

The background features a light blue gradient with three wavy horizontal bands of varying shades of blue. Three spheres are positioned on these bands: a large light blue sphere on the left, a small green sphere in the upper right, and a medium-sized light blue sphere on the right.

JSP기초

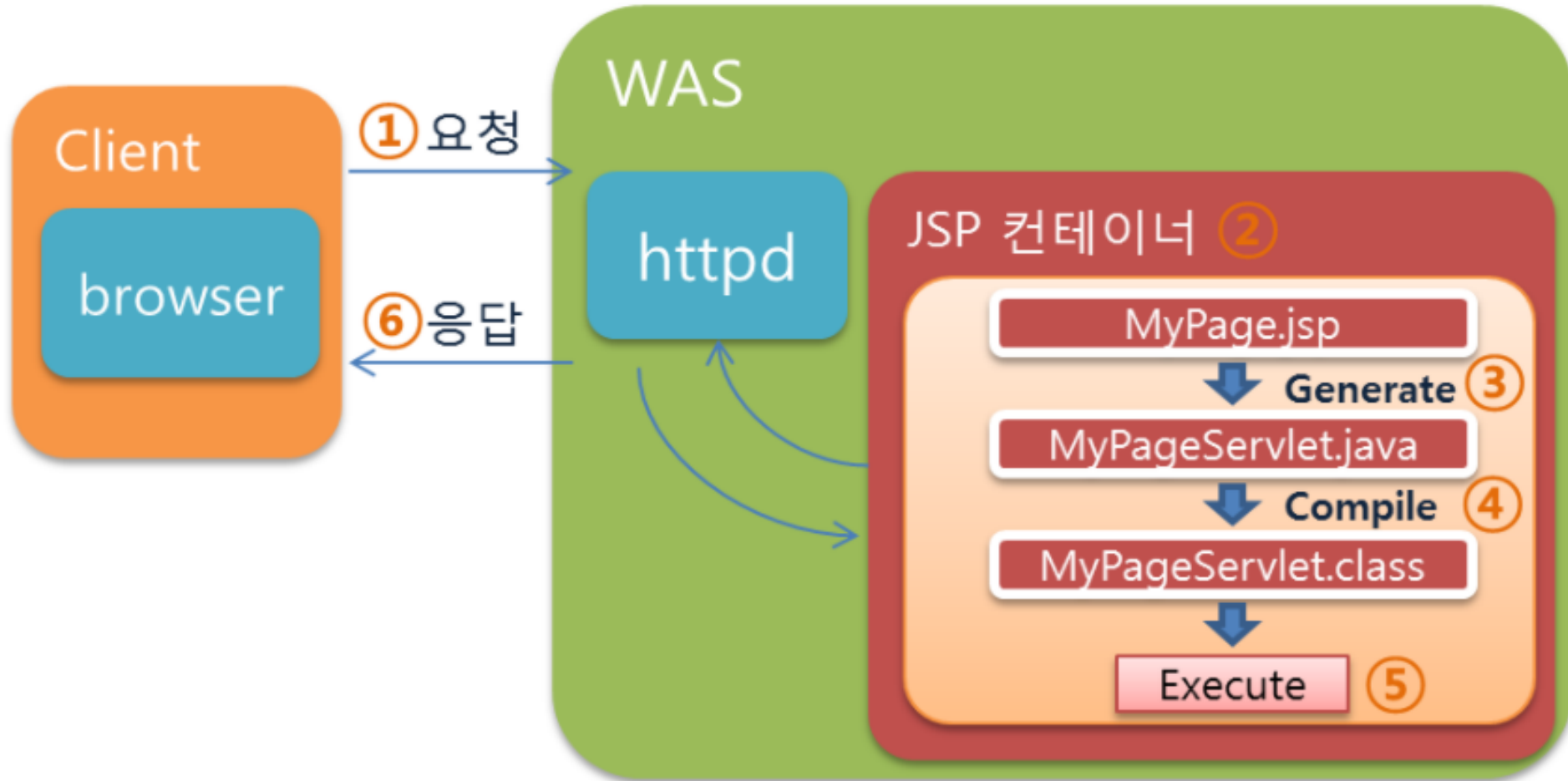
안화수

JSP

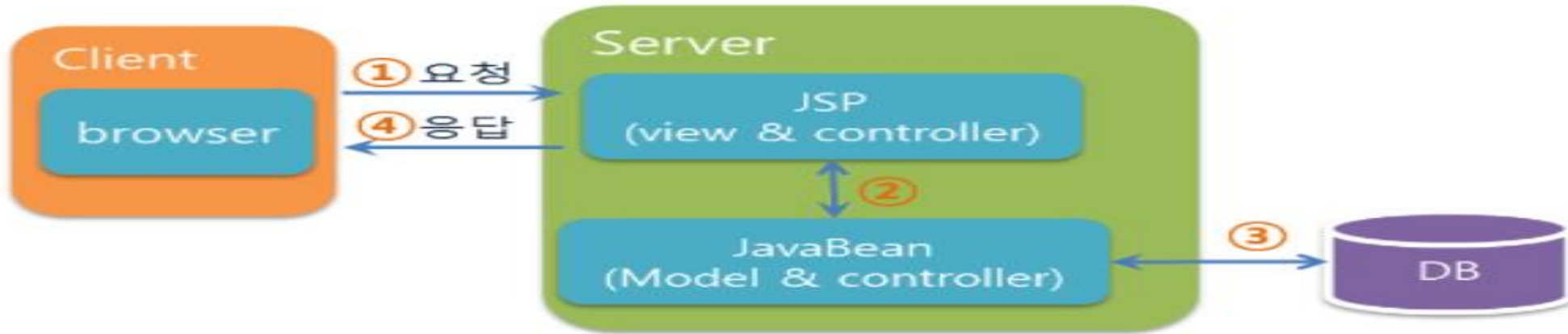
❖ JSP(Java Server Page)

- JSP란 Java Server Pages의 약자이며, HTML 코드에 JAVA 코드를 넣어 동적 웹페이지를 생성하는 웹어플리케이션 프로그램이다.
- JSP가 실행되면 자바 서블릿(Servlet)으로 변환되며, 웹어플리케이션 서버에서 동작되면서 필요한 기능을 수행하고, 그렇게 생성된 데이터를 웹페이지와 함께 클라이언트로 응답한다.

