XTT™ v 5.9.4

Setup Guide

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Copyright

Important: How to Use This Setup Guide

This ***Setup Guide*** will guide you through the installation of XTT v 5.9.4 in one of the following IDEs:

- NetBeans IDE 6.0 (with Web &Java EE Bundle)
- Eclipse 3.3 SDK with WTP 2.0
- Eclipse 3.2 SDK with WTP 1.5

This guide describes how to:

- Install XTT v 5.9.4 in NetBeans or Eclipse
- Open a sample project workspace called **xtt−examples**
- Build and deploy the **xtt−examples** web application to the bundled Tomcat servlet container.

Once your setup is complete, please read the Developer Guide (in the XTT documentation integrated in the help system of your IDE) in order to:

- Understand how to work with the **xtt−examples** workspace
- Explore the examples and published source code in the **xtt−examples** workspace
- Learn how set up a new XTT project workspace for your own application
- Configure XTT so that it can interface with JDBC or Object Persistence Layer data sources

Note: This *Setup Guide* is provided as an independent `.pdf` file to be used as reference when first installing XTT. After installing XTT, all the other XTT documentation referred to in this Guide becomes available through the IDE's help/documentation system (under the menu: *Help > Help Contents > XTT 5.9.4 Help*).

Conventions used in this Guide

- {*XTT home*}: This refers to the root folder of the unzipped XTT downloads. If you are unzipping to `C:`, then {*XTT home*} refers to the directory `C:/InsiTech/XTT−5.9.4`.

Getting Further Assistance

To get free assistance installing XTT, please email InsiTech support at support@itgp.com.

Prerequisites

Software Requirements

Developing with XTT v 5.9.4 requires one of the following IDEs:

IDE Requirements	Additional Requirements	
	Design time	**Run time**
NetBeans 6.0	JDK 6.0 Update 2 or higher[1]	JRE 1.4
Eclipse 3.3 with WTP 2.0	JDK 6.0 Update 2 or higher[2] Instantiations Designer[3] v 6.4.1 or above	JRE 1.4
Eclipse 3.2 with WTP 1.5	JDK 6.0 Update 2 or higher[2] Instantiations Designer[3] v 6.4.1 or above	JRE 1.4

Note 1: Java 6.0 is recommended for GUI development in NetBeans due to a white−on−white text annoyance occuring the bean object trees in the XTT Object Wizards and tools with Java 5.0.

Note 2: Java 6.0 is recommended for GUI development in Eclipse due to occasional freezing observed when using customizers with Java 5.0.

Note 3: Instantiations Designer (WindowBuilderPro) is recommended for GUI development in Eclipse, Although other GUI builders for Eclipse exist, InsiTech is not capable of supporting them due to their missing features and outstanding open bugs.

Abbreviations used in this document

All the abbreviations described in the documentation are defined in the Getting Started Guide.

Data sources and types contained in the examples workspace for the initial install

Relational Database	The xtt−examples workspace uses **HSQLDB** for its database . This open source database can be found at: http://hsqldb.sourceforge.net.

Limitations of an unlicensed XTT Server

Unless licensed, an XTT Server permits only one concurrent connection from one user. Other than this limitation, an unlicensed XTT Server offers all the functionality of a licensed XTT Server.

For additional details on these limitations, please refer to the Developer Guide.

Installing XTT in NetBeans

Note 1: XTT v 5.9.4 for NetBeans is specifically designed to work with the NetBeans version 6.0. Older NetBeans versions are not supported.

Note 2: After installing the XTT v 5.9.4 modules inside NetBeans, any existing XTT workspace created prior to XTT v 5.8.0 will need to be migrated. Please refer to Appendix C: Migrating existing workspaces in NetBeans for more details.

Note 3: If you plan to use web XTT Web Services, make sure that your NetBeans has enough memory. Memory setting for NetBeans live in \NetBeans 6.0\etc\netbeans.conf file. These JVM switches are: −J−Xmx, −J−XX:PermSize and −J−XX:MaxPermSize. Settings that we like to use are −J−Xmx256m, −J−XX:PermSize=32m and −J−XX:MaxPermSize=192m. For a complete discussion of this topic visit: http://performance.netbeans.org/howto/jvmswitches/index.html.

Install the XTT modules for NetBeans

There are three paths to installing the latest XTT modules in your IDE:

- **Offline new installation** of the XTT modules downloaded from http://www.insitechinc.com/download.php3
- **Online new installation** of the XTT modules via the *NetBeans 3rd Party Plugins Update Center*
- **Online updates** to update older modules via the *XTT Update Center*

Offline installation via XTT downloads

1. **Install NetBeans IDE 6.0**. Download the **Web &Java EE** (or **All**) NetBeans IDE Download Bundle from http://www.netbeans.org. Install NetBeans on your computer.
2. **Download the XTT modules for NetBeans** from http://www.insitechinc.com/download.php3. You need three XTT modules.
    - ♦ The XTT core module
    - ♦ The XTT support module
    - ♦ The XTT third−party module
3. Run the NetBeans IDE. Select **Tools > Plugins**.
4. Click on the **Downloaded** tab.
5. Click on **Add Plugins...**. Browse to the XTT modules that you downloaded in the earlier step. Add all of the XTT modules to the downloaded tab list.
6. Verify the check box is checked for each XTT module listed. Click on **Install**. Then, click on **Next**.
7. Accept the License Agreement by clicking on the text starting with **I accept ...**. Then, click on **Install**.
8. Wait for the modules to be validated.

