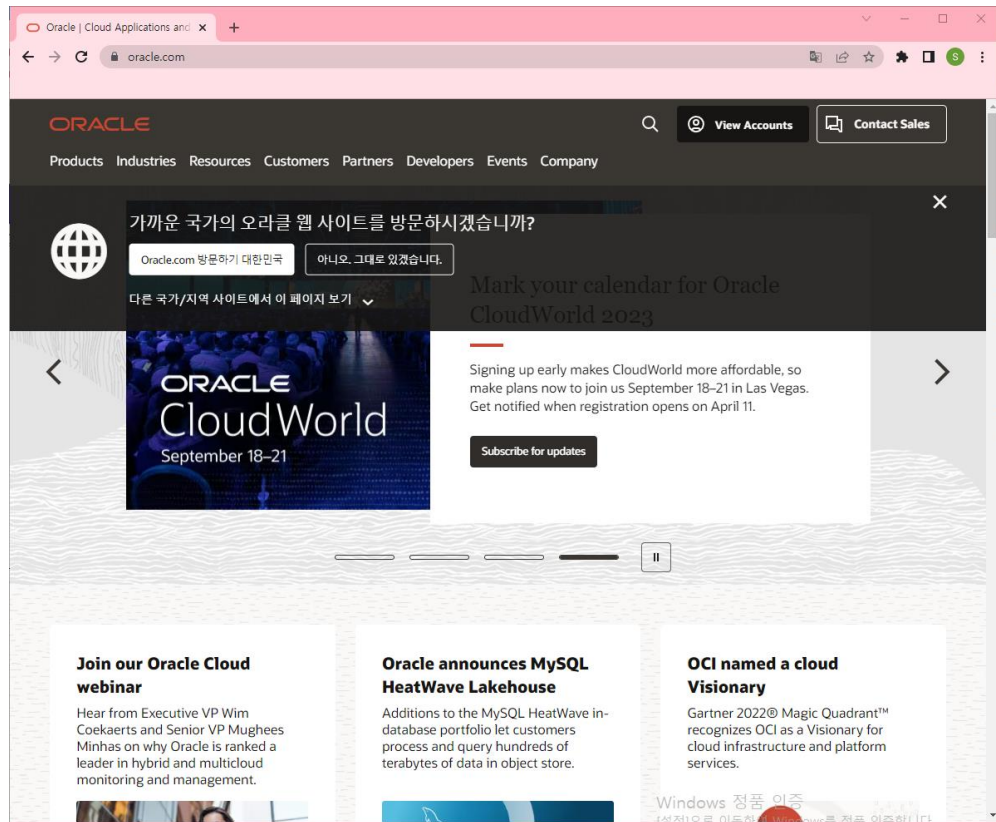


환경 설정

1. Java 다운로드 및 설치 - <http://oracle.com>

- 메뉴 - Products - Java - download java - JDK Download - [jdk-19xx-windows-](#)



Java Downloads | Oracle

oracle.com/java/technologies/downloads/#jdk19-windows

ORACLE

Products Industries Resources Customers Partners Developers Events Company

Java downloads Tools and resources Java archive

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications and components using the Java programming language.

The JDK includes tools for developing and testing programs written in the Java programming language and running on the Java platform.

Linux macOS Windows

Product/file description	File size	Download
x64 Compressed Archive	179.13 MB	https://download.oracle.com/java/19/latest/jdk-19_windows-x64_bin.zip (sha256)
x64 Installer	158.91 MB	https://download.oracle.com/java/19/latest/jdk-19_windows-x64_bin.exe (sha256)
x64 MSI Installer	157.76 MB	https://download.oracle.com/java/19/latest/jdk-19_windows-x64_bin.msi (sha256)

JDK Script-friendly URLs

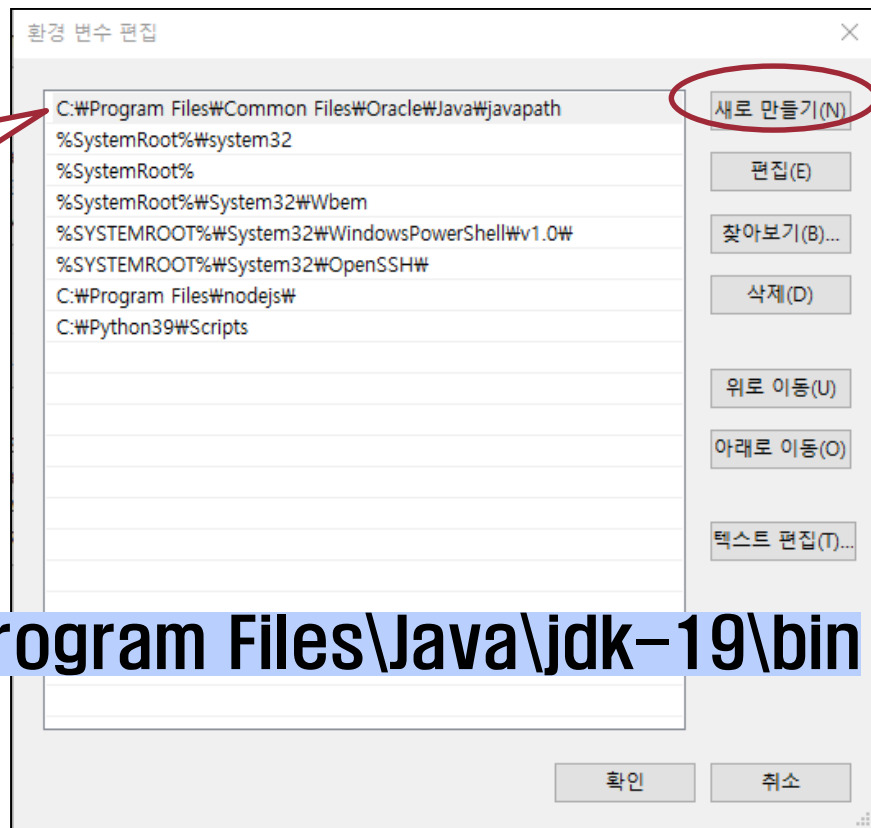
The URLs listed above will remain the same for JDK update releases to allow their use in scripts.

