

# ORACLE



# Migrating WebLogic applications to Cloud

Extend your applications with Microservices



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## Safe harbor statement



The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.



# Introduction of WebLogic

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What's New & Where are we heading

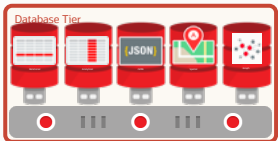


# The WebLogic Product Roadmap has continued to evolve



## • Embrace Cloud Native

- Key trend in Application Development
- Modernize your existing applications without code changes
- Large toolset to embrace modern development automation (CI/CD)
- Enable Modern Monitoring and Logging tooling



## • Micro Service Ready

- Easy adoption of Java Microservices with Helidon
- Hybrid applications: WebLogic + Helidon combined
- Coherence: interaction between microservices

## • Converged Database

- Relational, Columnar, JSON, Spatial, ...

WebLogic, Coherence  
14.1.1

Java EE 8, Jakarta EE 8

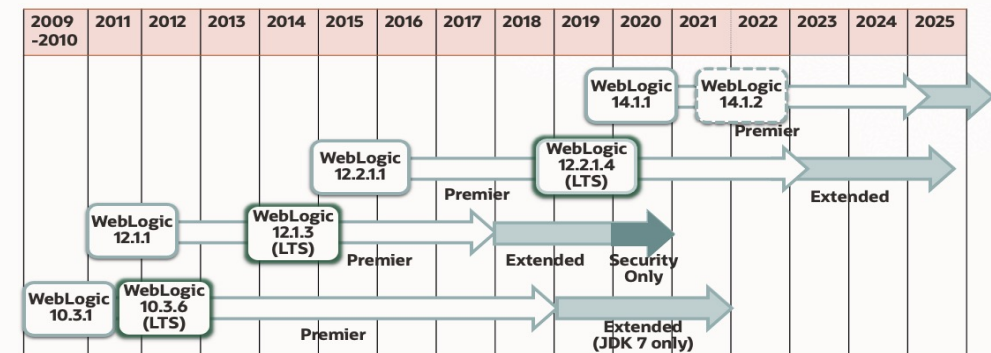
Java SE 8, Java SE 11



## • Ongoing evolution in 14.1.x

- WebLogic Java EE 8 and Jakarta EE 8 Support
- Coherence, Tracing, GraalVM polyglot
- Java SE 8 and Java SE 11 Support
- Generic, slim and quick installers

## • Extensive (long-term) Support Roadmap



# Oracle WebLogic Server for Oracle Cloud Infrastructure

## Deployment Models:

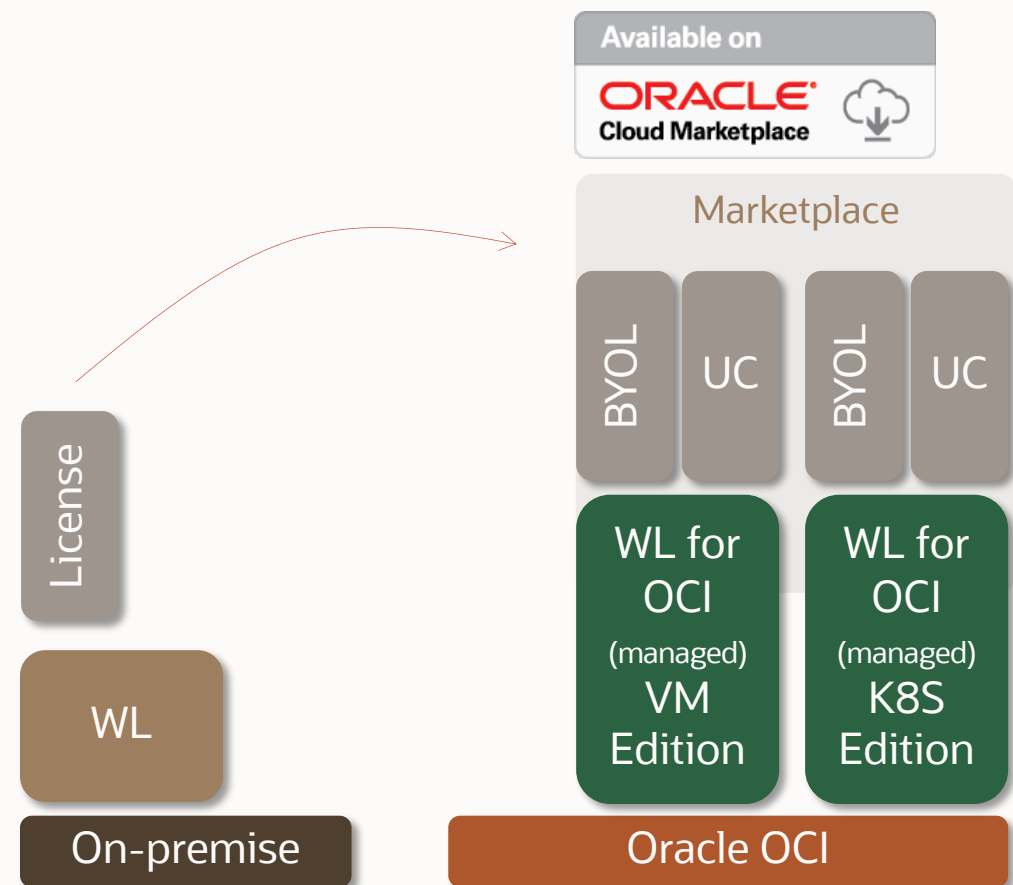
- WLS on Virtual Machines (Traditional)
- WLS on Kubernetes (Cloud Native)

