

# Why Tomcat Matters for Jakarta EE

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*Jakarta EE Developer Advocate  
Eclipse Foundation*



**ECLIPSE**  
FOUNDATION



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**<https://www.linkedin.com/in/ivargrimstad>**



**ivargrimstad\_official**



**Java™**  
Champions



# Why This Talk?



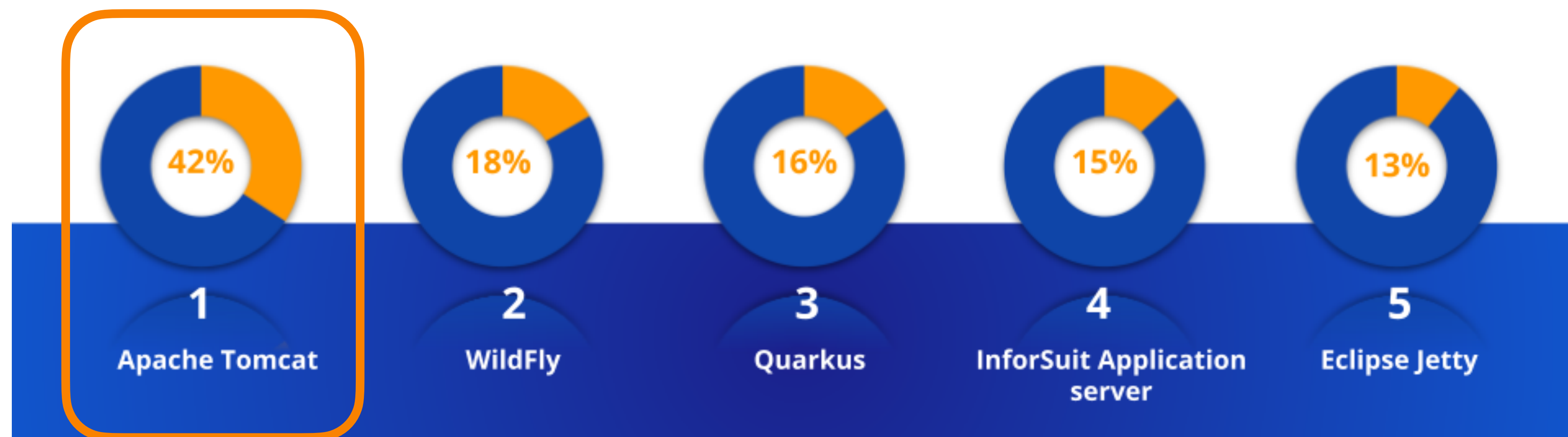


JAKARTA EE

Key Takeaway

10

The top 5 runtimes/implementations being used:



# 2023 Jakarta EE Developer Survey



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## Strategic Member

---



ORACLE



Tomitribe  
join the tribe

---

## Enterprise Member

---



普元信息  
PRIMETON



INFORS 中创中间件®

---

## Participant Member

---

BES 宝兰德  
BESSYSTEM

THUNISOFT  
华宇

東方通  
TongTech®

vsettan®  
华胜信泰

AsialInfo  
亚信科技

iJUG  
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jadeva GmbH  
a small step for your team –  
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Apusic  
金蝶天燕



Orchestrating a brighter world  
NEC



OpenElements

平安科技  
PING AN TECHNOLOGY

TmaxSoft  
We Speak in Technology

vmware®

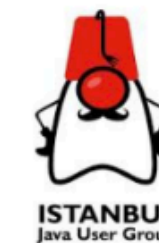
webtide

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## Guest Member

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SOUJava  
sociedade de usuários java



THE APACHE®  
SOFTWARE FOUNDATION







The **Apache Jakarta Project**

[http:// jakarta.apache.org/](http://jakarta.apache.org/)





# Jakarta EE 8



`javax.* -> jakarta.*`

2019

2020/2021

2022



NEW RELEASE

# Jakarta EE 10

Community-Driven

Modernized

Simplified

Lightweight



JAKARTA® EE



## Final Specification

Specification  
Document

API

TCK

Compatible  
Implementation(s)

# Jakarta EE 10 Platform



|                      |                            |                           |                          |
|----------------------|----------------------------|---------------------------|--------------------------|
|                      | Authentication 3.0         | Persistence 3.1           |                          |
| Authorization 2.1    | Concurrency 3.0            | Server Pages 3.1          | RESTful Web Services 3.1 |
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| Enterprise Beans 4.0 | Standard Tag Libraries 3.0 | Transactions 2.0          | CDI Lite 4.0             |

