to customers, and the requirement flow is 70% faster.

Raw requirements (RRs) are original problems or requirements proposed by customers. As a type of RR, customer requirements need to be analyzed and reviewed by the requirements analysis team (RAT).

- IPD requirement management is the core process of IPD. Req provides requirement templates and presets the best practices for requirement management. It provides a structured requirement development process for system devices. The main process includes raw requirement submission, analysis, planning, implementation, delivery, acceptance, and closure.
- You can create RRs with the IPD templates and describe the requirement background, requirement value, and requirement details.

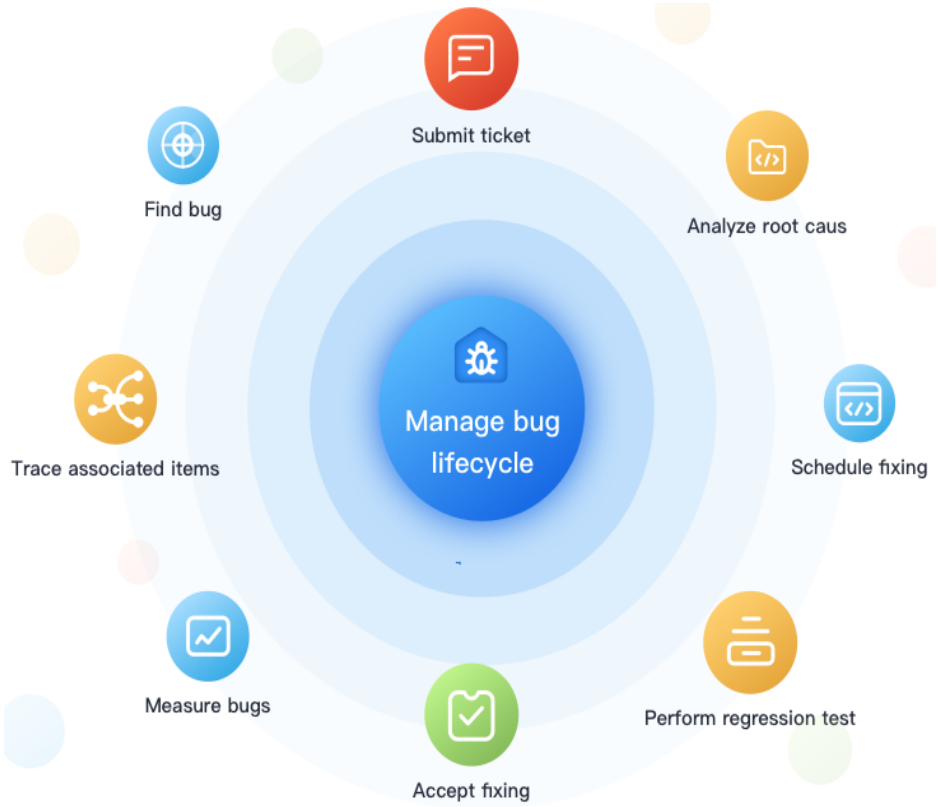


- Raw requirements can be broken down into initial requirements.



4.7 Bug Full Lifecycle Management

A bug has its own lifecycle, just like the software. The more accurate the defect location, the less the repair cost and negative impact. CodeArts Defect streamlines the monitoring chain which includes bug discovery and raising, developers' analysis, locating, and rectification, and testers' testing and acceptance, well managing a bug from generation to closure. The team can effectively and accurately track, associate, and manage bugs for a high-quality delivery based on the data generated in bug lifecycle and real-time risk warning.



The bug full lifecycle management process is as follows:

1. Testers find bugs and submit bug tickets.
2. The owner identifies the cause of the bug and rectifies it in time according to the version plan.
3. Testers perform regression tests on bug tickets based on the latest functions and perform acceptance tests.
4. The project manager views the bug measurement data.
5. The owner views the associated items of the bug ticket for tracing.

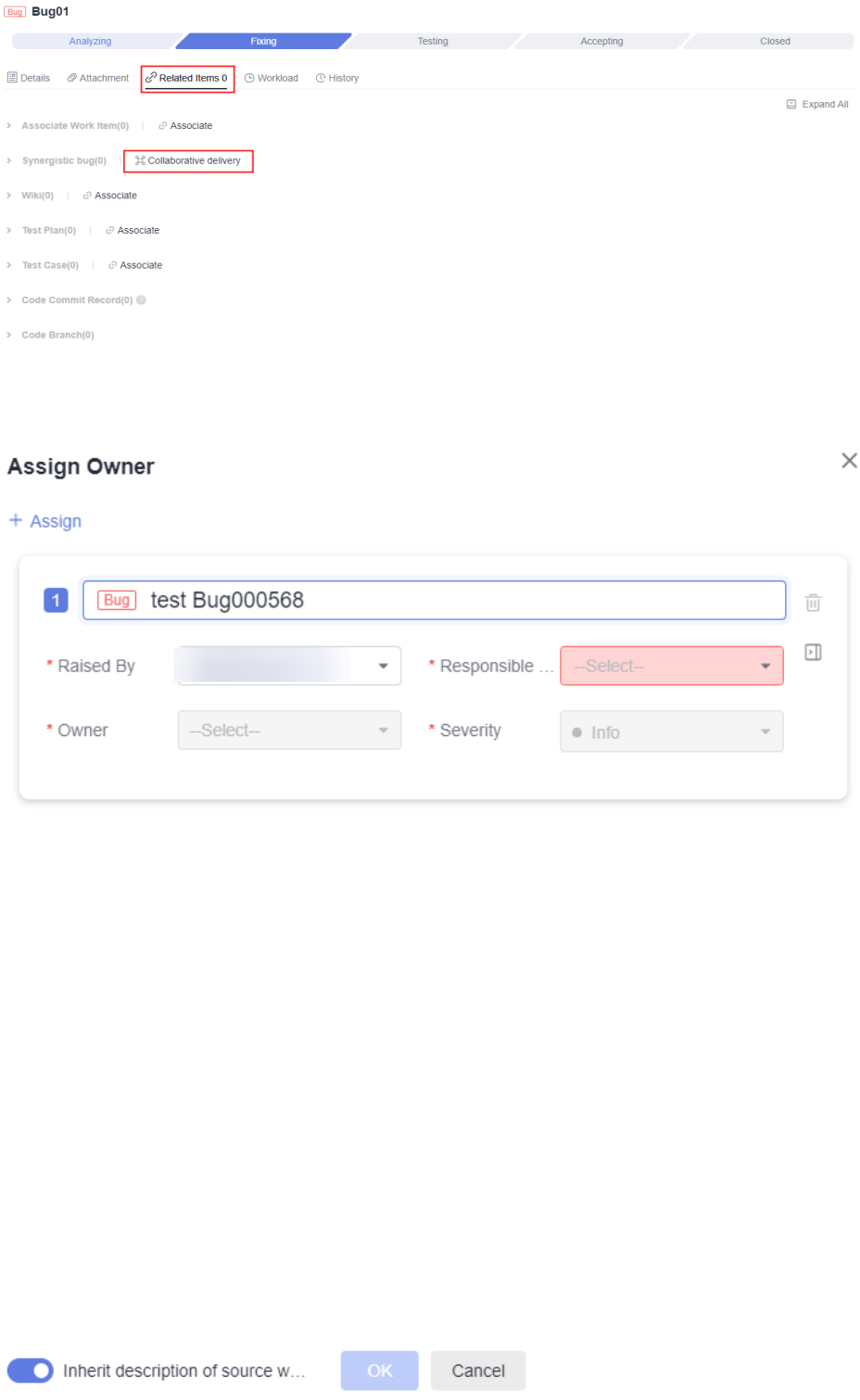
4.8 Efficient Cross-Organization Collaboration for Bug Tracking and Management

