

APACHE CON
DENVER

WESTIN DENVER DOWNTOWN
APRIL 7-9, 2014

Log4j 2 in Web Applications

A Deeper Look at Effective Java EE Logging

Manual: <http://logging.apache.org/log4j/2.x/manual/webapp.html>

Nick Williams – Introduction

- Software Engineer @ UL Workplace Health & Safety
- Committer & PMC Member @ Apache Logging
- Committer @ FasterXML Jackson Mapper Datatype JSR 310
- Author of *Professional Java for Web Applications* (Wiley, 2014, <http://amzn.to/1bSSz6T>)
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Why is web app logging different?

- Multithreading is crucial to web application operation
- Web applications handle thousands of simultaneous users
- Web containers can host multiple applications simultaneously
- Web containers often provide their own logging facilities
- Logging initialization and shutdown is more complex

Log4j 2 + Java EE = Easy



- Register filter and listener for Java EE 5 (Servlet 2.5)
- Log4j auto-initializes in Java EE 6 and Java EE 7 (Servlet 3.0, 3.1)
- Customize logging configuration location using context parameters
- Creating a filter to fish tag requests
- Dealing with asynchronous request handling
- Logging in JavaServer Pages with the JSP tag library

Java EE 5 Configuration



- Log4j 2 does not support Java EE 4 / Servlet 2.4 and older web applications
- What makes a web application Java EE 5 / Servlet 2.5?
- Registering the Log4jServletContextListener
- Registering the Log4jServletFilter

Java EE 6+ Configuration



- Log4j 2 “just works” in Java EE 6 / Servlet 3.0 and newer web applications
- Be careful with older Tomcat 7 installations
- Understanding the Log4jServletContainerInitializer
- Disabling “just works” with `isLog4jAutoInitializationDisabled`
- Manually registering the filter and listener could result in errors

Config Context Parameters



- Setting the logging context name with `log4jContextName`
- Setting the configuration file with `log4jConfiguration`
- Using the `JNDIContextSelector`

Fish Tagging Web Requests



- What is a fish tag?
- Using the ThreadContext
- Creating a fish-tagging filter

Asynchronous Requests



- A crash course on Servlet 3.0+ asynchronous requests
- Understanding how thread unpredictability makes logging difficult
- Handling asynchronous requests and logging properly
- Configuring filters properly

Using the JSP Tag Library



- Reminder: Upgrade Tomcat 7
- Why logging in JavaServer Pages should be avoided
- When it can't be avoided, the JSP tag library makes logging in JSPs simple

Questions?

I'll be signing and selling copies of my book in the Confluence Foyer today 12:20 to 2:30 and 3:45 to 6:30, tomorrow 10:00 to 1:15 and 2:15 to 3:15, and off and on Thursday and Friday.



(<http://amzn.to/1bSSz6T>)

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