State of the Cat

Mark Thomas
Introductions

• Mark Thomas
• Tomcat committer since 2003
• ASF member since 2007
• market@apache.org
• ASF, Eclipse, VMware
Retrospective

• Looking back over the last 12 months
• Community
• Code

• Future plans
Community
People

- ~2,900 subscribers to the users list
- ~80 contributors
- 28 PMC members ~16 active
- 19 committers ~3 active
- No new committers or PMC members
Events

- ApacheCon Asia 2021
- ApacheCon @Home 2021
- [https://tomcat.apache.org/presentations.html](https://tomcat.apache.org/presentations.html)
- Still have $5,000 from Google for a security event
Translations

- Anyone can contribute
- Small (few %) improvements this year
- Opportunity to contribute
Code
Releases

• Tomcat 8.5.x
  – Java EE 7

• Tomcat 9.0.x
  – Java EE 8 / Jakarta EE 8

• Tomcat 10.0.x
  – Jakarta EE 9 (the one where the packages were renamed)

• Tomcat 10.1.x
  – Jakarta EE 10
## Releases

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Notable new features

• Jakarta EE 10
• Experimental supports for OpenSSL via Panama API
• Custom static resource caching strategies
• Expand support for key / cert formats
• k8s service binding PropertySource
Notable bugs

- Linux kernel duplicate accept bug
  - Great community effort
  - Bug report from danielra
  - Spring MVC team
  - OpenJDK team
  - Christopher Gual
Other

• Reproducible builds
• Switched from Cobertura to JaCoCo
  – Java 11+ support
  – Multi-threading support
• Use of JSign for signing Windows binaries
  – Platform independent signing
  – No native tools required
• Obtain ASF build dependencies from the CDN
• Minimum Java 11
• Remove deprecated code
• Servlet
  – Clarified decoding and normalization of URIs
  – RFC 6265 for Cookies
  – Request and connection identifiers
Jakarta EE 10 / Tomcat 10.1.x

• JSP
  – Option for unknown identifiers to throw an exception
  – Deprecate jsp:plugin

• Expression Language
  – Default method support for BeanELResolver
  – Coerce LambdaExpression to functional interface invocation
  – Array coercion
Jakarta EE 10 / Tomcat 10.1.x

- **WebSocket**
  - Client side TLS configuration API
  - Allow programmatic deployment of endpoints at any time
  - Separate JARs for client and server
Reproducible builds

- Tomcat releases are reproducible
- Requires
  - Same Java version
  - Same Ant version
- More detail in the Reproducible Builds session
- Allows for validation of binaries
Tomcat Native

• 1.2.x
  – Minimum OpenSSL 1.0.2
  – APR/Native connector support

• 2.0.x
  – Minimum OpenSSL 3.0.x
  – No APR/Native connector support

• Long term plan is to use project Panama
  – See modules in 10.1.x
OpenJDK

- Java 16 reached EOL
- Java 17 (LTS)
- Java 18
- Java 19 EA
- Java 20 EA
Security

- 6 issues in last 12 months
  - None particularly notable

- Not affected by Log4shell
Future Plans
Tomcat 9

- Last Tomcat version to support Java EE
- Will be maintained as long as there is demand
- Tomcat 9.10.x
  - Once 10.1.x is EOL (~8 years away)
  - Retain Java EE 8 API
  - Back-port all (most?) other changes (e.g. removal of APR connector)
- Tomcat 9.11.x
  - Once 11.0.x is EOL (~10+ years away)
Tomcat 11

- Jakarta EE 11
  - Work expected to start later this year
- No plans at this stage for QUIC support
- Currently no other significant changes planned
- Timescales still TBD
  - Best guess mid-2024
  - Tomcat 8.5.x will EOL around the same time
Jakarta EE 11

• Removal of the Security Manager
• Servlet clarifications
  – Asynchronous error handling
  – Unlikely all issues will be addressed
• WebSocket
  – Mostly enhancements
  – A few clarifications
Jakarta EE 11

• Pages
  – Very stable
  – Removal of deprecated code

• Expression Language
  – Removal of deprecated code (java.desktop dependency)
  – Small number of enhancements

• Authentication
  – Possible combination with authorization
Contribute
Contribute

- Ask questions
  - Answer questions
- Bug reports
- Translations
- Release candidate testing
- Maven Plugin
THANK YOU

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https://tomcat.apache.org/