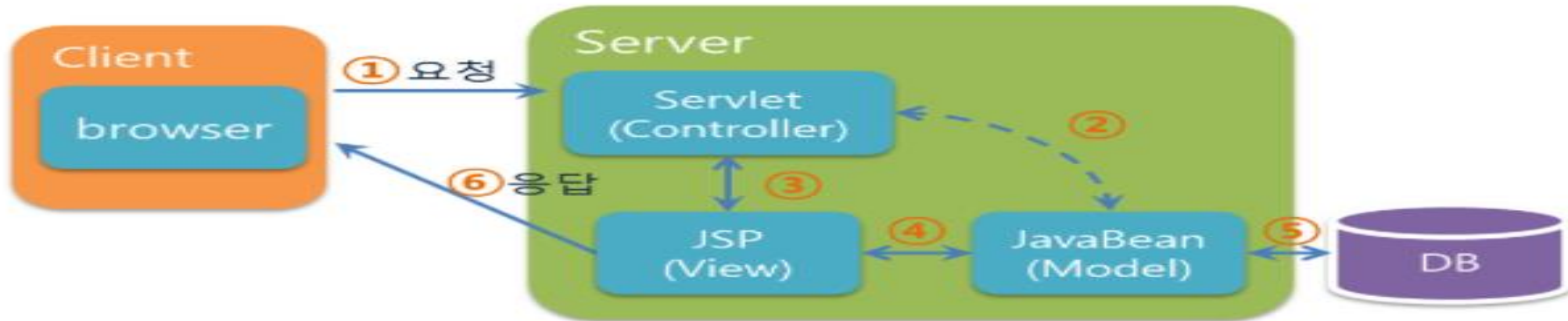
JSP 구조



Model1 and Model2



<MVC - Model 1>



<MVC - Model 2>

모델1 설계방식

❖ Model 1 개요

- JSP 만 이용하여 개발하는 경우
- JSP + Java Bean을 이용하여 개발하는 경우
- Model2의 Controller 개념이 모호함

❖ Model 1 설계 방식의 장.단점

➤ 장점

- 개발속도가 빠름
- 개발자의 기술적인 숙련도가 낮아도 배우기 쉬워서 빠르게 적용이 가능함

➤ 단점

- JSP 페이지에서 프레젠테이션 로직과 비즈니스 로직이 혼재되어서 복잡함
- 로직의 혼재로 인해서 개발자와 디자이너의 작업 분리가 어려움
- JSP 코드의 복잡도로 인해서 유지보수가 어려워짐

모델2 설계방식

❖ Model 2 개요

- GUI 개발모델인 MVC를 웹 애플리케이션에 적용하여 구현한 방식
- Application의 역할을 Model - View - Controller로 분리시켜서 개발하는 방식

