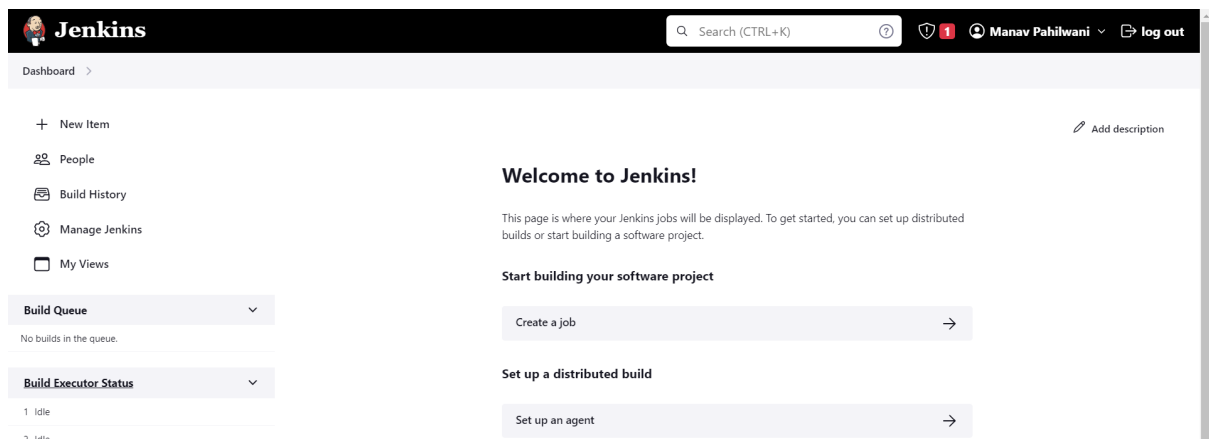


Name - Manav Pahilwani
Roll No - 37
Class - D11AD

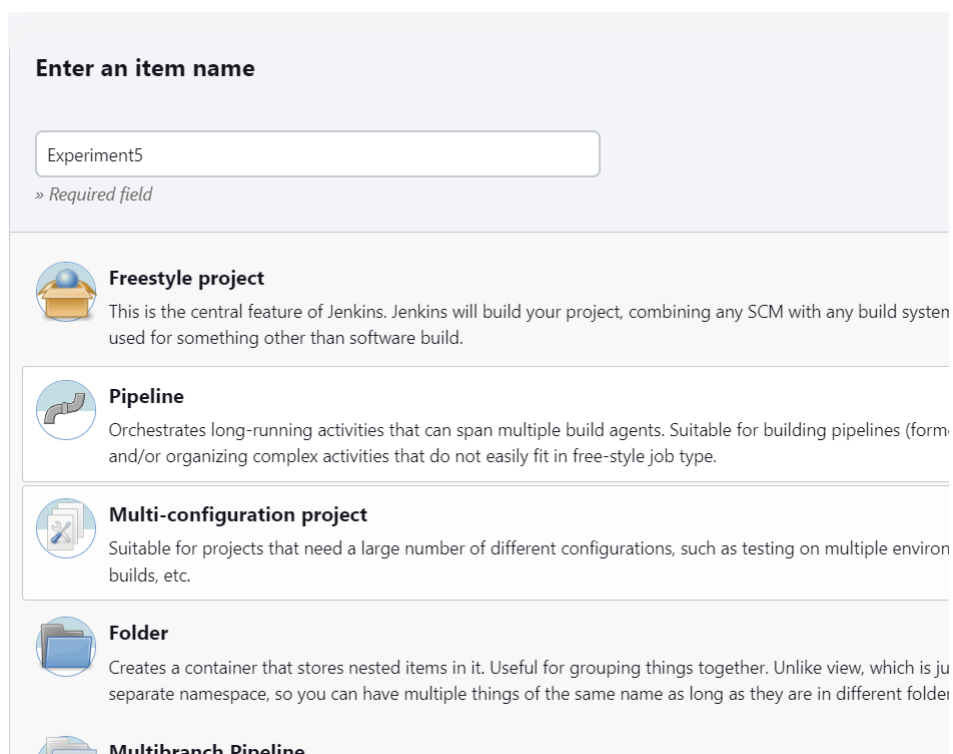
Experiment 5

Creating a Jenkins Pipeline using Maven:

Step 1: In the Jenkins Dashboard, click on New Item from the left menu.



