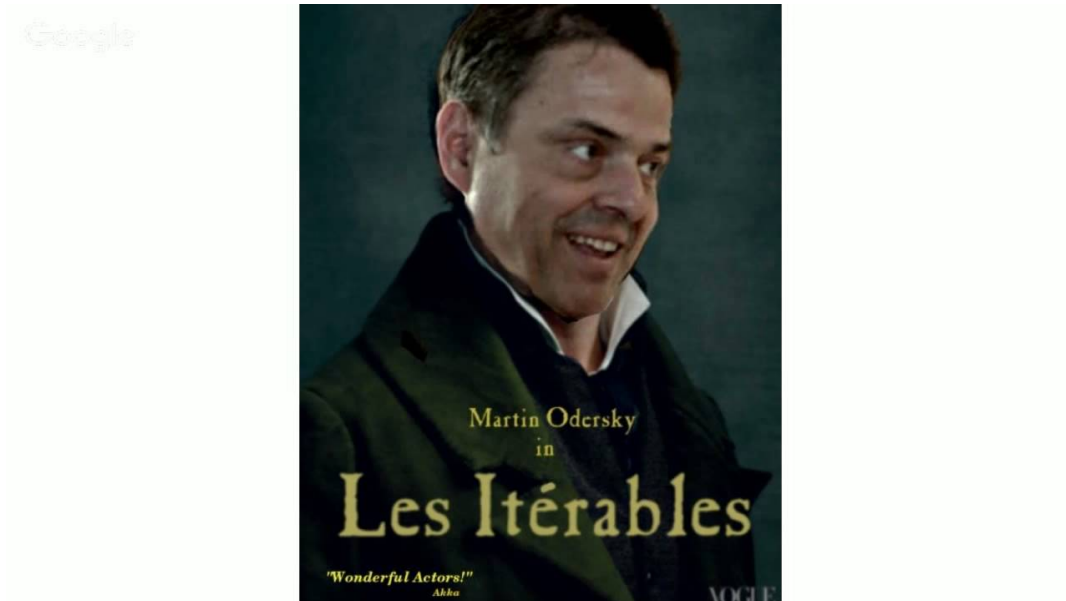


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# Flavors of Java Concurrency



Writing concurrent code that is also correct is unbelievably hard. Naturally, humanity has developed a number of approaches to handle concurrency in the code, starting from basic threads that follow the hardware way to do concurrency to higher level primitives like fibers and work-stealing solutions. But which approach is the best for you?



<http://virtualjug.com/?p=1827>



# Resilience is by design



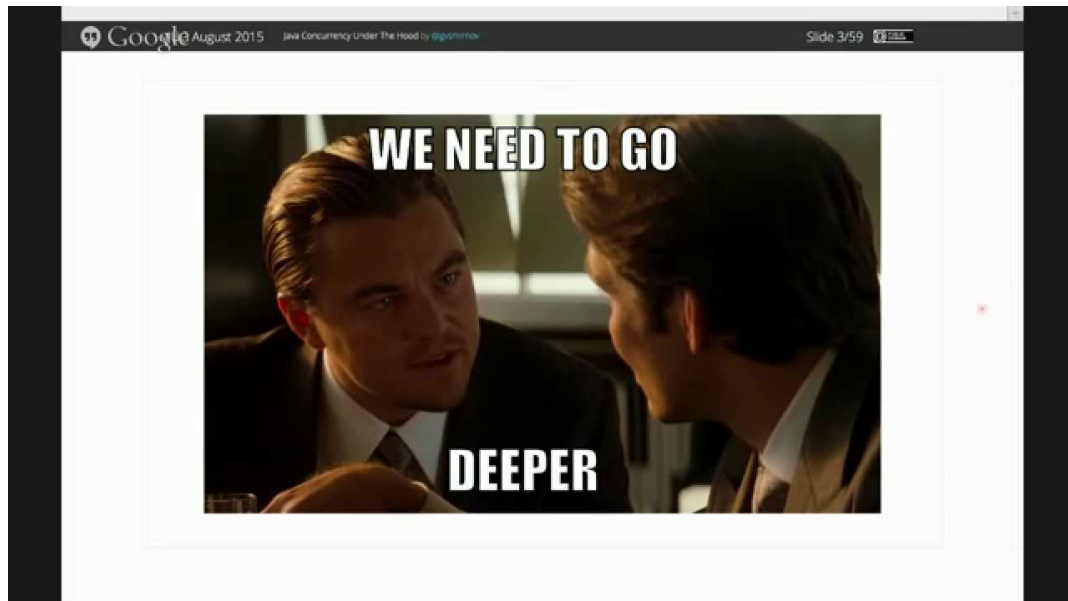
Resilience; most developers understand what the word means, at least superficially, but way too many lack a deeper understanding of what it really means in the context of the system that they are working on now. I find it really sad to see, since understanding and managing failure is more important today than ever. Outages are incredibly costly—for many definitions of cost—and can sometimes take down whole businesses. In this talk we will explore the essence of resilience. What does it really mean? What is its mechanics and characterizing traits? How do other sciences and industries manage it? We will see that everything hints at the same conclusion; there is no “happy path”, failure is an option and resilience is by design. In this talk we will explore how.



<http://virtualjug.com/?p=1807>



# Java Concurrency Under the Hood



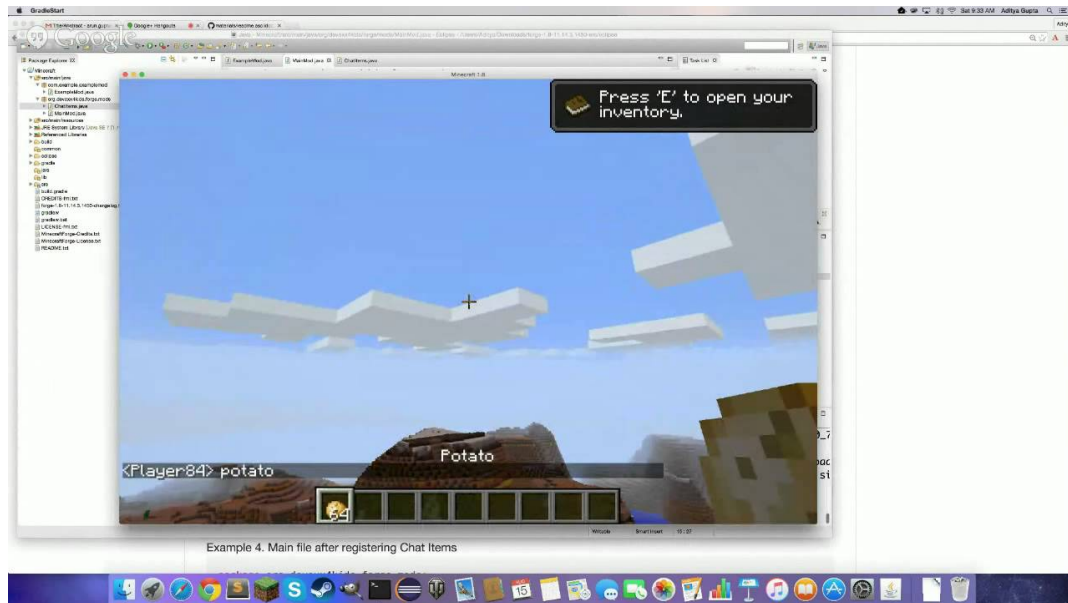
In this age when parallelism matters, being able to write proper concurrent code is paramount. While Java hides lots of implementation details by its 'Write Once, Run Anywhere' motto, all abstractions will eventually leak. When they do, you will have to go deeper and see how that thing actually works.



<http://virtualjug.com/?p=1799>



# Getting Started with Minecraft Modding



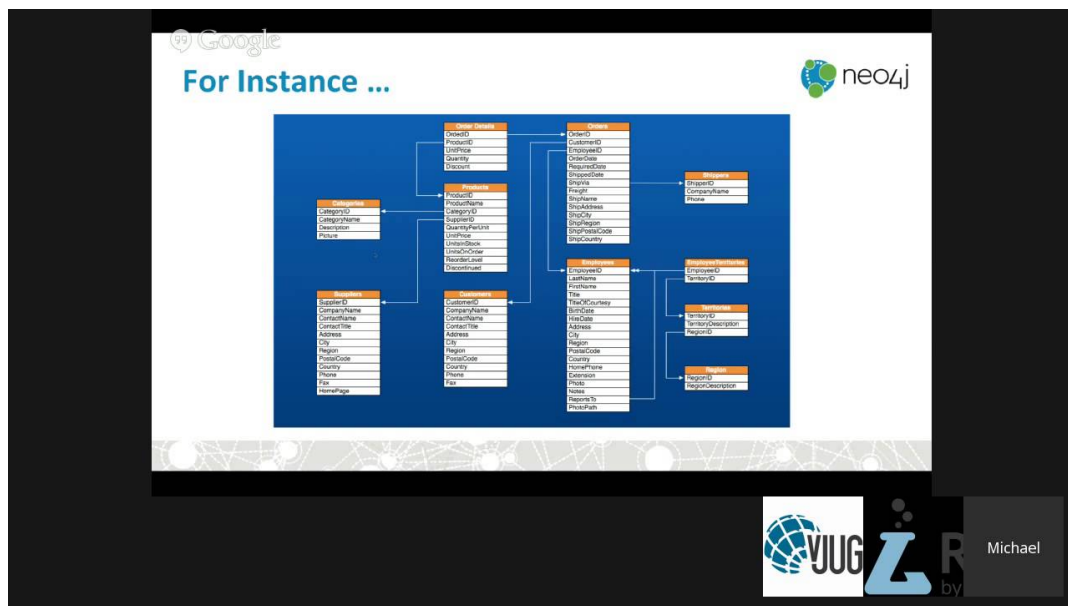
In this session, we'll show parents and kids how to get started building Minecraft mods with Minecraft Forge. We'll show you how to setup your computer with little fuss, as well as walk you through the process of creating your first mod. You'll also learn essential Java programming skills. If you're a kid searching for new ways to have fun with the game, or a parent looking to nurture your kids' creativity through code, you won't want to miss this exciting, hands-on tutorial.



<http://virtualjug.com/?p=1794>



# Value in Relationships – How Graphs make databases fun again



Looking at the world around us – society, social, science, economy and tech we can't see any isolated pieces of information. Instead everything is densely connected and a lot of the valuable information lives in the relationships between your entities. In the past and present databases always had a hard time to manage highly connected and semi-structured information in an efficient manner.



<http://virtualjug.com/?p=1745>



## So why would I use a distributed database like Apache Cassandra?



A new “database” seems to appear every other week. Most of them are “NoSQL” so they must be cool. All these new tools make it really hard for developers to cut through the fluff and know which type of data store to use and why.

