RTC Administration for Configuration Managers

Module Three

Project Administration

Software is not released, it is allowed to escape.

Unknown

I have yet to see any problem, however complicated, which, when you looked at it in the right way, did not become still more complicated.

Poul Anderson

We know why software projects fail, we know how to prevent their failure – so why do they still fail?

Martin Cobb, Treasury Board of Canada Secretariat

In theory, there is no difference between theory and practice. In practice, the two aren't anything alike.

Attributed to Yogi Berra

exgnosis

3.1 Planning Project Areas

Before you create a project area, you must consider and make several design decisions about it.

Whether to create a lifecycle project

A project area defines the process that developers follow as they work on a software project. You access all project artifacts, such as plans, work items, requirements, test cases, and files under source control within the context of a project area or one of its team areas.

A lifecycle project groups multiple project areas and provides a central location from which you can manage members of the project areas. A lifecycle project also establishes associations between its project areas so that you can link artifacts across those project areas. For example, in a lifecycle project that contains a Requirements Management (RM) project area, a Change and Configuration Management (CCM) project area, and a Quality Management (QM) project area, you can link requirements to the work items that track the work required to implement the requirements, and you can link the requirements and the work items to the test cases that test the implementation.

If you are creating project areas in multiple applications, and you want to link artifacts across those project areas, consider creating a lifecycle project. For details, see Administering lifecycle projects.

Which process template to use

When you create a project area, you must select a process template, which specifies the details of the process that the project area will use. For example, a process template defines the user roles, timelines, iterations, operation behavior, and work item types. Each application includes predefined templates. You can also create new templates and customized versions of existing templates. However, creating process templates is an advanced task. To start working immediately, it is easier to create a project area that is based on a predefined template. You can then customize the process within the project area.

Which timelines and iterations to create

A timeline represents a path of development work that has its own schedule, deliverables, and team areas. Within a timeline, you typically create a hierarchy of iterations where top-level iterations represent releases and child iterations represent milestones within those releases. You can customize the process in each iteration. A mature project might have the following timelines:

1. Main development: For each major release (Version 1.0, Version 2.0, and so on)
2. Maintenance: For updates to major releases (Version 1.0.1, Version 1.0.2, etc.)
3. Exploratory: For early work on potential future releases

Whether to create team areas

Team areas are optional. A few developers working on a small project can do all their work within the context of the project area. For projects of moderate or high complexity, team areas provide the following benefits:

1. *Process customization:* Team areas inherit the process from their project areas; however, each team area can customize its process.
2. *Membership:* You can assign users as members of specific team areas. Within each team area, you assign roles to members. In this sense, team areas can mirror your organization's team areas.
3. *Participation in a specific timeline:* Each timeline has its own set of iterations and schedule. You might have different teams working on different timelines. For example, one group of developers might work on a new release of the product while another group works on a maintenance release of the product. You can have separate team areas for each of those timelines.
4. *Individual work item categories:* The Filed Against field in the work item editor is populated with the set of work item categories that you define for a project area. You can map work item categories to team areas. This mapping enables work items to be assigned to the specific team that is responsible for addressing them.
5. *Individual dashboards:* Team leads can add widgets to their team dashboards that display the results of various work item queries. Teams can then refer to the dashboard in scrum meetings to monitor their progress.
6. *Ownership of source control streams and components*. Every stream and component has an owner, which can be the project area or a team area. You can use ownership to limit visibility and access to streams, components, and their artifacts to members of the owning team area.
7. *Nesting.* You can create a hierarchy of team areas. Just as a top-level team area inherits the process of its project area, a team area in a team area hierarchy inherits the process of its parent team area. Team area hierarchies can be useful in an enterprise environment where different parts of the enterprise follow different processes.

Which roles to assign to users

When you add a user as a member of a project area or team area, you assign the user one or more roles. Each role is assigned permissions, which determine which operations the user can perform within the context of the project area or team area. The initial set of roles for a project area is derived from the process template that you use to create the project area. For example, the IBM Rational Team Concert Scrum template includes the Product Owner, Scrum Master, Team Member, and Stakeholder roles. Team areas inherit the set of roles available in the project area. You can define new roles in the project area or in team areas.

Before you add users to the project area or a team area, familiarize yourself with the permissions assigned to each role. In addition to the process roles, you can assign members of a project area or team area to be Administrators. Administrators are typically responsible for managing the process of a project area or team area, and they have permission to save all changes to the project area or team area.

Whether to assign users to the project area or to team areas

In general, assign users to the area that owns the artifacts that they need to work on. For most users, that will be one or more team areas. For users who are team leads or project leads, assign them to the level of the hierarchy that they oversee.

Note: A user who is assigned to a role in a project area has the permissions associated with that role in the project area and in its child team areas, even if the user is not a member of those child areas. For example, a user who has the Team Member role for a project area has the permissions associated with the Team Member role in all child team areas of that project area.

How to configure read-access control settings

Within a project area, you can control who has read access to the project area, its team areas, and its artifacts, such as work items, iteration plans, test plans, requirements, builds, and files under source control. You can allow access to all users in the repository, or you can limit access to users who are members of the project area hierarchy, meaning the project area or one of its team areas. You can also allow access to only specific users.

In addition, you can restrict access to work items and source control artifacts as follows:

1. You can configure each work item category to be visible to only members of the corresponding team area. You can also configure each category so that work items filed against the category are accessible to only members of the associated team.
2. You can limit access to a stream and components to users who are members of the team area that owns the stream and components.
3. You can limit access to specific work items and source control artifacts to members of an access control list, which you define. The access control list can contain specific users, members of specific team areas, and members of the project area.

Which operation behavior to set to enforce best practices

Operation behavior consists of preconditions and follow-up actions that you set for user operations. Preconditions are conditions that must be met before an operation can be completed. Follow-up actions are events that are generated when an operation is completed. Operation behavior is one mechanism by which you can enforce best practices within your project areas

and team areas. IBM Rational Quality Manager and Rational Team Concert contain predefined preconditions and follow-up actions, and you can also define your own. For example, you can set the following preconditions:

1. Change sets cannot be delivered if they contain compilation errors
2. Change sets cannot be delivered unless they are associated with work items
3. Test cases with failing results cannot be saved unless they are associated with a defect

You can set preconditions and follow-up actions differently based on role.

Whether to customize permissions and operation behavior for specific iterations

By default, the permissions and operation behavior settings that you specify in the project area apply for all time periods. However, you can customize these settings for each iteration. A good practice among development teams is to apply tighter governance towards the end of a release. For example, you might want to restrict deliveries based on role, or require that change sets be reviewed and approved before they can be delivered.

Whether to create associations with other project areas

An association is a relationship between two project areas, or between a project area and another artifact container, such as a ClearQuest database. After you add an association between two project areas, you can link artifacts across those project areas. For example, you can link requirements in an RM project area to work items in a CCM project area, and you can link requirements and work items to test cases in a QM project area.

If you have not created project areas, and you know that you want to enable this type of artifact linking, consider creating a lifecycle project. When you create a lifecycle project, you select a lifecycle project template that specifies the project areas to create as part of the lifecycle project. The lifecycle project template also specifies the associations to create between those project areas.

Whether to share the project area process

In an enterprise environment where you have many project areas, you might want all project areas to follow the same process. One way to accomplish this goal is to identify one project area as the master project area where the common process is maintained. To do this, you modify the project area to indicate that it shares its process. For all other project areas, you indicate that they consume the process of the master, or sharing, project area. Thereafter, changes that you make to the process of the sharing project area become effective for the consumer project areas. In this way, you can centralize process, and the maintenance of that process, in one project area.

Just as team areas can override process settings that they inherit from their project areas, consumer project areas can override the process settings that they inherit from their sharing project areas. Within the sharing project area, you can specify that certain process settings cannot be overridden. This ability means that you can control the amount of process customization for the consumer project areas.

The consumer project areas do not inherit all aspects of process from the sharing project area. For the full list of inherited process elements, and additional details about sharing project area process, see Sharing the process of a project area and Tutorial: Standardize process in your organization by using project area process sharing.

3.1.1 Creating Project Areas

You can create a project area in a repository for managing the project deliverables, team structure, process, and schedule. You must be a member of either the JazzProjectAdmins group or the JazzAdmins group.

If you are creating project areas in multiple applications, such as change and configuration management, quality management, and requirements management, and you want to associate these project areas with each other, consider creating a lifecycle project. A lifecycle project groups multiple project areas and provides a central location from which you can manage members of the project areas. See Administering lifecycle projects for details.

