

NCIA 4.0.0

Local Installation Guide for LSD 1.1.0



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Introduction


This NCIA 4.0.0 installation Guide provides you with the instructions to install and configure the NCIA 4.0.0 application in your environment. The NCIA installation installs and configures the JBoss application servers.

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| <p>NOTE</p>  | <p>Published NCIA documentation can be found on the NCIA section of the LSD GForge site:</p> <p>https://gforge.nci.nih.gov/frs/?group_id=450</p> |
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Overview of NCIA Installation

The process for installing NCIA includes the following tasks described in this document:

- a. Downloading and installing required software
 - b. Setting environment variables
 - c. Downloading NCIA 4.0.0 distribution files
 - d. Installing NCIA
 - e. Configuring JBoss
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| <p>Before You Proceed</p>  | <ul style="list-style-type: none"> • Please contact us directly with any questions: E-mail: ncicb@pop.nci.nih.gov Telephone: 301-451-4384 Toll free: 888-478-4423 • Directions are given in this document for both Linux and Windows operating systems. |
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NCIA 4.0.0 Software and Technology Requirements

Tested Environment

The NCIA 4.0.0 installation has been tested on Linux Red Hat Enterprise Linux AS 4 64/32-bit (for AMD chipset) and the Windows XP/2003 environments. While the installation may work in other Linux and Windows environments, it has only been tested in these environments.


Required Software—Not Included in NCIA

Many of the servers and services that make up NCIA 4.0.0 are automatically installed as part of this installation. However, certain tools that you must manually install and configure are listed in Table 1. The software name, version, description, and URL hyperlinks (for download) are indicated in the table.

Prior to the NCIA 4.0.0 installation, you must download and install the following tools and recommended versions in the order they are listed. Complete the directions for installing each, as directed on the corresponding website.

| Required Software Name Version | Description |
|---|---|
| Java 2 Platform Standard Edition 5.0 Update 10 (J2SE 5.0) http://java.sun.com/products/archive/j2se/5.0_10/ Be sure to download the correct Java SDK for your operating environment. For example, for Linux AMD 64, you would download <code>jdk-1_5_0_10-linux-amd64-rpm.bin</code> . For Windows, you might download <code>jdk-1_5_0_10-windows-i586-p.exe</code> . | The J2SE Development Kit (JDK) supports creating J2SE applications. |
| Apache Ant, 1.7.0 https://gforge.nci.nih.gov/svnroot/lcd/trunk/tools/apache-ant-1.7.0-bin.zip | Apache Ant is a Java-based build tool. |

Table 1 Required Software

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|---|---|
| IMPORTANT  | <p>As you install each application, record the installation directory path.</p> <p>Also, if you plan to install NCIA and/or LSD locally, do these installs first and record the hostname, application port, and grid port for each.</p> |
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Java SDK Installation


When you install the Java SDK, you will be prompted to select the installation directory. Record the path, as this directory will be used when you set the environment variables.

Apache Ant Installation

Unzip the Apache Ant distribution files using a command line unzip tool or a zip utility, such as WinZip.


After extracting the zip, you must set the environment variables, described in the following section, so that Ant is available in the system PATH.

Apache Ant Environment Variables

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| <p>NOTE</p>  | <p>The purpose of setting operating system environment variables is so that the Java SDK and Ant build tool are available to run from anywhere in the system.</p> |
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Linux

To set the environmental variables in Linux, follow these steps:

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| <p>NOTE</p>  | <p>The JAVA_HOME, ANT_HOME and PATH environment variables are set in <code>/etc/profile</code>. You may need to create the variables, or modify them if they already exist.</p> |
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| Step | Action |
|------|---|
| 1 | <p>As the root user (or sudo w/ privileges), enter the following in the <code>/etc/profile</code> file. A PATH variable should already be created in this file, so be sure to define the JAVA_HOME and ANT_HOME export before the PATH export. Replace <code><installation_directory></code> with the directory where you have installed the Java SDK and Ant.</p> <p>(The location example in the Apache Ant installation is <code>/usr/java</code>.)</p> <pre>export JAVA_HOME=<installation_directory>/jdk1.5.0_10 export ANT_HOME=<installation_directory>/apache-ant-1.7.0 export PATH=\$JAVA_HOME/bin:\$ANT_HOME/bin:\$PATH</pre> |

| Step | Action |
|------|---|
| 2 | Log out and log back in so that the system recognizes your changes. |


Verifying the Environment Variables in Linux

To verify that environment variables have been set correctly, follow these steps:

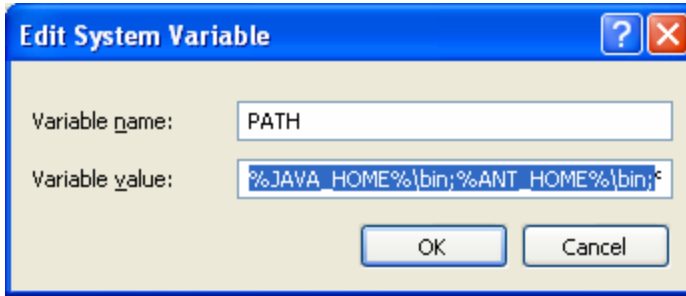
| Step | Action |
|------|--|
| 1 | From the command line, enter: <code>echo \$JAVA_HOME</code> <code>echo \$ANT_HOME</code> Both of these commands should return the location where you installed these tools. |
| 2 | To verify your Java SDK installation, enter <code>java -version</code> from a command prompt. You should see <code>java version "1.5.0_10"</code> . |
| 3 | To verify your Ant installation, enter: <code>ant -version</code> from a command prompt. You should see: <code>Apache Ant version 1.7.0 compiled on December 13 2006</code> . |

Windows

To set the environmental variables in Windows, follow these steps:

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| <p>NOTE</p>  | <p>The JAVA_HOME, ANT_HOME and PATH environment variables are set in the Systems Properties.</p> |
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| Step | Action |
|------|--|
| 1 | In Windows, select Control Panel , then select the Systems application. In the Systems window, select the Advanced tab. |


| Step | Action |
|------|--|
| 2 | <p>On the Advanced tab, click the Environment Variables button. To add a new system variable, select the New button.</p> <p>a. In the Variable name text box, enter <code>JAVA_HOME</code>.</p> <p>b. In the Variable value text box, enter the location of your Java installation.</p> |
| 3 | <p>Click the New button again.</p> <p>a. In the Variable name text box, enter <code>ANT_HOME</code>.</p> <p>b. In the Variable value text box, enter the location of your Ant installation.</p> |
| 4 | <p>Select the PATH system environment variable, and select the Edit button. This opens the Edit System Variable dialog box, displayed here as an example.</p>  |
| 5 | <p>In the Variable value text box, prepend the following text in front of the text that already exists in the Variable Value field.</p> <p><code>%JAVA_HOME%\bin;%ANT_HOME%\bin;</code></p> <p>Click OK.</p> |

Verifying the Environment Variables in Windows

To verify the environment variables have been set correctly, follow these steps:

| Step | Action |
|------|--|
| 1 | <p>From the command line, enter:</p> <pre>echo %JAVA_HOME% echo %ANT_HOME%</pre> <p>Both of these commands should return the location where you installed these tools.</p> |
| 2 | <p>To verify your Java SDK installation, enter <code>java -version</code> from a command prompt. You should see <code>java version "1.5.0_10"</code>.</p> |


| Step | Action |
|------|---|
| 3 | To verify your Ant installation, enter ant -version from a command prompt. You should see: Apache Ant version 1.7.0 compiled on December 13 2006. |

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| NOTES  | Environment variables for NCIA will be modified and set in those sections of this document: Installing a New NCIA on page 7. |
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Installing NCIA 4.0.0 Application and Services

To install the NCIA 4.0.0 application and services, follow the steps in this section:

- [Downloading NCIA 4.0.0 files from GForge](#)
- [Installing a New NCIA](#)
- [Configuring JBoss to Run as a Service](#)

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| IMPORTANT  | <p>Before running the installers, be sure your Database Administrator has created an empty database (if installing the software for the first time) and a database user with full access to this database. Once the database has been created and permissions granted, you will need the following information before beginning the install:</p> <ul style="list-style-type: none"> • Database Name • Database User • Database Password • Port where MySQL is installed |
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Downloading NCIA 4.0.0 files

To download the NCIA 4.0.0 files, follow this step:

| Step | Action |
|------|---|
| 1 | <p>The installation file for NCIA 4.0.0 is over 100MB.</p> <ul style="list-style-type: none"> • For a new installation, from the https://gforge.nci.nih.gov/frs/?group_id=450 directory in GForge, download the <code>ncia_gui_distribution_4_0_0.jar</code> file. <p>Remember the download location as you will be using this file to run the installation in the steps that follow.</p> |

Server Components in NCIA 4.0.0

These server components are installed and configured as part of the NCIA 4.0.0 installation. You do not need to do anything further to download or install these components.

