

The background features a large, abstract, wavy shape in shades of green and white, resembling a stylized wave or a flowing ribbon. The shape is composed of several overlapping, curved segments that create a sense of movement and depth. The colors range from a bright, vibrant green to a soft, pale green, with white highlights and shadows that give it a three-dimensional appearance. The overall effect is clean, modern, and organic.

테스트 환경 구축

테스트 환경 개요

- JDK (Java 11)
- Spring Tool Suite or Eclipse with Spring Plugin
- Apache Tomcat (9.x)
- MySQL (MariaDB) or Oracle
- Apache Maven / Gradle

JDK 설치

- 다운로드 → <https://www.oracle.com/java/technologies/downloads/#java11-windows>

[Java 8](#) [Java 11](#)

Java SE Development Kit 11.0.13

Java SE subscribers will receive JDK 11 updates until at least **September of 2026**.

These downloads can be used for development, personal use, or to run Oracle licensed products. Use for other purposes, including production or commercial use, requires a Java SE subscription or another Oracle license.

JDK 11 software is licensed under the [Oracle Technology Network License Agreement for Oracle Java SE](#).

JDK 11.0.13 [checksum](#)

[Linux](#) [macOS](#) [Solaris](#) [Windows](#)

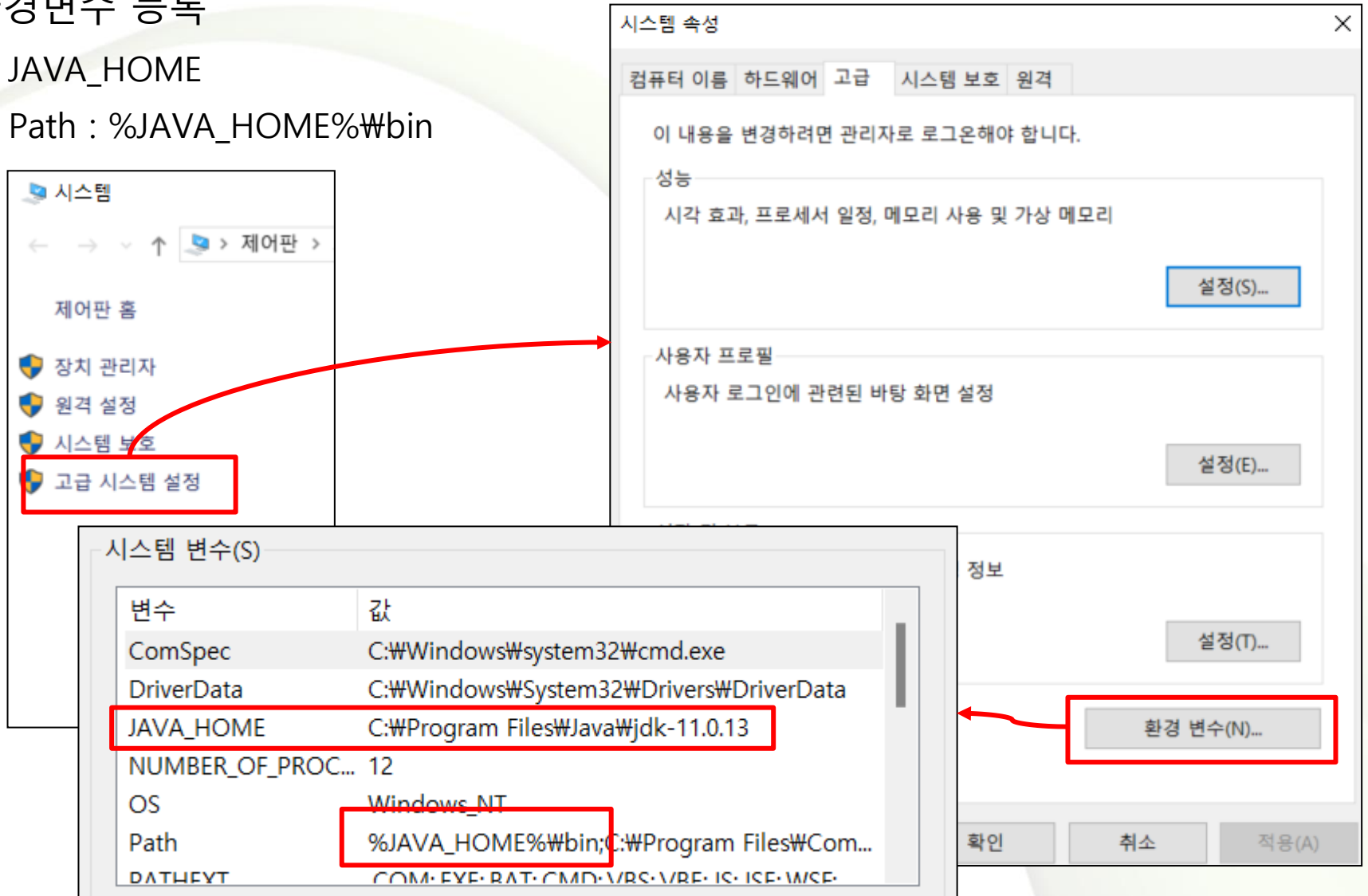
Product/file description	File size	Download
x64 Installer	139.83 MB	jdk-11.0.13_windows-x64_bin.exe
x64 Compressed Archive	157.28 MB	jdk-11.0.13_windows-x64_bin.zip

