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NetDimensions Talent Suite

Installation Guide 10.0

This guide explains how to install the NetDimensions Talent Suite 10.0 Products.

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About This Guide

In This Guide

This guide explains how to install the NetDimensions Talent Suite 10.0 Products.

NetDimensions Talent Suite 10.0 is a Java-based middleware server that works on a variety of platforms and in cooperation with multiple third-party web servers or transaction servers.

All core configuration principles are covered in this guide, though more detailed configuration information is provided for

- Apache
- Apache Tomcat
- Microsoft SQL Server
- Oracle

Variations on the basic setup are also explained in the guide.

The reader should refer to vendor specific installation information documents for detailed installation instructions for databases, other services and the web server as these are not included here, though relevant configuration details are covered.

If You Need Help

If you cannot resolve an installation problem using this guide or other documentation, or should you have any queries related to an installation, the relevant party or parties to contact are described in your Technical Support Contract.

For other queries, or if you are not sure whom to contact, you may contact NetDimensions at support@netdimensions.com.

Please also refer to the support section of the NetDimensions web site at <http://www.netdimensions.com/support> for the latest information and downloads.

Sales enquiries should be directed to sales@netdimensions.com.

Document Errors

If you find errors or inconsistencies in this or any other NetDimensions Talent Suite 10.0 document; or feel that any sections are unclear, please email your comments to support@netdimensions.com.

1. Before You Install NetDimensions Talent Suite 10.0

NetDimensions Talent Suite 10.0 Requirements

NetDimensions Talent Suite 10.0 is an open standards-based architecture that allows organizations of all size to create, distribute, document and manage training programs over the Internet.

Before installing NetDimensions Talent Suite 10.0, ensure that your hardware and software environment are compatible with the requirements listed below.

NetDimensions Talent Suite 10.0 requires Windows, UNIX or Linux operating system (along with their respective memory and disk space requirements as listed below).

In addition, your computer must have the following hardware and software:

- A supported Web Server;
- A supported Servlet Engine;
- A supported Database Server;
- JDBC driver for the database server;
- Java Virtual Machine 1.6 or above

Supported Platforms

Refer to Table 1 below for minimum memory and disk space requirements for an operational NetDimensions Talent Suite 10.0 system.

Operating System	Required Memory	Required Disk Space
Microsoft Windows 2000 SP2 or later Microsoft Windows XP Microsoft Windows 2003 Microsoft Windows Vista Microsoft Windows 7	128MB minimum	500 MB minimum
Solaris 7 or above	128MB minimum	500 MB minimum
Red Hat Linux, SUSE Linux, other Linux	128MB minimum	500 MB minimum

Table 1 – Requirements for Supported Platforms

However, the selection of production hardware and its configuration is dependent upon the loading anticipated for the system. This loading includes:

- NetDimensions Talent Suite 10.0
- The database server
- The web server
- Network bandwidth limitations and
- The nature of the courseware to be used by the learning community.



Note

If you are using Windows 2000: The NetDimensions Talent Suite 10.0 CD includes Microsoft SQL Server 2005 Express, which is no longer supported by Microsoft on this platform. If you wish to install on Windows 2K, you may use Microsoft MSDE instead, which NETD can provide. Please contact support for more details.

Supported Web Server/Application Servers

NetDimensions Talent Suite 10.0 natively implements most of the enterprise level services such as database connection pooling and object caching, thus making it possible to employ a wide range of web servers and transaction servers to support the web interface. The basic requirements for a web server that supports the Java Servlet API are described in Table 2 below.

Web Server/Application Server	Servlet support	Java Virtual Machine (JVM)
Apache Tomcat 6.0+ Jetty 4.x+ Resin 2.18+ Orion 2.0.2+ BEA WebLogic 8.1 SP3	Servlet API 2.3 (known to work with bootstrap listeners)	JDK 1.6.0 or above
Any web server/application server	Servlet API 2.4	JDK 1.6.0 or above

Table 2 – Requirements for Supported Web Servers

Supported Databases

Supported databases include:

- Oracle 10g or above
- Microsoft SQL Server 2005 or above
- MySQL 5.0 or above

Supported Browsers

NetDimensions Talent Suite 10.0 generates client screens that contain a combination of browser-independent HTML and JavaScript and stylesheets.

However, only a limited number of the many available browsers can be thoroughly tested, thus only those listed below have received extensive testing. Although browsers other than those listed may work, NetDimensions Talent Suite 10.0 testing is centered around IE 7.0 and greater as well as Firefox.

- Internet Explorer 7.0 or above
- Firefox
- Safari 2.0 or above
- Chrome
- Browsers with full support of Java, JavaScript, Cascading Style Sheet (CSS) and Cookies

Memory and Disk Requirements

There is no simple formula for calculating the system configuration required to support a given number of users as the system performance is often determined more by the courseware activity and network bandwidth than by the NetDimensions Talent Suite 10.0 server.

However, the following has proven to be useful in practice:

Configuration Requirements:

Assuming an intranet community of 10,000 users, it is reasonable to expect the following:

- Community Size: 10,000
- Peak number of concurrent users: 100
- System Memory: 512MB
- Database: 500MB
- Database Log: 100MB
- Courseware: 1GB (assume 10MB per course for 100 courses)

Even in this scenario, database size is very much dependent upon the amount of course activity tracking (e.g. AICC data) and the amount of time that user records are retained.

Other Technical Requirements

Once you have verified the hardware and software requirements, you should make sure you have the following information:

1. The host name and IP address of the server on which NetDimensions Talent Suite 10.0 is being installed
2. Login details for an account with administrative privileges
3. Database connection details such as database server name, login name, password and database name (Please refer to section 2.1.1 for details)

Summary of Installation Steps

The following is a summary of the basic steps required to completely set up an operational system using the software provided on the installation CD. More details are provided later in this guide.

Please also read the README files supplied on the installation CD for additional information regarding the installation process.

1. Install Microsoft SQL Server, MySQL or Oracle – the database server (please refer to Database documentation for product specific installation instructions).
2. Setup a new NetDimensions Talent Suite 10.0 database on your database server, and create the **ndadmin** user.
3. Install the Java Development Kit 1.6.0 version (JDK).
4. Install Apache – the web server (please refer to Apache documentation for detailed installation instructions).
5. Install Apache Tomcat – the Servlet Engine (please refer to Tomcat documentation for installation instructions).
6. Install NetDimensions Talent Suite 10.0.
7. Complete the JDK, Apache, Tomcat and NetDimensions Talent Suite 10.0 Configuration.
8. Start running NetDimensions Talent Suite 10.0.



Note

In a typical installation, the JDK, Apache/Tomcat components will be installed with default configurations. The database server is normally installed and configured separately beforehand unless you have chosen the embedded database option during the installation.

Summary of the NetDimensions Talent Suite 10.0 Installation CD

The NetDimensions Talent Suite 10.0 installation CD contains the following software:

- NetDimensions Talent Suite 10.0
- Oracle JDK 1.6.0_33
- The web server and servlet engine- Apache 2.0.43/Tomcat 6.0
- Microsoft SQL Server 2005 Express

During the installation, you may choose to install the bundled Java SDK and Apache/Tomcat if you do not have the Java runtime, web server and servlet engine installed.

In case you have already had your preferred Java SDK, web server and servlet engine installed (e.g. Microsoft IIS, JRun), you may install NetDimensions Talent Suite 10.0 by deploying the web archive file “ekp.war” to your web application directory. If you are running on UNIX platform, this also applies.

2. Installing NetDimensions Talent Suite 10.0



Important Note

The installer program shipped with this package fully supports the installation/configuration of NetDimensions Talent Suite 10.0 **BUT ONLY** on the Windows platform.

For installation on UNIX platforms, you will need to unpack the install files and follow the manual instructions below (see Section 2.5)

If you want to install '**NetDimensions Talent Suite 10.0 with Embedded DB**', you **MUST** have Windows Installer 3.1 and .Net Framework 2.0 installed on the machine.

Windows Installer 3.1 is in the CD /Utilities/ WindowsInstaller-3.1.exe

.NetFramework 2.0 is in the CD /Utilities/dotnetfx.exe

Pre-Installation Preparation

Before proceeding with the installation, make sure you meet all necessary system requirements.

First, review and complete the Pre-installation Checklist (see Section 2.1.1).

Second, obtain the appropriate JDBC driver for the selected database server. If you are preparing to install NetDimensions Talent Suite 10.0 with the Embedded DB option, download and install the Microsoft SQL Server Driver for JDBC. (See Section 2.1.2)

Using the Pre-Installation Checklist

The NetDimensions Talent Suite 10.0 Installer will prompt you for various pieces of information as you go through it.

In order to make the installation proceed smoothly, complete the Pre-installation Checklist. Explanations for the checklist questions can be found in Section 2.1.1.2.



Note

The values given in parenthesis in the checklist are the default values. For typical installations, the best choice is to accept the defaults.

Pre-Installation Checklist

#	Item	Answer
1	Database vendor	<input type="checkbox"/> Oracle <input type="checkbox"/> Microsoft <input type="checkbox"/> MySQL
2	ISQL / SQL*Plus Connection can be made	<input type="checkbox"/>
3	Database Server Name (Microsoft)	(EKP)
4	Database Name (Oracle, Microsoft, MySQL)	(ekp)
5	The login/user 'ndadmin' has been created with password 'ndadmin' in the EKP database	<input type="checkbox"/>
6	Java JDK: If you already have a JDK installed and you wish to use it, locate it and make a note of the folder:	(c:\jdk1.6.0_33)
7	Apache: Please choose a folder where you would install Apache:	(c:\Program Files\Apache Group\Apache2)
8	Tomcat: Please choose a folder where you would install Tomcat :	(C:\Program Files\Apache Software Foundation\Tomcat 6.0)
9	NetDimensions Talent Suite 10.0: The directory into which the application software, documentation and tools installed. If you have a different preferred folder please make a note of it here:	(c:\nd)

Elaboration of the Pre-Installation Checklist

In order to complete the full NetDimensions Talent Suite 10.0 Installation your database must be fully set up and available. See Section 3 for full details about setting up your database.

Database vendor: **Oracle** **Microsoft** **MySQL**

The machine on which you are installing the application must have the appropriate database client connection software installed on it. For example:

- For Microsoft you must be able to run ISQL.
- For Oracle you must be able to run SQL*Plus.
- For MySQL, you must be able to run MySQL Query Browser

If this machine does not have the appropriate database client connection software installed, you will need to copy and run the database configuration scripts manually on a machine from which you can connect to the database.

ISQL / SQL*Plus / Query Browser Connection can be made:

Database Server Name (Microsoft): (EKP) _____

Database Name (Oracle, Microsoft): (ekp) _____

NetDimensions Talent Suite 10.0 requires a database login called '*ndadmin*' with "*database owner (dbo)*" privileges on the database.

This is the login that NetDimensions Talent Suite 10.0 uses both to initially build the database and to connect to the database at run time. The password must be '*ndadmin*'.

The login/user '*ndadmin*' has been created in the EKP database

If you are installing NetDimensions Talent Suite 10.0 and the supplied standard components you can accept all the default installation folders and the NetDimensions Talent Suite 10.0 Installer will be able to perform most (but not all) of the necessary configuration for you. If you have existing installed versions of the standard components (JDK, Apache, Tomcat) that you wish to use, locate their installation folders and make a note of them here. You will need to supply these folder locations to the installer.



For typical installation, it is recommended the default installation locations and names be accepted for all components.

Java JDK: if you already have a JDK installed and you wish to use it, locate it and make a note of the folder: (c:\jdk1.6.0 33) _____

Apache : if you already have Apache installed and you wish to use it, locate it and make a note of the folder:

(c:\Program Files\Apache Group\Apache2) _____

When installing Apache, the Apache installer will ask you for the following information:

- Server Name (the name of the machine you are installing Apache on)
- Network Domain (the Domain the machine is logged on to)
- Administrator's email address

Tomcat : if you already have Tomcat installed and you wish to use it, locate it and make a note of the folder:

(C:\Program Files\Apache Software Foundation \Tomcat 6.0) _____

EKP : the directory into which the product software, documentation and tools installed. If you have a different preferred folder please make a note of it here:

(c:\nd) _____

Note that you do not need to create these directories in advance, the install program will create all necessary directories if they do not already exist.

Pre-preparation for Installations with Embedded Databases

If you are planning to install NetDimensions Talent Suite 10.0 with the embedded database, you must install the Windows installed 3.1 and .NET Framework 2.0 first, and need to download the requisite JDBC drivers from the Microsoft website. There is no charge for this.

Note that Microsoft may change the location of downloads from time to time. If this happens you may need to search the web site. At the time of writing the instructions given below are correct.

To install Windows Installer 3.1 and .NET Framework 2.0:

1. Browse the CD and go to "Utilities" folder
2. Click the file "WindowsInstaller-3.1.exe" and complete the installation. (Do not restart the computer)
3. Click the file "dotnetfx.exe" to install .Net Framework 2.0.

Note: If your PC is running Windows 2000, you have to update the Microsoft Data Access Components (MDAC) to the latest version.

To download SQL 2005 JDBC driver:

1. Make sure you are connected to the Internet and navigate to <http://www.microsoft.com/downloads/>
2. Enter “j d b c ” for
k e y w o r d s e a r c h .
3. Find the link for the “SQL Server 2005 JDBC Driver 1.1” download.
4. On the next screen, click on the Download button to download a HTML page containing the Microsoft Software License Terms for the JDBC Driver.
5. Click the “I Accept and I want to download the Microsoft Windows version” link to accept the terms of the license agreement. This will cause an executable to be downloaded.
6. Once the file has downloaded, run it to carry out the driver installation.

After the driver has been installed, proceed to install NetDimensions Talent Suite 10.0. After the installation of the application, you will also need to refer to Section 2.3.1 for instructions on copying the driver to the required location.

Starting the NetDimensions Talent Suite 10.0 Installation on Windows

To install NetDimensions Talent Suite 10.0:

1. Load the installation CD in the CD Drive on the machine onto which you will be installing NetDimensions Talent Suite 10.0. For example, the CD Drive is “D:” By default it will launch the Setup program automatically. If not, you may start it manually by following the steps below.
2. Locate the folder “D:\CDROM_Installers\Windows\Disk1\InstData\VM” by using the Window Explorer on the CD-ROM, and double click *Setup.exe* to launch the installation program.
3. Or, start a Windows command prompt and type the following:

```
C:\>d:  
D:\>cd CDROM_Installers\Windows\Disk1\InstData\VM  
D:\CDROM_Installers\Windows\Disk1\InstData\VM>Setup.exe
```

The install program will walk you through all the necessary steps. Please be sure to have all the information from the Pre-Installation checklist available.

Installation Steps

 **Important Note**

Do **NOT** choose to reboot your machine automatically during the installation. Rebooting the machine will interrupt the NetDimensions Talent Suite 10.0 installation process, and you will have to restart the installation from the beginning. You should either choose to restart the system at the end of the installation or restart the system manually after the installation has been completed.

1. Select the language and click **OK** to continue.



Figure 2.1: Select Language

2. Read the introduction of NetDimensions Talent Suite 10.0 and click **Next** to proceed.

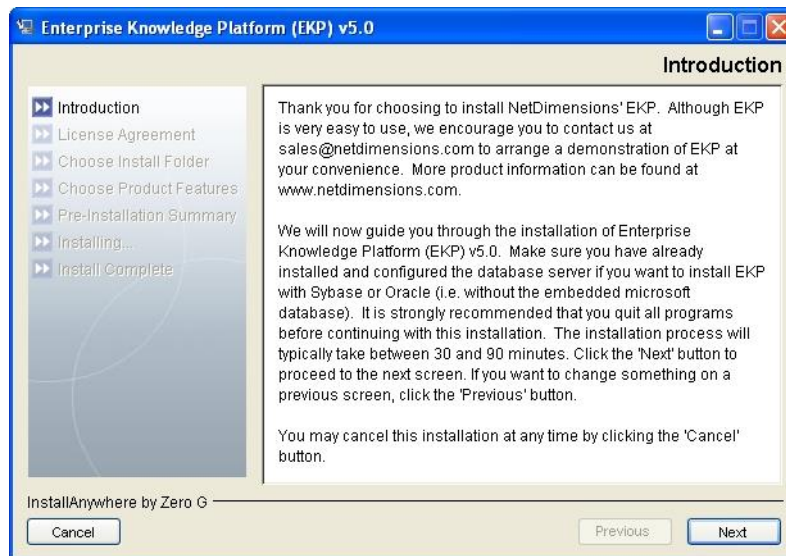


Figure 2.2: Introduction

3. Accept the license by selecting the **accept** option and click **Next**.

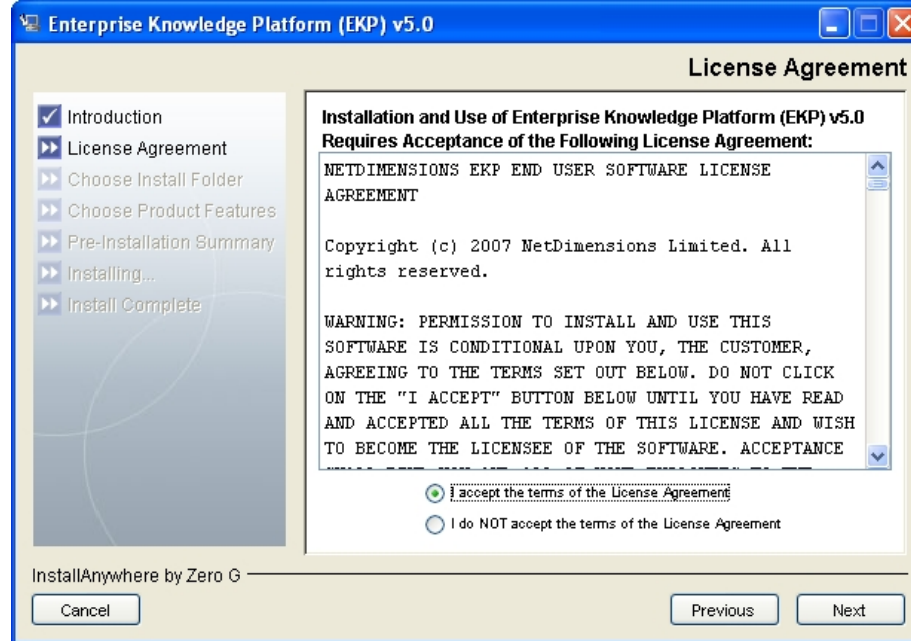


Figure 2.3: License Agreement

4. Select the installation root directory. If possible, accept the supplied default otherwise type in the directory and click **Next** to continue.

