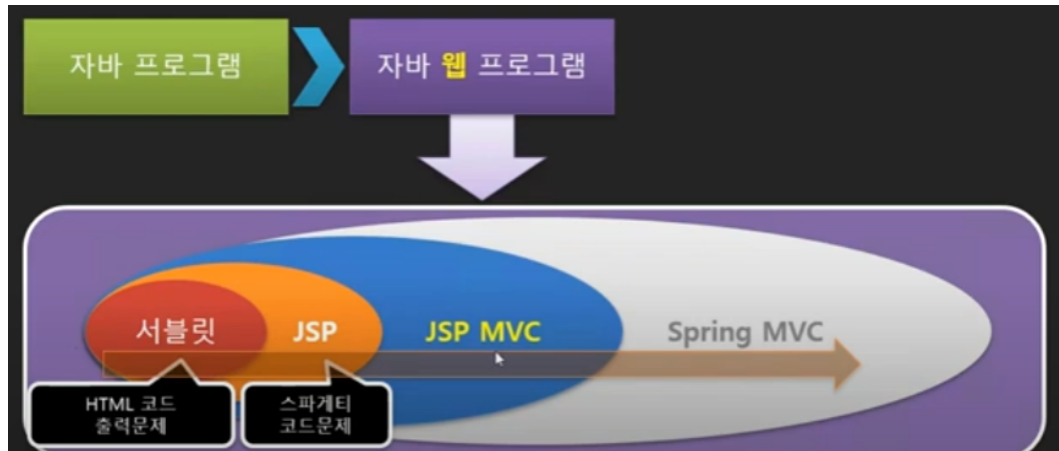


Servlet / Jsp

자바 웹 프로그램

서블릿 html 코드 출력 문제 → jsp 스파게티 코드 문제 → JSP MVC → Spring MVC




클라이언트(요청자) 프로그램 ↔ 서버(제공자) 프로그램

- 웹을 통해 브라우저로 어떠한 것을 요청할 수 있는 환경을 갖고 있고, 그 요청에 대해서 응답할 수 있는 서버에서 그에 대한 응답을 준다.


- 톰캣 설치하기


← → ↻ 🔍 tomcat.apache.org/download-90.cgi 📄 ☆ 📁 📄 📄 📄 📄 📄

🔗 GitHub 📄 Online C Compiler... 📄 학습 기록 📄 AI 마케팅 콘텐츠... 📄 쿠팡! 📄 아고다 📄 quizman.netlify.app » 📄 모든 북마크




Apache Tomcat®





COMMUNITY CODE



Denver, Colorado
October 7-10, 2024

Apache Tomcat

- Home
- Taglibs
- Maven Plugin

Download

- Which version?
- Tomcat 11 (beta)
- Tomcat 10
- Tomcat 9
- Tomcat Migration Tool for Jakarta EE
- Tomcat Connectors
- Tomcat Native
- Taglibs
- Archives

Documentation

- Tomcat 11.0 (beta)
- Tomcat 10.1
- Tomcat 9.0
- Upgrading
- Tomcat Connectors
- Tomcat Native 2
- Tomcat Native 1.3
- Wiki
- Migration Guide
- Presentations
- Specifications

Problems?

Tomcat 9 Software Downloads

Welcome to the Apache Tomcat® 9.x software download page. This page provides download links for obtaining the latest version of Tomcat 9.0.x software, as well as links to the archives of older releases.

Unsure which version you need? Specification versions implemented, minimum Java version required and lots more useful information may be found on the ["which version?"](#) page.

Quick Navigation

[KEYS](#) | [9.0.93](#) | [Browse](#) | [Archives](#)

Release Integrity

You **must** [verify](#) the integrity of the downloaded files. We provide OpenPGP signatures for every release file. This signature should be matched against the [KEYS](#) file which contains the OpenPGP keys of Tomcat's Release Managers. We also provide SHA-512 checksums for every release file. After you download the file, you should calculate a checksum for your download, and make sure it is the same as ours.

Mirrors

You are currently using <https://d1cdn.apache.org/>. If you encounter a problem with this mirror, please select another mirror. If all mirrors are failing, there are *backup* mirrors (at the end of the mirrors list) that should be available.