Step 2: Enter a name for your project and choose Pipeline as the project type.



Step 3: Enter a description for your project and add Github Link

Dashboard > Experiment5 > Configuration

Configure

- General
- Advanced Project Options
- Pipeline

General

Enabled

Description

Creating pipeline using Maven

[Plain text] [Preview](#)

☐ Discard old builds ?

☐ Do not allow concurrent builds

☐ Do not allow the pipeline to resume if the controller restarts

☒ GitHub project

Project url ?

<https://github.com/Hamilton122002/simple-java-maven-app>

Advanced

Step 5: Under the Pipeline section, select Pipeline script option from the drop down and paste

the following code in the textbox:

```
pipeline {
    agent any
    stages {
    stage('Hello') {
        steps {

            echo 'Hello World'

        }
    }
    }
}
```

Pipeline

Definition

Pipeline script

Script ?

```
1 pipeline {
2     agent any
3     stages {
4         stage('Hello') {
5             steps {
6                 echo 'Hello World'
7             }
8         }
9     }
10 }
```

☒ Use Groovy Sandbox ?

Step 7: In the project dashboard, click on Build Now from the left panel.

Dashboard > Experiment5 >

Status

</> Changes

▶ Build Now

⚙️ Configure

🗑️ Delete Pipeline

🔍 Full Stage View

🐙 GitHub

✎ Rename

❓ Pipeline Syntax

Build History

trend ▾

🔍 Filter builds... /

No builds

Pipeline Experiment5

Creating pipeline using Maven

Stage View

No data available. This Pipeline has not yet run.

Permalinks

Step 8: When the build process is completed, we get the following output in the Stage View section.

Dashboard > Experiment5 >

Status

</> Changes

▶ Build Now

⚙️ Configure

🗑️ Delete Pipeline

🔍 Full Stage View

🐙 GitHub

✎ Rename

❓ Pipeline Syntax

Build History

trend ▾

🔍 Filter builds... /

✅ #1 Apr 2, 2023, 5:07 PM

📡 Atom feed for all 📡 Atom feed for failures

Pipeline Experiment5

Creating pipeline using Maven

Stage View

Average stage times:
(Average full run time: ~5s)