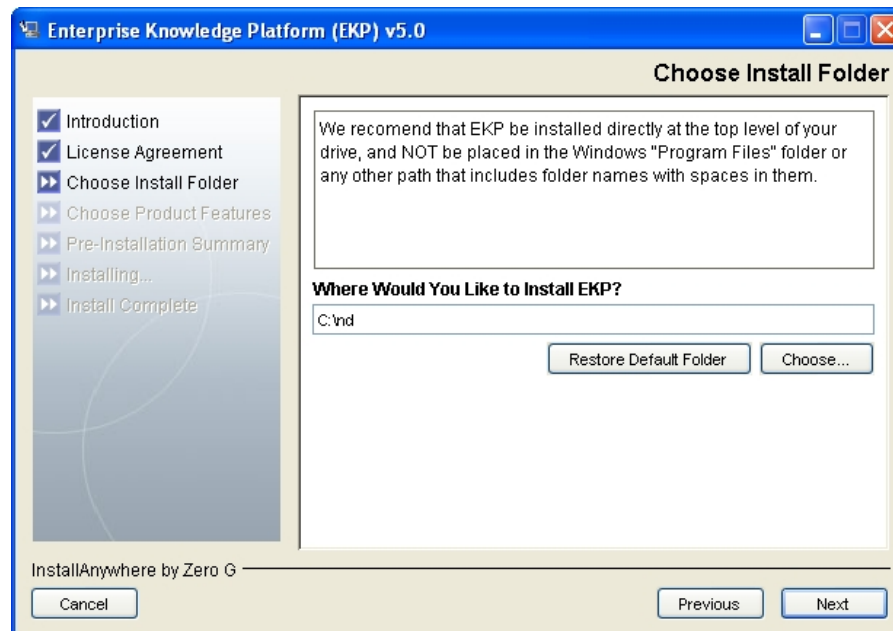


Figure 2.4: Choose Install Folder

5. Choose the product feature and click **Next**:

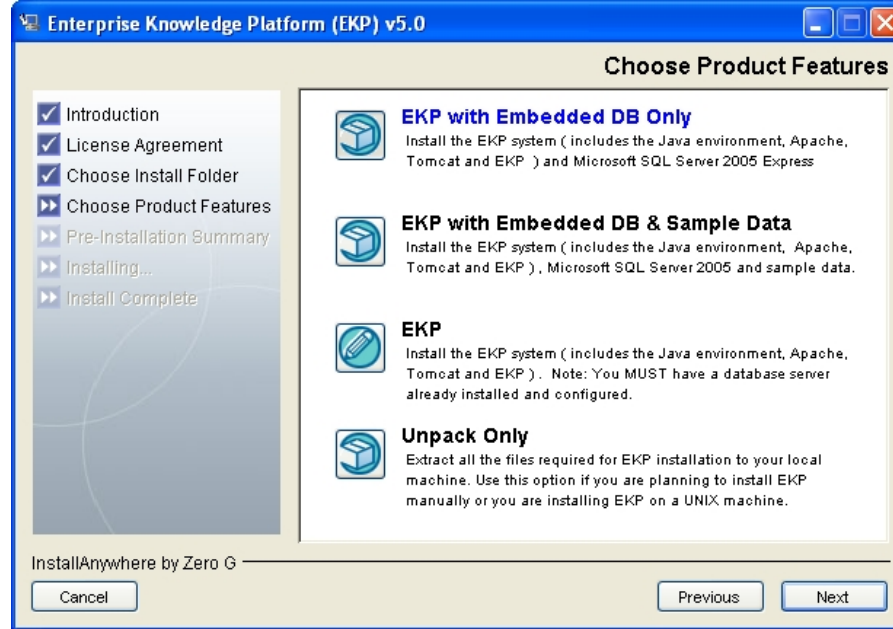


Figure 2.5: Choose Product Features

NetDimensions Talent Suite 10.0 Product Features

- NetDimensions Talent Suite 10.0 with Embedded DB Only**
 This option will copy all the files to your machine, and will run the installation programs for JDK, Apache, SQL 2005 Express and Tomcat as well as the NetDimensions Talent Suite 10.0 configuration – including the database configuration but without sample data. *Use this option only if you are installing NetDimensions Talent Suite 10.0 with an embedded database.*
- NetDimensions Talent Suite 10.0 with Embedded DB & Sample Data**
 This option will copy all the files to your machine, and will run the installation programs for JDK, Apache, SQL 2005 Express and Tomcat as well as the NetDimensions Talent Suite 10.0 configuration – including the database configuration and sample data. *Use this option only if you are installing NetDimensions Talent Suite 10.0 with an embedded database.*
- NetDimensions Talent Suite 10.0**
 This option will copy all the files to your machine, and will run the installation programs for JDK, Apache, and Tomcat as well as the NetDimensions Talent Suite 10.0 configuration – including the database configuration. *Use this option if you want to select your preferred database (assuming your database is fully prepared) but you still intend to set up Apache, Tomcat and the Java environment.*

- **Unpack Only**

This option will copy all the files to your machine. *Use this option if you want to install NetDimensions Talent Suite 10.0 manually on Windows or if you are installing on Unix platform.*

NetDimensions Talent Suite 10.0 Pre-Installation Summary

6. The Pre-Installation Summary screen appears. Review the list, and then click the **Next** button

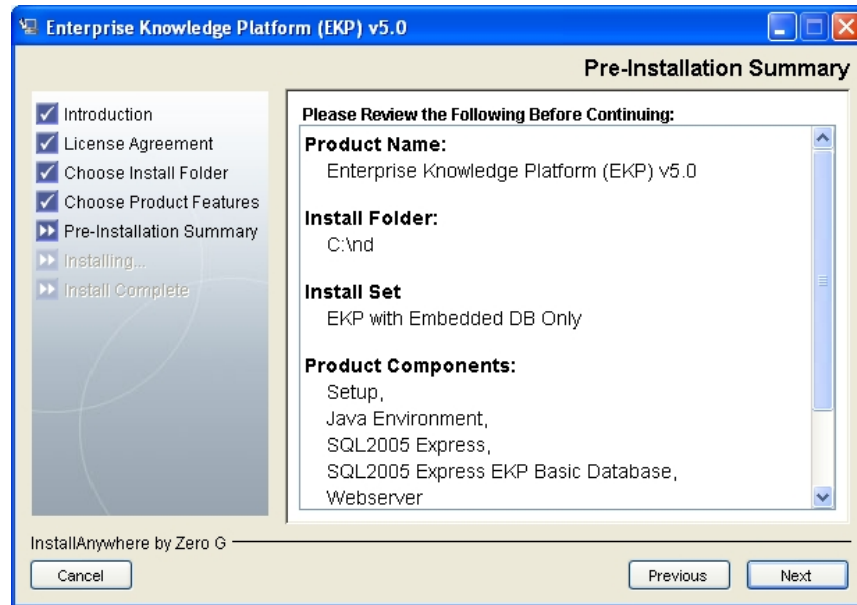


Figure 2.6: Pre-Installation Summary

7. Locate and confirm the directory where you would install the Apache Web Server:

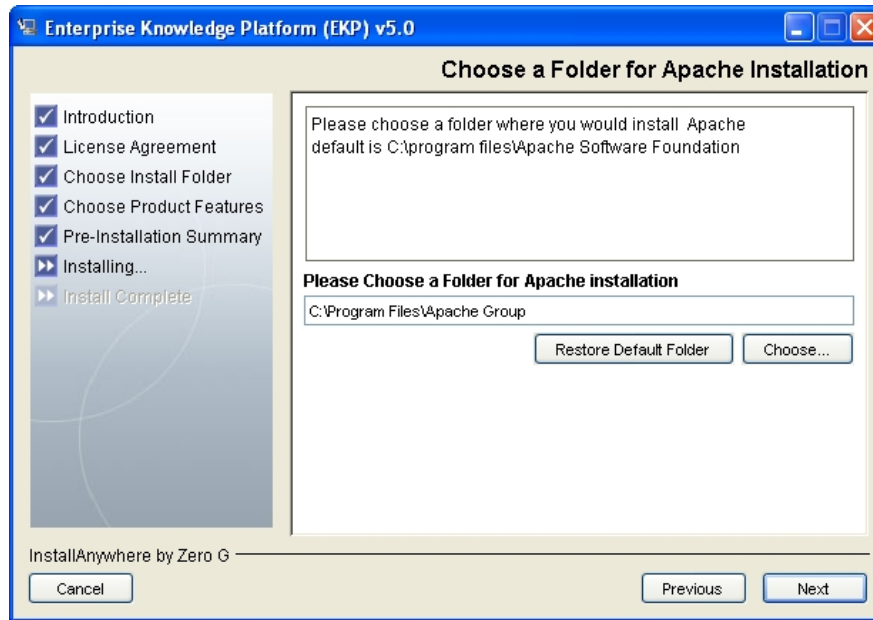


Figure 2.7: Apache Installation

8. Locate and confirm the directory where you would install the Tomcat Servlet Container, click **Install**:

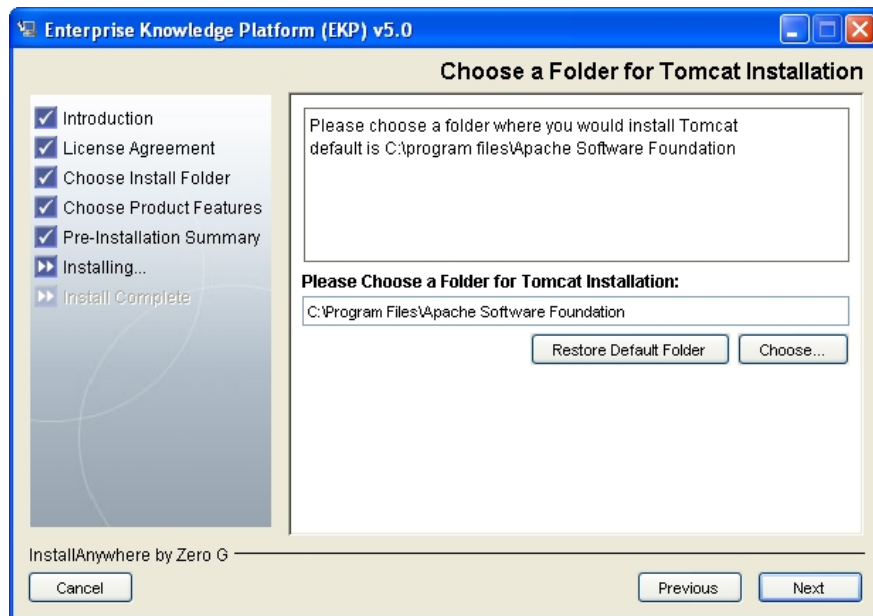


Figure 2.8: Tomcat Installation

9. Choose the folder for the Java Runtime environment.

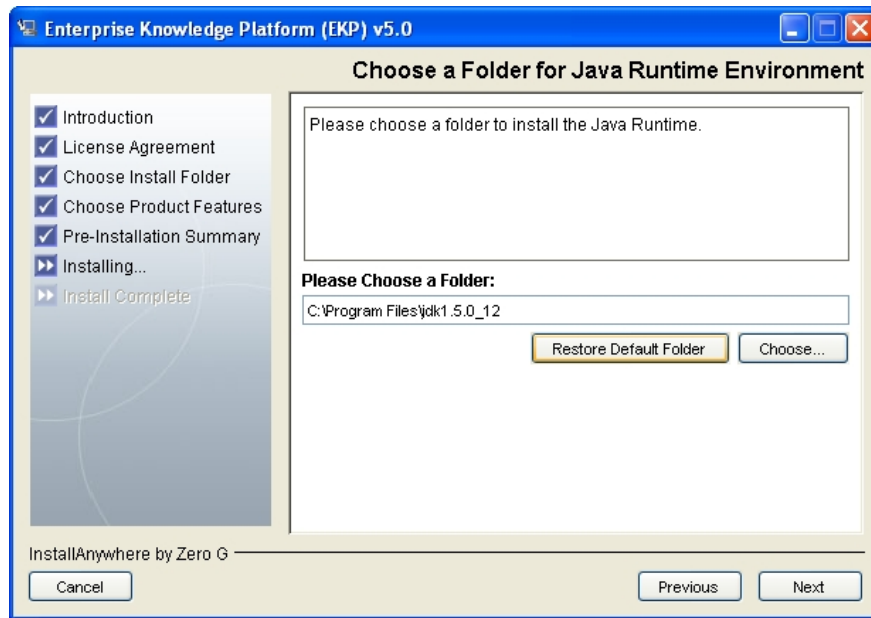


Figure 2.9: Java Runtime Environment

10. This is an informational message about the issue related to HTTP port conflict between the Windows built-in service and Apache.

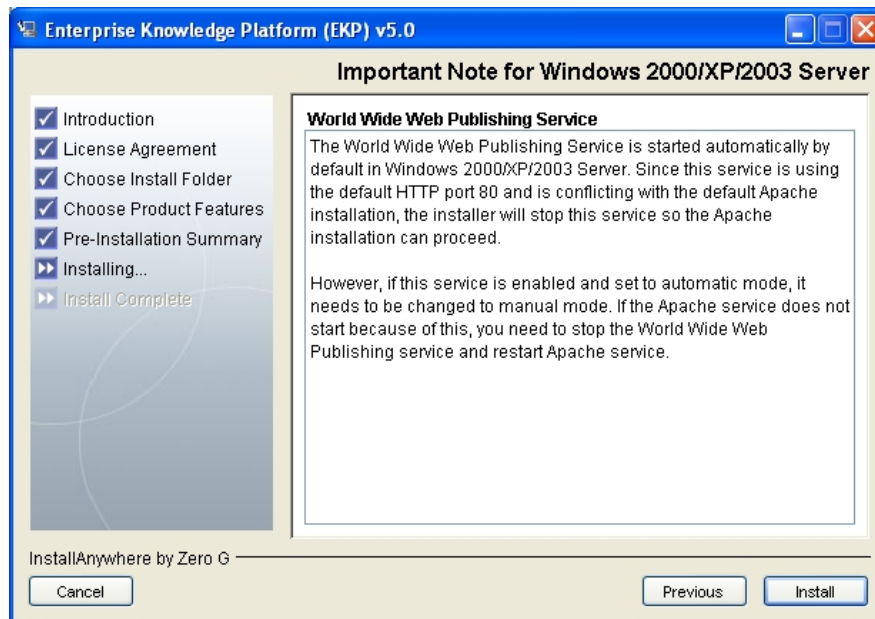


Figure 2.10: Important Note

11. The installation progress should be visible at the bottom of the install window, along with the current installation action.