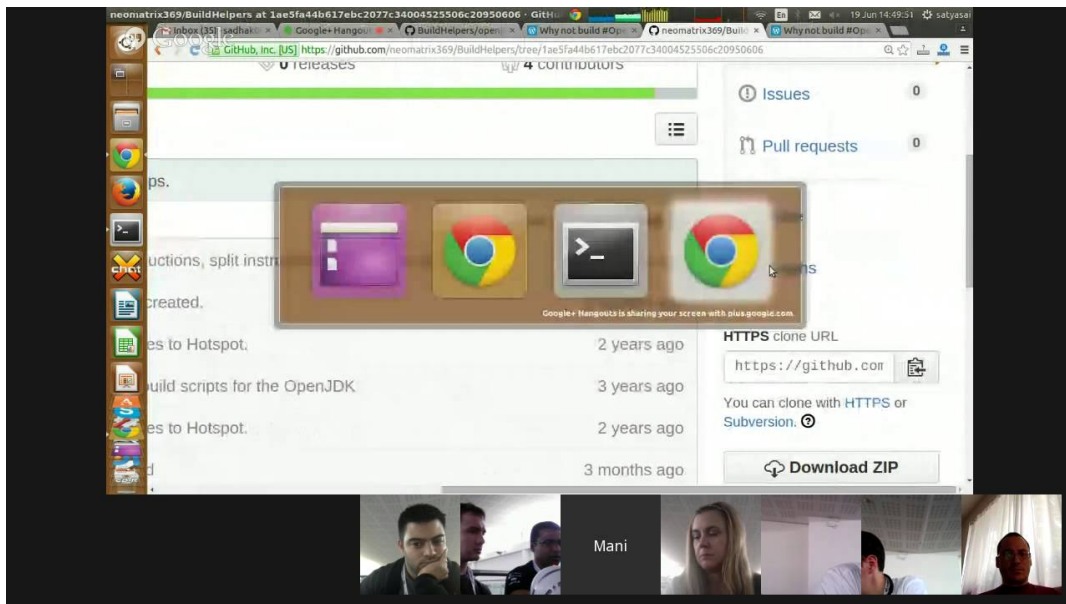


<http://virtualjug.com/?p=1716>





# Live From Devovx UK Hackergarten: From vJUG virtuality to Devovx UK real



One dev: Did you know what happened at a recent Java conference few months ago ?



<http://virtualjug.com/?p=1714>





# Live From Devox UK: Apache TomEE from Dev to Ops

[illegible]

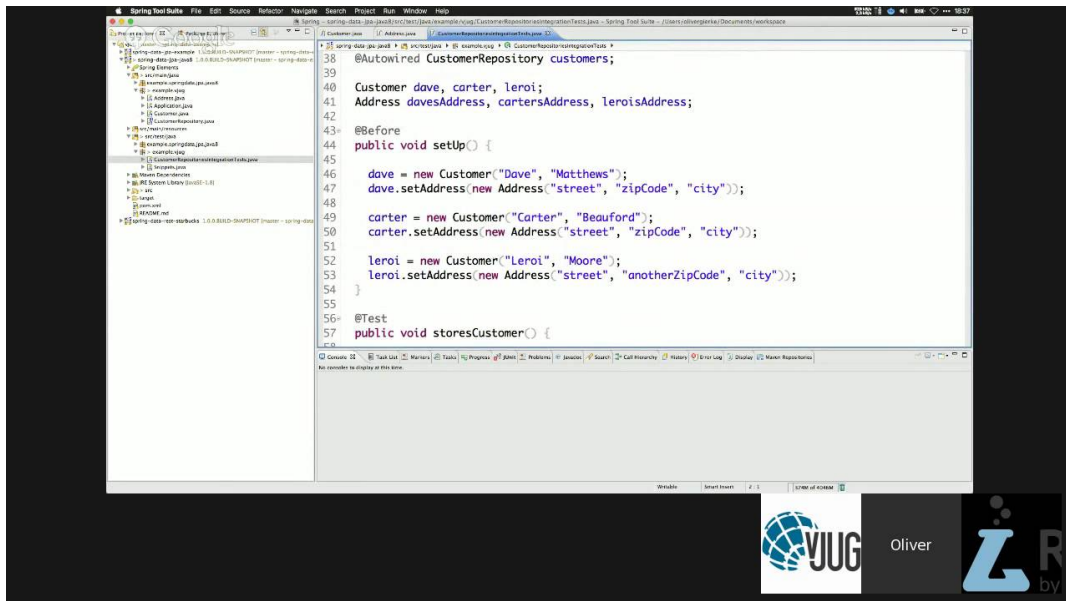
Apache TomEE is the Java EE distribution of Apache Tomcat. This live vJUG session goes beyond the basics and explores some fun features both TomEE-specific and JavaEE-portable for supercharging your application development, runtime and maintenance. Have a huge pile of DAOs? Use TomEE's abstract bean concept. Need to configure your application for many different environments? CDI and portable-extensions to the rescue. Want to create secured microservice distributions without any fuss? Nothing beats the TomEE Maven Plugin. Looking for a way to get detailed stats from your code? Hello annotation-driven monitoring support. Ever wish you could make your own management API? Check out the portable SSH Connector. The perfect session for any TomEE or Java EE enthusiast looking for cool toys for both developer and operations bliss.



<http://virtualjug.com/?p=1711>



# State of the art data access with Spring Data



Even with the invention of JPA, implementing data-access layers in Java has been a tedious job for developers, often resulting in a lot of boilerplate code. Spring Data is an umbrella project that provides a convenient and consistent interface-based programming model to implement repositories. It can be used on top of JPA as well as NoSQL stores like MongoDB and Neo4j.



<http://virtualjug.com/?p=1709>



## Gradle: hot or not?




Maven has been the preferred build tool of many Java based projects for years however times are a-changing, there's a new build tool in town and it promises to speed up build times, deliver build consistency, easier CI setup, extensibility and more. This tool is Gradle. Prominent open source projects have switched to Gradle already; organizations around the world are evaluating it too or made the switch already. So what makes Gradle tick? Join us to figure out the details! After all, it's not a "should I change to Gradle" question, rather "\_when\_" should I change to Gradle".



<http://virtualjug.com/?p=1704>



# Java byte code in practice



The screenshot shows a presentation slide with a light blue background. It lists five Java byte code instructions: **INVOKESTATIC**, **INVOKESPECIAL**, **INVOKEDYNAMIC**, **INVOKESPECIAL**, and **INVOKEDYNAMIC**. Each instruction is followed by its signature and a brief description of its function. The slide also features the Virtual JUG logo, the name 'Rafael', and a small portrait photo of a man.



**INVOKESTATIC** *pkg/Bar foo ()V*  
Invokes a static method.

**INVOKESPECIAL** *pkg/Bar foo ()V*  
Invokes the most-specific version of an inherited method on a non-interface class.

**INVOKESPECIAL** *pkg/Bar foo ()V*  
Invokes a super class's version of an inherited method.  
Invokes a "constructor method".  
Invokes a private method.  
Invokes an interface default method (Java 8).

**INVOKEDYNAMIC** *pkg/Bar foo ()V*  
Invokes an interface method.  
(Similar to **INVOKESPECIAL** but without virtual method table index optimization.)

**INVOKEDYNAMIC** *foo ()V bootstrap*  
Queries the given *bootstrap method* for locating a method implementation at runtime.  
(MethodHandle: Combines a specific method and an **INVOKE\*** instruction.)

 Rafael 

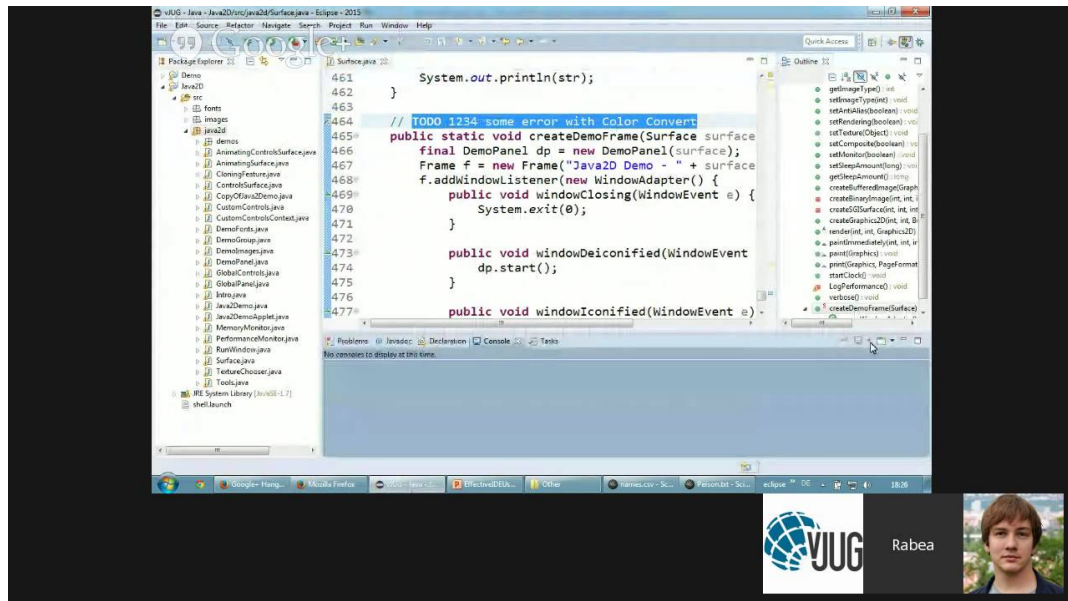
At first glance, Java byte code can appear to be some low level magic that is both hard to understand and effectively irrelevant to application developers. However, neither is true. With only little practice, Java byte code becomes easy to read and can give true insights into the functioning of a Java program. In this talk, we will cast light on compiled Java code and its interplay with the Java virtual machine. In the process, we will look into the evolution of byte code over the recent major releases with features such as dynamic method invocation which is the basis to Java 8 lambda expressions. Finally, we will learn about tools for the run time generation of Java classes and how these tools are used to build modern frameworks and libraries. Among those tools, I present Byte Buddy, an open source tool of my own efforts and an attempt to considerably simplify run time code generation in Java.  
(<http://bytebuddy.net>)



<http://virtualjug.com/?p=1673>



# Effective IDE Usage



You don't want your IDE to propose `java.awt.List` as import when you need `java.util.List`? This talk will show you how to get rid of the proposal and how to use your IDE effectively to concentrate on your work.



