



# 웹표준 환경구축

안 화 수

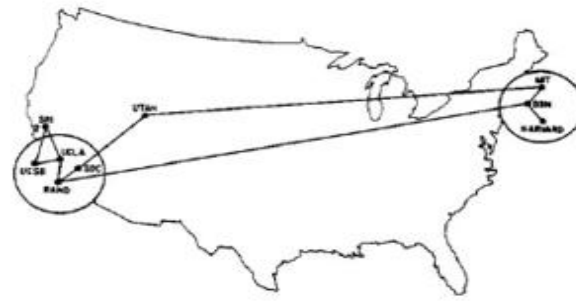
# 인터넷과 웹

## ❖ 인터넷의 시작

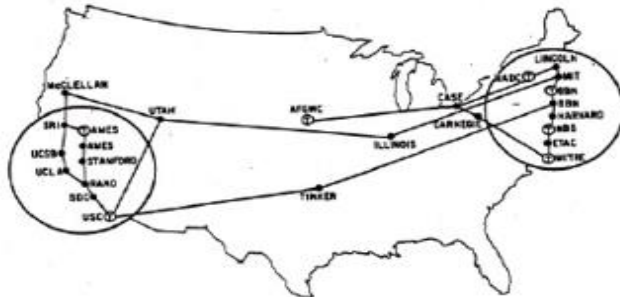
- 미국의 신기술을 연구하는 ARPA에서 현재 웹의 모태가 되는 아파넷<sub>ARPANET</sub>을 1969년에 개발



1969년 12월



1970년 6월



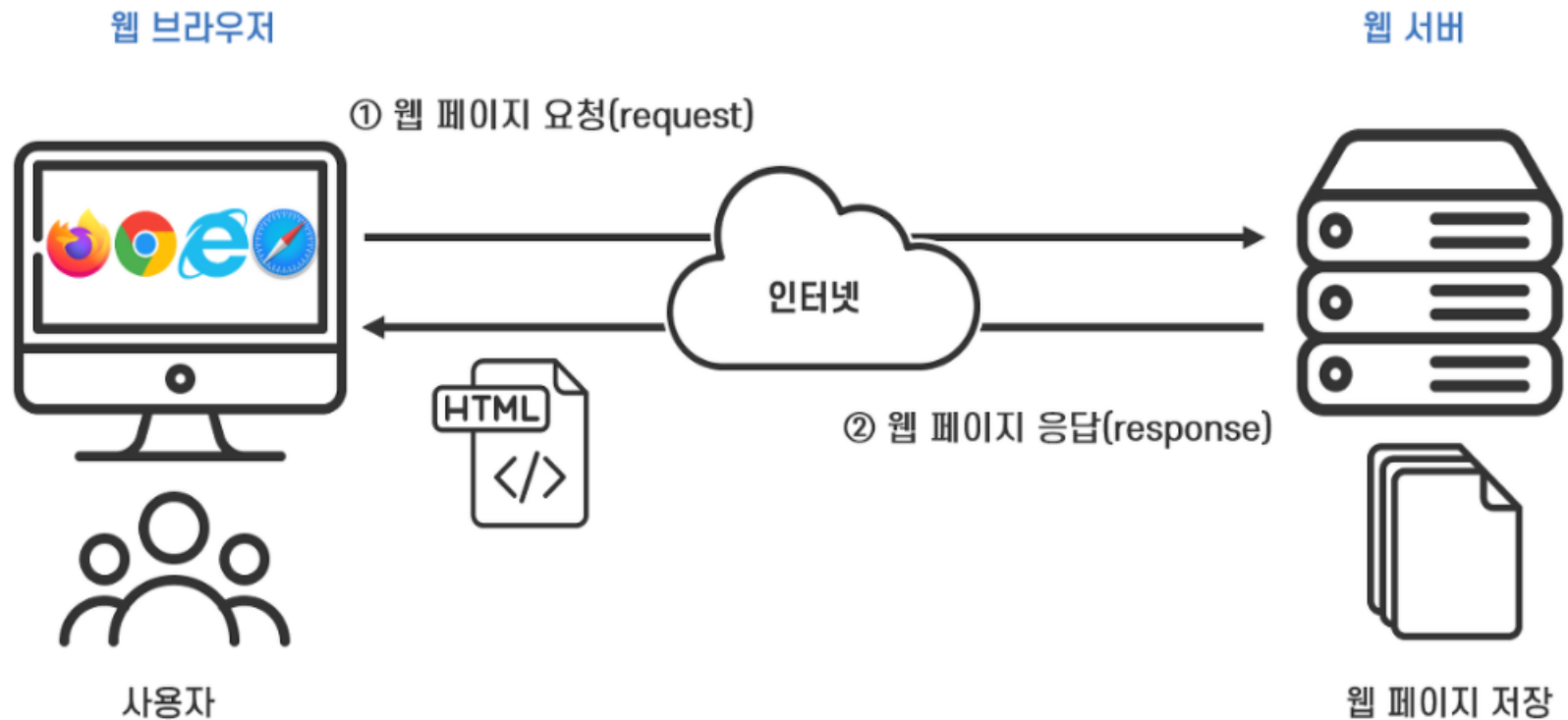
1972년 3월



1977년 7월

# 인터넷과 웹

## ❖ 웹 브라우저와 웹 서버



# 인터넷과 웹

- ❖ 클라이언트 프로그램(프론트엔드 프로그램)
  - 웹표준 : HTML5, CSS3, JavaScript
  - 프레임워크 : Angular.js, jQuery, React.js, Vue.js
- ❖ 서버 프로그램(백엔드 프로그램)
  - 웹프로그래밍 : ASP, PHP, JSP
  - 프레임워크 : Spring, Springboot, Asp.net, Django, Flask

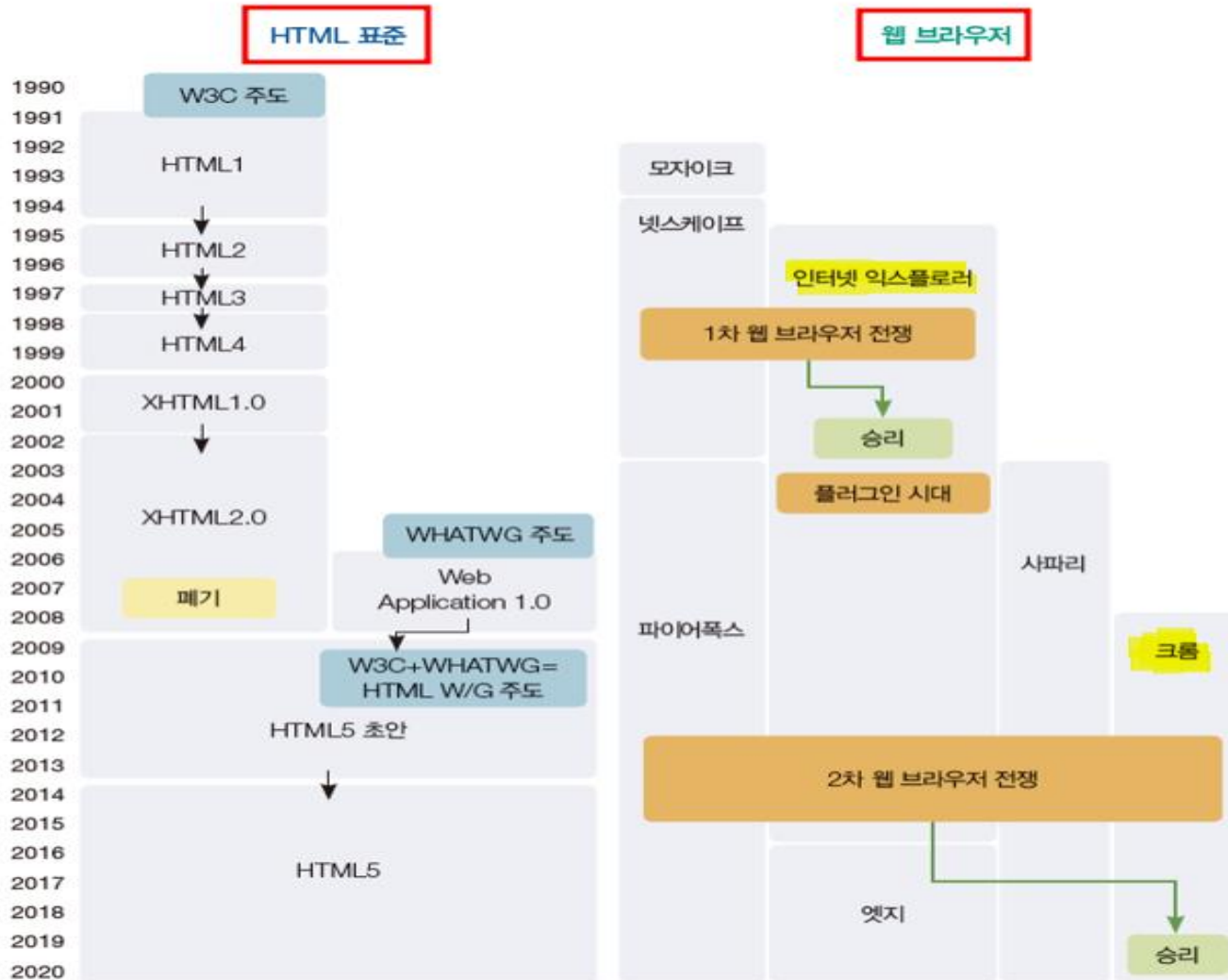
# 웹표준

## ❖ 웹표준 기술



# 웹 표준과 웹 브라우저

## ■ 웹 표준과 웹 브라우저 타임 라인



# 웹개발환경 구축

## ❖ 웹표준 개발환경 구축

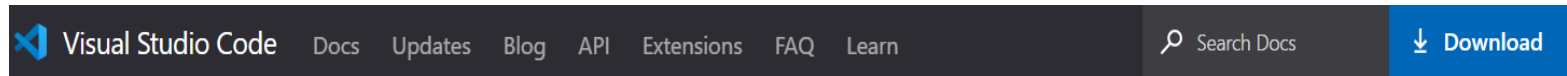
1. 비주얼 스튜디오 코드로 실행

2. Eclipse로 실행

# 웹개발환경 구축

❖ 비주얼 스튜디오 코드

<https://code.visualstudio.com/Download>



## Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



↓ Windows

Windows 10, 11

User Installer	x64	x86	Arm64
System Installer	x64	x86	Arm64
.zip	x64	x86	Arm64
CLI	x64	x86	Arm64