❖ Model 2 설계 방식의 장.단점

➤ 장점

- 비즈니스 로직과 프리젠테이션의 분리로 인해 어플리케이션이 명료해지며 유지보수와 확장이 용이함
- 디자이너와 개발자의 작업을 분리해 줌

➤ 단점

- 개발 초기에 아키텍처 디자인을 위한 시간의 소요로 개발 기간이 늘어남
- MVC 구조에 대한 개발자들의 이해가 필요함

JSP 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

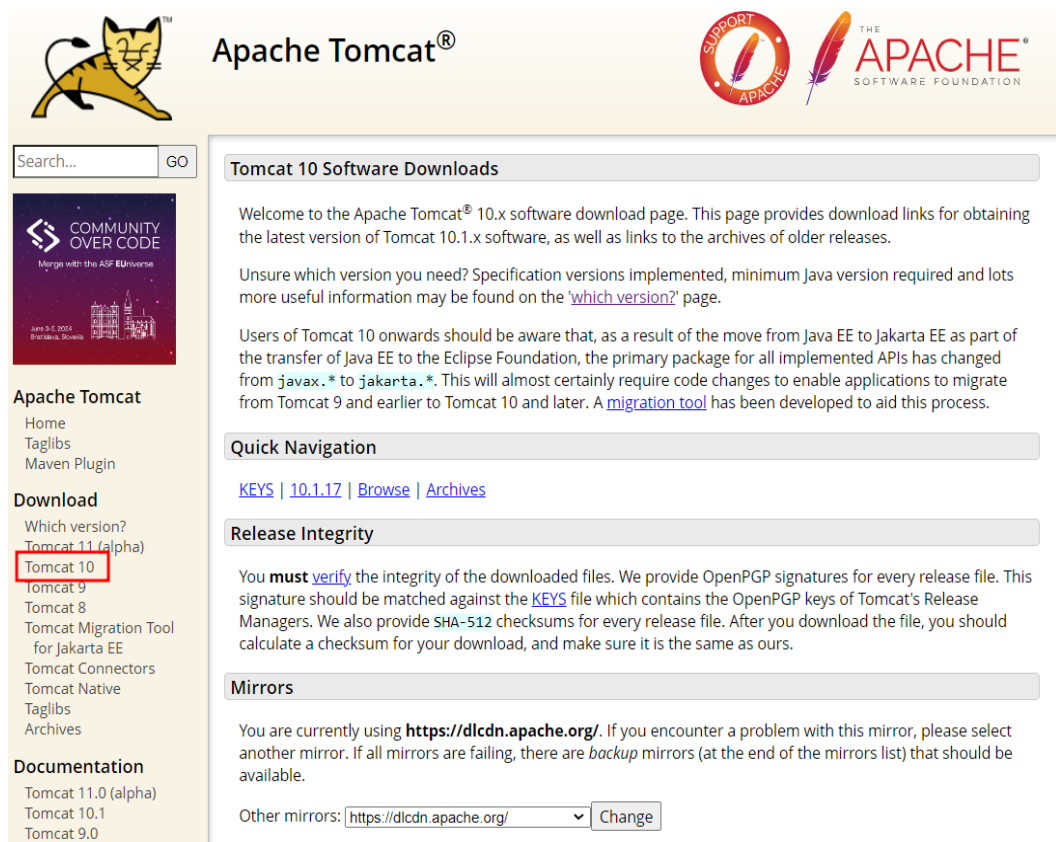
WebLogic : 오라클에서 관리하는 WAS

JBoss : 레드햇에서 관리하는 WAS

Jeus : 티맥스소프트에서 관리하는 제품으로써, 국내에서 많이 사용하고 있다.

JSP 환경 구축

❖ Apache Tomcat 다운로드 <http://tomcat.apache.org>



The screenshot shows the Apache Tomcat website. The top navigation bar includes the Tomcat logo, the text "Apache Tomcat®", and the Apache Software Foundation logo. Below the navigation bar is a search bar and a "GO" button. The main content area is titled "Tomcat 10 Software Downloads". It contains a welcome message, a "Quick Navigation" section with links to "KEYS", "10.1.17", "Browse", and "Archives", and a "Release Integrity" section. On the left side, there is a sidebar with links to "Home", "Taglibs", "Maven Plugin", "Download", "Which version?", "Tomcat 11 (alpha)", "Tomcat 10", "Tomcat 9", "Tomcat 8", "Tomcat Migration Tool for Jakarta EE", "Tomcat Connectors", "Tomcat Native", "Taglibs", "Archives", "Documentation", "Tomcat 11.0 (alpha)", "Tomcat 10.1", and "Tomcat 9.0". The "Tomcat 10" link in the sidebar is highlighted with a red box.

10.1.17

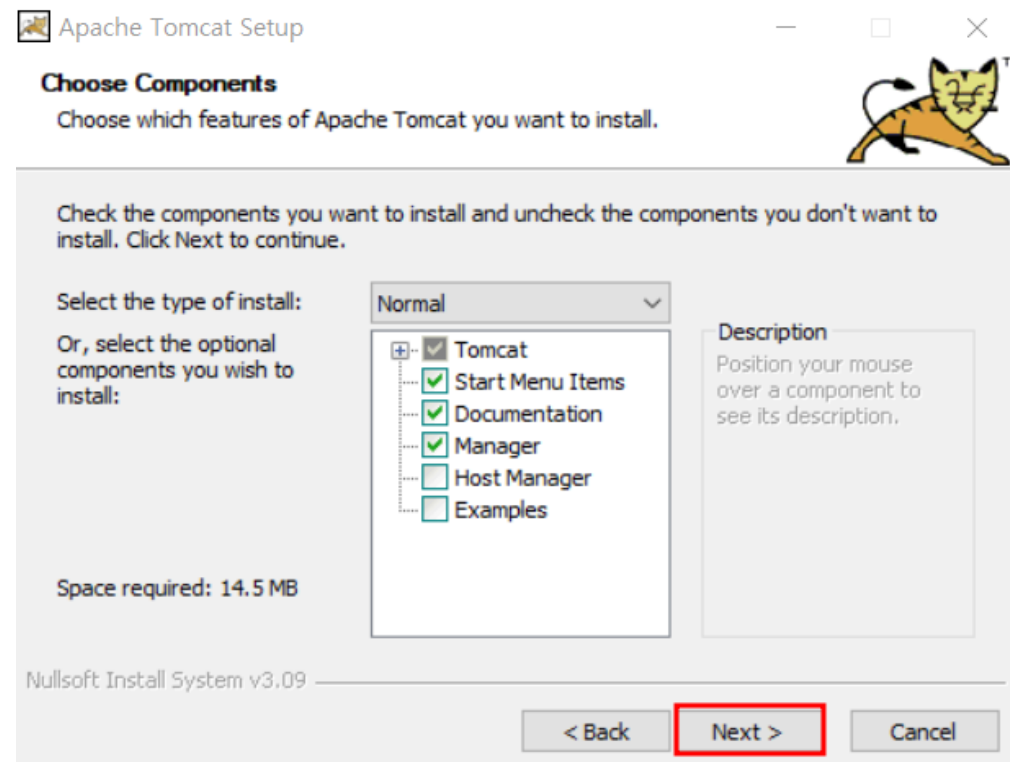
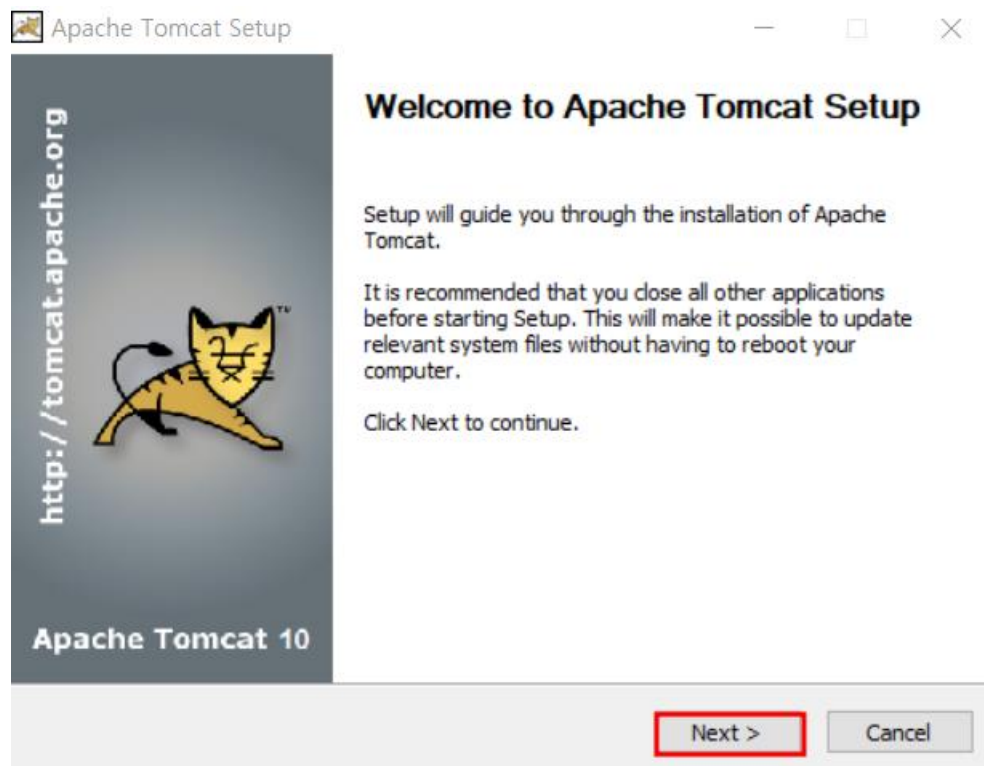
Please see the [README](#) file for packaging information. It explains what every distribution contains.