   Important Note: You will see a "Validation Warning" suggesting that the XTT modules are "untrusted". This warning is a bug in NetBeans. The XTT modules are duly signed using a certificate issued by Thawte to InsiTech, Inc. The modules themselves are based at http://www.insitechinc.com. Simply examine the certificate to verify this is the case, and proceed with the installation.

   Click **Continue**.
9. Wait for the modules to be installed. Click on **Finish** to complete the module installation.

After installing XTT, a window will be opened providing you a link to download the XTT sample workspaces for Netbeans described in the section below.

Online installation via the 3rd Party Plugins Update Center

1. **Install NetBeans IDE 6.0**. Download the **Web &Java EE** (or **All**) NetBeans IDE Download Bundle from http://www.netbeans.org. Install NetBeans on your computer.
2. Run the NetBeans IDE. Select **Tools > Plugins**.
3. Click on the **Settings** tab. Verify that the check box is checked for **3rd Party Plugins**.
4. Click on the **Available Plugins** tab. The following XTT modules should be available:
    - The XTT core module
    - The XTT support module
    - The XTT third−party module
5. Verify the check box is checked for each XTT module listed. Click on **Install**. Then, click on **Next**.
6. Accept the License Agreement by clicking on the text starting with **I accept ...**. Then, click on **Install**.
7. Wait for the modules to be validated.

   Important Note: You will see a "Validation Warning" suggesting that the XTT modules are "untrusted". This warning is a bug in NetBeans. The XTT modules are duly signed using a certificate issued by Thawte to InsiTech, Inc. The modules themselves are based at http://www.insitechinc.com. Simply examine the certificate to verify this is the case, and proceed with the installation.

   Click **Continue**.
8. Wait for the modules to be installed. Click on **Finish** to complete the module installation.

After installing XTT, a window will be opened providing you a link to download the XTT sample workspaces for Netbeans described in the section below.

Online updates via the XTT Update Center

1. Run the NetBeans IDE. Select **Tools > Plugins**.
2. Click on the **Settings** tab. Verify that the check box is checked for **XTT Update Center**.
3. Click on the **Available Plugins** tab. Look for the following updatable XTT modules:
    - The XTT core module
    - The XTT support module
    - The XTT third−party module
4. Verify the check box is checked for each XTT module listed (if any). Click on **Install**. Then, click on **Next**.
5. Accept the License Agreement by clicking on the text starting with **I accept ...**. Then, click on **Install**.
6. Wait for the modules to be validated.

   Important Note: You will see a "Validation Warning" suggesting that the XTT modules are "untrusted". This warning is a bug in NetBeans. The XTT modules are duly signed using a certificate issued by Thawte to InsiTech, Inc. The modules themselves are based at http://www.insitechinc.com. Simply examine the certificate to verify this is the case, and proceed with the installation.

   Click **Continue**.
7. Wait for the modules to be installed. Click on **Finish** to complete the module installation.

After installing XTT, a window will be opened providing you a link to download the XTT sample workspaces

for Netbeans described in the section below.

XTT modules are installed; Now What?

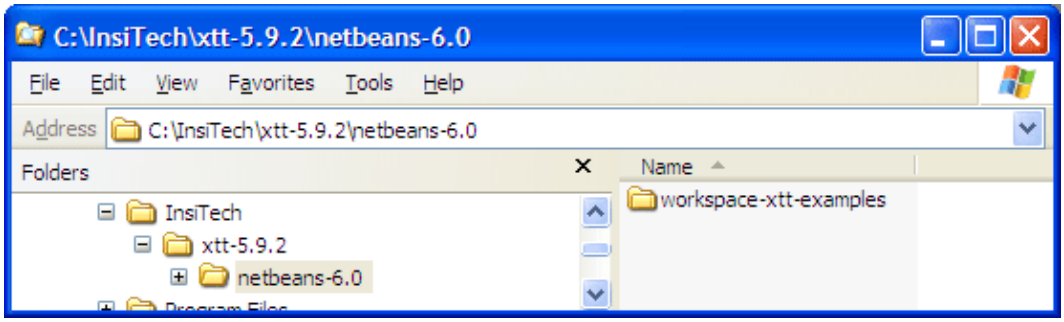
We will use xtt−examples project workspace to demonstrate the capabilities of XTT. Follow the instructions below.

Download the xtt−examples workspace for NetBeans

If you have installed the XTT module/plugin through NetBeans Update Center Wizard, please follow this link http://www.insitechinc.com/download.php3 and download the accompanying the **xtt−examples** project workspace. It is not contained in the shipped modules.

Unzip the xtt−examples workspace for NetBeans

Once you have installed the XTT modules for NetBeans, download the XTT samples for NetBeans from http://www.insitechinc.com/download.php3, and unzip it to your file system.

