

cq5 and Sling overview

Bertrand Delacrétaz



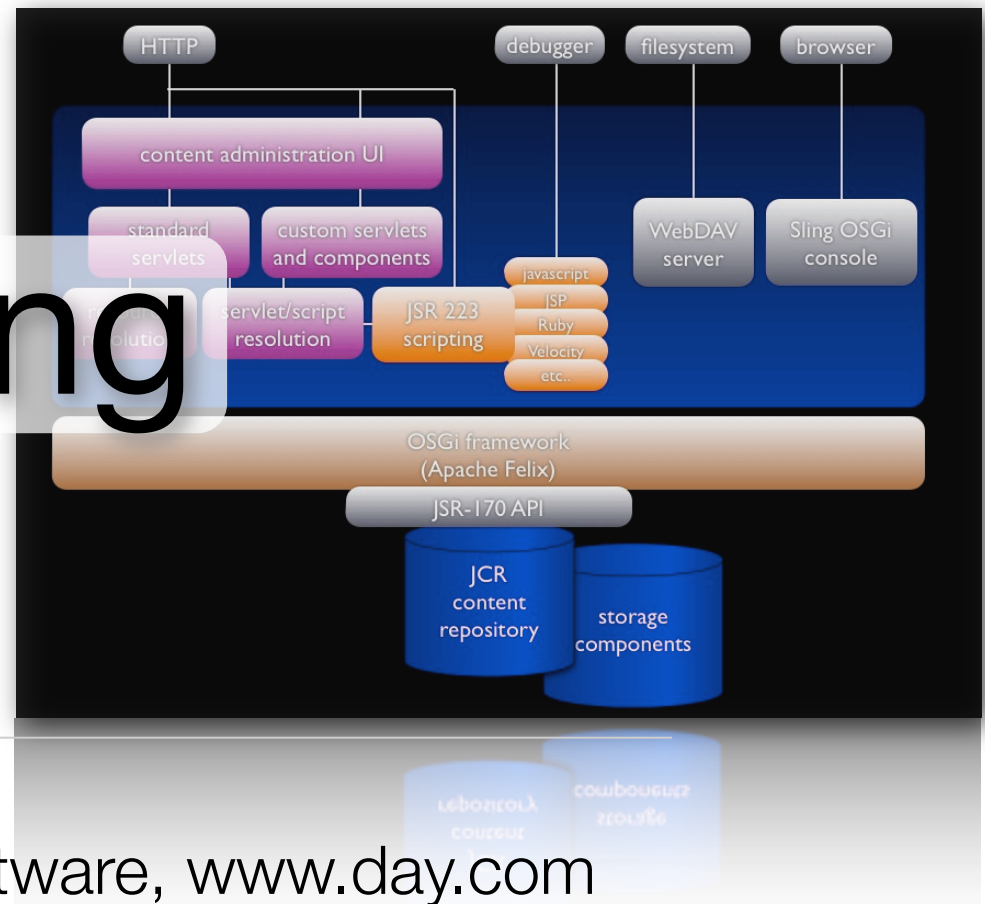
Senior Developer, R&D, Day Software, www.day.com

Apache Software Foundation Member

<http://grep.codeconsult.ch> - twitter: @bdelacretaz - bdelacretaz@apache.org

Logica Geneva monthly developer meeting, February 2010

slides revision: 2010-02-25





Basel, Switzerland headquarters
(~80 people, ~150 worldwide)



Munich



London



Newport
Beach, CA



Toronto

“Day allows us to quickly and reliably deliver content to our entire McFamily, helping us to be flexible and drive new opportunities.”

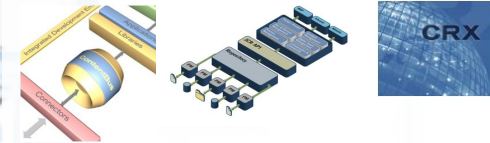
Steve Wilson, Senior Director of Web Communications, McDonald's



Swiss open source award / business / 2008

Day™

content-centric products



(everything is content)

www.day.com

note the 3-letter domain name:
we've been doing this for a while...



Survived tough times (SWX:DAYN)



Strong ties to the Apache Software Foundation



Roy T. Fielding and **David Nuescheler**,
“Mr. REST” and “Mr. JCR”

What

is cq5?

content management system

no database? No SQL?

digital assets

JCR repository

everything is content

fun to use

OSGi applications framework

Marketing dept. loves IT dept.?

**CQ5 AND SLING
OVERVIEW**

cq5: welcome

● Day | CQ5

Welcome, Administrator. [sign out](#)



Websites



Create and manage multiple websites.

Digital Assets



Organize your various digital assets.

Tools



Maintain and configure your system.

Users



Manage your users and groups.

Workflow



Control your workflow models and instances.

Tagging



Organize your tags and their namespaces.

[CRXDE Lite](#)

[Packages](#)

[Replication](#)



[docs.day.com](#)

[dev.day.com](#)

cq5: content tree

The screenshot displays the Adobe CQ5 WCM interface. The top navigation bar includes the 'Day CQ5 WCM' logo and several icons. The left sidebar shows a content tree structure under 'Websites', with 'Services' selected. The right pane shows a table of content items.