## Commercial Models:

- Bring Your Own License (BYOL)
- Universal Credit (UC)

## Supports

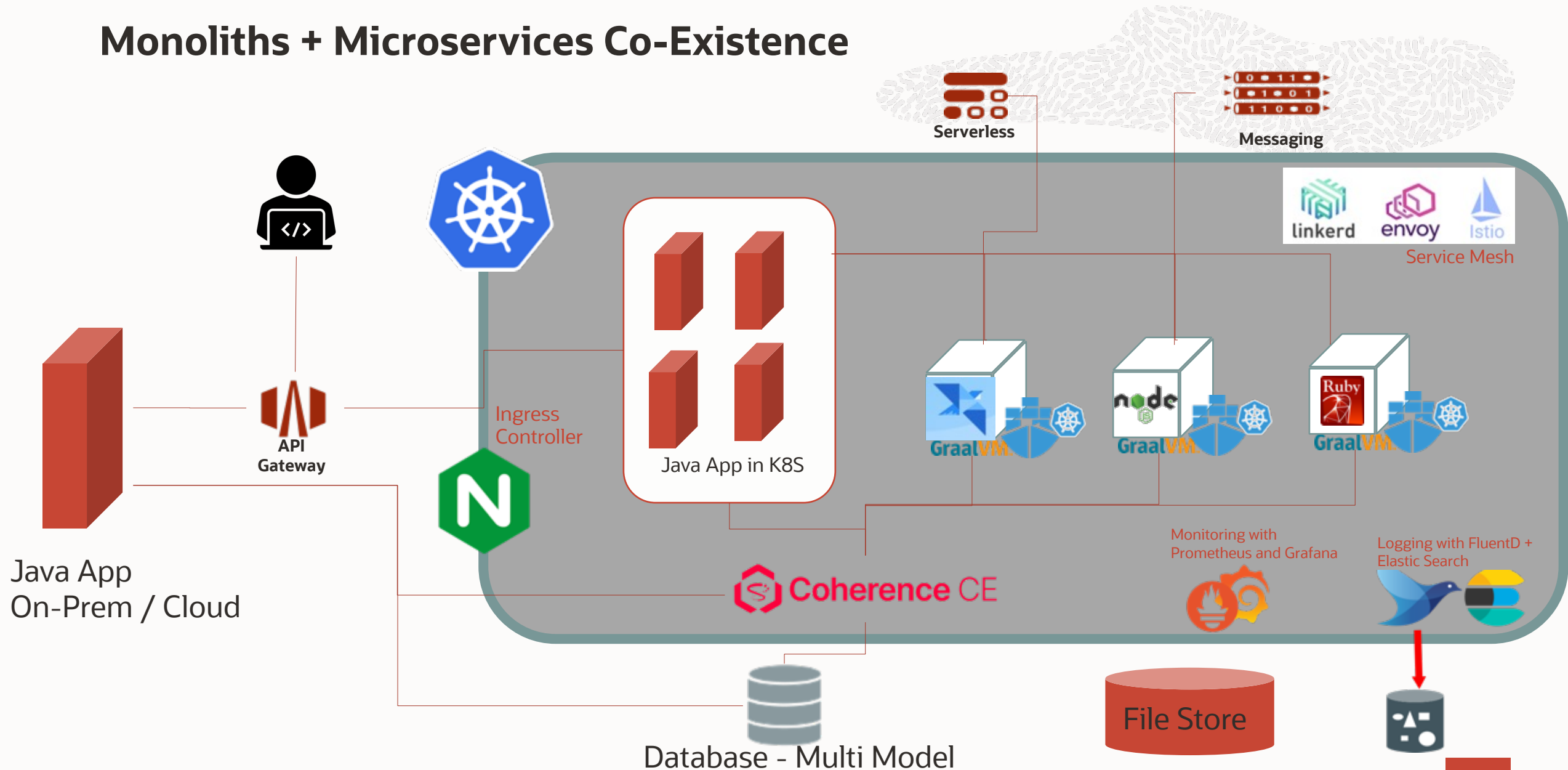
- WebLogic Server **11g** and **12c**
- Supports JRF and Non-JRF domains
- Supports ATP DB and OCI DB as infra DB



More information – [WLS for OCI](#), [WLS for OKE](#)



