MicroProfile - New and Noteworthy

Ivar Grimstad
Principal Consultant, Cybercom Sweden
Background

MicroProfile

Demo and Samples
Why MicroProfile?
What was going on with Java EE 8?
Cloud-Native Java EE
Eclipse MicroProfile

Optimizing Enterprise Java for a microservices architecture
Eclipse MicroProfile

The Eclipse MicroProfile project is aimed at optimizing Enterprise Java for the microservices architecture.

Many innovative "microservice" Enterprise Java environments already exist in the Java ecosystem, including but not limited to:

- Wildfly Swarm
- WebSphere Liberty
- Payara
- TomEE
- Launcher
- Hammock

These projects are creating new features and capabilities to address microservice architectures -- leveraging both Java EE and non-Java EE technologies.

The goal of this project is to iterate and innovate in short cycles, get community approval, release, and repeat. Eventually, the output of this project could be submitted to the JCP for possible future inclusion in a Java JSR (or some other standards body).
Profiles
JAX-RS + CDI + JSON-P

+ WebSocket + Bean Validation + EJB + JPA
  + Servlet + JSF + JSP

+ JMS + Batch + Java Mail + Concurrency + JAX-WS + JASPIC
Packaging
Application Server (Container)

- Service A
- Configuration A
- Service B
- Configuration B
- Service C
- Configuration C
Thin WAR
Application

Java EE Container

JVM

Operating System

Hardware
UberJAR
java -jar dukes.jar
Hollow JAR
java -jar dukes.jar dukes.war
java -jar dukes.jar

deployDukes.sh
```
docker run dukes
```

#MicroProfile
MicroProfile 1.0

CDI 1.2  JSON-P 1.0  JAX-RS 2.0

MicroProfile 1.0

September, 2016
Configuration for MicroProfile 1.0
System Properties
System.getProperties()

Environment Variables
System.getenv()

Application Configuration
META-INF/microprofile-config.properties
MicroProfile 1.2

- Health Check 1.0
- Metrics 1.0
- Config 1.1
- Fault Tolerance 1.0
- JWT Propagation 1.0
- CDI 1.2
- JSON-P 1.0
- JAX-RS 2.0

Colors:
- Blue = New
- Purple = Updated
- Orange = No change from last release

September 30, 2017
MicroProfile 1.3
January 3, 2018

- Open Tracing 1.0
- Open API 1.0
- Rest Client 1.0
- Fault Tolerance 1.0
- Metrics 1.1
- JWT Propagation 1.0
- Health Check 1.0
- CDI 1.2
- JSON-P 1.0
- JAX-RS 2.0
- Config 1.2

= New
= Updated
= No change from last release
Eclipse MicroProfile
Implementations
Open Tracing 1.0  Open API 1.0  Rest Client 1.0
Fault Tolerance 1.0  Metrics 1.1  JWT Propagation 1.0  Health Check 1.0
CDI 1.2  JSON-P 1.0  JAX-RS 2.0  Config 1.2

MicroProfile 1.3

= New
= Updated
= No change from last release
Demo
Summary
<dependency>
    <groupId>org.eclipse.microprofile</groupId>
    <artifactId>microprofile</artifactId>
    <version>1.3</version>
    <type>pom</type>
    <scope>provided</scope>
</dependency>
MicroProfile 1.4

June 20, 2018

- Open Tracing 1.1
- Open API 1.0
- Rest Client 1.1
- Fault Tolerance 1.1
- Metrics 1.1
- JWT 1.1
- Health Check 1.0
- CDI 1.2
- JSON-P 1.0
- JAX-RS 2.0
- Config 1.3

MicroProfile 1.4

- = New
- = Updated
- = No change from last release
MicroProfile 2.0
June 20, 2018

Open Tracing 1.1  
Fault Tolerance 1.1  
CDI 2.0

Open API 1.0  
Metrics 1.1  
JSON-P 1.1

Rest Client 1.1  
JWT 1.1  
JAX-RS 2.1

JSON-B 1.0  
Health Check 1.0  
Config 1.3

MicroProfile 2.0

= New  
= Updated  
= No change from last release

#MicroProfile
JAX-RS 2.1
JSON-P 1.1
JSON-B 1.0
Servlet 4.0
CDI 2.0
Bean Validation 2.0
Java EE Security API 1.0
JSF 2.3
JPA 2.1
Eclipse Enterprise for Java

Eclipse Enterprise for Java (EE4J) is an open source initiative to create standard APIs, implementations of those APIs, and technology compatibility kits for Java runtimes that enable development, deployment, and management of server-side and cloud-native applications. EE4J is based on the Java™ Platform, Enterprise Edition (Java EE) standards, and uses Java EE 8 as the baseline for creating new standards.

The mission of Eclipse EE4J is to create standard APIs, implementations of those APIs, and technology compatibility kits for
Eclipse MicroProfile
http://microprofile.io

Jakarta EE
https://jakarta.ee

Eclipse Enterprise for Java (EE4J)
https://projects.eclipse.org/projects/ee4j

Samples
https://github.com/ivargrimstad/cloudee-duke
https://github.com/ivargrimstad/dukes-microprofile