[Learn more about automating the downloads of JDK](#)

2. Path - 자동으로 연결됨

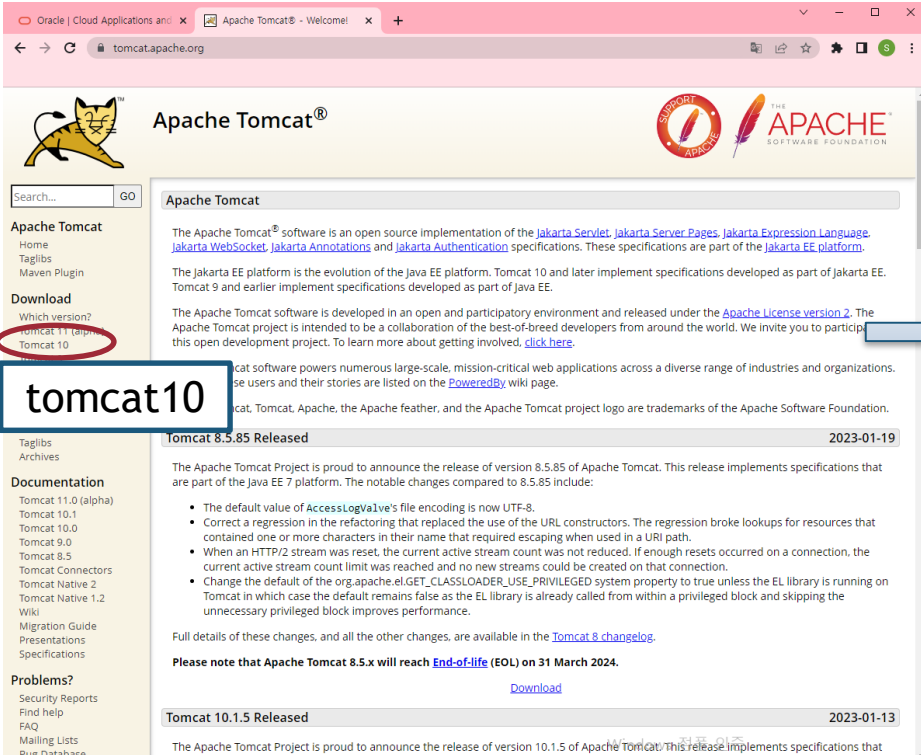
- 제어판\시스템 및 보안\시스템\고급시스템설정 또는 내컴퓨터 우측버튼 -속성

Path 는
자동으로 입력됨
Path 설정할 필요 없음



C:\Program Files\Java\jdk-19\bin

3. 톰캣 설치 - <http://tomcat.apache.org> (1/2)



The screenshot shows the Apache Tomcat homepage. The main navigation menu on the left includes 'Download', 'Documentation', 'Problems?', 'Get Involved', 'Media', and 'Misc'. The 'Download' section is highlighted with a red circle. Below it, the 'tomcat10' link is highlighted with a blue box. A blue arrow points from this link to the right-hand screenshot.

Apache Tomcat®

Search... GO

Apache Tomcat

Home
Taglibs
Maven Plugin

Download

Which version?
Tomcat 11 (alpha)
Tomcat 10

tomcat10

Taglibs
Archives

Documentation

Tomcat 11.0 (alpha)
Tomcat 10.1
Tomcat 10.0
Tomcat 9.0
Tomcat 8.5
Tomcat Connectors
Tomcat Native 2
Tomcat Native 1.2
Wiki
Migration Guide
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Problems?

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Find help
FAQ
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Run Database

Get Involved

Overview
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Translations
Tools

Media

Twitter
YouTube
Blog

Misc

Who We Are
Swag
Heritage
Apache Home
Resources
Contact
Legal
Support Apache

The Apache Tomcat® software is an open source implementation of the [Jakarta Servlet](#), [Jakarta Server Pages](#), [Jakarta Expression Language](#), [Jakarta WebSocket](#), [Jakarta Annotations](#) and [Jakarta Authentication](#) specifications. These specifications are part of the [Jakarta EE platform](#).

The Jakarta EE platform is the evolution of the Java EE platform. Tomcat 10 and later implement specifications developed as part of Jakarta EE. Tomcat 9 and earlier implement specifications developed as part of Java EE.

The Apache Tomcat software is developed in an open and participatory environment and released under the [Apache License version 2](#). The Apache Tomcat project is intended to be a collaboration of the best-of-breed developers from around the world. We invite you to participate in this open development project. To learn more about getting involved, [click here](#).

Tomcat software powers numerous large-scale, mission-critical web applications across a diverse range of industries and organizations. See users and their stories are listed on the [PoweredBy](#) wiki page.

Tomcat, Apache, the Apache feather, and the Apache Tomcat project logo are trademarks of the Apache Software Foundation.

Tomcat 8.5.85 Released 2023-01-19

The Apache Tomcat Project is proud to announce the release of version 8.5.85 of Apache Tomcat. This release implements specifications that are part of the Java EE 7 platform. The notable changes compared to 8.5.85 include:

- The default value of `AccessLogValve`'s file encoding is now UTF-8.
- Correct a regression in the refactoring that replaced the use of the URL constructors. The regression broke lookups for resources that contained one or more characters in their name that required escaping when used in a URI path.
- When an HTTP/2 stream was reset, the current active stream count was not reduced. If enough resets occurred on a connection, the current active stream count limit was reached and no new streams could be created on that connection.
- Change the default of the `org.apache.el.GET_CLASSLOADER_USE_PRIVILEGED` system property to true unless the EL library is running on Tomcat in which case the default remains false as the EL library is already called from within a privileged block and skipping the unnecessary privileged block improves performance.

