

# A Closer Look at Jakarta EE 10

Ivar Grimstad



*Jakarta EE Developer Advocate  
Eclipse Foundation*



**@ivar\_grimstad**



**<https://github.com/ivargrimstad>**

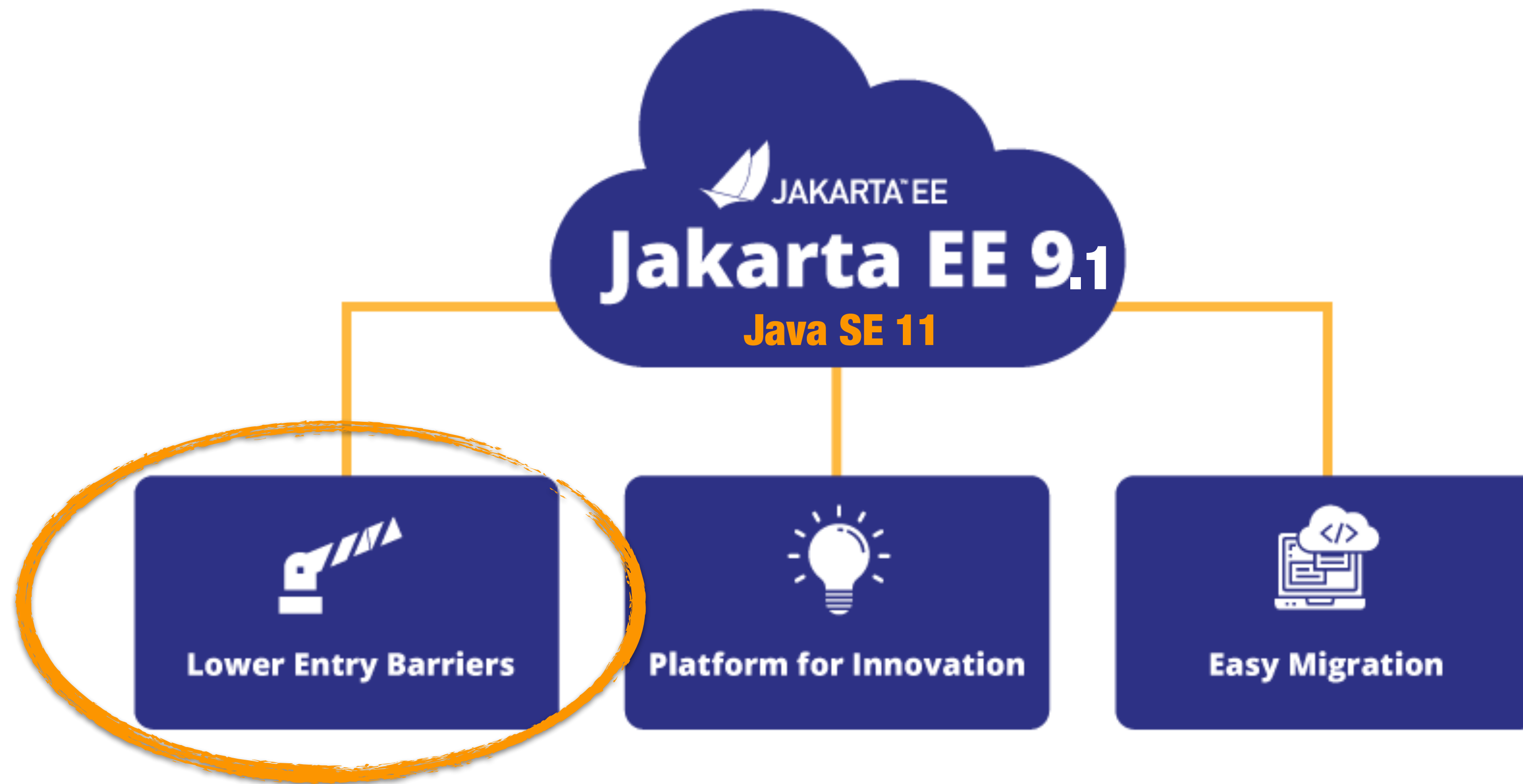


**<https://www.linkedin.com/in/ivargrimstad>**



**Java™**  
Champions





`javax.* -> jakarta.*`



javax.\* -> jakarta.\*



# Demo



<http://localhost:8082/complete-duke/hello>



<http://localhost:8080/complete-duke/hello>

```
{
  email: "duke@dukes.java",
  message: "Howdy Jakarta EE 9!"
}
```

