Open source software development: a professional view

Eder Ignatowicz
Principal Software Engineer
Tech Lead@Red Hat

What do I do for a living?

I'm an open source developer at Red Hat Business Automation (Drools/jBPM/Kogito) tooling teams.





Kogito is the next generation of business automation platforms focused on cloud-native development, deployment, and execution. Kogito is composed of the battle-tested projects of the KIE group: Drools, jBPM, and OptaPlanner.

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Droots is a business rule management system with a forward-chaining and backward-chaining inference based rules engine, allowing fast and reliable evaluation of business rules and complex event processing.

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jBPM is a flexible Business Process Management suite allowing you to model your business goals by describing the steps that need to be executed to achieve those goals.

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OptaPlanner@

OptaPlanner is a constraint solver that optimizes use cases such as employee rostering, vehicle routing, task assignment and cloud optimization.

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KOGITO

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An overview of the more interesting features and work streams for DashBuilder, along with links to posts with more details for each topic. More →



Building Dashboards using Plain Java by William Sigueira



Kogito Serverless Workflows at OpenShift Commons B...

by Ricardo Zanini



Integrate Kogito and Business Central projects

by Lubo Terifaj



Elytron is the new security framework offered by JBoss EAP/Wildfly, which tries to unify security management and application access in a single subsystem. More →



Demystifying the Alpha Network Compiler (ANC) by Luca Molteni



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by Ricardo Zanini



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by Guilherme Carreiro



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by Yeser Amer



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Rules

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by William Sigueira

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What is new on Business Central, from Foundation T... by Eder Ignatowicz Process

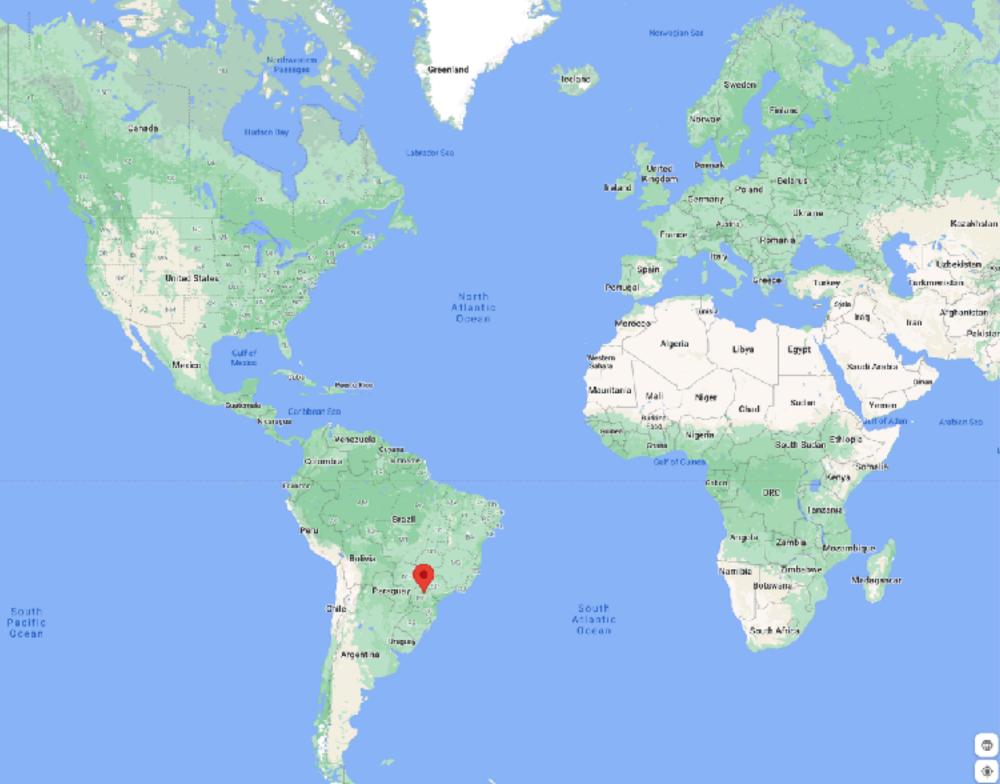


Demystifying the Allpha Network Compiler (ANC) by Luca Melteni

How did I end up there?

I'm a very, very lucky person:)

What I would like to know at the beginning of my career











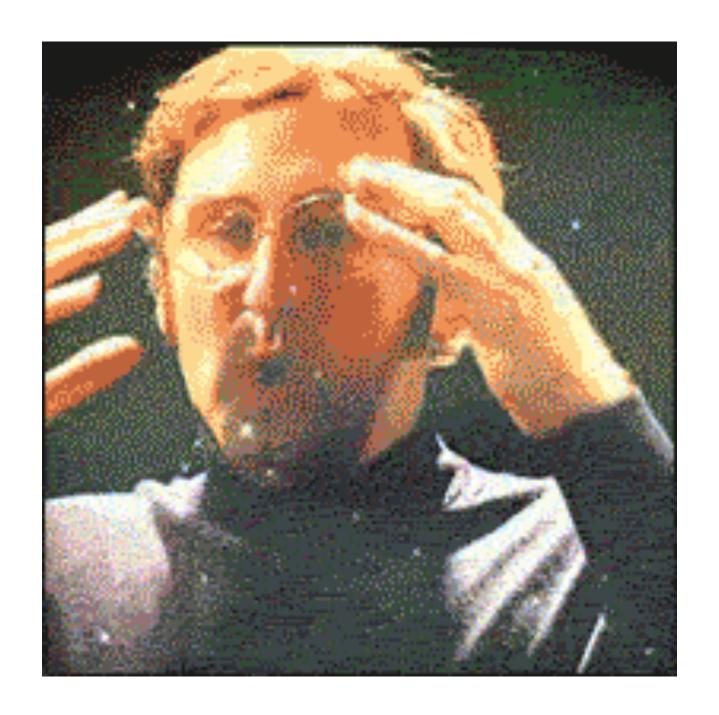
Lucky moment 0:

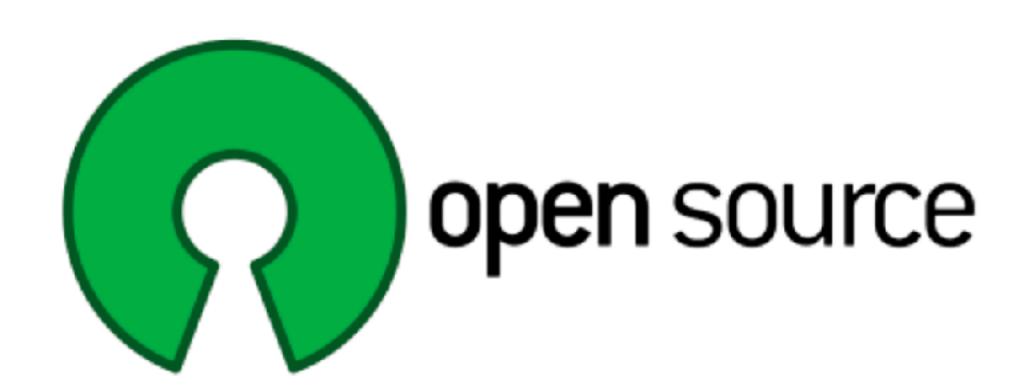
A old computer appears at my house (1998)



```
File Edit View Search Run
                                 Debug Options
                                                                         Help
                                 DONKEY.BAS -
REM The IBM Personal Computer Donkey
REM Version 1.10 (C)Copyright IBM Corp 1981, 1982
REM Licensed Material - Program Property of IBM
DEF SEG : POKE 106. 0
SAMPLESS = "NO"
DIM CAR2(900)
60TO 1010
SAMPLESS = "YES"
1010 KEY OFF: SCREEN 0, 1: COLOR 15, 0, 0: WIDTH 40: CLS : LOCATE 5, 19: PRINT
LOCATE 7, 12, 0: PRINT "Personal Computer"
COLOR 10, 0: LOCATE 10, 9, 0: PRINT CHR$(Z13) + STRING$(Z1, Z05) + CHR$(184)
LOCATE 11, 9, 0: PRINT CHR$(179) + " DONKEY " + CHR$(179)
LOCATE 12, 9, 0: PRINT CHR$(179) + STRING$(21, 32) + CHR$(179)
LOCATE 13, 9, 0: PRINT CHR$(179) + " Version 1.10 " + CHR$(179)
LOCATE 14, 9, 0: PRINT CHR$(212) + STRING$(21, 205) + CHR$(190)
COLOR 15, 0: LOCATE 17, 4, 0: PRINT "(C) Copyright IBM Corp 1981, 1982"
COLOR 14, 0: LOCATE 23, 7, 0: PRINT "Press space bar to continue"
1100 IF INKEY$ <> "" THEN GOTO 1100
1110 CMD$ = INKEY$
                                  Immediate
```







```
public ArrayList() {
           public ArrayList(Collection<? extends E> c) {
      @
             // Avoid calling overridable methods from constructors
             ArrayHelper.insertTo(array, index: 0, c.toArray());
           public ArrayList(int initialCapacity) {
              // Avoid calling overridable methods from constructors
              checkArgument( expression: initialCapacity >= 0, errorMessage: "Initial capacity must not be negative");
           @Override
80 🗗 🔘
           public boolean add(E o) {
              array[array.length] = o;
              return true;
            }
           @Override
           public void add(int index, E o) {
86 of ol
              checkPositionIndex(index, array.length);
             ArrayHelper.insertTo(array, index, o);
           @Override
92 10 01 00
           public boolean addAll(Collection<? extends E> c) {
              Object[] cArray = c.toArray();
             int len = cArray.length;
              if (len == 0) {
               return false;
             ArrayHelper.insertTo(array, array.length, cArray);
              return true;
```

emutr.../ArrayList.java

63

/unusea/

private E exposeElement;









I want to be a software developer and work with cool stuff

Let's dive in Computer Science



Time to apply for the jobs!



Gogle



Errr... ok,

Let's dive in Applied Computer Science Research



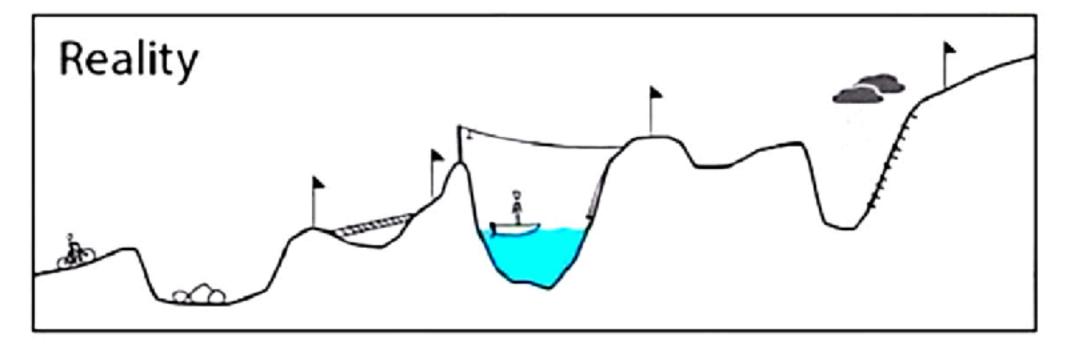
Now I'm ready, let's apply for the cool jobs!



Gogle







Errr... ok,

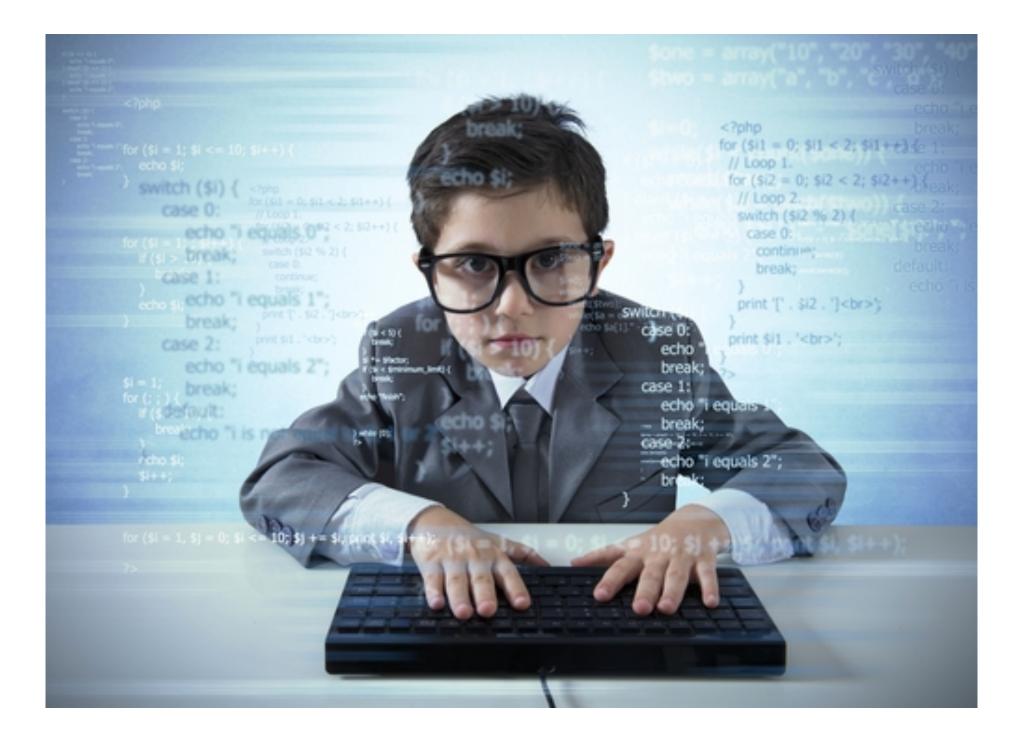
Need to pay the bills, do the cool jobs even exist?

