



# 웹표준 환경구축

안 화 수

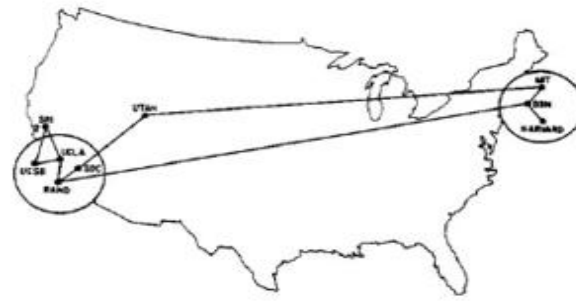
# 인터넷과 웹

## ❖ 인터넷의 시작

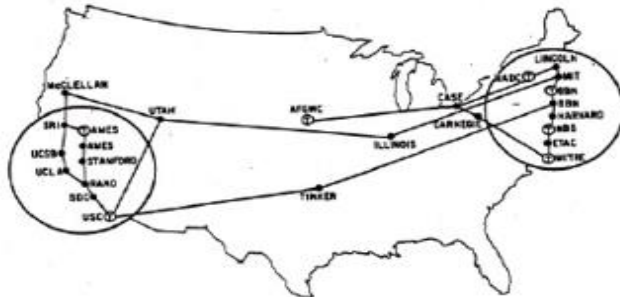
- 미국의 신기술을 연구하는 ARPA에서 현재 웹의 모태가 되는 아파넷<sub>ARPANET</sub>을 1969년에 개발