**Jakarta CDI**



**Jakarta REST**

**Jakarta Enterprise Beans**

**Jakarta Persistence**

```
*****
Duke says: Hi there!
*****
```

- 1. Update Jakarta EE version in pom.xml**
- 2. Fix the imports**
- 3. XML Schema Namespaces**
- 4. Rename properties prefixed with javax**
- 5. Rename bootstrapping Files**
- 6. Verify data and dynamic content**

**<https://github.com/ivargrimstad/jakartaee-duke/>**





# Transformation



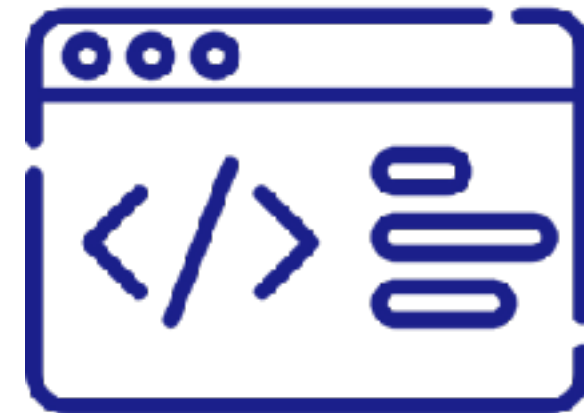
## Eclipse Transformer

<https://github.com/eclipse/transformer>



## Apache Tomcat Migration Tool

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



# IDE

**Package and Class Migration**

Select migration map: **Java EE to Jakarta EE** ▼ Edit... Copy... New... Remove

Replaces javax.\* imports with jakarta.\* imports in Java code.  
Does not affect usages of: javax.sql, javax.swing, javax.xml, javax.naming and javax.transaction.xa.

You need to add Jakarta EE libraries before the migration.

In Project Module

? Cancel Run

# Why Should I Care?

# A Java 17 and Jakarta EE 9 baseline for Spring Framework 6

ENGINEERING | JUERGEN HOELLER | SEPTEMBER 02, 2021 11 COMMENTS

As announced at SpringOne yesterday, Spring Framework 6 and Spring Boot 3 are planned towards a high-end baseline for their general availability in Q4 2022:

- **Java 17+** (from Java 8-17 in the Spring Framework 5.3.x line)
- **Jakarta EE 9+** (from Java EE 7-8 in the Spring Framework 5.3.x line)

spring-projects / spring-framework Public

<> Code Issues 1.1k Pull requests 265 Actions Projects


**× Jakarta EE 9 migration**

Upgrades many dependency declarations; removes old EJB 2.x support and outdated Tiles).

Closes [gh-22093](#)  
Closes [gh-25354](#)  
Closes [gh-26185](#)  
Closes [gh-27423](#)  
See [gh-27424](#)

**javax.\* -> jakarta.\***

main

 jhoeller committed 4 days ago

Showing 1,291 changed files with 4,988 additions and 25,318 deletions.



