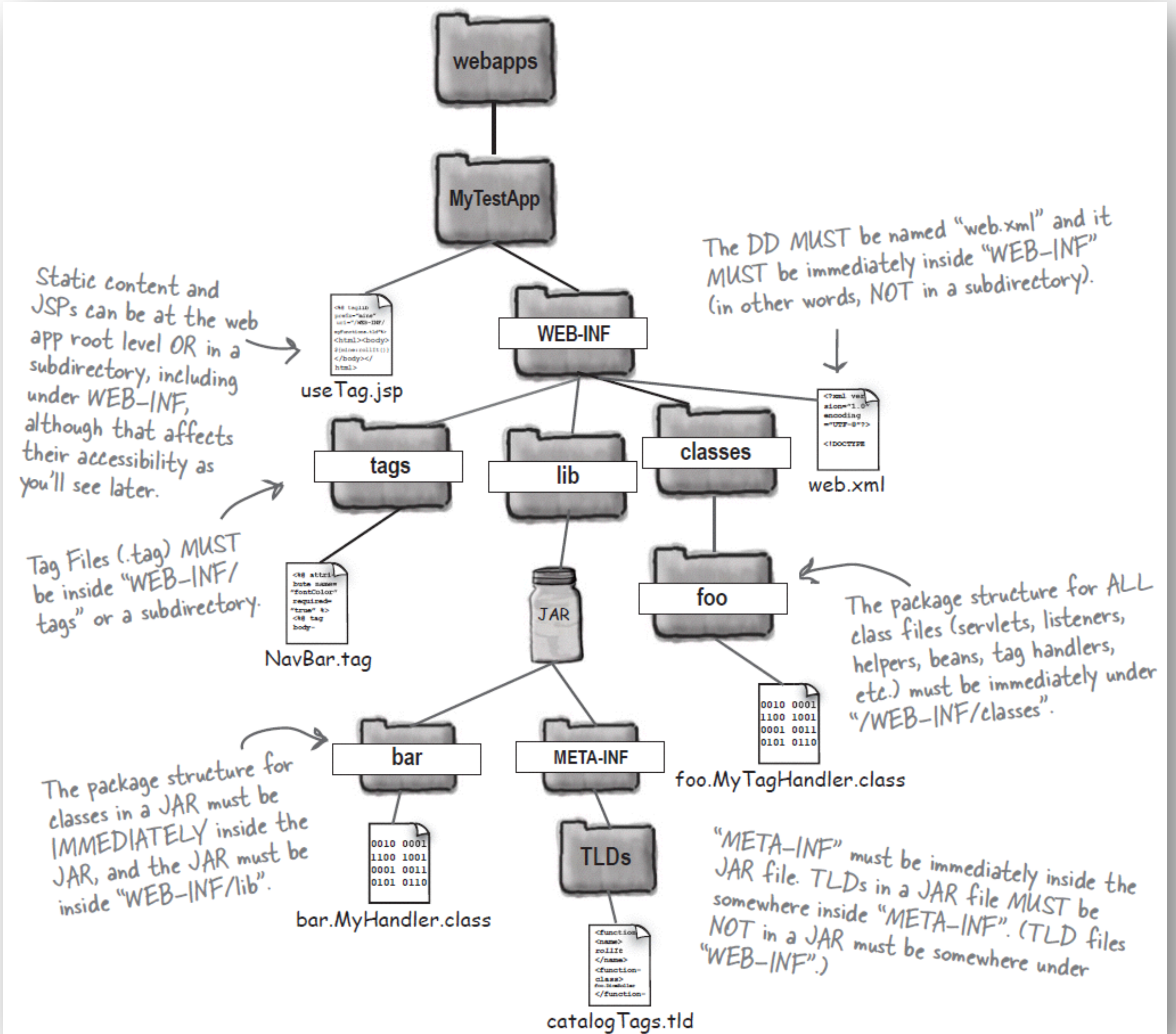