# Monoliths + Microservices Co-Existence



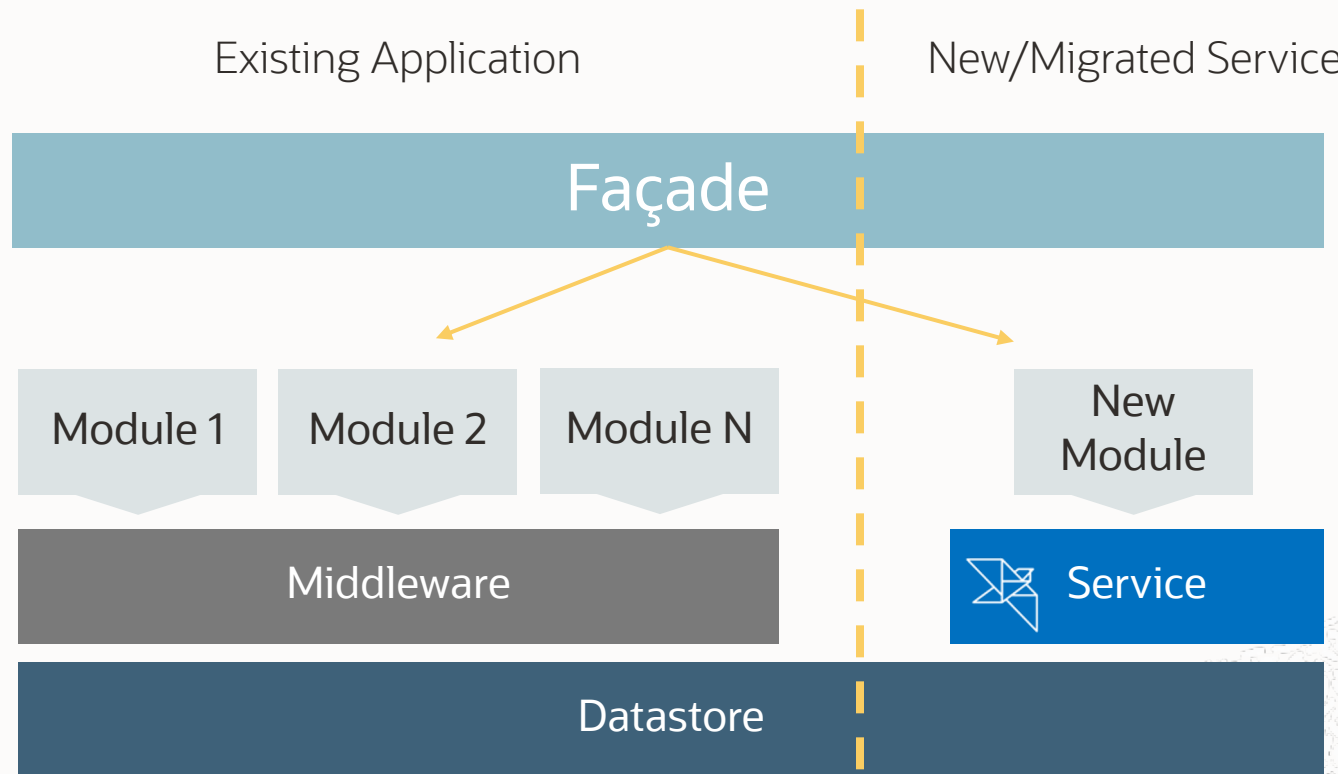
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# Helidon