When you create a project area, you must specify the process that the project area will use. To specify the process, you typically select a process template. Alternatively, you can have the new project area consume the process from another project area. The other project area must share its process before you can have the new project area consume it. Project area process sharing allows an organization to centralize process in one project area.

1. Navigate to the Project Areas tab of the administrative web interface. See Logging in for project administrators and team leads (web).
2. Click Create Project Area.
3. In the Project Name field, enter a project area name.
4. Enter a brief summary and description of the project area.
5. Specify the process that the project area will use, under Process:
    a) To select a process template, ensure that Use process template to initialize this project area is selected.
    b) For Quality Management, the Quality Management Default Process is intended for use with new project areas. The Quality Management Legacy Process is available to support older projects that contain local Defect and local Task-Quality work items. Project areas that have been migrated from earlier versions of the product use the Quality Management Legacy Process.

c) f your team has custom process templates in the repository, select a process template from the Available Processes list.

d) If your team does not have custom process definitions in the repository, click Deploy predefined process templates. From the list, select one of the predefined process templates. Deploying predefined process templates applies only to Change and Configuration Management project areas. You need to deploy the predefined templates only once.

e) To have the project area consume the process of another project area that shares its process, select Use the process configuration from another project area for this project area. Click Change next to Project Area, then select the sharing project area.

Note: When you choose this option, no template is used to create the project area. If you want the project area to consume the process of another project area, but that other project area is not currently ready to share its process, you can select Use process template to initialize this project area and select Unconfigured Process from the list of available processes. Then, when the other project area shares its process, you can modify this project area to consume the process of the other project area. The Unconfigured Process template does not configure any process on its own. The Unconfigured Process template is available for Change and Configuration Management and Quality Management project areas.

Note: When you choose this option, no initialization actions are performed for the new project area. If you want to have initialization actions, such as creating work items, performed when the project area is created, but you also want that project area to consume the process of another project area, you can create a process template based on the Unconfigured Process template; modify the new template to include initialization actions; import the new template into the application; create the project area based on that new template; and then modify the project area to consume the process of the other project area.

6. Optional: To add a user as a member of the project area:

a) Under Members or Administrators, click Add.

b) In the Select Users dialog box, enter a name to search for a particular user, or click Show All.

c) In the Matching users pane, select a user.

d) Click Add.

7. Click Save.

3.1.2 Project Area

In each of the Collaborative Lifecycle Management (CLM) applications, teams perform their work within the context of a project area. A project area is an area in the repository where information about one or more software projects is stored. A project area defines the project deliverables, team structure, process, and schedule. You access all project artifacts, such as iteration plans, work items, requirements, test cases, and files under source control within the context of a project area.

Each project area has a process, which governs how members work. For example, the project area process defines:

1. User roles
2. Permissions assigned to roles
3. Timelines and iterations
4. Operation behavior (preconditions and follow-up actions) for Change and Configuration Management and Quality Management
5. Work item types and their state transition models (for Change and Configuration Management and Quality Management)

A project area is stored as a top-level or root item in a repository. A project area references project artifacts and stores the relationships between these artifacts. Access to a project area and its artifacts is controlled by access control settings and permissions. A project area cannot be deleted from the repository; however, it can be archived, which places it in an inactive state.

Project timelines

A project area can be simple or complex in terms of its artifacts, process, and schedules. An established project area can have multiple active timelines, such as:

1. Maintenance for one or more shipped releases
2. Development of a new release
3. Exploratory development for a future release

All of these timelines can work in parallel, each in a different stage of development. Each timeline can have one or more iterations in which some set of deliverables and functional improvements are committed. Testing activities for new features and improvements are typically scheduled for the same iteration.

Project schedule as iterations

The project schedule is specified by iterations, which represent intervals in the life of the project. Each set of iterations is specific to one timeline. Teams can configure iterations in a hierarchy; for example a timeline can have multiple milestone iterations. Each of those milestones can contain one or more phase iterations. The iteration hierarchy and names are user-defined.

You can define the timelines and an iteration hierarchy in the project area editor. The editor contains controls for adding timelines, start and end dates for iterations, and a designation for the current iteration. After iterations are defined, work items can be assigned to an iteration and tracked in an iteration plan.

Project teams as team areas

The structure of a project team is defined by one or more team areas. Complex projects can have a hierarchy of team areas. Typically, one or more teams are assigned to each timeline. Users might have multiple assignments that require them to work on more than one team area. Some members, such as the project lead, might not belong to a team area, but are defined as members of the project area.

Project areas without team areas

You can create a project area that does not include any team areas. Typically, this type of project area might be appropriate for a small team of developers who want to get up and running quickly and do not need to organize their work into multiple teams. You can also create a process template that does not specify team areas.

Project area process

When you create a project area, you must specify a process template. The process template defines the initial process (roles, permissions, timelines, iterations, operation behavior, work item types, and so on) for the project area. You can then modify the process within the project area to meet your overall project and team area needs. You can also customize the process in team areas, timelines, iterations, and iteration types.

Sharing project area process

After you create a project area, you can make its process available to other project areas. By sharing a project area process, you ensure that all project areas across your organization use the same process. You also centralize process maintenance; changes that you make to the process of the sharing project area immediately apply to the project areas and team areas that consume that process. You can change the process for all project areas by configuring the process in the sharing project area.

For quality management, you can create a process template that includes test categories, custom attributes, artifact templates, and other artifacts, and use that template to initialize new project areas.

Example project area

The following graphic provides an example of a change and configuration management project area that has team areas and process configurations that are specific to timelines and their iterations. The project area can include some users, such as administrators, project managers, and business analysts, at the project level; other users are added to team areas. The process includes project-wide roles, permissions, and operation behavior; these are inherited by all iterations within the project area. Some permissions and behaviors are defined at the timeline or iteration level; these override the project-level settings. Team members are assigned roles, which have specific permissions. Some roles are specific to a team area.

An example quality management or requirements management project area might look different than the one shown in Figure 1. For example, operation behavior is available only in change and configuration management and quality management project areas.

3.1.3 Process

Process is the collection of roles, practices, rules, and guidelines that are used to organize and control the flow of work. The project process is defined in a project area and can be further customized in a team area. In Jazz, you use process to define user roles and their permissions for performing operations within the tool, such as changing the state of a work item. Each component in Jazz is process aware. In change and configuration management and quality management project areas, you can add rules of process behavior in the form of preconditions and follow-up actions for these operations. Process can also define project reports, queries, and work item types.

Your process varies with the complexity of the project and the size and number of teams assigned to the project. Jazz includes predefined process templates. In change and configuration management, you can customize the predefined templates and you can create new templates. Your team can begin with a simple process and evolve it as the project progresses. If you have customized the process, you can create a process template and make it available to other teams. Process templates can include a description of the specified process.

Jazz supports process in the following ways:

- Jazz is process-aware. The process is explicitly represented, and all the work that team members do within the system happens within a context of a defined process.
- Jazz components are process-enabled. Process can be implemented to exert influence over the operations and artifacts for each component.
- Jazz is process-neutral. Each project team can define an appropriate level of control and guidance.
- Process is hierarchical. The general project-wide process is defined at the project level. The process can then be modified to meet the needs of team areas within the project area. At each level within the team hierarchy, the parent process can define how much flexibility its child teams have to override or otherwise modify the process for their needs.
- Process can be shared. A project administrator can make a project area process available to other project areas. By sharing a project area process, you ensure that all project areas across your organization use the same process. You also centralize process maintenance; changes that you make to the process of the sharing project area immediately apply to the project areas and team areas that consume that process.

Frequently, there is no single process that applies to all team members and all phases of a project. You can use process behavior to customize the process in specific team areas, iterations, and iteration types. In the project area process configuration, you can specify:

- Client-side and server-side project initialization (change and configuration management only)
- Predefined project reports and queries
- Work item types, workflows, and enumerations (change and configuration management and quality management)
- Roles available for a team
- Team and role-specific permissions for client and server-side operations
- Team and role-specific preconditions that define the conditions under which client-side and server-side operations can proceed (change and configuration management only)
- Team and role-specific follow-up actions for client-side and server-side operations (change and configuration management only)

3.2 Users and Licenses

As mentioned previously, one of the administrative tasks required for any project is adding and configuring users as team members on the project. The RTC user system of licenses, permissions and roles can seem a bit intimidating.

Essentially, a user has three types of permissions.

3.2.1 Jazz Repository Permissions

These are permissions that apply to the whole of the Jazz Repository. These permissions have nothing to do with the applications like RM and QM, nor anything to do with individual project. They are exclusively concerned with read and write access to the Jazz Repository.

