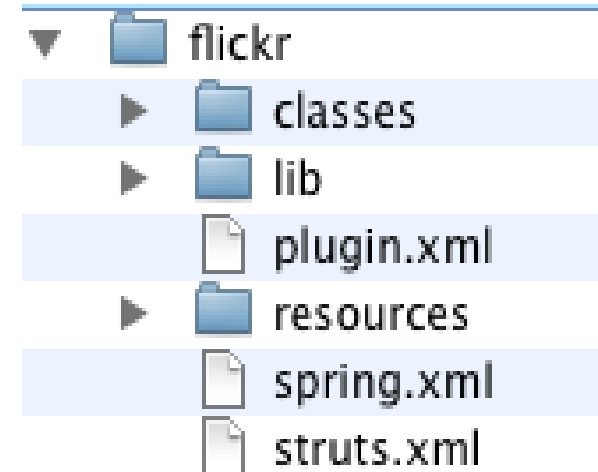




Clearspace 2.0 Plugins

2.0 Plugin Anatomy

- plugin root directory contents:
 - plugin.xml – descriptor for the plugin
 - src – location for Plugin source code (java)
 - struts.xml – Struts configuration (Actions)
 - spring.xml – Spring configuration (optional)
 - classes – compiled Java classes
 - images (optional) – images go here
 - lib (optional) – third party libraries
 - resources – ftl pages and images
 - schema.xml (optional) – database definition for custom tables, which will be automatically installed
- Compiled into a jar file
- Deployed to jiveHome/plugins directory or installed via the Admin console



2.0 Plugins: plugin.xml / Plugin Interface

- plugin.xml: name, description, author, version, minServerVersion, maxServerVersion
- See Flickr plugin.xml Example

2.0 Plugins: plugin.xml / Plugin Interface

- Plugin Class (referenced in plugin.xml)

```
public class FlickrPlugin implements Plugin {  
    public void init() {  
        // nothing to do here  
        Log.info("Flickr plugin initializing");  
    }  
    public void destroy() {  
        // nothing to destroy  
        Log.info("Flickr plugin destroyed");  
    }  
}
```

2.0 Plugins: MVC Architecture

- Model: Actions
 - Provide data for UI components
 - Should only contain business logic
 - Returning a list of blogposts
 - Saving changes to a document (database access)
 - Logging and Exception Handling
 - Use injected managers for database access and access to other parts of CS
- View: Freemarker template files (.ftl)
 - Should only contain presentation logic
 - Looping through blogposts and displaying desired post properties
 - Page navigation images and scripts
- Controller: struts.xml
 - Defines workflow
 - Hooks up business component with UI component
 - What is being requested? (Action class)
 - Which component should display the result? (Freemarker file)



2.0 Viewing Plugins

- Create your own action / ftl combination in struts.xml
 - View by entering action-name.jspa in the browser
- Override an ftl
 - place it in the same folder in plugin's home
- Override an action's result
 - point to your ftl in the action definition (struts.xml)
- Use Macro syntax in any post, document, or thread
 - `{flickr:id=2394427748}`
 - Macro's render method returns HTML
- Modify a component
 - Add a `<component>` tag to plugin.xml (e.g. new user-profile tab)
- Add a Widget
 - Aaron Johnson covered this in his presentation



2.0 Model: The Action Class

- FlickrProfileAction provides methods that contain business logic for access the Flickr API and provides that information to the FTL templates.

2.0 Model: Using Spring

- Declare a bean (in spring.xml):

```
<bean id="flickrManager"  
      class="com.example.plugin.flickr.FlickrManager">  
</bean>
```

2.0 View: FreeMarker

- Generates HTML for the browser
- Use `<@s.` for Struts tags
- Templates use FreeMarker tags
 - Variable assignment: `<#assign pageTitle = "Hello World"/>`
 - Conditional logic:
`<#if user?exists>Hello ${user.name}<#else>${pageTitle}</#if>`
- Templates rely on actions to provide content
 - `${flickrUsername}` results in a call to `getFlickrUsername` on the action

2.0 Adding a New Action

- Customer may require new functionality
 - Example: Share content links – Digg This, Stumble This, etc
- Create a new action class

```
public class FlickrAction extends JiveActionSupport {  
    // variable declarations...  
    public String execute() { return SUCCESS; }  
    public String getLinkURL() { return linkURL; }  
  
    // other methods...  
}
```

- Declare the action in struts.xml

```
<action name="flickr-profile"  
    class="com...flickr.FlickrProfileAction">  
    <result name="success">  
        /plugins/flickr/.../flickr-profile.ftl  
    </result>  
</action>
```



2.0 Plugin Development Resources

- Other Sources of Plugin Information
- Plugin Examples Online
(<http://www.jivesoftware.com/community/community/developer/clearspace/plugins>)
- Plugin Documentation
(<http://www.jivesoftware.com/community/community/developer/clearspace/plugins>)
- Jive Community Forums (<http://www.jivesoftware.com/community/index.jspa>)