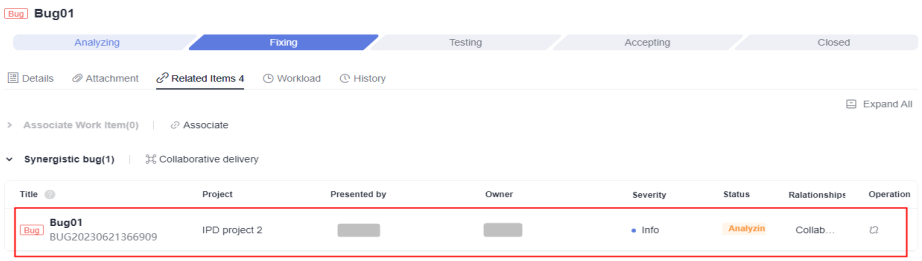
NOTE

IPD projects are available only in the AP-Singapore region. Cross-organization collaboration of bugs is available in IPD projects.

Based on Huawei's philosophies and experience of collaborative development by multiple departments, CodeArts Defect lets tickets be submitted and handled across teams and projects for accurate collaborative bug tracking. This function benefits large-scale product development, especially in scenarios where teams or modules depend on each other and demand no bug throughout the process.

Bugs can be assigned to other projects. The following shows an example.





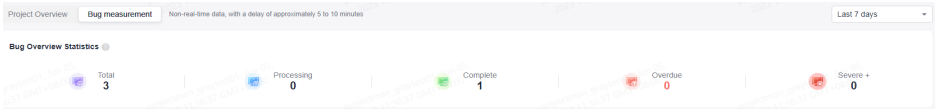
After a bug is assigned, you can view the bug handling status in **Responsible Project**.

4.9 Bug Trend Analysis and Quality Measurement

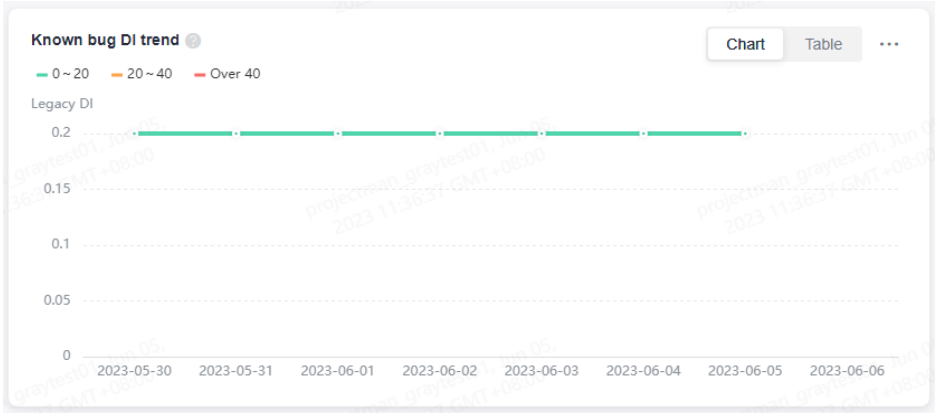
CodeArts Defect possesses multiple built-in data analysis functions and unique bug monitoring metrics which include debugging efficiency, legacy DI trend, and accumulated bugs. The team can perform in-depth data analysis relating to bug trend, severity, and resolution time during product development and delivery. The bug handling process is clear and visible, enabling the team to quickly identify risks, master fixes, and detects weaknesses in each phase.

The **bug measurement** view displays the following information by default:

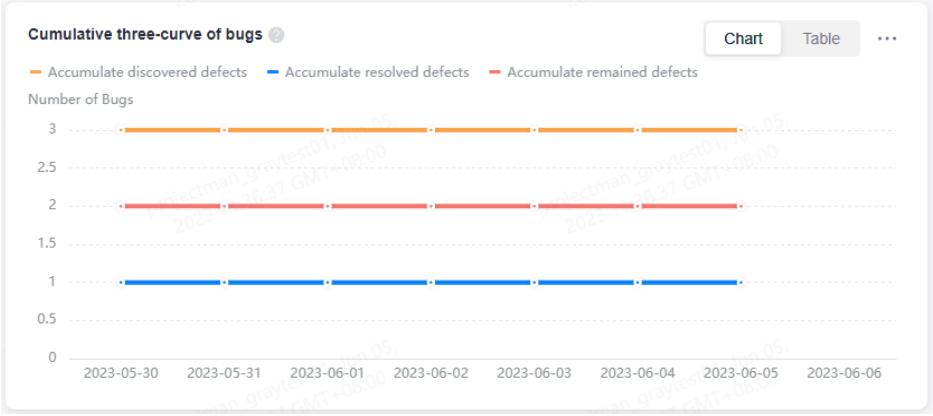
- Bug overview statistics: Shows total numbers of bugs at the current time, whose statuses are **Processing**, **Complete**, **Overdue**, and **Severe+**.



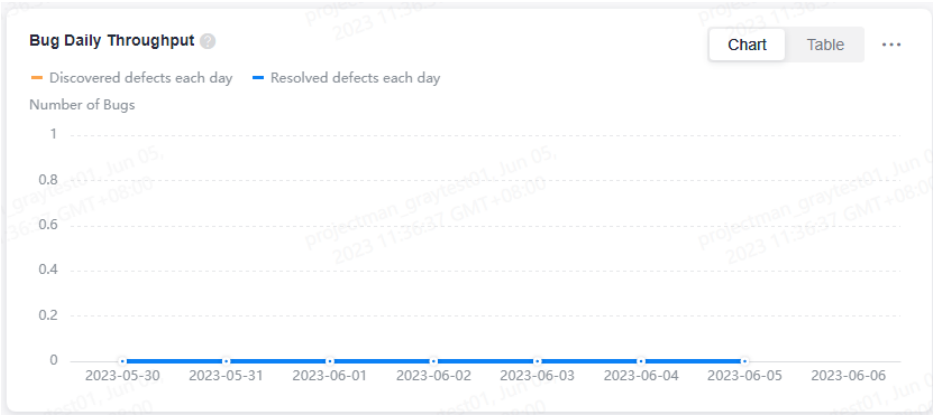
- Legacy DI trend: known bug DI trend in a specified time range