Updated

Not Updated

New



# Jakarta EE 10 Web Profile



|                            |                           |                          |
|----------------------------|---------------------------|--------------------------|
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| Standard Tag Libraries 3.0 | Transactions 2.0          | CDI Lite 4.0             |

Updated

Not Updated

New



# Jakarta EE 10 Core Profile



RESTful Web Services 3.1

JSON Processing 2.1

JSON Binding 3.0

Annotations 2.1

Interceptors 2.1

Dependency Injection 2.0

CDI Lite 4.0

Updated

Not Updated

New



# Jakarta EE 11



# Jakarta EE 10 Platform



|                      |                            |                           |                          |
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Updated

Not Updated

New

# Jakarta EE 11 Platform



|                      |                            |                           |                          |
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Not Updated

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# Jakarta EE 11 Web Profile



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Updated

Not Updated

New



# Jakarta EE 11 Core Profile



RESTful Web Services 4.0

JSON Processing 2.1

JSON Binding 3.0

Annotations 3.0

Interceptors 2.2

Dependency Injection 2.0

CDI Lite 4.1

Updated

Not Updated

New



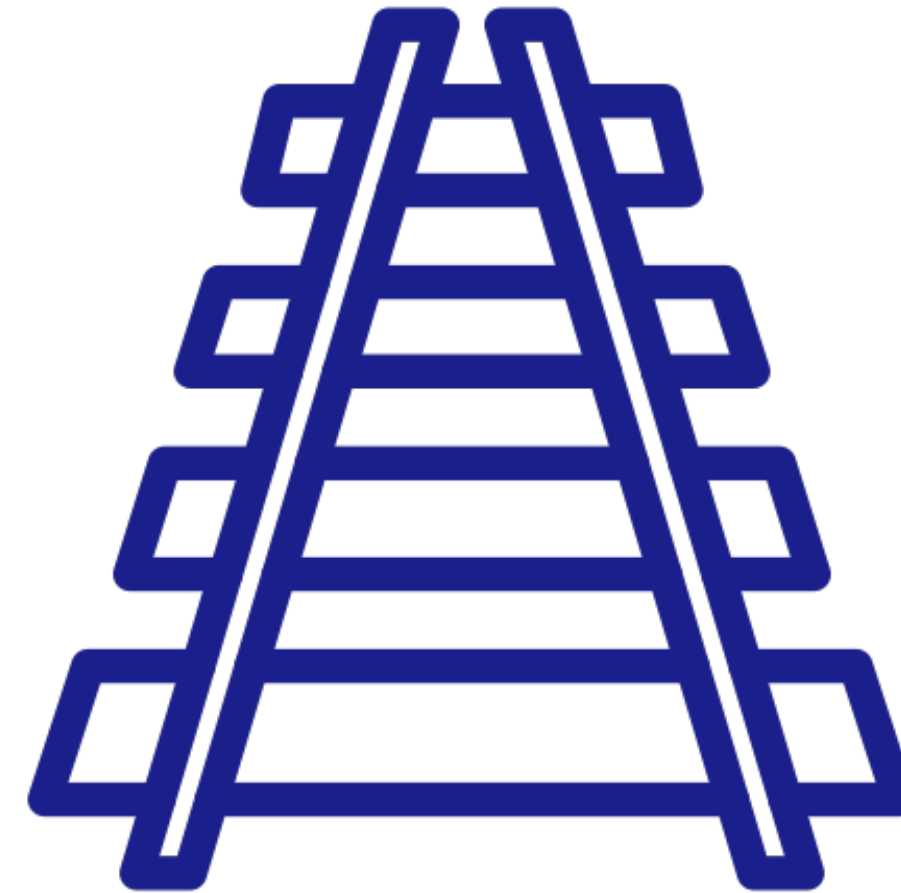
# **Jakarta EE 11**

**API source level: Java SE 21**

**API binary level: Java SE 21**

**TCK run with: Java SE 21**





# Release Cadence

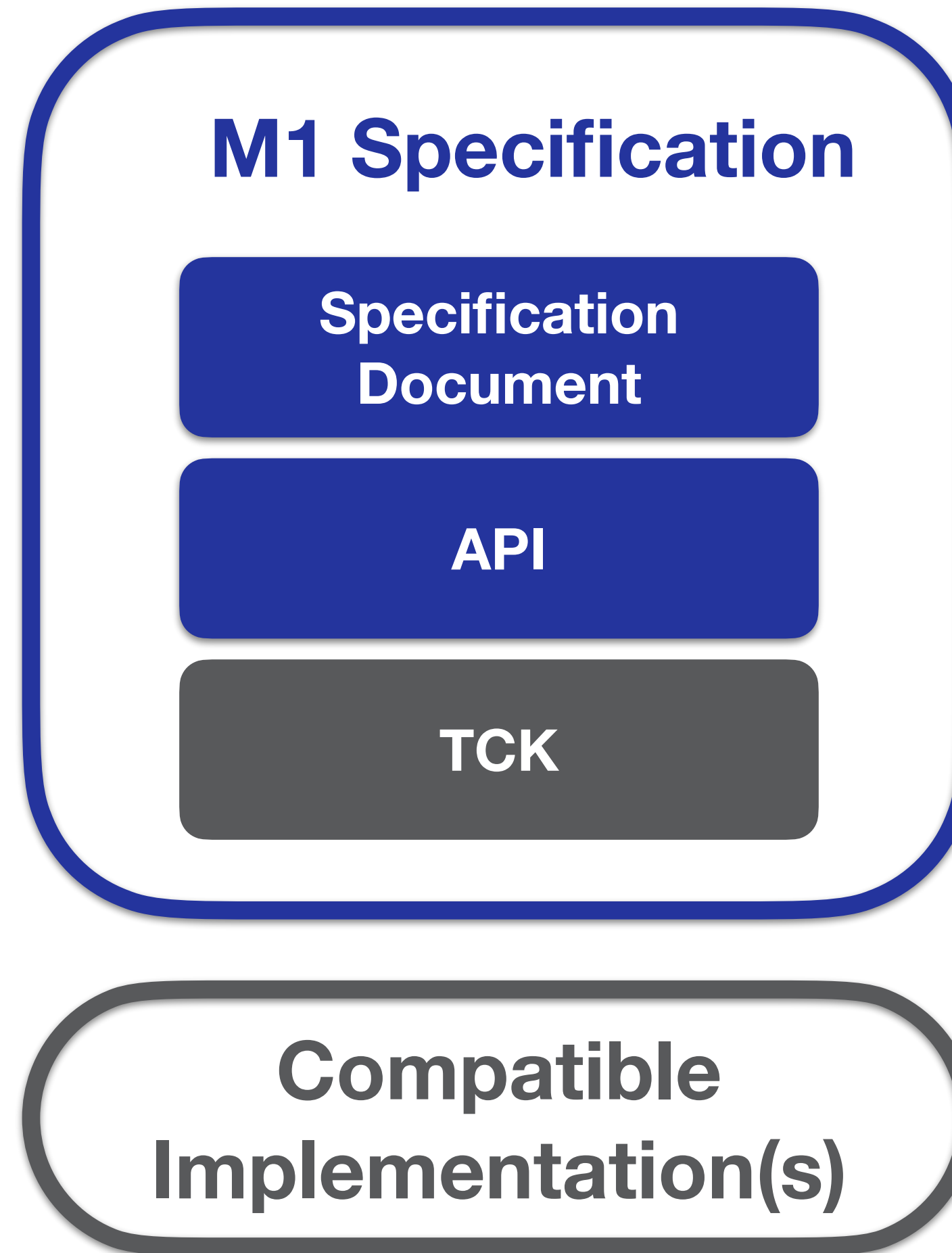
**~6-9 Months after the latest LTS of Java**