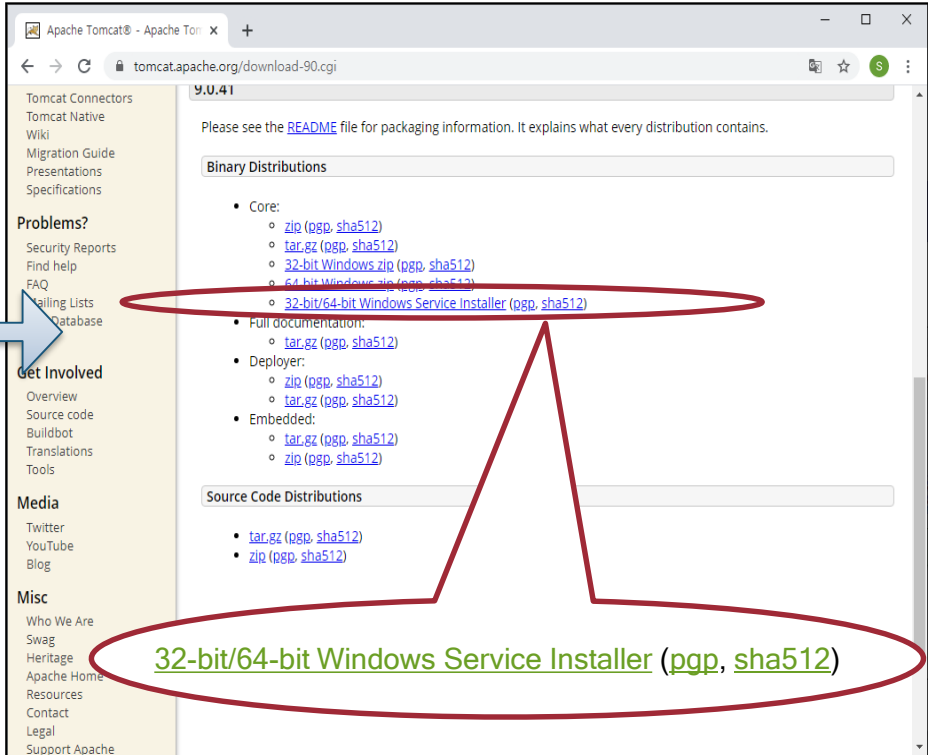
Full details of these changes, and all the other changes, are available in the [Tomcat 8 changelog](#).

Please note that Apache Tomcat 8.5.x will reach [End-of-life \(EOL\)](#) on 31 March 2024.

[Download](#)

Tomcat 10.1.5 Released 2023-01-13

The Apache Tomcat Project is proud to announce the release of version 10.1.5 of Apache Tomcat. This release implements specifications that



The screenshot shows the Apache Tomcat download page for version 9.0.41. The page lists various binary distributions and source code distributions. A red circle highlights the '32-bit/64-bit Windows Service Installer (pgp, sha512)' link. A red arrow points from this link to the '32-bit/64-bit Windows Service Installer (pgp, sha512)' link in the 'Source Code Distributions' section, which is also highlighted with a red circle.

Apache Tomcat® - Apache Tomcat

tomcat.apache.org/download-90.cgi

Tomcat Connectors
Tomcat Native
Wiki
Migration Guide
Presentations
Specifications

Problems?

Security Reports
Find help
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Misc

Who We Are
Swag
Heritage
Apache Home
Resources
Contact
Legal
Support Apache

Please see the [README](#) file for packaging information. It explains what every distribution contains.

Binary Distributions

- Core:
 - [zip \(pgp, sha512\)](#)
 - [tar.gz \(pgp, sha512\)](#)
 - [32-bit Windows zip \(pgp, sha512\)](#)
 - [64-bit Windows zip \(pgp, sha512\)](#)
 - [32-bit/64-bit Windows Service Installer \(pgp, sha512\)](#)
- Full documentation:
 - [tar.gz \(pgp, sha512\)](#)
- Deployer:
 - [zip \(pgp, sha512\)](#)
 - [tar.gz \(pgp, sha512\)](#)
- Embedded:
 - [tar.gz \(pgp, sha512\)](#)
 - [zip \(pgp, sha512\)](#)

