

Plugins in Jenkins

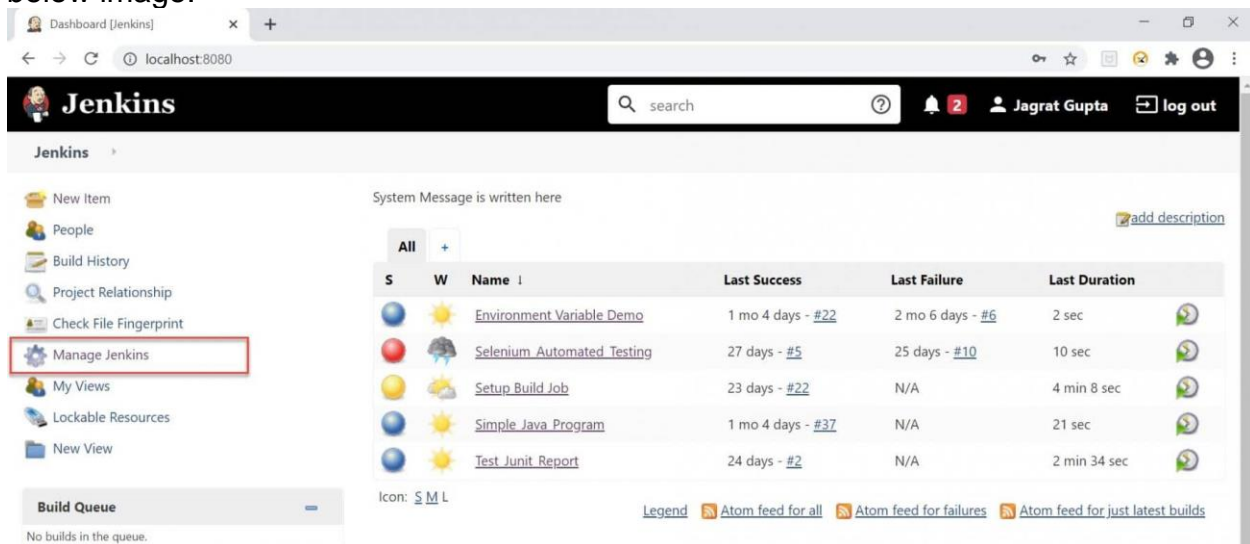
We will look at how we manage plugins in Jenkins to use the specific functionality in Jenkins according to our requirements.

Install a Plugin

Please follow the below steps to install a plugin in Jenkins:

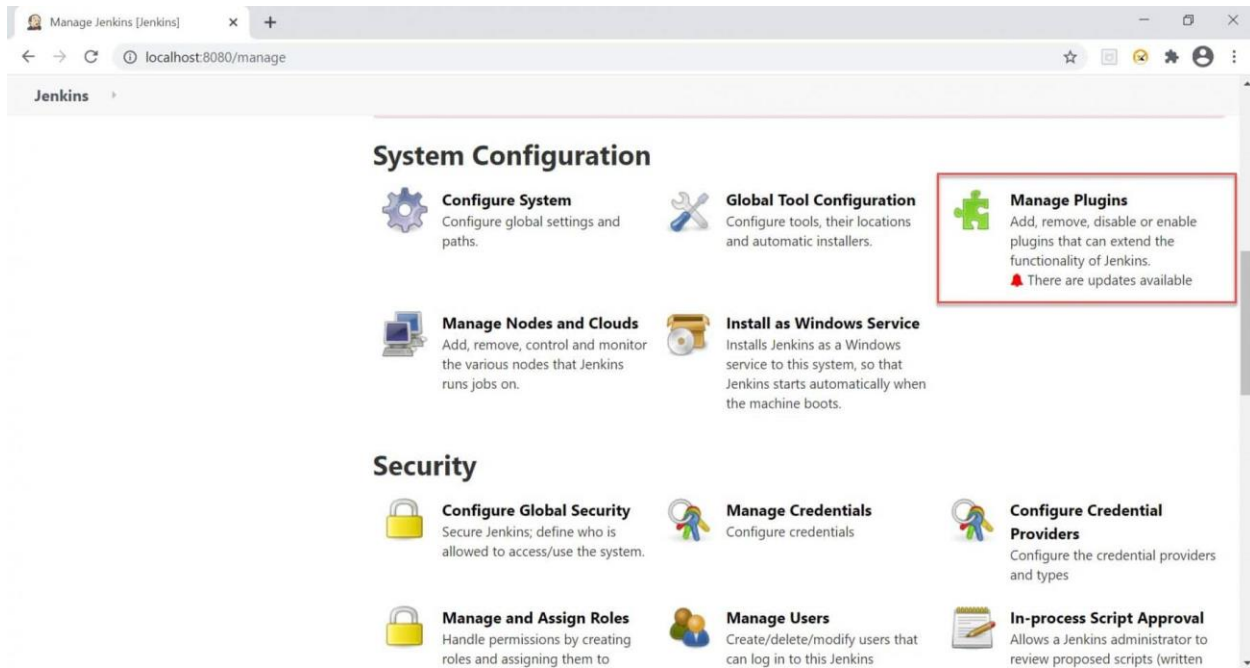
Manage Jenkins

Go to *Jenkins dashboard* and click on the **“Manage Jenkins”** link highlighted in the below image.



Manage Plugins

As soon as we click on the *Manage Jenkins* link, we will redirect towards the manage Jenkins page, and here we need to click on **“Manage Plugins”** under the System Configuration section.

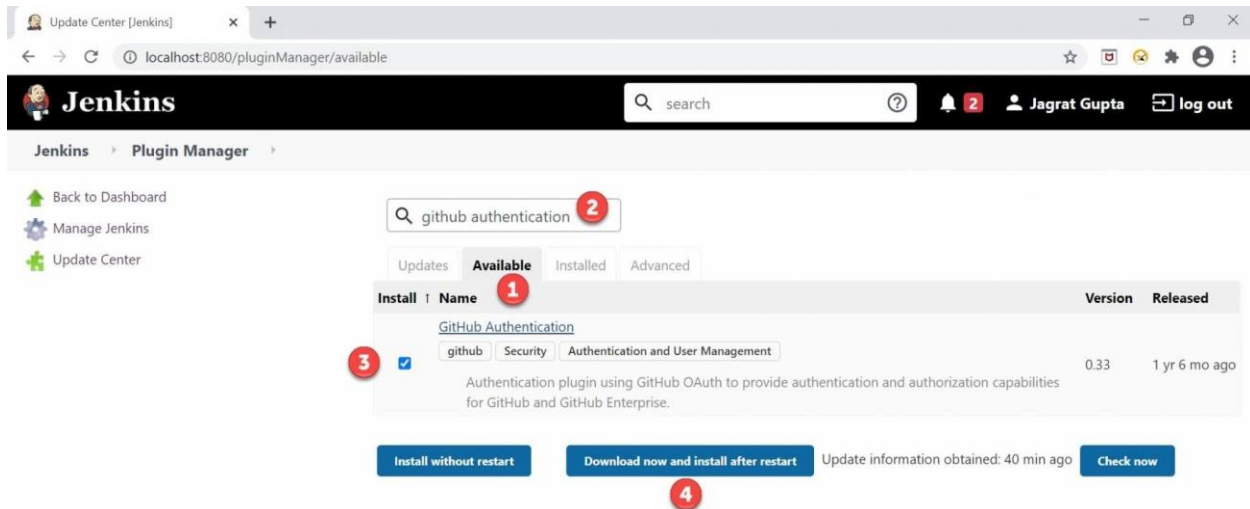


Choose the Plugin to Install

We'll use the GitHub Authentication plugin in this experiment, but you could use any plugin (hint Perforce)