	Title	Impressi...	Name	Published	Modified	Status	Template
1	Banking Services	1	banking	<input type="checkbox"/> <input type="checkbox"/>	19-Nov-		Content
2	Certification Serv...	0	certification	<input type="checkbox"/> <input type="checkbox"/>	19-Nov-		Content
3	Strategic Consulti...	0	strategic	<input type="checkbox"/> <input type="checkbox"/>	19-Nov-		Content

cq5: page editing

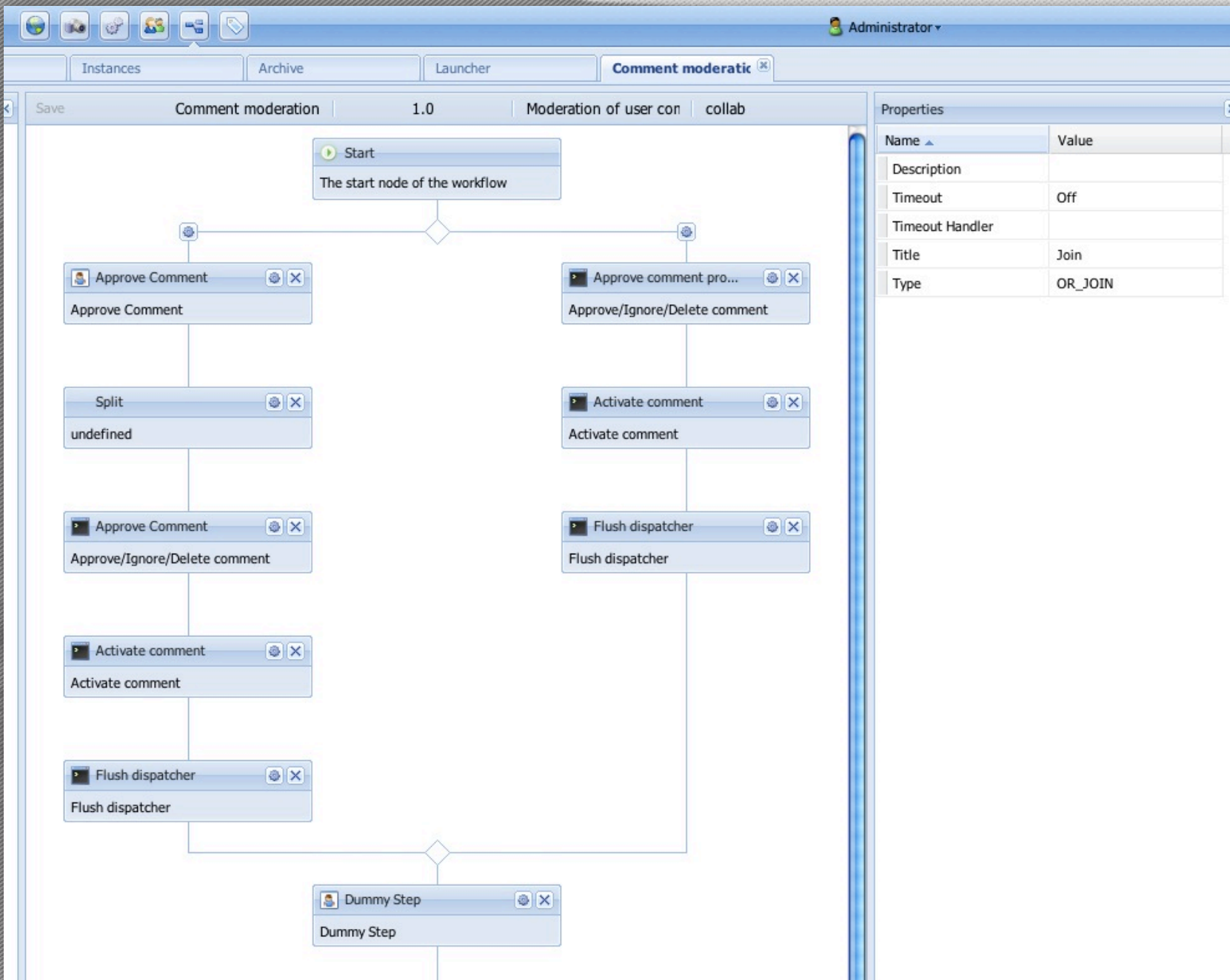
The screenshot displays the Adobe CQ5 page editor interface. On the left, a navigation menu is visible with the following items: Management Team, Board of Directors, and a text block containing the placeholder text: "Nunc nonummy est id ipsum. Etiam aliquam porttitor lacus. Integer tincidunt convallis enim. Aenean imperdiet nisl vitae massa." Below this text is the name "Peter Johns," and his title "Vice President of Sales and Marketing".

The main content area features a large image of a brick building with a tall chimney. The building has "NEWPORT CARPET MFG. CO. LIMITED" written on its facade. Above the image is a menu bar with options: Edit, Cut, Copy, Paste, Delete, and New...

In the bottom-left corner, a sidebar menu is open, showing various content types: General, Chart, Download, Flash, Image, List, and Multivariate Testing. Below these are sections for Columns, Form, and Other, each with a plus sign. At the bottom of the sidebar are icons for a pencil, magnifying glass, L-shaped cursor, document, globe, and refresh.