- 다운로드 완료 후 설치 실행

JDK 설치

■ 환경변수 등록

- JAVA_HOME
- Path : %JAVA_HOME%\bin



Spring Tool Suite (STS) 설치

- 다운로드 → <https://spring.io/tools>

Spring Tools 4 for Eclipse

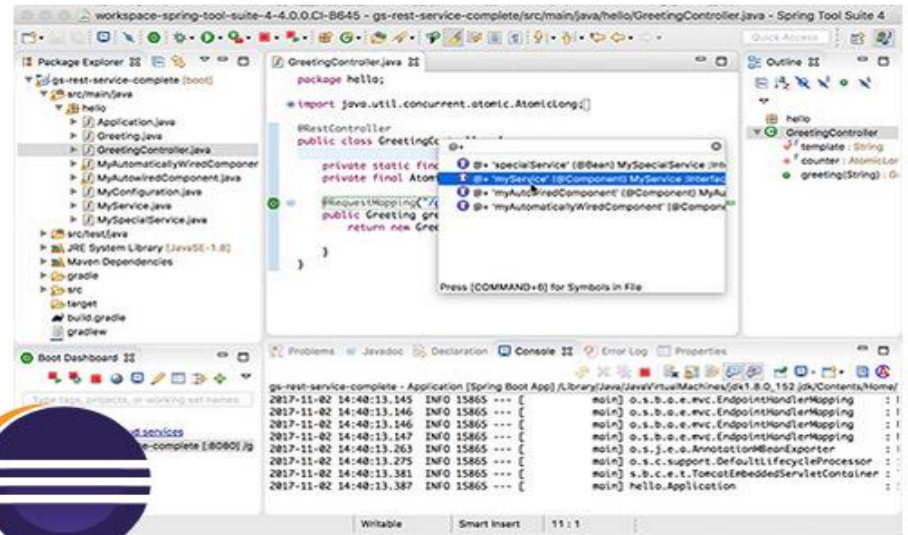
The all-new Spring Tool Suite 4.
Free. Open source.

4.13.0 - LINUX X86_64

4.13.0 - MACOS X86_64

4.13.0 - MACOS ARM_64

4.13.0 - WINDOWS X86_64



- 다운로드 후 실행 → 자동으로 압축 해제
 - .jar 파일 실행 (더블 클릭으로 실행되지 않을 경우 아래 방법으로 명령 실행)
 - 명령 프롬프트에서 `java -jar spring-tool-suite-xxx.jar`

Eclipse 설치

- 다운로드 → <https://www.eclipse.org/downloads/packages/>

Eclipse IDE for Enterprise Java and Web Developers

509 MB 145,348 DOWNLOADS

Tools for developers working with Java and Web applications, including a Java IDE, tools for JavaScript, TypeScript, JavaServer Pages and Faces, Yaml, Markdown, Web Services, JPA and Data Tools, Maven and Gradle, Git, and more.



Windows x86_64
macOS x86_64 | AArch64
Linux x86_64 | AArch64

Click [here](#) to file a bug against Eclipse Web Tools Platform.
Click [here](#) to file a bug against Eclipse Platform.
Click [here](#) to file a bug against Maven integration for web projects.
Click [here](#) to report an issue against Eclipse Wild Web Developer (incubating).

