

[7th] Oracle Developer Meetup

또 뵙게 되어서 반갑습니다.

Workshops

<http://github.com/learning-library>

The screenshot shows the GitHub repository page for 'oracle/learning-library'. The repository name is at the top left, followed by a star count of 18 and a fork count of 25. The 'Code' tab is selected. The navigation bar includes 'Issues 0', 'Pull requests 1', 'Projects 0', and 'Insights'. Below the navigation is a breadcrumb trail: 'Branch: master / learning-library / workshops /'. A toolbar with 'Create new file', 'Upload files', 'Find file', and 'History' is visible. The main area displays a list of commits from the 'master' branch. The commits are listed in reverse chronological order, starting with a merge from 'pcdavies' and ending with a commit to 'README.md' 28 days ago.

Author	Commit Message	Date
pcdavies	Merge branch 'master' of https://github.com/pcdavies/DevopsJCSPipeline ...	Latest commit 89cfca7 4 days ago
..		
bdpcs-bics	using TTC format	5 months ago
chefjenkins-devops	removed folders and fixed index.html	5 months ago
cloud-native-devops-workshop	migrate cloud-native-devops-workshop (CaNDO)	4 months ago
common-content	fixed a bug that caused steps to collapse after expanding	4 months ago
db-devops	Updated lab 400 to support Apex pdb changes and removed .vscode direc...	3 months ago
dbcs-in-memory	Fixed readme links to point to oracle github	6 months ago
dbcis	Fixed Step numbering for Lab 400	7 days ago
images	Adding more references to workshops	6 months ago
jcs-devops	Fixed spelling errors	5 days ago
journey1-self-service-bi	Merge branch 'master' of https://github.com/millerhoo/journey1-self-s...	29 days ago
journey2-new-data-lake	BDCSCE to BDC	29 days ago
journey3-data-science	minor edit	2 months ago
microservices-mysql	added picture of the tweets	23 days ago
microservices	Made updates to Lab 300 due to UI changes	3 months ago
nodejs-rolling-router-wercker	nodejs-rolling-router-wercker workshop added	3 months ago
ttc-dev-ops-starter-kit	removed reference to individual contact, to generic logging of issues	7 days ago
ttc-ics-dev-workshop	Changed login sequence for Lab 300	4 months ago
ttc-quote-to-order	adding ng-show	5 months ago
README.md	Fixed incorrect URL and spelling of microservice	28 days ago
README.md		

페이스북 Group “오라클 클라우드 사용자 그룹”

Facebook Page: Oracle Cloud User Group

The page is a public group for Oracle Cloud users. It features a banner for Oracle Cloud Platform with various cloud icons. The sidebar includes links for Discussion, Members, Events, and Photos, along with a search bar and shortcuts to other developer groups.

Recent Activity:

- Suk Kim shared a link.
October 21 at 12:45pm
오라클 클라우드를 위한 첨병...
오라클 버추얼박스 5.2 정식 릴리즈가 출시 되었습니다.
#devops #oci #oracle #virtualbox #김재벌 #오라클 #버추얼박스

DESCRIPTION:
새로 출시되는 오라클의 클라우드에 관심 있는 분들과 정보 교류를 하기 위한 그룹입니다. 늦게 시작하고 나온지 얼마 ... See More

GROUP TYPE:
Club

LOCATIONS:
Goyang, Seoul, Korea

CREATE NEW GROUPS:
Groups make it easier than

Eclipse MicroProfile and Microframework - Helidon

황주필, @jupil.hwang / @namoo4u

Solution Engineer, InfraCloud Team, Oracle Cloud Platform

- BEA Systems
- Oracle
 - Middleware
 - InfraCloud
 - Open Source, Cloud Native Application
 - DevRel
- Linux, Container / Docker, Kubernetes
- Blockchain, AI/ML
- Lifelong learner



황주필
[@jupil_hwang](https://twitter.com/jupil_hwang)

jupil.hwang@gmail.com

Agenda

- Java는 어디로 가고 있나?
- Eclipse MicroProfile
- Helidon

Java



- Java Card
- Java ME (Micro Edition)
- Java SE (Standard Edition)
- Java EE (Enterprise Edition)
- Java FX (?)



Is Java 11 Paid ??

- Starting with Java SE 11, Oracle provides their (OpenJDK based) JDK via
 - Oracle OpenJDK builds — Under the existing Open Source GPLv2+CE license
 - Oracle JDK — Under a paid commercial license (but free for development use), for those who do not wish to use the GPLv2+CE, or who are using an Oracle JDK with an Oracle product or service. (Oracle JDK 8 until at least 2025 and Oracle JDK 11 until at least 2026)
- Java 11 이후 Oracle JDK = OpenJDK (<https://jdk.java.net/11/>)
 - Java Flight Recorder
 - Java Mission Control
 - Application Class-Data Sharing
 - ZGC