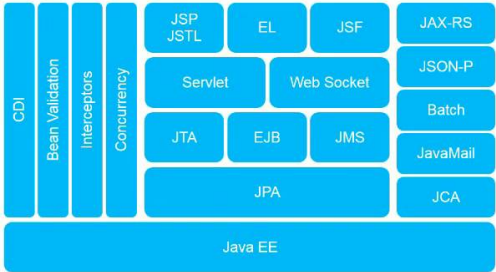
<http://virtualjug.com/?p=1658>







# What Is Java EE?



The diagram illustrates the Java EE architecture. At the base is a large blue rectangle labeled "Java EE". Above it are several layers of components, each in a blue rectangle:

- CDI** (Contexts and Dependency Injection)
- Bean Validation**
- Interceptors**
- Concurrency**
- JSP** and **JSTL** (Java Server Pages and Java Server Pages Standard Library)
- EL** (Expression Language)
- JSF** (JavaServer Faces)
- JAX-RS** (Java API for RESTful Web Services)
- Servlet** and **Web Socket**
- JTA** (Java Transaction API), **EJB** (Enterprise JavaBeans), and **JMS** (Java Message Service)
- JSON-P** (JavaScript Object Notation for Profile)
- Batch**
- JavaMail**
- JCA** (Java Connector Architecture)

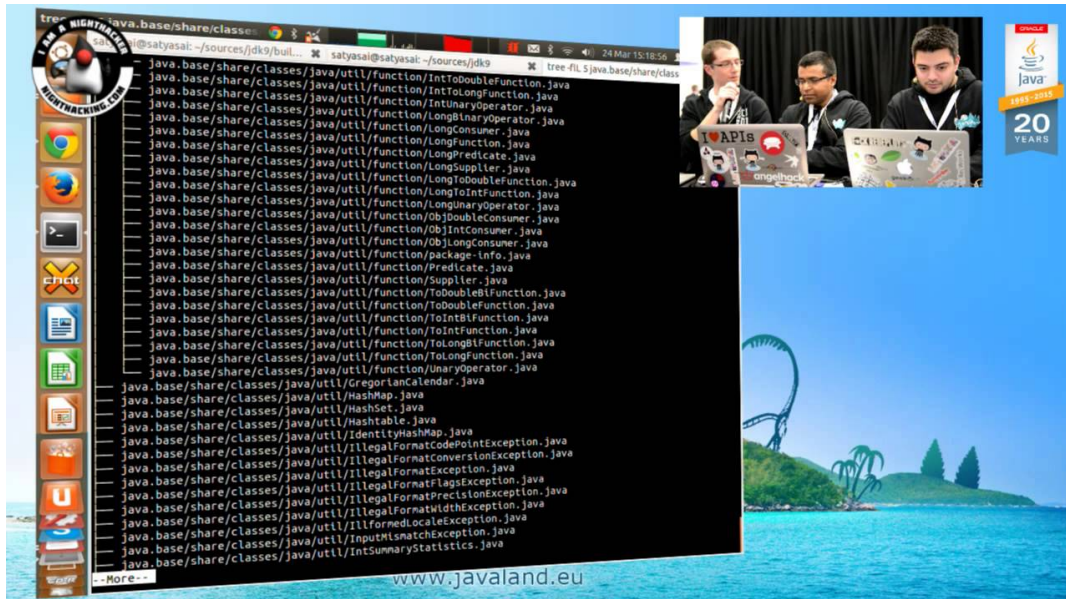
At the bottom of the slide, there is a small text area with a copyright notice and a "Keep sharing" button.

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# JavaLand Session: How is Java/JVM built?



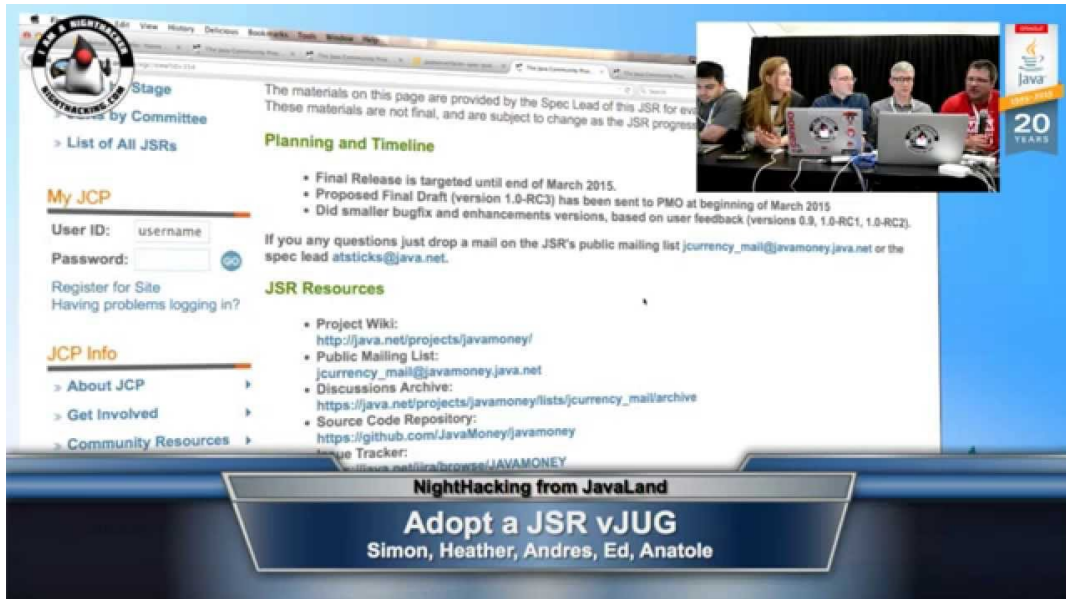
**Mr Webber developer** and **Ms Janet Java developer** are both developers who are interested in broadening their know-how of the Java platform. **Mr Webber developer** shares with **Ms Janet Java developer** conversations about Javaland, vJUG, Nighthacking and Adopt OpenJDK – a preview of their conversation.



<http://virtualjug.com/?p=1533>



# JavaLand Session: What's coming in Java.Next?



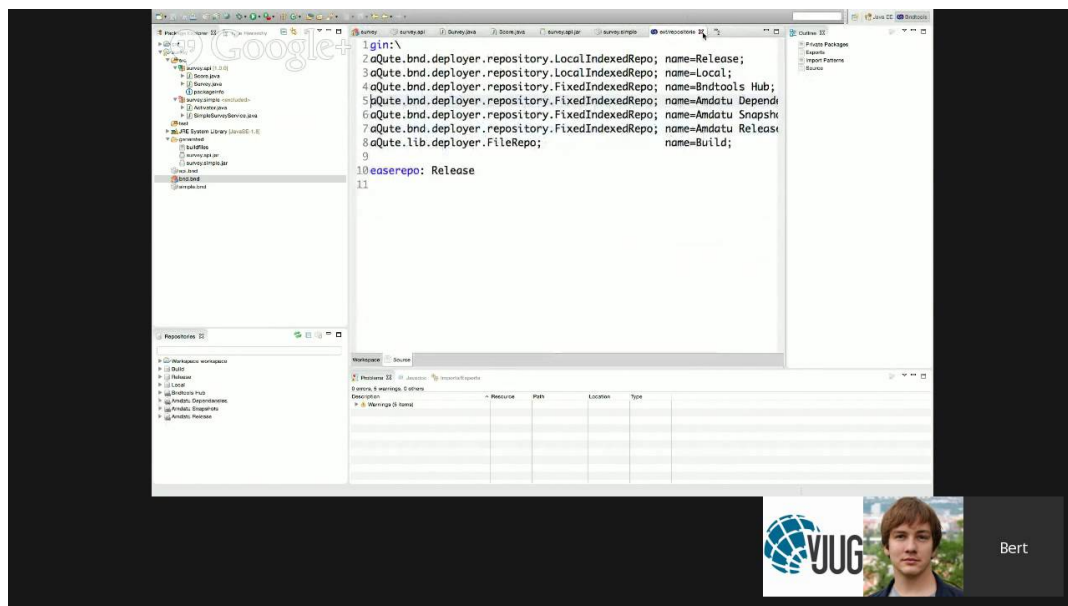
This session will take place live from the Javaland conference in Germany on the Nighthacking stage! Learn from **Heather VanCura** how you can take part in Java technology by Adopting a JSR. This session give a brief overview of the Adopt-a-JSR program and how to participate through the Virtual JUG. We will meet and discuss with three current JCP Spec Leads to find out how their JSRs could benefit from vJUG Adopt-a-JSR participation.



<http://virtualjug.com/?p=1532>



# Building Modular Java Applications in the Cloud



Modularity is an architectural theme that you'll hear about more and more. Being able to deal with change in a codebase is not something trivial and requires some serious thought. In this talk I will show you that it is actually pretty easy to achieve a modular architecture using OSGi, and the right set of tools. Of course everything will be demonstrated using live coding!




<http://virtualjug.com/?p=1436>



# Java Memory Model Pragmatics

Google+ SC-DRF: Roach Motel



One interpretation of the model allows for a simple class of optimizations, «Roach Motel»

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Java

VJUG

Aleksey

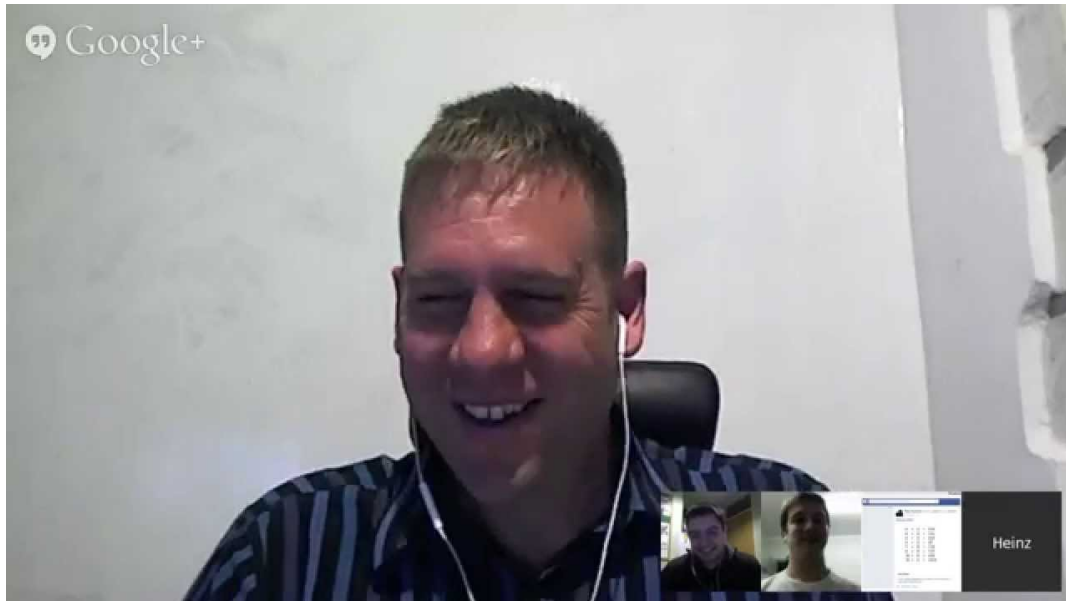
The Java Memory Model is the most complicated part of Java spec that must be understood by at least library and runtime developers. Unfortunately, it is worded in such a way that it takes a few senior guys to decipher it for each other.



