# CUSTOMIZING DSPACE 1.5 WITH BASIC OVERLAYS

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# DSpace 1.5 Overview

- Maven Build Architecture
  - DSpace "modules"
  - Application "Overlays"
- XMLUI (aka. Manakin)
- Configurable Submission
- Streamlined Browse System
- SWORD Interface
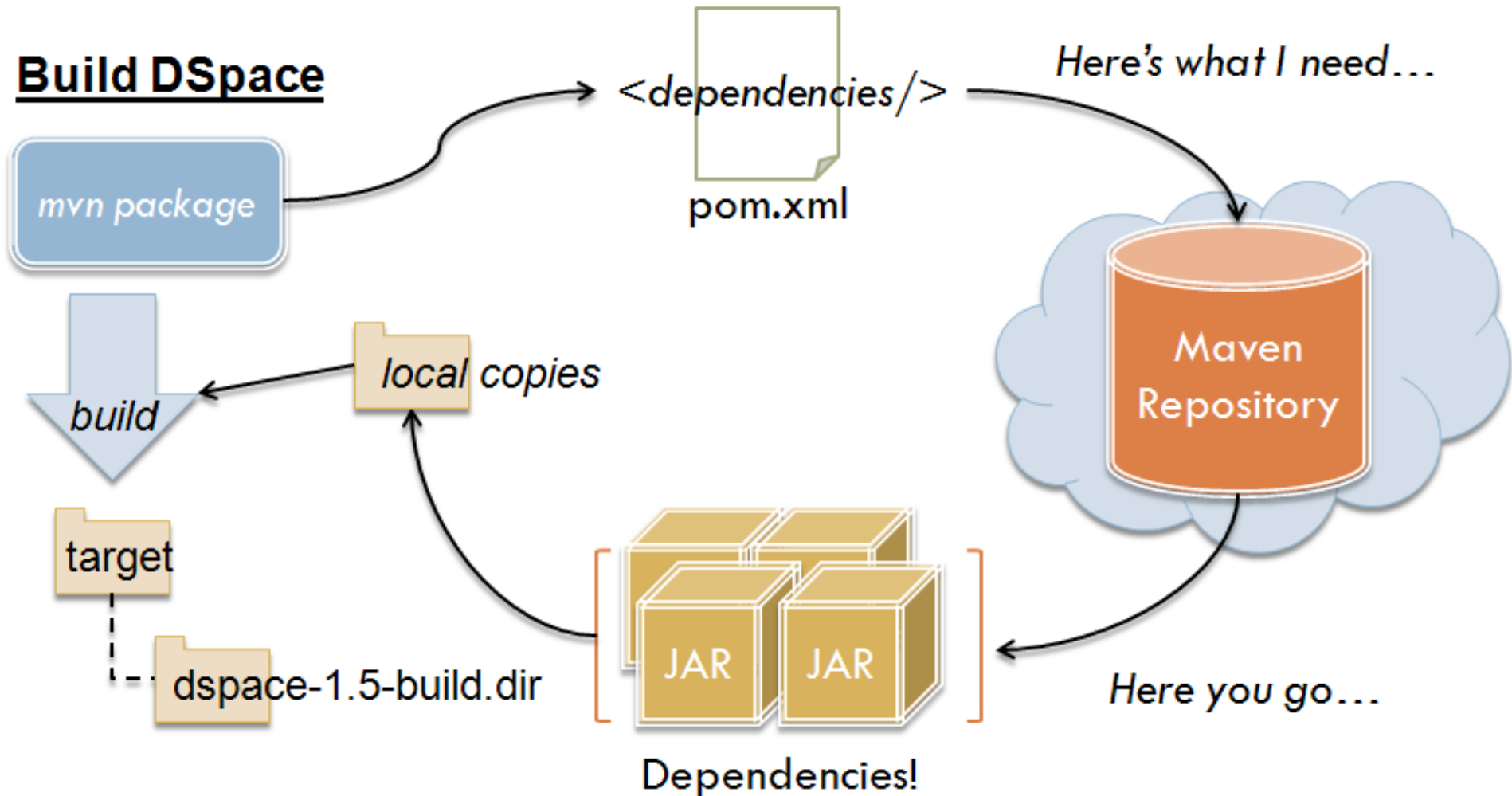- LNI (Lightweight Network Interface)

# Introducing Maven…

- Apache Software Foundation
- Java Project Build / Management Tool
- Advantages:
  - Manages dependencies
  - Easier to manage/build many "modules"
  - Allows for basic application customizations via "overlays"
- Disadvantages:
  - Yet Another XML config (many actually…)
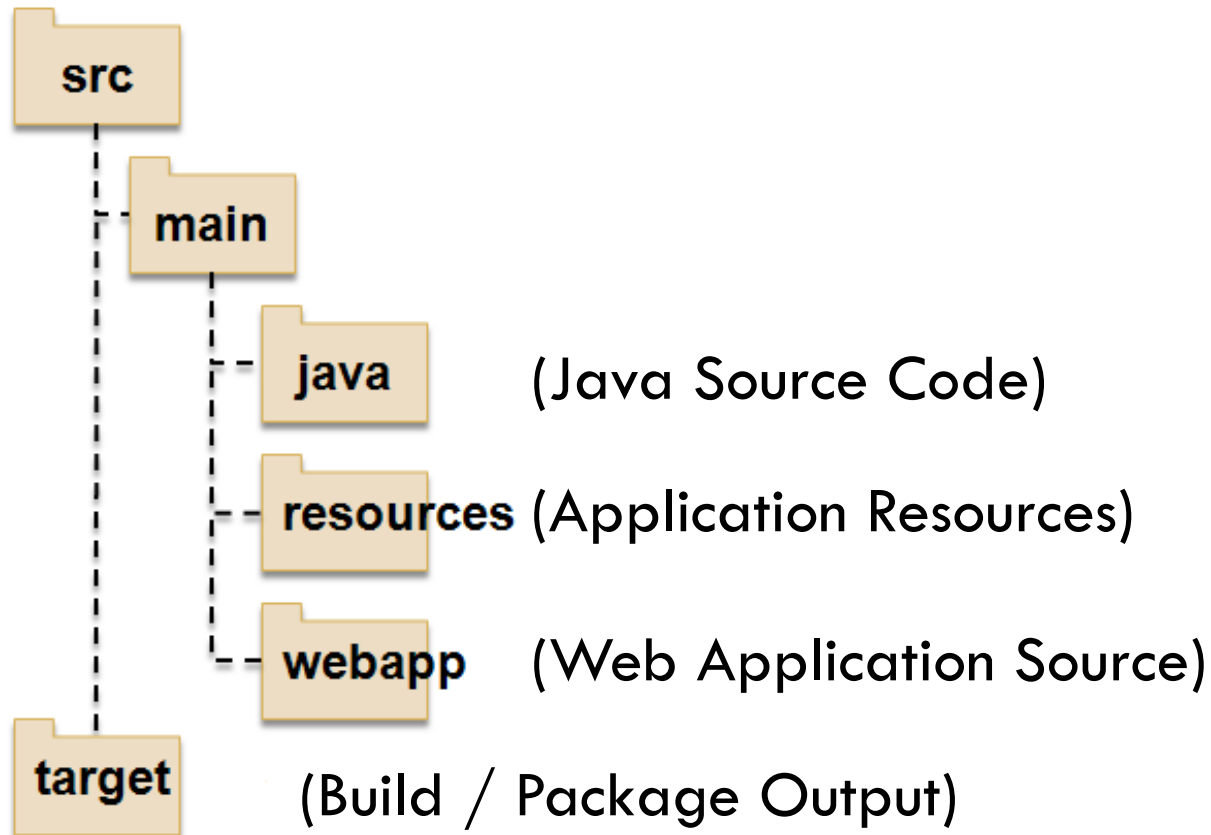  - Somewhat complex, if doing more than basic overlays