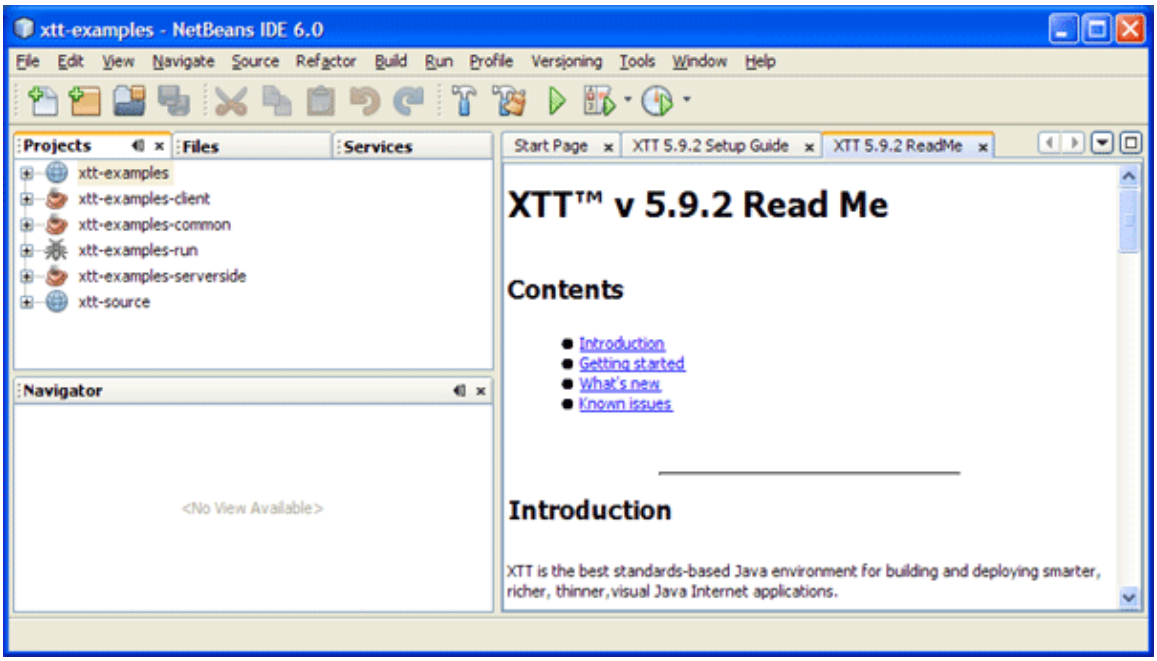


File/Directory	Purpose
{*XTT home*}	The base folder containing the Setup Guide, readme, and license for XTT 5.9.4
{*XTT home*}`/netbeans−6.0`	The base folder for NetBeans−related examples
{*XTT home*}`/netbeans−6.0/workspace−xtt−examples`	An XTT project workspace containing selected XTT source code and examples

Open the xtt−examples workspace in the IDE

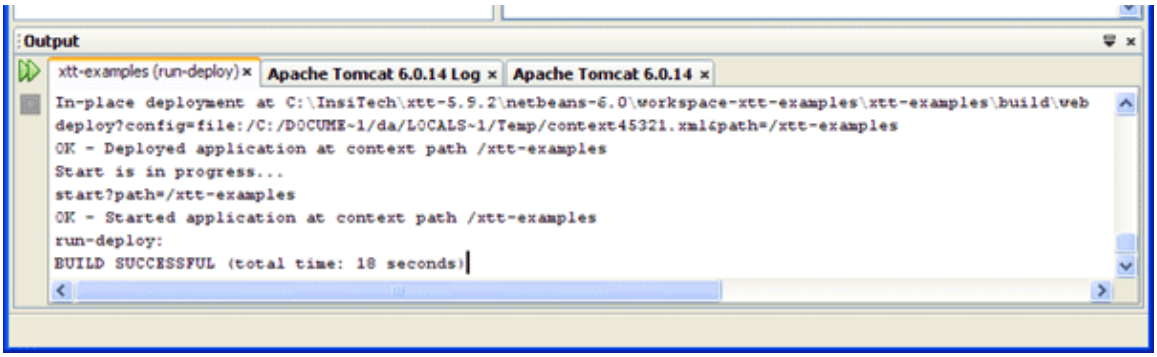
The XTT Development Kit contains a simple samples application called **xtt−examples** which we will use to verify the correct installation of XTT. Please follow the steps below:

1. Click on **File** −> **Open Project...** and browse into {*XTT home*}`/netbeans−6.0/workspace−xtt−examples` directory.
2. Select project **xtt−examples** and **xtt−source**. Click **Open Project Folder**.
3. After **Scanning Project Classpaths** process is completed you will see six projects in the Project tab; **xtt−examples**, **xtt−examples−client**, **xtt−examples−common**, **xtt−examples−run**, **xtt−serverside** and **xtt−source**.