In the bottom-right corner, a "Text" editor is open, showing a rich text editor with a toolbar containing bold, italic, underline, list, link, and other formatting options. The text content in the editor reads: "Geometrix was founded 2014 libero sem, imperdiet et, fermentum tincidunt, blandit in, libero. Aenean nec nulla non tortor eleifend pellentesque. Pellentesque dui. Duis at eros quis urna pellentesque dapibus. In neque velit, lobortis non, laoreet et, pretium non, libero. Donec ut leo nec metus rutrum scelerisque. Proin posuere. Nunc imperdiet lectus pretium ligula. Curabitur iaculis ultricies ipsum. Sed ullamcorper. Donec vel nunc. Nunc ut pede. Sed rhoncus ullamcorper eros. Quisque semper. Aenean scelerisque nisl a turpis. Vestibulum vel odio nec metus dapibus semper dual headquartered in Basel, Switzerland and Newport Beach, California."

cq5: visual workflow



cq5: multivariate testing

Company

Click the banner:



User provides 3 (N) possible banner designs (drag & drop)

Geometrix was founded 2014 libero sem, imperdiet et, fermentum tincidunt, blandit in, libero. Aenean nec nulla non tortor eleifend pellentesque. **Pellentesque** dui. Duis at eros quis urna pellentesque dapibus. In neque velit, lobortis non, laoreet et, pretium non, libero. Donec ut leo nec metus rutrum *scelerisque*. Proin posuere. Nunc imperdiet lectus pretium ligula. *Curabitur iaculis ultricies ipsum. Sed ullamcorper. Donec vel nunc. Nunc ut pede. Sed rhoncus ullamcorper eros. Quisque semper. Aenean scelerisque nisl a turpis. Vestibulum vel odio nec metus dapibus semper dual* headquartered in Basel, Switzerland and Newport Beach, California.

cq5 provides statistics on impressions and click-through rates -> helps selecting the best banner.

MVT Edit Delete | Statistics Showing 2 of 3 (0/3)

Statistics | Banners | Link / Size

	CTR ▾	Impressions	Click-throughs	Bias
	7.1 %	14	1	1
	20 %	10	2	1
	0 %	4	0	1

Reset Statistics

cq5: zero-install IDE

The screenshot shows the CRXDE Lite IDE interface. The top bar displays "Day CRXDE Lite" and a menu with options like "Save All", "Create...", "Delete", "Copy", "Paste", "Move...", "Rename...", "Mixins...", "Team", and "Tools". The user is logged in as "admin".

The left sidebar shows a file explorer with the following structure:

- Home
- libs
- apps
 - geometrix
 - components
 - asseteditor
 - assetshare
 - body.jsp
 - head.jsp (selected)
 - etc
 - etc
 - etc

The main editor displays the content of `head.jsp`:

```
1 <!--
2 Copyright 1997-2009 Day Management AG
3 Barfuesserplatz 6, 4001 Basel, Switzerland
4 All Rights Reserved.
5
6 This software is the confidential and proprietary information of
7 Day Management AG, ("Confidential Information"). You shall not
8 disclose such Confidential Information and shall use it only in
9 accordance with the terms of the license agreement you entered into
10 with Day.
11
12 =====
13
14 Geometrix DAM Asset Share Head Script
15
16 Draws the HTML head with some default content:
17 - initialization of the WCM
18 - includes the current design CSS
19 - sets the HTML title
20
21 =====
22
23 --><@include file="/libs/Foundation/global.jsp" %><%
24 %><@ page import="com.day.cq.commons.Doctype" %><%
25 String xs = Doctype.isXHTML(request) ? "/" : "";
26 %></head>
27 <meta http-equiv="content-type" content="text/html; charset=UTF-8"<%=xs%>>
28 <meta http-equiv="keywords" content="<%= WCMUtils.getKeywords(currentPage) %>"<%=xs%>>
29 <cq:include script="init.jsp"/>
30 <% currentDesign.writeCssIncludes(pageContext); %>
31 <link href="/etc/designs/geometrix/ui.widgets.css" rel="stylesheet" type="text/css">
32 <link href="/etc/designs/geometrix/ui.widgets.css" rel="stylesheet" type="text/css">
```

The status bar shows "Position: Ln 1, Ch 1" and "Total: Ln 37, Ch 1671".

The bottom section contains a "Properties" table:

Name	Type	Value	Protected	Mandatory	Multiple	Auto Created
1 jcr:created	Date	2010-02-04T09:16:58.344+01:00	true	false	false	true
1 jcr:createdBy	String	system	true	false	false	true
3 jcr:primaryType	Name	nt:file	true	true	false	true

At the bottom, there is a form with fields for "Name", "Type" (set to "String"), and "Value", along with "Multi", "Add", and "Clear" buttons.

content structures

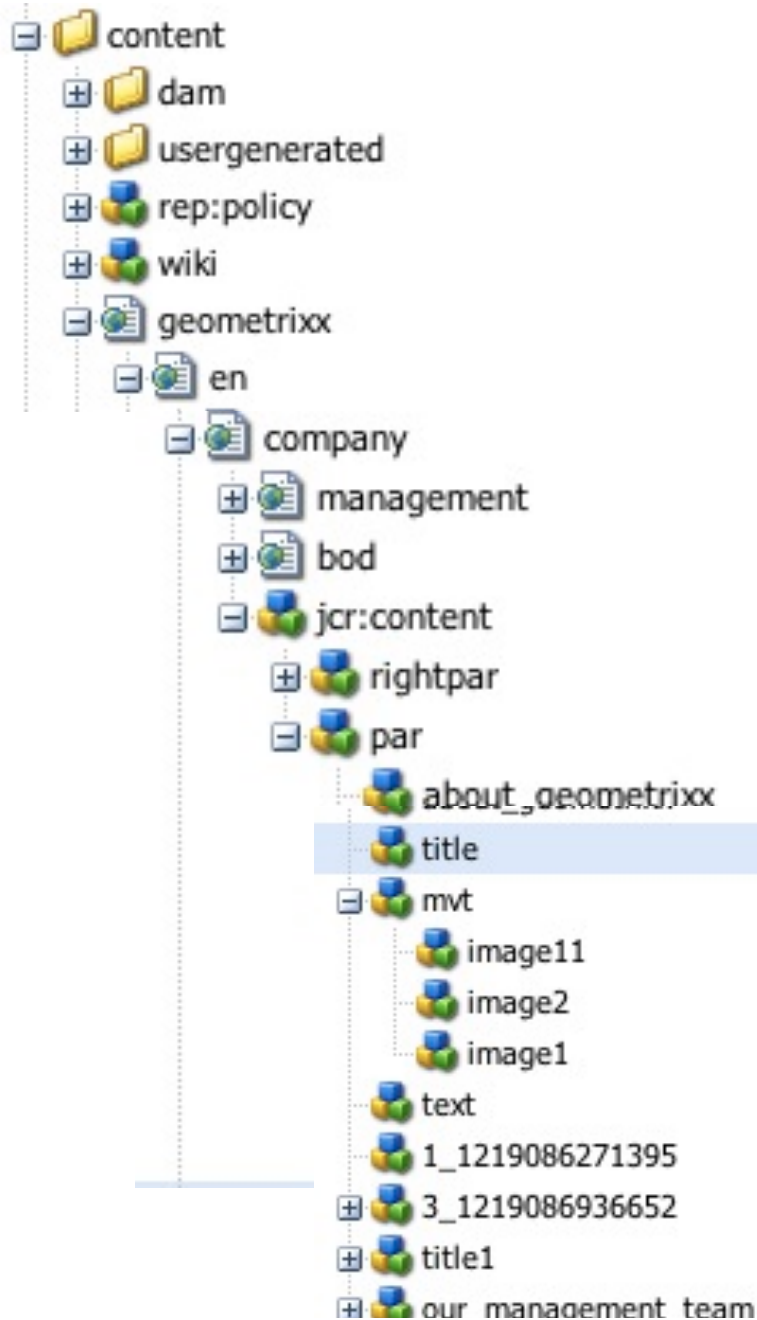
no database? No SQL?

