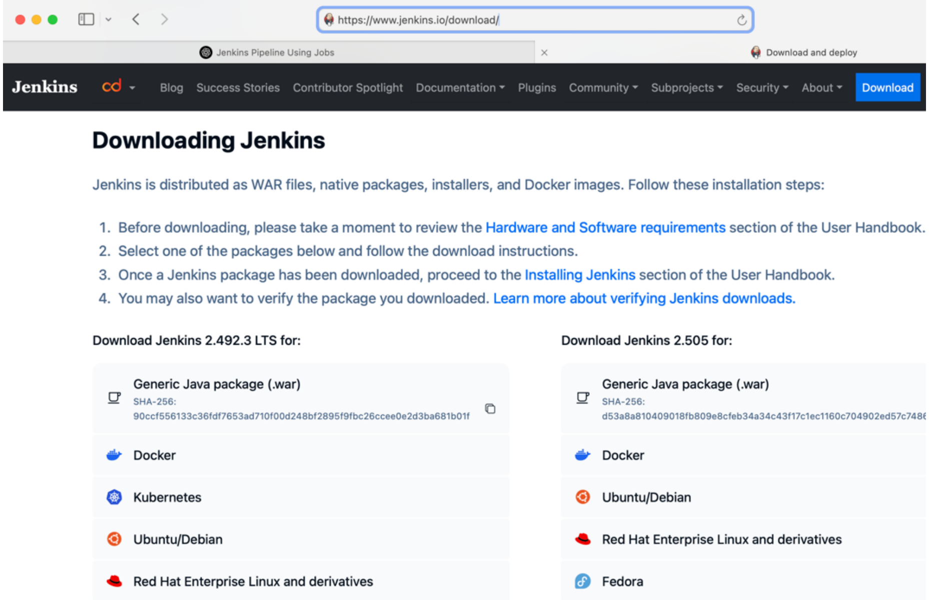
# Jenkins Installation and Setup

Using jenkins.war on localhost

## 1. Download the Jenkins WAR File

To start the Jenkins installation, download the “jenkins.war” file from the official Jenkins website [jenkins.io] → https://www.jenkins.io/download/



### Downloading Jenkins

Jenkins is distributed as WAR files, native packages, installers, and Docker images. Follow these installation steps:

1. Before downloading, please take a moment to review the Hardware and Software requirements section of the User Handbook.
2. Select one of the packages below and follow the download instructions.
3. Once a Jenkins package has been downloaded, proceed to the Installing Jenkins section of the User Handbook.
4. You may also want to verify the package you downloaded. Learn more about verifying Jenkins downloads.

Download Jenkins 2.492.3 LTS for:

- Generic Java package (.war)
  SHA-256:
  90ccf556133c36fdf7653ad710f00d248bf2895f9fbc26ccee0e2d3ba681b01f
- Docker
- Kubernetes
- Ubuntu/Debian
- Red Hat Enterprise Linux and derivatives

Download Jenkins 2.505 for:

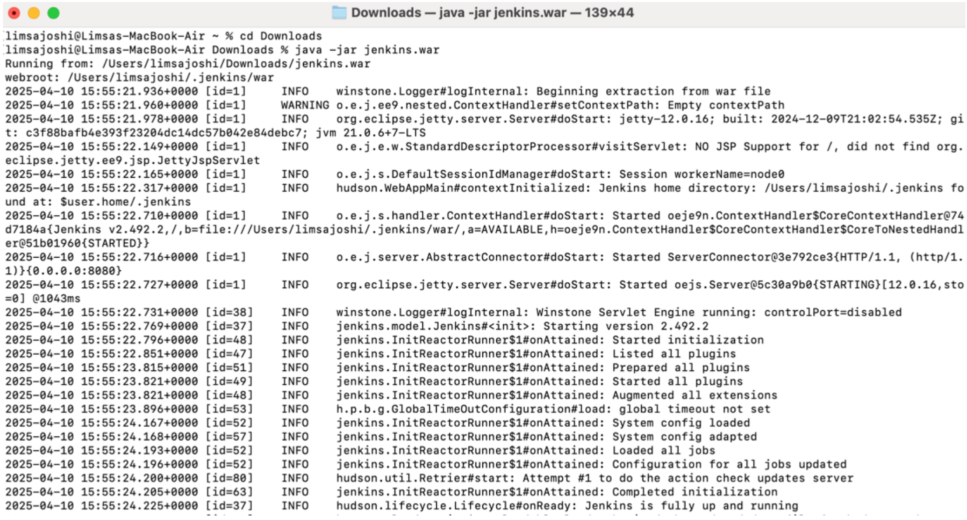
- Generic Java package (.war)
  SHA-256:
  d53a8a810409018fb809e8cfeb34a34c43f17c1ec1160c704902ed57c748
- Docker
- Ubuntu/Debian
- Red Hat Enterprise Linux and derivatives
- Fedora

