Eclipse MicroProfile

MicroProfile Team, http://microprofile.io

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```
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Status: Draft

Release: June 05, 2018
```

Chapter 1. Architecture

The MicroProfile pom will identify the contents of each MicroProfile release. The contents will be those features and versions agreed to by the MicroProfile community. These features may be external to the MicroProfile community (Java EE features such as JAX-RS 2.0), or they be a component of the MicroProfile project (such as Config 1.0).

Since the MicroProfile repo is an "umbrella" project, there will be no individual API or TCK generated for this component. Only this Specification will be generated and maintained to document the contents of each release.

In reverse chronological order, here's the specification for each MicroProfile release.

1.1. MicroProfile 1.4 (2Q2018)

MicroProfile 1.4 is the fifth release for the Eclipse MicroProfile project.

Based on our time-boxed process, the content for MicroProfile 1.4 will be all of MicroProfile 1.3, plus...

- MicroProfile Config 1.3 (supercedes MicroProfile Config 1.2)
- MicroProfile Fault Tolerance 1.1 (supercedes MicroProfile Fault Tolerance 1.0)
- MicroProfile JWT Authentication 1.1 (supercedes MicroProfile JWT Authentication 1.0)
- MicroProfile OpenTracing 1.1 (supercedes MicroProfile OpenTracing 1.0)
- MicroProfile Rest Client 1.1 (supercedes MicroProfile Rest Client 1.0)

The Maven coordinates for this Eclipse release are as follows:

```
<dependency>
    <groupId>org.eclipse.microprofile</groupId>
    <artifactId>microprofile</artifactId>
    <version>1.4</version>
    <type>pom</type>
    <scope>provided</scope>
</dependency>
```

Here is the link to the github repository for this Eclipse-based project.

1.2. MicroProfile 1.3 (4Q2017)

MicroProfile 1.3 is the fourth release for the Eclipse MicroProfile project.

Based on our time-boxed process, the content for MicroProfile 1.3 will be all of MicroProfile 1.2, plus...

- MicroProfile Config 1.2 (supercedes MicroProfile Config 1.1)

- MicroProfile Metrics 1.1 (supercedes MicroProfile Metrics 1.0)
- MicroProfile OpenAPI 1.0
- MicroProfile OpenTracing 1.0
- MicroProfile Rest Client 1.0

The Maven coordinates for this Eclipse release are as follows:

```
<dependency>
    <groupId>org.eclipse.microprofile</groupId>
    <artifactId>microprofile</artifactId>
    <version>1.3</version>
    <type>pom</type>
    <scope>provided</scope>
</dependency>
```

Here is the link to the github repository for this Eclipse-based project.

1.3. MicroProfile 1.2 (3Q2017)

MicroProfile 1.2 is the third release for the Eclipse MicroProfile project.

Based on our time-boxed process, the content for MicroProfile 1.2 will be all of MicroProfile 1.1, plus…

- MicroProfile Config 1.1 (supercedes MicroProfile Config 1.0)
- MicroProfile Fault Tolerance 1.0
- MicroProfile Health Check 1.0
- MicroProfile Metrics 1.0
- MicroProfile JWT Authentication 1.0

The Maven coordinates for this Eclipse release are as follows:

```
<dependency>
    <groupId>org.eclipse.microprofile</groupId>
    <artifactId>microprofile</artifactId>
    <version>1.2</version>
    <type>pom</type>
    <scope>provided</scope>
</dependency>
```

Here is the link to the github repository for this Eclipse-based project.

1.4. MicroProfile 1.1 (3Q2017)

MicroProfile 1.1 is the second release since becoming the Eclipse MicroProfile project.

Based on our time-boxed process, the content for MicroProfile 1.1 will be all of MicroProfile 1.0, plus MicroProfile Config 1.0.

The Maven coordinates for this Eclipse release are as follows:

```
<dependency>
    <groupId>org.eclipse.microprofile</groupId>
    <artifactId>microprofile-bom</artifactId>
    <version>1.1.0</version>
    <type>pom</type>
    <scope>provided</scope>
</dependency>
```

Here is the link to the github repository for this Eclipse-based project.

1.5. MicroProfile 1.0 (JavaOne 2016)

MicroProfile 1.0 was released prior to becoming an Eclipse project. MicroProfile 1.0 consisted of JAX-RS 2.0, CDI 1.2, and JSON-P 1.0 — all of these are Java EE 7 specifications.

The Maven coordinates for this non-Eclipse release are as follows:

```
<dependency>
    <groupId>io.microprofile</groupId>
    <artifactId>microprofile</artifactId>
    <version>1.0.0</version>
    <type>pom</type>
    <scope>provided</scope>
</dependency>
```

Here is the link to the github repository for this original effort.

Chapter 2. Required APIs

Compliant implementations of Eclipse MicroProfile 1.4 must provide at least the following APIs and minimum versions. These APIs and versions guarantee application developers a minimum set of APIs and are not intended to be restrictive. Implementations may include APIs not listed below as well they may support more recent versions than what is listed below.

MicroProfile applications that make use of APIs or versions not mentioned below are not considered portable.

- Java SE 8
- CDI (Contexts and Dependency Injection for Java EE) 1.2
- JAX-RS (Java™ API for RESTful Web Services) 2.0.1
- JSON-P (Java™ API for JSON Processing) 1.0
- Common Annotations for the Java™ Platform 1.2
- Eclipse MicroProfile Config 1.3
- Eclipse MicroProfile Fault Tolerance 1.1
- Eclipse MicroProfile Health Check 1.0
- Eclipse MicroProfile JWT Authentication 1.1
- Eclipse MicroProfile Metrics 1.1
- Eclipse MicroProfile OpenAPI 1.0
- Eclipse MicroProfile OpenTracing 1.1
- Eclipse MicroProfile Rest Client 1.1

2.1. Java SE 8

Libraries in use by the MicroProfile leverage new features provided in Java SE 8, therefore Java SE 7 and before are unsupported. MicroProfile 1.x implementations may provide support for Java SE 9 and beyond, however Java SE 8 compatibility must be maintained.

2.2. CDI 1.2

CDI provides the base for a growing number of APIs included in MicroProfile 1.1. Use of implementations beyond CDI 1.2 in MicroProfile is allowed, however, not required as of version 1.1 of MicroProfile.

- http://cdi-spec.org/
- https://jcp.org/en/jsr/detail?id=346

2.3. JAX-RS 2.0.1

JAX-RS provides both standard client and server APIs for RESTful communication by MicroProfile

1.1 applications. Use of implementations beyond JAX-RS 2.0.1 in MicroProfile is allowed, however, not required as of version 1.1 of MicroProfile.

- https://github.com/jax-rs
- https://jcp.org/en/jsr/detail?id=339

2.4. JSON-P 1.0

JSON-P is leveraged as part of MicroProfile 1.1 to provide standard APIs for processing JSON documents. Use of implementations beyond JSON-P 1.0 in MicroProfile is allowed, however, not required as of version 1.1 of MicroProfile.

- https://javaee.github.io/jsonp/
- https://jcp.org/en/jsr/detail?id=353

2.5. Common Annotations 1.2

Common Annotations provides annotations for common semantic concepts across a variety of individual technologies in the Java™ SE and Java™ EE platforms. Use of implementations beyond Common Annotations 1.2 in MicroProfile is allowed, however, not required as of version 1.2 of MicroProfile.

- https://javaee.github.io/glassfish/
- https://jcp.org/en/jsr/detail?id=250

2.6. Eclipse MicroProfile Config 1.3

Eclipse MicroProfile Config provides applications and microservices means to obtain configuration properties through several environment-aware sources both internal and external to the application and made available through dependency injection or lookup.

- http://microprofile.io/project/eclipse/microprofile-config
- https://github.com/eclipse/microprofile-config/releases/tag/1.3

The Eclipse MicroProfile Config API is currently in the JSR process and is actively seeking adoption stories, feedback, and Expert Group members.

