



adaptTo()

EUROPE'S LEADING AEM DEVELOPER CONFERENCE
29th SEPTEMBER – 1th OCTOBER 2025 - Berlin



An Illustrated History of Apache Sling

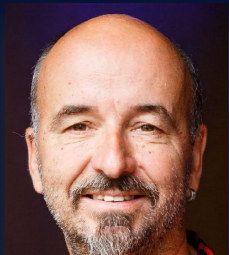
by **Bertrand Delacrétaz**, Principal Scientist, Adobe

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grep.codeconsult.ch

Apache Sling, Sling, Apache, the Apache logo, and the Apache Sling project logo are
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Slides revision 2025-10-01



Farewell Tour!





Apache Sling™, used as the core of AEM, is a framework for RESTful web applications based on an extensible content tree.

<https://sling.apache.org>

Once Upon a Time in Switzerland...in 2006

- The vision for Day's Communique 5
- New delivery framework
- Following REST
- Based on JCR
- Highly customizable
- Scriptable
- Modular

From Carsten Ziegeler's talk at adaptTo 2011
<https://adapt.to/2011/schedule/the-future-of-apache-sling>

adaptTo() 2011

APACHE SLING & FRIENDS TECH MEETUP


[HOME](#) [CONFERENCE](#) [SCHEDULE](#) [ARCHIVE](#)

Thursday, 15 September 2011

Time	Topic	Speaker
10:00 - 11:00	Managing your application with Apache Sling Launchpad and OSGi Installer	Carsten Ziegeler
11:00 - 12:00	Apache CXF and Sling – Consuming and Publishing SOAP Services	Stefan Seifert
12:00 - 13:00	Repository performance tuning	Jukka Zitting
13:00 - 14:00	The Future of Apache Sling	Carsten Ziegeler
14:00 - 15:00	Integrate Apache Wicket with Sling	Martin Wehner
15:00 - 16:00	OSGifying the repository	Jukka Zitting

Sponsors



Adobe





Timeline





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Size

8 : 22

352 modules as per <https://sling.apache.org/repolist.html>

About **1'156'933** lines of Java code

Including **352'121** lines of **test** Java code

Just estimations based on heuristics
NOT from Adobe

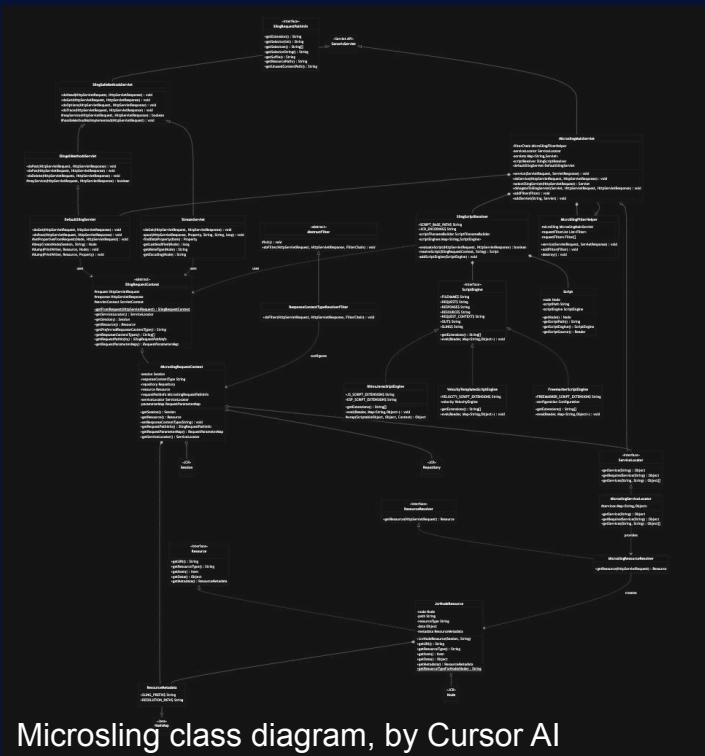
Source:
<https://trends.builtwith.com/websitelist/Adobe-Experience-Manager>