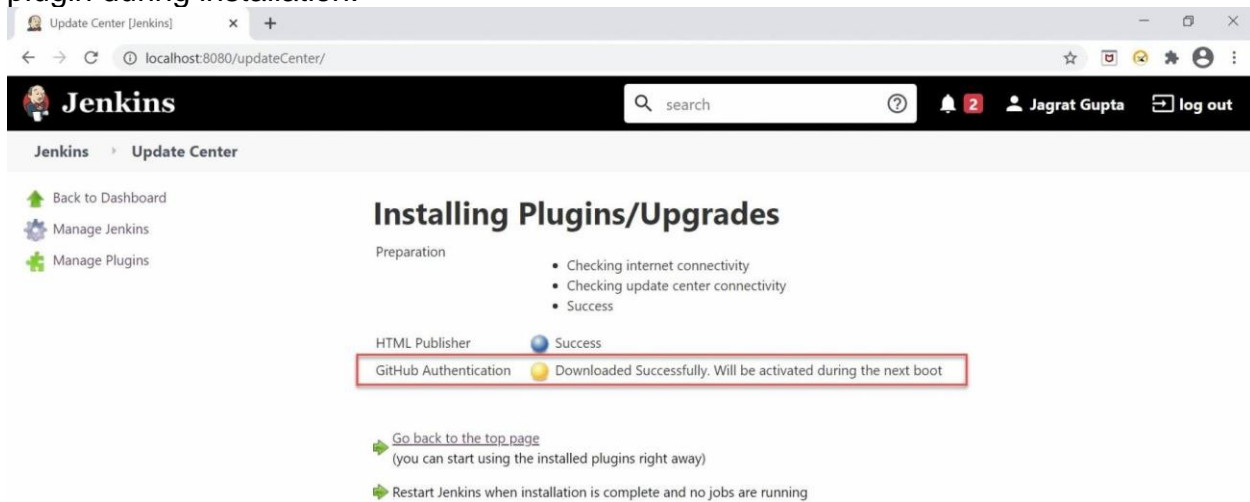
Now, we are on the page where plugins are available after clicking on the *manage plugins* option. We want to install the “**GitHub Authentication**” plugin in Jenkins. To do it, please follow the below steps:

- Click on the “**Available**” tab.
- Search the plugin you want to install in the search box as we searched “**GitHub Authentication**.”
- Check the checkbox against the required plugin.
- After that, click on the “**Download now and install after restart**” button. We can also click on the “**Install without restart**” button, but we always recommend choosing to install after the restart to install the plugin effectively.



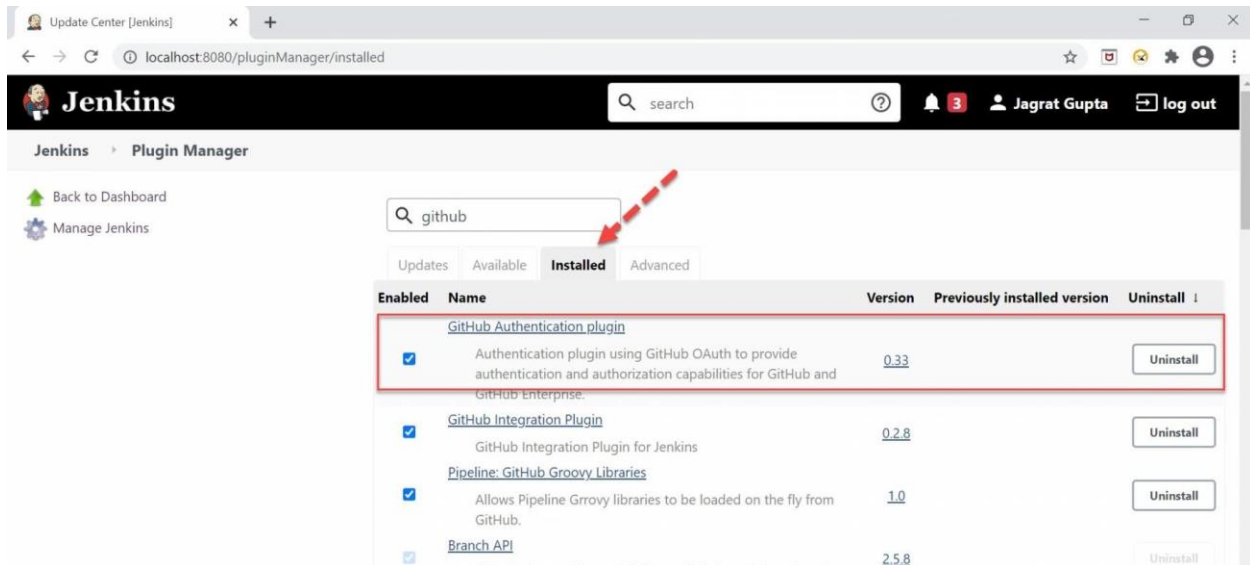
View Plugin installation progress

As soon as the above steps will complete, we will move towards the *Plugin installation progress* page, and after successful installation of the plugin, we can see a successful message. Any dependent plugin will automatically start to install along with the required plugin during installation.



Restart Jenkins

Now restart Jenkins, and after a successful restart, we can verify that if the plugin installation were successful, it would show under the ***“Installed”*** tab.

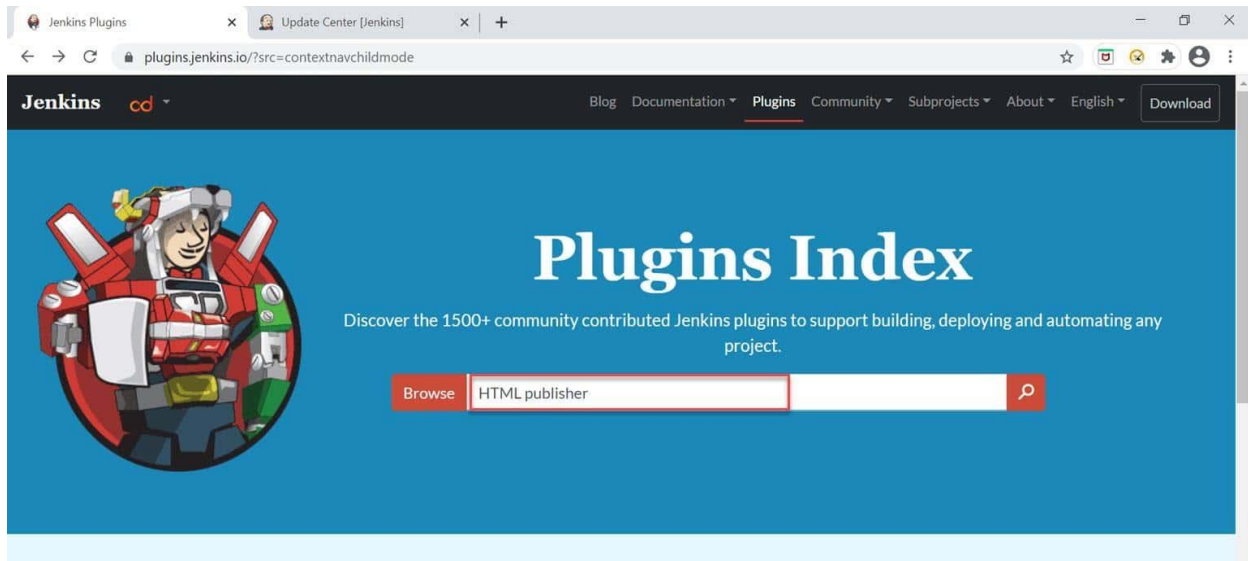


So, in this way, we can install any plugin in Jenkins. Now in the next subsection, let's see how to install any plugin manually in Jenkins.