# Maven v. Ant

- DSpace 1.x-1.4 used Ant to build & install DSpace

- DSpace 1.5 uses both Maven & Ant
  - Maven – Builds / Assembles DSpace "package"
    - Includes applying "overlays" and pulling down all the necessary 3rd party dependencies
  - Ant – Installs or Updates your DSpace Installation
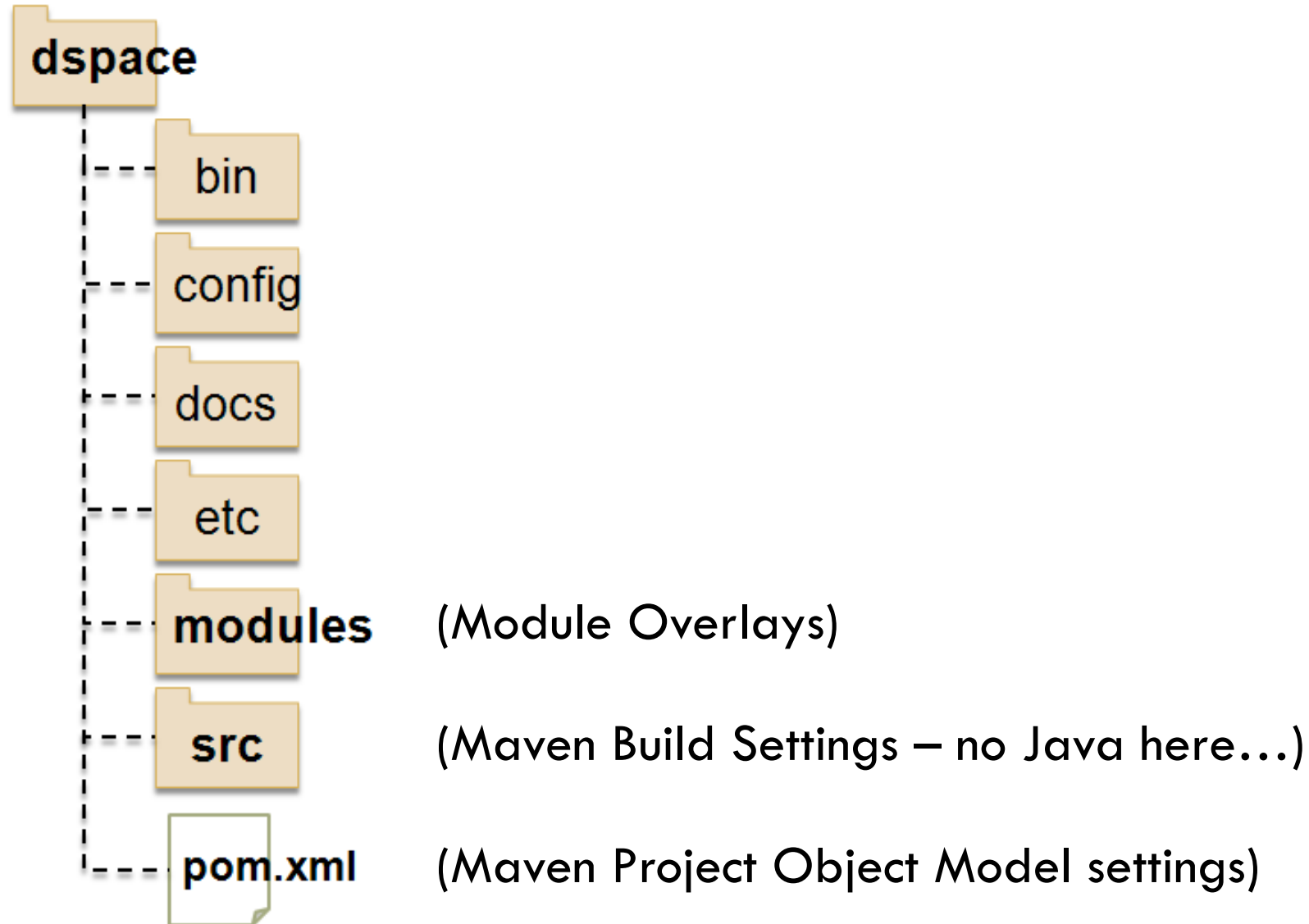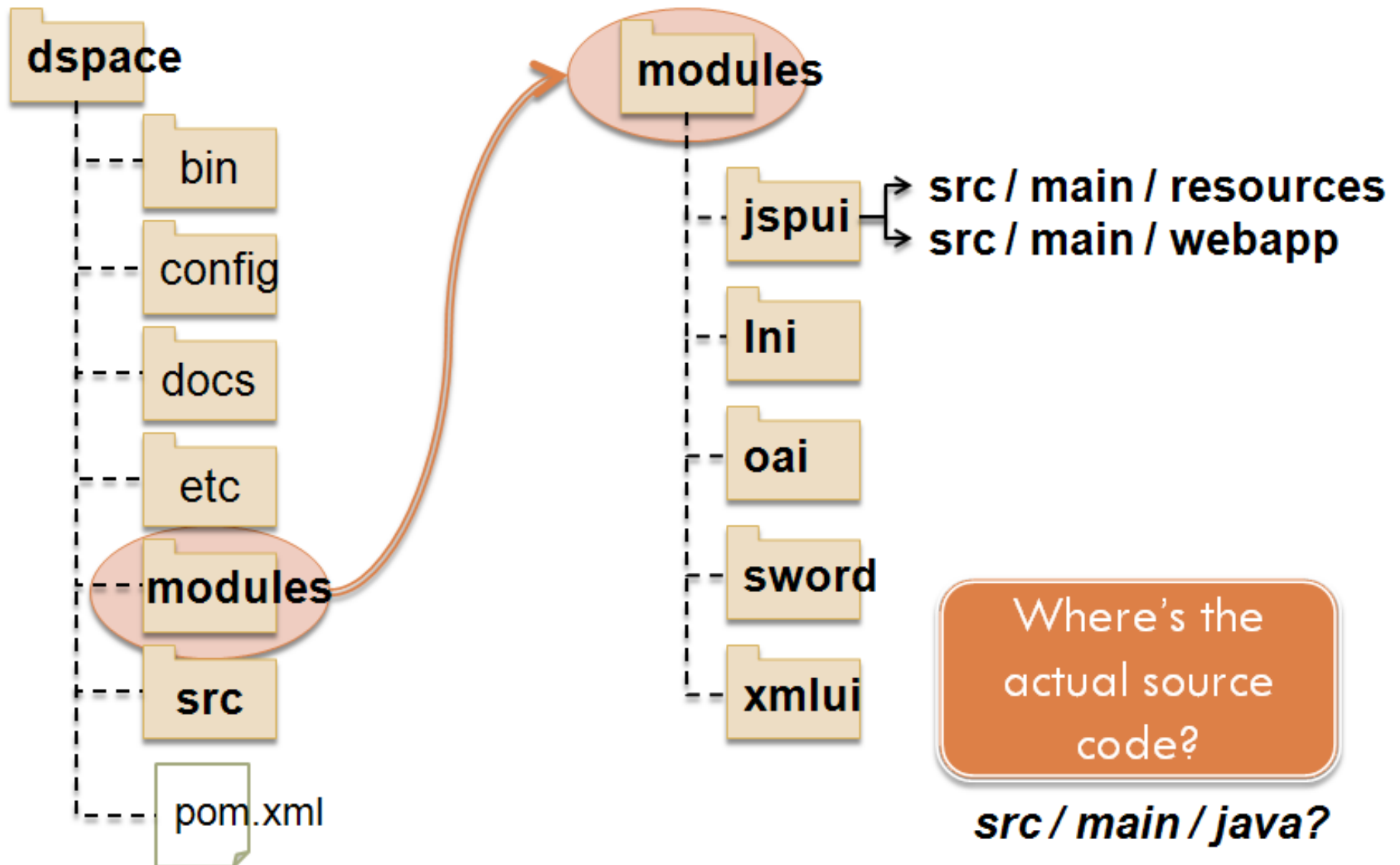
# Ok, so what really is Maven?

