

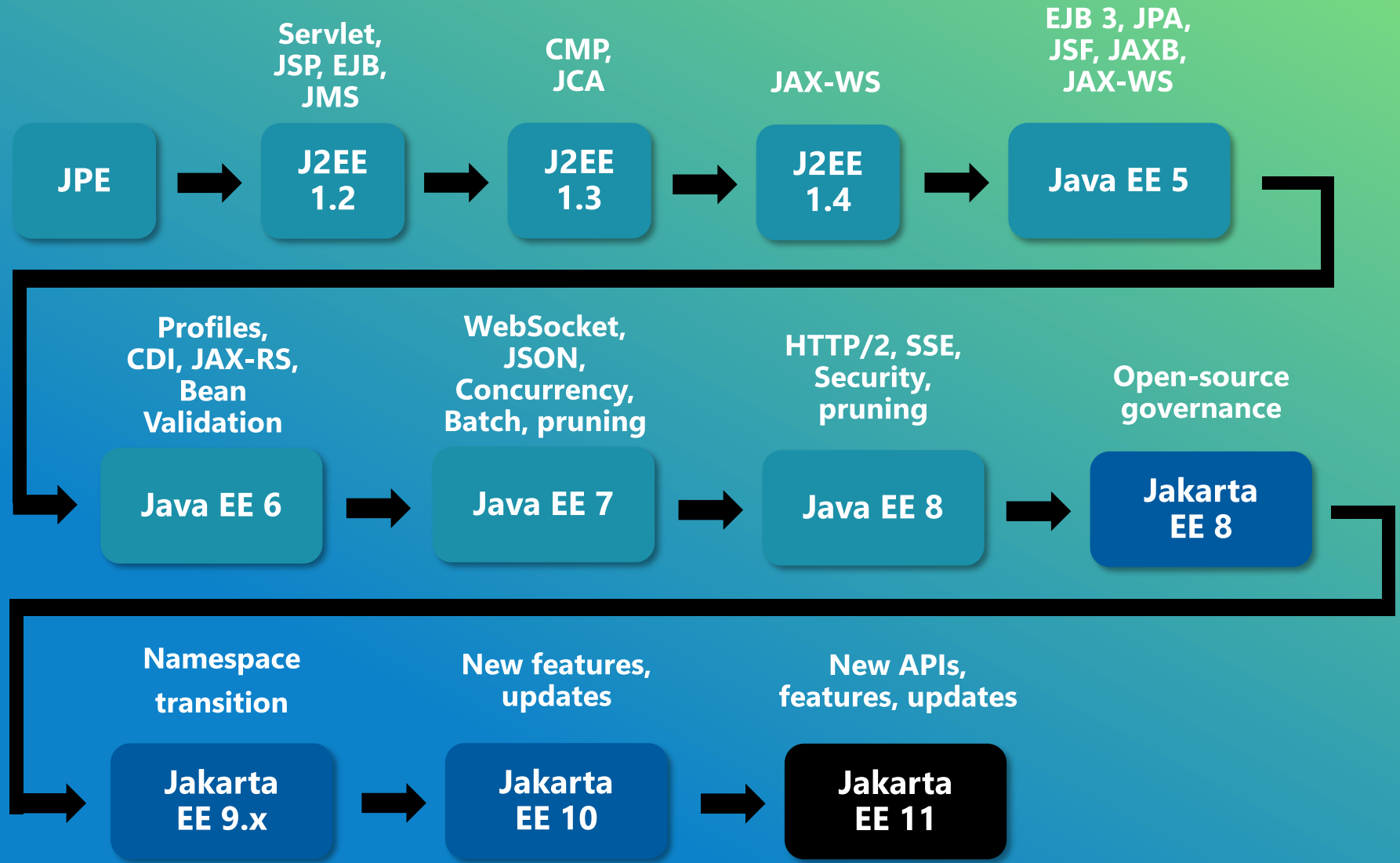


What's Coming in Jakarta EE 11?