*jetty://*



javax.\* -> jakarta.\*



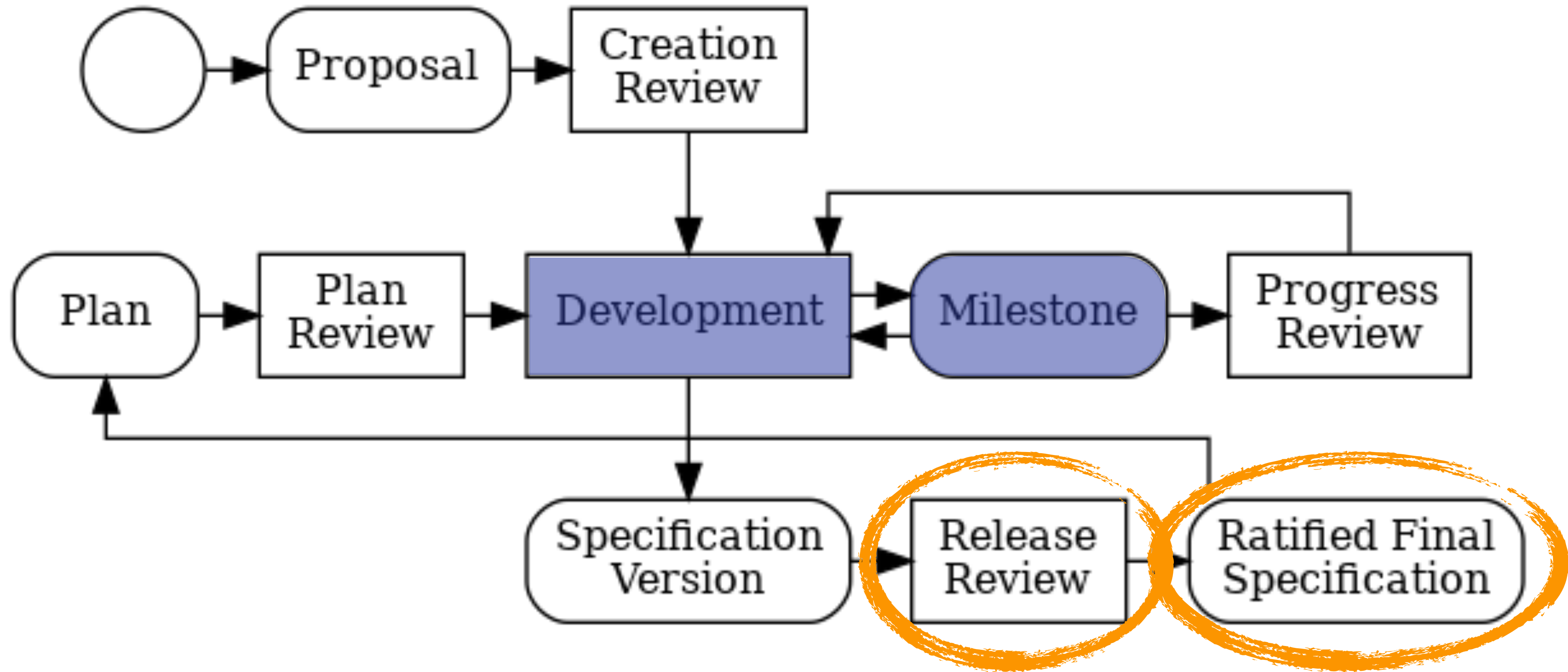


# Beyond Jakarta EE 9.1



# Jakarta EE 10

**Coming Q1, 2022 !**



**October 15, 2021**

**Q1, 2022**



# Jakarta EE 10 Platform



	Authentication 3.0	Persistence 3.1	RESTful Web Services 3.1
Authorization 3.0	Concurrency 3.0	Server Pages 3.1	JSON Processing 2.1
Activation 2.1	CDI 4.0	WebSocket 2.1	JSON Binding 2.1
Batch 2.1	Expression Language 5.0	Bean Validation 3.0	Annotations 2.0
Connectors 2.1	Faces 4.0	Debugging Support 2.0	Interceptors 2.0
Mail 2.1	Security 3.0	Enterprise Beans Lite 4.0	Dependency Injection 2.0
Messaging 3.1	Servlet 6.0	Managed Beans 2.0	CDI Lite 4.0
Enterprise Beans 4.0	Standard Tag Libraries 3.0	Transactions 2.0	Config 1.0*

Updated

Not Updated

New

# Jakarta EE 10 Web Profile



Authentication 3.0	Persistence 3.1	RESTful Web Services 3.1
Concurrency 3.0	Server Pages 3.1	JSON Processing 2.1
CDI 4.0	WebSocket 2.1	JSON Binding 2.1
Expression Language 5.0	Bean Validation 3.0	Annotations 2.0
Faces 4.0	Debugging Support 2.0	Interceptors 2.0
Security 3.0	Enterprise Beans Lite 4.0	Dependency Injection 2.0
Servlet 6.0	Managed Beans 2.0	CDI Lite 4.0
Standard Tag Libraries 3.0	Transactions 2.0	Config 1.0*

