# Apache Lenya 1.4 install instructions

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# 1. Introduction

**Warning:**
Apache Lenya 1.4 is still under heavy development and should not be used for production yet.

This document explains how to install Lenya 1.4 from source. There are different ways to install and run Lenya: Choose between

1. running Lenya standalone using the built-in Jetty servlet container
2. using Tomcat and have the build process taking care of deploying Lenya in Tomcat

Please note that you can use other servlet containers as well, but Jetty and Tomcat are the tested ones.

In all cases, you will need to meet the following prerequisites, that describe the setup that is tested and recommended.

# 2. Prerequisites

- **Java 2 Platform, Standard Edition**
  version 1.4.2 or newer, 1.5.x works with limitations (http://issues.apache.org/bugzilla/show_bug.cgi?id=32923) .
  Get it from http://java.sun.com/j2se/1.4.2/download.html
- **Recommended: Create a directory** to better organise the various source files
  In this document, we will assume the name `src/` for that directory. This directory will contain the Lenya distribution as well as Cocoon.

  After expanding the downloaded archives or after a svn checkout (http://subversion.tigris.org/) , the directory structure should look like this:

```
your_home/ (or c:\ on Windows, NOT My Documents)
  `-- src/
       |-- lenya-1.4.x/            $LENYA_HOME
       `-- cocoon-2.1.x/           $COCOON_HOME
            `-- build/
                 `-- webapp/       $COCOON_WEBAPP
```

  The directories inside cocoon-2.1.7/ will be created when you build Cocoon. The variables will later be used in the local.build.properties file that configures the Lenya build process.
- **Get Apache Lenya**
  (see Download Lenya (../../1_4/installation/index.html) )
  Using Subversion (../../1_4/installation/subversion.html) , checkout Lenya inside the `src/` directory.
- **Get Apache Cocoon**
  version: 2.1.x (BRANCH)
  Get it from http://svn.apache.org/repos/asf/cocoon/branches/ (http://cocoon.apache.org/mirror.cgi)
  Unpack Coccon in `src/`.

  Note that Cocoon is needed to build the source version of Lenya, but the resulting Lenya webapp is completely self contained and therefore does not need the Cocoon webapp to be installed. See the FAQ (http://wiki.apache.org/lenya/FAQ) for details of configuration changes required when running multiple Cocoon based applications. In 1.4, the Lenya build process takes care of building Cocoon as well.

# 3. 1: Standalone Installation (using the built-in Jetty)

1. **Configure Lenya to point to Coccon**

   You need to edit your build properties. To do this, copy `$LENYA_HOME/build.properties` to

`$LENYA_HOME/local.build.properties`.

Edit `local.build.properties`. For the described configuration the following settings will work (**MS Windows:** Don't use backslashes "\" for directory separation.)

- `cocoon.src.dir=$COCOON_HOME`

Copy $LENYA_HOME/src/cocoon/local.blocks.properties and local.build.properties to $COCOON_HOME.

Build Cocoon.

2. **Build Lenya**

   Execute `build.bat` or `build.sh` in your Lenya source directory, depending on your platform.

   **MS Windows**

   ```
   $LENYA_HOME > build.bat
   ```

   **Unix**

   ```
   $LENYA_HOME > ./build.sh
   ```

   If your build fails, because it cant delete cocoon.xconf.ant_patch try: in $LENYA_HOME/src/targets/webapp-build.xml LINE 69 add verbose="true" failonerror="false" to the delete tag. In $LENYA_HOME/src/targets/publets-build.xml LINE 53 add verbose="true" failonerror="false" to the delete tag.

3. **Start Lenya**

   Execute `lenya.bat` or `lenya.sh servlet` in your Lenya source directory, depending on your platform. Make sure that you have the environment variable `JAVA_HOME` defined to point to the location of the Java SDK you installed (see Prerequisites).

