



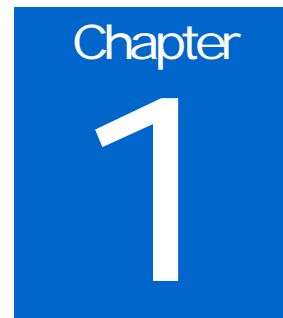
FITECH LABORATORIES

xTier™ 2.2.1 - Installation Guide

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Installation

xTier™ 2.2.1 comes with installers for Windows, Solaris, UNIX and Linux. The rest of this document will assume installation on Windows, with special comments for Solaris, UNIX or Linux specific installation issues, when applicable.

The xTier™ 2.2.1 installer can be downloaded for a specific operating system or can be obtained from the xTier™ 2.2.1 Installation CD, in which case the CD will contain appropriate installers for all supported operating systems.

To install xTier™ on Windows, run **xtier_windows_2_2_1.exe** (from the Windows directory on the installation CD if an installation CD is used, or alternatively from the location where the xTier™ 2.2.1 distribution was downloaded. This will start the GUI-based installation wizard that will guide the user through installation process.)

There are several notes about installation process:

- xTier™ 2.2.1 requires JDK 1.4.x version. You can download the latest JDK version from <http://java.sun.com/getjava>
- Take note of where you install xTier 2.2, this location will be referred to as **%XTIER_ROOT%** for the remainder of the documentation.

After installation is successfully completed xTier™ 2.2.1 is fully installed and functional. Chapter 2 and Chapter 3 contain the optional steps required for installation of the application server micro-kernels and the IDE plug-ins for the xTier™ Management Console respectively.

Directory Structure

The following is the directory structure of the xTier™ 2.2.1 installation:

%XTIER_ROOT%

This is the root directory. It contains the software license agreement.

%XTIER_ROOT%\bin

This directory contains binary executable for the xTier™ Management Console, of the Unix Shell script.

%XTIER_ROOT%\config

This directory contains all the XML-based configuration files required by xTier™ 2.2. The developer's application specific configuration files should also be placed in this directory.

%XTIER_ROOT%\config\dtd

This directory contains the DTDs for the XML-based configuration files required by xTier™ 2.2.

%XTIER_ROOT%\config\examples

This directory contains the configuration files used with the xTier™ 2.2.1 Java examples.

%XTIER_ROOT%\plugins

This directory contains xTier™ 2.2.1 IDE plugins for the following Java IDEs:

- Eclipse 2.x
- Eclipse 3.x
- IntelliJ 4.x
- JBuilder 9.x
- JDeveloper 9.x
- NetBeans 3.x
- NetBeans 4.x
- WebLogic Workshop 8.x

%XTIER_ROOT%\docs

This is the root directory for all of the documentation supplied with xTier™ 2.2.

%XTIER_ROOT%\docs\javadoc

This directory contains the Javadoc API documentation for the xTier™ 2.2.1 Java API.

%XTIER_ROOT%\docs\whitepapers

This directory contains whitepapers for the following xTier™ 2.2.1 services:

- cache
- config
- i18n
- jobs
- cluster
- grid
- ioc
- marshal
- workflow

It also contains xTier™ 2.2.1 overview and micro-kernel concept whitepaper.

%XTIER_ROOT%\docs>manuals

This directory contains the developer's documentation supplied with xTier™ 2.2:

- xTier™ 2.2.1 Installation Guide (This document.)
- xTier™ 2.2.1 Examples Guide
- xTier™ 2.2.1 Quick Start Guide

%XTIER_ROOT%\examples

This is the root directory for the Java examples.

%XTIER_ROOT%\lib

This directory contains the .jars and .zip libraries files supplied with xTier™ 2.2.

%XTIER_ROOT%\lib\ext

This directory contains external library files that are required by xTier™ 2.2.1 (or by examples) but are not part of xTier™ product.

%XTIER_ROOT%\lib\xtier

This directory contains internal library files that are supplied with xTier™ 2.2.1 and are part of xTier™ product.

