

Build-over-build New Feature Proposal

Build-over-build feature is designed to eliminate builds with bad coverage as compared to the last successful build. It calculates delta(Δ) coverage of the current build which is defined as the absolute difference between coverage of last successful build and current build.

$$\Delta \text{ coverage} = | \text{coverage of last successful build} - \text{coverage of current build} |$$

This feature allows Jenkin's user to configure delta threshold percentage for each type of coverage, similar to minimum-maximum threshold percentages. The user can choose to use or ignore build-over-build feature by checking or unchecking 'Build over build according the delta thresholds' flag.

Record JaCoCo coverage report

Path to exec files (e.g.: **/target/**.exec, **/jacoco.exec) Path to class directories (e.g.: **/target/classDir, **/classes) Path to source directories (e.g.: **/mySourceFiles)

target/coverage-reports/**.exec target/classes src/main/java

Inclusions (e.g.: **/*.class) Exclusions (e.g.: **/*Test*.class)

	Instruction	% Branch	% Complexity	% Line	% Method	% Class
<input type="checkbox"/>	30	0	25	25	25	25
<input type="checkbox"/>	0	0	0	0	0	0

Change build status according the thresholds

	Instruction	% Branch	% Complexity	% Line	% Method	% Class
<input type="checkbox"/>	50.55	0	45.4545	30.35	18.9909	1.90909

Build over build according the delta thresholds

Check this to set the build status to failure if the delta coverage thresholds are violated. Delta coverage is the difference between coverage of last successful and current build.

(from Jenkins JaCoCo plugin)

If the flag is set, Jenkin's will compare Δ coverage of current build with user-configured Δ threshold percentages. The result of the build depends on the following rules:

- Build is marked as SUCCESS if,
 - Δ coverage of current build $<$ Δ thresholds, OR
 - Δ coverage of current build $>$ Δ thresholds and current build's coverage is greater than last successful build's coverage
- Build is marked as FAILURE if,
 - Δ coverage of current build $>$ Δ thresholds and current build's coverage is lesser than last successful build's coverage

If both the flags, i.e. 'Change build status according the thresholds' and 'Build over build according the delta thresholds', are set, the result of the build is similar to logical AND operation of individual results.

- Build is marked as SUCCESS if,
 - both the results are SUCCESS
- Build is marked as UNSTABLE if,
 - Change build status has UNSTABLE result and build-over-build has SUCCESS
- Build is marked as FAILURE if,
 - both the results are FAILURE, OR
 - any one result is FAILURE