↓ .deb

Debian, Ubuntu

↓ .rpm

Red Hat, Fedora, SUSE

.deb	x64	Arm32	Arm64
.rpm	x64	Arm32	Arm64
.tar.gz	x64	Arm32	Arm64
Snap	Snap Store		
CLI	x64	Arm32	Arm64



↓ Mac

macOS 10.11+

.zip	Intel chip	Apple silicon	Universal
CLI	Intel chip	Apple silicon	



# 웹개발환경 구축

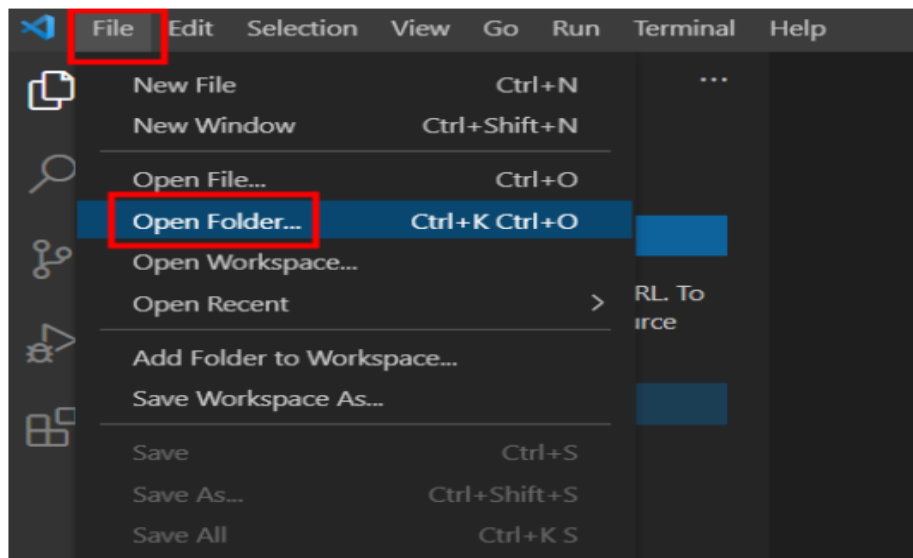
## ❖ 비주얼 스튜디오 코드

### 1. 폴더 생성하기

d드라이브에 webproject 폴더를 생성합니다.

### 2. vscode에서 webproject 폴더 불러오기

vscode의 왼쪽 상단메뉴에서 [File] > Open Folder를 눌러서 webproject폴더를 선택해 줍니다.

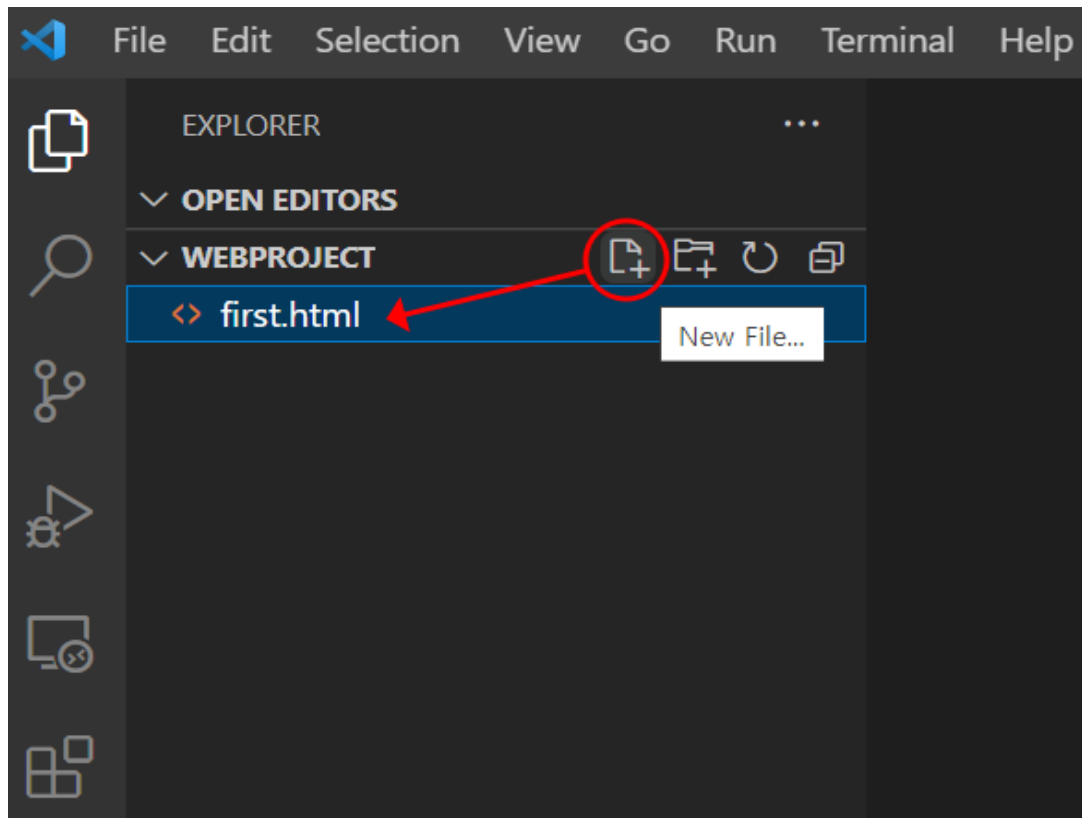


# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드

### 3. first.html 파일 생성하기

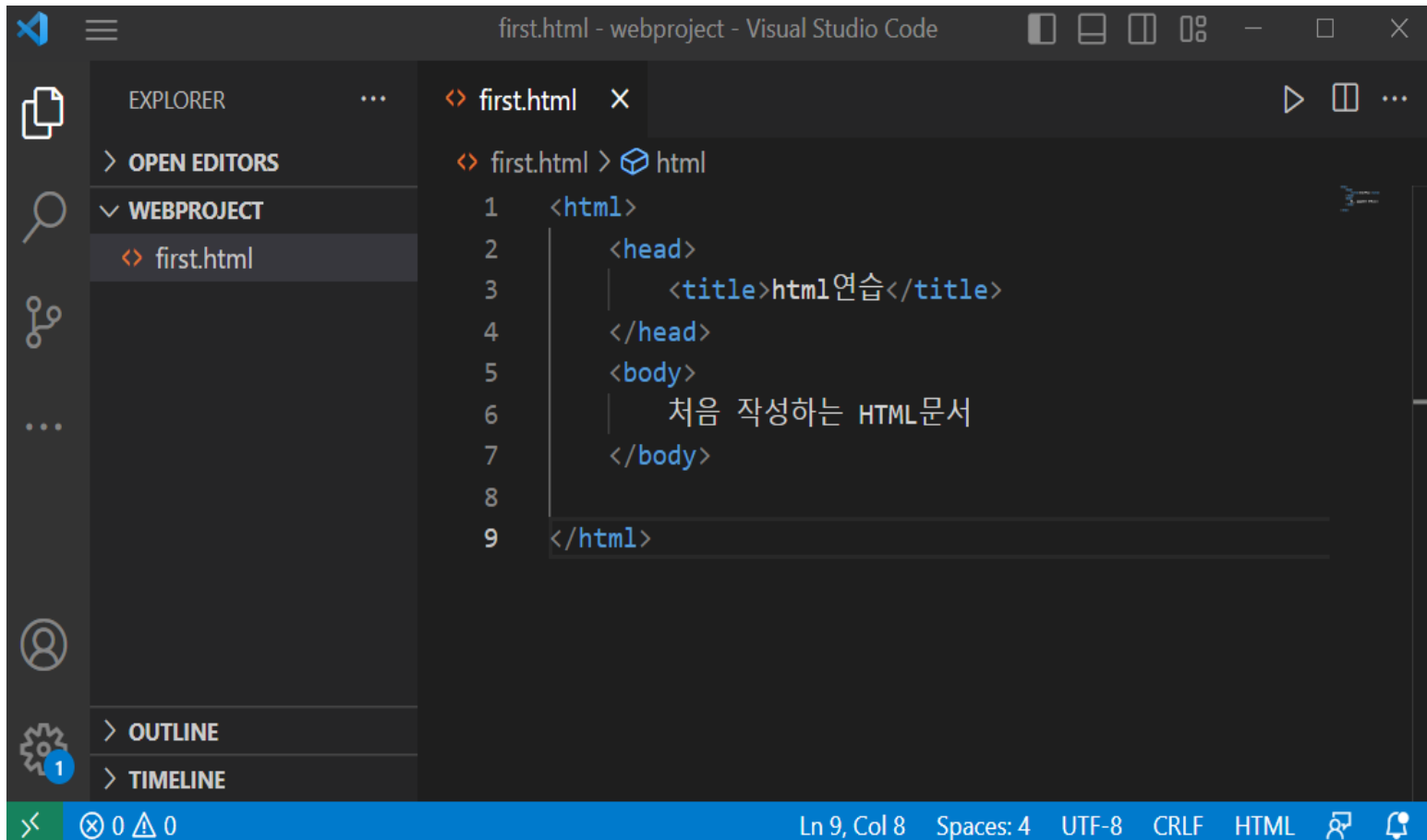
webproject 폴더에 first.html 파일을 생성합니다.



# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드

4. first.html 파일 작성후 저장하기 : 저장 단축키 : Ctrl + S



The screenshot shows the Visual Studio Code interface with a web project open. The Explorer sidebar on the left shows the project structure with 'first.html' selected. The main editor area displays the content of 'first.html', which is an HTML document. The status bar at the bottom indicates the current line and column (Ln 9, Col 8) and other settings like Spaces: 4, UTF-8, CRLF, and HTML.

```
first.html - webproject - Visual Studio Code

EXPLORER
> OPEN EDITORS
v WEBPROJECT
  < first.html

first.html
1 <html>
2   <head>
3     <title>html연습</title>
4   </head>
5   <body>
6     처음 작성하는 HTML문서
7   </body>
8
9 </html>
```

Ln 9, Col 8 Spaces: 4 UTF-8 CRLF HTML

# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드

### 5. first.html 파일 실행

웹브라우저에 d:/webproject/first.html 입력후 실행



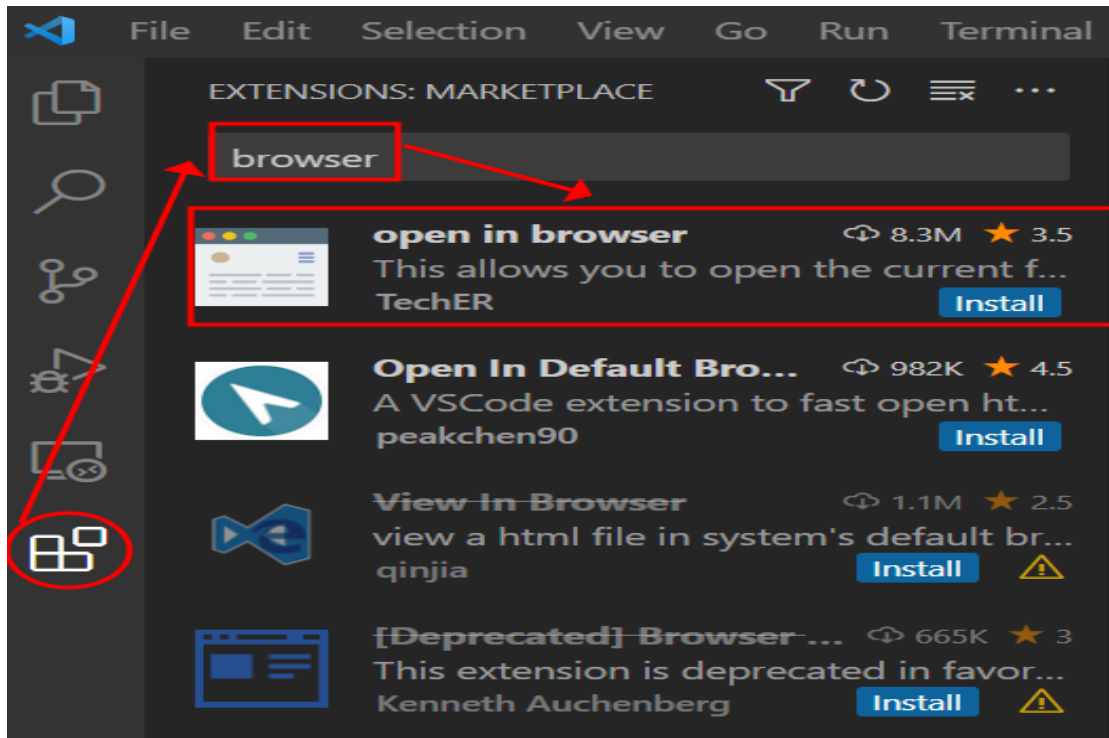
처음 작성하는 HTML문서

# Vscode에서 html실행

## ❖ 비주얼 스튜디오 코드에 확장 프로그램 설치

1. VSCode에 Open in browser 설치하면, VSCode에서 html문서를 바로 실행할 수 있습니다.

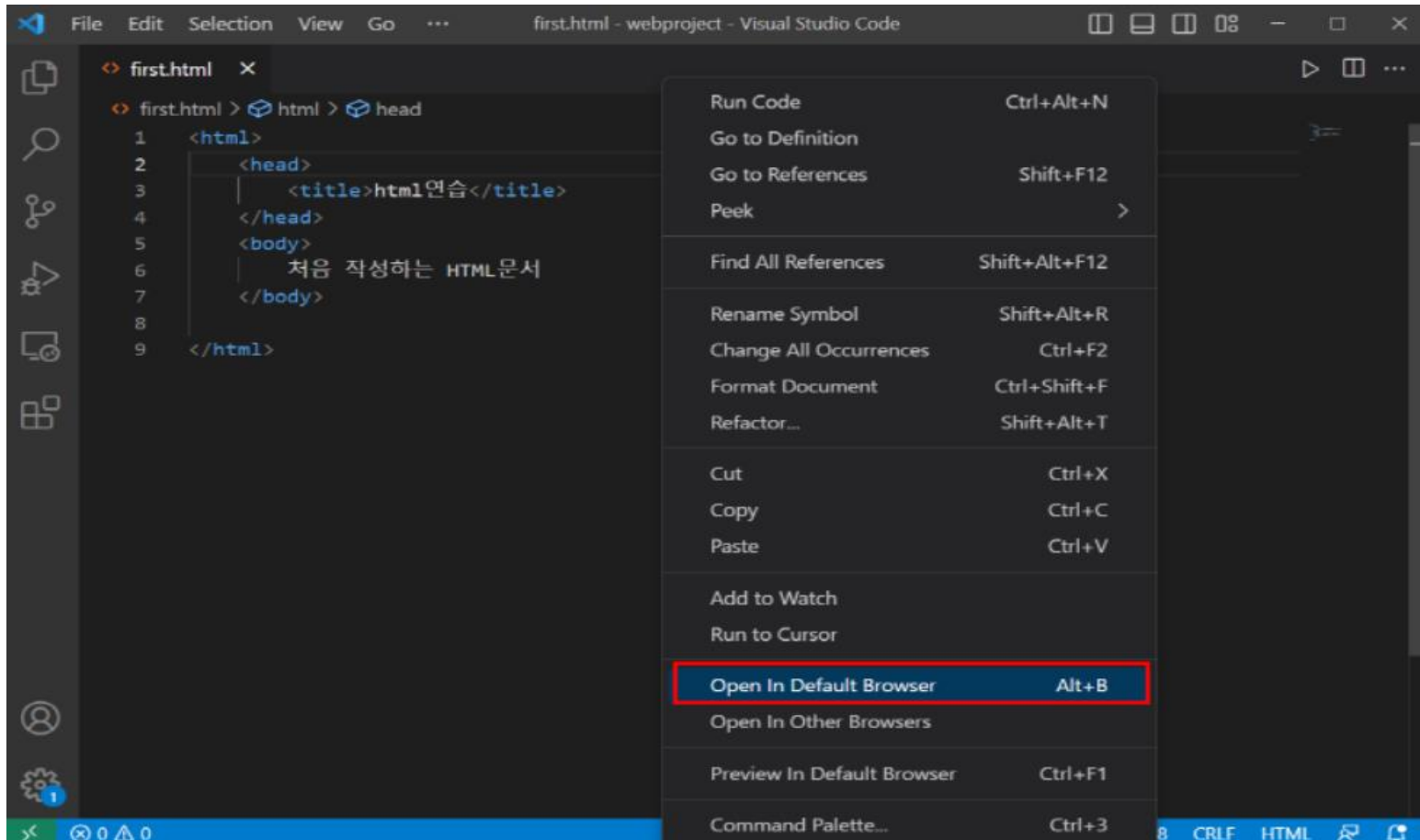
Extension -> **Open in browser** 검색/선택 -> install