<http://virtualjug.com/?p=1388>



# The Live Reflection Madness



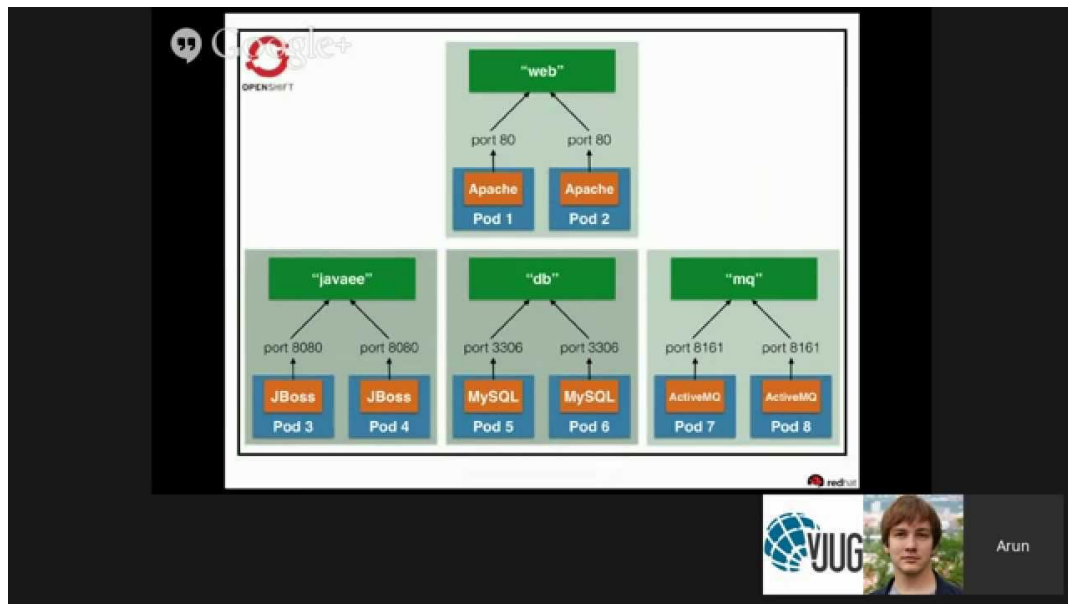
Heinz likes to compare reflection to opium. Not the perfume. The drug. In this live coding session, he will start by showing some of the powerful features available to us in Java.



<http://virtualjug.com/?p=1347>



# Package your Java EE application using Docker and Kubernetes



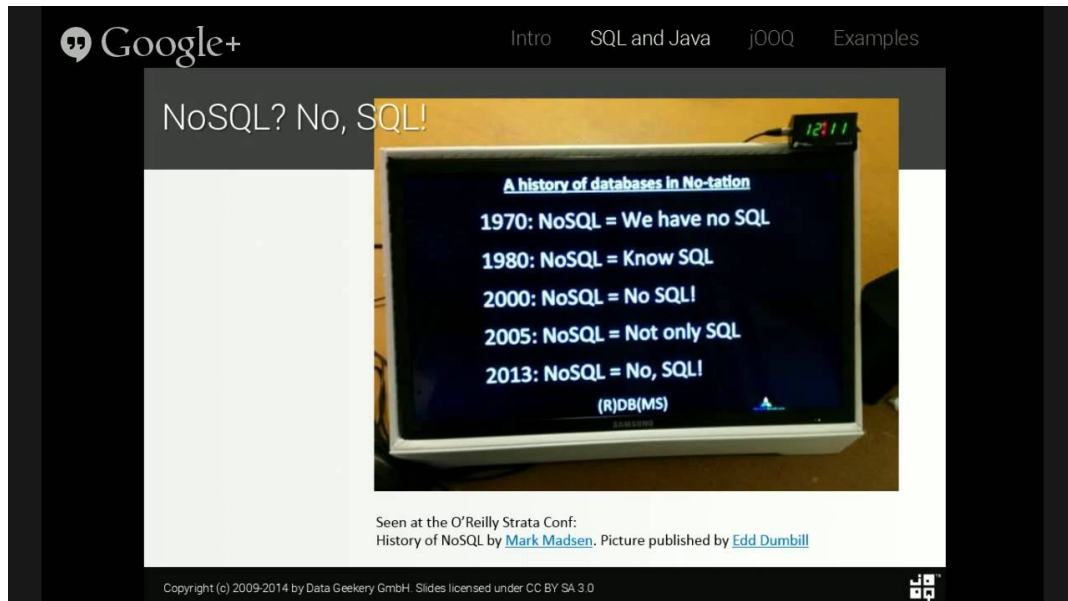
Docker simplifies software delivery by making it easy to build and share images that contain your application's operating system. It packages your application and infrastructure together, managed as one component.



<http://virtualjug.com/?p=1343>



# jOOQ: Get Back in Control of Your SQL



SQL is a powerful and highly expressive language for queries against relational databases. SQL is established, standardised and hardly challenged by alternative querying languages.

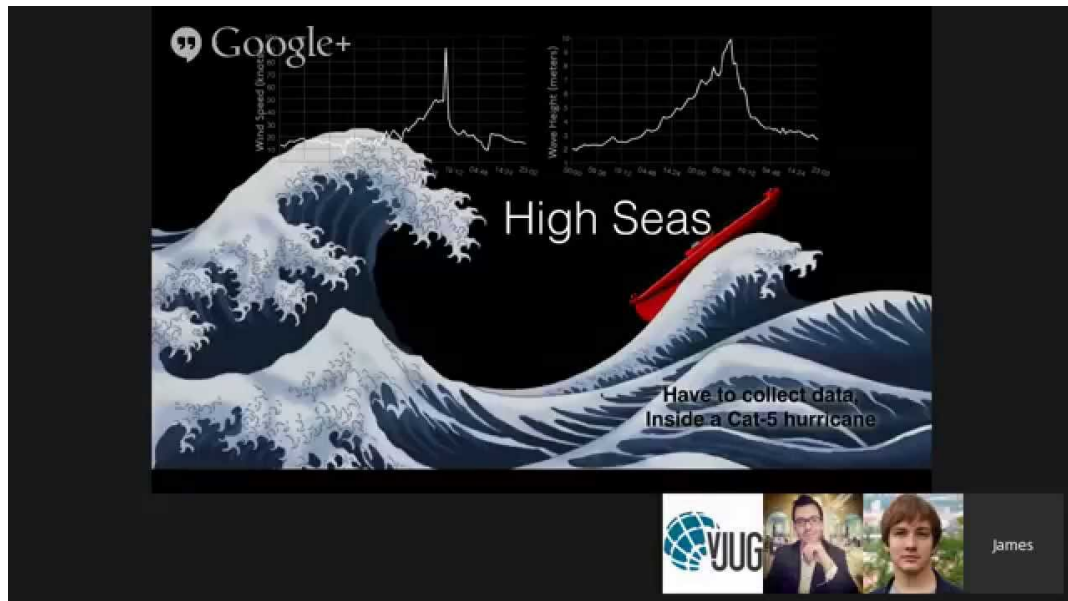


<http://virtualjug.com/?p=1337>





# Java and the Wave Glider, by James Gosling



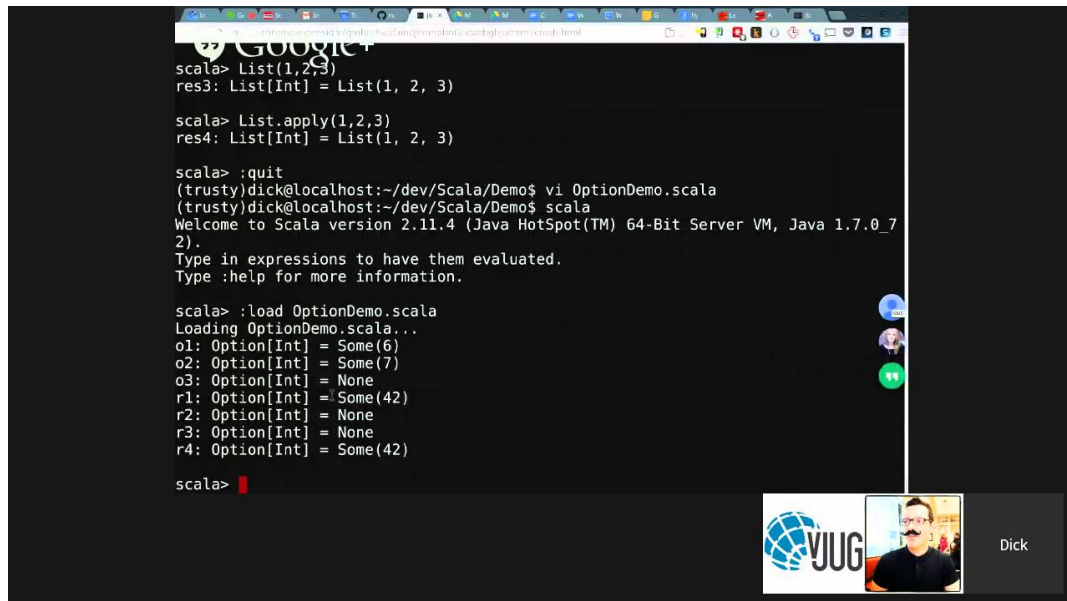
[IRC logs be be found here.](#)



<http://virtualjug.com/?p=1325>



# Scala for Java Developers



```
scala> List(1,2,3)
res3: List[Int] = List(1, 2, 3)

scala> List.apply(1,2,3)
res4: List[Int] = List(1, 2, 3)

scala> :quit
(trusty)dick@localhost:~/dev/Scala/Demo$ vi OptionDemo.scala
(trusty)dick@localhost:~/dev/Scala/Demo$ scala
Welcome to Scala version 2.11.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.7.0_72).
Type in expressions to have them evaluated.
Type :help for more information.

scala> :load OptionDemo.scala
Loading OptionDemo.scala...
o1: Option[Int] = Some(6)
o2: Option[Int] = Some(7)
o3: Option[Int] = None
r1: Option[Int] = Some(42)
r2: Option[Int] = None
r3: Option[Int] = None
r4: Option[Int] = Some(42)

scala>
```

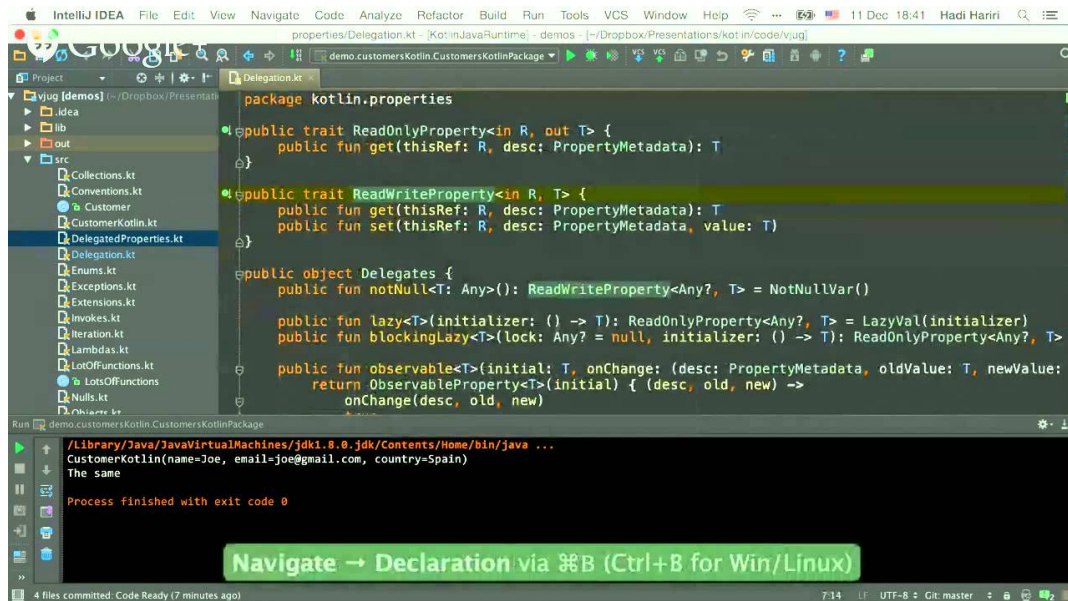
- What are the major advantages/features Scala provides
- Why should someone move from Java to Scala
- What is the future direction of Scala