Figure 2.11: Installation Progress

12. If you selected the '**NetDimensions Talent Suite 10.0 with Embedded DB**' option Microsoft SQL Server 2005 Express, the embedded database will begin installation. You should see a notice window similar to this:

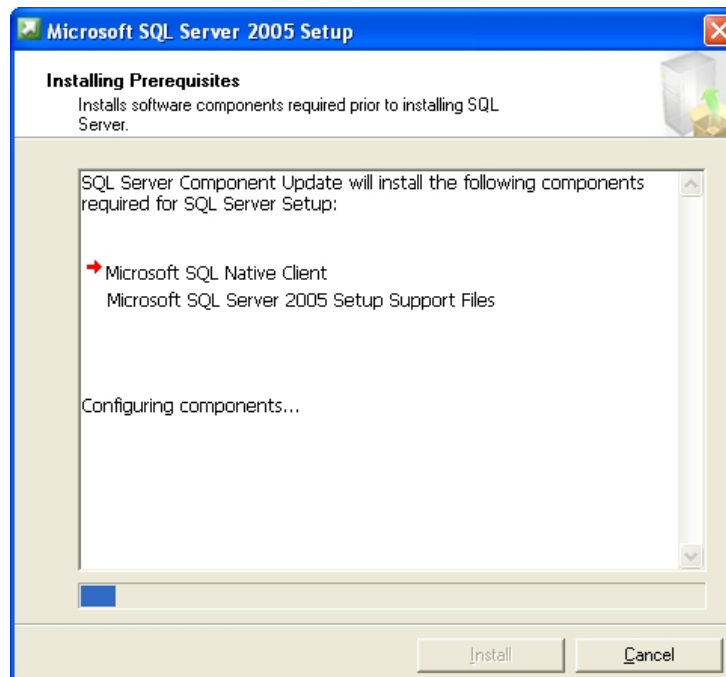


Figure 2.12: Notice Window

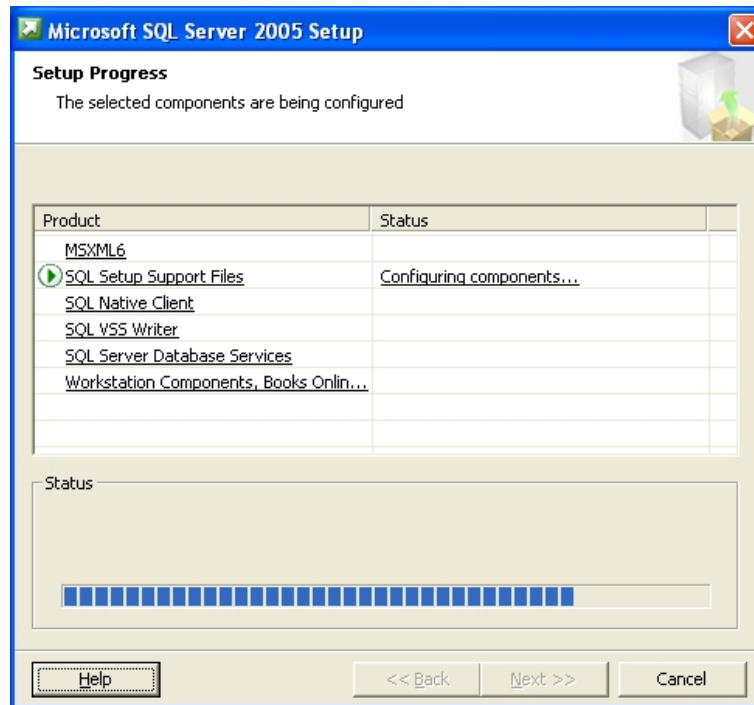


Figure 2.12.1: Notice Window

The window will close after Microsoft SQL Server 2005 Express has been installed.

13. The next step is the JDK installation and the NetDimensions Talent Suite 10.0 Installer will launch Oracle's JDK 6 Installer:

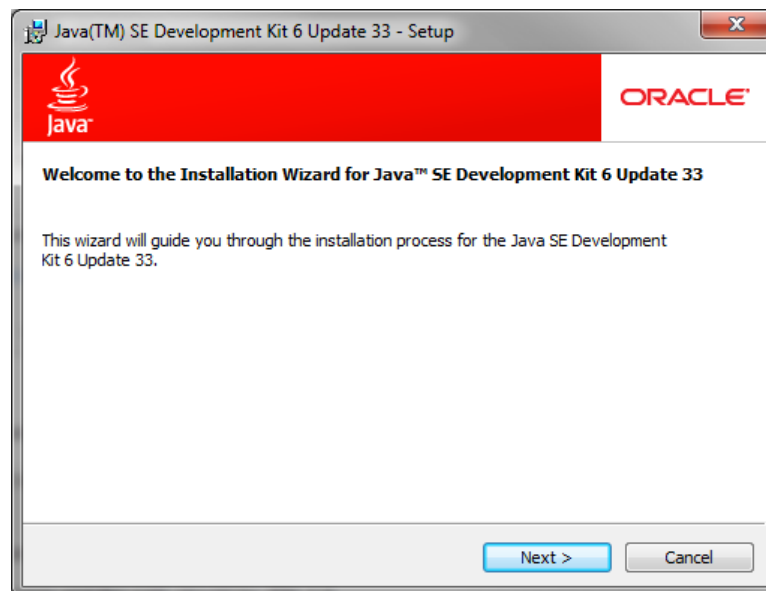


Figure 2.13: JDK installation

14. Specify JDK installation options. By default, it will be installed to “C:\Program Files\Java\jdk1.6”. Click **Next** to accept default.

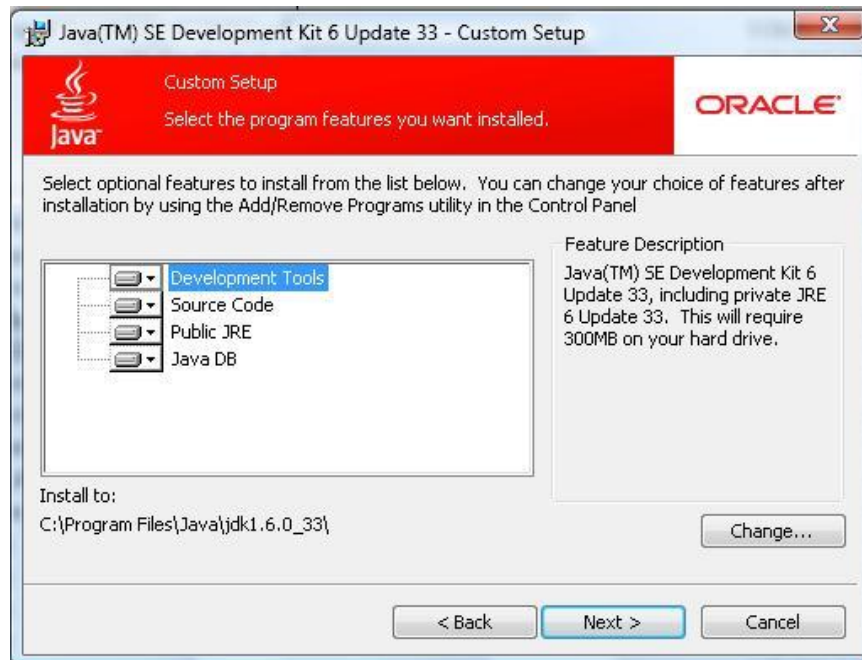


Figure 2.14: Specify JDK installation options

15. Set Java Runtime Environment plug-in to the browser. Click **Next** to accept the default.

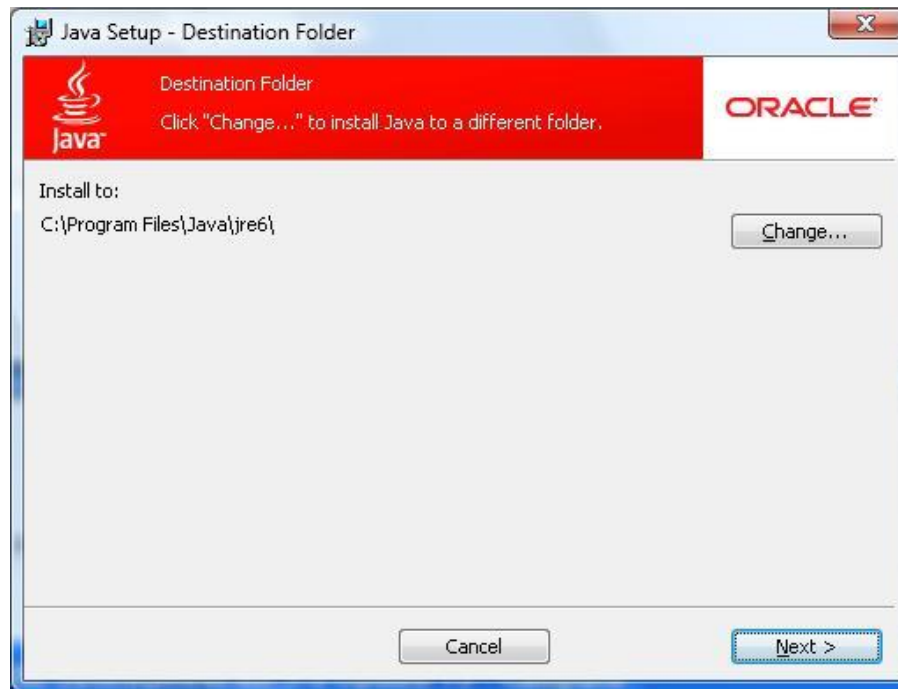


Figure 2.15: Set Java Runtime Environment

16. Click **Finish** to continue.



Figure 2.16: Installation Completed

Apache and Tomcat Installations

The NetDimensions Talent Suite 10.0 Installer will now launch Apache Installation Wizard.

17. Click the **Next** button. The Apache installation should now start.

Important Note

On some machines the first window of the Apache installation may remain minimized and hidden in the task bar at the bottom of your screen, even though it is waiting for you to click OK for it to continue. If it looks like your installation has stalled at this step, check for a message window awaiting attention.

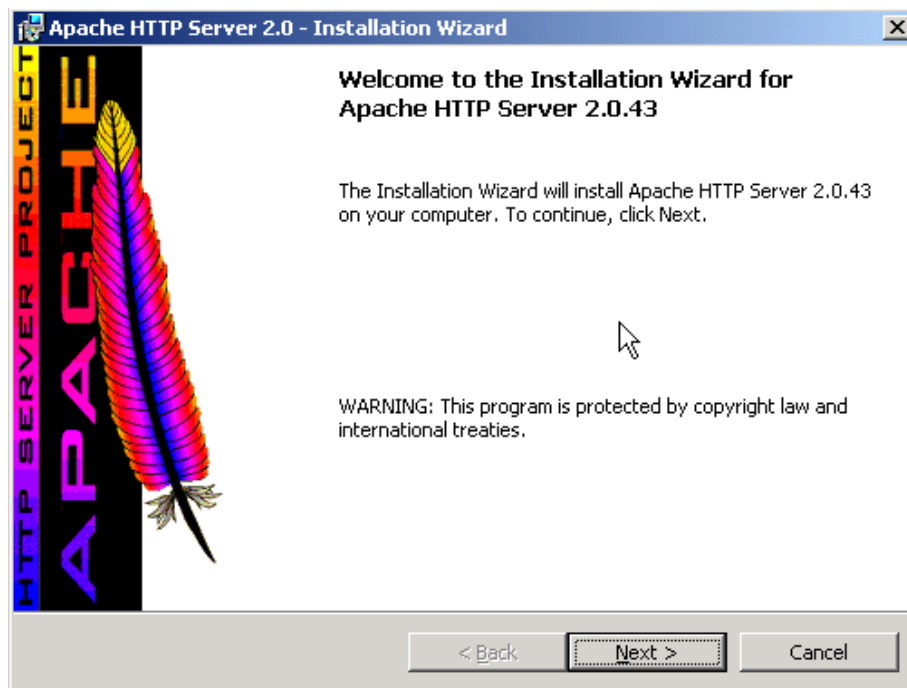


Figure 2.17: Apache Installation

18. Select accept license option and click **Next**.

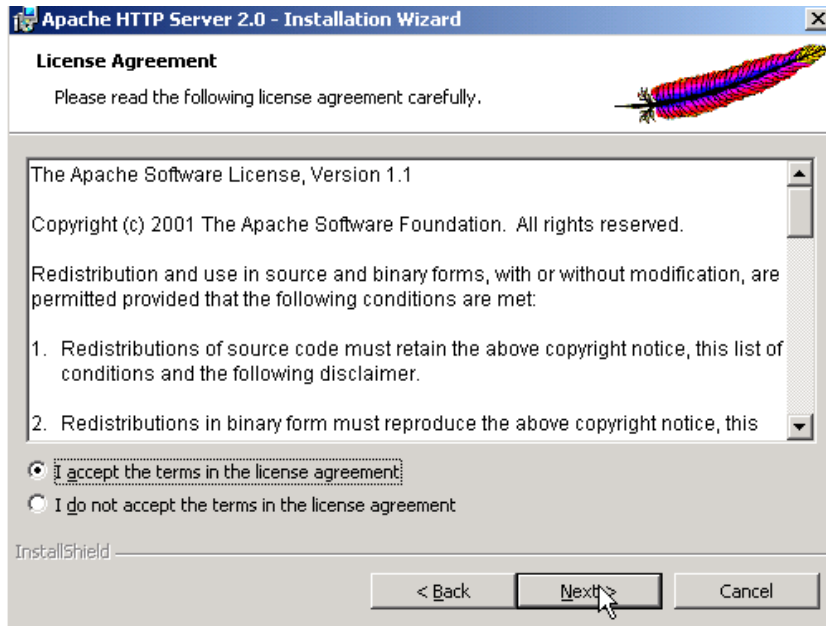


Figure 2.18: License Agreement

19. Read the information page and click **Next**.

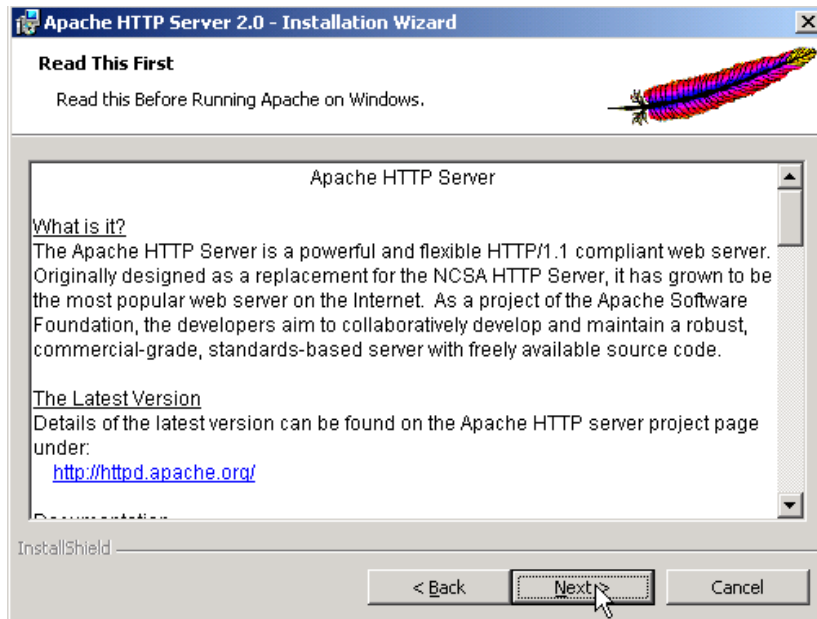


Figure 2.19: Read Information

20. Fill in the server information, click **Next** to accept defaults. In most cases, it isn't required to change the default values with the exception on the administrator email address.