Updated

Not Updated

New

# Jakarta EE 10 Core Profile



RESTful Web Services 3.1

JSON Processing 2.1

JSON Binding 2.1

Annotations 2.0

Interceptors 2.0

Dependency Injection 2.0

CDI Lite 4.0

Config 1.0\*

Updated

Not Updated

New



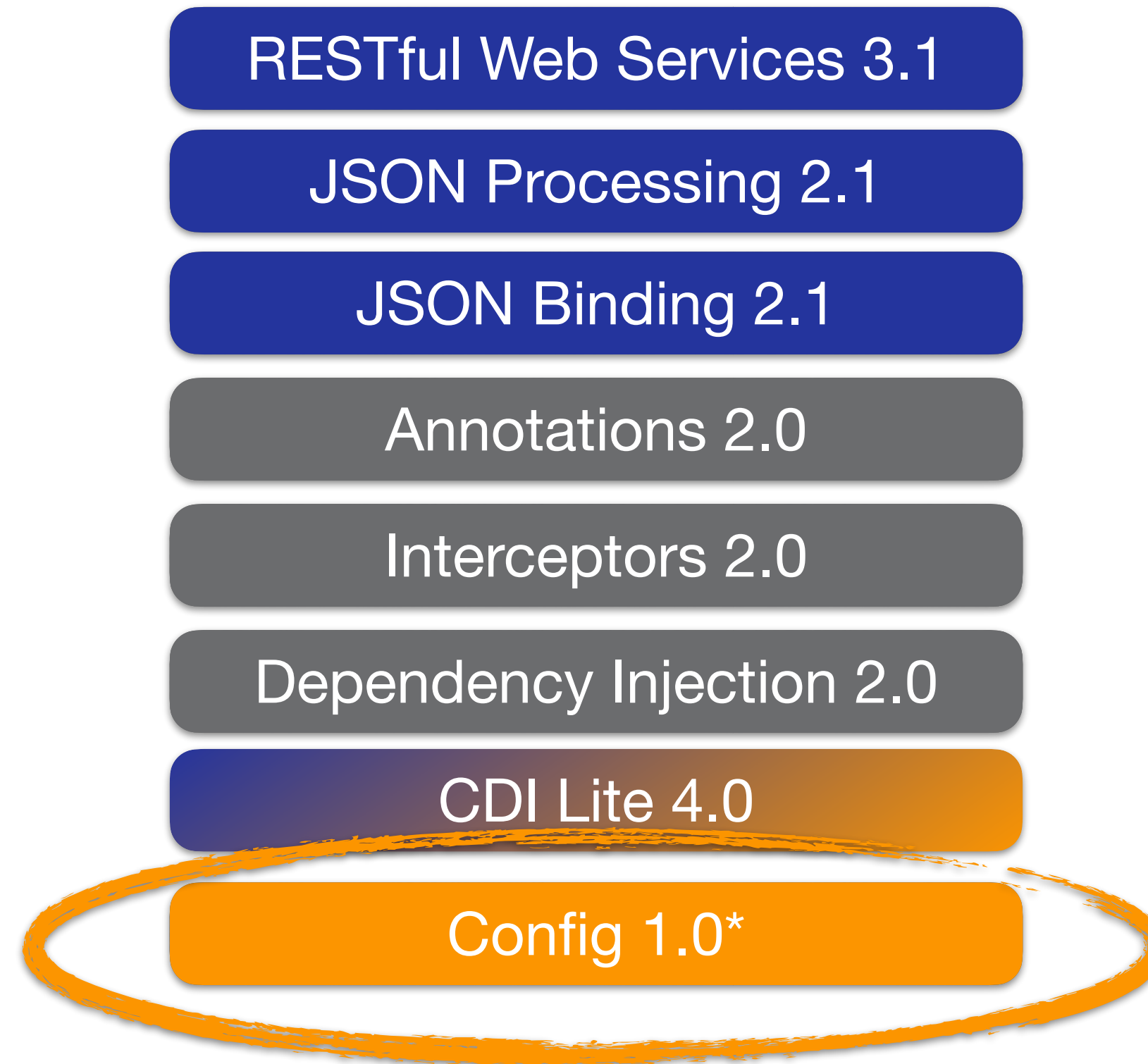
# Jakarta EE Core Profile

**Targeting smaller runtimes!**



**Potentially Jakarta EE 10 Core Profile Compatible**





# Jakarta Config

**portable configuration from environment-aware sources**

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

```
@ConfigProperty  
private String place;
```