# Vscode에서 html실행

## ❖ 비주얼 스튜디오 코드에 확장 프로그램 설치

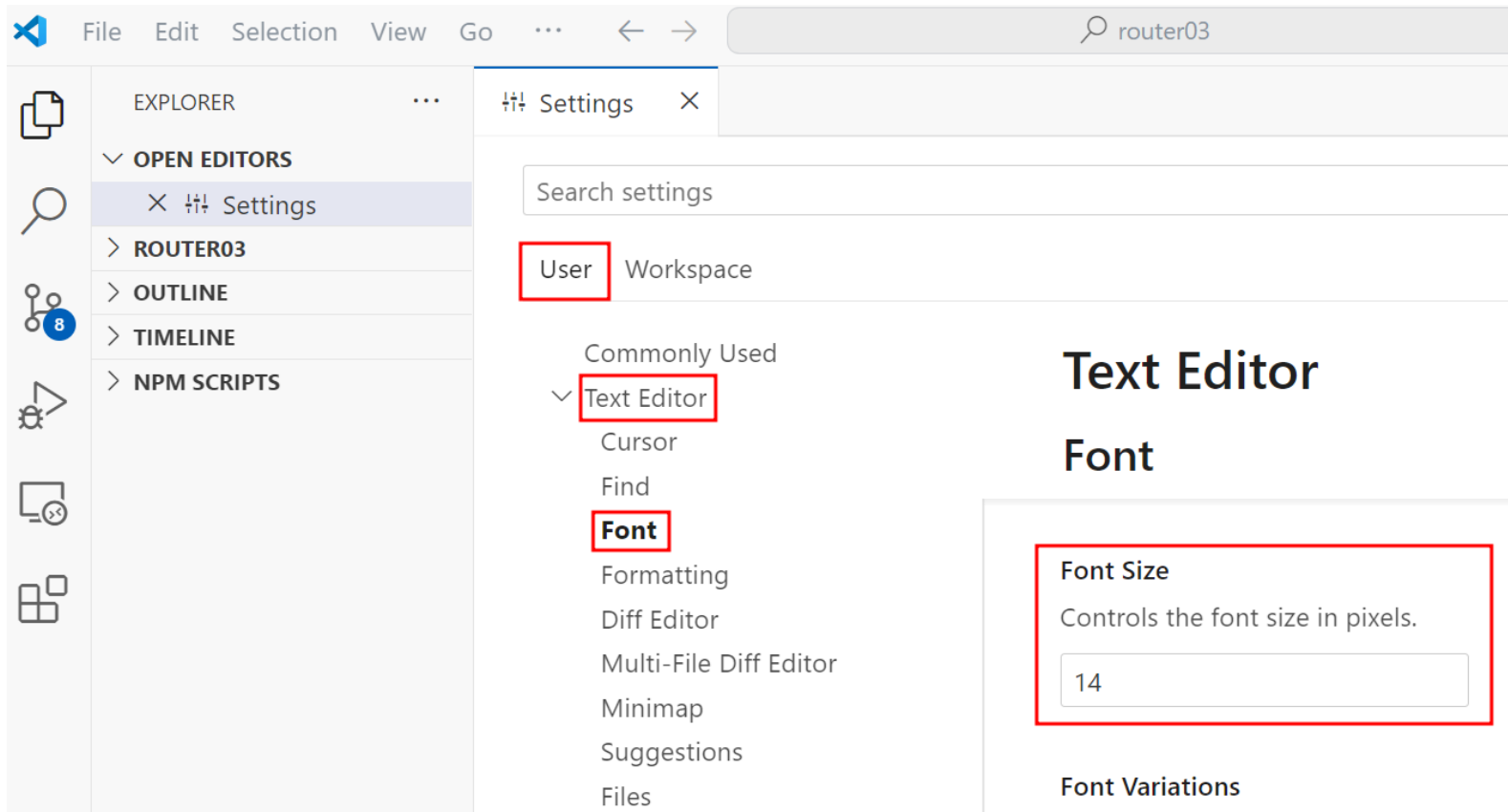
### 2. VSCode에서 html문서를 바로 실행하기



# Vscode에서 font설정

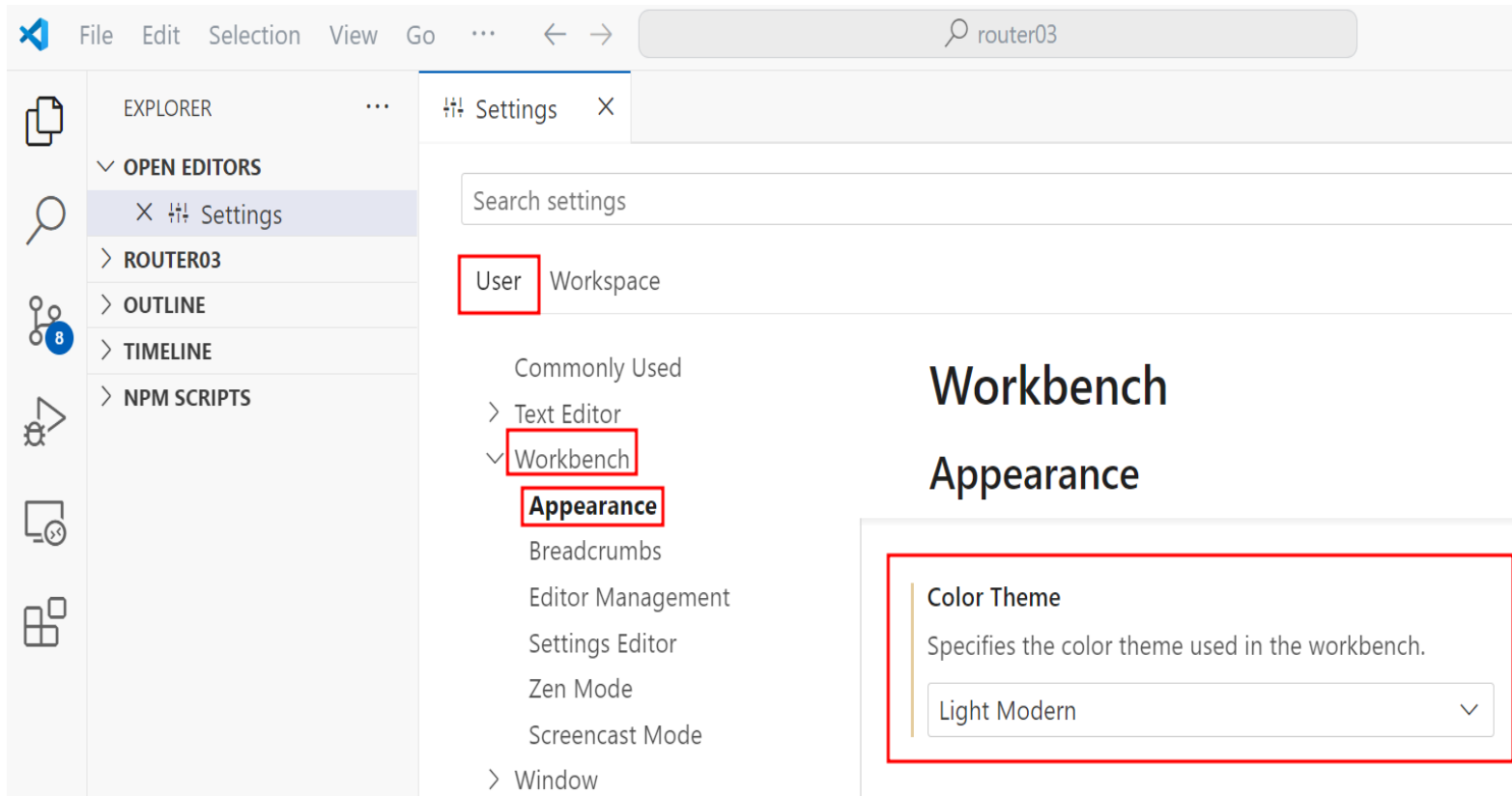
## ❖ Vscode에서 font설정

[File] – Preferences - Settings



# Vscode에서 Theme설정

## ❖ Vscode에서 Theme설정 [File] – Preferences - Settings

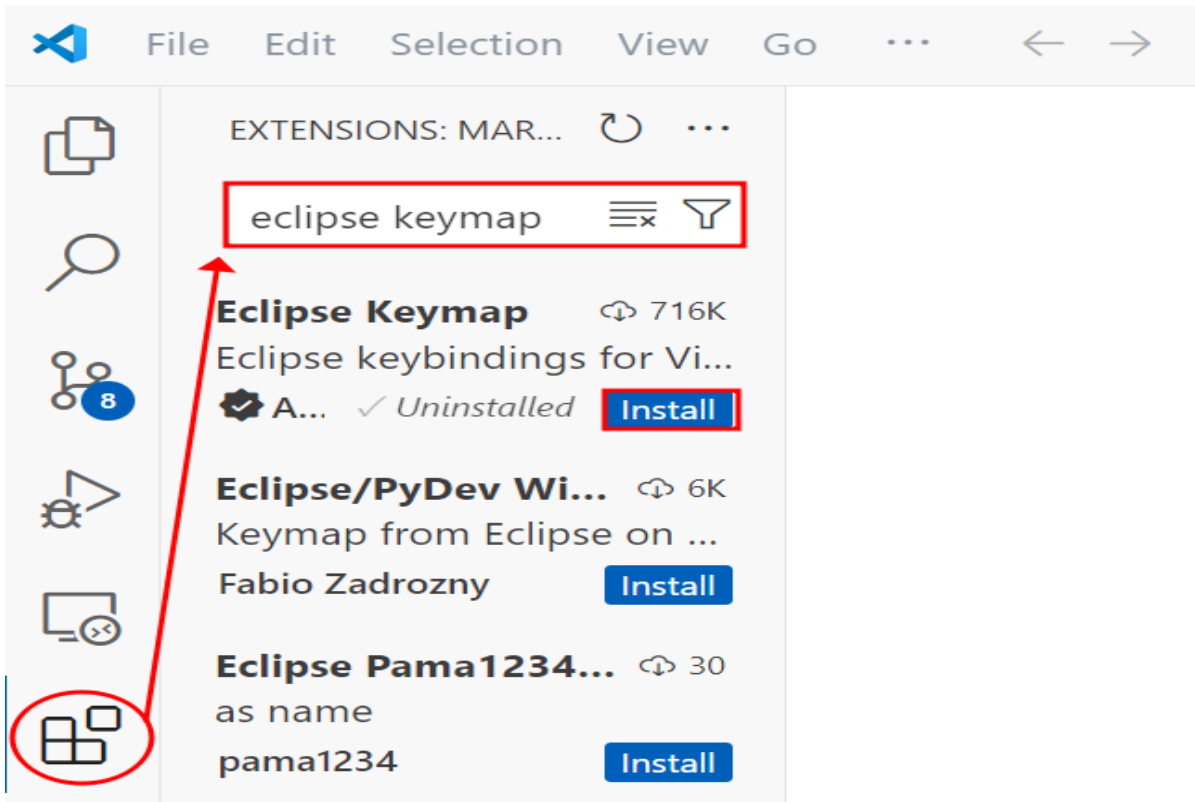




# Vscode에서 Eclipse단축키

## ❖ Vscode에서 Eclipse 단축키 사용하기

Extension버튼 클릭 – eclipse keymap 검색 – Eclipse Keymap install클릭



# Eclipse 단축키

## ❖ Eclipse 단축키

실행 : Ctrl + F11

주석처리 : Ctrl + /

블럭 주석 처리 : Ctrl + Shift + /

블럭 주석 해제 : Ctrl + Shift + \

한줄 복사 : Ctrl + Alt + 아래방향키

한줄 삭제 : Ctrl + d

이동 : Alt + 방향키

자동 정렬 : Ctrl + Shift + F

자동 import : Ctrl + Shift + o (영문 오)