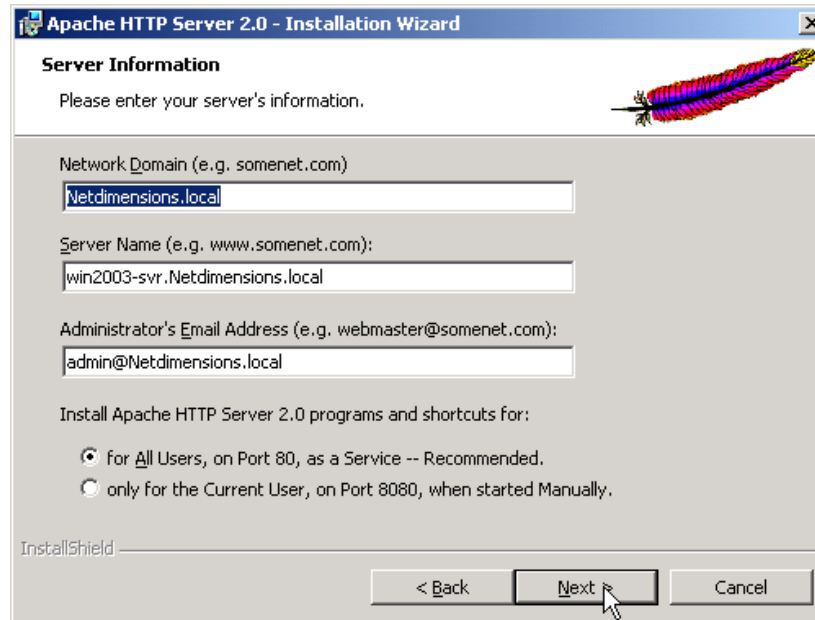


Figure 2.20: Server Information

21. Choose Apache installation option. Click **Next** to accept typical installation.

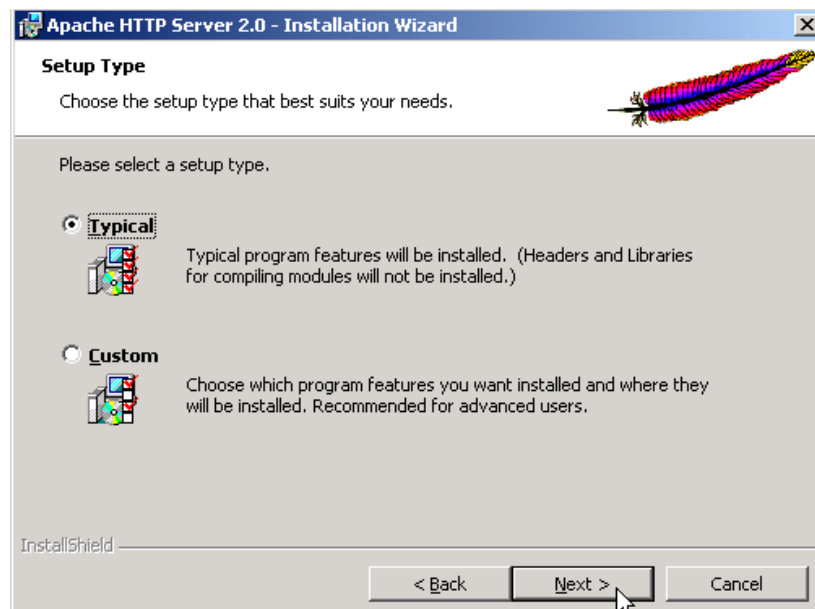


Figure 2.21: Setup Type

22. Choose destination folder, click **Next** to accept default.

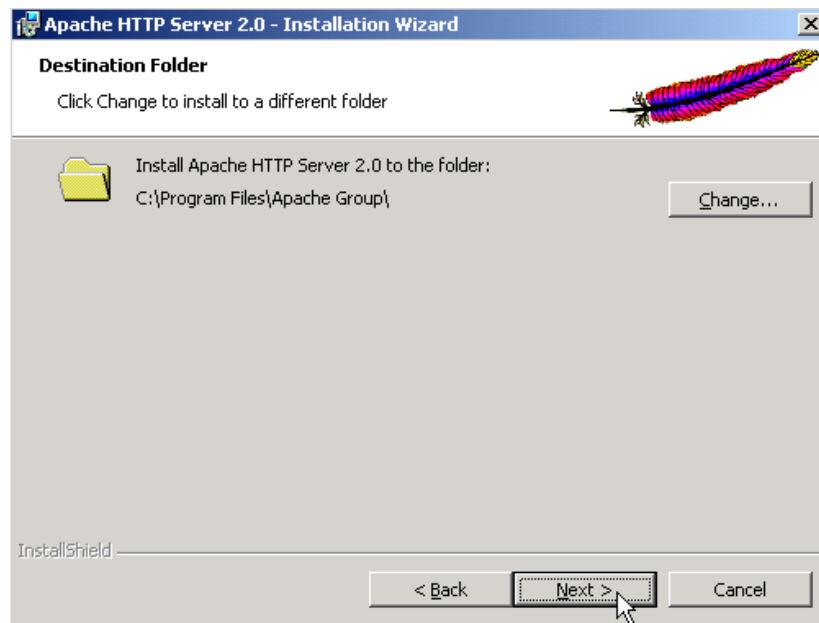


Figure 2.22: Destination Folder

23. Click **Install** to begin installation.

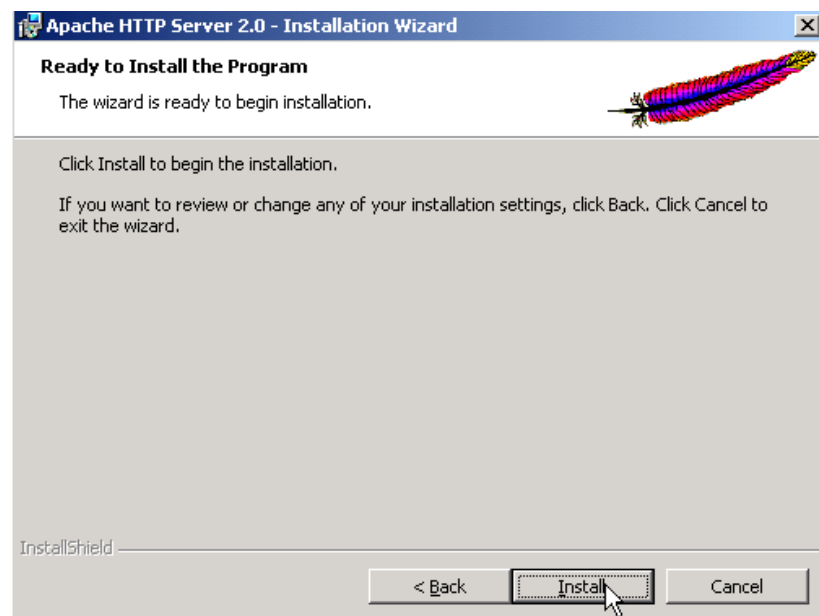


Figure 2.23: Install

24. The following screen will appear upon completion. Click **Finish** to continue.

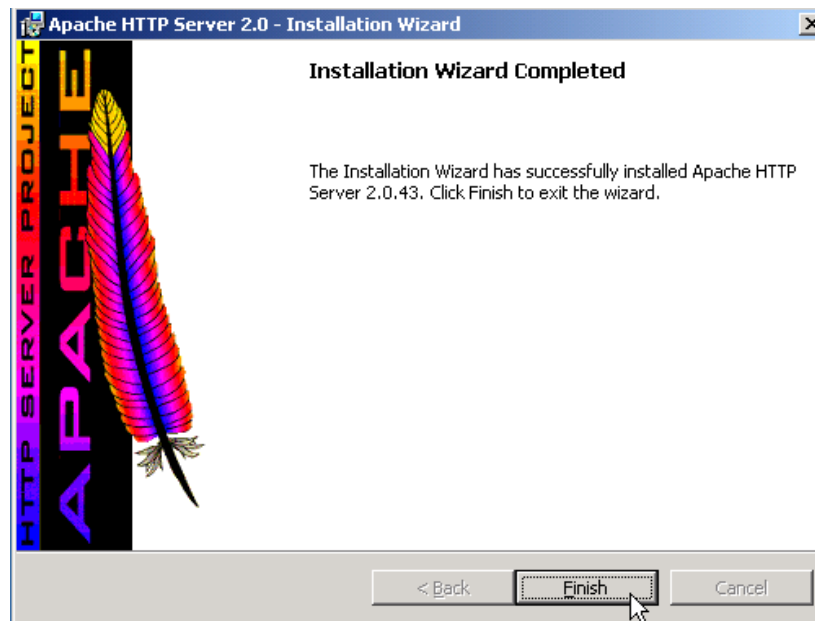


Figure 2.24: Complete

Note: If the following screen appears, it is likely an existing Apache installation on your machine is detected. If there appears to be no Apache software on your machine, it is possible that a previous installation was deleted, but entries still exist in the Windows Registry that have not been removed.

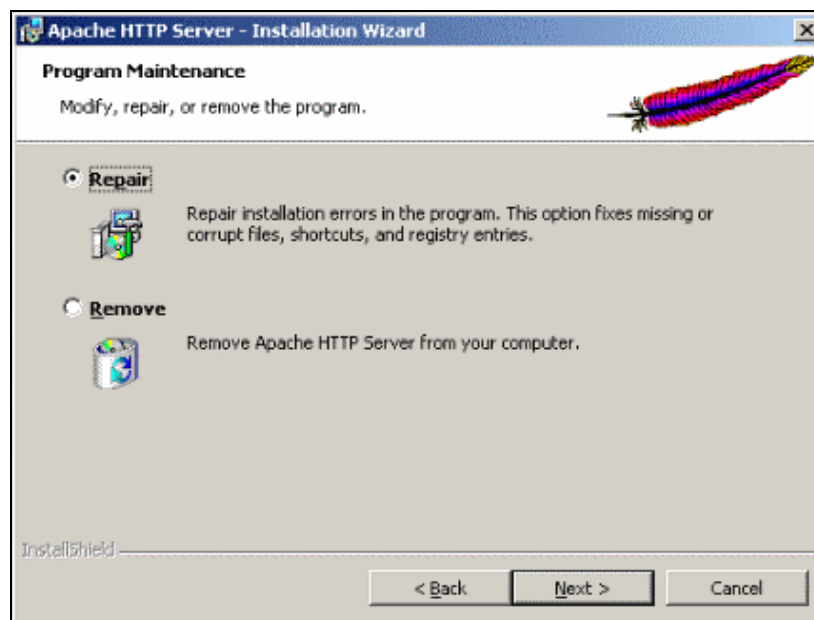


Figure 2.25: Program Maintenance

To ensure that Apache installs into the directory you want it to go into you may want to let the installer remove the old copy. You will, however, need to rerun the installer to install Apache and complete the configuration.

25. Tomcat Installer will be launched.



Figure 2.26: Tomcat Installer

26. The license agreement will be displayed, click **I Agree** to continue.

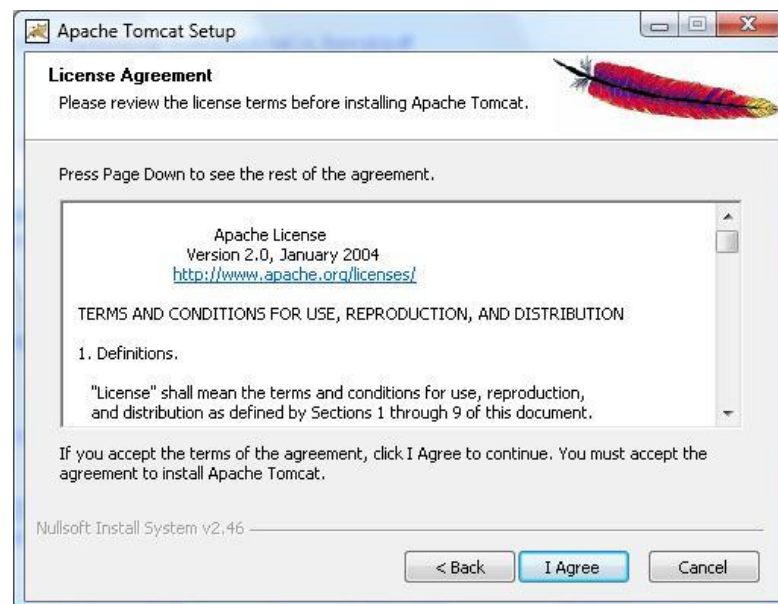


Figure 2.27: License Agreement

27. The Tomcat installer will display a list of installation options. You should check the **Service Startup** option so that Tomcat will run as a service.

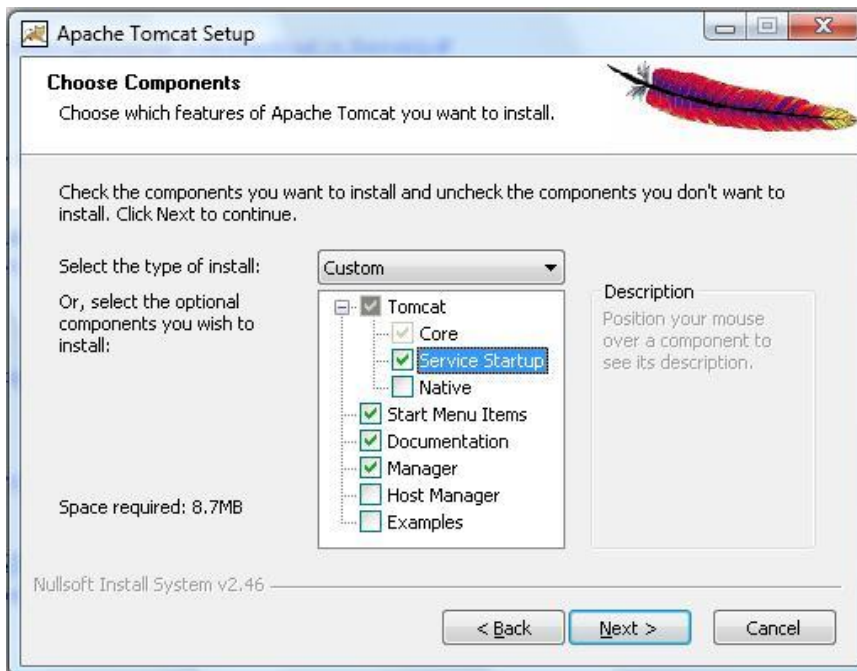


Figure 2.28: Installation Options

28. It will ask you to input a password for administration of Tomcat. Enter a secure password and click **Next**. Do not change the User Name or HTTP/1.1 Connector Port variables.

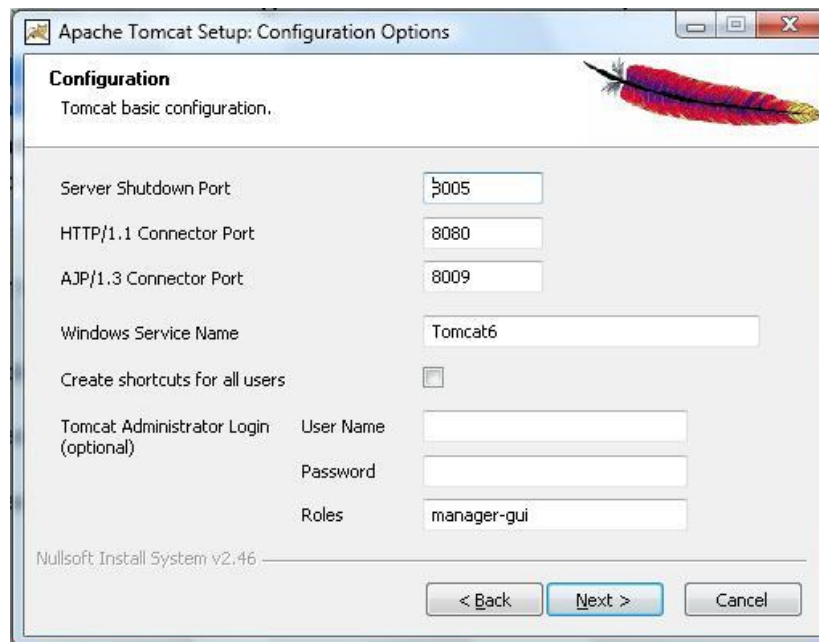


Figure 2.29: Configuration

29. It will prompt for the location of the JDK, click **Next** to continue.

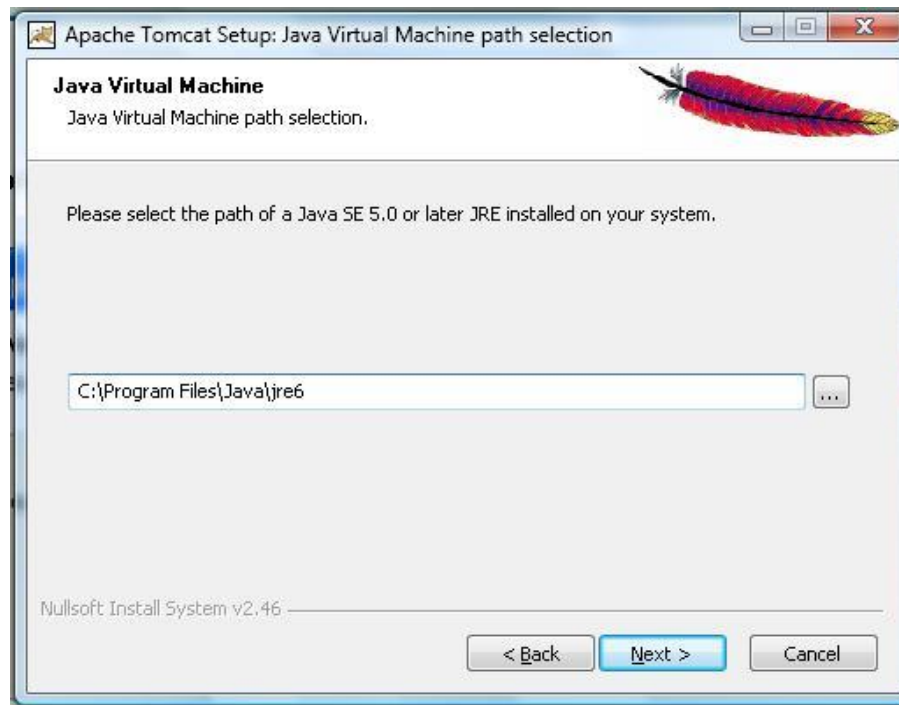


Figure 2.30: Location

30. Specify the installation directory of Tomcat and click **Install** to continue.

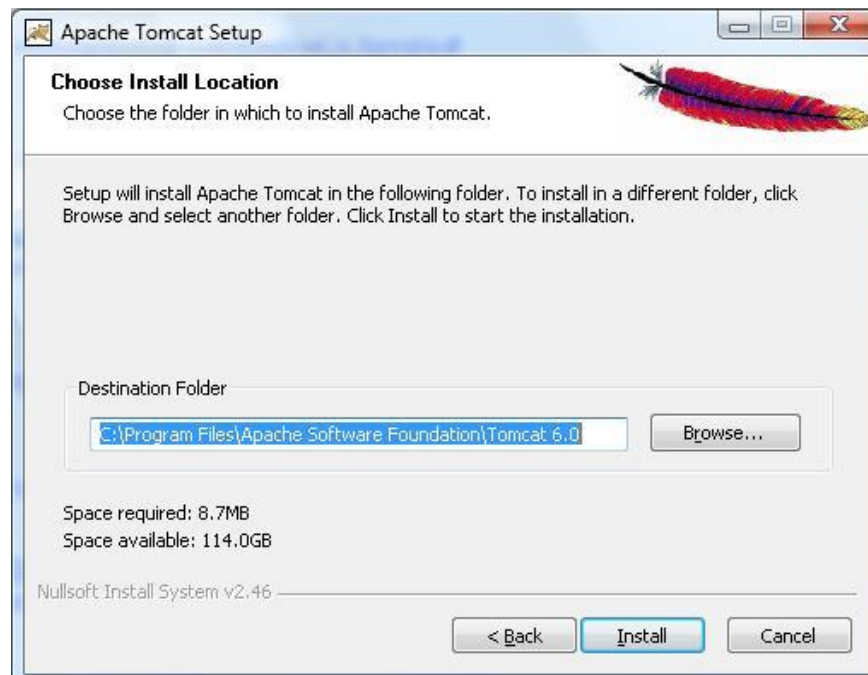


Figure 2.30: Installation Location

31. Click **Finish** to end the Tomcat installation and continue the NetDimensions Talent Suite 10.0 installation.



Figure 2.32: Complete Setup

32. The NetDimensions Talent Suite 10.0 configuration begins and it may take several minutes. Wait until the following screen appears. Click **Next** to continue and the default browser will be launched and go to the download web site of the Microsoft JDBC driver. (Note: this only applies to Microsoft database, it does not appear if other database is chosen)