**Build DSpace**

`mvn package`

`build`

target

dspace-1.5-build.dir

pom.xml

Here's what I need…

Maven Repository

*local* copies

JAR  JAR

Dependencies!

Here you go…

# Maven Concepts: An Overview

- pom.xml (Project Object Model)
- Standard directory layout

```
src
 └── main
      ├── java          (Java Source Code)
      ├── resources     (Application Resources)
      └── webapp        (Web Application Source)
 target               (Build / Package Output)
```

# DSpace 1.5 Release

```
dspace
├── bin
├── config
├── docs
├── etc
├── modules      (Module Overlays)
├── src          (Maven Build Settings – no Java here…)
└── pom.xml      (Maven Project Object Model settings)
```

# DSpace 1.5 "Modules"

dspace
- bin
- config
- docs
- etc
- **modules** → **modules**
- **src**
- pom.xml

modules
- jspui → **src / main / resources**, **src / main / webapp**
- lni
- oai
- sword
- xmlui

**Where's the actual source code?**

*src / main / java?*

# DSpace 1.5 Source (SVN)

**dspace-1.5**
- dspace     (Same as 1.5 release – see previous slides)
- dspace-api
- dspace-jspui
- dspace-lni
- dspace-oai
- dspace-sword
- dspace-xmlui

Source code for DSpace "modules"

**In Release Version:**
Maven pulls down pre-compiled versions of these modules

# Building DSpace 1.5 (Maven)
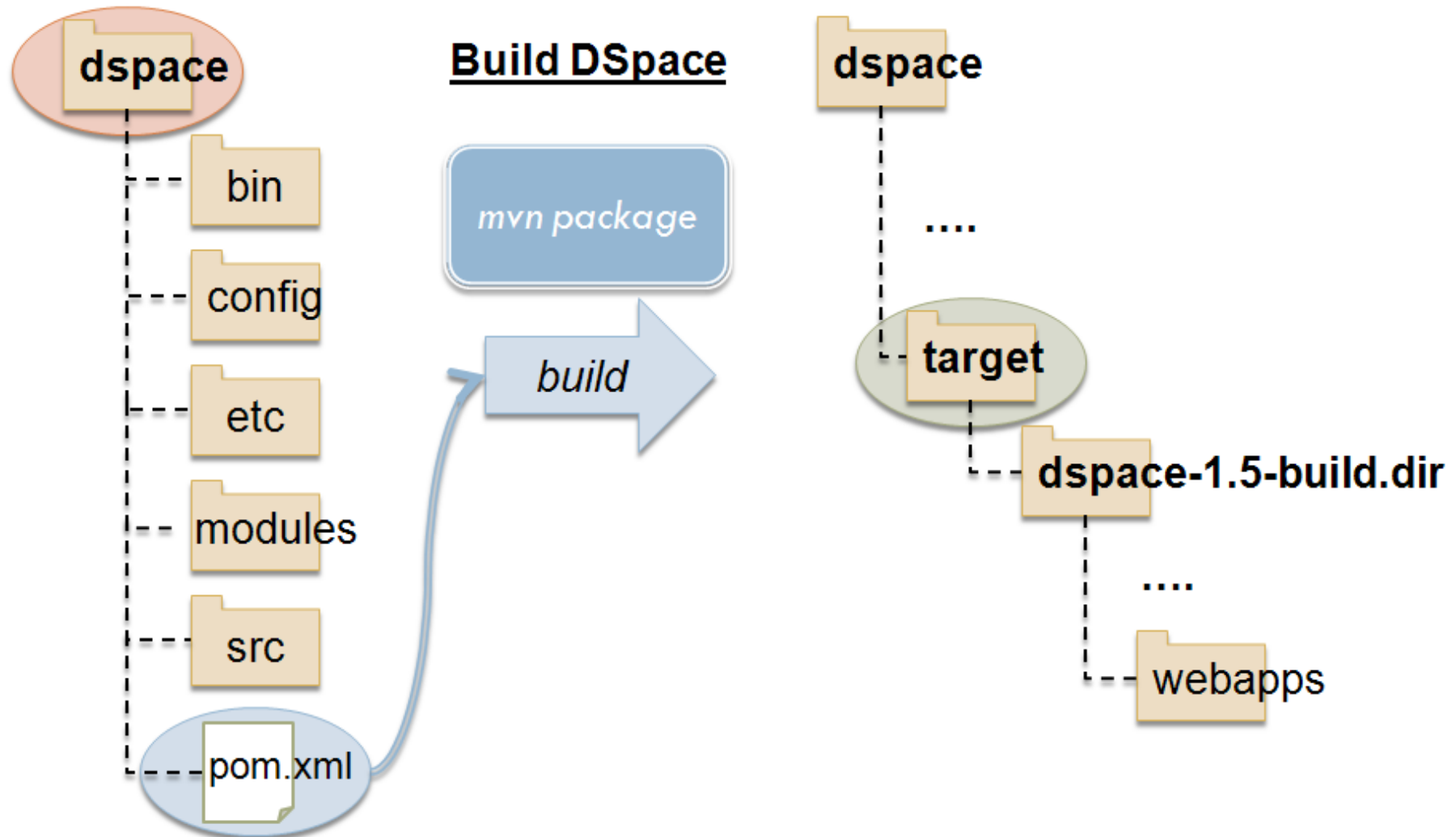
# Installing DSpace 1.5 (Ant)

**dspace**

....