## 2. Run Jenkins Using the WAR File – Prerequisite, Java 17 or 21

Open a terminal or command prompt and navigate to the directory where the “jenkins.war” file is located. Execute the following command to run Jenkins:

```
java -jar jenkins.war
```

This command will start Jenkins on your localhost at port 8080.



```
limsajoshi@Limsas-MacBook-Air ~ % cd Downloads
limsajoshi@Limsas-MacBook-Air Downloads % java -jar jenkins.war
Running from: /Users/limsajoshi/Downloads/jenkins.war
webroot: /Users/limsajoshi/.jenkins/war
2025-04-10 15:55:21.936+0000 [id=1]     INFO    winstone.Logger#logInternal: Beginning extraction from war file
2025-04-10 15:55:21.960+0000 [id=1]     WARNING o.e.j.ee9.nested.ContextHandler#setContextPath: Empty contextPath
2025-04-10 15:55:21.978+0000 [id=1]     INFO    org.eclipse.jetty.server.Server#doStart: jetty-12.0.16; built: 2024-12-09T21:02:54.535Z; gi
t: c3f88bafb4e393f23204dc14dc57b042e84debc7; jvm 21.0.6+7-LTS
2025-04-10 15:55:22.149+0000 [id=1]     INFO    o.e.j.e.w.StandardDescriptorProcessor#visitServlet: NO JSP Support for /, did not find org.
eclipse.jetty.ee9.jsp.JettyJspServlet
2025-04-10 15:55:22.165+0000 [id=1]     INFO    o.e.j.s.DefaultSessionIdManager#doStart: Session workerName=node0
2025-04-10 15:55:22.317+0000 [id=1]     INFO    hudson.WebAppMain#contextInitialized: Jenkins home directory: /Users/limsajoshi/.jenkins fo
und at: $user.home/.jenkins
2025-04-10 15:55:22.710+0000 [id=1]     INFO    o.e.j.s.handler.ContextHandler#doStart: Started oeje9n.ContextHandler$CoreContextHandler@74
d7184a{Jenkins v2.492.2,/,b=file:///Users/limsajoshi/.jenkins/war/,a=AVAILABLE,h=oeje9n.ContextHandler$CoreContextHandler$CoreToNestedHandl
er@51b01960{STARTED}}
2025-04-10 15:55:22.716+0000 [id=1]     INFO    o.e.j.server.AbstractConnector#doStart: Started ServerConnector@3e792ce3{HTTP/1.1, (http/1.
1)}{0.0.0.0:8080}
2025-04-10 15:55:22.727+0000 [id=1]     INFO    org.eclipse.jetty.server.Server#doStart: Started oejs.Server@5c30a9b0{STARTING}[12.0.16,sto
=0] @1043ms
2025-04-10 15:55:22.731+0000 [id=38]    INFO    winstone.Logger#logInternal: Winstone Servlet Engine running: controlPort=disabled
2025-04-10 15:55:22.769+0000 [id=37]    INFO    jenkins.model.Jenkins#<init>: Starting version 2.492.2
2025-04-10 15:55:22.796+0000 [id=48]    INFO    jenkins.InitReactorRunner$1#onAttained: Started initialization
2025-04-10 15:55:22.851+0000 [id=47]    INFO    jenkins.InitReactorRunner$1#onAttained: Listed all plugins
2025-04-10 15:55:23.815+0000 [id=51]    INFO    jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2025-04-10 15:55:23.821+0000 [id=49]    INFO    jenkins.InitReactorRunner$1#onAttained: Started all plugins
2025-04-10 15:55:23.821+0000 [id=48]    INFO    jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2025-04-10 15:55:23.896+0000 [id=53]    INFO    h.p.b.g.GlobalTimeOutConfiguration#load: global timeout not set
2025-04-10 15:55:24.167+0000 [id=52]    INFO    jenkins.InitReactorRunner$1#onAttained: System config loaded
2025-04-10 15:55:24.168+0000 [id=57]    INFO    jenkins.InitReactorRunner$1#onAttained: System config adapted
2025-04-10 15:55:24.193+0000 [id=52]    INFO    jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2025-04-10 15:55:24.196+0000 [id=52]    INFO    jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2025-04-10 15:55:24.200+0000 [id=80]    INFO    hudson.util.Retrier#start: Attempt #1 to do the action check updates server
2025-04-10 15:55:24.205+0000 [id=63]    INFO    jenkins.InitReactorRunner$1#onAttained: Completed initialization
2025-04-10 15:55:24.225+0000 [id=37]    INFO    hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
```

