



# CHAPTER 1

# ARCHITECTURE, CONTAINERS, APIS INTRODUCTION

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JAKARTA EE 11

[HTTPS://JAKARTA.EE/SPECIFICATIONS/PLATFORM/11/JAKARTA-PLATFORM-SPEC-11.0#INTRODUCTION](https://jakarta.ee/specifications/platform/11/jakarta-platform-spec-11.0#introduction)

# Content

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1.1. Jakarta EE Architecture

1.2. Jakarta EE Containers

1.3. Jakarta EE APIs

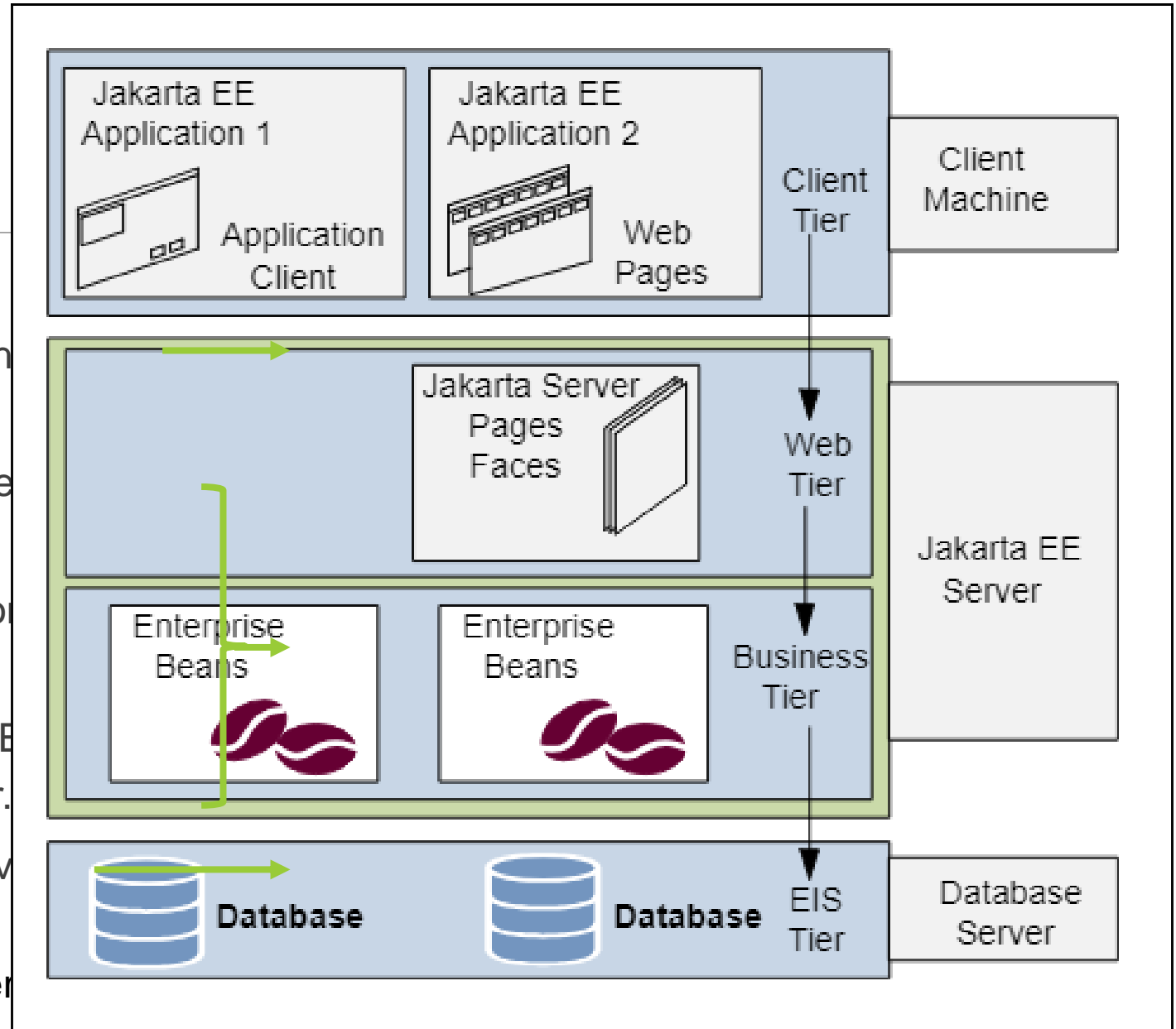
# History

Platform version	Release Date	Java SE Support
Jakarta EE 11 (Core Profile)	December 2024	Java SE 21
Jakarta EE 11 (Web Profile)	April 22, 2025	Java SE 21
Jakarta EE 10	September 22, 2022	Java SE 11
Jakarta EE 9.1	May 25, 2021	Java SE 8
Jakarta EE 9	December 8, 2020	Java SE 8