# 웹서버 환경 구축

## ❖ WAS(Web Application Server) 종류

### 1. 오픈소스

**Apache Tomcat** : 아파치 재단에서 관리하는 WAS

**Jetty** : 이클립스 재단에서 관리하며, 임베디드 자바 애플리케이션에서 웹 서비스를 제공한다.

### 2. 상용 소프트웨어

**WebLogic** : 오라클에서 관리하는 WAS

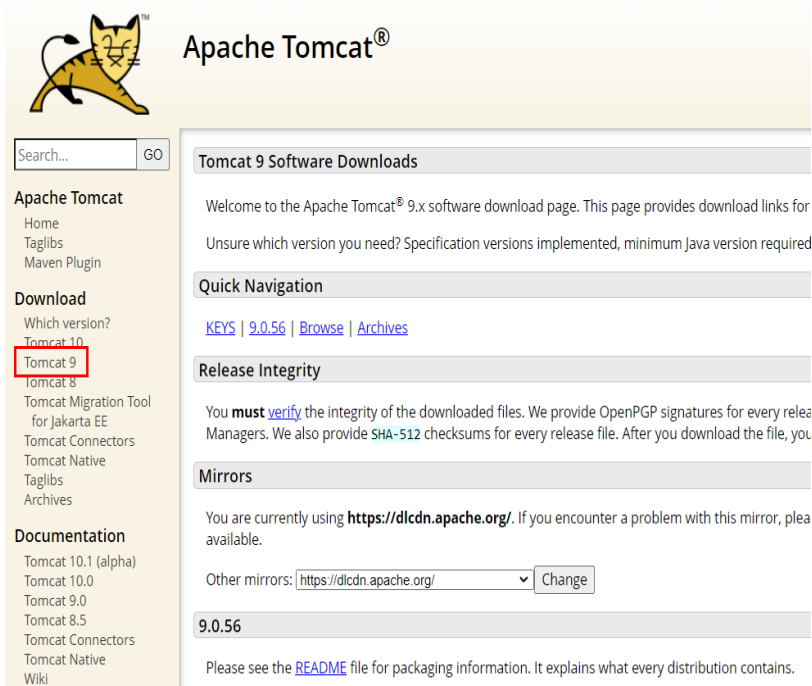
**JBoss** : 레드햇에서 관리하는 WAS

**Jeus** : 티맥스소프트에서 관리하는 제품으로써, 국내에서 많이 사용하고 있다.

# 웹서버 환경 구축

## ❖ Apache Tomcat 다운로드

<http://tomcat.apache.org>



Apache Tomcat®

Search... GO

Apache Tomcat

- Home
- Taglibs
- Maven Plugin

Download

Which version?

- Tomcat 10
- Tomcat 9**
- Tomcat 8
- Tomcat Migration Tool for Jakarta EE
- Tomcat Connectors
- Tomcat Native
- Taglibs
- Archives

Documentation

- Tomcat 10.1 (alpha)
- Tomcat 10.0
- Tomcat 9.0
- Tomcat 8.5
- Tomcat Connectors
- Tomcat Native
- Wiki

Tomcat 9 Software Downloads

Welcome to the Apache Tomcat® 9.x software download page. This page provides download links for Unsure which version you need? Specification versions implemented, minimum Java version required

Quick Navigation

[KEYS](#) | [9.0.56](#) | [Browse](#) | [Archives](#)

Release Integrity

You **must** [verify](#) the integrity of the downloaded files. We provide OpenPGP signatures for every release Managers. We also provide [SHA-512](#) checksums for every release file. After you download the file, you

Mirrors

You are currently using <https://d1cdn.apache.org/>. If you encounter a problem with this mirror, please available.

Other mirrors:

9.0.56

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

9.0.56

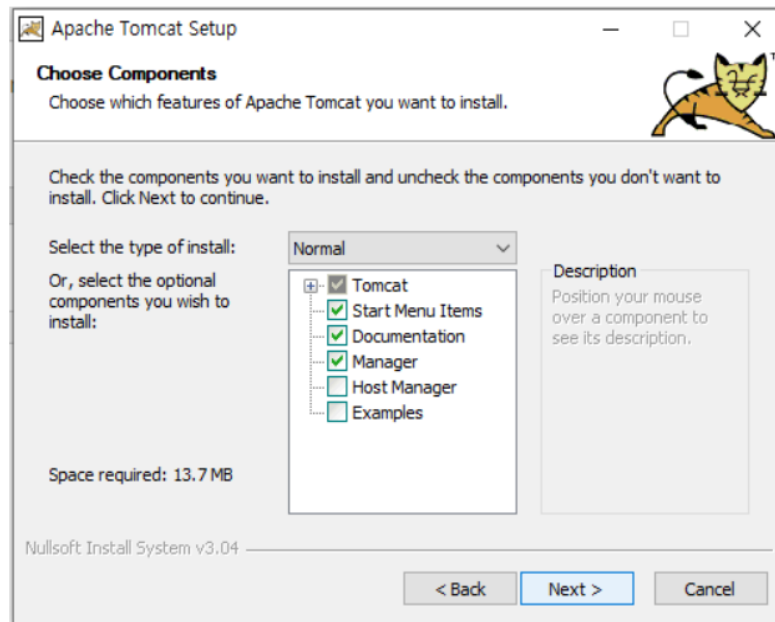
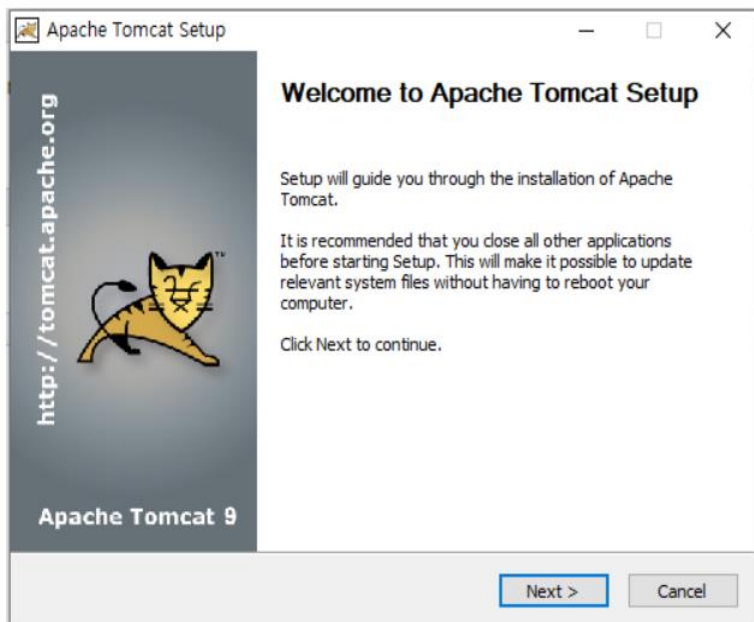
Please see the [README](#) file for packaging information. It explains what every distribution contains.