## 3. Access Jenkins

Once Jenkins is up and running, open your web browser and go to “localhost:portnumber”. You will see the Jenkins setup screen.

If the default port (8080) is busy run Jenkins using the following command:

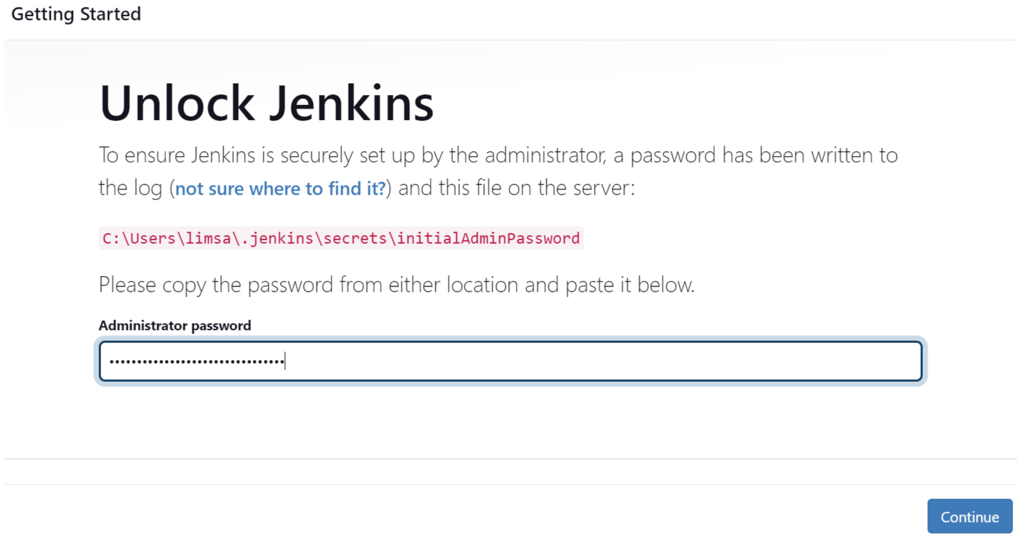
```
Java -jar Jenkins.war - -httpPort=9000
```

## 4. Unlock Jenkins

You will be prompted to unlock Jenkins using an automatically generated password. Find the initialAdminPassword file in your Jenkins home directory:

```
cat ~/.jenkins/secrets/initialAdminPassword
```

Copy the password and paste it into the setup screen.



Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

```
C:\Users\limsa\.jenkins\secrets\initialAdminPassword
```

Please copy the password from either location and paste it below.

Administrator password: ································

## 5. Install Suggested Plugins

After unlocking Jenkins, you will be asked to install plugins. Choose the option to "Install suggested plugins" to automatically install a set of recommended plugins.