Other mirrors:

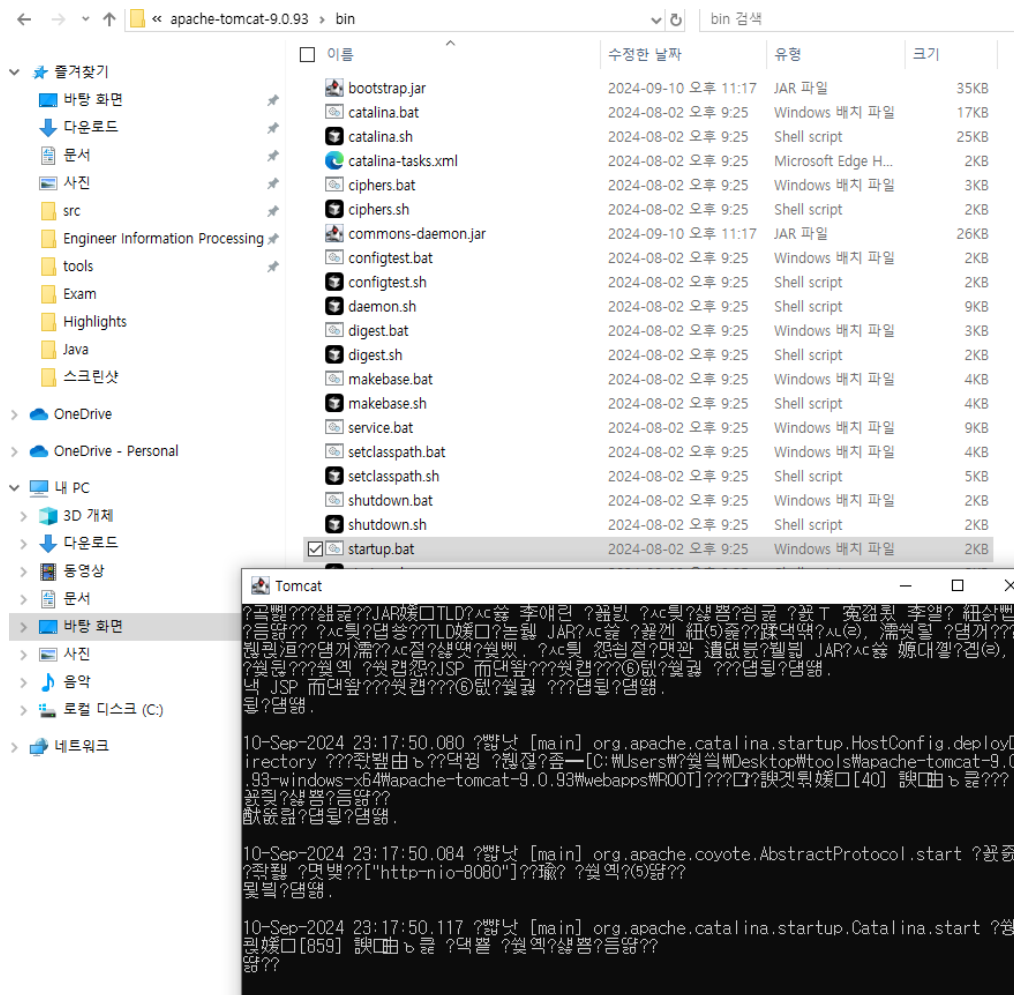
9.0.93

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:

- 톰캣 정상 설치 확인 - startup.bat 실행



- 주소창에 localhost:8080 검색 후 제대로 톰캣 페이지가 뜨면 정상 작동


← → ↻ ↺ localhost:8080

GitHub Online C Compiler... 학습 기록 AI 마케팅 콘텐츠... 쿠팡! 야고다 ★ quizman.netlify.app >> | 모든 북마크

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/9.0.93

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 DataSources](#)
- [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 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

Other Downloads

- [Tomcat Connectors](#)
- [Tomcat Native](#)
- [Taglibs](#)
- [Deployer](#)