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](#))

JSP 환경 구축

❖ Apache Tomcat 설치



JSP 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: Tomcat10

Create shortcuts for all users: ☐

Tomcat Administrator Login (optional)

User Name:

Password:

Roles: manager-gui

Nullsoft Install System v3.09

< 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 11 or later JRE installed on your system.

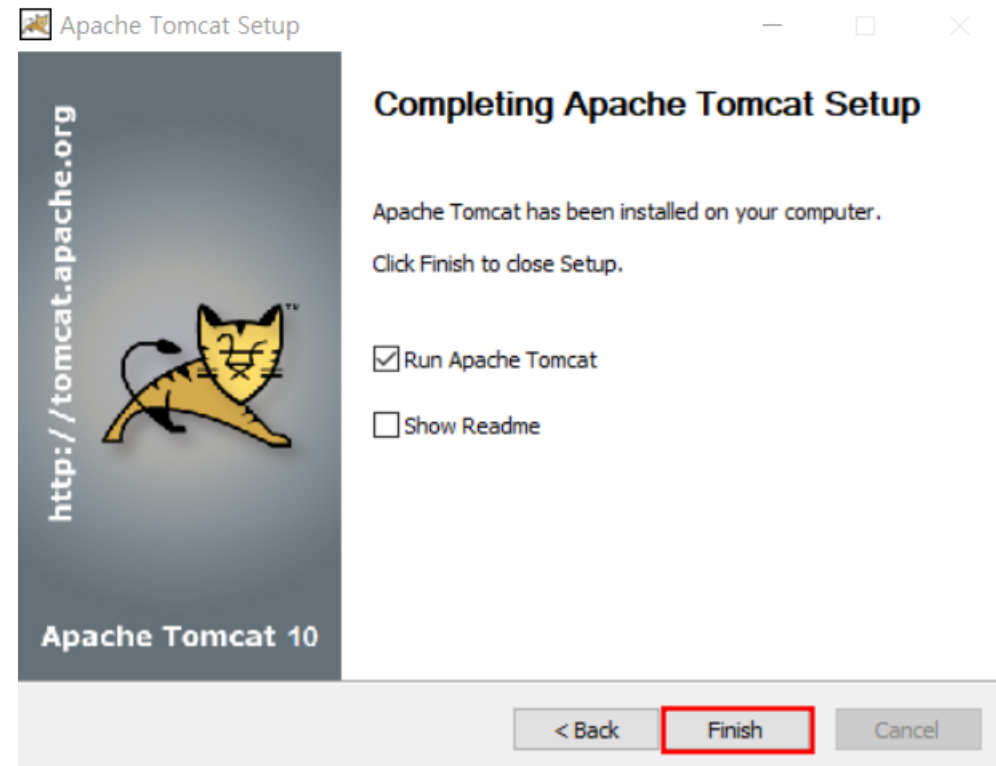
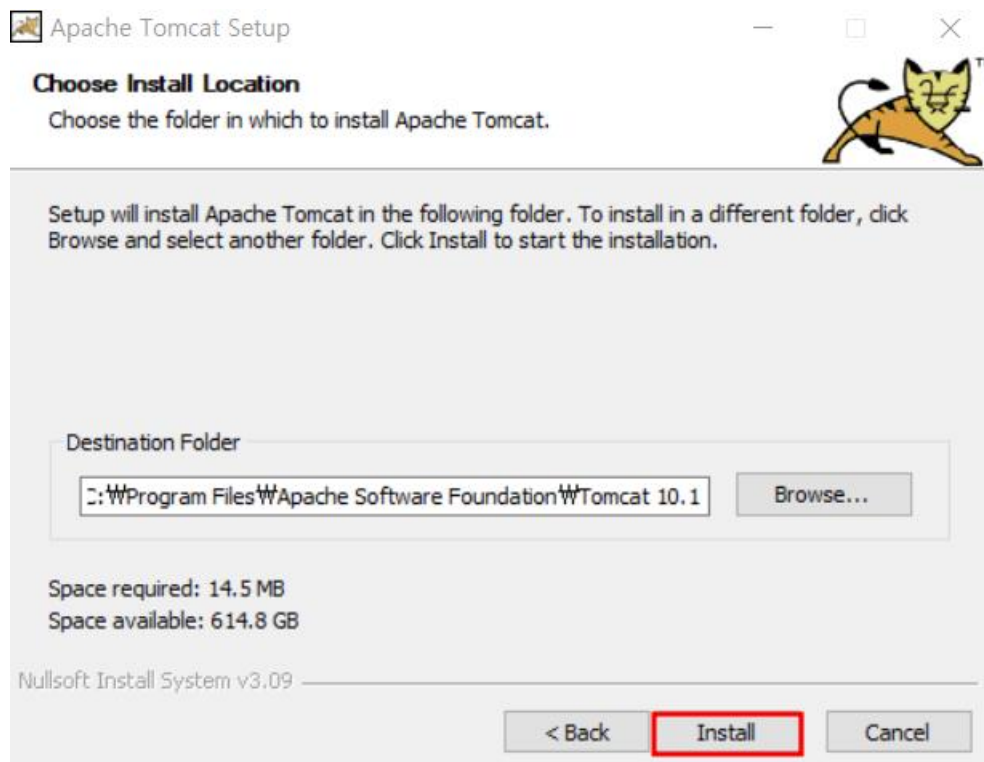
C:\Program Files\Java\jdk-17

