

Project Flux

Connecting the Eclipse IDE to the cloud-based Era of Developer Tooling

Martin Lippert
Pivotal

|| Why can Google search the internet in 100ms, but my Eclipse IDE takes 5 seconds to open a type hierarchy?

the answer:

cloud-based
developer tooling

We are already close

Google, issue tracker, CI build system, GitHub, Mail, Hangout, Help, Stackoverflow, etc.

But coding?

Mozilla Firefox-Startseite

Firefox | Suche oder Adresse eingeben

Meistbesucht mozilla.org Spiegel Online Apple Google Maps HomeController... TestInterface2.ja...

Quick Access Plug-in Development Debug

Package Explorer

- Other Projects [flight627 master]
 - convertLicenseFileForFeatureProperties
 - hashmap-test
 - org.eclipse.flight.core [flight627 master]
 - Referenced Libraries
 - JRE System Library [JavaSE-1.7]
 - Plug-in Dependencies
 - src
 - org.eclipse.flight.core
 - AbstractMessageHandler.java
 - Activator.java
 - CallbackIDAwareMessageHandl...
 - ConnectedProject.java
 - DownloadProject.java
 - IConnectionListener.java
 - ILiveEditConnector.java
 - IMessageHandler.java
 - IMessagingConnector.java
 - IRepositoryListener.java
 - LiveEditCoordinator.java
 - Repository.java
 - org.eclipse.flight.core.internal
 - org.eclipse.flight.core.internal.mes...
 - lib
 - META-INF
 - build.properties
 - org.eclipse.flight.jdt.service [flight627 r...
 - org.eclipse.flight.ui.integration [flight62...
 - Servers
 - Spring IDE [spring-ide master]
 - STS [toolsuite-distribution master]
 - Eclipse Integration Commons [eclipse-inte...
 - Eclipse Integration tcServer

Repository.java

```

20 * Copyright (c) 2013, 2014 Pivotal Software, Inc. and others.
11 package org.eclipse.flight.core;
12
13 import java.io.ByteArrayInputStream;
41
42 /**
43  * @author Martin Lippert
44  */
45 public class Repository {
46
47     private String username;
48     private IMessagingConnector messagingConnector;
49
50     private ConcurrentMap<String, ConnectedProject> syncedProjects;
51     private Collection<IRepositoryListener> repositoryListeners;
52
53     private static int GET_PROJECT_CALLBACK = "Repository - getProjectCallback".hashCode();
54     private static int GET_RESOURCE_CALLBACK = "Repository - getResourceCallback".hashCode();
55
56     public Repository(IMessagingConnector messagingConnector, String user) {
57         this.username = user;
58         this.messagingConnector = messagingConnector;
59
60         this.syncedProjects = new ConcurrentHashMap<String, ConnectedProject>();
61         this.repositoryListeners = new ConcurrentLinkedDeque<>();
62
63         this.messagingConnector.addConnectionListener(new IConnectionListener() {

```

0 errors, 2.195 warnings, 0 others (Filter matched 100 of 2195 items)

Description	Resource
Warning: '.classpath' should not be added to src.includes list as it is not required in source build.	build.properties
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Warning: '.project' should not be added to src.includes list as it is not required in source build.	build.properties
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195M of 431M

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42 /**
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45 public class Repository {
46
47     private String username;
48     private IMessagingConnector messagingConnector;
49
50     private ConcurrentMap<String, ConnectedProject> syncProjects;
51     private Collection<IRepositoryListener> repositoryListeners;
52
53     private SET<CALLBACK> repositoryCallbacks = new HashSet<>();
54     private CALLBACK repositoryResourceCallback = new Callback<>() {
55
56     public void execute(IMessagingConnector messagingConnector, String user) {
57         this.username = user;
58         this.messagingConnector = messagingConnector;
59
60         this.syncProjects = new ConcurrentHashMap<String, ConnectedProject>();
61         this.repositoryListeners = new ConcurrentLinkedDeque<>();
62
63         this.messagingConnector.addConnectionListener(new IConnectionListener() {