The Jakarta EE application parts:

- Client-tier components run on the client machine.
- Web-tier components run on the EE server.
- Business-tier components run on the Jakarta EE server.
- Enterprise information system (EIS) software runs on the EIS server.
- Database – tier : Database Server

Figure 1-1 Multitier



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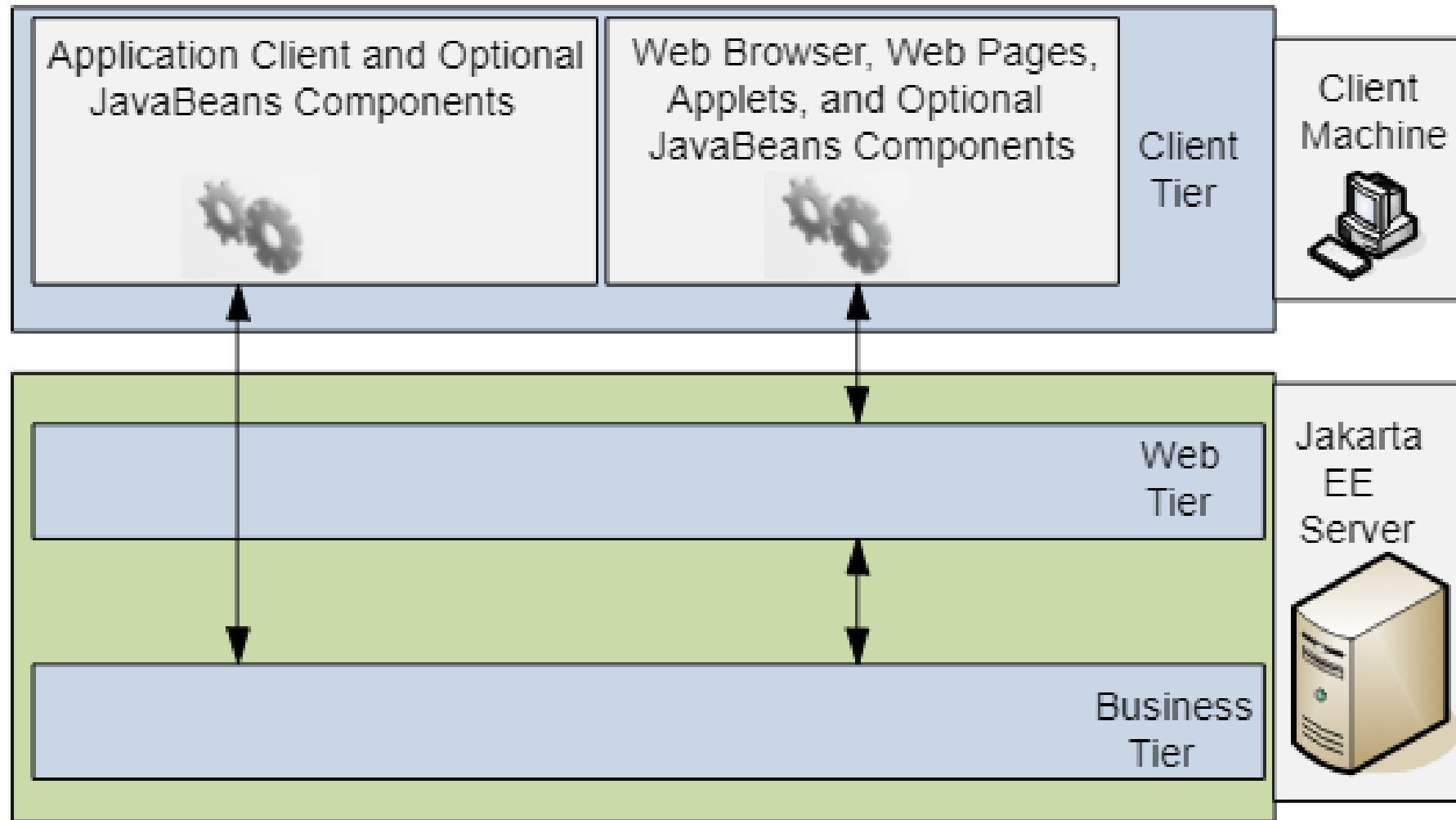


