

Jakarta EE 10

Modern and Lightweight Cloud Applications

Ivar Grimstad
Jakarta EE Developer Advocate
Eclipse Foundation





@ivar_grimstad



@ivar_grimstad@mastadon.social



<https://github.com/ivargrimstad>



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



ivargrimstad_official



Java™
Champions



NEW RELEASE

Jakarta EE 10

Community-Driven

Modernized

Simplified

Lightweight



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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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

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Jakarta EE 10 Platform



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New

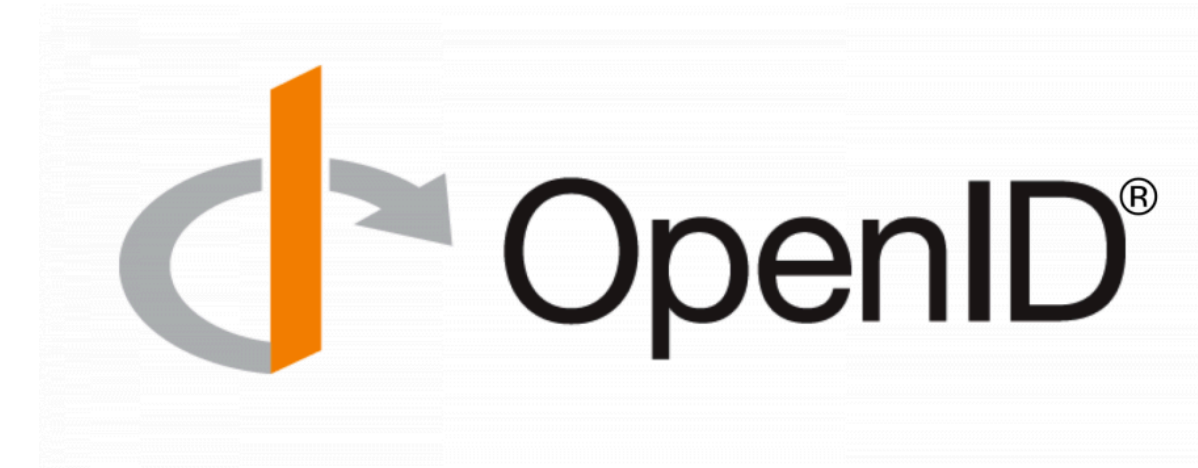
Jakarta Security 3.0

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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Updated

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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Updated

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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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