**Java Microservices framework**

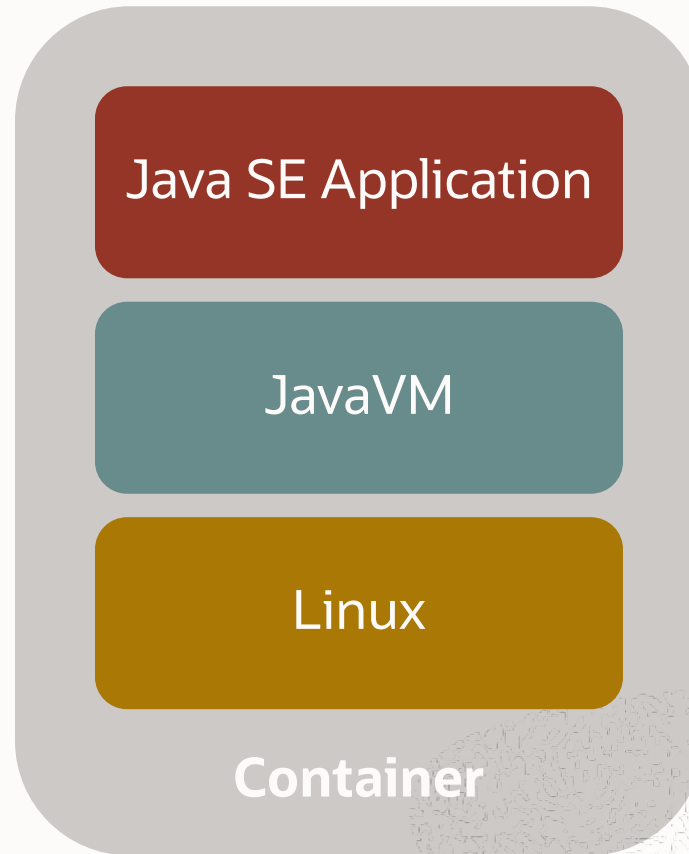


# First Step to Evolve Existing WebLogic Applications with Microservices



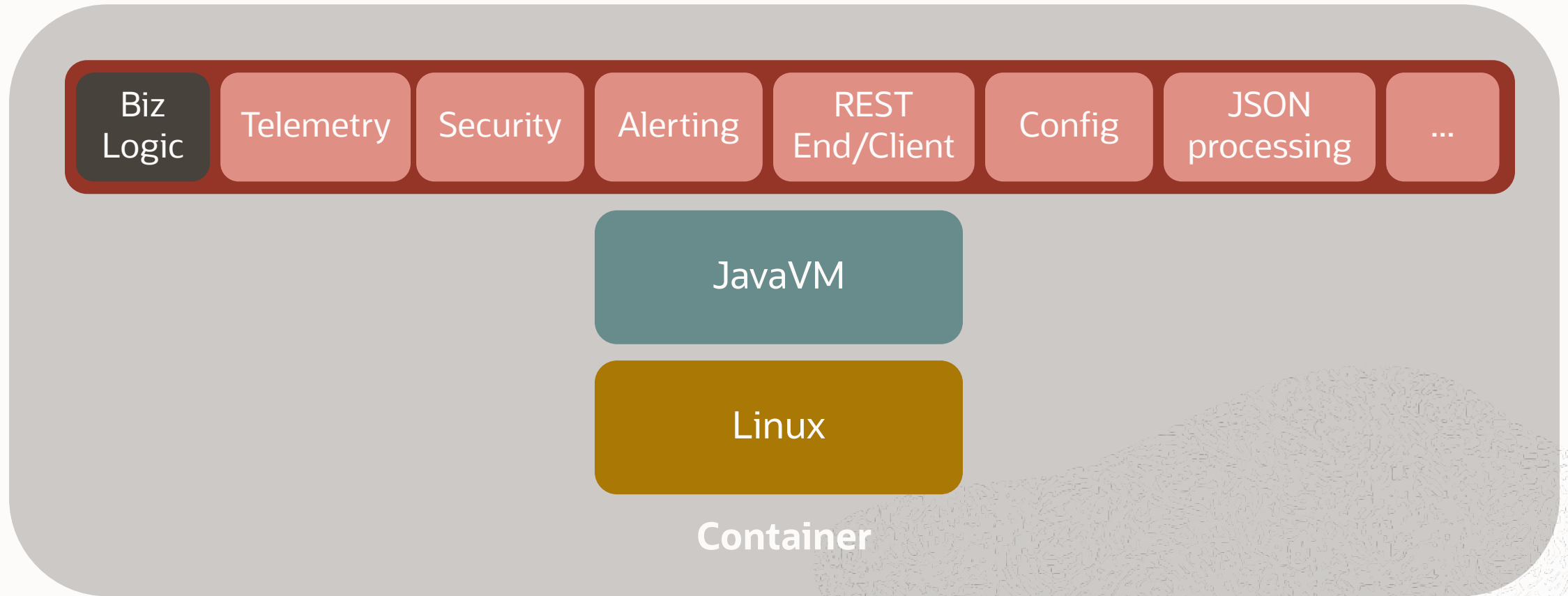
# Developing Java microservices

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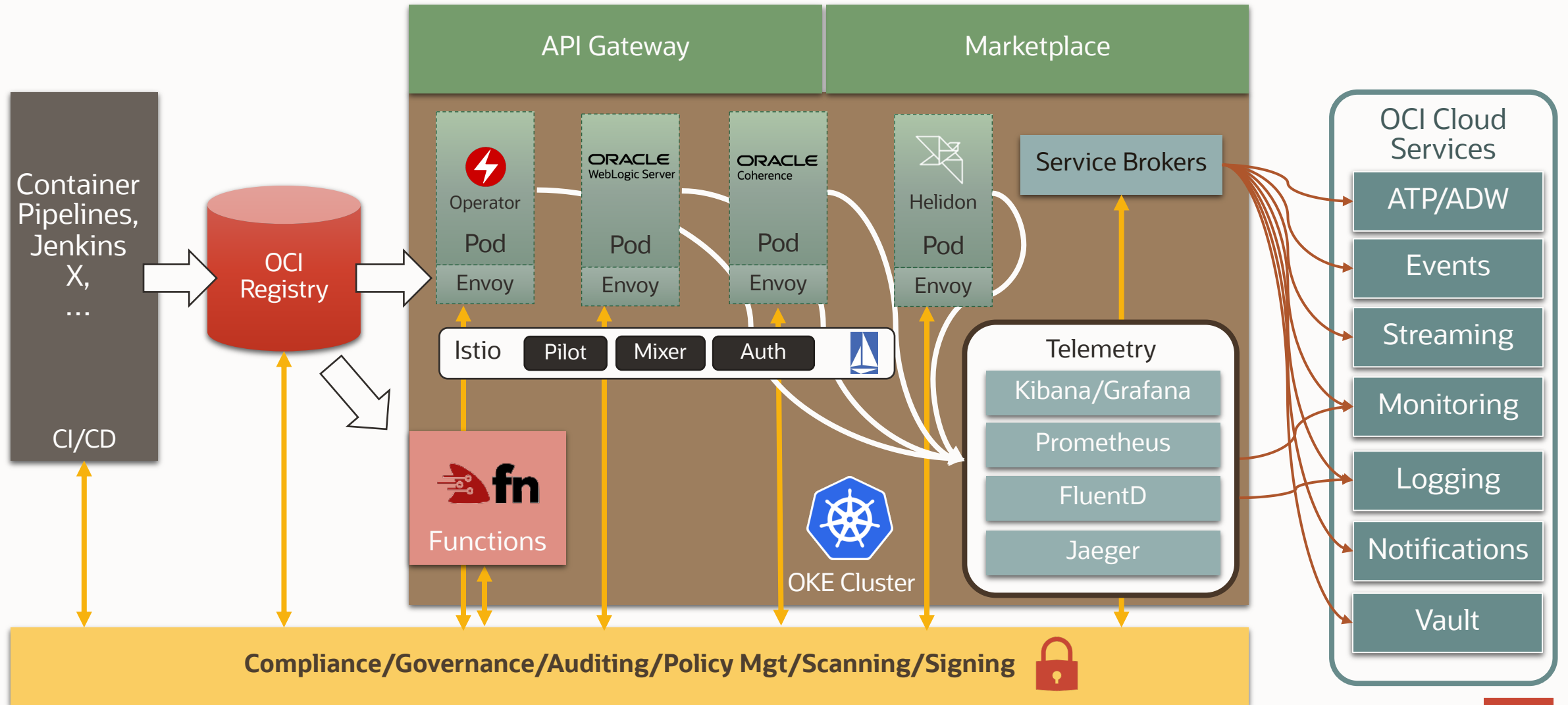




# But this will be your code on microservices!



# Microservices Architecture



# Project Helidon

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- **Java Microservices Framework**