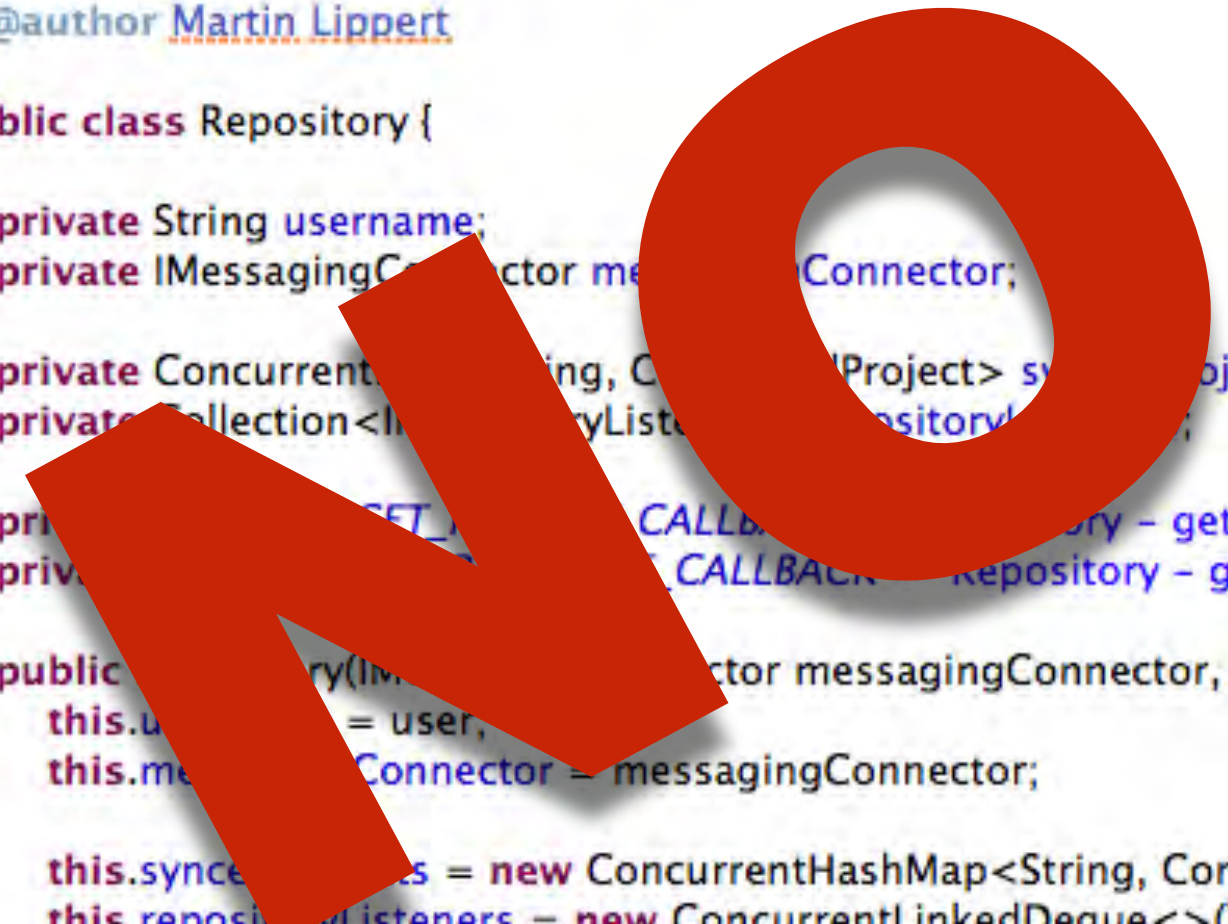
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Error Log

