



RED HAT
FORUM
São Paulo

5 pilares para uma aplicação Java Web bem-sucedida

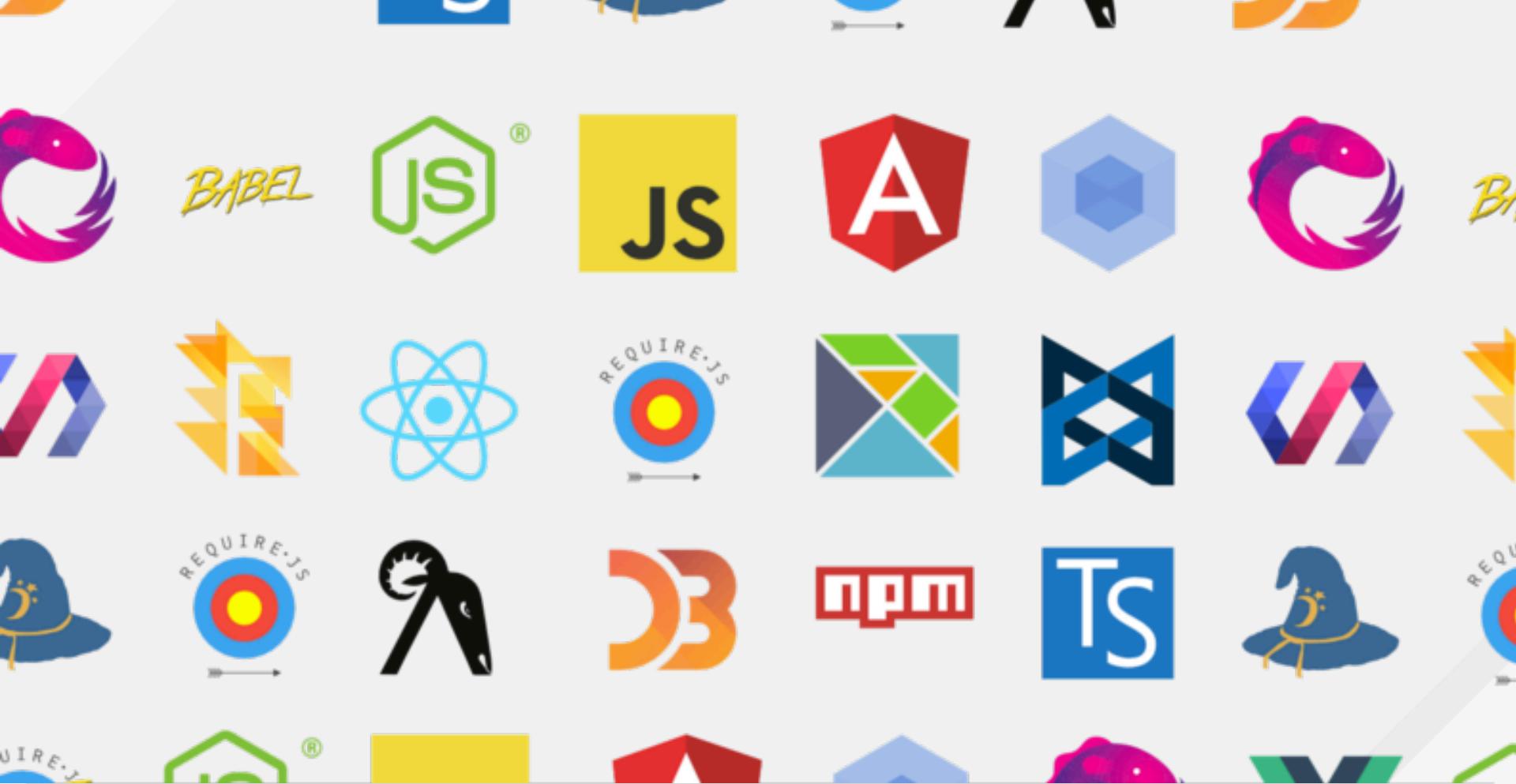
Eder Ignatowicz
Sr. Software Engineer @ Red Hat

Guilherme Carreiro
Software Engineer @ Red Hat



Qual arquitetura e frameworks para o backend?

E o front-end?



Desenvolvimento JavaScript é complexo

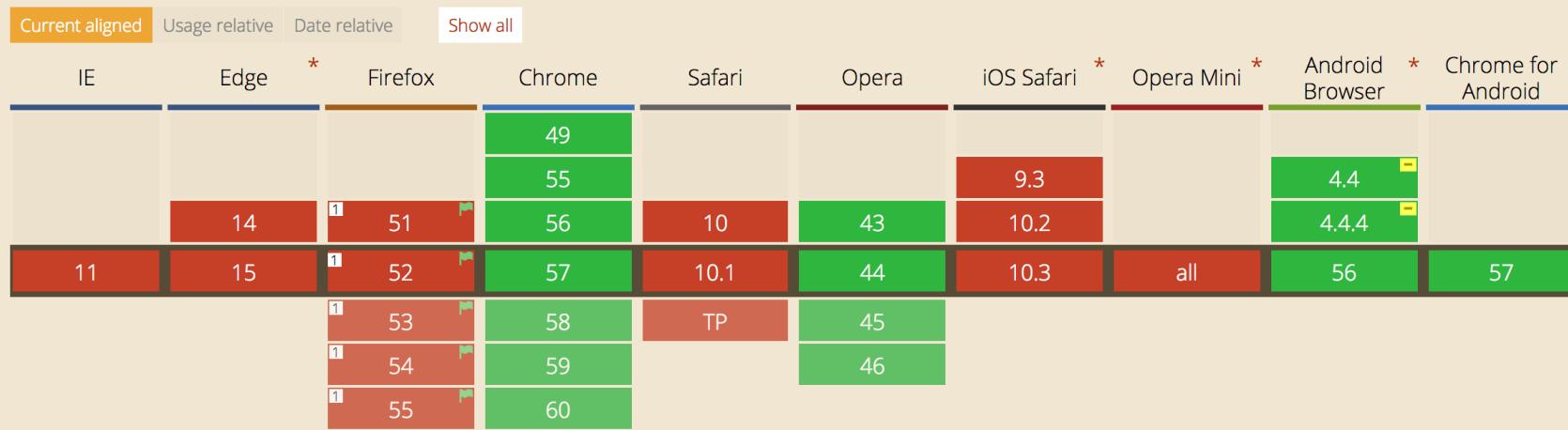
Desenvolvimento JavaScript Web é complexo

Desenvolvimento Web vai
continuar sendo complexo

Shadow DOM v0 - WD

Global 69.05%
unprefixed: 63.57%

Method of establishing and maintaining functional boundaries between DOM trees and how these trees interact with each other within a document, thus enabling better functional encapsulation within the DOM.





KIE Group

Open source projects for business systems automation and management.



Drools

Drools 5 introduces the **Business Logic integration Platform** which provides a unified and integrated platform for **Rules, Workflow and Event Processing**. It's been designed from the ground up so that each aspect is a first class citizen, with no compromises.

Drools team



jBPM

jBPM is a flexible **Business Process Management (BPM) Suite**. A business process allows you to model your business goals by describing the steps that need to be executed to achieve those goals, and the order of those goals are depicted using a flow chart....

jBPM team

OptaPlanner

OptaPlanner optimizes **business resource usage**. Every organization faces planning problems: provide products or services with a limited set of constrained resources. OptaPlanner optimizes such planning to do more business with less resources...

Optaplanner team



UberFire

UberFire is a web based workbench framework inspired by Eclipse Rich Client Platform. This is a very strategic project for Drools & jBPM team, once this is the base technology for our next generation of web tooling.



Dashbuilder

Dashbuilder is a full featured web application for the visual composition of **custom business dashboards**. Data comes from heterogeneous sources of information such as JDBC databases or regular text files and can be displayed using different charting libraries.

Qual stack web escolher?

Qual a arquitetura mais viável
para este problema?