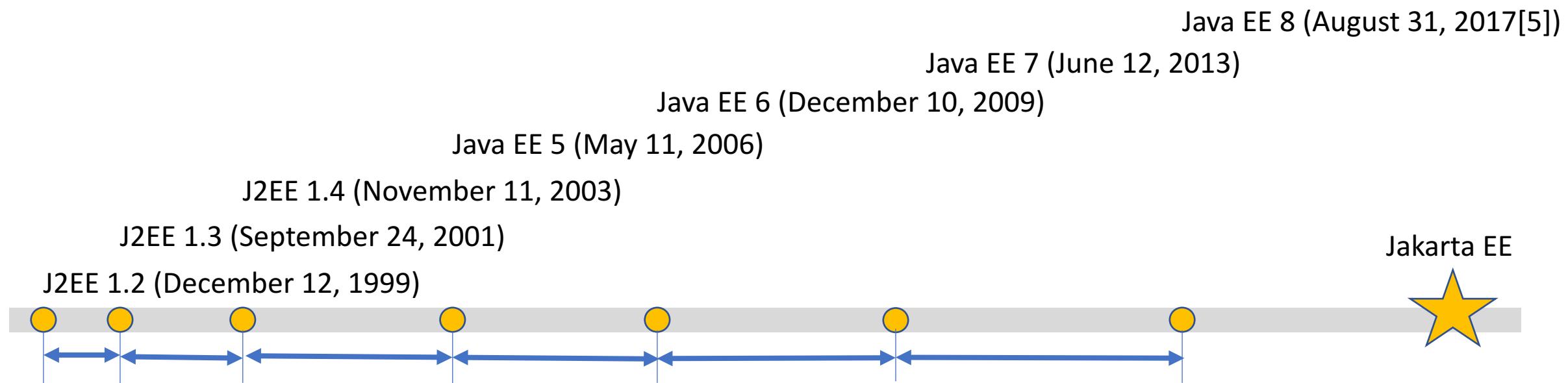
<https://www.oracle.com/technetwork/java/javase/terms/license/index.html>

Java EE (Java Platform, Enterprise Edition)



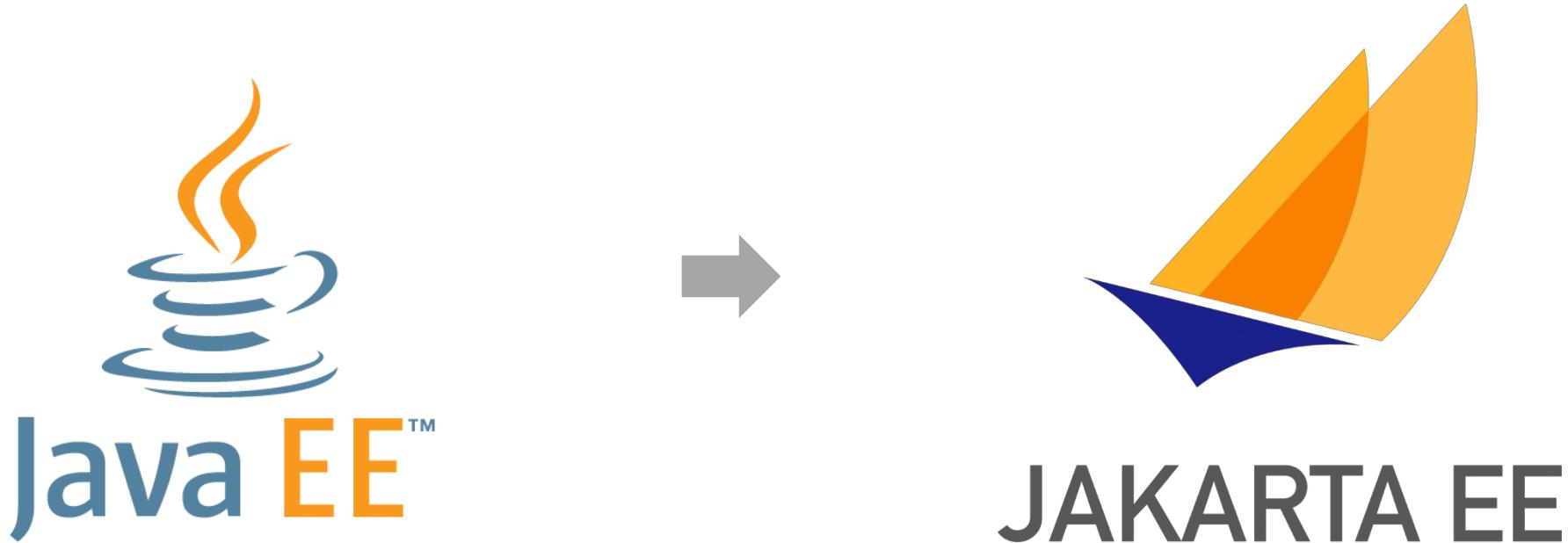
September 12, 2017, Oracle Corporation announced that it would submit Java EE to the Eclipse Foundation

February 26, 2018, it was announced that the new name of Java EE will be Jakarta EE.