Dependency Injection 2.0

CDI Lite 4.0

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Not Updated

New



Jakarta EE 10 Core Profile Compatible



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

Interceptors 2.1

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

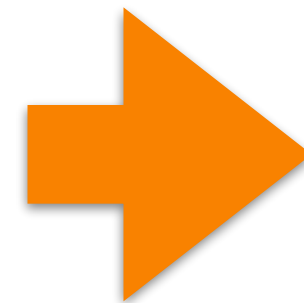




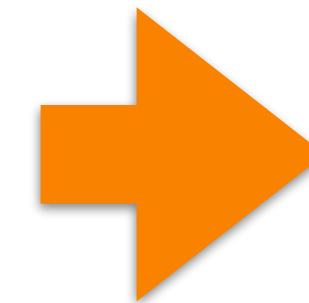
Demo



Jakarta EE 8



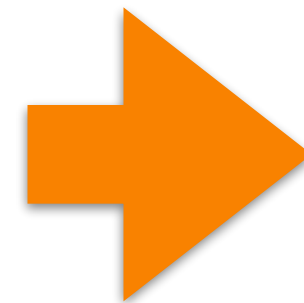
Jakarta EE 9.1



Jakarta EE 10



Jakarta EE 8



Jakarta EE 9.1



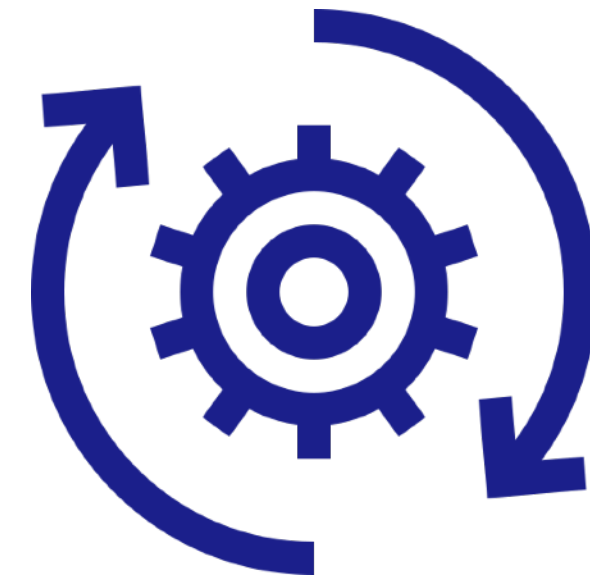
Jakarta EE 10



javax.* -> jakarta.*



javax.* -> jakarta.*



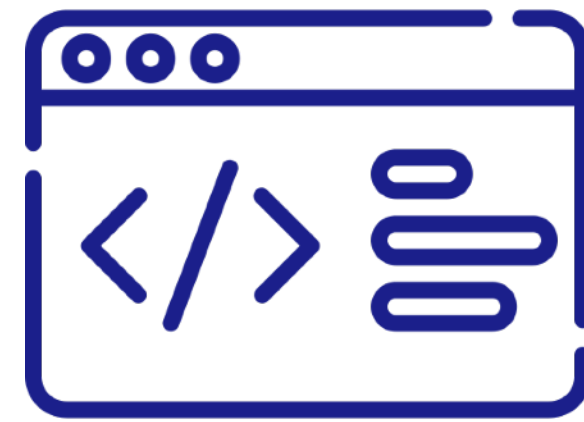
Transformation



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



docs.openrewrite.org/recipes/java/migrate/jakarta

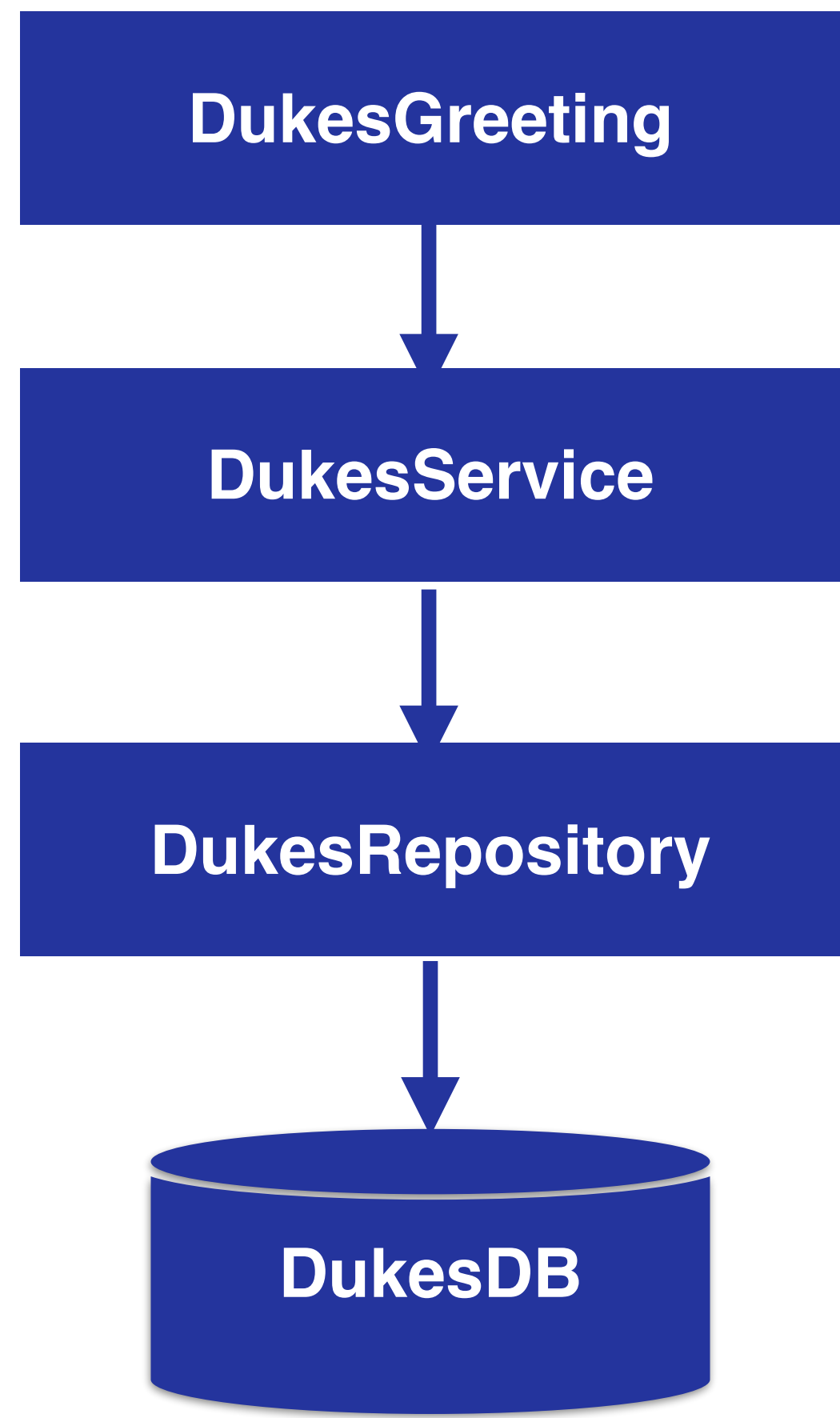
- 1. Update Jakarta EE version in pom.xml**
- 2. Fix the imports**
- 3. XML Schema Namespaces**
- 4. Rename properties prefixed with javax**
- 5. Rename bootstrapping Files**
- 6. Verify data and dynamic content**

