



JAKARTA EE

Jakarta EE 10

Feature by Feature

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Eclipse Foundation



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Java™
Champions

ECLIPSE
FOUNDATION



**JAVA
FORUM
MALMØ**

NEW RELEASE

Jakarta EE 10

Community-Driven

Modernized

Simplified

Lightweight

Coming August, 2022!



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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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 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!!



Jakarta EE 10 Platform



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Updated

Not Updated

New

Jakarta Security 3.0

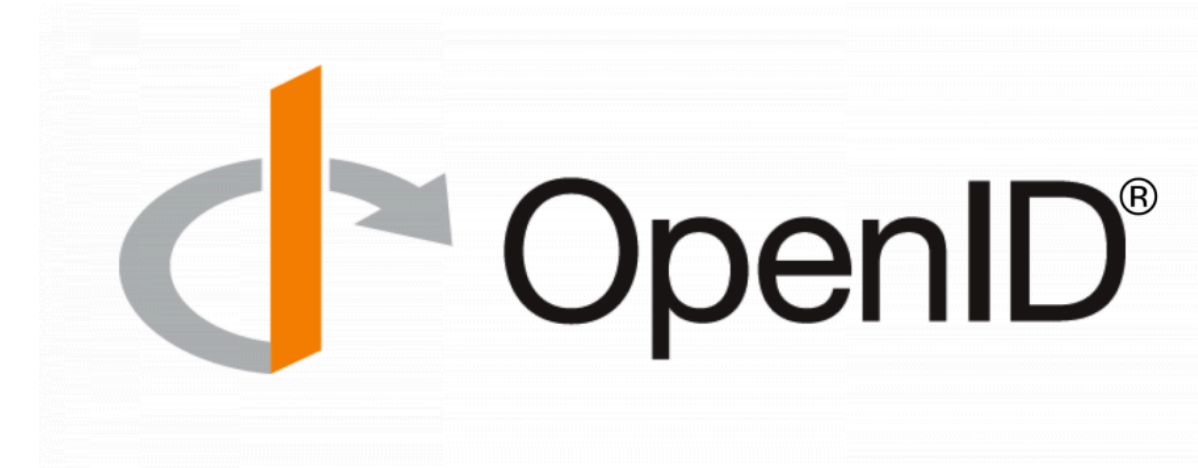
adding features and evolving the API

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



New Authentication Mechanism

- **OpenID Connect**



Other Updates

- **Updates to Lower Level SPIs**
 - **Jakarta Authorization**
 - **Jakarta Authentication**
- **Foundation for Future Work**

OpenID Connect Authentication Mechanism

```
@OpenIdAuthenticationMechanismDefinition(  
    providerURI = "http://oidc-provider",  
    clientId = "client",  
    clientSecret = "secret",  
    redirectURI = "${baseURL}/Callback",  
    redirectToOriginalResource = true  
)
```

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Not Updated

New

Jakarta Persistence 3.1

adding features and evolving the API

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



UUID as Basic Java Type

```
@Entity
public class Item {

    @Id
    @GeneratedValue(strategy=GenerationType.UUID)
    private java.util.UUID id;
    private String description;

    ...
}
```

Jakarta EE 10 Platform



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Not Updated

New

Jakarta RESTful Web Services 3.1

updated API with requested features while maintaining compatibility

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



multipart/form-data Support

```
@GET
@Produces(MediaType.MULTIPART_FORM_DATA)
List<EntityPart> getFiles(...) {
    List<EntityPart> parts = new ArrayList<>();
    ...
    for(File f: dir.listFiles()) {
        parts.add(EntityPart.withFileName(f.getName)
            .content(new FileInputStream(f))
            .mediaType("application/pdf")
            .build());
    }
    return parts;
}
```


Java SE Bootstrap API

```
public static void main(String[] args) {  
    Application app = new MyApplication();  
    SeBootstrap.start(app);  
}
```



Jakarta RESTful Web Services 3.1

Java SE Bootstrap API

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

Jakarta JSON Binding

DukesGreeting

Jakarta REST

RESTEasy 6.10



Jakarta EE 10 Platform



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Not Updated

New



Jakarta EE Core Profile

Targeting smaller runtimes!



Jakarta EE 10 Core Profile



RESTful Web Services 3.1

JSON Processing 2.1

JSON Binding 3.0

Annotations 2.1

Interceptors 2.1

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CDI Lite 4.0

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Potentially Jakarta EE 10 Core Profile Compatible

CDI Lite 4.0

RESTful Web Services 3.1

JSON Processing 2.1

JSON Binding 3.0

Annotations 2.1

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Dependency Injection 2.0

CDI Lite 4.0

Jakarta CDI 4.0 Lite

designed to work in more restricted environments

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





New Extensions API

“Dynamic” at build time

Empty beans.xml ~~“all”~~ -> “annotated”