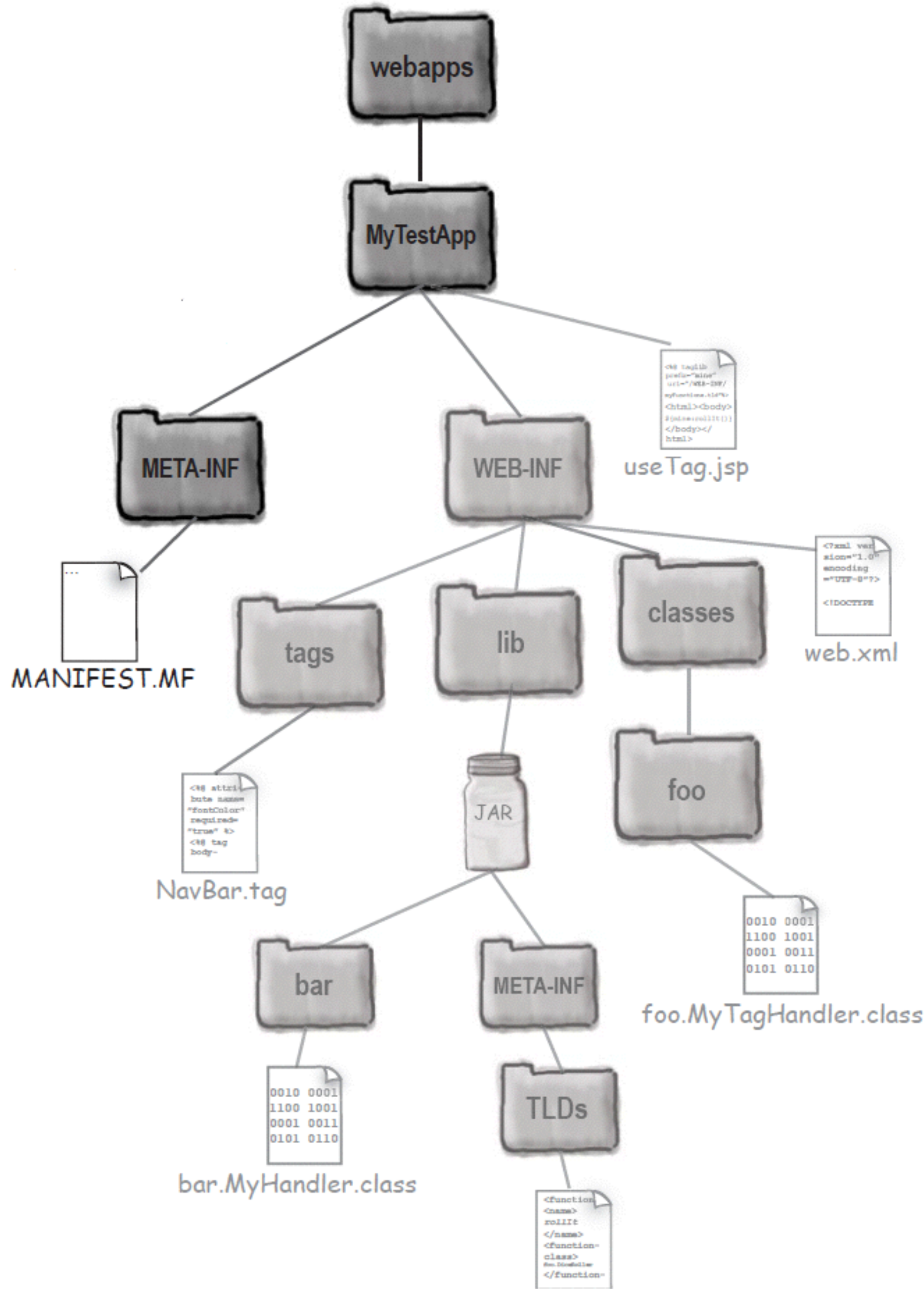# Chapter 11