Figure 1-2 Server Communication

# Jakarta EE Architecture

Web Components

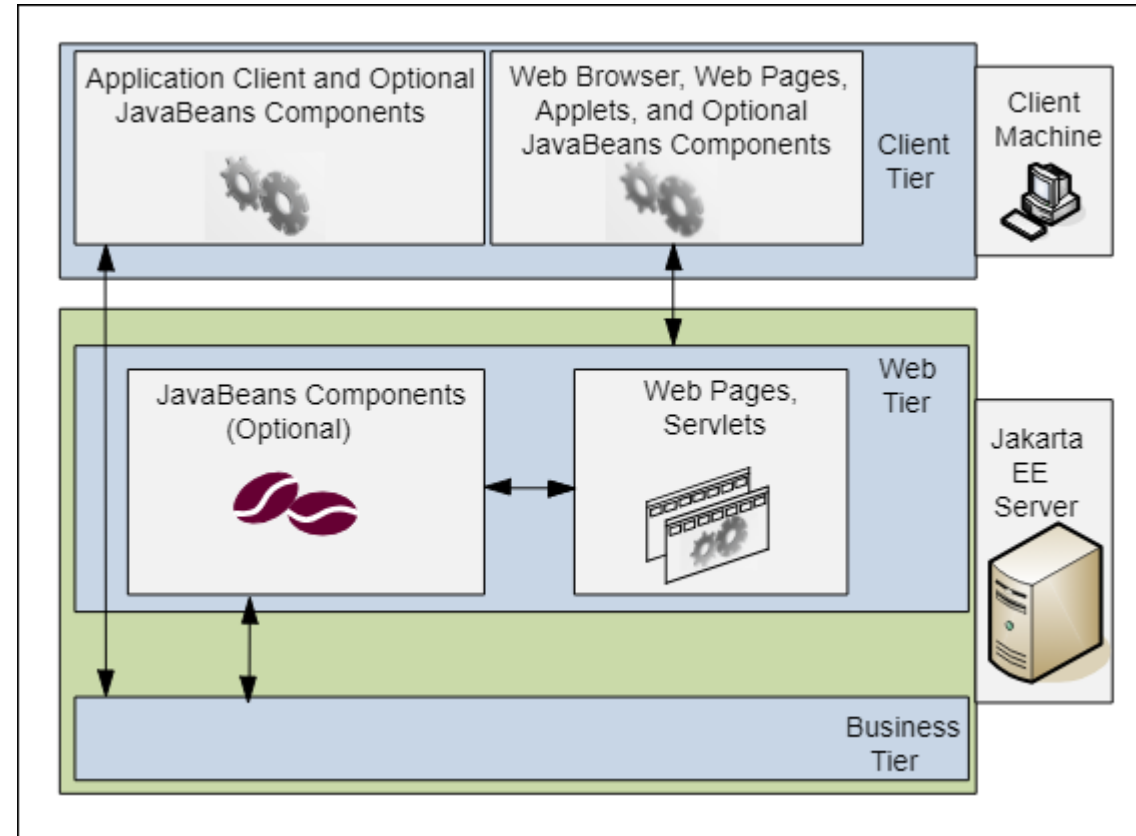
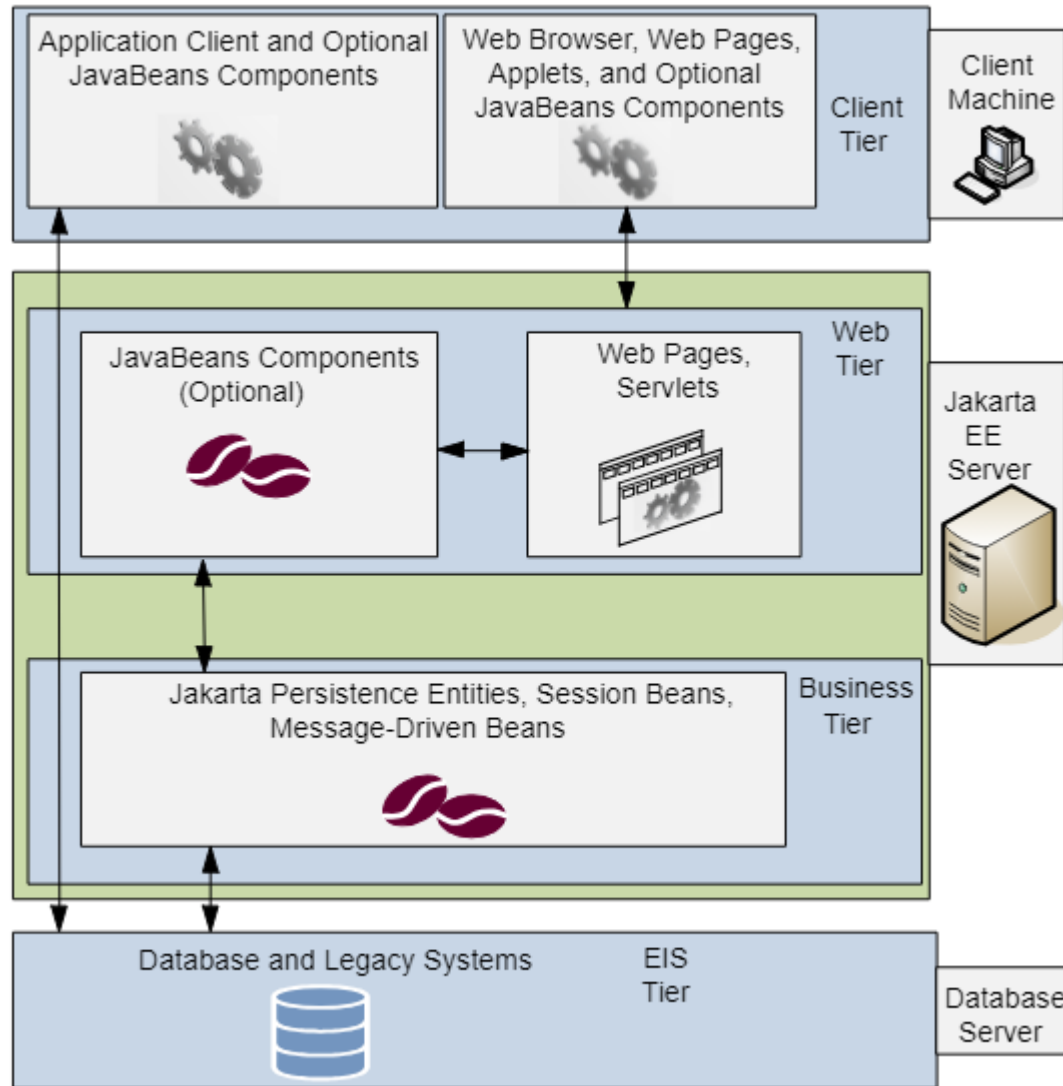