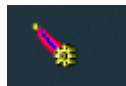
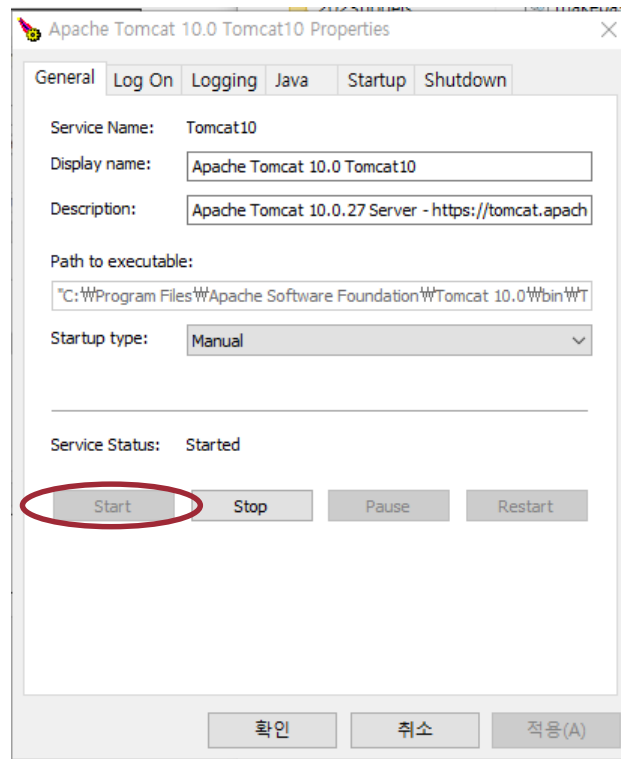
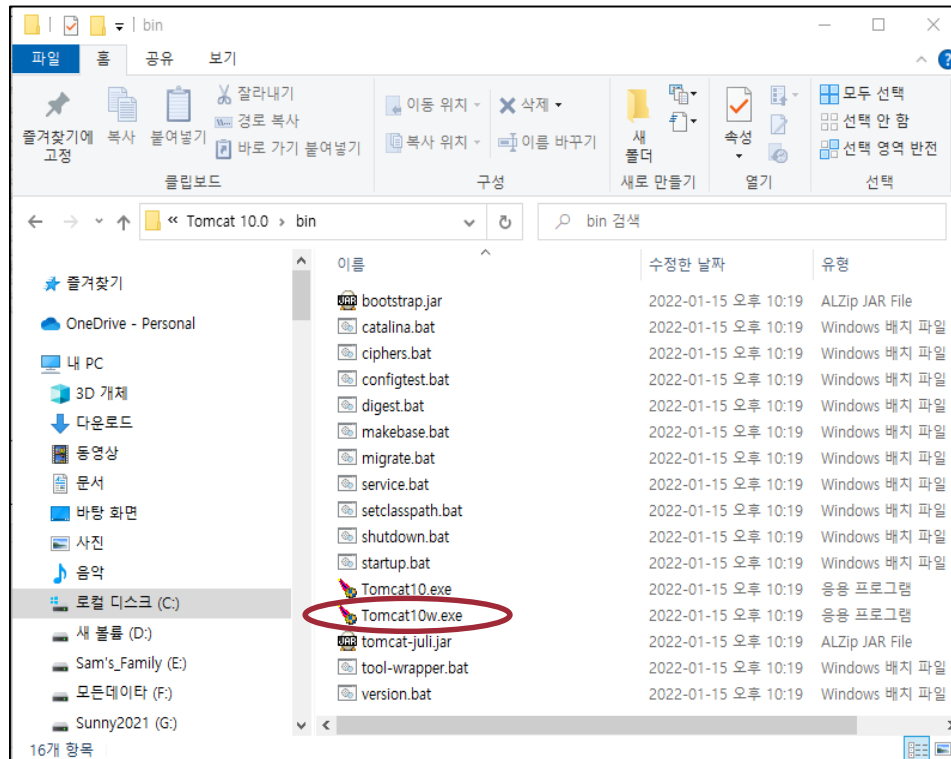
Source Code Distributions

- [tar.gz \(pgp, sha512\)](#)
- [zip \(pgp, sha512\)](#)

32-bit/64-bit Windows Service Installer (pgp, sha512)

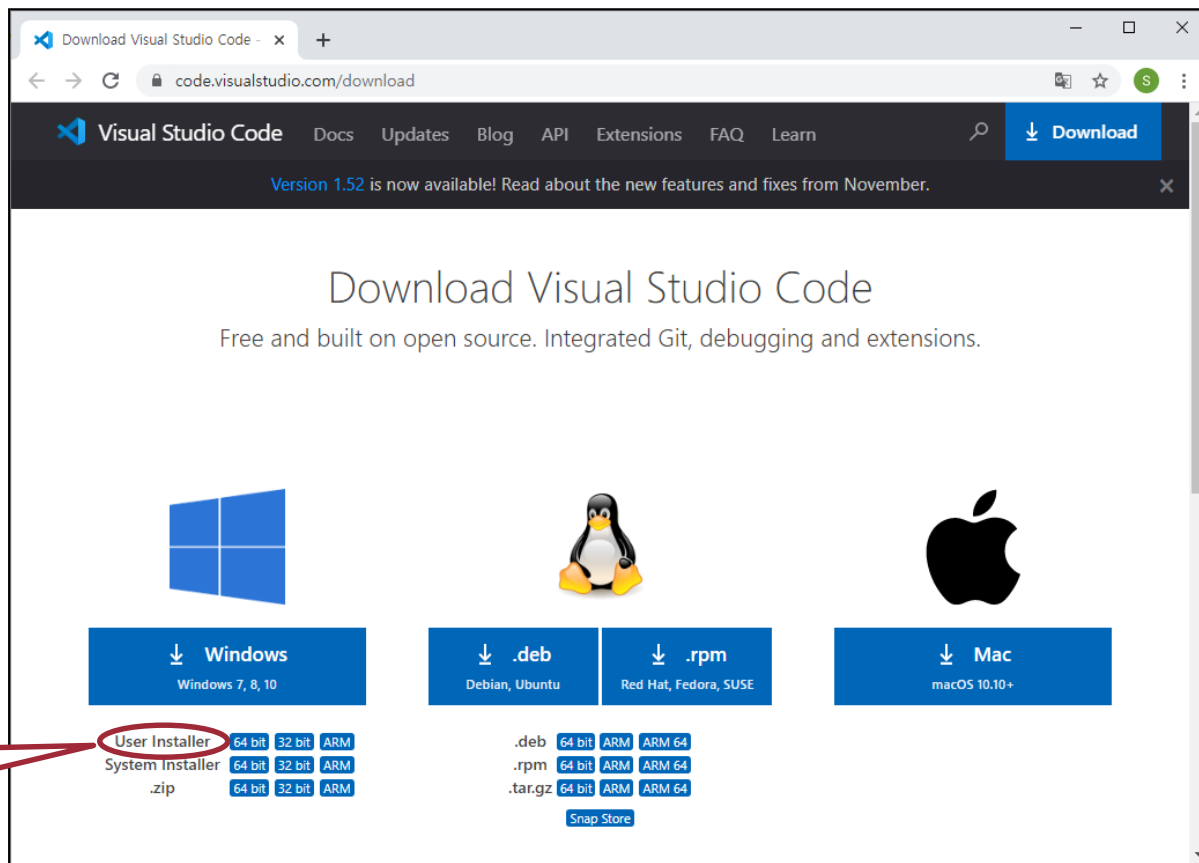
3. 톰캣 설치 - <http://tomcat.apache.org> (2/2)

