Day-4\_JUnit 2/18/22, 5:54 PM

# Testing

- 1. Unit Testing
  2. Integration Testing
  3. Component Testing
  4. Contract Testing
  5. End-End Testing
  6. Blackbox Testing
  7. Whitebox Testing
  8. Performance Testing
  9. Security Testing

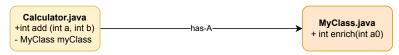
Three things for the Test:

- 1. Fixture (Precondition/Given)
- 2. What are we testing?3. What are the changes that took place?

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# **Unit Testing**

- 1. Sociable Unit Test
- Solitary Unit Test



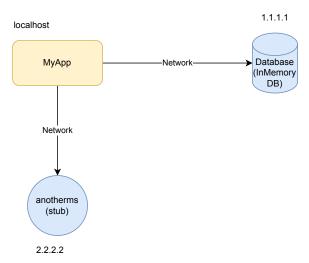
Class Under Test

CalculatorTest.java

# Unit Test Characteristics:

- 1. Automated
- 2. Repeatable
- 3. Fast
- 4. Easy to Run 5. Complete

# Integration Test



### Junit 5 Architecture

# Logical Separation of Concerns:

- 1. An API to write tests for developers
- A mechanism to discover and run tests
   An API to allow easy interaction with IDEs and tools and to run tests from them

### Three modules of Junit 5:

Junit Platform

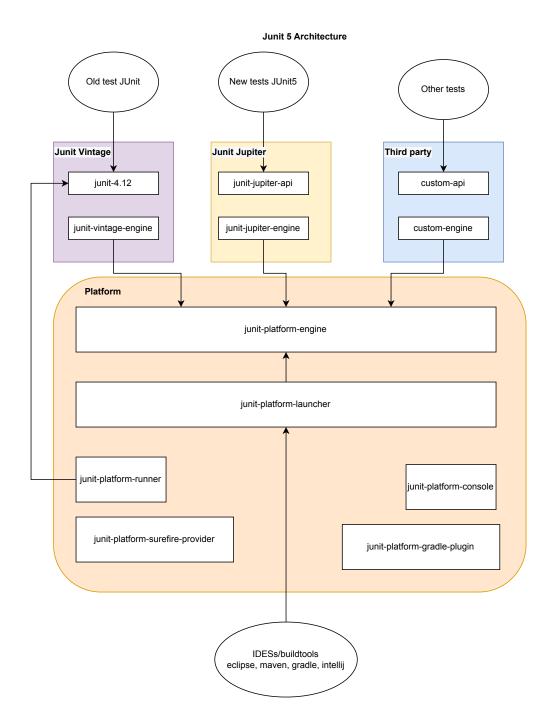
- junit-platform-commons junit-platform-console junit-platform-engine junit-platform-launcher junit-platform-surefire-provider junit-platfrom-gradle-plugin

Junit Jupiter

- junit-jupiter-api junit-jupiter-engine junit-jupiter-params junit-jupiter-migrationsupport

Junit Vintage (for Junit3/4)

- junit-vintage-engine



### **Test Double**

- Dummy: dummy object, not very important in the testing context, keeps the compiler happy
   Fake: Working Implementation (In-Memory Database, Fake Web Service)
   Stub: Ready-made(canned) answer to method calls (only what is required for a test)

- 4. Spy: Partial Mock.
  5. Mock: Tests the interaction with the object. May stub or return values. Focus is on verification without making an actual to the mocked class.