

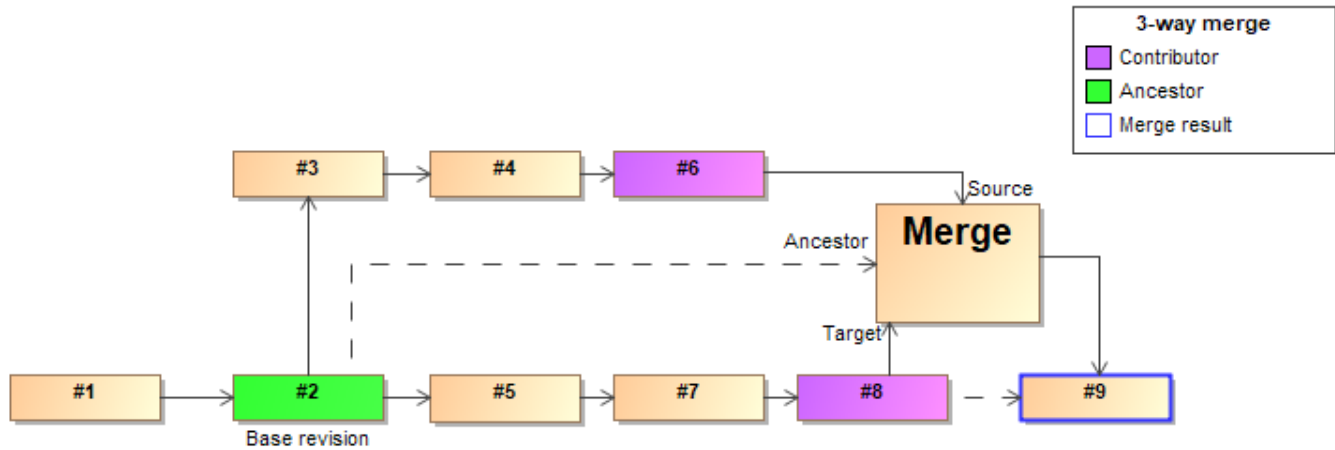
Understanding merge types

Two types of model merge can be used to merge two selected project versions (source and target):

- 3-way merge
- 2-way merge

3-way merge

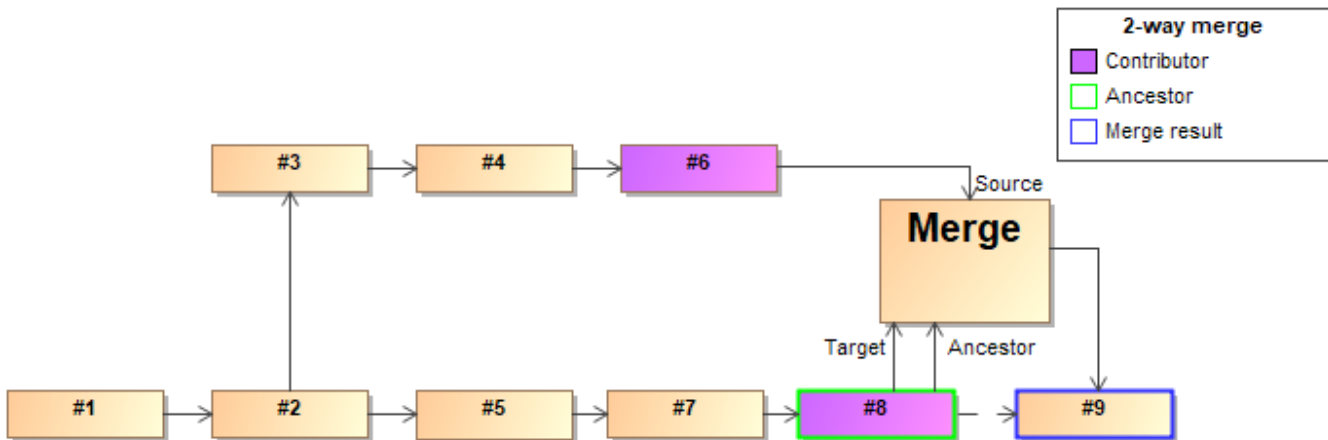
The 3-way merge allows you to merge both local and server projects. To merge two selected project versions, the common ancestor (a common project version for both target and source) is used. The common ancestor is calculated automatically when working with Teamwork Cloud projects; however, you must manually select a correct common ancestor for local and Teamwork Server projects. This is the recommended way to merge project versions because the 3-way merge is able to identify the changes made in the source and the target project versions separately by comparing changes between the ancestor and both contributors. This allows merging the selected project versions more smoothly.



Visual representation of the 3-way merge

2-way merge

The 2-way merge compares two local or Teamwork Server project versions selected by the user. Typically, the target version of the project is considered to be the common ancestor (a common project version for both target and source). As a result, only the differences between the source and the target project versions are identified. They are shown as a merge result in the [Merge](#) dialog.



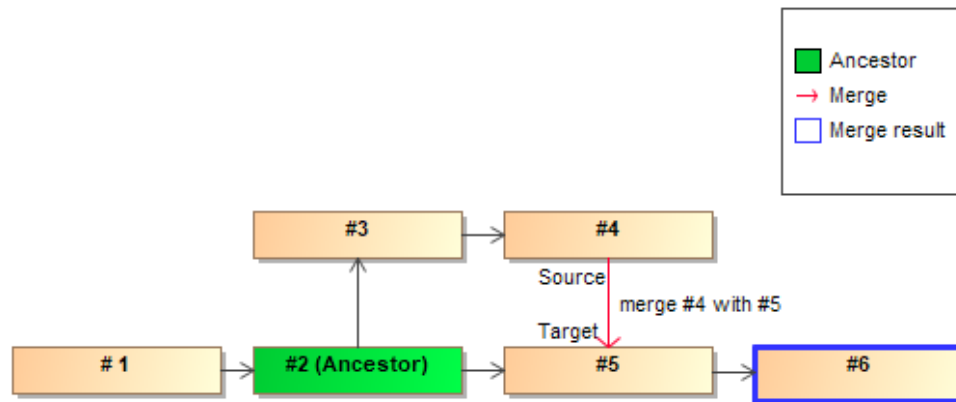
Visual representation of the 2-way merge

Merge in Teamwork Cloud

The 3-way merge is the default method used to merge the selected Teamwork Cloud projects; the correct common ancestor version is specified automatically and there is no need to select one manually.