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

5 pilares:

Aplicação de Larga Escala

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Interoperabilidade

Aplicação de Larga Escala

1mi+ de linhas código web

5 produtos

~150 sub-projetos

~30 devs

7+ anos de base de código

Static Typing

Refactoring

Aplicação de Larga Escala

The screenshot shows a Java code editor in an IDE with the following details:

- Project Structure:** The project is named "uberfire-extensions" and contains a module "uberfire-apps-client". The "src/main/java/org/uberfire/ext/apps/client" package is selected.
- Code Editor:** The file "PlaceManager.java" is open. It defines an interface "PlaceManager" with methods like `goTo(String identifier)`, `goTo(PlaceRequest place)`, `goTo(Path path)`, and `goTo(PathAndPlace path, String identifier)`. The code uses annotations such as `@JsType` and `@JsMethod`.
- Find Usages Dialog:** A "Find Usages" dialog is displayed, showing results for the `goTo(String)` method. It lists 4 usages, all located in the "uberfire-apps-client" module under the `org.uberfire.ext.apps.client.home` package, specifically in the `AppsHomePresenter` class. One usage is highlighted: `(162: 30) placeManager.goTo(parameter);`.
- Toolbars and Status Bar:** The top bar includes various icons for file operations, search, and help. The status bar at the bottom shows "Compilation completed successfully with 20 warnings in 16s 389ms (today 15:34)" and "Event Log" information.

Transpilers para JavaScript

Aplicação de Larga Escala



GitHub, Inc. [US] - https://github.com/jashkenas/coffeescript/wiki/List-of-languages-that-compile-to-JS

Dojo Secure Framework for building secure mashups.

Static typing

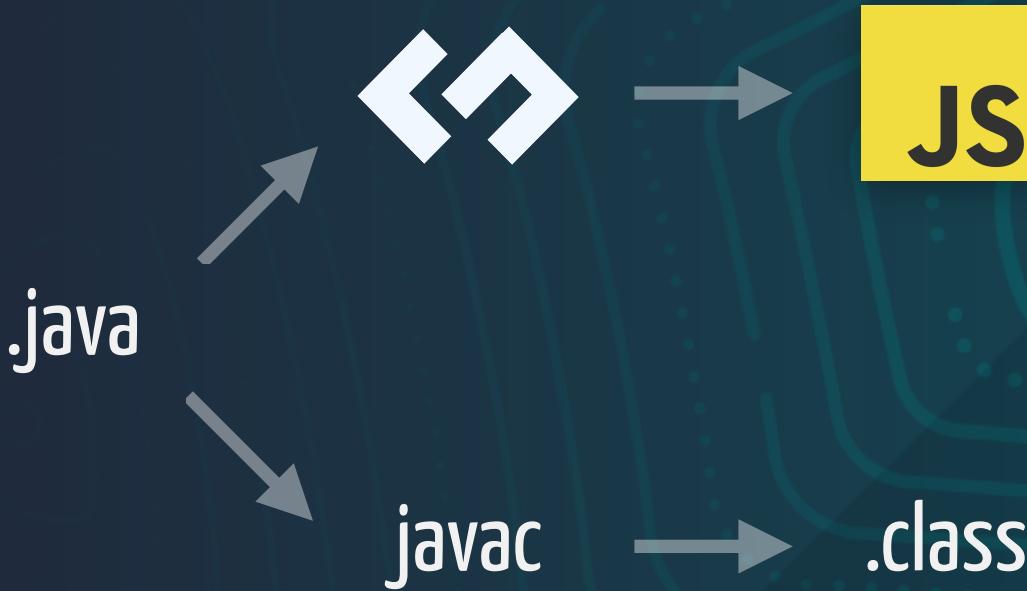
NOTE: Some of the projects listed below are also statically typed, such as mobl, GWT, JSIL, NS Basic, and Haxe.

Name	Description
Dart	C/Java-like syntax with optional typing by Google.
TypeScript	Typed superset of JavaScript by Microsoft.
TeJaS	From Brown PLT. Types for JavaScript (itself).
asm.js	Subset of JavaScript that can be used as a low-level, efficient target language for compilers. Now included in Firefox.
JavaScript++	JavaScript superset with classes, type checking, among other features
Mascara	[commercial] Enhances JavaScript with powerful features like classes, namespaces and type-checking.
Roy	Tries to meld JavaScript semantics with some features common in static functional languages
Elm	Type-safe functional language that compiles to HTML, CSS, and JavaScript.
Swym	Statically typed, with type inference and generics
Typecast.js	JavaScript platform for statically typed variables without a custom compiler.
PureScript	A small, strongly typed programming language that compiles to JavaScript and C++, featuring extensible records and effects, and type classes.
Flow	Static type checker for JavaScript, supports optional types and null checks by Facebook.
ActionScript	With Apache FlexJS - Based on ECMAScript 4, ActionScript provides typing and can be compiled to JavaScript.

Synchronous to Asynchronous JavaScript Compilers (CPS)

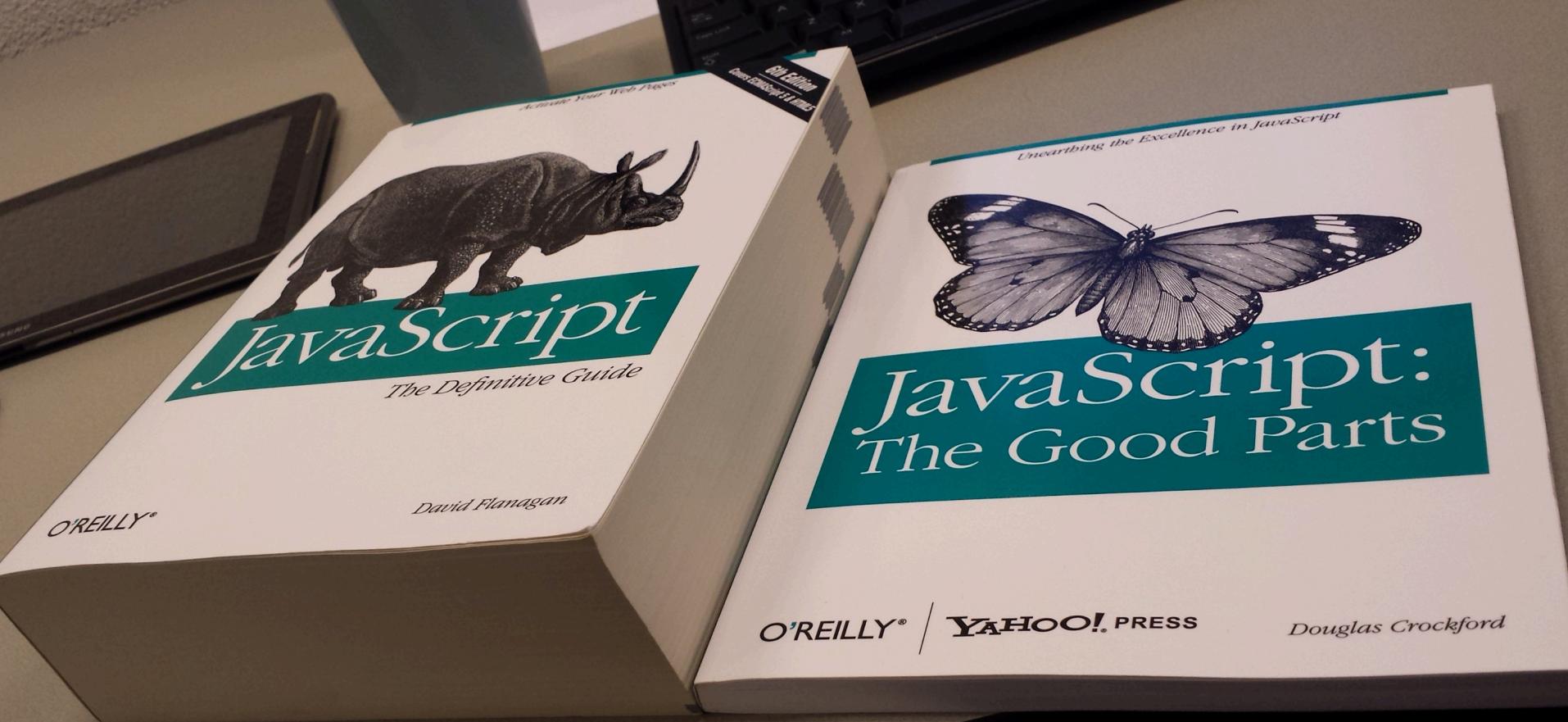
Name	Description
Streamline.js	Uses underscore (_) to stand for callbacks. This fork preserves line numbers for debugging.

