

# State of the Cat

Mark Thomas

# Introductions

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- Mark Thomas
- Tomcat committer since 2003
- ASF member since 2007
- [markt@apache.org](mailto:markt@apache.org)
- ASF, Eclipse, VMware

# Retrospective

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ASIA 2022

- Looking back over the last 12 months
- Community
- Code
  
- Future plans



# Community

# People

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- ~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

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- ApacheCon Asia 2021
- ApacheCon @Home 2021
- <https://tomcat.apache.org/presentations.html>
- Still have \$5,000 from Google for a security event

# Translations

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- <https://poeditor.com/projects/view?id=221603>
  - Anyone can contribute
  - Small (few %) improvements this year
  - Opportunity to contribute



# Code



# Releases

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- 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



# Notable new features

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- 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

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- 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

# Jakarta EE 10 / Tomcat 10.1.x

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- 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



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





# Reproducible builds

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- 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

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- 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

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

# Security

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- 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

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- 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

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

# THANK YOU

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<https://tomcat.apache.org/>

A dark blue silhouette of a city skyline is positioned at the bottom of the slide, featuring various building shapes and heights against the gradient background.