Manual Installation

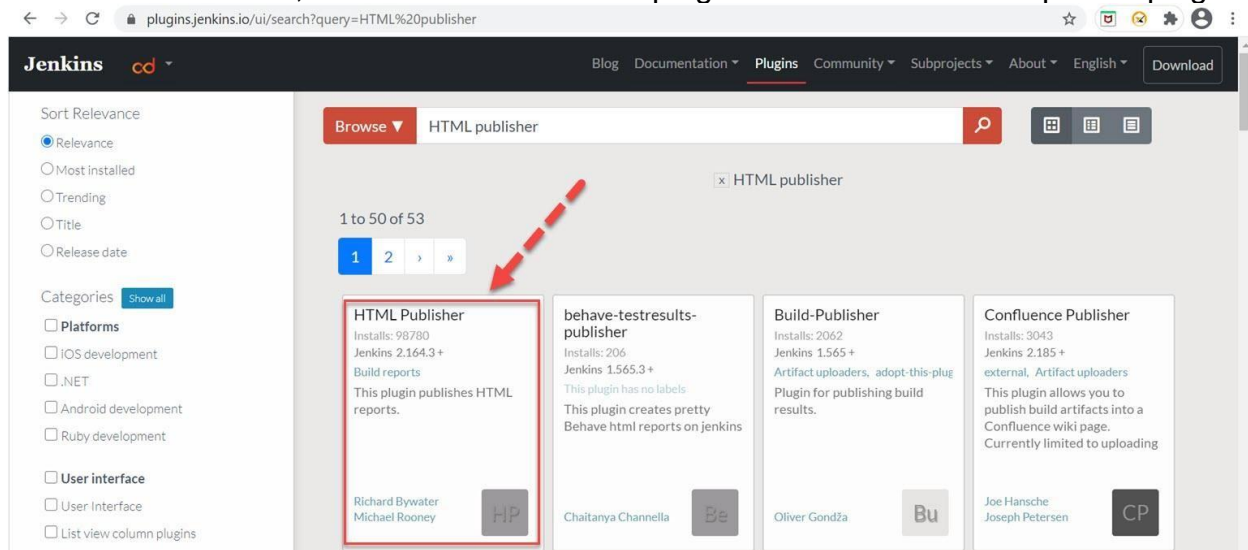
We have already seen in the previous section how to install a plugin in Jenkins, but sometimes, we need to install some specific version of the plugin in Jenkins. In this case, we can not install the plugin through the steps mentioned in the previous section. Instead, we need to install the plugin manually in this case. So, let's understand the manual plugin installation process with the help of the below steps:

Step 1: Now we will install the **"HTML Publisher"** plugin manually. So, firstly we need to go to the **Plugins page** of Jenkins and search for the plugin that we want to install.



Browse Plugins

As soon as we click, we will see the relevant plugin. Now click on the respected plugin.



Review Versions

After clicking on the respective plugin, we will move towards the plugin page. Here, as soon as we click on the **“release”** tab, we can see the plugin versions.

The screenshot shows the Jenkins HTML Publisher plugin page for version 1.25. A red dashed arrow points to the 'Releases' tab. The page displays the version number 1.25, released 3 months ago. It includes installation instructions: `jenkins-plugin-cli --plugins htmlpublisher:1.25`. A 'Bug Fixes' section lists a revert of a previous change. SHA hashes are provided for both the plugin and the Jenkins core. On the right, an 'Archives' section shows the version 1.25, released 3 months ago, requiring Jenkins 2.164.3. It also shows 98,780 installs and a bar chart of install trends. Links to GitHub and Javadoc are provided.

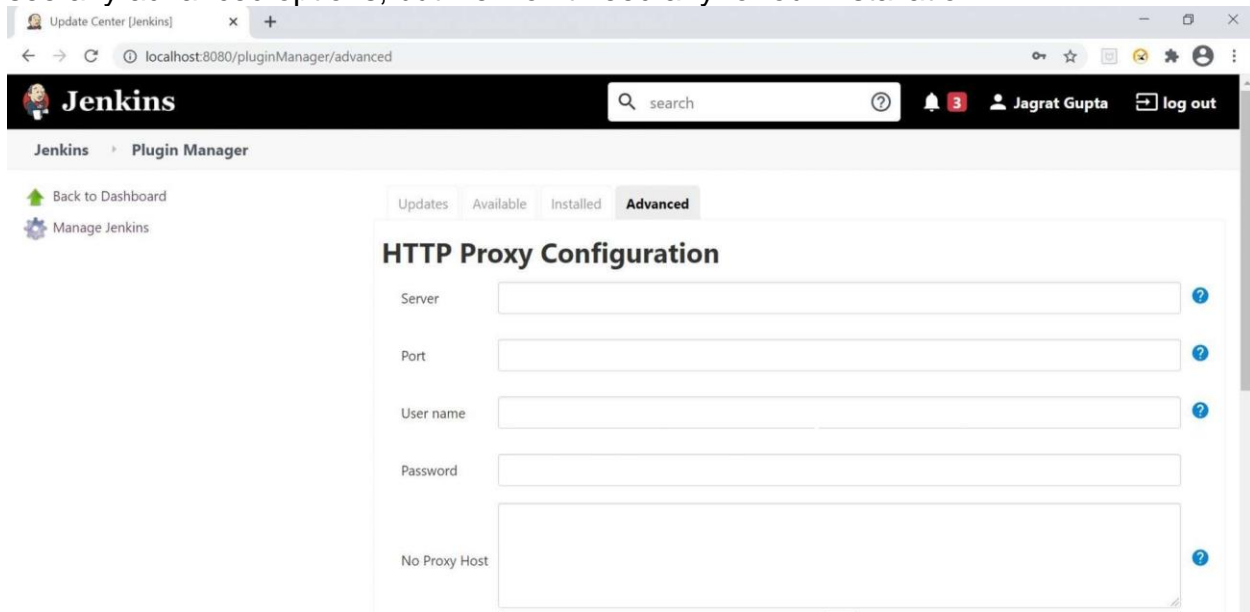
Validate dependencies

Here, we can see that the latest version is 1.30 but let us suppose we want to install version 1.24, so we need to scroll down the page and go to that version and click on that link. After clicking, the **hpi** file will download.

The screenshot shows the Jenkins HTML Publisher plugin page for version 1.24. A red dashed arrow points to the version number 1.24. The page displays the version number 1.24, released 3 months ago. It includes installation instructions: `jenkins-plugin-cli --plugins htmlpublisher:1.24`. A 'New features and improvements' section lists a switch to adding or replacing build action. A 'Dependency updates' section lists numerous updates to various dependencies, including bumping plugin, mockito-core, matrix-project, encoder, actions/cache, release-drafter, and others. On the right, a 'Labels' section shows 'Build reports'. A 'Maintainers' section lists Richard Bywater and Michael Rooney. A 'Help us improve this page!' section encourages submitting pull requests. A 'Previous Security Warnings' section mentions a path traversal vulnerability in version 1.15 and earlier. At the bottom, a download bar shows the file 'htmlpublisher.hpi' (69.9/69.9 KB).