<https://helidon.io>

- **Open Source – Apache 2.0**

<https://github.com/oracle/helidon>

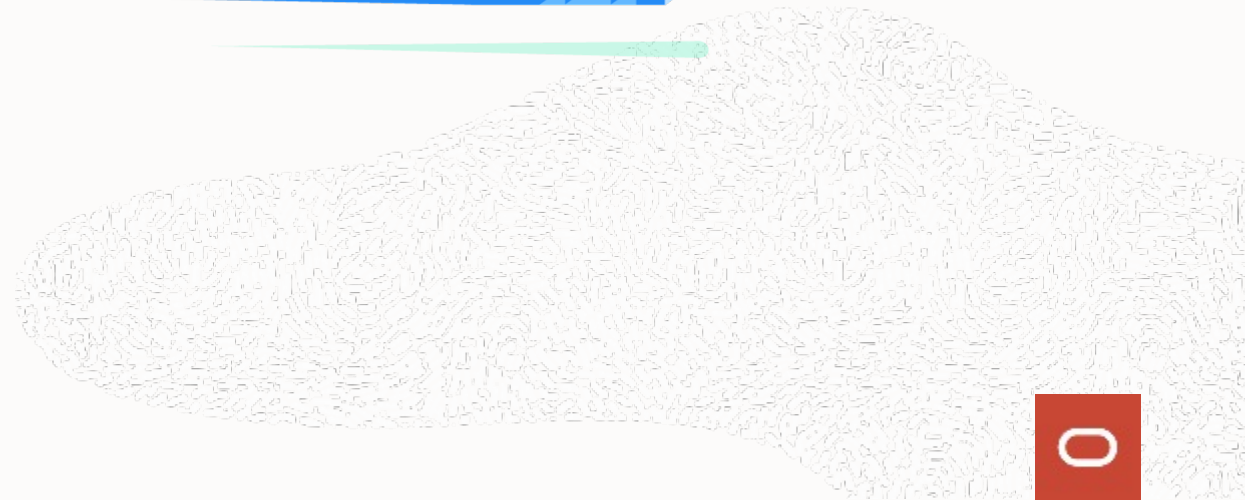
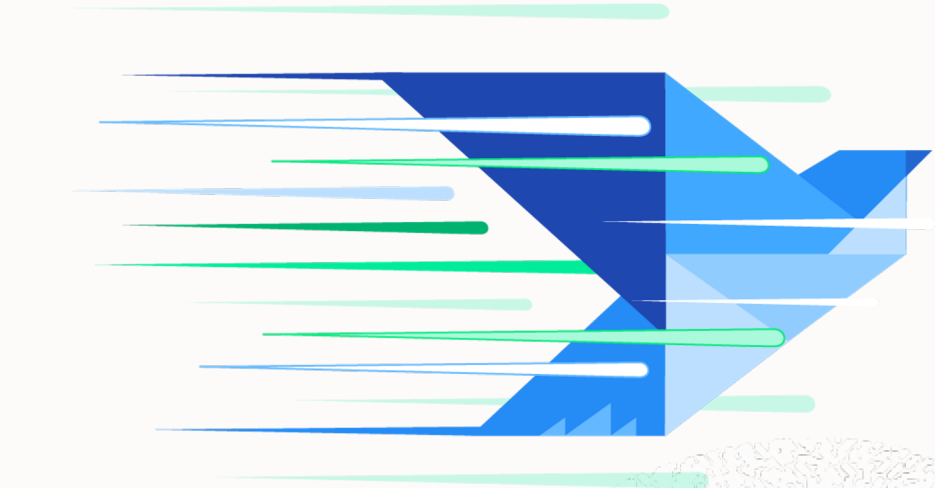
- **Supports Standards - MicroProfile**