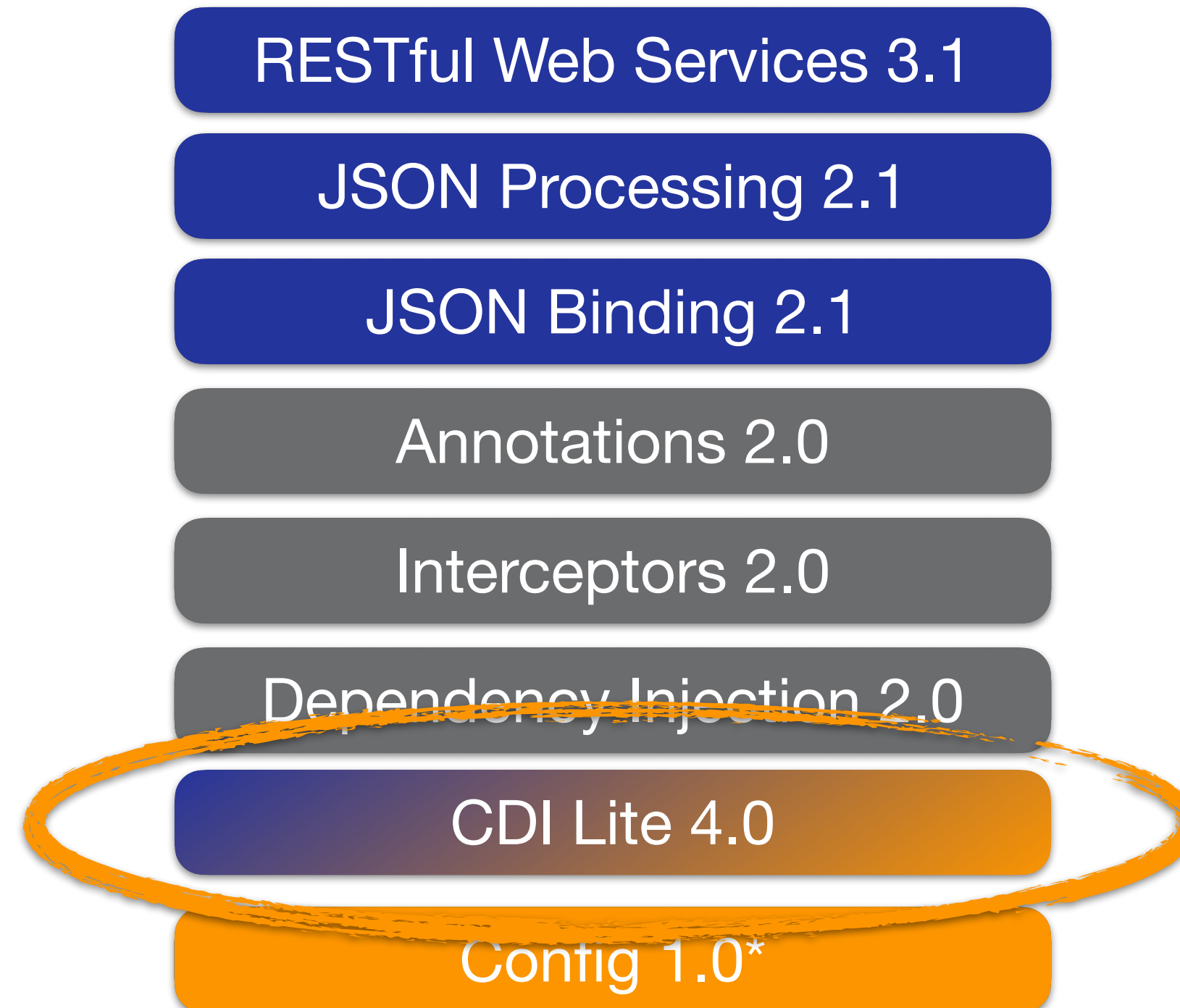
**-Dplace=SystemWorld**

**export place=EnvironmentWorld**



**place=PropertyFileWorld**

**META-INF/jakarta-config.properties**



# Jakarta CDI Lite

