

# < Spring 시작하기 >

## 개발 환경 구축

관리의 편의를 위해 하나의 폴더를 정해서 설치하는 것이 좋다. 프레임워크 사용 시 폴더 경로에 한글이 있을 경우 문제가 될 수 있는 경우가 있으므로 폴더 명에 한글이 포함되지 않도록 한다.

### 1) JDK 설치

->

Java 수업 시 설치했음

### 2) Tomcat 설치

->

Server 수업 시 설치했음

### 3) Maven 설치

Maven 이란 자바용 프로젝트 관리 도구로, **Project Object Model (POM) XML** 문서를 통해 해당 프로젝트의 버전 정보 및 라이브러리 정보들을 통합하여 관리하는 프레임워크이다. 일반적으로 프로젝트는 개발자가 필요한 라이브러리를 직접 찾아서 다운로드 및 추가해야 하지만 Maven 을 사용하면 pom.xml 문서에 내가 사용하고자 하는 라이브러리를 등록하여 자동으로 프로젝트에 추가되게 하여 라이브러리 관리 및 버전관리의 편리성을 제공해준다.

라이브러리를 설치 받을 폴더를 명시적으로 지정하여 관리하는 것이 좋다.

→ Apache Maven 사이트에 접속하여 다운로드

<https://maven.apache.org/> 으로 접속하여 다운로드

Apache Maven Project  
http://maven.apache.org/

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### Welcome to Apache Maven

Apache Maven is a software project management and comprehension tool. Based on the concept of a project object model (POM), Maven can manage a project's build, reporting and documentation from a central piece of information. If you think that Maven could help your project, you can find out more information in the "About Maven" section of the navigation. This includes an in-depth description of what Maven is and a list of some of its main features.

This site is separated into the following sections, depending on how you'd like to use Maven:

Use	<b>Download, Install, Configure, Run Maven</b> Information for those needing to build a project that uses Maven	<b>Maven Plugins and Maven Extensions</b> Lists of plugins and extensions to help with your builds.
Extend	<b>Write Maven Plugins</b> Information for developers writing Maven plugins.	<b>Improve the Maven Central Repository</b> Information for those who may or may not use Maven, but are interested in getting project metadata into the central repository.
Contribute	<b>Help Maven</b> Information if you'd like to get involved. Maven is an open source community and welcomes contributions.	<b>Develop Maven</b> Information for those who are currently Maven developers, or who are interested in contributing to the Maven project itself.

Each guide is divided into a number of trails to get you started on a particular topic, and includes a reference area and a "cookbook" of common examples. You can access the guides at any time from the left navigation. If you are looking for a quick reference, you can use the [documentation index](#).

### How to Get Support

Support for Maven is available in a variety of different forms. To get started, search the documentation, [issue management system](#), the [wiki](#) or the [mailing list archives](#) to see if the problem has been solved or reported before. If the problem has not been reported before, the recommended way to get help is to subscribe to the [Maven Users Mailing list](#). Many other users and Maven developers will answer your questions there, and the answer will be archived for others in the future. You can also reach the Maven developers on [Stack](#).

### Apache Software Foundation

Maven is a part of the Apache Software Foundation. We'd like to [thank the sponsors](#) that provide financial assistance to the foundation. For more information on how you can support the foundation, see the [sponsorship page](#).

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## Downloading Apache Maven 3.8.4

Apache Maven 3.8.4 is the latest release and recommended version for all users.

The currently selected download mirror is <https://dtdcn.apache.org/>. If you encounter a problem with this mirror, please select another mirror. If all mirrors are failing, there are backup mirrors (at the end of the mirrors list) that should be available. You may also consult the [complete list of mirrors](#).

Other mirrors: <https://dtdcn.apache.org/> [Change](#)

### System Requirements

Java Development Kit (JDK)	Maven 3.3+ require JDK 1.7 or above to execute - they still allow you to build against 1.3 and other JDK versions by <a href="#">Using Toolchains</a>
Memory	No minimum requirement
Disk	Approximately 10MB is required for the Maven installation itself. In addition to that, additional disk space will be used for your local Maven repository. The size of your local repository will vary depending on usage but expect at least 500MB.
Operating System	No minimum requirement. Start up scripts are included as shell scripts and Windows batch files.

### Files

Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution archive and follow the [installation instructions](#). Use a source archive if you intend to build Maven yourself. In order to guard against corrupted downloads/installations, it is highly recommended to [verify the signature](#) of the release bundles against the public [KEYS](#) used by the Apache Maven developers.

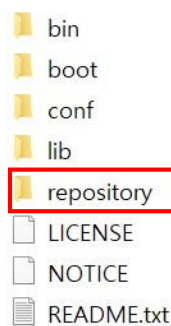
	Link	Checksums	Signature
Binary tar.gz archive	<a href="#">apache-maven-3.8.4-bin.tar.gz</a>	<a href="#">apache-maven-3.8.4-bin.tar.gz.sha512</a>	<a href="#">apache-maven-3.8.4-bin.tar.gz.asc</a>
Binary zip archive	<a href="#">apache-maven-3.8.4-bin.zip</a>	<a href="#">apache-maven-3.8.4-bin.zip.sha512</a>	<a href="#">apache-maven-3.8.4-bin.zip.asc</a>
Source tar.gz archive	<a href="#">apache-maven-3.8.4-src.tar.gz</a>	<a href="#">apache-maven-3.8.4-src.tar.gz.sha512</a>	<a href="#">apache-maven-3.8.4-src.tar.gz.asc</a>
Source zip archive	<a href="#">apache-maven-3.8.4-src.zip</a>	<a href="#">apache-maven-3.8.4-src.zip.sha512</a>	<a href="#">apache-maven-3.8.4-src.zip.asc</a>