The Jazz Team Server has cour permission groups:

1. **JazzAdmins:** Administrators of a Jazz repository with full read-write access not only to project areas but all of the administrative areas of the repository. For example, this is the only permission level that can add users.
2. **JazzProjectAdmins:** Administrators of a Jazz repository with specific permissions to create and modify project areas, team areas, and process templates. However, Project administrators cannot read or write any other parts of the repository except the project areas. For example, a project admin cannot assign an application license to a user or create a new user.
3. **JazzGuests:** Users with read-only access to the Jazz repository. There may be stakeholders, auditors and others who need to access the contents of a repository but do not have need to change any of the contents.
4. **JazzUsers:** Users with regular read-write access to the Jazz repository contents. A regular user cannot change any of the project configuration parameters but can modify and create artifacts, provided they have the project role as well that allows them to do that.

System Users

System users are special accounts that are created by the RTC component applications or the Jazz platform to run various background administrative tasks. For example, the dcc_user is the data collector which does various background data updating tasks and the qm_user is created by the Quality Manager component to perform various background tasks in that component. These accounts are identified by the “_user” suffix.

3.2.2 Client Licenses

Client license are the permissions to use a specific application. For example, an analyst cannot use the RM application unless they have one of the RM licenses. One of the tasks of the project administrator is to ensure that each user has the necessary licenses so they can do their work.

However, each application has several different license types with varying levels of capabilities. These are referred to as solution-based licenses (Practitioner, Contributor, and Stakeholder) are available. The solution-based Practitioner license supersedes the Developer, Quality Professional, and Analyst role-based licenses. Consequently, if you install the solution-based Practitioner license, you do not need to install any of those three role-based licenses.

3.2.3 Role Based Permissions

The third layer of permissions takes place at the project level. When a user is added to a project, they are assigned a default role which may contain minimal permissions. For example, a role may only allow read only access the project artifacts.

The project administrator defines a series of roles for that specific project, with each role having specific permission for that project. When a user is added to a project, they are assigned a series of roles, each of which is associated with a set of permissions for that project. For example, there may be an “author” role which allows users to create artifacts but not delete artifacts, while there may be an “editor” role that allow for changing artifacts but not creating or deleting them.

These roles are project specific. The permissions a user has at this level refer only to the project where they are in that role.

Clearly, there a number of interactions with these three levels of permissions that can produce unexpected results. For example, if a developer is assigned a CCM developer license and is assigned to a developer role in a project, but only has JazzGuest permissions, then they will be able to check out artifacts and modify them, but will be unable to save anything to the repository because they don’t have repository write access.

One of the challenges a project administrator has is to ensure each team member has the right combination of Jazz permissions, Product Licenses and role based permissions.

3.3 Timelines, Iterations and Iteration Types

When a project area is, it has a default timeline. Other timelines can be added as well as a hierarchy of iterations within timelines.

Iteration types can be defined with associated sets of permissions and operation behaviors that can be applied to all iterations of that iteration type.

3.3.1 Creating Timelines

A timeline represents an area of activity within a project that typically has its own schedule, deliverables, teams, and process. For example, one timeline might be used to track new product development work and a different timeline to track maintenance work. A child team area inherits the timeline of its parent team area. You cannot nest timelines.

Within a project area, one timeline can be designated as the project timeline. The project timeline differs from your other timelines in the following ways:

1. The project timeline iterations apply to the project area. This means that if the project timeline process is customized for the current iteration, that customized process affects any artifacts associated with the project area.
2. All team areas that do not have an explicit custom timeline set are governed by the process of the project timeline.

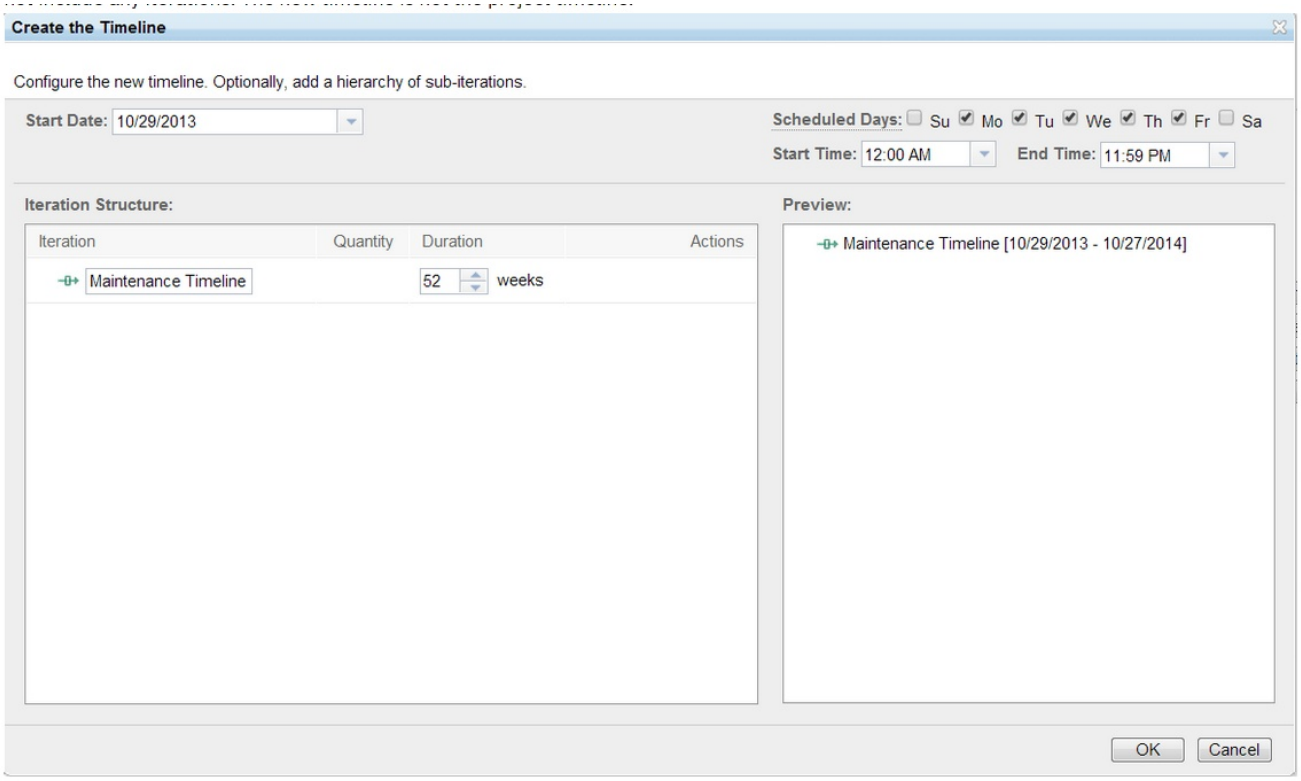
Within a timeline, you can create a hierarchy of iterations where top-level iterations represent releases and child iterations represent milestones within those releases. The process can be customized at the iteration level.

Iteration types can be defined so that all iterations of an iteration type use the same process.

Procedure

1. Navigate to the project area in the administrative web interface.
2. From within the project area, click Timelines.
3. To create a timeline, click Create Timeline. Complete the fields of the Create the Timeline wizard as follows:
4. Specify a name for the timeline.
5. Select the working days for the timeline. By default, Monday through Friday are selected. The starting and ending dates of child iterations are set based on the working days.

6. Select the start and end times for each working day. The date and time reflects that of the current user's time zone; therefore, users in different time zones see different start and end times, and possibly different dates. Work with your teams to agree on the start and end dates and the times, including time zone.
7. Optional: Select a start date for the timeline. By default, the current date is shown in the Start Date field. The start date is optional. To clear the Start Date field, highlight the date shown, then press the Delete key. If the start date is cleared, dates are not configured for the timeline or its child iterations.
8. Optional: Select the duration, in weeks, of the timeline by clicking the up or down arrow in the Duration field. When you select a duration, the Preview pane is updated to show the end date for the timeline. If you set the duration to zero, the start and end dates for the timeline are not set. If the Duration field is not set (empty string), the start date and the duration are calculated based on the parent, sibling and children's dates.



9. Optional: To make this timeline the project timeline, click Edit Properties icon, the Edit Properties icon; then select This is the project timeline.
10. Optional: To add iterations to the timeline, click Add Iterations icon, the Add Iterations icon. The fields and controls that you use to add iterations from within the Create the Timeline wizard are the same as those in the Create the Iterations wizard. See below for instructions on creating iterations.

11. Click OK. The following graphic shows a timeline named Maintenance Timeline being created. The timeline has a duration of 52 weeks and does not include any iterations. The new timeline is not the project timeline.