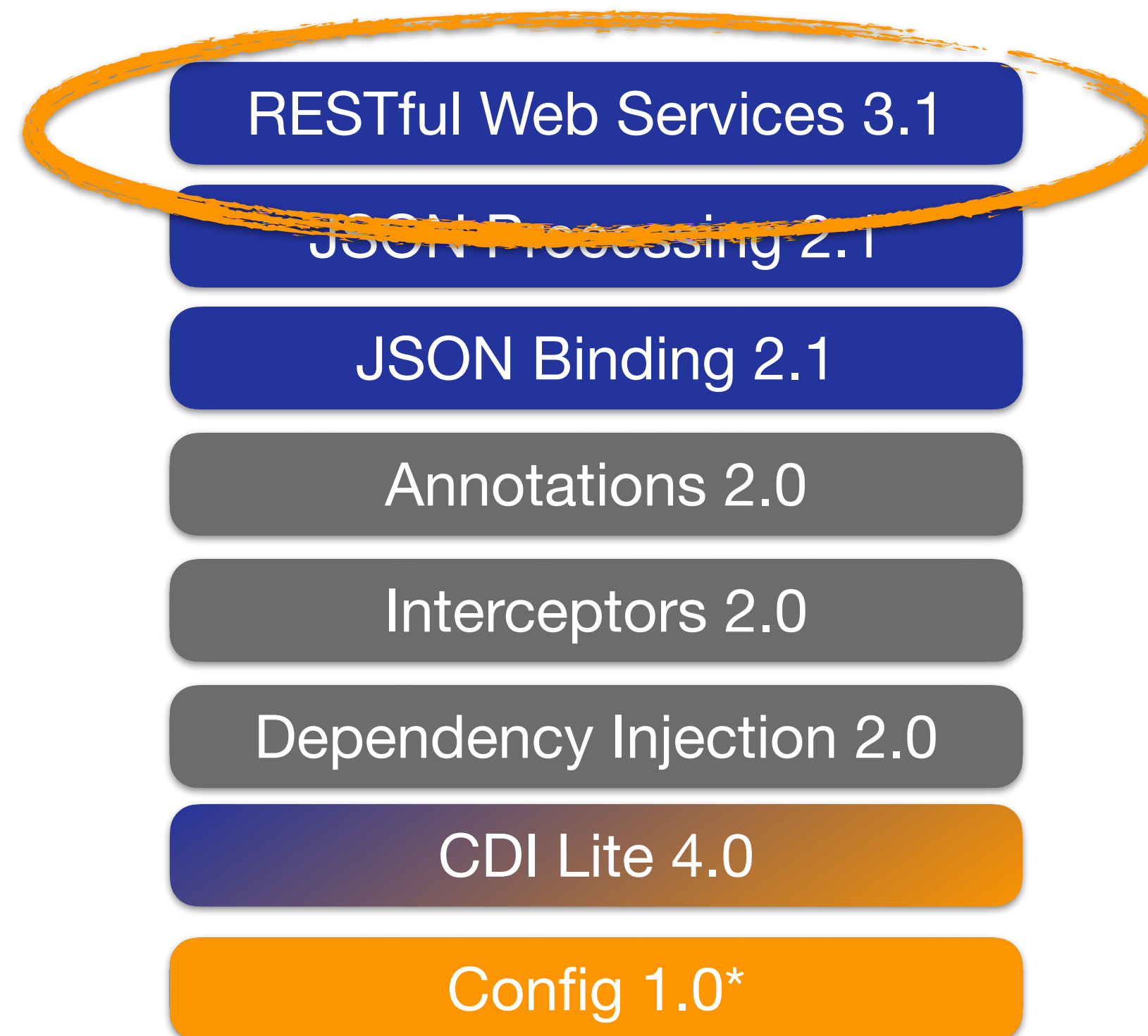
**designed to work in more restricted environments**

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

**New Extensions API**  
**beans.xml behavior**

...