Figure 1-3 Web Tier and Jakarta EE Applications

# Jakarta EE Architecture



Business Components

Figure 1-4 Business and EIS Tiers

# Jakarta EE Containers

## Container Types

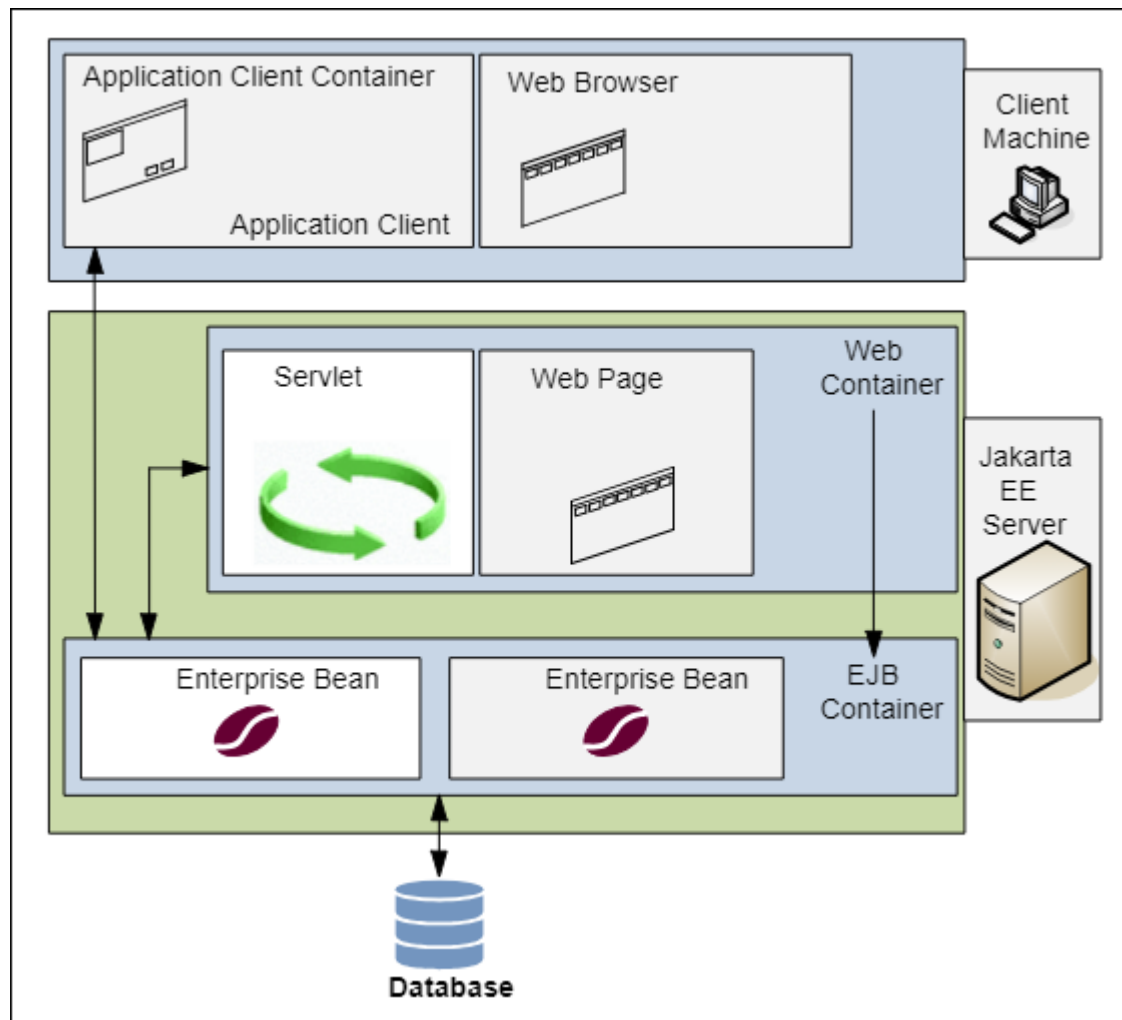


Figure 1-5 Jakarta EE Server and Containers



# Jakarta EE Containers

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The server and containers are as follows:

- Jakarta EE server: The runtime portion of a Jakarta EE product. A Jakarta EE server provides enterprise and web containers.
- Jakarta Enterprise Bean container: Manages the execution of enterprise beans for Jakarta EE applications. Jakarta Enterprise Beans and their container run on the Jakarta EE server.
- Web container: Manages the execution of web pages, servlets, and some enterprise bean components for Jakarta EE applications. Web components and their container run on the Jakarta EE server.
- Application client container: Manages the execution of application client components. Application clients and their container run on the client.