everything is content

JCR repository

**CO5 AND SLING
OVERVIEW**

geometrixx page content



/content

/geometrixx

/en

/company

/jcr:content

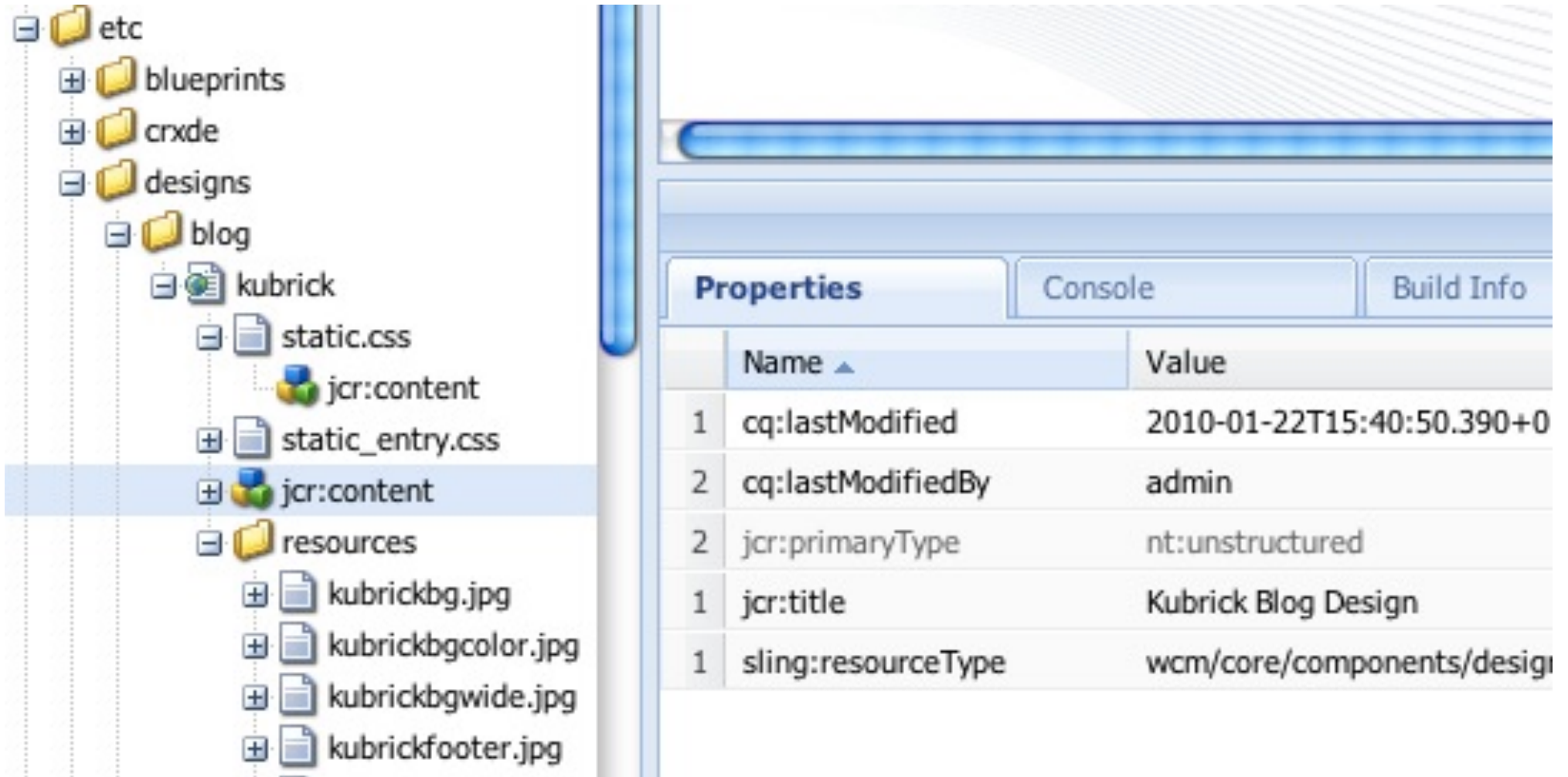
/par

/title

A screenshot of a Properties console window. The window has three tabs: Properties, Console, and Build Info. The Properties tab is active, showing a table with the following data:

	Name ▲	Value
1	jcr:primaryType	nt:unstructured
2	jcr:title	About Geometrixx
3	sling:resourceType	foundation/components/title
4	type	small

blog design content



The image shows a screenshot of an IDE interface. On the left is a file tree with the following structure:

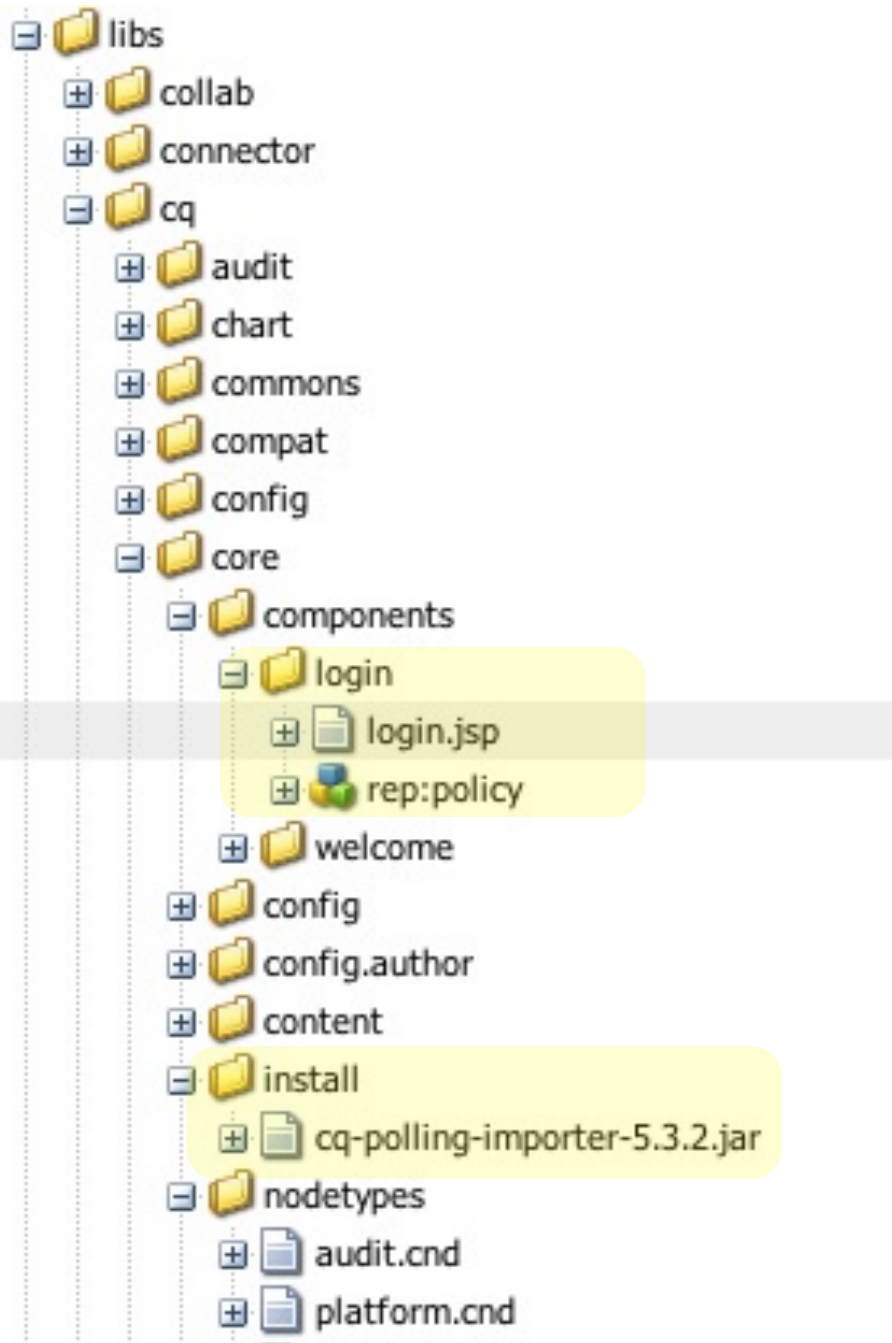
- etc
 - blueprints
 - crxde
 - designs
 - blog
 - kubrick
 - static.css
 - jcr:content
 - static_entry.css
 - jcr:content**
 - resources
 - kubrickbg.jpg
 - kubrickbgcolor.jpg
 - kubrickbgwide.jpg
 - kubrickfooter.jpg

The 'jcr:content' file under 'blog/kubrick' is selected. On the right, the 'Properties' window is open, showing the following data:

	Name ▲	Value
1	cq:lastModified	2010-01-22T15:40:50.390+0
2	cq:lastModifiedBy	admin
2	jcr:primaryType	nt:unstructured
1	jcr:title	Kubrick Blog Design
1	sling:resourceType	wcm/core/components/design