Removal of Deprecated API parts

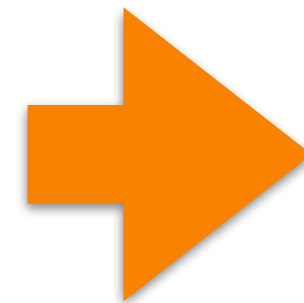




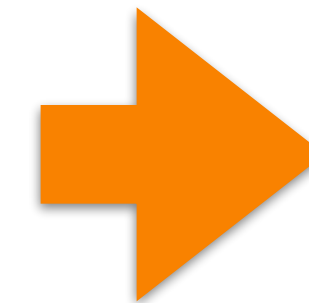
Demo



Jakarta EE 8



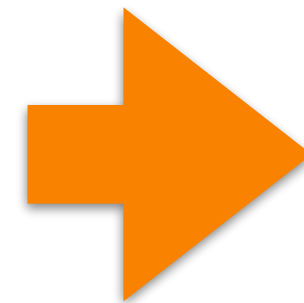
Jakarta EE 9.1



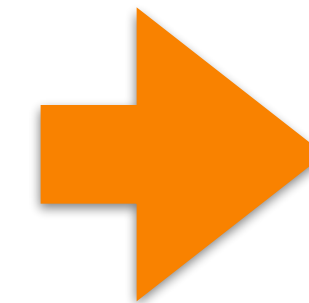
Jakarta EE 10



Jakarta EE 8



Jakarta EE 9.1



Jakarta EE 10

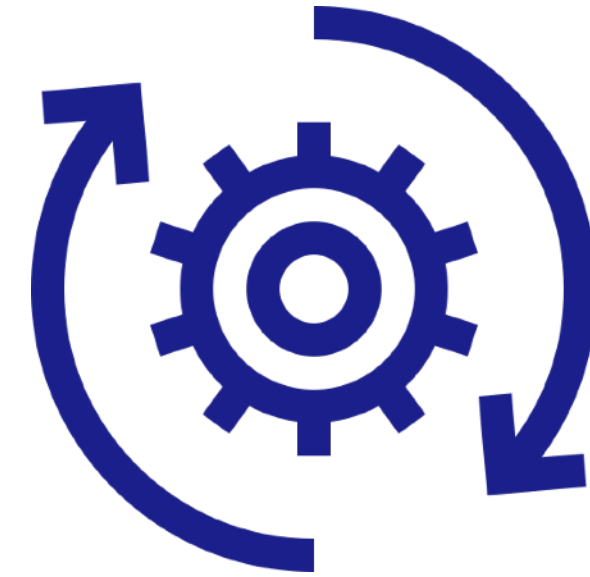


javax.* -> jakarta.*





javax.* -> jakarta.*



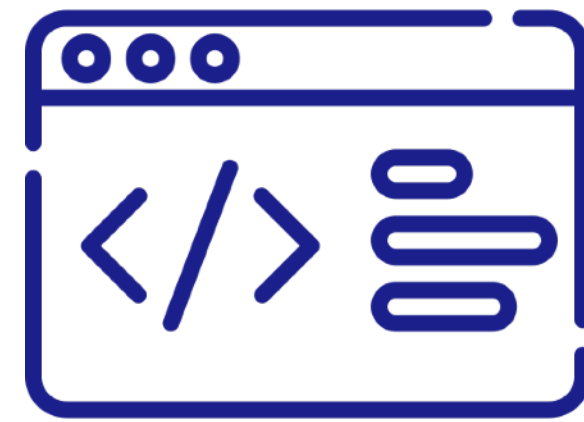
Transformation



Eclipse Transformer



Apache Tomcat Migration Tool



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

- 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/>



```
{
  email: "duke@dukes.java",
  message: "Howdy Jakarta EE 10!"
}
```

Jakarta JSON Binding

Jakarta CDI

DukesExtension

DukesGreeting

DukesService

DukesRepository

DukesDB

Jakarta REST

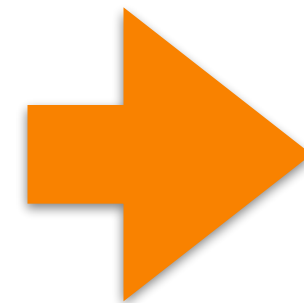
Jakarta Enterprise Beans

Jakarta Persistence

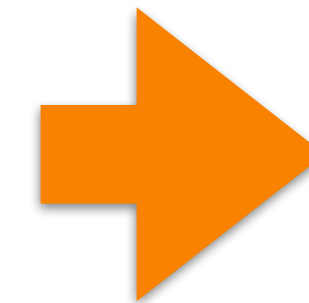
```
*****
Duke says: Hi there!
*****
```




