

The Truth – Abschlusspräsentation

13. Februar 2020

Andreas Hellmich, Annika Knepper

Friedrich-Alexander-Universität Erlangen-Nürnberg



Lehrstuhl für Verteilte Systeme
und Betriebssysteme



FRIEDRICH-ALEXANDER
UNIVERSITÄT
ERLANGEN-NÜRNBERG

TECHNISCHE FAKULTÄT

The Truth - Reflection



- XMPP Messenger
- Goal: usable messenger

```

knepp@jabber.de 09:43:28 != | Reconnection in 41seconds
09:43:25 != | Reconnection in 2 seconds
09:43:26 != | Reconnection in 1 seconds
09:43:27 != | Reconnection in 0 seconds
09:43:27 != | Reconnection in 0 seconds
09:43:27 | Connection to server jabber.de on port 5222 succeeded
106
Mar 03, 2020 9:43:32 AM org.jivesoftware.smack.AbstractXMPPConnection callConnectionClosedOnErrorListener
WARNING: Connection XMPPTCPConnect
ion[not-authenticated] (0) closed with error
java.lang.IllegalArgumentException: Empty key
at java.base/java.lang.Thread.run(Thread.java:834)
Spec.java:95)
at org.jivesoftware.smack.util.MAC.hmacsha1(MAC.java:49)
at org.jivesoftware.smack.sasl.core.SCRAMSHA1Mechanism$1.hmac(SCRAMSHA1Mechan
ism.java:36)
at org.jivesoftware.smack.sasl.core.ScramMechanism.hmac(ScramMechanism.java:367)
at org.jivesoftware.smack.sasl.core.ScramMechanism.hi
(ScramMechanism.java:397)
at org.jivesoftware.smack.sasl.core.ScramMechanism.evaluateChallenge(ScramMechanism.java:182)
at org.jivesoftware.smack.sas
l.SASLMechanism.challengeReceived(SASLMechanism.java:231)
at org.jivesoftware.smack.SASLAuthentication.challengeReceived(SASLAuthentication.java:253)
a
t org.jivesoftware.smack.SASLAuthentication.challengeReceived(SASLAuthentication.java:237)
at org.jivesoftware.smack.tcp.XMPPTCPConnection$PacketReader.
parsePackets(XMPPTCPConnection.java:1100)
at org.jivesoftware.smack.tcp.XMPPTCPConnection$PacketReader.access$300(XMPPTCPConnection.java:993)
at or
g.jivesoftware.smack.tcp.XMPPTCPConnection$PacketReader$1.run(XMPPTCPConnection.java:1009)
at java.base/java.lang.Thread.run(Thread.java:834)
09:43:32 != | Failed reconnection attempt
09:43:32 != | Connection closed on error(class java.lang.IllegalArgumentException): Empty key
09:43:33 != | Reconnection in 12 seconds
09:43:34 != | Reconnection in 11 seconds
09:43:35 != | Reconnection in 10 seconds
09:43:36 != | Reconnection in 9 seconds
09:43:37 != | Reconnection in 8 seconds
09:43:38 != | Reconnection in 7 seconds
09:43:39 != | Reconnection in 6 seconds
09:43:40 != | Reconnection in 5 seconds
09:43:41 != | Reconnection in 4 seconds
09:43:42 != | Reconnection in 3 seconds
09:43:43 != | Reconnection in 2 seconds
09:43:44 != | Reconnection in 1 seconds
09:43:45 != | Reconnection in 0 seconds
09:43:45 != | Reconnection in 0 seconds
09:43:46 | Connection to server jabber.de on port 5222 succeeded
37

```

Before

```
1. weechat
2. TheTruth Log
3. annik@jabber.de
4. ahellmich@jabber.de
5. TheTruth - PASST
6. TestGroup
7. knepp@jabber.de 2
8. annik@jabber.de 2

Chat: annik@jabber.de (From: ahellmich@jabber.de)
-- Di, 10 Mär 2020 --
10:39:50 annik | Tattoo
10:46:35 annik | Meh
10:47:00 me | test
10:47:08 annik | Testtoo
14:04:38 me | hallo
14:04:50 me | hallo
14:05:22 annik | Hallo ??????
-- Do, 12 Mär 2020 (Di, 10 Mär 2020) --

x annik@jabber.de
x flo@geekplace.eu
x knepp@jabber.de
x noctux@jabber.ccc.de

10:07 8 thetruth 8 annik@jabber.de 2 4 H: 2 8 1 18 3 10
```

After

Timetable

- ✓ Configuration:

- 1 day ✓ 1 day

- ✓ Start (and close) 1:1 chats and MUC

- ~~3 days~~ 1 day

- ✓ Test cases

- ~~2 days~~ 6+ days

- ✓ Use `java.util.logging` instead of `printf`, forward to weechat output

- ~~3 days~~ 1 day

Additional Tasks

- initiate chat with roster entry 1 day
- MUC autojoin via bookmarks 1 day
- Roster item management 1 day
- MAM for 1:1 chats 1 day
- Roster in 1:1 chats 1 day
- Bookmark item management 1 day

Expected Difficulties

- Polyglot programming
 - Relatively elegant, apart from tests
- Prioritizing some features
 - Timing prioritized for easier implementation of features

Unexpected Difficulties

Tests

- Flavours & class stubs
- Singleton & class stubs
 - Good for weechat, not for smack
- Classloader
- Javassist
- Mocking
- Powermocking