- Accumulated bugs: trend curves of accumulated bugs found, fixed, and known

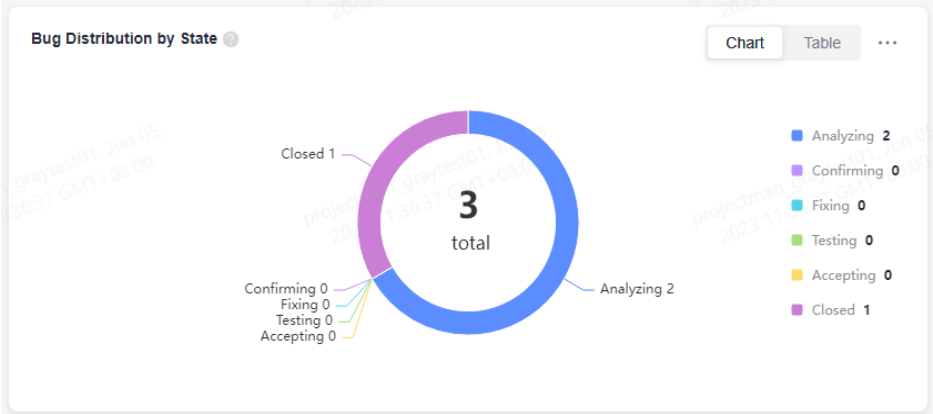


- Bug daily throughput: the numbers of bugs found and fixed per day in a specified time range

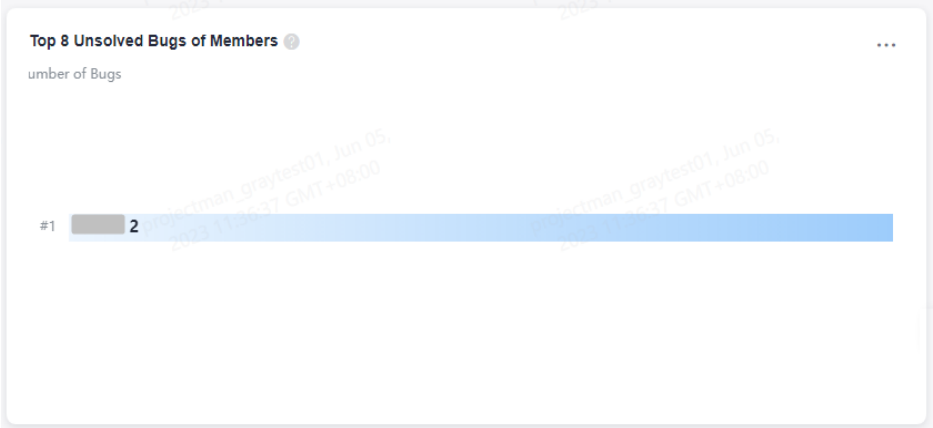


- Bug distribution by severity: the numbers of bugs by severity (info, minor, major, and critical)

- Bug distribution by status: the numbers of bugs in various statuses (submitted, analyzing, fixing, testing, and closed)



- Top 8 owners with legacy bugs: ranks the top 8 owners with known bugs at the current time



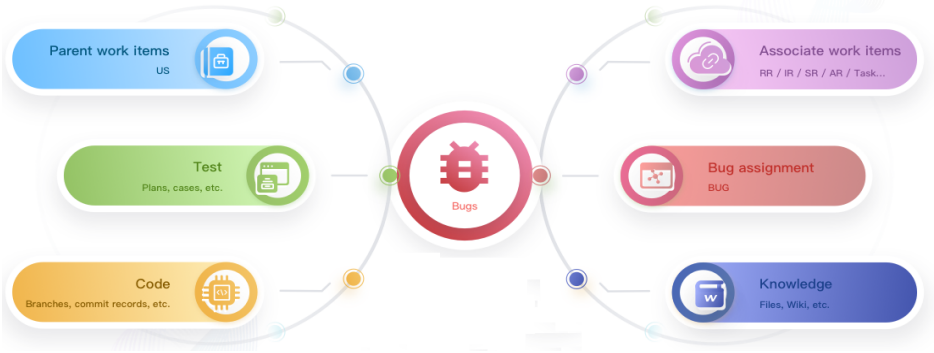
4.10 Traceable Fixing Process

NOTE

IPD projects are available only in the AP-Singapore region. Complete tracing of the bug rectification process is available in IPD projects.

Much testing and development is involved in bug finding and fixing. CodeArts Defect covers all data in the bug workflow, with E2E traceability for bugs, cases, and code. In this way, a bug can be traced from generation to closure.

Bugs can be associated with work items, test plans, test cases, code submission records, and code branches. You can view the bug handling process based on the association information without missing any phases for traceable fixing processes.



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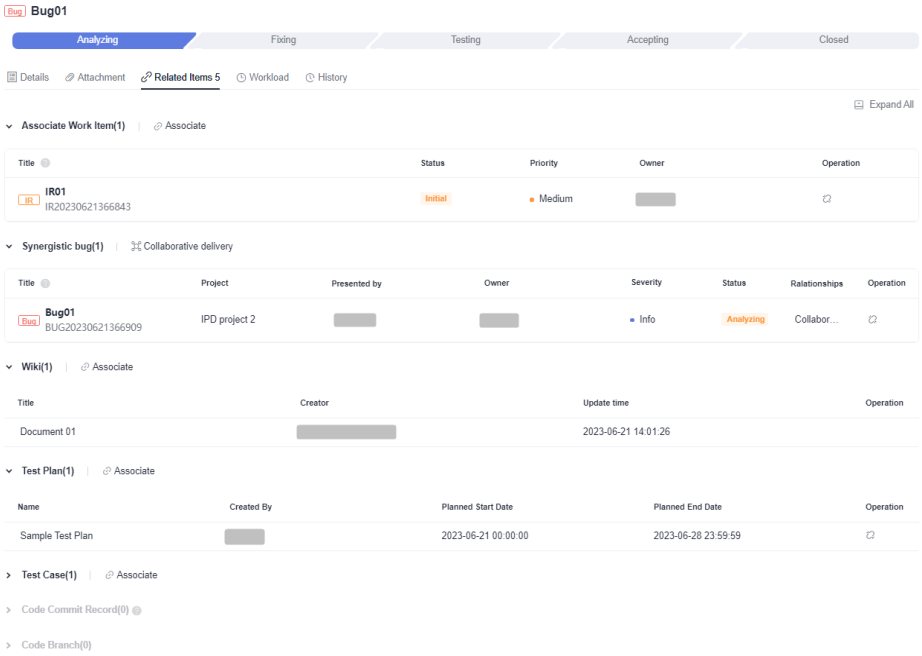
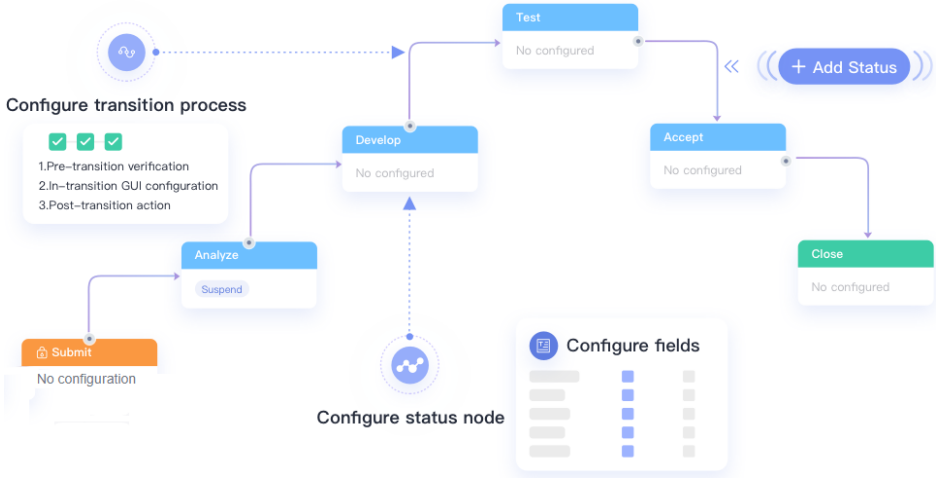