I was "forced" to become a enterprise developer

How to be successful in the Brazilian tech market?

Tech consulting job

Scalable and Cloud C.R.U.D.s for financial institutions



Consumer of technology

Where is the joy?

Where is the bleeding edge?

Where is the technology development?



```
public ArrayList() {
           public ArrayList(Collection<? extends E> c) {
      @
             // Avoid calling overridable methods from constructors
             ArrayHelper.insertTo(array, index: 0, c.toArray());
           public ArrayList(int initialCapacity) {
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              if (len == 0) {
               return false;
             ArrayHelper.insertTo(array, array.length, cArray);
              return true;
```

emutr.../ArrayList.java

63

/unusea/

private E exposeElement;



Where are the people that builds the tech that I use?

Lucky moment 1:

QCon free ticket (2011)



Presentations *

< NEWER

OLDER >



CULTURE & METHODS

Developing a Digital Product: What It Is and How

Roberto Mameli disousses the implications and what if takes to build a successful digital product in the digital economy and how to leverage the network effect.

ROBERTO MAMELLON, OCT 31, 2019.

OC LIKE



CULTURE & METHODS

How to Find Purpose in Work

Katharina Probst discusses autonomy, mastery, and purpose which motivate people, diving deeper into purpose.

KATHARINA PROBST ON OCT 23, 2019.

IÚ UKE



ALMES DATA ENGINEERING

Big Data's Ethical Drought: The Thirst for More Data Has Led to a Lapse in Ethics and Privacy

Katharine Jarmul provides examples of data (mis)use and asking how we can work with data without violating the trust and privacy of users, producing an ethical product?

KATHARINE JARMUL ON OCT 17, 2019.

iii) URE



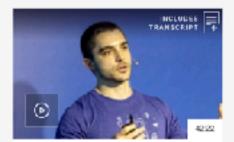
ARCHITECTURE & DESIGN

Bayesian Optimization of Gaussian Processes with Applications to Performance Tuning

Ramki Ramakrishna discusses using Bayesian optimization of Gaussian processes to optimize the performance of a microservices architecture.

BAMKI PAMAKSISHNA ON OCT 11, 2019

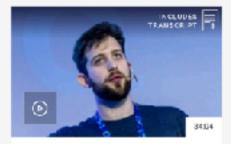
iii) UKE



COUTURE & METHODS

Highlighting Silicon Valley Strategies for Improving Engineering Velocity, Efficiency, and Quality

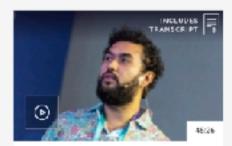
David Mercurio shares personal insights and experiences about cultural practices that one can apply to help improve the effectiveness of an engineering organization.



CEVELOPMENT

Your Program as a Transpiler: Applying Compiler Design to Everyday Programming

Edoardo Vacchi discusses opportunities to apply programming language development techniques learned working with Drools and JBPM to a broader context.



AUMUS DATA ENGINEERING

A Look at the Methods to Detect and Try to Remove Bias in Machine Learning Models

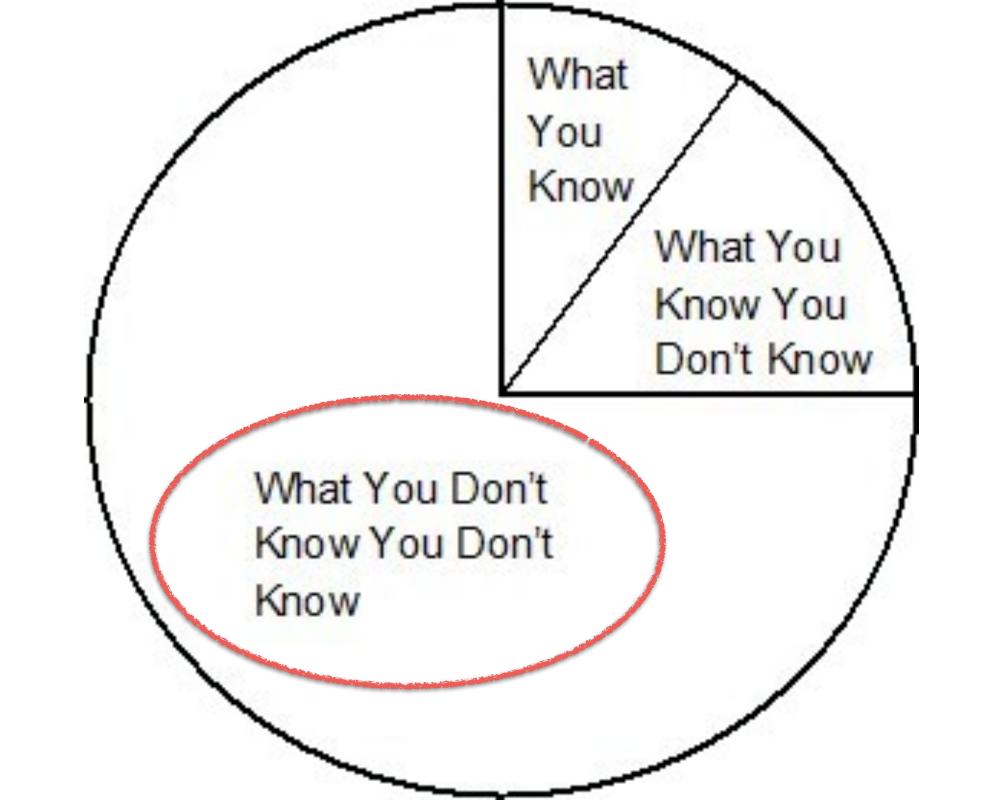
Thierry Silbermann explores some examples where machine learning falls and/or is making a negative impact, looking at some of the tools available today to fix the model.



ARCHITECTURE & DESIGN

Software Supply Chain Management with Grafeas and Kritis

Aysylu Greenberg discusses the goals for Grafeas and Kritis used to secure a company's software supply chain, and concludes with the details of current and future development.



Cool jobs actually exists!:)

Speakers

Discover our confirmed speakers for the event. More speakers will be listed during the upcoming weeks.