 Download

Download from: Korea, Republic Of - Kakao Corp. (https)

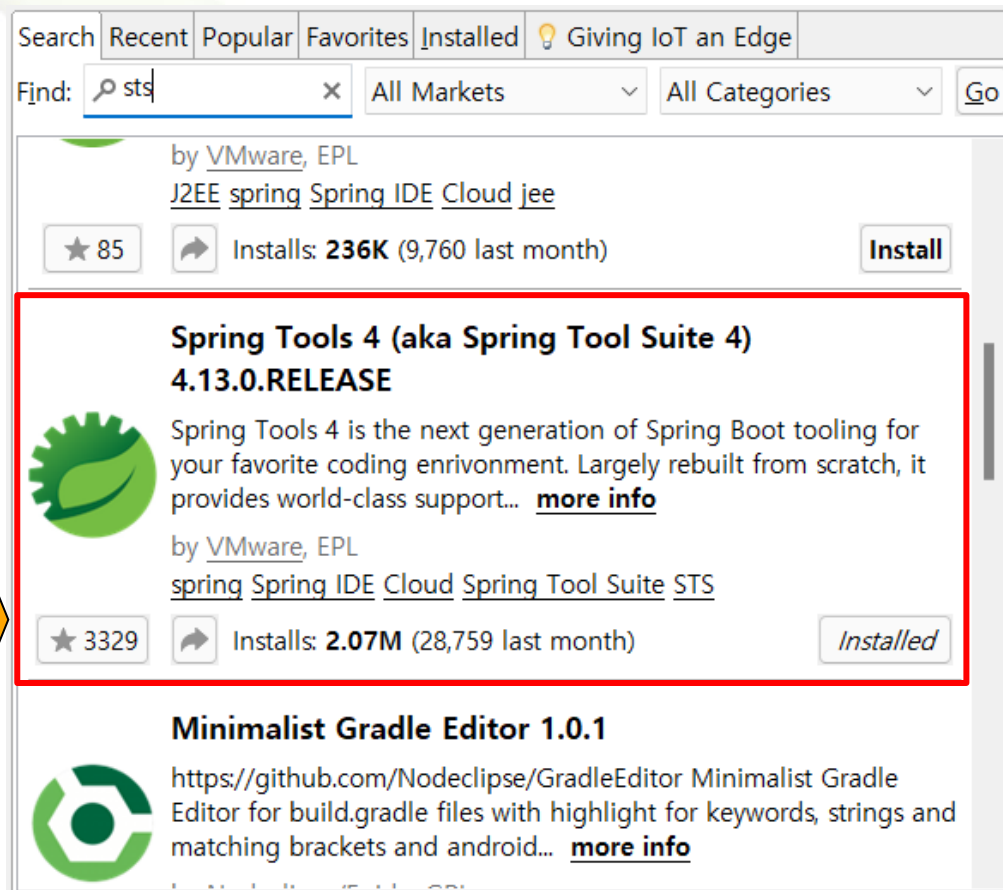
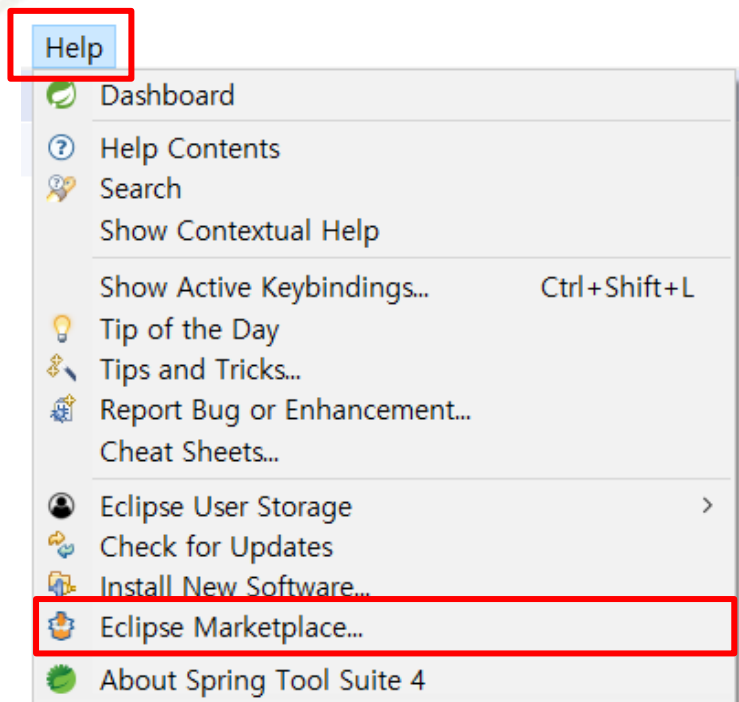
File: [eclipse-jee-2021-12-R-win32-x86_64.zip](#) SHA-512