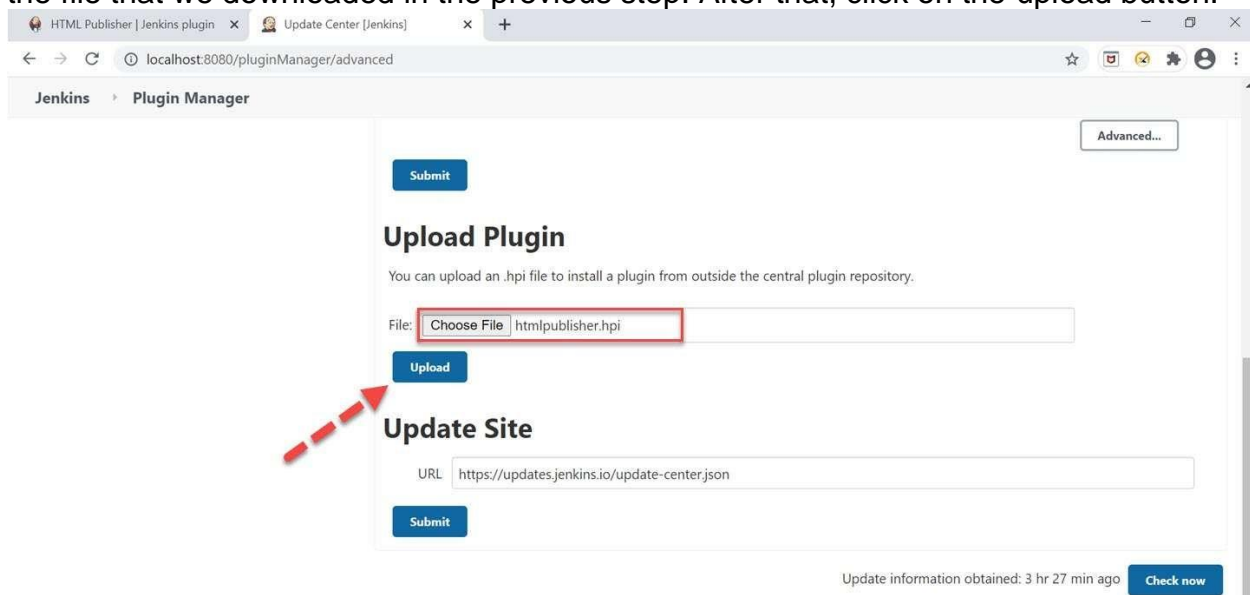
View Advanced Settings

Now, in *Jenkins*, go to *plugin manager* and click on the “**Advanced**” tab. Here we will see any advanced options, but we won’t need any for our installation.



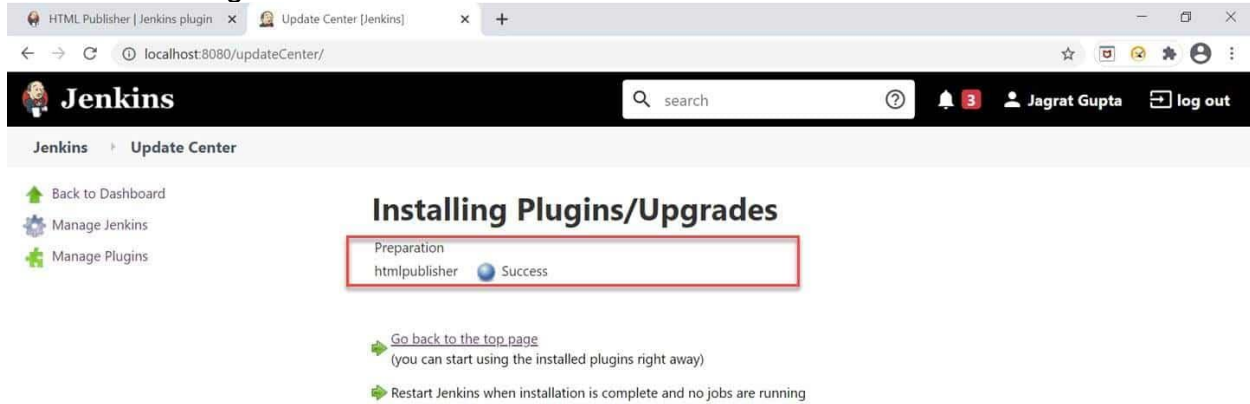
Plugin Upload

Now, scroll down the page, and under the **upload plugin** section, we need to choose the file that we downloaded in the previous step. After that, click on the upload button.



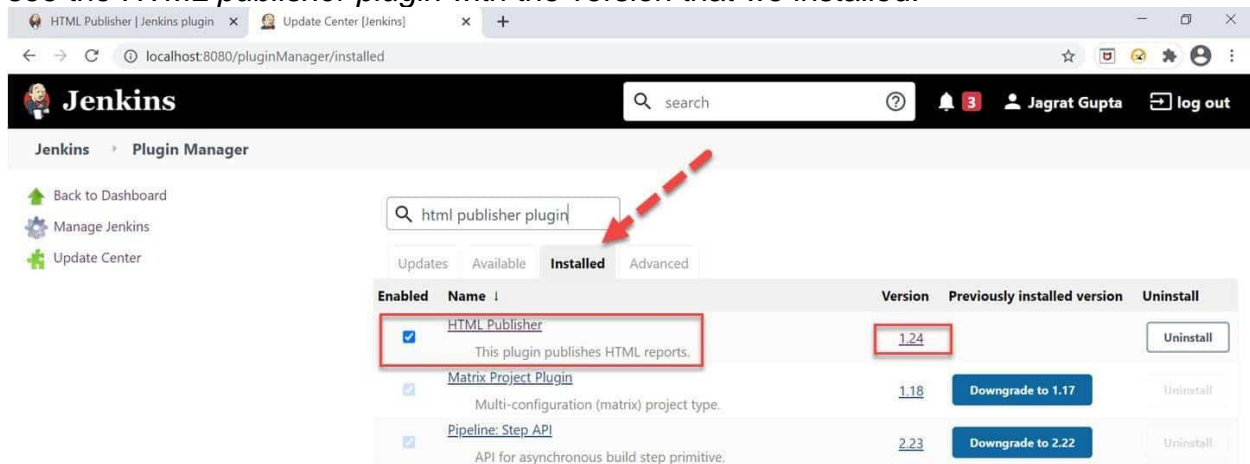
Review Progress

As soon as we click on the upload button, we will move towards the *Plugin installation progress* page, and here we can see that the plugin installation started. We will see a success message after installation.



Validate installation

Now, for validation, go to the plugin manager, and under the **“installed”** tab, we can see the *HTML publisher plugin* with the version that we installed.