<http://virtualjug.com/?p=1302>



# Kotlin for Java Developers



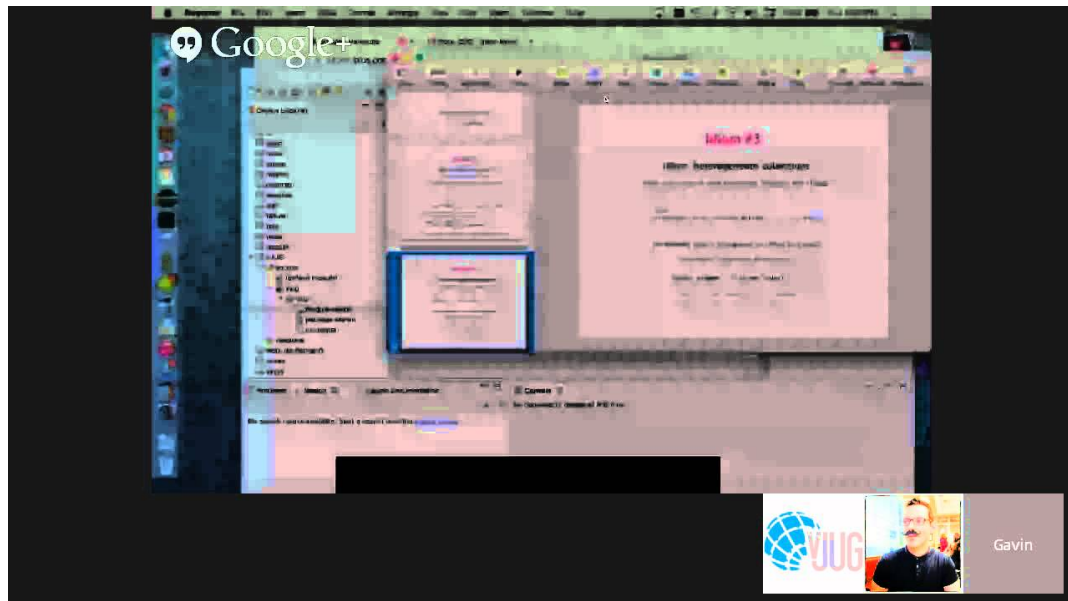
- What are the major advantages/features Kotlin provides
- Why should someone move from Java to Kotlin
- What is the future direction of Kotlin



<http://virtualjug.com/?p=1297>



# Ceylon for Java Developers



- What are the major advantages/features Ceylon provides
- Why should someone move from Java to Ceylon
- What is the future direction of Ceylon



<http://virtualjug.com/?p=1294>



# Groovy for Java Developers

**Closures — Closures vs Java 8 lambdas?**

```
IntStream.range(1, 100).forEach(s -> System.out.println(s));  
Files.lines(Paths.get('README.adoc'))  
    .map(it -> it.toUpperCase())  
    .forEach(it -> System.out.println(it));
```

Use Groovy closures wherever you pass lambdas in Java 8

```
IntStream.range(1, 100).forEach { println it }  
Files.lines(Paths.get('README.adoc'))  
    .map { it.toUpperCase() }  
    .forEach { println it }
```

@glaforge 44

  Guillaume

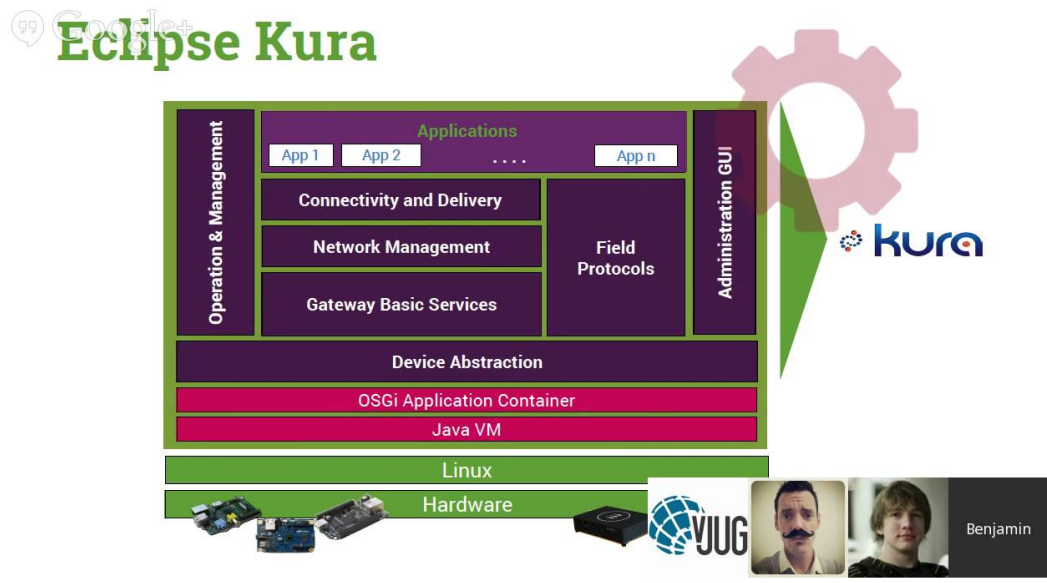
Speaker: Guillaume Laforge



<http://virtualjug.com/?p=1288>



# Building the Internet of Things with Java



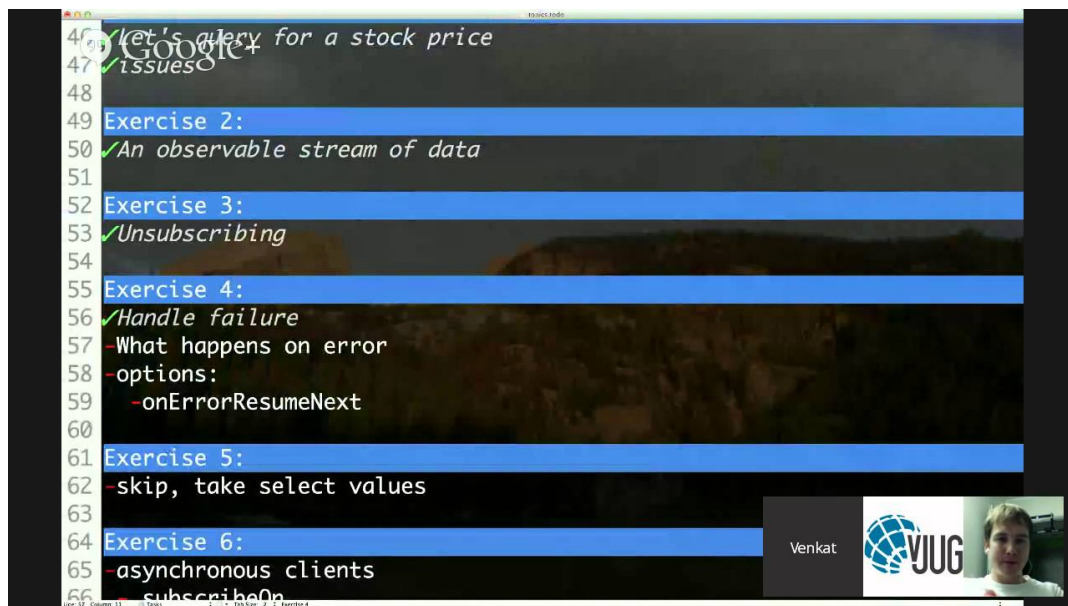
It may seem hard to get started with the Internet of Things (IoT) with so many technologies, protocols, hardware platforms, involved. In this session, Benjamin Cabé from the Eclipse Foundation will cover all you need to know



<http://virtualjug.com/?p=1195>



# Reactive Programming: Creating highly responsive applications



Reactive Programming is gaining a lot of attention recently, but what is it? It is a culmination of a lot of good ideas developed over the years, but brought together by the forces of recent developments

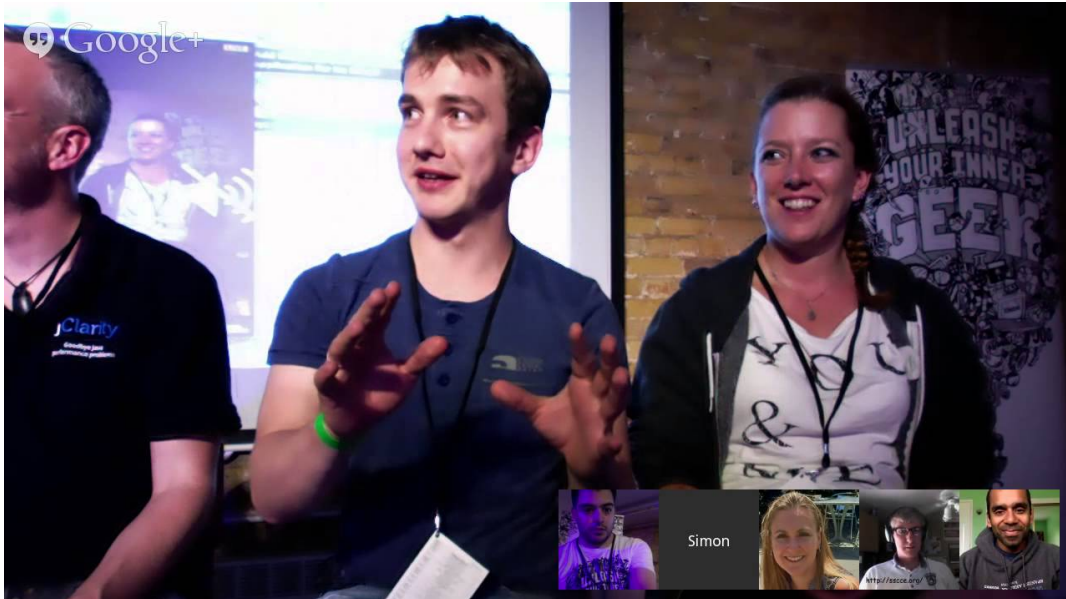


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## Shaping Java's future & vJUG party!



