Merge Control: Advanced Merge Conditions

Feature Guide Workzone · https://izymes.com/docs/merge-control-advanced-merge-conditions-with-specific-group-quota/

Workzone features a powerful boolean expression parser that lets you define advanced merge conditions like:

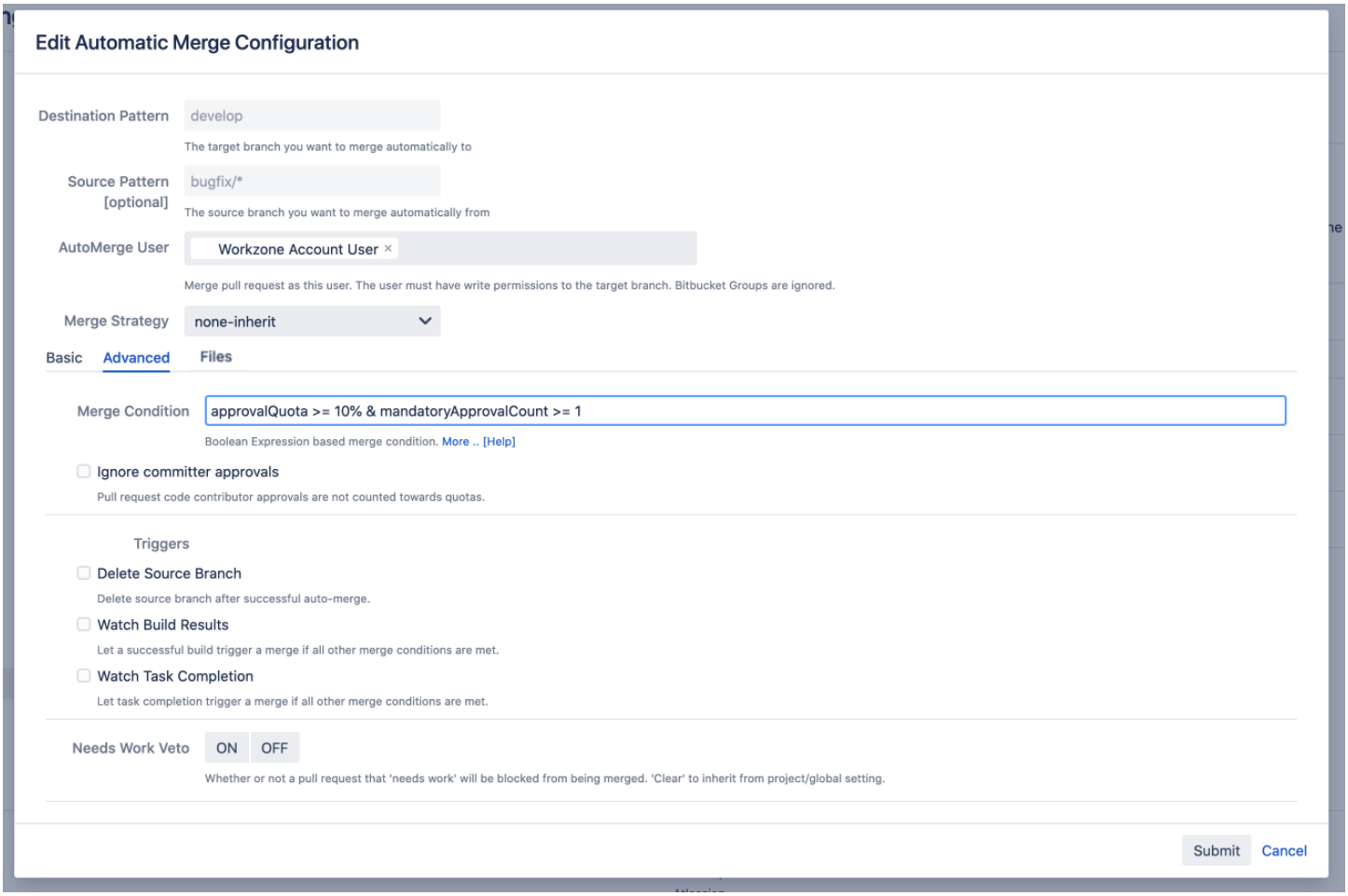
```
requiredBuildsCount > 1 & ( approvalQuota >= 50% | groupQuota >= 2 )
```

Workzone will merge a pull request if more than 50% of assigned reviewers have approved OR at least to members of each assigned reviewers group have approved AND there is a successful build result against *HEAD* of source branch.