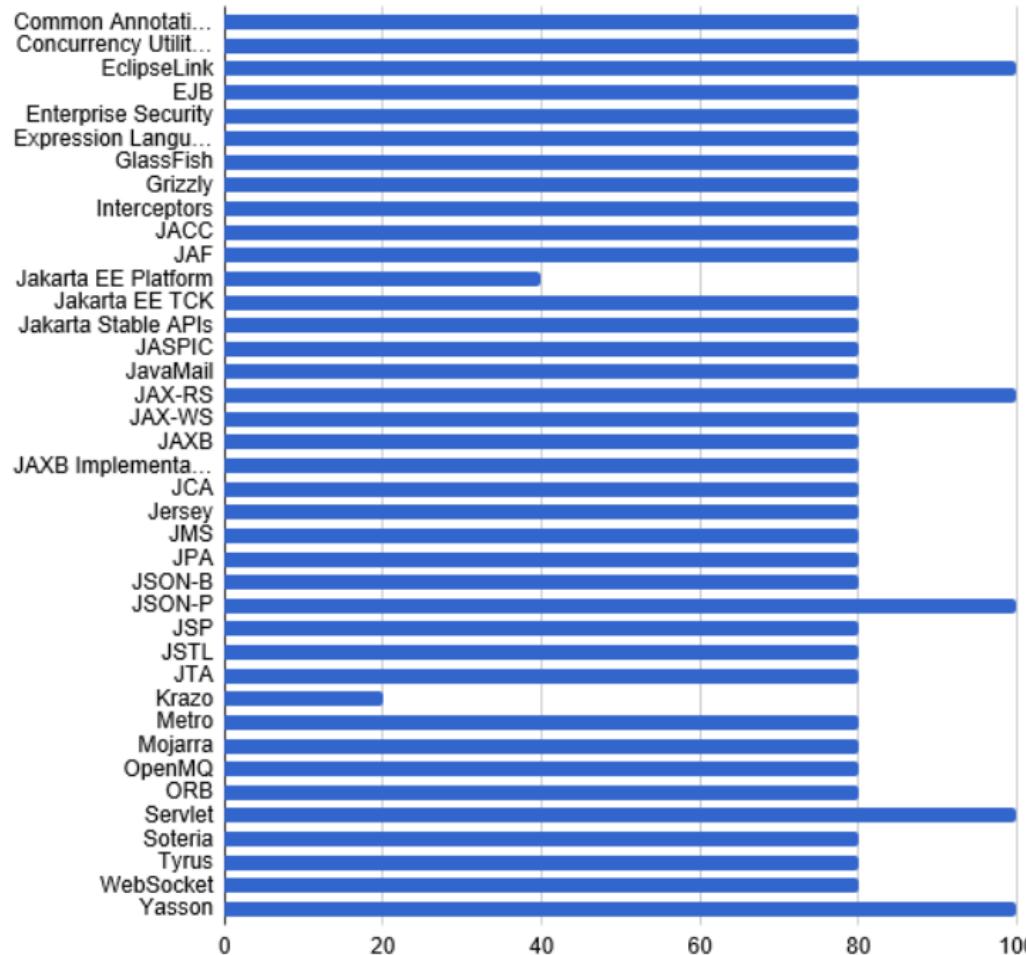
Jakarta EE, EE4J(Eclipse Enterprise for Java)

- 예전에 Java 2 Platforms, Enterprise Edition (J2EE)
- 지금은 Jakarta EE



Jakarta EE, EE4J Project Bootstrapping

This page provides an overview of the bootstrapping state of the EE4J projects. This is based on information that is tracked by the Eclipse Foundation. Please report any discrepancies to emo@eclipse.org.



