

Kotest and his friends

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Who am I

- Developer Advocate
- Love testing
- Love learning new things
- ❤️ Kotlin

What I'm talking about

- Plenty of instruments for testing
- Java has rich ecosystem
- "Proven over years" technologies

What Kotlin brought into the JVM world

- DSL
- Extension methods
- Functions as 1st class citizens

And plenty of libraries!

A dark, atmospheric photograph of a forest. In the foreground, a path leads into the woods. The background is filled with tall, thin trees, their trunks creating vertical lines against a dark sky. The overall mood is mysterious and somber.

But why?

Current test structure

Like *this*

```
class MyVeryImportantTest {  
    @Test  
    void feature_should_work_somewhow(){ /*snip*/ }  
    @Test  
    void feature_should_work_somewhow2(){ /*snip*/ }  
    @Test  
    void feature_should_work_somewhow3(){ /*snip*/ }  
    // much moar is coming!  
}
```

A large tortoise with a textured, brownish-yellow shell is shown from a low angle, carrying the Earth on its back. The Earth is depicted with continents and oceans. An African elephant stands on the tortoise's shell, facing left. In the background, there is a bright sun on the left and a small, distant planet on the right. The overall scene is a reference to the Discworld book series.

Welcome to the Discworld!

By Sir Terence David John Pratchett

We wanna nice things!

```
passwordService {  
    shouldHash {  
        length { /* snip */ }  
        salt { /* snip */ }  
    }  
    shouldCheck {  
        validPasswords()  
        invalidPasswords()  
    }  
}
```

Parametrized tests. *TestNG*

```
@DataProvider(name = "test1")
public static Object[][] primeNumbers() {
    return new Object[][] { {2, true}, {6, false},
        {19, true}, {22, false}, {23, true}};
}

@Test(dataProvider = "test1")
void testPrimeNumberChecker(Integer inputNumber,
    Boolean expectedResult){ /* snip */}
```

Parametrized tests. *JUnit 5*

```
static Stream<Arguments> stringIntAndListProvider() {
    return Stream.of(
        arguments("apple", 1, Arrays.asList("a", "b")),
        arguments("lemon", 2, Arrays.asList("x", "y"))
    );
}

@ParameterizedTest
@MethodSource("stringIntAndListProvider")
void testWithMultiArgMethodSource(String str,
    int num, List<String> list) {/* snip */}
```

Still to noisy

- Annotations
- Arrays.asList (*Looks better in newer Java*)
- Strings where we will make mistakes
- Separate methods

Tests should be easy to read





Sir can you spare a
minute

To talk about enterprise security?

Sage of
enterprise security

We need to store passwords. How?

- Plain
- MD5(plain)
- MD5(plain+salt)
- MD5(md5(plain)+salt)

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Rapid!

200 GH/s @ 8x Nvidia GTX 1080 Founders Edition with *Hashcat*

What should we do now??

Cry

Or use bcrypt/scrypt

Hash starts with `$2a$10`

`$2a` – bcrypt version

`$10` – number of salting rounds

The are **very** slow (100/1000 per second)

kotest

It's demo time!

What should we remember

kotest solves problems od

- Structure
- Parametrized testing
- Property-based testing

Thank you! Time for Q&A!

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