- C:\Program Files\Apache Software Foundation\Tomcat 10.0\bin



작업종표시

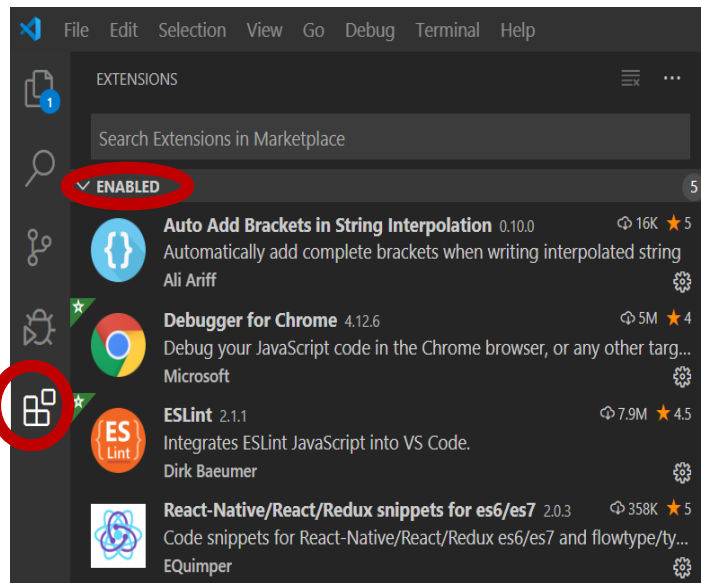
4. Visual Studio Code - Microsoft vs Code (1/2)



압축 풀기

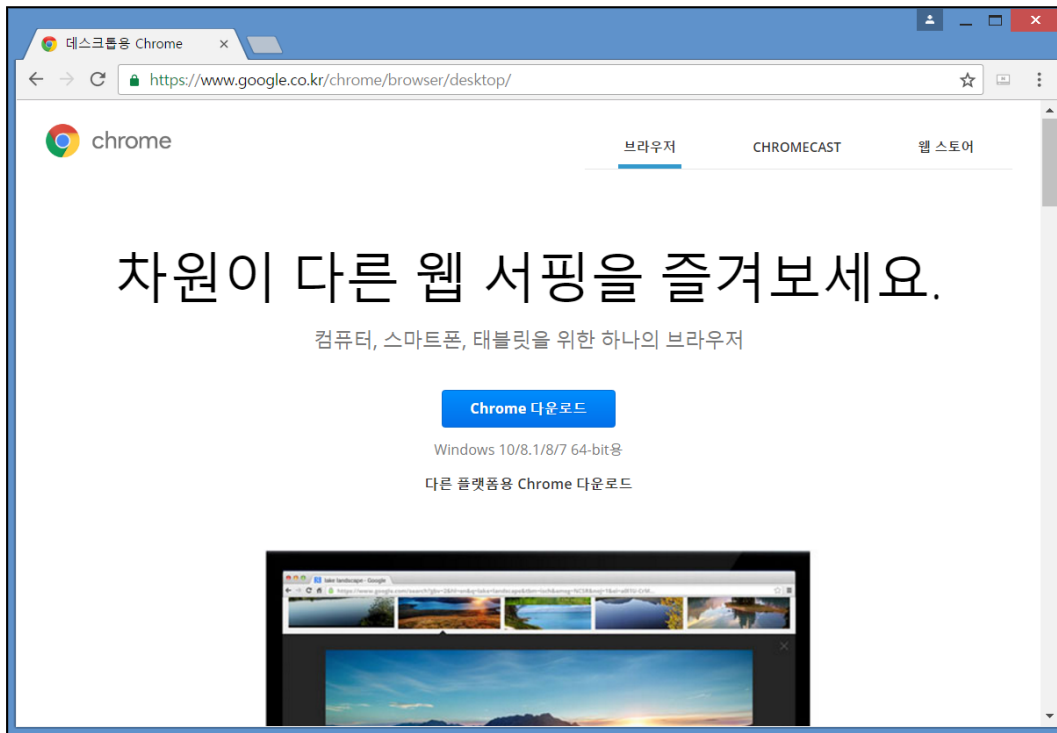
4. Visual Studio Code 모듈 설치(2/2)

- 보기 - 확장
 - ✓ 브라우저에서 자동실행 open in browser
 - ✓ 코드자동완성화/ES7 React/Redux/GraphQL/React-Native snippets
 - ✓ 에러가 있는 코드 표시/eslint
 - ✓ {} 자동완성화/Auto Add Brackets in String Interpolation
- 단축키(file-preference-settings)
 - ✓ Alt + b 브라우저에서 자동실행
 - ✓ ctrl+/ 주석처리
 - ✓ ctrl +, ctrl - 확대축소
 - ✓ ctrl + [왼쪽정렬
 - ✓ ctrl +] 오른쪽정렬
 - ✓ ctrl + f 검색
 - ✓ ctrl k, ctrl+f 자동정렬
 - ✓ ctrl+ , ==> "editor.tabSize":2,
 - ✓ ctrl + H 문자열 바꾸기
- Visual Studio Code 자동줄바꿈 켜기
File> preferences > settings 또는 Ctrl + ,
ctrl + , ==> Editor.wordwrap : on 자동줄바꿈
ctrl + , ==> user, features, terminal , fontsize, 터미널 글자크기



5. 크롬브라우저 설치 - <http://www.google.co.kr>

- 설치되어 있지 않은 경우, 사이트에 설치 안내 글 표시됨.



