# Enabling Test Reports in ESTA Tekton

The pre-defined build pipelines in ESTA Tekton (since 0.20.0) now have support to generate browseable reports for test execution during builds. This however, needs to be enabled per repository and depending on the project type and setup also require some additional settings in the project's test-runner configuration.

## Enable testreport in estaTektonPipeline.json

The build pipeline block provides an additional set of properties:

**Pipeline config with testreports**

"pipelines": [

{

...

"build": {

"testreport": {

"enabled": true,

"artifactoryRepository": "esta-test.generic",

"resultsDir": "allure-report",

"reportQualifiers": ["${BRANCH\_LABEL}"],

"previousQualifiers": ["${BRANCH\_LABEL}", "master"]

}

}

}

...

]

In this example, test report creation is explicitly enabled with the "enabled": true flag. Reports are uploaded to a repository in Artifactory named "esta-test.generic".

The reports are generated from JUnit/Surefire XML files created during the test run in the pipeline's build step with the help of the [Allure Framework](https://docs.qameta.io/allure/) by Qameta. Use the "resultsDir" property to define where the XML files with test summaries are located after the build.

### Trend and history with qualifiers

Test reports are stored under a unique file name and linked in the pipeline details of the Tekton Control panel. With the list of "reportQualifiers" you can specify aliases for the generated report files. Use them to create static links to project reports like "latest" or "release". When adding a list of "previousQualifiers", previously generated reports are considered to build a trend and history timeline in each new report. The list of aliases is searched until an existing report was found.

With the above example, reports are also stored under the label of the current branch with a fallback to use the last report labelled as "master". On the first build of a branch, the last report from master is used to visualize the difference. All further builds of the same branch will compare to the previous reports of the particular branch showing improvement or regression.

## Artifactory repository for your reports

The generated test reports are saved to a Artifactory repository of type generic. By default a shared repository is used with a limited retention time configured. We therefore recommend to use your own repository and specify its name with the "artifactoryRepository" property.

1. Order a new repository (type Generic) via the [CLEW SSP](https://self.sbb-cloud.net/tools/artifactory)
2. Request to [allow content browsing](https://confluence.sbb.ch/display/CLEW/Browse+or+render+repository+content+with+artifactory) on this repository
3. Grant write access to the repository to the [Artifactory user](file:///C:\display\CLEW\Dedicated+Build+Namespaces) configured in ESTA Tekton

## Configure test reports in Maven projects

For most Maven-based projects, no specific configuration needs to be added except enabling the testreport feature in estaTektonPipeline.json. Just make sure the maven-surefire-plugin is included in your pom.xml:

**pom.xml**

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-surefire-plugin</artifactId>

<version>${maven-surefire-plugin.version}</version>

</plugin>

The default value for the "resultsDir" property is set to target/surefire-reports which is the default location for surefire reports.

## Configure test reports in NPM/Angular projects

For JavaScript/NPM projects, an according reporter need to be configured for the test runner used in the project. There are report generators available for Karma, Jasmine, Mocha and CucumberJS. See the [Karma documentation](https://docs.qameta.io/allure/#_javascript) for details.

This example shows the changes required for Angular projects using Karma:

**enable-allure-report.diff**

--- a/.gitignore

+++ b/.gitignore

@@ -41,6 +41,7 @@

yarn-error.log

testem.log

/typings

+/allure-report

# System Files

.DS\_Store

--- a/angular.json

+++ b/angular.json

@@ -123,7 +123,8 @@

"watch": false,

"reporters": [

"dots",

- "sonarqube"

+ "sonarqube",

+ "allure"

]

}

}

--- a/estaTektonPipeline.json

+++ b/estaTektonPipeline.json

@@ -20,6 +20,11 @@

"build": {

"sonarScan": {

"enabled": true

+ },

+ "testreport": {

+ "enabled": true,

+ "artifactoryRepository": "esta.generic",

+ "resultsDir": "allure-report"

}

}

},

--- a/karma.conf.js

+++ b/karma.conf.js

@@ -14,6 +14,7 @@ module.exports = function (config) {

require('karma-jasmine-html-reporter'),

require('karma-sonarqube-reporter'),

require('karma-coverage'),

+ require('karma-allure-reporter'),

require('@angular-devkit/build-angular/plugins/karma'),

],

client: {

@@ -45,7 +46,11 @@ module.exports = function (config) {

{ type: 'cobertura' },

],

},

- reporters: ['progress', 'kjhtml', 'sonarqube'],

+ allureReport: {

+ reportDir: 'allure-report',

+ useBrowserName: false,

+ },

+ reporters: ['progress', 'kjhtml', 'sonarqube', 'allure'],

port: 9876,

colors: true,

logLevel: config.LOG\_INFO,

--- a/package.json

+++ b/package.json

@@ -86,6 +86,7 @@

"husky": "8.0.3",

"jasmine-core": "5.0.1",

"karma": "6.4.2",

+ "karma-allure-reporter": "^1.4.6",

"karma-browserstack-launcher": "1.6.0",

"karma-chrome-launcher": "3.2.0",

"karma-coverage": "2.2.1",

## Configure test reports in Python/Poetry projects

Coming Soon.