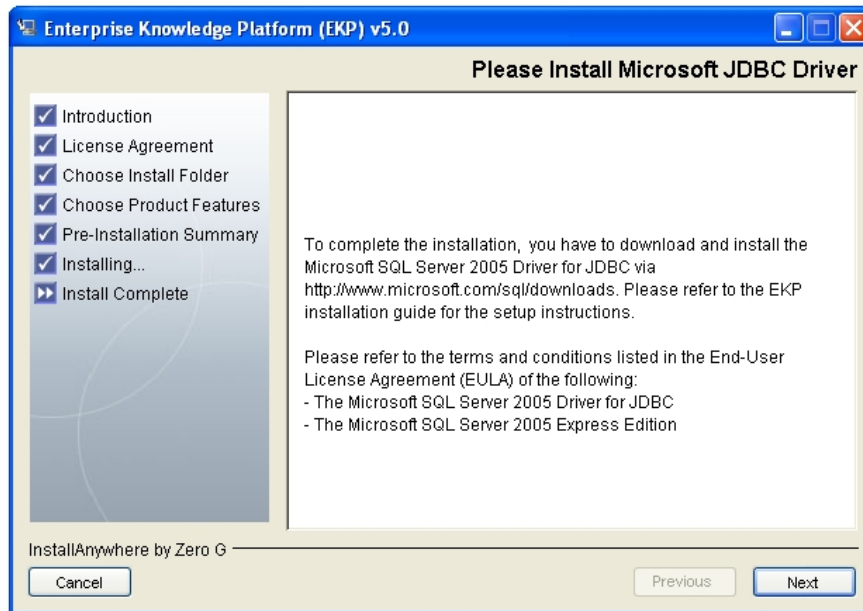


Figure 2.33: Configuration

33. Choose to restart the system. Select option Yes and click **Done** to restart.

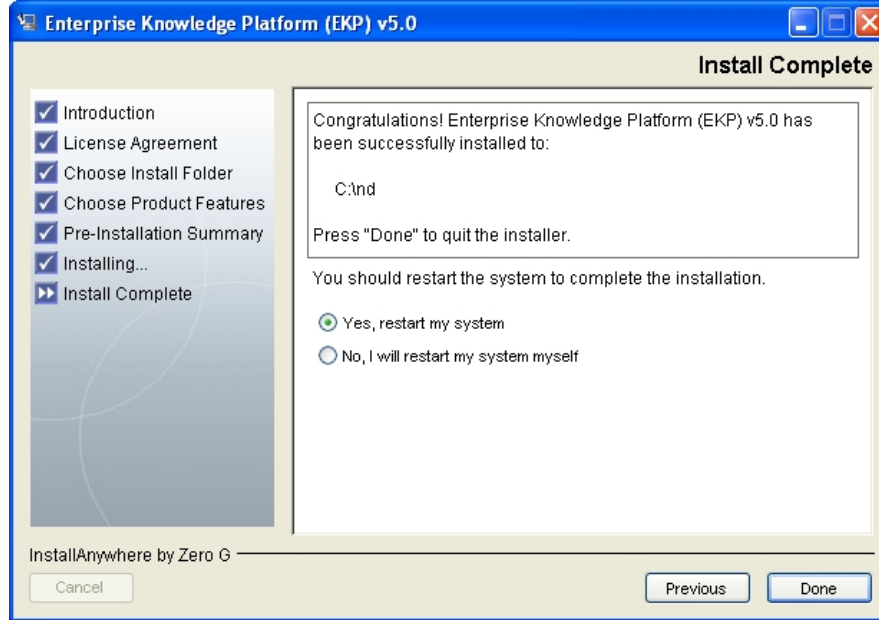


Figure 2.33: Restart System

Once the configuration is complete you will receive a confirmation that the install completed successfully, or a message if there were errors. The installation log files can be found in *EKP_HOME\logs*. To complete the installation, you need to restart the system.

If the Embedded DB option is selected, please proceed to **Section 2.3.1**.

Post-installation Tasks

JDBC Driver Installation

If you had selected to install NetDimensions Talent Suite 10.0 with an Embedded Database option or using Microsoft SQL Server as the database backend:

1. Install the Microsoft JDBC driver and locate the /Microsoft SQL Server Driver for JDBC/lib folder.



Figure 2.34: Microsoft SQL Server Driver for JDBC/lib Folder

2. Copy the “**sqljdbc.jar**” file to the library directory of NetDimensions Talent Suite 10.0. (Default: C:\Program Files\Apache Software Foundation\Tomcat 6.0\webapps\ekp\WEB-INF\lib)Then Proceed to Section 2.3.

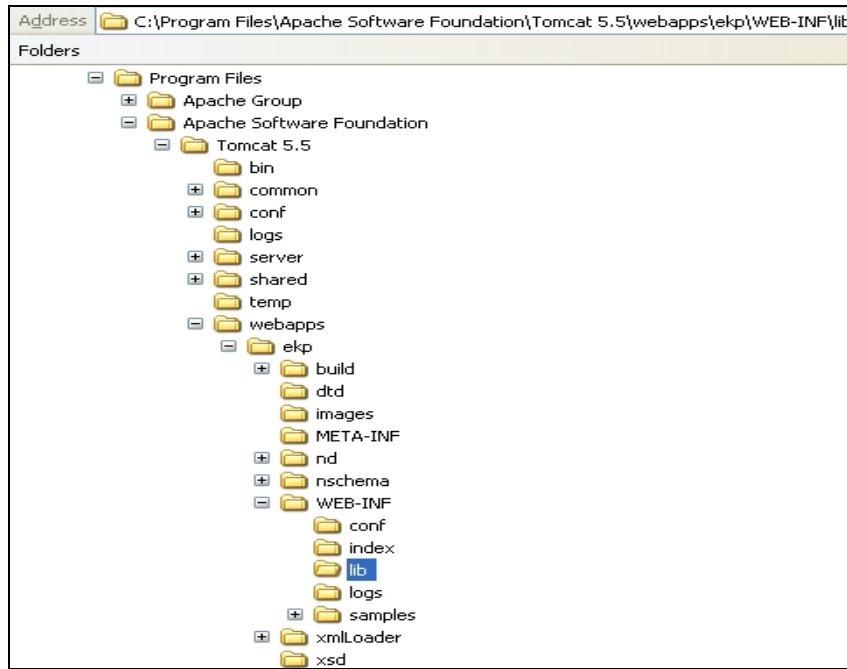


Figure 2.35: Copy the “sqljdbc.jar”



Note

If you are using Oracle or MySQL as the database backend, you need to install the appropriate JDBC driver to the above library directory accordingly. The JDBC driver is usually bundled with the database server software.

Please consult the database vendor’s documentation for more details.

Configure Tomcat and Java Virtual Machine

Configure to use the server JVM instead of the default (client/hotspot) in the servlet environment and increase the maximum heap size limit in the JVM. For example add the following line in the “<tomcat home>\bin\Catalina.bat” to configure in Tomcat 6.0, Set JAVA_OPTS=-server -Xmx512m

If the tomcat is running as service on Windows, change the setting as the following:

1. Click the icon in the taskbar to launch Apache Tomcat Properties window.



Figure 2.36: Taskbar Icon

2. Change the Java VM and memory setting in here, the default initial memory is 128M.

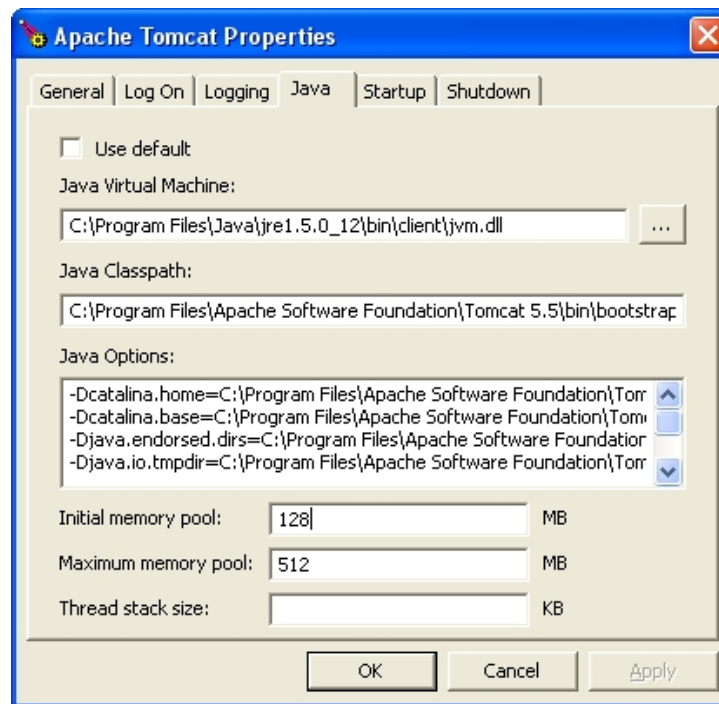


Figure 2.37: Properties

Post-installation Check

Perform the following steps after the installation program has completed:

1. Check the directories created with NetDimensions directory structure. Verify that the permission setting of these directories allow the user who starts the web server to have read **and write** access to them. Make changes if necessary.
2. Check that the following environment variables have been set for all users:
 - **JAVA_HOME**: should be set to the installation directory for your JDK.
 - **TOMCAT_HOME**: should be set to the installation directory for Tomcat
 - **EKP_HOME**: should be set to the `ekp` subdirectory of the installation root directory (e.g. `c:\nd\ekp`)
NetDimensions Talent Suite 10.0
3. Check if the JVM setting is properly configured.
4. Start Tomcat via the services control panel (Windows). Tomcat will expand the `ekp.war` file that has been installed into the Tomcat webapps directory.
5. Stop Tomcat via the services control panel (Windows).
6. Configure the entries in `ekp.properties` for Oracle 10g, MySQL or SQL Server 2005. The `ekp.properties` file will be found in the directory:

`C:\Program Files\Apache Software Foundation\Tomcat 6.0\webapps\ekp\WEB-INF\conf`

or the corresponding `WEB-INF\conf` directory for your Servlet engine if your installation is different. See Appendix A for a sample `ekp.properties` file.

In the `ekp.properties` file there are sample property entries for the different databases. Modify the `default.driverName` property if you are using a different JDBC driver than the sample, and modify the `default.connectURL` property to point to your database. Make sure the property entries for the other databases are commented out (with a leading #) and those for your database are not. The example below is for an active connection to an Oracle database named EKP, listening on port 1521 (Oracle's default port) on the same machine (localhost) as Tomcat, using the Oracle supplied JDBC driver.

```
#-----
# Oracle Example
default.driverName=oracle.jdbc.driver.OracleDriver
default.connectURL=jdbc:oracle:thin:@localhost:1521:XE
default.dbType=oracle
```

7. Verify the configuration of Apache and Tomcat or any other Servlet engine that you might be using. Apache and Tomcat documentation can be found at www.apache.org. See also the README files supplied with this installer.

8. Test your installation by opening a browser and entering the URL: <http://yourhostname> - you should see the default EKP login screen. If that URL does not work, try the URL: <http://yourhostname/ekp/index.htm> if the first URL does not work, but the second does, then your web server was not configured properly, but Tomcat and EKP were. Please check the web server configuration.
9. Then log in to EKP using the login of *ndadmin* and password *123456*. You should see the EKP main page:

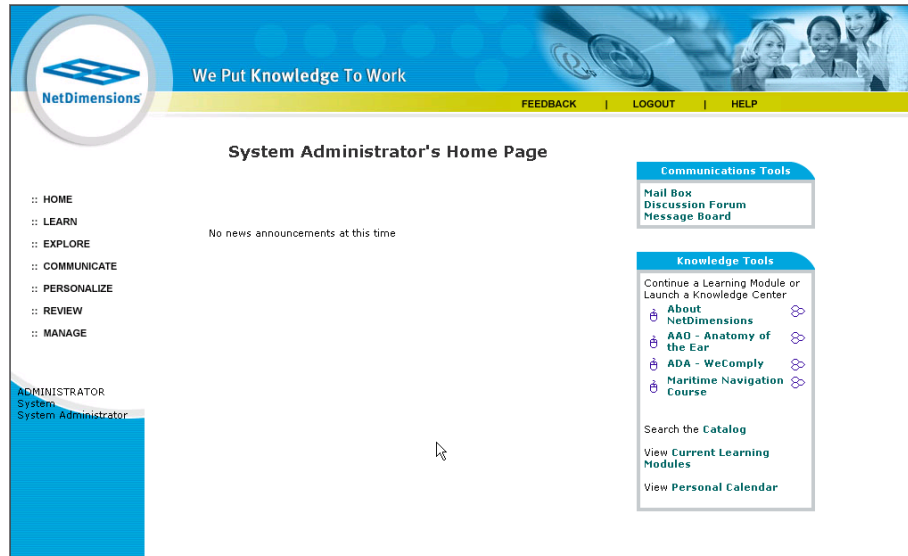


Figure 2.38: Login

NetDimensions Talent Suite 10.0 Directory Structure

NetDimensions Talent Suite 10.0 installer by default install ekp under “C:\program files\Apache Software Foundation\Tomcat 6.0\webapps” folder, below is the directory structure.

\ekp

The default context of NetDimensions Talent Suite 10.0 that installed in the web application deployment directory

\samples:

This stores sample files such as NetDimensions Talent Suite 10.0 skins, an RSS configuration file and certificate PDFs.

\nd\fresco\content:

It stores the SCORM content package

\nd\fresco\courses:

The default location to install courseware

\nd\fresco\dataloader:

The directory for the CSV data loader, includes template and example spreadsheet

\nd\fresco\filerepository:

The directory for the repository manager to do file uploading

\nd\fresco\help:

The location of NetDimensions Talent Suite 10.0 online help files

\nd\fresco\styles:

The location of installed skins

\nd\fresco\txstat:

The output directory for the transaction statistics CSV report

\WEB-INF\conf:

The configuration directory of NetDimensions Talent Suite 10.0

\WEB-INF\logs:

The log directory of NetDimensions Talent Suite 10.0

The installer creates the installation directory that, by default, is **c:\nd** and you can change it during the installation. The following diagram shows the installation directory structure.

\nd

The NetDimensions Talent Suite 10.0 installation directory

\ekp\logs

The location for the log files during the NetDimensions Talent Suite 10.0 installation

\ekp\schema\install

The database set up script of NetDimensions Talent Suite 10.0

\ekp\war

This directory contains the web archive file (ekp.war) of NetDimensions Talent Suite 10.0

\Upgrades

The upgrade package directory

\Apache 2.0

Apache 2.0 installer

\Apache-tomcat-6.0

Tomcat 6.0 installer

\java

Oracle JDK installer

\SQL2005 Express (Created only when embedded database option is selected)

Microsoft Embedded Database installer

Installing NetDimensions Talent Suite 10.0 on non-Windows Platforms

UNIX / Linux / Mac OSX

1. Unzip the “<CD ROM Drive>\Webapps\ekp.war” file to the designated web application directory. For example, unzip the WAR file to “<tomcat_home>/webapps/ekp” folder for Apache Tomcat.
2. Configure the database server (See section 3 for details).
3. Create NetDimensions Talent Suite 10.0 schema by executing the corresponding script. For example,

(SQL Server)

```
sqlcmd -Undadmin -Pndadmin -i <webapps>/ekp/nschema/mssql/mssql.sql
```

(Oracle)

```
sqlplus ndadmin/ndadmin @<webapps>/ekp/nschema/oracle/oracle.sql
```

(MySQL)

```
mysql -Undadmin -Pndadmin ekp <webapps>/ekp/nschema/mysql/mysql.sql
```

where <webapps> is the web application directory.



Note

NetDimensions Talent Suite 10.0 can be deployed using the standard web application deployment method specified in the J2EE specification. The web archive file “*ekp.war*” is located at the “<CD_ROM Drive>\Webapps” directory. Simply copy the “*ekp.war*” to the web application deployment directory to complete the installation

Additional Information for Installing on UNIX

You will also need to install a web server, such as Apache (which can be downloaded from www.apache.org), for your particular UNIX platform.

NetDimensions Talent Suite 10.0 can run with any of the commercially available web servers, as well as open source web server such as Apache.

In installing the web server, please follow the installation instructions from your web server supplier relevant to your platform.

3. Configuring the Database Server

Installing the NetDimensions Talent Suite 10.0 Database on Oracle

This section describes the database configuration steps for Oracle.

Oracle 10g Setup

To create the NetDimensions Talent Suite 10.0 database in Oracle, you first should first allocate new database devices for the database (although you can use existing devices, in principle it is better to create devices specific to a database).

In addition, you need to perform the following steps:

1. Setup environment variables ORACLE_SID and ORACLE_HOME
2. Create a new initialization file init{ORACLE_SID}.ora in \$ORACLE_HOME/dbs

The NetDimensions Talent Suite 10.0 database requires at least:

- A 50MB data segment and
- A 30MB log segment.