%XTIER_ROOT%\lib\xtier\jboss3

This directory contains class libraries and XML files required by the xTier™ 2.2.1 micro-kernel for JBoss 3.x

%XTIER_ROOT%\lib\xtier\jboss4

This directory contains the class libraries and XML files required by xTier™ 2.2.1 micro-kernel for JBoss 4.x

%XTIER_ROOT%\lib\xtier\wls7

This directory contains class libraries required by the xTier™ 2.2.1 micro-kernel for BEA WebLogic 7.x

%XTIER_ROOT%\lib\xtier\wls8

This directory contains class libraries required by the xTier™ 2.2.1 micro-kernel for BEA WebLogic 8.x.

%XTIER_ROOT%\lib\xtier\sunone8

This directory contains class libraries required by the xTier™ 2.2.1 micro-kernel for SUN One 8 application server.

%XTIER_ROOT%\lib\xtier\oas10g

This directory contains class libraries required by the xTier™ 2.2.1 micro-kernel for Oracle AS 10g application server.

%XTIER_ROOT%\lib\xtier\ws5

This directory contains class libraries required by the xTier™ 2.2.1 micro-kernel for IBM WebSphere 5.x application server.

Windows Start Menu

The Windows Installer creates the program group **xTier 2.2.1 – Java and .NET Middleware Components** under the Windows **Start Menu**. The start menu gives easy access to the xTier™ 2.2.1 documentation, the xTier™ Management Console and the Uninstaller . The following items are located in the start menu.

- xTier™ License
- Java API Documentation
- Management Console
- List of all whitepapers
- List of all manuals
- xTier™ 2.2.1 Java and .NET Middleware Components Uninstaller

Using xTier™ in Multiple Projects

The developer is free to use xTier™ in multiple projects. xTier™ is included into the development project as any class library would be and is deployed in the same way that the application that uses it is deployed. xTier™ does not require a separate deployment, nor is xTier™ a “server” that is reused across multiple instances. The developer is free to include just the services that are technically required in their project and is free to deploy xTier™ in a variety of ways.

Installing the xTier™ Micro-kernels

Installing JBoss 3.x/4.x Micro-kernel

xTier™ comes with pre-packaged micro-kernels for JBoss 3.x/4.x. Note that although the micro-kernel that ships with xTier™ provides the fastest way to integrate xTier™ with JBoss 3.x/4.x, a custom micro-kernel for JBoss 3.x/4.x can also be easily developed, should the developer wish to do so. Note that the source code for the JBoss 3.x micro-kernel ships with xTier™ and can be found in the `%XTIER_ROOT%/examples` directory.

To install the xTier™ JBoss 3.x/4.x micro-kernel perform the following steps: (Note: `JBOSS_HOME` corresponds to the JBoss 3.x/4.x installation root.)

JBOSS CONFIGURATION

- 1) Create directory `%JBOSS_HOME%/server/default/deploy/xtier`
- 2) copy `%XTIER_ROOT%/lib/xtier/xtier.jar =>`
`%JBOSS_HOME%/server/default/deploy/xtier`
- 3) copy `%XTIER_ROOT%/lib/xtier/jboss{3,4}/xtier-jboss{3,4}-mk.jar =>`
`%JBOSS_HOME%/server/default/deploy/xtier`
- 4) copy `%XTIER_ROOT%/lib/xtier/jboss{3,4}/xtier-mk-service.xml =>`
`%JBOSS_HOME%/server/default/deploy/xtier`
- 5) Edit the `xtier-mk-service.xml` file that was just copied to the xTier deployment directory and modify the attribute "Root" to point to the same location as `XTIER_ROOT`.
As an alternative, you can also add `-DXTIER_ROOT=<dir>` to the `run.cmd[sh]` script in the `%JBOSS_HOME%/bin` directory to supply the xTier™ installation root via a Java system property, where `<dir>` should point to the same directory as `XTIER_ROOT`.
Optionally, you can also change the attribute "Log4jCategory" in the `xtier-mk-service.xml` file to change the Log4J logging category used by JBoss.
- 6) The next step is to update the kernel region associated with this deployment in `xtier-mk-service.xml`. For the purposes of this installation guide, the examples that are shipped with xTier™ will be deployed as illustrative of the deployment process.

Update the following line in `xtier-mk-service.xml`

`<attribute name="KernelRegion">examples</attribute>` to reflect that the kernel region to start is the "examples" region.