**GraalVM™**



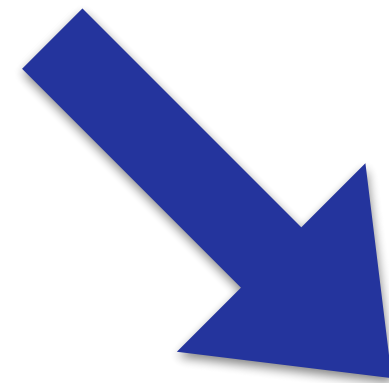
# Jakarta RESTful Web Services

**updated API with requested features while maintaining compatibility**

**<https://jakarta.ee/specifications/restful-ws/>**

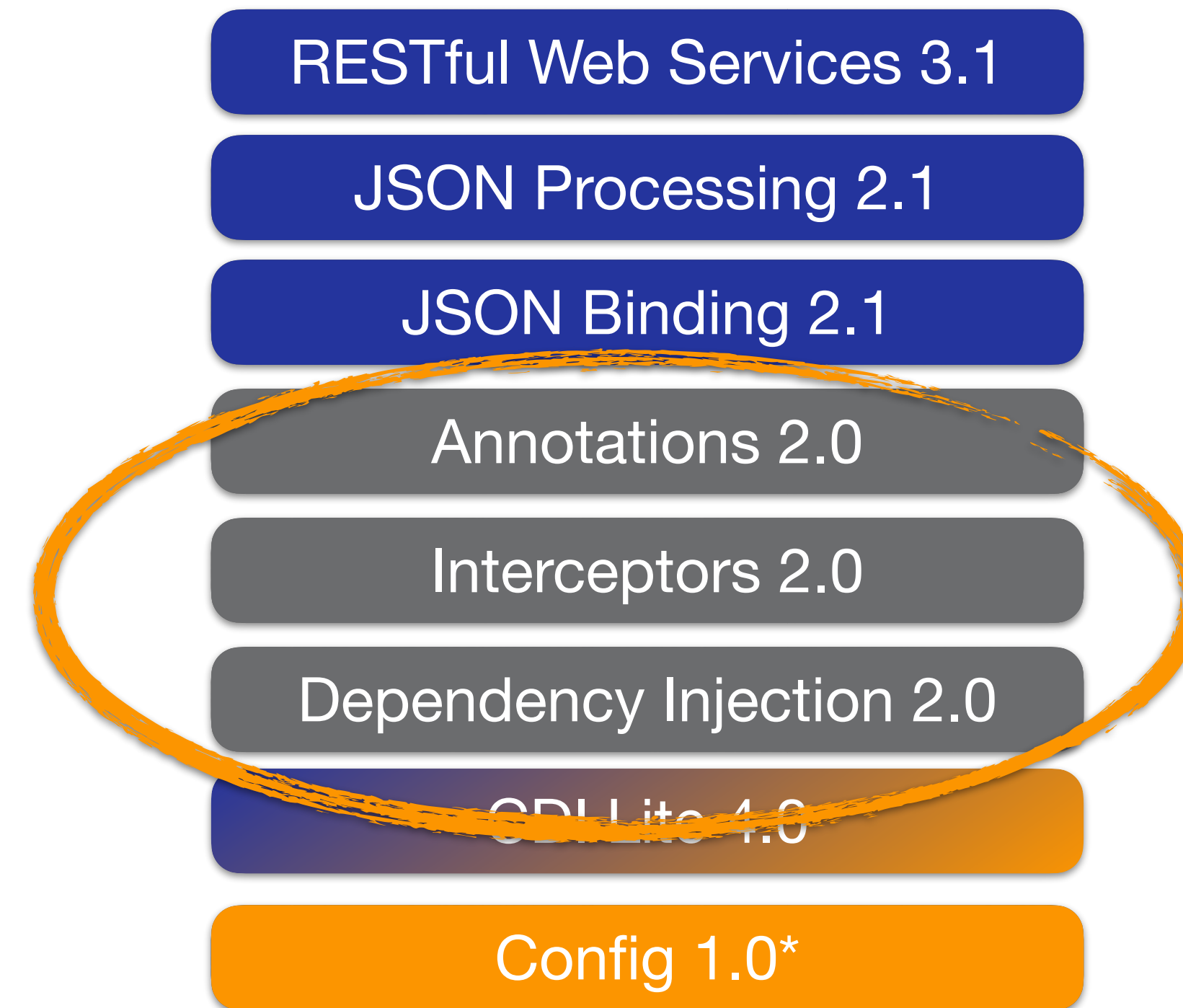


```
@Context  
private UriInfo uriInfo;
```



```
@Inject  
private UriInfo uriInfo;
```