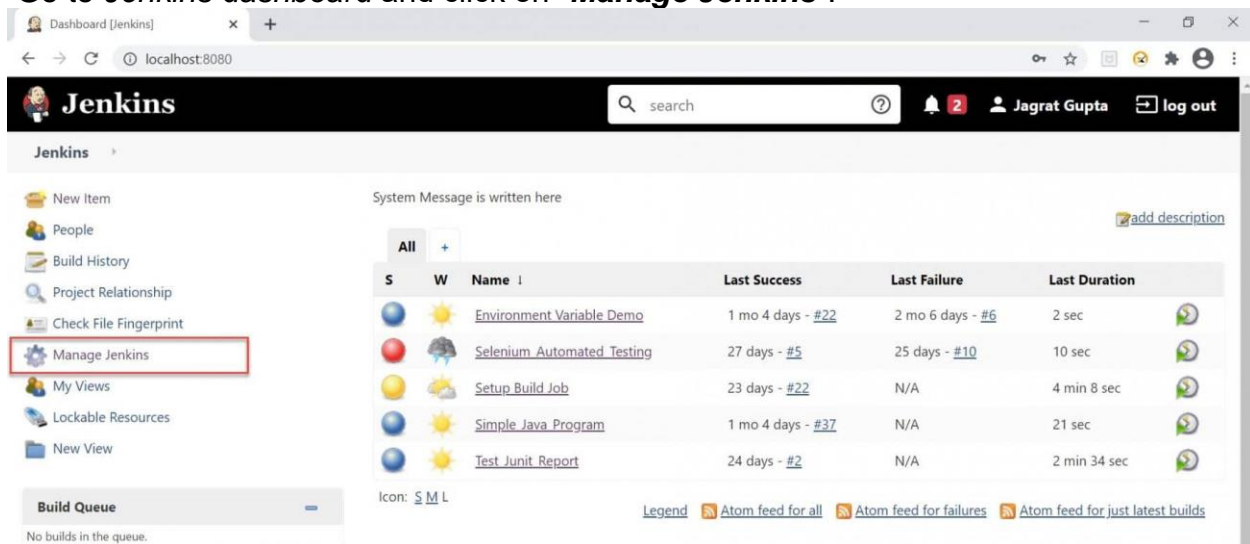
So, in this way, we can install the plugin manually in Jenkins. In the next sub-section, we will see how to upgrade any plugin in Jenkins.

Upgrade Jenkins Plugins

We saw in the previous subsection that how to install a plugin manually in Jenkins, and at that moment, we installed the “**HTML publisher plugin**” with version 1.24. Still, as we saw previously that its latest version is 1.30, so the question is like how can we move to the latest version of any plugin. The answer is that we need to *upgrade the plugin*. So please follow the below steps to upgrade the plugin:

Manage Jenkins

Go to *Jenkins dashboard* and click on “**Manage Jenkins**”.

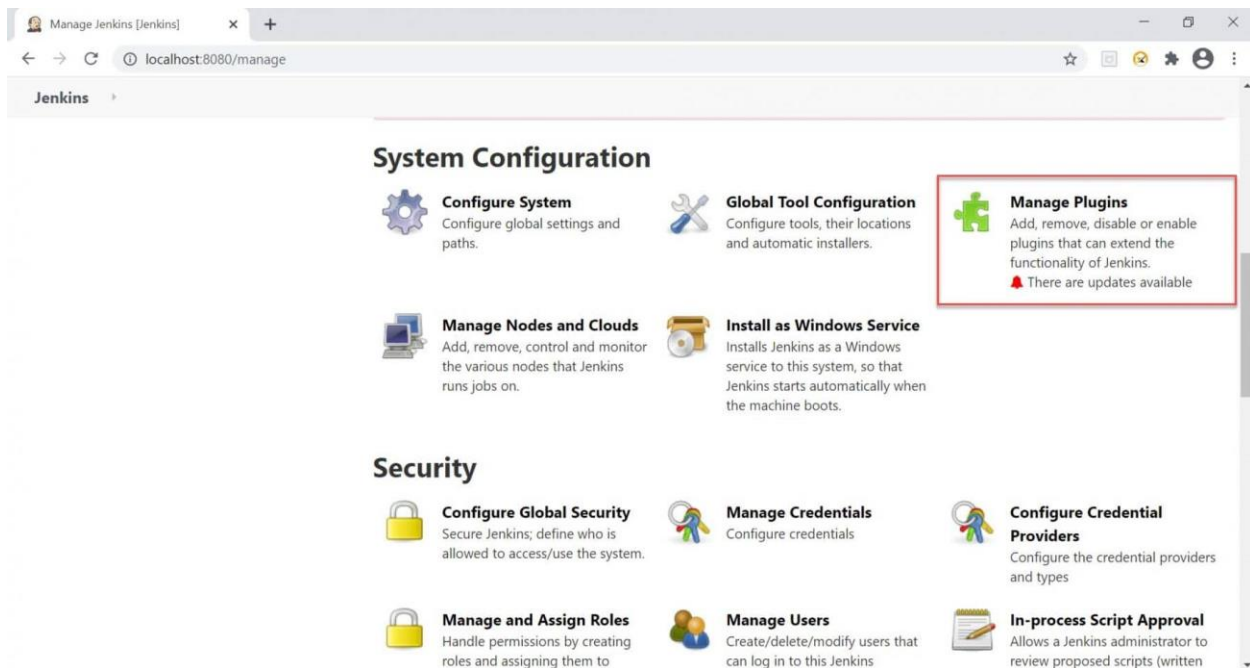


The screenshot shows the Jenkins dashboard interface. The left sidebar contains a list of links: New Item, People, Build History, Project Relationship, Check File Fingerprint, **Manage Jenkins** (highlighted with a red box), My Views, Lockable Resources, and New View. The main content area displays a table of build jobs. The table has columns for Status (S), Weather (W), Name, Last Success, Last Failure, and Last Duration. The jobs listed are Environment Variable Demo, Selenium Automated Testing, Setup Build Job, Simple Java Program, and Test Junit Report. A legend at the bottom indicates Atom feed links for all builds, failures, and latest builds.

S	W	Name	Last Success	Last Failure	Last Duration
🌤️	☀️	Environment Variable Demo	1 mo 4 days - #22	2 mo 6 days - #6	2 sec
🌤️	☁️	Selenium Automated Testing	27 days - #5	25 days - #10	10 sec
🌤️	☀️	Setup Build Job	23 days - #22	N/A	4 min 8 sec
🌤️	☀️	Simple Java Program	1 mo 4 days - #37	N/A	21 sec
🌤️	☀️	Test Junit Report	24 days - #2	N/A	2 min 34 sec

