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Day 29: Jenkins Part 6: Deploying war file in tomcat using Jenkins Freestyle job



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Ex-TCSer | DevOps | Azure | GIT | Terraform | Docker | Kubernetes | Jenkins | Shell Script

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How do you optimize and improve the performance and efficiency of your bash scripts?

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To deploy a WAR file to Apache Tomcat using Jenkins Freestyle job, you can follow these general steps:

1. **Install Jenkins:** Make sure you have Jenkins installed and running on your server.

Followed these steps to install the Tomcat in my ubuntu

<https://www.digitalocean.com/community/tutorials/how-to-install-apache-tomcat-10-on-ubuntu-20-04>

The screenshot shows the Tomcat Web Application Manager interface. At the top, there's a message bar and navigation links. Below is a table of applications:

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions: with idle x 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions: with idle x 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions: with idle x 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions: with idle x 30 minutes
/manager	None specified	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions: with idle x 30 minutes

Below the table is a 'Deploy' section with input fields for Context Path, Version, XML Configuration file path, and WAR or Directory path, along with a 'Deploy' button.

2. **Install Required Plugins:** Ensure you have the necessary plugins installed in Jenkins. For deploying to Tomcat, you may need the "Deploy to Container" plugin.

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← → ↻ local:localhost:8080/manage/pluginsManager/available

Jenkins

Search (CTRL+K)

Manage Jenkins > Plugins

Plugins

Updates 2

Available plugins

Installed plugins

Advanced settings

Search: deploy

Install

Install	Name	Released
<input checked="" type="checkbox"/>	Deploy to container 1.16 Artifact Uploaders This plugin allows you to deploy a war to a container after a successful build. Glassfish 3.x remote deployment	3 yr 4 mo ago
<input type="checkbox"/>	Docker Pipeline 572.v950f58993843 pipeline DevOps Deployment docker Build and use Docker containers from pipelines.	6 mo 25 days ago
<input type="checkbox"/>	Artifactory 4.0.5 pipeline This plugin allows your build jobs to deploy artifacts and resolve dependencies to and from Artifactory, and then have them linked to the build job that created them. The plugin includes a vast collection of features, including a rich pipeline API library and release management for Maven and Gradle builds with Staging and Promotion.	8 days 3 hr ago
<input type="checkbox"/>	Ansible 307.via_1f3ef06575a_ pipeline External Site/Tool Integrations DevOps Build Tools Deployment Invoke Ansible Ad-Hoc commands and playbooks.	2 mo 4 days ago
<input type="checkbox"/>	Repository Connector 2.2.1 External Site/Tool Integrations Maven The repository connector plugin allows you to resolve artifacts from or deploy artifacts to a Maven repository. <div>Warning: This plugin version may not be safe to use. Please review the following security notices:<ul style="list-style-type: none">Stored XSS vulnerabilityMissing permission check allows listing the Jenkins controller file system</div>	11 mo ago