Nullsoft Install System v3.09

< Back Next > Cancel

JSP 환경 구축

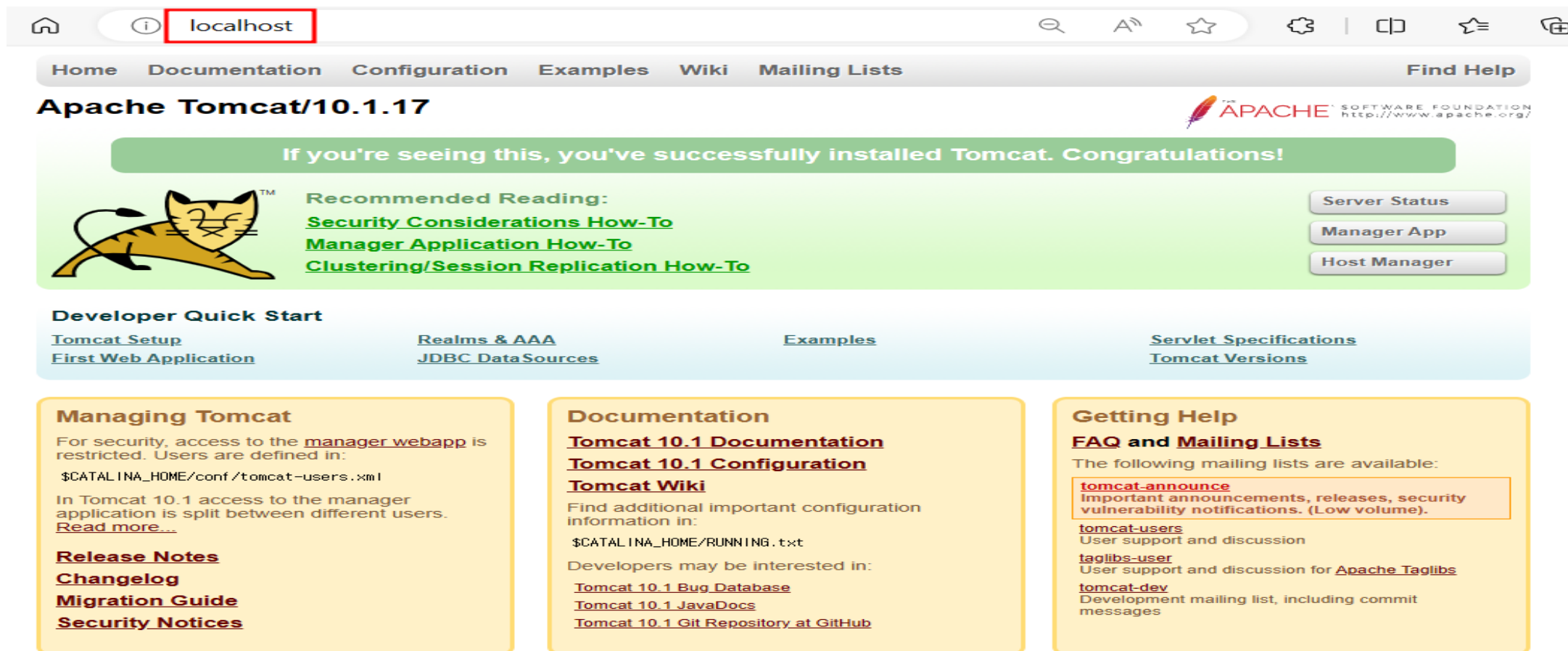
❖ Apache Tomcat 설치



JSP 환경 구축

❖ 웹브라우저로 접속 : <http://localhost:80>

C:\Program Files\Apache Software Foundation\Tomcat 10.1\webapps\ROOT\index.jsp 실행




The screenshot shows a web browser window displaying the Apache Tomcat 10.1.17 homepage. The address bar shows 'localhost' highlighted with a red box. The page features a navigation bar with links like Home, Documentation, Configuration, Examples, Wiki, and Mailing Lists. A green banner congratulates the user for successfully installing Tomcat. Below this, there's a section for 'Recommended Reading' with links to Security, Manager Application, and Clustering/Session Replication How-Tos. To the right are buttons for Server Status, Manager App, and Host Manager. The 'Developer Quick Start' section provides links for Tomcat Setup, First Web Application, Realms & AAA, JDBC Data Sources, Examples, Servlet Specifications, and Tomcat Versions. At the bottom, three yellow boxes contain links for Managing Tomcat, Documentation, and Getting Help.

localhost

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/10.1.17

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](#)
- [First Web Application](#)
- [Realms & AAA](#)
- [JDBC Data Sources](#)
- [Examples](#)
- [Servlet Specifications](#)
- [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 10.1 access to the manager application is split between different users.
[Read more...](#)

[Release Notes](#)
[Changelog](#)
[Migration Guide](#)
[Security Notices](#)

Documentation

[Tomcat 10.1 Documentation](#)
[Tomcat 10.1 Configuration](#)
[Tomcat Wiki](#)

Find additional important configuration information in:

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

Developers may be interested in:

- [Tomcat 10.1 Bug Database](#)
- [Tomcat 10.1 JavaDocs](#)
- [Tomcat 10.1 Git Repository at GitHub](#)

Getting Help

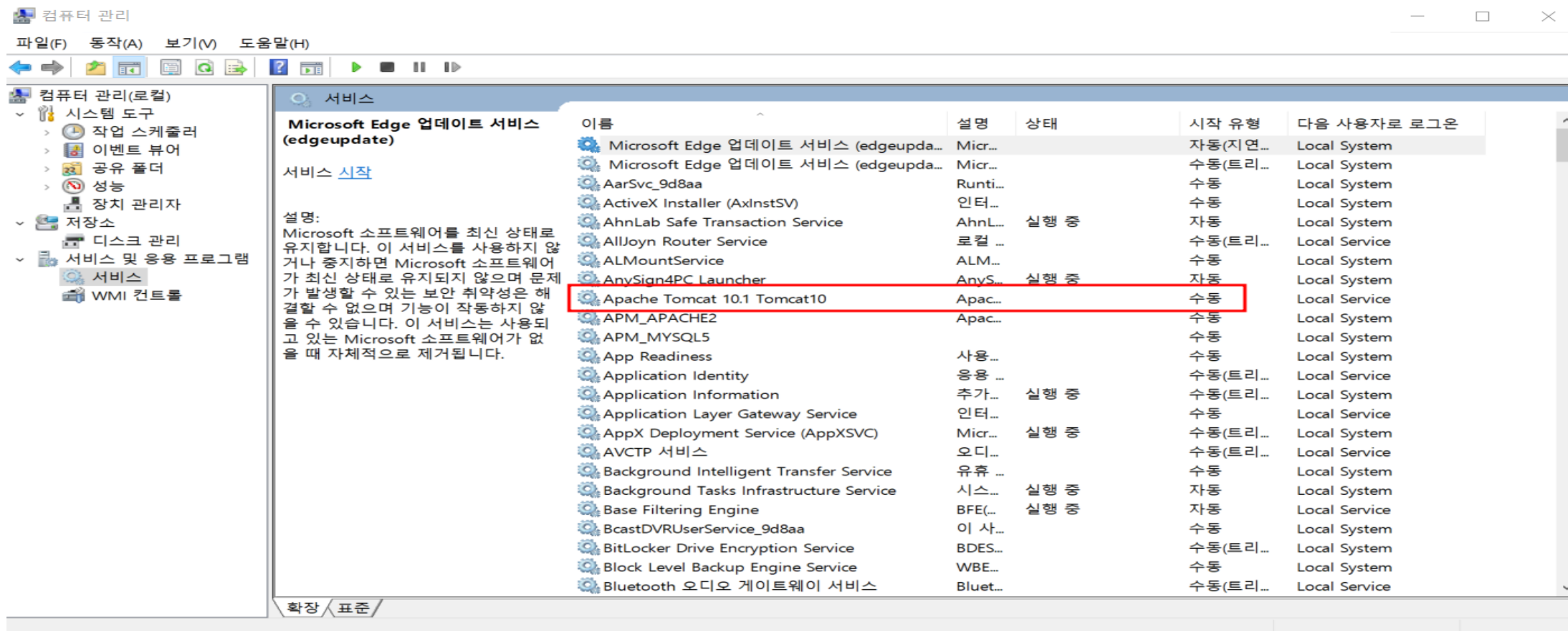
[FAQ and Mailing Lists](#)

The following mailing lists are available:

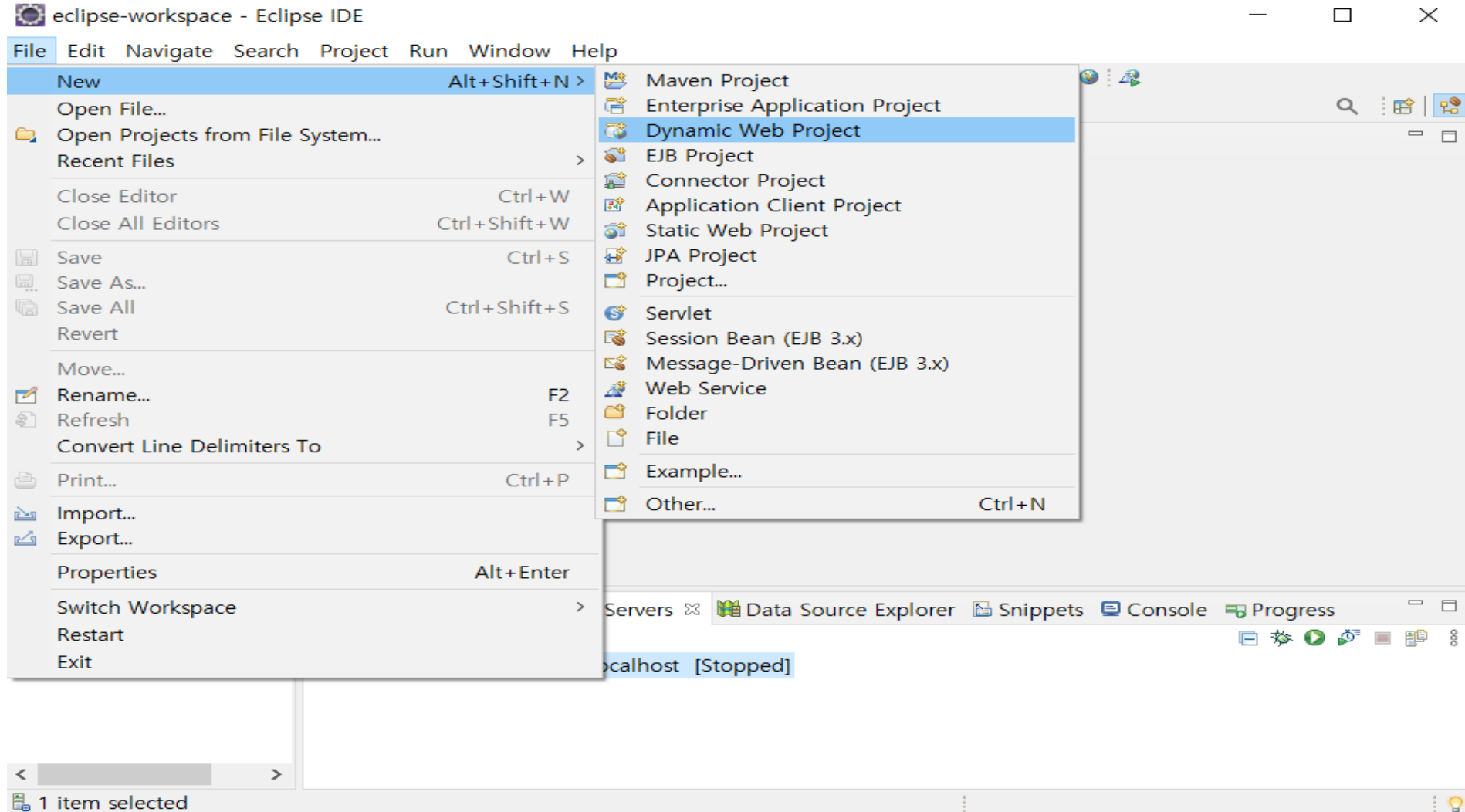
- [tomcat-announce](#)
Important announcements, releases, security vulnerability notifications. (Low volume).
- [tomcat-users](#)
User support and discussion
- [taglibs-user](#)
User support and discussion for [Apache Taglibs](#)
- [tomcat-dev](#)
Development mailing list, including commit messages

