

# calIntegrator 1.3 Local Installation Guide



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Welcome to the *calIntegrator 1.3 Local Installation Guide*.



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## Introduction

This *calIntegrator v.1.3 Installation Guide* provides you with the instructions to install and configure a fresh calIntegrator v.1.3 application. The calIntegrator installation installs and configures a JBoss application server and creates a calIntegrator-specific schema within a pre-existing database on a preinstalled MySQL server.

Directions are given in this document for both Linux and Windows operating systems.



### calIntegrator documentation

Published calIntegrator v.1.3 development documentation can be found on the [calIntegrator page of the NCI wiki](#)

## Overview of calIntegrator Installation

The process for installing calIntegrator v.1.3 includes the following tasks described in this document:

1. Downloading and installing required software
2. Setting environment variables
3. Downloading calIntegrator v.1.3 distribution files
4. Installing
  - a. GUI Installer Method
  - b. Command-Line Method
5. Configuring JBoss servers and MySQLserver to run as a service
6. Post-Installation Tasks
  - a. Using UPT to Add calIntegrator Users

## calIntegrator v.1.3 Software and Technology Requirements

### Operating System

The calIntegrator v.1.3 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.



### File descriptors

For the system userid which will be used to start the calIntegrator application, you should specify permission to open at least 2048 file descriptors.

### Required Software—Not Included in calIntegrator

Many of the servers and services that make up calIntegrator are automatically installed as part of this calIntegrator v.1.3 installation. However, prior to the installation, you must download and install the following required tools and recommended versions in the order they are listed in the table. The software name, version, description, and URL hyperlinks (for download) are indicated in the table. Complete the directions for installing each, as directed on the corresponding website.

Required Software Name and Version	Description
<a href="#">Java 2 Platform Standard Edition 6.0 Update 18 (J2SE 6.0)</a> . Be sure to download the correct Java SDK for your operating environment. For example, for Linux AMD 64, you would download jdk for Linux, <code>linux-amd64-rpm.bin</code> . For Windows, you might download jdk for Windows, <code>windows-i586-p.exe</code> .	The J2SE Development Kit (JDK) supports creating J2SE applications.
<a href="#">Apache Ant, 1.7.0</a>	Apache Ant is a Java-based build tool.
<a href="#">MySQL, 5.0.45</a>	MySQL is an open-source database software application.



### Important

As you install each application, record the installation directory path, and the hostname of your MySQL DB server, and the DB admin username /password, if you are going to install UPT.

### 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



### Reason for setting variables

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.

## Linux



### Variables in Linux

The `JAVA_HOME`, `ANT_HOME` and `PATH` environment variables are set in `/etc/profile`. You may need to create the variables, or modify them if they already exist.

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

1. As the root user, enter the following in the `/etc/profile` 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 `<some_path>` with the correct path fragment for Java and Ant installations.  

```
export JAVA_HOME=<some_path>/jdk1.6.0_18
export ANT_HOME=<some_path>/apache-ant-1.7.0
export PATH=$JAVA_HOME/bin:$ANT_HOME/bin:$PATH
```
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:

1. From the command line, enter:  

```
* echo $JAVA_HOME
echo $ANT_HOME
```

Both of these commands should return the location where you installed these tools.
2. To verify your Java SDK installation, enter `java -version` from a command prompt. You should see `java version "1.6.0_18"`.
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`.

## Windows

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



### Variables in Windows

The `JAVA_HOME`, `ANT_HOME` and `PATH` environment variables are set in the system properties.

1. In Windows, select **Control Panel**, then select the **System** application. In the System Properties window, select the **Advanced** tab.
2. On the **Advanced** tab, click the **Environment Variables** button. To add a new system variable, select the **New** button.
  - a. In the **Variable name** text box, enter `JAVA_HOME`.
  - b. In the **Variable value** text box, enter the location of your Java installation.
3. Click the **New** button again.
  - a. In the **Variable name** text box, enter `ANT_HOME`.
  - b. In the **Variable value** text box, enter the location of your Ant installation.
4. Select the `PATH` system environment variable, and select the **Edit** button. This opens the Edit System Variable dialog box.
5. In the Variable value text box, prepend the following text in front of the text that already exists in the **Variable Value** field.  
`%JAVA_HOME%\bin;%ANT_HOME%\bin;`
6. Click **OK**.

