

Diff

In the context of testing, "stub," "spy," and "mock" are terms used in mocking frameworks like Mockito to represent different types of test doubles, which are objects that replace dependencies of the component being tested. These terms describe the role and behavior of these test doubles:

1. ****Stub****:

- A stub is a simple implementation of an interface or class that provides canned responses to method calls during testing.
- Stubs are used to simulate the behavior of dependencies by providing predetermined responses that are configured before the test execution.
- Stubs do not record interactions with them, meaning they are not concerned with how they are used; they only provide predefined responses.
- Stubs are often used when testing methods that have dependencies, and you want to isolate the behavior of the method being tested from its dependencies.

2. ****Spy****:

- A spy is a type of test double that wraps a real object and allows you to intercept and record interactions with that object while still delegating calls to the real implementation.
- Spies are used to observe the behavior of real objects during testing, allowing you to verify how they are used and how they interact with other components.
- Spies maintain the real implementation of the object they wrap, so they can be used to test real behavior while still providing the ability to verify interactions and modify behavior if needed.
- Spies are often used when you want to test a real object but also need to verify or modify its behavior during the test.

3. ****Mock****:

- A mock is a type of test double that simulates the behavior of a real object, but with the ability to verify interactions with it.
- Mocks are used to replace dependencies of the component being tested and allow you to specify expected interactions with them.
- Mocks record method invocations and parameters passed to them during testing, allowing you to verify that the component being tested interacts with its dependencies as expected.
- Mocks can be configured to return specific values or throw exceptions in response to method calls, making them highly customizable for different test scenarios.
- Mocks are often used when you need to verify that certain methods are called with specific parameters or in a specific order during testing.

In summary:

- Stubs provide canned responses and do not record interactions.

- Spies delegate calls to a real object and allow you to observe its behavior.
- Mocks simulate the behavior of dependencies and allow you to verify interactions with them.