Katharina Probst

Director of Engineering @Google Cloud Platform



Aaron Turner

Senior Software Engineer destly



Sarah Wells

Technical Director for Operations and Reliability OFT (Financial...



Bryan Cantrill

Co-Creator DTrace, Co-Founder Fishworks Sun Microsystems, 6...



Sangeeta Narayanan

Director, Edge Developer Experience @Netflix and Co-Host of the...



Matthew Clark

Head Of Arthitecture for the @BBC's Digital Products



Howard Chu

Systems Level Developer & CTO gSynasCorp



Ana Maria Mihalceanu

Solutions Architect (GIBM & Java Champion



Chris Richardson

Creator of microservices.io; Author of Microservices pitterns &...



Sergey Fedorov

Director of Engineering (Metflix



Lin Clark

Senior Principal Engineer (Fastly



Randy Shoup

VP Engineering and Chief Architect @eday



Nell Shamrell-Harrington

Principal Software Engineer (Microsoft



Lucas Cavalcanti

Principal Engineer @rubank



Dio Rettori

Head of Cloud Architecture @jpmorgan



Wes Reisz

Platform Architect @Whyane & Creator/Cohost of #TheInfoGPodcast...



Anjuan Simmons

Engineering Coach @helpscout



Tammy Bryant Butow

Principal Site



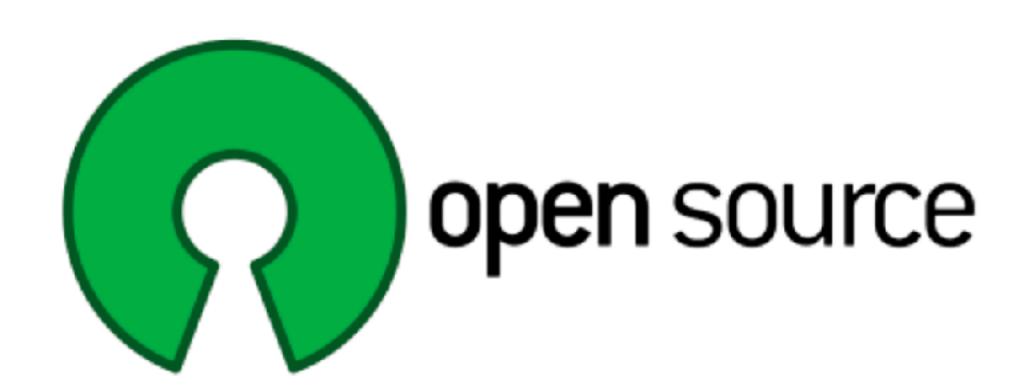
Yang Chi Software Engineer @Facebook



Aaron Bedra Senior Software Engineer @drwtrading

And people that build the cool stuff are actually humans!:)

What most of these people have in common?



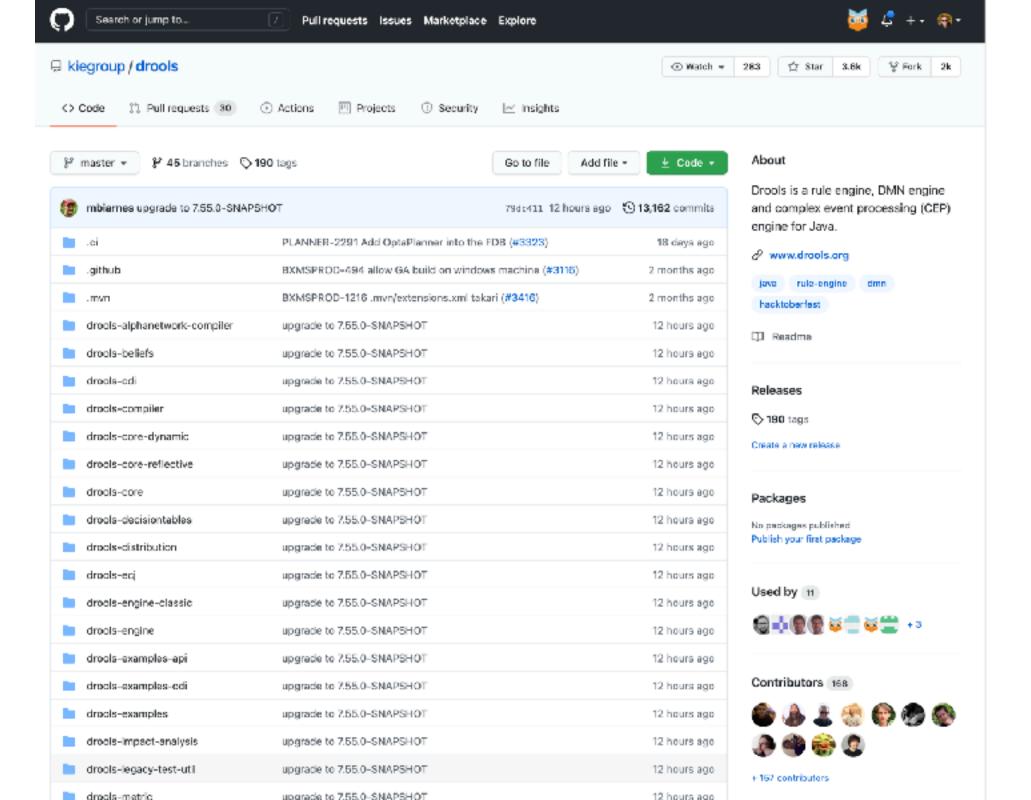
Lucky moment 2:

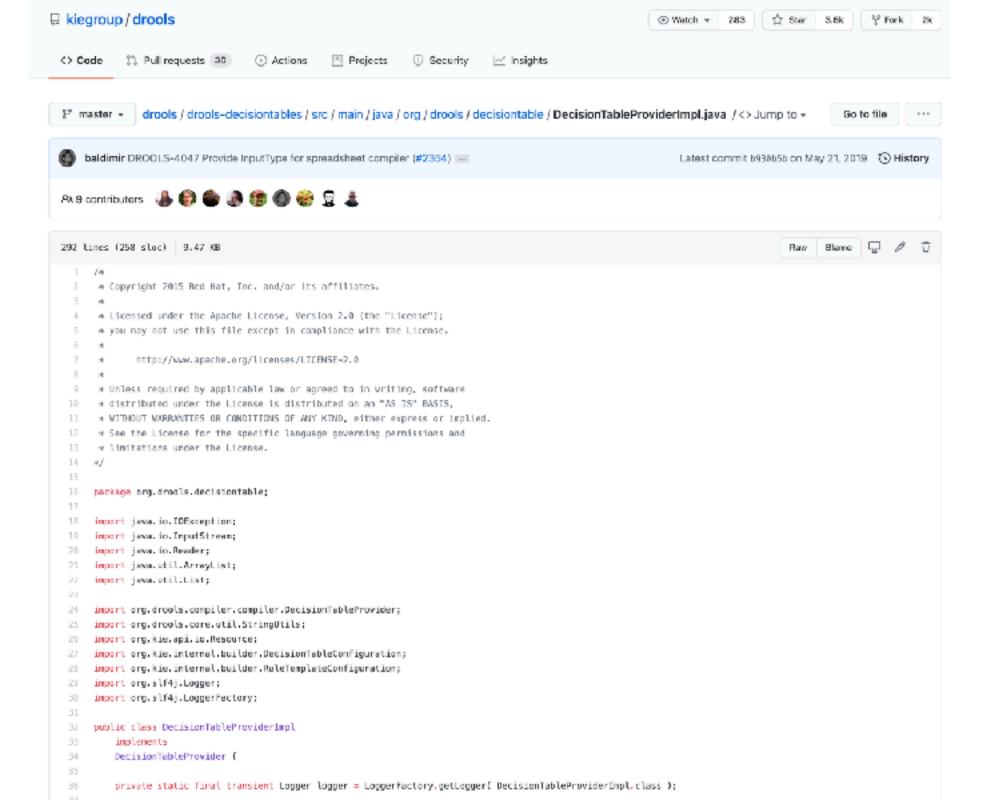
Drools/Uberfire Keynote (2013)



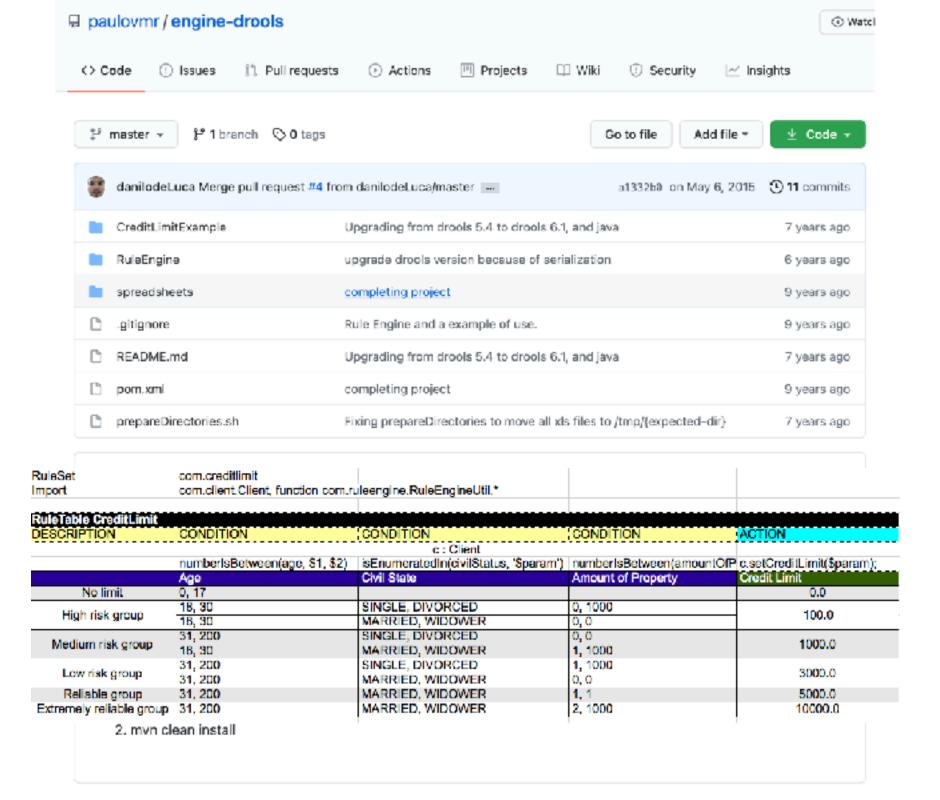
"I'm working in a new Drools open source project called Uberfire"

Drools





Let's use Drools in everything



Lucky moment 3:

Presented this open source project in a conference (2013)

Who was there?



"Cool project. I just watched your presentation and I would like to talk about a gig in Drools team?"

Since then, 7.5 happy years at Red Hat

Developing cool bleeding edge technology

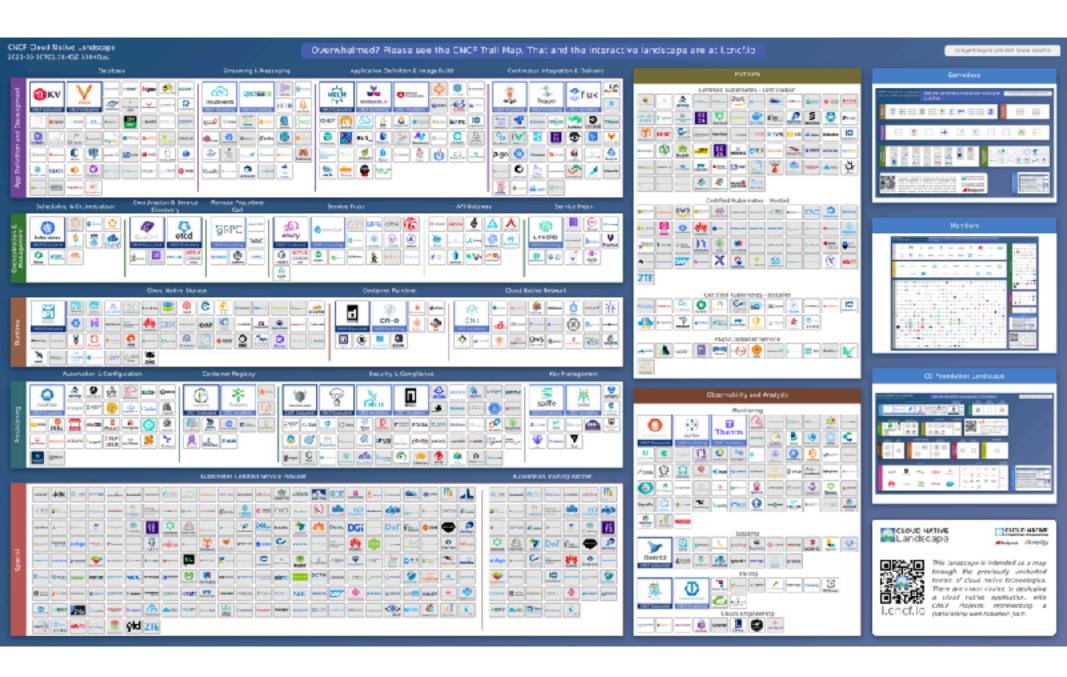
Don't rely on luck.