**target**

**dspace-1.5-build.dir**

**Install or Update DSpace**

ant fresh_install

install / update

ant update

**[dspace.dir]**

*Specified in dspace.cfg*
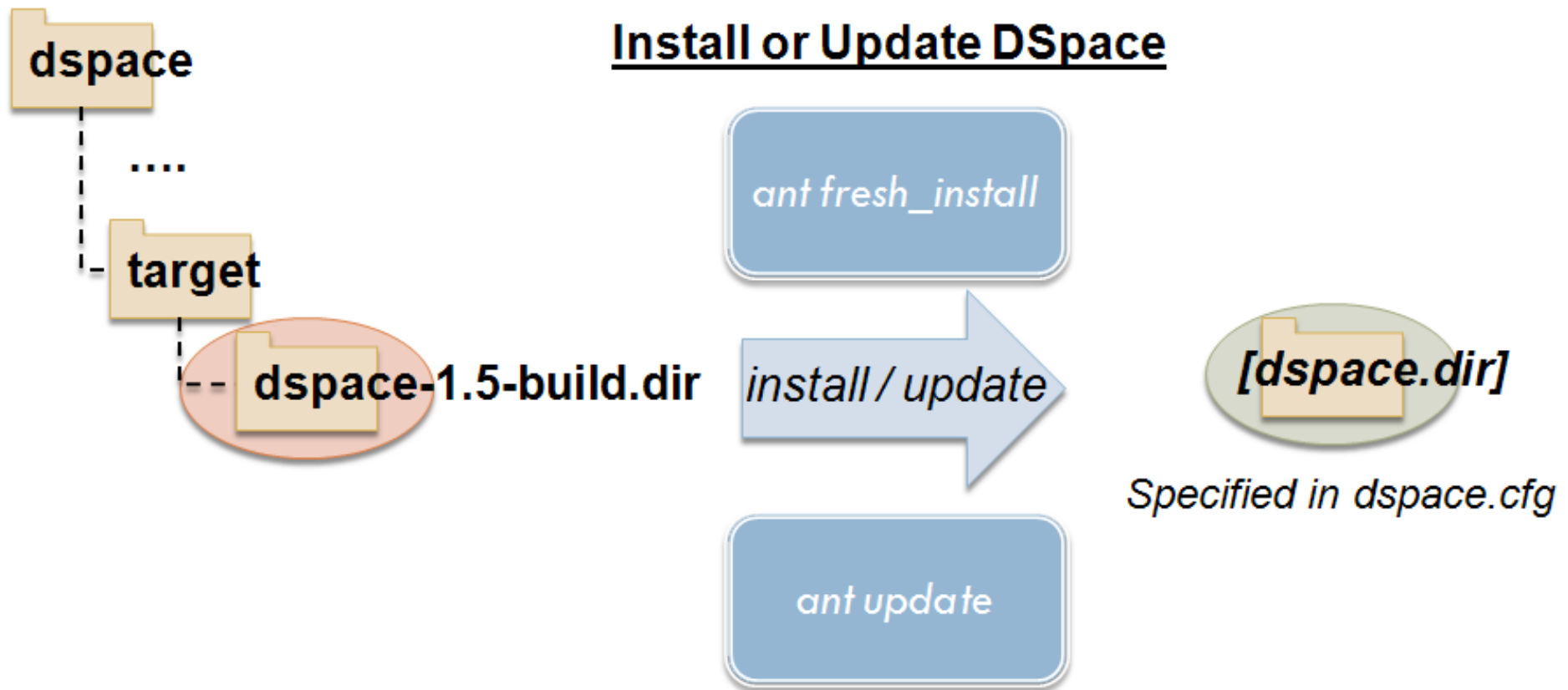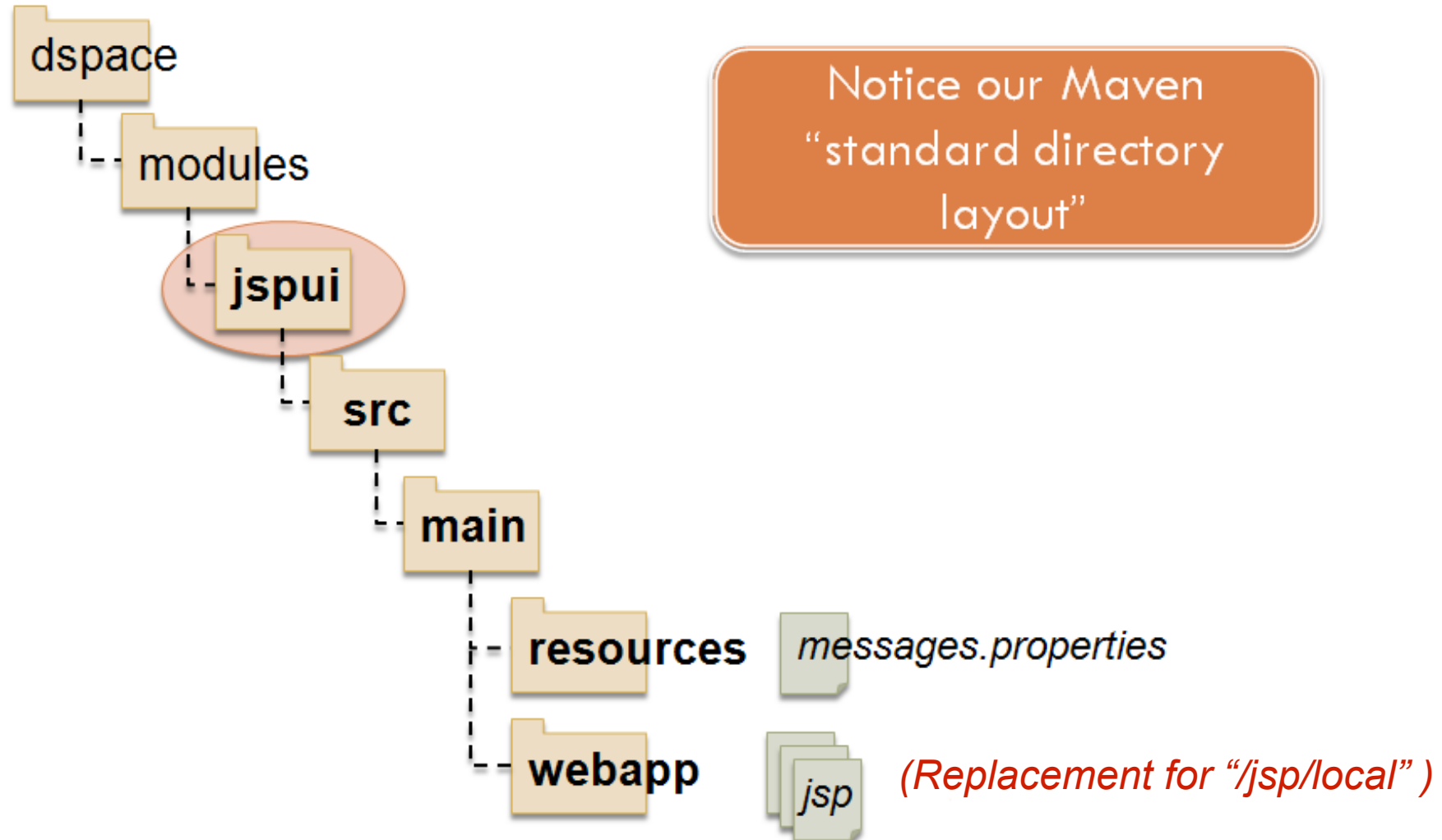
# What are Overlays?