Manage Plugins

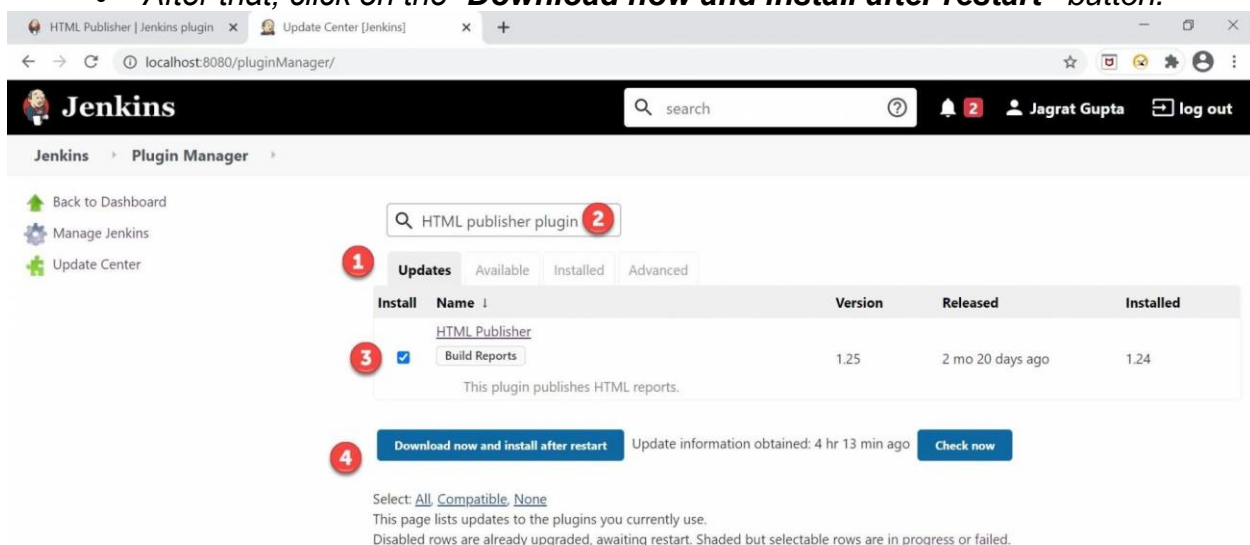
As soon as we click on the *manage Jenkins* link, we will redirect towards the *manage Jenkins* page, and here we need to click on “**Manage Plugins**” under the *System Configuration* section.



Update plugin

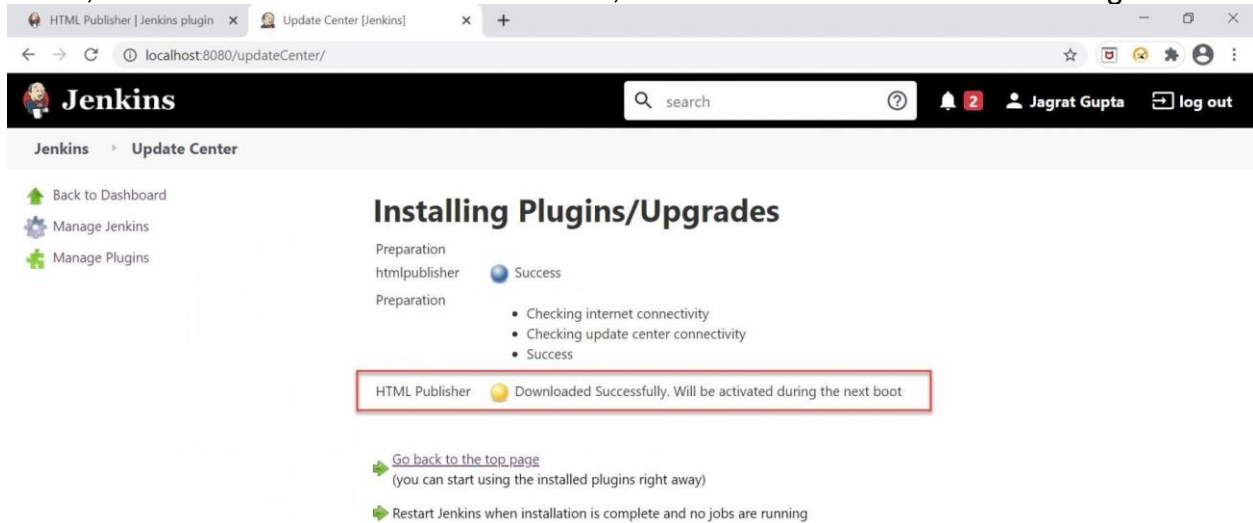
Now, we will move towards the *plugin manager* page. Please do the following steps to upgrade the plugin:

- Click on the **“Updates”** tab.
- Search the plugin that you want to upgrade in the search box as we searched **“HTML publisher plugin.”** Here we can easily see the latest version as well as the currently installed version of the plugin.
- Check the checkbox against the required plugin.
- After that, click on the **“Download now and install after restart”** button.



Update progress

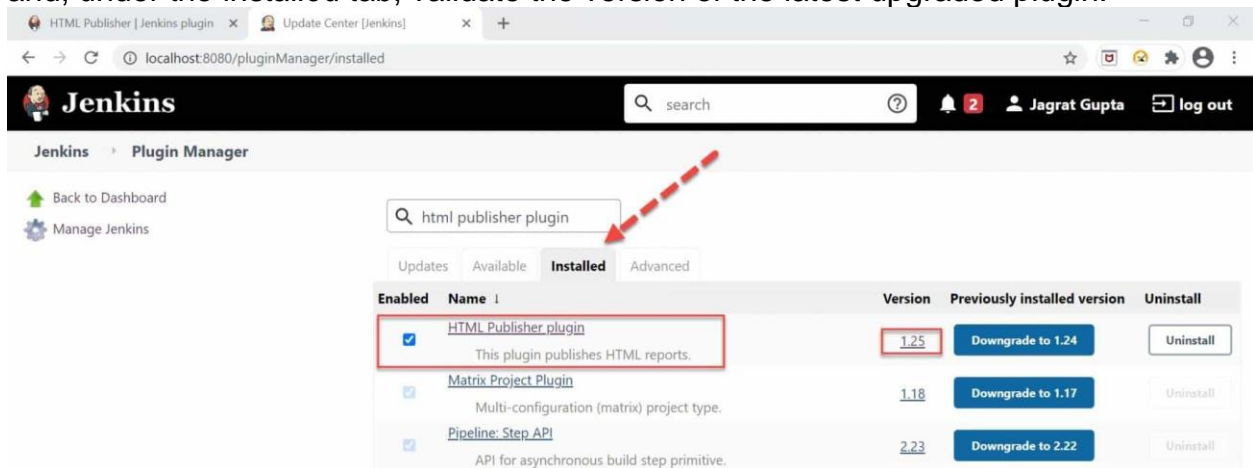
As soon as we completed the above steps, the plugin installation progress page will come, and hereafter successful installation, we can see the successful message.



The screenshot shows the Jenkins Update Center interface. The browser address bar indicates the URL is localhost:8080/updateCenter/. The Jenkins header shows the user is logged in as Jagrat Gupta. The main heading is "Installing Plugins/Upgrades". Under the "Preparation" section, the "htmlpublisher" plugin is listed with a "Success" status. A red box highlights a message: "HTML Publisher Downloaded Successfully. Will be activated during the next boot". Below this, there are links to "Go back to the top page" and a note to "Restart Jenkins when installation is complete and no jobs are running".

Jenkins Restart

Now we need to *restart Jenkins* and, after restarting, go to again *plugin manager* page and, under the *installed* tab, validate the version of the latest upgraded plugin.



The screenshot shows the Jenkins Plugin Manager interface. The browser address bar indicates the URL is localhost:8080/pluginManager/installed. The Jenkins header shows the user is logged in as Jagrat Gupta. The main heading is "Plugin Manager". A search bar contains "html publisher plugin". The "Installed" tab is selected. A red dashed arrow points to the "Installed" tab. Below the tabs, a table lists the installed plugins. The first row is highlighted with a red box.