1969년 12월



1970년 6월



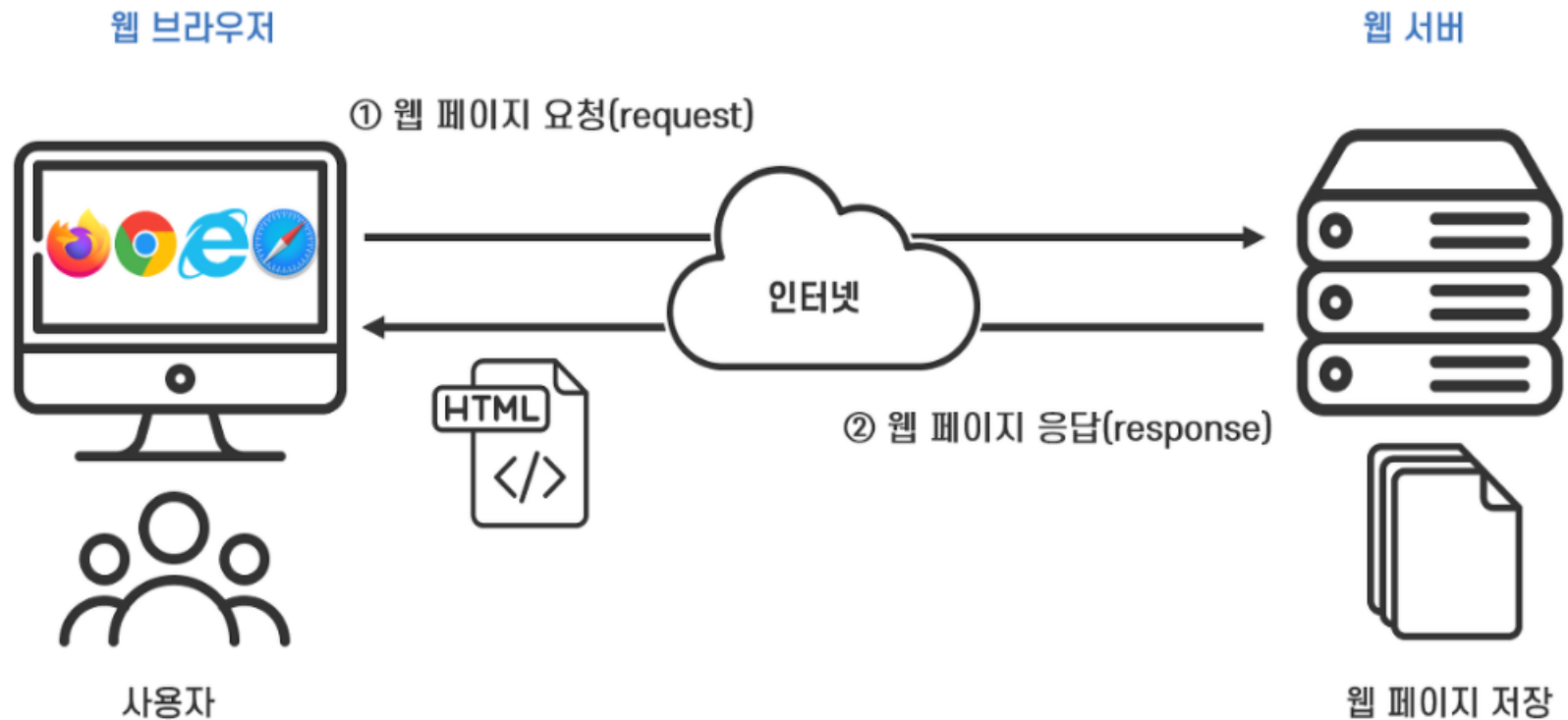
1972년 3월



1977년 7월

# 인터넷과 웹

## ❖ 웹 브라우저와 웹 서버



# 인터넷과 웹

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

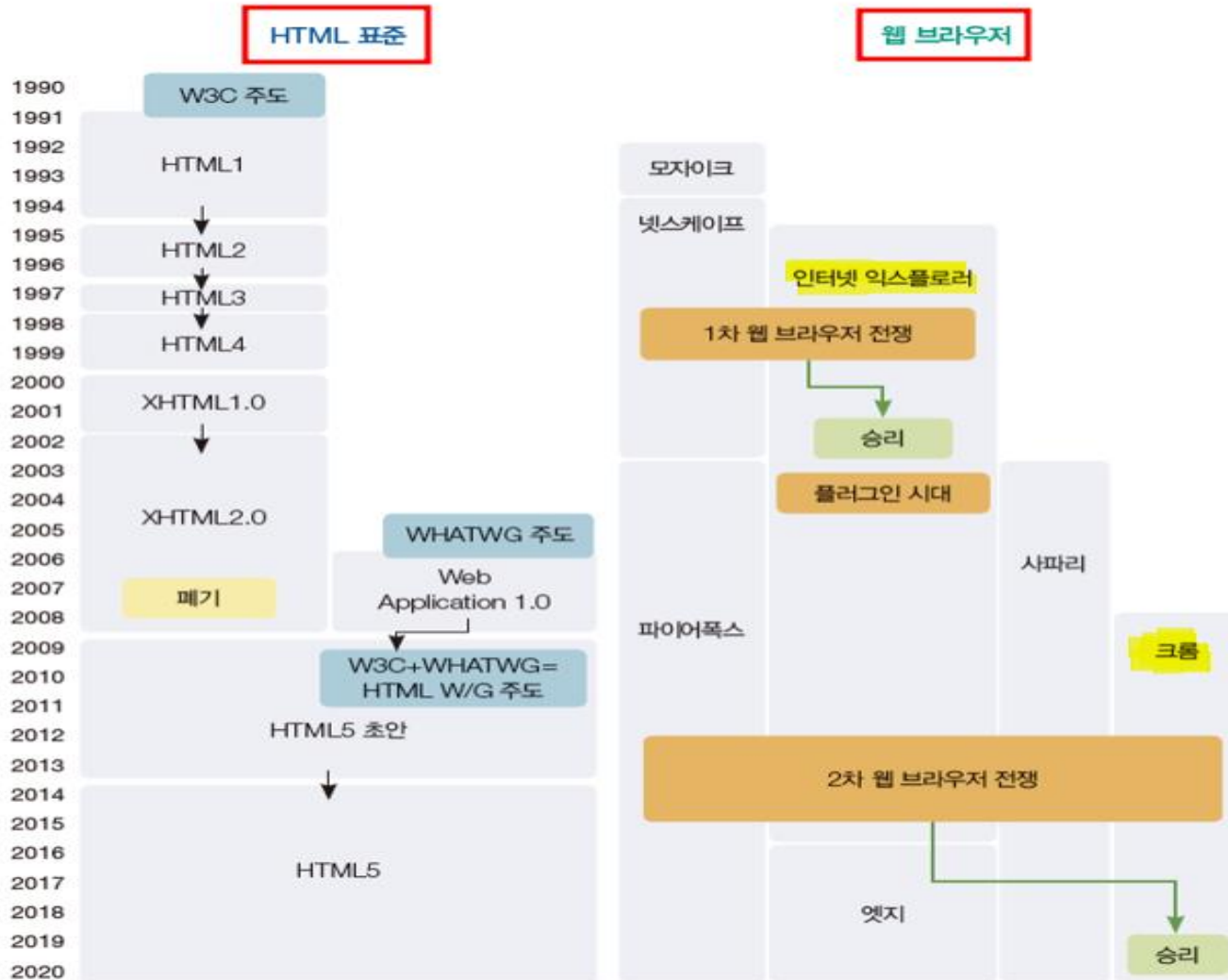
# 웹표준

## ❖ 웹표준 기술



# 웹 표준과 웹 브라우저

## ■ 웹 표준과 웹 브라우저 타임 라인



# 웹개발환경 구축

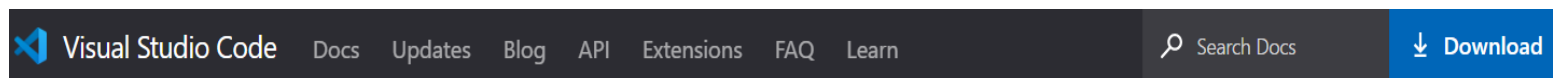
## ❖ 웹표준 개발환경 구축

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.

설치위치 : C:\Users\user\AppData\Local\Programs\Microsoft VS Code

The download page layout features three main platform sections, each with an icon at the top: a Windows logo for Windows, a Tux penguin for Linux, and an Apple logo for Mac.

- Windows:** A blue button with a download icon, the text 'Windows', and 'Windows 10, 11' below it. Below the button is a list of installation options: 'User Installer', 'System Installer', '.zip', and 'CLI'. Each option has three buttons for 'x64', 'x86', and 'Arm64'. The 'x64' button for 'User Installer' is circled in red.
- Linux:** Two blue buttons. The first has a download icon, '.deb', and 'Debian, Ubuntu' below it. The second has a download icon, '.rpm', and 'Red Hat, Fedora, SUSE' below it. Below these are lists of installation options: '.deb', '.rpm', '.tar.gz', 'Snap', and 'CLI'. Each option has three buttons for 'x64', 'Arm32', and 'Arm64'. The 'x64' button for '.deb' is circled in red.
- Mac:** A blue button with a download icon, 'Mac', and 'macOS 10.11+' below it. Below the button is a list of installation options: '.zip', 'CLI', and 'CLI'. Each option has three buttons for 'Intel chip', 'Apple silicon', and 'Universal'. The 'Intel chip' button for '.zip' is circled in red.



# 웹개발환경 구축

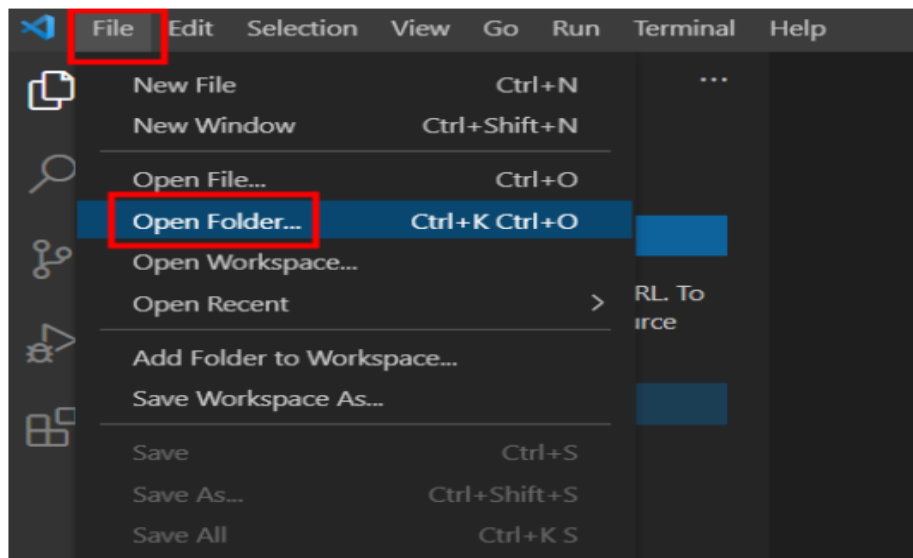
## ❖ 비주얼 스튜디오 코드

### 1. 폴더 생성하기

d드라이브에 webproject 폴더를 생성합니다.