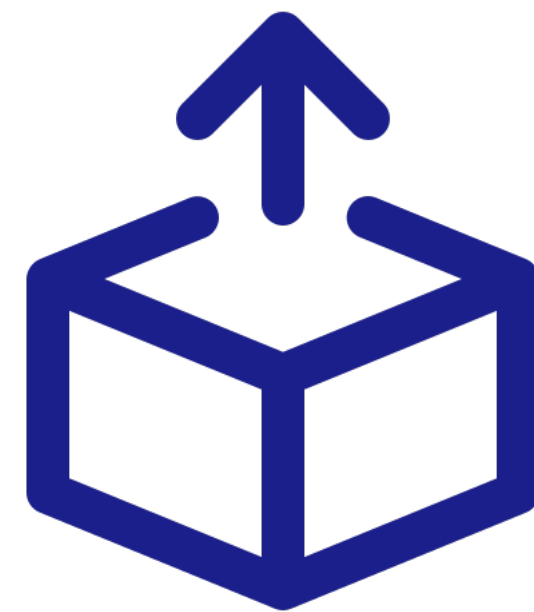




# Milestone 1

**December 5, 2023**





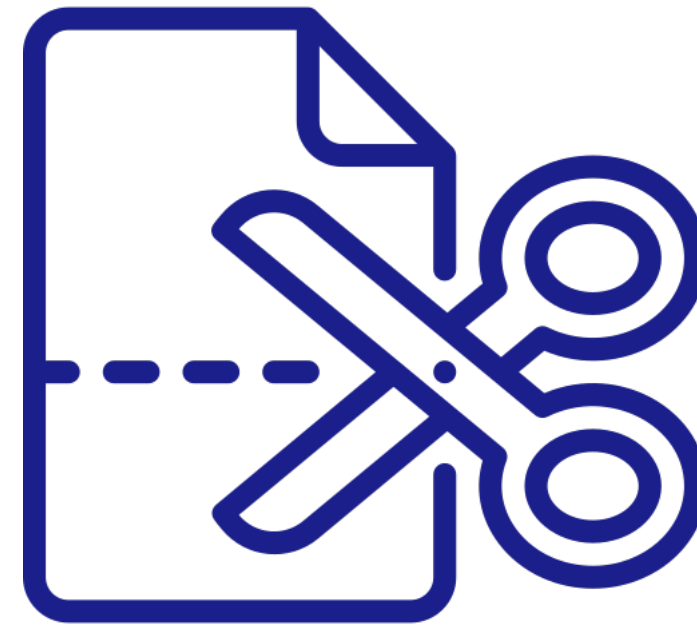
# Jakarta EE 11

**H1, 2024**



# **Performance and Developer Productivity**





# Cross-Cutting Concerns

Managed Beans 2.0

**Removed**  
**Replaced by CDI**

# SecurityManager Removed

## JEP 411: Deprecate the Security Manager for Removal



# Optional Features

CORBA

RMI-IIOP

**Jakarta EE Platform**  
**Jakarta EE Web Profile**  
**Jakarta EE Core Profile**

XML Web Services

Java IDL

XML Binding

SOAP

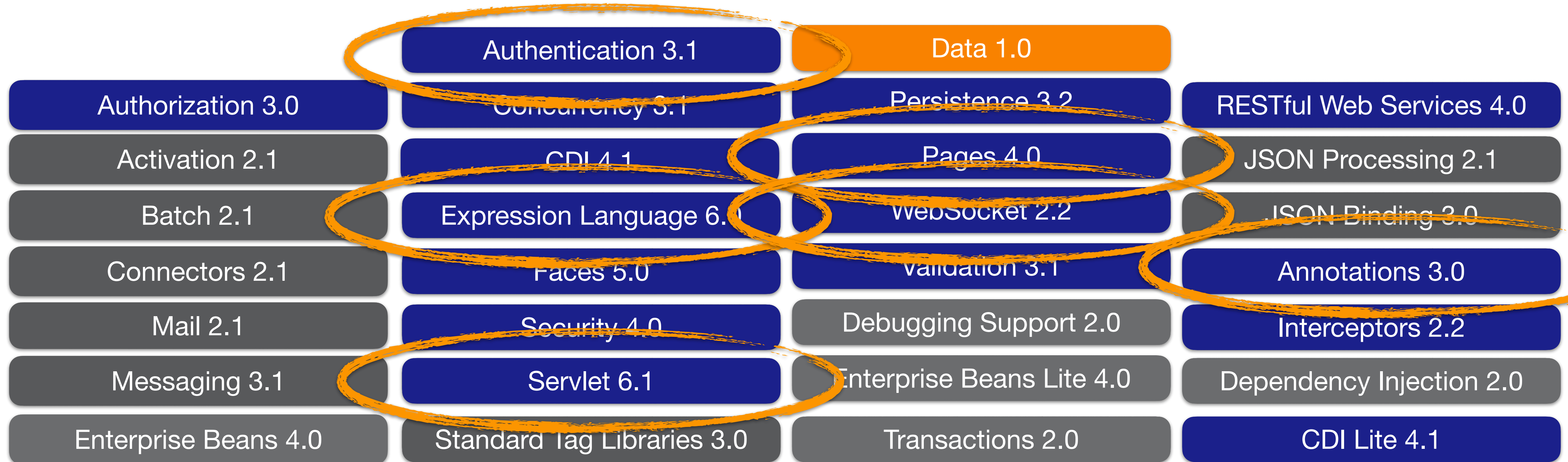
OMG



# Apache Tomcat



# Jakarta EE 11 Platform



Updated

Not Updated

New



# Jakarta EE 11 Platform



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Updated

Not Updated

New



# **Remove** `SecurityManager` **references**

## **Clarifications**

# Jakarta Authentication 3.1

**<https://jakarta.ee/specifications/authentication/3.1/>**

# Jakarta EE 11 Platform



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Updated

Not Updated

New



# Deprecations

JavaBeans API **dependency Optional**

**Support for** Optional **via** OptionalELResolver

**Add Support for** Java Records



# Jakarta Expression Language 6.0

**<https://jakarta.ee/specifications/expression-language/6.0/>**

# Jakarta EE 11 Platform



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Updated

Not Updated

New

**Remove** `SecurityManager` **references**  
**Control status code and response body sending a redirect**  
**Convenience** `attributes`, `constants`, **and** `methods`  
**Clarifications**



# Jakarta Servlet 6.1

**<https://jakarta.ee/specifications/servlet/6.1/>**



# Jakarta EE 11 Platform



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Updated

Not Updated

New

# **Align with Jakarta Servlet and Jakarta Expression Language**

## **Remove all deprecated code from Jakarta Servlet 3.1**

# Jakarta Pages 4.0

**<https://jakarta.ee/specifications/pages/4.0/>**



# Jakarta EE 11 Platform



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Updated

Not Updated

New



# **Remove** `SecurityManager` **references** **Minor updates and clarifications**

# Jakarta WebSocket 2.2

**<https://jakarta.ee/specifications/websocket/2.2/>**

# Jakarta EE 11 Platform



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Updated

Not Updated

New



Managed Beans 2.0

# **Remove the** ManagedBeans **Annotation**



# Jakarta Annotations 3.0

**<https://jakarta.ee/specifications/annotations/3.0/>**



 jetty-10.0.x

 44 branches

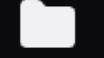
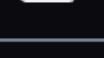