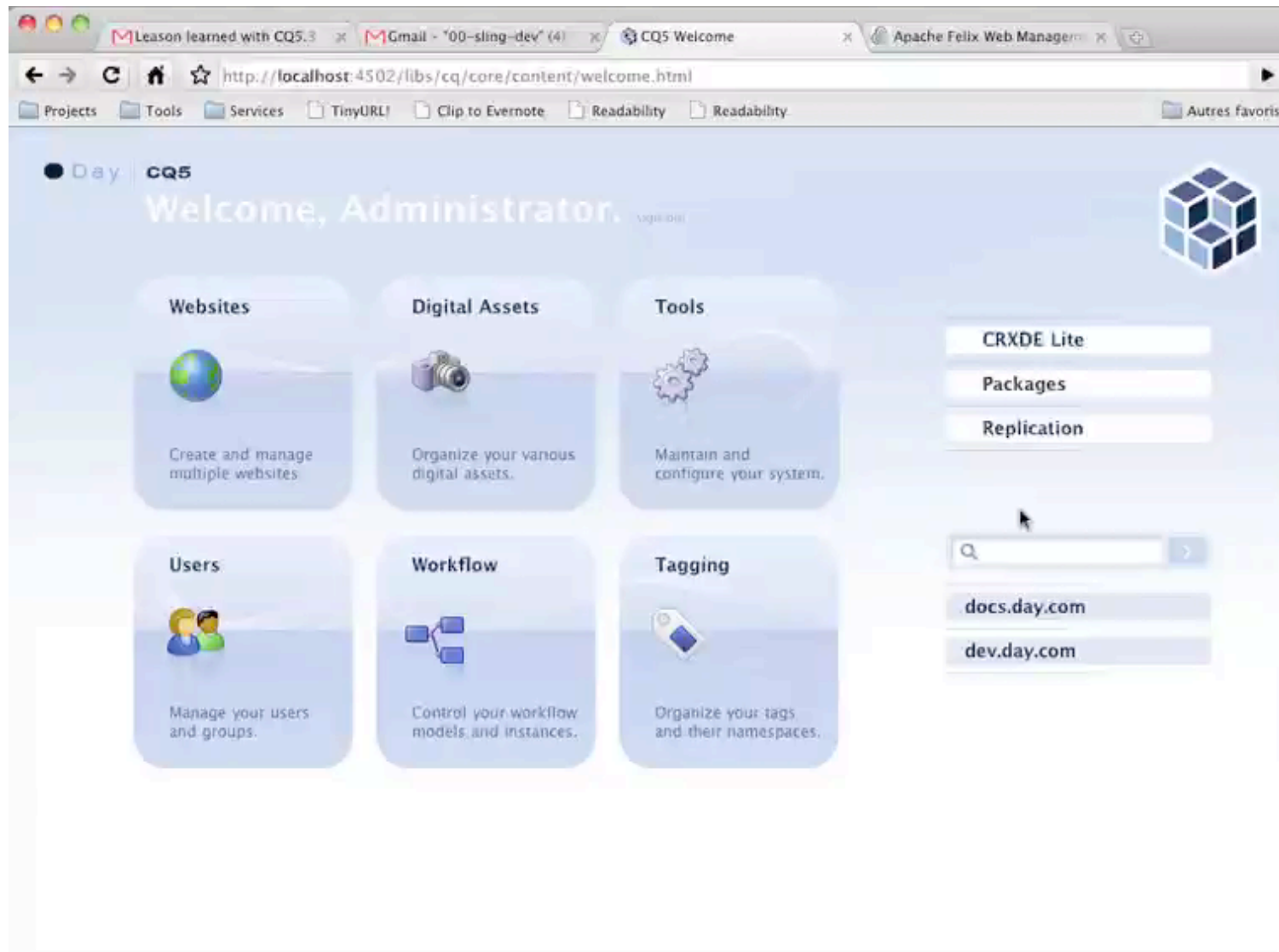
/etc/designs/blog/kubrick/jcr:content

code content!



/libs
/cq
/code
/install
/xyz.jar

dynamic java modules (OSGi)