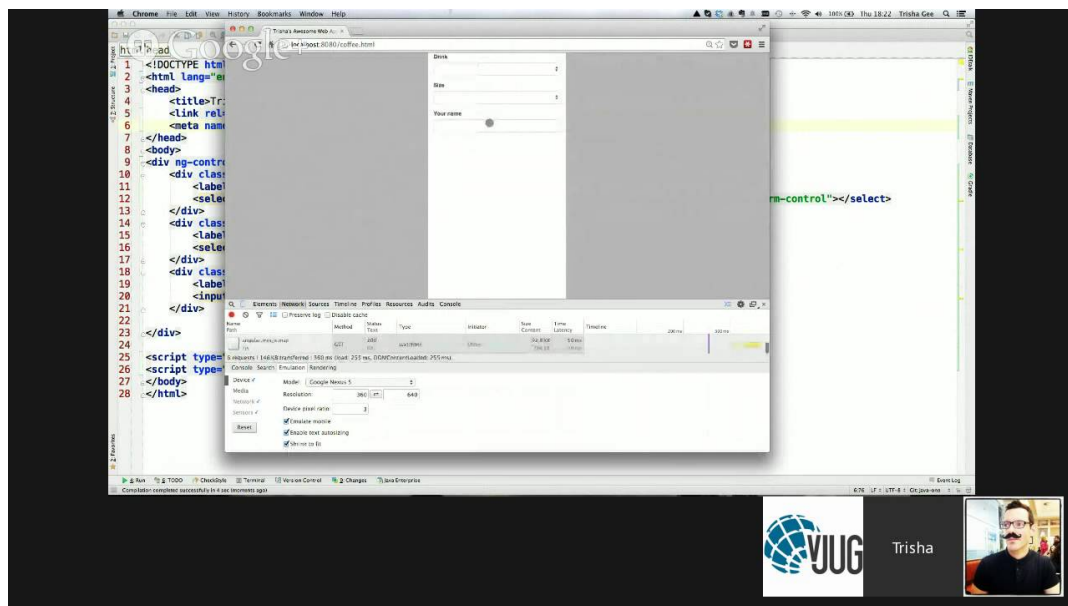
Shaping Java's future & vJUG party!



<http://virtualjug.com/?p=1191>



# HTML5, AngularJS, Groovy, Java and MongoDB all together – what could go wrong?



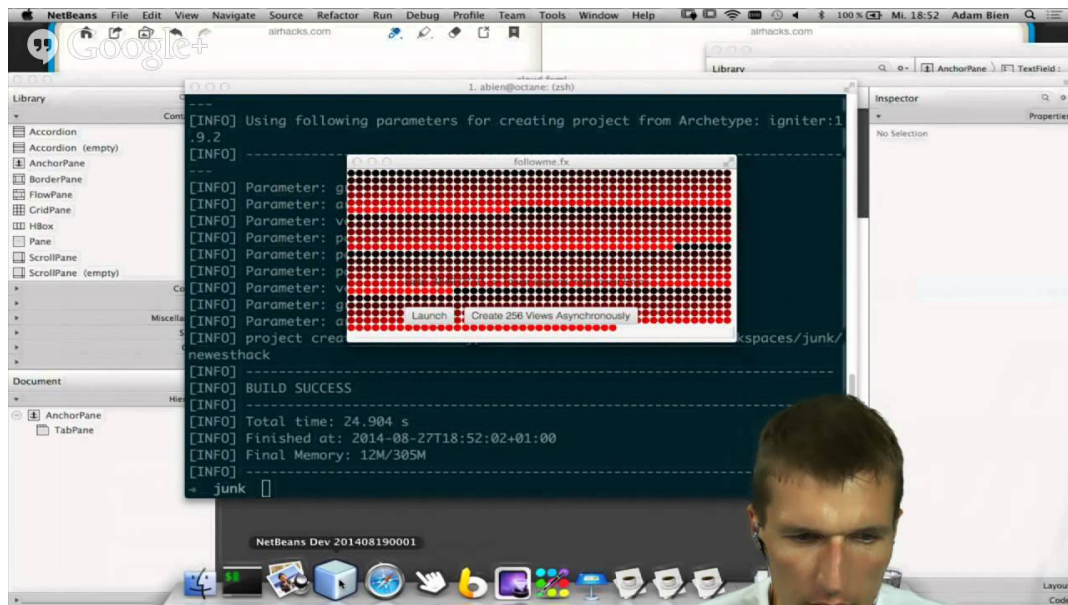
Speaker: Trisha Gee



<http://virtualjug.com/?p=1188>



# Opinionated JavaFX 8



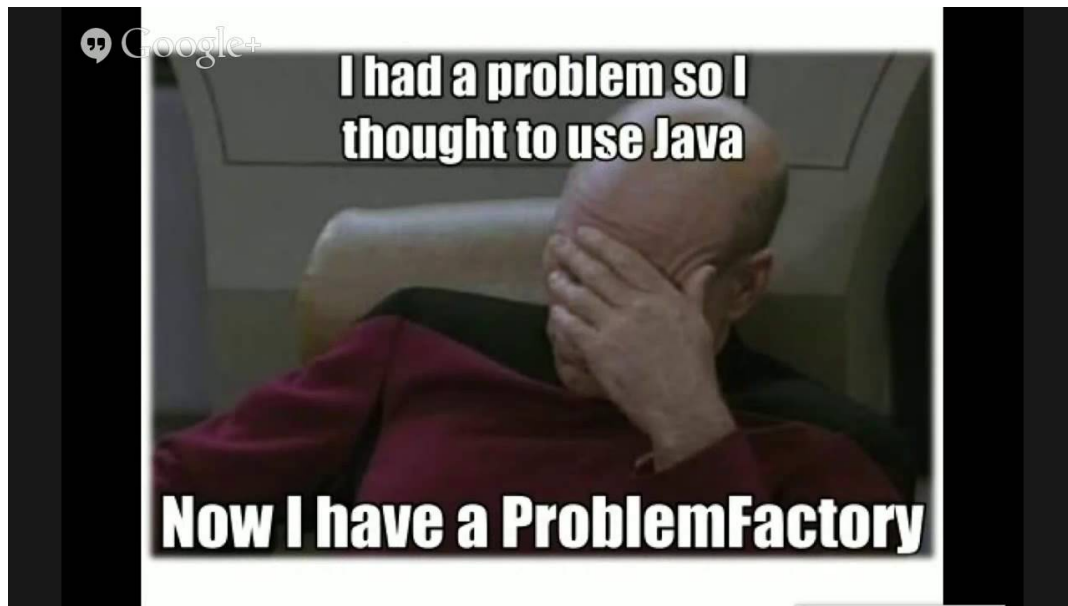
**Speaker: Adam Bien**



<http://virtualjug.com/?p=1157>



## 3 years of backend testing at Shazam [the stuff we got wrong]



Speaker: Colin Vipurs



<http://virtualjug.com/?p=1155>



# Pragmatic Functional Refactoring with Java 8



Scenario: be able to link together train journeys to form longer journeys.



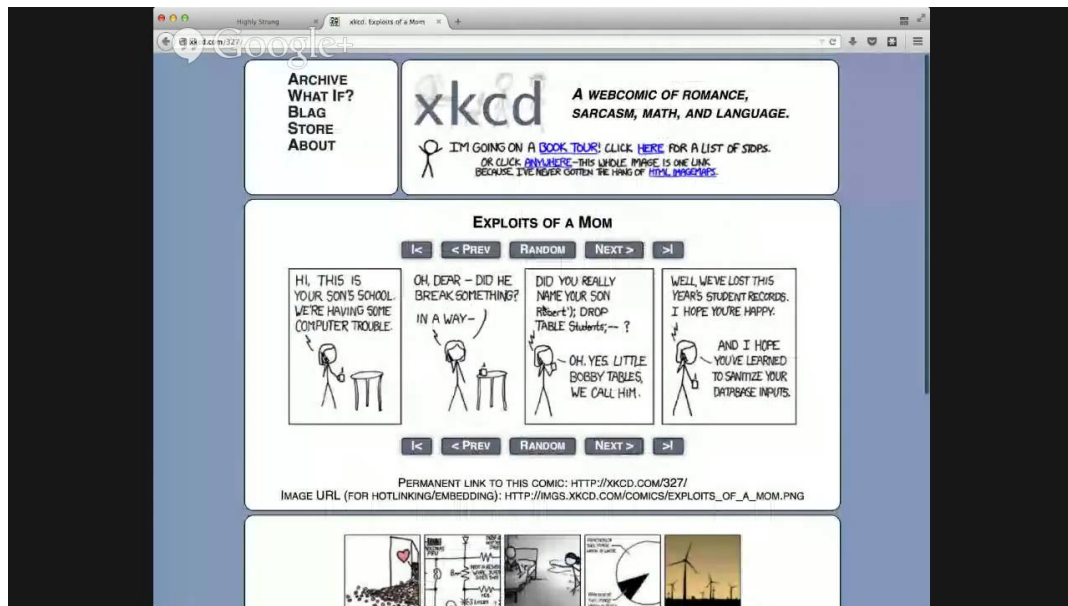
**Speakers: Richard Warburton & Raoul-Gabriel Urma**



<http://virtualjug.com/?p=1152>



# Highly Strung: Understanding your Type System



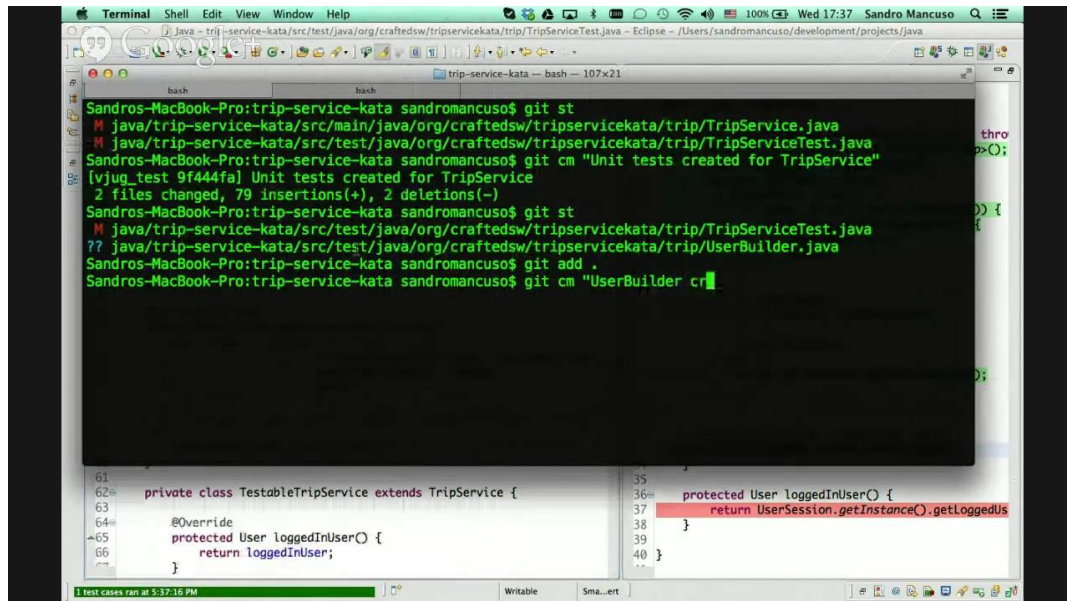
## Highly Strung: Understanding your Type System



<http://virtualjug.com/?p=1121>



# Testing and Refactoring Legacy Code



The screenshot shows an Eclipse IDE with a terminal window and two Java code files. The terminal window displays the following commands and output:

```
Sandros-MacBook-Pro:trip-service-kata sandromancuso$ git st
M java/trip-service-kata/src/main/java/org/craftedsw/tripservicekata/trip/TripService.java
M java/trip-service-kata/src/test/java/org/craftedsw/tripservicekata/trip/TripServiceTest.java
Sandros-MacBook-Pro:trip-service-kata sandromancuso$ git cm "Unit tests created for TripService"
[vjug_test 9f444fa] Unit tests created for TripService
2 files changed, 79 insertions(+), 2 deletions(-)
Sandros-MacBook-Pro:trip-service-kata sandromancuso$ git st
M java/trip-service-kata/src/test/java/org/craftedsw/tripservicekata/trip/TripServiceTest.java
?? java/trip-service-kata/src/test/java/org/craftedsw/tripservicekata/trip/UserBuilder.java
Sandros-MacBook-Pro:trip-service-kata sandromancuso$ git add .
Sandros-MacBook-Pro:trip-service-kata sandromancuso$ git cm "UserBuilder cr"
```