<https://Jakarta.ee>

Strategic Members



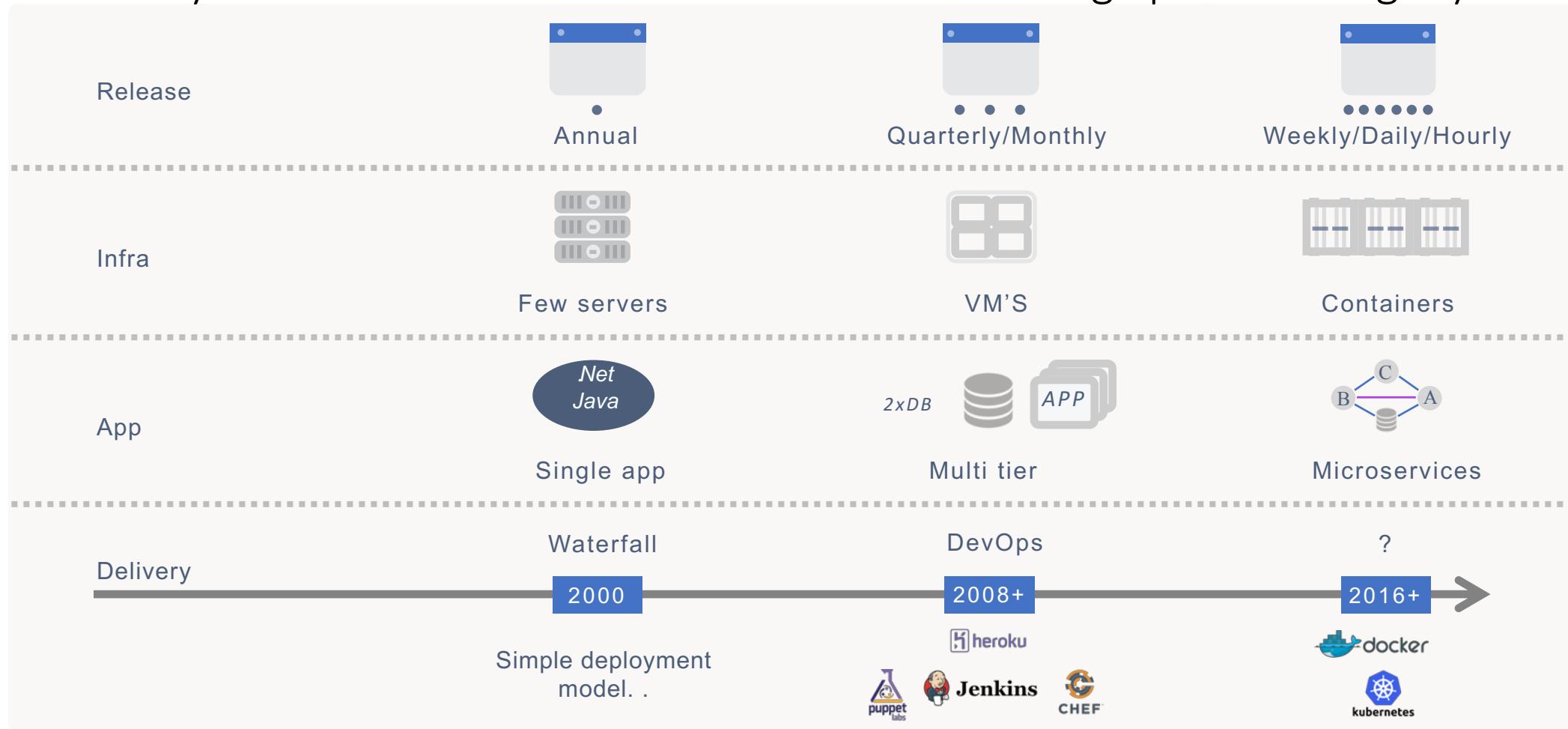
Participating Members

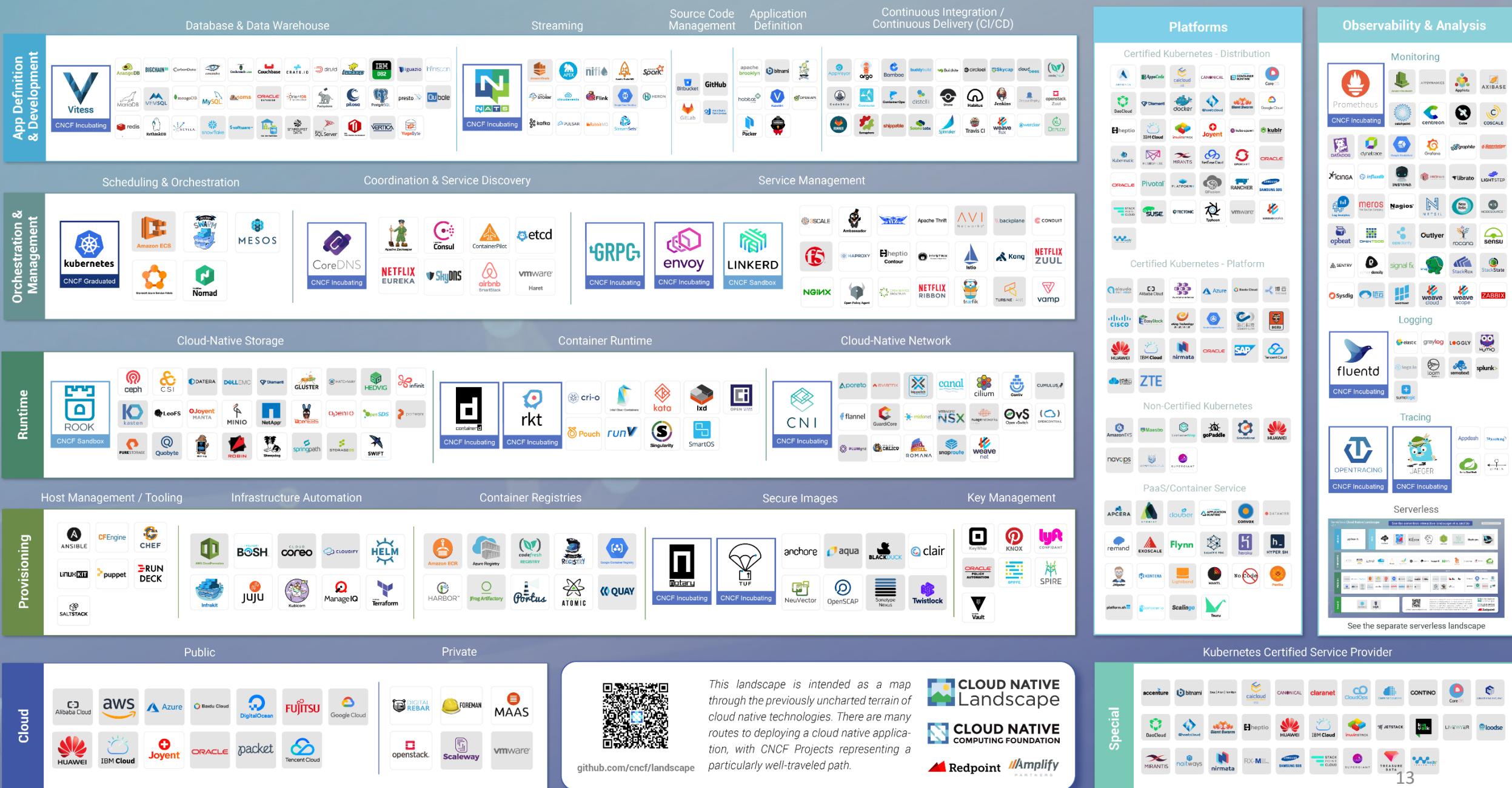


<https://www.eclipse.org/ee4j/status.php>

Modern Development in Context

The History Over the Last 15 Years is All About Increasing Speed and Agility





Microservices, Clouds, Serverless



MicroProfile

Optimizing **Enterprise Java** for a **Microservices Architecture**

An open forum to optimize Enterprise Java for a microservices architecture by innovating across multiple implementations and collaborating on common areas of interest with a goal of standardization.

- Small startup times
 - Smaller binary size
 - Reduced consumption of memory
 - Enabling client-side load balancing
 - Supporting a reactive programming model (asynchronous receivers, messaging-centered calls, etc.)
 - Supporting circuit breakers mechanisms.
-
- June 27, 2016: Red Hat, IBM, Tomitribe, Payara and the London Java Community announced MicroProfile at DevNation.
 - September 19, 2016: MicroProfile 1.0 was released at JavaOne 2016 with 5 implementations (and a 6th planned). The SouJava community joined to support the effort and Hammock was added as a implementation.
 - December 14, 2016: The Eclipse Foundation Board approved the MicroProfile proposal, meaning that Eclipse MicroProfile is now an Eclipse incubator project.