Java <http://oracle.com>



Tomcat <http://tomcat.apache.org>



Visual Studio Code [Microsoft vs Code](https://code.visualstudio.com/)

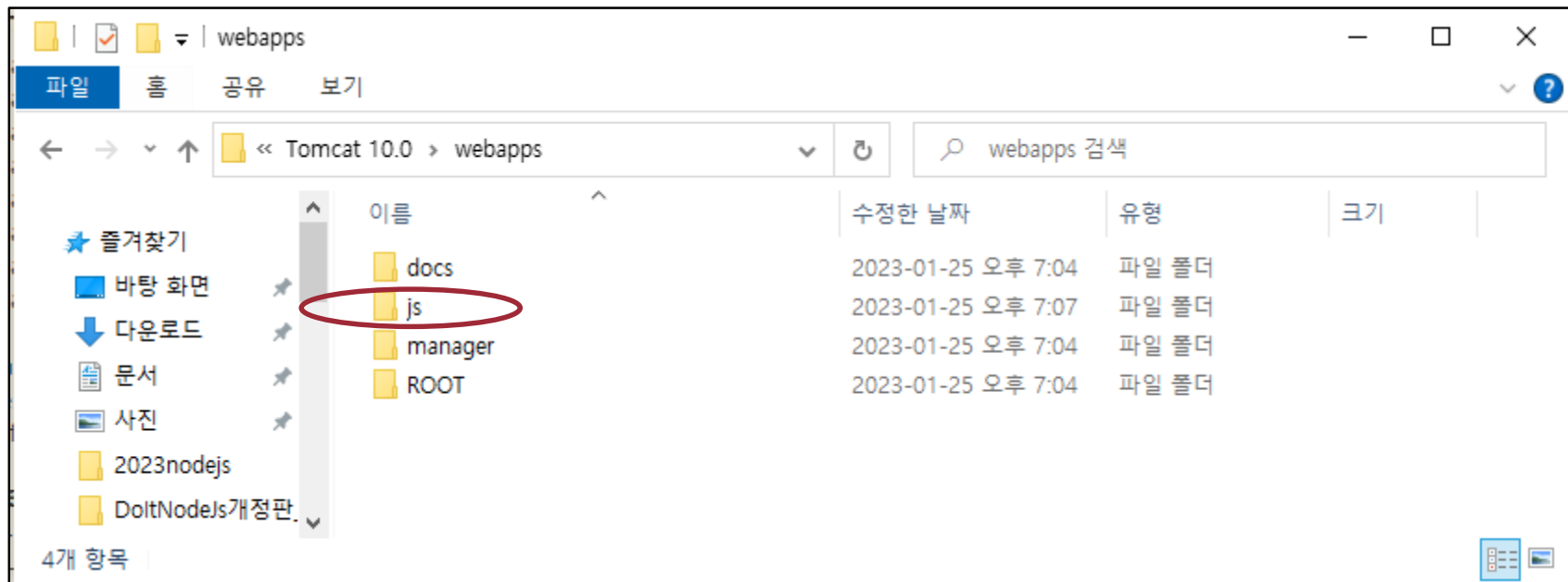


Chrome Browser <http://www.google.co.kr>

Visual Studio Code 에서 프로그램 실행하기(1/5)

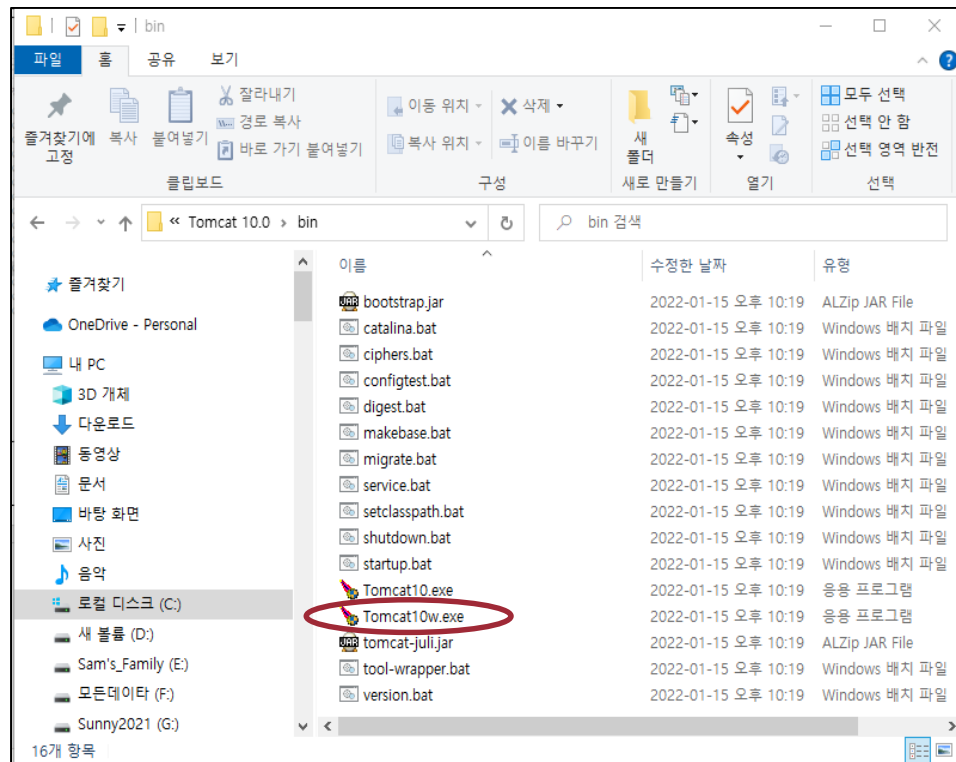
1. C:\Program Files\Apache Software Foundation\Tomcat 10.0