- 7) Since the examples region has been specified as the kernel region, the implementation for the classes specified by the examples must also be deployed.
Copy `%XTIER_ROOT%/lib/xtier/xtier-examples.jar =>`
`%JBOSS_HOME%/server/default/deploy/xtier`
- 8) Restart JBoss (or use hot-redeploy).

After JBoss is restarted, you can examine xTier™ services via the standard JBoss JMX console. Note, it is advisable to run JBoss with "-ea" JVM option during development.

Uninstalling the JBoss 3.x/4.x Micro-kernel

To uninstall the xTier™ micro-kernels for either JBoss 3.x/4.x, perform the following steps:

JBOSS CONFIGURATION

- 1) Remove the `%JBOSS_HOME%/server/default/deploy/xtier` directory and all its content.
- 2) Restart JBoss.

Installing BEA WebLogic 7.x/8.x Micro-kernel

xTier™ comes with a pre-packaged micro-kernels for BEA WebLogic 7/8. Note that although the pre-packaged micro-kernel provides the fastest way to integrate xTier™ with BEA WebLogic 7/8, a custom micro-kernel for BEA WebLogic 7/8 can also be easily developed, needed to accommodate specific attributes of the deployment environment or application.

To install BEA WebLogic 7/8 micro-kernel for xTier™ perform the following steps: (Note: **WL_HOME** is BEA WebLogic 7/8 installation root.)

BEA WEBLOGIC 7 INSTALLATION INSTRUCTIONS

- 1) Create a new directory for xTier™ => `%WL_HOME%/server/lib/xtier`
- 2) Copy `%XTIER_ROOT%/lib/xtier/xtier.jar =>`
`%WL_HOME%/server/lib/xtier`
- 3) Copy `%XTIER_ROOT%/lib/xtier/wls{7,8}/xtier-wls{7,8}-mk.jar =>`
`%WL_HOME%/server/lib/xtier`

- 4) Copy %XTIER_ROOT%\lib\xtier\xtier-examples.jar =>
%WL_HOME%\server\lib\xtier
- 5) Since xTier™ requires JDK 1.4.x version, the user must download and install the JRockit JVM 1.4.x. (Check www.bea.com for the most current information about supported JVM and vendors).
JAVA_HOME variable must point to valid JDK 1.4 installation.
- 6) Add the following CLASSPATH additions:

```
set CLASSPATH=%CLASSPATH%;%WL_HOME%\server\lib\xtier\xtier-wls7-
mk.jar;
set CLASSPATH=%CLASSPATH%;%WL_HOME%\server\lib\xtier\xtier.jar;
set CLASSPATH=%CLASSPATH%;%WL_HOME%\server\lib\xtier\xtier-
examples.jar;
set JAVA_OPTIONS=-ea
```

to the %WL_HOME%\server\bin\startWLS.cmd (sh) file for WebLogic 7 (which is typically located at "C:\bea7\weblogic700\server\bin\startWLS.cmd")
Or in the case of WebLogic 8 the
%WL_HOME%\user_projects\domains\mydomain\startWebLogic.cmd (sh) file (which is typically located at "C:\bea8\user_projects\domains\mydomain\startWebLogic.cmd")

Note that "-ea" JVM option is optional for xTier™, however, it is advisable to use it during development.

Setup the startup and shutdown classes in WebLogic. Startup and shutdown WebLogic classes will be responsible for starting up and shutting down the xTier™ WebLogic micro-kernel. This can be done by either manual editing of **config.xml** file or via WebLogic Administration Console. To see the result of starting and stopping in the **<WLS_HOME>/user_projects/domainName/serverName/servername.log** file.

To do it manually, add the following XML definition for the target server (**myserver** in our example) in **config.xml** file:

BEA WEBLOGIC CONFIG.XML MODIFICATIONS

```
<ShutdownClass
  ClassName="com.fitechlabs.xtier.wls7.Weblogic7MicroKernelShutdown"
  Name="xtier-shutdown" Targets="myserver"
/>
```

or in the case of Weblogic 8

```
<ShutdownClass
  ClassName="com.fitechlabs.xtier.wls8.Weblogic8MicroKernelShutdown"
  Name="xtier-shutdown" Targets="myserver"
/>
```

```
<StartupClass
  Arguments="log.category=xtier,root=C:\xtier-2.2.1,kernel.region=examples"
  ClassName="com.fitechlabs.xtier.wls7.Weblogic7MicroKernelStartup"
  FailureIsFatal="true"
  LoadBeforeAppDeployments="true"
  Name="xtier-startup"
  Targets="myserver"
/>
```

or in the case of Weblogic 8

```
<StartupClass
  Arguments="log.category=xtier,root=C:\xtier-2.2.1,kernel.region=examples"
  ClassName="com.fitechlabs.xtier.wls8.Weblogic8MicroKernelStartup"
  FailureIsFatal="true"
  LoadBeforeAppDeployments="true"
  Name="xtier-startup"
  Targets="myserver"
/>
```