Aplicação de Larga Escala





GWT





GWT

The Good Parts

Java to JavaScript

java.* emulation

DOM APIs

Java 8 “client side”

Dev Tools

JS Interop

JS Interop · Consume

Java

```
@JsType(isNative = true)
public abstract class JQuery {

    @JsMethod(namespace=GLOBAL)
    public native static JQuery $(String selector);

    public native JQuery css(String prop, String val);

    public native JQuery attr(String name, String val);
}
```

Java

```
import static jquery.JQuery.$;
// ...
$("ul > li").css("color", "red").attr("data-level", "first");
```

Refactoring

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Desenvolvedores full stack

Desenvolvedores
“end-to-end”

Shared Programming Model

“Java EE” no browser

Desenvolvedores full stack



CDI no Browser

CDI no Browser

```
@Dependent
public class ProjectsView {

    @Inject
    Document document;

    @Inject
    @DataField( "projects-view" )
    Div view;

    @Inject
    @DataField( "new-project" )
    Button newProject;

    @Inject
    @DataField( "projects-list" )
    UnorderedList projectsList;

    @Inject
    Instance<ProjectItem> projects;
```

CDI no Browser

```
if (!filter.doFilter(event)) {  
    ...  
    if (event.kind().equals(StandardWatchEventKind.ENTRY_ADD)) {  
        resourceAddedEvent.fire(buildEvent(ResourceAddedEvent.class,  
                                             event).getK2());  
    }  
    ...  
}
```

CDI no Browser

```
public void onNewFile(@Observes ResourceAddedEvent event) {  
  
    Window.alert("ResourceAddedEvent:" +  
        event.getPath().toURI() +  
        " [" + event.getMessage() + "]");  
  
}
```

CDI no Browser

The screenshot shows a browser window displaying a Java IDE interface. The title bar indicates the URL is `127.0.0.1:8888/index.html#Perspective%20Editor?path_uri=default://master@plugins/Afdfd/perspective_layout.plugin&file_name=perspective_layout.plugin&has_version_support=true&name=Afdfd`. The interface includes a top navigation bar with Home, Perspectives, and Screens. A central area is titled "New Perspective Layout Plugin..." with a "Name" field containing "QConPerspective". Below this is a "Paused in debugger" message with a "Break" button. On the left, a "Plugin Explorer" sidebar lists various perspectives like AdminPagePerspective, AppsPerspective, and Dashboard. The main workspace shows a "Sources" tab selected, displaying code for `PlaceManagerImpl.java` and `PerspectiveEdit...Presenter.java`. The code for `PlaceManagerImpl.java` includes methods `buildPerspective()` and `onNewFile(@Observes ResourceAddedEvent event)`. The `onNewFile` method has a breakpoint at line 74, which is highlighted with a blue border. The right side of the interface features a "Call Stack" panel showing a stack trace with several entries, all starting with "K0J_g\$". The bottom status bar shows the dimensions `1920px x 598px`.

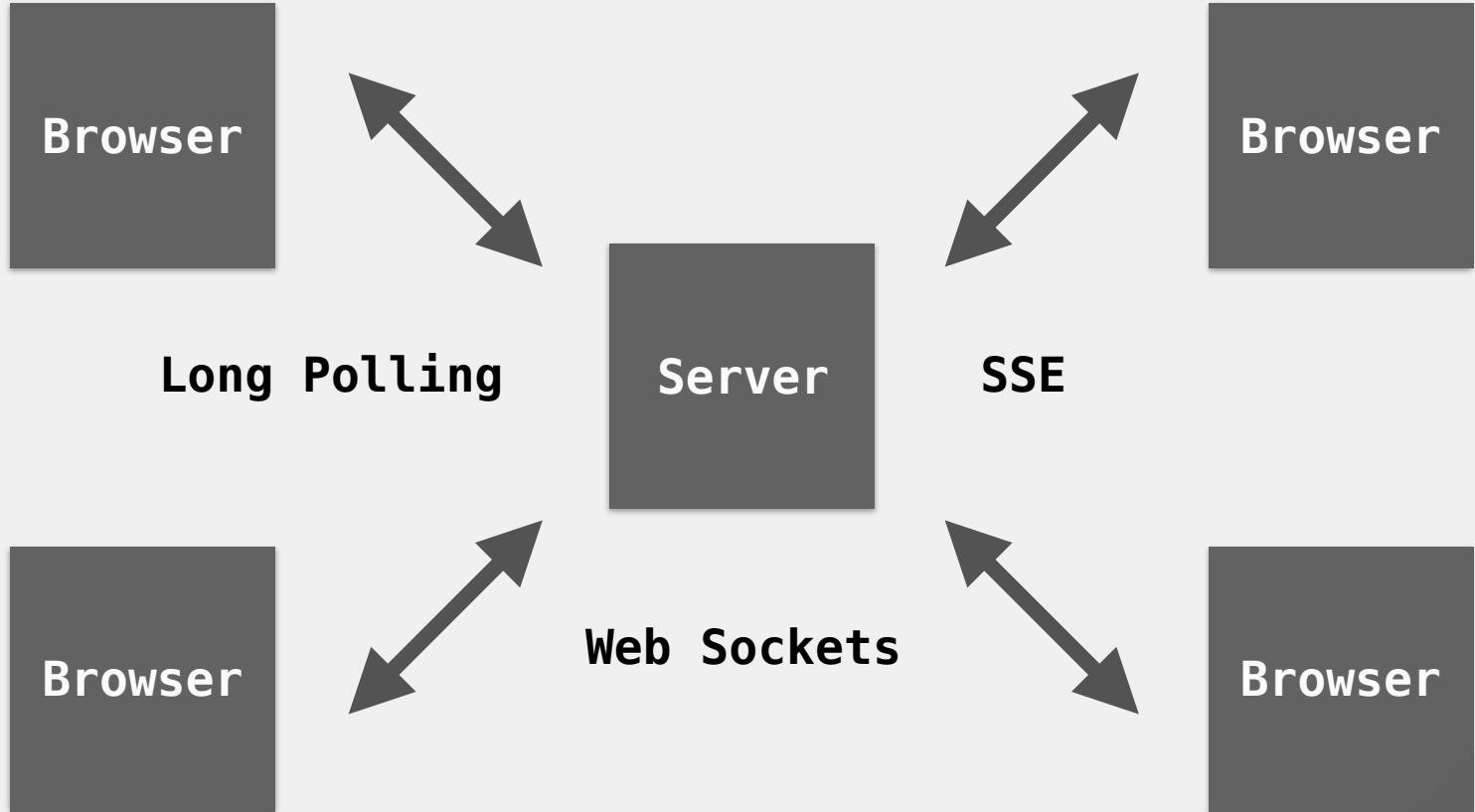
```
private PerspectiveDefinition buildPerspective() {
    final PerspectiveDefinitionImpl perspective = new PerspectiveDefinitionImpl(
        MultiListWorkbenchPanelPresenter.class.getName());
    perspective.setName("Plugin Authoring");
    return perspective;
}

public void onNewFile(@Observes ResourceAddedEvent event) {
    Window.alert("ResourceAddedEvent:" + event.getPath().toURI() +
        " [" + event.getMessage() + "]");
}
```

Call Stack:

- K0J_g\$
- MOT_g\$
- LOt_g\$
- t\$J_g\$
- u0J_g\$
- k0J_g\$
- q0J_g\$
- K0J_g\$

ERRAI BUS



Shared Programming Model

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

```

<form action="orderResult.jsp" method="POST">
    <h3>Pizza Types</h3>
    <div>
        <ul>
            <% for ( Pizza pizza : pizzaTypes ) { %>
            <li>
                <input type="radio" name="pizzaTypeOptions" value="<%=pizza.getName()%>" checked />
                <span class="pizzaType"><%=pizza.getName()%></span>
                <span class="pizzaPrice"><%=pizza.getPrice()%>$</span>
            </li>
            <% } %>
        </ul>
    </div>
    <h3>Size</h3>
    <h3>Extra Toppings</h3>
    <div class="section group">
        <% for ( int j = 0; j < 3; j++ ) { %>
        <div class="col span_1_of_3">
            <ul class="ul_2">
                <% for ( int i = sliceSize * j; i < ( j + 1 ) * sliceSize; i++ ) { %>
                <li class="li_2">
                    <input type="checkbox" name="pizzaToppings" value="<%=pizzaToppings.get( i )%>" />
                    <%=pizzaToppings.get( i )%>
                </li>
                <% }
                <% }
                if ( j == 0 && remainder > 0 ) {
                %>
                <li class="li_2">
                    <input type="checkbox" name="pizzaToppings" value="<%=pizzaToppings.get( pizzaToppings.size() - 2 )%>" />
                    <%=pizzaToppings.get( pizzaToppings.size() - 2 )%>
                </li>
                <% } else if ( j == 1 && remainder > 1 ) { %>
                <li class="li_2">
                    <input type="checkbox" name="pizzaToppings" value="<%=pizzaToppings.get( pizzaToppings.size() - 1 )%>" />
                    <%=pizzaToppings.get( pizzaToppings.size() - 1 )%>
                </li>
                <% } %>
            </ul>
        </div>
        <% } %>
    </div>
    <h4>Each extra topping is 0.65$</h4>
    <input type="submit" value="Order"/>
</form>