4.11 Customizable Fixing Process

NOTE

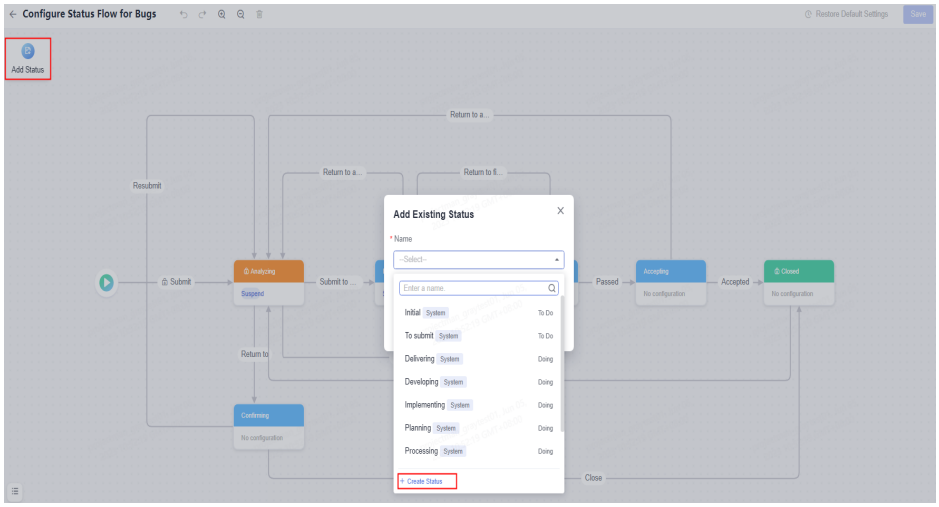
IPD projects are available only in the AP-Singapore region. Fixing process customization is available in IPD projects.

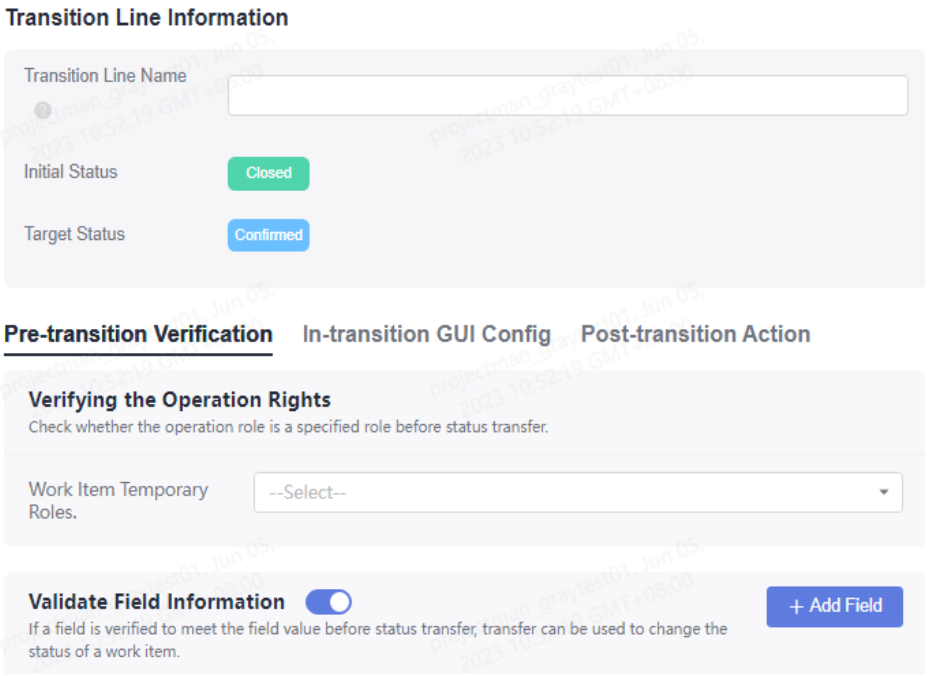
Teams have respective requirements on bug operations in different scenarios. To adapt to different business processes and management requirements, CodeArts Defect offers a visual process canvas to customize bug fixing workflows. You can efficiently manage bugs across projects and teams for a better product quality and user experience.



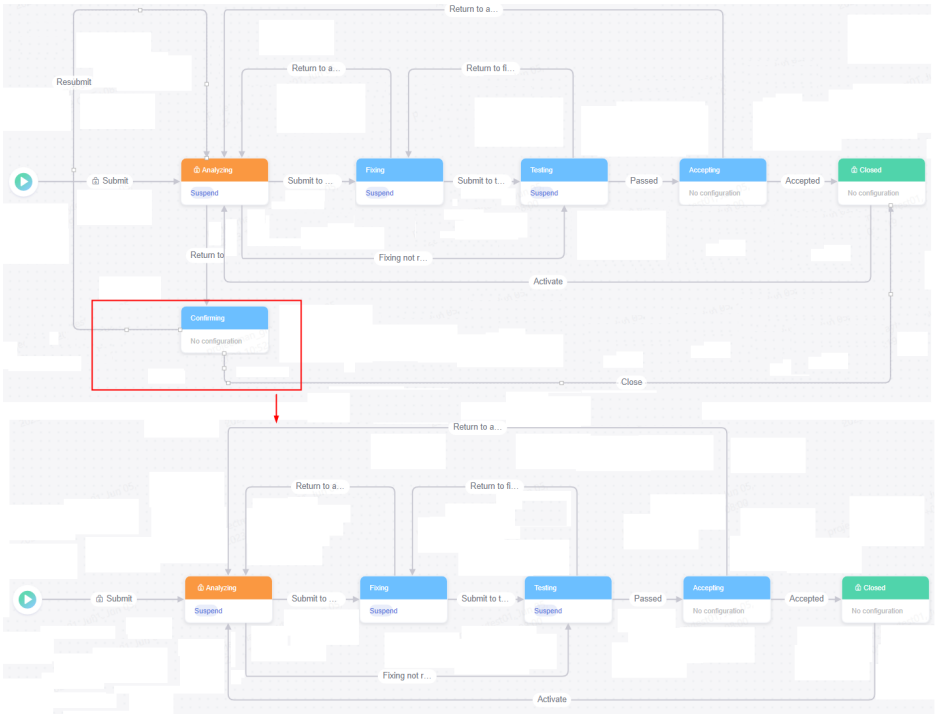
Currently, the system provides some status flows by default, such as analyzing, fixing, testing, and closed. You can also customize the bug status and transition line. And the customized statuses will be applied to the bug process. You can also perform the following operations:

- Customize the status and transition line names.

