

# TomcatTrackUs09 Sessions

Here are the pre-selected (by the planners) sessions for the tomcat track:

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Becoming a Tomcat super user [acus2009 455] by Mark Thomas

Presentation — 60 minutes Description

Have you ever wanted to do more than just download Tomcat and install some web applications? Do you want to learn more about Tomcat internals and how everything fits together? Do you want to be able to apply patches for bugs to your Tomcat installation without having to wait for the next release? If you answered yes to any of the above questions then this presentation is for you. Starting with how the Tomcat subversion repository is structured, this presentation will show you how to build each of the major Tomcat versions from source, how to use your local build to generate binary patches for specific bugs and how to extend Tomcat functionality for your environment. After an overview of the Tomcat request processing architecture, a request will be examined as it passes through Tomcat using remote debugging. Key classes and decision points will be highlighted to provide attendees with potential starting points when debugging their own issues. To finish the presentation, and to give a practical example of how the knowledge gained may be put to use, a current bug will be examined, the root cause identified and a patch to fix it generated.

Presenter Bio

Mark has been using and developing Tomcat for over five years. He first got involved in the development of Tomcat when he needed better control over the SSL configuration than was available at the time. After fixing that first bug, he started working his way through the remaining Tomcat bugs and is still going. Along the way Mark has become a Tomcat committer and PMC member, volunteered to be the Tomcat 4 release manager, created the Tomcat security pages, become a member of the ASF and joined the Apache Security Committee. He also helps maintain the ASF's Bugzilla instances. Mark has a MEng in Electronic and Electrical Engineering from the University of Birmingham, UK and is currently a Senior Software Engineer with the Covalent Products Division of [SpringSource](#).

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Introduction to Apache Tomcat 7 [acus2009 457] by Mark Thomas

Presentation — 60 minutes Description

In addition to implementing version 3.0 of the Servlet 3.0 specification, Apache Tomcat 7 has a number of new features and improvements to old favourites. This presentation will provide both system administrators and web application developers with the information they need to get the most out of Tomcat 7. The topics covered will include: - an brief overview of Servlet 3.0 features with an emphasis on configuration - improvements to management and monitoring via JMX - security enhancements to the Manager application - logging enhancements

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Large Scale Tomcat Deployments [acus2009 516] by Filip Hanik

Presentation — 60 minutes Description

Provisioning open source software in large server farms can prove to be a real challenge. A lot of software products, Apache Tomcat included, don't come with any tools or frameworks to manage this process. In this session we will dig into the undocumented possibilities that Apache Tomcat offers that makes Apache Tomcat one of the most flexible and powerful application servers in the world when it comes to provisioning. Tomcat offers very unique, but unfortunately undocumented capabilities in this respect. The presentation is focused on managing installations, configurations, upgrades and even downgrades in a way that little or even no configuration and migration efforts have to take place. Using this strategy will save your organization countless hours in managing your Apache Tomcat infrastructure.

Presenter Bio

Filip is a Senior Software Engineer for [SpringSource](#) and a key participant in [SpringSource's](#) Apache Tomcat initiatives. Filip brings 12 years of extensive experience in architecture, design and development of distributed application frameworks and containers and is recognized for his top-quality system development skills and continuous participation of Open Source development projects. Filip is a committer to the Apache Tomcat project where he is a leading authority on Tomcat clustering and a key contributor to the core of the platform. He also authored the online book Hitch-Hiker's Guide to Tomcat. Prior to [SpringSource](#), Filip was a Senior Software Engineer for Covalent Technologies, which was acquired by [SpringSource](#) in early 2008. Previously, Filip worked as a Senior Software Engineer/Architect for La Quinta Corporation. Filip has also made contributions to software initiatives for Walmart.com, Sony Music, France Telecom and has held a variety of senior software engineering positions with technology companies in both the United States and Sweden. He received his education at Chalmers University of Technology in Gothenburg, Sweden where he majored in Computer Science and Computer Engineering.

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Performance Tuning Apache Tomcat for Production [acus2009 517] by Filip Hanik

Presentation — 60 minutes Description

Apache Tomcat committer Filip Hanik will in this interactive session discuss performance tuning Apache Tomcat for your production environment. We will focus on Tuning Tomcat and the JVM to correctly handle your application, usage patterns, hardware and network topology in your production environment. You'll learn when and how to apply the different tuning and configuration options as well as understanding load balancers and how they can impact your configuration settings. Also discussed: the impact of clustering and replication on your environment. Session will be interactive with the audience, bring your configuration questions, your current performance problems, your network topology, your JVM settings, and we will configure YOUR Tomcat to perform in an optimal way.

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Asynchronous servlet processing in Apache Tomcat 7.0 [acus2009 518] by Filip Hanik

Presentation — 60 minutes Description

Apache Tomcat 7.0 is a Servlet container for the Servlet 3.0 specification. One of the more exciting features in this new specification is the standard support for asynchronous servlet processing. In this session we will take a look at the asynchronous servlet API, the reasoning behind, its benefits and short falls. We will also take a look at the extensions and different methods Apache Tomcat 7 provides to meet some of these short falls.

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Here are the not-selected (by the planners) sessions that could go in the tomcat track:

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mod\_proxy versus mod\_jk. Clustering with HTTP Server as front-end. [acus2009 440] by Jean-Frederic Clere

Presentation — 60 minutes Description

There is often the question among users what should I use: mod\_proxy or mod\_jk? Mod\_jk looks a kind of toolbox for integrating Tomcat application in web server and mod\_proxy looks more than a straight forward loadbalancer. This presentation will try to help to choose the best module depending on the application structure. The goal of the two reverse proxy modules are different therefore they will continue existing and exchanging features. Now everyone will be able to choose the technology that fits their needs.