- https://jcp.org/en/jsr/detail?id=382

2.7. Eclipse MicroProfile Fault Tolerance 1.1

Eclipse MicroProfile Fault Tolerance provides the ability to separate execution logic from business logic. Key aspects of the API include TimeOut, RetryPolicy, Fallback, Bulkhead, and Circuit Breaker processing.

- http://microprofile.io/project/eclipse/microprofile-fault-tolerance

- https://github.com/eclipse/microprofile-fault-tolerance/releases/tag/1.1

2.8. Eclipse MicroProfile Health Check 1.0

Eclipse MicroProfile Health Check provides the ability to probe the state of a computing node from another machine (e.g. kubernetes service controller).

- http://microprofile.io/project/eclipse/microprofile-health
- https://github.com/eclipse/microprofile-health/releases/tag/1.0

2.9. Eclipse MicroProfile JWT Authentication 1.1

Eclipse MicroProfile JWT Authentication provides role based access control (RBAC) microservice endpoints using OpenID Connect (OIDC) and JSON Web Tokens (JWT).

- http://microprofile.io/project/eclipse/microprofile-jwt-auth
- https://github.com/eclipse/microprofile-jwt-auth/releases/tag/1.1

2.10. Eclipse MicroProfile Metrics 1.1

Eclipse MicroProfile Metrics provides a unified way for MicroProfile servers to export monitoring data to management agents. Metrics will also provide a common Java API for exposing their telemetry data.

- http://microprofile.io/project/eclipse/microprofile-metrics
- https://github.com/eclipse/microprofile-metrics/releases/tag/1.1

2.11. Eclipse MicroProfile OpenAPI 1.0

Eclipse MicroProfile OpenAPI provides a unified Java API for the OpenAPI v3 specification that all application developers can use to expose their API documentation.

- http://microprofile.io/project/eclipse/microprofile-open-api
- https://github.com/eclipse/microprofile-open-api/releases/tag/1.0

2.12. Eclipse MicroProfile OpenTracing 1.1

Eclipse MicroProfile OpenTracing defines an API and associated behaviors that allow services to easily participate in a distributed tracing environment.

- http://microprofile.io/project/eclipse/microprofile-opentracing
- https://github.com/eclipse/microprofile-opentracing/releases/tag/1.1

2.13. Eclipse MicroProfile Rest Client 1.1

Eclipse MicroProfile Rest Client provides a type-safe approach for invoking RESTful services over HTTP. The MicroProfile Rest Client builds upon the JAX-RS 2.0 APIs for consistency and ease-of-use.

- http://microprofile.io/project/eclipse/microprofile-rest-client
- https://github.com/eclipse/microprofile-rest-client/releases/tag/microprofile-rest-client-1.1

Chapter 3. Notices

3.1. Compatibility Disclaimer

APIs originating from the Eclipse MicroProfile community, such as Config 1.0, should be considered pre-standard and experimental in nature. While these APIs are developed collaboratively and generally considered best-of-breed, the MicroProfile community reserves the right to make backwards incompatible changes based on substantial user feedback.

It is the overarching goal of the Eclipse MicroProfile community to iterate quickly and prioritize innovation over legacy. Thus, APIs included are offered with the express purpose of feedback and rapid innovation through proven real-world usage. Developers should use these APIs with this knowledge in mind and are encouraged to provide feedback of any kind, including proposals of fundamental change to the design of the APIs themselves.

3.2. Contribution

The Eclipse MicroProfile community is an open source community part of the Eclipse Foundation. We accept contributions from corporations or individuals. To learn how to contribute to the Eclipse MicroProfile see:

- https://wiki.eclipse.org/MicroProfile/FeatureInit

3.3. Feedback

Comments, questions or feedback on this document should be directed to The Eclipse MicroProfile community as a whole at microprofile@googlegroups.com. Archives are available via the Google Group page:

- https://groups.google.com/forum/#!forum/microprofile