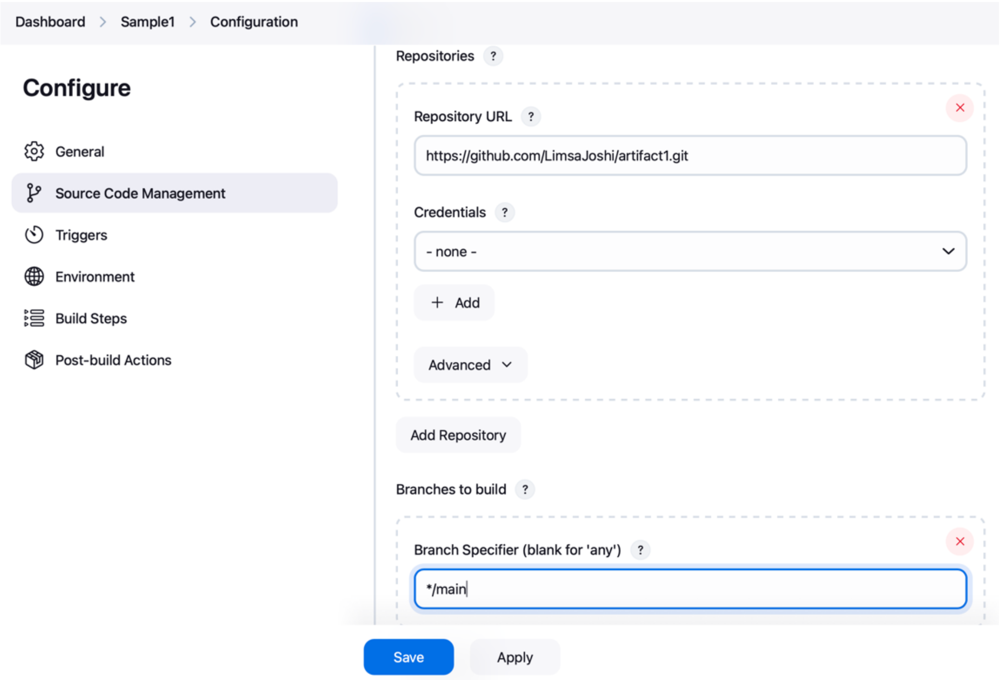
## 6. Install Additional Plugins

To install the additional plugins such as Copy Artifact, HTML Publisher, and Build Pipeline View:

- Go to “Manage Jenkins” → “Manage Plugins”.
- Click on the “Available” tab.
- Search for the desired plugins: Copy Artifact, HTML Publisher, and Build Pipeline View.
- Check the box for each plugin and click “Install without restart”.

## 7. Create a New Jenkins Job

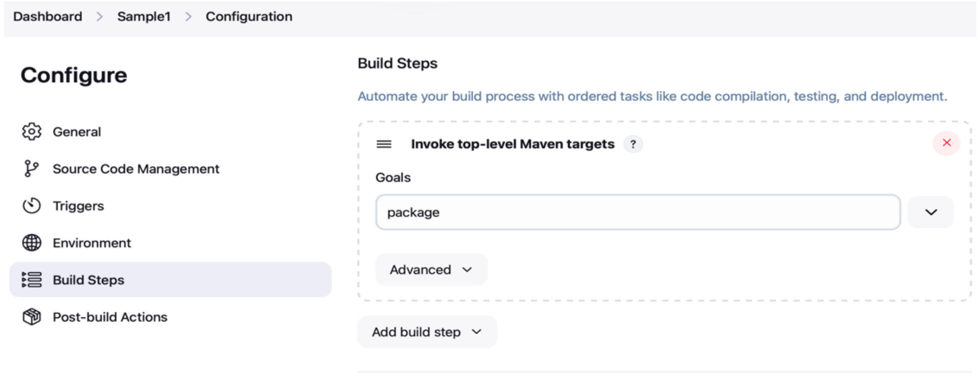
- From the Jenkins dashboard, click on “New Item”.
- Enter a name for your job and select “Freestyle project”, then click OK.
- Under “Source Code Management”, select “Git”.
- Enter the URL of your GitHub repository →Check the branch
- In the “Build” section, click on “Add build step” and select “Invoke top-level Maven targets”.
- Enter your Maven goals and options (e.g., clean install).