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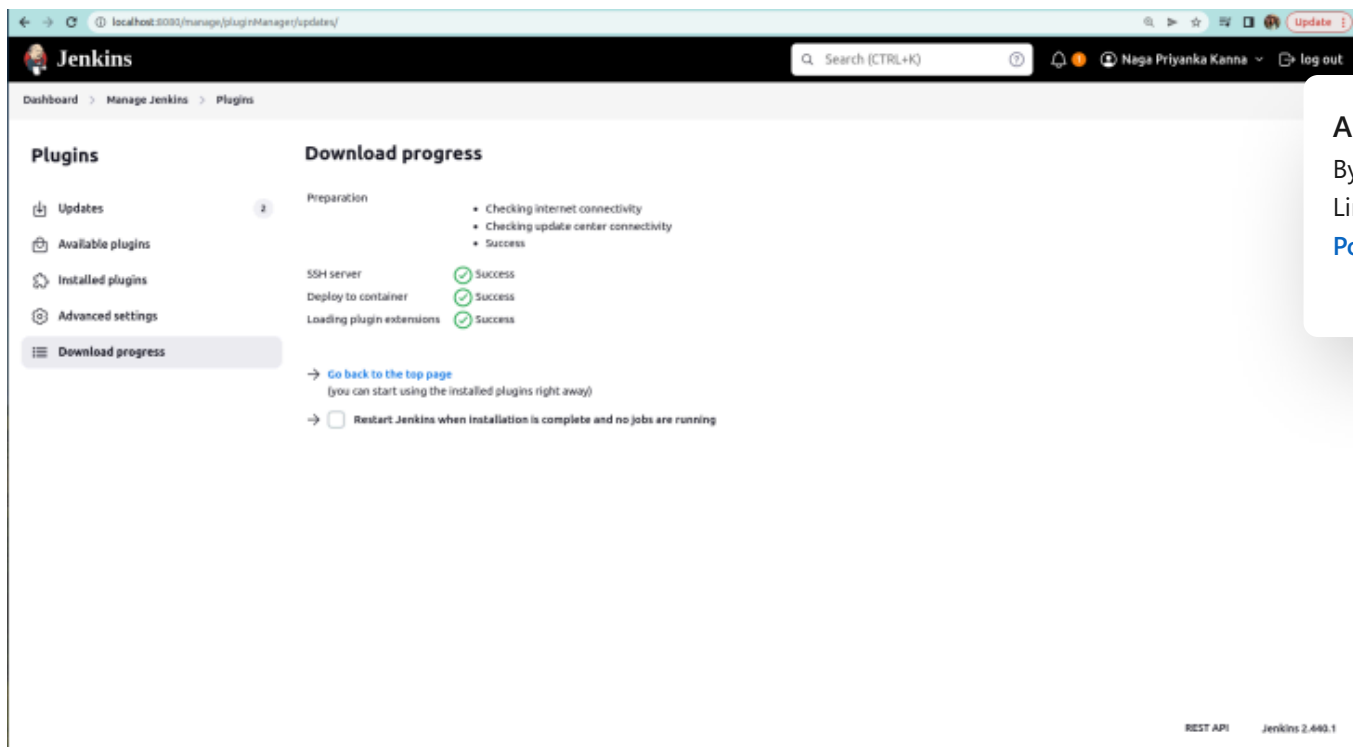
See All



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3. **Configure Tomcat Manager:** You need to configure Tomcat Manager so that Jenkins can deploy WAR files to Tomcat remotely. Update the tomcat-users.xml file in your Tomcat's conf directory to include a user with the manager-script role.

```
<tomcat-users>
```

```
<role rolename="manager-script"/>
```

```
<user username="your_username" password="your_password" roles="manager-script"/>
```



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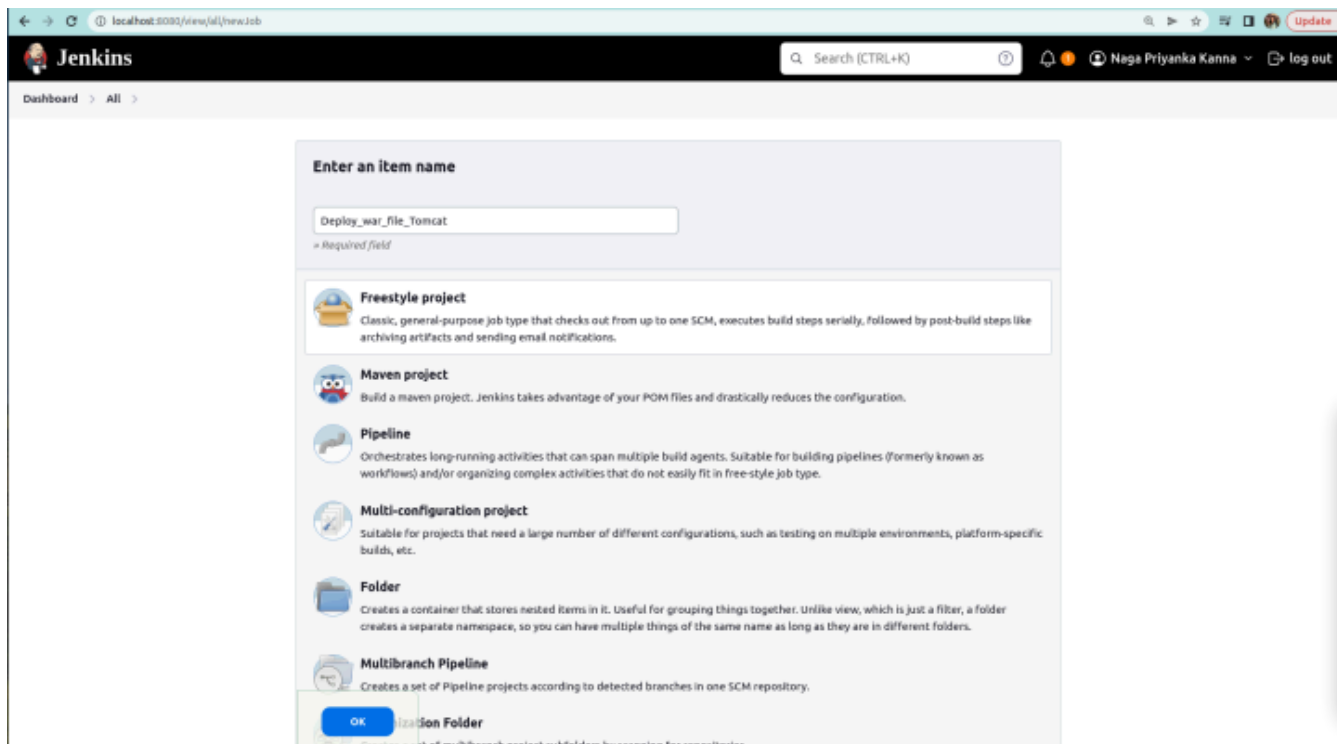
```
</tomcat-users>
```