Enabled	Name	Version	Previously installed version	Uninstall
<input checked="" type="checkbox"/>	HTML Publisher plugin This plugin publishes HTML reports.	1.25	Downgrade to 1.24	Uninstall
<input checked="" type="checkbox"/>	Matrix Project Plugin Multi-configuration (matrix) project type.	1.18	Downgrade to 1.17	Uninstall
<input checked="" type="checkbox"/>	Pipeline: Step API API for asynchronous build step primitive.	2.23	Downgrade to 2.22	Uninstall

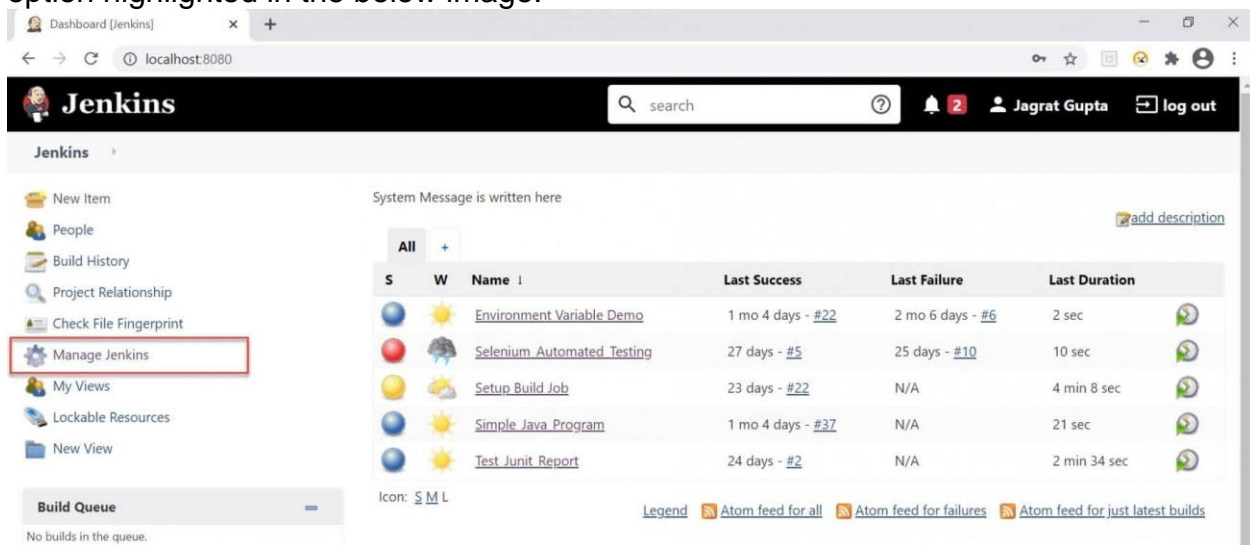
So, in this way, we can upgrade the *plugin in Jenkins*. In the next section, let's see how to uninstall any plugin in Jenkins.

Plugin Uninstall

In the previous section, we saw how to install any plugin in Jenkins and install any plugin in Jenkins manually. So, in this section, let's understand how to uninstall any plugin in Jenkins with the help of the below steps:

Manage Jenkins

Go to *Jenkins dashboard* after successful login and click on the “**Manage Jenkins**” option highlighted in the below image.

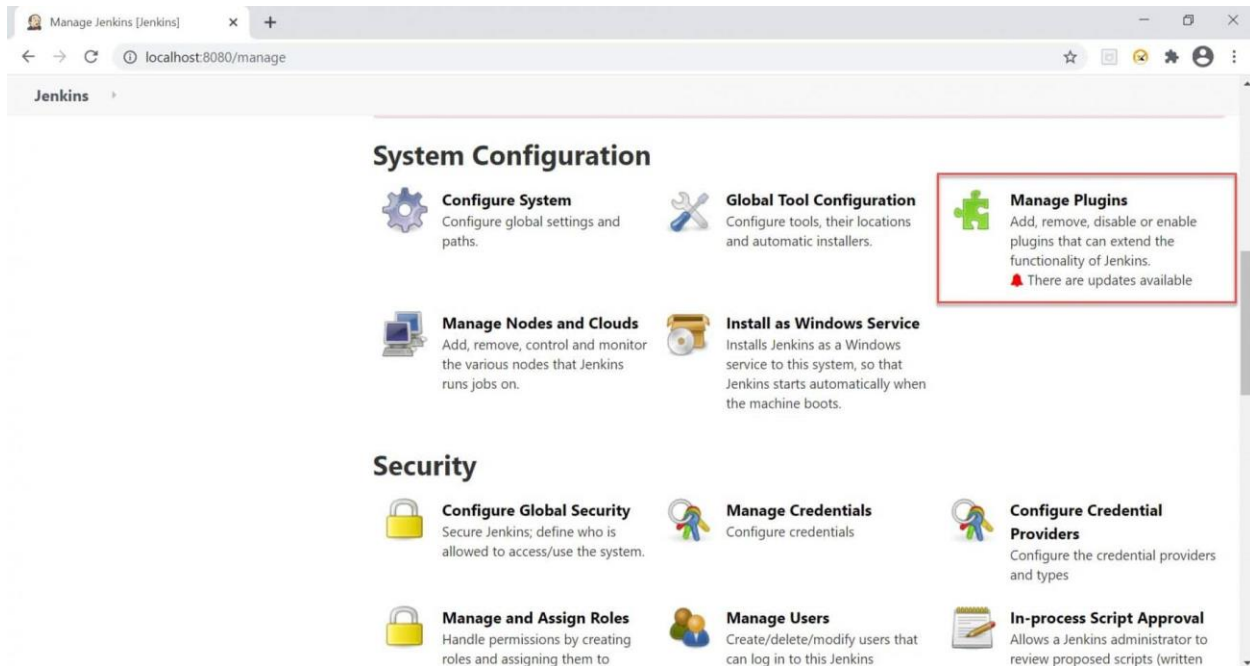


The screenshot shows the Jenkins dashboard interface. The left sidebar contains a list of navigation options: New Item, People, Build History, Project Relationship, Check File Fingerprint, **Manage Jenkins** (highlighted with a red box), My Views, Lockable Resources, and New View. The main content area displays a table of build jobs. The table has columns for Status (S), Web icon (W), Name, Last Success, Last Failure, and Last Duration. The jobs listed are Environment Variable Demo, Selenium Automated Testing, Setup Build Job, Simple Java Program, and Test Junit Report. Below the table, there is a legend for Atom feeds and a build queue section showing 'No builds in the queue.'

S	W	Name	Last Success	Last Failure	Last Duration
		Environment Variable Demo	1 mo 4 days - #22	2 mo 6 days - #6	2 sec
		Selenium Automated Testing	27 days - #5	25 days - #10	10 sec
		Setup Build Job	23 days - #22	N/A	4 min 8 sec
		Simple Java Program	1 mo 4 days - #37	N/A	21 sec
		Test Junit Report	24 days - #2	N/A	2 min 34 sec

Manage Plugins

As soon as we click on the *manage Jenkins* link, we will redirect towards the *manage Jenkins* page, and here we need to click on “**Manage Plugins**” under the *System Configuration* section.