Screen capture of Create the Timeline wizard, which shows a timeline named Maintenance Timeline. The Duration field is set to 52 weeks. The Preview pane shows the name of the timeline followed by the start and end dates of the timeline.

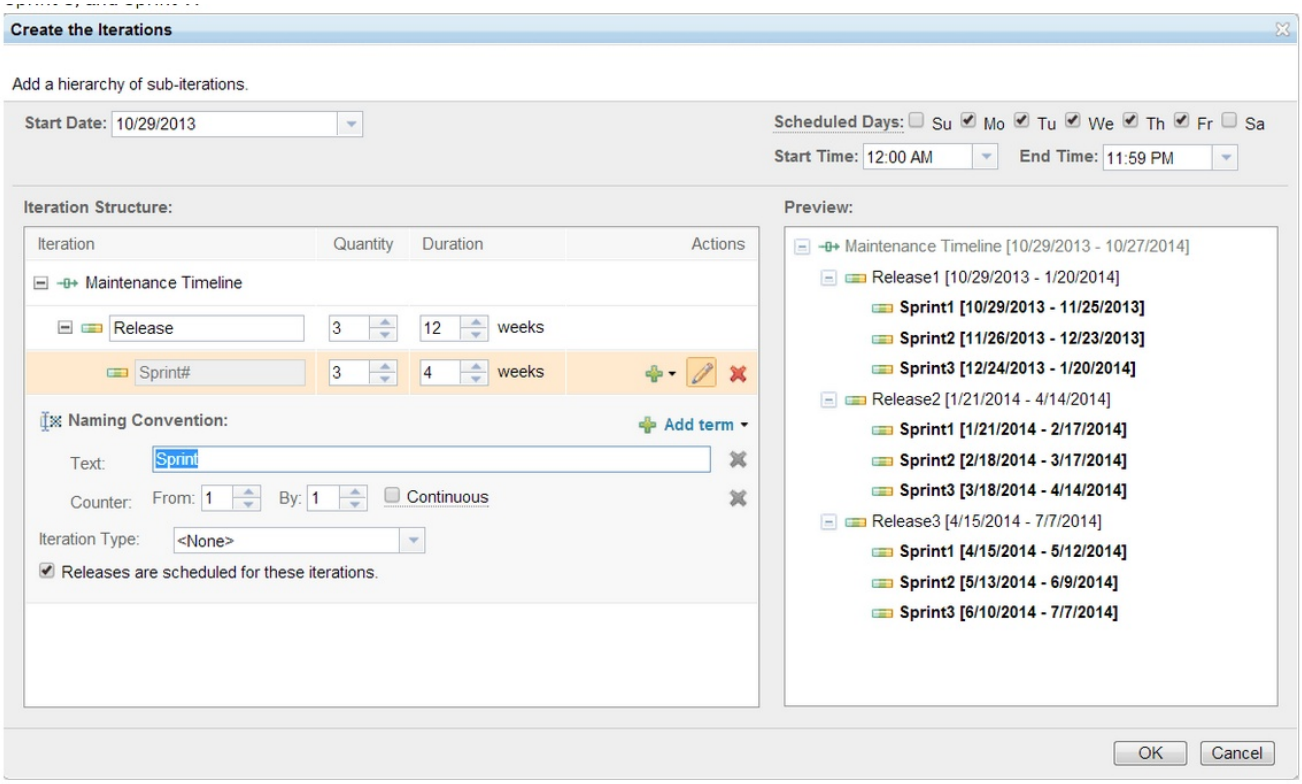
3.3.2 Creating Iterations

To create an iteration, select the timeline or iteration within which to create the iteration, then click Create Iterations. Complete the fields of the Create Iterations wizard as follows:

1. Enter a name for the iteration.
2. Select the working days for the iteration. By default, Monday through Friday are selected.
3. Select the start and end times for each working day. The date and time reflects that of the current user's time zone; therefore, users in different time zones see different start and end times, and possibly different dates. Work with your teams to agree on the start and end dates and the times, including time zone.
4. Optional: Select a start date for the iteration. Start and end dates are optional. To clear the Start Date field, highlight the date shown, then press the Delete key.
5. Use the up and down arrows in the Quantity field to specify the number of iterations to create.
6. Use the up and down arrows in the Duration field to specify the number of weeks in each iteration. If you set the duration to zero, the start and end dates for the iteration are not set. If the Duration field is not set (empty string), the start date and the duration are calculated based on the parent, sibling and children's dates.
7. Click Edit Properties icon, the Edit Properties icon, to modify the default properties.
8. If iteration types are defined, you can select a type on which to base the new iteration.
9. To enable the iteration for an iteration plan, make sure that Releases are scheduled for these iterations is selected. Only iterations with scheduled releases are eligible for iteration plans.
10. Click Customize the naming convention. Each instance of the iteration is named based on the string in the Text field and a number that is calculated from the Counter field values. By default, when there are multiple instances of an iteration, the first instance has 1 appended to its name, and the number for each additional instance increments by one. To add more text or counter terms, click Add term.

If you have a group of sequential iterations that are split across multiple parent iterations, select Continuous to have the numbering continue across parents. For example, if you have two iterations that each have four child iterations, each set of child iterations is numbered 1 to 4 by default. If you select Continuous, those child iterations are numbered 1 to 8 instead.

11. To add a child iteration, or add an iteration before or after the selected iteration, click Add Iterations icon, the Add Iterations icon, then select Add child iterations, Add iterations before, or Add iterations after.
12. When done, click OK. The following graphic shows that three iterations named Release are to be created. Within each of the Release iterations, three child iterations named Sprint are to be created. The Counter for each iteration specifies that the number 1 be appended to the name of the first instance. That number increases by one for each additional instance. If Continuous was selected for the Sprint iteration naming convention, the child iterations of Release 2 would be named Sprint 4, Sprint 5, and Sprint 6, and the child iterations of Release 3 would be named Sprint 7, Sprint 8, and Sprint 9.



Screen capture of the Create the Iterations wizard, which shows that three iterations named Release are to be created under the Maintenance Timeline. Within each Release iteration, three child iterations named Sprint are to be created.

To set an iteration as the current iteration, select it and click Set the Selected Iteration as Current icon, the Set the Selected Iteration as Current icon. The process associated with the current iteration is enforced.

You might want to tighten the process towards the end of a release. For example, you might require developers to get approvals before they deliver change sets to the product integration stream.

3.3.3 Modifying Timelines and Iterations

You can modify timelines and iterations in a project area. You can modify an iteration type, name, and start and end dates to define the project schedule. You must have permission to modify the iteration structure.

Procedure

1. Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web).
2. From within the project area, click Timelines.
3. Perform any of the following steps:
   a) To modify a timeline, select it and click Edit Properties. Enter or modify dates in the Start Date and End Date fields. Optionally, select the Use this timeline as the project timeline check box. Click OK.

      The project timeline differs from your other timelines in the following ways: (I) The project timeline iterations apply to the project area. This means that if the project timeline process is customized for the current iteration, that customized process affects any artifacts associated with the project area. (ii) All team areas that do not have an explicit custom timeline set are governed by the process of the project timeline.
   b) To modify an iteration, select it and click Edit Properties.
   c) To add an iteration, select the parent timeline or iteration for the new iteration, and click Create Iteration.
4. Click Save to save your changes to the project area.

3.3.4 Creating an Ieration Type

You can define iteration types in the process configuration. For each iteration type, you specify a set of permissions and operation behaviors that can be applied to all iterations of that type. You must have permission to save the project area.

During the course of a development project, it is common practice to apply different permissions and operation behavior at different stages of the schedule. For example, during the final iterations, teams typically restrict code changes to only must-fix defects. To enforce such a

restriction, you can create an iteration type and then modify operation behavior for that iteration type to require that users have approvals before they deliver changes. All iterations that are based on that iteration type have the same behavior.

Procedure

Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web).

1. From within the project area, click Iteration Types.
2. Click Create an Iteration Type icon, the Create a New Iteration Type icon.
3. Enter an identifier, name, and brief summary of the iteration type. The name is the display name, which appears in the user interface. The identifier appears in the process configuration source.
4. Click Save to save your changes to the project area.

The new iteration type is listed in the Defined Iteration Types list on the Iteration Types tab. When you create an iteration, you can select the new iteration type from the Iteration Types field.

3.4 Team Areas

Within a project area, you can organize work into multiple team areas. Team areas have their own members. You can also associate work item categories with team areas so that work items are assigned to team areas.

3.4.1 Creating a Team Area

You can create a team area to assign users in particular roles for work on a timeline or a particular set of deliverables. You can create a team area within an existing project area or another team area to establish a team hierarchy. These steps describe how to create a team area within a project area.