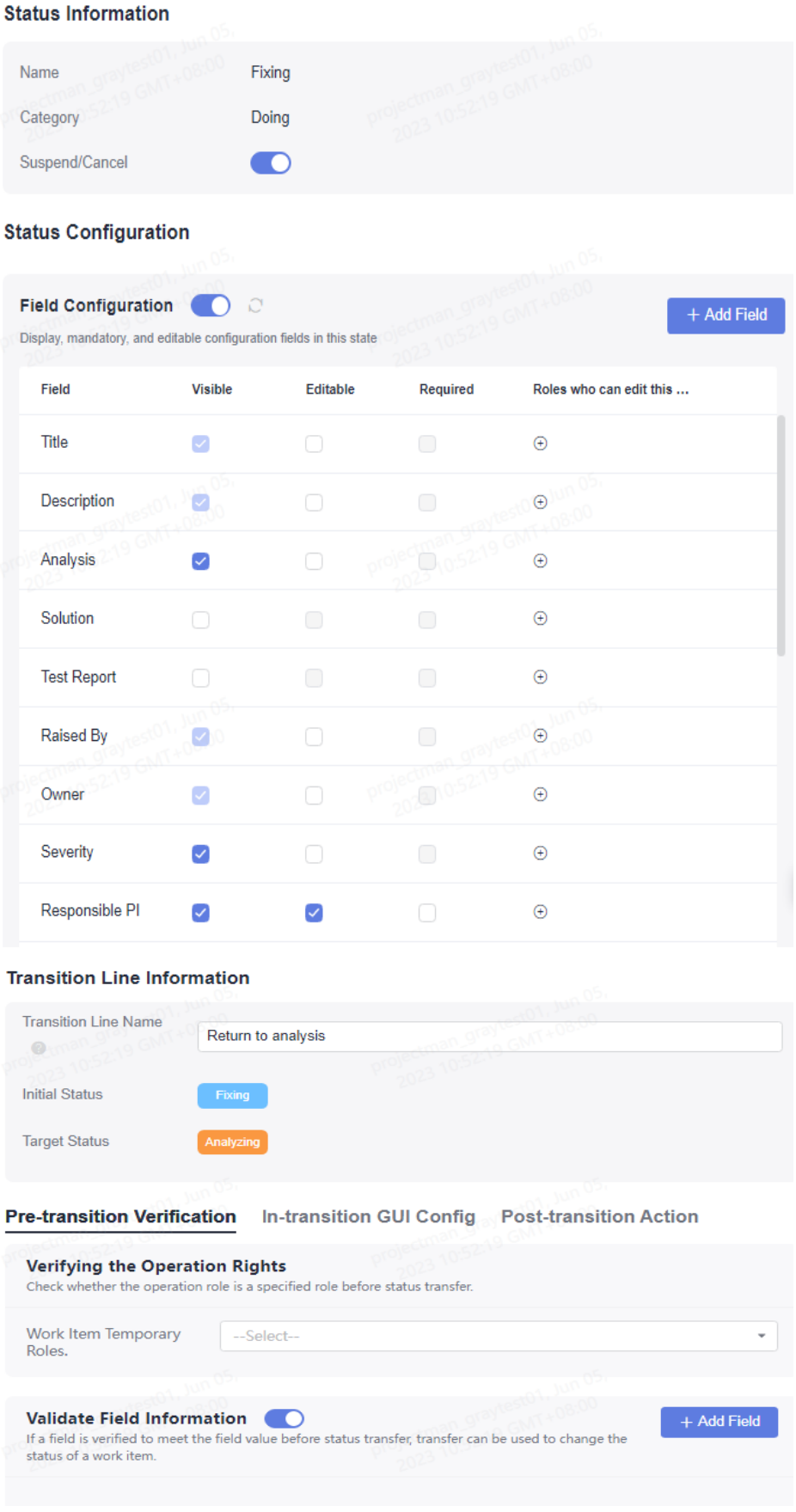




- Statues can be added and existing statues can be deleted.



- View the status and transition line information.



5 Security

5.1 Shared Responsibilities

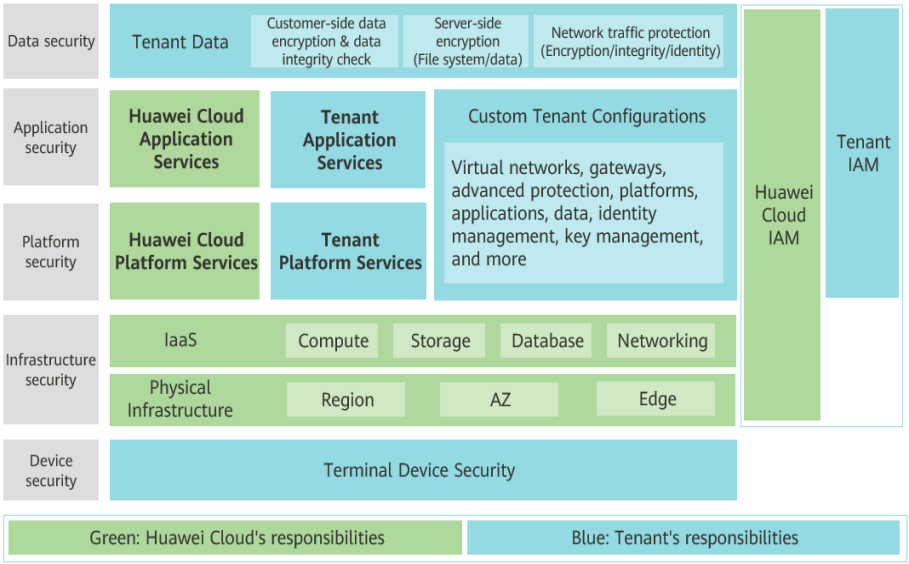
Huawei guarantees that its commitment to cyber security will never be outweighed by the consideration of commercial interests. To cope with emerging cloud security challenges and pervasive cloud security threats and attacks, Huawei Cloud builds a comprehensive cloud service security assurance system for different regions and industries based on Huawei's unique software and hardware advantages, laws, regulations, industry standards, and security ecosystem.

Figure 5-1 illustrates the responsibilities shared by Huawei Cloud and users.