## Verifying the Environment Variables in Windows

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

1. From the command line, enter:  

```
echo %JAVA_HOME% *
echo %ANT_HOME% *
```

Both of these commands should return the location where you installed these tools.
2. To verify your Java SDK installation, enter `java -version` from a command prompt. You should see `java version "1.6.0_18"`.
3. To verify your Ant installation, enter `ant -version`



### Other environment variables

Environment variables for calIntegrator and, optionally, UPT are modified and set in those sections of this document: [#Installing a New calIntegrator v.1.3](#) and [#Downloading and Installing UPT \(Optional\)](#).

## MySQL Installation and Configuration

A MySQL 5.0.45 server must be downloaded, installed and running in order for the calIntegrator installation to work successfully.

To download and install MySQL, follow the steps outlined on the [MySQL website](#).



### Tip

You should consult the following three links to successfully set up secure and well-performing MySQL servers, in preparation for installing calIntegrator:

- [MySQL Security Guide](#)
- Performance
  - [General performance tuning](#)
  - [InnoDB engine performance tuning](#)



### More Tips

- Record the MySQL root username/password chosen during the MySQL installation process, as you will need to use this as your `database.system.user/ database.system.password` later in the UPT installation process, should you choose to install UPT.
- Note the MySQL port chosen during the MySQL installation process, as you will need to use this as your `database.port` later in both the calIntegrator and UPT (if installing UPT) installation processes.

## Working with Properties Files

An important component of command-line installation of either calIntegrator or UPT is configuring properties files. Prior to initiating a command-line installation, property variables must be modified. Note the following points about changing or entering variables.

### Paths in Properties Files

The paths in the \*.properties files should use *forward* slashes. For example, you would use `application.base.path=C:/apps/calIntegrator-app`, **not** `application.base.path=C:\apps\calIntegrator-app`. If you use backslashes, you will experience undesirable results.

### Spaces in Path Property Values

You should not specify paths with spaces included as property values. In Windows, note that the `C:\Documents and Settings<username>` path contains spaces and should not be used, or anything similar. If you are using Windows, use a path such as `C:/apps/calIntegrator`. Spaces are fine for property values which do not represent a path.

### More About Property Values

In each \*.properties file, any property value marked with `uppercase REPLACE_*` must be manually updated with the appropriate value.

- In each \*.properties file, any property value marked with `lowercase replace_*` may be optionally updated with the appropriate value.
- If there is reference to a `database.system.user` for your MySQL server, you can determine which users have full privileges to create and manage other databases, by executing **show grants** from a MySQL prompt to determine the correct level of privileges.

## Downloading and Installing UPT (Optional)

If you do not already have a User Provisioning Tool (UPT) installed, and you wish to manage user accounts for your calIntegrator application, you **must** install UPT.

### Overview of UPT

UPT is used to provision users in the calIntegrator application. Each CBIIT application installs with its own Common Security Module (CSM) schema that has sample/default users and a role/permissions structure. To add additional users you must provision the calIntegrator application in the UPT. Then you can assign users to calIntegrator.

You can download [UPT 4.2](#)

For instructions on how to install UPT 4.2, refer to the chapter, UPT Installation and Deployment, in the [caCORE\\_CSM\\_v42\\_ProgrammersGuide](#).



#### UPT and CSM

UPT 4.2 is backwards compatible to previous versions of CSM. When you provision the application in UPT 4.2, you will be asked to specify the CSM version caIntegrator is using. You should enter version **4.2**.

## Installing caIntegrator v.1.3 Application and Services

To newly install the caIntegrator v.1.3 application and services, follow the steps in these sections:

- [#Downloading caIntegrator v.1.3 Files](#)
- [#Installing a New caIntegrator v.1.3](#)
  - [#GUI Installer Method of Installation](#)
  - [#Command-Line Method of Installation](#)
- [#Configuring JBoss](#)
  - [#Configuring JBoss Servers and MySQL Server to Run as Services](#)
- [#Post-Installation Tasks](#)
  - [#Using UPT to Administer caIntegrator Users](#)



#### BEFORE YOU BEGIN

There must already be a pre-existing MySQL DB and connection username/password for caIntegrator to install into; caIntegrator does not create its own DB.