Become a member Sign in Get started

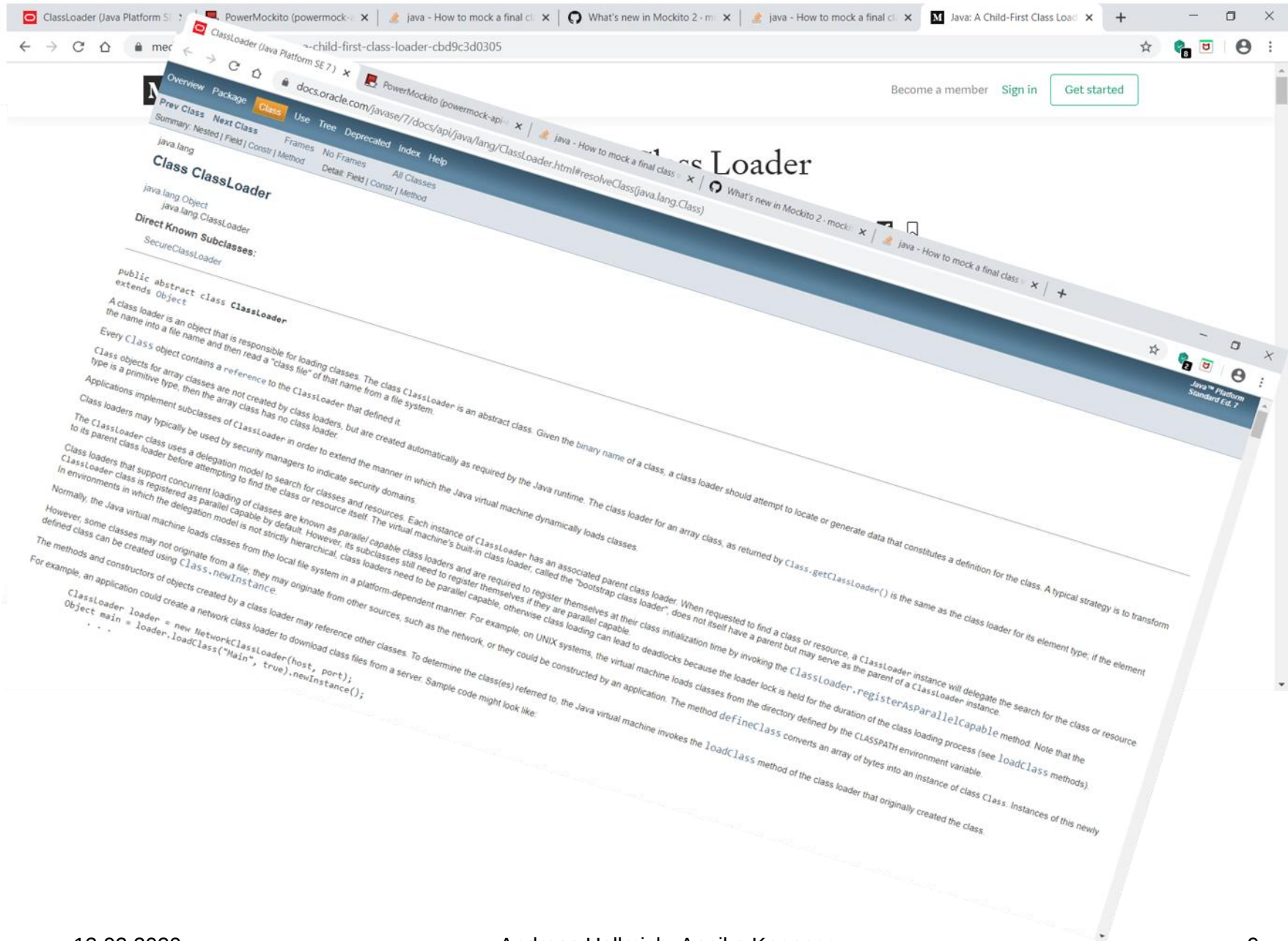
Java: A Child-First Class Loader

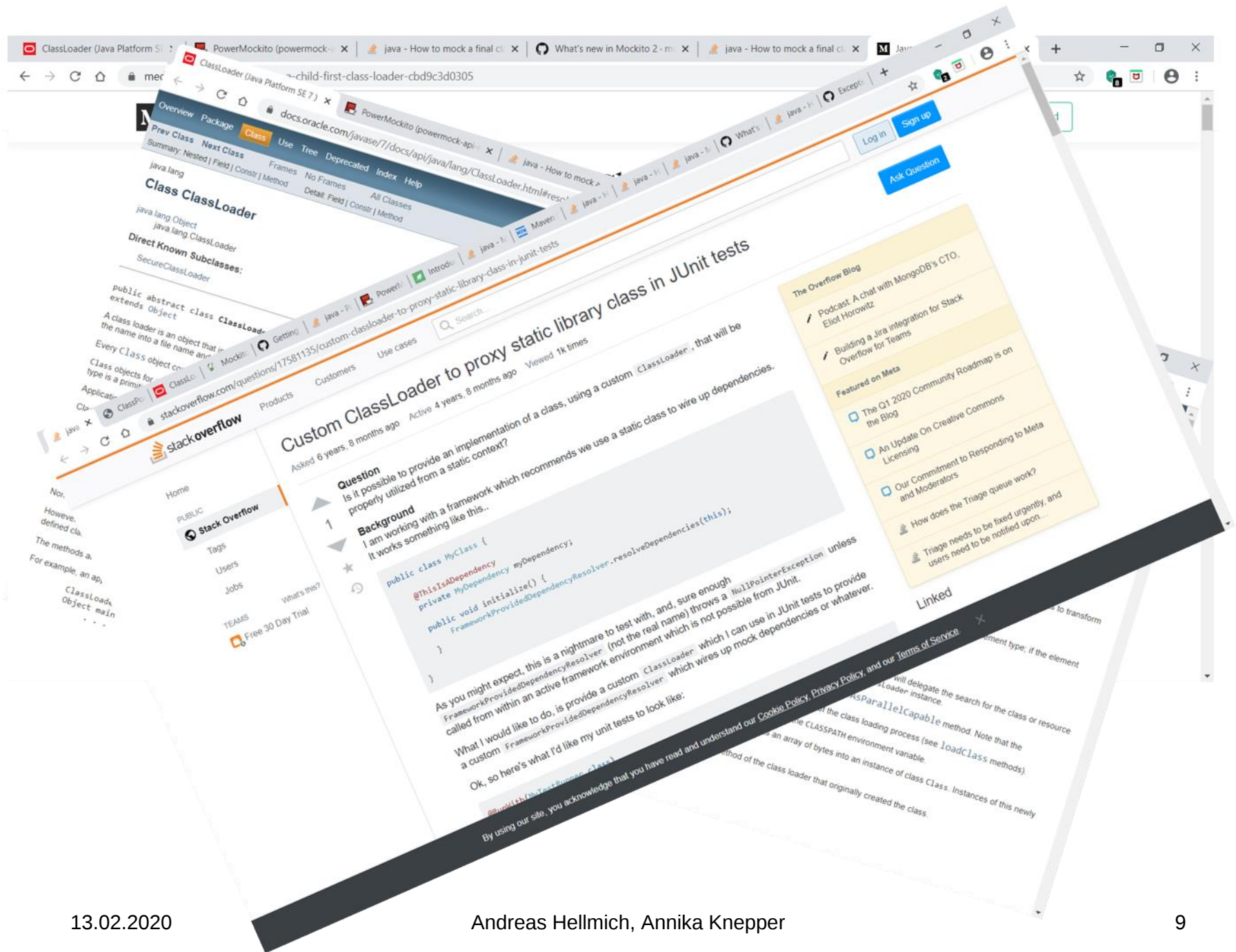


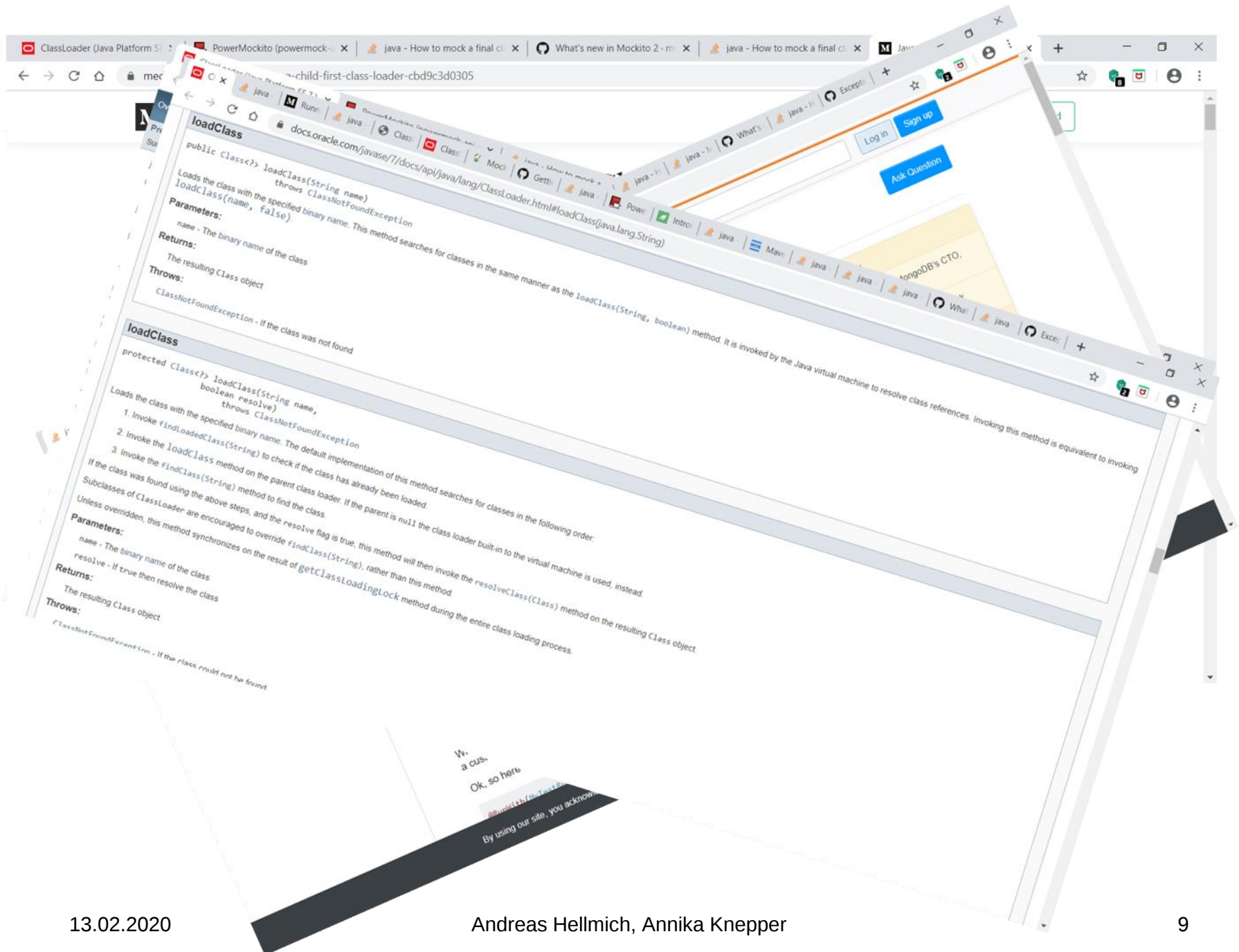
Isuru Weerathna Follow
Nov 8, 2018 · 13 min read