### 2. vscode에서 webproject 폴더 불러오기

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

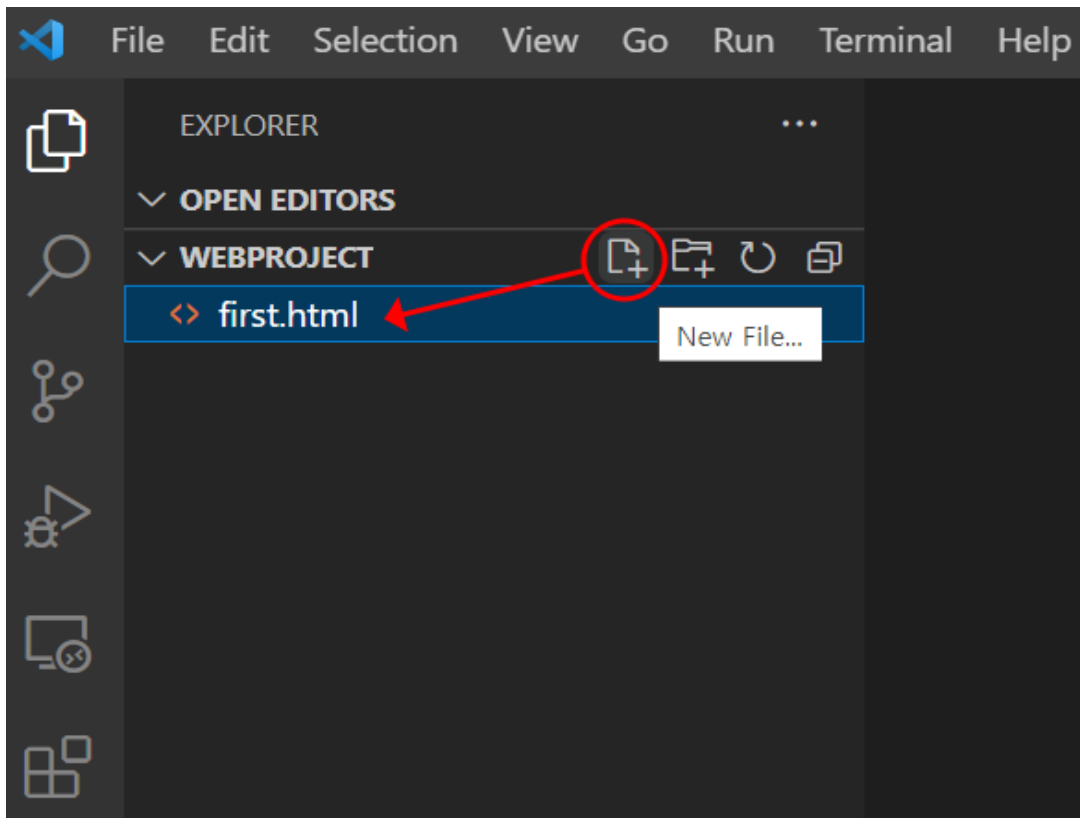


# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드

### 3. first.html 파일 생성하기

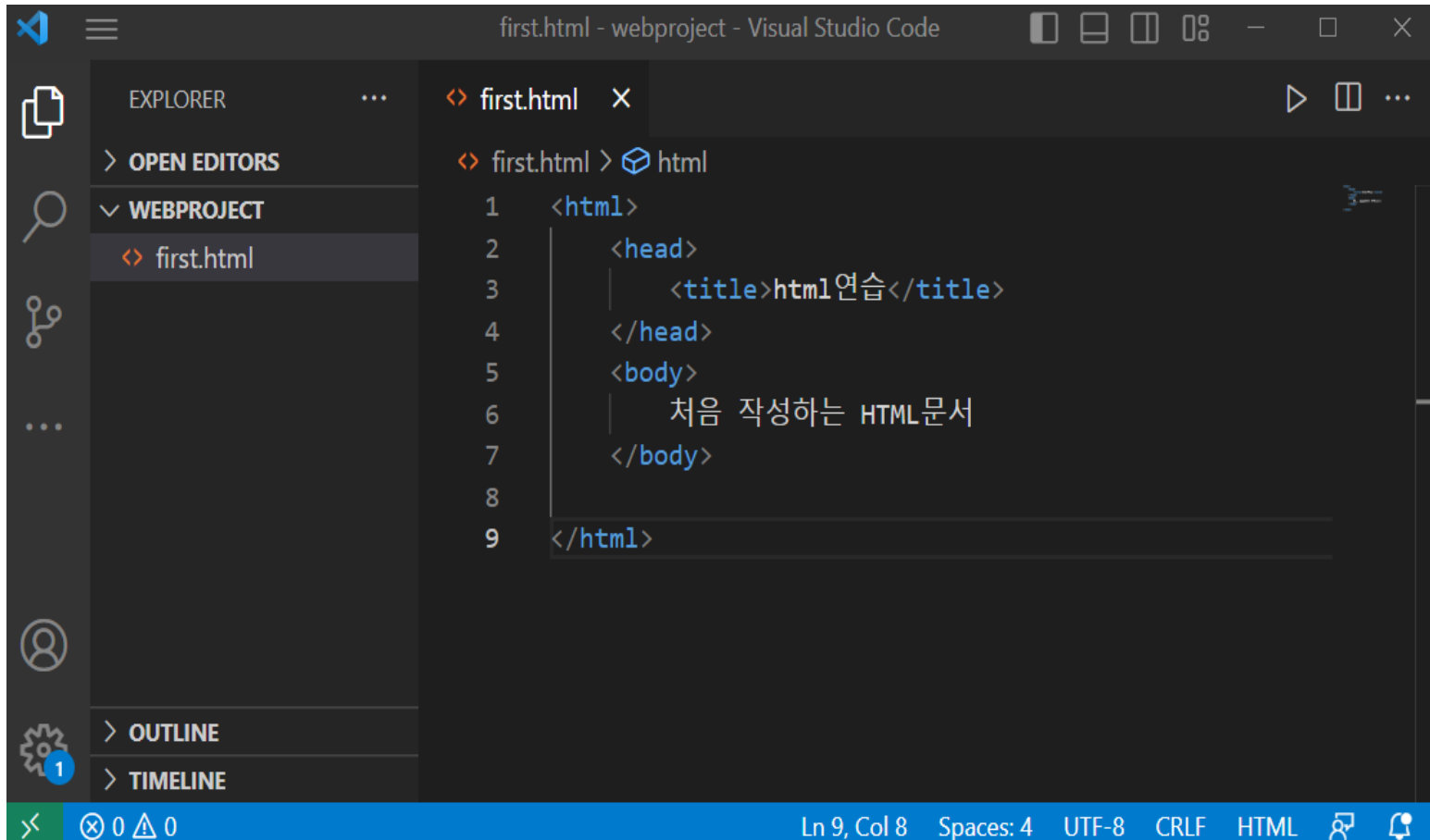
d드라이브에 webproject 폴더를 생성합니다.



# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드

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



The screenshot shows the Visual Studio Code interface with a web project. The Explorer sidebar on the left shows a 'WEBPROJECT' folder containing 'first.html'. The main editor area displays the content of 'first.html', which is an HTML document. The code is as follows:

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

The status bar at the bottom indicates the current position is Line 9, Column 8, with 4 spaces, UTF-8 encoding, CRLF line endings, and the HTML language mode selected.

# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드

### 5. first.html 파일 실행

웹브라우저에 d:/webproject/first.html 입력후 실행



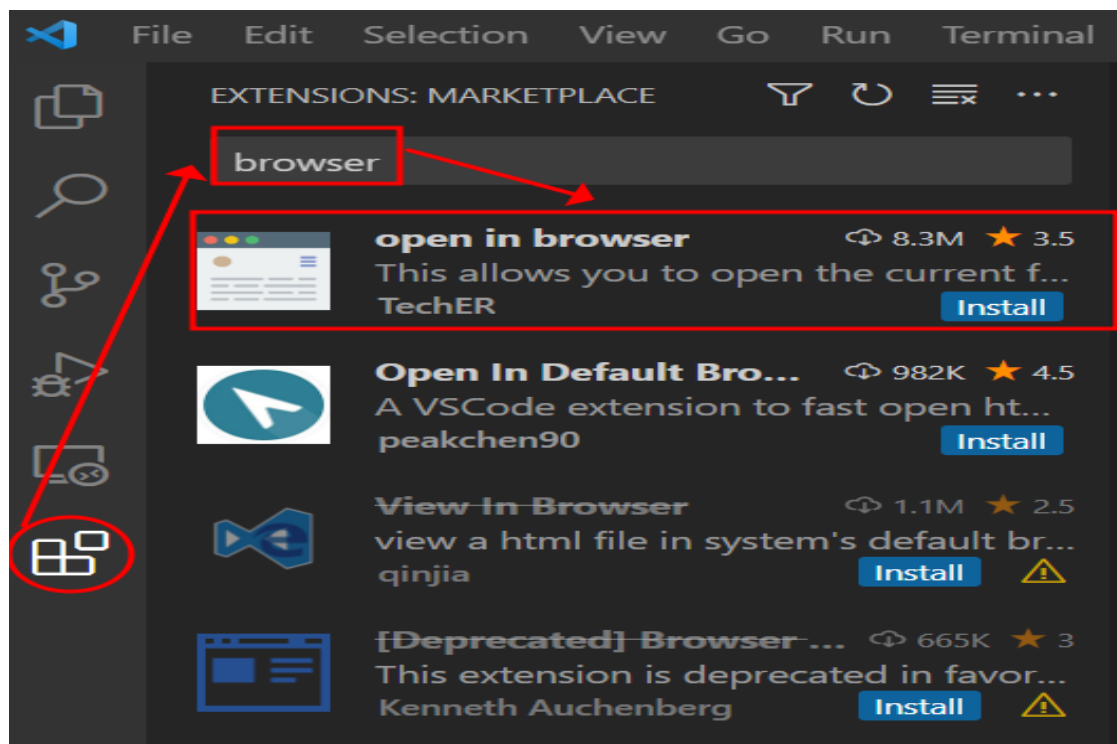
처음 작성하는 HTML문서

# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드에 확장 프로그램 설치

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

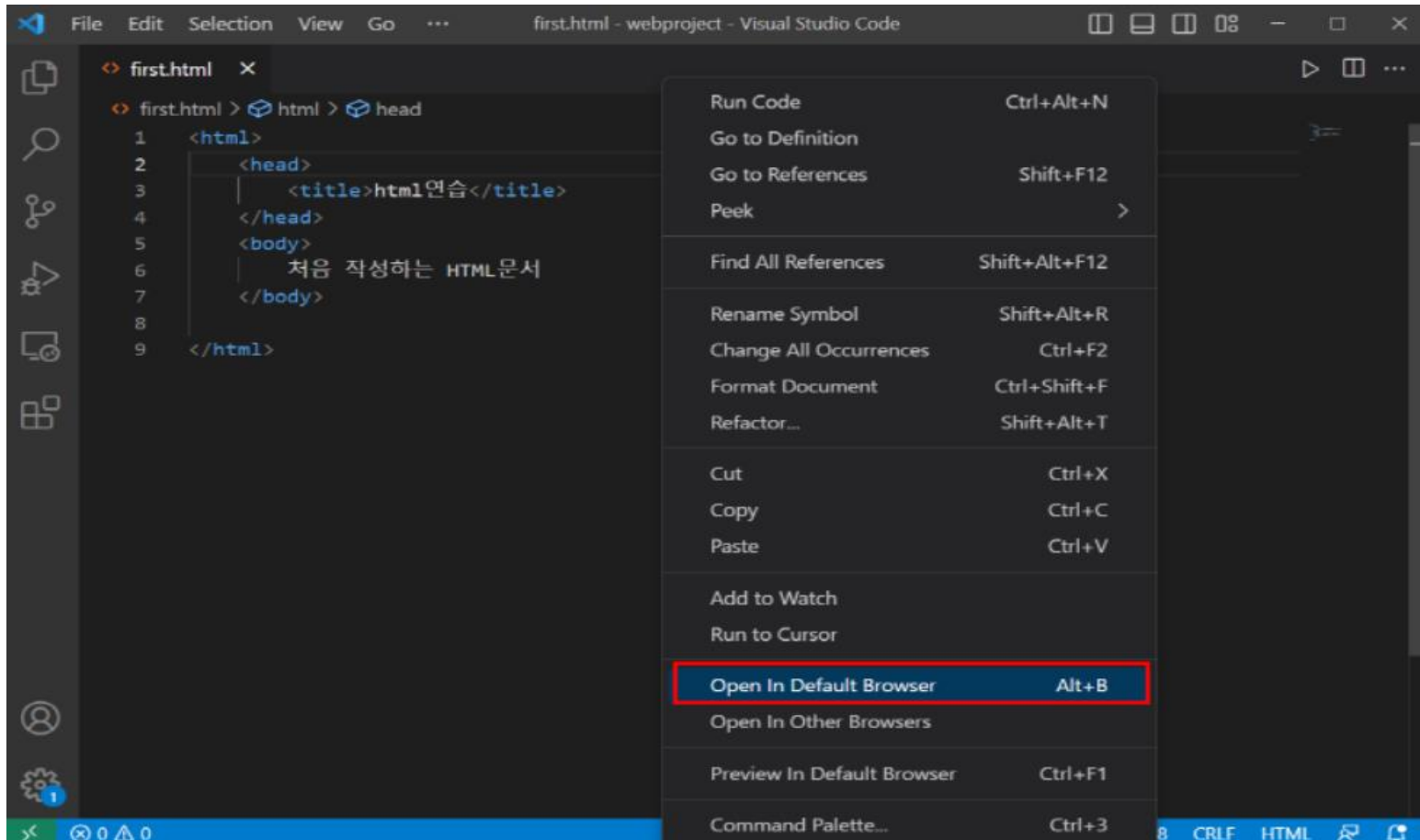
Extension -> **Open in browser** 검색/선택 -> install