>> [Select Another Mirror](#)

- 다운로드 완료 후 압축 해제

스프링 플러그인 설치 (STS, Eclipse 공통)

- Eclipse Marketplace에서 STS 검색 후 설치
 - Spring Tools 4



스프링 플러그인 설치 (STS)

- Eclipse Marketplace에서 STS 검색 후 설치
 - Eclipse Enterprise Java and Web Developer Tools

The image shows two screenshots from the Eclipse IDE. The left screenshot shows the 'Help' menu, with 'Eclipse Marketplace...' highlighted. The right screenshot shows the Eclipse Marketplace search results for 'enterprise java'. The top result, 'Eclipse Enterprise Java and Web Developer Tools 3.24', is highlighted with a red box. Below it is 'Java Source Attacher 1.2.8.0'. A yellow arrow points from the 'Eclipse Marketplace...' menu item to the Marketplace window.

Help

- Dashboard
- Help Contents
- Search
- Show Contextual Help
- Show Active Keybindings... Ctrl+Shift+L
- Tip of the Day
- Tips and Tricks...
- Report Bug or Enhancement...
- Cheat Sheets...
- Eclipse User Storage >
- Check for Updates
- Install New Software...
- Eclipse Marketplace...**
- About Spring Tool Suite 4

Search Recent Popular Favorites Installed Giving IoT an Edge

Find: enterprise java x All Markets All Categories Go

Eclipse Enterprise Java and Web Developer Tools 3.24

Enables Enterprise Java Bean, Java Enterprise Application, Fragments, and Connector, Java Web Application, JavaServer Faces (JSF), Java Server Pages (JSP), Java... [more info](#)

by The Eclipse Foundation, EPL

[xml](#) [html](#) [CSS](#) [js](#) [jsp](#)

★ 1153 Install: 630K (20,022 last month) **Install**

Java Source Attacher 1.2.8.0

Open source libraries are very popular in Java world. Nowadays Java/J2EE/Android developers often work with Java-based projects which using a lot of open source... [more info](#)

by Thai Ha, Apache 2.0

[source code](#) [android](#) [debugging](#) [Java libraries](#) [Maven repository](#)

★ 114 Install: 34.4K (0 last month) **Install**

PexTools

스프링 플러그인 설치 (STS)

- Eclipse Marketplace에서 STS 검색 후 설치
 - Spring Tools 3 Add-On for Spring Tools 4 ...

The image shows two screenshots from the Eclipse IDE. The left screenshot shows the 'Help' menu, with 'Eclipse Marketplace...' highlighted. The right screenshot shows the Eclipse Marketplace search results for 'sts', with 'Spring Tools 3 Add-On for Spring Tools 4 3.9.21.RELEASE' highlighted. An orange arrow points from the 'Eclipse Marketplace...' menu item to the marketplace search results.

Help

- Dashboard
- Help Contents
- Search
- Show Contextual Help
- Show Active Keybindings... Ctrl+Shift+L
- Tip of the Day
- Tips and Tricks...
- Report Bug or Enhancement...
- Cheat Sheets...
- Eclipse User Storage >
- Check for Updates
- Install New Software...
- Eclipse Marketplace...**
- About Spring Tool Suite 4