<https://microprofile.io/>

- **Supported Active Project**

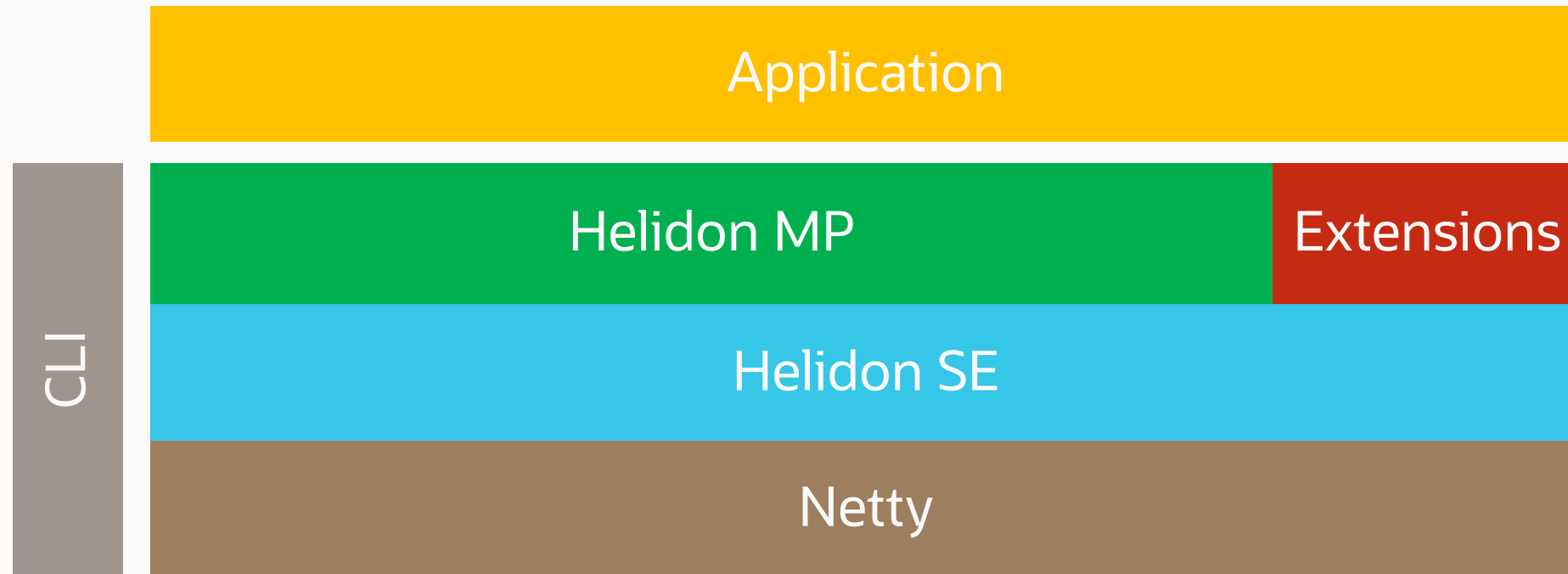
<https://helidon.slack.com>

<https://github.com/oracle/helidon/issues>



# Helidon Architecture

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# Helidon API

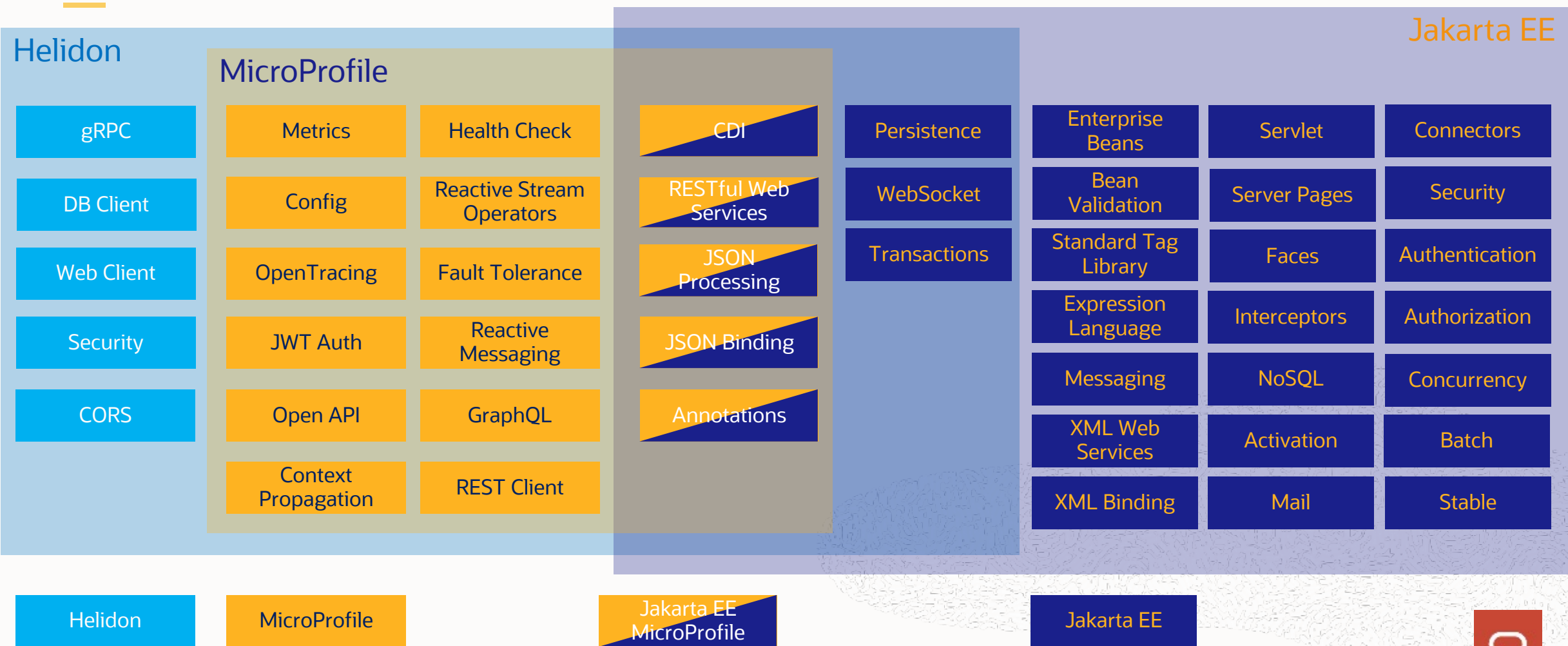
## Helidon SE

```
Routing routing =  
Routing.builder()  
    .get("/hello", (req, res) ->  
        res.send("Hello World"))  
    .build();  
  
WebServer.create(routing)  
    .start();
```

