How we use OSGi to build Open Liberty

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Project goals

- Implement Java EE
- Small Footprint
- Start fast
- Composable
- Dynamic
- Easy to use
Fit-for-purpose server

- You control which features are loaded into each server instance

Java EE

<feature>jsf-2.2</feature>
Server configuration

```xml
<server>
    <featureManager>
        <feature>javaee-8.0</feature>
    </featureManager>

    <httpEndpoint id="defaultHttpEndpoint" httpPort="8080"/>

    <webApplication location="myWeb.war" contextRoot="/"/>
</server>
```
Modularity - OSGi vs Java EE
Java EE -> OSGi
Java EE on OSGi

region

Bundle A
Bundle B
Bundle C

Gateway

ear
jar
jar

war
jar
jar

custom classloaders
Key OSGi Technologies

- Equinox (duh)
- Metatype
- Declarative Services
- Config Admin
- Subsystem Features
- Regions
Things we learned

- Shutdown is not as simple as stopping the framework
- Statics and service do not mix & match
- Use the build tools
- Very powerful for large complex software
- DS and ConfigAdmin together are brilliant
- High learning curve
- Java SE classloading assumptions don’t mix well in OSGi