Repository URL ?
https://github.com/LimsaJoshi/artifact1.git

Credentials ?
- none -

Branch Specifier (blank for 'any') ?
*/main



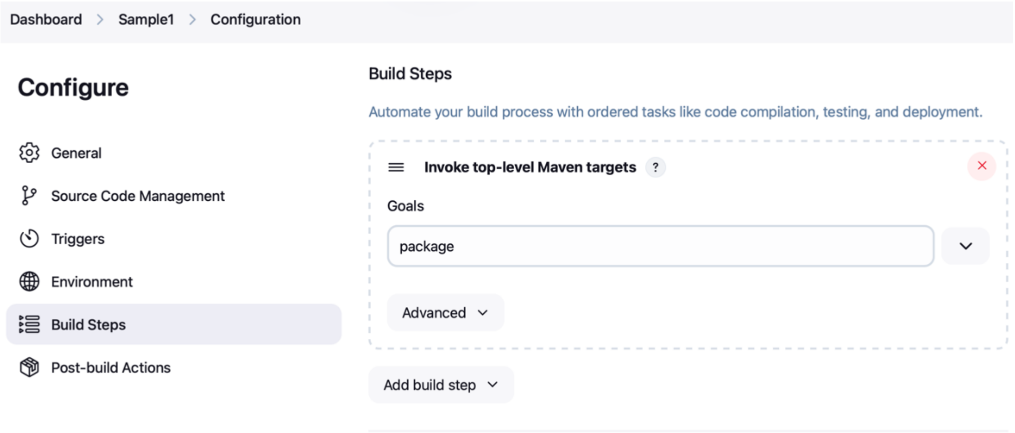
Automate your build process with ordered tasks like code compilation, testing, and deployment.

Invoke top-level Maven targets ?

Goals
package

## 8. Create a Pipeline Using Multiple Jobs

- Install the “Pipeline” plugin if not already installed.
- Go to the Jenkins dashboard and click on “New Item”.
- Enter a name for your pipeline and select “Pipeline”, then click OK.



Dashboard > Sample1 > Configuration

Configure

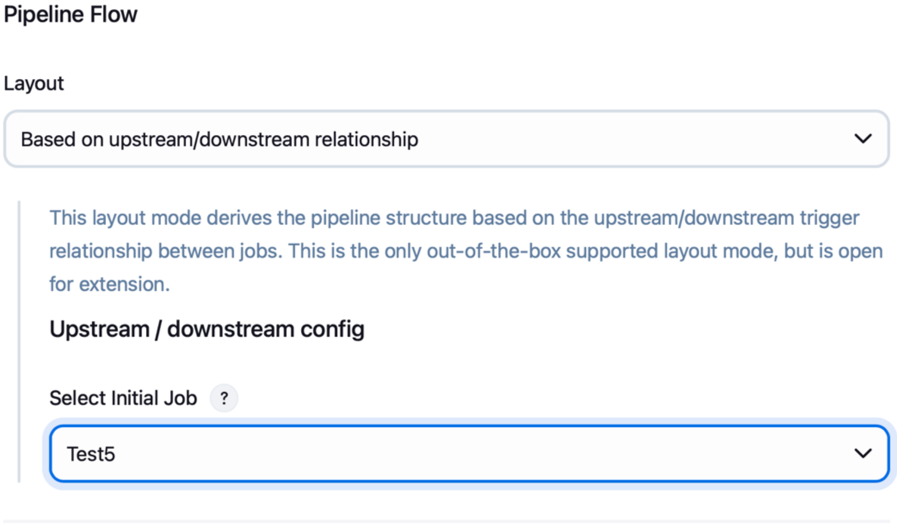
Build Steps

Automate your build process with ordered tasks like code compilation, testing, and deployment.

Invoke top-level Maven targets ?

Goals: package

- In the configuration:
    1. Set “Select Initial Job” to the first job in your pipeline (e.g., Job1).
    2. Set the number of builds to display.
    3. Optionally configure filtering or display options.