## Downloading caIntegrator v.1.3 Files

To download the caIntegrator v.1.3 files, follow this step:

The various installation files for caIntegrator v.1.3 are between 150-250MB in size. All of the files can be downloaded from the [caIntegrator GForge files archive](#).

- For a new command-line installer, download the `caIntegrator_install_1_3.zip` file (around 175MB).
- For a command-line upgrade installer, download the `caIntegrator_upgrade_1_3.zip` file (about 175 MB).
- For a GUI installer that you can use to do a fresh caIntegrator installation, download the `caIntegrator_gui_distribution_1_3.jar` file (about 207 MB).

Remember the download location, as you will be using this file to run the installation in the steps that follow.



#### Server components in caIntegrator v.1.3

These server components are installed and configured as part of the caIntegrator v.1.3 installation. You do not need to do anything further to download or install these components.

- JBoss 4.0.5 (hosts the caIntegrator application)

## Installing a New caIntegrator v.1.3

You can perform a new installation of caIntegrator v.1.3 using either of these two methods:

- A GUI Installation wizard. Instructions for this method start in the following section.
- A command-line installation. For instructions, see [#Command-Line Method of Installation](#).


### GUI Installer Method of Installation

For detailed information on all of the GUI installer fields, refer to the [BDA Properties page](#).

For performing an installation using the GUI Installer, follow these steps:

1. Open a command prompt in the directory where you downloaded the `caIntegrator_gui_distribution_1_3.jar`. Enter this command to invoke the GUI installer: `java -jar caIntegrator_gui_distribution_1_3.jar`.
2. The Installation Wizard opens to facilitate the installation process. Click **Next** to proceed through the pages of the wizard, beginning with progressing past the Welcome page.
3. Review the release notes.
4. You must accept the license agreement.
5. Select the **Install** installation type. For a new installation, select **Install**.
6. Select **Browse** to navigate to the directory where you would like to install caIntegrator. The directory then displays in the text box. If the folder does not yet exist, click **OK** in the dialog box to indicate that you want the folder to be created.

7. Select the type of installation you would like to do. You can install everything, or just specific components (JBoss or Database only). The remaining sections in this guide assumes you chose to install everything.
8. Continue walking through the pages of the installer. Configure the caIntegrator JBoss server on the next two pages of the installation wizard. The screen shots show example values. The port values which are specified are the defaults and can be used unless you want to reconfigure the values because of values already in use.



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### JBoss Configuration

As part of this installation, JBoss will be installed in C:\apps\caIntegrator2\jboss-4.0.5.GA. It will be configured based on the values you enter below and on the following screens. NOTE: The Hostname below (and on other panels of this installer) is the host name accessible from this machine and others on the local network. To access this JBoss application server from the Internet, you may need to provide the ports below and on the following page to your Network administrator to allow access through the firewall.

Hostname of this Server:	Anglesite
JBoss Server Name (JBoss_HOME/server/JBoss_SERVER_NAME):	default
JBoss Web Console User:	admin
JBoss Web Console Password:	
Confirm JBoss Web Console Password:	
JBoss Server JAVA_OPTS:	-server -Xms256m -Xmx512m -XX:ThreadStack-Size=128 -X
JBoss HTTP Port:	48210
JBoss JNDI Port:	48200
JBoss RMI Port:	48230
JBoss EJBInvoker Port:	48150
JBoss CORBAORG port:	48350
JBoss hajndi port:	48160
JBoss hajrmi port:	48260
JBoss JMS port:	48170

#### 9. JBoss Installation Options


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### JBoss Configuration continued