- Release Notes
- Reference Documentation
- Apache Maven Website As Documentation Archive
- All current release sources (plugins, shared libraries, ...) available at <https://downloads.apache.org/maven/>

\* 다운로드 후 압축을 풀고 apache-maven-3.8.4 폴더를 C:\dev 폴더에 복사 후 붙여넣기

## → 라이브러리들이 다운로드 되어 저장될 폴더 생성

압축해제 한 폴더에 repository 라는 저장소 역할의 새 폴더 생성



## → settings.xml 파일 수정

conf 폴더에 접근하여 settings.xml 파일을 열어 주석 처리된 <localRepository> 란 부분을 찾아 복사하여 밖으로 뺀 뒤, 저장소로 이용하고자 하는 폴더 (위에서 만든 repository 폴더) 로 설정한다.

```

<!-- localRepository
| The path to the local repository maven will use to store artifacts.
|
| Default: ${user.home}/.m2/repository
<localRepository>/path/to/local/repo</localRepository>
-->
<localRepository>C:\dev\apache-maven-3.8.4\repository</localRepository>

```

#### 4) STS(Spring Tool Suite) 설치

STS 란 Spring Tool Suite 의 약자로, Spring Framework 를 사용하기 위한 개발 툴을 말한다. 일반적으로는 별도의 설치 도구를 통해 설치하여 사용 가능하고, 이클립스 IDE 에서 제공하는 STS 플러그 인을 통해 간단히 설치할 수 있다.

\* 이클립스에서 제공하는 플러그인의 경우 이슈가 너무 많아 사용하지 않는다.

#### ➔ STS3 직접 설치하기 (기존에 Spring 공식 사이트에서 제공 되었지만 github 로 바뀜)

STS3 설치 사이트 : <https://github.com/spring-projects/toolsuite-distribution/wiki/Spring-Tool-Suite-3>

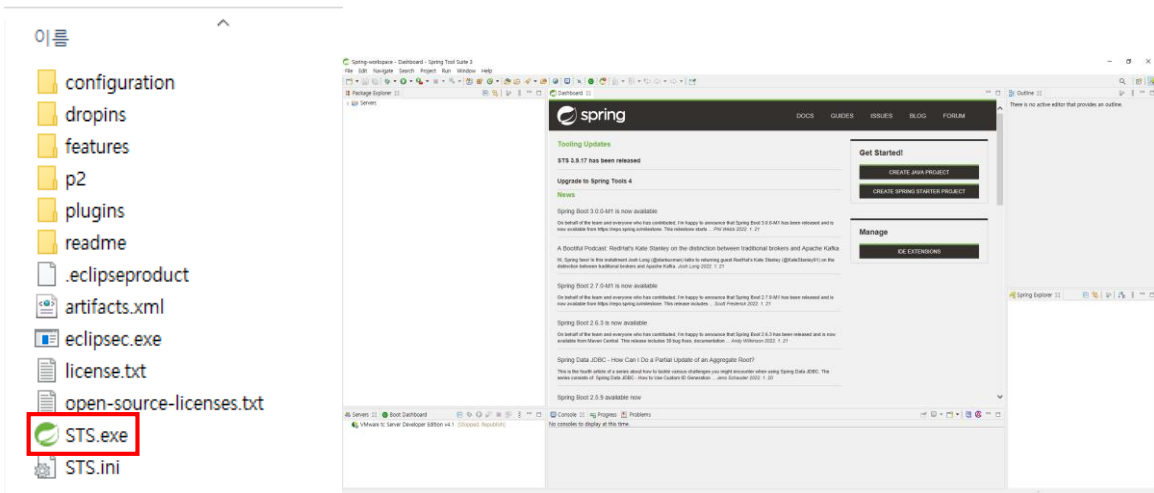
##### Spring Tool Suite 3.9.13 (New and Noteworthy)

full distribution on Eclipse 4.16

- [https://download.springsource.com/release/STS/3.9.13.RELEASE/dist/e4.16/spring-tool-suite-3.9.13.RELEASE-e4.16.0-win32-x86\\_64.zip](https://download.springsource.com/release/STS/3.9.13.RELEASE/dist/e4.16/spring-tool-suite-3.9.13.RELEASE-e4.16.0-win32-x86_64.zip)
- [https://download.springsource.com/release/STS/3.9.13.RELEASE/dist/e4.16/spring-tool-suite-3.9.13.RELEASE-e4.16.0-macosx-cocoa-x86\\_64.dmg](https://download.springsource.com/release/STS/3.9.13.RELEASE/dist/e4.16/spring-tool-suite-3.9.13.RELEASE-e4.16.0-macosx-cocoa-x86_64.dmg)
- [https://download.springsource.com/release/STS/3.9.13.RELEASE/dist/e4.16/spring-tool-suite-3.9.13.RELEASE-e4.16.0-linux-gtk-x86\\_64.tar.gz](https://download.springsource.com/release/STS/3.9.13.RELEASE/dist/e4.16/spring-tool-suite-3.9.13.RELEASE-e4.16.0-linux-gtk-x86_64.tar.gz)

\* 다운로드 된 zip 파일을 CW 에 압축 해제 (압축 해제 전 zip 파일명을 짧게 줄여야 함)

➤ sts-bundle ➤ sts-3.9.13.RELEASE



\* STS 프로그램을 실행했을 때 위와 같은 화면이 보인다면 정상적으로 설치됨