Note that the **root=C:\xtier-2.2.1** argument must be updated to the location that xTier was installed to.

Also notice that the initial kernel region to start is specified above: **kernel.region=examples** and as such, the jar containing the implementation for the example code must be deployed as well. (See step 3 above.)

Note, for a Linux installation **LoadBeforeAppDeployments** should be set to false. Make sure that the "root" argument (highlighted above) points to the same location as **XTIER_ROOT**. Note also that you can supply **XTIER_ROOT** as Java system property via **-DXTIER_ROOT=<dir>** and avoid specifying the "root" argument all together in the startup service definition.

To install startup and shutdown classes through WebLogic Administration Console, navigate to "**<mydomain>/Deployments/Startup & Shutdown**" and follow the links to create startup and shutdown classes (where **<mydomain>** represents your target domain).

Please note that the xTier™ shutdown class will only be called in the case of a normal server shutdown as "Force shutdown of this server" does not call the xTier™ shutdown class.

Restart the BEA WebLogic server.

Uninstalling the BEA WebLogic 7.x Micro-kernel

To uninstall the xTier™ Micro-kernel for BEA WebLogic 7.x, perform the following:

UNINSTALLING XTIER™ MICRO-KERNEL FOR BEA WEBLOGIC

- 1) Remove the `%WL_HOME%\server\lib\xtier` directory
- 2) Remove the following CLASSPATH additions:
`set CLASSPATH=%CLASSPATH%;%WL_HOME%\server\lib\xtier\xtier-examples.jar;`
`set CLASSPATH=%CLASSPATH%;%WL_HOME%\server\lib\xtier\xtier_wls{7,8}x_mk.jar;`
`set CLASSPATH=%CLASSPATH%;%WL_HOME%\server\lib\xtier\xtier.jar`
`set JAVA_OPTIONS=-ea`
from either `startWLS.cmd[sh]` or `setWLS.env.cmd[sh]`.

Remove startup and shutdown WebLogic classes. It can be done manually removing corresponding sections (see p.7 for details) in **config.xml** configuration file or through WebLogic Administration Console.

Installing the SunOne 8 Micro-kernel

xTier provides a micro-kernel for SunOne version 8. To install the micro-kernel for SunOne8 please using the following steps: (Note, **`\${SUNONE_ROOT}`** is a placeholder in the following instructions that must be replaced with the actual installation root of the SunOne applications server throughout these instructions. Typically, the installation location would be: **C:/Sun/AppServer/domains/domain1**.)

SUNONE8 INSTALLATION INSTRUCTIONS

- 1) Copy the ``${XTIER_ROOT}`\lib\xtier\sunone8\xtier-sunone8-mk.jar` file =>
``${SUNONE_ROOT}`\applications\lifecycle-modules\xtier\`

(Remember, you must replace ``${SUNONE_ROOT}`` with the appropriate installation root, consequently the installation location would look like `C:/Sun/AppServer/domains/domain1/applications/lifecycle-modules/xtier`.)

- 2) Copy ``${XTIER_ROOT}`\lib\xtier\sunone8\xtier-examples.jar` =>
``${SUNONE_ROOT}`\applications\lifecycle-modules\xtier\`
- 3) Copy ``${XTIER_ROOT}`\lib\xtier\sunone8\xtier.jar` =>
``${SUNONE_ROOT}`\applications\lifecycle-modules\xtier\`
- 4) Copy ``${XTIER_ROOT}`\lib\ext\jmx\jmxtools.jar` =>
``${SUNONE_ROOT}`\applications\lifecycle-modules\xtier\`

