

Tomcat 11 & Jakarta EE

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COMMUNITY
OVER CODE



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Introductions

Tomcat Committer since 2003

Security, Infrastructure, Brand Management

Day job at Broadcom - “Do what you think is best for Tomcat”

Eclipse committer since 2018

Agenda

Jakarta EE 11

Status of specification implementation in Tomcat 11

Notable changes in Tomcat 11

Jakarta EE 11

Jakarta EE 11

Tomcat implements 6 Jakarta EE specifications

- Servlet
- Pages (JSP)
- Expression Language
- WebSocket
- Annotations
- Authentication (JASPIC)

General

Minimum Java version is 17

Removed references to the SecurityManager

Removed deprecated code

Servlet 6.1

Clarifications for headers, HTTPS, async writes, path canonicalization

New standard request attributes

Greater control over redirect status codes and body

`getParameter()` can throw an exception

Expose `HttpSession` for use outside of HTTP request

Added `ByteBuffer` support to `Servlet(Input|Output)Stream`

Deprecate HTTP/2 push

Pages 4.0

Minor changes only

Align with Servlet and EL

Expression Language 6.0

Dependency on `java.beans.*` package has been made optional

New `length` property for arrays

Support for `java.lang.Record`

Optional support for `java.util.Optional`

WebSocket 2.2

Add getSession() to SendResult

Ability to interact with HttpSession via Servlet API changes

Other

Annotations

Deleted @ManagedBean

Authentication

Removed SecurityManager related code and public constants

Implementation

Tomcat 11 Implementation Status

Done

TCKs pass for

- Expression Language

- WebSocket

- Servlet

- Pages

No other major changes planned

New Features

New Features

Most are not Tomcat 11 specific

Available by default unless Java > 17 is required

Tomcat 11.0.x was forked from Tomcat 10.1.1

Full list of changes is in the change log

Removed

Security Manager support

Connector settings

- `rejectIllegalHeader`

- `allowHostHeaderMismatch`

32-bit Windows support

HTTP/2 Server push support

RFCs

Updated BASIC authentication to RFC 7617

Updated DIGEST authentication to RFC 7616

Added SHA256 support

Added HTTP priority support (RFC 9218)

Logging

Added dedicated loggers for

- TLS certificates

- Access log with JSON output

- More time granularity options for access logs

Security

Reduced session timeout during FORM authentication

Rate limiting filter

Reduce default maxParameterCount to 1000

Add partitioned support for session cookies

Automatic reloading of TLS certificates

Easier to exclude safe resources from CSRF filter

Support custom user attributes in Realms

Miscellaneous

Translations

General support for cookie attributes without values

Error reports can redirect to external server

Expose utility executor to web applications

Performance

OpenSSL integration with FFM

Requires Java 22+

Tomcat Native not required

Virtual thread based executor



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Questions?

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email, blog or social media handles