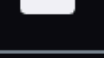
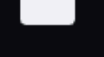
 427 tags

Go to file

Add file

<> Code

Open

|                                                                                     |                   |                                                                       |         |              |                |
|-------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------|---------|--------------|----------------|
|    | olamy             | Update details on how to include dependabot PRs in a release (#10...  | 90fdd42 | 4 days ago   | 25,113 commits |
|    | .github           | Update details on how to include dependabot PRs in a release (#106... |         | 4 days ago   |                |
|    | .mvn              | Enable errorprone and spotbugs for java 17 (#7604)                    |         | last year    |                |
|    | apache-jsp        | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|    | apache-jstl       | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|    | build-resources   | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|    | demos             | Cleanup of start properties usages in jetty-10.0.x (#10365)           |         | 3 weeks ago  |                |
|    | documentation     | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|    | javadoc           | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-alpn        | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-annotations | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-annotations | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-bom         | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-cdi         | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-client      | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-deploy      | Cleanup of start properties usages in jetty-10.0.x (#10365)           |         | 3 weeks ago  |                |
|  | jetty-fcgi        | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-gcloud      | Updating to version 10.0.17-SNAPSHOT                                  |         | 2 months ago |                |
|  | jetty-hazelcast   | Cleanup of start properties usages in jetty-10.0.x (#10365)           |         | 3 weeks ago  |                |

### About

Eclipse Jetty® - Web Container & Clients  
- supports HTTP/2, HTTP/1.1, HTTP/1.0, websocket, servlets, and more

 [eclipse.dev/jetty](https://eclipse.dev/jetty)

- java
- tls
- ssl
- http
- embedded
- jsp
- https
- eclipse
- http2
- websockets
- http-client
- osgi
- http-server
- jetty
- servlet
- fcgi
- unix-socket
- http2-push
- http3
- jakartaee