"photography of excavators at mining area" by [Dominik Vanyi](#) on [Unsplash](#)







ClassLoader (Java Platform S... PowerMockito (powermock-... java - How to mock a final cl... What's new in Mockito 2... java - How to mock a final cl... M Java...

child-first-class-loader-cbd9c3d0305

docs.oracle.com/javase/7/docs/api/java/lang/Class.html

stackoverflow.com/questions/42102/using-different-classloaders-for-different-junit-tests

stackoverflow Products Customers Use cases Search... Log in Sign up

Home PUBLIC Stack Overflow Tags Users Jobs TEAMS What's this? Free 30 Day Trial

Using different classloaders for different JUnit tests?

Asked 11 years, 6 months ago Active 4 years, 3 months ago Viewed 20k times

28

I have a Singleton/Factory object that I'd like to write a JUnit test for. The Factory method decides which implementing class to instantiate based upon a classname in a properties file on the classpath. If no properties file is found, or the properties file does not contain the classname key, then the class will instantiate a default implementing class.

Since the factory keeps a static instance of the Singleton to use once it has been instantiated, to be able to test the "failover" logic in the Factory method I would need to run each test method in a different classloader.

Is there any way with JUnit (or with another unit testing package) to do this?

edit: here is some of the Factory code that is in use:

```
private static MyClass myClassImpl = instantiateMyClass();

private static MyClass instantiateMyClass() {
    MyClass newMyClass = null;
    String className = null;

    try {
        Properties props = getProperties();
        className = props.getProperty(PROPERTY_CLASSNAME_KEY);

        if (className == null) {
            log.warn("instantiateMyClass: Property [" + PROPERTY_CLASSNAME_KEY
                + "] not found in properties, using default MyClass class [" + DEFAULT
                + "]");
            className = DEFAULT_CLASSNAME;
        }

        Class MyClassClass = Class.forName(className);
    } catch (ClassNotFoundException e) {
        log.error("ClassNotFoundException: " + className);
    }
}
```

The Overflow Blog

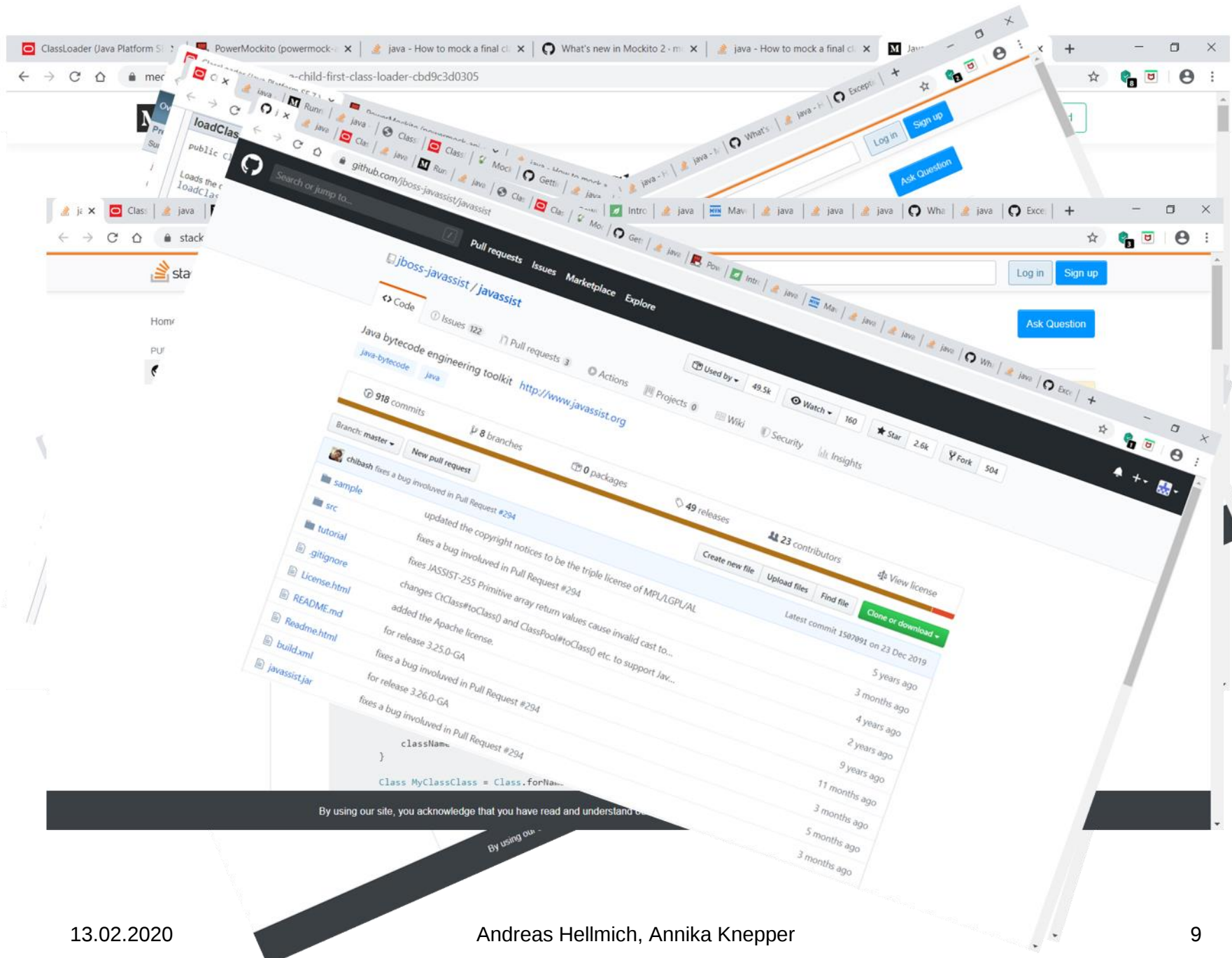
- Podcast: A chat with MongoDB's CTO, Eliot Horowitz
- Building a Jira integration for Stack Overflow for Teams