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

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

Jakarta JSON Binding

Jakarta CDI



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**
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BONUS



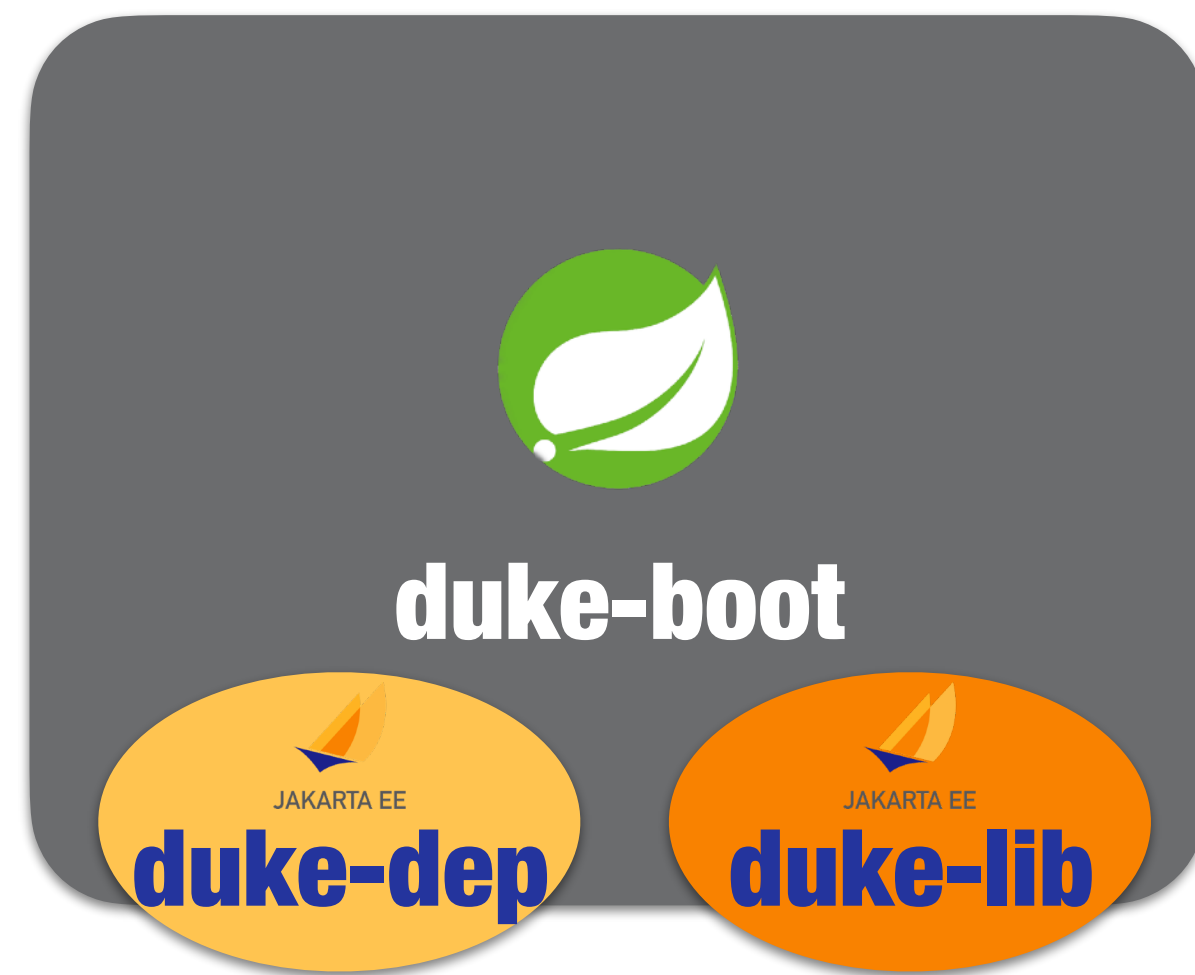
Demo



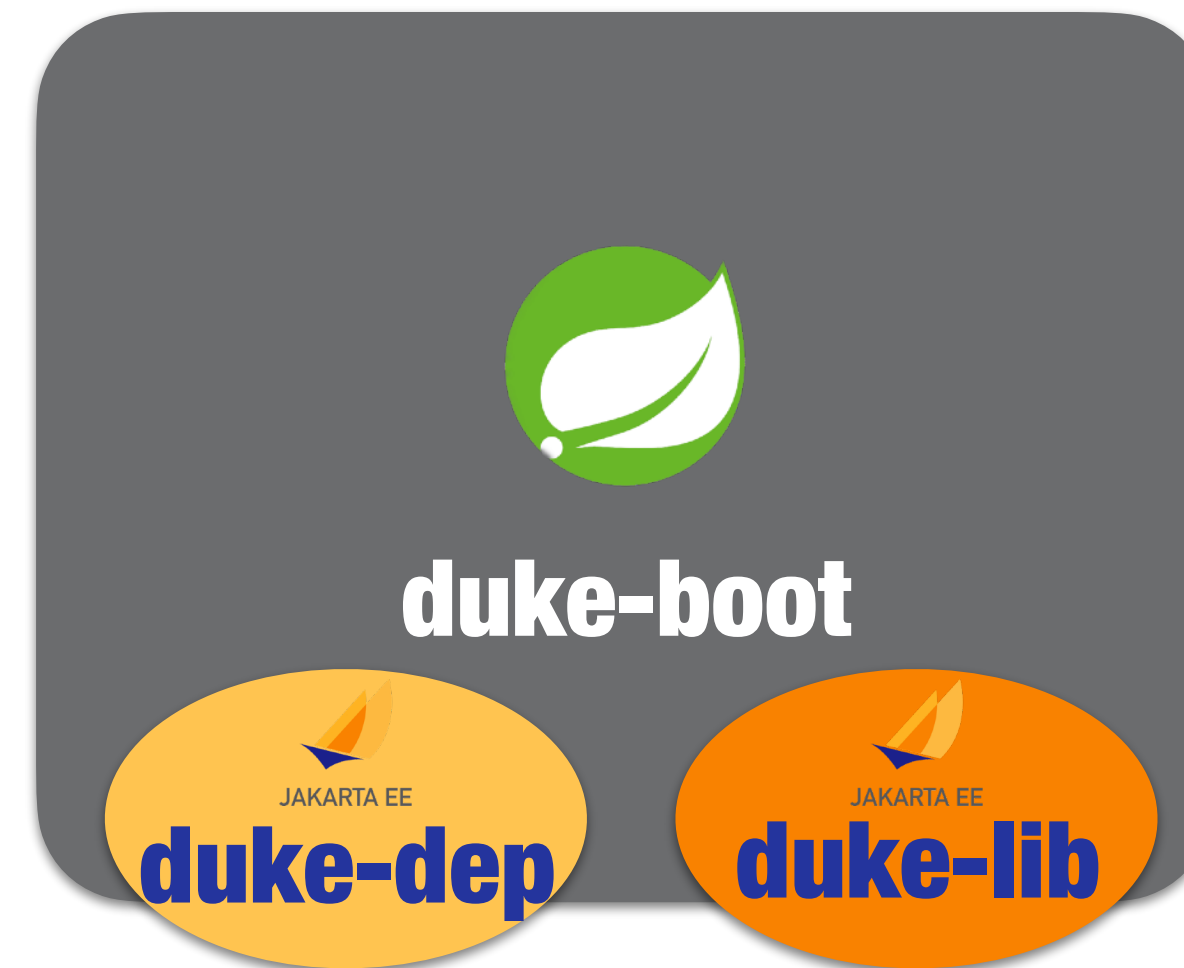
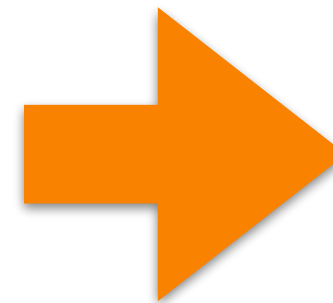
Scenario 4

