Contexts and Dependency Injection: EE6+ CDI (JSR-299)

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EE6 CDI History

Gavin King created Seam at JBoss

 Because of Spring's mis-use of Hibernate

Good ideas: Conversation scope, @In, @Out

These ideas got incorporated into EE6 under the name of CDI

Eventually Seam 3 foundered, discontinued

 Good ideas live on in EE6

Contexts

Request, Session and Application are same as in JSF (@RequestScoped, etc)

Conversation (@ConversationScoped) *ties bean to a web conversation (save in HttpSession)*

Started, stopped by application

If no scope, bean is "@Dependent"

for use by other beans

Dependency Injection

Java EE 5 introduced specific DI annotations
  @EJB, @Resource
EE6 provides genreral-purpose @Inject
  allows any bean type to be injected
For use in EL, also use @Named
Can still use @ManagedBean...

DI Example

```
public class Speaker { // @...Scoped optional!
    public String getText() { return … }
}
public class Listener {
    @Inject Speaker speaker;
    // "speaker" usable in any methods here!
```

DI Qualifiers (optional)

If there are more than one Speaker (eg., subclass) defined, can use "Qualifier" annotations

Define annotation with Runtime retention and Target {METHOD,FIELD,PARAMETER,TYPE}

Place it on the subclass and the injection points where you want the subclass injected.

@Named vs @ManagedBean

@ManagedBean public class MyBean { // Before

import javax.enterprise.context.RequestScope; // N.B.!
@Named @RequestScoped public class MyBean {

Newer way gives you more control over the bean
Old way will work for JSF managed beans for EE6 and 7

Now about those Web Conversations

```
@ConversationScoped @Named
public class Bean {
@Inject Conversation conv;
@PostConstruct void init() { conv.begin; }
public Conversation getConversation() {
    return conv; }
// Then in JSF: any #{bean…} will start conversation!
Should also have end method.
```

Wrinkles and Details

Must be an (empty) beans.xml in WEB-INF or META-INF in EE6 (optional in EE7)

Much more to learn; see http://docs.oracle.com/javaee/6/tutorial/doc/glwhb.html or http://docs.oracle.com/javaee/7/tutorial/doc/cdi-basic.html