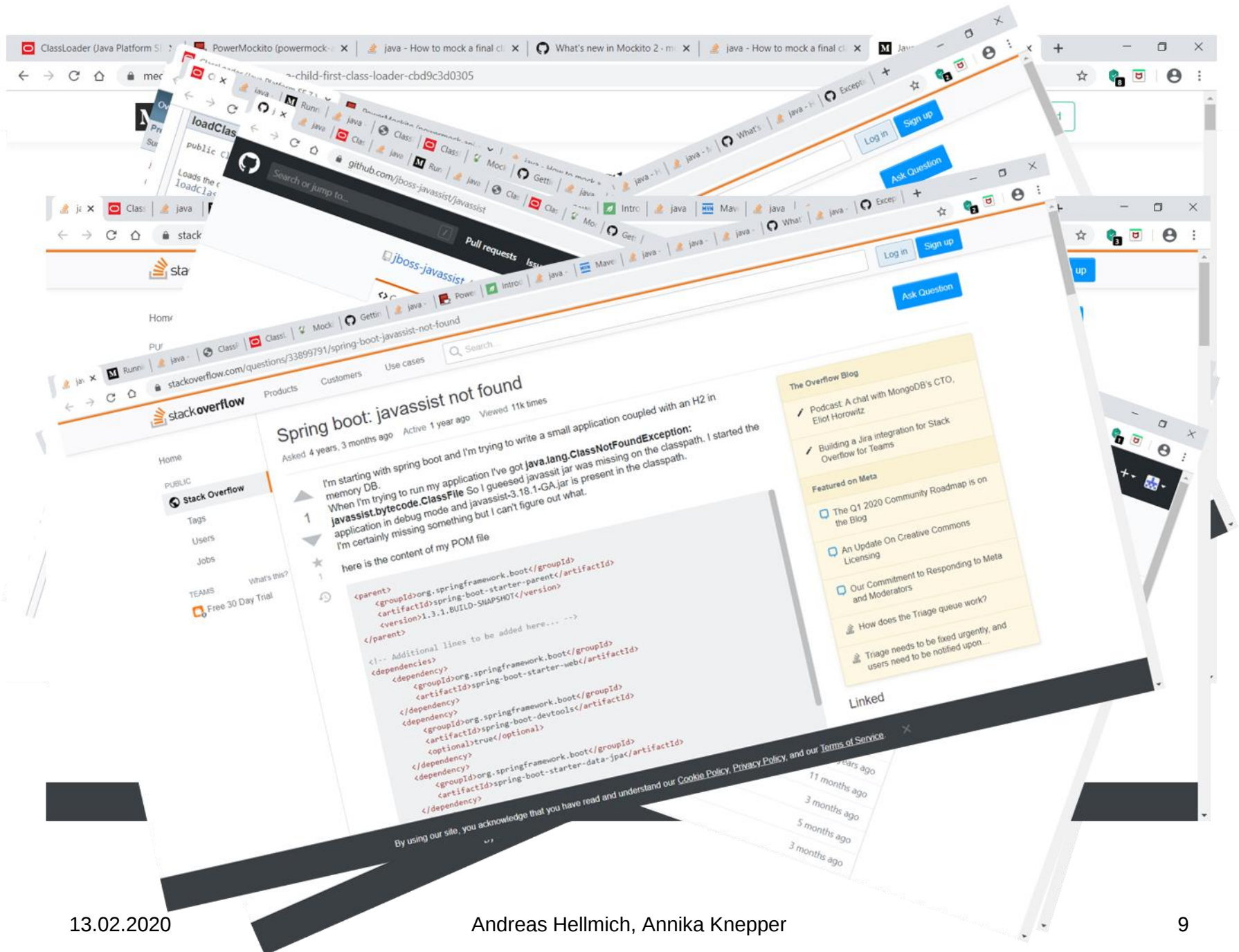
Featured on Meta

- The Q1 2020 Community Roadmap is on the Blog
- An Update On Creative Commons Licensing
- Our Commitment to Responding to Meta and Moderators
- How does the Triage queue work?
- Triage needs to be fixed urgently, and users need to be notified upon...

Linked

By using our site, you acknowledge that you have read and understand our [Cookie Policy](#), [Privacy Policy](#), and our [Terms of Service](#).





Tasty mocking framework for unit tests in Java



build **passing** coverage **88%** license **MIT**

Download **3.3.2** maven-central **v3.3.0**

Project status

Please see the [release notes page](#).

Updates are announced via [Twitter](#) [Follow @mockitojava](#) and [mailing list](#) .

Mockito downloads and instructions for setting up Maven, Gradle and other build systems are available from the [Central Repository](#) and [Bintray](#).

The documentation for all versions is available on [javadoc.io](#) (the site is updated within 24 hours of the latest release).

Still on Mockito 1.x? See [what's new in Mockito 2!](#) Mockito 3.x requires Java 8, but otherwise doesn't introduce any breaking changes compared to the 2.x series.

[\(why above ad?\)](#)

Contributions welcome

Fancy getting world-wide visibility and building up an eternal fame of an OSS contributor?

- Use the [latest version!](#) Hack and experiment.
- Speak up at the [mailing list](#).
- Report issues and suggest ideas on the [GitHub issue tracker](#).
- Help the [project site](#) look decent and match the quality of the library!
- [Contribute](#) a pull request! It is automatically released via state-of-art [continuous delivery automation](#).

Tasty mocking framework for unit tests in Java



Mockito. Verify method arguments

Asked 9 years, 6 months ago Active 5 months ago Viewed 242k times

I've googled about this, but didn't find anything relevant. I've got something like this;

```
Object obj = getObject();
Mockable mock= Mockito.mock(Mockable.class);
Mockito.when(mock.mymethod(obj)).thenReturn(null);

Testable testableObj = new Testable();
testableObj.setMockable(mock);
command.runtestmethod();
```

Now, I want to verify that `mymethod(Object o)`, which is called inside `runtestmethod()`, was called with the Object `o`, not any other. But I always pass the test, whatever I put on the verification, for example, with;

```
Mockito.verify(mock.mymethod(Mockito.eq(obj)));
```

or

```
Mockito.verify(mock.mymethod(Mockito.eq(null)));
```

or

```
Mockito.verify(mock.mymethod(Mockito.eq("something_else")));
```

I always pass the test. How can I accomplish that verification (if possible)?

By using our site, you acknowledge that you have read and understand our [Cookie Policy](#), [Privacy Policy](#), and our [Terms of Service](#).