Apache Sling

Apache Software Foundation

open source

script == servlet

open development

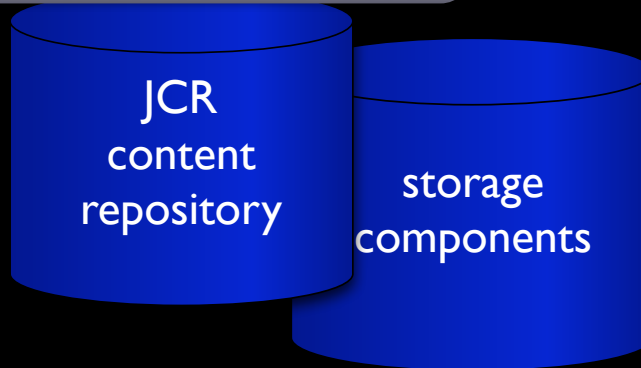
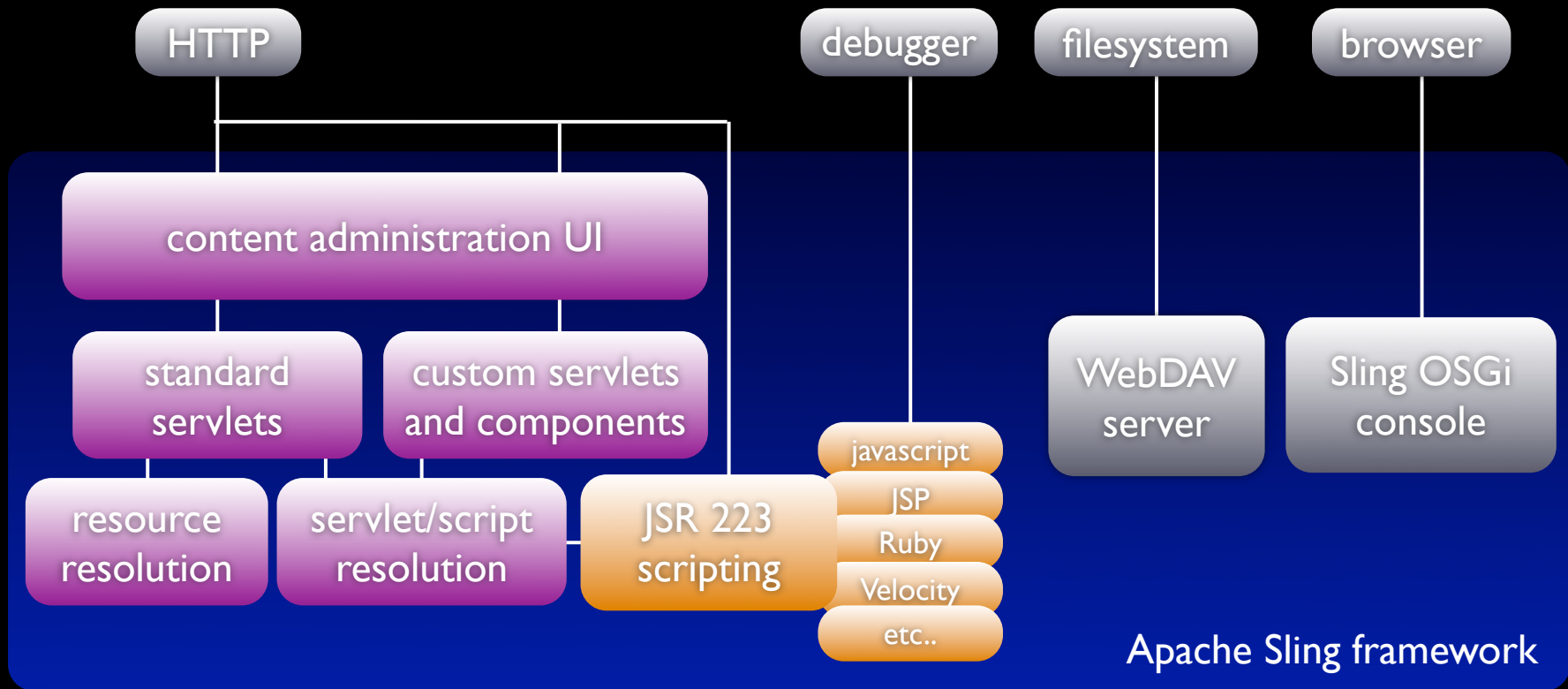
Applications layer for JCR repositories

OSGi-based

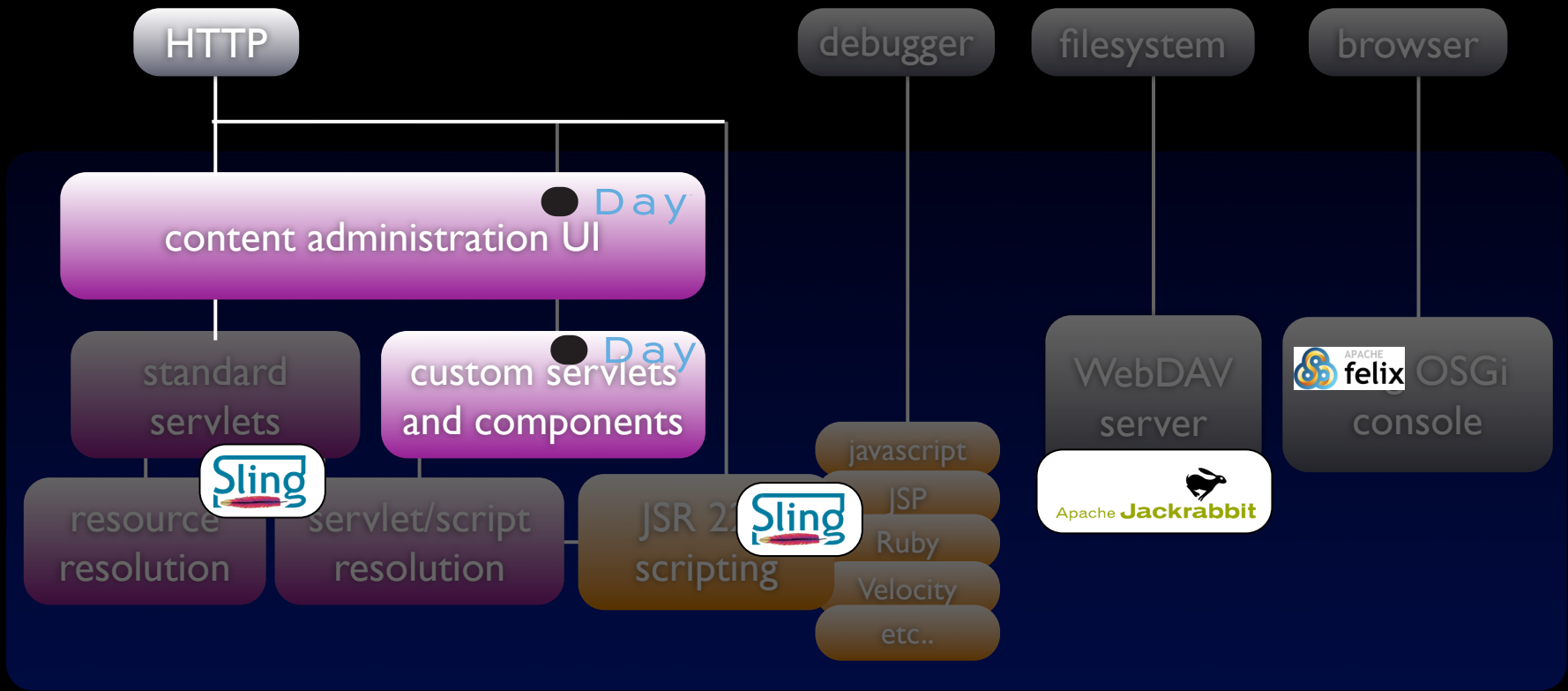


Jackrabbit





CQ5/Sling architecture



open source?
you bet!