JBoss jmx-rmi port:	48290
JBoss messaging port:	48330
JBoss pooledha port:	48270
JBossremotingport:	48320
JBoss bind port:	48190
JBoss rmiobject port:	48240
JBoss snmp-trapd port:	48300
JBoss SNMP port:	48310
JBoss web service port:	48250
JBoss Unified Invoker Port	48360
JBoss hajndi Auto Discovery Port	48370
JBoss SSL	48380
JBoss Messaging 2.x HTTP port	48390
JBoss Messaging 2.x HTTP port	48390
JBoss Messaging 2.x SSL port	48400
JBoss Transaction Recovery port	48410
JBoss Transaction Status port	48420
JBoss Transaction Process ID port	48430

10. JBoss SSL requires that you have requested and retrieved certificates already. If this does not apply to your installation, leave the values as false and continue.

## Installation Options

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**JBoss Security Listener Configuration**

For JBoss SSL and Secure Grid configuration requires that you have requested and retrieved certificates already. See <https://wiki.nci.nih.gov/x/7xWy> for details on SSL, see <https://wiki.nci.nih.gov/x/68Wy> for details on Secure Grid.

Enable JBoss SSL Port (note requires SSL Certificate Keystore and Internet facing DNS)

☐ True  
☒ False

Keystore file location:

Keystore file password:

Confirm keystore file password:

Keystore alias name:

Fully Qualified Host Name (FQHN) (ie, www.mydomain.com):

For JBoss Grid SSL Port, values not required if not using.

Enable secure Grid

☐ True  
☒ False

Remove HTTP Port

☐ True  
☒ False

Port to run the Grid service on JBoss:

caGrid certificate file location:

caGrid private key file location:

11. If your JBoss is externally accessible then fill out the JBoss External Hostname Configuration page. Otherwise, leave it blank and continue.
12. Specify the authentication type that caIntegrator should use. Database is the most likely choice if you aren't sure what to select here.
13. If you selected LDAP in the previous step (authentication type), enter the appropriate configuration information for LDAP: the LDAP URL and the LDAP Search Back DN.
14. If the authentication type is database, specify the following data base configuration information:
  - The Database Host Name
  - The Database Port *Example:* 3306
  - Database name of the **pre-existing** database where the caIntegrator schema will be installed
  - The **pre-existing** Database Application User to be used by caIntegrator to connect to its database.

Error messages inform you if the following occurs:

  - If the specified database host cannot be reached, or the field is blank.
  - If the specified database does not already exist, or the caIntegrator DB user's credentials are wrong.
15. Specify SMTP mail server connection information so that caIntegrator can send emails from users with new account requests. You must provide the following
  - Mail Server Host *Example:* localhost
  - Mail Server Port Number *Example:* 25
  - Mail Server Authentication: default is **false**.
  - Mail Server starttls: default is **false**.
16. If jar signing is necessary for the installation, then enable it on the Jar Signing Configuration page. This step is optional and can be skipped.
17. Review the summary of the information you entered.
18. Review the selected installation type and the installation destination.  
After you click **Next** from reviewing the installation destination, the installer runs. The installation wizard displays the installation progress and completion.
19. When you are informed that the process is finished, click **Done** in the lower right corner of the wizard to close the installer.
20. To verify caIntegrator installation:
  - a. Open your web browser to installed instance. The URL follows this format: `http://<jboss.server.hostname>:<jboss.server.port>/caintegrator/workspace.action`.
  - b. Enter **ncimanager** as the user and **changeme** as the password. Refer to the `<user home>/installer-caintegrator/caintegrator_installer/install.properties` file for the correct values.
21. After successfully installing caIntegrator, make a backup of the `<user home>/installer-caintegrator/caintegrator_installer/install.properties` file in a different directory for future reference.

## Command-Line Method of Installation

### Overview of caIntegrator Command-Line Installer Properties Files

\*When you do a command-line installation of caIntegrator for the first time, you will work with `install.properties` file included in the `caIntegrator_distribution_1_3.zip`.

\*If you are upgrading by command-line from a previous version of caIntegrator, you will work with the `upgrade.properties` file included in the `caIntegrator_upgrade_1_3.zip`.