Deploying your web app

Deployment

- Where do YOU put things in the web app?
- Where will the CONTAINER look for things in the web app?
- How does the CLIENT request things in the web app?

- Where do you put
  - static resources?
  - JSP pages?
  - Servlet class files?
  - JavaBean class files?
  - Listener class files?
  - Tag Files?
  - Tag handler classes?
  - TLDs?
  - JAR files?
  - The web.xml DD?
  - …?

webapps

MyTestApp

WEB-INF

Static content and JSPs can be at the web app root level OR in a subdirectory, including under WEB-INF, although that affects their accessibility as you'll see later.

useTag.jsp

The DD MUST be named "web.xml" and it MUST be immediately inside "WEB-INF" (in other words, NOT in a subdirectory).

web.xml

tags

lib

classes

Tag Files (.tag) MUST be inside "WEB-INF/tags" or a subdirectory.

NavBar.tag

JAR

foo

The package structure for ALL class files (servlets, listeners, helpers, beans, tag handlers, etc.) must be immediately under "/WEB-INF/classes".

foo.MyTagHandler.class

bar

META-INF

The package structure for classes in a JAR must be IMMEDIATELY inside the JAR, and the JAR must be inside "WEB-INF/lib".

bar.MyHandler.class

TLDs

"META-INF" must be immediately inside the JAR file. TLDs in a JAR file MUST be somewhere inside "META-INF". (TLD files NOT in a JAR must be somewhere under "WEB-INF".)