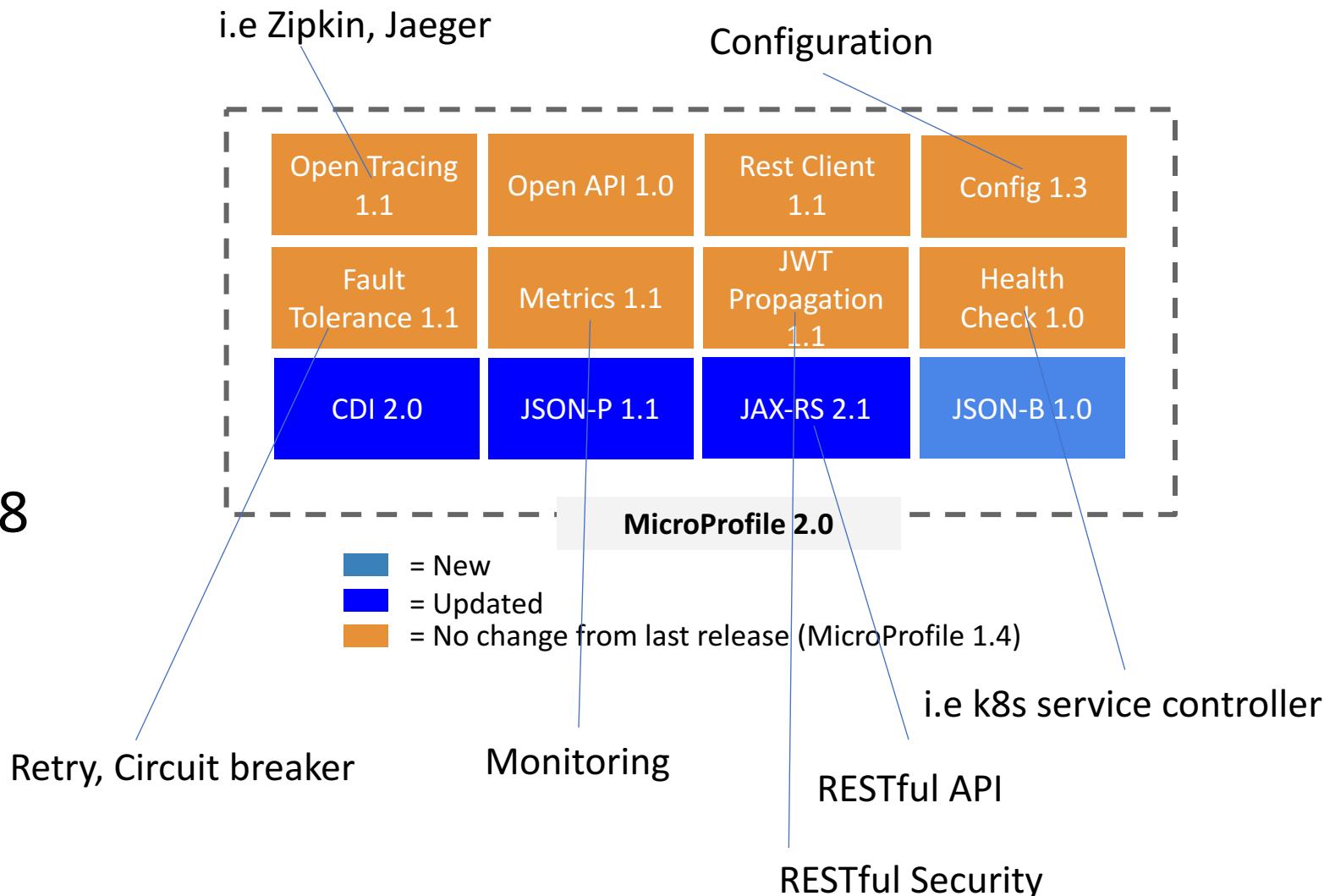


MicroProfile 1.0 (Sep, 2016)



Eclipse MicroProfile

- MP 1.0 – Sep, 2016
- EMP 1.1 – Jul, 2017
- EMP 1.2 – Oct, 2017
- EMP 1.3 – Jan, 2018
- EMP 1.4 / 2.0 – Aug, 2018
- EMP 2.1 – Oct, 2018

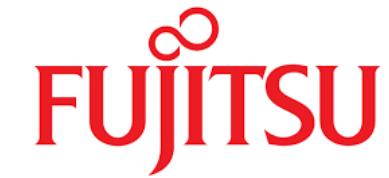


rebased on Java EE 8

Eclipse MicroProfile Releases [↗](#)