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 3.7k stars

 269 watching

 1.9k forks

[Report repository](#)

### Releases 72

 12.0.1 Latest  
on Aug 30

[+ 71 releases](#)





JAKARTA EE







# Demo



**<https://start.spring.io/>**





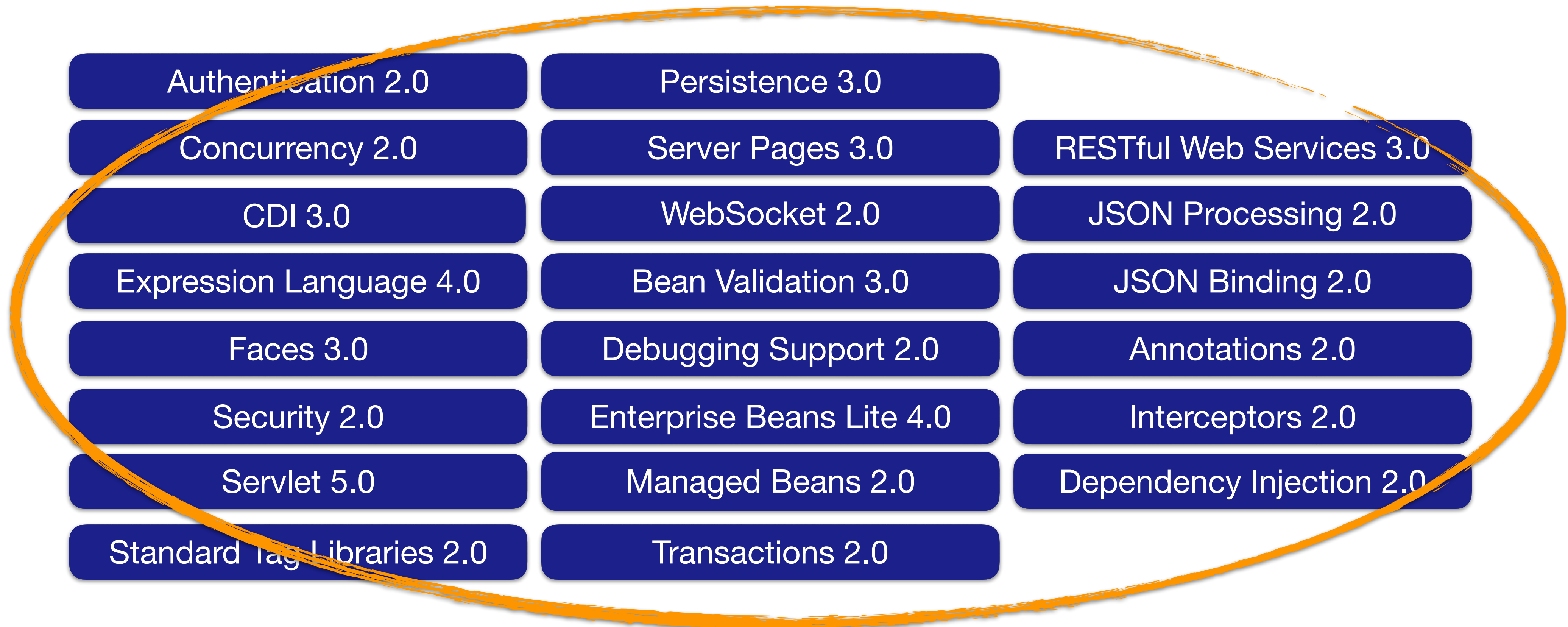




**<https://tomee.apache.org/>**



# Jakarta EE 9.1 Web Profile



Updated

Not Updated

New



# Apache TomEE

## Now Jakarta EE 9.1 Web Profile Certified!



### Documentation

Learn more about  
Apache TomEE



### Community

How can I contribute to  
TomEE?



### Downloads

How can I download  
Apache TomEE?

Apache TomEE, pronounced “Tommy”, is an all-Apache Jakarta EE 9.1 certified application server extends Apache Tomcat that is assembled from a vanilla Apache Tomcat zip file. We start with Apache Tomcat, add our jars, and zip up the rest. The result is Tomcat plus EE features – TomEE.

Final Release – javax namespace

# apache-tomee-8.0.15

Stable and ready for production, Apache TomEE 8.0 implements Java EE 8 / Jakarta EE 8 and supports the javax namespace. Runs on Java 8 or higher.

