



Main sponsor



EJB 3.1 vs Contexts and Dependency Injection (CDI) and Dependency Injection for Java in Java EE 6

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Java conference

Confitura 2011

<http://confitura.pl>

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Let's begin with...

Enterprise JavaBeans 3.1

Enterprise JavaBeans is

a standard component model of Java, managed,
object-oriented, distributed, secure,
transactional business applications

```
@Stateless
public class HelloInEnglish implements Hello {

    @Override
    public String sayHello(String whom) {
        return "Hello, " + whom;
    }

}
```



```
@Stateful
public class HelloInEnglish {

    public String sayHello(String whom) {
        return "Hello, " + whom;
    }

}
```



```
@MessageDriven
public class HelloInEnglish {

    public void onMessage(Message message) {
        // ...
    }

}
```

```
@MessageDriven(
    activationConfig = {
        @ActivationConfigProperty(
            propertyName = "destinationType",
            propertyValue = "javax.jms.Queue")
    })
public class HelloInEnglish implements MessageListener {

    public void onMessage(Message message) {
        // ...
    }

}
```

Enterprise JavaBeans is NOT
a silver bullet for every business application

@Stateless

```
public class TestFacadeEJB implements Hello {
```

```
    @EJB(beanName="HelloInEnglish")
```

```
    Hello hello;
```

```
    @Override
```

```
    public String sayHello(String whom) {
```

```
        return hello.sayHello(whom);
```

```
    }
```

```
}
```

Enterprise JavaBeans is NOT
type-safe dependency injection framework

Welcome to...

Dependency Injection for Java
(JSR-330)

Dependency Injection for Java is
type-safe dependency injection framework

The types on which a type depends are known as its **dependencies**. The process of finding an instance of a dependency to use at run time is known as **resolving** the dependency.

javax.inject package

- a single interface - `javax.inject.Provider<T>`
- `@Inject` marks a place to inject
- `@Qualifier` identifies new qualifier annotations
- `@Named` for stringified `@Qualifiers`
- `@Scope` identifies scope annotations
- `@Singleton` is a `@Scope` for once-instantiated types

javax.inject vs javax.ejb

- **@Singleton** is a **@Scope** for once-instantiated types
- **@Singleton** is a singleton session bean

```
@Singleton
@Lock(READ)
public class ComponentRegistryBean implements ComponentRegistry {

    private final Map<Class, Object> components = new HashMap<Class, Object>();

    public <T> T getComponent(Class<T> type) {
        return (T) components.get(type);
    }

    @Lock(WRITE)
    public <T> T setComponent(Class<T> type, T value) {
        return (T) components.put(type, value);
    }

    @Lock(WRITE)
    public <T> T removeComponent(Class<T> type) {
        return (T) components.remove(type);
    }
}
```

@Singleton

```
public class JavaLoggerFactory implements LoggerFactory {  
  
    public <T> T getLogger(Class<?> clazz, Class<T> type) {  
        Object logger = Logger.getLogger(clazz.getName());  
        return type.cast(logger);  
    }  
}
```


EJB vs DI4j

- @Resource
- @EJB
- @PersistenceContext
- @PersistenceUnit
- @WebServiceRef
- @Inject

All rise....

Contexts and Dependency
Injection for the Java EE Platform
(JSR-229)

...is now in session

CDI is

a set of services for object lifecycle,
dependency injection, Unified EL support,
decoration, interceptors, event notification and
extensions.

CDI defines a bean
that *is a source of contextual objects which define
application state and/or logic.*

```
@Stateless
public class HelloInEnglish implements Hello {

    @Override
    public String sayHello(String whom) {
        return "Hello, " + whom;
    }

}
```

```
public class HelloInEnglish implements Hello {  
  
    @Override  
    public String sayHello(String whom) {  
        return "Hello, " + whom;  
    }  
  
}
```



```
@Named("hello")
public class HelloInEnglish implements Hello {

    @Override
    public String sayHello(String whom) {
        return "Hello, " + whom;
    }

}
```

```
@ManagedBean
public class HelloInEnglish implements Hello {

    @Override
    public String sayHello(String whom) {
        return "Hello, " + whom;
    }

}
```

```
public class HelloInEnglish implements Hello {
```

```
    HelloInEnglish(String whom) {
```

```
        // ...
```

```
    }
```

```
    @Override
```

```
    public String sayHello(String whom) {
```

```
        return "Hello, " + whom;
```

```
    }
```

```
}
```

```
@MessageDriven
public class HelloInEnglish implements MessageListener {

    public void onMessage(Message message) {
        // ...
    }

}
```

EJB vs CDI

- `@MessageDriven` in EJB
- `@Observes` + `@Inject` Event or `BeanManager`

```
@MessageDriven
public class HelloInEnglish implements MessageListener {

    public void onMessage(Message message) {
        // ...
    }

}
```



```
import javax.enterprise.event.Observes;
```

```
public class EnabledBean {  
    public void observerMethod(@Observes String firstName) {  
        System.out.println("Observed firstName: " + firstName);  
    }  
}
```

```
@Inject  
BeanManager manager;
```

```
@Inject  
Event<String> firstNameEvent;
```

```
firstNameEvent.fire("Jacek");  
manager.fireEvent("Agatka", new Annotation[0]);
```

Thanks!