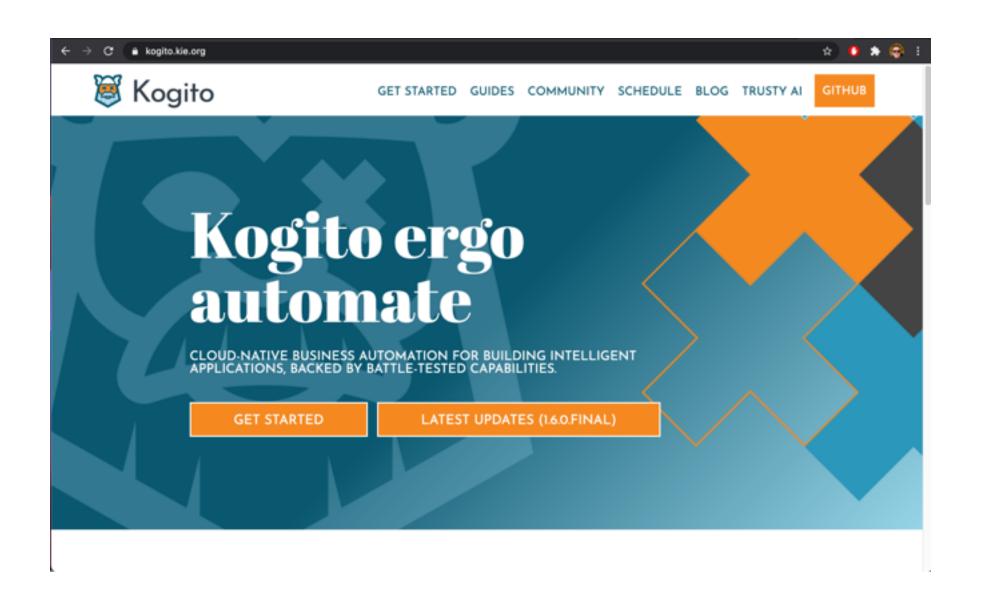
(like I did)

How to get access to the coolest tech jobs and work with bleeding edge technology?

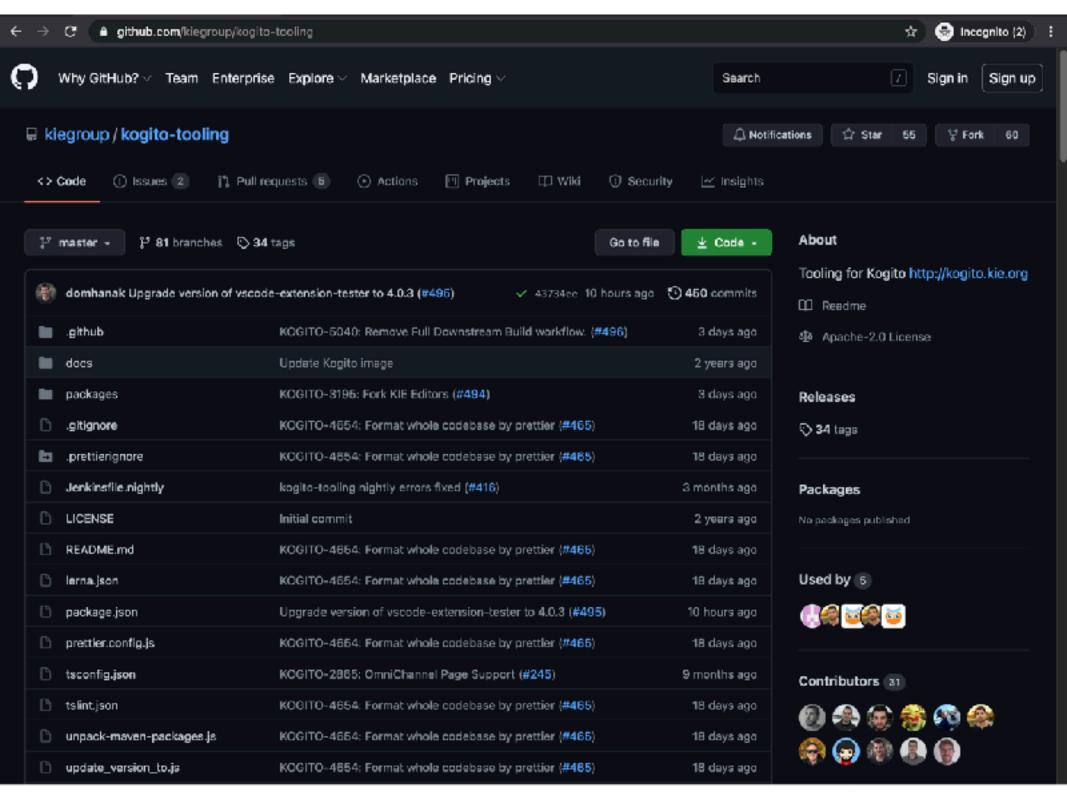
Get involved in Open Source as early as possible.

Step 1: Find your community





Step 2: Be part of this community



Kogito Community

Getting help

DOCUMENTATION

If you have any questions, make sure to take a look at the <u>Kagita documentation</u>.

EXAMPLES

Kogito can be used in many ways, so to help you get started, we provide a wide range of examples demonstrating from simple hello world to more advanced use cases using DMN, BPMN, KNative, Serverless Workflow and more. Head to <u>Kogito examples</u> repository in GitHub and start exploring. The team is constantly updating this repository with new and exciting features as they are added to Kogito.