You must have permission to create a team area. This can be any one of the following:

1. A user granted permission to create and modify a team area.
2. A user who is an administrator of the project area.
2. A user who is granted either the JazzProjectAdmins or JazzAdmins repository group permissions.

For Quality Management project areas, you must enable team areas before you can create them:

From the Home menu, click Quality Management > All Projects.

1. Click the project area to which you want to add team areas.
2. From Administration menu icon, the Admin menu, click Manage Project Properties.
3. In the Properties pane, click Team Areas & Timelines.
4. Select Enable team areas and support for multiple timelines.
5. Click Save.

Procedure

Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web).

1. From within the project area, in the Team Area Hierarchy pane, click Create team icon, the Create Team icon.
2. In the Team Area Name field, enter a team name.

3. Optional: To change the timeline that the team area is created under, in the Timeline field, select a timeline from the list. For example, it is typical for development project areas to contain separate timelines for main releases and maintenance releases. For team areas whose members will work on artifacts associated with a maintenance release, select the maintenance timeline. For team areas whose members will work on artifacts associated with the main release, select the main timeline. By default, a child team area inherits the timeline of its parent team area. You can change the timeline selection after you create a team area.

   If, after you create a release plan for a team area, you move that team area to a different timeline and create a new release plan, any work items that were assigned to iterations in the original timeline remain in the original release plan. Those work items are not visible in the release plan that is associated with iterations in the new timeline.

4. Optional: To add a user as a member of the team area:

   a) In the Members or Administrators pane, click Add. Administrators have permission to save all changes to the team area and are typically responsible for managing the process, including membership, of the team area.

   b) In the Contributor Selection window, enter the name of a user to search for, or click Show All.

   c) In the Matching users pane, select a user.

   d) Click Add.

5. Add an optional summary and description for the team and click Save.

After you create the team area, scroll to the Members section and assign process roles to members to ensure that they have the permissions required to work on team area artifacts.

3.2.2 Team area

The structure of the project teams is defined by a hierarchy of team areas. Use team areas to manage team membership, roles assignments, and team artifacts.

Team areas serve the following purposes:

1. Define the users (team members) on the team and specify their roles.
2. Define the timeline in which the team is participating. For example, a project with both new product development and current product maintenance might define a timeline and team area for each.
3. Customize the project process for the team.

Team areas are optional. A simple project with a small number of users might not need separate team areas. Instead, all work is done in the context of the project area.

Complex projects can have a hierarchy of team areas. Typically, one or more teams are assigned to each timeline. Users might have multiple assignments that require them to work on more than one team. Some project members, such as the project lead, might not belong to a team area, but are defined as members at the project level.

Team areas inherit the process and timeline of their parent, which can be the project area or a parent team area. They can customize the aspects of the process and when allowed, override all or portions of it.

Project work items belong to only one team area. Over time, a work item might be triaged to another team area within the project area.

3.4.3 Defining Work Item Categories

Categories identify the various components or functional areas of your project. Each category is associated with a team area that includes members who are responsible for developing that component. The categories that you define are displayed as choices in the Filed Against field in the work item editor.

When you create a work item, you set its category attribute. The options that are available to you in the category field in a context are determined by the categories and associations that are defined for that context.

Procedure

1. In the administrative web interface, go to the project area. See Logging in for project administrators and team leads (web).
2. In the project area, click the Categories tab.
2. To create a category and add it to the project area, complete the next steps.
    a) To create a new category at the <Root Category> level, in the toolbar, click the Action Menu button in the Actions column. To create a new category under an existing category, click the Action Menu button in the Actions column next to the existing category. The Add Category dialog box opens.
    b) Enter a name for the category and click OK.

    The new category displays in the Categories column. By default, the new category is associated with the team area that is associated with the top-level category.

    Some project area process templates specify initialization steps that create categories when you create a project area. When you create team areas, do not associate them with these default project area-level categories. Instead, associate the team areas with new categories that you define. Associating a team area with one of the project area-level categories prevents you from querying for work items that are assigned to your team area. Querying for work items associated with a project area-level category returns all work items in the project area.

4. To associate a category with a team area, complete the next steps.
   a) Optional: Select a timeline. The default timeline is (any), meaning that the association applies to all timelines. If your process includes multiple timelines, you can specify a different association for each timeline. When a user creates a work item, it is assigned to a team area based on its category and the timeline of its Planned For iteration.
   b) Select the category.
   c) Click the corresponding cell in the Associated Project/Team Area column. The Associated Project/Team Area dialog box opens.
   d) Select the team area to associate with the category. Then, click Associate.

   If you specified different associations that are based on different timelines, the associations in the table of categories and associated team areas change when you select different timelines in the Timeline menu. The process that is defined for the associated team area is the process that users follow for processing work items.
5. Optional: To limit visibility of a category to members of the team that is associated with the category, click the corresponding check box in the Restrict Category Visibility column. By default, categories are visible to all users. When you limit the visibility of a category, only members of the associated project or team area can see the category in the category list when they are assigning work items.
6. Optional: To limit read and write access to work items that are associated with this category, click the corresponding check box in the Restrict Work Item Access column. When you limit work item access for a category, only members of the associated project or team area can view and modify work items that are assigned to that category.
7. Optional: To set a category as the default for new items that are created in plans that are owned by the corresponding team or project area, click the associated check box in the Use As Default column. When new items are created in plans, the Filed Against value defaults to this category.
8. To remove an old category from the table, select it, then click the Archive Selected button. To view archived categories, click Show Archived. Archived categories appear dimmed. To restore an archived category, select it and click the Unarchive Selected button.
9. You can move a category from one spot in the hierarchy to another by using the move control in the Actions column to drag the category. A horizontal line indicates that you are moving the category between the categories above and below the line when you drop it. A highlighted category indicates that you are nesting the category under the highlighted category when you drop it.
10. Click Save to save your work item category changes.

3.5 Roles

Roles identify the functions of team members. You assign permissions to perform specific operations to roles. Therefore, a user’s role or roles determine which operation the user can perform.

Within a project area, you can assign permissions at the following levels:

1. project area
2. team area
3. ttimeline
4. titeration type
5. titeration

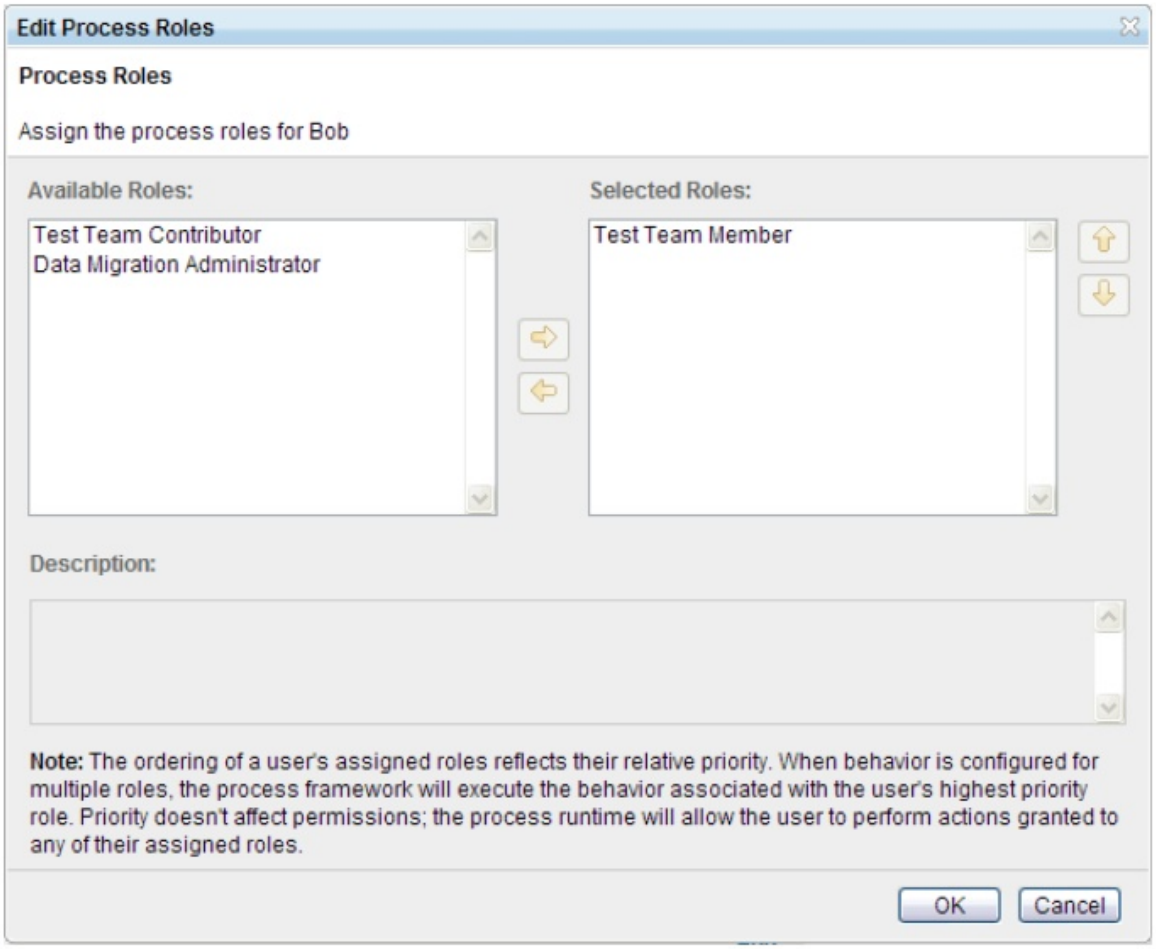
All users in the repository have the default Everyone role. Even if a user is not a member of a project area, that user has the permissions assigned to the Everyone role for that project area. If you need to restrict users who are not members of the project area from performing certain operations, you must disable that operation from the Everyone (default) role and enable it for one or more other roles. You can add and modify roles in project areas. Team areas inherit the set of roles defined in the project area, but you can also add and modify roles in team areas.