- Simple way to "overlay" your own basic customizations and code

- Allow you to more easily manage your customizations separately

- What can you "overlay"?
  - User interface look-and-feel (JSPUI, XMLUI Themes)
  - Language / terminology
  - Java code to add functionality (basic XMLUI Aspect)
    - Although, this may be better built into a custom "module"
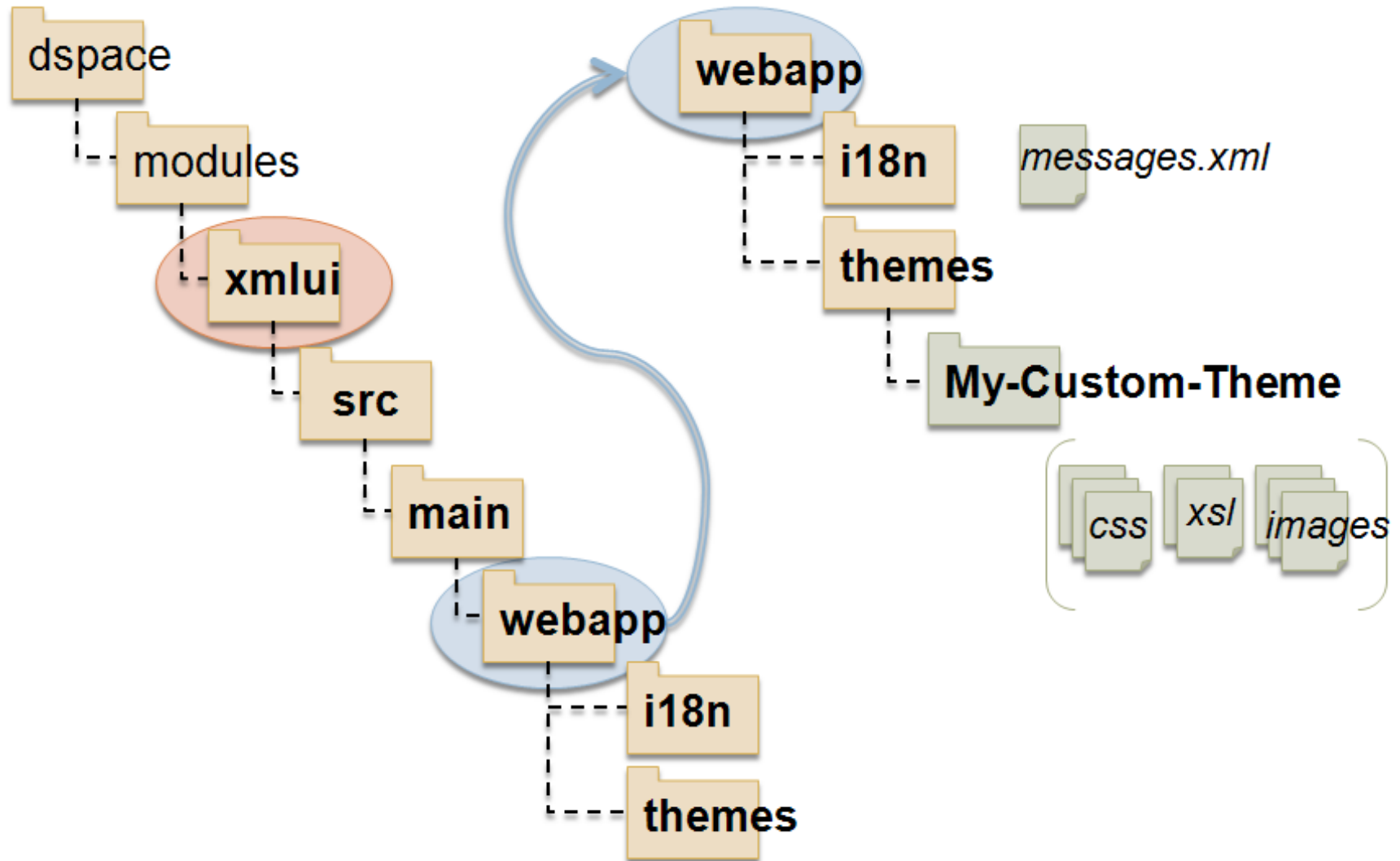
# Modules + Maven = Overlays

**Build DSpace**

dspace

modules

jspui

pom.xml

messages
.properties    *jsp*

*Overlay*

JSPUI
WAR

*Can you give me the JSPUI Web application?*

Maven
Repository

*Here you go…*
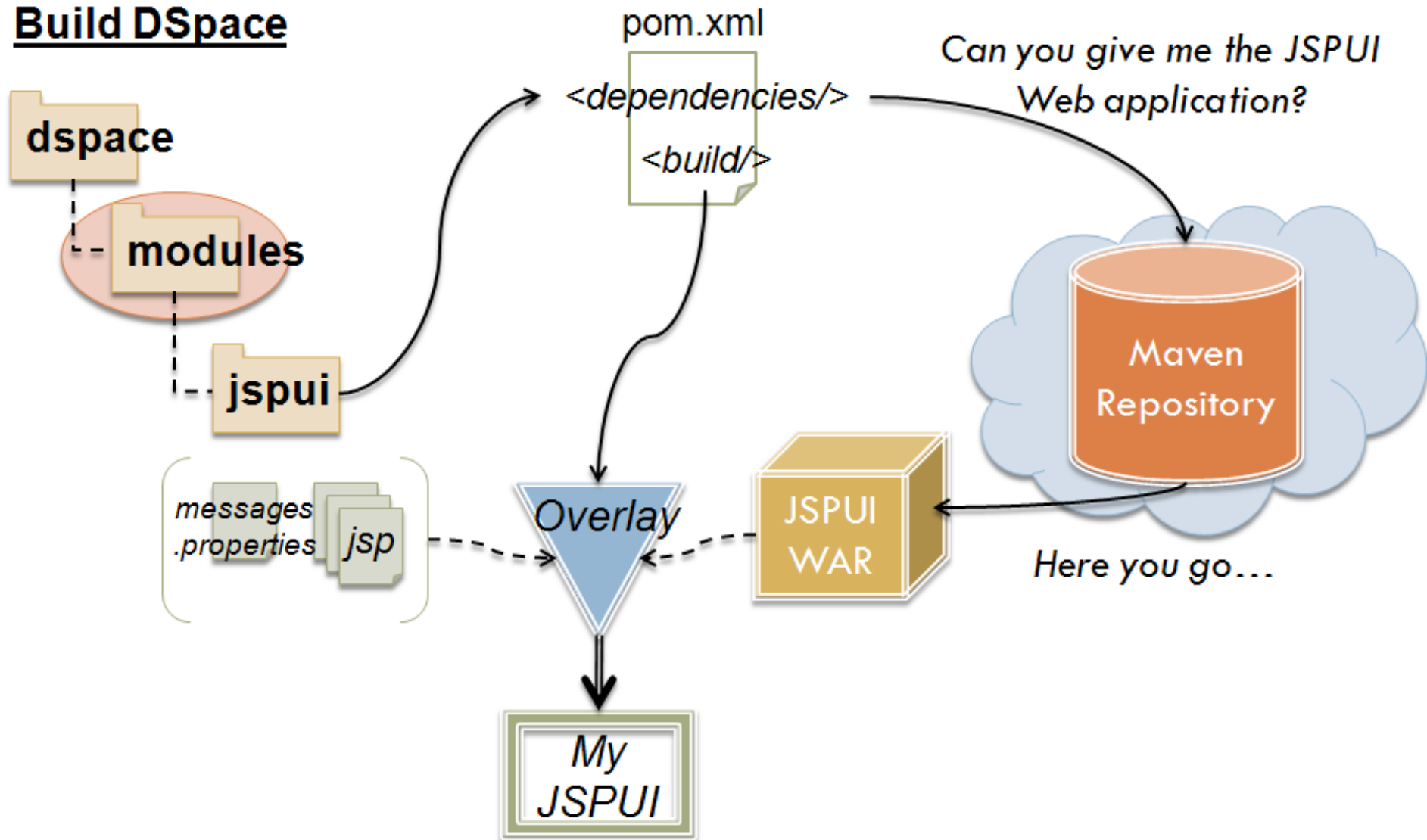
*My JSPUI*

# Creating a Basic Overlay - JSPUI

dspace
modules
**jspui**
**src**
**main**
**resources** messages.properties
**webapp** jsp *(Replacement for "/jsp/local" )*

Notice our Maven "standard directory layout"

# Creating a Basic Overlay - XMLUI

# Building/Installing an Overlay

- Add your files to appropriate "/dspace/modules/" directory (see previous slides)

- Rebuild DSpace:   **mvn package**
  - Builds to [dspace-src]/dspace/target/

- Update DSpace installation:   **ant update**
  - Installs to [dspace.dir] (as specified in dspace.cfg)

