

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 forest scene with tall trees and a path.

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 elephant stands on a massive, textured planet, possibly a world from the Discworld series. The planet has continents and oceans, and a small moon is visible in the background. The title text is overlaid on the left side of the image.

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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