Create Default NetDimensions Talent Suite 10.0 Database

To create the default NetDimensions Talent Suite 10.0 database named 'EKP', run the following from the 'svrmgrl' session:

```
connect internal
startup nomount
set echo on
spool makedb.log
create database $ORACLE_SID
  character set UTF8
  maxinstances 1
  maxlogfiles 8
  datafile '$ORACLE_HOME/dbs/$ORACLE_SID_01.dbf' size 40M reuse
  logfile
    '$ORACLE_HOME/dbs/$ORACLE_SID_redo_01.dbf' size 1M reuse,
    '$ORACLE_HOME/dbs/$ORACLE_SID_redo_02.dbf' size 1M reuse,
    '$ORACLE_HOME/dbs/$ORACLE_SID_redo_03.dbf' size 1M reuse;
@$ORACLE_HOME/rdbms/admin/catalog.sql
create tablespace rollback
  datafile '$ORACLE_HOME/dbs/$ORACLE_SID_roll_01.dbf' size 8.5M reuse;
create tablespace temp
```

```
datafile '$ORACLE_HOME/dbs/$ORACLE_SID_temp_01.dbf' size 5M reuse
temporary;
create tablespace users
datafile '$ORACLE_HOME/dbs/$ORACLE_SID_user_01.dbf' size 10M reuse;
create rollback segment r1 tablespace rollback
storage ( optimal 5M );
alter rollback segment r1 online;
connect system/manager
@$ORACLE_HOME/rdbms/admin/catdbsyn.sql
connect internal
@$ORACLE_HOME/rdbms/admin/catproc.sql
connect system/manager
@$ORACLE_HOME/sqlplus/admin/pupbld.sql
spool off
exit
```

Finally you need to set up Oracle listener to listen to connections.

For demo and test systems you may want to set the *'truncate log on checkpoint'* database option so that you avoid having to purge the log each day. It is not recommended that you set this option for a production system in which you need to take nightly backups. Refer to the *System Administration Guide* of Oracle 10g for more details.

Create New Administrator Login ndadmin in Oracle 10g

Create a new login *'ndadmin'* with password *'ndadmin'* in Oracle. This will be the default login for the NetDimensions Talent Suite 10.0.

- Set the default database of *'ndadmin'* login to 'EKP' (the new EKP database).
- Change the owner of the 'EKP' database to *'ndadmin'*.
- Grant the ndadmin user the necessary database privileges

```
SQL>create user ndadmin identified by ndadmin
default tablespace users
temporary tablespace temp
quota unlimited on users;
```

```
SQL> grant connect, resource,create view to ndadmin;
SQL> grant select on dba_objects to ndadmin;
```

Configure Oracle Server's Character set to UTF8

In those cases where database content (e.g. news articles, user names, etc.) is only going to be displayed in English or English plus one other language, you can configure the database to use an appropriate character set such as US ASCII.

However, to support multiple languages content in a single database server, you need to configure the Oracle database to use UTF8 during database creation process. Refer to the *System Administration Guide* of Oracle for more details.

It is recommended that UTF8 be used.

Setup Database Objects in NetDimensions Talent Suite 10.0

To create the NetDimensions Talent Suite 10.0 database tables, stored procedures, indexes, and related objects, execute the following:

Windows:

```
%EKP_HOME%\ekp\schema\install\setup_oracle.bat
```

UNIX:

```
sqlplus ndadmin/ndadmin @$EKP_HOME/ekp/schema/oracle/oracle.sql
```

Installing the NetDimensions Talent Suite 10.0 Database on Microsoft SQL Server 2005

This section describes the database configuration steps for Microsoft SQL Server 2005.

Microsoft SQL Server 2005 Setup

Login as a user with administrator privilege and create the NetDimensions Talent Suite 10.0 login. For example, create a login 'ndadmin' with password 'ndadmin' in the server. This will be the database user login for the NetDimensions Talent Suite 10.0.

To create the default NetDimensions Talent Suite 10.0 database named "ekp", run the following from the 'isql' session:

```
create database ekp
```

Set NetDimensions Talent Suite 10.0 login 'ndadmin' as the database owner of "ekp" database, execute the following T-SQL:

```
use ekp
go
sp_addalias ndadmin,dbo
go
```

Setup Database Objects in NetDimensions Talent Suite 10.0

If you did not select the “Full Installation” option, or experienced problems with the database setup during the normal installation, you can run the database configuration independently.

To create the NetDimensions Talent Suite 10.0 database schema, execute the following:

For Windows:

```
%EKP_HOME%\ekp\schema\install\setup_mssql.bat
```

Special Note on Microsoft JDBC Driver Installation

For Microsoft SQL Server 2005 JDBC Driver Download Information (SQL Server 2005 Driver for JDBC) <http://www.microsoft.com/downloads>

Copy the “sqljdbc.jar” file to the “<webapps_dir>/ekp/WEB-INF/lib” folder.

where <webapps_dir> is the designated web application directory.

For default Apache Tomcat installation, it will be in “c:\program files\Apache Software Foundation\Tomcat 6.0\webapps”.

Installing the NetDimensions Talent Suite 10.0 Database on MySQL 5.0

This section describes the database configuration steps for MySQL 5.0.

The standard CD does not directly offer a MySQL setup option, hence you must manually do the following:

1. Ensure that you start the MySQL server with the “Def. Char. Set” in Localization as UTF-8
2. Create a new database for “ekp”;
3. Setup the userid (e.g. ndadmin) as dbo;
4. Use the provided “mysql.sql” script to create the EKP database.
5. Install the MySQL JDBC driver in the <webapp>/ekp/WEB-INF/lib” folder.

Other run-time settings and options can be set as befits the intended use.

Configuring NetDimensions Talent Suite 10.0 System Properties

At server startup NetDimensions Talent Suite 10.0 processes an `ekp.properties` file that defines some basic system configuration information, including database connectivity details. The main purpose of this file is to provide configuration details necessary to properly boot-up NetDimensions Talent Suite 10.0. This file is located in the `TOMCAT_HOME/webapps/ekp/WEB-INF/conf` directory.

The default `ekp.properties` file is shown below. To initially get NetDimensions Talent Suite 10.0 running, only the following values (may) need to be customized:

default.connectURL
default.password

The followings are brief explanations of each of the parameters.

default.connectURL: This must be set to the hostname and port for the database server. In the example below, the database is on the local machine (IP address 127.0.0.1) and is listening to port 5000

default.driverName: The database JDBC driver;

default.maxconnections: The maximum # of database connections in the connection pool;

default.incrementconnections: The # of new database connections allocated each time the currently allocated set is busy;

default.initialconnections: The # of database connections allocated at NetDimensions Talent Suite 10.0 startup;

default.retries: If no connections are available, the # of times a transaction will try to request a connection before giving up;

default.interval: The time in milliseconds to wait between each “get connection” retry request;

default.user: The userid used for the NetDimensions Talent Suite 10.0 database connection pool logins;

default.password: The password used for the NetDimensions Talent Suite 10.0 database connection pool logins;

system.login: The login algorithm used; EKP 1.1 only supports “basic”;

system.debug: Turns on debugging information that is written to `ekp.log`; this should only be set to true in a test server as the overhead is considerable;

system.aicctrace: Turns on AICC courseware message tracing – the messages are written to the log. This should only be set to true in a test server, as the overhead is considerable

system.smtpHost: Specifies the SMTP mail server to enable sending internet mail option;

chat.port: Specifies the chat server port;

system.allowsamelogin: Specifies same login id can login how many times (0 = unlimited), If not specify, it default to unlimited;

system.forceexternalmail: Specifies whether all the messages will be sent to external SMTP server defined in **system.smtpHost**;

**Note**

An example of the “ekp.properties” file with configurations for each database type can be found in Appendix A.

4. Additional Configuration

Apache

4.1.1 Adding application types for an Authorware application

Courseware that uses plugins typically requires that the web server perform appropriate mime-type mapping so that the browser properly handles the related files. In the case of Authorware, which is a popular courseware development tool, add the following entries to the "httpd.conf" file.

```
AddType    application/x-authorware-map .aam
AddType    application/x-authorware-seg .aas
AddType    application/x-authorware-bin .aab
```

Tomcat and IIS

Tomcat can be installed to run under IIS – information for Tomcat and IIS can be found on their respective web sites:

http://tomcat.apache.org/connectors-doc/webserver_howto/iis.html
<http://www.microsoft.com>

To install Tomcat,

1. Carry the tomcat-IIS integration as laid out by the how to documentation found in the above links
2. Configure Tomcat.



Note

You should start IIS first, then Tomcat.

Adding Additional Context

The examples context is useful for verifying your installation, but you will also need to add your own contexts. Adding a new context requires two operations:

1. Adding the context to Tomcat (This is covered in the Tomcat User's Guide).
2. Adding the context to the Tomcat redirector plugin.

Adding a context to the Tomcat redirector plugin is simple, all you need to do is to start Tomcat with "jkconf" option specified again. After the worker map file is rewritten, restart IIS/PWS.

If you are using a manually modified URI to worker map file, edit the file to add a line that looks like:

```
/context/*=worker_name
```

Workers and their name are defined in workers.properties, by default workers.properties comes with 2 pre-configured workers named "ajp13" and "ajp12" so you can use it. As an example, if you want to add a context named "shop", the line that you should add to uriworkermap.properties will be:

```
/shop/*=ajp13
```

5. Starting/Stopping the NetDimensions Talent Suite 10.0 System

Starting the NetDimensions Talent Suite 10.0 System

The following steps illustrate how to bring up the system. In a production environment these will typically be set to “auto start”, but for the first time it is likely that you will want to follow the manual procedures to ensure that each step properly completes before going on to the next.

1. Start the database server (refer to database documentations for more details).
2. Start the Apache web server or any equivalent. To start the Apache web server, execute the following:

Unix: `$APACHE_HOME/bin/apachectl start`

Windows: Start normal Apache service from services control panel

3. Start the Tomcat Servlet Engine or any equivalent. To start Tomcat, execute the following:

Unix: `$TOMCAT_HOME/bin/startup.sh`

Windows: Start normal Tomcat service from services control panel

Stopping the NetDimensions Talent Suite 10.0 System

To stop NetDimensions Talent Suite 10.0:

1. Stop Tomcat or any equivalent. To stop Tomcat, execute the following:

Unix: `$TOMCAT_HOME/bin/shutdown.sh`

Windows: Stop the Tomcat service via the services control panel

2. Stop the Apache web server or any equivalent. To stop the Apache web, execute the following:

Unix: `$APACHE_HOME/bin/apachectl stop`

Windows: Stop the Apache service via the services control panel

3. Stopping the database server is optional.

6. Configuring NetDimensions Talent Suite 10.0 for Self Registration

What is URL logon?

The URL logon features lets an organization to integrate NetDimensions Talent Suite 10.0 with an existing Intranet or portal site, allowing users registered to the existing site to enter NetDimensions Talent Suite 10.0 without a separate logon.

This is accomplished by passing the user's account information to NetDimensions Talent Suite 10.0 in a query string of a hyperlink from the existing site. When this URL is accessed, NetDimensions Talent Suite 10.0 checks whether the user has an existing account within NetDimensions Talent Suite 10.0. If no prior account exists, NetDimensions Talent Suite 10.0 will create a new account and log the user into NetDimensions Talent Suite 10.0 automatically.

The user should then see a NetDimensions Talent Suite 10.0 Home page.

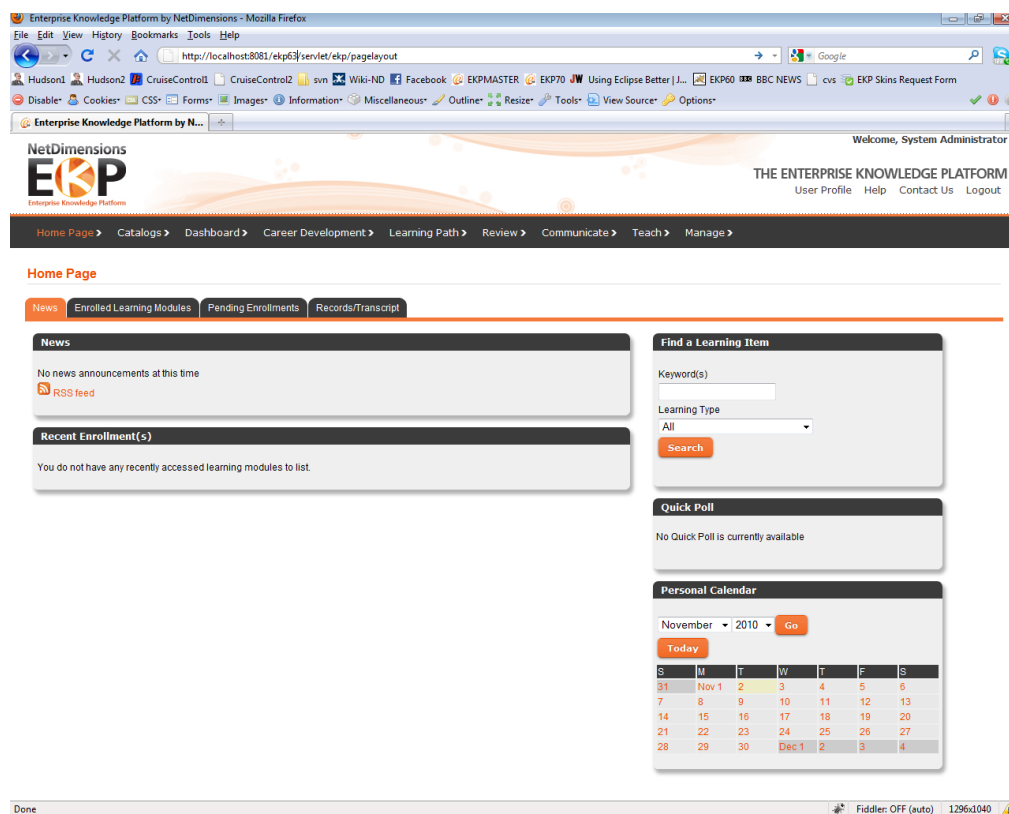


Figure 6.3: NetDimensions Talent Suite 10.0 Home Page

This feature is handy for organizations that want to grant new users access to training programs without having to first creating the requisite user IDs and logons. The format of the URL can be found on the next page.

Configuration

To configure this URL logon capability:

- First, configure a generic user profile in NetDimensions Talent Suite 10.0. (Refer to the Administration Guide or online Admin Help for procedures in configuring user profiles)
- Once you have done so, you will be able to use hyperlinks in the format shown below to automatically log users on to NetDimensions Talent Suite 10.0 and create new accounts as required. (Note that the items in <> brackets indicate where relevant data values should be passed within the URL.)

```
http://www.yoursitename.com/ekp/servlet/ekp/SETCREATE?UID=<user  
ID>&PWD=<password>&FNAME<family name>=&GNAME=<given name>[&level1ID=<level 1  
ID>[&level2ID=<level 2 ID> [&level3ID=<level 3 ID> [&level4ID=<level 4 ID> [&level5ID=<level 5  
ID>]]]]][&costCenter=<cost center>][&attribute1=<attribute 1>][&attribute2=<attribute  
2>][&attribute3=<attribute 3>][&attribute4=<attribute 4>][&prototypeID=<profile ID>]
```

This part will change with each site setup: <http://www.yoursitename.com/ekp>

Example

You may use the following example for reference. Note that this example creates a new user account using the profile called 'ge profile' as a template, substitutes a user ID of "NEWUSERXY", a password of "123456", a family name of "Family Name" a given name of "Given Name", etc.

```
http://ekp63.netdimensions.com/ekp/servlet/ekp/SETCREATE?UID=NEWUSERXY&PWD=123456&FNAME=Fa  
mily%20Name&GNAME=Given%20Name&costCenter=C1234&attribute2=Userattribute&prototypeID=ge_pr  
ofile
```

7. Testing Your Installation

Basic Test

After completing the above configurations steps, it is ready to test whether your installation is successful or not. To verify the NetDimensions Talent Suite 10.0 is successfully installed, you may launch the first home page by entering this URL <http://www.host.com/ekp/index.html> or <http://www.host.com/ekp/servlet/ekp?TX=LOGIN>, where www.host.com is the web host name and you have added a Servlet alias “EKP” previously described.

If the installation is successful, a login screen will appear. Try to login with login ID “ndadmin” and password “123456”. If you are able to login and see the personal page of “ndadmin” user, your installation is successful.



Important Note

The only user initially setup in NetDimensions Talent Suite 10.0 is “ndadmin” with password “123456”. You will need to add other users for your site. Since this user has the “system administrator” role, you will want to change the password soon after bring the system up.

Customizing the NetDimensions Talent Suite 10.0 Login & Help Pages

You will likely want to customize the login according to your site requirements by replacing the supplied *index.html* page with your own. In the *webapps\ekp* directory you will find three default HTML pages that you will want to edit, or replace with your own pages. At the very least, you will need to edit the dummy email addresses that are contained in the contact us and lost password links. The three files are: *index.html*, *help.html*, and *lostpass.html*

The default *index.html* file redirects to a dynamically generated login page. This may be replaced by your own static login page if necessary. The dynamically generated login page is based on a Velocity template called *login.wm*. The default version can be found inside *ekp.jar*. Look for the file name *com\netdimen\tx\auth\login\login.wm*. This template file may be customized and placed into the *WEB-INF/conf* directory for deployment. In *login.wm*, look for

```
<li><a href=mailto:support@netdimensions.com >Contact Us</a></li>
```

In *lostpass.html* look for:

```
<p><b>LOST PASSWORD</b></p>
```

```
<p>For a lost password please email <a
```

```
href="mailto:support@netdimensions.com">support@netdimensions.com</a>, so that a new password can be assigned to you.</p>
```

Please refer to NetDimensions Talent Suite 10.0 reference documents EN012 EKP Login Form and EN040 Adding News to Your EKP Login Page for further information.

