Liferay EXT Environment

- **Repetition:**
- Liferay-Tomcat bundle
- MySQL DB Install
- Customize setenv.bat
- Connect to DB

**Liferay EXT:**

- EXT Environment
- Ant
- Subversion
- Tomcat Plugin
- Get Portal Source
- Customize Properties
- Customize EXT Properties and Build EXT
Basic Components

- Liferay Platform
- Source & Library
- Liferay-Tomcat Bundle
- Tomcat 6 Application Server
- Development Environment: Eclipse & Ant
- MySQL DB

Tomcat 6 Application Server

MySQL DB

Development Environment: Eclipse & Ant

Liferay-Tomcat Bundle

Source & Library

Liferay Platform
Plugins SDK and Extension Environment

**Plugins SDK**

- Ant Deploy
- Hot Deploy
- Plugins SDK
- Auto Deploy Directory
- Liferay Portal + Application Server

**EXT Environment**

- Override
- Merge
- Deploy
- Custom Code
- Liferay Portal Source Code
- Customized Liferay Portal
- Application Server
Plugins SDK

- sdk
  - clients
  - dist
  - hooks
  - layouttp
  - lib
  - misc
- portlets
  - bcd-portlet
  - dao-portlet
  - newportlet-portlet
  - osicdao-portlet
  - portlet.zip
- themes
- tools

Ant Deploy → Plugins SDK → Auto Deploy Directory
Hot Deploy → Auto Deploy Directory → Liferay Portal + Application Server
EXT Environment

- classes
- ext-impl
- ext-lib
- ext-service
- ext-web
- lib
- modules
- output
- sql
- tools
- .classpath
- .project
- app.server.jeff.properties

Diagram:

1. Custom Code
2. Liferay Portal Source Code
3. Customized Liferay Portal
4. Application Server

- Override
- Merge
- Deploy
EXT Environment

What is EXT?

Ext is a wrapper for Liferay portal core source directories (that is, ext-impl/, ext-service/, and ext-web/).

EXT allows the users to develop on top of Liferay source
Basic Components

- Liferay Platform Source & Library
- Liferay-Tomcat Bundle
- Tomcat 6 Application Server
- MySQL DB
- Development Environment: Eclipse & Ant

Liferay-Tomcat Bundle

MySQL DB

Development Environment: Eclipse & Ant

Tomcat 6 Application Server
Install Ant and establish the workspace in Eclipse

Download and Install Ant from:

http://ant.apache.org

- set the ANT_HOME system variable
  For example, c:\tools\ant
  (similar as JAVA_HOME)
- add to the PATH variable the location of ant\bin
  For example, c:\tools\ant\bin

Start Eclipse and create a new workspace:

c:\liferay\workspace
Install Subclipse (Subversion)

1. Open in Eclipse the Help – Install New Software window

2. Copy & paste the URL below for the update

http://subclipse.tigris.org/update_1.6.x
Use the Subversion to get the Latest (Stable) Code from Liferay

After installation, open the Subclipse:

1. From the **Window** menu, select **Open Perspectives**.
2. Click on **Other**…
3. Select ** SVN Repository Exploring**, and then click on the button **OK**.
4. Right-click on the ** SVN Repositories** view.
5. Select **New** and the **Repository Location**…
6. Provide input as **svn://svn.liferay.com/repos/public** and click on **Finish**.
   
   User Name = “**guest**” (Leave the **password** field empty)

Expand the portal folders to see the Liferay portal source code
Download and unzip Tomcat Plugin

Download the tomcatPlugin.zip from the “share” directory:

$share/tomcatPlugin.zip

Unzip its content into the folder:

c:\eclipse\dropins

Restart Eclipse and see the new Tomcat controls icons
Checkout the Source and Prepare Eclipse for Building EXT

Right click on the /portal/trunk or other branch and **CheckOut** in the SVN Perspective

Use the default “portal” project name

Switch to Java Perspective and set the view, Navigator.
Prepare Eclipse-Ant for Building EXT

Add the view Ant Window | Show View | Ant

Drag the build.xml under the /portal folder into the Ant view

You will see all the build targets for the portal in the Ant view

The most commonly used are: clean, start, deploy

Example: the target clean will delete classes related to /portal-impl, /portalKernel, /portal-service, and delete /tmp, /logs, /work and /webapps/ROOT in the Tomcat folder.
Show Tomcat folders in Eclipse

1. Create a Java Project named Server

2. Right-click on the project Server and select New | Folder

3. Enter the Folder name: CATALINA_HOME

4. Click on the Advanced button

5. Check the checkbox, Link to folder in the file system, and enter the value, c:\liferay\tomcat6

6. Click on the Finish button
Customize Property Files

Copy `release.properties` To
`release.{${user.name}}.properties`

In the file `release.{${user.name}}.properties` overwrite the line

```
lp.ext.dir=c:/liferay/workspace/ext
```
Copy `build.properties` to `build.{${user.name}}.properties`

In the `build.{${user.name}}.properties`, update the lines:

- `ant.build.javac.source=1.6`
- `ant.build.javac.target=1.6`
Copy `app.server.properties` To
`app.server.{${user.name}.properties`

In the `app.server.{${user.name}.properties` update the lines:

- `app.server.parent.dir= c:/liferay`
- `app.server.tomcat.version=6.0`
- `app.server.tomcat.dir=${app.server.parent.dir}/tomcat6`
Customize Property Files - 4

In the Eclipse – **Server** folder, Open the properties file
/\texttt{conf/catalina.properties}

Find the line:
\texttt{common.loader=}

Add $\texttt{{catalina.home}/lib/ext/\ast.jar}$ at the end of the line (if it is not there)
The line should look like this:
\texttt{common.loader=$\texttt{{catalina.home}/lib,$\texttt{{catalina.home}/lib/\ast.jar}}$
$\texttt{{catalina.home}/lib/ext/\ast.jar}$}
Use SVN to Update the Source

Right-click on the Java project portal, select Team - Update to HEAD
Build the Java Project EXT

1. Open the **Ant** view in the Eclipse IDE:
   - Window - Show View – Ant

   Drag the build.xml file under the `/portal` to the **Ant** view.

   Double-click on the target **clean** in the **Ant** view.

2. Double-click on the target **start**

3. Double-click on the target **build-ext**
1. Right-click on the **Navigator** view and select **Import**...

2. Select an import source: **General - Existing Projects into Workspace**

3. The root directory: `c:/liferay/workspace/ext`

4. Select `ext` (c:/liferay/workspace/ext).

5. Click on the **Finish** button.
Check portal-ext.properties at $liferay/$tomcat/webapps/ROOT/WEB-INF/classes

### MySQL
jdbc.default.driverClassName=com.mysql.jdbc.Driver
jdbc.default.url=jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8&useFastDateParsing=false
jdbc.default.username=root
jdbc.default.password=train

mail.session.jndi.name=mail/MailSession
Provide eMail Data in the 
tomcat6/conf/Catalina/localhostRoot.xml

<Context path="" crossContext="true">

<Resource name="mail/MailSession" auth="Container" type="javax.mail.Session"
mail.imap.host="imap.gmail.com" mail.imap.port="993"
mail.pop.host="pop.gmail.com" mail.store.protocol="imap"
mail.transport.protocol="smtp" mail.smtp.host="smtp.gmail.com"
mail.smtp.port="465" mail.smtp.auth="true"
mail.smtp.starttls.enable="true"
mail.smtp.user="USERNAME" password="PASSWORD"
mail.smtp.socketFactory.class="javax.net.ssl.SSLSocketFactory" />

</Context>
Customize EXT Property Files

1. Copy the following files:

   build.$\{user.name\}.properties
   app.server.$\{user.name\}.properties)

   from the /portal project to the /ext project

2. In the /ext project, open the file:

   build.$\{user.name\}.properties

   At the bottom, add the line:

   \texttt{lp.ext.dir=c:/liferay/workspace/ext}
Clean and Deploy EXT project

1. Open the **Ant** view in the Eclipse IDE:
   - Window - Show View – Ant

   Drag the build.xml file under the /ext to the **Ant** view

2. Double-click on the target **clean** in the **Ant** view.

3. Double-click on the target **deploy**
Fast Deploy of Web Changes in the EXT project

For changes in the **ext/ext-web**
For example, jsp, css, or images
There is the **deploy-fast** method

1. Open the **Ant** view in the Eclipse IDE:
   - Window - Show View – **Ant**

   Drag the build.xml file under the /**ext/ext-web**
to the **Ant** view

2. Double-click on the **deploy-fast**
Make Sure You can Run and Debug in Eclipse

1) Open "Run Configurations..." under the Run menu
2) Under **Java Applications** node in the tree, right click and "**New**"
3) On Main tab, select your EXT project
4) In the **Main** class put **org.apache.catalina.startup.Bootstrap** (no checkboxes)
5) In the **Arguments** tab, in the **Program** arguments enter: **start**
6) In the **VM arguments:**
   
   -Xmx512m
   -XX:PermSize=32m
   -XX:MaxPermSize=160m
   -Dfile.encoding=UTF8
   -Duser.timezone=EST
   -Djava.security.auth.login.config=c:/liferay/tomcat6/conf/jaas.config
   -Dcatalina.base=c:/liferay/tomcat6
   -Dcatalina.home=c:/liferay/tomcat6
   -Djava.io.tmpdir=c:/liferay/tomcat6/temp

7) In the **Working** directory select: **Other**: c:/liferay/tomcat6/bin
8) In Classpath tab, remove ALL User entries, just leave the JRE System library
9) Select User Entries and "Add External JArs", c:/liferay/tomcat6/bin/bootstrap.jar
10) In the Source tab, select the main project and related projects
11) Under Common tab check **Run** and **Debug** – You are ready to go!
Check the Deployment and Start Liferay!
Portal API Library Jars are deployed in the Tomcat6/lib/ext

Start Liferay!

Liferay + EXT
A Portlet is an application that presents a fragment of a portal page.

A Portlet Container assembles the portlets into a portal page.
Liferay Ext Setup Summary

• What did we do first?

• Next?

• Next?
Liferay Setup Summary

• What we did first?
  - Liferay-Tomcat bundle install

• Next?
  - MySQL and Tools

• Next?
  - EXT Environment