The two Java code files shown are:

```
61 private class TestableTripService extends TripService {
62
63     @Override
64     protected User loggedInUser() {
65         return loggedInUser;
66     }
67 }
```

```
35 protected User loggedInUser() {
36     return UserSession.getInstance().getLoggedInUs
37 }
38
39
40 }
```

Speaker: Sandro Mancuso

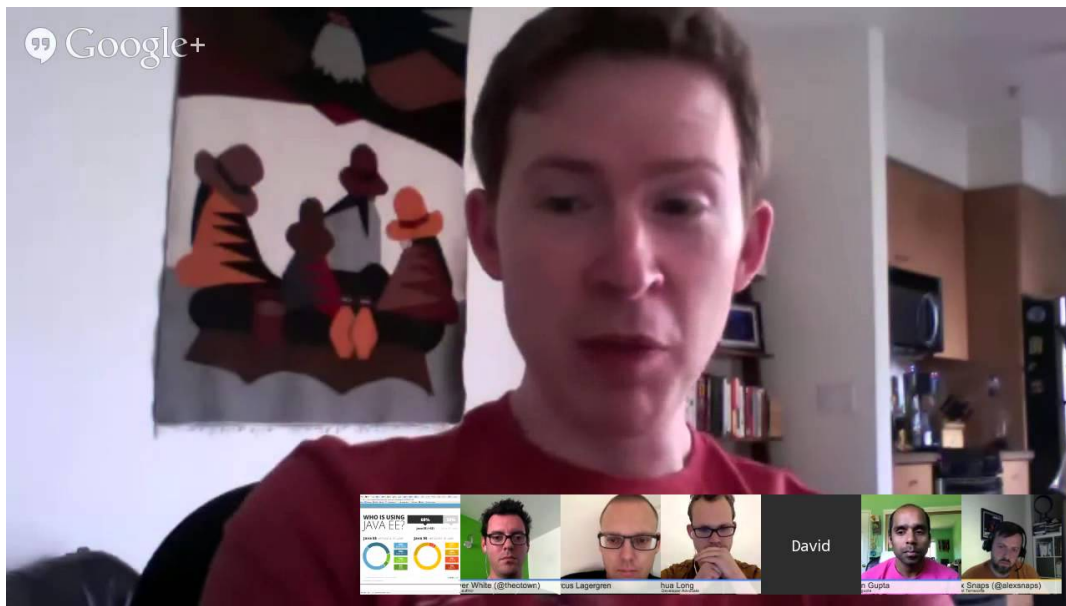


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## vJUG panel: Review of 2164 Survey Responses on Java Tools and Technology



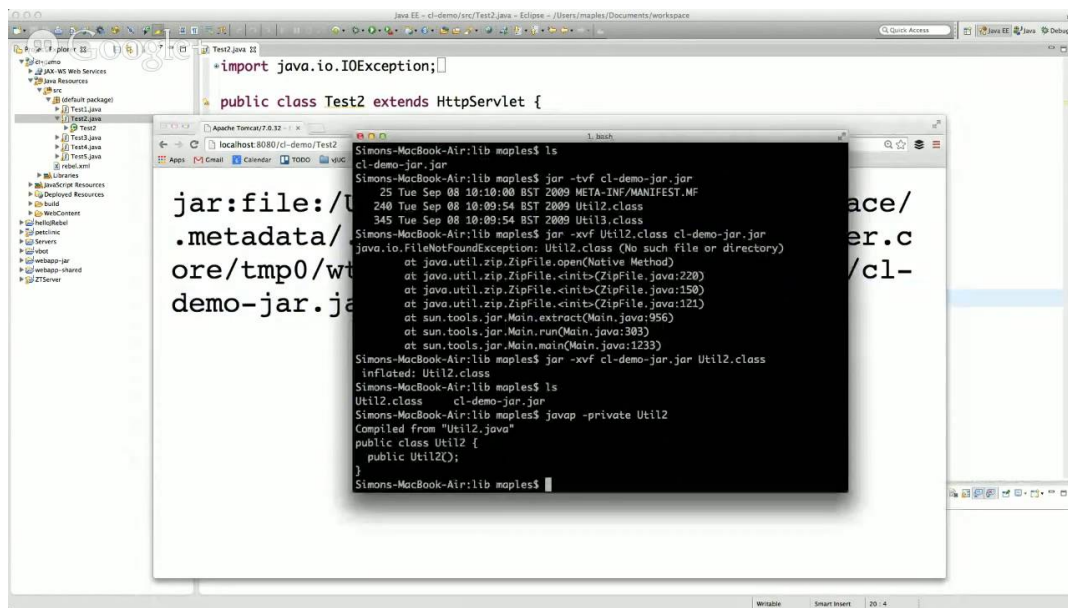
Speakers: Arun Gupta, Josh Long, Marcus Lagergren, Alex Snaps, David Blevins & Oliver White (Moderator). We look at the recent explosive publication of RebelLabs' "Java Tools and Technologies Landscape for 2014", a beautifully-designed, 56-page snapshot of what over 2000 Java developers from around the world are using in their daily development.



<http://virtualjug.com/?p=938>



# Java Classloaders: The good, the bad and the WTF.



Speaker: Simon Maple.



<http://virtualjug.com/?p=936>



## vJUG Panel: What do the Oracle/Google shenanigans mean to the Java Developer?



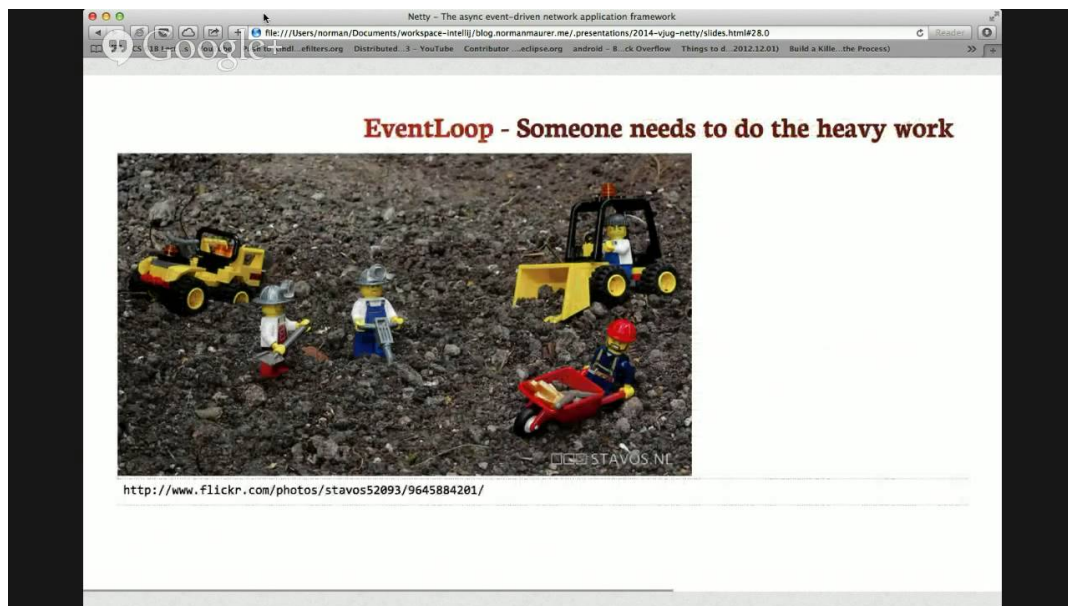
Speaker(s): Bruno Souza, Martijn Verburg and Hildeberto Mendonça, Lukas Eder & Michael Rice. (Moderated by Simon Maple)



<http://virtualjug.com/?p=865>



# Netty – The async event-driven network application framework



Speaker: Norman Maurer.



<http://virtualjug.com/?p=862>



# Evolving code without breaking compatibility

@Google+ Even if You Follow All the Rules...

```
graph TD; B["module B"] --> A["module A"]; B -- contains --> L["Library 1.0"];
```

The diagram illustrates a dependency structure where 'module B' (a blue box) contains 'Library 1.0' (a red box) and has a dependency on 'module A' (a blue box). An arrow points from 'module B' down to 'module A'. The background features a faint Twitter bird logo.