Version	Specs included	Passed TCK	In progress	Pending
2.0 ↗	Open API 1.0 Open Tracing 1.1 Type Safe Rest Client 1.1 Config 1.3 Fault Tolerance 1.1 JWT Auth 1.1 Metrics 1.1 Health 1.0 CDI ↗ 2.0 JSON-P ↗ 1.1 JSON-B ↗ 1.0 JAX-RS ↗ 2.1	Payara Server 183 ↗ Payara Micro 183 ↗ Open Liberty 18.0.0.3 ↗	WebSphere Liberty	
1.4 ↗	Open API 1.0 Open Tracing 1.1 Type Safe Rest Client 1.1 Config 1.3 Fault Tolerance 1.1 JWT Auth 1.1 Metrics 1.1 Health 1.0 CDI ↗ 1.2 JSON-P ↗ 1.0 JAX-RS ↗ 2.0	Payara Server 183 ↗ Payara Micro 183 ↗ Open Liberty 18.0.0.3 ↗	WebSphere Liberty	
1.3 ↗	Open API 1.0 Open Tracing 1.0 Type Safe Rest Client 1.0 Config 1.2 Fault Tolerance 1.0 JWT Auth 1.0 Metrics 1.1 Health 1.0 CDI ↗ 1.2 JSON-P ↗ 1.0 JAX-RS ↗ 2.0	Open Liberty 18.0.0.1 ↗ WebSphere Liberty 18.0.0.1 ↗ Payara Server 182 ↗ Payara Micro 182 ↗ SmallRye ↗ Thorntail 2.1.0.Final ↗	TomEE 8.0 ↗	
1.2 ↗	Config 1.1 Fault Tolerance 1.0 JWT Auth 1.0 Metrics 1.0 Health 1.0 CDI ↗ 1.2 JSON-P ↗ 1.0 JAX-RS ↗ 2.0	Open Liberty 17.0.0.3 ↗ WebSphere Liberty 17.0.0.3 ↗ WildFly Swarm 2017.12.1 ↗ Red Hat OpenShift Application Runtimes 1.0 ↗ Payara Server 181 ↗ Payara Micro 181 ↗ KumuluzEE 3.0.0 ↗		
1.1 ↗	Config 1.0 CDI ↗ 1.2 JSON-P ↗ 1.0 JAX-RS ↗ 2.0	Launcher ↗ 1.0 Hammock ↗ 2.0 Payara Server 174 ↗ Payara Micro 174 ↗ Helidon ↗ 0.9.1 KumuluzEE 2.5.2 ↗		
1.0 ↗	CDI ↗ 1.2 JSON-P ↗ 1.0 JAX-RS ↗ 2.0	WildFly Swarm 2016.8.1 ↗ WebSphere Liberty 16.0.0.3 ↗ TomEE 7.0.x ↗ KumuluzEE 2.1.0 ↗		

MicroProfile implementations



Quick Start – MicroProfile

```
mvn archetype:generate -DarchetypeGroupId=de.rieckpil.archetypes -  
DarchetypeArtifactId=javaee8 -DarchetypeVersion=1.0.1 -  
DgroupId=orcl -DartifactId=meetup1013 -DinteractiveMode=false
```

```
java –jar payara-micro.jar –deploy target/meetup1013.war
```

Quick Start – MicroProfile

```
mvn archetype:generate -DarchetypeGroupId=com.airhacks -  
DarchetypeArtifactId=microprofile-essentials-archetype -  
DarchetypeVersion=0.0.2 -DgroupId=com.airhacks -DartifactId=demo -  
Dversion=0.0.1 -Darchetype.interactive=false --batch-mode
```

```
java –jar payara-micro.jar –deploy target/demo.war
```

Quick Start – MicroProfile

```
# git clone https://github.com/payara/Payara-Examples.git
```

```
cd Payara-Examples/demo-applications/5.183-MicroProfile
```

```
mvn clean package
```

```
Java –jar target/payara-webinar-microbundle.jar
```



Project Helidon

Lightweight. Fast. Crafted for Microservices.



Helidon is a collection of Java libraries for writing
microservices that run on a fast web core powered by
Netty.

<https://helidon.io>

Helidon



- A set of Java libraries for developing microservices
- Your service is just a Java SE application
- Implements Eclipse MicroProfile (Helidon MP)
- Two programming models
 - **Helidon MP**: declarative style, familiar to Java EE developers (JAX-RS, CDI, etc)
 - **Helidon SE**: small, functional style, transparent, no magic
- Built-in integrations to facilitate using Oracle Cloud Services
- Open source: <https://github.com/oracle/helidon>

aka J4C (Java for Cloud)

What's J4C?



Java SE Runtime

J4C is a lightweight set of libraries, and your application is just a Java SE program. No heavyweight containers here. The J4C Web Server is built on the small, fast Netty networking engine.



Microprofile support

You choose your programming model: Microprofile for JAX-RS and CDI based applications, or J4C native if you prefer a more functional programming style.



Familiar Tools

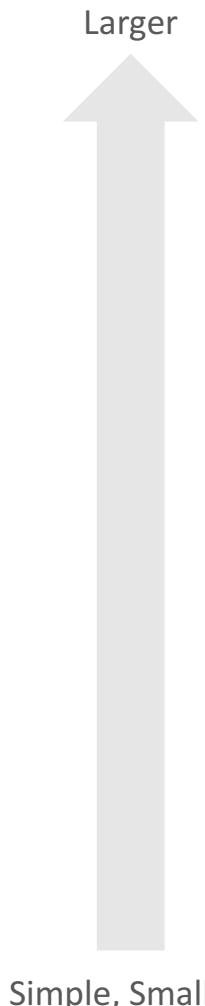
No SDK or runtime to install, just use the tools you already use: Git, Maven and Docker.



Kubernetes Integration

Build and run your application locally, then easily construct a Docker image and deploy to Kubernetes.