#1 Apr 02 22:37 No Changes

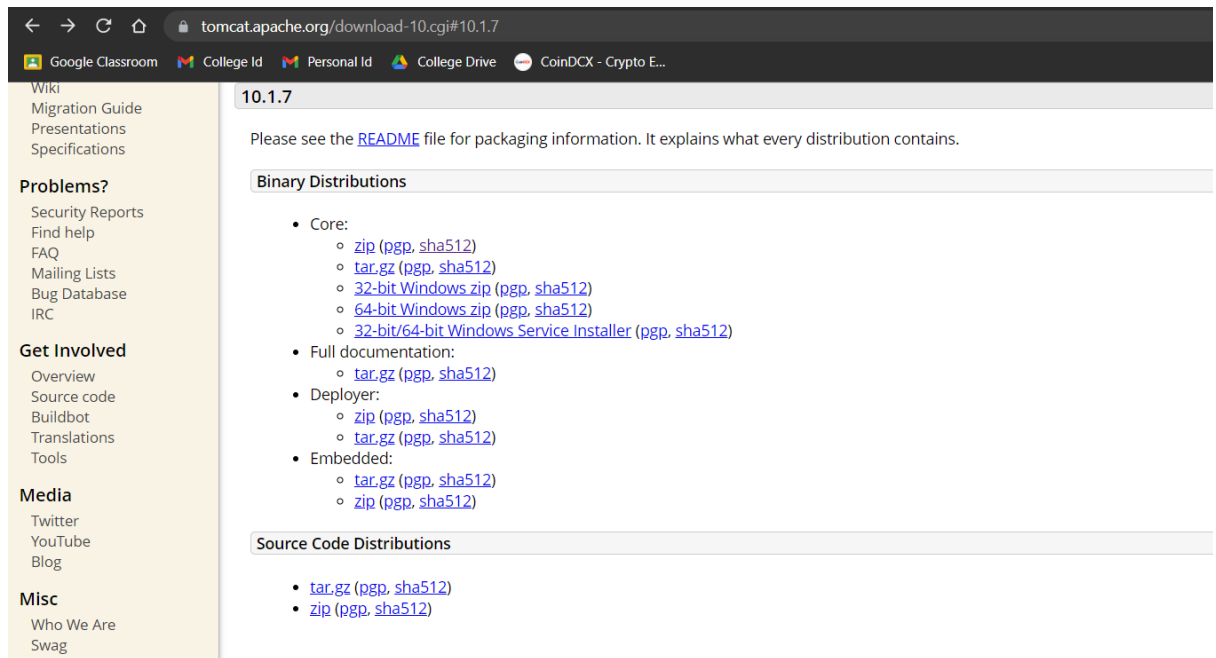
Hello 270ms

270ms

Permalinks

Installing and setting up Tomcat server

Step 1: Go to <https://tomcat.apache.org> and copy the link to tar.gz file



The screenshot shows the Tomcat 10.1.7 download page. The left sidebar contains navigation links: Wiki, Migration Guide, Presentations, Specifications, Problems? (Security Reports, Find help, FAQ, Mailing Lists, Bug Database, IRC), Get Involved (Overview, Source code, Buildbot, Translations, Tools), Media (Twitter, YouTube, Blog), and Misc (Who We Are, Swag). The main content area is titled '10.1.7' and includes a link to the README file. It lists 'Binary Distributions' with links for Core (zip, tar.gz, 32-bit Windows zip, 64-bit Windows zip, 32-bit/64-bit Windows Service Installer), Full documentation (tar.gz), Deployer (zip, tar.gz), and Embedded (tar.gz, zip). 'Source Code Distributions' are also listed as tar.gz and zip.