₩webapps₩ 밑에 작업 디렉토리 만들고(js) 작업디렉토리 안에 html5.html 작성



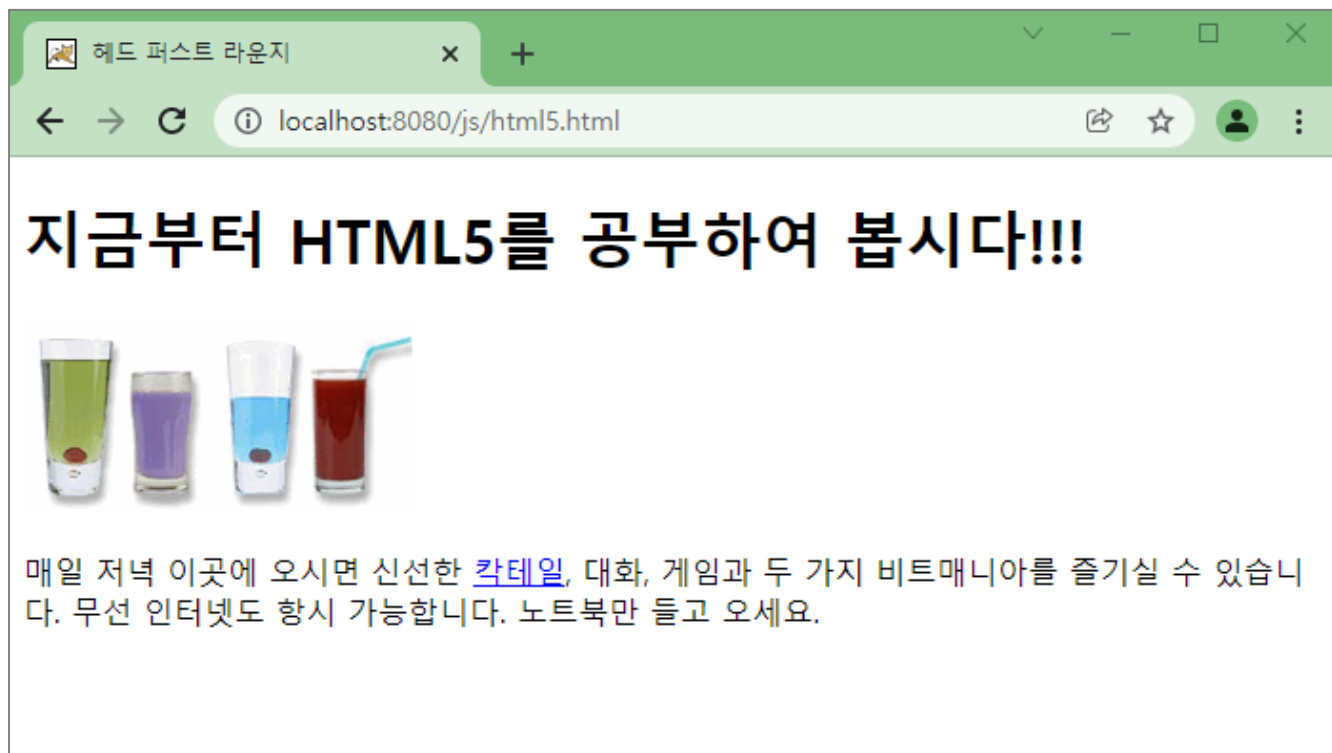
Visual Studio Code 에서 프로그램 실행하기(2/5)

2. C:\Program Files\Apache Software Foundation\Tomcat 10.0\bin 밑에 있는 Tomcat10w.exe을 실행



Visual Studio Code 에서 프로그램 실행하기(3/5)

3. <http://localhost:8080/js/html5.html> 실행



Visual Studio Code 에서 프로그램 실행하기(4/5)

5. 포트번호 바꾸기(8080 => 8000으로 수정)

C:\Program Files\Apache Software Foundation\Tomcat10.0\conf\server.xml

주석처리

```
<!-- <Connector port="8080" protocol="HTTP/1.1"-->  
<Connector port="8000" protocol="HTTP/1.1"  
        connectionTimeout="20000"  
        redirectPort="8443" />
```



Visual Studio Code 에서 프로그램 실행하기(5/5)

4. 실행파일 위치

C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ROOT\js\html5.html

⇒ <http://localhost:8000/js/html5.html>

또는

C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\js\html5.html

=> <http://localhost:8000/js/html5.html>

=> 권장하는 방법

텍스트 에디터 사용하기 : 코딩전용글꼴 설치(1/3)