# Sample Overlays

- Custom XMLUI Aspect – Breadcrumb Trail
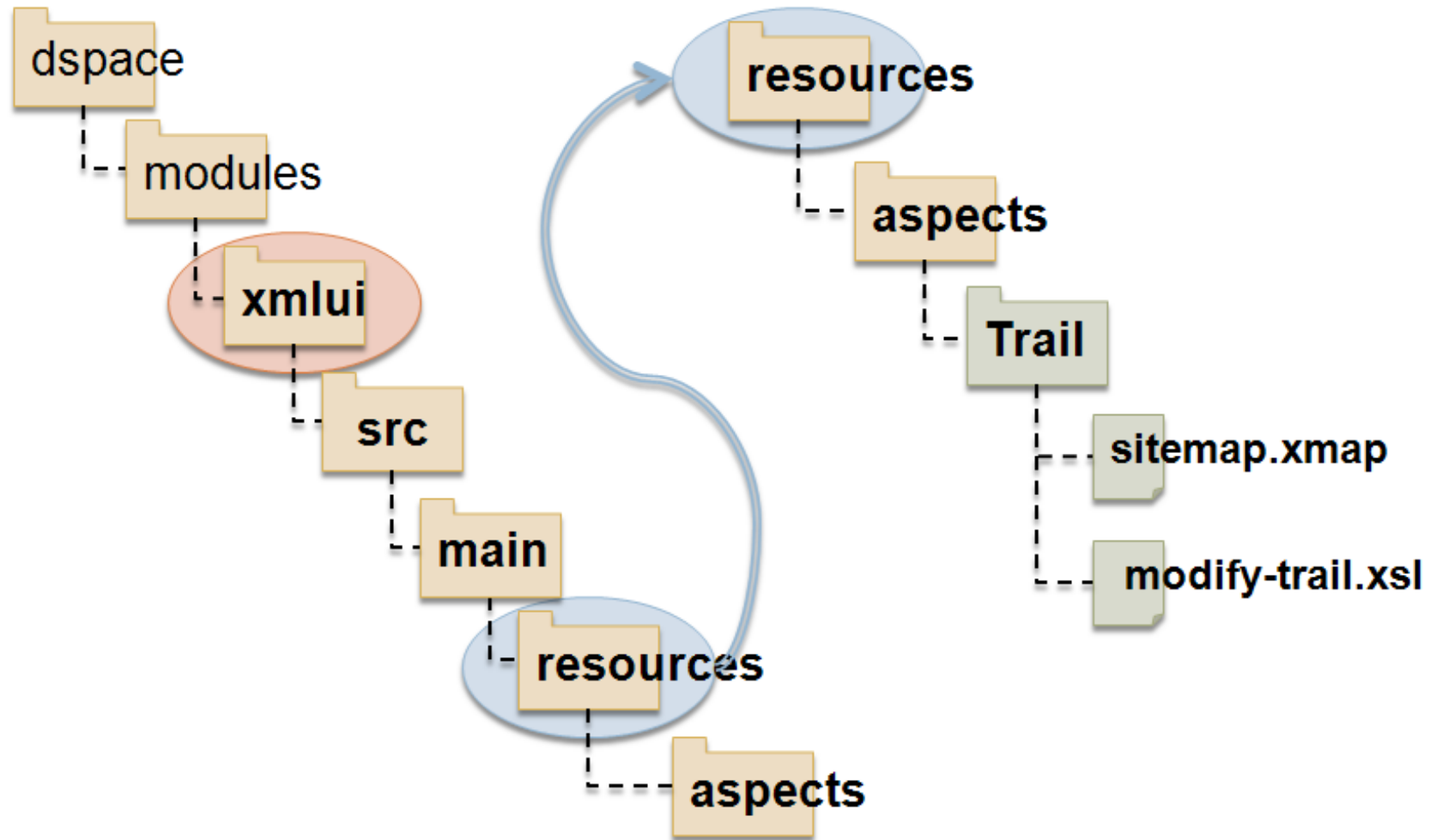- Configurable Submission – Custom Step

# XMLUI Aspect Overlay

- Modify Breadcrumb Trail to link to our Library's Homepage
- Do this at the "aspect" level so that it will apply across all of our XMLUI Themes

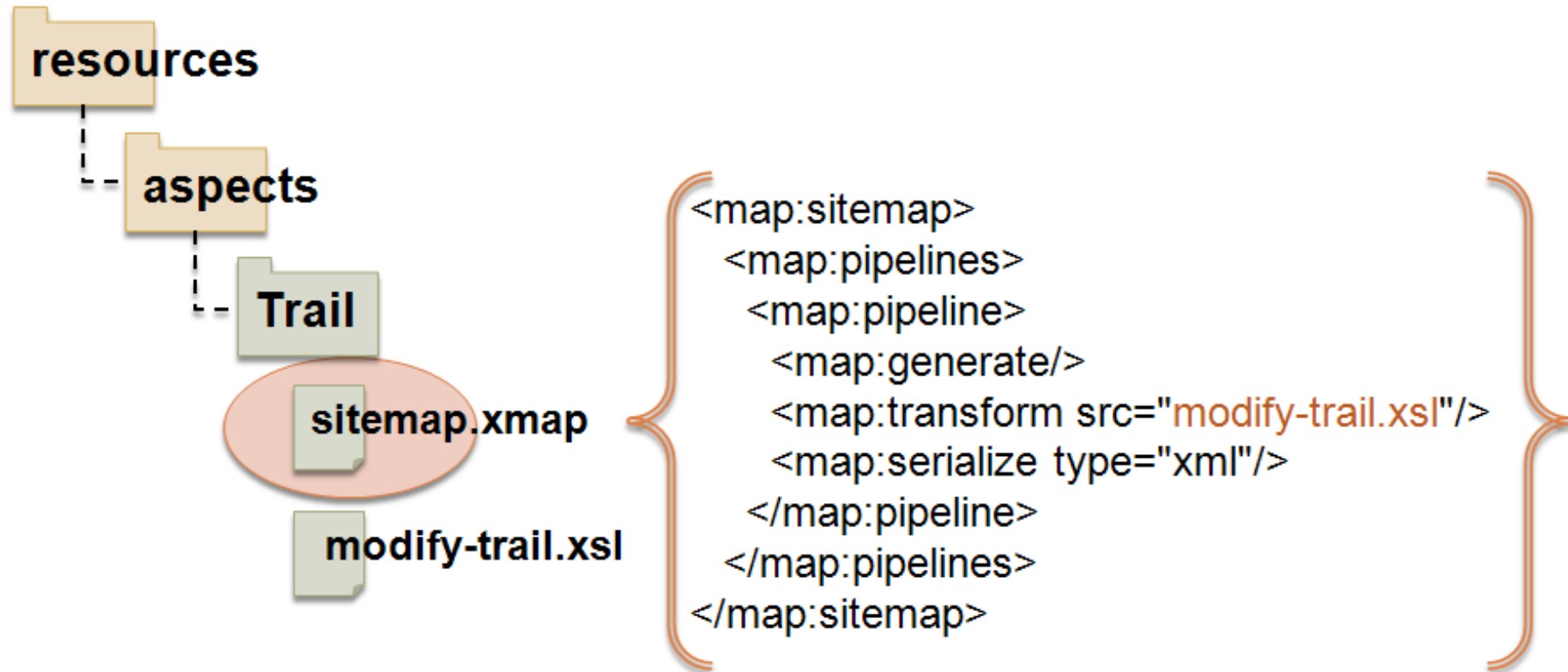**Credit:** Conal Tuohy, New Zealand Electronic Text Centre

