JAKARTA EE

Jakarta EE 11 Example Applications

Michael P. Redlich

1.0.0, October 29, 2023: Draft

Table of Contents

Chapter 1. Jakarta EE 11 Specification Example Applications

This repository complements the presentation, Jakarta EE 11: Going Beyond the Era of Java EE, and provides example applications on some of the Jakarta EE specifications that will be updated for Jakarta EE 11.

The specifications shown here will have updates for Jakarta EE 11:

- Jakarta Data 1.0
- Jakarta RESTful Web Services 4.0
- Jakarta Validation 3.1 (formerly known as Jakarta Bean Validation)

In addition, there are example applications for specifications that will not have updates for Jakarta EE 11:

- Jakarta Mail 2.1
- Jakarta Mail 2.1 which was not included in the Jakarta EE 11 Platform.

1.1. Example Applications

Each example application can be executed on the corresponding command line with:

```
$ mvn clean compile exec:java
```

Please consider contributing to this GitHub repository if you have ideas for continuous improvement. This would be much appreciated!

I can be reached via email at mike@redlich.net

Chapter 2. Jakarta Concurrency Example Application

2.1. Introduction

The Jakarta Concurrency specification, currently at version 3.0, provides a mechanism for using concurrency from application components without compromising container integrity while still preserving the fundamental benefits of the Jakarta EE platform

The compatible implementation for this specification is Open Liberty 22.0.0.5-beta.

Jakarta Concurrency will be updated to version 3.1 for Jakarta EE 11. New features include:

- Integration with Java 21 Virtual Threads
- Java Flow/ReactiveStreams and context propagation
- Replace more features from EJB, such as Schedule and Lock annotations
- Become more CDI-centric
- Specification bug fixes and clarifications
- TCK fixes and enhancements

2.2. Example Application

The application may be exercised by...

2.3. Testing

Testing of this application includes...

Chapter 3. Jakarta Data Example Application

3.1. Introduction

The Jakarta Data specification, currently under development, provides an API that allows easy access to database technologies. A Java developer can split the persistence from the model with several features, such as the ability to compose custom query methods on a Repository interface where the framework will implement it.

The Jakarta Working Group recently voted to include Jakarta Data in the Jakarta EE 11 Platform.

3.2. Example Application

The application may be exercised by…

3.3. Testing

Testing of this application includes…

Chapter 4. MicroProfile JWT Bridge Example Application

4.1. Introduction

The MicroProfile JWT Bridge specification, a collaboration between Jakarta EE and MicroProfile Working Groups, will enable a Jakarta Security application to build on the MicroProfile JWT Authentication specification that provides seamless integrations to eliminate duplication of effort and circular dependencies. This will be a standalone specfication under the auspices of MicroProfile.

4.2. Example Application

The application may be exercised by...

4.3. Testing

Testing of this application includes...

Chapter 5. Jakarta Mail Example Application

5.1. Introduction

The Jakarta Mail specification, currently at version 2.1, provides a set of abstract classes defining objects that comprise a mail system with classes such as Message, Store and Transport.

The compatible implementation for this specification is Eclipse Angus Mail 2.0.2.

5.2. Example Application

The application may be exercised by...

5.3. Testing

Testing of this application includes...

Chapter 6. Jakarta NoSQL Example Application

6.1. Introduction

The Jakarta NoSQL specification, currently at version 1.0 and under development, streamlines the integration of Java applications with NoSQL databases. This specification defines a set of APIs and provides a standard implementation for most NoSQL databases.

The compatible implementation for this specification is Eclipse JNoSQL.

6.2. Example Application

The application may be exercised by…

6.3. Testing

Testing of this application includes…

Chapter 7. Jakarta RESTful Web Services Example Application

7.1. Introduction

The Jakarta RESTful Web Services specification, currently at version 3.1, provides a foundational API to develop web services following the Representational State Transfer (REST) architectural pattern.

The compatible implementation for this specification is Eclipse Jersey 4.0.0.

7.2. Example Application

The application may be exercised by…

7.3. Testing

Testing of this application includes…

Chapter 8. Jakarta Security Example Application

8.1. Introduction

The Jakarta Security specification, currently at version 3.0, defines a standard for creating secure Jakarta EE applications in modern application paradigms.

The compatible implementation for this specification is Eclipse Soteria 3.0.2.

8.2. Example Application

The application may be exercised by…

8.3. Testing

Testing of this application includes…

Chapter 9. Jakarta Validation Example Application

9.1. Introduction

The Jakarta Validation specification, currently at version 3.0, provides an object level constraint declaration and validation facility as well as a constraint metadata repository and query API.

It also offers method and constructor validation facilities to ensure constraints on their parameters and return values.

The compatible implementation for this specification is Hibernate Validator 8.0.0.Alpha5

It is important to note that Jakarta Validation was formerly known as Jakarta Bean Validation.

9.2. Example Application

The application may be exercised by…

9.3. Testing

Testing of this application includes…