The following terms can be used for creating complex boolean merge conditions:

- **approvalCount**: the absolute number of reviewer approvals required to merge the pull request. Ex: `approvalCount >= 2`
- **approvalQuota**: the percentage of approvals among all reviewers assigned to a pull request. Once that percentage is reached, Workzone attempts to merge the pull request automatically. Ex: `approvalQuota >= 51%`
- **mandatoryApprovalCount:** the absolute number of *mandatory* reviewer approvals required to merge the pull request. Ex `mandatoryApprovalCount >= 2`
- **groupQuota**: the number of members per reviewer group that have approved the pull request. Ex: `groupQuota > 2`. More fine-grained group quota can be achieved by naming the group. Ex: `groupQuota['dev-leads'] > 2`. Once the required number of group members have approved, Workzone attempts to merge the pull request automatically. Note that if a reviewer is a member of 2 groups and both groups are configured to be reviewers, their approval counts towards each group, a member of a group doesn’t have to approve twice.
- **requiredBuildsCount**: The number of consecutive successful builds from your Bitbucket – build server integration. If the ‘Watch build results’ box is checked, Workzone attempts to merge the pull request automatically on successful builds. Ex: `requiredBuildsCount > 0`

- **requiredSignaturesCount**: The number of digital signature approvals required. Workzone attempts to merge the pull request automatically, once the number of signatures equals or exceeds the condition. Ex: `requiredSignaturesCount >= 3`
- **filePathMergeChecksPass == true:** Use filePathMergeChecks == true in the Workzone Boolean Expression to evaluate file/path reviewer quota checks explicitly.



Advanced Merge Conditions with Specific Group Quota

Advanced Merge Conditions with groupQuota are an important part of Workzone’s merge-control features.

Let’s recap on advanced merge conditions:

A boolean expression describes the merge condition in a clear and concise way. Using tokens like

```
approvalQuota, groupQuota, requiredSignaturesCount, requiredBuildsCount
```

an advanced merge condition could be expressed like

```
requiredBuildsCount > 1 & ( approvalQuota >= 50% | groupQuota >= 1)
```

Merge if: more than 1 successful build and 50% or more of reviewers have approved OR more than 1 successful build and 2 or more members per reviewer-group have approved.

GroupQuota specifies a **general** amount of approvals that's applies to all reviewer groups (groups specified in Workzone's reviewer configuration).

Specific named groupQuota

Workzone now supports specifically named groupQuota where the target number of approvals can be bound to a specific group or set of groups. Given a group with name 'abba' above expression could now be written as

```
((groupQuota['abba'] > 2 & groupQuota > 1)|approvalQuota > 50%) & requiredBuildsCount > 1
```

Which translates to: Merge if –

more than 1 successful build and more than 50% of reviewers have approved OR more than 1 successful build and 2 or more members per reviewer-group **AND 3 or more members of group 'abba'** have approved. Note that group 'abba' still needs to be specified as a reviewer group.

GroupQuota still specifies a general amount of approvals required for **all** reviewer groups (including 'abba'). However groupQuota['abba'] specifies a higher target specifically for members of group 'abba', i.e. at least 3 or more members of 'abba' need to approve the pull request.

If merge conditions need to be elevated for multiple groups, the condition can be expressed with a set of groups like

```
groupQuota['abba','acdc'] > 2
```

Best practice is to specify a general groupQuota that is **lower** than a named groupQuota. Specific named groupQuota conditions should be used to elevate the required approvals for a specific group. All specified groups must be part of the Workzone reviewer group configuration

Required file and path reviewer approvals

The Workzone advanced merge condition expression can now incorporate a new condition called **filePathMergeChecksPass == true**. Use **filePathMergeChecks == true** in the Workzone Boolean Expression to evaluate file/path reviewer quota checks **explicitly**. This condition comes into play if the Workzone reviewer file/path configuration has also required approvals per file/path defined.

These required reviewer approvals are *implied* when Workzone evaluates the pull request merge condition. A Workzone merge condition like `approvalQuota >= 1% & requiredBuildsCount >= 1` would effectively read as `(approvalQuota >= 1% & requiredBuildsCount >= 1) & filePathMergeChecksPass == true`

Workzone enforces that all necessary file/path reviewer approvals must be satisfied on top of the given merge condition.

In order to include the file/path merge condition check in the merge condition's boolean expression include `filePathMergeChecksPass == true` into the advanced merge condition.

For example to bypass required file/path reviewer approvals with a digital signature approval use

```
(filePathMergeChecksPass == true & requiredBuildsCount >= 1) | requiredSignaturesCount >= 1
```



Try Workzone!