Contribute a public answer

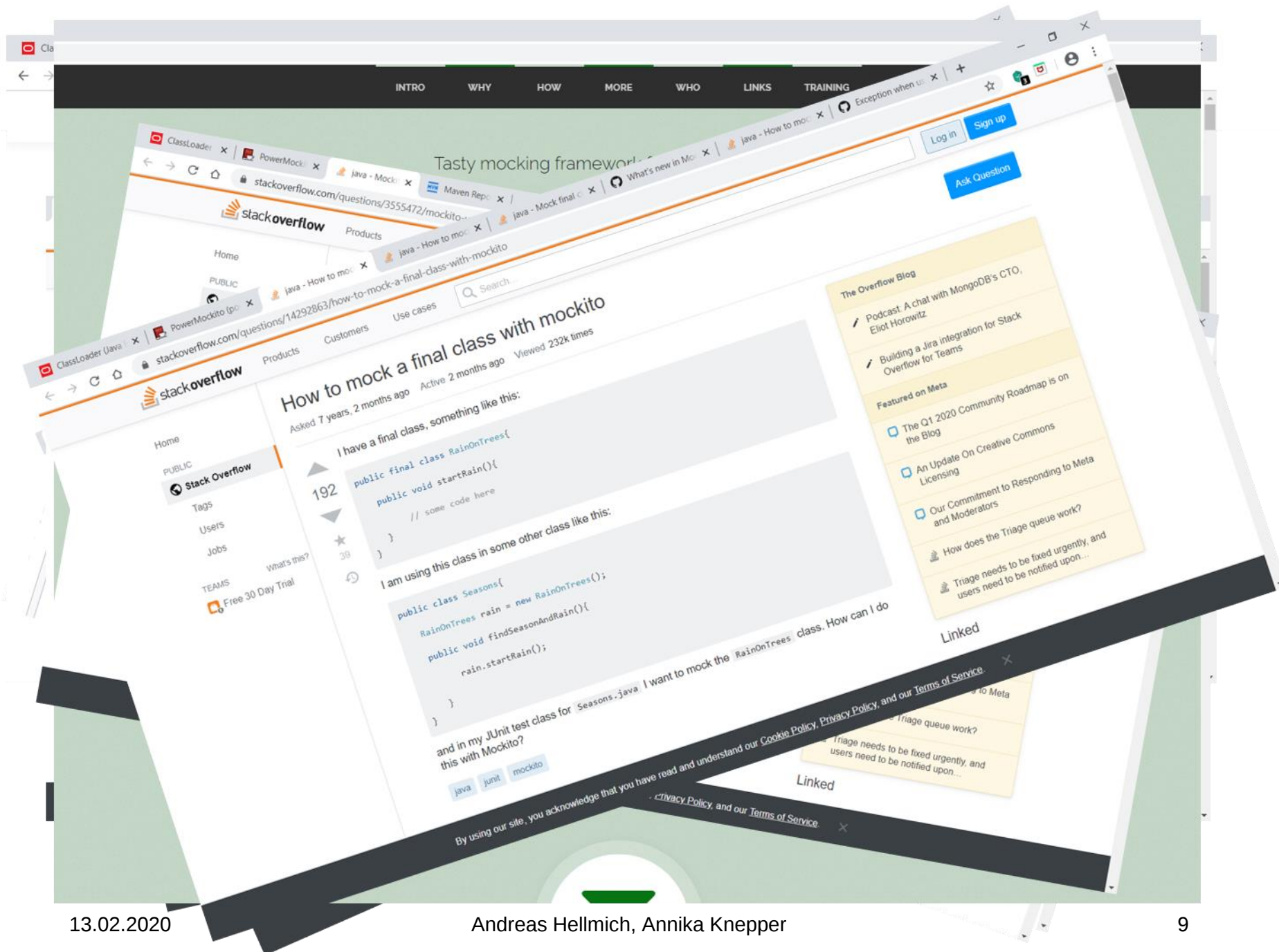
The Overflow Blog

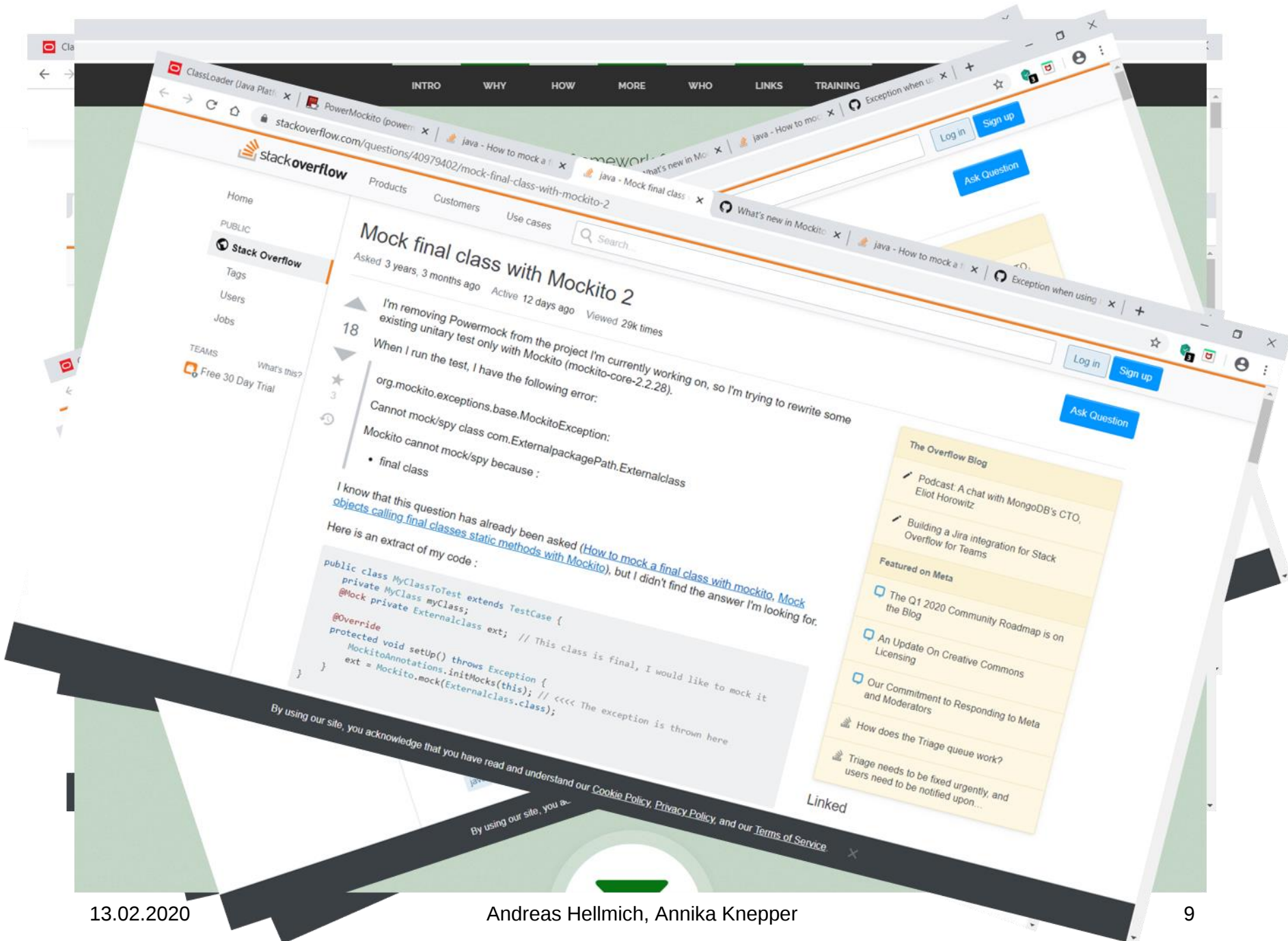
- Podcast: A chat with MongoDB's CTO, Eliot Horowitz
- Building a Jira integration for Stack Overflow for Teams