Search Recent Popular Favorites Installed Giving IoT an Edge

Find: sts x All Markets All Categories Go

Spring Tools 3 Add-On for Spring Tools 4 3.9.21.RELEASE

Spring Tools 3 Add-On for Spring Tools 4 Attention: This add-on pack provides additional components from the previous Spring Tools 3 generation to be installed... [more info](#)

by VMware, EPL

J2EE spring Spring IDE Cloud jee

★ 311 Installs: **499K** (7,761 last month) **Install**

Spring Tools 3 (Standalone Edition) 3.9.14.RELEASE

Spring Tools 3 (Standalone Edition) The Spring Tools 3 contain the previous generation Spring tooling for Eclipse, mostly focused on working with Spring apps... [more info](#)

by VMware, EPL

J2EE spring Spring IDE Cloud jee

★ 87 Installs: **256K** (7,364 last month) **Install**

Eclipse (STS) 도구 설치

- download → <https://projectlombok.org/download>

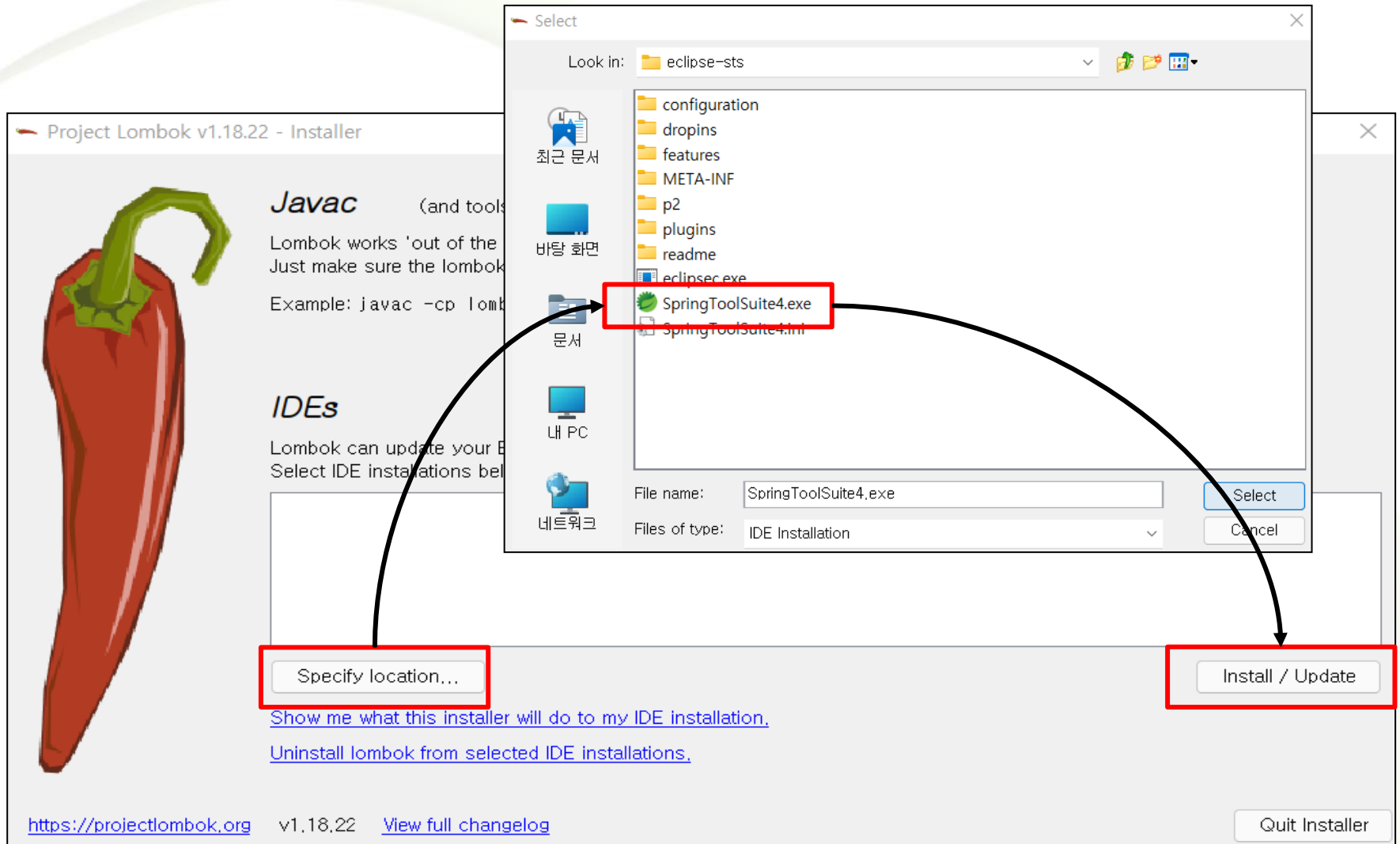
 Download 1.18.22

[changelog](#)
[older versions](#)

Feeling adventurous? Download the latest **snapshot** release.