Upgrade Spring App

with External Dependencies

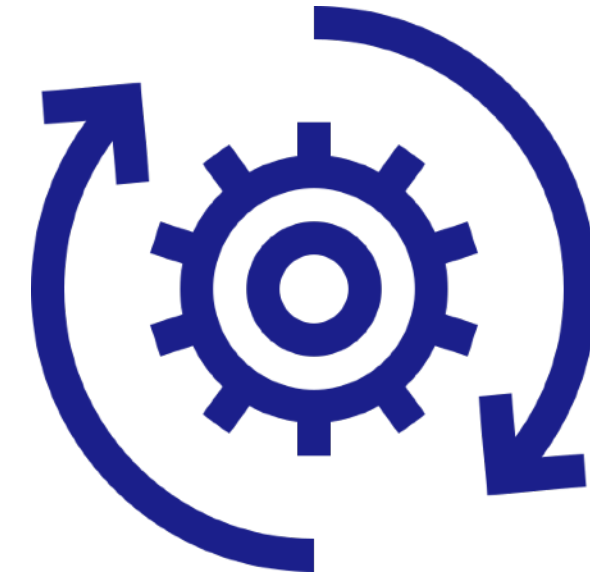


Spring Boot 2



Spring Boot 3





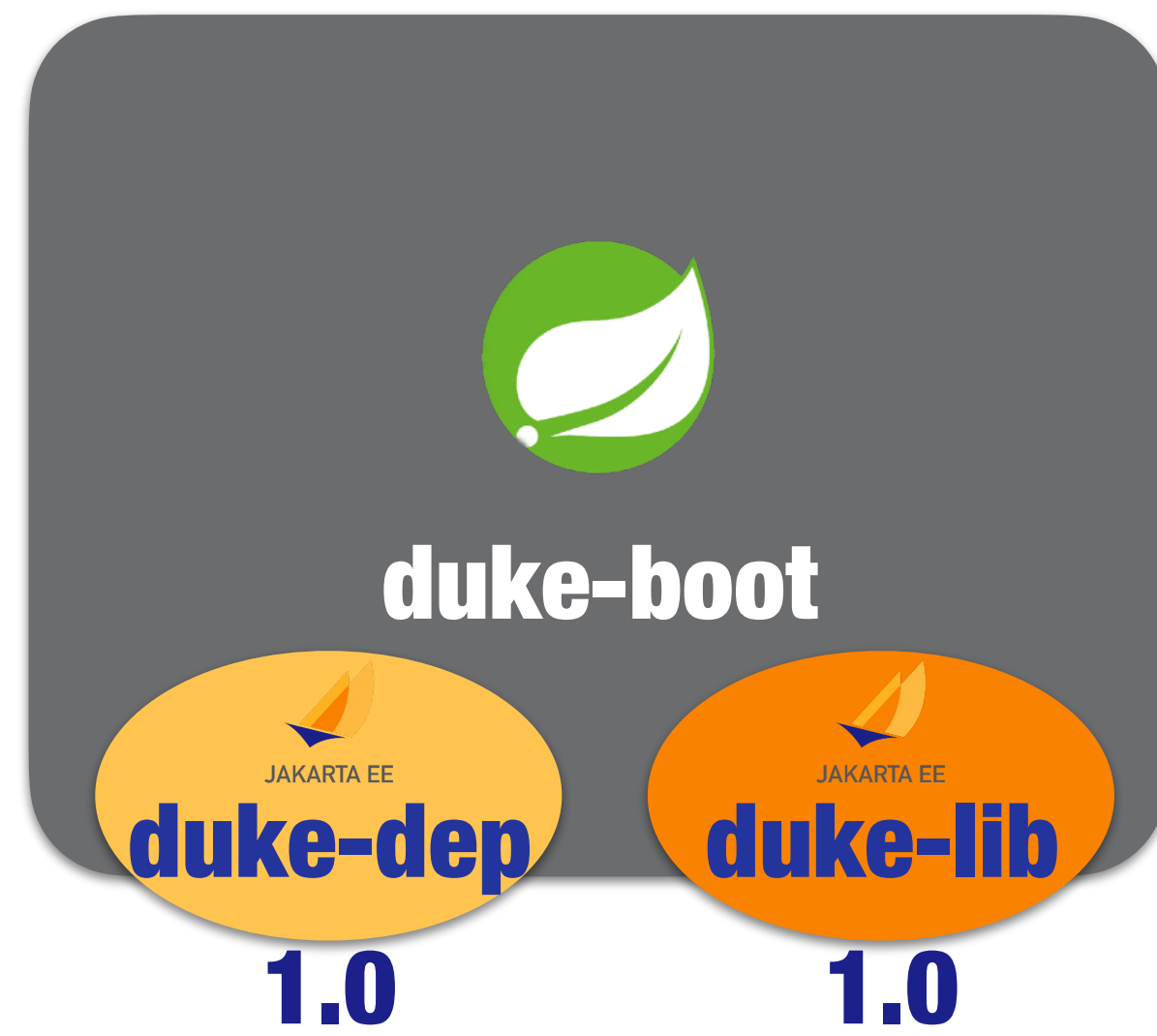
Transformation



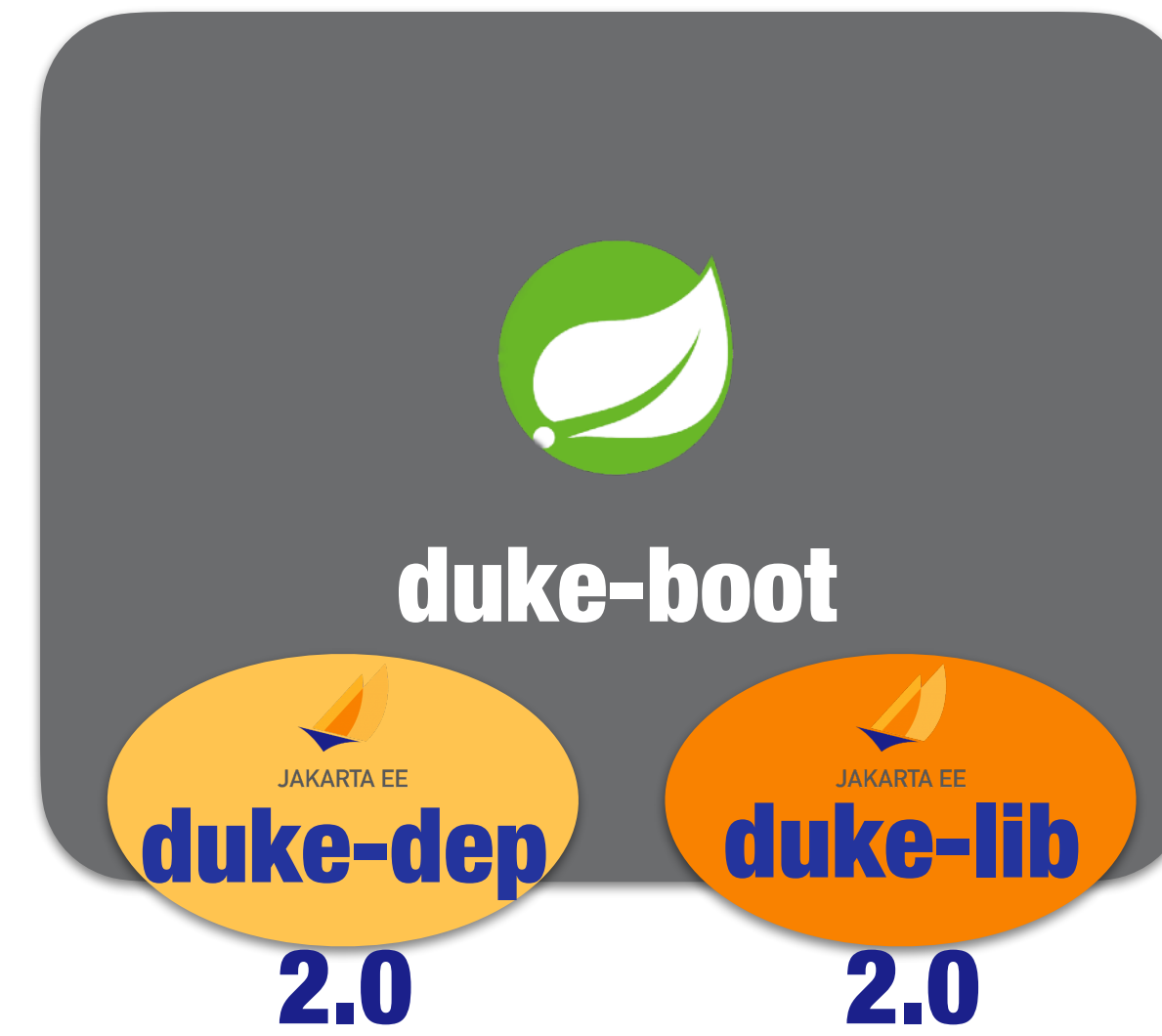
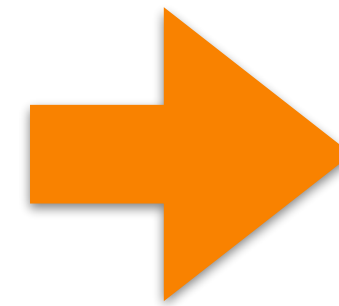
Eclipse Transformer