## Helidon MP

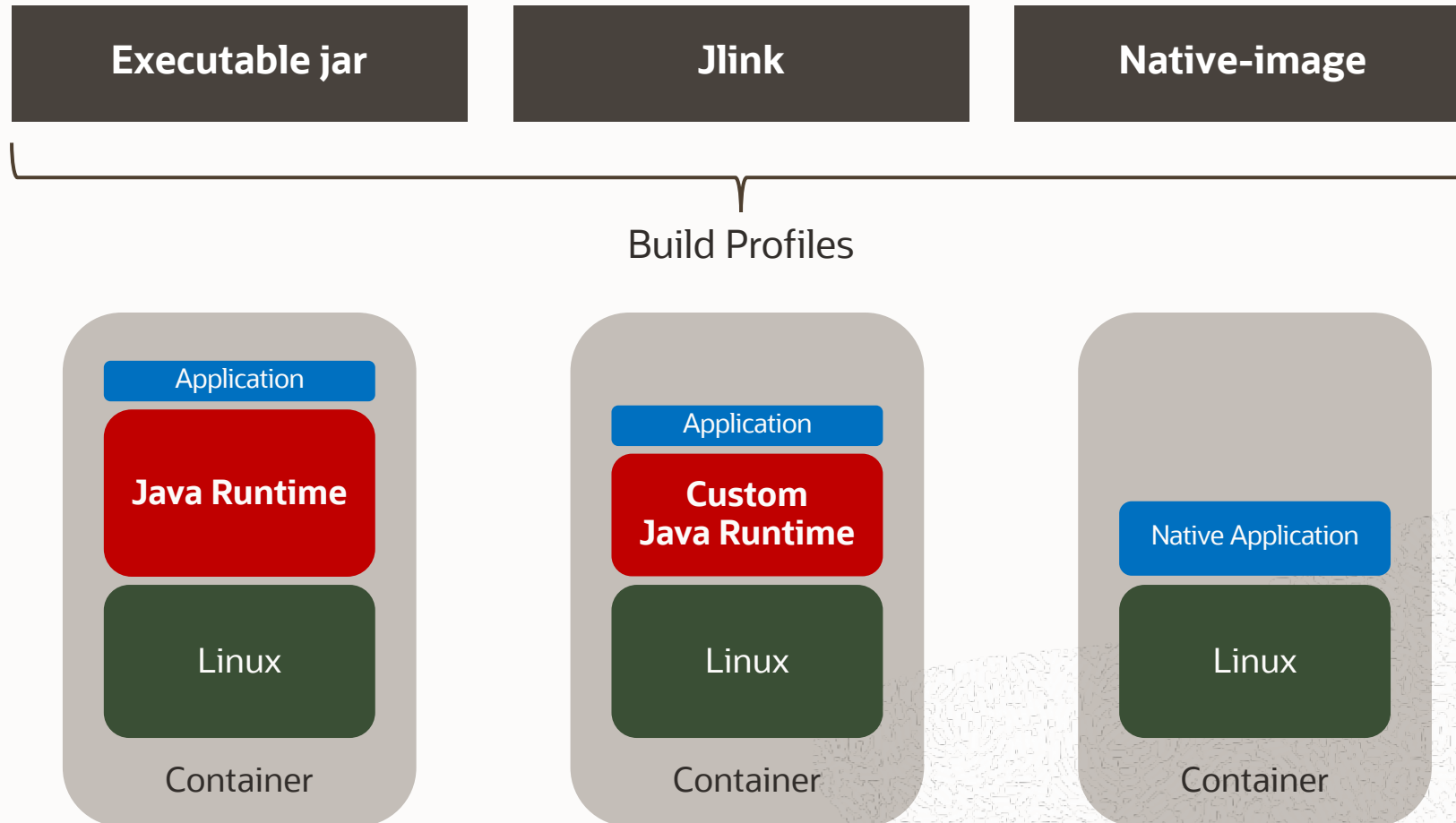
```
@Path("hello")  
public class HelloWorld {  
    @GET  
    public String hello() {  
        return "Hello World";  
    }  
}
```

# Helidon - Features and Standards





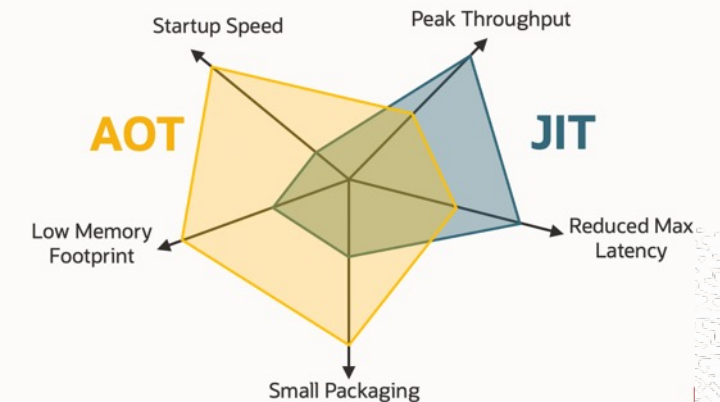
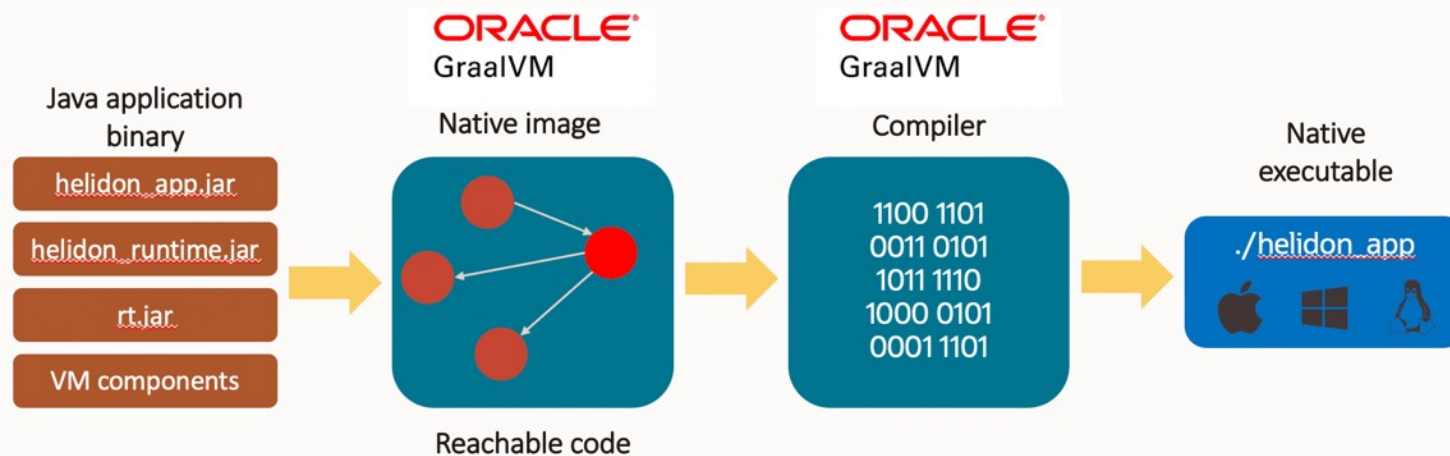
# Packaging and Runtime Options