- 5) Copy `${XTIER_ROOT}/lib/ext/jmx/jmxri.jar => ${SUNONE_ROOT}/applications/lifecycle-modules/xtier/`
- 6) Change the `${SUNONE_ROOT}/config/domain.xml` file. Add the following lines inside the `<applications>` tag:

```
<lifecycle-module
class-name="com.fitechlabs.xtier.sunone8.SunOne8MicroKernel"
  classpath="${SUNONE_ROOT}/applications/lifecycle-modules/xtier/x tier-sunone8-
mk.jar:${SUNONE_ROOT}/applications/lifecycle-modules/xtier/xtier.jar:${SUNONE_ROOT}/applications/lifecycle-
modules/xtier/xtier-examples.jar: ${SUNONE_ROOT}/applications/lifecycle-modules/xtier/jmxtools.jar:
${SUNONE_ROOT}/applications/lifecycle-modules/xtier/jmxri.jar" enabled="true" is-failure-fatal="false" name="xtier-mk">
  <property name="root" value="c:\xtier-2.2.1"> <!-- Update this value to the actual installation root. -->
  <property name="kernel.region" value="examples"/>
  <property name="locale" value="en_US"/> <!-- This property is optional -->
  <property name="log.category" value=""/> <!-- This property is optional -->
</lifecycle-module>
```

- 7) Add security permission in `${SUNONE_ROOT}/config/server.policy`:

```
grant {
    permission javax.management.MBeanServerPermission "createMBeanServer";
    permission javax.management.MBeanPermission "","registerMBean";
    permission javax.management.MBeanPermission "","unregisterMBean";
    permission javax.management.MBeanTrustPermission "register";
    permission java.util.PropertyPermission "","read,write";
    permission java.net.SocketPermission "","accept";
    permission java.net.SocketPermission "","resolve";
    permission java.lang.RuntimePermission "shutdownHooks";
    permission java.lang.reflect.ReflectPermission "suppressAccessChecks";
};
```

- 8) Start SunOne application server.
- 9) You can run the HTTP administration console - <http://localhost:4848/asadmin/index.html>. Note that the port number can vary.
- 10) View the server trace file at: `${SUNONE_ROOT}/logs/server.log`.
- 11) The JMX management console is available at <http://localhost:8082>.

Uninstalling the SunOne8 Micro-kernel

UNINSTALLING THE SUNONE8 MICRO-KERNEL

- 1) Remove the `${XTIER_ROOT}/lib/sunone8/xtier-sunone8-mk.jar` file from `${SUNONE_ROOT}/applications/lifecycle-modules/xtier` directory.
- 2) Undo the changes made to `${SUNONE_ROOT}/config/server.policy` and `${SUNONE_ROOT}/config/domain.xml` files.
- 3) Restart SunOne8 server.

Installing the Oracle AS 10g Micro-kernel

ORACLE AS 10G INSTALLATION INSTRUCTIONS

- 1) Copy `${XTIER_ROOT}/lib/xtier/oas10g/xtier-oas10g-mk.jar => ${OAS_ROOT}/applications/xtier` (where `${OAS_ROOT}` often looks like "C:/oas/j2ee/home").
- 2) Copy `${XTIER_ROOT}/lib/xtier/oas10g/xtier.jar => ${OAS_ROOT}/applications/xtier`

- 3) Copy `${XTIER_ROOT}/lib/xtier/oas10g/xtier-examples.jar => ${OAS_ROOT}/applications/xtier`
- 4) Make the following changes in the `${OAS_ROOT}/config/server.xml` file. Add the following lines inside the `<application-server>` tag:

```

<init-library path="../applications/xtier/xtier.jar" />
<init-library path="../applications/xtier/xtier-oas10g-mk.jar" />
<init-library path="../applications/xtier/xtier-examples.jar" />
<startup-classes>
  <startup-class classname="com.fitechlabs.xtier.oas10g.Oas10gMicroKernelStartup" failure-is-fatal="false">
    <execution-order>0</execution-order>
    <init-param>
      <param-name>root</param-name>
      <param-value>c:\xtier-2.2.1</param-value> <!-- Update to the actual installation root -->
    </init-param>
    <init-param>
      <param-name>kernel.region</param-name>
      <param-value>examples</param-value>
    </init-param>
    <init-param>
      <param-name>log.category</param-name> <!-- This property is optional. -->
      <param-value>xxx.zzz.yyy</param-value>
    </init-param>
    <init-param>
      <param-name>locale</param-name> <!-- This property is optional. -->
      <param-value>en_US</param-value>
    </init-param>
  </startup-class>
</startup-classes>

<shutdown-classes>
  <shutdown-class classname="com.fitechlabs.xtier.oas10g.Oas10gMicroKernelShutdown">
    <execution-order>0</execution-order>
  </shutdown-class>
</shutdown-classes>