# 웹개발환경 구축

## ❖ 비주얼 스튜디오 코드에 확장 프로그램 설치

### 2. VSCode에서 html문서를 바로 실행하기



# 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

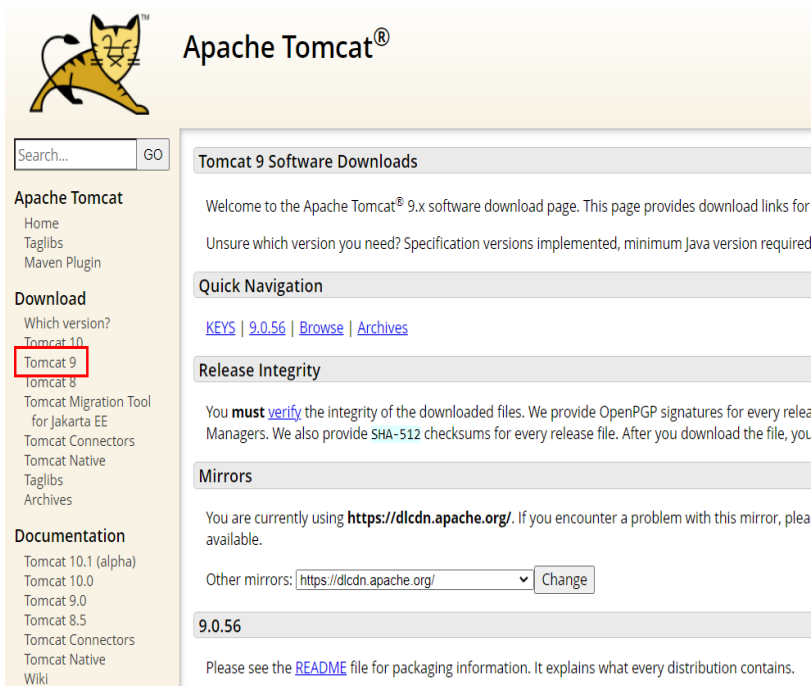
**JBoss** : 레드햇에서 관리하는 WAS

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

# 웹서버 환경 구축

## ❖ Apache Tomcat 다운로드

<http://tomcat.apache.org>



The screenshot shows the Apache Tomcat website. The top left features the Tomcat logo and a search bar. Below this is a sidebar with navigation links: 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), and Documentation (Tomcat 10.1 (alpha), Tomcat 10.0, Tomcat 9.0, Tomcat 8.5, Tomcat Connectors, Tomcat Native, Wiki). The main content area is titled 'Tomcat 9 Software Downloads' and includes a welcome message, a 'Quick Navigation' section with links to KEYS, 9.0.56, Browse, and Archives, a 'Release Integrity' section, and a 'Mirrors' section. The version '9.0.56' is highlighted in the version list.

9.0.56

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

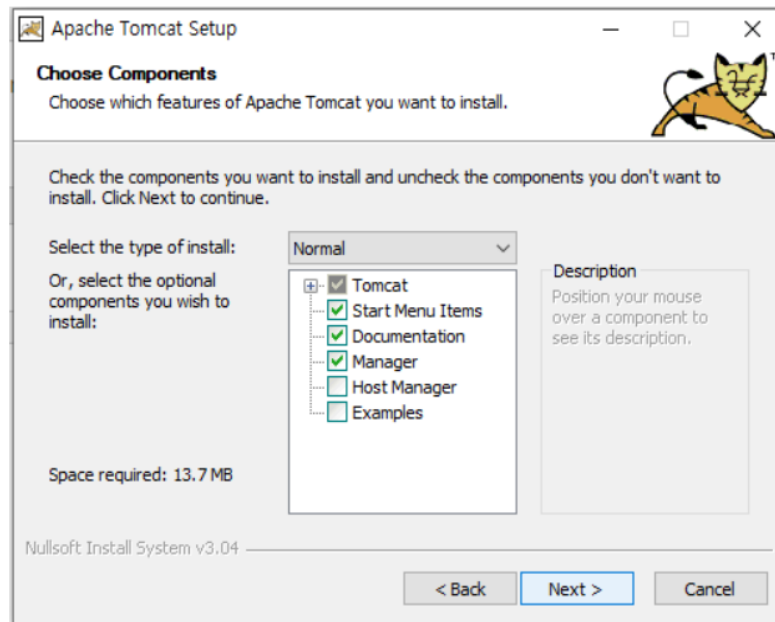
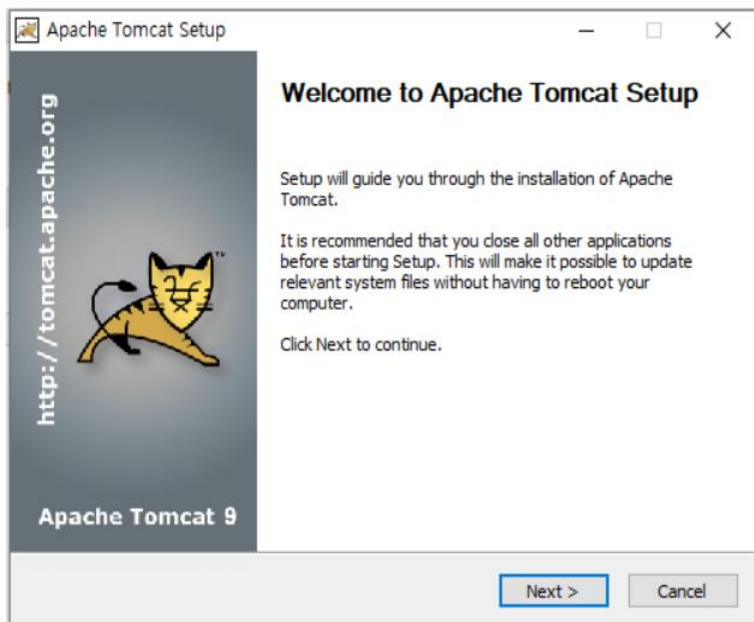
### Binary Distributions

- 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

Apache Tomcat Setup: Configuration Options

Configuration  
Tomcat basic configuration.

Server Shutdown Port: -1 → 8009

HTTP/1.1 Connector Port: 8080 → 80

Windows Service Name: Tomcat9

Create shortcuts for all users: ☐

Tomcat Administrator Login (optional)

User Name:

Password:

Roles: manager-gui

Nullsoft Install System v3.04

< Back Next > Cancel

Apache Tomcat Setup: Java Virtual Machine path selection

Java Virtual Machine  
Java Virtual Machine path selection.

Please select the path of a Java 8 or later JRE installed on your system.