There are roles for Change and Configuration Management, Quality Management, and Requirements Management.

For Change and Configuration Management and Quality Management project areas, you can configure operation behavior (preconditions and follow-up actions). Just as you can assign different permissions to different roles, you can specify different operation behavior for different roles. For example, in a Change and Configuration Management project area, you might configure behavior that requires team members to get approvals before they can deliver change sets. In a Quality Management project area, you might configure behavior that requires all test cases in a test plan to be approved before the test plan can be approved.

You can assign one or more roles to a user in the Edit Process Roles window. The order of the roles for the user reflects their relative priority. When operation behavior is configured for multiple roles, the process runs the behavior that is associated with the highest-priority role for the user. Priority does not affect permissions; users can perform actions that are granted through any of their assigned roles.

The graphic shows the Edit Process Roles window with the Test Team Contributor role selected.



Because the predefined default Everyone role cannot be assigned, removed, or reordered, it does not appear in the Edit Process Roles window. All users in the repository have the Everyone role.

The roles definition includes an identifier, name, description, and a cardinality value, which indicates whether the role is intended to be assigned to more than one user in the project area or team area.

Roles for Change and Configuration Management

n the web client, roles are defined on the Roles tab of the project area editor. These roles apply to the entire project. You can add and modify roles for a team area on the Roles tab of the team area editor. In the Rational Team Concert client for Eclipse IDE, roles are defined on the Process Configuration tab or the Process Configuration Source tab of the project area editor or process template editor. To modify roles for team areas in the client for Eclipse IDE, use the Process Customization tab of the team area editor.

The initial set of roles available in a project area depends on the process template that you use to create the project area.

Table 1. Roles available in the Scrum process

Role	Description
Scrum master	Responsible for the process. This role can modify all aspects of the project area process.
Product owner	Responsible for managing the Product Backlog of work items. This role can modify most aspects of the project area process.
Team member	A member of the cross-functional team. This role can create and modify artifacts, such as work items, plans, and files under source control.
Stakeholder	Represents interest groups whose needs must be satisfied by the project. This role can be played by anyone who is (or potentially will be) materially affected by the outcome of the project. This role is intended for users who will mostly need just read access to most operations.

Table 2. Roles available in the Formal Project Management process

Role	Description
Analyst	Represents customer and end-user concerns by gathering input from stakeholders to understand the problem to be solved and by capturing and setting priorities for requirements.
Architect	Defines the software architecture, which includes making the key technical decisions that constrain the overall design and implementation of the project.
Developer	Develops a part of the system, including designing it to fit into the architecture, possibly prototyping the user-interface, and then implementing, unit-testing, and integrating the components that are part of the solution.
Project manager	Leads the planning of the project, coordinates interactions with the stakeholders, and keeps the project team focused on meeting the project objectives.
Team lead	Leads a component team and is responsible for planning and architectural integrity of the component.
Stakeholder	Represents interest groups whose needs must be satisfied by the project. This role can be played by anyone who is (or potentially will be) materially affected by the outcome of the project. This role is intended for users who will mostly need just read access to most operations.
Tester	Responsible for the core activities of the test effort. Those activities include identifying, defining, implementing, and conducting the necessary tests, as well as logging the outcomes of the tests and analyzing the results.
Release engineer	Responsible for software builds and releases. Responsible for the design and development of builds, scripts, installation procedures, and systems including source code control and issue tracking.

Roles for Quality Management

Both the Quality Management Default Process and the Quality Management Legacy Process include these predefined user roles:

Table 3. Project process roles for Quality Management

Project Process Role	Description
Test Team Member	This role is intended for users who are full participants in the test team and will need both read and write access to many team operations.
Test Team Contributor	This role is intended for users who will mostly need just read access to most operations.
Data Migration Administrator	You can use this role to allow administrators to create data that is exempt from the normal constraints that are enforced by process advisers. For example, if you need to migrate data into Quality Management via the REST API, then this role would allow you to bypass the process advisors and migrate data that violates the version 4 process constraints. (The REST API lets you read and write data with out using the web interface.) You can combine this role with other roles, but you must place this role in the first position in the list of selected roles.

Roles for Requirements Management

The requirements management application includes these predefined user roles:

Table 4. Project process roles for Requirements Management

Project Process Role	Description
Administrator	In addition to the Author and Commenter capabilities, an Administrator can add and remove users in a project; manage templates; manage artifact types, attributes, attribute data types, and link types; access the Administration project page. An administrator must have a Rational® DOORS® Next Generation Analyst client access license or any client access license that allows read-write capabilities.
Author	In addition to the Commenter capabilities, an Author can create and delete artifacts such as requirements, sketches, and diagrams; add links to artifacts; create personal and shared tags and apply them to artifacts; create shared and personal filters; move resources between folders; create reviews. An Author must have a Rational DOORS Next Generation Analyst client access license or any client access license that allows read-write capabilities.
Commenter	A Commenter can view artifacts such as requirements, sketches, and diagrams; participate in reviews, comment on artifacts; create personal tags and apply them to artifacts; create personal filters. A Commenter must have a Rational DOORS Next Generation Contributor or Analyst client access license or any client access license that allows read-write capabilities.
Project Baseline Administrator	A Project Baseline administrator can manage project baselines. A Project Baseline Administrator must have a Rational DOORS Next Generation Analyst client access license or any client access license that allows read-write capabilities.

3.5.1 Assigning administrative privileges

You can designate a user as an administrator in a project area or a team area. The administrative control also applies to all child team areas that are located within the project area or team area where it is assigned. Administrators have permission to save all changes to the project area or team area. The administrator is typically responsible for managing the process, including adding members and assigning roles, for the project area or team area. If users do not have the permissions they need, they should contact an administrator.

You must belong to either the JazzAdmins or JazzProjectAdmins repository group.

Procedure

1. Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web).
2. From within the project area Overview page, you can navigate to a team area by clicking the team area under the Team Area Hierarchy heading.
3. In the Administrators section, click Add. Enter the name, or part of the name, of the user to search for. Select the user from the Matching users list. Click Add or Add & Close. You can invite new administrators to join the project area or team area by clicking Invite to Join Team in the Administrators Menu icon. You can also use the Administrators Menu icon to remove administrators. If you have a long list of administrators, not all of them are displayed. To display the full list, click Show All at the bottom of the list. To display the shorter list, click Show Less. To filter the list of administrators displayed by Name, User ID, or E-mail address, enter a text string in the Search text box. To invite multiple administrators to join the project area or team area, or remove multiple administrators from the project area or team area, select the check box next to each administrator name. You can also use the options in the Select menu at the top of the list as follows:
    a) To select all administrators, choose Select All from the top check box.
    b) To remove all administrators from the selected list, click Select None.
    c) To add all administrators that are currently displayed to the selected list, click Add Displayed to Selection.
    d) To remove all administrators that are currently displayed from the selected list, click Remove Displayed from Selection.
    e) To reverse the set of selected and unselected administrators, click Select Inverse. This action causes all selected administrators to be unselected, and all unselected members to be selected.
4. Click Save to save the project area or team area.