Other Documentation

- [Tomcat Connectors](#)
- [mod_jk Documentation](#)
- [Tomcat Native](#)
- [Deployer](#)

Get Involved

- [Overview](#)
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- [Mailing Lists](#)
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Miscellaneous

- [Contact](#)
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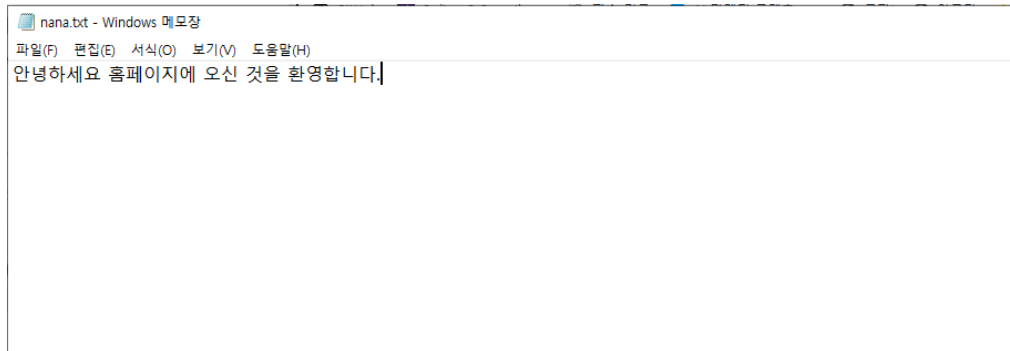
Apache Software Foundation

- [Who We Are](#)
- [Heritage](#)
- [Apache Home](#)
- [Resources](#)

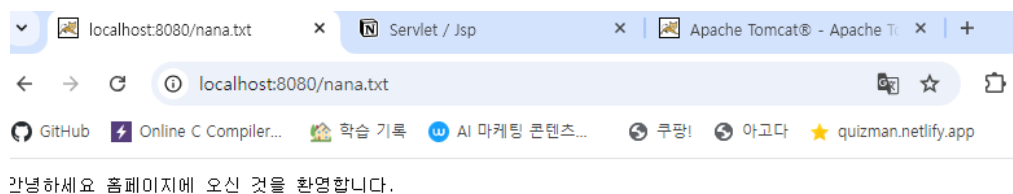
• 테스트 문서 만들고 서비스하기

- 압축 푼 톰캣 폴더 안에 ROOT 폴더 안에 새로운 텍스트 문서 만들기 -nana.txt

tools > apache-tomcat-9.0.93-windows-x64 > apache-tomcat-9.0.93 > webapps > ROOT				
<input type="checkbox"/> 이름	수정된 날짜	유형	크기	
WEB-INF	2024-08-02 오후 9:25	파일 폴더		
asf-logo-wide.svg	2024-08-02 오후 9:25	Microsoft Edge H...	27KB	
bg-button.png	2024-08-02 오후 9:25	PNG 파일	1KB	
bg-middle.png	2024-08-02 오후 9:25	PNG 파일	2KB	
bg-nav.png	2024-08-02 오후 9:25	PNG 파일	2KB	
bg-upper.png	2024-08-02 오후 9:25	PNG 파일	4KB	
favicon.ico	2024-08-02 오후 9:25	아이콘	22KB	
index.jsp	2024-08-02 오후 9:25	Java Server Pages...	13KB	
nana.txt	2024-09-10 오후 11:24	텍스트 문서	1KB	
RELEASE-NOTES.txt	2024-08-02 오후 9:25	텍스트 문서	7KB	
tomcat.css	2024-08-02 오후 9:25	CSS file	6KB	
tomcat.svg	2024-08-02 오후 9:25	Microsoft Edge H...	68KB	