[+ DOWNLOAD](#)

Final Release – Jakarta namespace

# apache-tomee-9.1.0

Jakarta EE 9.1 Web Profile & MicroProfile 5 compliant and supports the new jakarta namespace. Runs on Java 11 or higher.

[+ DOWNLOAD](#)



# Demo



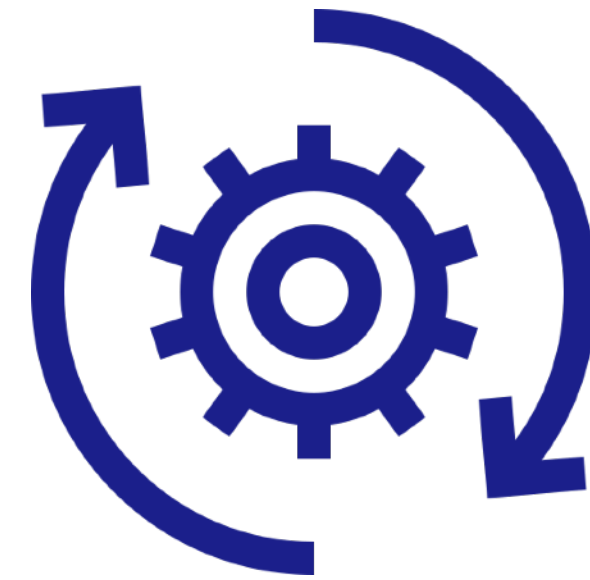


**<https://start.jakarta.ee/>**





javax.\* -> jakarta.\*



# Transformation



## **Eclipse Transformer**



## **Apache Tomcat Migration Tool**





## **Apache Tomcat Migration Tool**

**<https://tomcat.apache.org/download-migration.cgi>**



# Jakarta EE 11 Platform



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Updated

Not Updated

New



# Jakarta Data 1.0

**Standardizes the repository pattern for data access**

**<https://jakarta.ee/specifications/data/1.0/>**



```
@Repository
public interface GreetingRepository extends
    CrudRepository<Greeting, Long> {

    Optional<Greeting> findByName (String name) ;

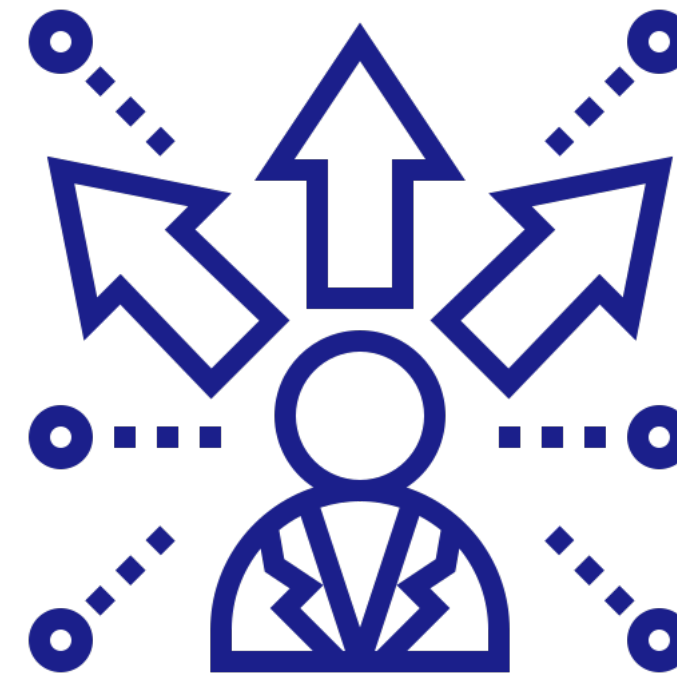
}
```