# Jakarta EE Containers

The relationships among the Jakarta EE containers

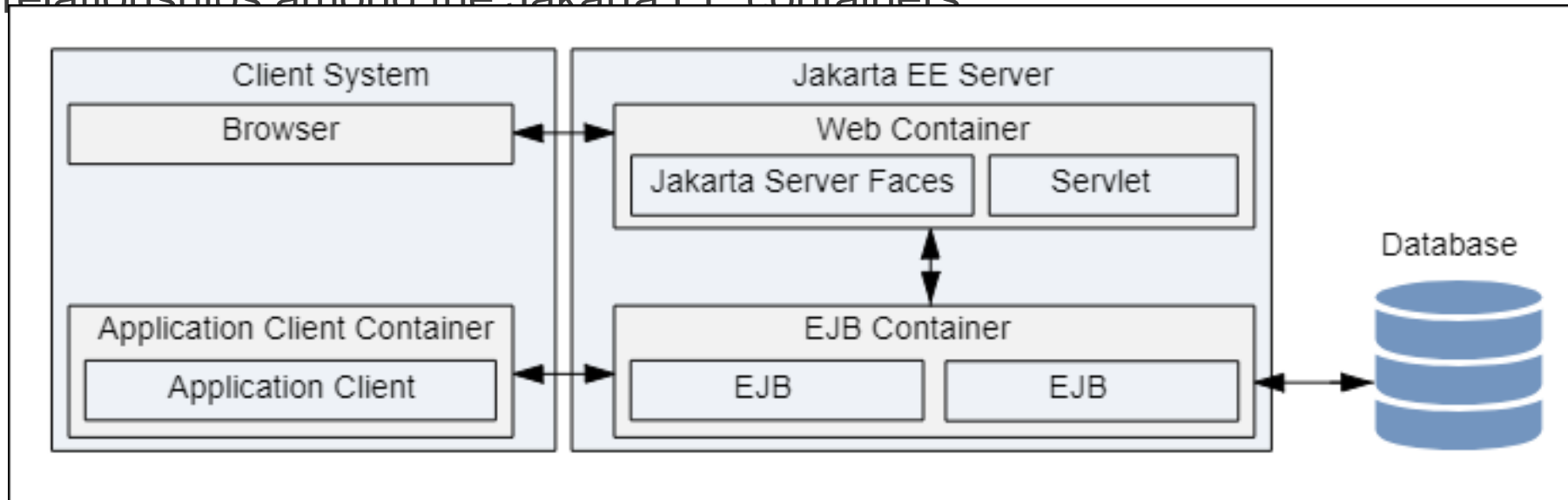


Figure 1-6 The Jakarta EE containers

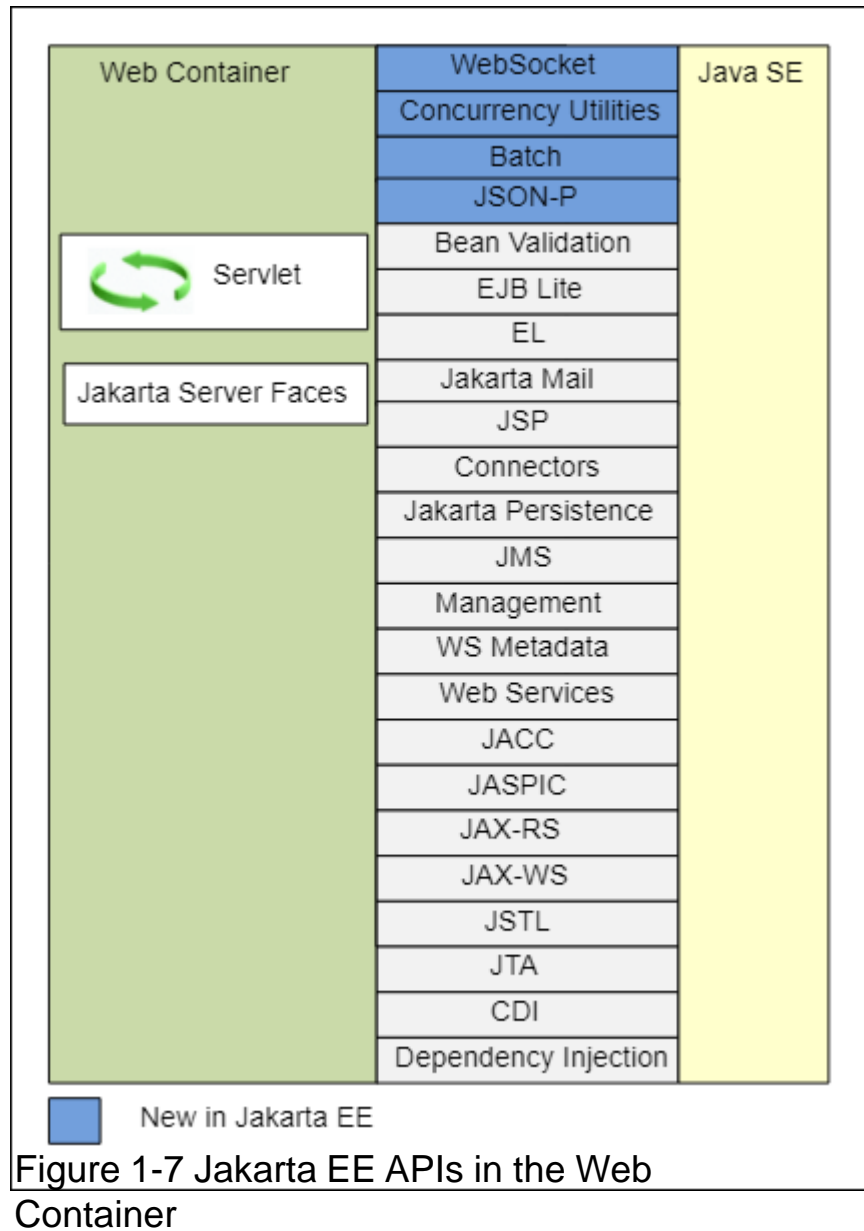


Figure 1-8 Jakarta EE APIs in the enterprise bean Container

rtta EE APIs

# Jakarta EE APIs

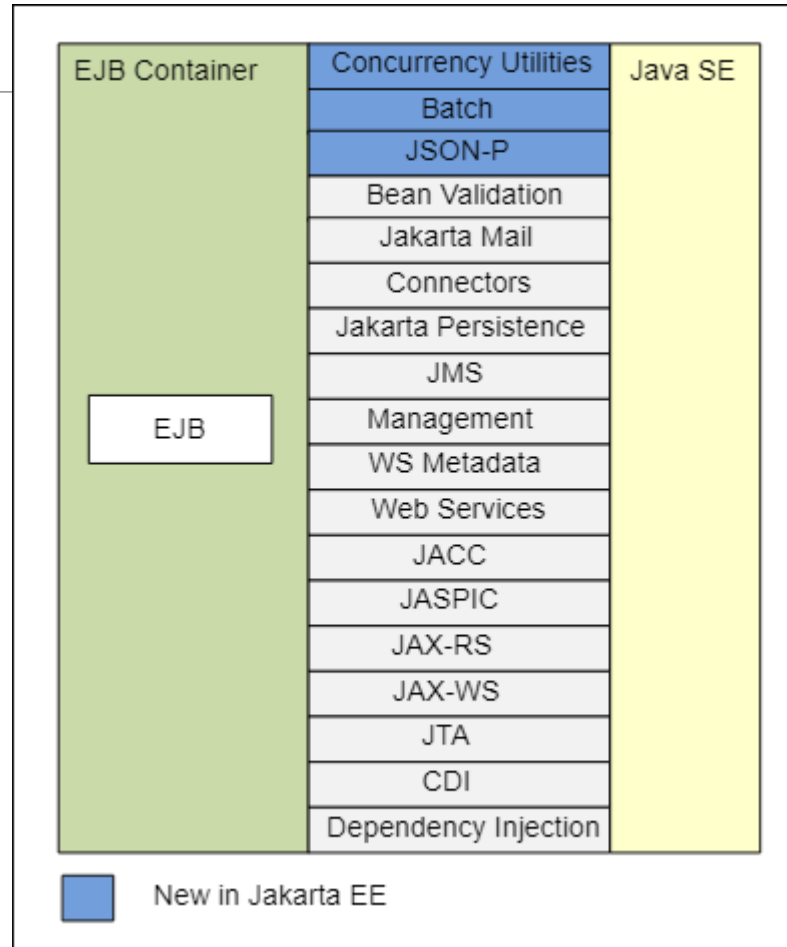


Figure 1-8 Jakarta EE APIs in the enterprise bean Container

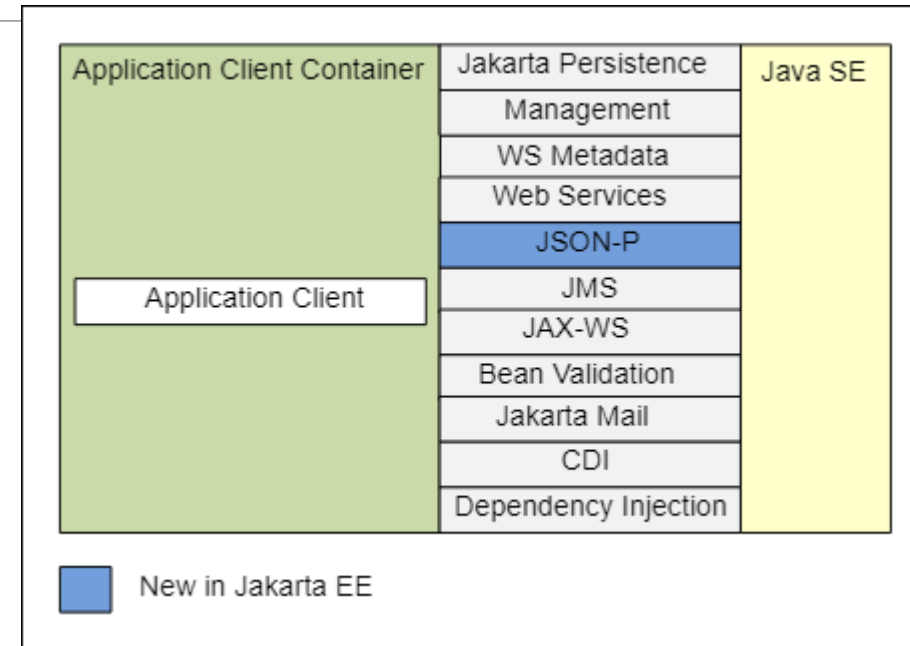