8. Troubleshooting

Basic Procedures

To determine cause of the error, first look in the log of the utility being used and then check the server error log. See the following “Error Log Location” for the location of the error log files.

Error Log Locations

Error Log Path Name	Description
\$TOMCAT_HOME/ekp/WEB-INF/logs/ekp.log	The NetDimensions Talent Suite 10.0 system log file
\$EKP_HOME/logs/*.log	The log file generated when running the batch programs to setup Oracle, Java, and Tomcat during installation.
\$TOMCAT_HOME/ekp/WEB-INF/logs/chat.log	The NetDimensions Talent Suite 10.0 Chat server log
\$APACHE_HOME/logs/error.log	The Apache error log file
\$TOMCAT_HOME/logs/*.log	The Tomcat log file
\$EKP_HOME/ekp/Tools/XMLLoader/ekp-upload.log	The log file from the XMLLoader tool
Drive Root:\Setup_stderr.txt	The standard error output from the installer program.

- \$EKP_HOME - The NetDimensions Talent Suite 10.0 installed home directory
- \$APACHE_HOME - The Apache installed home directory
- \$TOMCAT_HOME - The Tomcat installed home directory

Common Errors and Resolutions

500 Internal Server Error

Common Error	Recommended Action
<p>500 – Internal Server Error</p> <p>The server encountered an internal error or configuration problem and was unable to complete your request.</p>	<p>Check the Servlet configuration in the web server. Make sure the JSDK is included in the CLASSPATH in Apache / Tomcat configuration</p>
<p>NetDimensions Talent Suite 10.0 has not been able to make a connection to the database.</p>	<p>Check the JDBC connection URL and login information is correctly set in the “<i>ekp.properties</i>” file. Check if the database server is running and database is online.</p>
<p>Cannot find the “<i>ekp.log</i>” file or it’s not being updated</p>	<p>Check the access permission of the file and directory</p>

There are many possible causes of a 500 – Internal Server Error you need to check the message log in detail. (See Section 8.3.2)

In general, if you install NetDimensions Talent Suite 10.0 as an automated batch process (i.e. you allow the installer to run automatically), all necessary files will be copied to the requisite directories. (See Section 8.3.1.1)

However, if you install NetDimensions Talent Suite 10.0 manually or interrupt the installer, some files may not be copied to the required directories.

You should examine the log file, note which files have not been installed, and install the missing file from the CD.

Alternatively, you may repeat the installation process.

Relevant Directories

Below is the directory structure for JDK.

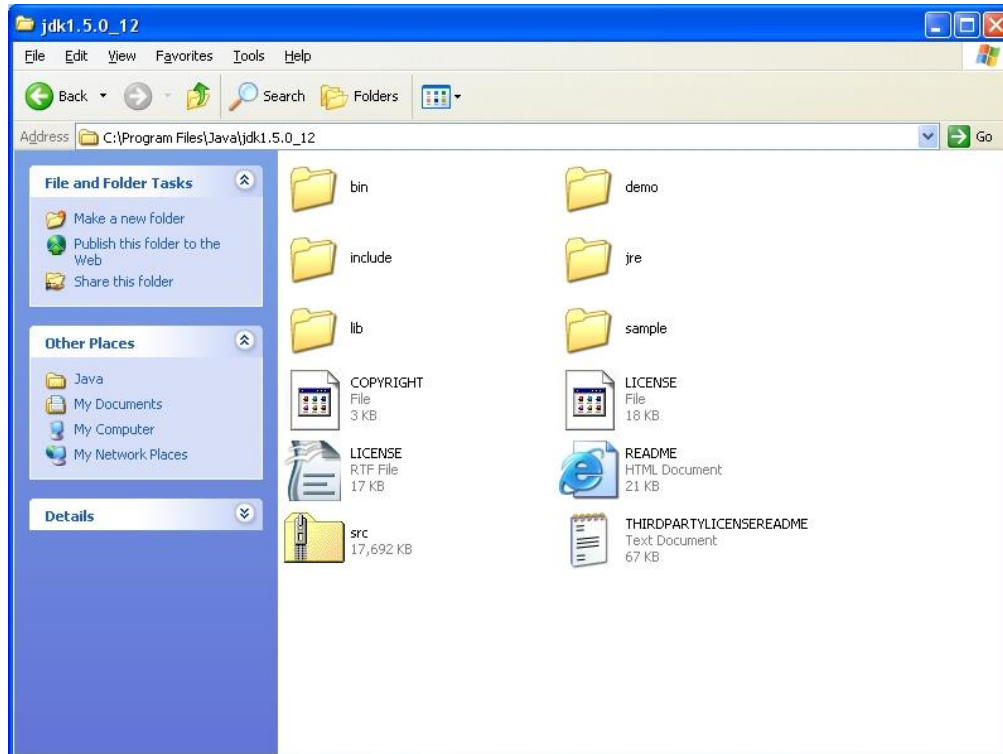


Figure 8.1: JDK Directory Structure

Below is the directory structure of Tomcat and NetDimensions Talent Suite 10.0 with IIS.

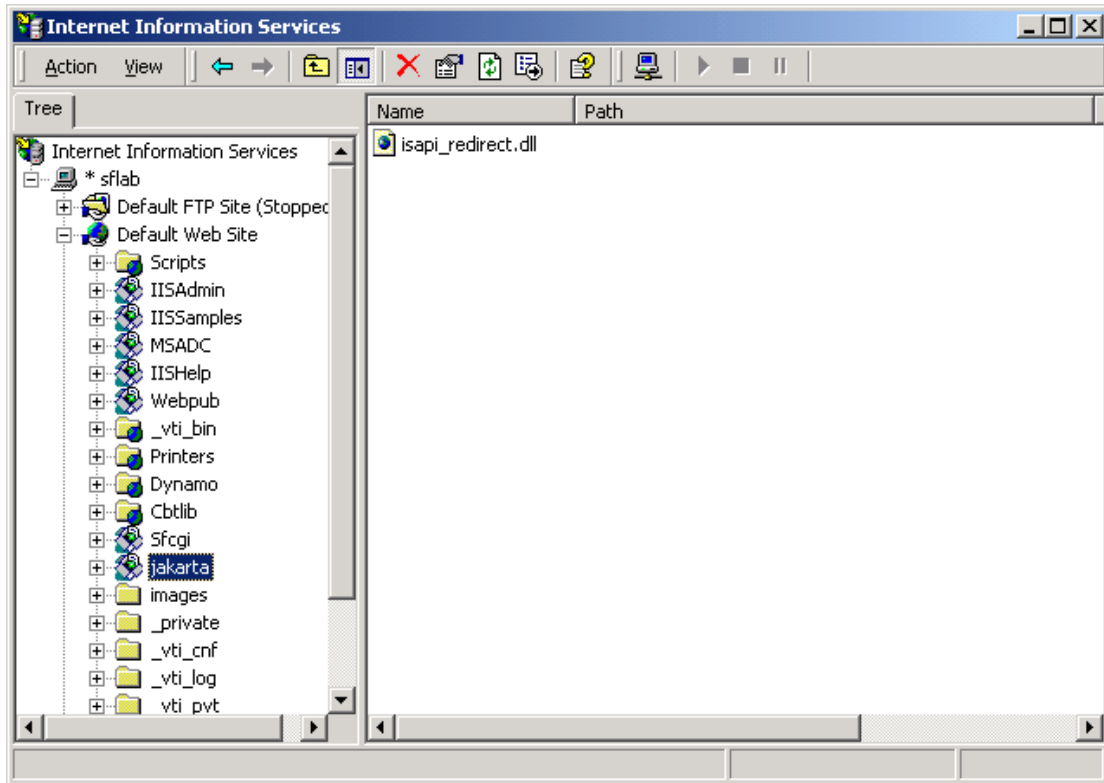


Figure 8.2: Tomcat and NetDimensions Talent Suite 10.0 Directory Structure with IIS

The path for jakarta Virtual Directory points to is C:\nd\jakarta-tomcat-6.0\bin\iis\i386. This is where you put isapi_redirect.dll.

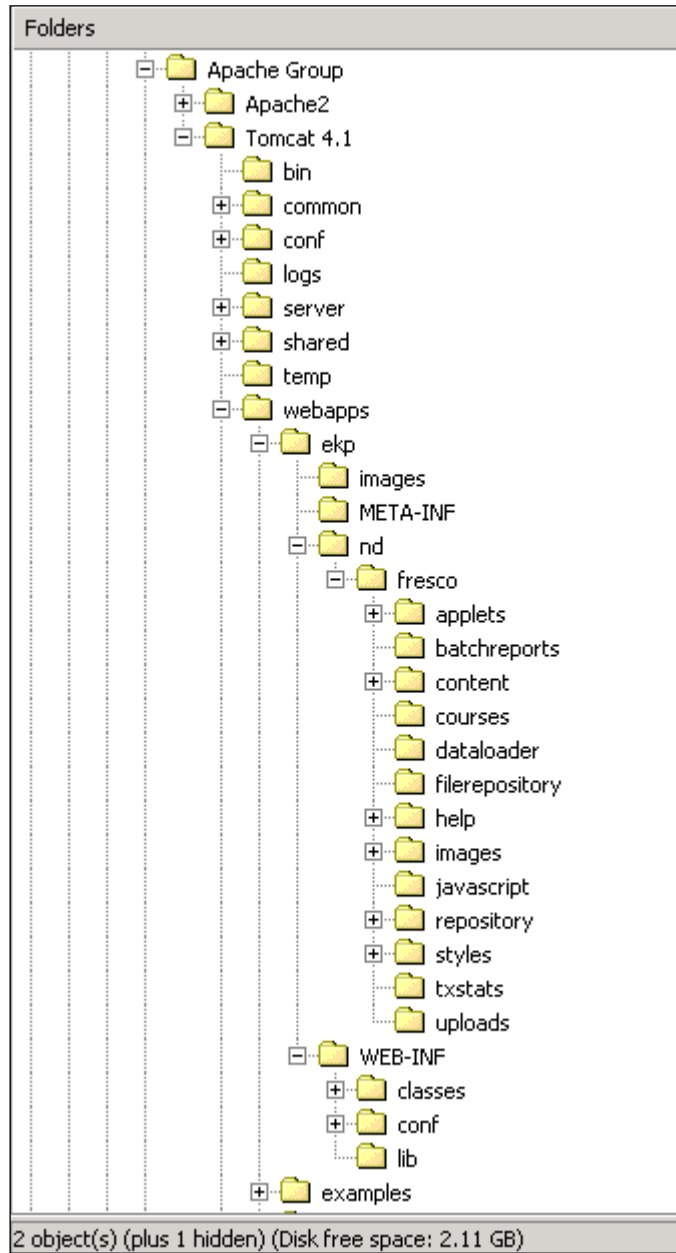


Figure 8.3: Jakarta Virtual Directory

Sample

For example if you encounter a 500 Internal Server Error and see this message, it means your Java Security files were not properly installed.

Error: 500

Location: /ekp/servlet/ekp

Internal Servlet Error:

```
java.lang.NoClassDefFoundError: javax/crypto/Cipher
    at com.netdimen.f.b.License.(License.java:61)
    at com.netdimen.core.ContextManager.checkLicense(ContextManager.java:643)
    at com.netdimen.core.ContextManager.(ContextManager.java:382)
    at com.netdimen.txserver.TransactionServlet.init(TransactionServlet.java:90)
    at org.apache.tomcat.facade.ServletHandler.doinit(Unknown Source)
    at org.apache.tomcat.facade.ServletHandler.init(Unknown Source)
    at org.apache.tomcat.facade.ServletHandler.service(Unknown Source)
    at org.apache.tomcat.core.ContextManager.internalService(Unknown Source)
    at org.apache.tomcat.core.ContextManager.service(Unknown Source)
    at org.apache.tomcat.modules.server.Ajp13Interceptor.processConnection(Unknown Source)
    at org.apache.tomcat.util.net.TcpWorkerThread.runIt(Unknown Source)
    at org.apache.tomcat.util.threads.ThreadPool$ControlRunnable.run(Unknown Source)
    at java.lang.Thread.run(Thread.java:484)
```

Apache & Tomcat Errors

Apache

If Apache starts up and produces an error such as:

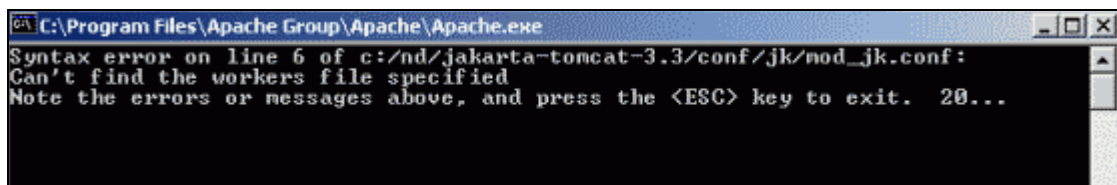


Figure 8.4: Apache Error Message

It is likely because the either the TOMCAT_HOME and/or JAVA_HOME environment variables have not been properly set. Sometimes (on Windows) even though they have been set a system reboot is required before they become available to all users. Verify that the environment variables are pointing to the correct file locations, set or reset if necessary, then close Tomcat and Apache, and restart Windows.

Tomcat

When Tomcat starts from the Windows command prompt the window it opens will stay open. If the window closes immediately then an error has occurred and Tomcat has not started.

To see the error message you can put a “Pause” statement at the end of the TOMCAT_HOME/bin/startup.bat file. Remember to remove the pause when the error has been cleared.

The most common error when starting Tomcat is that the JAVA_HOME variable has been set incorrectly, has not been set, or cannot be read. On Windows, even if the JAVA_HOME was set correctly during installation and appears in the environment variables list, it is often the case that it cannot be seen by other programs until Windows has been restarted.

Please also read the README files supplied on the installation CD for additional information regarding the install process.

Null Error

Possibility One: corrupted EKP.war file

After successfully installing Tomcat and NetDimensions Talent Suite 10.0 under IIS, if the message “Could not start EKP: Null”, when you go to the main NetDimensions Talent Suite 10.0 screen at /ekp/index.html, you may have missed a step setting up the system or the license file may be missing. The other possibility is that the ekp.war file was either not extracted correctly or was corrupted.

Note: the default CD installer does not come with a license file and the installation default is for two concurrent users.

Possibility two: Missing Java security file

The other possibility is that the Java security files have not been added to the JDK directories. Please see the Java readme file that should be in the installation documentation directory and verify that the java security files have been copied to the necessary places in the JDK folder. There are four files supplied that must be copied into two sub-folders of your JAVA_HOME directory. These files are extensions to the Java Runtime environment. As they are not included in the default Java environment, they are supplied in the NetDimensions Talent Suite 10.0 installation CD.