Remove Plugin

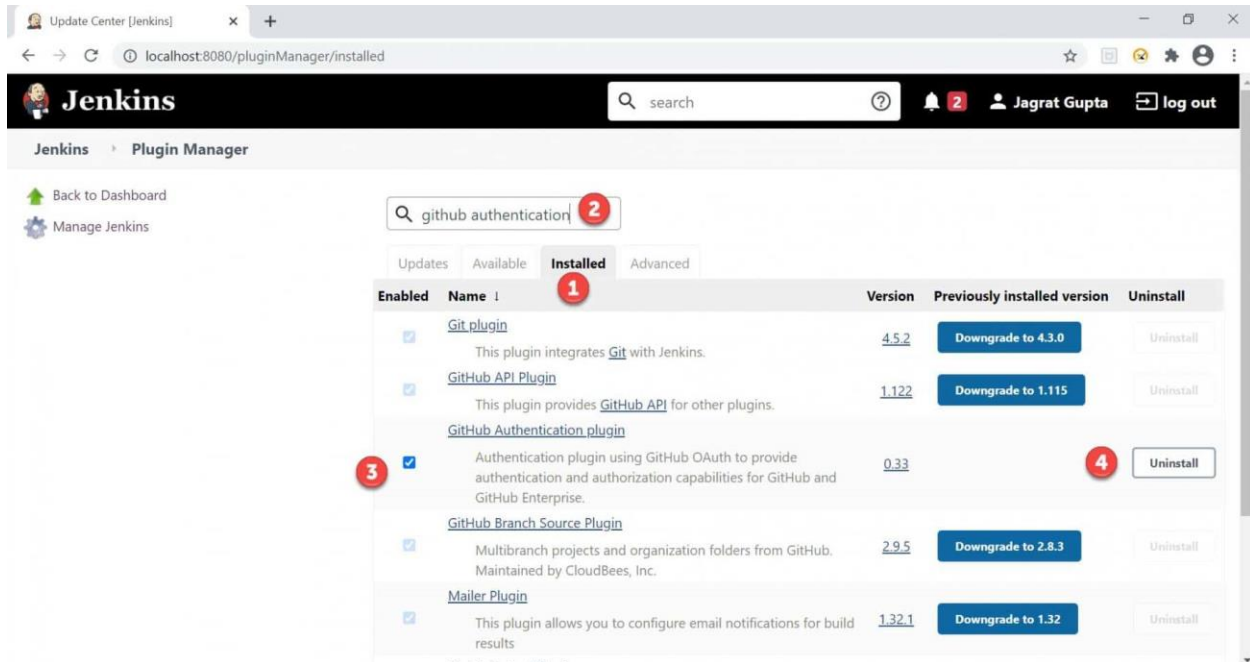
Now, for example, if we want to uninstall the **“GitHub authentication”** plugin that we installed in the previous steps the please follow the below steps:

*Click on the **“installed”** tab.*

*Search the plugin that you want to uninstall in the search box as we searched the **“GitHub authentication”** plugin.*

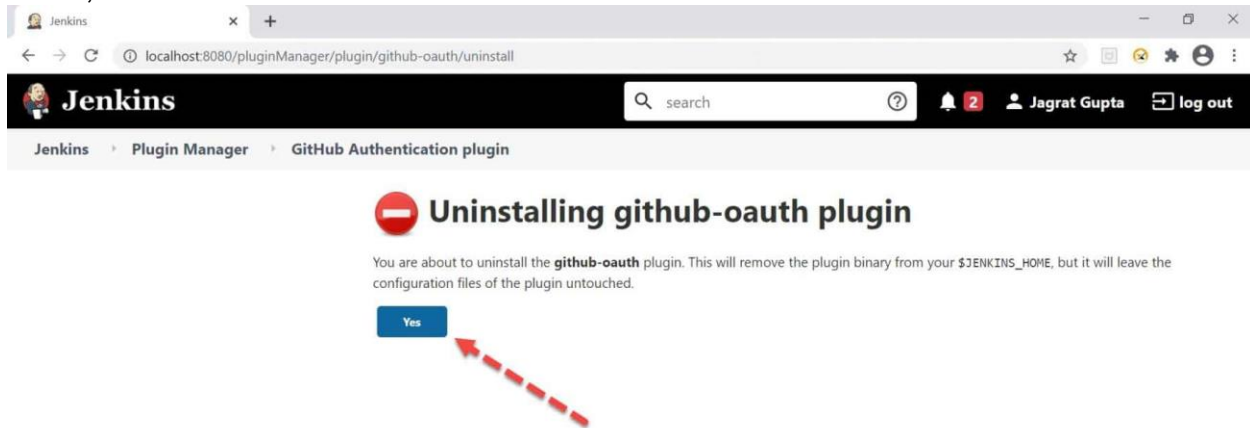
Check the checkbox against the required plugin, if not checked.

*Click on the **“Uninstall”** button.*



Confirm

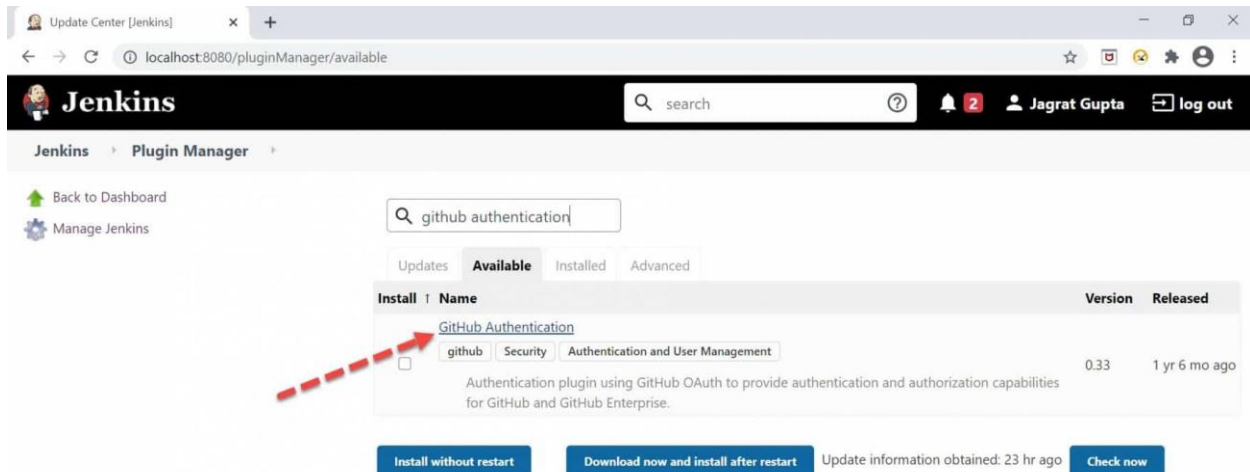
As soon as we completed the above steps, the *uninstallation confirmation page* will come, and here we need to click on the **“Yes”** button.



Once we click on the yes button, we will again redirect towards the plugin manager page.

Jenkins Restart

Now restart Jenkins and again go to the plugin manager page. Here we will find the plugin under the available tab again if plugin uninstallation is successful.



So, in this way, we can *uninstall any plugin in Jenkins*.

So, by using the ways mentioned above, we can install/uninstall and update plugins in *Jenkins* and utilize Jenkins's extended capabilities by using this *Jenkins Manage Plugins* functionalities.

Key Takeaways

- Jenkins plugin is a java-archive format package that basically follows a specific structure during the construction. Each plugin contains **.hpi** extension in Jenkins.
- Jenkins basically defines the set of interfaces that Jenkins community developers implement and extend by some custom code. So, community developers develop plugins according to the required functionality. Then, we can install that plugin to achieve that functionality in Jenkins.
- We can search any plugin under the Jenkins manage plugins option, and from there, we can install it.
- If we want to install the plugin manually or any specific version of the plugin, then we need to upload the plugin. Again, we should do it under the upload plugin section.
- We can also upgrade the plugin version in Jenkins.
- Moreover, we can uninstall the plugin in Jenkins in case of no requirement for that plugin.