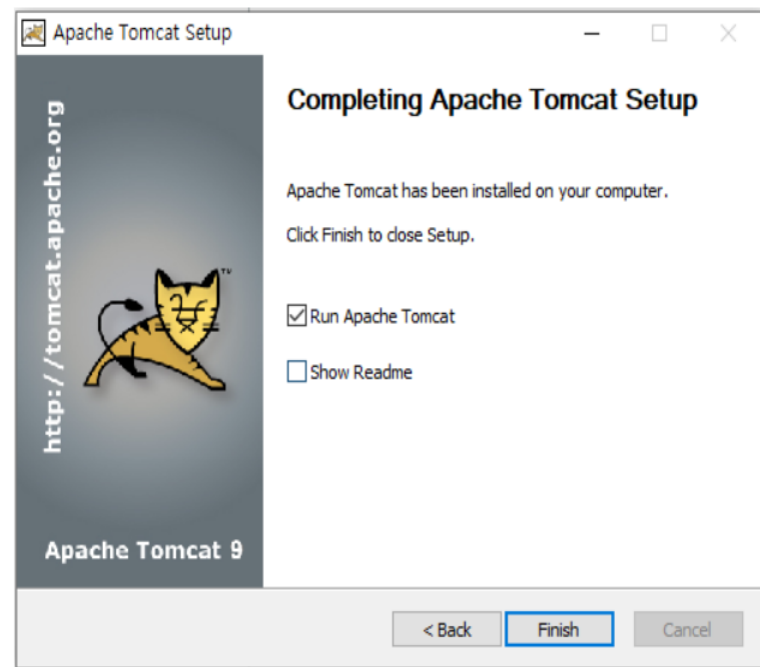
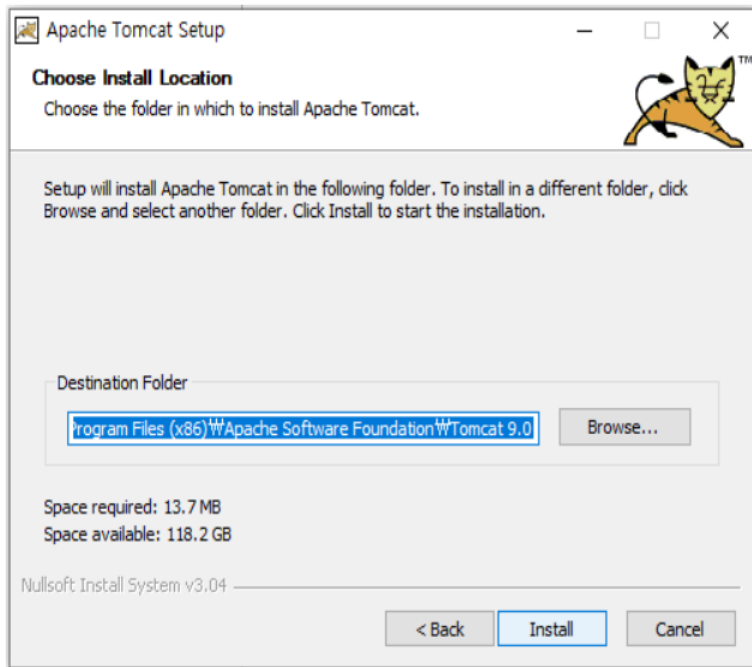
C:\Program Files (x86)\Java\jre1.8.0\_271

Nullsoft Install System v3.04

< Back Next > Cancel

# 웹서버 환경 구축

## ❖ Apache Tomcat 설치




# 웹서버 환경 구축

ROOT폴더에 html, css, json파일을 저장해야함


❖ 웹브라우저로 접속 : <http://localhost:80>

C:\WProgram Files\Apache Software Foundation\Tomcat 9.0\webapps\ROOT\index.jsp실행

[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

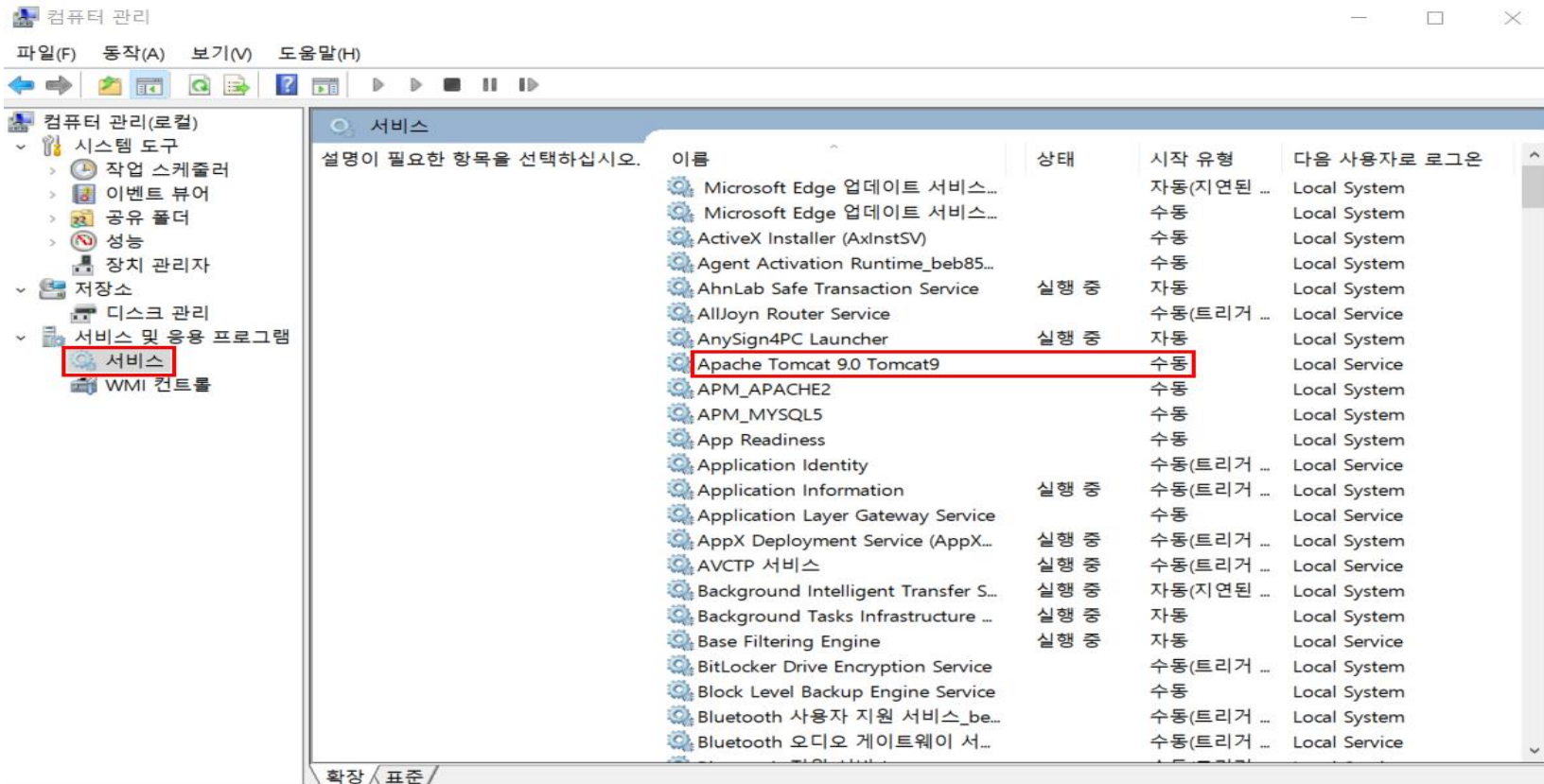
[taglibs-user](#)  
User support and discussion for [Apache Taglibs](#)