### caIntegrator Port Usage

Verify that default port values defined in `install.properties` files are not in use on your system by running `netstat -a` from the command line. If the ports are in use prior to installation, you will likely experience problems with your installation.

## JBoss Errors During Installation

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

## Command-line Installation Steps

To install a new instance of calIntegrator using the command-line, follow these steps:

1. From the directory where you downloaded the `caIntegrator_distribution_1_3.zip` described in [Downloading calIntegrator v.1.3 files](#), unzip the Files, using one of these two methods:
  - a. Open a command prompt and use it to extract this file to a temporary location. For example, you may enter a command such as `unzip -q caIntegrator_distribution_1_3.zip`. You must have a ZIP tool installed. This location will be referred to as the `<installer_directory>` henceforth.
  - b. Use WinZip or a similar utility to unzip the files to a temporary location. This location will be referred to as the `<installer_directory>` henceforth.  
*Example:* `<installer_directory> = C:\caIntegrator_installer`



### About setting property values

Setting the property values is an important step in the installation process. Before you complete steps 2 & 3, review [#Working with Properties Files](#).

2. Open the `<installer_directory>/install.properties` file, modify the values for your environment and save the file. For the latest details about configuring the properties for your environment, refer to the [BDA Properties wiki page](#).
3. **Record the property values you have set.**



### Other default values

You should not need to modify the other default values as we have chosen unique ports to reduce the risk of other applications using the same values. However, be sure to verify that the ports in this file are not being used by other applications.

4. From the command line, navigate to `<installer_directory>` (*Example:* `cd C:\caIntegrator_2_0_installer`), and type `ant`. This initiates the installation process. The anticipated duration is anywhere from 1-15 minutes, depending on your system's speed, power and memory. The installer installs the calIntegrator schema in the specified **pre-existing** database on your MySQL server, and installs, configures, and starts the JBoss server for the calIntegrator application.
5. To verify calIntegrator installation, open your web browser to the installed instance. The URL follows this format: `http://<jboss.server.hostname>:<jboss.server.port>/caIntegrator/workspace.action`. Refer to the `<installer_directory>/install.properties` file for the correct values. Enter **manager** as the user and **manager** as the password.
6. After successfully installing calIntegrator, make a backup of the `<installer_directory>/install.properties` file in a different directory for future reference.

## Upgrading calIntegrator 1.2 to 1.3

This section describes how to upgrade your product from calIntegrator 1.2 to calIntegrator 1.3. The instructions in this section apply only if you have already installed a calIntegrator version 1.2.

You can perform an upgrade installation of calIntegrator v.1.3 using either of these two methods:

- A GUI Installation wizard. Instructions for this method are found in [#Upgrade Using the GUI Installer](#).
- A command-line installation. Instructions for this method are found in [#Upgrade Using Command-Line Installer](#).



### BEFORE YOU BEGIN

- **Important:** Backup the 1.2 database. You need to create a reliable copy of your entire calIntegrator database.
- **Important:** Backup the current installation of calIntegrator and artifacts from the original installation, such as properties files.

If you are performing a new installation, go directly to [#Installing calIntegrator v.1.3 Application and Services](#).

## calIntegrator 1.2 Users Upgrading to calIntegrator 1.3

The directions in this section presume that you have a valid and functioning calIntegrator 1.2. It also assumes that Java SDK, Apache Ant and MySQL have all been successfully uploaded and installed, as described on pages [#Required Software--Not Included in calIntegrator](#).

## Overview of Properties Files



When you installed the previous version of caIntegrator 1.2, you configured the `install.properties` file. To complete the upgrade to caIntegrator 1.3, you must use some of the values from the original `install.properties` to configure values in the upgrade installer wizard GUI, or the `upgrade.properties` file if you are doing a command-line method of upgrade.

See steps 3 & 4 in [#Upgrade Using Command Line Installer](#) for more information.

## Upgrade Using the GUI Installer

For detailed information on all of the GUI installer fields, refer to the [BDA Properties page](#).

