

Unit Testing with JUnit Jupiter



Blog: blog.soebes.de
Twitter: @khmarbaise
Email: fosdem2020@soebes.de

Dipl.Ing.(FH) Karl Heinz Marbaise

About me...

- German Freelancer
- Working with Java, Docker, Jenkins, Spring Boot, Nexus, and a little bit of Go
- Apache Maven PMC
- Apache Software Foundation Member

REAL CODE I

Migration to JUnit Jupiter

- JUnit 4 and JUnit Jupiter can be combined in a single module via junit-jupiter-vintage dependency.
- TestNG and JUnit Jupiter can **NOT** being combined in a single module.

JUnit Jupiter

- Assertions for:
 - `assertThrows` for exceptions.
 - `assertAll(...)` grouped assertions.
 - `assertTrue(..)`, `assertFalse()`,
`assertEquals(..)`, `assertTimeout(..)`
 - etc.

<https://junit.org/junit5/docs/current/user-guide/#writing-tests-assertions>

JUnit Jupiter

- Assumptions:
 - `assumeTrue(..)`, `assumeFalse(..)`
 - `assumingThat(..)`
 - etc.

<https://junit.org/junit5/docs/current/user-guide/#writing-tests-assumptions>

REAL CODE II

Extensions: JUnit 4

- Extensions: two mechanisms existing:
 - Limitations in both of them.
 - Overlapping
- Rules:
 - Added in 4.7
 - Lightweight
 - Limited to before/after behavior.

<https://github.com/junit-team/junit4/wiki/Test-runners>

Extensions: TestNG

- Extension only possible (AFAIK) based on listeners, annotation transformers and method interceptors.

<https://testng.org/doc/documentation-main.html#annotationtransformers>

<https://testng.org/doc/documentation-main.html#methodinterceptors>

<https://testng.org/doc/documentation-main.html#testng-listeners>

<https://github.com/cbeust/testng/wiki/3rd-party-extensions>

Extensions: JUnit Jupiter

- JUnit Jupiter has extension points.
 - AfterAllCallback, AfterEachCallback, AfterTestExecutionCallback, BeforeAllCallback, BeforeEachCallback, BeforeTestExecutionCallback, ExecutionCondition, InvocationInterceptor, LifecycleMethodExecutionExceptionHandler, ParameterResolver, TestExecutionExceptionHandler, TestInstanceFactory, TestInstancePostProcessor, TestInstancePreDestroyCallback, TestTemplateInvocationContextProvider, TestWatcher

<https://junit.org/junit5/docs/current/user-guide/#extensions>

Links

- <https://junit.org/junit5/>
- <https://junit.org/junit5/docs/current/user-guide/>
- <https://testng.org/doc/documentation-main.html>
- <https://junit.org/junit4/>