Pipeline Flow

Layout: Based on upstream/downstream relationship

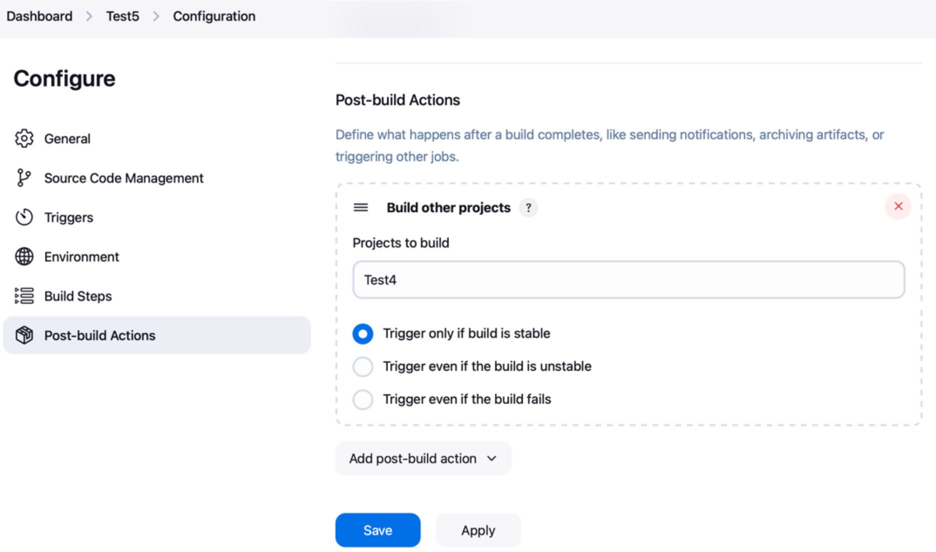
This layout mode derives the pipeline structure based on the upstream/downstream trigger relationship between jobs. This is the only out-of-the-box supported layout mode, but is open for extension.

Upstream / downstream config

Select Initial Job ?: Test5

- Click Apply → OK.
- Create the Initial Job (Job1 – Build)

    1. On the Jenkins dashboard, click “New Item”**.**
    2. Enter a name (e.g., Job1).
    3. Select Freestyle project → Click OK**.**
    4. Under Build Steps, add your commands or build tool (Shell, Maven, Gradle, etc.).
    5. In the Post-build Actions, click **“**Add post-build action**”** → select “Build other projects”**.**
    6. Enter the next job in sequence (e.g., Job2).
    7. Choose “Trigger only if build is stable”**.**
    8. Click Save**.**



Dashboard > Test5 > Configuration

Configure

- General
- Source Code Management
- Triggers
- Environment
- Build Steps
- Post-build Actions

Post-build Actions

Define what happens after a build completes, like sending notifications, archiving artifacts, or triggering other jobs.

Build other projects ?

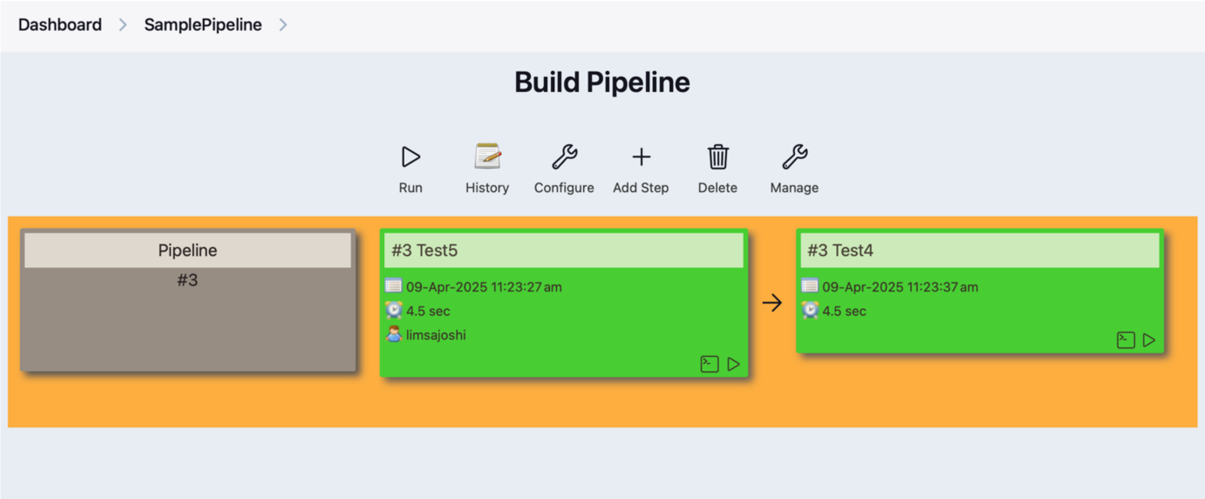
Projects to build

Test4

● Trigger only if build is stable
○ Trigger even if the build is unstable
○ Trigger even if the build fails

Add post-build action

Save Apply



Dashboard > SamplePipeline >

Build Pipeline

Pipeline
#3

#3 Test5
09-Apr-2025 11:23:27 am
4.5 sec
limsajoshi

#3 Test4
09-Apr-2025 11:23:37 am
4.5 sec