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

# 웹서버 환경 구축

Apache Tomcat 9.0을 중지하여, 현재상태가 '수동'으로 나타나게  
개발 환경에서, 모든 제어권을 이클립스에서 갖기 때문에, Apache를 중지시킴

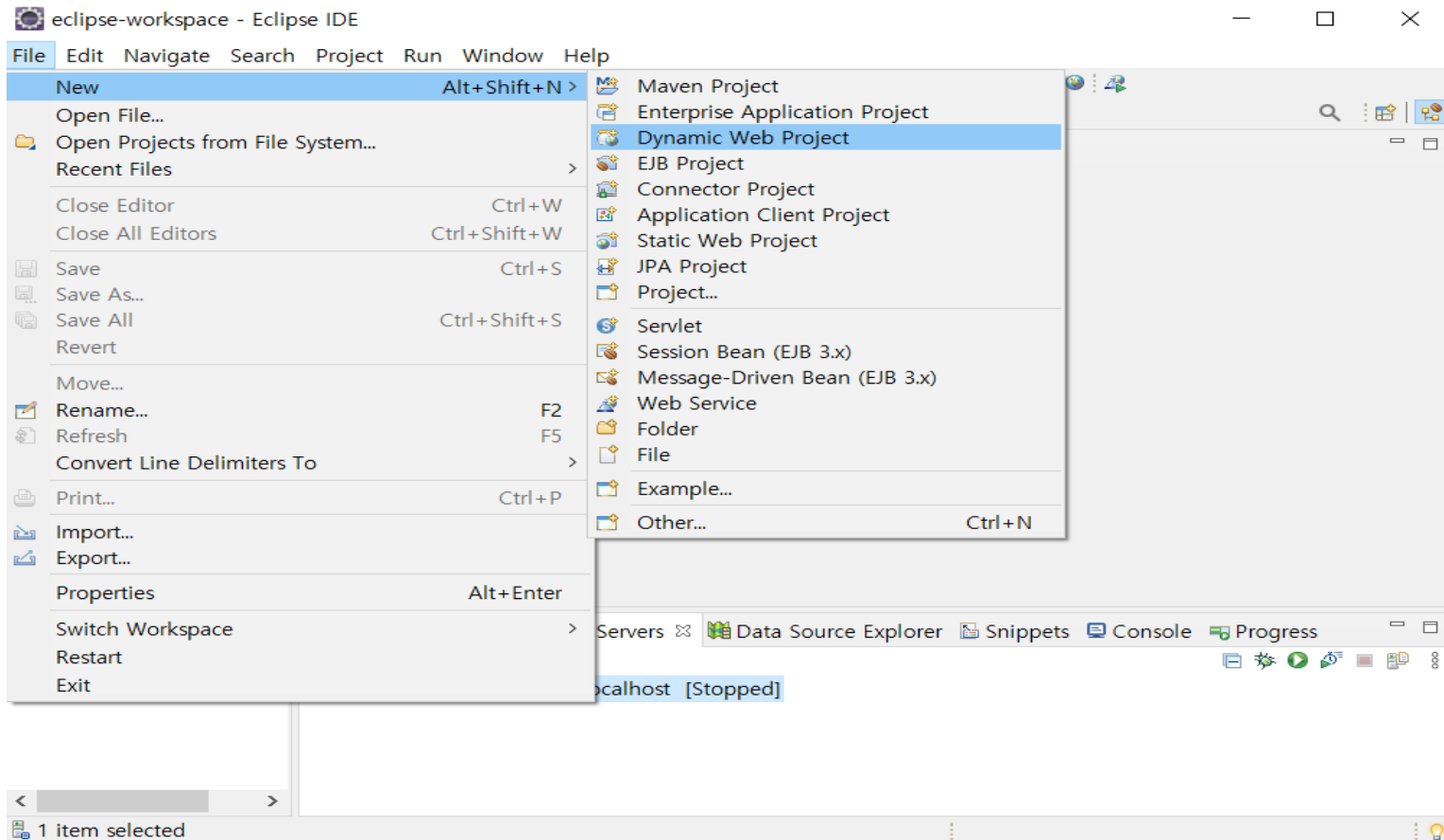
## ❖ Apache Tomcat 서비스 시작 / 중지 [내컴퓨터] - 우클릭후 [관리] 선택



# 웹서버 환경 구축

웹서비스를 사용하기 위해, JAVA EE를 사용  
(Open Perspective -> JAVA EE 선택)

## ❖ 웹프로젝트 생성



# 웹서버 환경 구축

## ❖ 웹프로젝트 생성

서버와 연결하기 위해, 처음 Runtime 설정

**New 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**

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.