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Challenge 1

We don't know yet how cloud-based developer tooling should look

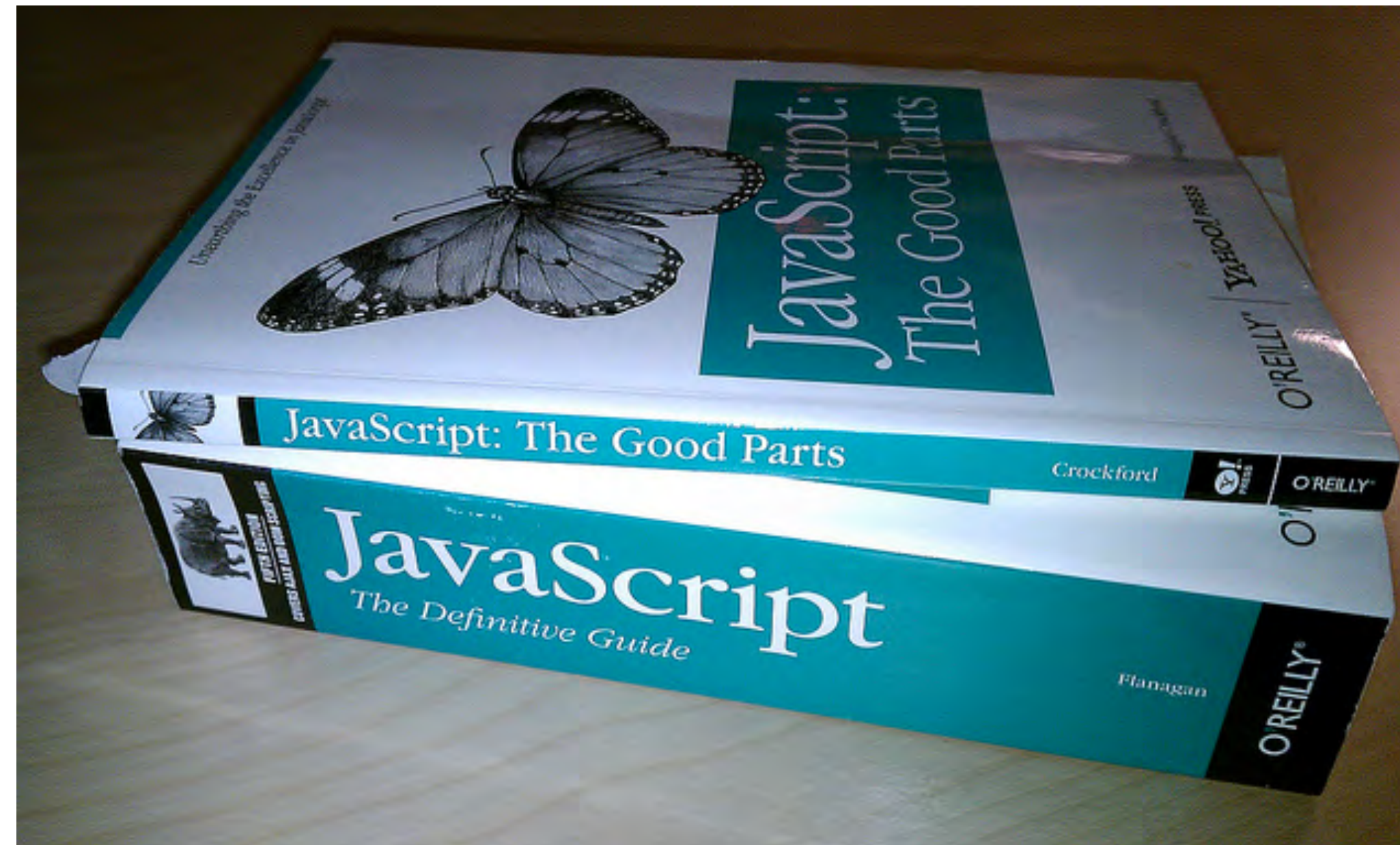
And the other tools?

What about all the other tools that I love
to use on my machine?