# GraalVM Native Image Support

2 ways to build and run Helidon application:

1. JIT (Just In Time/JVM, traditional): Compile source to bytecode (.class) and during the JVM bytecode execution optimize and compile certain parts of the bytecode to native executable using JIT compiler
2. AOT (Ahead of time compilation): Compile source directly to native executable



# Startup time and resource comparison – Spring Boot



- “Hello World” application: REST endpoint + JSON
- GraalVM EE 20.1.1 (build 11.0.8.0.2+1-LTS-jvmci-20.1-b04)
- 2,5 GHz Dual-Core Intel Core i7, 16GB RAM, MacOS 10.15.7

	JVM Jar			Native Image		
	<i>Spring Boot</i>	<i>Helidon MP</i>	<i>Helidon SE</i>	<i>Spring Boot</i>	<i>Helidon MP</i>	<i>Helidon SE</i>
<i>Application size</i>	16.5 MB	13.9 MB	<b>5.9 MB</b>	63.2 MB	88.2 MB	<b>27.6 MB</b>
<i>Startup time</i>	3589 msec	2076 msec	<b>853 msec</b>	83 msec	37 msec	<b>29 msec</b>
<i>Serving first request</i>	4916 msec	2996 msec	<b>1344 msec</b>	113 msec	63 msec	<b>47 msec</b>
<i>Memory footprint (total RSS)</i>	581.1 MB	428.1 MB	<b>285.5 MB</b>	50.6 MB	38.1 MB	<b>17.1 MB</b>



# Demo



## Helidon benefits for WebLogic users

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- Helidon MP builds upon Java/Jakarta EE constructs with little-to-no learning curve
- Easy code migration/development
  - Helidon and WebLogic share the same JAX-RS implementation
  - MicroProfile supports Java/Jakarta EE components
  - Helidon integrates additional Java/Jakarta EE components
  - Helidon + Coherence integration for WebLogic application uses Coherence
- WebLogic license includes Helidon Enterprise Support from Oracle!
  - Ensures smooth and safe migration from WebLogic to Helidon microservices



# Upcoming Events


Modernise WebLogic [Webinars](#)

29<sup>th</sup> April: Hands On Lab – WLS on K8S [Registration](#)


11<sup>th</sup> May : Implementing CI / CD and DevOps [Link](#)

Live Webinars

On-Demand Webinars




**Extend your applications with Microservices**  
**Date: Apr 20, 2021**  
Start Time: 10:00 GMT/11:00 CET/13:00 GST  
Duration: 30 mins  
[Read More](#)  
[Register Now](#)




**Implement DevOps, Continuous Integration and Continuous Delivery**  
**Date: May 11, 2021**  
Start Time: 10:00 GMT/11:00 CET/13:00 GST  
Duration: 30 mins  
[Read More](#)  
[Register Now](#)

Live Webinars


On-Demand Webinars




**Move on-premise applications to the Cloud: overview of available options**  
Duration: 37 mins  
[Read More](#)  
[Watch Now](#)




**Move on-premise applications to the Cloud using Marketplace VMs**  
Duration: 39 mins  
[Read More](#)  
[Watch Now](#)



**The right development paradigm: Navigating between Monoliths and Microservices.**  
Duration: 42 mins  
[Read More](#)  
[Watch Now](#)



**Run WLS Securely on Oracle Cloud**  
Duration: 30 mins  
[Read More](#)  
[Watch Now](#)



**Moving applications to the Cloud: how to migrate your databases.**  
Duration: 30 mins  
[Read More](#)  
[Watch Now](#)





# Q & A Thank You!

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## Resources



<https://medium.com/helidon>



<https://github.com/oracle/helidon>



<https://helidon.io>



[@helidon\\_project](https://twitter.com/helidon_project)



<https://helidon.slack.com>



<https://stackoverflow.com/tags/helidon>



[https://www.youtube.com/c/helidon\\_project](https://www.youtube.com/c/helidon_project)

# Tutorials, workshops

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Introduction

[https://helidon.io/docs/latest/#/mp/guides/01\\_overview](https://helidon.io/docs/latest/#/mp/guides/01_overview)

Helidon Sockshop Application

<https://github.com/helidon-sockshop/sockshop>

Helidon for Cloud Native microservices

<https://oracle.github.io/cloudtestdrive/AppDev/cloud-native/livelabs/individual/helidon/helidon-core/index.html?lab=labs-introduction>

Building Microservices with Oracle Converged Database

<https://oracle.github.io/learning-library/developer-library/microservices-with-converged-db/>