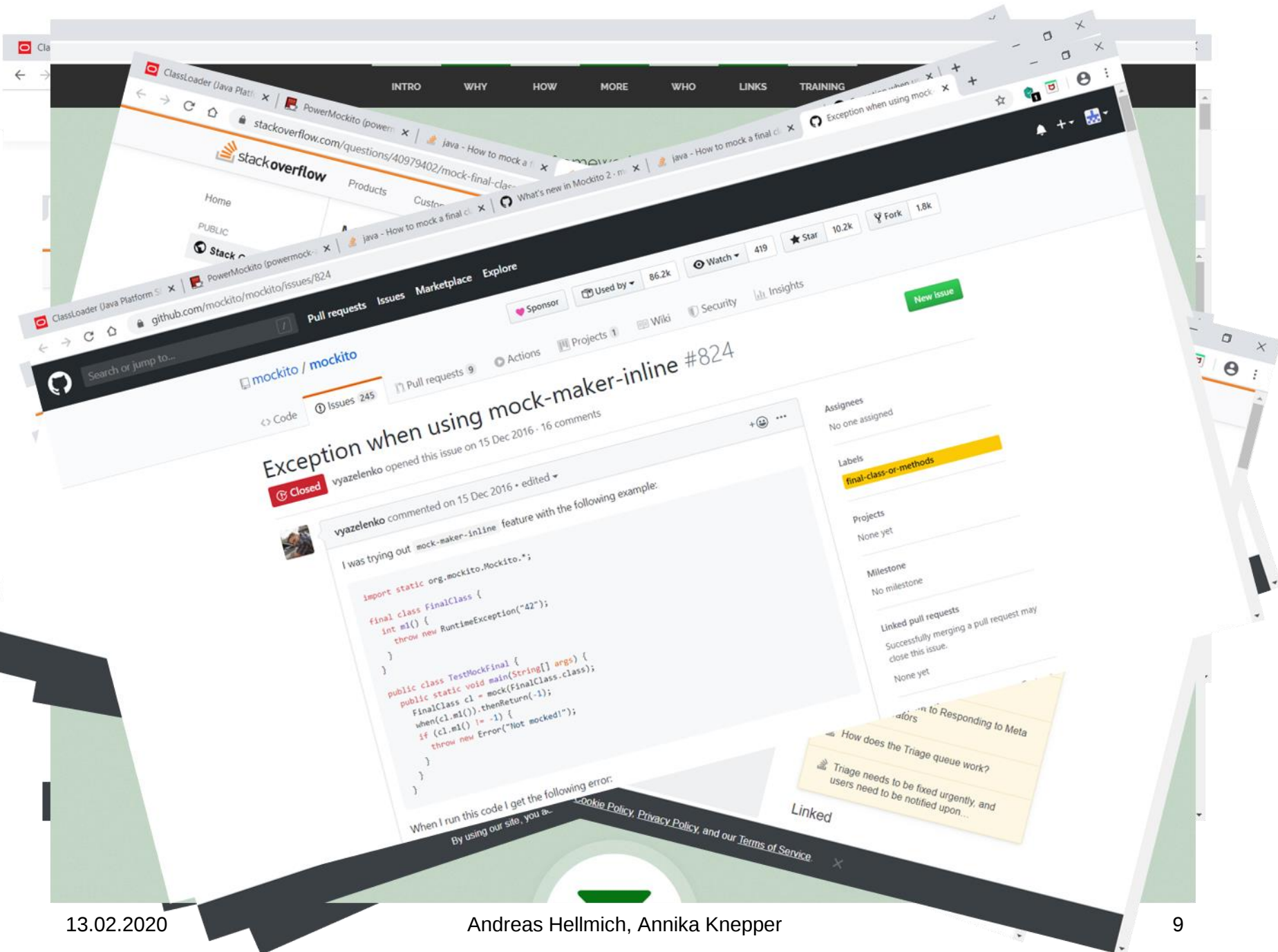
Featured on Meta

- The Q1 2020 Community Roadmap is on the Blog
- An Update On Creative Commons Licensing
- Our Commitment to Responding to Meta and Moderators
- How does the Triage queue work?
- Triage needs to be fixed urgently, and users need to be notified upon...

Linked







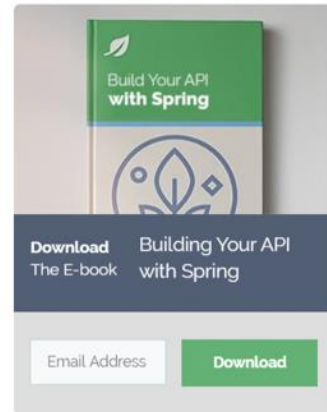
Introduction to PowerMock

Last modified: February 12, 2020

by [baeldung](#)

Testing

Mockito



I just announced the new *Learn Spring* course, focused on the fundamentals of Spring 5 and Spring Boot 2:

[» CHECK OUT THE COURSE](#)

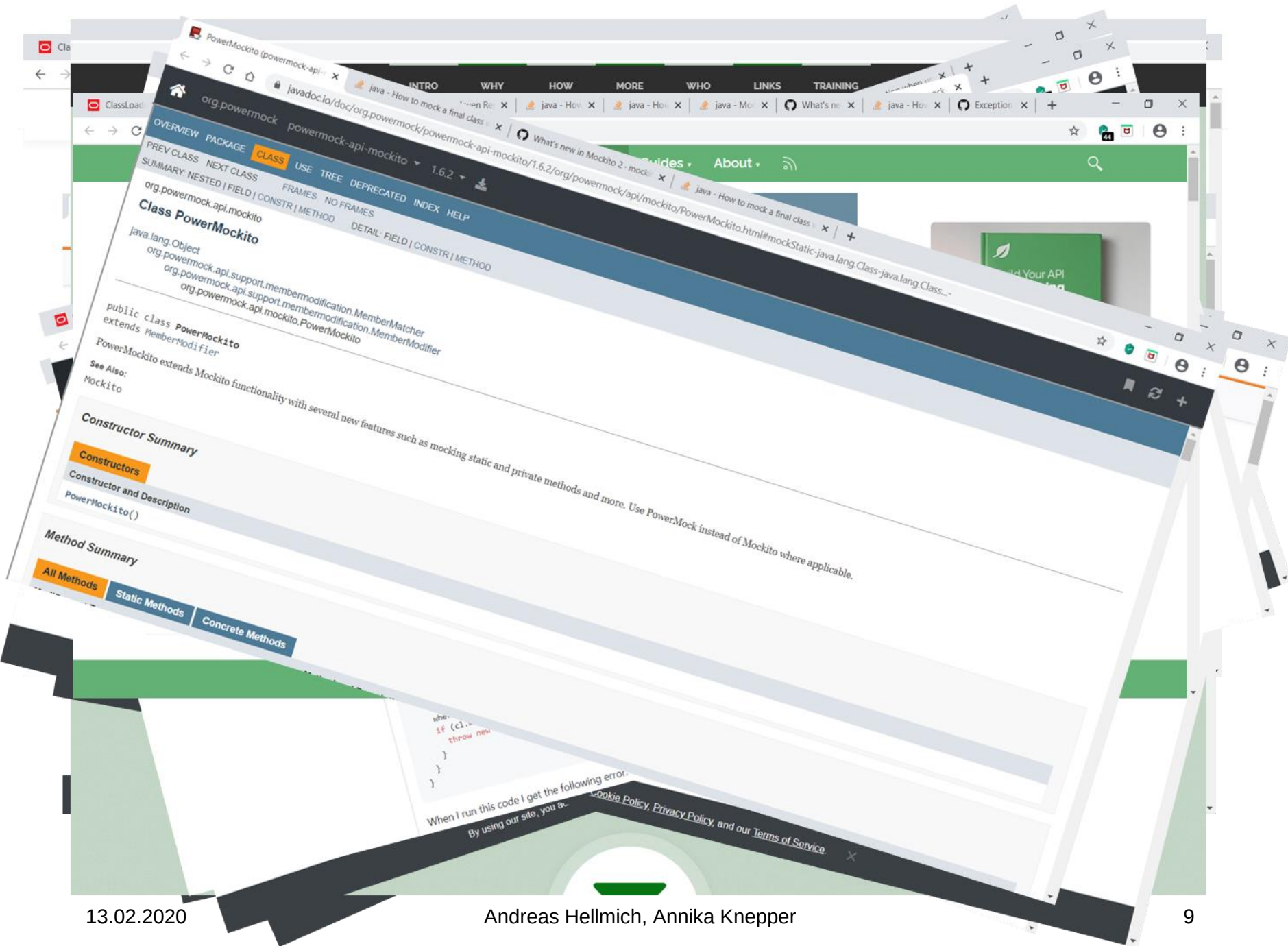
We use cookies to improve your experience with the site. To find out more, you can read the full [Privacy and Cookie Policy](#)