Eclipse (STS) 도구 설치

- 다운로드 후 실행 (실행 실패 → 명령행에서 `java -jar lombok.jar` 실행)



Maven 설치

- 다운로드 → <http://maven.apache.org/download.cgi>

	Link	Checksums
Binary tar.gz archive	apache-maven-3.6.3-bin.tar.gz	apache-maven-3.6.3-bin.tar.gz.sha512
Binary zip archive	apache-maven-3.6.3-bin.zip	apache-maven-3.6.3-bin.zip.sha512
Source tar.gz archive	apache-maven-3.6.3-src.tar.gz	apache-maven-3.6.3-src.tar.gz.sha512
Source zip archive	apache-maven-3.6.3-src.zip	apache-maven-3.6.3-src.zip.sha512

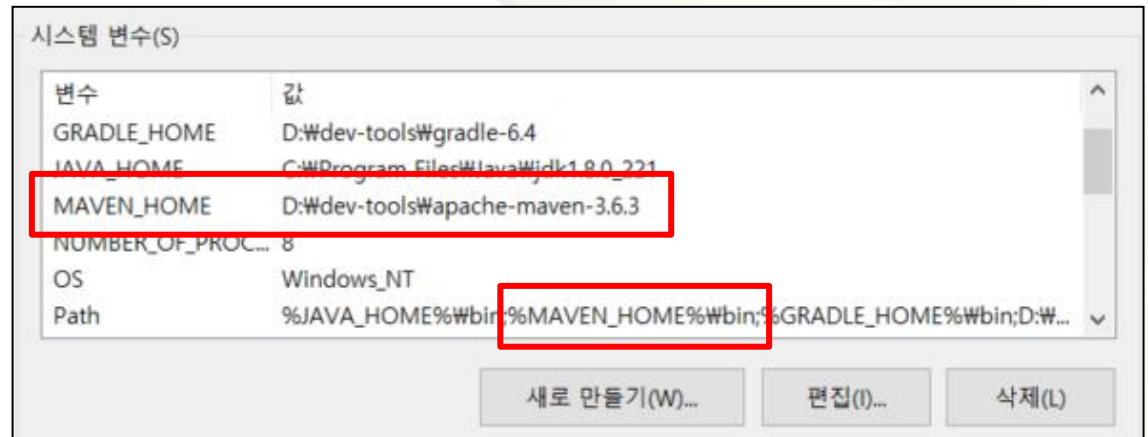
- 다운로드 파일 압축 해제

- 환경 변수 등록

- MAVEN_HOME
- Path : %MAVEN_HOME%\bin

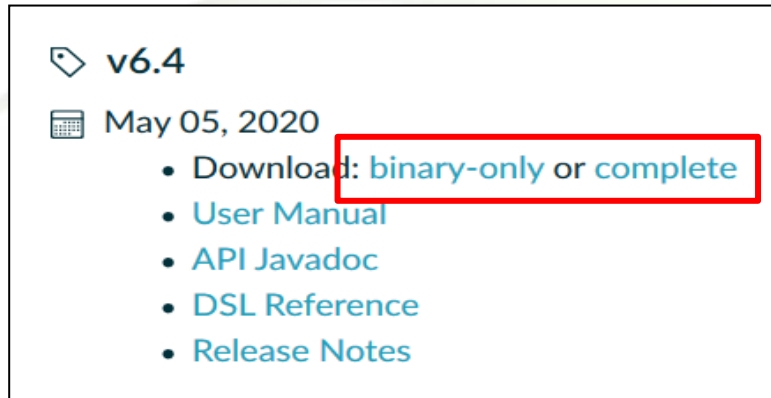
- 명령 프롬프트에서 확인

- mvn -version



Gradle 설치

- 다운로드 → <https://gradle.org/releases/>



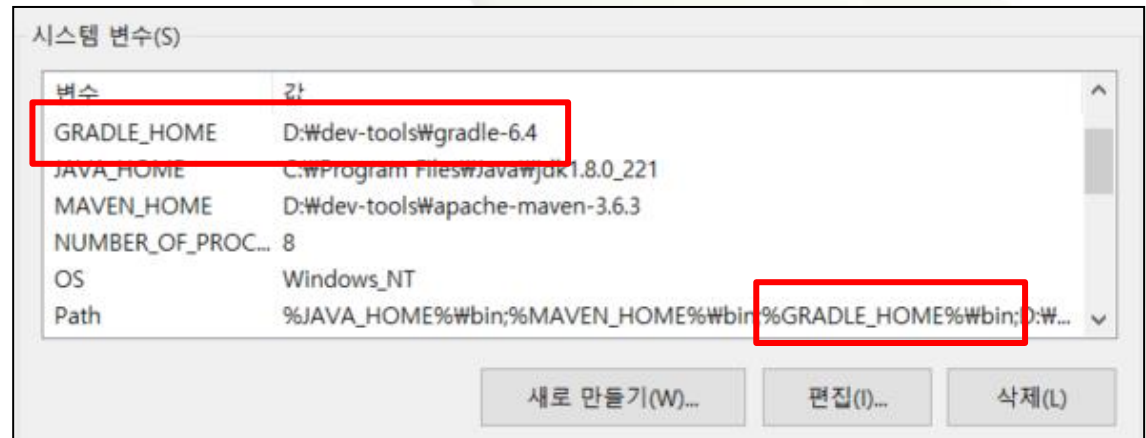
- 다운로드 파일 압축 해제

- 환경 변수 등록

- GRADLE_HOME