```

- 5) Start the Oracle 10g application server. To see the start and stop messages, please view the Oracle 10g application server console. The HTTP administration console is available at: <http://localhost:8888>, while the JMX management console is available at <http://localhost:8888/adminoc4/oc4j>.

Uninstalling the Oracle 10G AS Micro-kernel

UNINSTALLING THE ORACLE 10G AS MICRO-KERNEL

- 1) Remove the `${XTIER_ROOT}/lib/xtier/oas10g/xtier-oas10g-mk.jar` file from the `${OAS_ROOT}/applib` directory.
- 2) Delete the changes made to the `${OAS_ROOT}/config/server.xml` file (see installation steps above).
- 3) Restart the Oracle AS 10g server.

Installing the WebSphere 5 Micro-kernel

INSTALLATION INSTRUCTIONS

- 1) Copy `${XTIER_ROOT}/lib/xtier/ws5/xtier-ws5-mk.jar => ${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier`
(where `${WS5_HOME}` often looks like "C:/Program Files/WebSphere/AppServer").
- 2) Copy `${XTIER_ROOT}/lib/xtier/ws5/xtier.jar => ${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier`
- 3) Copy `${XTIER_ROOT}/lib/xtier/ws5/xtier-examples.jar => ${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier`
- 4) Start the WebSphere application server.
- 5) Run the HTTP administration console - <http://localhost:9090/admin/>.
- 6) Go to Servers>Application servers->SERVER_NAME->Administration services->Extension MBean providers.
- 7) Press New.
- 8) Enter classpath='mk installation path' like '/installedApps/SERVER_NAME/APP_NAME.ear/xtier'.
- 9) Enter name and description (any).
- 10) Press OK.
- 11) Enter created provider again.
- 12) Click 'extensionMBeans' link below.
- 13) Press New.
- 14) Enter 'descriptor URI'=xtier-mk-mbean.xml and 'type'=xtier-ws5-mk.
- 15) Press OK.
- 16) Go to Servers>Application servers->SERVER_NAME->Custom services.
- 17) Press New.
- 18) Check 'Startup' checkbox .
- 19) Enter 'classname'=com.fitechlabs.xtier.ws5.WebSphere5MicroKernel.
- 20) Enter any name and description,
classpath='\${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier/xtier.jar;
\${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier/xtier-examples.jar;
\${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier/xtier-ws5-mk.jar;' (Note, that if installing on Linux, the classpath should be separated by ":" and not ";" which is Windows specific.)
- 21) Press OK.
- 22) Enter created service again.
- 23) Click 'custom properties' link below and add 2 properties: root=c:\xtier-2.2.1: and kernel.region=examples
- 24) In order to run the JMX HTTP console, register JMX HTTPConnector in Administration services/JMX connectors.
- 25) Save the configuration (with the link in messages area).
- 26) Stop the server and start it again – xTier should start as well.
- 27) View server trace file at: \logs\SERVER_NAME\SystemOut.log

Uninstalling the WebSphere 5 Micro-kernel

REMOVING THE WEBSPHERE 5 MICRO-KERNEL

- 1) Remove the `${WS5_HOME}/installedApps/SERVER_NAME/APP_NAME.ear/xtier` directory.
- 2) Undo the changes in HTTP administration console. (See the installation steps above.)

xTier™ Management Console Plug-in Installation

Installing the Eclipse 2.x/3.x Plug-in

xTier™ is shipped with an Eclipse plug-in which allows the developer to launch the xTier™ Management Console from within Eclipse.

Unzip

%XTIER_ROOT %/plugins/com.fitechlabs.xnova.eclipse{2,3}plugin_2.2.1.zip to the **%ECLIPSE_HOME%/plugins** directory and then launch Eclipse.