```

```
<h1>{{title}}</h1>
<h2>My favorite hero is: {{myHero}}</h2>
<p>Heroes:</p>
<ul>
  <li *ngFor="let hero of heroes">
    {{ hero }}
  </li>
</ul>
```

```
<div>

    <ul class="list-group" data-field="projects-list">

    </ul>

    <button type="button" class="btn" data-field="new-project">

        <i class="fa fa-plus"></i> New Project

    </button>

</div>
```

```
@Dependent  
@Templated  
public class ProjectsView {  
  
    @Inject  
    @DataField( "projects-view" )  
    Div view;  
  
    @Inject  
    @DataField( "new-project" )  
    Button newProject;  
  
    @Inject  
    @DataField( "projects-list" )  
    UnorderedList projectsList;  
}
```

← → ⌂ 127.0.0.1:8888/drools-wb.html#org.kie.workbench.common.screens.home.client.HomePresenter

Red hat MOT TO READ BW SCIP Future Book jacobin-abcs.pdf Must Reads from h...

Drools Workbench

Home Admin - Preferences Perspectives Search

The KIE Knowledge Development Cycle

Discover and Author:
Author

Deploy:
Manage and Deploy Your Assets
Assets Repository

Author
Formalize your Business Knowledge

```

<!-- Masthead -->
<nav class="navbar navbar-default navbar-pf ">
  <div class="navbar-header ">
    <button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-collapse-2">
      <span class="sr-only">Toggle navigation</span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
      <span class="icon-bar"></span>
    </button>
    <a href="/" class="navbar-brand">
      
    </a>
  </div>

  <div class="collapse navbar-collapse navbar-collapse-2">

    <ul class="nav navbar-nav "><!-- navbar-iconic -->
      <li class="dropdown">
        <a class="dropdown-toggle nav-item-iconic" id="dropdownMenu2" data-toggle="dropdown" aria-haspopup="true" aria-expanded="true">
          Home
          <span class="caret"></span>
        </a>
        <ul class="dropdown-menu" aria-labelledby="dropdownMenu2">
          <li><a href="#">Design</a></li>
          <li><a href="#">Processes & Tasks</a></li>
          <li><a href="#">Runtime</a></li>
          <li><a href="#">Settings</a></li>
        </ul>
      </li>
    </ul>

    <ul class="nav navbar-nav navbar-right">
      <li class="dropdown">
        <a class="dropdown-toggle nav-item-iconic" id="notifications" data-toggle="dropdown" aria-haspopup="true" aria-expanded="true">
          <span title="Notifications" class="fa pficon-warning-triangle-o"></span>
          Messages: 0
        </a>
        <div class="dropdown-menu infotip bottom-right">
          <div class="arrow"></div>
          <ul class="list-group">
            <li class="list-group-item">
              <span class="i pficon pficon-info"></span> Modified Datasources ExampleDS
            </li>
            <li class="list-group-item">
              <span class="i pficon pficon-info"></span> Error: System Failure
            </li>
          </ul>
          <div class="footer">
            <a>Clear Messages</a>
          </div>
        </div>
      </li>
      <li class="dropdown">
        <a class="dropdown-toggle nav-item-iconic" id="dropdownMenu2" data-toggle="dropdown" aria-haspopup="true" aria-expanded="true">
          <span title="Username" class="fa pficon-user"></span>
          Brian Johnson
          <span class="caret"></span>
        </a>
        <ul class="dropdown-menu" aria-labelledby="dropdownMenu2">
...

```

← → ⌂ 127.0.0.1:8888/drools-wb.html#HomePerspective%7Corg.kie.workbench.common.screens.home.client.HomePresenter

KIE IDE

Menu ▾

?

admin ▾

⋮

Welcome to KIE Workbench

KIE Workbench offers a set of flexible tools, that support the way you need to work. Select a tool below to get started.



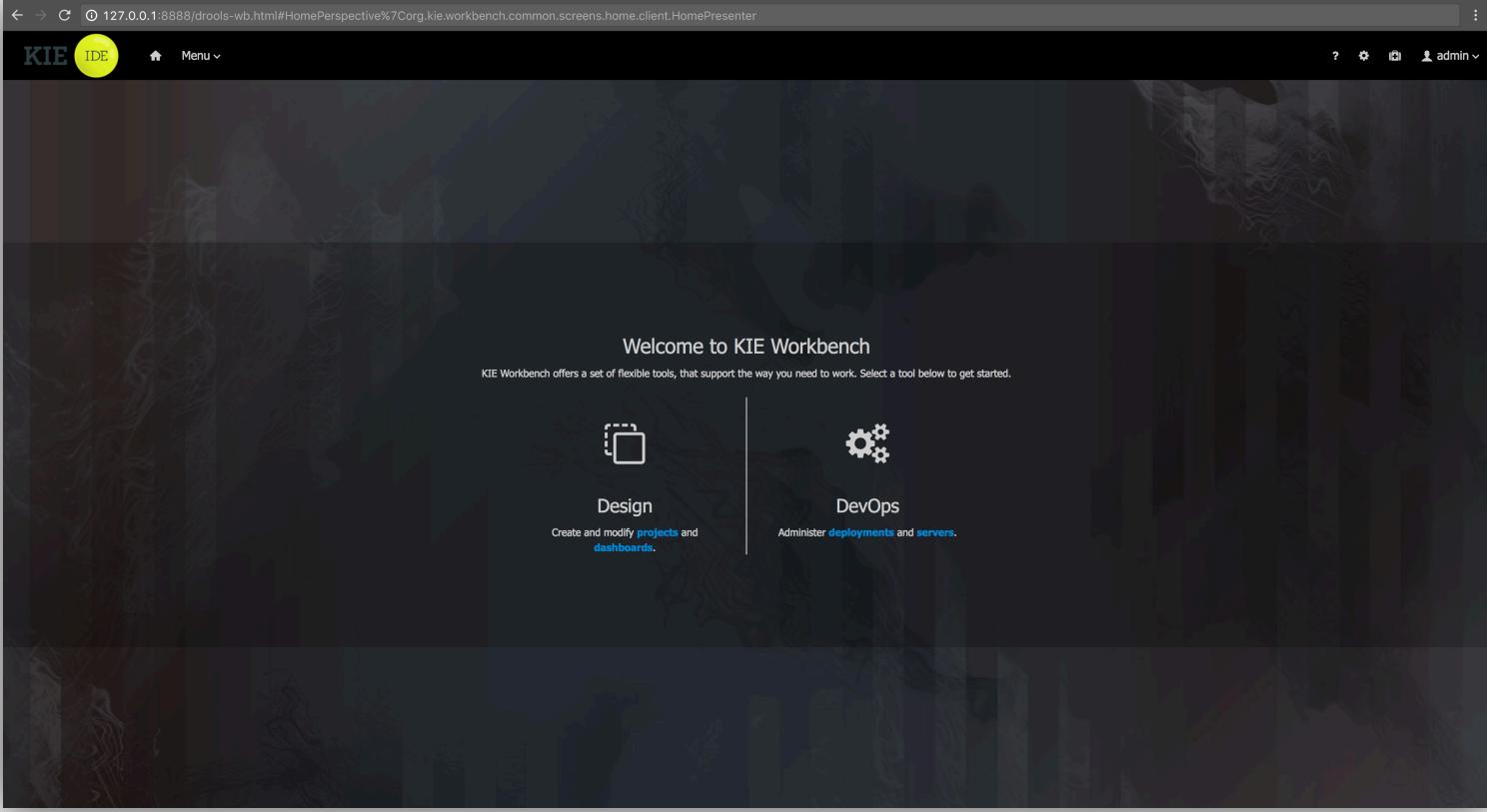
Design

Create and modify [projects](#) and [dashboards](#).



