

CDI

An introduction to CDI

Date : 22.03.2021
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Topics

// What is CDI?

// CDI vs EJB

// CDI Versions

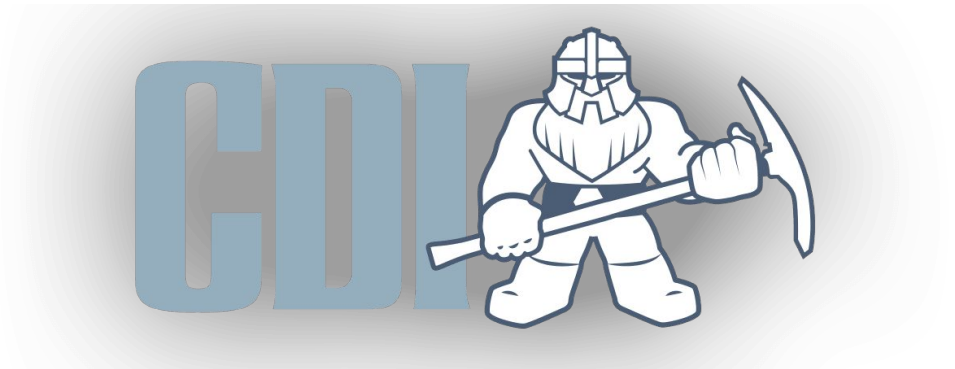
// CDI Implementations

// References

// Hands on

What is CDI?

- // A component model such as EJB but is complementary
- // Type-safe Injections via Qualifiers
- // Well defined and extensible Contexts/Scopes, as well as Conversations
- // Type-safe Event Notification Model
- // Type-safe Interceptor Bindings
- // Type-safe Decorators
- // Integration into Expression Language
- // Supports modularity when resolving dependencies
- // Portable extensions via SPI



<http://cdi-spec.org/>

CDI vs EJB

// EJB injections are not type-safe, CDI injections are

```
@EJB(beanName="SecondBeanImpl")      vs      @MyQualifier @Inject  
private Bean;                          private Bean;
```

// EJB is not contextual, CDI is contextual and introduces scopes

```
@Stateless/@Stateful  vs  @RequestScoped/@ApplicationScoped/@SessionScoped/@Dependent
```

// EJB is it's own world with exclusive support for

// Transactions

```
@TransactionManagement, @TransactionManagementAttribute
```

// Remoting (RMI)

```
@Remote
```

// Security

```
@RolesAllowed
```



CDI Versions

// CDI 1.0 introduced in JEE 6

- // Initial release

- // Not well integrated into other JEE Specs.

// CDI 1.1 introduced in JEE 7

- // Global enablement of Interceptors, Decorators and Alternatives via `@Priority`

- // Interceptors Bindings moved to Interceptors Spec.

- // Enhanced bean discovery (Class exclusions, Register custom types after bean discovery)

- // See what else has changed <https://in.relation.to/2013/05/31/cdi-11-available/>

// CDI 1.2 introduced in JEE 8 (Jakarta EE)

- // Mostly cleanup and clarifications

- // Introduction of `@Interceptor` and `@Decorator` annotations

- // Official support OSGI added

- // See what else has changed http://www.cdi-spec.org/news/2014/04/14/CDI-1_2-released/



CDI Versions

- // CDI 2.0 introduced in JEE 8 (Jakarta EE)
 - // Support for Java SE
 - // Support for request-context control
 - // Enhancements in the Event Model (Ordering, Asynchronous Events, BeanManager can fire events)
 - // See what else has changed https://docs.jboss.org/cdi/learn/cdi_2/slides.html
- // CDI 3.0 introduced in JEE 9 (Namespace moved to jakarta.enterprise)

CDI Implementations

// Weld

// RI from JBoss/Red Hat

// Part of Wildfly, JBoss EAP, GlassFish, Oracle Weblogic and IBM Websphere application servers

// OpenWebBeans

// OpenSource implementation of Apache

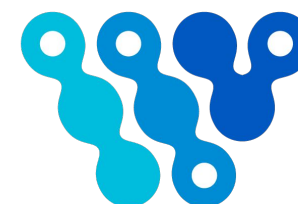
// Part of Geronimo and Tomcat application servers

// CanDI

// Part of Caucho Resin application server



<https://weld.cdi-spec.org/>



OpenWebBeans

<https://openwebbeans.apache.org/>



<https://caucho.com/>



References

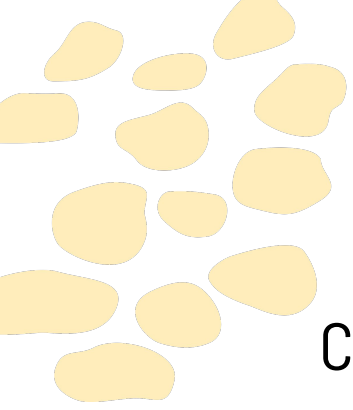
// <http://www.cdi-spec.org/>

// <https://docs.jboss.org/cdi/spec/>

// <https://struberg.wordpress.com/>

// <https://martinfowler.com/articles/injection.html>

// <https://jakarta.ee/specifications/cdi/2.0/>



CDI has become the main component model and there are few reasons why someone has to use EJB over CDI

Over time other JEE Specifications such JSF have integrated with CDI

Other JEE specifications such as Servlets will follow

Hands on example

<https://github.com/Gepardec/cdi-training>