### 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 \(pgp, sha512\)](#)

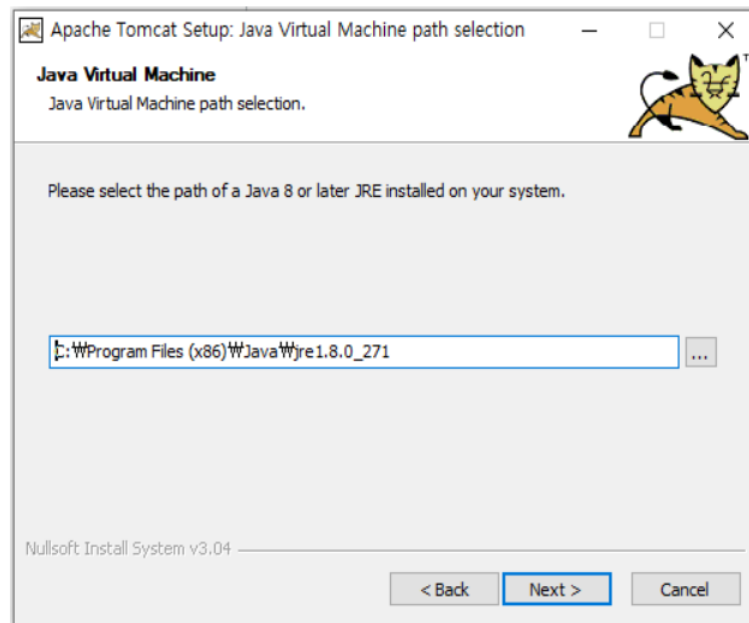
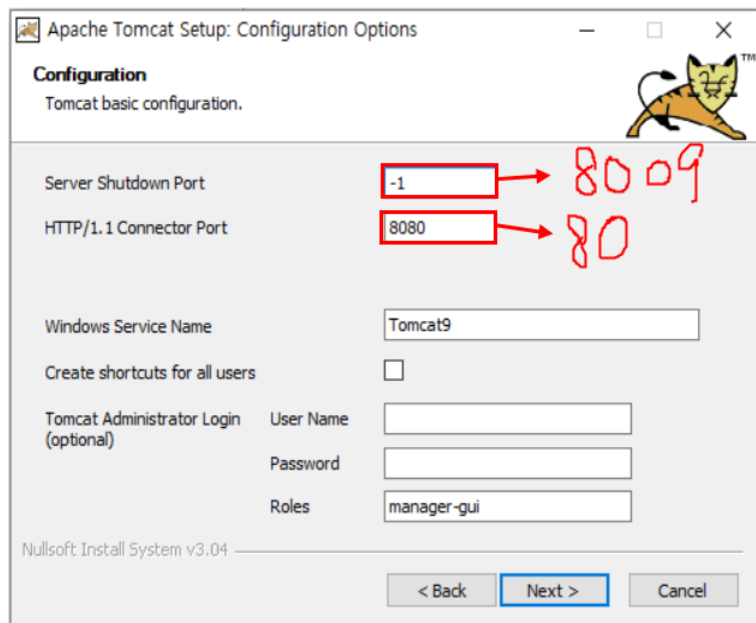
# 웹서버 환경 구축

## ❖ Apache Tomcat 설치



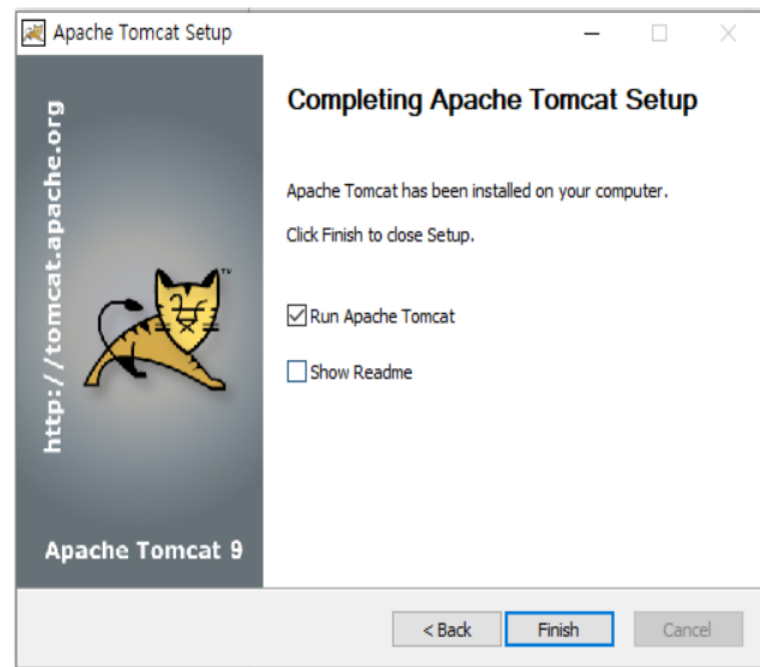
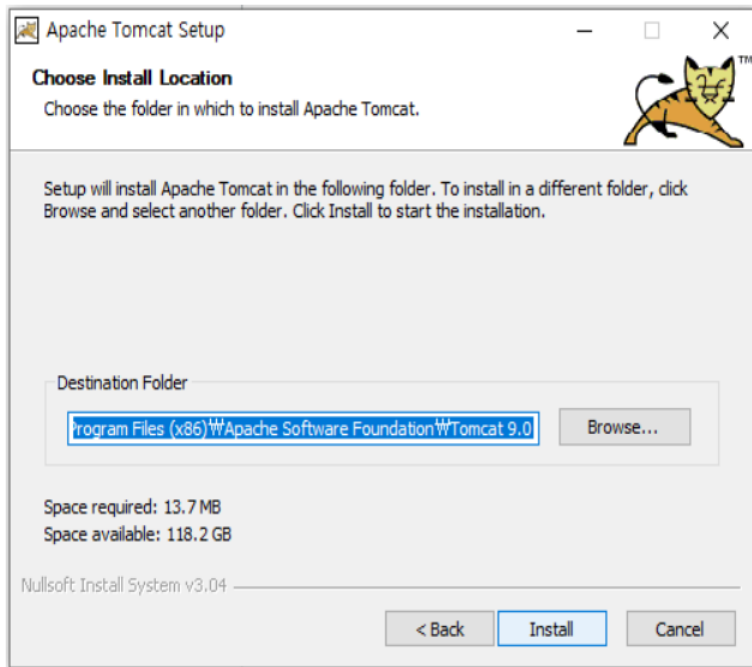
# 웹서버 환경 구축

## ❖ Apache Tomcat 설치 : port 변경



# 웹서버 환경 구축

## ❖ Apache Tomcat 설치




# 웹서버 환경 구축


❖ 웹브라우저로 접속 : <http://localhost:80>

C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ROOT\index.jsp 실행

[Home](#) [Documentation](#) [Configuration](#) [Examples](#) [Wiki](#) [Mailing Lists](#) [Find Help](#)

**Apache Tomcat/9.0.40** 

If you're seeing this, you've successfully installed Tomcat. Congratulations!



**Recommended Reading:**  
[Security Considerations How-To](#)  
[Manager Application How-To](#)  
[Clustering/Session Replication How-To](#)

[Server Status](#)  
[Manager App](#)  
[Host Manager](#)

**Developer Quick Start**  
[Tomcat Setup](#) [Realms & AAA](#) [Examples](#) [Servlet Specifications](#)  
[First Web Application](#) [JDBC DataSources](#) [Tomcat Versions](#)

**Managing Tomcat**

For security, access to the [manager webapp](#) is restricted. Users are defined in:

```
$CATALINA_HOME/conf/tomcat-users.xml
```

In Tomcat 9.0 access to the manager application is split between different users.  
[Read more...](#)

**Release Notes**  
**Changelog**  
**Migration Guide**  
**Security Notices**

**Documentation**

**[Tomcat 9.0 Documentation](#)**  
**[Tomcat 9.0 Configuration](#)**  
**[Tomcat Wiki](#)**

Find additional important configuration information in:

```
$CATALINA_HOME/RUNNING.txt
```

Developers may be interested in:

[Tomcat 9.0 Bug Database](#)  
[Tomcat 9.0 JavaDocs](#)  
[Tomcat 9.0 Git Repository at GitHub](#)

**Getting Help**

**FAQ and Mailing Lists**

The following mailing lists are available:

[tomcat-announce](#)  
Important announcements, releases, security vulnerability notifications. (Low volume).

[tomcat-users](#)  
User support and discussion

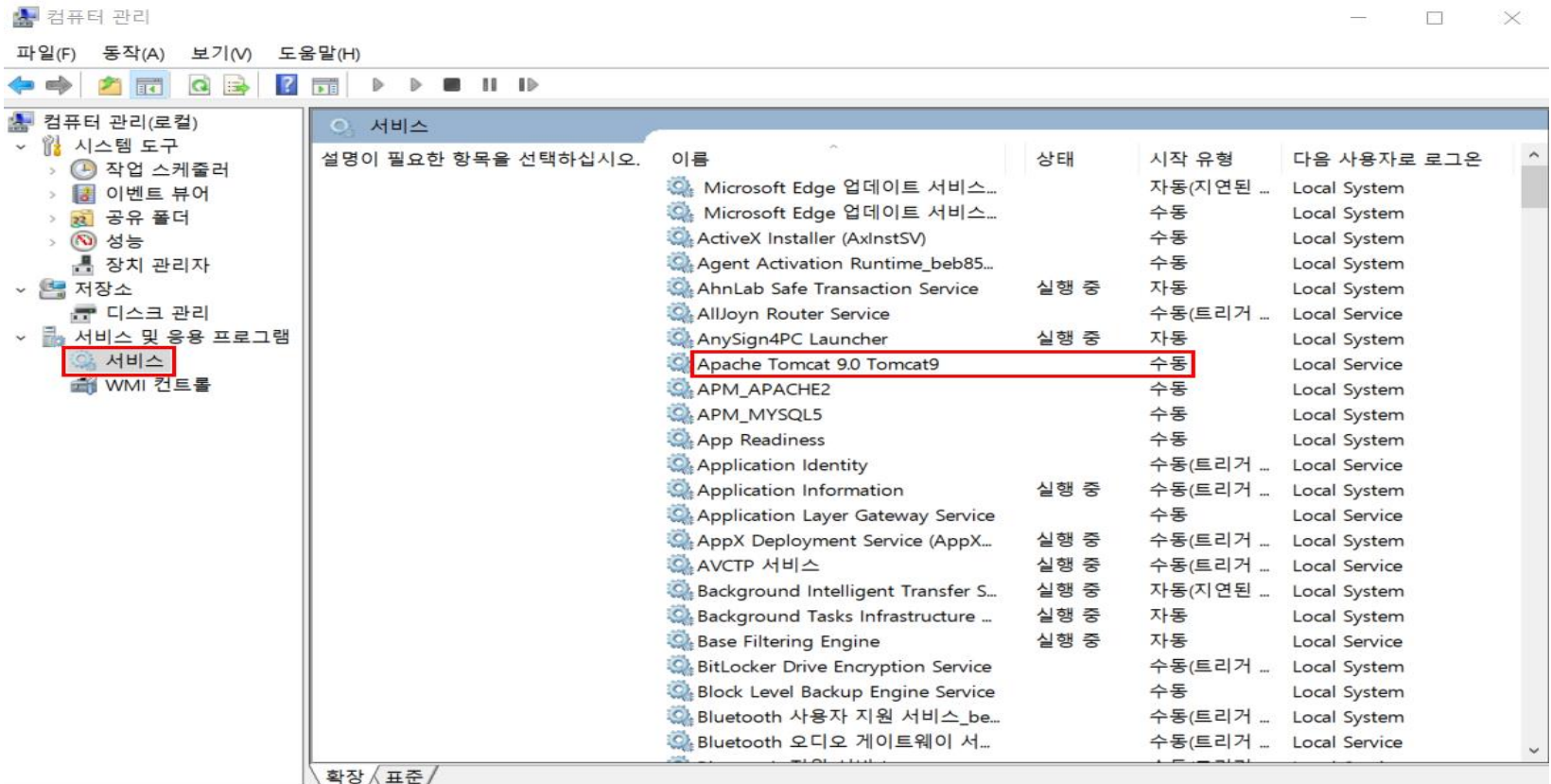
[taglibs-user](#)  
User support and discussion for [Apache Taglibs](#)

