Status Rollup Synchronizer

Status Rollup synchronizer automatically aggregates statuses of the sub-issues and updates the status of the parent issue. For example, it can make parent issue *Resolved* if all sub-issues are *Resolved*.

Status Rollup Synchronizer Parameters

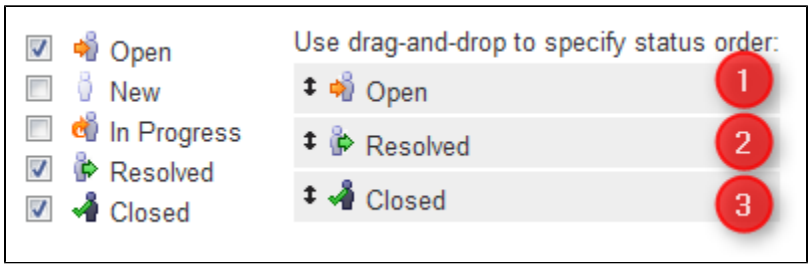
Enabled Projects	Only issues belonging to the selected projects are **changed**. It does not matter what project sub-issues belong to, as long as their parent belongs to the enabled project — every sub-issue counts with its status.
Enabled Issue Types	Same with types — you can select issues of which types may be changed by the synchronizer, and like with the enabled projects, only the parent issue type is checked.
Statuses Rolled Up	The selection and order of statuses that are used to calculate parent issue status. Parent issue status is set to the *earliest* status among its sub-issues. If a sub-issue has a status not selected in this parameter, the parent issue is not changed.
Allowed Transitions	For every status, you can select which transitions the synchronizer can make to move an issue to that status.
Resolution	Value to set to the *Resolution* field when workflow transition requires it. By default, a current or default value for Resolution is used.

The synchronizer is normally installed, resynced and used in the Incremental mode, tracking changes to issues and structure and updating issues. The synchronizer supports Exporting from Structure, changing statuses of the issues in the structure on one-time basis.

How Status Rollup Synchronizer Works

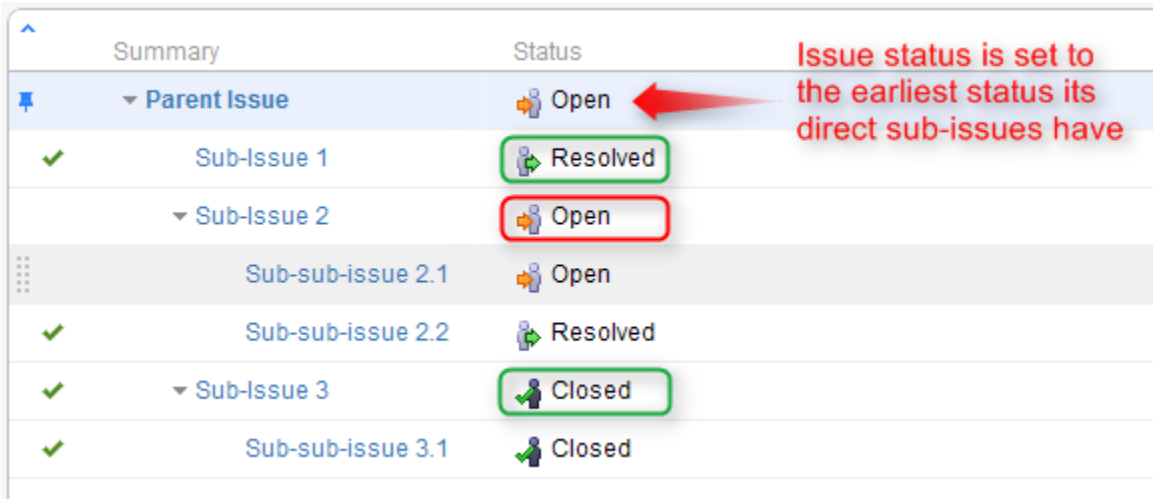
The synchronizer tracks updates to issues and to structure, and tries to make sure that the status of the parent issue corresponds to the aggregate status of its direct children.

When you configure Status Rollup, the most important parameter is the selected Statuses and their order:



> Statuses that are not selected in the parameters are not recognized by the synchronizer. If a sub-issue has one of the unselected statuses, the synchronizer does not change the parent issue.

The order of the selected statuses should correspond to *earliest-to-latest* order of phases of the workflow. For example, the screenshot above shows configuration where *Open* is followed by *Resolved*, which is followed by *Closed*. With that configuration, once all sub-issues of an issue are *Resolved*, the synchronizer will try to make the issue *Resolved* too. Once all sub-issues are *Closed*, the issue will be made *Closed*. But if at least one sub-issue happens to be *Open*, the issue status will be set to *Open* — because it is the earliest status in the specified order.