This is how the common ancestor is calculated:

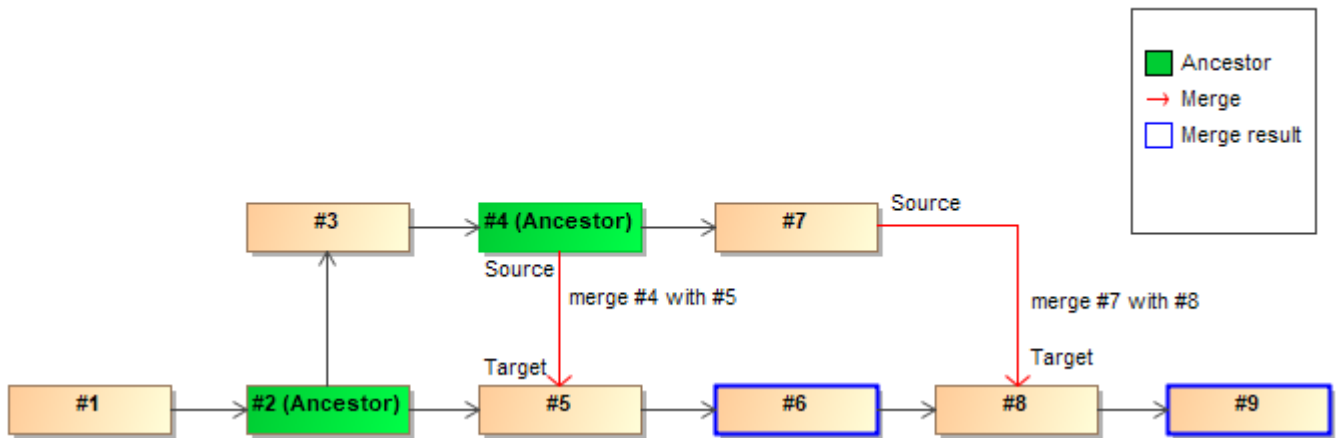
- The lowest version of the trunk from which a branch was created is considered the common ancestor version of the projects being merged. It contains the latest changes both from the source and the target project (version #2 in the image below). Once the correct common ancestor for the two selected project versions is calculated, a merge dialog is opened. In the merge dialog, you can review changes and accept/reject them. When you are finished, click **Finish Merge** and commit the changes to Teamwork Cloud. A new version (version #6 in the image below) is created.



Automatic common ancestor calculation in Teamwork Cloud

Repetitive merge

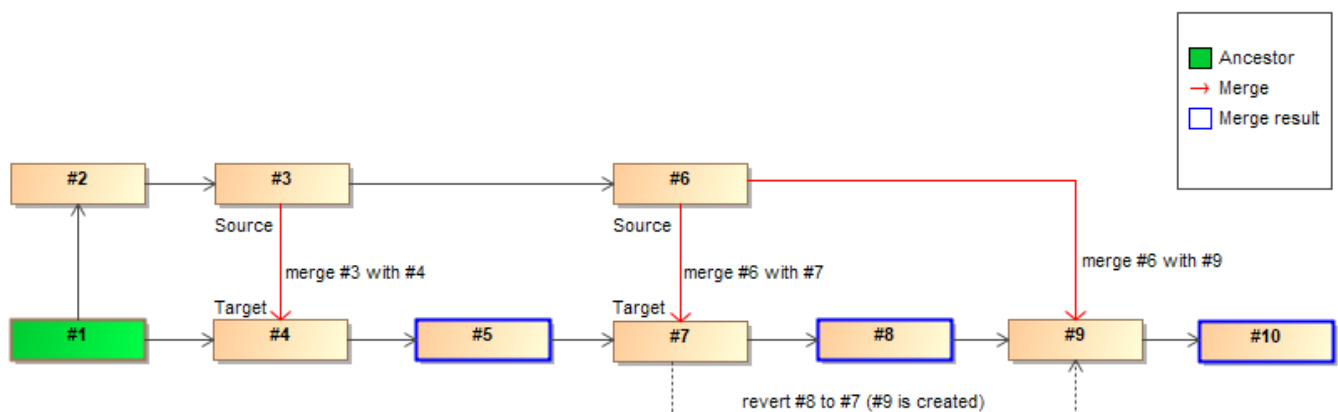
When two selected branches are merged more than once (i.e., it is not the first merge in the project), the common version traversing graph nodes up the history tree for both source and target project versions is considered the common ancestor. The diagram below shows how version #2 during the first merge and version #4 during the second merge are common ancestors:



Automatic common ancestor calculation when there are repetitive merges

Set as latest

If an earlier version of the project was set to the latest version in the target branch, e.g., version #8 was reverted to version #7 (version #9 was created), the version a branch splits off the trunk (version #1 in the image below) is considered the common ancestor in all subsequent merges.



Automatic common ancestor calculation when Set as latest is used

Related pages

- [Understanding change concept](#)
- [Preparing for merge](#)
- [Starting Model Merge](#)
- [Analyzing and managing merge results](#)
- [Finishing and canceling merge](#)