

Testing

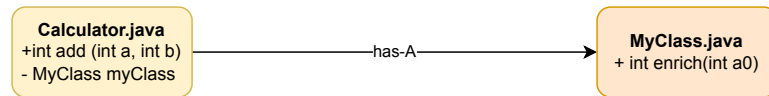
1. Unit Testing
2. Integration Testing
3. Component Testing
4. Contract Testing
5. End-End Testing
6. Blackbox Testing
7. Whitebox Testing
8. Performance Testing
9. Security Testing

Three things for the Test:

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

Unit Testing

1. Sociable Unit Test
2. Solitary Unit Test

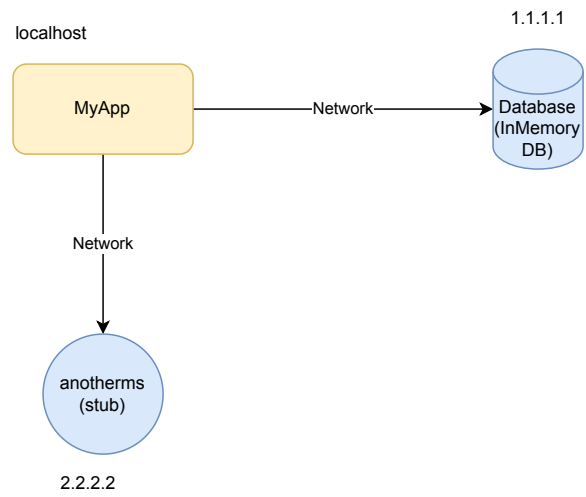


Class Under Test

CalculatorTest.java

Unit Test Characteristics:

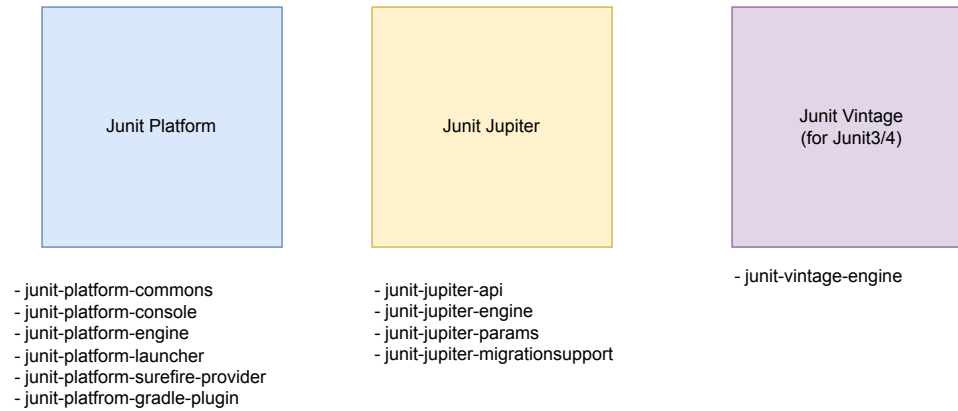
1. Automated
2. Repeatable
3. Fast
4. Easy to Run
5. Complete

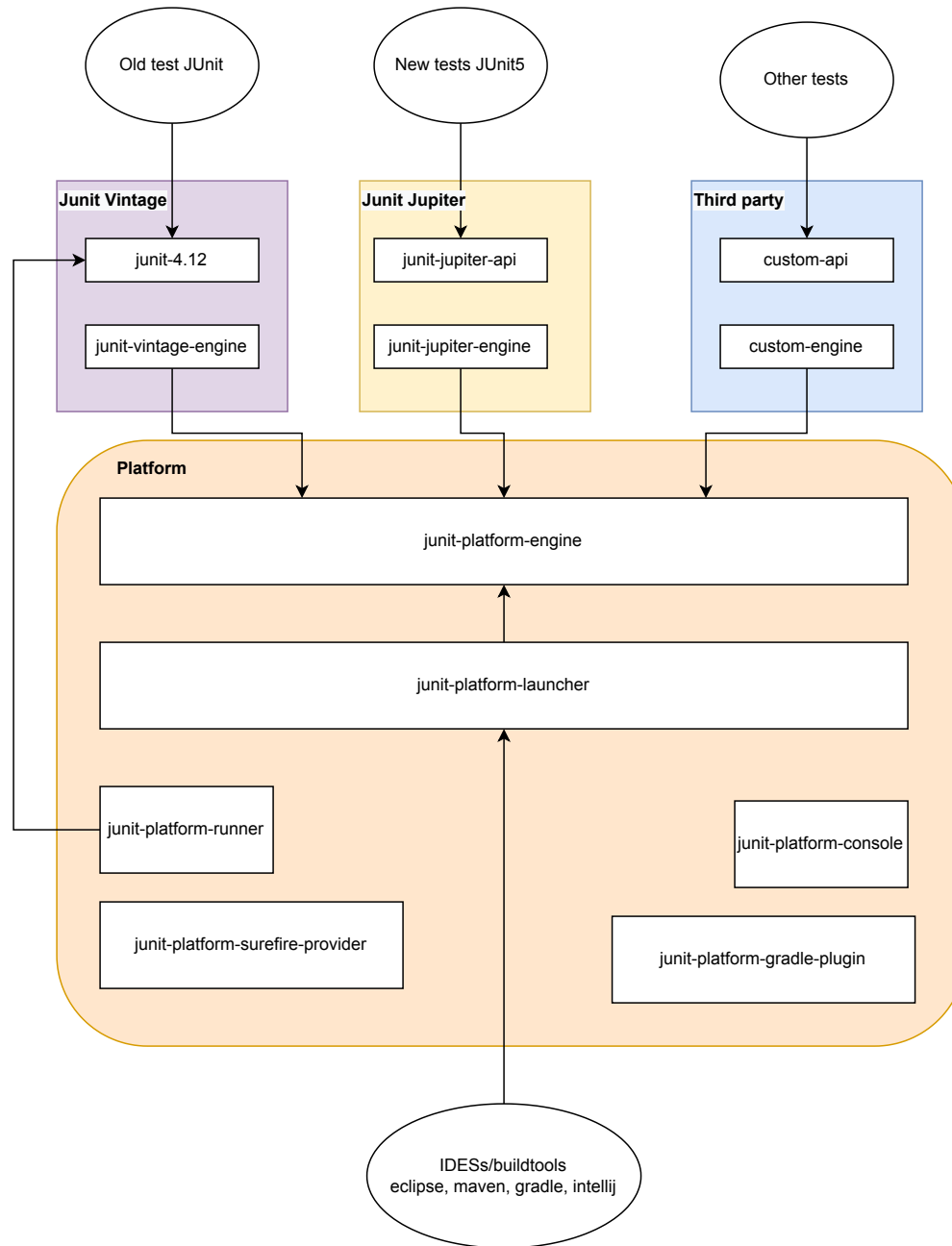
Integration Test

JUnit 5 Architecture

Logical Separation of Concerns:

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

Three modules of JUnit 5:

JUnit 5 Architecture

Test Double

1. Dummy: dummy object, not very important in the testing context, keeps the compiler happy
2. Fake: Working Implementation (In-Memory Database, Fake Web Service)
3. 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.