JSP 환경 구축


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



JSP 프로젝트 생성



JSP 프로젝트 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:

Project location

☒ Use default location

Location:

Target runtime

Dynamic web module version

Configuration

The default configuration provides a good starting point. Additional facets can later be installed to add new functionality to the project.


EAR membership


☐ Add project to an EAR

EAR project name:

Working sets

☐ Add project to working sets



 New Server Runtime Environment

New Server Runtime Environment


Define a new server runtime environment

Select the type of runtime environment:

- ▼ Apache
 - Apache Tomcat v7.0
 - Apache Tomcat v8.0
 - Apache Tomcat v8.5
 - Apache Tomcat v9.0
 - Apache Tomcat v10.0
 -
- > Basic
- > IBM
- > Oracle

Apache Tomcat v10.1 supports J2EE 1.2, 1.3, 1.4, and Java EE 5, 6, 7, 8 and Jakarta EE 9 and 10 Web modules.

☐ Create a new local server



New Server Runtime Environment

Tomcat Server

Specify the Tomcat installation directory and JRE for this runtime. The specified

Name:
Apache Tomcat v10.1

Tomcat installation directory:
C:\Program Files\Apache Software Foundation\Tomcat 10.1
apache-tomcat-10.1.15

JRE:
Workbench default JRE

Browse...
Download and Install...
Installed JREs...

폴더 선택

« Progr... » Apache Software Foundati...