To perform an upgrade to caIntegrator 1.3 using the GUI Installation Wizard, follow these steps:

1. Because of the application name change in v.1.3, in the JBOSS home directory, locate the war file containing the previous release of caIntegrator2 and delete it. For example, find this file: `JBOSS_HOME/server/default/deploy/caIntegrator2.war` and delete the file named `caIntegrator2.war`.



### Watch .war file name

In this same directory, there may be a different file named `caIntegrator.war` (without the number 2 in the name) which you should not delete.

2. Open a command prompt in the directory where you downloaded the `caIntegrator_gui_distribution_1_3.jar` and invoke the GUI installer using this: `java -jar caIntegrator_gui_distribution_1_3.jar`.
3. The Installation Wizard opens to facilitate the installation process. Click **Next** to proceed through the pages of the wizard, beginning with progressing past the Welcome page.
4. Review the release notes.
5. You must accept the license agreement to continue.
6. Select the **Upgrade** installation type.
7. Configure the JBoss Server-related upgrade settings.  
If the path pointing to the caIntegrator installation to be upgraded is incorrect, an error message appears.
8. Specify the authentication type that caIntegrator is using. If you choose LDAP, configure the LDAP information: the LDAP Host Name, the LDAP Search Base, and the LDAP Search Prefix. An example of the Host Name is `ldaps://myldaphost.mydomain.com:636`.
9. Review the summary of gathered information.
10. Click **Next** to proceed through the next two pages. Review the selected upgrade installation type and the upgrade destination.
11. After you click **Next** from reviewing the installation destination, the installer runs. The installation wizard displays the installation progress and completion.
12. When you are informed that the process is finished, click **Done** in the lower right corner to close the installation wizard.
13. To verify the caIntegrator installation, open your web browser to the installed instance. The URL follows this format: `http://<jboss.server.hostname>:<jboss.server.port>/caIntegrator`. Example: <http://hostname:47210/caIntegrator> and enter **ncimanager** as the user and **changeme** as the password. Refer to the original `install.properties` for the correct `jboss.server.hostname` and `jboss.server.port` values.

## Upgrade Using Command-Line Installer

To perform an upgrade to caIntegrator 1.3 using the command-line, follow these steps:

1. Because of the application name change in v.1.3, in the JBOSS home directory, locate the war file containing the previous release of caIntegrator2 and delete it. For example, find this file: `JBOSS_HOME/server/default/deploy/caIntegrator2.war` and delete the file named `caIntegrator2.war`.



### Watch .war file name

In this same directory, there may be a different file named `caIntegrator.war` (without the number 2 in the name) which you should not delete.

2. From the directory where you downloaded the upgrade zip file, extract the files, using one of these two methods:
  - a. Open a command prompt and use it to extract this file to a temporary location. For example, you may enter a command such as `unzip -q caIntegrator_upgrade_1_3.zip`. You must have a ZIP tool installed.



### Directory for unzipped files

It is recommended that you use a new directory for the unzipped files, rather than the one you used to unzip the installer for the previous version(s) of caIntegrator. This location will be referred to as the `<upgrade_installer_directory>` henceforth.

- b. Use WinZip or a similar utility to unzip the files to a temporary location. This location will be referred to as the `<upgrade_installer_directory>` henceforth.  
*Example:* `<upgrade_installer_directory> = C:\caIntegrator2_1_2_upgrade_installer`
3. Edit the default properties in the `<upgrade_installer_directory>/upgrade.properties` file. Before doing so, review [#Working with Properties Files](#).  
To do so, open both properties files, the one you configured originally when you installed the previous version of caIntegrator. (`<install.properties file>`) and the `<upgrade_installer_directory>/upgrade.properties` file.  
For the latest details about configuring the properties for your updated environment, refer to the [BDA Properties page](#).



#### Note

The `upgrade.properties` file does not have as many attributes, so you will not need to transfer all values you set in the previous installation file.

#### 4. Record these property values.



#### Modifying property values

You shouldn't need to modify the other default values as we have chosen unique ports to reduce the risk of other applications using the same values. However, be sure to check the `*.properties` file to verify that the ports in this file are not being used by other applications.