Java Microservice Frameworks



Full-Stack



Spring Boot



MicroProfile Based

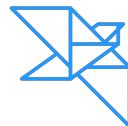


Open Liberty



payara

THORNTAIL



helidon MP

Microframeworks



javalin



Spark



Ktor



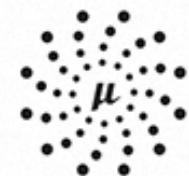
helidon SE

SPRING BOOT VS MICRONAUT

- THE BATTLE UNLEASHED

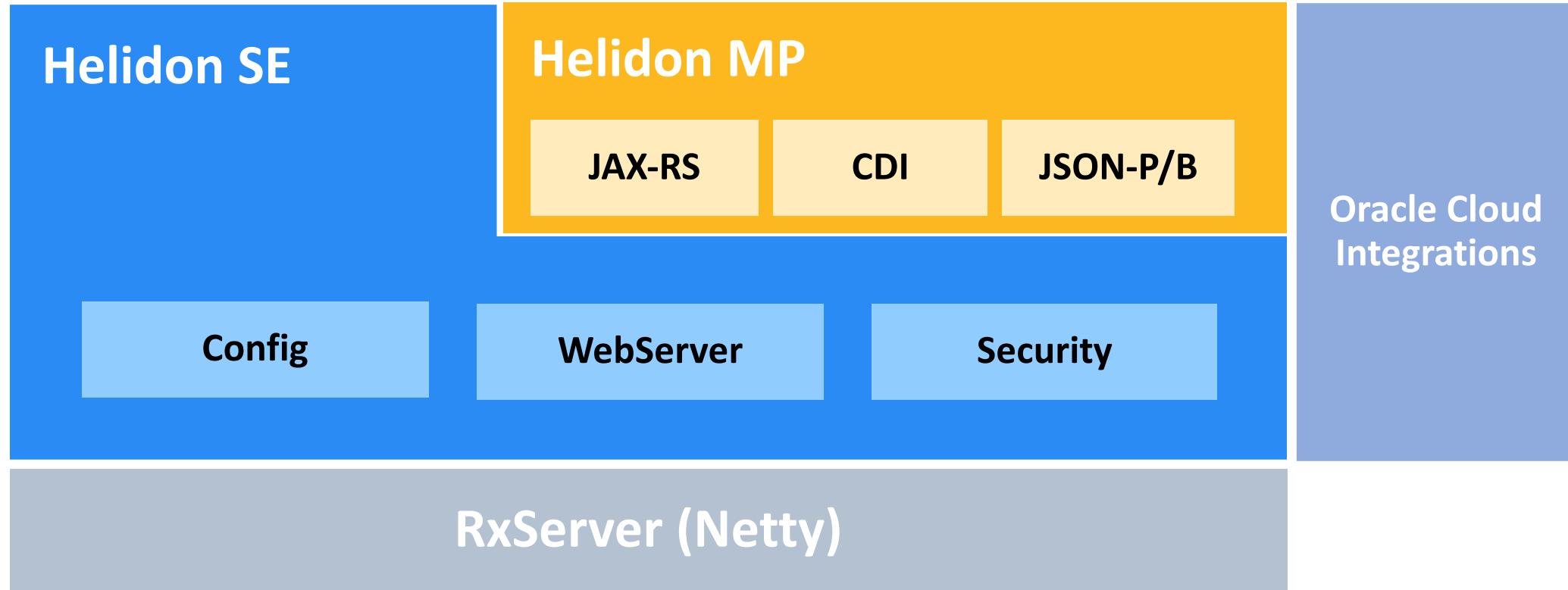


VS



<https://walkingtree.tech/spring-boot-vs-micronaut-the-battle-unleashed/>

Helidon





What is Helidon SE?

Reactive WebServer

- Simple functional routing model with reactive Flow API
- Built on Netty
- OpenTracing and Metrics
- JAX-RS, JSON-P support
- Static content support

Config

- Flexible, typed config model
- Multiple data sources
- Hierarchical model
- Dynamic updates
- SPI

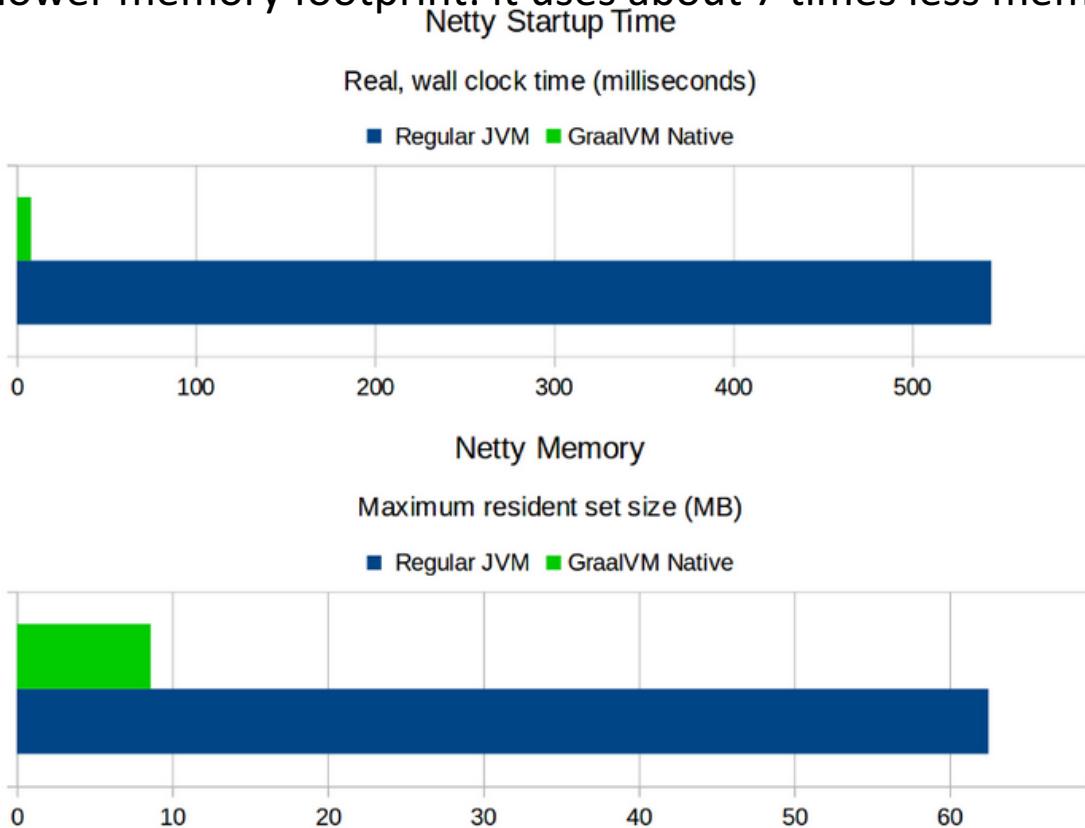
Security

- Authentication
- Roles and Authorization
- HTTP Signatures
- IDCS integration

Working on GraalVM Support

GraalVM Native-Image support

Building the application with the native-image tool produces a native executable that is less than 9 MB in size; has a significantly improved startup time: the server is ready to accept requests in a matter of milliseconds; and has a much lower memory footprint: it uses about 7 times less memory.



```
+ java ListDir ..  
Walking path: ..  
Total: 141 files, total size = 14448801 bytes  
  
real    0m0.320s  
user    0m0.379s  
sys     0m0.070s  
+ ./listDir ..  
Walking path: ..  
Total: 141 files, total size = 14448801 bytes  
  
real    0m0.030s  
user    0m0.005s  
sys     0m0.011s
```