- JBoss 4.0.5 (hosts the NCIA application)


Installing a New NCIA

For performing a new installation of NCIA, v. 4.0.0, follow these steps:


| Step | Action |
|------|---|
| 1 | From the directory where you downloaded the <code>ncia_gui_distribution_4_0_0_lsd_1_1_0.jar</code> from Downloading NCIA 4.0.0 files , open a command prompt and type: <code>java -jar ncia_gui_distribution_4_0_0.jar</code> |
| 2 | A graphic user interface (GUI) wizard-based installer will prompt you for information. Follow the instructions. |
| 3 | Configuring property values is an important step in the installation process. For detailed information on the property values you will enter during the installation process, see https://wiki.nci.nih.gov/x/D6ml |

The GUI installer generates installation files into the `${user.home}` directory. (For example, in Windows, this might be something like `C:\Documents and Settings\mike.smith\.installer-ncia`). In particular, the installer generates a file called `antlog_installer.txt` in this directory that can be useful when troubleshooting.


Running GUI installer in Headless Environment

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| <p>NOTE</p>  | <p>If you are attempting to use the GUI installers in an environment that has no GUI (such as a headless Linux operating system), you can install a tool on your Windows workstation to install in a remote headless environment. See https://wiki.nci.nih.gov/x/gq6l for more information.</p> |
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Command-Line Installation

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| NOTE  | An alternative to using the GUI-based installer is to install NCIA via the command line. See https://wiki.nci.nih.gov/x/lqqj for detailed instructions on installing from the command line. |
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NCIA Port Usage

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| NOTE  | Verify that default port values, as provided by the installer are not in use on your system by running <code>netstat -a</code> from the command line. The default ports for NCIA are in the 45000 series. If the ports are in use prior to installation, you will likely experience problems with your installation. |
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JBoss Errors During Installation

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| NOTE  | You may receive an error such as Exception in thread "main" <code>java.lang.NoClassDefFoundError: org/jboss/Shutdown.</code> This should not be a problem, as the installer attempts to remove previously installed servers to prevent problems during the installation. If this is your first time installing NCIA, you may receive and disregard this error message. |
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Configuring JBoss

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| NOTE  | For optimal performance, you must modify your JBoss 4.0.5 configuration to increase the amount of available memory for the NCIA application. Directions for doing this in Windows are in the following step 1. |
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To configure JBoss in **Windows**, follow these steps:

| Step | Action |
|------|---|
| 1 | <p>Add the following entry to the JBoss <code>run.bat</code> file which is located will be located at <code><application_root_directory>/jboss-4.0.5.GA/bin/run.bat</code>. Add the text right after the line "rem Add -server to the JVM options, if supported".</p> <pre>-server -Xms1024m -Xmx1024m -XX:ThreadStackSize=128 - XX:SurvivorRatio=10 -XX:PermSize=128m -XX:MaxPermSize=128m - Dsun.rmi.dgc.client.gcInterval=3600000 - Dsun.rmi.dgc.server.gcInterval=3600000 - Djava.awt.headless=true</pre> <p>Warning: Be careful when copying and pasting from this document, whether PDF or MS Word. No spaces must come before and after the columns. A safe way to ensure that the text has no unwanted space and unwanted characters is to copy the text into a blank NotePad first. Correct the spacing, then copy and paste back into the <code>run.bat</code> file.</p> |
| 2 | <p>Restart your JBoss 4.0.5 server for the changes to take effect. The method of doing this may depend on the start/stop/restart scripts you created after the installation. Most commonly, you can execute <code>shutdown.bat</code> and then <code>run.bat</code> under <code>\$JBoss_HOME/bin</code>. Refer to the publicly available JBoss user's guide at www.jboss.org for more information.</p> |

Configuring JBoss to Run as a Service

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| <p>NOTE</p>  | <p>The JBoss server that runs NCIA must run continually as a service. The instructions in this section covers this scenario. For NCIA 4.0.0, there are is a single server:</p> <ul style="list-style-type: none"> JBoss 4.0.5 (for NCIA application) |
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Running JBoss as a Service

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| <p>NOTE</p>  | <p>The default NCIA installation runs JBoss as a command line process using the user currently logged on. Therefore, when you log out as this user, JBoss will no longer be available for NCIA. For that reason, it is recommended that you configure your JBoss servers to run as a Linux or Windows service. The instructions are contained in this section.</p> |
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To run JBoss as a service, follow these steps:

| Step | Action |
|------|--|
| 1 | Linux See http://wiki.jboss.org/wiki/Wiki.jsp?page=StartJBossOnBootWithLinux . |
| 2 | Windows To run an existing JBoss command line installation as a service, follow the directions for creating a user-defined service at http://support.microsoft.com/kb/137890/EN-US/ Note: You need to have access to the Windows Resource Kit. |

Contacting Application Support

NCICB <http://ncicb.nci.nih.gov/NCICB/support>
Application Telephone: 301-451-4384
Support Toll free: 888-478-4423
