Apache Wicket and Sling

15.09.2011

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About Me

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Overview

Goals

- Apache Wicket overview
- How the integration work
- Sample applications (DEMO)
- Problems & Solutions
- Future Developments

Goals

- Enable complex, dynamic form driven applications to run in Sling
 - e.g. mobile carrier self service site
- Be as transparent as possible for the application
- Access underlying Sling/JCR stack from Wicket
- Not a Goal
 - RESTful Wicket
 - Substituting Sling/JSP

- Open Source, component based
 - Good opportunities for reuse
- Pure Java, no XML
 - Feels like Swing
- Strong separation of logic and markup
- Clean object-oriented architecture
 - All aspects are pluggable
 - Forces you to think clean too
- Goodies like transparent AJAX and backbutton support

Integration Classes Overview

- WicketApplicationManager
 - Gathers references to available Applications
 - Handles servlet registration (resource type, selectors etc.) and configuration
- SlingWicketServlet/Filter
 - Handles requests
 - Sling specific URL handling
 - Injects BundleClassResolver
- BundleClassResolver
 - OSGi-aware class and resource loading
- SlingMultipartServletWebRequest
 - Adapts Sling upload handling for Wicket

Suffix component of the URL is extracted in SlingWicketFilter and handled by Wicket

Default URL:

http://localhost:8080/wicket/linkomatic.html/?wicket:interface=:19::::

Bookmarkable Page URL:

http://localhost:8080/wicket/linkomatic.html/**?wicket:bookmarkablePage=:org.apache.sl** ing.samples.wicket.linkomatic.Page3

Mounted Page URL:

http://localhost:8080/wicket/niceurl.html/path/to/page2





Problem:

Wicket *DefaultClassResolver* uses thread context class loader:

Thread.currentThread().getContextClassLoader()

Solution:

 Custom BundleClassResolver that uses bundle class loader:

bundleContext.getBundle().loadClass()

Problem:

- Wicket uses *ClassResolver* before it allows the application to set it..
- Solution:
 - Circumvent settings access protection by patching the flag at runtime via reflection

Problem:

 Wicket and Sling both abstract the upload file handling, so the frameworks fight over request parameters. Sling wins..

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- Solution:
 - Custom SlingMultipartServletWebRequest that delegates upload handling to Sling RequestParameters
 - Unfortunately no pratical upload size restriction possible yet

Problem:

 Sling adds mapping support to ServletResponse.encodeUrl(), breaking Wicket path handling

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 CQ5 intercepts the response for post-processing by the Rewriter infrastructure, breaking Wicket default parameter encoding

Solution:

 WicketSlingHttpServletResponseWrapper that strips all wrappers down to the bare ServletResponse when necessary

- Sling and Wicket are frameworks with different concepts and approaches
 - Don't expect a nice 1:1 mapping
 - Wicket is not as hierarchy oriented as Sling/JCR
- Both assume to have full control over request & response
 - Expect some fighting

- No way to match Wicket Pages to resource nodes/CQ pages
 - Each resource has to have its own application
 - But you might want to map a whole resource subtree to wicket pages in bigger applications
 - Each Wicket application has its own session
 - So you have to fall back to the servlet session to share data

- Wicket applications can access the whole Sling stack
- Wicket components can include Sling components
- Not possible to embed Wicket applications & components in Sling components
 - (At least not non-trivial ones)
 - Wicket needs to be able to set HTTP headers and handle contributors to the HTML <head>

Possible Solution:

- Intercept Wicket output and HTTP header
- Strip everything but the output of the component

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Handle redirects and includes appropriately (e.g. client side redirect)

Current Workarounds:

- Include application in IFrame
- Include application via AJAX, intercept links and buttons and handle them via XHR
- Duplicate page frame in Wicket



- Submission to the Apache Sling project
- Annotation
- Configurable Sling upload size restrictions
- Port to Wicket 1.5
- More flexible modes of integration

Q & A



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