- **Huawei Cloud**: Ensure the security of cloud services and provide secure clouds. Huawei Cloud's security responsibilities include ensuring the security of our IaaS, PaaS, and SaaS services, as well as the physical environments of the Huawei Cloud data centers where our IaaS, PaaS, and SaaS services operate. Huawei Cloud is responsible for not only the security functions and performance of our infrastructure, cloud services, and technologies, but also for the overall cloud O&M security and, in the broader sense, the security and compliance of our infrastructure and services.
- **Tenant**: Use the cloud securely. Tenants of Huawei Cloud are responsible for the secure and effective management of the tenant-customized configurations of cloud services including IaaS, PaaS, and SaaS. This includes but is not limited to virtual networks, the OS of virtual machine hosts and guests, virtual firewalls, API Gateway, advanced security services, all types of cloud services, tenant data, identity accounts, and key management.

Huawei Cloud Security White Paper elaborates on the ideas and measures for building Huawei Cloud security, including cloud security strategies, the shared responsibility model, compliance and privacy, security organizations and personnel, infrastructure security, tenant service and security, engineering security, O&M security, and ecosystem security.

Figure 5-1 Huawei Cloud shared security responsibility model



5.2 Authentication and Access Control

Authentication

You can access CodeArts Req using its user interface, APIs, and SDKs. Regardless of the access mode, your requests are sent through REST APIs provided by CodeArts Req.

CodeArts Req APIs can be accessed only after requests are authenticated.

CodeArts Req supports two authentication modes:

- Token: Requests are authenticated using tokens. By default, token authentication is required to access the CodeArts Req console.
- AK/SK: Requests are encrypted using an AK/SK. This method is recommended because it provides higher security than token-based authentication.

For more authentication details and how to obtain tokens and signatures, see **Authentication**.

Access Control

CodeArts Req controls operations by:

- Role permission control: Roles and permissions are required for adding, deleting, modifying, and querying objects such as work items, sprints, plans, reports, documents, and custom settings of CodeArts Req.
- Fine-grained permission control: Operations such as querying tenant projects, setting project creators, and managing tenant project member lists require fine-grained authorization from Identity and Access Management (IAM).

5.3 Data Protection Technologies

CodeArts Req takes different methods and features to keep data secure and reliable.

Table 5-1 CodeArts Req data protection methods and features

Measure	Description	Reference
Transmission encryption (HTTPS)	To secure data transmission, CodeArts Req uses HTTPS.	**Making an API Request**
Personal data protection	CodeArts Req controls access to data and records logs for operations performed on the data.	**Permission Management**
Privacy protection	CodeArts Req does not consume or store sensitive user data.	-
Data destruction	When you delete service data or deregister your account: • Non-key data is physically deleted in real time. • Key data will be marked as soft deleted and then physically deleted seven days later.	-

5.4 Auditing and Logs

Auditing

Cloud Trace Service (CTS) records operations on the cloud resources in your account. You can use the logs generated by CTS to perform security analysis, track resource changes, audit compliance, and locate faults.

After you enable CTS and configure a tracker, CTS can record management and data traces of CodeArts Req for auditing.

For details about how to enable and configure CTS, see **Enabling CTS**.

Logs

Log Tank Service (LTS) provides one-stop log collection, log search in seconds, massive log storage, log structuring and transfer. Graphical application O&M, visual analysis of network logs, and operation analysis make organization tracking easier.

For analysis, CodeArts Req records system running logs to LTS in real time and stores the logs for three days. For details, see **Getting Started with LTS**.

5.5 Service Resilience

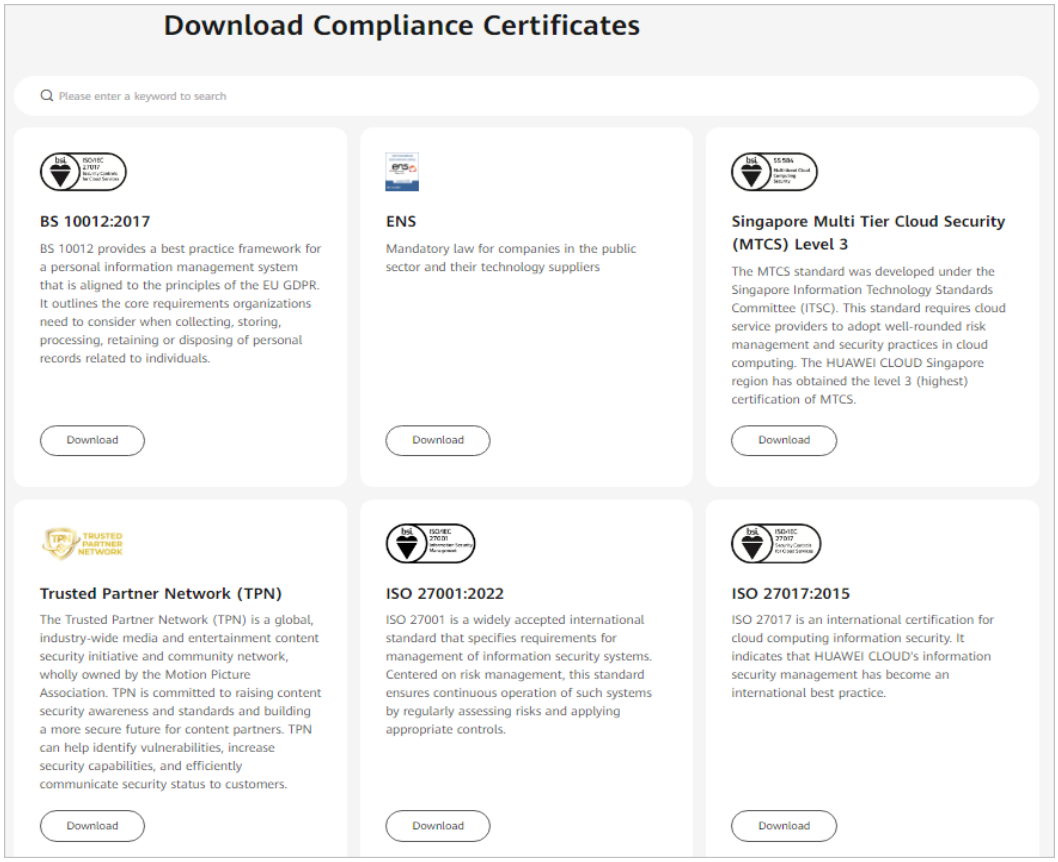
CodeArts Req uses multi-active stateless cross-AZ deployment and inter-AZ data disaster recovery (DR) to enable service processes to be quickly started and recovered if a fault occurs, ensuring service continuity and reliability.

5.6 Certificates

Compliance Certificates

Huawei Cloud services and platforms have obtained various security and compliance certifications from authoritative organizations, such as International Organization for Standardization (ISO). You can **download** them from the console.

