Desarrollo de micro servicios cloud-native con Quarkus

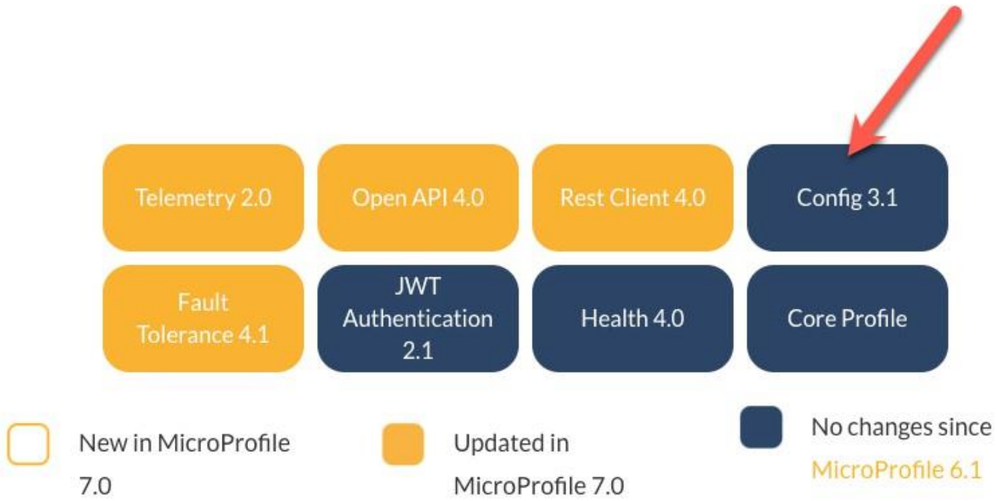
JoeDayz | 2025

Administrando la configuración de la aplicación en Microservicios

MicroProfile 7.0

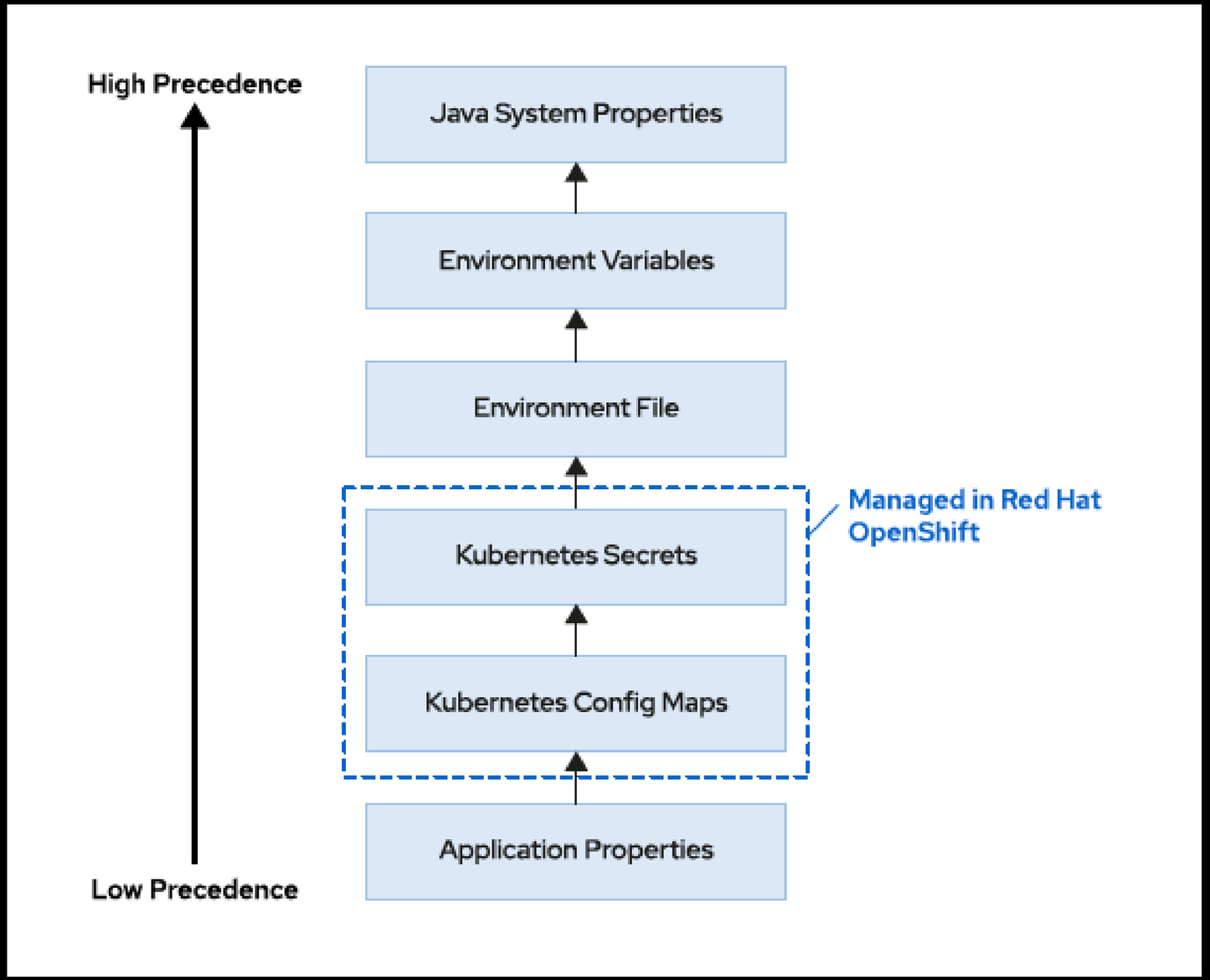
MicroProfile 7.0 is a major release that introduces significant changes, notably replacing MicroProfile Metrics with the more comprehensive MicroProfile Telemetry 2.0. Additionally, it specifies Jakarta EE 10 Core Profile as a dependency, simplifying integration. This release also includes updates to several specifications, and allows certification on Java SE 11 and higher.