Deploy the xtt−examples web application

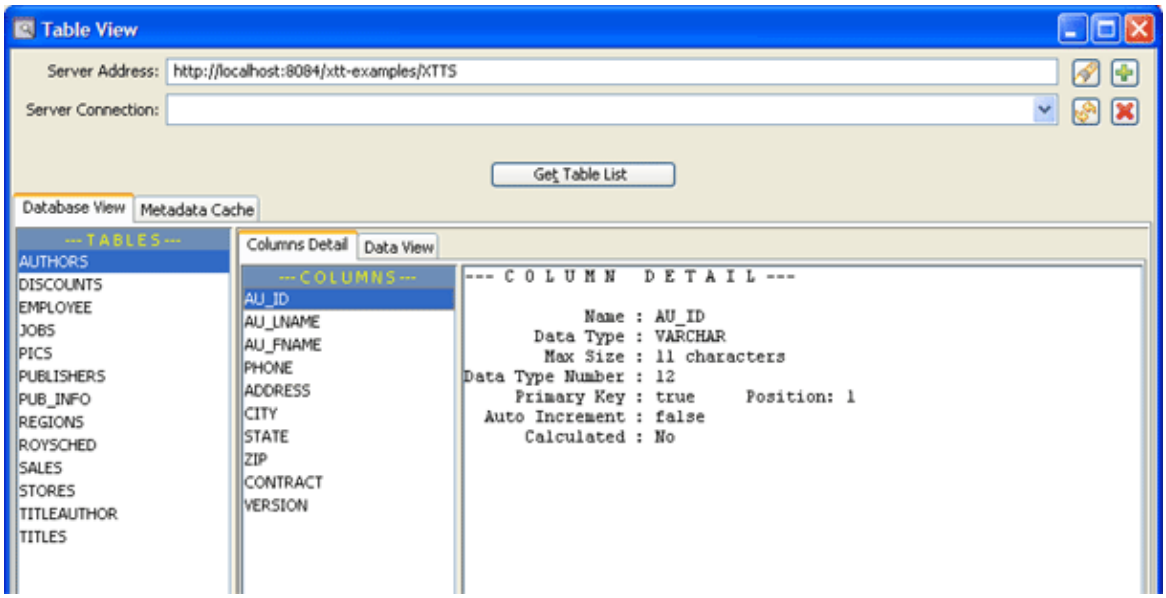
1. If you have an XTT Server license file (called `XTTS_License.properties`), copy that file to the root of the common classes of your application server (e.g., in Tomcat that would be {*Tomcat home*}`/common/classes`). Refer to your application server's documentation for details where this directory resides. (Alternately, you may also copy it to the root of the classpath of *each* of your web applications. e.g.: {*XTT webapp project root*}`/src/java`, however that is not recommended.)
2. Click on the **Projects** tab. Right−click on the **xtt−examples** project to bring up project context menu. Select **Clean and Build**.
3. Right−click on the xtt−examples project to bring up project context menu. Select **Undeploy and Deploy**.
4. To verify that the deployment process was successful, confirm that there were no error messages in the Output window in the **xtt−examples (run−deploy)** tab. The **Apache Tomcat 6.0.14 Log** tab should indicate that one database connection (`CP1`) was initialized and that one object connection (`HIBERNATE`) was initialized.



Test the connection to the xtt−examples web application

Right click on the xtt−examples−client project to bring up project context menu. Select **XTT Table View button (** **)**.

The XTT Table View Wizard is launched (as shown in the next following). The server address **http://localhost:8084/xtt−examples/XTTS** appears in the **Server Address** text field. Press the **Get Table List** button.



Select a table, and then a column. If you see table metadata similar to the picture above, the installation process was successful.

Next steps

You have successfully completed the setup.

Please consult the Developer Guide (in the NetBeans menu under **Help > Help Contents > XTT Help > Product Documentation > Developer Guide**) for further instructions on using the xtt−examples application, creating your own application and exploring the source code and examples.

If you wish to migrate an existing XTT workspace created prior to XTT v 5.8.0, please refer to Appendix B: Migrating existing workspaces in NetBeans.

Installing XTT in Eclipse

Note 1: XTT v 5.9.4 for Eclipse is specifically designed to work with the Eclipse version 3.2 or 3.3. Other Eclipse versions are not supported.

Note 2: The Web Tools Platform (WTP) is required to activitate the core XTT plugins. For develoment, the developer has a choice of deploying webapps using WTP (in WTP−based workspaces) or building webapps without WTP in Ant−based project workspaces.

Note 3: After installing the XTT v 5.9.4 feature inside Eclipse, any existing XTT workspace created prior to XTT v 5.8.0 will need to be migrated. Please refer to Appendix B: Migrating existing workspaces in NetBeans for more details.

Note 4: If you plan to use web XTT Web Services, make sure that your Eclipse has enough memory. By default, Eclipse will allocate up to 256 megabytes of Java heap memory. This should be ample, but you could conceivably have to increase this amount to generate code for some web services. Eclipse allows you to pass arguments directly to the Java VM using the −vmargs command line argument.

```
eclipse.exe −vmargs −Xms128M −Xmx512M −XX:PermSize=128M −XX:MaxPermSize=256M
```

where `−Xmx` value set to greater than "512M" (256 megabytes −− the default). For a complete discussion of this topic visit:
http://help.eclipse.org/help32/index.jsp?topic=/org.eclipse.platform.doc.user/tasks/running_eclipse.htm

or http://wiki.eclipse.org/FAQ_How_do_I_increase_the_permgen_size_available_to_Eclipse%3F

Install the XTT plugins for Eclipse

There is currently one path to installing the latest XTT plugins in your IDE:

- **Offline new installation** of the XTT plugins downloaded from http://www.insitechinc.com/download.php3

Offline installation of a downloaded XTT plugins

1. **Install the Eclipse SDK with the Web Tools Platform** from http://download.eclipse.org/webtools/downloads. Choose either:
   - ♦ Eclipse 3.3 SDK with WTP 2.0 − Download the "all−in−one" module.
   - ♦ Eclipse 3.2 SDK with WTP 1.5 − Download the "all−in−one" module.