# XMLUI Theme Overlay, in Review
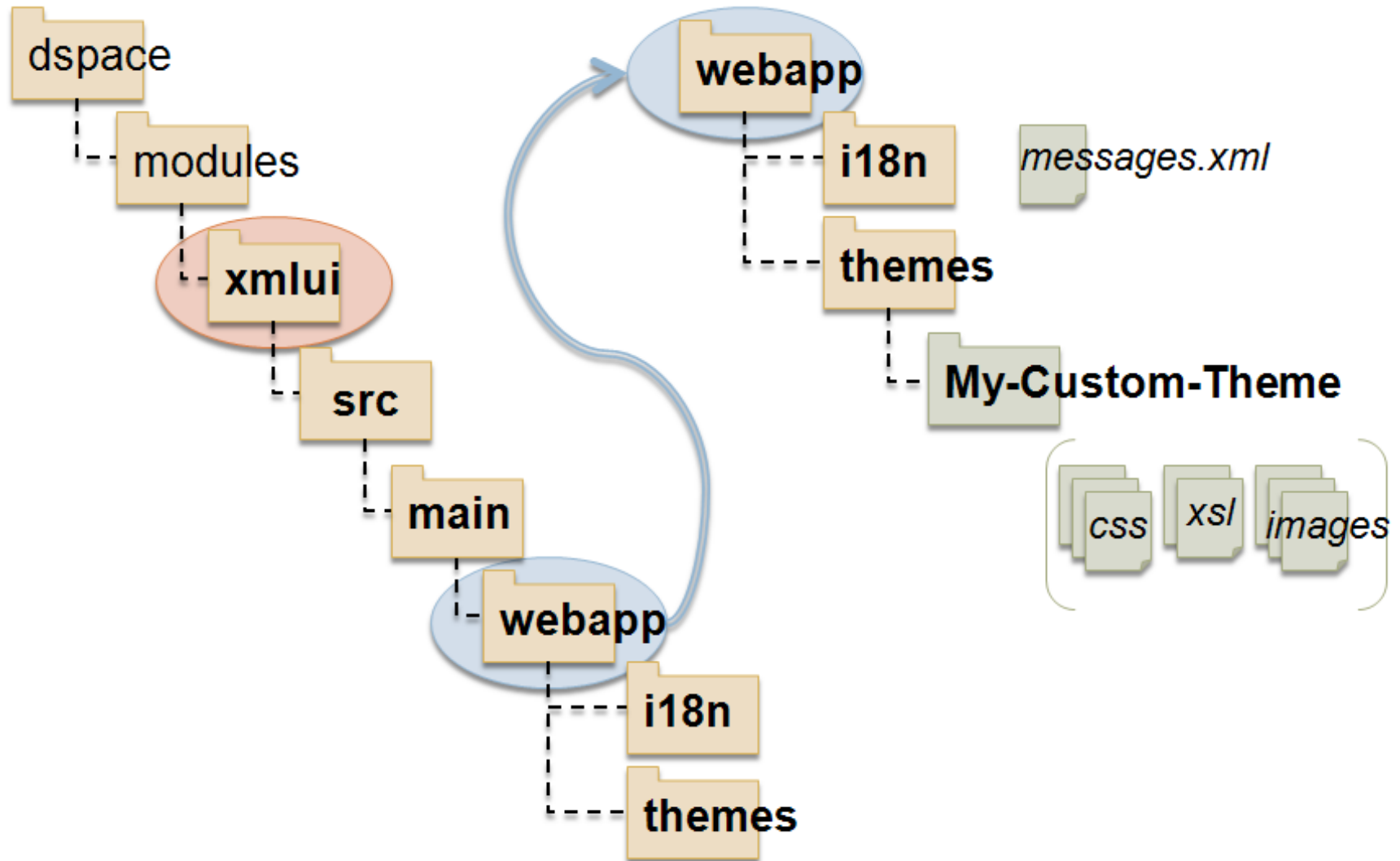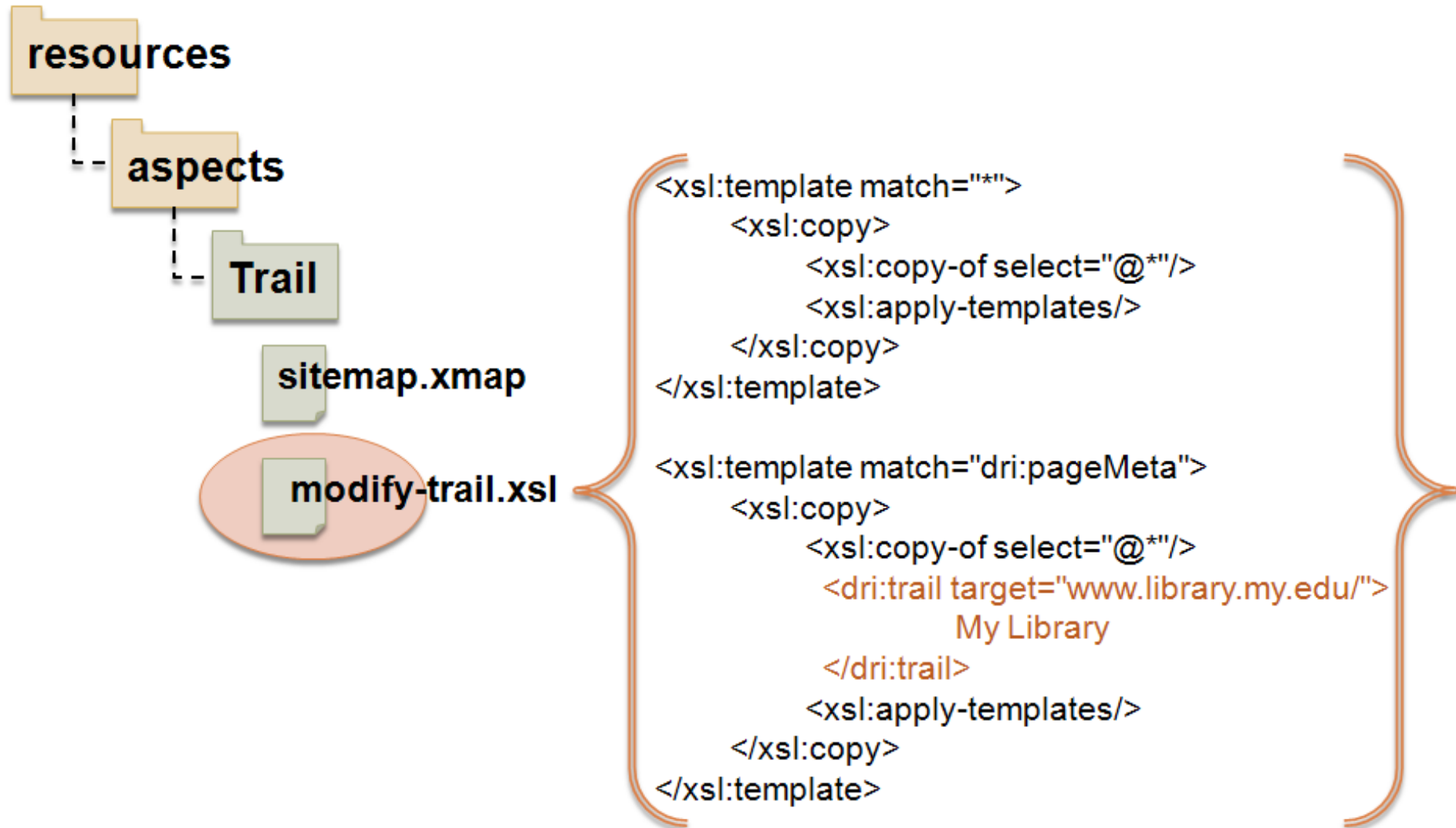
# Aspect Overlay – Breadcrumb Trail
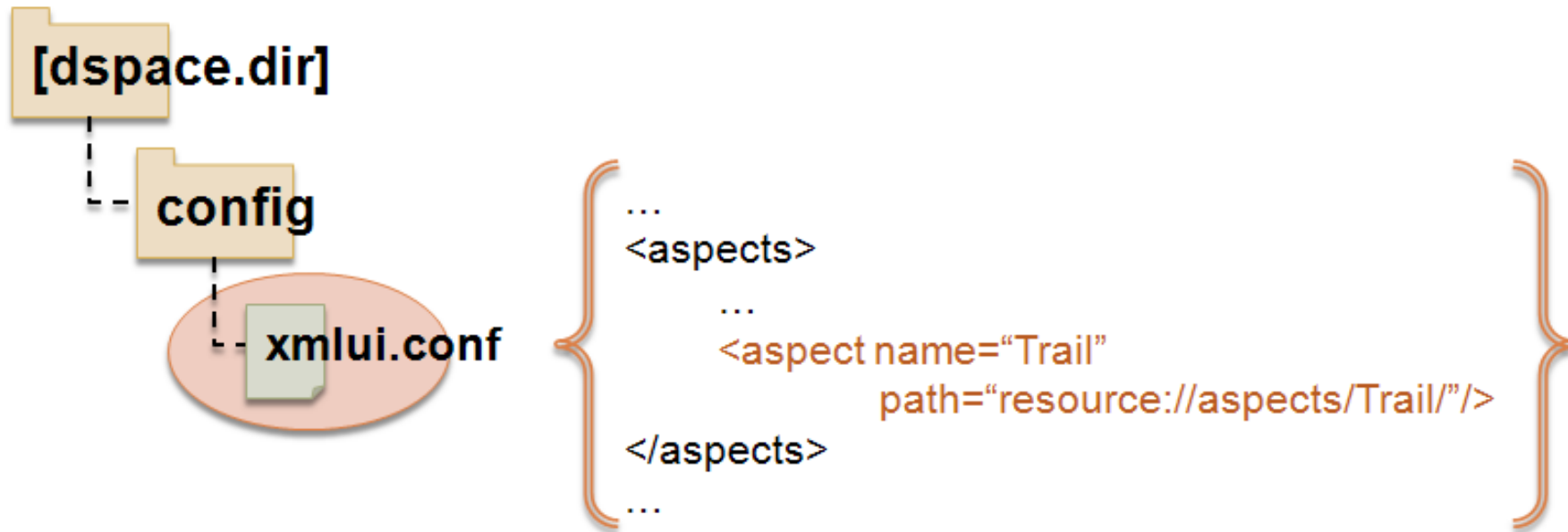
# Aspect Overlay – Breadcrumb Trail