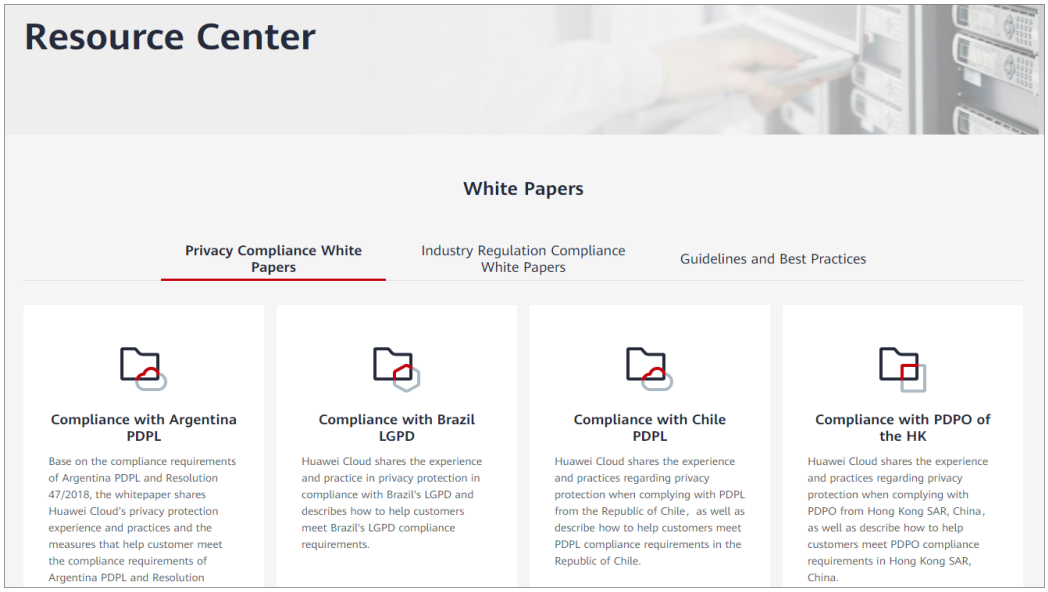
Figure 5-2 Downloading compliance certificates



Resource Center

Huawei Cloud also provides the following resources to help users meet compliance requirements. For details, see **Resource Center**.

Figure 5-3 Resource center



6 Permission Management

CodeArts Req uses IAM to centrally manage permissions for multiple projects of a tenant. In a single project, permissions are managed based on specific project settings. There are two types of permissions managed in CodeArts Req: cloud-service-level permissions and project-level permissions.

- Cloud-service-level permissions are configured using IAM. For more information about IAM, see **IAM Service Overview**.
- Project-level permissions are configured using CodeArts Req.

Cloud-Service-Level Permissions

More than one project can be created for an account. By default, only accounts can configure whether to allow IAM users to create projects and can view all projects and members. In some enterprise scenarios, an account can use fine-grained permissions management to grant configuration permissions to some IAM users.

IAM users do not have these permissions by default. To do so, you use the account to add an IAM user to a user group in IAM and assign permissions policies to the user group. This process is called authorization.

CodeArts Req is deployed by physical region and is a project-level service (related to project-based authorization in IAM). Therefore, when assigning permissions, select **Region-specific projects** for **Scope**, and then set permissions in the project corresponding to the specified region. The permissions take effect for the project after being set.

NOTE

If you set permissions for **All projects**, the permissions will take effect for all region-specific projects.

In IAM, you can grant users permissions by using roles and policies. (For details, see **IAM Service Overview**.) CodeArts Req uses policy-based authorization to meet the requirements of enterprises for flexible and refined permissions management.

Table 6-1 describes the system permissions supported by CodeArts Req.

Table 6-1 System permissions

Policy Name	Description	Policy Type	Policy Content
CodeArts Req ConfigOperations	Operation permissions for a CodeArts Req project	System-defined policy	Table 6-2

Table 6-2 CodeArts Req ConfigOperations policy content

Operation	Fine-grained Authorization Supported	Description
Create IAM users and import them in batches	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **IAM Users** to import IAM users in batches.
Modify work templates	Yes	Grant this permission to use the function in **All Account Settings** > **Work** > **Work Templates** to edit project templates.
Delete work templates	Yes	Grant this permission to use the function in **All Account Settings** > **Work** > **Work Templates** to delete project templates.
View permitted users who can create projects	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Project Creators** to view the permitted users.
Set IAM user permissions for creating projects	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Project Creators** to set users who have the permissions for creating projects.
View projects under a tenant	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Projects and Members** to view all projects.
Join a project under a tenant	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Projects and Members** to join any projects. By default, the role of a newly added member is **Project manager**.

Operation	Fine-grained Authorization Supported	Description
Delete projects	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Projects and Members** to delete projects.
View the members of all projects	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Projects and Members** to view the members of all projects.
Delete any project member under a tenant	Yes	Grant this permission to use the function in **All Account Settings** > **General** > **Projects and Members** to delete one or more project members.
Set a new work item creator	Yes	Grant this permission to set other users as the work item creators.
Bind an enterprise project	Yes	Grant this permission to bind a CodeArts project to an enterprise project when creating or upgrading enterprise projects.

Project-Level Permissions

You can set permissions for each project you created in CodeArts Req. The permission settings of each project are independent of those of any other projects.

Project management contains three types of roles: project managers (project administrators, project managers, test managers, product managers, and system engineers), developers (committers, developers, testers, and participants), and viewers and O&M managers.

- Project administrators: creators of a project
- Project managers: administrators of development
- Test managers: administrators of testing
- Product managers: requirement analysis managers of a project
- System engineers: architecture analysis managers of a project
- Committers: personnel who participate in project development
- Developers: personnel who participate in project development
- Testers: personnel who participate in project testing
- Participants: personnel who contribute to projects
- Viewers: members who follow or browse projects
- O&M managers: personnel responsible for O&M