MicroProfile 7.0 Presentation



SmallRye Config Library

Orden de precedencias en orígenes de configuración



Desarrollando microservicios basados en REST

Especificacione

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JakartaEE y Microprofile

- ArC -> Jakarta Context and Dependency Injection
- RESTEasy -> JAX-RS
- Jackson, un framework que mapea objetos Java hacia y desde JSON

Common Class-level Lifecycle Annotations

Annotation	Scope
`@ApplicationScoped`	ArC instantiates the object one time and reuses the instance for all injection points.
`@RequestScoped`	ArC instantiates a new object for each HTTP request.
`@SessionScoped`	When you use the `quarkus-undertow` extension, the `javax.servlet.http.HttpSession` object manages the lifespan of a session-scoped bean.

Annotation	Scope
`@Dependent`	A dependent scope binds a property object instance to its parent Java object. Arc provides a new instance to each parent object, and destroys the instance with the parent object.

Descubrimiento de Beans en la Inyección de Dependencias

Clases descubiertas por el ArC dependency injection

1. Clases Application que son anotadas con anotaciones como @ApplicationScoped
2. Dependencias en el archivo beans.xml
3. Clases referenciadas en el indice Jandex
4. Clases referenciadas por el quarkus.index-dependency property en el application.properties

Limitaciones ArC

1. Java Reflection. No se recomienda usar campos privados.

```
@ApplicationScoped
public class GreeterBean {

  @Inject
  GreeterService greeter;
}
```

Es mejor usar inyección por constructor:

```
@ApplicationScoped
public class GreeterBean {

  private GreeterService greeter;

  public GreeterBean(GreeterService greeter) {
    this.greeter = greeter;
  }
}
```

Limitaciones ArC

2. beans.xml

Arc ignora el contenido del descriptor en el archivo beans.xml, y no soporta configurar interceptors, decorators, o alternatives usando el archivo beans.xml

3. BeanManager

Esta clase implementa los siguientes métodos: getBeans(), createCreationalContext(), getReference(), getInjectableReference(), resolve(), getContext(), fireEvent(), getEvent(), y createInstance().

4. Quarkus no soporta @ConversationalScoped y @Interceptors, extensiones portables, especialización, passivization y passivizing scopes, y métodos interceptors en super clases.

Implementando REST APIs con JAX-RS

JAX-RS Class and Method-level Annotations Summary

Annotation	Description
`@Path`	A relative request path for a class or method.
`@GET`, `@PUT`, `@POST`, `@DELETE`, `@HEAD`	An endpoint HTTP verb.
`@Produces`, `@Consumes`	The Internet media types for the content consumed as the request parameters or produced as the response. The `javax.ws.rs.core.MediaType` class specifies the allowed values.

JAX-RS Method Parameter-level Annotations Summary

Annotation	Description
`@PathParam`	Retrieves a method parameter from a segment of the URI.
`@QueryParam`	Retrieves a method parameter from an HTTP query parameter by using the query parameter name.
`@HeaderParam`	Retrieves a method parameter from a header in the HTTP request by using the header name.
`@FormParam`	Retrieves a method parameter from a form field by using the form field name.

Annotation	Description
`@Context`	Returns the context of the `HttpServletRequest` object or the `SecurityContext` object for the incoming HTTP request. Additionally, you can use this annotation to inject class-level variables and the `UriInfo` for incoming requests.

Gracias

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