구성 새 폴더

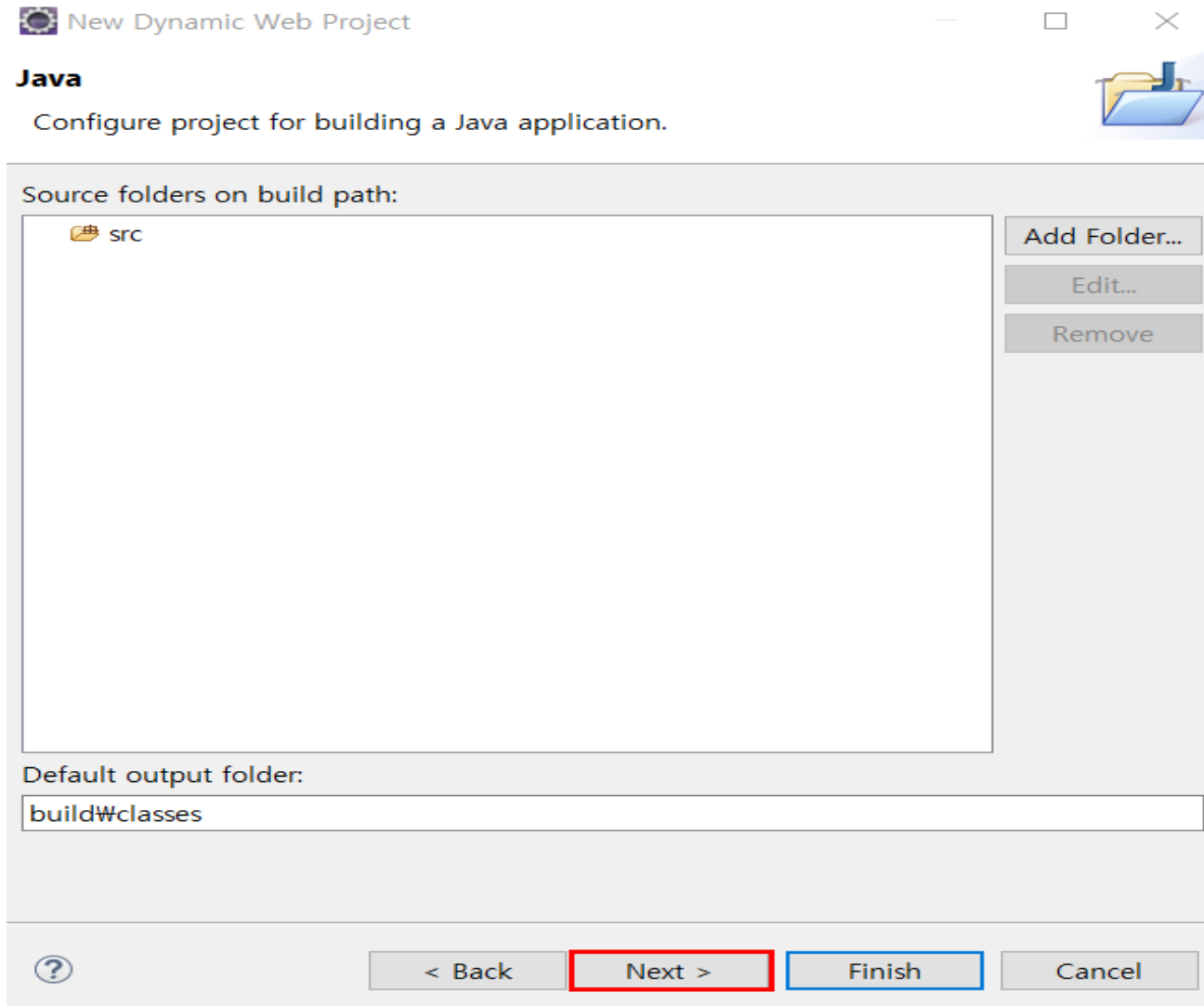
이름

Tomcat 10.1

폴더: Tomcat 10.1

폴더 선택 취소

JSP 프로젝트 생성



JSP 프로젝트 생성

New Dynamic Web Project


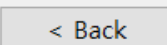
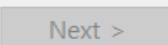
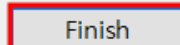
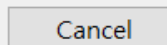
Web Module

Configure web module settings.

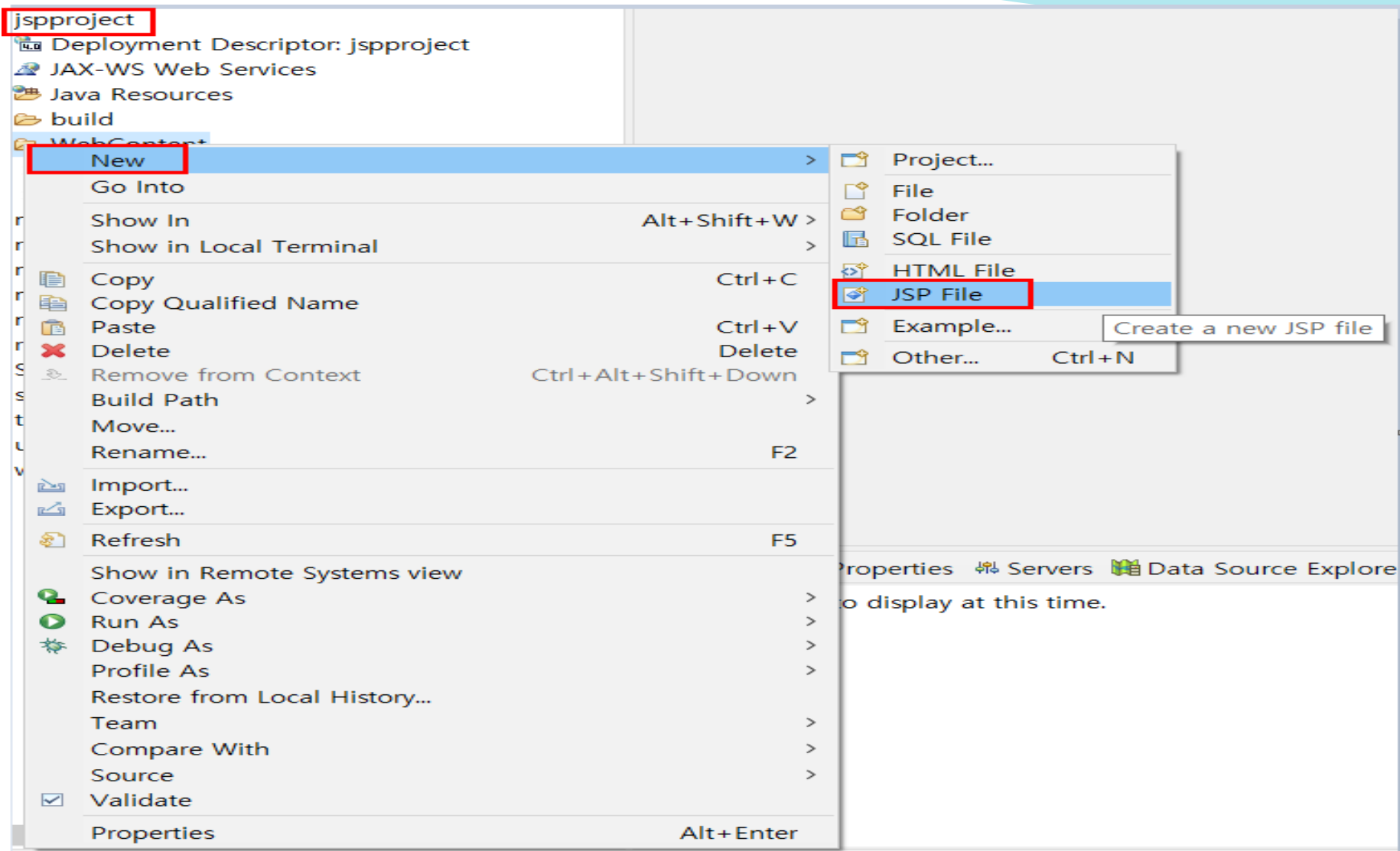
Context root:

Content directory:

☒ Generate web.xml deployment descriptor

JSP 파일 생성



JSP 파일 생성

index.jsp

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <!DOCTYPE html>
4 <html>
5 <head>
6 <meta charset="UTF-8">
7 <title>Insert title here</title>
8 </head>
9 <body>
10
11 처음 작성하는 JSP 페이지~!!
12
13 </body>
14 </html>
```

JSP 파일 실행



처음 작성하는 JSP 페이지~!!