- RESTful Web Services 3.1
- JSON Processing 2.1
- JSON Binding 2.1
- Annotations 2.0
- Interceptors 2.0
- Dependency Injection 2.0
- CDI Lite 4.0
- Config 1.0\*



# Jakarta EE 10 Web Profile



Authentication 3.0	Persistence 3.1	RESTful Web Services 3.1
Concurrency 3.0	Server Pages 3.1	JSON Processing 2.1
CDI 4.0	WebSocket 2.1	JSON Binding 2.1
Expression Language 5.0	Bean Validation 3.0	Annotations 2.0
Faces 4.0	Debugging Support 2.0	Interceptors 2.0
Security 3.0	Enterprise Beans Lite 4.0	Dependency Injection 2.0
Servlet 6.0	Managed Beans 2.0	CDI Lite 4.0
Standard Tag Libraries 3.0	Transactions 2.0	Config 1.0*

Updated

Not Updated

New

# Jakarta Security

**adding features and evolving the API**

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



JAKARTA EE

## Additional Authentication Mechanisms

- Client-cert and Digest
- OpenID Connect
- OAuth2



## Extended Authentication Mechanisms

- Authentication Mechanism per URL
- User Choice of Authentication Mechanism
- Multiple Authentication Mechanisms

## CDI Integration

- `@RolesAllowed` alternative
- Interceptor Support



# Other updates in Jakarta EE 10



# Java SE Versions





# Jakarta EE 10

API source level: **Java SE 11**

API binary level: **Java SE 11**

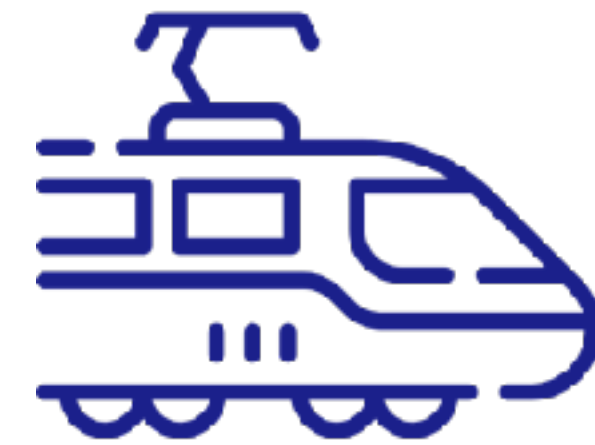
TCK run with: **Java SE 11+**

**App Developers (YOU) can use Java SE 17 features if you like !!**



# Java SE Security Manager

@deprecated



# Release Cadence



# Decoupling the TCK

# Summary





javax.\* -> jakarta.\*

# Jakarta EE 10 Platform



	Authentication 3.0	Persistence 3.1	RESTful Web Services 3.1
Authorization 3.0	Concurrency 3.0	Server Pages 3.1	JSON Processing 2.1
Activation 2.1	CDI 4.0	WebSocket 2.1	JSON Binding 2.1
Batch 2.1	Expression Language 5.0	Bean Validation 3.0	Annotations 2.0
Connectors 2.1	Faces 4.0	Debugging Support 2.0	Interceptors 2.0
Mail 2.1	Security 3.0	Enterprise Beans Lite 4.0	Dependency Injection 2.0
Messaging 3.1	Servlet 6.0	Managed Beans 2.0	CDI Lite 4.0
Enterprise Beans 4.0	Standard Tag Libraries 3.0	Transactions 2.0	Config 1.0*

Updated

Not Updated

New



## Jakarta EE

<https://jakarta.ee>

## Jakartablogs

<https://jakartablogs.ee/>

## Ivar's Hashtag Jakarta EE

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

# Thanks !