DISCUSSIONS AND MAILING LIST

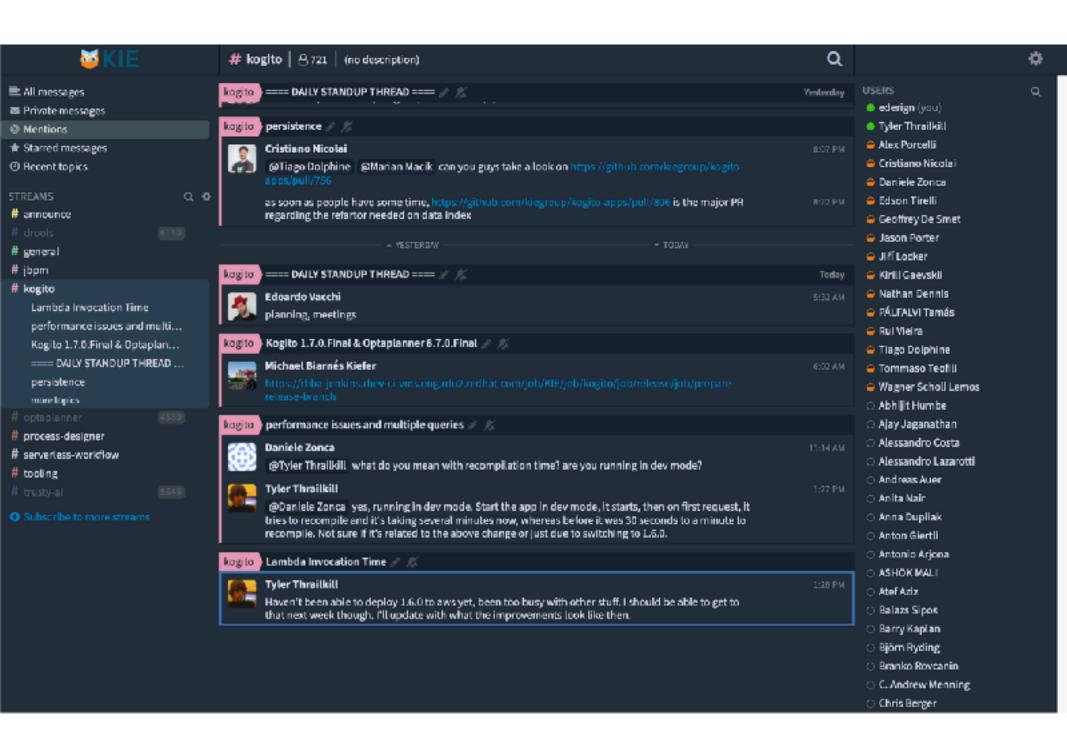
You can also ask questions on our mailing list. Join the Google group via email kogito-development+subscribe@googlegroups.com or by visiting the <u>Google Groups</u> page.

BLOG

Follow helpful articles and posts on <u>Kie Blog</u> presenting interesting use-cases and examples of Kogito in action.

CHAT

Join our community chat by joining the #kogito channel on https://kie.zulipchat.com/. Inside our KIE organization you will find various streams where you can follow any of the topic discussions, create your own topic to ask a question or even help out others. Since most of the developers use this for their day to day discussions as well, you will find a lot of experts there, and a ton of information.



2.2 Run the tutorial/examples









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- 3. Deploying Kogito services on OpenS
- ▶ 4. Developing decision services with Ke
- ▶ 5. Developing process services with Ko
- 6. Orchestrating microservices with Se
- ▶ 7. Configuring Kogito supporting service
 - 8. Kogito glossary of terms
- ▶ 9. Release notes for Kogito 1.6.

Kogito Documentation

The Kogito Community https://kogito.kie.org/community/ - Version 1.6.0



Kogito

Welcome

1. Kogito business automation

Kogito is a cloud-native business automation technology for building cloud-ready business applications. The name *Kogito* derives from the Latin "Cogito", as in "Cogito, ergo sum" ("I think, therefore I am"), and is pronounced ['ko:.d͡ʒi.to] (KO-jec-to). The letter K refers to Kubernetes, the base for OpenShift as the target cloud platform for Kogito, and to the Knowledge Is Everything (KIE) open source business automation project from which Kogito originates.

Kogito is optimized for a hybrid cloud environment and adapts to your domain and tooling needs. The core objective of Kogito is to help you mold a set of business processes and decisions into your own domain-specific cloud-native set of services.

Found an issue? Send a contribution

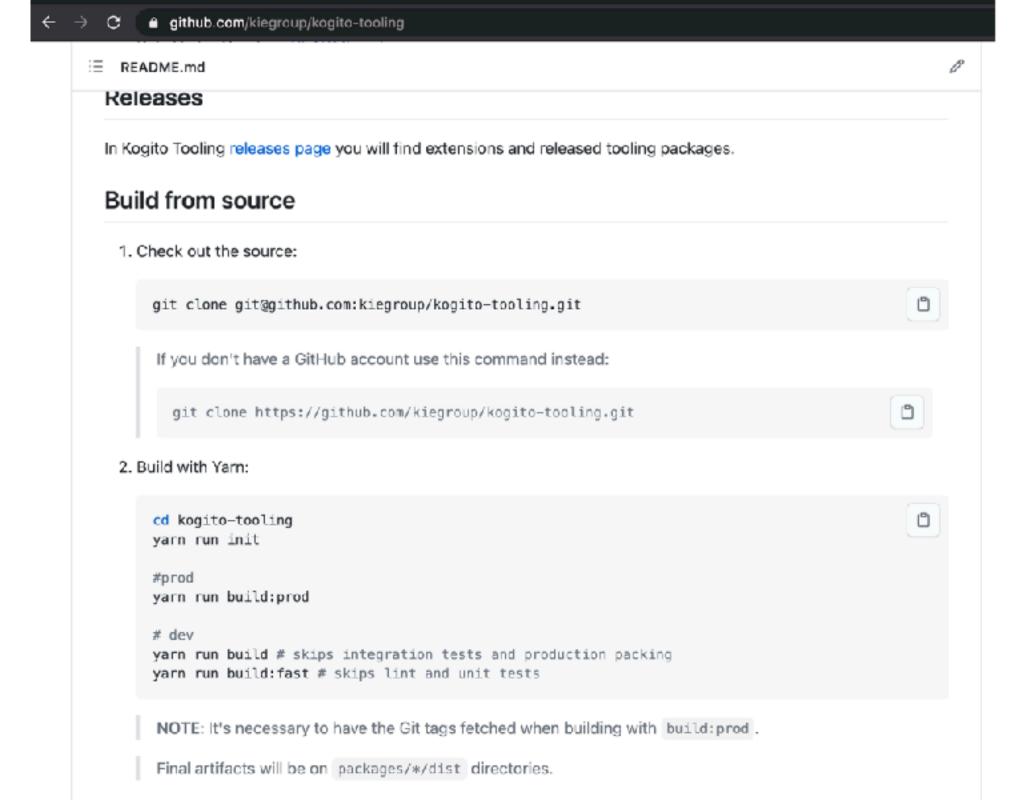
Found a typo? Send a contribution

Wanna update the examples to clarify? Send a contribution

Small and focused contributions are the best ones!