Websites using Adobe Experience Manager

Website	Location	Sales Revenue	Tech Spend	Social	Employees	Traffic
 vw.com	 United States		\$5000+			High 
 ieee.org	 United States		\$10000+		1,000+	Very High 
 visa.com	 United States	\$2b+	\$10000+			Very High 
 salliemae.com	 United States	\$1.2m+	\$10000+			High 
 illinoislottery.com	 United States		\$5000+			Medium 
 seagate.com	 United States	\$615m+	\$10000+			Very High 
 vmware.com	 United States	\$1b+	\$10000+			Very High 
 vizio.com	 United States		\$10000+			High 
 sony.com	 United States		\$10000+			Very High 
 sigmaaldrich.com	 United States	\$100m+	\$10000+			High 
 infinitiusa.com	 United States		\$10000+			Medium 
 synchrony.com	 United States	\$1.0m+	\$10000+			High 
 gift.vanillagift.com			\$2000+			- 
 viasat.com	 United States	\$213m+	\$10000+			High 
 jpmorgan.com	 United States	\$100m+	\$10000+			Very High 
 visitflorida.com	 United States		\$2000+			Very High 
 jpmorganchase.com	 United States	\$10b+	\$10000+			Medium 
 jewelosco.com	 United States	\$995k+	\$5000+			Medium 
 southernco.com	 United States		\$2000+			- 
 sendgrid.com	 United States		\$10000+			Very High 
 sap.com	 Germany	\$100m+	\$10000+			Very High 
 sas.com	 United States		\$10000+			Very High 
 vons.com	 United States	\$645k+	\$5000+			- 
 vonage.com	 United States	\$117m+	\$10000+			Very High 



usling



Code Speaks Louder Than Words !

A miniature, exploratory rewrite of Sling

CORE
MicroslingMainServlet
Resource
ResourceMetadata
ResourceResolver

SERVLETS
DefaultSlingServlet
StreamServlet

REQUESTS
SlingRequestContext
SlingRequestPathInfo
RequestParameter
RequestParameterMap

SCRIPTING
SlingScriptResolver
ScriptEngine
FreemarkerScriptEngine
VelocityTemplatesScriptEngine

2007

Committers + PMC

Id	Name
apopescu	Alexandru Popescu
bdelacretaz	Bertrand Delacretaz
clombart	Christophe Lombart
ctiegeler	Carsten Ziegeler
fmeschbe	Felix Meschberger
gianugo	Gianugo Rabellino
hannonpi	Padraic Hannon
juanjo	Juan José Vázquez Delgado
pauls	Karl Pauls
vramdal	Vidar Ramdal
ieb	Ian Boston

Documentors

Id	Name
	Mike Müller

Did we agree?
Easily?
Often?

2009

<https://web.archive.org/web/20090719071208/http://sling.apache.org/site/project-team.html>

understanding **Apache Sling** script resolution

1

HTTP Request

```
GET /wiki/Sling.edit.html/richtext?simple=true HTTP/1.1
```

Method
Path
Extension
Suffix
Query Parameters

2

Content Resolution

/wiki/Sling

Node has properties

Property	Value
title	Sling Intro
body	Hello World
sling:resourceType	wiki/page

3

Get Resource Type

```
use: sling:resourceType= wiki/page fallback: sling:resourceSuperType= «null»
```

Resource Type

4

Script Locations

either: /apps/wiki/page/ or: /libs/wiki/page/

5

Script Names

Best match: edit.html.esp
edit.esp
html.esp
Worst match: GET.esp

Selector+Extension
Selector
Extension
Method

6

Script

```
<% log.info("Executing my script");
if (request.getRequestParameter("simple")) {
    response.sendRedirect("http://localhost/");
} %>
<html>
<head><title><%=currentNode.title %></title></head>
<body>
<h1><%=resource.getPath() %></h1>
<% out.println(reader.toString()); %>
<% sling.include(resource.getPath() + "content",
    "replaceSelectors= edit"); %>
</body>
</html>
```

7

Include Options

```
sling.include("path",
    "forceResourceType= wiki/body, (Powerful)
    replaceSuffix= xhtml,
    addSelectors= foo.bar");
```

Day

Sling Cheat Sheet
by Lars Trieroff
circa 2009



An Illustrated History of Apache Sling - Bertrand Delacrétaiz, Adobe - September 2025, Berlin