Apache Tomcat Migration Tool



Spring Boot 2



Spring Boot 3



- 1. Update **Spring** version in pom.xml**
- 2. Update **Jakarta EE** version in pom.xml**
- 3. Fix the imports**
- 4. Repeat for Dependencies**
- 5. Transform Libraries if necessary**

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





- 1. Update **Spring** version in pom.xml**
- 2. Update **Jakarta EE** version in pom.xml**
- 3. Fix the imports**
- 4. Repeat for Dependencies**
- 5. Transform Libraries if necessary**
- 6. Rename properties prefixed with javax**
- 7. Verify data and dynamic content**

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

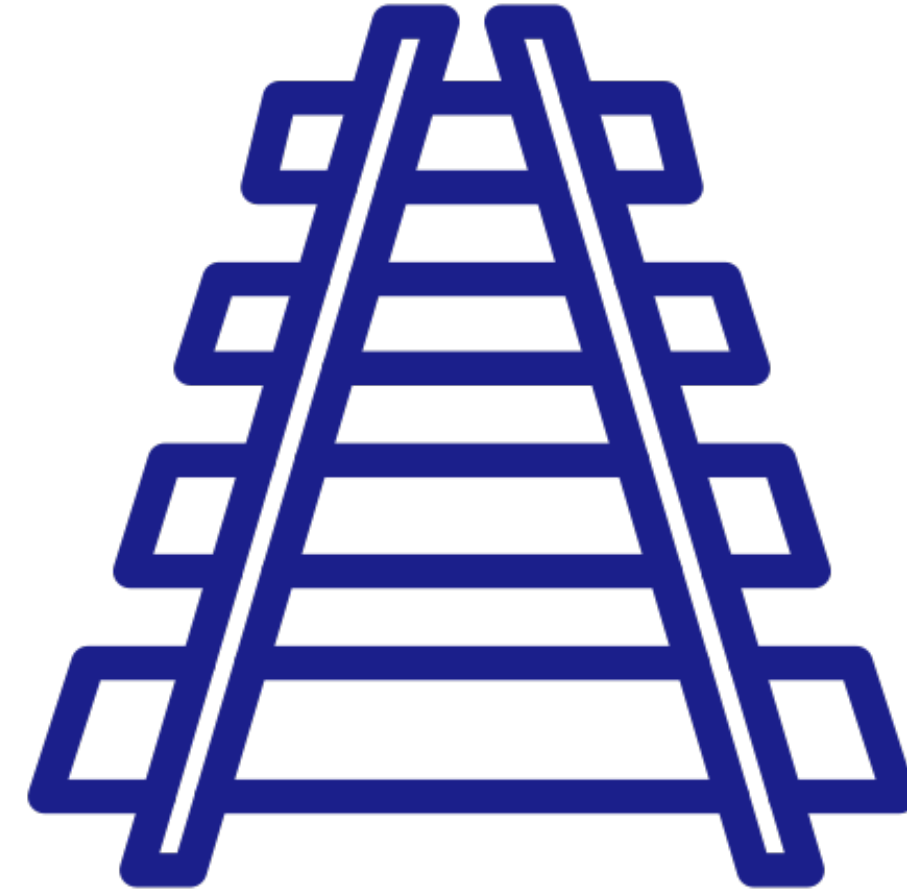




Beyond JAKARTA EE 10



Jakarta EE 11



Release Cadence



Jakarta EE 11

API source level: Java SE 17 or 21

API binary level: Java SE 17 or 21

TCK run with: Java SE 21



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 EE



Jakarta NoSQL

Standardizes integration with NoSQL databases

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



JAKARTA EE



Jakarta RPC

Standardizes gRPC within Jakarta EE

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



JAKARTA EE



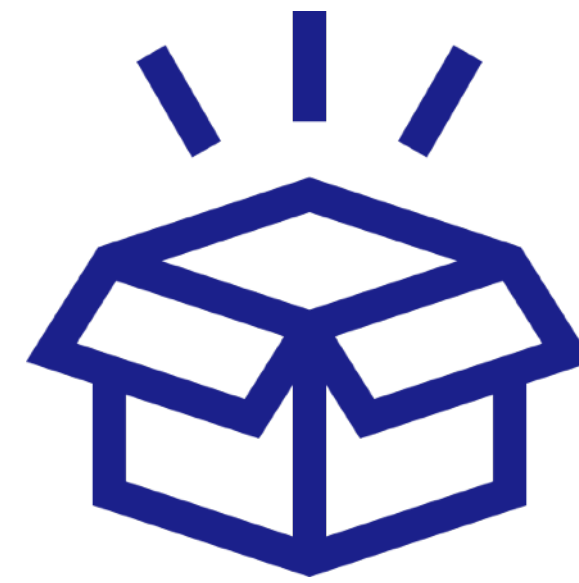
Jakarta Data

Standardizes the repository pattern for data access

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

Summary





javax.* -> jakarta.*

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Updated

Not Updated

New

Jakarta EE 10 Core Profile

RESTful Web Services 3.1

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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+ 17