Appendix A: Sample ekp.properties file

```
#####
# EKP Properties File
# $Revision: 1.71 $
#####

#-----
# The "default" connection pool is used to access the EKP database. Sample for
# various databases types are provided below, but only one "default" pool
# may be configured at any particular time. The properties below are
# common to every RDBMS type.
default.name=Default
default.initialConnections=2
default.maxConnections=10
default.incrementConnections=2
default.retries=5
default.interval=1000
default.user=ndadmin
default.password=ndadmin

#-----
# the number of times a connection will be used before the connection pool
# performs an integrity test; for example, if the value is 50 then a connection
# will be tested after it has been used 50 times, 100 times, 150 times and so on
# (0 means connections are never tested)
# This value should be set to 1 in during development and testing, or where
# you use gateways/firewalls between the EKP/database that periodically
# timeout connections. Otherwise, leave it at 0 in a production environment.

# Syntax: default.connectionPoolTestInterval=(int)>0
# Default: 0 (i.e. connections are never tested)
#default.connectionPoolTestInterval=0

#-----
# the number of times a connection will be used before the connection pool
# replaces it with a new one. This helps to minimize/eliminate memory leaks
# in older drivers.
default.connectionPoolReplacementInterval=400

# determines whether to perform an Oracle-specific check for open cursors
# This value should be set to true during development and testing under Oracle.
# It should be set to false in a production environment, or when running under a
# DBMS other than Oracle.
# Syntax: default.connectionPoolCheckOracleOpenCursors=[true | false] (boolean)
# Default: false
```

```
#default.connectionPoolCheckOracleOpenCursors=false

#-----
# Oracle Example
#default.driverName=oracle.jdbc.driver.OracleDriver
#default.connectURL=jdbc:oracle:thin:@localhost:1521:ORCL
#default.dbType=oracle

#-----
# Microsoft SQL Server 2005 (Microsoft JDBC Driver for SQL Server 2005)
#default.driverName=com.microsoft.sqlserver.jdbc.SQLServerDriver
#default.connectURL=jdbc:sqlserver://localhost:1433;DatabaseName=ekp;SelectMethod=cursor
#default.dbType=mssql

#-----
# Microsoft SQL Server (Microsoft JDBC Driver)
default.driverName=com.microsoft.jdbc.sqlserver.SQLServerDriver
default.connectURL=jdbc:microsoft:sqlserver://localhost:1433;DatabaseName=ekp;SelectMethod=
cursor
default.dbType=mssql

#-----
# MySQL
#default.driverName=com.mysql.jdbc.Driver
#default.connectURL=jdbc:mysql://localhost:3306/ekp?characterEncoding=UTF-8
#default.dbType=mysql

#-----
# Additional Connection Pool Adapters
# Multiple connection pools (e.g connpool[1],...,connpool[n]) can be
# configured to allow JDBC access to an external system database.

#connpool[1].name=Other_System
#connpool[1].driverName=oracle.jdbc.driver.OracleDriver
#connpool[1].connectURL=jdbc:oracle:thin:@localhost:1521:EKP
#connpool[1].user=ndadmin
#connpool[1].password=ndadmin
#connpool[1].initialConnections=1
#connpool[1].maxConnections=10
#connpool[1].incrementConnections=2
#connpool[1].retries=5
#connpool[1].interval=1000

#-----
# System tracing options -- leaving these on increases overhead
# and log size

system.debug=false
```

```
system.aicctrace=false
```

```
#-----
```

```
# Security option (default: basic) if not set  
# basic - use http/https depending on the request  
# https - use SSL for verify password and change password  
# forcehttps - force to use https redirect after login  
# forcehttp - force to use http redirect after login  
#system.loginsecurity=https
```

```
#-----
```

```
# Available languages are: English (en_US), French (fr_FR),  
# Simplified_Chinese (zh_CN), Traditional_Chinese (zh_TW),  
# Traditional_Chinese_HK (zh_HK), Japanese (ja_JP), Korean (ko_KR),  
# German (de_DE), Spanish (es_ES), Spanish - Latin American (es_CO), Dutch (nl_NL),  
# Polish (pl_PL), Greek (el_GR), Portuguese (pt_PT), Portuguese_BR (pt_BR),  
# French_CA (fr_CA), Arabic (ar_SA), Hindi (hi_IN),  
# Malay (ms_MY), Thai (th_TH), Turkish (tr_TR), Indonesian (in_ID), Hebrew (iw_IL)  
# Czech (cs_VZ), Hungarian (hu_HU), Russian (ru_RU), Slovakian (sk_SK), Tagalog (tl_PH)
```

```
#
```

```
# Note: The relevant "locale" files must also be installed for the language to appear  
# on the screens -- otherwise, English is shown by default.
```

```
#
```

```
system.languages=English, en_GB, en_CA, zh_HK, zh_CN, zh_TW, fr_Fr, de_DE, ja_JP, es_ES, es_CO,  
nl_NL, el_GR, ar_SA, vi_VN, pt_BR, ms_MY, pl_PL, ko_KR, tl_PH, in_ID, iw_IL, cs_CZ, hu_HU, pt_PT,  
ru_RU, sk_SK, th_TH, it_IT
```

```
#-----
```

```
# The # months to retain Personal Calendar reminder notes before they are purged  
# from the system. Default: 12  
system.reminderretention=12
```

```
#-----
```

```
# Specify the hour (0-23) to run the daily event handler (default is 3am.)  
system.handlerstarttime=3
```

```
#-----
```

```
# By default, a specific login can concurrently log in from  
# multiple clients. To restrict this, specify the # of logins  
# allowed per userid (0, the default, implies unlimited logins).
```

```
system.allowsamelogin=0
```

```
#-----
```

```
# Specifies the prefix of the web URL reference in EKP. DO NOT  
# CHANGE unless you have a good reason!  
# Default: /nd/fresco  
#system.ekpbased=/test
```



```
#
# Mail (SMTP) server host name. If no SMTP host is specified, only internal
# mail may be used.
#
#system.smtpHost=smtp.example.com

#
# If "forceexternalmail" is set to "Y", and an SMTP server is specified above,
# ALL mail is routed to the external mail interface using the user-configured
# e-mail address.
#
#system.forceexternalmail=Y

#-----
# The fully-qualified class name of the registration adapter
# The registration adapter must implement
# com.netdimen.adapters.registration.RegistrationAdapter, and must have a no-
# argument constructor.

system.registrationAdapterClass=com.netdimen.adapters.registration.DefaultRegistrationAdapter

#-----
# Chat Server port no. (default 4238)
#chat.port=5555

#-----
# Number of idle minutes before chat sessions are automatically disconnected (default: never)
#chat.con_live_time=5

#-----
# Time interval for the chat server to clean up those inactive clients
#chat.con_cleanup_interval=5

#-----
# Maximum File Upload Size (# bytes)
#system.maxuploadsize=6000000

#-----
# Maximum Email Attachment Size (Sum) (# bytes)
system.maxemailattachmentsize=6000000

#-----
# Cache properties control object caching behavior. The learningObject and
# question caches have a minimum size of 10, and a default of 100. The
# "general" cache is not used in this version.

cache.learningobject=100
```

```
cache.question=100
cache.article=50
cache.org=100
cache.user=500

#-----
# All of the below are required for LDAP authentication DO NOT
# uncomment these unless you are using the LDAPLoginAdapter.
#default.LDAP_Dir=o=netdimensions.com
#default.LDAP_HOST1=202.82.124.200
#default.LDAP_PORT1=389
#default.LDAP_HOST2=202.82.124.200
#default.LDAP_PORT2=389
#default.LDAP_HOST3=202.82.124.200
#default.LDAP_PORT3=389
#default.LDAP_TIMEOUT=300

# (Optional) Additional search filter for finding a user
#default.LDAP_FILTER=ACCTDISABLED=FALSE

# Define the active directory DN and password for initial binding.
#ldap.activeDirectoryDN=cn=ekp,cn=users,dc=netdimensions,dc=local
#ldap.activeDirectoryPassword=ekp

# Specify a customized login adapter for external authentication.
# Default is using LDAPLoginAdapter for external authentication
# Uncomment the following to enable Window single sign-on
#module.LoginAdapter=com.netdimen.adapters.login.WindowSSOLoginAdapter

#-----
#Auditing has two settings: the level, which indicates how much is to
#be captured (0 indicates no auditing, 1 is basic deletes/actions), and the
#selection of object types to audit: U (users), O (learning objects),
#L (Logins), T (tests), Q (questions), C (certifications),
#X (module launches), A (Approvals), E (Enrollments/Transcripts),
#and F (Full audit).
system.auditlevel=0
system.auditoptions=U, L, X, C, T, Q, O, A, E

#-----
# Option to cause report generation to default to HTML or File.
report.defaultstofile=false

# Uncomment this line to configure the system for immediate lesson transitions
# in the course player; otherwise, the system will enforce a short delay between
# lessons. It is recommended that this is turned off, to ensure that relevant
# tracking information gets returned to EKP before sequencing rules are applied.
#system.immediateLessonTransitionEnabled=true
```

```
# JNDI settings
#naming.providerUrl=rmi://localhost:1099/JndiServer
#naming.initialContextFactory=org.exolab.jms.jndi.rmi.RmiJndiInitialContextFactory

# JMS settings
#jms.queueConnectionFactoryName=JmsQueueConnectionFactory
#jms.queueConnectionFactoryUserName=ndadmin
#jms.queueConnectionFactoryPassword=ndadmin
# standard queue for processing IMS Enterprise message
#jms.queueName=queue1
# queue for other customization
#jms.customQueueName=queue2

# Created for giving base url for daily event handler
system.baseurl=http://localhost:8080/ekp/servlet/ekp

# Defines EKP instance's ID and name. If running with multiple instances of EKP,
# this has to be defined appropriately.
# Defaults:
# nodeid = 1
# nodename = EKP
#system.nodeid=1
#system.nodename=EKP

#This is key code to be used for Global English Launch Interface, it passes this value
#as an HTTP parameter (keyCode)
course.globalEnglish.keyCode=EKP

#This flag is use to show or hide the "Restrict to launch when Cost Center or Email is Empty" flag
#in Catalog Editor/Web Launch Interface Specifications
#course.costCenterEmailRequiredOptionEnabled=true

# Specifies a different browser window title.
# Note: Appropriate license is required to enable this.
#system.windowTitle=Enterprise Knowledge Platform by NetDimensions

# Specifies extra class that implements EmailTemplatePara to add new Email Template Parameter
#email.parameters.list=com.netdimen.appl.emailtemplate.parameters.NewPara1,com.netdimen.a
ppl.emailtemplate.parameters.NewPara2

# Specifies the directory where daily event handler should read for IMS Enterprise Specification
XML files to import
#system.msmdir=c:\data

# The online payment adapter for sending ; must implement
com.netdimen.payment.PaymentService
#payment.adapter=com.netdimen.payment.verisign.PayflowProPaymentService
```

```
# The path for system to look for vendor specific client cert files
#payment.cert.path=VeriSign
#payment.host=test-payflow.verisign.com
#payment.port=443
#payment.timeout=30

# There is another approach for online payment, which use external credit card payment form and
just send pay amount there.
#external_payment.adapter=com.netdimen.payment.asiapay.PayDollarPayGate
#external_payment.url=https://test.paydollar.com/b2cDemo/eng/payment/payForm.jsp
#external_payment.api_url=https://test.paydollar.com/b2cDemo/eng/merchant/api/orderApi.jsp
#payment_api.login=
#payment_api.password=
#
# The server config that needed for both internal adaptor or external adaptor
#payment.vendor=
#payment.login=
#payment.password=
#payment.partner=

# Enable mail logging, sent mail will be logged to file. (default: false)
#system.logmail=true

# Specifies the TX for logging on to EKP when user's session is timeout or invalid.
# Default: login
#system.loginTX=login

# Specifies the authentication mode (default: mixed)
# mixed - user needs to be exists in EKP database. Select internal
#           or external authentication depending on user's authentication flag.
# external - user may not exists in EKP database. Always use external
#           authentication.
#system.authenticationMode=external

# AACM client settings for GE Oracle SSO
#aacm.sso.providerURL=ormi://localhost:23791/SSOApiEJB
#aacm.sso.initialContextFactory=com.evermind.server.rmi.RMIInitialContextFactory
#aacm.sso.principal=user
#aacm.sso.credentials=password

# MQ JMS settings
#mq.hostname=localhost
#mq.port=1415
#mq.queuemanager=GELS.MNTD02
#mq.channel=MNTD02.C01.SVRCONN
#mq.requestqueue=GELS.AGENTENQ.RQST.Q001
#mq.replyqueue=GELS.AGENTENQ.RPLY.Q001
```

```
# Log to console screen
#logging.console=false

# Specifies the URI to which users who are externally authenticated will be redirected after logging
# out of the system. This overrides the default logout URI defined in the system defaults
# configuration. There is no default value.
#system.logoffRedirectUrl=

# Specifies an encrypted password for database user password
# It replaces clear text password defined in default.password
#default.encryptedPassword=0D41A73405A42895

# If a tab interface is used, client can turn on a "Find Learning Item" box
# in the "Enroll Learning Item" Tab.
# True means the option is enabled while false means disable.
#system.showFindLearningItemBoxInEnrollLearningItem=true

# The context path for the applications, where for example the URL of the standard login page is
# "http://host/contextPath/index.html"
system.domain=ekp

# Horizon Wimba setting for audio capture question type
# You need to fill in all of these fields to enable the audio capture function
#wimba.proxytype=http
#wimba.httpproxyaddress=http://netdimensions.horizonwimba.com/netdimensions/broker
#wimba.wimbaserverurl=http://netdimensions.horizonwimba.com/netdimensions
#wimba.account=default
#wimba.secret=

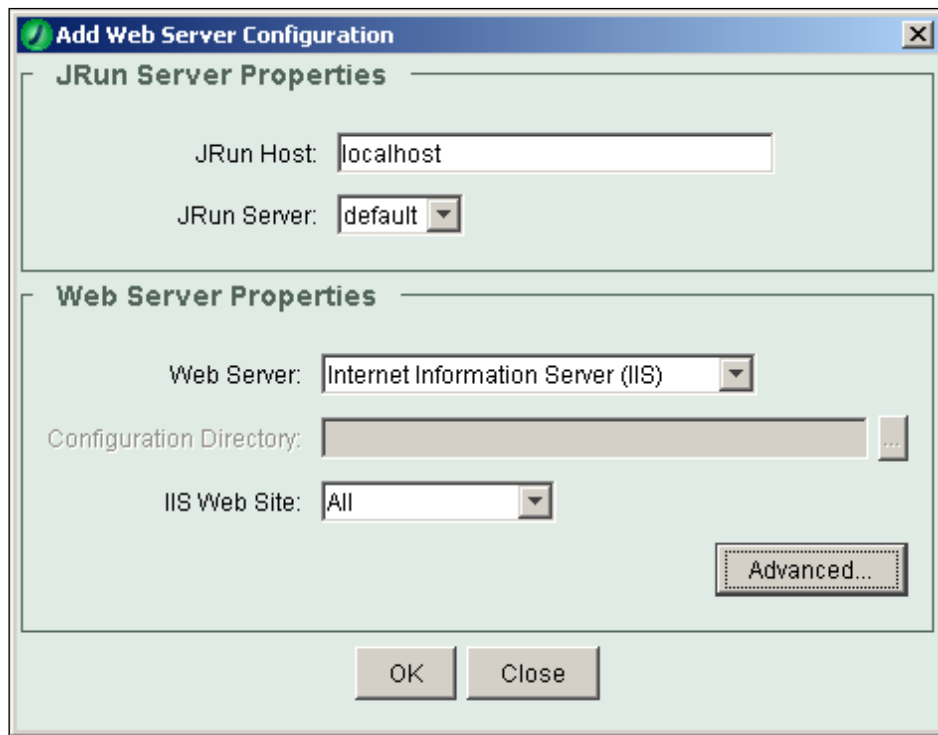
# maximum number of lines that will be processed in a data loader CSV file
dataLoader.maxLines=unbounded

# Define the archive database server JDBC connection used by data archiving function.
#archive.driverName=com.microsoft.jdbc.sqlserver.SQLServerDriver
#archive.connectUrl=jdbc:microsoft:sqlserver://localhost:1433;DatabaseName=ekp_archive;Select
Method=cursor
#archive.user=ndadmin
#archive.password=ndadmin

# display the search result of learning objects in two different styles: table or highlight
# default value is highlight
search.style=highlight
```

Appendix B: Manual Install Process for NetDimensions Talent Suite 10.0 on IIS/JRun4 with MSSQL

1. Download and install a JDBC driver. For a new installation of NetDimensions Talent Suite 10.0 the Microsoft JDBC driver will work. If you are upgrading from a previous version of NetDimensions Talent Suite 10.0 then the JnetDirect driver is required.
2. Insert the NetDimensions Talent Suite 10.0 install CD in the drive, and start the setup program.
3. Choose the UNPACK only option in the Install program and note the path where the files are unpacked.
4. Open the file `ekp.war` file that you unpacked from the CD with any ZIP compression program (e.g. WinZIP), and then extract the content of the `ekp.war` file (with paths) to `"/servers/default/ekp/"` under the JRun 4 program folder (e.g. `D:\JRun4\servers/default/ekp/`).
5. To integrate IIS and JRun4 servers, enter Macromedia JRun 4 -> Web Server Configuration Tool, and click on the Add button.
6. Use the following settings and click on OK.



7. Login to the JRun Management Console, click on the "default" server on the tree in the left pane.
8. Click on Add button in the Web Applications box in the right pane.

9. In the Deployment Files box, append “/ekp” to the path in the textbox and then click on the Deploy button. Wait until you see the deployment successful message.
10. Once you have finished the deploy process, restart your Jrun server
11. In MS SQL server Create a new Database named ‘ekp’
12. In MS SQL server run the script named MSSQL.sql (which is found in the directory ‘schema’ in the place where you unpacked files from the CD) against this database
13. In IIS admin, create a new virtual directory with the default starting point set to ‘<Default Web Site>\ekp’ and point this directly onto the directory named ‘ekp’ in the place where you deployed the ekp application using Jrun
14. Find the ‘ekp.properties’ file in the path where you deployed the application using Jrun
15. Edit ‘ekp.properties’ and provide the MSSQL database name, the JDBC driver information, and the Database username and password.
16. Restart your Jrun server
17. Using a web browser go to ‘http://localhost/ekp/index.html’ You should see the NetDimensions Talent Suite 10.0 login screen.
18. Login using the default username ‘ndadmin’ and password ‘123456’

Appendix C: Performance References

The overall performance of the system is depending on the following factors:

- Number of users
- Number of concurrent users
- Depth of the organization tree (e.g. 3 levels versus 15 levels)
- Number of courses
- Type of the courses (SCORM versus AICC)
- Number of SCOs in the SCORM courses
- Amount of tracking data returned by the courses
- Size of the courses
- Number of auto-assigned courses and learning programs
- Number of targeted news articles
- External email versus internal email
- Number of files uploaded using the repository manager
- Number of reports running concurrently
- What database and application server is being used
- What operating system is being used (Windows versus UNIX)
- How much physical memory is available in the machine

The general guideline is as follows:

Base hardware configuration

- 1GHz P4 CPU or higher
- For each 10,000 users, one additional 1GHz CPU should be added (it supports about 100 concurrent users)

Examples in heavy loading production reference sites:

- 94,000 users running on a 2X 2.4GHz with 2GB memory Windows machine. Each user auto-enrolled in 50 remote launch SCORM courses and with 1000 concurrent users on average
- 45,000 users running on a 2X 2.8GHz with 1.5GB memory Windows machine. With access to 3000 AICC 3rd-party courses and 500 concurrent users on average.
- 20,000 users running on a 4CPU Sun E450 machine with 2GB memory that using Oracle database. With access to 2000 AICC courses and 200 concurrent users on average.