OSGi?

OSGi is great for **modularity**

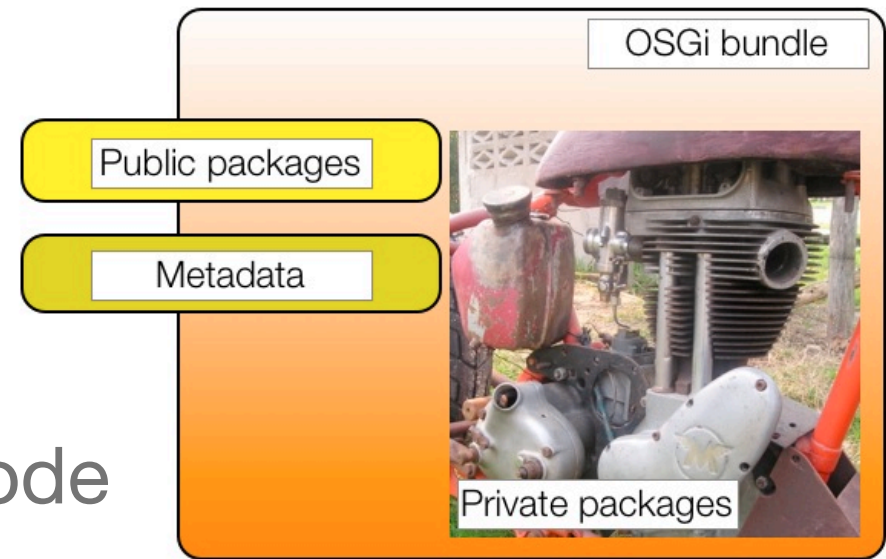
Fosters **better structured code**

Dynamic **services** and **plugins**

Tooling needs to improve, but usable

OSGi **skills?** - OSGi way of thinking is new...

Asynchronous startup can be problematic if using declarative services



Sling blog

46 lines of code



Jackrabbit




Sling POST servlet

```
# POST to Sling
```

```
curl -F title=hi http://localhost:8888/foo  
-> 200 OK
```

```
# GET created node in json format
```

```
curl http://localhost:8888/foo.tidy.json  
{  
  "jcr:primaryType": "nt:unstructured",  
  "title": "hi"  
}
```



POST
parameters set
node properties

blog step 1: create content

```
<form method="POST">
```

Title:

```
<input type="text" name="title"/>
```

Text:

```
<textarea name="text"></textarea>
```

```
<input type="submit" value="save"/>
```

```
<input type="hidden"
```

```
  name=":redirect" value="*" />
```

```
</form>
```

Form fields
drive the
content model

blog step 2: retrieve content

```
<script src="/system/sling.js"></script>  
<form method="POST">  
  ... (as in step 1) ...  
</form>
```

```
<!-- set form fields to current node values --  
<script>Sling.wizard() ;</script>
```

Title of the current post

Title:

Text:



blog step 3: navigation

```
<ul>
  <li>
    <a href="/content/blog/*">[Create post]</a>
  </li>
  <script>
    var posts = Sling.getContent("/content/blog", 2);
    for(var post in posts) {
      document.write(
        "<li><a href='" + post + "'>"
        + posts[post].title + "</a></li>");
    }
  </script>
</ul>
```

Navigation

- [\[Create new post\]](#)
- [Hello my friends](#)
- [A second post, for you](#)
- [Me and you](#)
- [New Orleans at dawn](#)
- [Title of the current post](#)

we've got a blog!

html form + Sling wizard() + Sling.getContent()



Jackrabbit



more info?

www.day.com/cq5

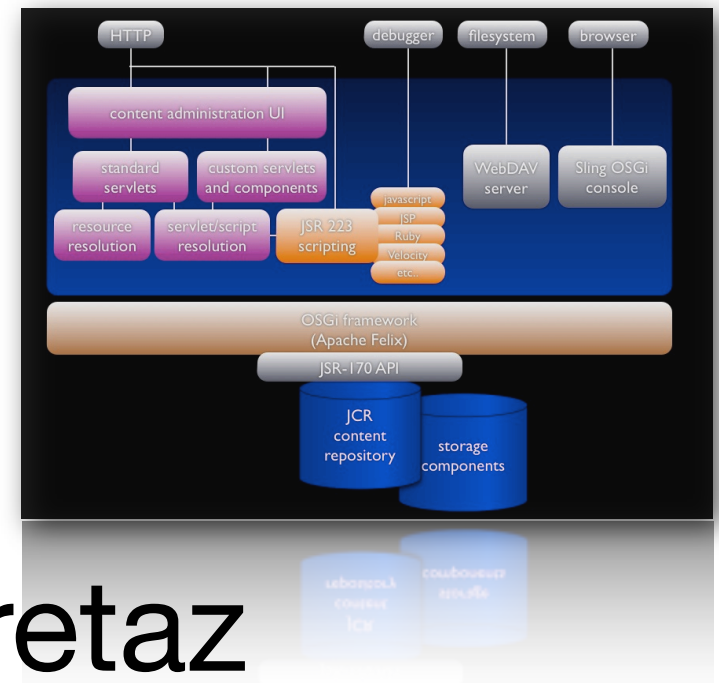
www.day.com/crx (free download)

sling.apache.org

jackrabbit.apache.org

felix.apache.org

slideshare.net/bdelacretaz





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