

# Installation of the Source Version

0.1 Documentation

by Lenya community

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## 1. Prerequisites

The following list describes the setup that is tested and recommended. Please note that you can use other servlet containers as well, but Jetty and Tomcat are the tested ones.

- **Java 2 Platform, Standard Edition**  
version: 1.4.2 or newer, 1.5.x not tested.  
source: <http://java.sun.com/j2se/1.4.2/download.html>
- **Apache Cocoon**  
version: 2.1.5.1  
source: <http://cocoon.apache.org/mirror.cgi>

Note that Cocoon is needed when building the source version of Lenya, but the resulting Lenya webapp is completely self contained and therefore it does not need the Cocoon webapp to be installed. See the [FAQ](#) for details of configuration changes required when running multiple Cocoon based applications.

- **(optional) Apache Tomcat for JDK 1.4**  
version: 5.0.28 or newer, 5.5.x not tested.  
source: <http://jakarta.apache.org/site/binindex.cgi#tomcat-5.0>

Note that Lenya ships with [Jetty](#) and therefore does not need a servlet container to be installed.

## 2. Standalone Installation (using the built-in Jetty)

1. **Get the Java SDK** (see [Prerequisites](#))
2. **Get Apache Cocoon** (see [Prerequisites](#))
3. **Get Apache Lenya** (see [Download Lenya](#))
4. Extract the downloaded Lenya archive to the `lenya-1.2.x` directory as described below. If you use [Subversion](#), create your Lenya checkout inside the `src` directory as described below. It is recommended to use the following directory structure for an easier build experience.

```

your_home/ (or c:\ on Windows, NOT My Documents)
|-- src/
    |-- lenya-1.2.x/          $LENYA_HOME
    |-- cocoon/              $COCOON_HOME
        |-- build/
            |-- webapp/      $COCOON_WEBAPP

```

## 5. Copy the Cocoon build properties supplied by Lenya

Copy the files

- `local.build.properties`
- `local.blocks.properties`

from `$LENYA_HOME/src/cocoon/` to `$COCOON_HOME`.

## 6. Compile Cocoon

### MS Windows

```
$COCOON_HOME > build.bat
```

### Unix

```
$COCOON_HOME > ./build.sh -Dinclude.webapp.libs=yes webapp
```

## 7. Configure Lenya

If your Cocoon source tree is set up as described above, you can skip this step. If your Cocoon source tree is not at `../cocoon` relative to Lenya, 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`

## 8. 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
```

## 9. 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
```

## 10. Test the installation

<http://localhost:8888/>

## 3. Installation with Apache Tomcat

Installing Lenya with Tomcat is mostly the same procedure. Follow Steps 1-6, then do the steps below.

### 1. get Apache Tomcat (see [Prerequisites](#))

### 2. Install Apache Tomcat

See [Tomcat 5.0 Setup](#)

### MS Windows:

Basically this is setting the `JAVA_HOME` environment variable and running the Tomcat installer. Decide to run Tomcat as a Windows NT/2000/XP-Service.

### Warning:

Make sure you do not install at a location with spaces in the path.

## 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-2.1.5.1` relative to Lenya, then change the `cocoon.webapp.dir` and `cocoon.src.dir` properties.

- `cocoon.src.dir=$COCOON_HOME`
- `tomcat.home.dir=$TOMCAT_HOME`

#### 4. Build Lenya

Execute `ant install` 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 reset
```

##### Unix

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

#### 7. Restart Tomcat

Restart Tomcat to load the Lenya webapp.

**8. Test the installation**

<http://localhost:8080/lenya/>