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Kohsuke

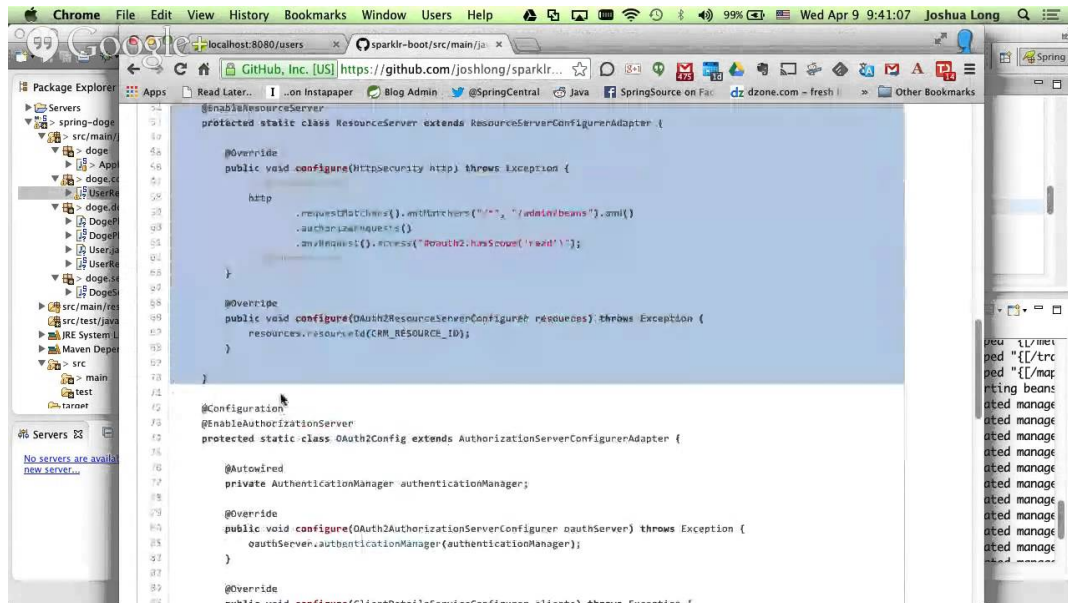
Speaker: Kohsuke Kawaguchi



<http://virtualjug.com/?p=159>



# Building Bootiful Applications with Spring Boot



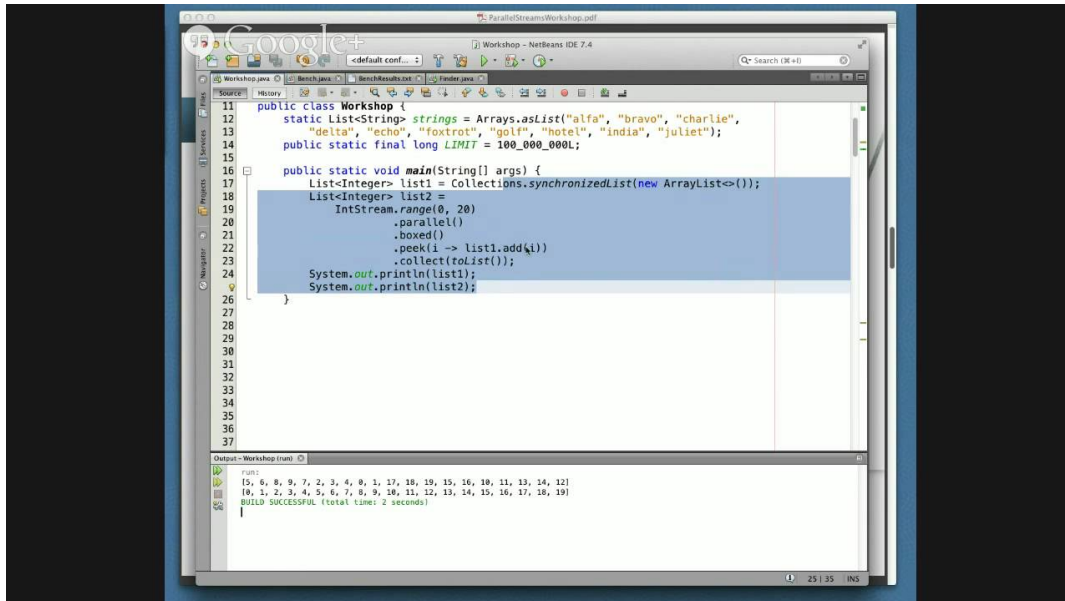
Speaker: Josh Long



<http://virtualjug.com/?p=157>



# Java 8 Parallel Streams Workshop



```
11 public class Workshop {
12     static List<String> strings = Arrays.asList("alfa", "bravo", "charlie",
13         "delta", "echo", "foxtrot", "golf", "hotel", "india", "juliet");
14     public static final long LIMIT = 100_000_000L;
15
16     public static void main(String[] args) {
17         List<Integer> list1 = Collections.synchronizedList(new ArrayList<>());
18         List<Integer> list2 =
19             IntStream.range(0, 20)
20                 .parallel()
21                 .boxed()
22                 .peek(i -> list1.add(i))
23                 .collect(toList());
24         System.out.println(list1);
25         System.out.println(list2);
26     }
27
28
29
30
31
32
33
34
35
36
37 }
```

Output - Workshop (run)

```
Run:
15: 0, 8, 9, 7, 2, 3, 4, 0, 1, 17, 10, 19, 15, 16, 10, 11, 13, 14, 12]
19: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19]
BUILD SUCCESSFUL (total time: 2 seconds)
```

Speaker: Stuart Marks.




<http://virtualjug.com/?p=155>







# Project Lambda: Functional Prog. Constructs and Simpler Concurrency in Java SE 8



## Internal Iteration With Lambdas

```
SomeList<Student> students = ...  
double highestScore =  
    students.stream()  
        .filter(Student s -> s.getGradYear() == 2011)  
        .map(Student s -> s.getScore())  
        .max();
```

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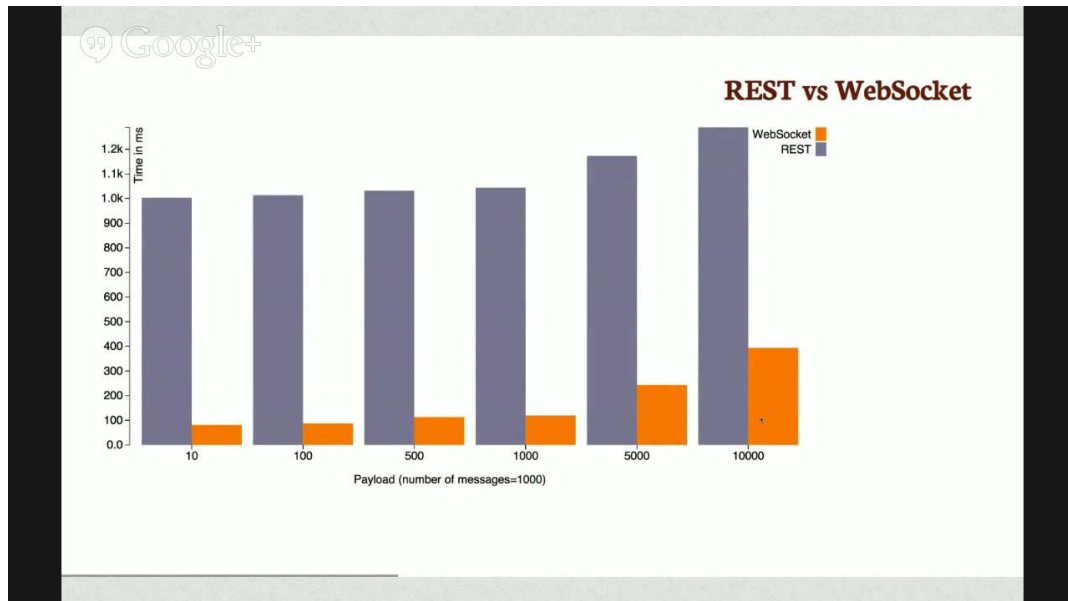
Speaker: Simon Ritter.



<http://virtualjug.com/?p=153>



# WebSocket Applications using Java EE 7



Speaker: Arun Gupta.



<http://virtualjug.com/?p=151>



# Comparing JVM Web Frameworks




Speaker: Matt Raible



<http://virtualjug.com/?p=149>



## 55 New Features in Java SE 8





### Small Changes

# The Platform

- Microsoft Services For UNIX (MS-SFU) Kerberos 5 extensions
  - Enhanced Microsoft interoperability
- TLS Server Name Indication (SNI) extension
  - More flexible secure virtual hosting, virtual-machine infrastructure
- PKCS#11 crypto provider for 64-bit Windows
  - Allow use of widely available native libraries
- Stronger algorithms for password-based encryption
  - Researchers and hackers move on
- Overhaul JKS-JCEKS-PKCS12 keystores
  - Simplify interacting with Java SE keystores for cryptographic applications

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Speaker: Simon Ritter



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# How To Do Kick-Ass Software Development




Speaker: Sven Peters



<http://virtualjug.com/?p=144>




# Getting started with Java EE 7



**Java API for RESTful Web Services 2.0**

**HTML**



- Client API
- Message Filters and Entity Interceptors
- Asynchronous Processing – Server and Client
- Common Configuration

19



Presenter: Arun Gupta.



<http://virtualjug.com/?p=142>



# Don't be that guy! Developer Security Awareness



Presenter(s): Markus Eisele.

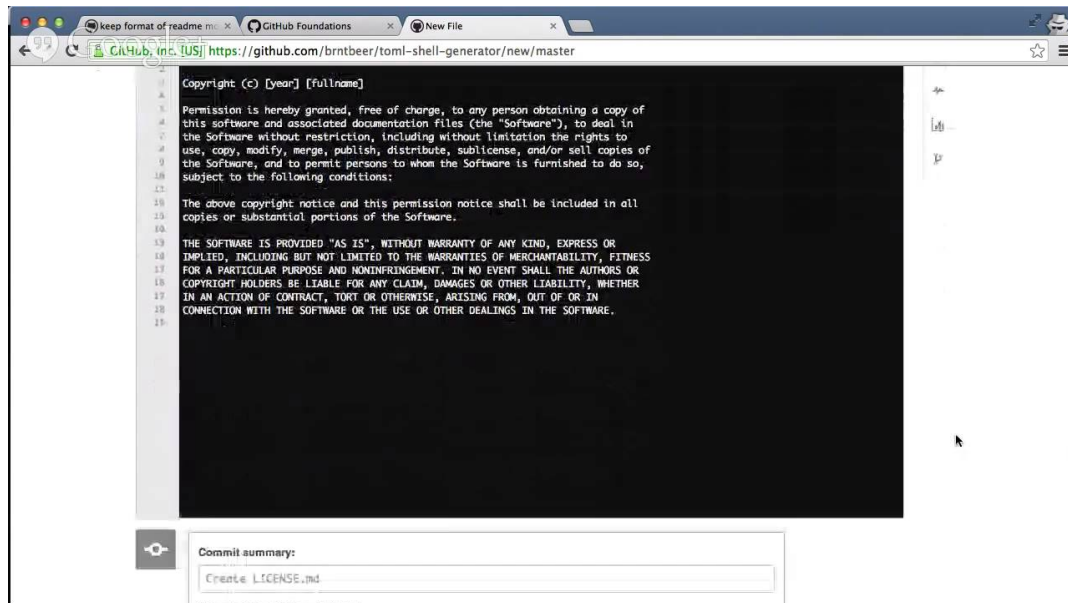


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# Drive-by Contributions



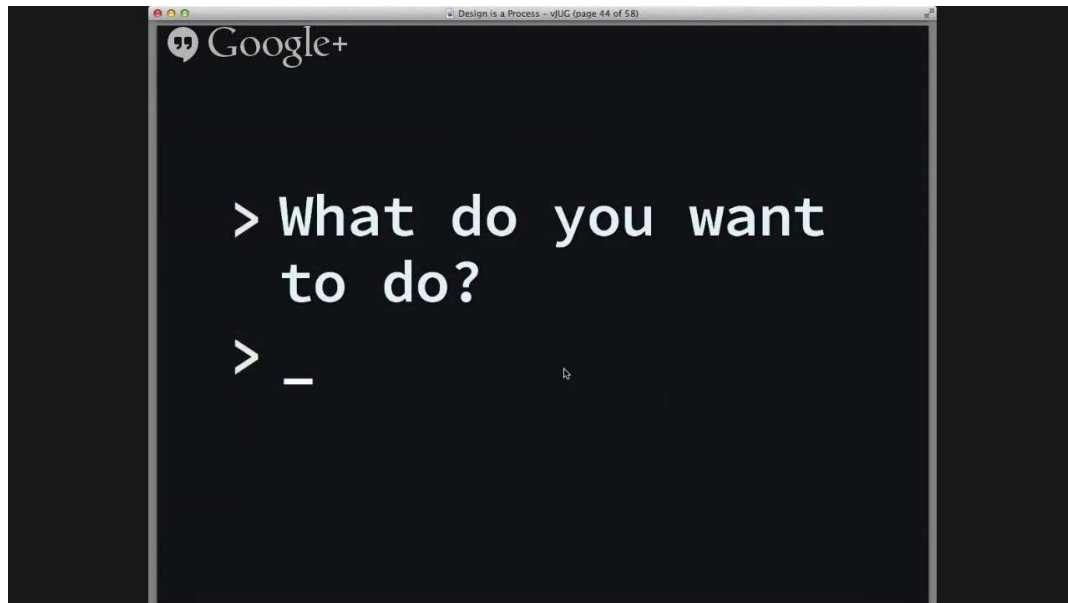
Presenter(s): Brent Beer & Matthew McCullough.



<http://virtualjug.com/?p=137>



# Design is a Process, not a Document



Presenter(s): Trisha Gee.



<http://virtualjug.com/?p=132>