5. If the new administrator is not already a member of the project area or team area, you are prompted to send an E-mail invitation to the new administrator to join the project area or team area. The Invite to Join Team window contains default welcome text, which you can change. The window also contains a properties section that identifies the repository name, user ID and name, project area, and, if applicable, team area. For Change and Configuration Management project areas, users can copy the properties and paste them into the Accept Team Invitation window in the Rational Team Concert client for Eclipse IDE. Depending on your team's process, after accepting the invitation to join a Change and Configuration Management project area or team area, new users receive new work items to guide them through common team tasks, such as setting up instant messaging, finding work items, and creating a repository workspace.

3.6 Preconditions and Follow-up Actions

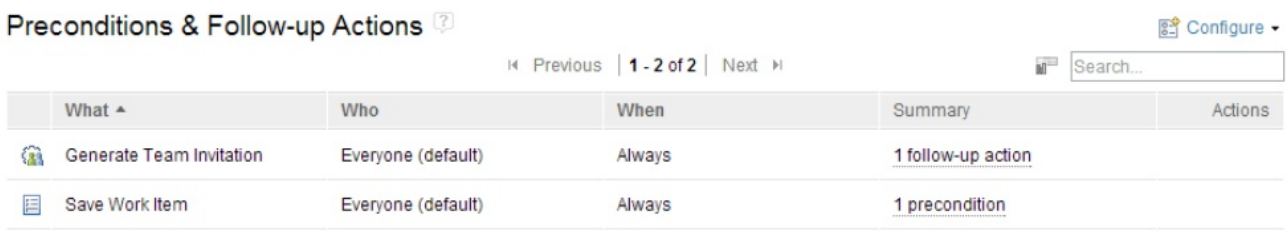
You can modify the behavior for operations in a project area or team area by defining preconditions and follow-up actions that are required for individual operations.

3.6.1 Preconditions and follow-up actions

Preconditions are conditions that must be met before an operation can be completed. Follow-up actions are events that are generated, like work items that are created, when the operation is completed.

You can set different preconditions and follow-up actions for each role in a project area or team area. You can apply a precondition or follow-up action to some or all roles. You can also specify that a precondition or follow-up action applies only for a specific timeline, iteration, or iteration type.

Preconditions and follow-up actions are defined as part of a configuration. A configuration identifies the operation; the role or roles that the precondition or follow-up action applies to; and the timeline, iteration, or iteration type during which the precondition or follow-up action is in effect. The following image shows two configurations. In each configuration, the precondition or follow-up action applies to the Everyone role. The precondition and follow-up action apply all the time; they are not configured to apply only during a specific timeline, iteration, or iteration type.



Note: Because all users are assigned the default Everyone role, you can have specific operation behavior apply to all users by specifying it for the Everyone role; you need not specify it for every role. At runtime, Rational Team Concert checks the operation behavior settings for all other roles assigned to the user before checking the operation behavior for the Everyone role. If operation behavior is specified for one of those roles, Rational Team Concert uses that operation behavior instead of the operation behavior that is specified for the Everyone role.

The Preconditions and Follow-up Actions page in the web client. A table has the following columns: What, Who, When, Summary, and Actions. Two operations are shown: Generate Team Invitation and Save Work Item. The Who column shows the Everyone role. The When column shows Always. The Summary column for the Generate Team Invitation operation shows 1 follow-up action. The Summary column for the Save Work Item operations shows 1 precondition.

To assign a different role (who) or time frame (when) to a precondition or follow-up action, you must copy a configuration and then edit it or create a new configuration.

Note: If multiple preconditions are specified for an operation, all of the preconditions are evaluated, even if one of them fails. This behavior ensures that users are alerted to all unsatisfied preconditions that would cause the operation to fail.

3.6.2 Copying configurations

To configure separate preconditions or follow-up actions for different roles or time periods, you must specify multiple configurations. You can either create a new configuration or copy an existing configuration and then edit it. You must have permission to modify the project area or team area where you want to copy a configuration.

Typically, teams copy precondition and follow-up configurations for these reasons:

1. To customize a role or time frame within a project area or team area. For example, your team defines a New Team Member role. To configure this role, you copy the preconditions for the existing Team Member role and then add additional preconditions to the New Team Member role.
2. To customize within a team area. For example, a project area defines three preconditions and your team wants to add more. To add more preconditions in your team area, you copy the preconditions from the project area and then add the preconditions.
3. To copy a configuration from another team area. For example, the Repository team wants to use the preconditions that are set up for the Process team. To use the Process team's preconditions, the Repository team must open the Repository team area and then copy the preconditions from the Process team area.

Procedure

1. Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web). To set preconditions or follow-up actions for a team area, click the team area in the Team Hierarchy section.
2. In the project area or team area, click Preconditions & Follow-up Actions. The Preconditions & Follow-up Actions page opens and shows the existing configurations for the project area or team area, as in the following example:
3. Click Configure > Copy Existing Configuration.
4. In the Copy Existing Configuration wizard, complete the steps as follows:
   a) Select whether to copy a configuration from the existing project area or team area or from a different project area or team area. Select the project area or team area and click Next.

b) Select the configuration to copy and click Next.

Tip: To see which preconditions and follow-up actions will be copied, hover over the entries in the Summary column.

c) Select the role that the configuration should apply to and click Next.

d) Select whether the configuration should apply all the time, for only a specific timeline or iteration, or for only iterations of a specific iteration type, and click Finish.

5. Optional: To add a precondition or follow-up action for the operation, click the Add icon Add icon; then select the precondition or follow-up action.
6. Optional: If the preconditions and follow-up actions provide additional configuration settings, specify those settings. For example, in the Required Attributes for Type and State precondition, you can set the precondition based on the work item type and state.

   Note: In the current release, only a subset of preconditions and follow-up actions that require additional details can be configured by using the web UI. For all other preconditions and follow-up actions, you must use the Rational Team Concert™ client for Eclipse IDE to configure them.
7. Optional: To prevent child team areas, or project areas that consume the shared process of this project area, from customizing this configuration, select Final (ignore customization of this operation in child areas).
8. To save the new configuration, click Save.

The new configuration is created and is listed with the other configurations.

3.6.3 Creating configurations

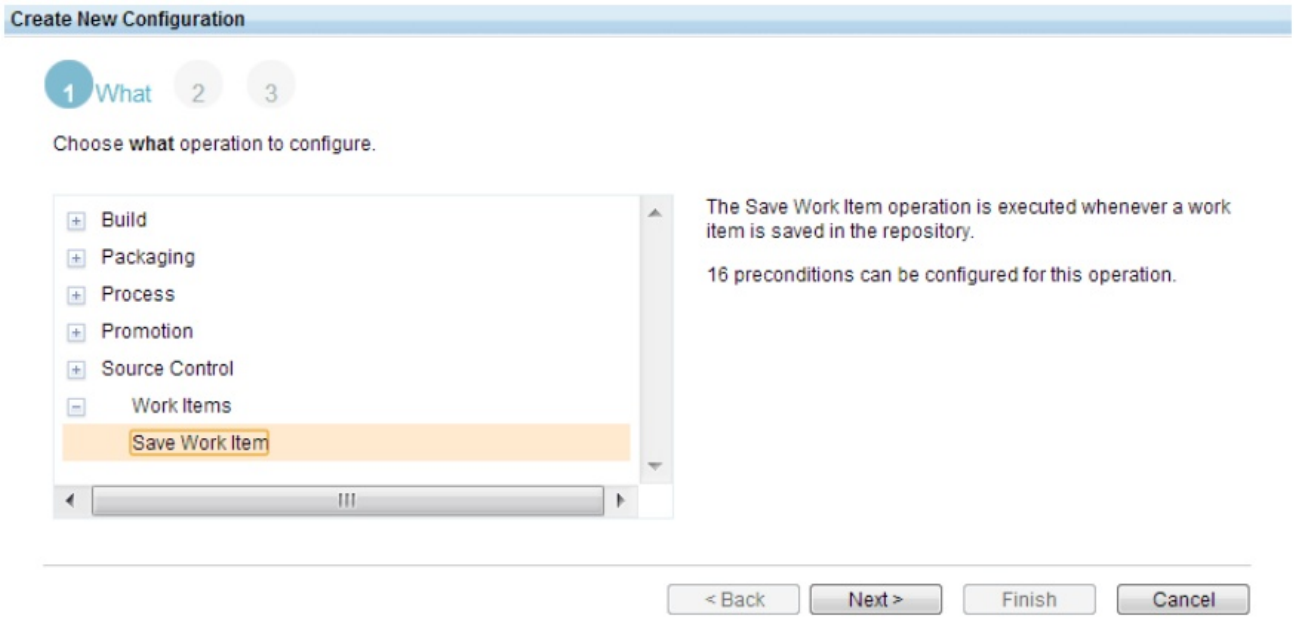
To configure separate preconditions or follow-up actions for different roles or time periods, you must specify multiple configurations. You can either create a new configuration or copy an existing configuration and then edit it. Typically, you create a configuration if no similar configurations exist for you to copy. You must have permission to modify the project area or team area where you want to create a configuration.