The next step is to configure the plug-in's **%XTIER_ROOT %** (in the case of this example, C:\xTier-2.2.1) and **Console locale** parameters. Launch the Eclipse Preferences dialog by selecting the **Windows >> Preferences** menu item and you will notice a new entry for xTier™ at the bottom of the list. Select xTier™ from the list and then enter the installation root for the xTier™ installation as well as the desired locale.

Next, configure your current the Java perspective to include xTier™ by selecting the **Window >> Customize Perspective...** menu item. (When installing on Eclipse 2.x select "Available Items" and then expand the "Other" node to find the "xTier Action Set" item.) In the available command groups list, scroll down and you will see "xTier Action Set". Select "xTier Action Set" to add the xTier™ Action Set to the java perspective.

You should now see an xTier™ menu item. From this menu you can launch the xTier™ Management Console.

Uninstalling the Eclipse plug-in

To uninstall the xTier™ Management Console Eclipse 2.x/3.x plug-in simply delete the **com.fitechlabs.xnova.eclipse3plugin_2.2.1** plug-in directory that was created in **%ECLIPSE_HOME%/plugins** when unzipping the installation file during installation.

Installing the JBuilder 9 Plug-in

xTier™ ships with a plug-in for JBuilder . To install this plug-in extract the file **xtier.jb9plugin_2.2.1.zip** located in the **%XTIER_ROOT%/plugins** directory to the **%JBUILDER_HOME%/lib/ext** directory. (This zip file contains 2 jars: **gbhelper.jar** and **xtier-jb9-plugin.jar**.) JBuilder will automatically load the plug-in the next time that it runs. Upon launching JBuilder, you will notice a new xTier Management Icon on the toolbar, as well as one located at **Tools >> xTier Management Console**.

The final step is to configure the **%XTIER_ROOT%** and the **Console locale** parameters for the plug-in. You can launch the preferences page with: **Tools >> IDE Options**.

Uninstalling the JBuilder 9 Plug-in

To delete the JBuilder 9 plug-in, simply delete the **gbhelper.jar** and **xtier-jb9-plugin.jar** files from the **%JBUILDER_HOME%/lib/ext** directory.

Installing the IntelliJ 4 Plug-in

Unzip **#{XTIER_ROOT}/plugins/xtier.intellij4plugin_2.2.1.zip** file into **#{IDEA_HOME}/plugins** directory. Next, launch the IntelliJ IDEA IDE. Open Settings dialog (File->Settings). An "xTier plugin" button should appear among the IDE Settings. Click this button to invoke xTier™ plugin settings. Fill in the appropriate xTier™ root path, the JRE 1.4.x path and locale. Close the settings window. The xTier™ Management Console can more be launched using Tools -> xTier Management Console or the corresponding toolbar button.

Uninstalling the IntelliJ 4 Plug-in

Remove contents of **xtier.intellij4plugin_2.2.1.zip** file from the **#{IDEA_HOME}/plugins** directory. Restart the IntelliJ IDEA IDE.

Installing the NetBeans 3 Plug-in

Unzip **`${XTIER_ROOT}/plugins/xtier.netbeans3plugin_2.2.1.zip`** file into the **`${NETBEANS_HOME}/modules`** directory. Next, launch NetBeans IDE. Invoke the NetBeans control panel (menu Tools -> Options). An "xTier" folder should appear among the IDE Settings. Fill in the appropriate xTier™ root path and the JRE 1.4.x path and locale. Close the settings window. The xTier™ Management Console can be launched from Tools -> xTier Management Console or the corresponding toolbar button.

Uninstalling the NetBeans 3 Plug-in

Remove contents of the **`xtier.netbeans3plugin_2.2.1.zip`** file from the **`${NETBEANS_HOME}/modules`** directory. Restart the NetBeans IDE.

Installing the NetBeans 4 Plug-in

Unzip **`${XTIER_ROOT}/plugins/xtier.netbeans4plugin_2.2.1.zip`** file into the **`${NETBEANS_HOME}/modules`** directory. Next, launch NetBeans IDE. Invoke the NetBeans control panel (menu Tools -> Options). An "xTier" folder should appear among the IDE Settings. Fill in the appropriate xTier™ root path and the JRE 1.4.x path and locale. Close the settings window. The xTier™ Management Console can be launched from Tools -> xTier Management Console or the corresponding toolbar button.

