Junit 5 and Mockito

**Introduction to Junit 5**

* The purpose of software tests
* Testing terminology
  + Code (or application) under test
  + Test fixture
  + Unit tests and unit testing
  + Integration tests
  + Performance tests
  + Behaviour vs. state testing
  + Testing frameworks for Java
  + Where should the test be located?
  + Which part of the software should be tested?

**Using Junit 5**

* Junit 5 architecture
* The JUnit framework
* How to define a test in JUnit?
* Example JUnit test
* JUnit naming conventions
* JUnit naming conventions for Maven
* Run your test from the command line
* Test execution order
* Defining test methods
* Assert statements
* JUnit test suites
* Disabling tests
* Parameterized test
* JUnit Rules
* Writing custom JUnit rules
* Categories
* Junit 5 Display Names
* Expecting exceptions
* Timeouts tests
* Grouped assertions
* Running the same test repeatedly on a data set (Repeated tests)

**Eclipse / STS support for Junit**

* Creating JUnit tests
* Running JUnit tests
* Extracting the failed tests and stacktraces
* JUnit static imports
* Wizard for creating test suites
* Testing exception
* JUnit Plug-in Test
* Code coverage using Eclemma plugin

**Mocking**

* Target and challenge of unit testing
* Mock object generation
* Using Mockito for mocking objects

**Using Mockito API with Junit 5**

* Creating mock objects
* Configuring mocks
* Wrapping Java objects with Spy
* Verify the calls on the mock objects
* Using @InjectMocks for dependency injection via Mockito