[tomcat-dev](#)  
Development mailing list, including commit messages



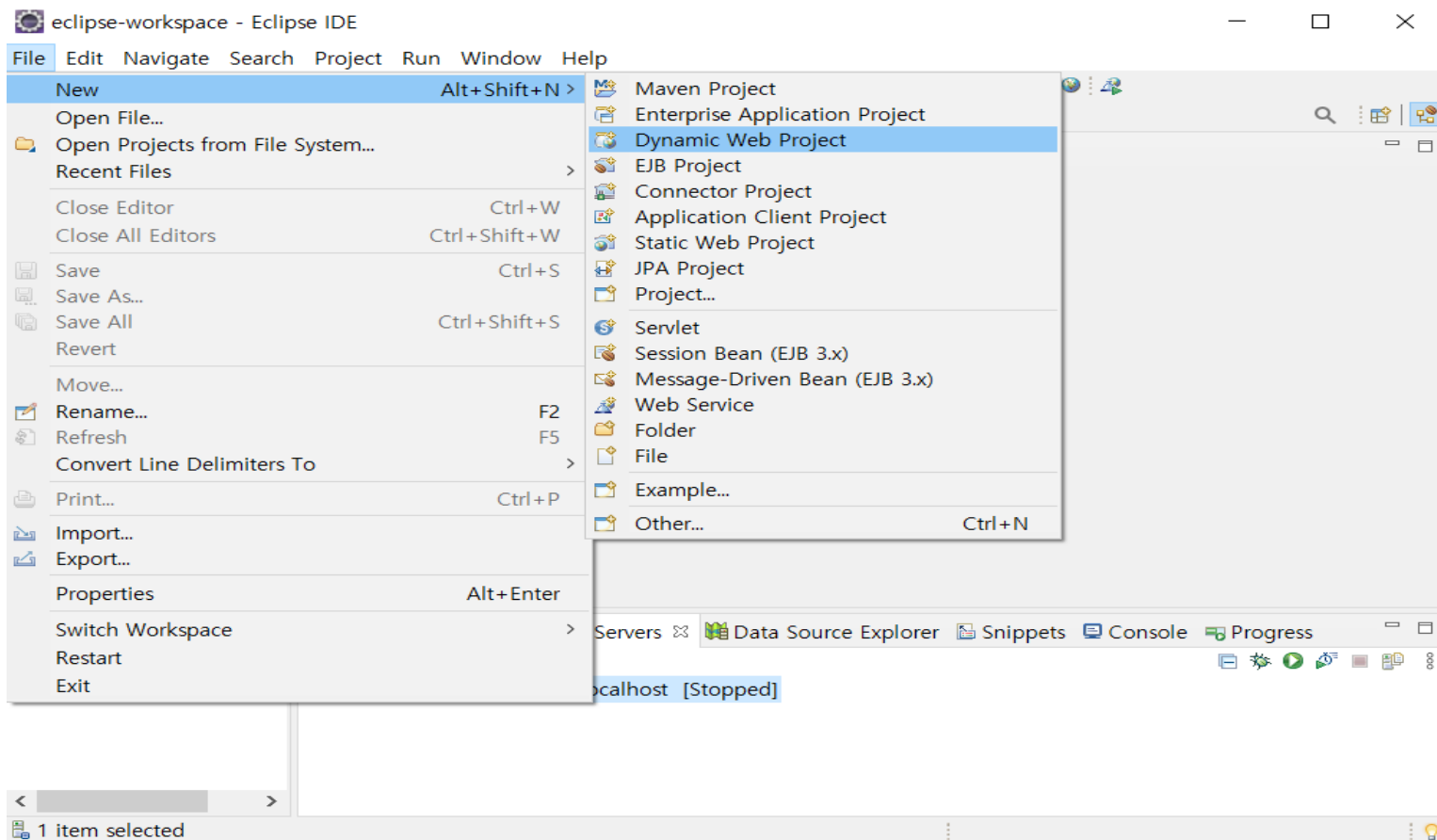
# 웹서버 환경 구축

## ❖ Apache Tomcat 서비스 시작 / 중지 [내컴퓨터] - 우클릭후 [관리] 선택



# 웹서버 환경 구축

## ❖ 웹프로젝트 생성



# 웹서버 환경 구축

## ❖ 웹프로젝트 생성

New Dynamic Web Project

**Dynamic Web Project**  
Create a standalone Java-based Web Application or add it to a new or existing Enterprise Application.

Project name: web

Project location  
☒ Use default location  
Location: C:\Users\giduc\workspace-java11\web Browse...

Target runtime  
Apache Tomcat v9.0 New Runtime...

Dynamic web module version  
4.0

Configuration  
Default Configuration for Apache Tomcat v9.0 Modify...  
A good starting point for working with Apache Tomcat v9.0 runtime. Additional facets can later be installed to add new functionality to the project.

EAR membership  
☐ Add project to an EAR  
EAR project name: EAR New Project...

Working sets  
☐ Add project to working sets New...  
Working sets: Select...

New Server Runtime Environment

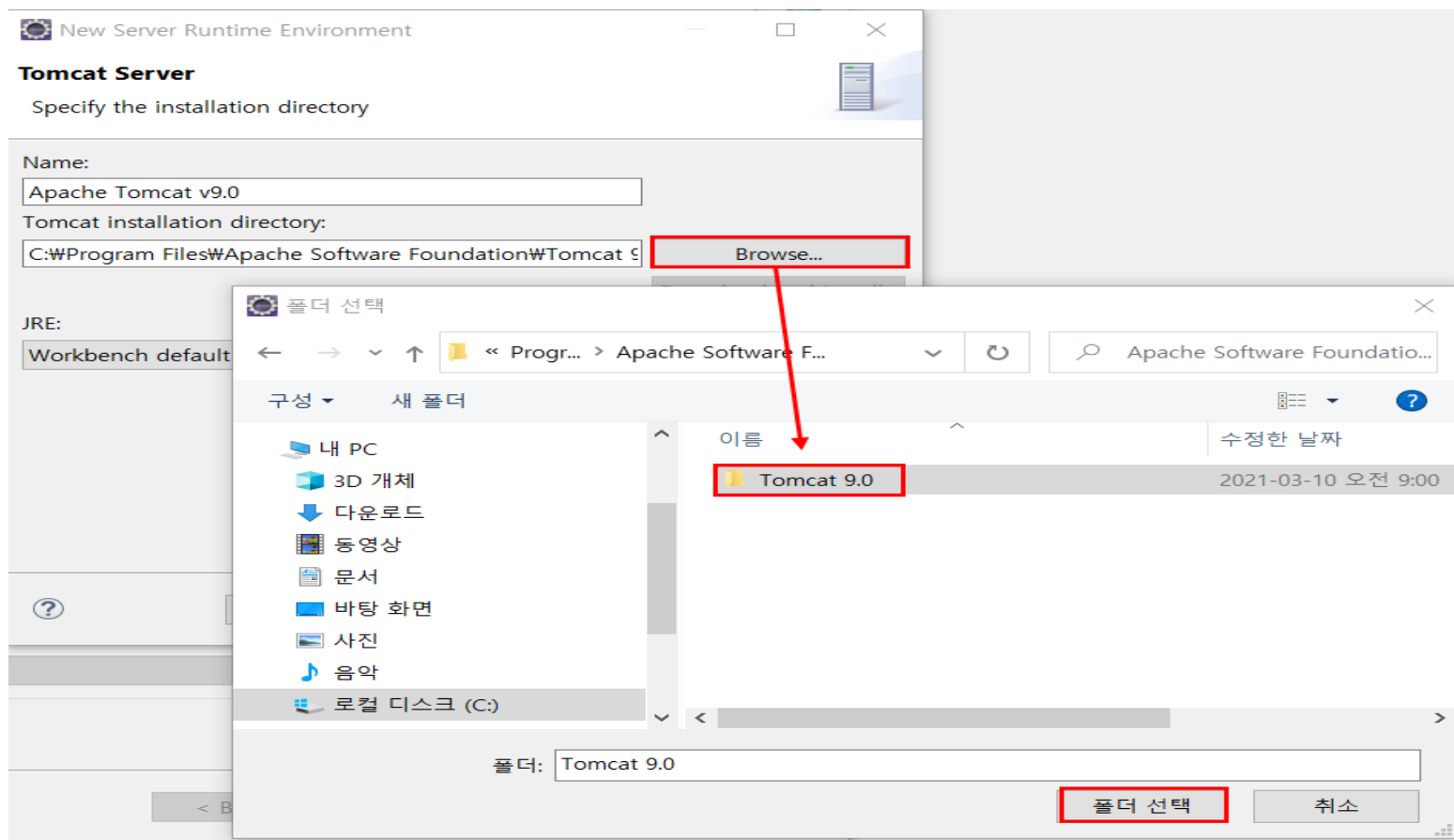
**New Server Runtime Environment**  
Define a new server runtime environment