# Demo





# An Opportunity

**Jakarta Data  
implementation**





# Summary







javax.\* -> jakarta.\*

NEW RELEASE

# Jakarta EE 10

Community-Driven

Modernized

Simplified

Lightweight





# Jakarta EE 10 Platform



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Updated

Not Updated

New

**Under Development**

# Jakarta EE 11 Platform



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Updated

Not Updated

New



# **Performance and Developer Productivity**





# **Jakarta EE 11**

**API source level: Java SE 21**

**API binary level: Java SE 21**

**TCK run with: Java SE 21**





## **Jakarta EE**

**<https://jakarta.ee>**

## **Specifications**

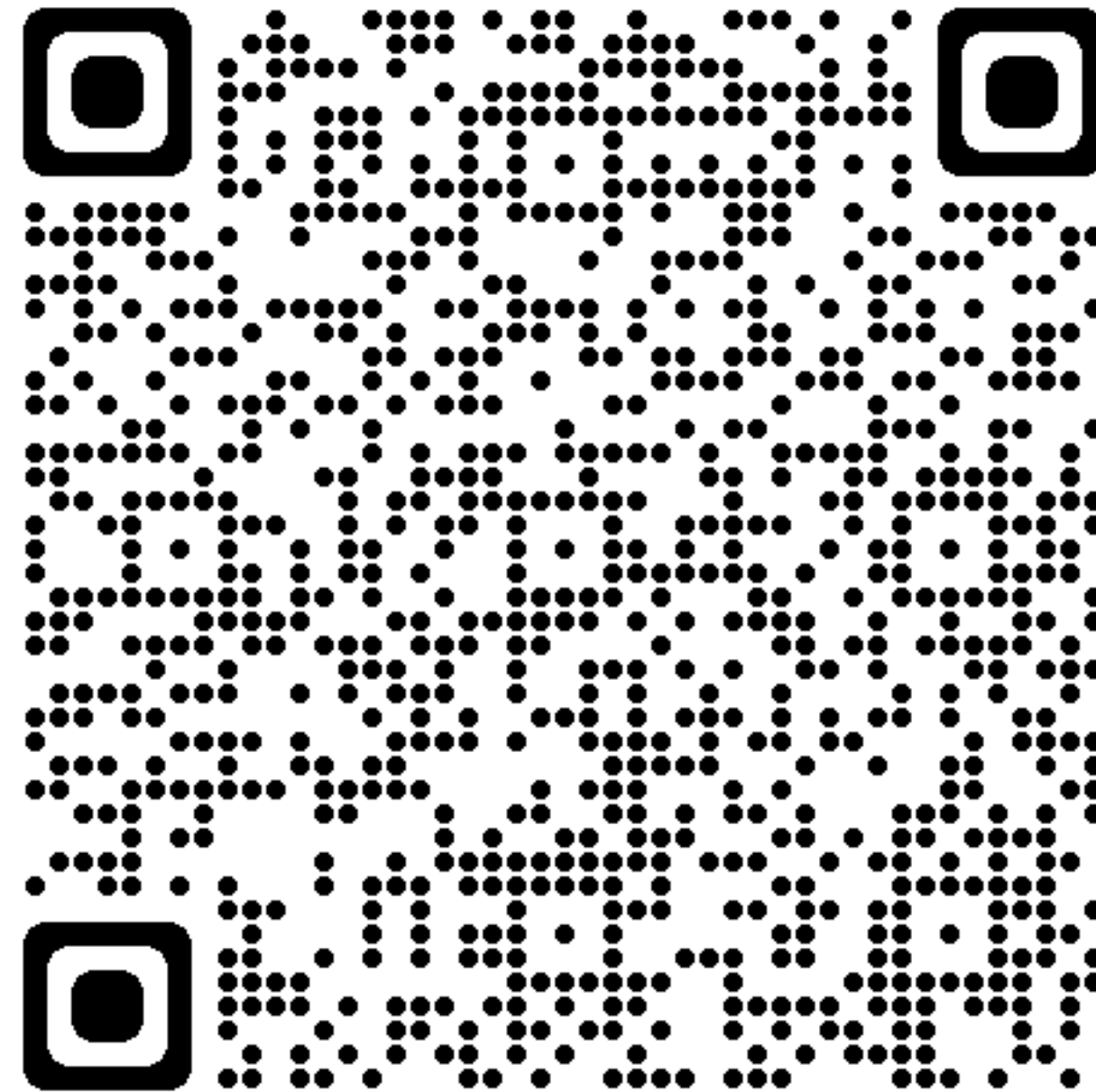
**<https://jakarta.ee/specifications/>**

## **Ivar's Hashtag Jakarta EE**

**<https://www.agilejava.eu/category/jakarta-ee/>**

## **Demo Code**

**<https://github.com/ivargrimstad/dukes-data>**



# Jakarta EE Overview

Course available on [LinkedIn Learning](#)

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