If multiple preconditions are specified for an operation, all of the preconditions are evaluated, even if one of them fails. This behavior ensures that users are alerted to all unsatisfied preconditions that would cause the operation to fail.

Procedure

1. Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web). To set preconditions or follow-up actions for a team area, click the team area in the Team Hierarchy section.

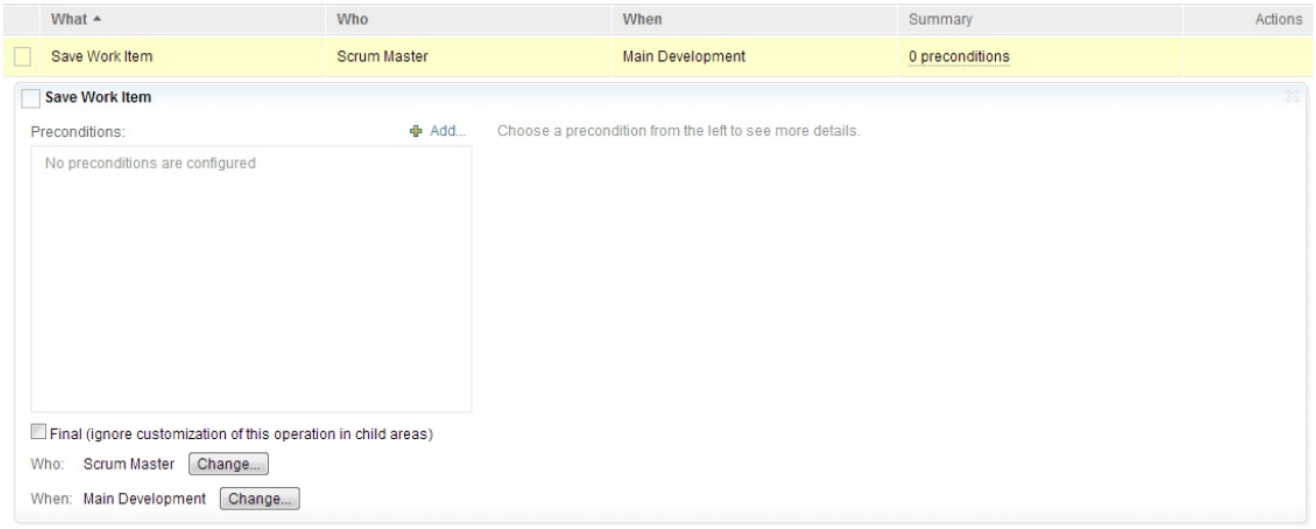
2. In the project area or team area, click Preconditions & Follow-up Actions. The Preconditions & Follow-up Actions page opens and shows the existing configurations for the project area or team area, as in the following example:
3. Click Configure > Create New Configuration.
4. In the Create New Configuration wizard, complete the steps as follows:
   a) Expand the operation category to select the operation for which to configure a precondition or follow-up action and click Next.



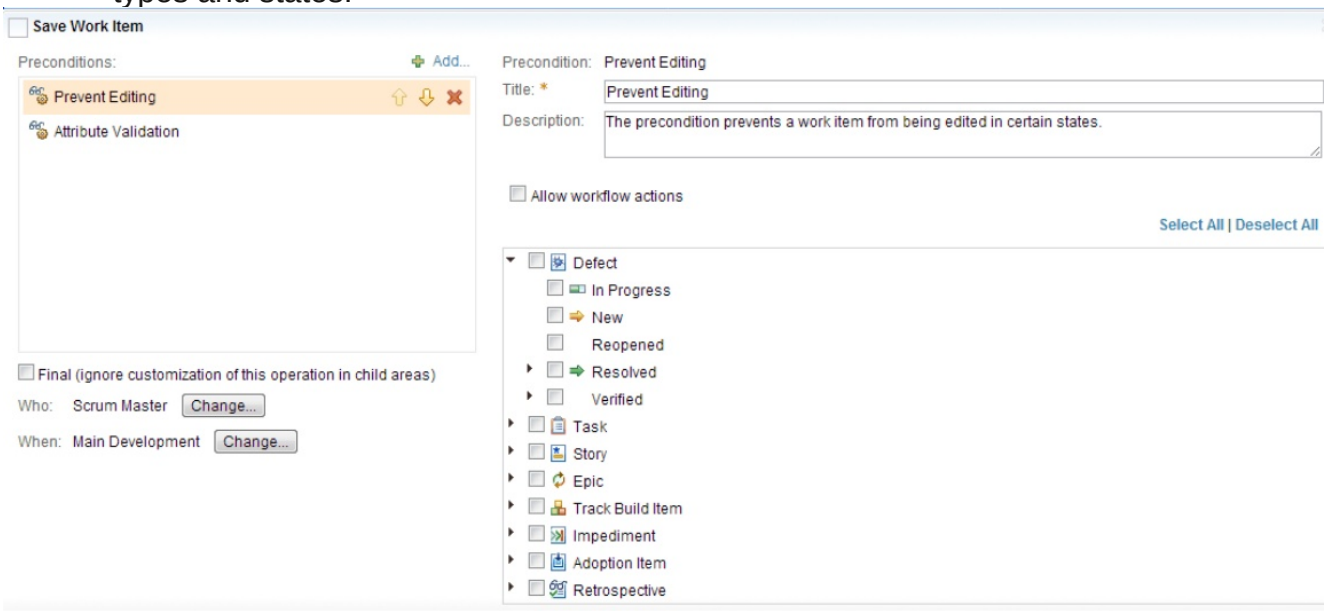
   b) Select the role for which the precondition or follow-up action will apply and click Next.

      Note: Because all users are assigned the default Everyone role, you can have specific operation behavior apply to all users by specifying it for the Everyone role; you need not specify it for every role. At runtime, Rational Team Concert™ checks the operation behavior settings for all other roles assigned to the user before checking the operation behavior for the Everyone role. If operation behavior is specified for one of those roles, Rational Team Concert uses that operation behavior instead of the operation behavior that is specified for the Everyone role.

   c) Select whether the configuration should apply all the time, for only a specific timeline or iteration, or for only iterations of a specific iteration type, and click Finish. The wizard closes and the Preconditions & Follow-up Actions page shows the new configuration with no preconditions or follow-up actions specified, as illustrated in the following image:
5. Click the Add icon Add icon; then select a precondition or follow-up action.



6. If the precondition or follow-up action provides additional configuration settings, specify those settings. For example, you can configure the Prevent Editing pre-condition, which is shown in the following image, to apply to specific work item types and states.



Note: In the current release, only a subset of preconditions and follow-up actions that require additional details can be configured by using the web UI. For all other preconditions and follow-up actions, you must use the Rational Team Concert client for Eclipse IDE to configure them.

7. Optional: Add more preconditions or follow-up actions.

8. Optional: To prevent child team areas, or project areas that consume the shared process of this project area, from customizing this configuration, select Final (ignore customization of this operation in child areas).
9. To save the new configuration, click Save.

3.7 Adding associations

You can create an association between a project area and another project area or another type of artifact container, such as a ClearQuest user database. After you establish an association, you can link an artifact, such as a work item, development plan, test case, or requirements collection, in one project area to an artifact in the other project area or other type of artifact container.

The target of an association can be a project area in the same application, or an artifact container, such as another project area, in a different application. If the artifact containers belong to applications that are registered to different Jazz Team Servers, you must configure cross-server communication.

Associations represent relationships between the project area and artifact containers, such as project areas, in other applications. Establishing associations for the project area enables linking between artifacts in this project area and artifacts made accessible by the target project area or other artifact container.

Procedure

1. Navigate to the project area in the administrative web interface. See Logging in for project administrators and team leads (web).
2. On the Overview tab of the project area, scroll to the Associations section.
    a) Click Add.
    b) In the Application drop-down list, select a target application.
    c) In the Association drop-down list, select the type of artifacts for which you want to establish links. To specify that the project area can use artifacts from, and can create artifacts within, the target artifact container, select an association that has the Uses prefix. To specify that artifacts provided by the project area can be created from the target artifact container and associated with artifacts within the target artifact container, select an association that has the Provides prefix.
    d) In the Artifact Containers list, select the target project area, or other artifact container, with which you want to link this project area.
    e) Click OK.
3. Click Save to save your changes to the project area.