✓ 전용 폰트와 아닌 경우의 비교

o O O
l l l

일반 글꼴

o O O
l l l

코딩 전용 글꼴 : D2Coding

ABCDEFGH
IJKLMNOP

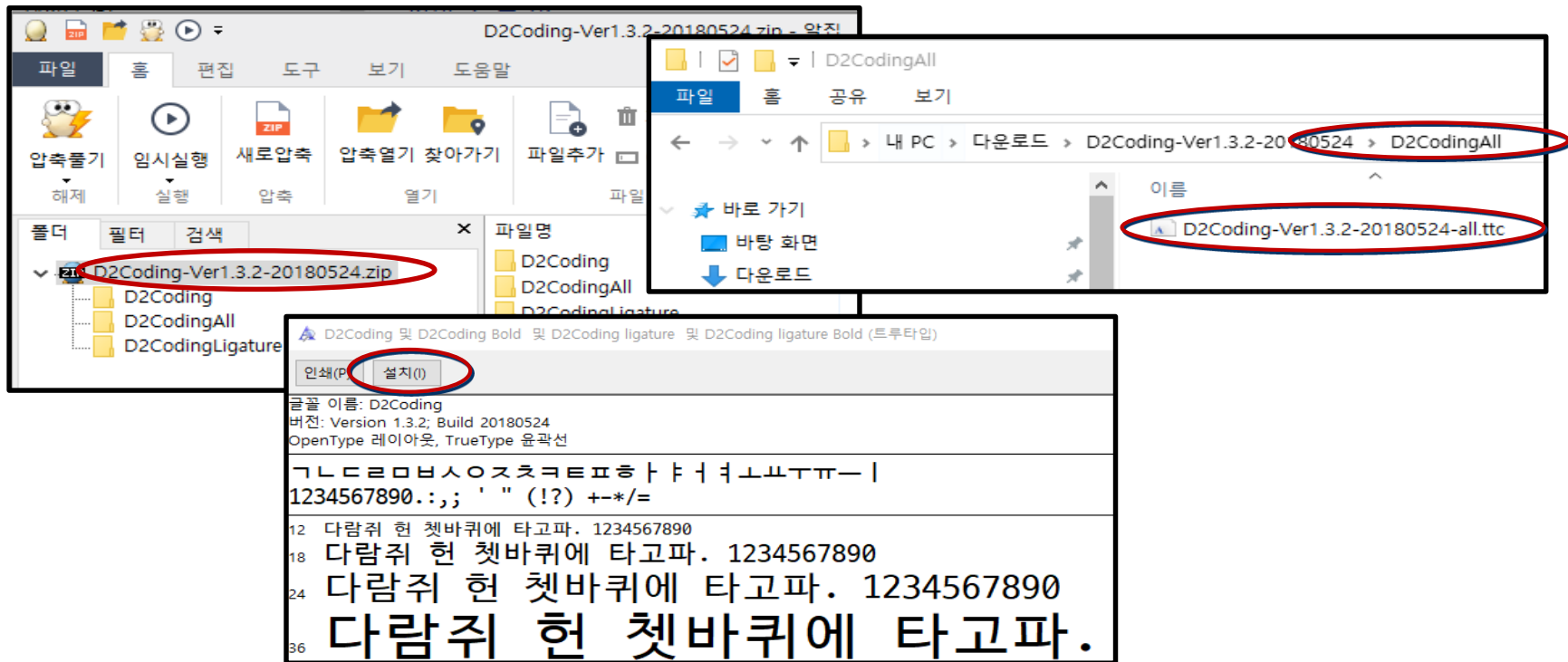
일반 글꼴

ABCDEFGH
IJKLMNOP

코딩 전용 글꼴 : 나눔고딕 코딩 글꼴

텍스트 에디터 사용하기 : 코딩전용글꼴 설치(2/3)

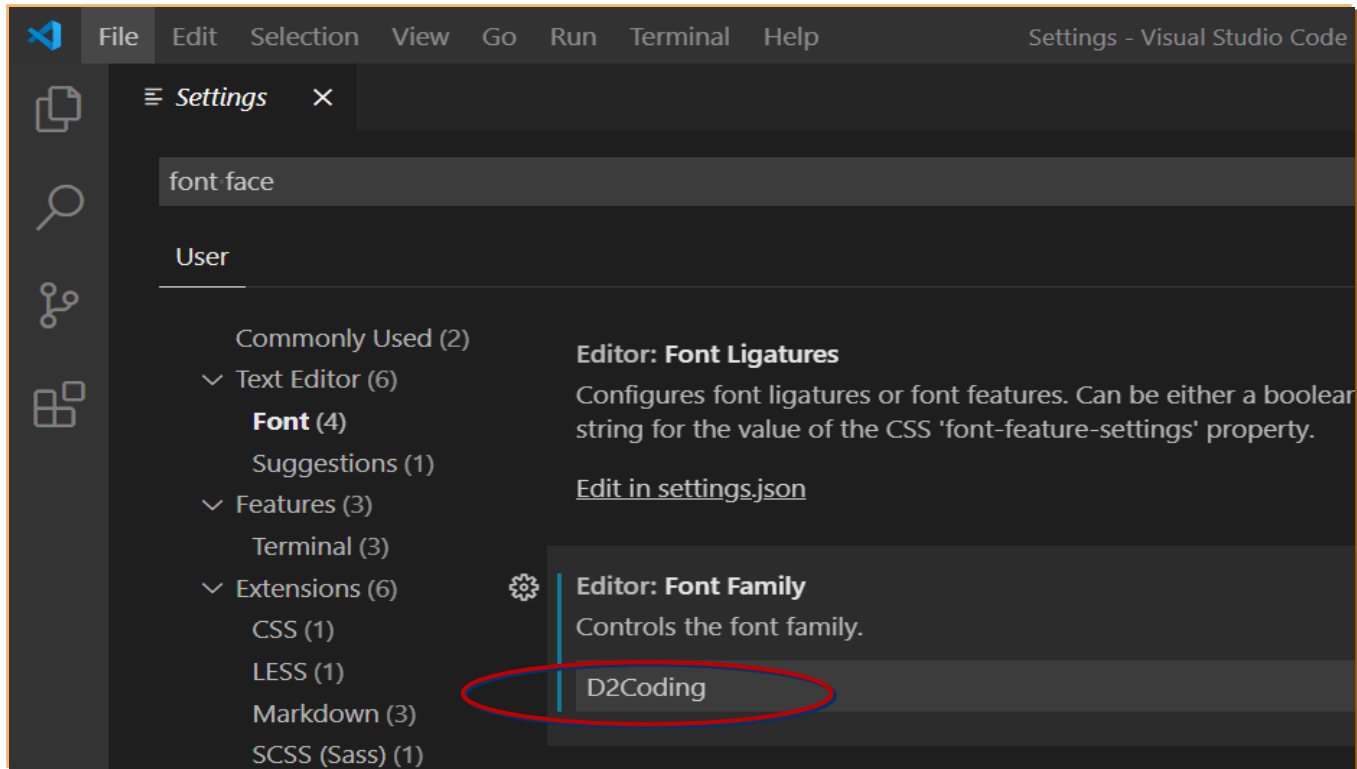
- 구글검색 : d2coding
- D2Coding : <https://github.com/naver/d2codingfont>
- 나눔고딕 코딩 글꼴 : <https://github.com/naver/nanumfont>



텍스트 에디터 사용하기 : 코딩전용글꼴 설치(3/3)

ctrl + , => file-preferences-settings-Text Editor – font – font family :D2Coding

검색어: font



(파일 – 설정– 텍스트 – 글꼴 : D2Coding)

<실습> 개발 환경 설정 - home computer에 설치



※ 주의사항

- 실습에 필요한 모든 프로그램을 home computer에 설치하고 실행되는가 확인
- 실행화면에 학번과 이름이 나타나도록 하고 데이터를 변형
- 하나 이상의 css를 만들고 적용하기

Q & A