On the screenshot above:

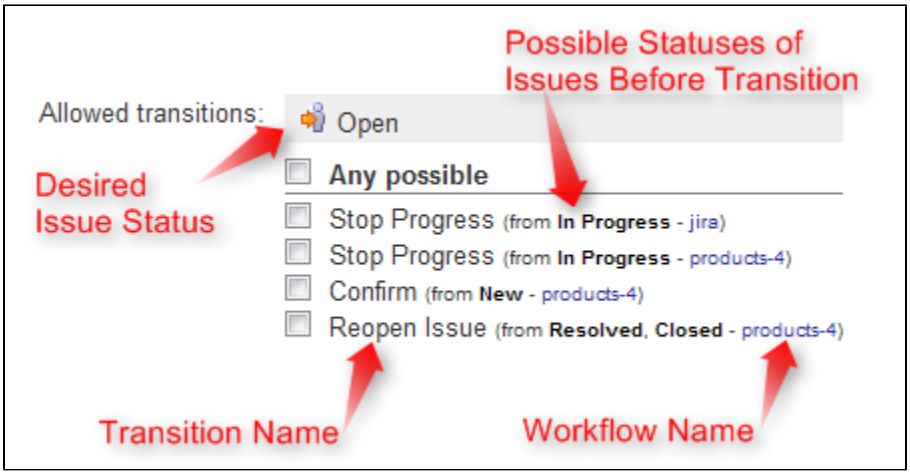
- All **sub-sub-issues** and **sub-issue 1** do not have sub-issues of their own, so the synchronizer does not change their status.

- **Sub-issue 3** has a single sub-issue, which has status **Closed** — so since all of its sub-issues are closed, it should be **Closed** too.
- **Sub-issue 2** has one **Open** sub-issue and one **Resolved** sub-issue — it should be **Open** because Open status comes before Resolved in the order specified earlier.
- **Parent Issue** has sub-issues that have statuses **Open**, **Resolved** and **Closed** — so it should be **Open** for the same reason. Once all sub-issues are **Resolved**, Parent Issue will be automatically **Resolved**. Once all sub-issues are **Closed**, Parent Issue will automatically be **Closed**.

Remember, that whenever one of the sub-issues gets a status not listed in the synchronizer configuration, the synchronizer just skips the issue. For example, if we change the status of **Sub-issue 2** above to **In Progress**, **Parent Issue** will not be updated. If we then change the status of **Sub-issue 2** to **Resolved**, **Parent Issue** status will be updated to **Resolved**.

How Status is Changed

JIRA allows status to be changed only through a workflow transition, so the only way Status Rollup synchronizer can set the desired status on an issue is to apply a workflow transition. Therefore, when you select a status, you also need to select which transitions is synchronizer allowed to make.



So what the synchronizer does is:

1. See what status the issue currently has;
2. Calculate what status it should have, based on the statuses of sub-issues;
3. Find workflow transitions that can transfer the issue from the current status to the required status;
4. Check which of those transitions are allowed by the configuration;
5. Try to apply matching transition number one, if it fails — try the next one, and so on.

Note that all transitions are done under the account of the user who has installed the synchronizer.

Why Can a Workflow Transition Fail

It's not guaranteed that the synchronizer will be able to change the Status, because workflows are too flexible and there are many reasons that a given transition, which you have allowed in the configuration, can fail to execute. Here are some of the possible causes:

- You (the user who has installed the synchronizer) do not have the required permissions to make the transition;
- You are not the Assignee of the issue — required for In Progress status;
- Some other pre-condition defined in the workflow fails;
- Workflow transition requires a field to be set on an issue that has no default value.

As described above, it's possible that there are several possible transitions from one status to another. The synchronizer will try all of them unless one of them succeeds.

If the synchronizer fails to update the status, a warning message will be written into the server logs (subject to logging configuration).

Changing Resolution

You can set up a specific *Resolution* value to be set whenever a transition involves changing the resolution. If you don't specify this parameter, the default resolution or already existing resolution will be used.

In order to tell which issues have been automatically moved to a status like Resolved or Closed, you can set up a special resolution like *Auto-Resolved*.

Manually Changing Status of an Issue That Has Sub-Issues

Even if an issue has sub-issues and is subject to Status Rollup, you can manually change its status. Although the synchronizer will **not** be forced to recalculate the status of that issue immediately, it will recalculate the status if any of the sub-issues change – probably reversing your change, if it finds an allowed transition.

If you'd like the synchronizer to only move issues *forward*, that is, from *Open* to *Resolved*, but not vice versa, you can configure the allowed transitions accordingly.