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Ambassadors' Jakarta EE 11 Contribution Guide



<https://jakartae-ambassadors.io/guide-to-contributing-to-jakarta-ee-11>

Jakarta EE 10 in Context

- CDI Alignment
 - [@Asynchronous](#), [@Schedule](#), [@Lock](#), [@MaxConcurrency](#) in Concurrency, [@MessageListener](#) in Messaging, [@RolesAllowed](#), [@RunAs](#) in Security
 - [Better CDI support in Batch](#), [REST](#)
- Java SE Alignment
 - [CompletionStage](#) in Concurrency
 - [Bootstrap APIs](#) for REST, Messaging
- Closing standardization gaps
 - [OpenID Connect](#), JWT alignment, batch job definition Java API, [@ManagedExecutorDefinition](#), [more SQL support](#), [multipart/form-data](#)
 - [Core/Microservices Profile](#)
- Deprecation/removal
 - [EJB Entity Beans](#), [embeddable EJB container](#), [deprecated Servlet/Faces/CDI features](#)
- Innovation
 - [Repositories](#), [NoSQL](#), [MVC](#), [Configuration](#), [gRPC](#)

Made it! **On the way** **Gap**

Jakarta EE 11 and Beyond

- CDI Alignment
 - [@Schedule](#), @Lock, @MaxConcurrency in Concurrency, @MessageListener in Messaging, [@RolesAllowed](#), @RunAs in Security
 - [Better CDI support in REST](#), Persistence
- Java SE Alignment
 - [Adapting to Records, Virtual Threads](#)
 - Bootstrap API for Messaging
 - Modularity, [standalone/modernized TCKs](#)
- Closing standardization gaps
 - [JWT alignment](#), batch job definition Java API, @Service
- Deprecation/removal
 - [JAX-WS \(SOAP\)](#), [JAXB \(XML\)](#), [CORBA](#), [@ManagedBean](#), EJB
- Innovation
 - [Repositories](#), NoSQL, MVC, Configuration, gRPC

On the way **Gap**

Jakarta EE 11 Themes

- H1 2024 target release date
- Java SE 17/21 baseline, adapting to key changes
 - Records, Virtual Threads, Security Manager deprecation
- Specification updates
 - Persistence, Concurrency, CDI, Validation
- New specifications
 - Data
- Deprecation
 - JAX-WS (SOAP), JAXB (XML), CORBA, @ManagedBean

Jakarta Concurrency

- Adapting to Virtual Threads
 - Virtual Threads likely mostly implementation level concern for runtimes
- CDI based, modernized equivalent for EJB @Schedule

Managed Virtual Threads

```
@ManagedExecutorDefinition(  
    name = "java:app/concurrent/MyExecutorService",  
    maxAsync = 5,  
    virtual = true  
)
```

Jakarta Persistence

- Support for Java SE Records as embeddable classes
- Deprecate usage of Date, Time, Timestamp, @Temporal in favor of Date/Time API
- More SQL-like features in QL and criteria API
 - concat (||), union, intersect, except, cast, left, right, replace
- Support for subqueries
- Thread-safe EntityManager via @Inject

Embeddable Records

Address.java

`@Embeddable`

```
public record Address (String street, String city, String state, String zipCode) {
```

Person.java

```
@Entity public class Person {  
    @Id private Long id;  
  
    private String firstName;  
    private String lastName;  
  
    @Embedded private Address address;  
    ...  
}
```

Jakarta Data

- Higher level (Repository pattern) data access abstraction like DeltaSpike Data, Spring Data
- Automatically generated Repository implementations based on annotated interface
- Both Jakarta Persistence and NoSQL

Jakarta Data Example

Product.java

```
@Entity public class Product {  
    @Id private long id;  
    @Column @NotBlank private String name;  
    @Column @PositiveOrZero private float price;  
}
```

Products.java

```
@Repository public interface Products extends CrudRepository<Product, Long> {  
    @Asynchronous @OrderBy("price")  
    CompletableFuture<List<Product>> findByNameContains(String searchFor);  
  
    @Query("UPDATE Product o SET o.price = o.price - (?2 * o.price) WHERE o.id = ?1")  
    boolean discount(long productId, float discountRate);  
}
```

Other Changes

- Java SE Records support in Jakarta Validation, CDI, EL
- @ManagedBean deprecated
- Java SE SecurityManager dependency removed
- Jakarta REST @Context replaced by CDI/@Inject
 - @Context deprecated
- @Priority on producers

Validating Records

```
public record Car(  
    @NotBlank String manufacturer,  
    @NotNull @Size(min = 2, max = 14) String licensePlate,  
    @Min(2) int seatCount) {  
}
```

Summary

- Jakarta EE 11 is almost here
- One of the key motivations to move Java EE to Jakarta EE is greater community contribution
- Time to get involved is now

Resources

- Jakarta EE site
 - <https://jakarta.ee>
- Jakarta EE Community alias
 - <https://accounts.eclipse.org/mailling-list/jakarta.ee-community>
- Jakarta EE YouTube channel
 - <https://www.youtube.com/@JakartaEE>
- Jakarta EE Twitter handle
 - @JakartaEE



Thank you

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