Presenter Bio

Jean-Frederic has spent more than 20 years writing client/server software. He is committer in APR, Jakarta, Httpd and Tomcat and he likes complex projects where different languages and machines are involved. Borne in France, Jean-Frederic lived in Barcelona (Spain) for 14 years. Since May 2006 he lives in Neuchatel (Switzerland) where he works for [RedHat](#) in the JBoss division.

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Using Tomcat-Native with Comet/Asynch call in Servlet 3.0 [acus2009 441] by Jean-Frederic Clere

Presentation — 60 minutes Description

Browsers and web servers are standards and the need for instantaneous data exchange has grown. AJAX for example allows web clients to communicate "asynchronously" with remote web servers. Comet is a Tomcat 6 feature that goes beyond AJAX and allow real asynchronous unidirectional and bi-directional connections between client and server using the HTTP protocol and Servlets. Servlet 3.0 SPEC's are also providing asynchronous calls see what is possible do with them. Tomcat-Native is a Tomcat sub-project that provides a non-blocking and very efficient SSL connections. Tomcat-Native relies on the APR (Apache Portable Runtime) for Socket input/output and use OpenSSL to make the cryptographic layers. Comparison of the performance of Tomcat, Tomcat + APR and httpd.

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Solutions & Troubleshooting methodologies - For most commonly occurring issues of Apache & Tomcat [acus2009 511] by Ravi Saraswathi

Presentation — 60 minutes Description

The session describes trouble shooting methods and solutions of several commonly occurring issues of web applications deployed on Apache and Tomcat. The session focuses on common causes and step-by-step instructions to resolve the problems. Some of the issues that are included in the presentation are: Application Server Hang & Core Dump, Java Virtual Machine and Memory issues (JVM Crash with no Core Dump, Out of Memory /Memory Leak), Too Many Open Files, JDBC-Database connectivity and Drivers issues, Load Balancing Issues (Apache & Tomcat connectivity with multiple hosts), SSL Trouble Shooting, High/Low CPU utilization, Slow application response, Server Core Dump, Irrecoverable Stack overflow and HTTP Session and Replication Failure. The troubleshooting methodology and solutions described in presentation will help system administrators and programmers to reduce the time spent on diagnosing problems to get to the root cause and to correct the issue. The presentation focuses on support patterns to resolve the most common problems, system behaviors, and issues. Instructions on how to resolve the issues will also be included in the presentation. The last part of the session focuses on best ways to monitor Java applications by using Open Source tools to get pre-notifications for some of the above issues.

Presenter Bio

Ravi is an Architect and with more than 15 years of global, professional experience. Prior to his current assignment at AOL-Time Warner, Ravi was a senior business consultant with BEA Systems. Ravi worked at BEA Systems on [WebLogic](#) and [AquaLogic](#) product line Ravi also worked with several Java webserver and application containers. His interests include Open source containers, Java, infrastructure architecture, trouble shooting methodologies and software design. Ravi has spoken number of [WebLogic](#) conferences and Java user group meetings

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Advanced Reverse Proxy Load Balancing in Apache HTTP Server 2.2 [acus2009 418] by Jim Jagielski Panel, Developer, Experienced, NONE, Apache HTTP Server

Presentation — 60 minutes Description

One of the main new features in Apache 2.2 is the enhancement of the proxy module, allowing Apache to proxy not only HTTP as before, but also AJP. Coupled with the dynamic load balancing capability also new in 2.2, see why Apache is now an even more capable reverse proxy, and see why mod\_jk may no longer be required. Included are helpful real-world hints in configuration for high-availability failover environments.

Presenter Bio

Jim's been active on the 'Net since the early 80's, starting as editor of the A/UX FAQ. He worked on the NCSA server and joined the Apache Group (as it was called back then) at a very early stage. He actively contributes on HTTPD, APR and Tomcat, but also hacks on other projects (ASF and others) as well in addition to mentoring many ASF incubator podlings. In addition to being a charter and core member of the ASF Jim serves as Director and Chairman for the foundation. His real job is as Chief Architect and Principal Software Engineer for the Covalent Products Division of [SpringSource](#). Previously, Jim served at CTO for Covalent Technologies, which was acquired by [SpringSource](#) in early 2008.

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Improving mod\_proxy : Example of an "home made" balancer: Mod\_cluster [acus2009 439] by Jean-Frederic Clere

Presentation — 60 minutes Description

- Summary: When using Mod\_proxy + Mod\_proxy\_balancer Apache httpd only 2 balancer modes and reduced management support is possible. Anyway it is possible to write custom balancers to support different type of clusters. A Complete example of a balancer to front-end a dynamic cluster of Tomcat's will presented. Mod\_proxy allows to \* Abstract: The goal of the presentation is to demonstrate how easy it is to improve mod\_proxy interaction with a cluster of Tomcats. There are different session replications mode in clusters. Full replication, Buddy replication, passive nodes for High Availability. Load balancing and failure recovery should be based on a dynamic view of the cluster not on a static description in a configuration file. Recent improvements in Mod\_proxy allows the standard Mod\_proxy to front-end a cluster of servers but actual ASF mod\_proxy\_balancer offers only 3 balancer modes (byrequest, bytraffic and bybusyness) and reduced managing support (via mod\_status).

What is needed to have a completely dynamic cluster: On Tomcat side a Listener to collect and transmit node informations to the balancer module and on Httpd side a balancer module able to use those informations to route incoming requests according to different loadbalancing and failure recovery policies. How it is done: A quick overview of the Tomcat listener of the example and an overview of the balancer module. Explanation the features of mod\_proxy that are available to write a balancer. The mod\_cluster solution: Protocol, Logic and Tomcat integration. \* Expertise level: technical, intermediate \* Format and duration: general presentation