Quick Start – Helidon MP

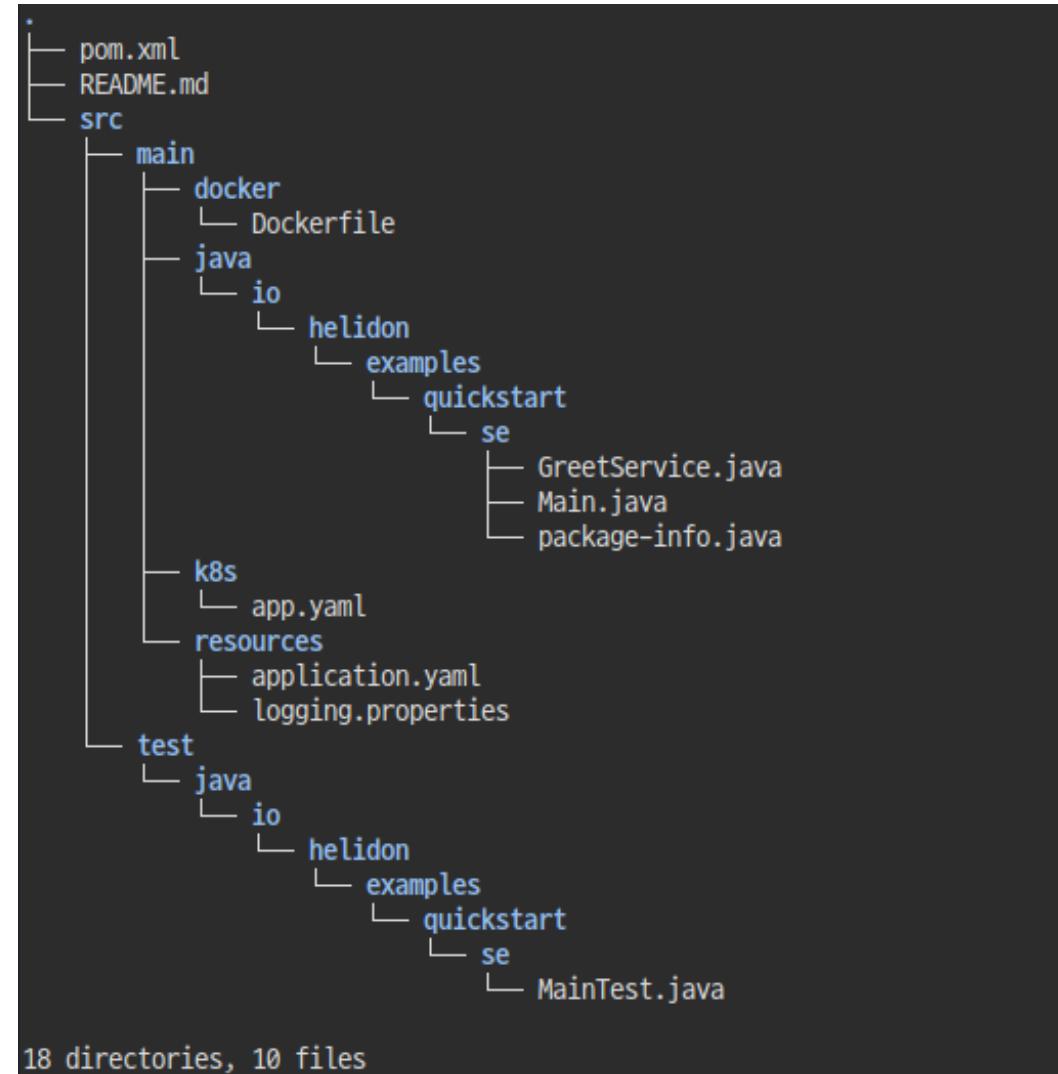
```
$ mvn archetype:generate -DinteractiveMode=false \
-DarchetypeGroupId=io.helidon.archetypes \
-DarchetypeArtifactId=helidon-quickstart-mp \
-DarchetypeVersion=0.10.1 \
-DgroupId=io.helidon.examples \
-DartifactId=quickstart-mp \
-Dpackage=io.helidon.examples.quickstart.mp
```

```
$ cd quickstart-mp
$ mvn package
$ docker build -t quickstart-mp target
$ docker run --rm -p 8080:8080 quickstart-mp:latest
```

Quick Start – Helidon SE

```
$ mvn archetype:generate -DinteractiveMode=false \
-DarchetypeGroupId=io.helidon.archetypes \
-DarchetypeArtifactId=helidon-quickstart-se \
-DarchetypeVersion=0.10.1 \
-DgroupId=io.helidon.examples \
-DartifactId=quickstart-se \
-Dpackage=io.helidon.examples.quickstart.se
```

```
$ cd quickstart-se
$ mvn package
$ docker build -t quickstart-se target
$ docker run --rm -p 8080:8080 quickstart-mp:latest
```



18 directories, 10 files

Q&A