**Credit:** Conal Tuohy, New Zealand Electronic Text Centre

# Aspect Overlay – Breadcrumb Trail

resources
- aspects
  - Trail
    - sitemap.xmap
    - modify-trail.xsl

```
<xsl:template match="*">
    <xsl:copy>
        <xsl:copy-of select="@*"/>
        <xsl:apply-templates/>
    </xsl:copy>
</xsl:template>

<xsl:template match="dri:pageMeta">
    <xsl:copy>
        <xsl:copy-of select="@*"/>
        <dri:trail target="www.library.my.edu/">
                My Library
        </dri:trail>
        <xsl:apply-templates/>
    </xsl:copy>
</xsl:template>
```

# Aspect Overlay – Breadcrumb Trail



```
...
<aspects>
    ...
    <aspect name="Trail"
            path="resource://aspects/Trail/"/>
</aspects>
...
```

**Not Shown:** Re-Building & Updating DSpace 1.5 Installation

# Aspect Overlay – Breadcrumb Trail

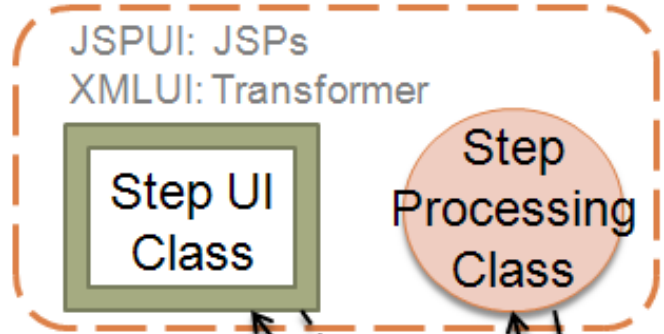# Configurable Submission

☐ Reorder, remove or add "steps" to Submission

☐ Different submission processes for different collections



DSpace™

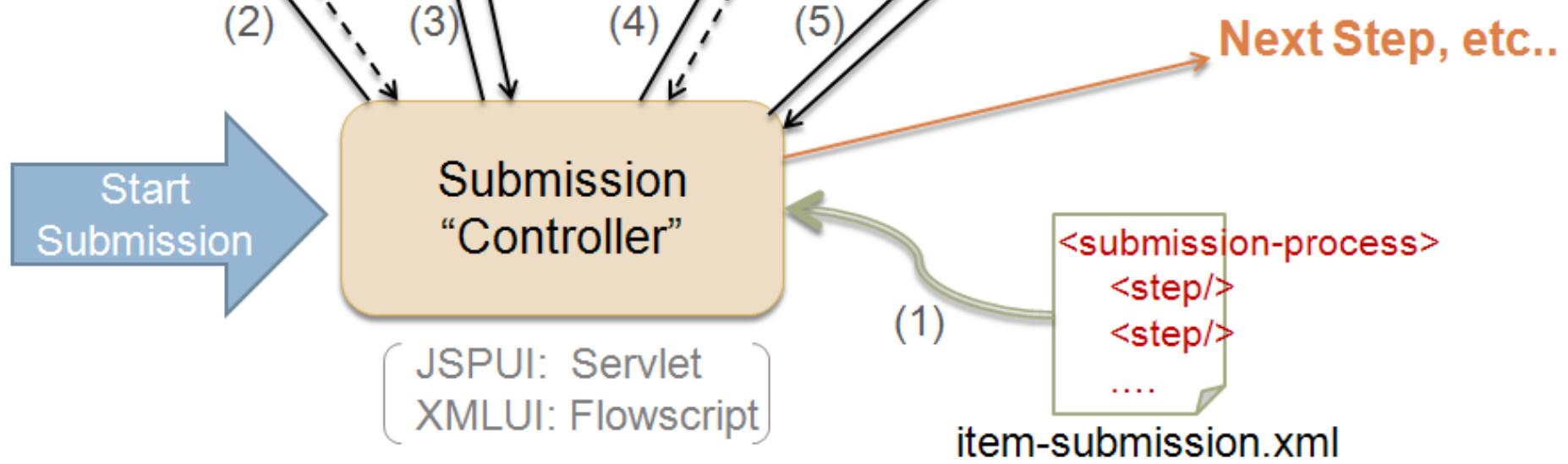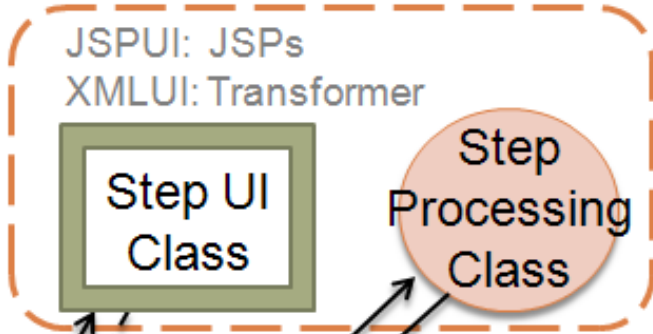Describe — Describe — Describe — Upload — Verify — License — Complete

IDEALS

License — Access — Upload — Describe — Describe — Verify — Complete

# Configurable Submission

# Configurable Submission Overlay

☐ Something I prepared earlier…

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