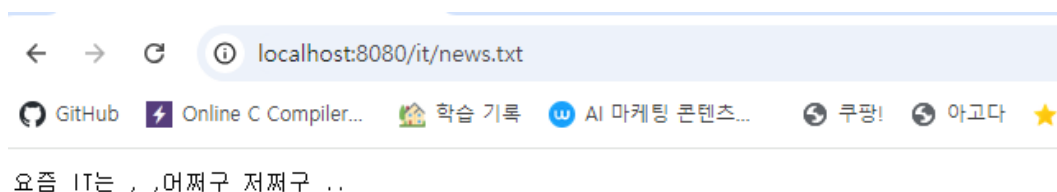
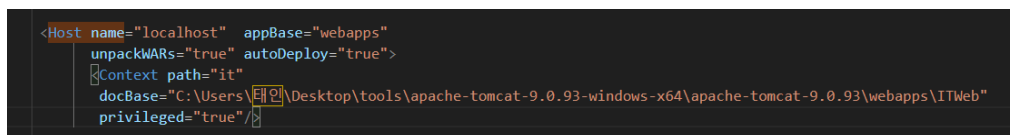


- 주소창에 8080/nana.txt 검색하기



Context 사이트 추가하기

- server.xml 파일에서 수정



- 서버를 켜다 켜야 하기때문에 서비스중인경우 지양한다.

서블릿 코드 작성과 실행

- 어노테이션을 이용한 URL 맵핑

```
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
    http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd"
  version="4.0"
  metadata-complete="false">

  <!-- <servlet>
    <servlet-name>nac</servlet-name>
    <servlet-class>com.newlecture.web.Nana</servlet-class>
  </servlet>

  <servlet-mapping>
    <servlet-name>nac</servlet-name>
    <url-pattern>/hello</url-pattern>
  </servlet-mapping>
-->
```

- 기존에 web.xml 에서 설정했던 맵핑을 @WebServlet 어노테이션으로 맵핑할 수 있다
 - 기존에 metadata-complete = "true"를 "false"로 바꿔준다 : 모든 설정이 다 web.xml에 있다 (true) → 여기 외에도 어노테이션에 설정해놓은 것이 있으니 찾아봐라(false)

```
@WebServlet("/h1")
public class Nana extends HttpServlet {
    @Override
    protected void service(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
        IOException {
        PrintWriter out = resp.getWriter();
        out.println("Hello asdf");
    }
}
```

→ 여럿이서 만들 때 각자 서블릿을 만들 때 web.xml 을 모두 건드려야하기 때문에 어노테이션을 사용하면 유용하다.

```
1 package com.newlecture.web;
2
3 import java.io.IOException;
4 import java.io.PrintWriter;
5
6 import javax.servlet.ServletException;
7 import javax.servlet.annotation.WebServlet;
8 import javax.servlet.http.HttpServlet;
9 import javax.servlet.http.HttpServletRequest;
10 import javax.servlet.http.HttpServletResponse;
11
12 @WebServlet("/h1")
13 public class Nana extends HttpServlet {
14     @Override
15     protected void service(HttpServletRequest req, HttpServletResponse resp) throws
16         ServletException, IOException {
17         PrintWriter out = resp.getWriter();
18         for(int i=0; i<100; i++)
19             out.println((i+1)+" Hello Servlet! <br >");
20     }
21 }
22
23
24
```

- 브라우저에 콘텐츠 형식을 알려주지 않은 경우 : 자의적인 해석 (text로 해석)

- 어떠한 형태의 문서로 보내야할지 설정할 수 있어야 한다.

출력 연습하기

- 한글과 콘텐츠 형식 출력하기
 -

```

1  import java.io.IOException;
2
3  import javax.servlet.ServletException;
4  import javax.servlet.annotation.WebServlet;
5
6  import javax.servlet.http.HttpServlet;
7  import javax.servlet.http.HttpServletRequest;
8
9  @WebServlet("/h1")
10 public class HelloServlet extends HttpServlet {
11
12     @Override
13     protected void service(HttpServletRequest req, HttpServletResponse resp) throws ServletException, IOException {
14
15         PrintWriter out = resp.getWriter();
16         for(int i=0; i<10; i++)
17             out.println("Hello Servlet! ");
18     }
19 }

```

- 웹서버에서 클라이언트로 보내주는 단위가 ISO - 8859 -1
- 서버에서는 UTF-8로 인코딩해서 보냈지만 브라우저가 다른코드로 잘못 해석한 경우
- 한글