Challenge 2

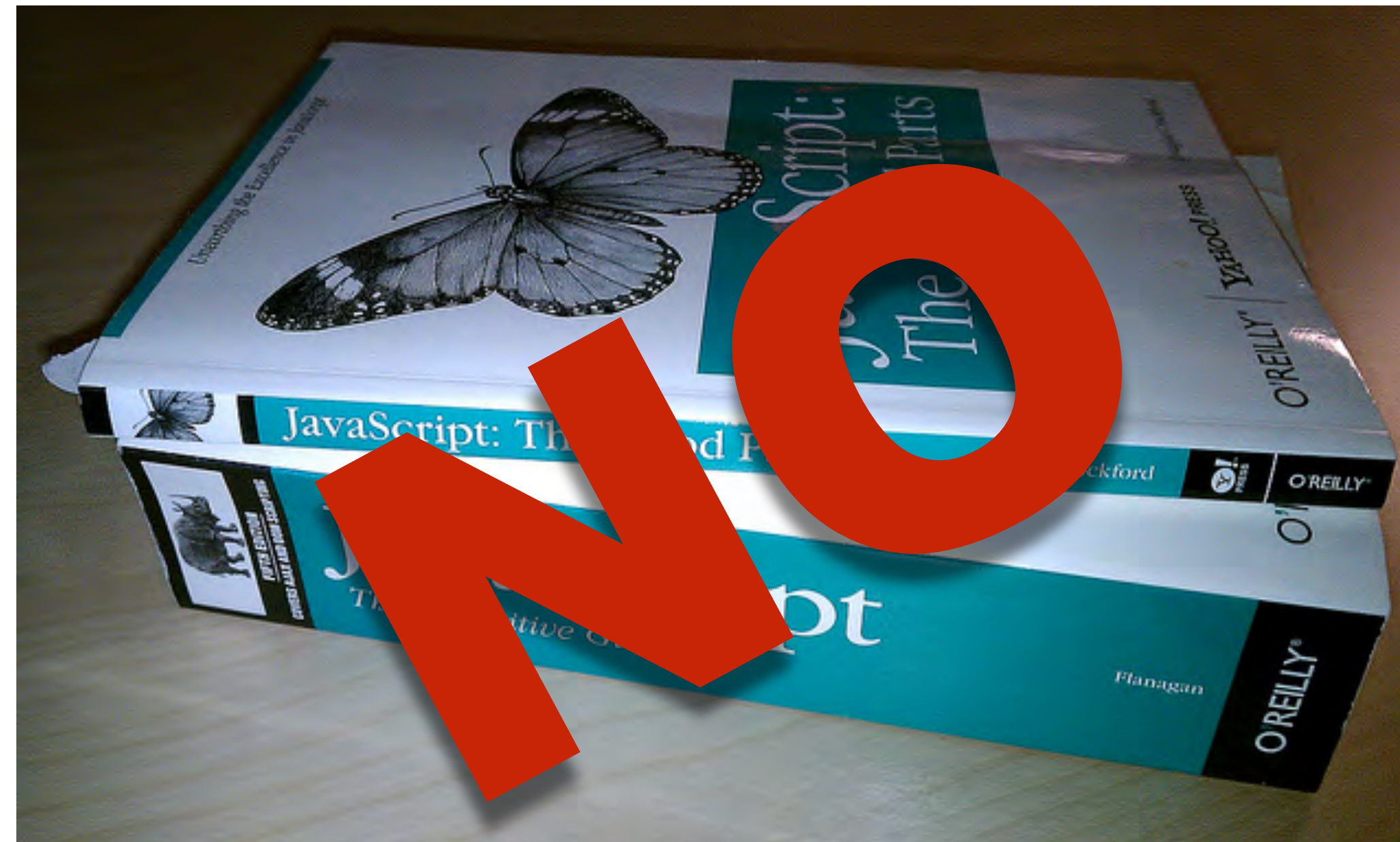
jumping over into the cloud and leaving everything else behind doesn't work today

Implementation



Lets start from scratch and re-implement full blown language tooling in JavaScript

Implementation



Lets start from scratch and re-implement full blown language tooling in JavaScript