   **MS Windows**

   ```
   $LENYA_HOME > lenya.bat
   ```

   **Unix**

   ```
   $LENYA_HOME > ./lenya.sh servlet
   ```

4. **Test the installation**

   http://localhost:8888/ (http://localhost:8888)

## 4. 2: Installation with Apache Tomcat

1. **Get Apache Tomcat** for JDK 1.4
   Lenya is developed and tested with Tomcat 5.0.28; it is assumed in the following instructions, and we highly recommend it. Tomcat 4.0.0+, 4.1.24+, 5.0.18+ and 5.5.0+ should work too.
   Get it from http://jakarta.apache.org/site/binindex.cgi#tomcat-5.0
2. **Install Apache Tomcat**

   See Tomcat 5.0 Setup (http://jakarta.apache.org/tomcat/tomcat-5.0-doc/setup.html)

   **MS Windows:**
   Basically you only need to set the `JAVA_HOME` environment variable and run the Tomcat installer. Decide to run Tomcat as a Windows NT/2000/XP-Service.

3. **Configure Lenya**

   To install Lenya with Tomcat, you need to edit your build properties. To do this, copy `$LENYA_HOME/build.properties` to `$LENYA_HOME/local.build.properties`.

   Edit `local.build.properties`. For the described configuration the following settings will work (**MS Windows:** Don't use backslashes "\" for directory separation.) It is important that `tomcat.home.dir` is an absolute path. Replace `$TOMCAT_HOME` by your Tomcat installation directory. If your Cocoon source directory is not at `../cocoon-2.1.7` relative to Lenya, then change the `cocoon.webapp.dir`, `web.app.server` and `cocoon.src.dir` properties.

   - `web.app.server=Tomcat`
   - `cocoon.src.dir=$COCOON_HOME`
   - `tomcat.home.dir=$TOMCAT_HOME`

4. **Build Lenya**

   Execute `build` in your Lenya source directory.

5. **Checked versions of endorsed libraries**

   Lenya and Tomcat will inter-operate correctly only if the proper versions of the Xalan and Xerces libraries are used consistently throughout the deployment. Unfortunately this can be difficult to get to work correctly since both of these libraries are shipped with Java 2 SDK, Tomcat, Cocoon and Lenya.

   The following libraries must be placed in the endorsed library directory for your deployment.

   - `jakarta-bcel-20040329.jar`
   - `jakarta-regexp-1.3.jar`
   - `xalan-2.6.0.jar`
   - `xercesImpl-2.6.2.jar`
   - `xml-apis.jar`

   They are placed by the build process in the directory specified by `tomcat.endorsed.dir` in `build.properties`. You should validate that these files are indeed in the proper location for your deployment. You must then validate that no other instances of these libraries exist in any of the following directories:

   - The Java 2 SDK endorsed standards directories. This is usually `${JAVA_HOME}/lib/endorsed/`.
   - Any other location in your Tomcat deployment. Specifically, check `shared/lib/`, `common/lib/` and `server/lib/`.
   - Any other location in your Lenya deployment. Specifically, check `webapps/lenya/WEB-INF/lib/`.

   A common symptom of incorrect library version are blank pages after starting Lenya. Try carefully checking the location and version numbers of each of the libraries.

   References:

   - Tomcat Class Loader HOWTO (http://jakarta.apache.org/tomcat/tomcat-5.0-doc/class-loader-howto.html) (http://jakarta.apache.org/tomcat/tomcat-5.0-doc/class-loader-howto.html)
   - Java 2 Endorsed Standards Override Mechanism (http://java.sun.com/j2se/1.4.2/docs/guide/standards/index.html) (http://java.sun.com/j2se/1.4.2/docs/guide/standards/index.html)

6. **Clear Tomcat work directory**

   Tomcat's work cache may not be consistent with your newly installed Lenya. This can lead to any number of errors and exceptions. To prevent this, clear the work directory by executing `build.bat` or `build.sh` in your Lenya source directory, depending on your platform.

   **MS Windows**

```
$LENYA_HOME > build.bat clean
```

**Unix**

```
$LENYA_HOME > ./build.sh clean
```

7. **Restart Tomcat**

   Restart Tomcat to load the Lenya webapp.

8. **Test the installation**

   http://localhost:8080/lenya/ (http://localhost:8080/lenya)