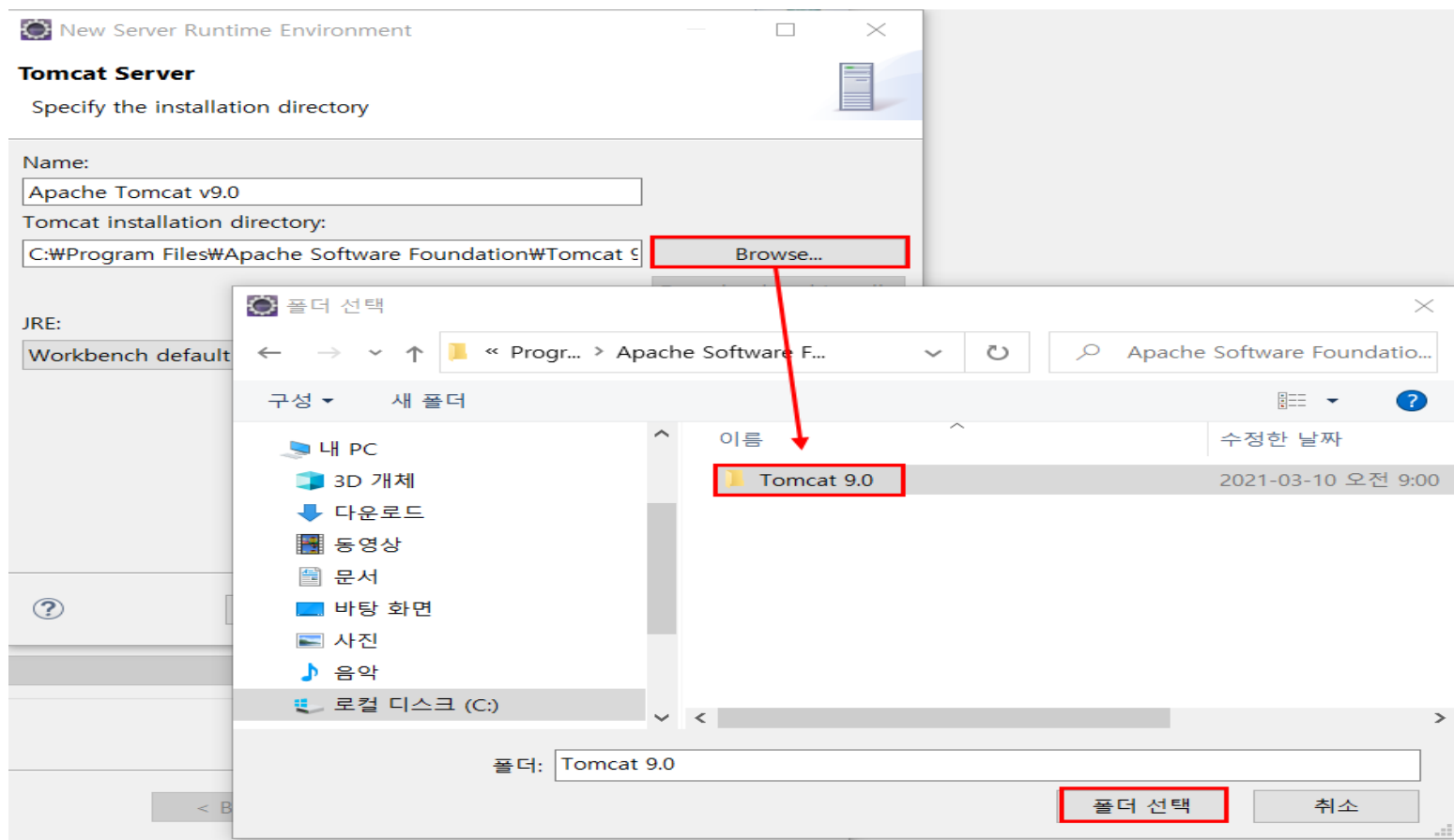
☐ Create a new local server

< Back **Next >** Finish Cancel

? < Back Next > **Finish** Cancel

# 웹서버 환경 구축

## ❖ 웹프로젝트 생성





# 웹서버 환경 구축

## ❖ 웹프로젝트 생성

New Dynamic Web Project

### Java

Configure project for building a Java application.

Source folders on build path:

src\main\java

Add Folder...

Edit...

Remove

Default output folder:

build\classes



< Back

Next >

Finish

Cancel

# 웹서버 환경 구축

## ❖ 웹프로젝트 생성

New Dynamic Web Project

**Web Module**  
Configure web module settings.

Context root: web

Content directory: src/main/webapp

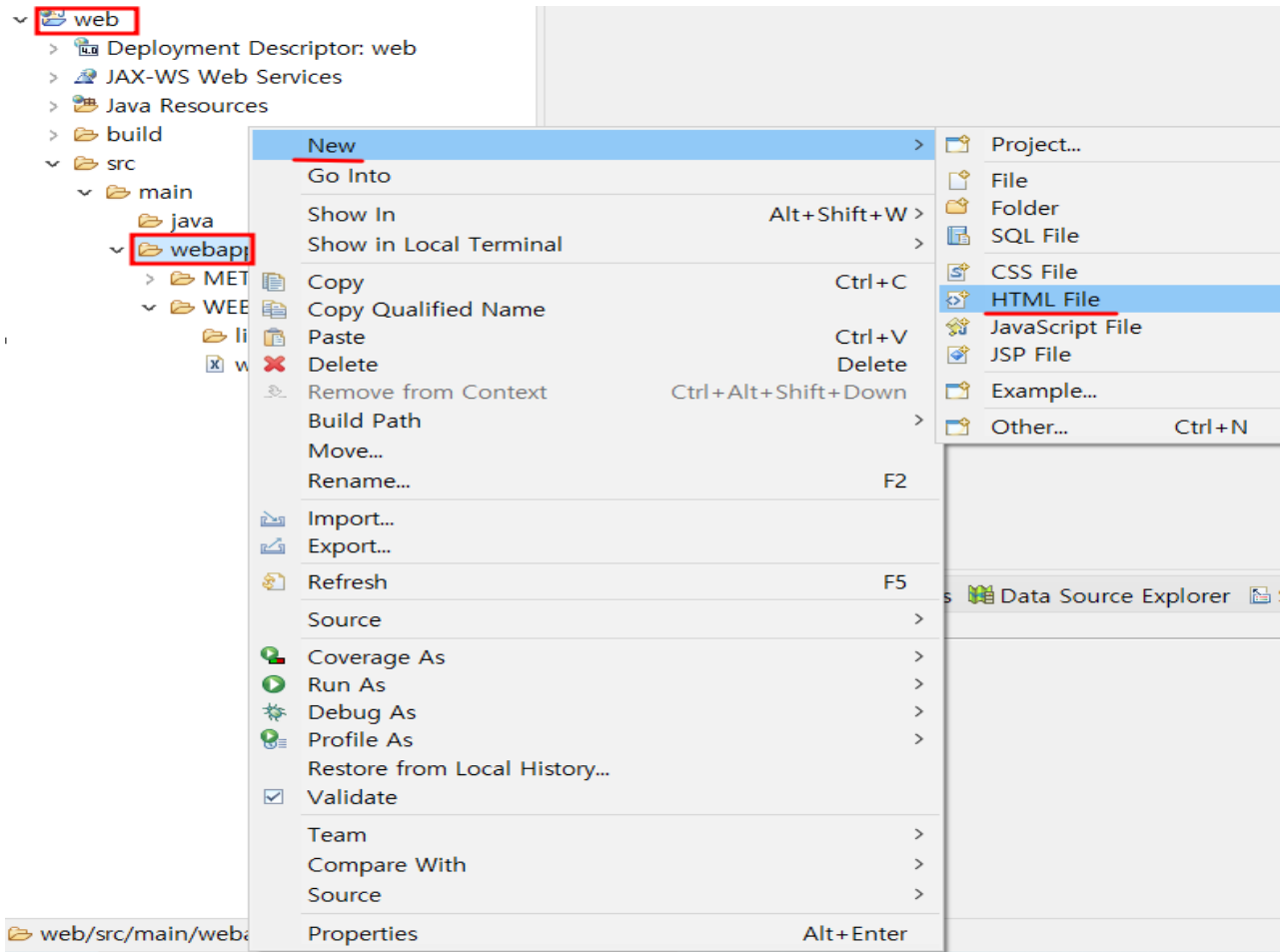
☒ Generate web.xml deployment descriptor

webapp파일에 html이라던지 jsp를 저장

< Back Next > **Finish** Cancel

# 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