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4. Create a Jenkins Freestyle Job:

- Go to Jenkins and create a new Freestyle project.
- Configure the job as per your requirements.
- In the build section, add a build step to deploy the WAR file to Tomcat.
- Select "Deploy to container" option or use a script to deploy the WAR file.



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Updating the job with my git source code repository:

localhost:8080/job/Deploy_war_file_Tomcat/configure

Dashboard > Deploy_war_file_Tomcat > Configuration

Configure

General

Source Code Management

Build Triggers

Build Environment

Build Steps

Post-build Actions

☐ Execute concurrent builds if necessary

advanced

Source Code Management

☐ None

☒ Git

Repositories

Repository URL

https://github.com/ajaykumar/web-application.git

Credentials

gha

Advanced

Add repository

Branches to build

Branch Specifier (blank for 'any')

*/master

Add branch

Repository browser

Auto

Additional Behaviours

Add

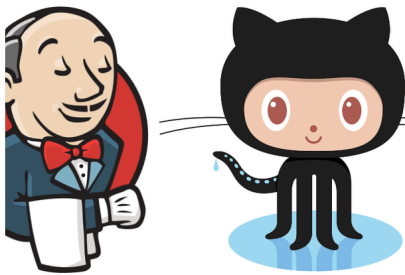
Save Apply

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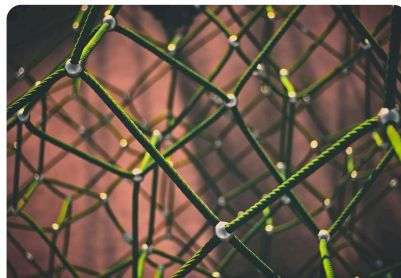
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Maven already configured in the previous articles, using the same

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5. **Configure Deploy to Container Plugin:**

- If you're using the "Deploy to Container" plugin, you'll need to configure it.
- Specify the credentials you set up in the Tomcat Manager configuration.
- Provide the URL to your Tomcat Manager in the plugin settings.
- Specify the WAR file to deploy.

6. **Save and Run the Job:** Save your Jenkins job configuration and run it to deploy the WAR file to Tomcat.

Here's an example of how you might set up the deploy script using curl in a shell script build step:



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```
#!/bin/bash
```

```
TOMCAT_USERNAME="your_username"
```

```
TOMCAT_PASSWORD="your_password"
```

```
TOMCAT_MANAGER_URL="http://your_tomcat_server:port/manager/text"
```

```
WAR_FILE="path_to_your_war_file.war"
```

```
curl -T $WAR_FILE "$TOMCAT_MANAGER_URL/deploy?path=/context_name&update=true" --
```

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Replace your_username, your_password, your_tomcat_server, port, context_name, and path_to_your_war_file.war with your actual values.

Ensure that the Jenkins server has permission to write to the Tomcat directory and access to Tomcat's manager URL.

With these steps, you should be able to deploy your WAR file to Tomcat using a Jenkins Freestyle job.

Failed to deploy the war file at tomcat server due to user access issue. But this is the whole process we need to follow to deploy a war file to tomcat server.



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