Table 6-3 Default roles and their permissions in IPD projects

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
RRs	View	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Create/Submit/Copy	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
	Edit	Y	Y	Y	N	N	Y	N	N	N	N	N
	Upload attachments	Y	Y	Y	N	N	Y	N	N	N	N	N
	Add person-hours	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Delete/ Restore/ Delete permanently	Y	N	N	N	N	N	N	N	N	N	N
	Cancel/ Restart	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Breakdown/Associate/Disassociate/Cancel association of child requirements	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Create/Associate/Disassociate work items	Y	Y	Y	N	N	Y	N	N	N	N	N
	Associate/Disassociate files	Y	Y	Y	N	N	Y	N	N	N	N	N
	Associate/Disassociate Wikis	Y	Y	Y	N	N	Y	N	N	N	N	N
	Assign	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Suspend/Cancel suspensions	Y	Y	Y	N	N	Y	N	N	N	N	N
	Configure statuses	Y	Y	Y	N	N	Y	N	N	N	N	N
	Import	Y	Y	Y	N	N	Y	N	N	N	N	N
	Export	Y	Y	Y	N	N	Y	N	N	N	N	N
Feature sets	Inherit	Y	Y	Y	N	N	N	N	N	N	N	N
	Create	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
	Edit	Y	Y	Y	N	N	Y	N	N	N	N	N
	Delete	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Add existing FEs	Y	Y	Y	N	N	Y	N	N	N	N	N
	Import	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
	Baseline snapshots	Y	Y	Y	N	N	Y	N	N	N	N	N
	View snapshot versions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Compare snapshots	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
FEs	View	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Create/Copy	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
	Edit	Y	Y	Y	N	N	Y	N	N	N	N	N
	Upload attachments	Y	Y	Y	N	N	Y	N	N	N	N	N
	Add person-hours	Y	Y	Y	N	N	Y	N	N	N	N	N
	Delete/Restore/Delete permanently	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Configure statuses	Y	Y	Y	N	N	Y	N	N	N	N	N
	Breakdown/Associate/Disassociate child FEs	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Breakdown/Associate/Disassociate child requirements	Y	Y	Y	N	N	Y	N	N	N	N	N
	Create/Associate/Disassociate work items	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Baseline/Cancel baselines	Y	Y	Y	N	N	Y	N	N	N	N	N
	Import	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
	Export	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
	Associate/Disassociate files	Y	Y	Y	N	N	Y	N	N	N	N	N
	Associate/Disassociate Wikis	Y	Y	Y	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	View historical versions	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
R&D requirements	View	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Create/Copy	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Edit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Upload attachments	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Add person-hours	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Delete/Restore/Delete permanently	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Configure statuses	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Breakdown child requirements	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Associate/Disassociate work items	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Baseline/Cancel baselines	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Assign/Cancel assignments	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Associate/Disassociate Wikis	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Associate/Disassociate files	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Migrate	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Import	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Export	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
Tasks	View	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Create/Copy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Edit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Upload attachments	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Add person-hours	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Delete/Restore/Delete permanently	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Configure statuses	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Breakdown/Disassociate child tasks	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Associate/Disassociate parent tasks	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Associate/Disassociate work items	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Associate/Disassociate Wikis	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Associate/Disassociate documents	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Import	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Export	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Bugs	View	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Create/Copy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Edit	Y	Y	Y	Y	Y	Y	N	N	N	N	N
	Upload attachments	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Add person-hours	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Delete/Restore/Delete permanently	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Associate/Disassociate work items	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Associate/Disassociate test plans	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Associate/Disassociate Wikis	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Associate/Disassociate files	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Migrate	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Assign	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Suspend/Cancel suspensions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Configure statuses	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Import	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Export	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Reviews	View	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Edit/Cancel	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Delete	Y	Y	N	N	N	N	N	N	N	N	N
	Export	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Plan management	Create	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Edit	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Delete	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Baseline/Cancel baselines	Y	Y	Y	Y	N	Y	N	N	N	N	N
Work settings	Basic settings	Y	Y	N	N	N	N	N	N	N	N	N
	Manage tags	Y	Y	Y	Y	N	N	N	N	N	N	N
	Configure workitem templates	Y	Y	Y	Y	N	N	N	N	N	N	N
	Configure workflows	Y	Y	N	N	N	N	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Configure modules	Y	Y	Y	Y	N	N	N	N	N	N	N
	Configure downstream projects for RRs	Y	Y	Y	Y	N	N	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Configure downstream projects for R&D requirements	Y	Y	N	N	N	N	N	N	N	N	N
	Set work types	Y	Y	N	N	N	N	N	N	N	N	N
	Configure review settings	Y	Y	N	N	N	N	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Configure notifications	Y	Y	Y	N	N	N	N	N	N	N	N
Recycle bin	Clear recycle bin	Y	N	N	N	N	N	N	N	N	N	N

Table 6-4 Default roles and their permissions in Scrum projects

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
Basic project information	Archive	Y	Y	N	N	N	Y	N	N	N	N	N
Plans	Create	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Edit	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Delete	Y	Y	Y	Y	N	Y	N	N	N	N	N
Work items (epic, feature, story, task, and bug)	Create/Copy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Edit	Y	Y	Y	Y	N	Y	N	Y	N	N	N
	Delete	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Import	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N
	Export	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N
	Archive/Unarchive	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Associate/Upload attachments	Y	Y	Y	Y	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
Sprints	Create	Y	Y	Y	N	N	Y	N	N	N	N	N
	Edit	Y	Y	Y	N	N	Y	N	N	N	N	N
	Delete	Y	Y	Y	N	N	Y	N	N	N	N	N
	Configure statuses	Y	Y	N	N	N	Y	N	N	N	N	N
Reports	Create reports	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N
	Edit reports	Y	Y	N	N	N	Y	N	N	N	N	N
	Delete reports	Y	Y	N	N	N	Y	N	N	N	N	N
	Move reports	Y	Y	N	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Export reports	Y	Y	N	N	Y	Y	Y	N	Y	N	N
	Create categories	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N
	Rename categories	Y	Y	N	N	N	Y	N	N	N	N	N
	Move categories	Y	Y	N	N	N	Y	N	N	N	N	N
	Delete categories	Y	Y	N	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
Customization	Customize work items	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Configure domains	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Configure notifications	Y	Y	N	N	N	Y	N	N	N	N	N
	Configure modules	Y	Y	Y	Y	N	Y	N	N	N	N	N
	Set work types	Y	Y	N	N	N	Y	N	N	N	N	N

Module	Permission	Project Administrator	Project Manager	Product Manager	System Engineer	Committer	Test Manager	Developer	Tester	O&M Manager	Participant	Viewer
	Automation	Y	Y	N	N	N	Y	N	N	N	N	N
Knowledge	Create documents and folders	Y	Y	Y	Y	Y	Y	N	N	N	N	N
	Edit documents/Rename folders/Sort	Y	Y	Y	Y	Y	Y	N	N	N	N	N
	Export documents	Y	Y	Y	Y	Y	Y	N	N	N	N	N

7 Constraints

CodeArts Req

Table 7-1 describes the constraints when you use CodeArts Req.

Table 7-1 Constraints

Category	Item	Limit
Requirement management	Maximum number of projects for an individual	Max. 10,000.
	Maximum number of project groups for a user	Max. 50.
	Maximum number of custom roles in a project	Max. 500.
Single project	Maximum number of members	Max. 1,000.
	Maximum number of milestones	Max. 1,000.
	Maximum storage space (MB) for attachments for a single work item	Max. 50.
Scrum project	Maximum number of sprints in a project	Max. 500.
	Maximum number of work items in a project	Max. 30,000.

Category	Item	Limit
	Maximum number of work items that can be imported at a time	Max. 2,000.
	Maximum number of modules in a project	Max. 250.
	Maximum number of filters in a project	Max. 50.
	Maximum number of domains in a project	Max. 25.
Documents	Maximum number of directory levels	Max. 5.
	Maximum number of files in a project directory	Max. 5,000.
	Maximum number of subdirectories in a project directory	Max. 100.
	Maximum size of a file (GB)	Max. 1.
	Maximum number of files that can be uploaded at a time	Max. 100.