DevOps

Administer [deployments](#) and [servers](#).



Integração com UX

Deixe o HTML/CSS
em paz

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade



Hexagonal Architecture - Alistair Cockburn

Onion Architecture - Jeffrey Palermo

DCI - James Coplien e Trygve Reenskaug.

BCE - Ivar Jacobson

Clean Architecture - Robert C. Martin

Princípios

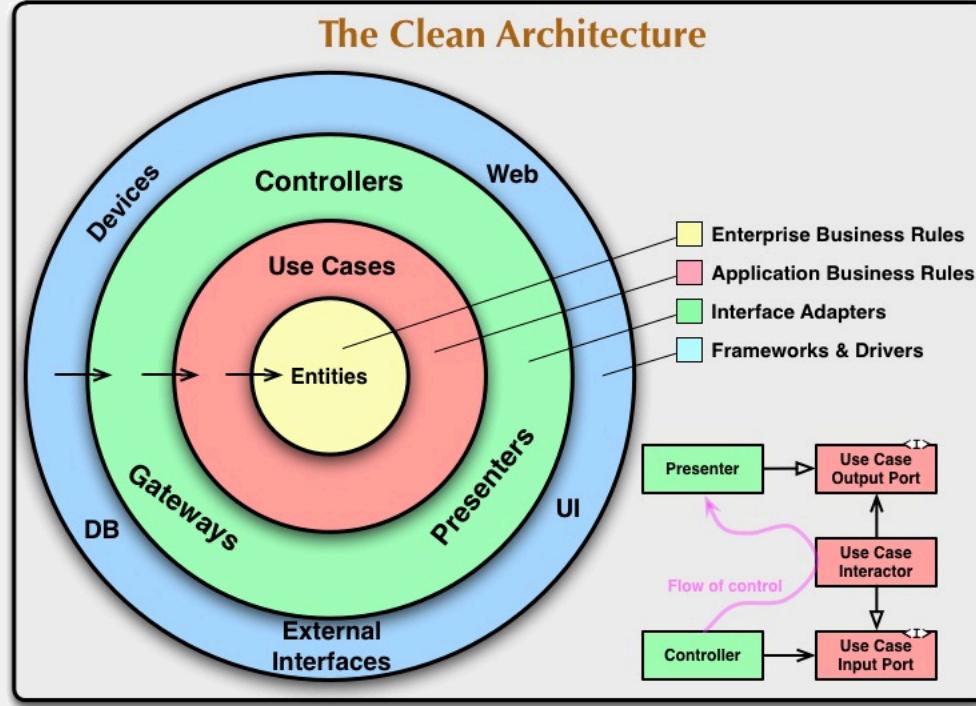
Independente de Frameworks

Testável

Independente de UI

Independente de Database

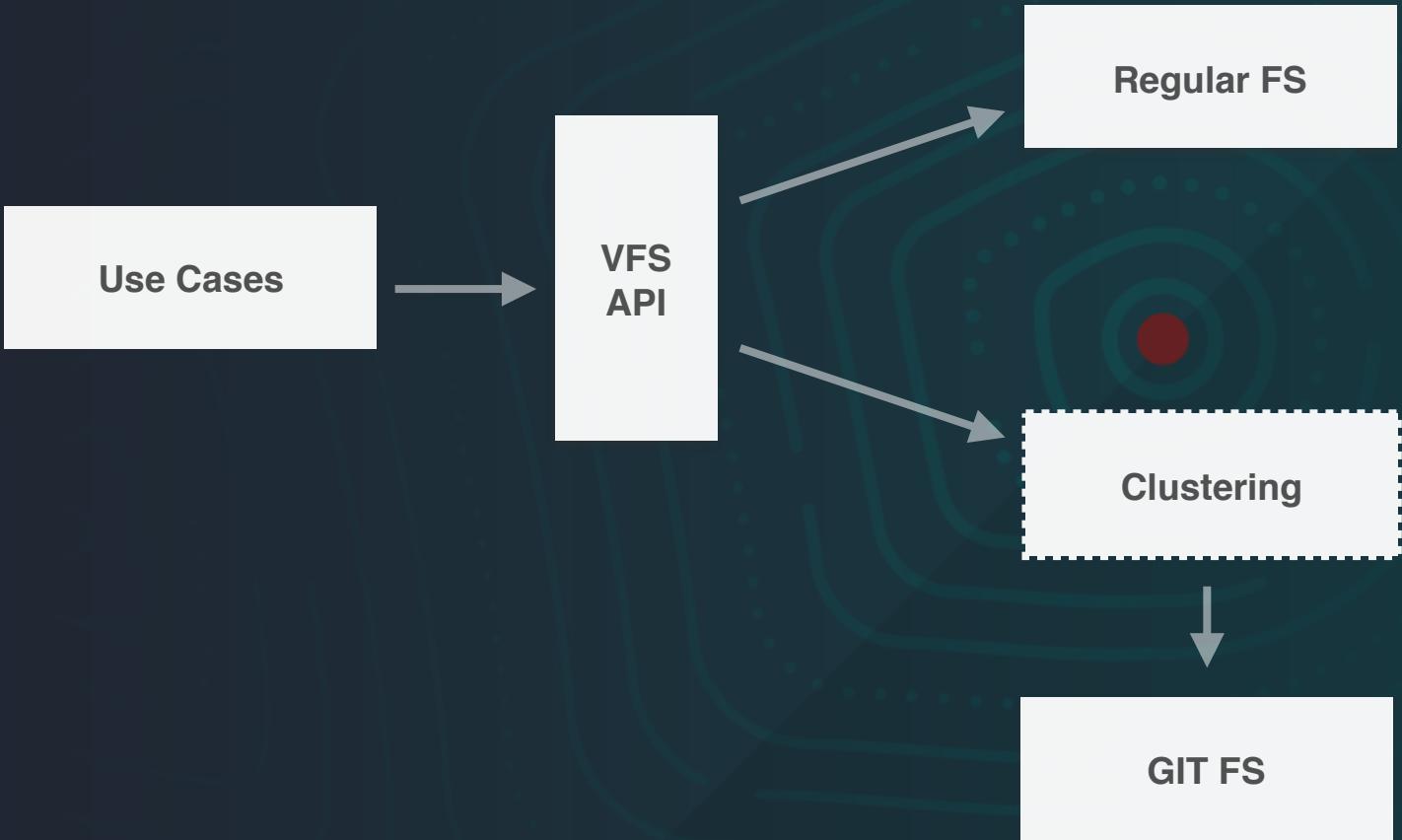
Independente de Agentes Externos



“Architecture is about intent.
We have made it about
frameworks and details”

Robert C. Martin

UBERFIRE VFS



← → ⌂ ① 127.0.0.1:8888/drools-wb.html#LibraryPerspective%7C\$ProjectScreen,GuidedDecisionTableEditor?path_uri=default://master@myrepo/mortgages/src/main/resources/mortgages/mortgages/Pricing%252520loans.gdst&file_name=Pricing%252520loans.gdst&h... ⌂

KIE IDE Menu admin

Teams > myteam > mortgages > Pricing loans

Project Explorer

<default> > mortgages > mortgages

DRL

DATA OBJECTS

DOMAIN SPECIFIC LANGUAGE DEFINITIONS

ENUMERATION DEFINITIONS

GUIDED DECISION TABLES

Pricing loans

GUIDED RULES

GUIDED RULES (WITH DSL)