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

Jakarta EE

<https://jakarta.ee>

Jakartablogs

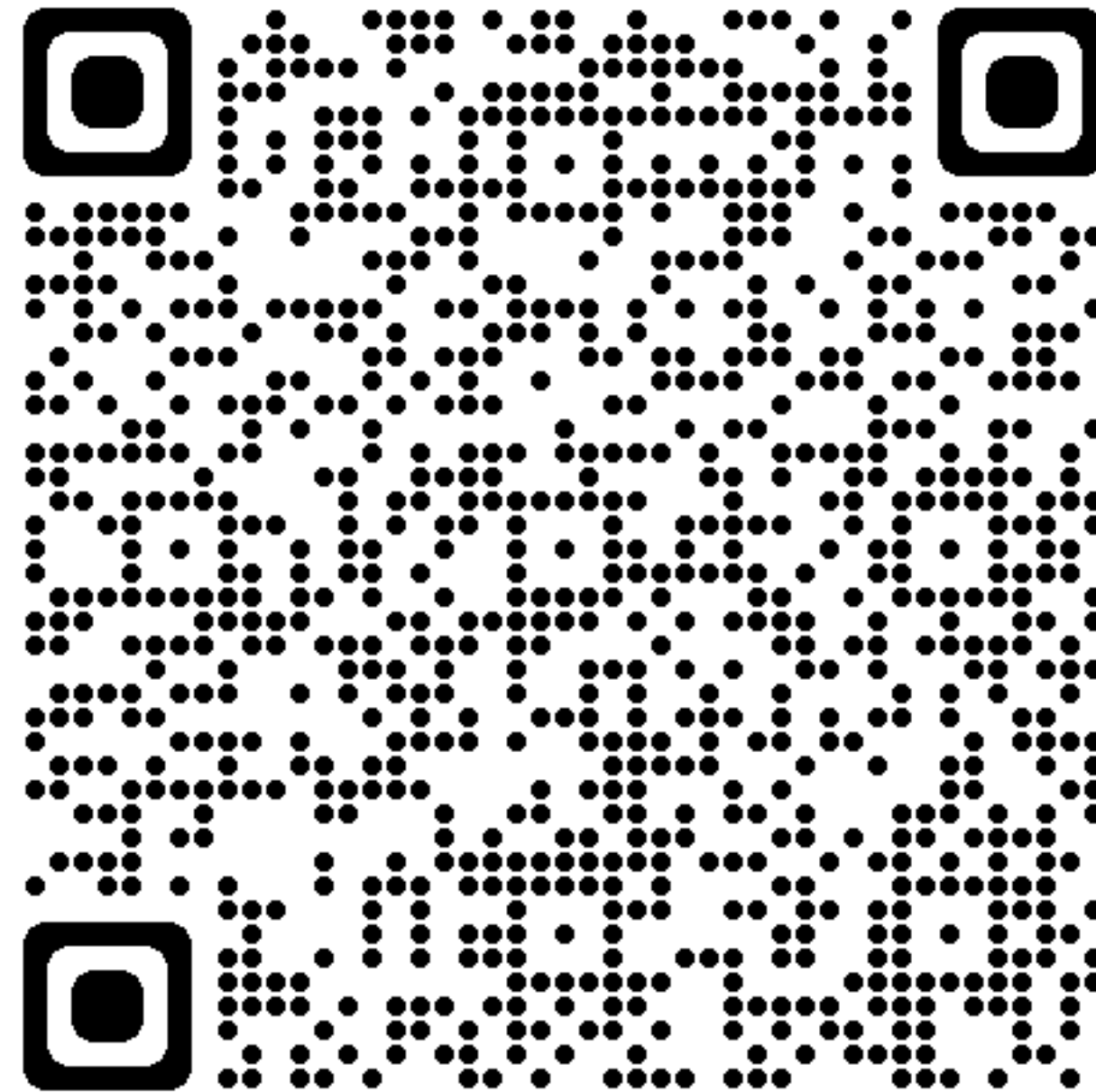
<https://jakartablogs.ee/>

Ivar's Hashtag Jakarta EE

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

Demo Code

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



Jakarta EE Overview

Course available on [LinkedIn Learning](#)



GOTO
Guide



Remember to
rate this session

THANK YOU!



#GOTOams