Step -2

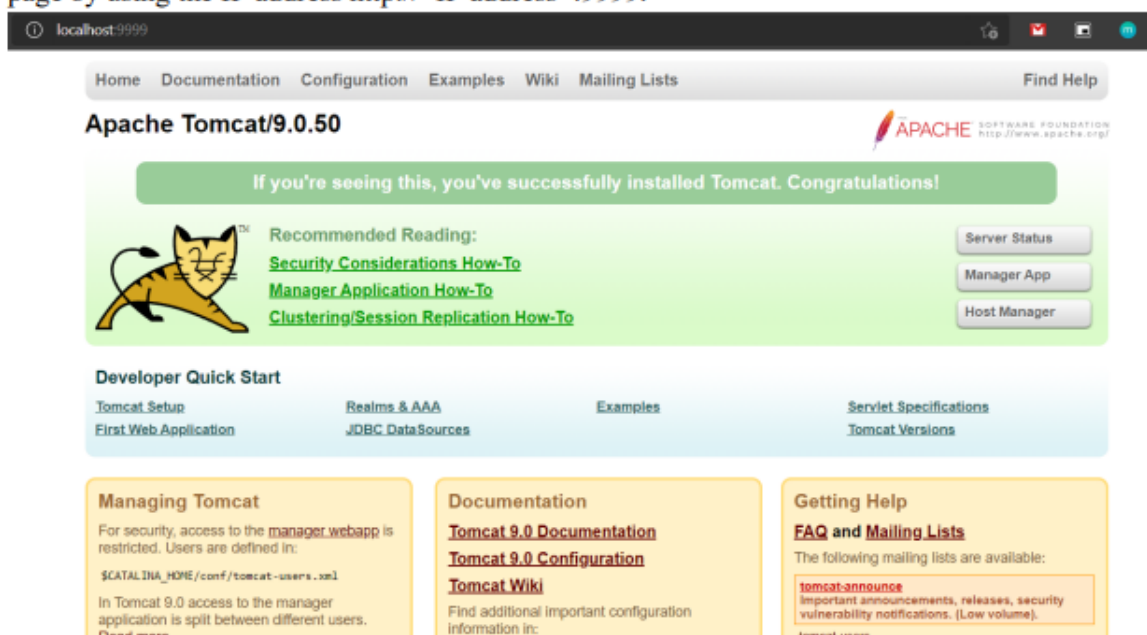
Name	Date modified	Type	Size
bootstrap	2/27/2023 8:25 PM	Executable Jar File	36 KB
catalina	2/27/2023 8:25 PM	Windows Batch File	15 KB
catalina	2/27/2023 8:25 PM	SH Source File	23 KB
catalina-tasks	2/27/2023 8:25 PM	XML Document	2 KB
ciphers	2/27/2023 8:25 PM	Windows Batch File	3 KB
ciphers	2/27/2023 8:25 PM	SH Source File	2 KB
commons-daemon	2/27/2023 8:25 PM	Executable Jar File	26 KB
configtest	2/27/2023 8:25 PM	Windows Batch File	2 KB
configtest	2/27/2023 8:25 PM	SH Source File	2 KB
daemon	2/27/2023 8:25 PM	SH Source File	9 KB
digest	2/27/2023 8:25 PM	Windows Batch File	3 KB
digest	2/27/2023 8:25 PM	SH Source File	2 KB
makebase	2/27/2023 8:25 PM	Windows Batch File	4 KB
makebase	2/27/2023 8:25 PM	SH Source File	4 KB
migrate	2/27/2023 8:25 PM	Windows Batch File	3 KB
migrate	2/27/2023 8:25 PM	SH Source File	2 KB
service	2/27/2023 8:25 PM	Windows Batch File	9 KB
setclasspath	2/27/2023 8:25 PM	Windows Batch File	3 KB
setclasspath	2/27/2023 8:25 PM	SH Source File	4 KB
shutdown	2/27/2023 8:25 PM	Windows Batch File	2 KB
shutdown	2/27/2023 8:25 PM	SH Source File	2 KB
startup	2/27/2023 8:25 PM	Windows Batch File	2 KB
startup	2/27/2023 8:25 PM	SH Source File	2 KB
tcnative-1.dll	2/27/2023 8:25 PM	Application extens...	3,348 KB
tomcat10	2/27/2023 8:25 PM	Application	143 KB
tomcat10w	2/27/2023 8:25 PM	Application	127 KB
tomcat-juli	2/27/2023 8:25 PM	Executable Jar File	48 KB
tool-wrapper	2/27/2023 8:25 PM	Windows Batch File	4 KB

Step - 3 Extract Tomcat and run startup.sh

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.2728]
(c) Microsoft Corporation. All rights reserved.