catalogTags.tld

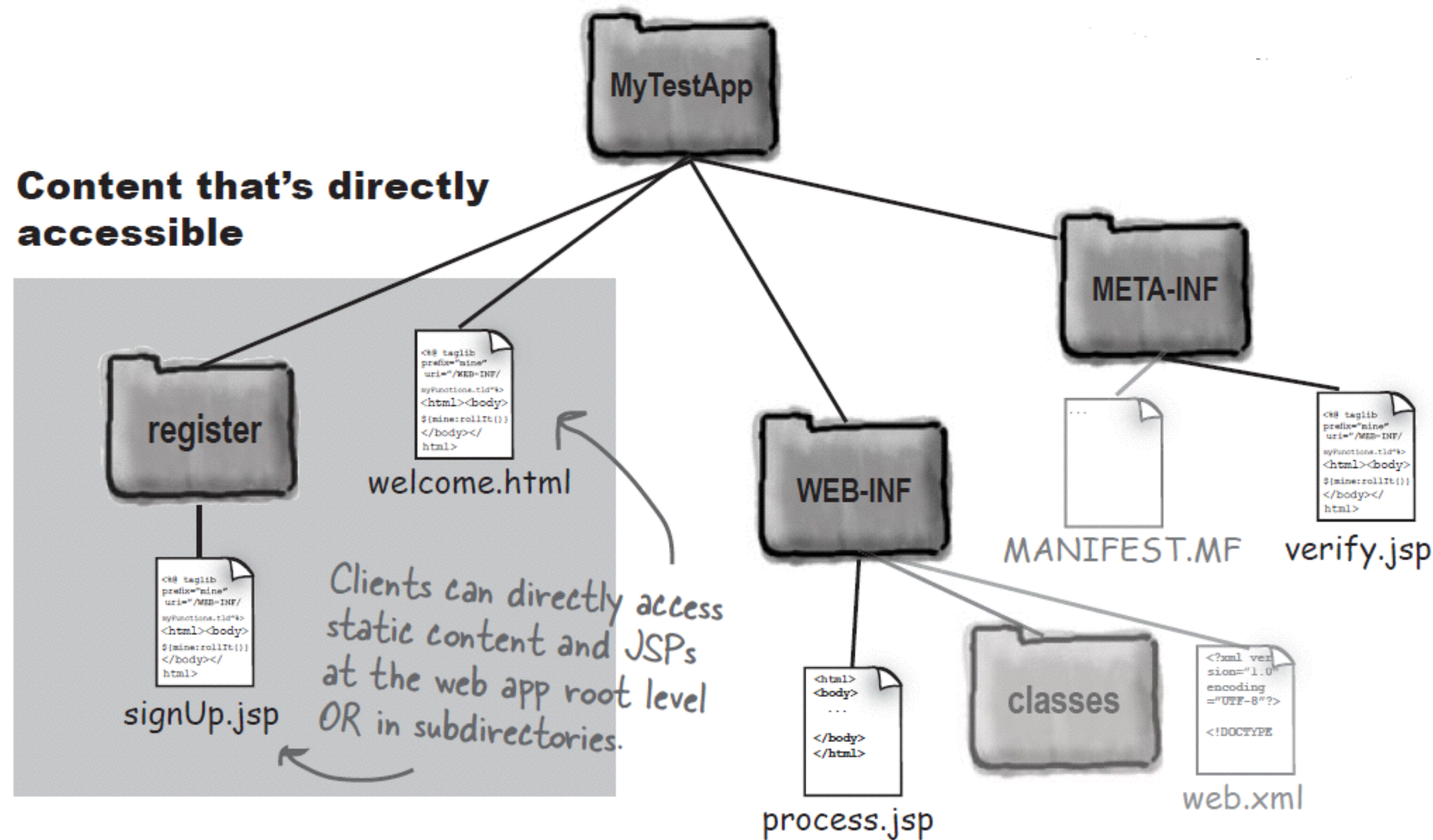Deploy via a WAR

Protecting via deployment

Valid request

    http://www.wickedlysmart.com/MyTestApp/register/signUp.jsp

Invalid request (produces "404 Not Found" error)

   http://www.wickedlysmart.com/MyTestApp/WEB-INF/process.jsp

Content that's directly accessible

MyTestApp

register

welcome.html

META-INF

WEB-INF

MANIFEST.MF   verify.jsp

signUp.jsp

Clients can directly access static content and JSPs at the web app root level OR in subdirectories.