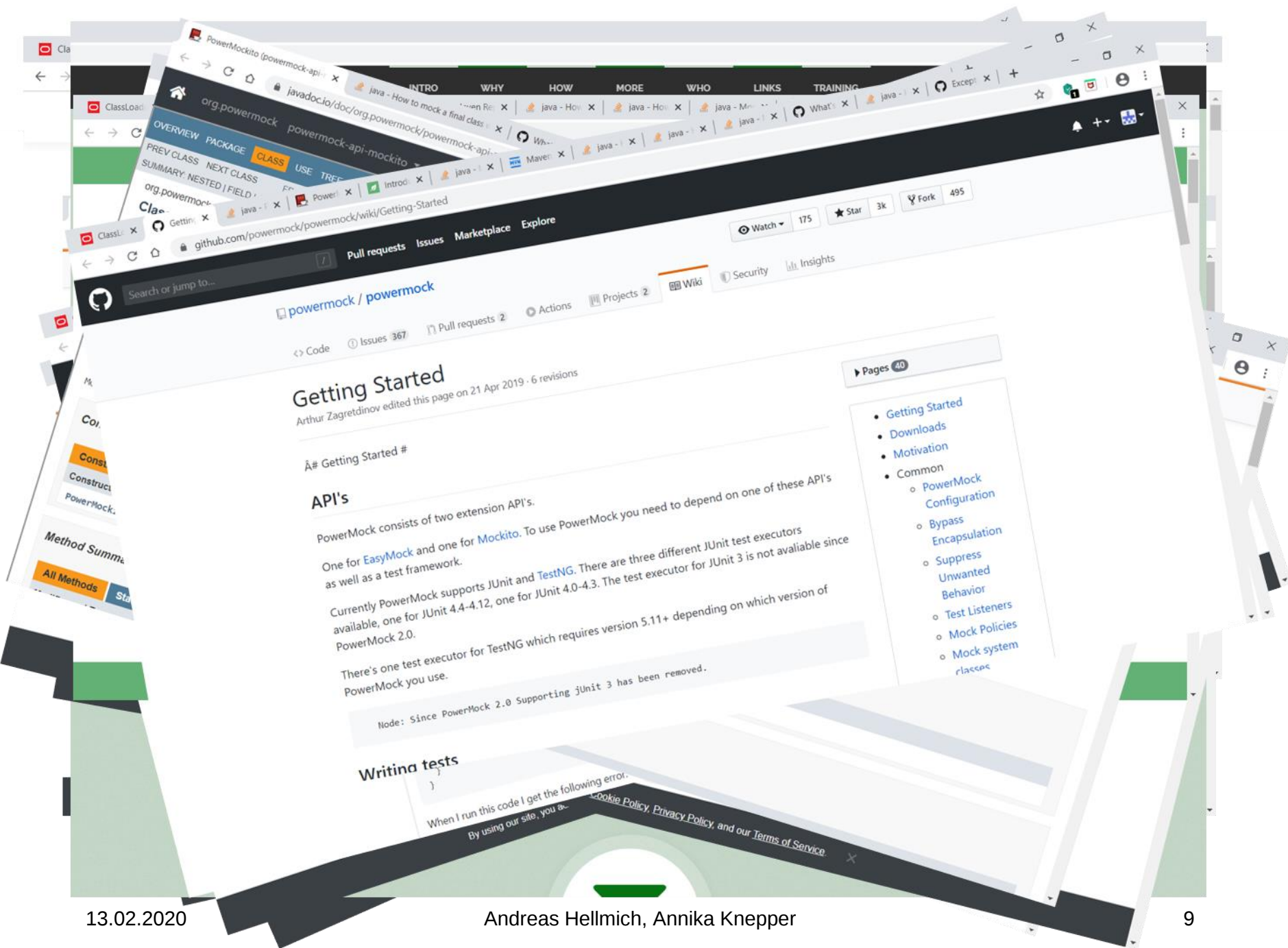
OK

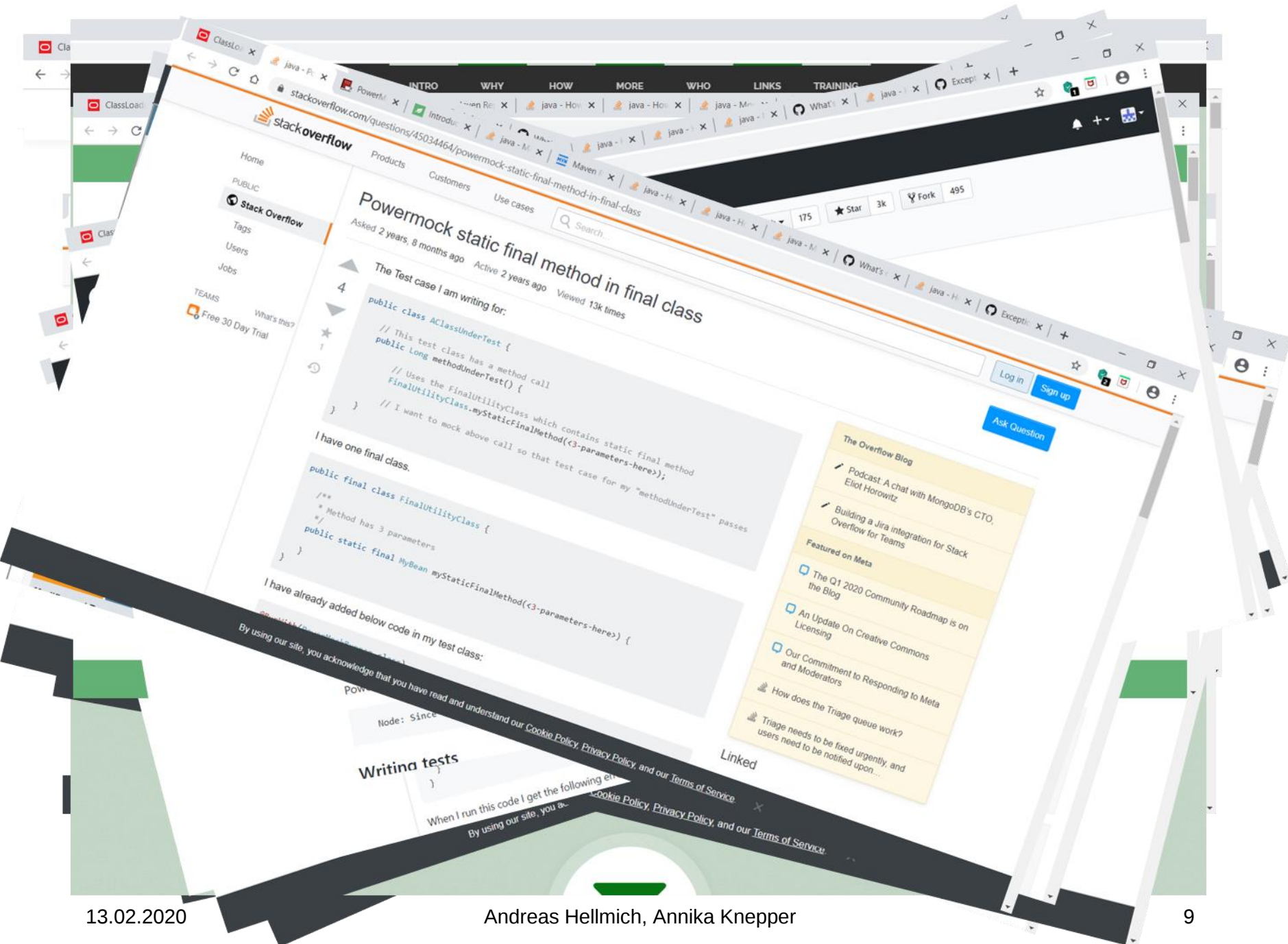
When I run this code I get the following error:
By using our site, you agree to our [Cookie Policy](#), [Privacy Policy](#), and our [Terms of Service](#)