   Unzip the downloaded "all−in−one" Eclipse WTP archive into your preferred Eclipse WTP installation home (e.g. `C:\eclipse`.)
2. **Download the Instantiations Swing Designer (WindowBuilderPro)** from http://www.instantiations.com/windowbuilderpro/download.html visual editor plugin. Select the latest stable build (6.4.1 and above) of the **Zip Edition for Eclipse**, either 3.2 or 3.3, depending on the Eclipse version that you have installed. Install the plugin into your Eclipse WTP installation home (e.g. `C:\eclipse`.)
3. **Download the XTT plugins for Eclipse** from http://www.insitechinc.com/download.php3. The plugins are contained in a single zip archive. Install the plugin into your Eclipse WTP installation home (e.g. `C:\eclipse`.)
4. **Start Eclipse and activate Instantiations Designer:**

a. Open the Preferences window. From the menu bar choose: **Window > Preferences**. Then select **Designer** from the tree.
b. On the Designer tab, click on the **Registration and Activiation** button.
c. If you have registered serial number and activation key it, enter it. If you do not have a registered serial number, follow the steps to obtain a free evaluation serial number and activation key.

XTT plugins are installed; Now What?

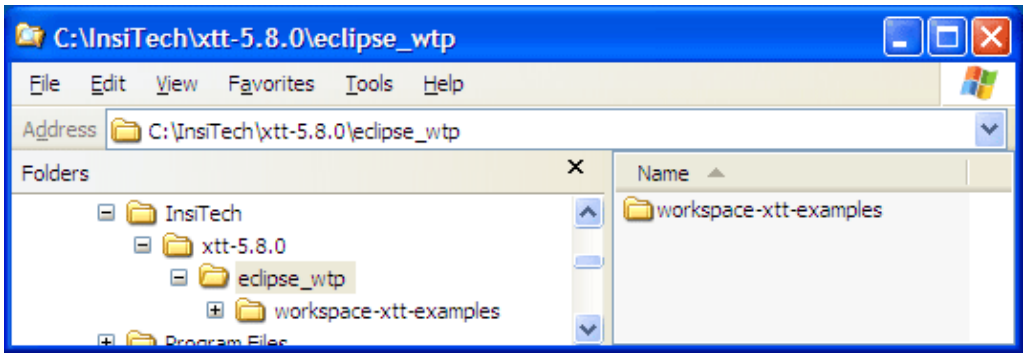
We will use xtt−examples project workspace to demonstrate the capabilities of XTT. The demonstration will use the **WTP−based** flavor of the XTT Examples project workspace, and not the **Ant−based** flavor. (The Ant−based flavor is also available. Please refer to the Developer's Guide for more information.) Follow the instructions below.

Download the xtt−examples workspace for Eclipse

Please follow this link http://www.insitechinc.com/download.php3 and download the accompanying the **WTP−based xtt−examples** project workspace. It is not contained in the shipped plugins.

Unzip the xtt−examples workspace for Eclipse

Once you have installed the XTT plugins for Eclipse, download the XTT samples for Eclipse from http://www.insitechinc.com/download.php3, and unzip it to your file system.