13

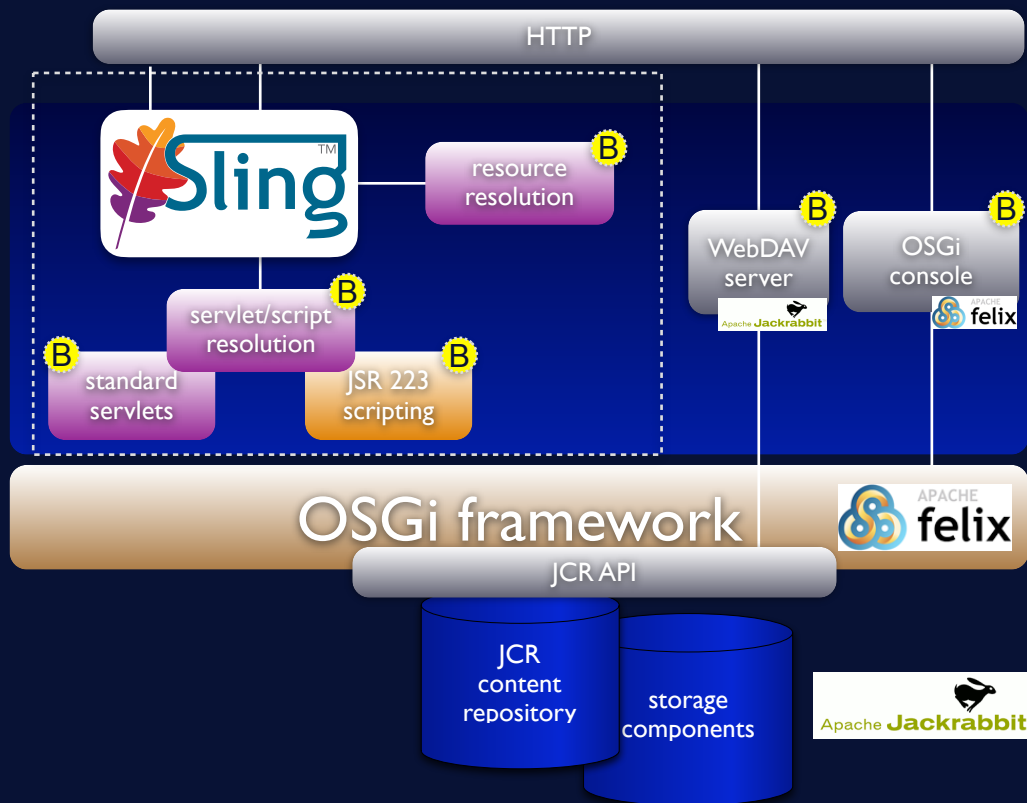


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An Unusual Tech Stack

15 : 15

"Out of fashion" is a stable state



B OSGi bundles
(> 600 in AEM)

JCR + OSGi

=>

Extreme Team Decoupling



adaptTo()

Naming is Hard

MicroslingMainServlet

SlingScriptResolver

Resource

ResourceMetadata

ResourceResolver

ScriptEngine

FreemarkerScriptEngine

Good, obvious names are *extremely* valuable !

(but hard to find and agree on)

src/main/java/org/apache/sling/servlets/resolver/api/ResourcePredicate.java
Outdated

```

32 + * the servlets resolver.
33 + */
34 + @ConsumerType
35 + public interface ResourcePredicate extends Predicate<Resource> {

```


kwin on Jul 11

Member
...

I would give it a more specific classname (even if the package name is already kind of specific) like

`ServletResourceHidePredicate`

😊


bdelacretaz on Jul 11

Member
Author
...

I also saw this, just pushed changes that rename it to `IgnoredResourcePredicate`, does that work for you?

The full name clearly indicates that it's for the servlets resolver,

`org.apache.sling.servlets.resolver.api.IgnoredResourcePredicate`

And I think "ignored" is more correct, as the Resource is still there, just ignored

😊


kwin on Jul 11

Member
...

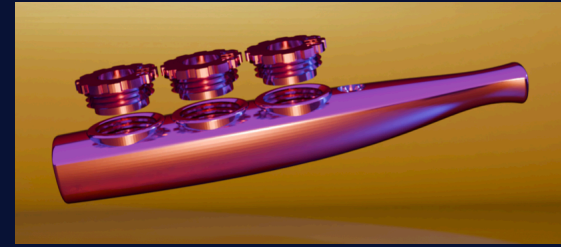
This is more to reduce chances for name clashes when working in an IDE which tries to establish the package import automatically. I can imagine we might have a similarly named class in some other package, therefore I am big fan of concise (verbose) class names.

😊


bdelacretaz on Jul 11

Member
Author
...

Agreed, Good Names Are Always Good - WDYT of `IgnoredServletResourcePredicate` that I just pushed?