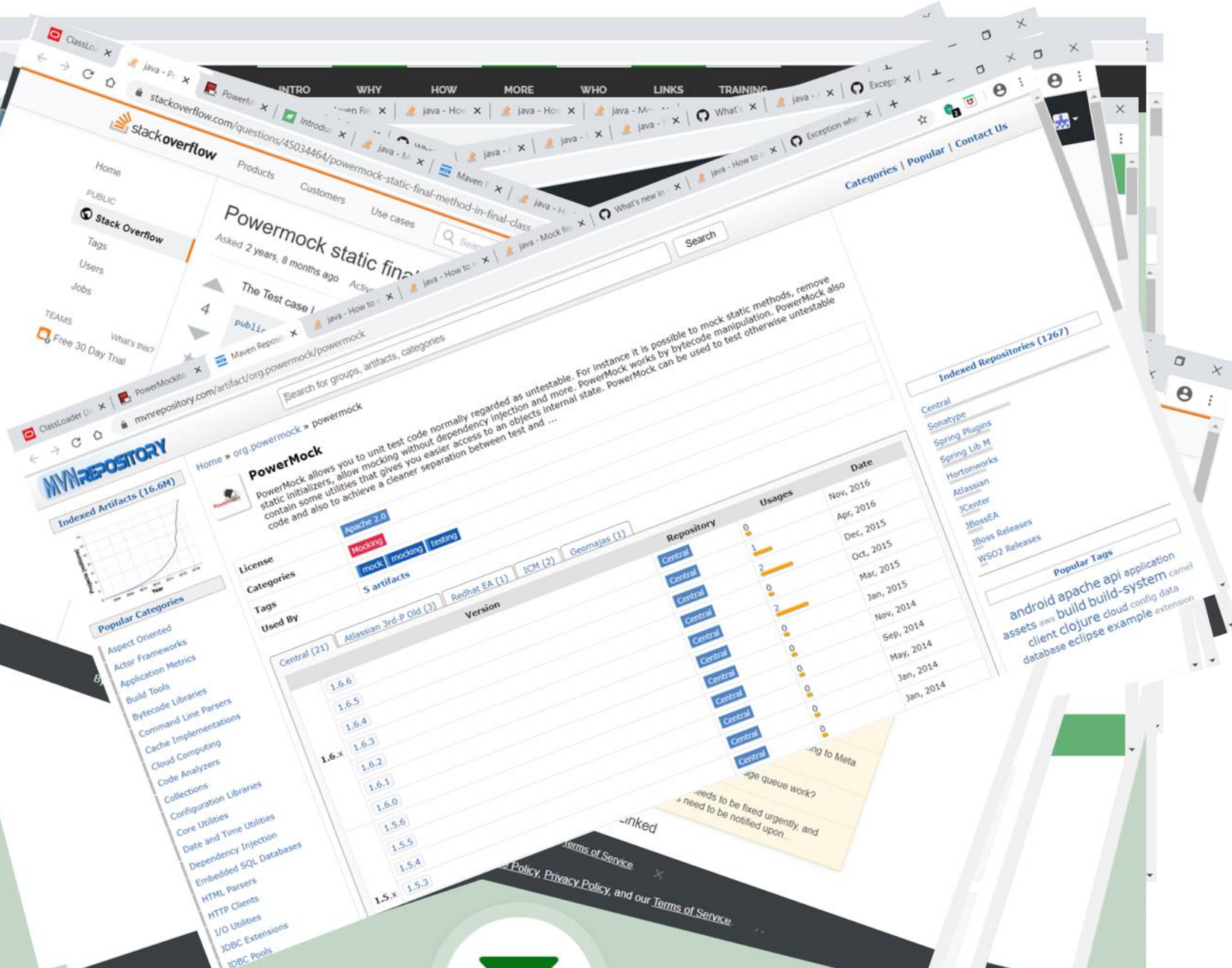
Linked

How does the Triage queue work?
Triage needs to be fixed urgently, and users need to be notified upon...









Incompatible changes with 1.10

We tried to minimize the amount of incompatible changes. In order to evolve the library, provide better testing experience, clean up old deprecated code, given the [huge adoption of Java 8](#) and open up for brand new exciting features we need to release a new major version. Incompatible changes like the new `anyX()` matcher behaviour or detection of unused stubs should actually help with writing cleaner tests!

- Mockito 2 now requires Java 6 as a minimum.
- Mockito does not produce the `mockito-all` artifact anymore; this one was primarily aimed at ant users, and contained other dependencies. We felt it was time to move on and remove such artifacts as they cause problems in dependency management system like maven or gradle.
- The `Mockito` class does not inherit from `Matchers` class anymore. Instead `Mockito` and `Matchers` classes both inherit from `ArgumentMatchers`. Also `Matchers` is now deprecated.
- `Matchers.argThat` method family had a direct dependency on hamcrest, in order to allow matchers to work without Hamcrest we had to move these API to `MockitoHamcrest`.

Change these

```
Matchers.argThat()  
Matchers.charThat()  
// similar hamcrest method
```

to

```
MockitoHamcrest.argThat()  
MockitoHamcrest.charThat()  
// similar hamcrest method
```

```
Collection  
Configuration  
Core Utilities  
Date and Time Utilities  
Dependency Injection  
Embedded SQL Databases  
HTML Parsers  
HTTP Clients  
I/O Utilities  
JDBC Extensions  
JDBC Pools
```

1.5.x
1.5.3

stackoverflow.com/questions/14292863/how-to-mock-a-final-class-with-mockito/40018295#40018295

stackoverflow

Products

Customers

Use cases

Search...

Log in

Sign up

Home

PUBLIC

Stack Overflow

Tags

Users

Jobs

TEAMS What's this?

Free 30 Day Trial

– micseydel Oct '22 '19 at 17:17

add a comment

188

Mockito 2 now supports final classes and methods!

But for now that's an "incubating" feature. It requires some steps to activate it which are described in [What's New in Mockito 2](#):

Mocking of final classes and methods is an **incubating**, opt-in feature. It uses a combination of Java agent instrumentation and subclassing in order to enable mockability of these types. As this works differently to our current mechanism and this one has different limitations and as we want to gather experience and user feedback, this feature had to be explicitly activated to be available; it can be done via the mockito extension mechanism by creating the file

`src/test/resources/mockito-extensions/org.mockito.plugins.MockMaker` containing a single line:

```
mock-maker-inline
```

After you created this file, Mockito will automatically use this new engine and one can do :

```
final class FinalClass {
    final String finalMethod() { return "something"; }
}

FinalClass concrete = new FinalClass();

FinalClass mock = mock(FinalClass.class);
given(mock.finalMethod()).willReturn("not anymore");

assertThat(mock.finalMethod()).isNotEqualTo(concrete.finalMethod());
```

In subsequent milestones, the team will bring a programmatic way of using this feature. We will

281 Injecting Mockito mocks into a Spring bean

309 Mockito : how to verify method was called on an object created within a method?

336 Mockito: Trying to spy on method is calling the original method

379 Use Mockito to mock some methods but not others

355 Mocking static methods with Mockito

Hot Network Questions

Cashless visit to the USA?

Why is it not recommended to run a .exe file directly from a .zip file?

Basic function to convert Country name to ISO code using Pycountry

Mosquito season in Swedish Lapland

How much did IBM save by limiting the PC to 4.77 MHz?

Georgian letters

Why speak in Latin in 2020?

Why is cp's option not to overwrite files called --no-clobber?

Is changing pitch enough for anonymizing a person's voice?

Diablo III Cross-platform partnering

How to initialize C++17 vector of pairs with optional element

By using our site, you acknowledge that you have read and understand our [Cookie Policy](#), [Privacy Policy](#), and our [Terms of Service](#).

Fragen?