Jakarta EE 8



Jakarta EE 9.1



**Jakarta EE 10
Core Profile**

```
{  
  email: "duke@dukes.java",  
  message: "Howdy Jakarta EE 10!"  
}
```

Jakarta JSON Binding

Jakarta CDI

DukesExtension

DukesGreeting

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DukesRepository

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Jakarta REST

Jakarta Enterprise Beans

Jakarta Persistence

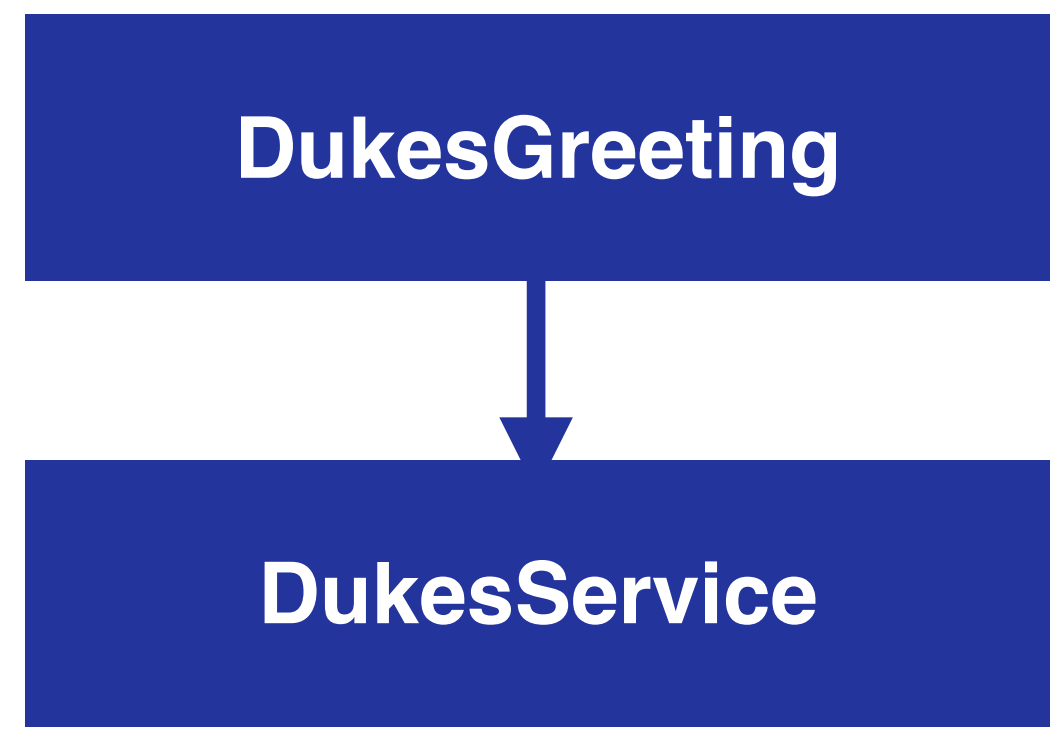
```
*****  
Duke says: Hi there!  
*****
```

```
{
    email: "duke@dukes.java",
    message: "Howdy Jakarta EE 10!"
}
```

Jakarta JSON Binding

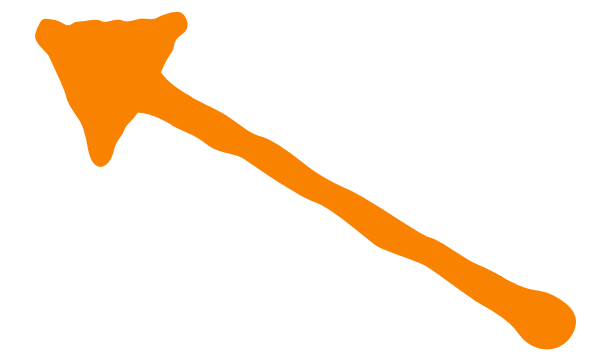
Jakarta CDI

DukesExtension



Jakarta REST

Jakarta CDI



Build Compatible Extension

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




Sushi Anyone?



Beyond JAKARTA EE 10





Jakarta EE 11

Starting NOW!





Jakarta EE 11

API source level: Java SE 17

API binary level: Java SE 17

TCK run with: Java SE 17+

App Developers (YOU) can use Java SE 21 features if you like!!



Jakarta Config

Standardizes portable configuration from environment-aware sources

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



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


Jakarta MVC

Standardizes the action-based model-view-controller pattern

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



```
@Controller
@View("hello.jsp")
public void hello()

    model.put("Hello Duke!");
}
```

Jakarta NoSQL

Standardizes integration with NoSQL databases

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



Jakarta RPC

Standardizes gRPC within Jakarta EE

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





Jakarta Data

Standardizes the repository pattern for data access

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





Jakarta Functions

Standardized Cloud Functions

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



Summary





javax.* -> jakarta.*



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Updated

Not Updated

New

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Jakarta EE

<https://jakarta.ee>

Jakartablogs

<https://jakartablogs.ee/>

Ivar's Hashtag Jakarta EE

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

Demo Code

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



JBCNConf 2022



Jakarta EE: Community Power and Progress

By Tanja Obradovic

Tuesday July 19, 2022 / 02:30 PM - 03:20 PM

Powered By Whova



THANK YOU!



JAKARTA EE



BARCELONA JAVA USERS GROUP

