Jersey: JAX-RS (JSR 311) Reference Implementation and more...

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Overall goal

Make it easy to develop RESTful Web services using Java and/or the Java Virtual Machine

Agenda

- **What is REST? Why apply it?**
- API & Implementation
- Demo & References

Read this book!

Web Services for the Real World
RESTful
Web Services
O'REILLY
Leonard Richardson & Sam Ruby
Foreword by David Heinemeier Hansson

REpresentational State Transfer

- REST is an architectural style
- Set of constraints
- Applied to the architecture of a distributed system

Key Concepts

- URIs, URIs, URIs...
- Uniform service interface
- Exchange of hypermedia

Why apply REST? (1/2)

- It works!
- Simplicity
- Loose coupling

Why apply REST? (2/2)

- Scalability
- Composition & Orchestration

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- What is REST? Why apply it?
- **API & Implementation**
- Demo & References

API: JAX-RS

- Standardized in the JCP: JSR 311
- Server side centric
- Will be included in Java EE 6

JAX-RS Features

- POJO based
- HTTP centric
- Format and container independence

JAX-RS: Example (1/2)

```
@UriTemplate("/books/{bid}")
public class Book {

    @ProduceMime("application/xml")
    @HttpMethod
    InputStream getInfo(
      @UriParam("bid") String bid) {
        ...
    }
    ...
}
```

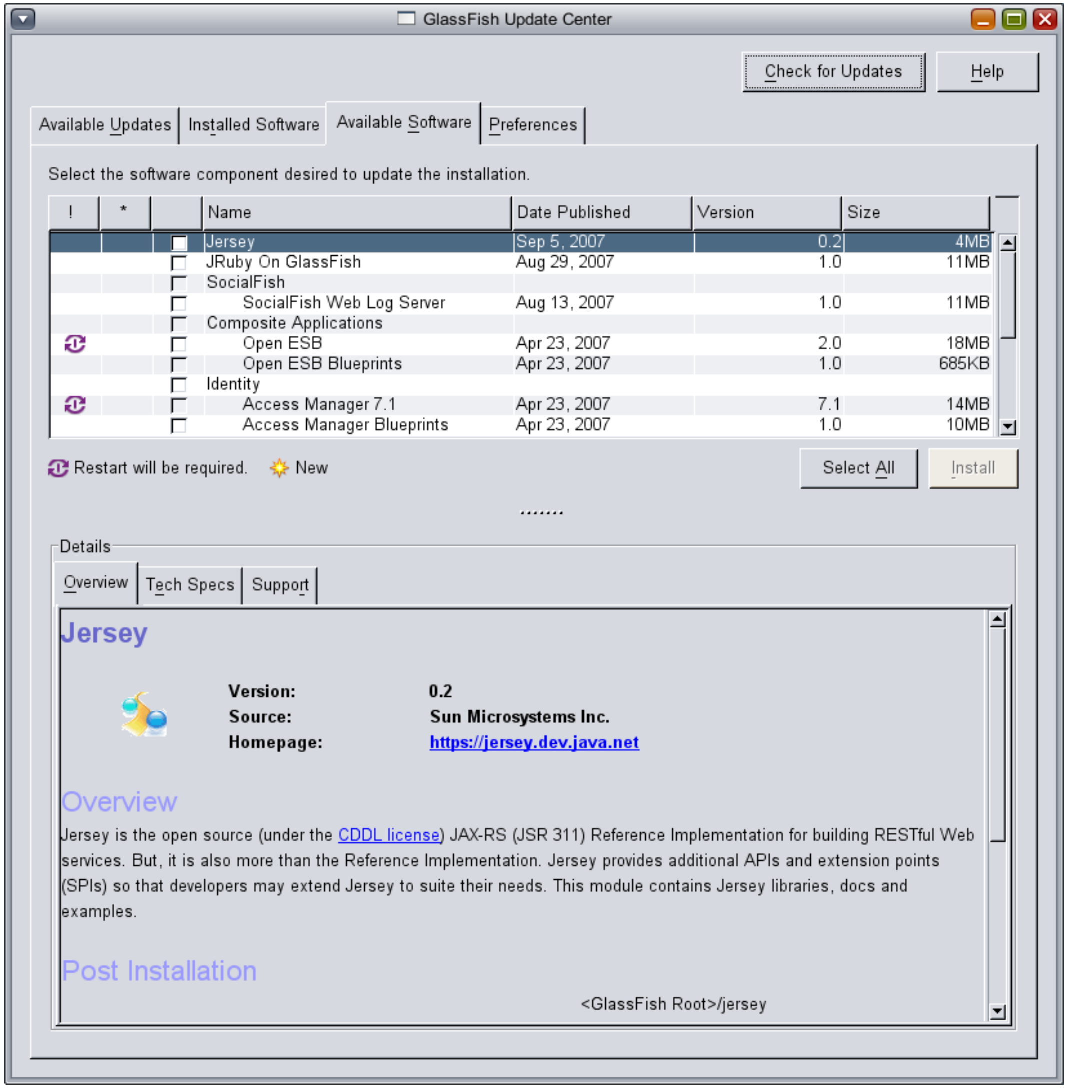
JAX-RS: Example (2/2)

```
@UriTemplate("/books/{bid}/pages/{num}")
public class Page {

    @ProduceMime("application/xml")
    @HttpMethod
    InputStream getContent(
      @UriParam("bid") String bid,
       @UriParam("num") int pagenum) {
          ...
    }

    ...
}
```