TEST SCENARIOS

Pricing loans.gdst - Guided Decision Tables

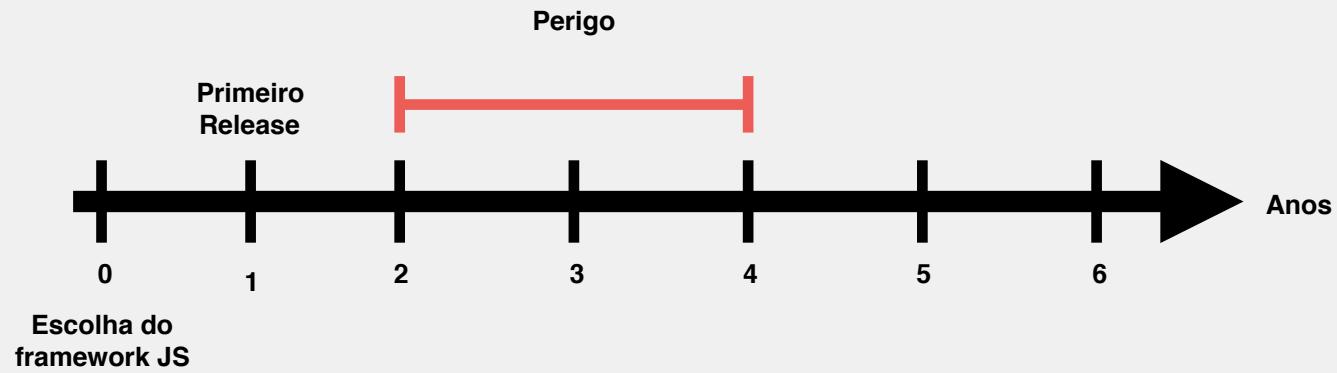
Editor Overview Source Data Objects

Add Column Edit Columns

Pricing loans		application : LoanApplication				Income : IncomeSource			application		
#	Description	amount min	amount max	period	deposit max	income	Loan approved	LMI	rate		
1		131000	200000	20	20000	Job	true	0	2		
2		10000	100000	20	2000	Job	true	0	4		
3		100001	130000	20	3000	Job	false	5	6		
4		100001	130000	20	3000	Job	true	5	6		

Qual framework Web escolher?

Qual framework JS escolher?



What's next for Angular 1.x?

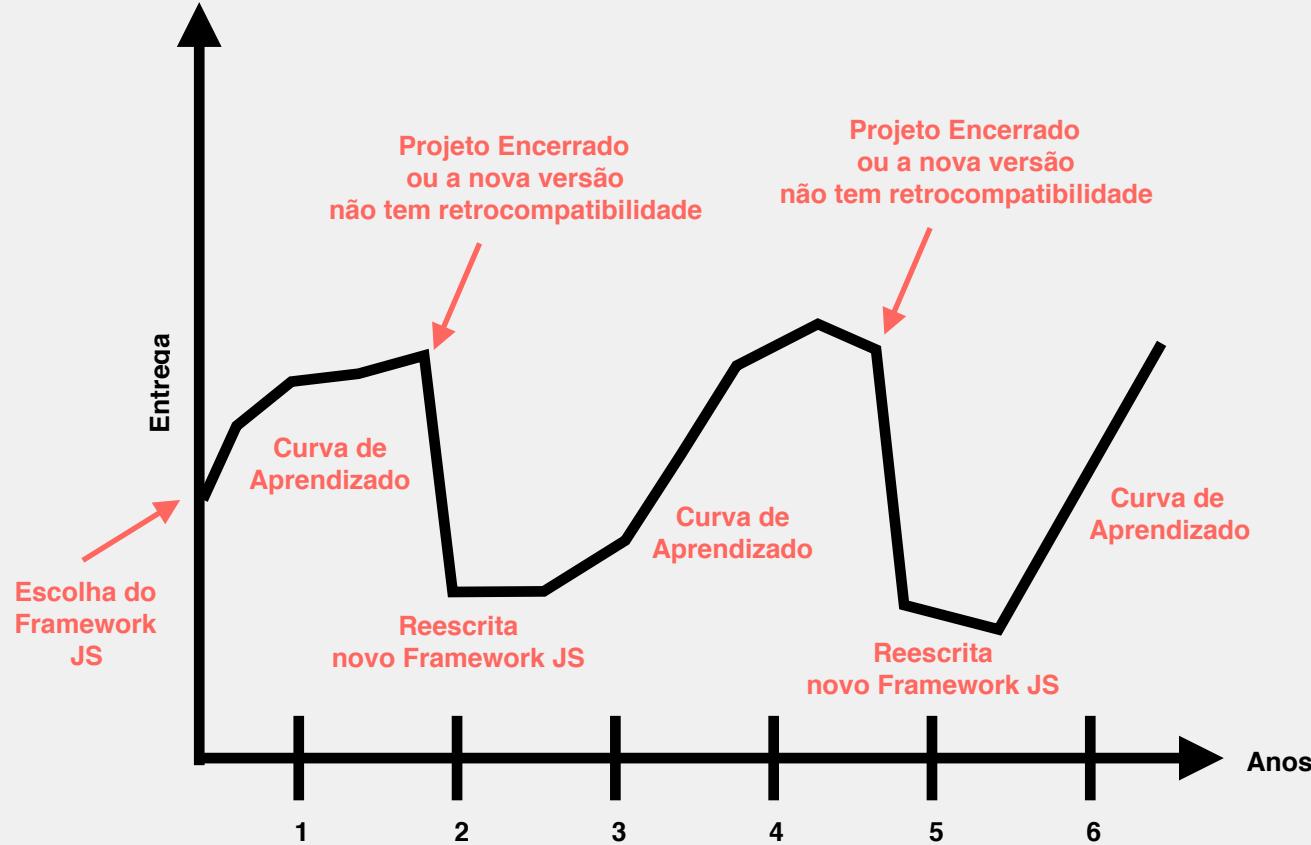
“In all honesty, no one really knows what will happen”



I'm Todd, I teach the world Angular through [@UltimateAngular](#).
Conference speaker and Developer Expert at Google.

[Follow @toddmotto](#) • 33.6K followers

<https://toddmotto.com/future-of-angular-1-x>



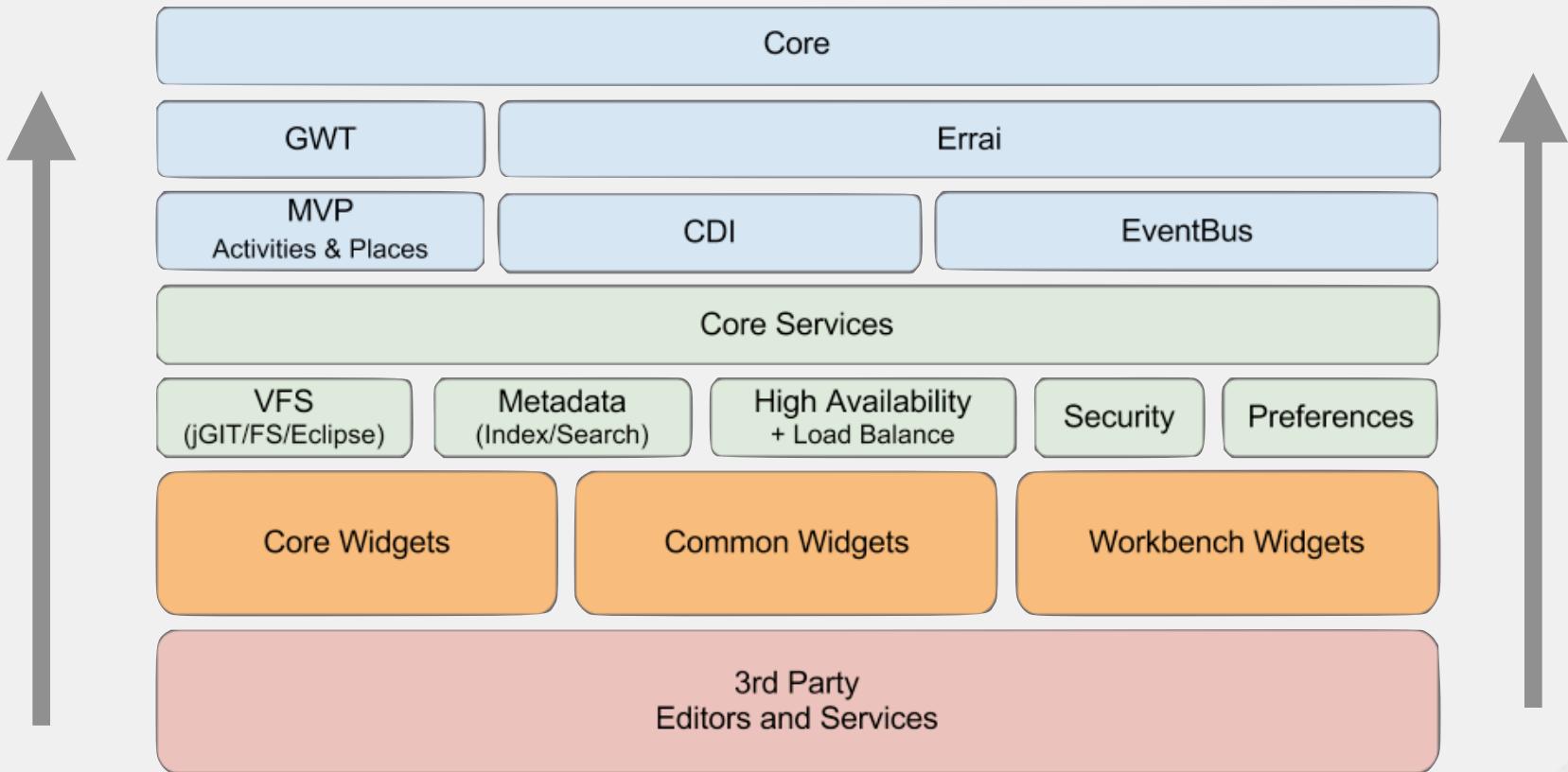
“A good architecture allows
volatile decisions to be
easily changed”