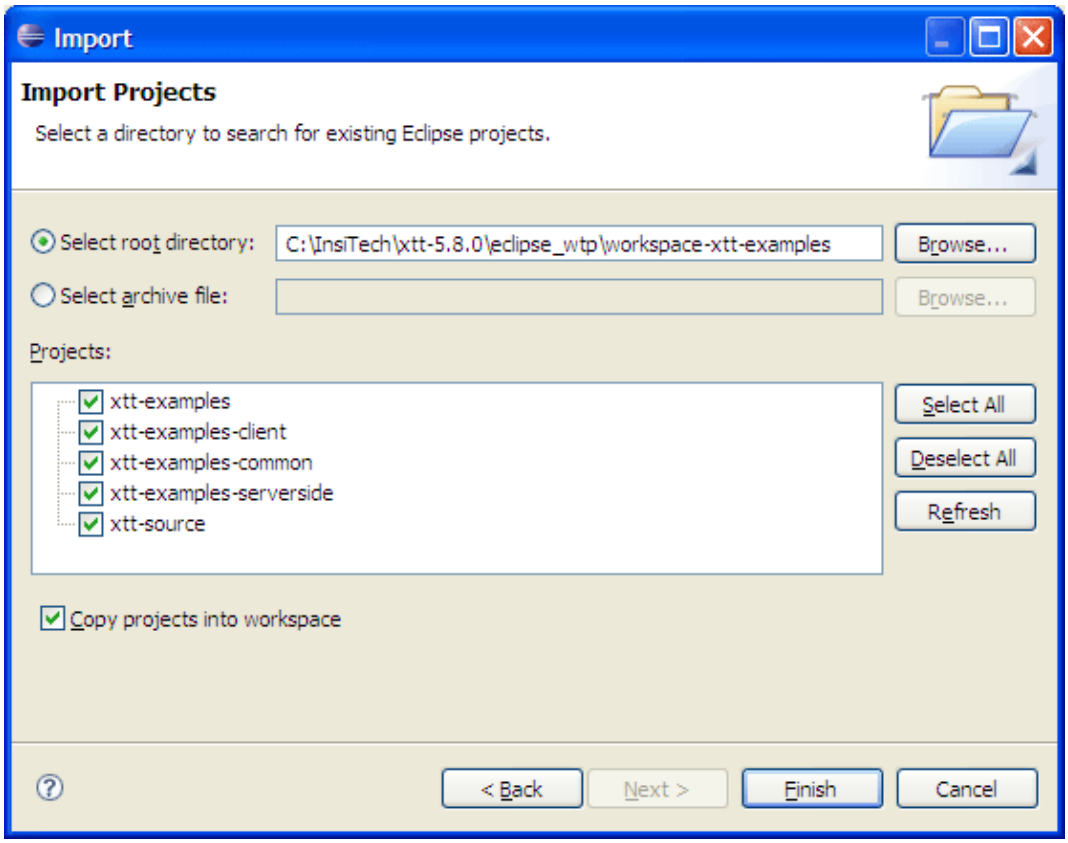


File/Directory	Purpose
{*XTT home*}	The base folder containing the Setup Guide, readme, and license for XTT 5.9.4
{*XTT home*}`/eclipse_wtp`	The base folder for Eclipse−related examples
{*XTT home*}`/eclipse_wtp/workspace−xtt−examples`	An XTT project workspace containing selected XTT source code and examples

Open the xtt−examples workspace in the IDE

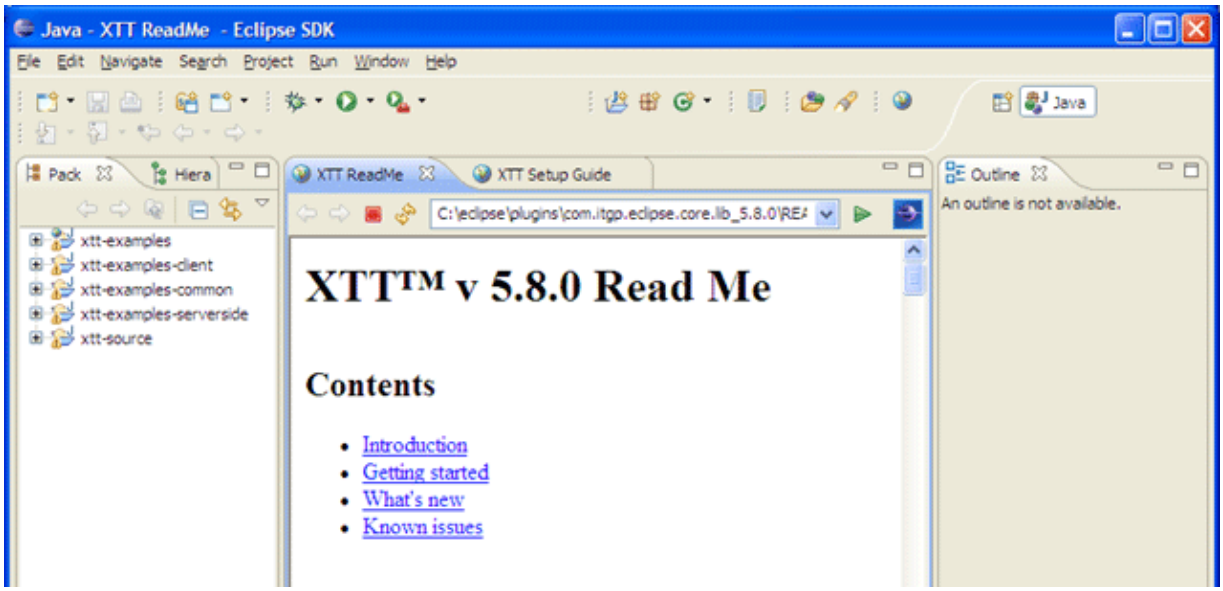
1. Click on **File > Import...** Select **General** > **Existing Projects into Workspace**. Browse to {*XTT home*}`/eclipse_wtp/workspace−xtt−examples`. Five projects should appear. Make sure

all five projects are selected, and that the 'Copy project into workspace' check box is checked. Click **Finish** and wait a few moments until the projects are imported and recompiled by Eclipse.



2. Allow the projects to be built. **Important:** While the projects are being built, you will see errors and warnings momentarily appear in the "Problems" pane of the IDE. All errors should be resolved once the projects are completely built.

3. The **xtt−examples** workspace is now opened and initialized.



Prepare the xtt−examples web application for deployment

1. Install the license file

If you have an XTT Server license file (called `XTTS_License.properties`), copy that file to the root of the common classes of your application server (e.g., in Tomcat that would be {*Tomcat home*}`/common/classes`). If you use the XTT defined Tomcat, you can find it in eclipse's plugins directory under com.itgp.eclipse.tomcat_1.0.0 folder. Refer to your application server's documentation for details where this directory resides. (Alternately, you may also copy it to the root of the classpath of *each* of your web applications. e.g.: {*XTT webapp project root*}`/src/java`.)