classes

process.jsp

web.xml

Accessing below WEB-INF & META-INF

```xml
<web-app xmlns="http://java.sun.com/xml/ns/j2ee"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee/web-app_2_4.xsd"
    version="2.4">


<servlet>

    <servlet-name>Beer</servlet-name>

    <servlet-class>com.example.BeerSelect</servlet-class>

</servlet>


<servlet-mapping>

    <servlet-name>Beer</servlet-name>

    <url-pattern>/Beer/SelectBeer.do</url-pattern>

</servlet-mapping>

</web-app>
```
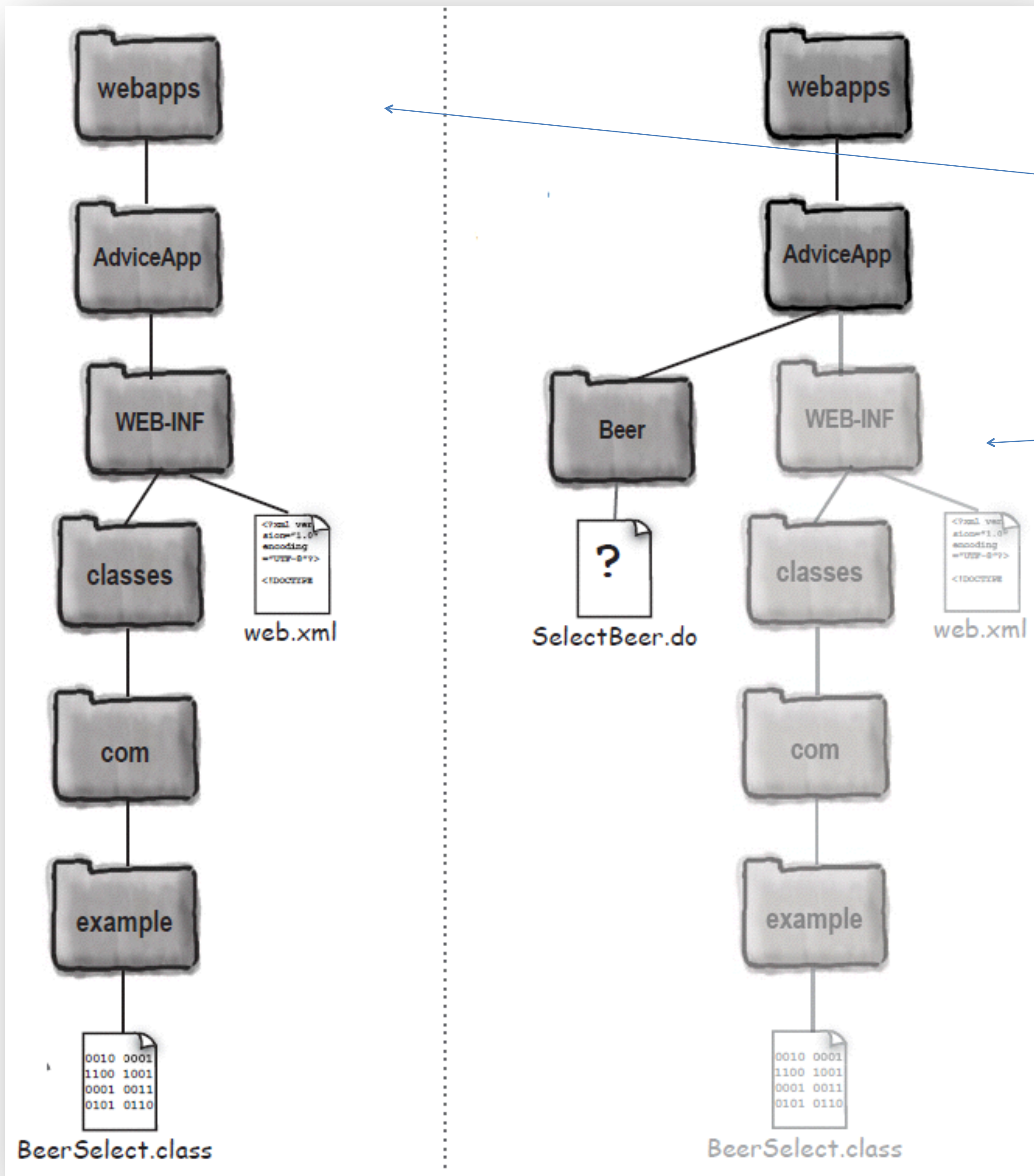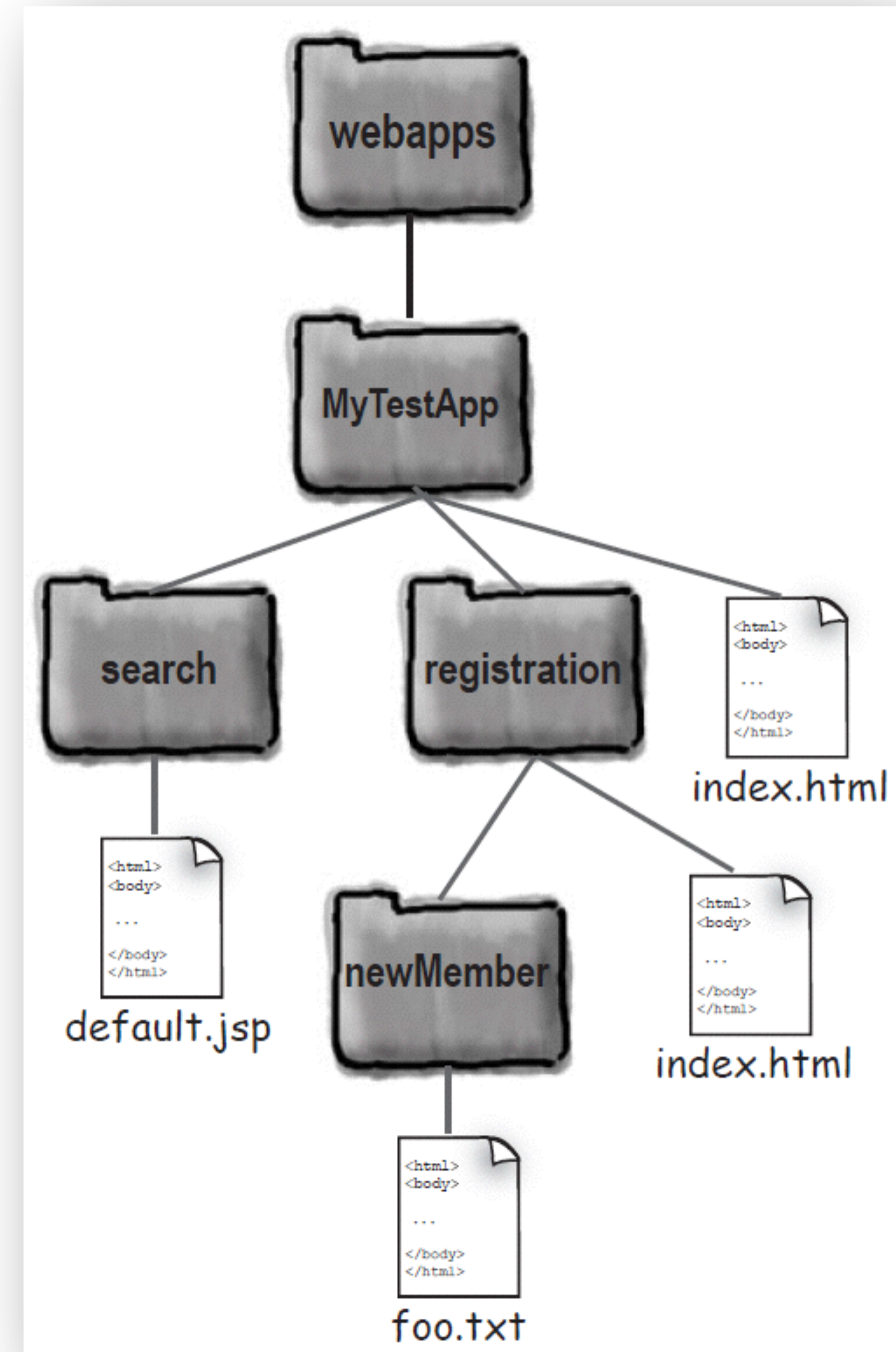
Actual and virtual directory structure