Robert C. Martin

E se eu tratasse a volatilidade
dos frameworks JS como fato?



uberfire



Modelo de Programação

- Componentes:
- Screen
 - Editors
 - Perspectives
 - Popups

Modelo de Programação

- LifeCycle:
 - OnStart
 - OnSave
 - IsDirty
 - OnClose
 - ...

← → C ① 127.0.0.1:8888/drools-wb.html#LibraryPerspective%7C\$ProjectScreen,GuidedDecisionTableEditor?path_uri=default://master@myrepo/mortgages/src/main/resources/mortgages/mortgages/Pricing%2520loans.gdst&file_name=Pricing%2520loans.gdst&l... :

Drools Workbench

Home Admin - Preferences Perspectives ▾

Perspective

Search Asset Search

Project Explorer Open Project Editor

demo > test > mortgages

DRL

DATA OBJECTS

DOMAIN SPECIFIC LANGUAGE DEFINITIONS

ENUMERATION DEFINITIONS

GUIDED DECISION TABLES

Pricing loans

GUIDED RULES

GUIDED RULES (WITH DSL)

TEST SCENARIOS

Screen

Pricing loans.gdst - Guided Decision Tables

Editor Overview Source Data Objects

Decision table

All the rules inherit: None selected

Pricing loans

#	Description	application : LoanApplication			ome : IncomeSou	Loan approved	LMI	rate	
		amount min	amount max	period					deposit max
1		131000	200000	30	20000	Asset	true	0	2
2		10000	100000	20	2000	Job	true	0	4
3		100001	130000	20	3000	Job	false	10	6
4		100001	130000	20	3000	Job	false	10	6

Messages

Editor

Analysis

Analysis complete

⚠ 3, 4 - Subsumptant rows

① - 1 - Missing range

① - 2 - Missing range

① - 3 - Missing range

① - 4 - Missing range

Subsumptant rows

Affected rows: 3, 4

Subsumption exists when one row does the same thing as another, with a sub set of the values/facts of an another rule.

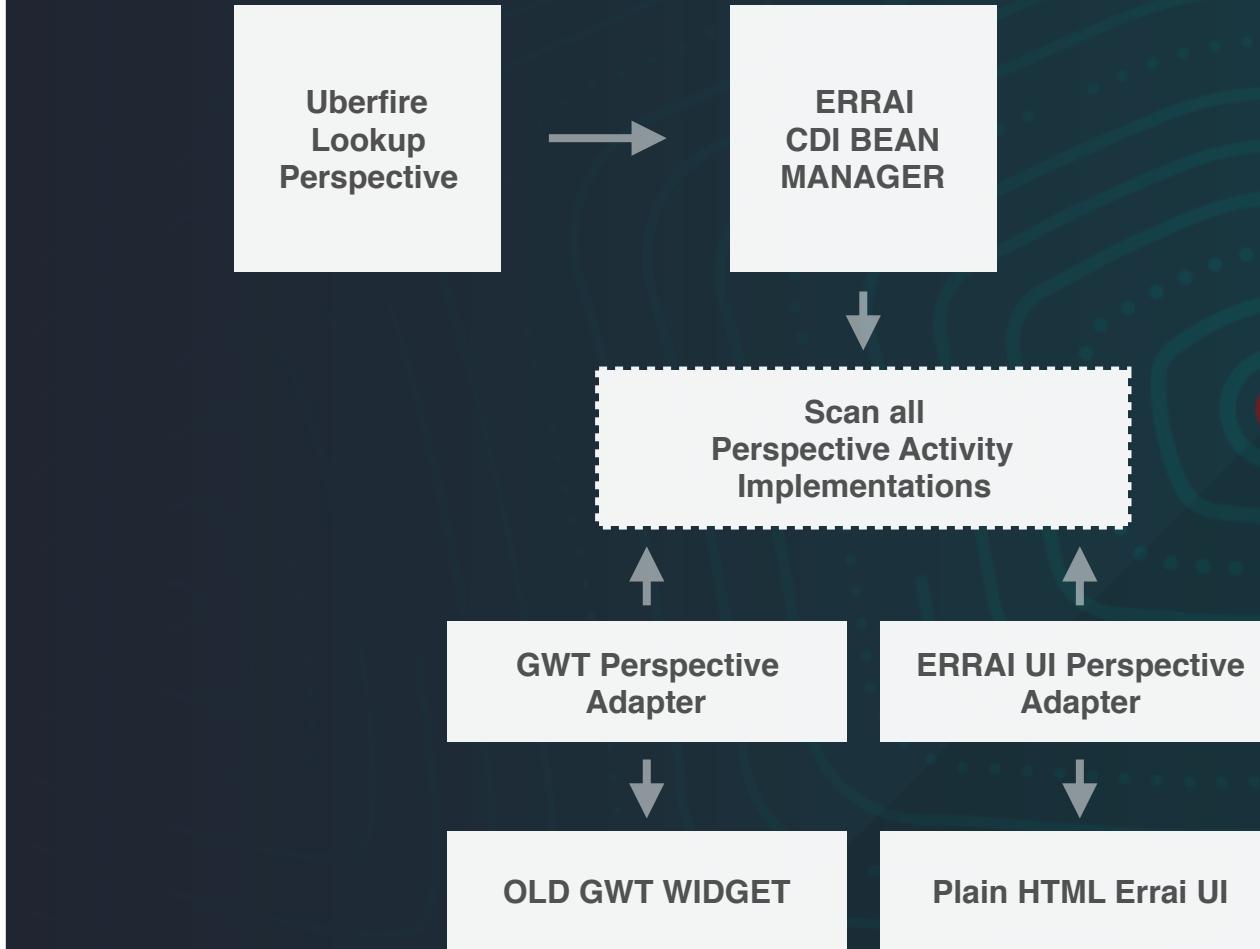
These rules might insert duplicate facts into the working memory or execute functions twice. If this is not expected behaviour please remove the subsumptant row or make it more strict.

Screen

Baseado em Contratos

Screen → Interface WorkbenchScreenActivity
Editor → Interface WorkbenchEditorActivity
Perspective → Interface PerspectiveActivity

UBERFIRE VFS



localhost:8080/kie-wb/kie-wb.jsp#GuidedDecisionTableEditor?path_uri=default://master@uf-playground/mortgages/src/main/resources/org/mortgages/Pricing%2520loans.gdst&file_name=Pricing%2520loans.gdst&has_version_support=true

KIE Workbench

Home ▾ Authoring ▾ Deploy ▾ Process Management ▾ Tasks Dashboards ▾ Extensions ▾

Explore ▾ New Item ▾ Repository ▾

Project Explorer Save Delete Rename Copy Validate Latest Version ▾

demo ▾ > uf-playground ▾ > mortgages ▾

Pricing loans.gdst - Guided Decision Tables

Editor Overview Source Data Objects

All the rules inherit: None selected

Decision table

Add row... Otherwise Audit log

#	Description	amount min	amount max	period	deposit max	income	Loan approved	LMI	rate
1		131000	200000	30	20000	Asset	true	0	2
2		10000	100000	20	2000	Job	true	0	4
3		100001	130000	20	3000	Job	true	10	6

Messages

Clear

Código de 7 anos atrás
com GWT "old school"

← → ⌂ ① 127.0.0.1:8888/drools-wb.html#LibraryPerspective%7C\$ProjectScreen,GuidedDecisionTableEditor?path_uri=default://master@myrepo/mortgages/src/main/resources/mortgages/mortgages/Pricing%252520loans.gdst&file_name=Pricing%252520loans.gdst&h... ⌂

KIE IDE

Teams > myteam > mortgages > Pricing loans

Project Explorer

<default> > mortgages > mortgages

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GUIDED RULES (WITH DSL)

TEST SCENARIOS

Pricing loans.gdst - Guided Decision Tables

Editor Overview Source Data Objects

Add Column Edit Columns

Pricing loans

#	Description	application : LoanApplication				ome : IncomeSou	application		
		amount min	amount max	period	deposit max		income	Loan approved	LMI
1		131000	200000	20	20000	Job	true	0	2
2		10000	100000	20	2000	Job	true	0	4
3		100001	130000	20	3000	Job	false	5	6
4		100001	130000	20	3000	Job	true	5	6

Código da semana passada
HTML 5 canvas

Live-Span de 5~10 anos

Trate a arquitetura Web
com o mesmo respeito
que você trata
seu backend.