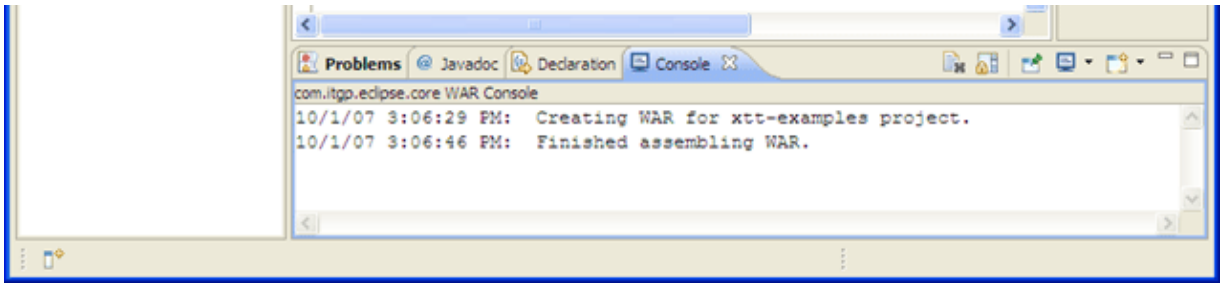
2. Run the Make WAR script

1. In the **Package Explorer** tab select **xtt−examples** project.

2. Right click on the selected **xtt−examples** project and choose **XTT Wizards** > **Export and WAR.** This action performs two tasks:
   A. It generates the buildfiles (`build.xml`) for each project

   B. It runs the `make−war` target of the Ant script file `xttbuild.xml`. This Ant script does two things:
      ◊ Aggregates the client libraries under the web application root (required for Java Web Start and Java Plug−in deployments)

      ◊ Builds a distributable WAR file for the web project (created in the `xtt−examples/dist` folder).
3. Wait until you see the "*Finished assembling WAR.*" message in the Console.



With these tasks performed, the **xtt−examples** application is ready to be deployed.

Deploy the xtt−examples web application

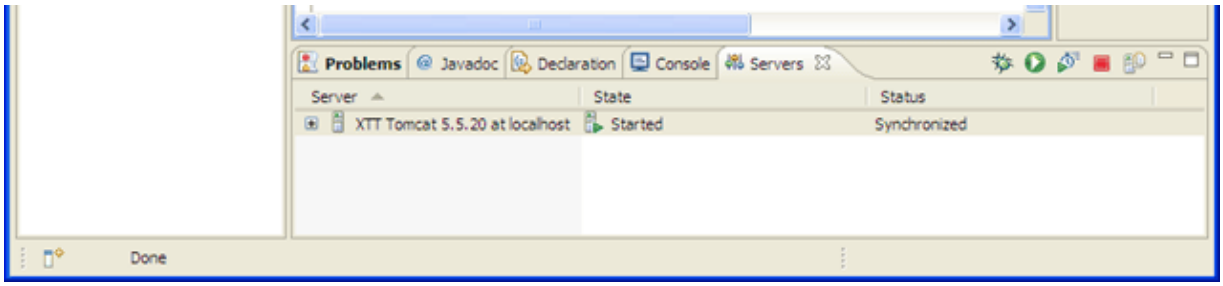
1. Prepare the deployment as described in the *Prepare the demo web application for deployment* section.

2. In the Package Explorer, right−click the project **xtt−examples**. From the context menu, select **Run as... > Run on Server**.

3. In the **Run on Server** window, select a Server runtime **XTT Tomcat 5.5.20** which is pre−installed.

4. Click the **Finish** button.

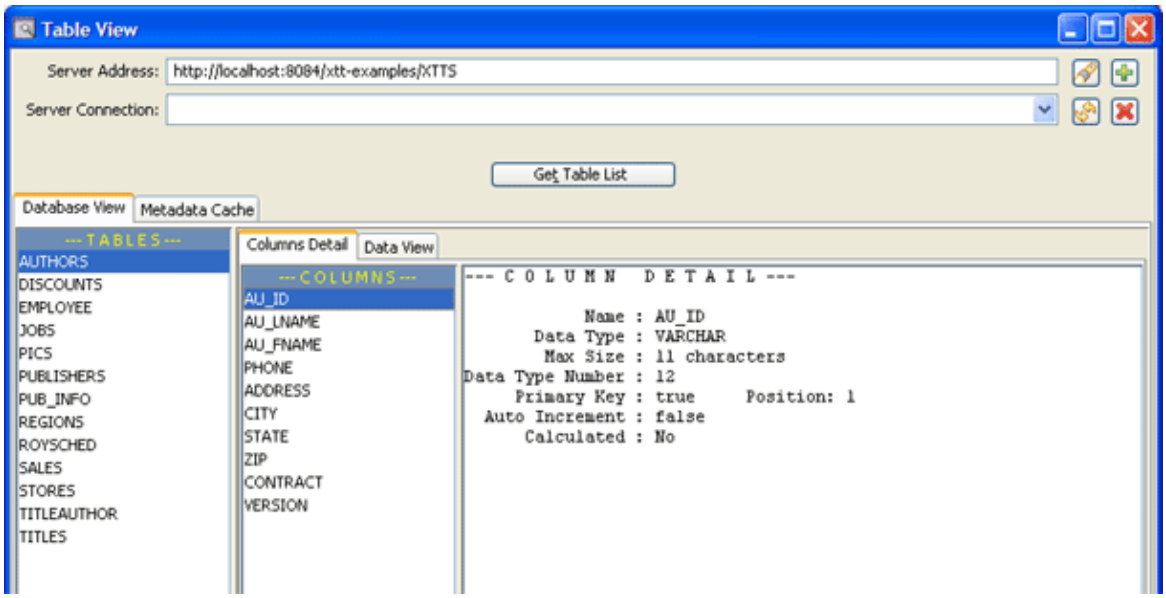
5. To verify that the deployment process was successful, confirm that there were no error messages in the Output window under the Console tab. The log should indicate that one database connection (`CP1`) was initialized and that one object connection (`HIBERNATE`) was initialized.