- From the command line, navigate to `<upgrade_installer_directory>/` (Example: `cd C:\calIntegrator_upgrade_installer`), and type **ant**. This initiates the upgrade process. The anticipated duration is anywhere 1-15 minutes depending on your system's speed, power and memory. The installer upgrades your existing calIntegrator database on your MySQL server, and starts your existing JBoss server.
- When the installer detects that a database exists, it warns you to back it up, which you were instructed to do earlier in this process. Press **Y** to proceed.
- To verify calIntegrator installation, open your web browser to the installed instance. The URL follows this format: `http://<jboss.server.hostname>:<jboss.server.port>/calintegrator/workspace.action`. Example: <http://hostname:47210/calintegrator/workspace.action> and enter **ncimanager** as the user and **changeme** as the password. Refer to the original `install.properties` for the correct `jboss.server.hostname` and `jboss.server.port` values.

## Configuring JBoss



#### For Optimal Performance

You must modify your JBoss 4.0.5 configuration to increase the amount of available memory for the calIntegrator application. Directions for doing this in Windows are in the following step 1.

To configure JBoss in Windows, follow these steps.

- Modify the following entry to the JBoss `run.bat` file which is located at `<application_root_directory>/jboss-4.0.5.GA/bin/run.bat`. Find the line that begins with `set JAVA_OPTS= -Dbda=bda -Dprogram.name=%PROGNAME% -server` and modify the `"-Xms256m -Xmx512m"` to read `"-Xms4096m -Xmx4096m"`.



#### Physical memory

If 4096m is higher than the physical memory on the machine, then performance could be severely impacted with performance degradation and errors. 4096m of physical memory is recommended.



#### Warning

Be careful when copying and pasting from this installation guide. 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 text editor such as NotePad first. Then you can correct the spacing and copy-paste back into the `run.bat` file.

- 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 `shutdown.bat` and then `run.bat` under `$JBoss_HOME/bin`. Refer to the publicly available [JBoss user's guide](#) for more information.

## Configuring JBoss Servers and MySQL Server to Run as Services



#### JBoss & MySQL as services

MySQL and the JBoss server that make up calIntegrator, and the JBoss server optionally installed for UPT, must run continually as services. The instructions in this section cover all of these scenarios. For a calIntegrator deployment, there are at least three servers, and if UPT is installed, four servers:

- JBoss 4.0.4 for UPT (optional)
- JBoss 4.0.5 (for calIntegratorapplication)
- MySQL 5.0.45

## Running JBoss as a Service



## BEFORE YOU BEGIN

The default calIntegrator 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 calIntegrator. 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.

Before starting the calIntegrator JBOSS server, change the default location for user data. User data consists of various files that are saved by calIntegrator during the deployment and querying of studies. The default location for user data should be changed via the `Djava.io.tmpdir` jvm parameter in the `Jboss run.conf` file.

Example jvm parameter: `-Djava.io.tmpdir=/local/content/caintegrator/jvmtmp`

To run JBoss as a service, follow these steps:

### Linux

See <http://wiki.jboss.org/wiki/Wiki.jsp?page=StartJBossOnBootWithLinux>.

### 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/>. You need to have access to the Windows Resource Kit.

## Running MySQL as a Service



### Server installed?

It is assumed that your MySQL server was installed as a service. If it was not, follow these recommendations for installing this server as a service.

To run MySQL as a service, follow these steps:

### Linux

See <http://www.redhat.com/docs/manuals/enterprise/RHEL-AS-2.1-Manual/cluster-manager/s1-service-mysql.html>.

### Windows

When installing MySQL server on Windows, choose the option to run MySQL as a Windows service.

## Post-Installation Tasks

### Using UPT to Administer calIntegrator Users

To add and administer calIntegrator users in the UPT, refer to the [calIntegrator 1.3 User's Guide](#)

## Default Users

The following users are provided by default by the calIntegrator installer.

- ncimanager / changeme
- nciinvestigator / changeme
- cai2admin / changeme - This is the UPT user who will have access to provision calIntegrator users.

## Contacting Application Support

### CBIIIT Application Support

[Application Support](#)  
Telephone: 240-276-5541  
Toll free: 888-478-4423



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