Select the type of runtime environment:  
type filter text  
Apache Tomcat v8.5  
Apache Tomcat v9.0  
Apache Tomcat v10.0  
Apache Tomcat v10.1  
> Basic  
> IBM  
Apache Tomcat v9.0 supports J2EE 1.2, 1.3, 1.4, and Java EE 5, 6, 7, and 8 Web modules.  
☐ Create a new local server

? < Back Next > Finish Cancel

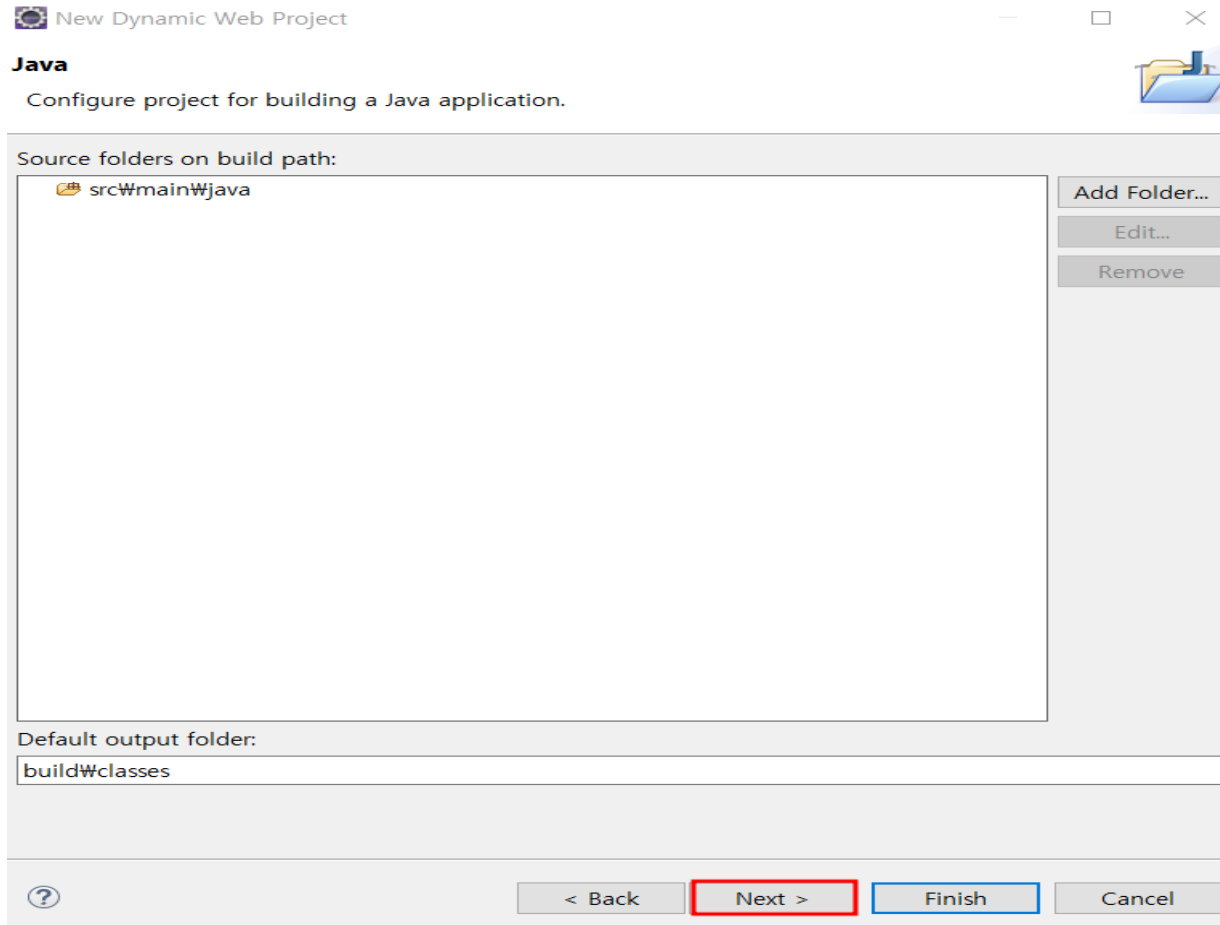
# 웹서버 환경 구축

## ❖ 웹프로젝트 생성



# 웹서버 환경 구축

## ❖ 웹프로젝트 생성



# 웹서버 환경 구축

## ❖ 웹프로젝트 생성


New Dynamic Web Project

**Web Module**  
Configure web module settings.

Context root:

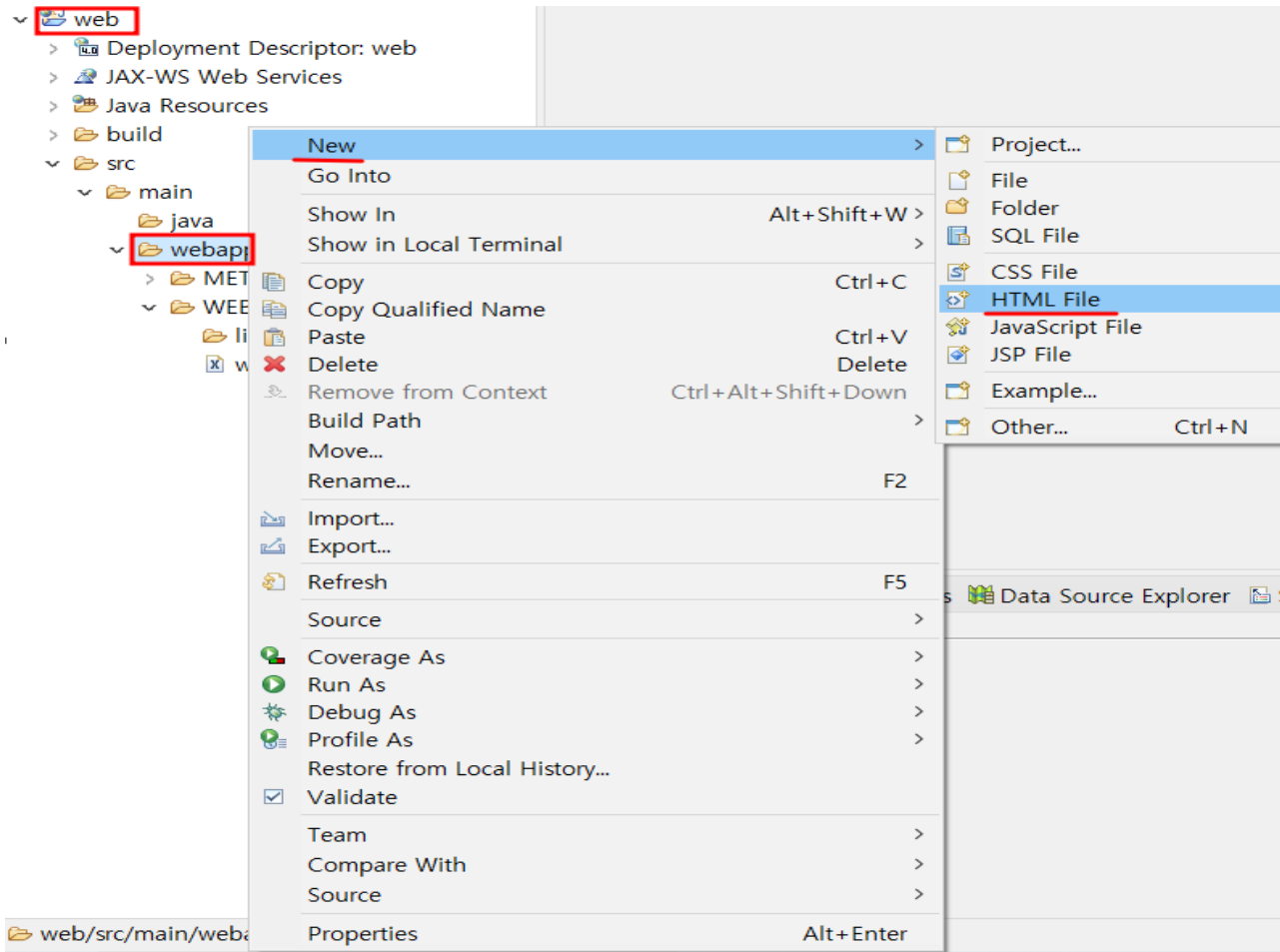
Content directory:

☒ Generate web.xml deployment descriptor



# html 파일 생성

## ❖ index.html 파일 생성



# html 파일 생성

## ❖ index.html 파일 생성

```
index.html ×  
1 <!DOCTYPE html>  
2 <html>  
3 <head>  
4 <meta charset="UTF-8">  
5 <title>Insert title here</title>  
6 </head>  
7 <body>  
8  
9 처음 작성하는 HTML문서  
10  
11 </body>  
12 </html>
```



# html 파일 실행

## ❖ index.html 파일 실행