Welcome files in the DD

```
<web-app ...>
    <welcome-file-list>
        <welcome-file>index.html</welcome-file>
        <welcome-file>default.jsp</welcome-file>
    </welcome-file-list>
</web-app>
```

http://localhost:8080/MyTestApp/
http://localhost:8080/MyTestApp/registration/
http://localhost:8080/MyTestApp/search/
http://localhost:8080/MyTestApp/registration/newMember/

Error pages in the DD

```xml
<error-page>
    <exception-type>java.lang.Throwable</exception-type>
    <location>/errorPage.jsp</location>
</error-page>
```

```xml
<error-page>
  <exception-type>java.lang.ArithmeticException</exception-type>
  <location>/arithmeticError.jsp</location>
</error-page>
```

```xml
<error-page>
    <error-code>404</error-code>
    <location>/notFoundError.jsp</location>
</error-page>
```

Servlet initialization in the DD

```xml
<servlet>
    <servlet-name>KathyOne</servlet-name>
    <servlet-class>foo.DeployTestOne</servlet-class>
    <load-on-startup>1</load-on-startup>
</servlet>
```

EJB-related DD tags

```
<ejb-local-ref>
    <ejb-ref-name>ejb/Customer</ejb-ref-name>
    <ejb-ref-type>Entity</ejb-ref-type>
    <local-home>com.wickedlysmart.CustomerHome</local-home>
    <local>com.wickedlysmart.Customer</local>
</ejb-local-ref>
```

```
<ejb-ref>
    <ejb-ref-name>ejb/LocalCustomer</ejb-ref-name>
    <ejb-ref-type>Entity</ejb-ref-type>
    <home>com.wickedlysmart.CustomerHome</home>
    <remote>com.wickedlysmart.Customer</remote>
</ejb-ref>
```
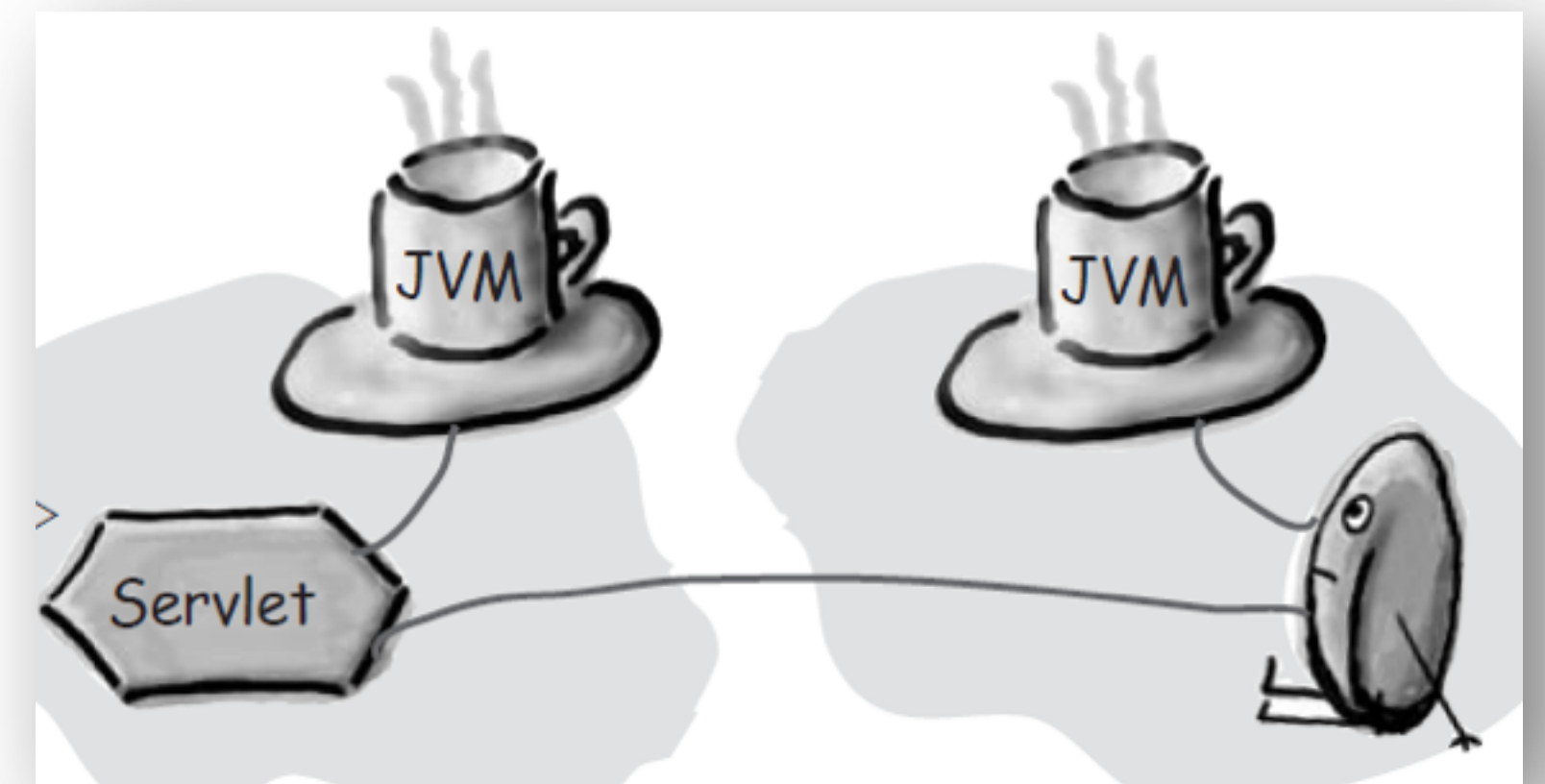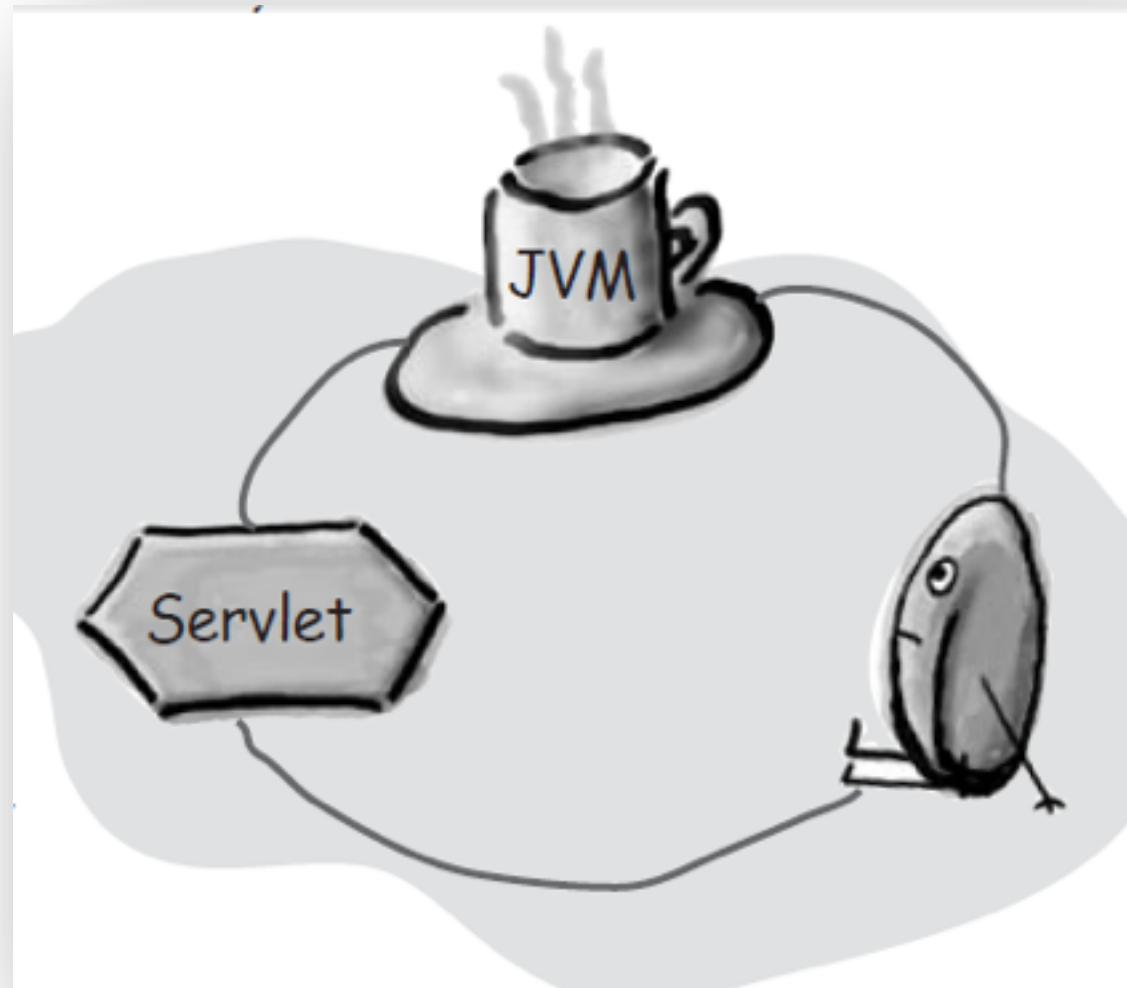
< mime-mapping> DD tag

```
<mime-mapping>

    <extension>mpg</extension>

    <mime-type>video/mpeg</mime-type>

</mime-mapping>
```