Test the connection to the xtt−examples web application

Right click on the xtt−examples−client project to bring up project context menu. Select **XTT Wizards** > **XTT Table View**.

The XTT Table View Wizard is launched (as shown in the next following). The server address **http://localhost:8084/xtt−examples/XTTS** appears in the **Server Address** text field. Press the **Get Table List** button.



Select a table, and then a column. If you see table metadata similar to the picture above, the installation process was successful.

Next steps

You have successfully completed the setup.

Please consult the Developer Guide (in the Eclipse menu under **Help > Help Contents > XTT Help > Product Documentation > Developer Guide**) for further instructions on using the xtt−examples application, creating your own application and exploring the source code and examples.

If you wish to migrate an existing XTT workspace created prior to XTT v 5.7.0, please refer to Appendix B: Migrating existing workspaces in Eclipse.

Appendices

Appendix A: About the XTT Development Platform

The XTT 5.9.4 Development Platform contribute the following items to the Eclipse and NetBeans IDE.

1. XTT wizards are available in the context menus of the projects.
    - ♦ XTT Table Viewer
    - ♦ XTT Lock Viewer
    - ♦ XTT Form Wizard
    - ♦ XTT Popup Wizard
    - ♦ XTT Wizard Options
    - ♦ XTT Object Form Wizard
    - ♦ XTT Object Popup Wizard
    - ♦ XTT Object Wizard Options
    - ♦ XTT XFire Web Services Consumer Wizard
    - ♦ Open Web Application Home Page (available only in Eclipse)
    - ♦ Export and WAR (available only in Eclipse)
2. XTT wizards are available in the context menus of the Java editor.
    - ♦ XTT Client Remote Method Code Generation (XTT client projects)
3. XTT Help is added to the Help menu.
4. Three new tabs for XTT components will appear on the controls **Palette**; they are: **XTT**, **XTT Extras**, **XTT Objects**.
5. The following libraries are now available to be added to projects:
    - ♦ XTT Client API
    - ♦ XTT Development
    - ♦ XTT Client Extras
    - ♦ XTT Client Remote Class Loader
    - ♦ XTT Server API
    - ♦ XTT Server Cache
    - ♦ XTT Server Hibernate3
    - ♦ XTT Server Hsql
    - ♦ XTT Server WebStart
    - ♦ XTT Server WSDL4J
    - ♦ XTT Server XFire
6. New XTT workspace and XTT project creation tools available under the **New Project** menu.
    - ♦ XTT Project Workspace (includes a webapp project, a client project and a common project) (two types, WTP−based and Ant−based, in Eclipse)
    - ♦ XTT Serverside Project

Appendix B: Migrating existing XTT workspaces

This section covers migrating those workspaces created using XTT versions earlier than 5.7.0. For the purposes of this section, we assume you have an existing workspace called **myapp**.

Migration for XTT 5.7 and earlier: Overview

Manual migration is required for all XTT 5.7 and earlier projects. The steps for this migration are as follows:

1. Create a new workspace using XTT 5.9.4
2. Copy the source code of the existing workspace into the new workspace
3. Resolve any additional dependencies and unsupported API/JAR issues

Section below explains each of these steps in detail.

Migration for XTT 5.7 and earlier: Detailed Instructions

A. Create a new workspace

1. Backup your existing workspace.
2. Install the XTT v 5.9.4 Development Framework in your IDE as described in this Setup Guide.
3. Open the IDE and under the menu **New Project...**, create a *new* XTT project workspace called **myapp**.

B. Copy the source code of the existing workspace into the new workspace.

1. From each project contained in the old **myapp** workspace, use a file manager to copy the existing source code to the corresponding project in the new workspace.
    - Project **myapp:** The default source code folder is `src/java`. Copy all existing into the new workspace.
    - Project **myapp:** Web files are found in the `web` folder. Copy any new or modified into the new workspace.
    - Project **myapp−client:** The default source code folder is `src`. Copy all existing into the new workspace.
    - Project **myapp−common:** The default source code folder is `src`. Copy all existing into the new workspace.
    - In addition, copy whatever other files and archives that you may have placed in other places in the workspace.

    Important:
    - Do not copy into the new workspace any old version of the script file `build.xml` which is found in each project root.
    - Do not copy into the new workspace the files contained in the `nbproject` folder found in each project root.
    - Do not copy into the new workspace any pre−XTT v 5.7.0 source code in packages `com.itgp.mvc` and `com.itgp.mvc.view`. (Instead replace it with the latest 5.9.4 source from the xtt−examples workspace if you wish.)
2. Open the new workspace in the IDE in which you installed the latest XTT.

C. Resolve any additional dependencies and unsupported API issues

1. *Resolve any dependencies on third−party libraries as required.*
   Duplicate the compiling libraries as they were in the old workspace.
2. *Refactor all discontinued XTT API usages*
   A substantial number of changes to the XTT API have occurred between versions 5.3 and 5.4 For a complete list of API changes, refer to the file `ChangeList.html`. If you require further assistance refactoring your XTT workspace, please email us at support@itgp.com for assistance.