Implementation: Jersey

- Open source java.net project
- JAX-RS reference implementation
- Stable builds at GlassFish Update Center

Demo 1: Glassfish Update Center



Select the software component desired to update the installation.

!	*		Name	Date Published	Version	Size
		□	Jersey	Sep 5, 2007	0.2	4MB
		□	JRuby On GlassFish	Aug 29, 2007	1.0	11MB
		□	SocialFish			
		□	SocialFish Web Log Server	Aug 13, 2007	1.0	11MB
		□	Composite Applications			
↻		□	Open ESB	Apr 23, 2007	2.0	18MB
		□	Open ESB Blueprints	Apr 23, 2007	1.0	685KB
		□	Identity			
↻		□	Access Manager 7.1	Apr 23, 2007	7.1	14MB
		□	Access Manager Blueprints	Apr 23, 2007	1.0	10MB

↻ Restart will be required. ✵ New

Jersey

Version: 0.2
Source: Sun Microsystems Inc.
Homepage: https://jersey.dev.java.net

Overview

Jersey is the open source (under the CDDL license) JAX-RS (JSR 311) Reference Implementation for building RESTful Web services. But, it is also more than the Reference Implementation. Jersey provides additional APIs and extension points (SPIs) so that developers may extend Jersey to suite their needs. This module contains Jersey libraries, docs and examples.

Post Installation

<GlassFish Root>/jersey

Jersey features

- JSON support
- Pluggable view templates (JSP)
- WADL

Demo 2

- Simple RESTful web service
- Created in Netbeans 6.0
- Using JAXB to produce XML and JSON

Jersey future features?

- Additional JSON notations support for JAXB
- Pluggable view templates
- Other language bindings

Agenda

- What is REST? Why apply it?
- API & Implementation
- **Demo & References**

Demo 3 – Netbeans 6.0 once more

- RESTful web application
- WS from Java entity beans
- Web based test client

Tutorial available at:

http://www.netbeans.org/kb/60/websvc/rest.html

API: JAX-RS

- Open Expert Group (EG)
  - > http://jsr311.dev.java.net
- EG discussion is read only to non-EG members
  - > Subscribe to dev@jsr311.dev.java.net
- Specification drafts are openly available
  - > Editors draft – September 7th, 2007
  - > https://jsr311.dev.java.net/drafts/spec20070907.pdf
- API revisions are openly available
  - > Release 0.3
  - > https://jsr311.dev.java.net/nonav/releases/0.3/index.html

Implementation: Jersey

- Open Source
  - http://jersey.dev.java.net
- Dev and user list is active
  - dev@jersey.dev.java.net, users@jersey.dev.java.net
- Early access downloads
  - https://jersey.dev.java.net/servlets/ProjectDocumentList
  - Latest build and stable builds

Further information

- Blogs
  - http://blogs.sun.com/sandoz/
  - http://blogs.sun.com/japod/
  - http://weblogs.java.net/blog/mhadley/
  - http://blogs.sun.com/theaquarium/
- Jersey examples
  - See examples directory of distribution
- Questions
  - Ask on users@jersey.dev.java.net

Q&A

- http://blogs.sun.com/japod

GRAZIE!

THANK YOU!

BACKUP

JAX-RS: Example (½) - Subresource

```
public class Book {

    @UriTemplate("pages/{num}")
    Page getPage(
      @UriParam("num") int pagenum) {

        return lookupPage(pagenum);
    }
    ...
}
```

JAX-RS: Example (2/2)

```
public class Page {

    @HttpMethod
    @ProduceMime("application/xml")
    InputStream getContent() {
        ...
    }

    ...
}
```