Figure 1-9 Jakarta EE APIs in the Application Client Container

# Jakarta Enterprise Beans Technologies

Jakarta Enterprise Beans Technologies	
Jakarta Servlet Technology	Jakarta Authorization
Jakarta Faces Technology	Jakarta Authentication
Jakarta Server Pages Technology	Jakarta Security
Jakarta Standard Tag Library	Jakarta WebSocket
Jakarta Persistence	Jakarta JSON Processing
Jakarta Transactions	Jakarta JSON Binding
Jakarta RESTful Web Services	Jakarta Concurrency
Jakarta Managed Beans	Jakarta Batch
Jakarta Contexts and Dependency Injection	Jakarta Activation
Jakarta Dependency Injection	Jakarta XML Binding
Jakarta Bean Validation	Jakarta XML Web Services
Jakarta Messaging	Jakarta SOAP with Attachments
Jakarta Connectors	Jakarta Annotations
Jakarta Mail	

Read more: <https://eclipse-ee4j.github.io/jakartaee-tutorial/>

# Jakarta EE API Interoperability

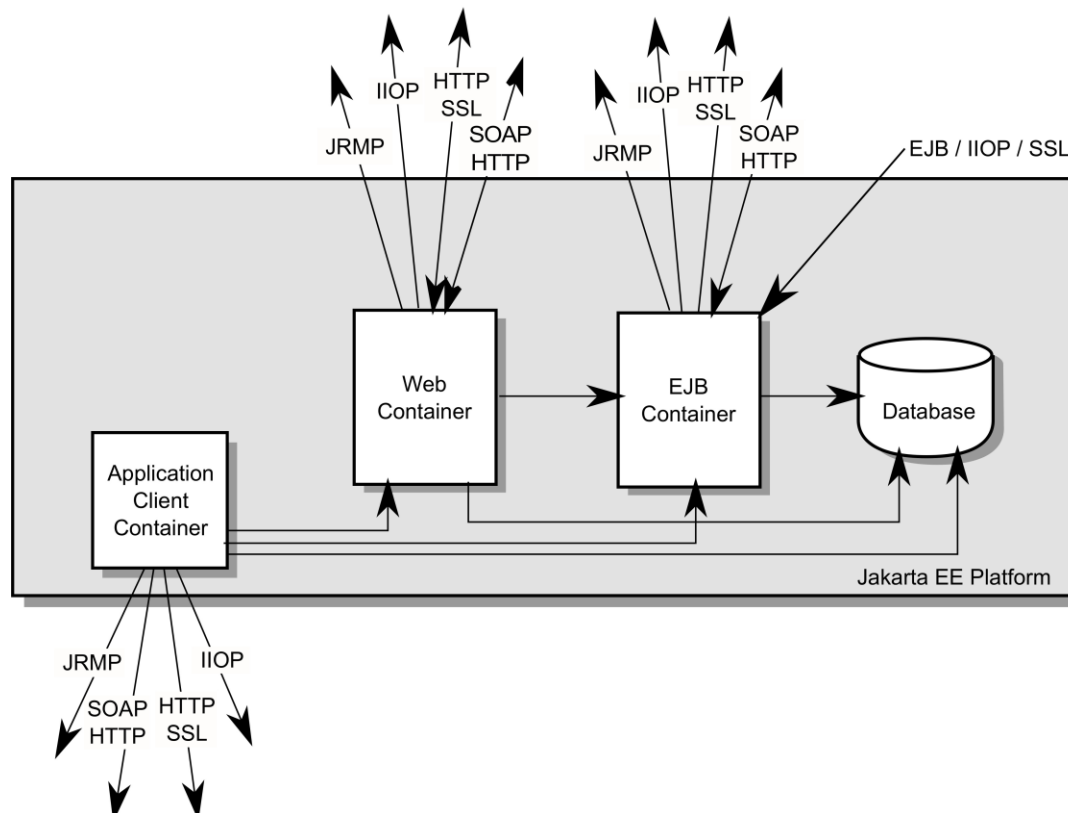


Figure 2. Jakarta EE Interoperability