Paranoid Testing

Avoid
regressions

Validate
integrations

Explain
things

Sleep
well

Expose bugs
(before fixing them)

Understand
code

2007 - 2025

~50 modules
dedicated to testing



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A Strong Community

24 : 6

Passion
Tech skills
Friendship
Business





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It's Good Enough

27 : 3



Documentation
Getting Started
The Sling Engine
Development
Bundles
Tutorials & How-Tos
Configuration
API Doc
Wiki
FAQ
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Contributing
News
Links
Project Information
Sponsors
Sponsorship



[Apache Sling Website](#) > [Apache Sling](#)

Apache Sling - Bringing Back the Fun

Apache Sling is an innovative web framework that is intended to bring back the fun to web development. It uses all those nice cool and new technologies that make up a state-of-the-art framework. This is Apache Sling in five bullets:

- REST based web framework
- Content-driven, using a JCR content repository
- Powered by OSGi
- Scripting inside, multiple languages
- Apache Open Source project

Welcome to Sling

Apache Sling is a web framework that uses a [Java Content Repository](#), such as [Apache Jackrabbit](#), to store and manage content.

Sling applications use either scripts or Java servlets, selected based on simple name conventions, to process HTTP requests in a RESTful way.

The embedded [Apache Felix](#) OSGi framework and console provide a dynamic runtime environment, where code and content bundles can be loaded, unloaded and reconfigured at runtime.

As the first web framework dedicated to [JSR-170](#) Java Content Repositories, Sling makes it very simple to implement simple applications, while providing an enterprise-level framework for more complex applications.

Discussions about Sling happen on our mailing lists, see the [Project Information](#) page for more info.

News

- Sling site at <http://sling.apache.org> live (June 29, 2009)
- Mailing lists moved to dev@slings.apache.org and commits@slings.apache.org (June 29, 2009)
- SVN moved to <http://svn.apache.org/repos/asf/sling> (June 18, 2009)
- Apache Sling has graduated into a top level project! (June 17, 2009)
- [all news...](#)

History

Sling started as an internal project at [Day Software](#), and entered the Apache Incubator in September 2007. As of June, 17th, 2009 Apache Sling is a top level project of the Apache Software Foundation.

The name "Sling" has been proposed by Roy Fielding who explained it like this:

[The name is] Biblical in nature. The story of David: the weapon he uses to slay the giant Goliath is a sling. Hence, our David's [David Nuescheler, CTO of Day Software] favorite weapon.

It is also the simplest device for delivering content very fast.

Who uses Sling?

Being a young project, Sling does not have a large user base yet, but due to its unique features interest is growing steadily. We'll happily add more references here, let us know if you have concrete examples.



Q Search

DOCUMENTATION

Overview
Getting Started
The Sling Engine
Development
Bundles
Tutorials & How-Tos
Maven Plugins
Configuration

API DOCS

Sling 13
Sling 12
Sling 11
Sling 10
Sling 9
All versions

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FAQ
Sitemap

PROJECT INFO

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Home

community

Apache Sling - Bringing Back the Fun!

Apache Sling™ is a framework for RESTful web-applications based on an extensible content tree.

In a nutshell, Sling maps HTTP request URLs to content resources based on the request's path, extension and selectors. Using convention over configuration, requests are processed by scripts and servlets, dynamically selected based on the current resource. This fosters meaningful URLs and resource driven request processing, while the modular nature of Sling allows for specialized server instances that include only what is needed.

Sling serves as basis for a variety of applications ranging from blogging engines all the way to enterprise content management systems.

Our [Documentation Overview](#) page will help you get started.

Discussions about Sling happen on our mailing lists, see our [Project Information](#) page for more info.

News

Here are our most recent news, there are more in our [news archive](#). A more detailed overview over all Sling module releases can be found in [Releases](#).

- Apache Sling now supports Jakarta Servlet API 6.1 (June 28th)
- Released [Apache Sling 13](#) (January 17th, 2025).
- Security Advisory: [Apache Sling advisory regarding CVE-2023-6378](#)
- Vulnerability report: CVE-2024-23673: Apache Sling Servlets Resolver: Malicious code execution via path traversal, see <https://www.cve.org/CVERecord?id=CVE-2024-23673>
- Vulnerability report: CVE-2022-47937: Multiple parsing problems in the Apache Sling Commons JSON module, see <https://www.cve.org/CVERecord?id=CVE-2022-47937>



2009

2025



Coda



a **successful** project

Thanks to **people**

With the right

attitude, skills and **drive**



Thanks to the ASF (apache.org) for space, support and governance !

Thanks to **Stefan Seifert, Carsten Ziegeler & Konrad Windzus** for their contributions to this talk!



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Links etc. : <https://grep.codeconsult.ch/2025/08/29/adaptTo/>