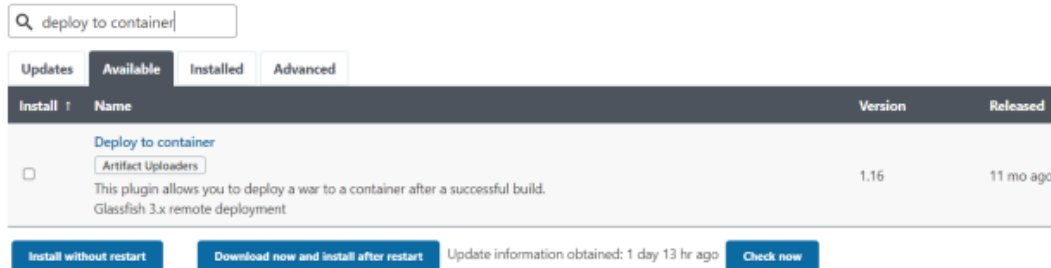
C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7\bin>startup
Using CATALINA_BASE:   "C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7"
Using CATALINA_HOME:   "C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7"
Using CATALINA_TMPDIR: "C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7\temp"
Using JRE_HOME:        "C:\Program Files (x86)\Java\jre1.8.0_361"
Using CLASSPATH:       "C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7\bin\bootstrap.jar;C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7\bin\tomcat-juli.jar"
Using CATALINA_OPTS:   ""
C:\Users\mannp\Downloads\apache-tomcat-10.1.7-windows-x64 (1)\apache-tomcat-10.1.7\bin>
```

Step 4: Open your browser and visit <http://localhost:9999>. We can also access the Tomcat home page by using the IP address <http://<IP address>:9999>.



Deploying a Maven from Jenkins to Tomcat

Step 1: On the Jenkins dashboard, go to the Manage Jenkins link and then click on Manage Plugins and install the Deploy to container plugin, by clicking on Install without restart. Wait until the installation of Deploy Plugin is complete.




Step 2: Create a Maven build job for a project which generates a war file (instead of jar), as configured in its pom.xml file


Step 3: Go to the Jenkins dashboard and select any Maven build job. Click on the Configure link of the selected build job.

Download progress

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

Deploy to container  Success

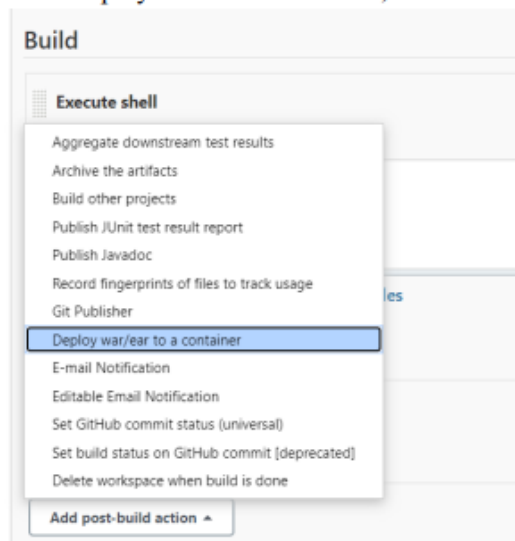
Loading plugin extensions  Success

→ [Go back to the top page](#)

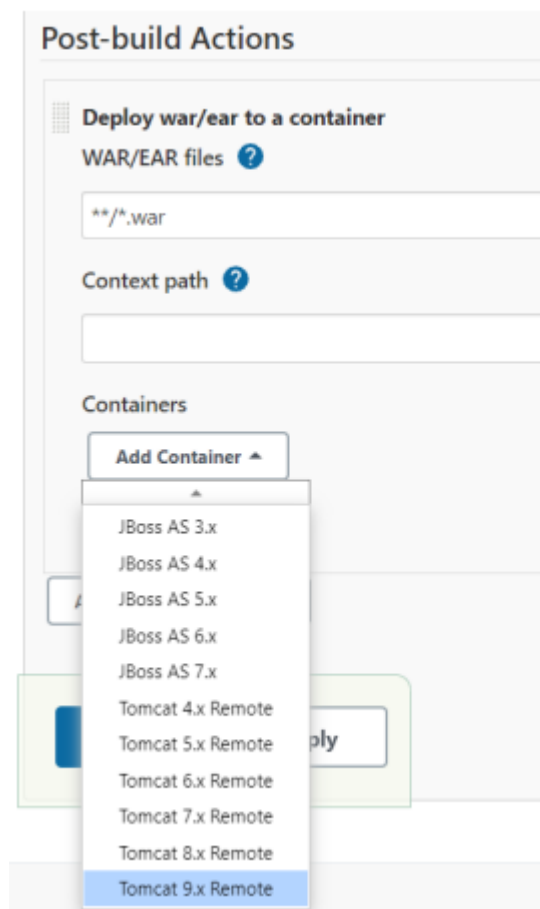
(you can start using the installed plugins right away)

→ ☐ Restart Jenkins when installation is complete and no jobs are running

Step 4: Click on the Add post-build action button on the configuration page of the relevant job and select Deploy war/ear to container, as shown in the following figure.



Step 5: It will add Deploy war/ear to a container in the Post-build Actions section. Provide a war file path that is relative to the workspace, and select Tomcat 9.x as the container from the available list box, as shown in the following figure.



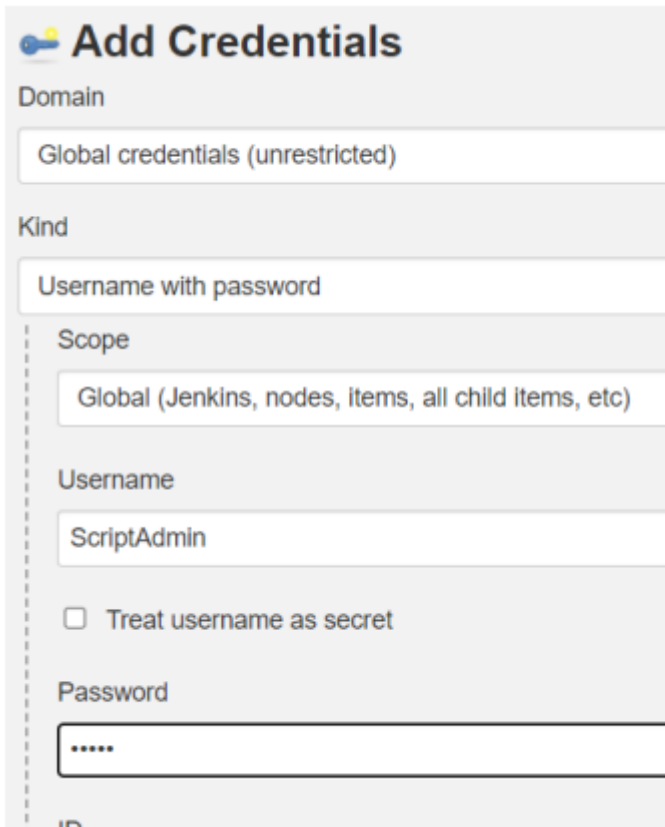
Step 6: Add the following in the uncommented section:

```
<user username="ScriptAdmin" password="pass1" roles="manager-script"/>
```

```
<user username="TomcatAdmin" password="pass1" roles="manager-gui"/>
```

Restart Tomcat, visit <http://localhost:9999/manager/html>, and enter a username and password of manager-gui.

Step 7: Use the same username and password in Jenkins for Manager credentials, as given for manager-script role.



Step 8: Click on Build Now. Click on the build number to view the Console Output.

Console Output

```
Started by user Sreelesh Iyer
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/MyFirstMavenJob
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/MyFirstMavenJob/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/sreeleshier/webAppExample.git # timeout=10
Fetching upstream changes from https://github.com/sreeleshier/webAppExample.git
> git --version # timeout=10
> git --version # 'git version 2.25.1'
> git fetch --tags --force --progress -- https://github.com/sreeleshier/webAppExample.git +r
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
[INFO] Building war: /var/lib/jenkins/workspace/MyFirstMavenJob/target/webAppExample.war
[INFO] WEB-INF/web.xml already added, skipping
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 6.778 s
[INFO] Finished at: 2021-10-05T01:57:13+05:30
[INFO] -----
Waiting for Jenkins to finish collecting data
[JENKINS] Archiving /var/lib/jenkins/workspace/MyFirstMavenJob/pom.xml to com.javarticles.webapp/webAppExample/0.0.
[JENKINS] Archiving /var/lib/jenkins/workspace/MyFirstMavenJob/target/webAppExample.war to com.javarticles.webapp/0.0.
channel stopped
[DeployPublisher][INFO] Attempting to deploy 1 war file(s)
[DeployPublisher][INFO] Deploying /var/lib/jenkins/workspace/MyFirstMavenJob/target/webAppExample.war to container
[DeployPublisher][INFO] /var/lib/jenkins/workspace/MyFirstMavenJob/target/webAppExample.war is not deployed. Doing a fresh deployment.
Deploying /var/lib/jenkins/workspace/MyFirstMavenJob/target/webAppExample.war
Finished: SUCCESS
```



```
04-Oct-2021 13:15:30.604 INFO [http-nio-9999-exec-8] org.apache.catalina.startup.HostConfig.deployWAR Deploying web application archive [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\sample1.war]
04-Oct-2021 13:15:32.426 INFO [http-nio-9999-exec-8] org.apache.jasper.servlet.TldScanner.scanJars At least one JAR was scanned for TLDs yet contained no TLDs. Enable debug logging for this logger for a complete list of JARs that were scanned but no TLDs were found in them. Skipping unneeded JARs during scanning can improve startup time and JSP compilation time.
04-Oct-2021 13:15:32.432 INFO [http-nio-9999-exec-8] org.apache.catalina.startup.HostConfig.deployWAR Deployment of web application archive [C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\sample1.war] has finished in [1,827] ms
```