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

```
@WorkbenchPerspective(identifier = "HomePerspective", isDefault = true) ←  
@Templated  
public class HomePerspective implements IsElement {  
  
    @Inject  
    @DataField  
    @WorkbenchPanel(parts = "MoodScreen?uber=fire&uber1=fire1")  
    Div moodScreen;  
  
    @Inject  
    @DataField  
    @WorkbenchPanel(parts = "HomeScreen?uber=fire")  
    Div homeScreen;  
  
    @Inject  
    @DataField  
    @WorkbenchPanel(parts = "AnotherScreen")  
    Div anotherScreen;  
}
```



```
@JsType  
public interface PerspectiveActivity{  
    PerspectiveDefinition getDefaultPerspectiveLayout();  
  
    @Override  
    default String getName() {  
        return getDefaultPerspectiveLayout().getName();  
    }  
  
    boolean isDefault();  
  
    Menus getMenus();  
  
    ToolBar getToolBar();  
}
```



```

function TodoCtrl($scope) {
    $scope.placeText = "MiscellaneousFeatures";
    $scope.todos = [
        {text: 'learn angular', done: true},
        {text: 'build an angular app', done: false}
    ];
    $scope.todoText = '';
};

$scope.remaining = function () {
    var count = 0;
    angular.forEach($scope.todos, function (todo) {
        count += todo.done ? 0 : 1;
    });
    return count;
};

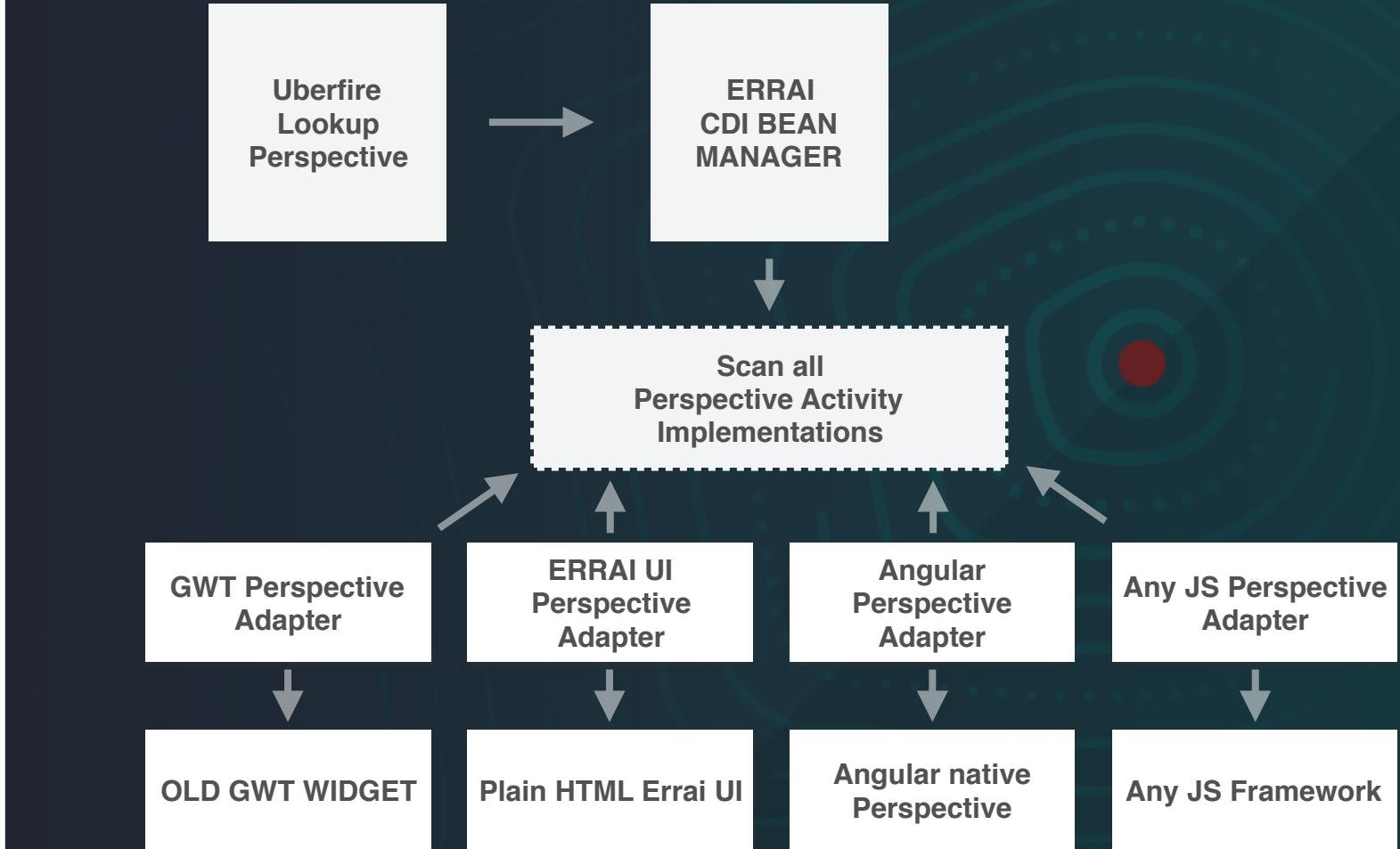
$scope.archive = function () {
    var oldTodos = $scope.todos;
    $scope.todos = [];
    angular.forEach(oldTodos, function (todo) {
        if (!todo.done) {
            $scope.todos.push(todo);
        }
    });
};

$scope["goto"] = function () {
    goToPlace($scope.placeText);
};

$registerPlugin({
    id: "my.angular_js",
    type: "angularjs",
    templateUrl: "angular.sample.html",
    title: function () {
        return "angular " + Math.floor(Math.random() * 10);
    },
    on_close: function () {
        alert("this is a pure JS alert!");
    }
});

```

Perspectives



Home Perspectives Screens

Quick Tour

A quick tour that shows UberFire cool features.



Sample App

Here a good example of an application build on top of UberFire.



angular 2

Todos 1 of 3 remaining [archive]

- learn angular
- build an angular app
- Talk at QCon

MiscellaneousFeatures  add new todo here 

Angular JS Screen

Todo List     

UberFire Todo List

UberFire is an amazing project, with a bright future, but as an Alpha version we know that it needs **some** improvements. Here are some things in our todo list:

- Improve Look & Feel
- Implement Themes
- Grid/Tile layout manager
- ...

Links

- [Source @ GitHub](#)
- [UberFire User List](#)
- [UberFire Dev List](#)
- [Drools Project](#)
- [jBPM Project](#)

Contribution

If you were looking for a fun project, to get involved with some cool tech. It doesn't get much better than contribute to UberFire :).

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Desenvolvimento Web é complexo

Aplicações Web são parte
da nossa arquitetura

Princípios

Independente de Frameworks

Testável

Independente de UI

Independente de Database

Independente de Agentes Externos

Arquitetura de software é exercício de trade-offs

5 pilares:

Aplicação de Larga Escala

Desenvolvedores full stack

Integração com UX

Life-Span de 5~10 anos

Interoperabilidade

Obrigado.

Eder Ignatowicz
@ederign

Guilherme Carreiro
@karreiro_