- Path : %GRADLE_HOME%\bin

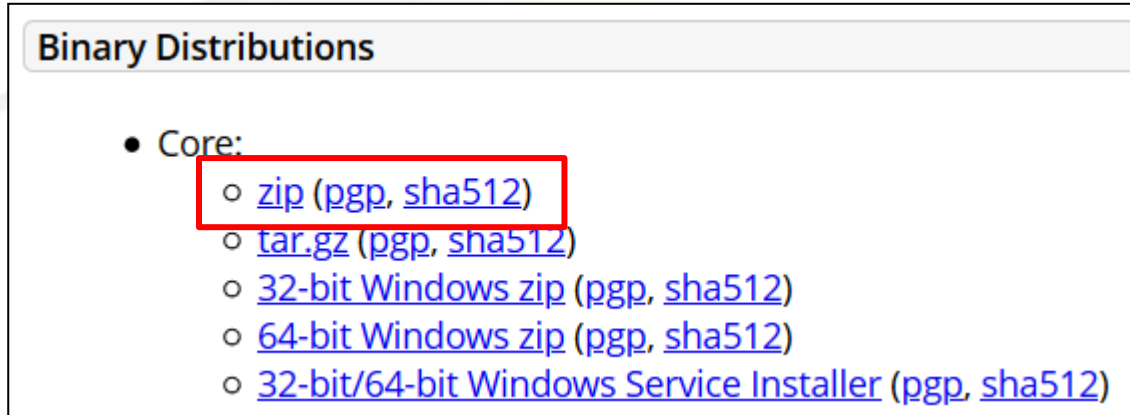
- 명령 프롬프트에서 확인

- gradle -version



Apache Tomcat 설치

- 다운로드 → <https://tomcat.apache.org/download-90.cgi>






- 다운로드 파일 압축 해제
- 설정 변경 (포트번호 변경)
 - 톰캣설치경로\conf\server.xml 편집

```
<Connector port="8081" protocol="HTTP/1.1"  
            connectionTimeout="20000"  
            redirectPort="8443" />
```

Oracle Database 설치

- 다운로드 → <https://www.oracle.com/database/technologies/xe-prior-release-downloads.html>

Oracle Database Express Edition (XE) Release 11.2.0.2.0 (11gR2).

Name	Download
Oracle Database 11gR2 Express Edition for Windows x64	 Download
Oracle Database 11gR2 Express Edition for Windows x32	 Download
Oracle Database 11gR2 Express Edition for Linux x64	 Download

- 다운로드 완료 후 압축 해제 → 압축 해제 폴더내 setup.exe 파일 실행

MySQL 설치

Mysql-setup.pdf 파일 참고