*Note: in NetBeans 4 beta release you need to "Add Module" via Tools -> Options -> IDE Configuration -> Modules -> Add Module after unzipping **`${XTIER_ROOT}/plugins/xtier.netbeans4plugin_2.2.1.zip`** file into the **`${NETBEANS_HOME}/modules`** directory.*

Uninstalling the NetBeans 4 Plug-in

Remove contents of the **`xtier.netbeans4plugin_2.2.1.zip`** file from the **`${NETBEANS_HOME}/modules`** directory. Restart the NetBeans IDE.

Installing the Oracle JDeveloper 10g Plug-in

Unzip the **`${XTIER_ROOT}/plugins/xtier.jdev10gplugin_2.2.1.zip`** file into the **`${JDEV_HOME}/jdev/lib/ext`** directory and launch the JDeveloper IDE. Invoke the JDeveloper 10g control panel (Tools -> Preferences). An "xTier" folder should appear among the IDE Settings. Fill in

the appropriate xTier™ root path and the JRE 1.4.x path and locale. Close the control panel window.

The xTier™ Management Console can be launched by Tools -> xTier Management Console or the corresponding toolbar button.

Uninstalling the Oracle JDeveloper 10g Plug-in

Remove contents of the **xtier.jdev10gplugin_2.2.1.zip** file from the **\${JDEV_HOME}/jdev/lib/ext** directory. Restart the JDeveloper IDE.

Installing the Oracle JDeveloper 9i Plug-in

Unzip the **\${XTIER_ROOT}/plugins/xtier.jdev9iplugin_2.2.1.zip** file into the **\${JDEV_HOME}/jdev/lib/ext** directory and launch the JDeveloper IDE. Next, invoke the JDeveloper 9i control panel (Tools -> Preferences). An "xTier" folder should appear among the IDE Settings.

Fill in the appropriate xTier™ root path and JRE 1.4.x path and locale. Close the control panel window.

The xTier™ Management Console can be launched by Tools -> xTier Management Console or the corresponding toolbar button.

Uninstalling the Oracle JDeveloper 9i Plug-in

Remove contents of the **xtier.jdev9iplugin_2.2.1.zip** file from the **\${JDEV_HOME}/jdev/lib/ext** directory. Restart the JDeveloper IDE.

Installing BEA Workshop 8 Plug-in

Unzip the **xtier.wlw8plugin_2.2.1.zip** archive to the **%BEA_HOME%/WEBLOGIC8%/workshop/extensions** directory and launch WebLogic Workshop 8. Next, invoke the Workshop IDE Properties (Tools -> IDE Properties...) where the xTier™ folder should appear among the list of IDE Properties. Fill in the appropriate xTier™ root path, the JRE 1.4.x path and the locale. Now, close the properties window.

To launch the xTier™ Management console, use the menu item (Tools -> xTier™ Management Console) or the corresponding toolbar button.

Uninstalling the BEA Workshop 8 Plug-in

Remove the previously installed files from the **%BEA_HOME%/WEBLOGIC8%/workshop/extensions** directory.

Uninstalling xTier™

To uninstall xTier™ on Windows, from the Windows Start Menu navigate to and click **xTier – Java and .NET Components Uninstaller**. This will start the GUI-based uninstaller that will launch the uninstall wizard.

Note that the uninstallation wizard *will not uninstall the pre-packaged micro-kernels* for JBoss 3.x and BEA WebLogic 7.x that could have been optionally installed by the end user after the xTier™ installation wizard completed. (Consult the sections of this document which specifically deal with JBoss and WebLogic installation for proper uninstallation instructions for the pre-packaged xTier™ micro-kernels.)

The uninstallation wizard *will not uninstall the IDE plug-ins* that the user may have installed in their respective IDEs. See the uninstallation instructions in the plug-in section.

Reinstalling or Installing a New Version

Before installing a new version of xTier™ (i.e. moving from xTier™ 2.0 to xTier™ 2.2) or reinstalling the current version, the user needs to uninstall the currently installed xTier™ software.

Note also that all the files under **%XTIER_ROOT%** will be deleted when uninstalling xTier™. If there are any files that have to be preserved, the files must be copied elsewhere before the uninstalling begins.