Challenge 3

re-use the good parts

Project Flux

connecting the desktop IDE to
the cloud-based era of developer
tooling

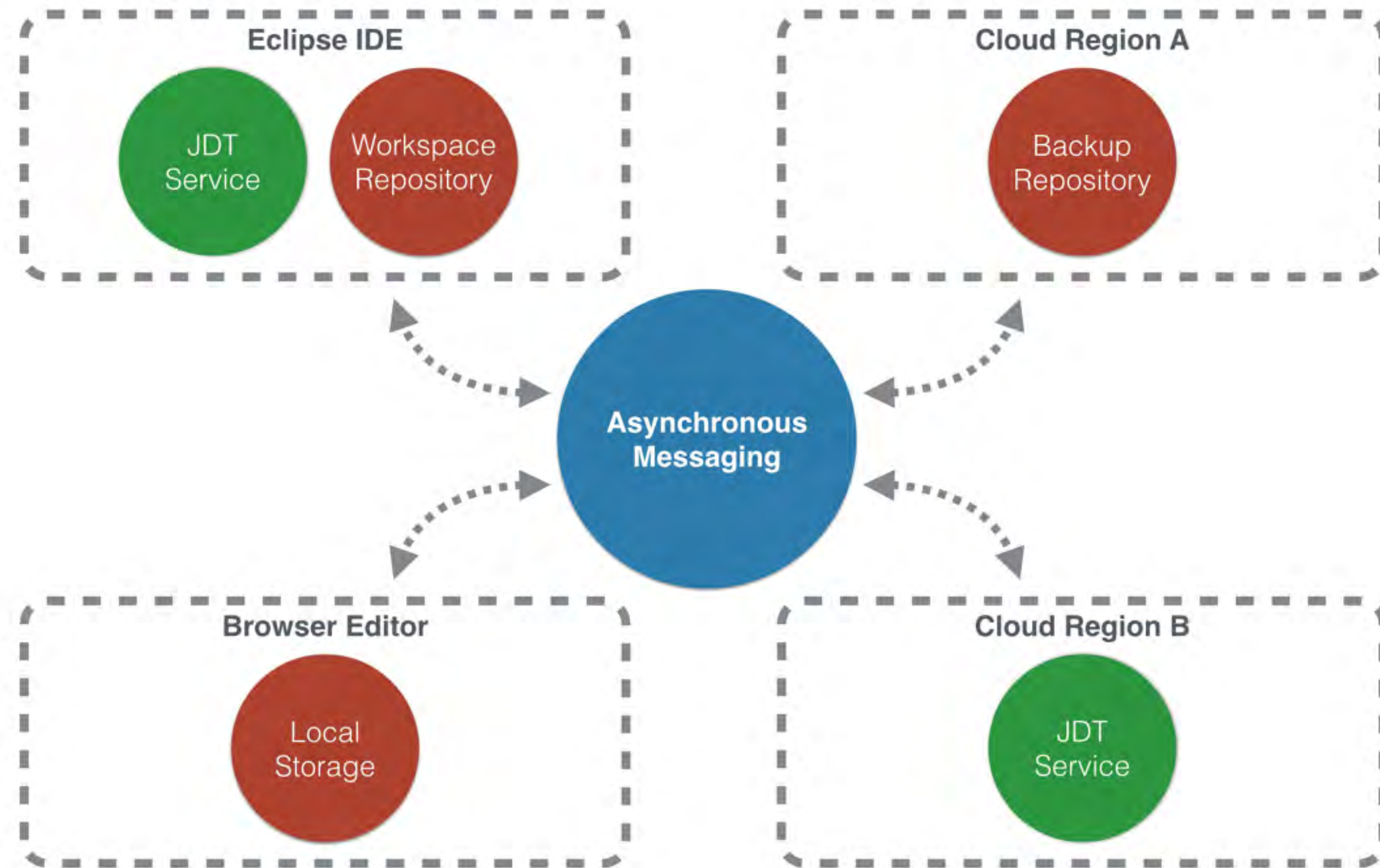
Demo

Demo

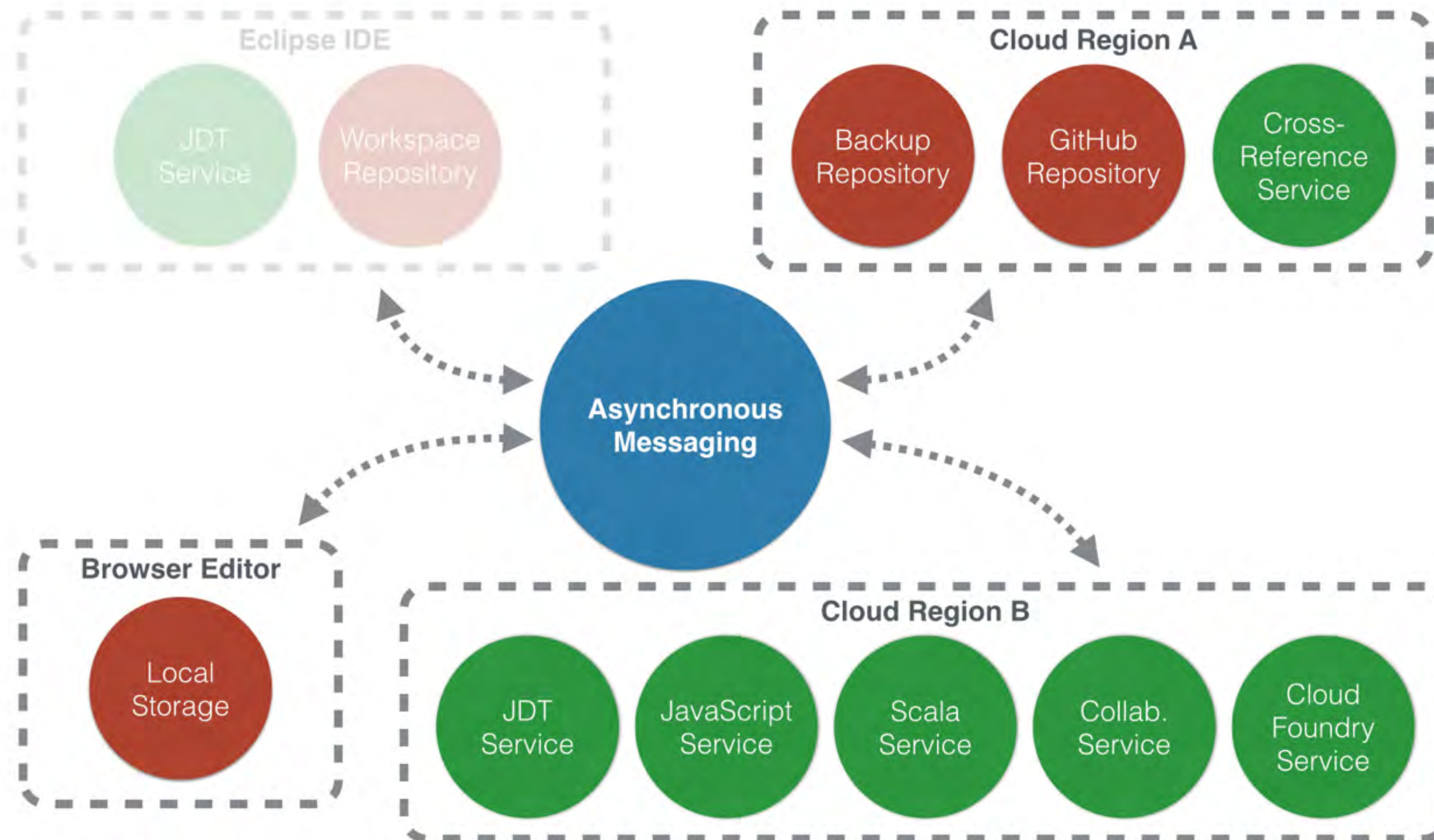
<https://www.youtube.com/watch?v=kkoplIMJfHw>

(in the screencast the project is called Flight, which was an early prototype name for it)

The backbone: Asynchronous Messaging



All sorts of micro services



Project Flux

@ Eclipse

Project Leads:
John Arthorne (IBM)
Martin Lippert (Pivotal)

<https://github.com/eclipse/flux>

Wanna join? Let us know!

Thanks

Disclaimer:

It is NOT ready-to-ship code yet
and the project is at the beginning

Martin Lippert
mlippert@gopivotal.com
@martinlippert