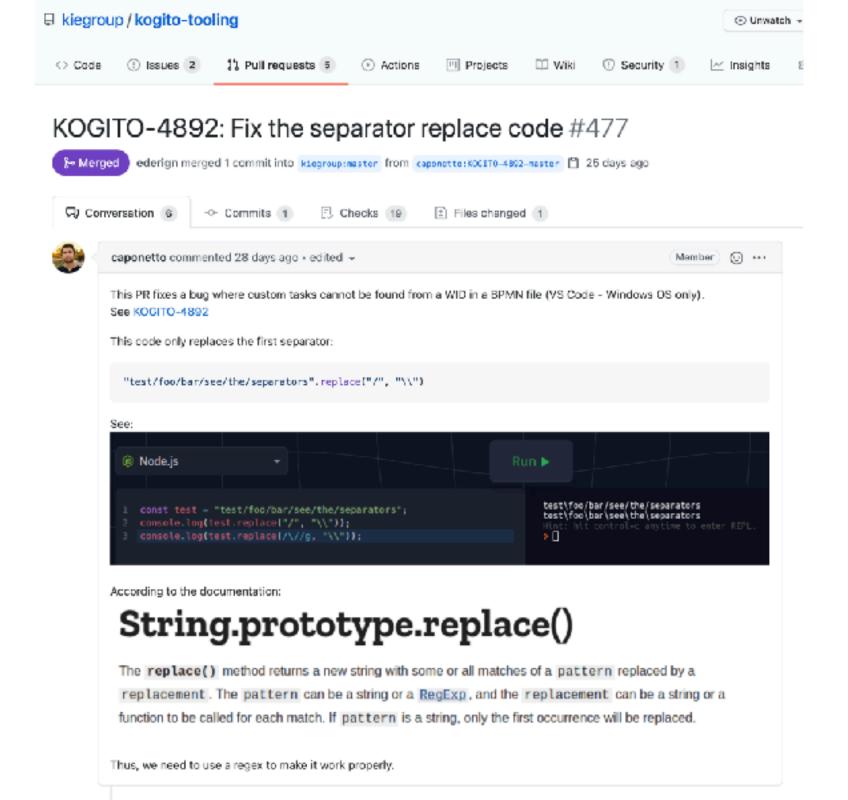
2.3 Ask/Reply questions on public channel (Help people)

2.4 Learn how to build and run the development environment



2.5 Start to learn the codebase: Read and debug source code

2.6 Start to watch/read small PR's merged and try to mimic/reimplement them locally



Step 3: Start to contribute

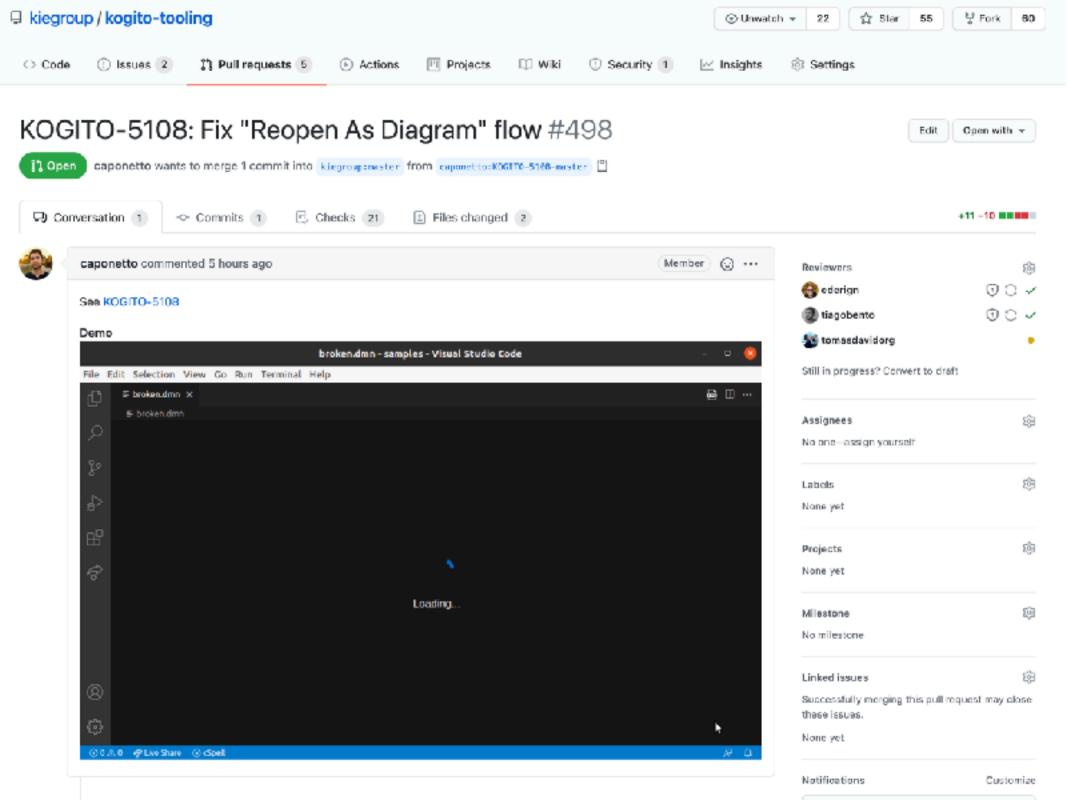
3.1 Help with documentation

3.2 Help new users

3.3 Keep reading source code (PR's etc)

3.4 Do your first "code" contribution

Small and focused contributions are the best ones!



Step 4: Repeat Step 3

I guarantee you that you will learn a lot in this process

Collaborate with the brightest minds of tech industry

Speakers

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Director of Engineering @Google Cloud Platform



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Anjuan Simmons

Engineering Coach @helpscout



Tammy Bryant Butow

Principal Site



Yang Chi Software Engineer @Facebook



Aaron Bedra Senior Software Engineer @drwtrading

And suddenly..



Google facebook ...

"Hi, I see your contributions to {X} project and love it!

Do you wanna talk about an opportunity at

{Cool_Tech_Company}?"

Why?

- If you already contribute to Open Source in your free time, you probably love open source culture and the project;
- 2. You are already familiar with the codebase;
- 3. I already now how you code (I can check your contributions code);
- 4. You are probably familiar with the community;

And what this means to you?

Work developing bleeding edge technology

Real world experience from your home

Access to become a full time open source developer in *any* project/company

It's not easy

But it's possible

There are really fewer people that does this then you can imagine.

Reverse the recruit process

Choose the companies/projects that you want to work for

Code fun stuff!

Thanks!

@ederign
ederign.me
ederign@redhat.com

Next week?

Deep dive on Cloud-native business automation with Kogito for building open source intelligent applications





Kogito is the next generation of business automation platforms focused on cloud-native development, deployment, and execution. Kogito is composed of the battle-tested projects of the KIE group: Drools, jBPM, and OptaPlanner.

READ MORE →



Droots is a business rule management system with a forward-chaining and backward-chaining inference based rules engine, allowing fast and reliable evaluation of business rules and complex event processing.

READ MORE →



jBPM is a flexible Business Process
Management suite allowing you to
model your business goals by
describing the steps that need to be
executed to achieve those goals.

READ MORE →

OptaPlanner@

OptaPlanner is a constraint solver that optimizes use cases such as employee rostering, vehicle routing, task assignment and cloud optimization.

READ MORE →