Jenkins Task

Task Description:

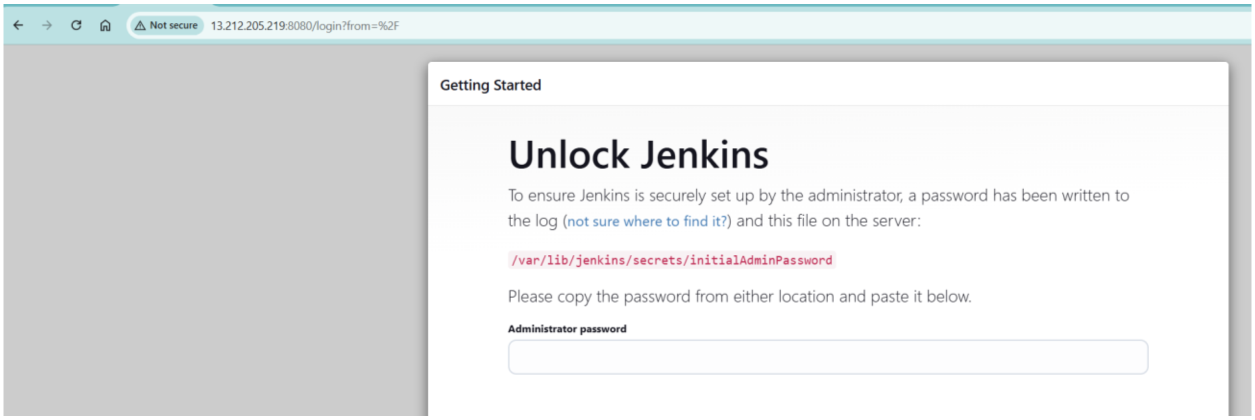
Launch jenkins and explore creating projects and users.

Techstacks needs to be used :

- AWS EC2
- Jenkins

Step1 : Install Jenkins

- sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
- sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key
- yum install fontconfig java-17-openjdk
- yum install Jenkins
- sudo systemctl start Jenkins



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:

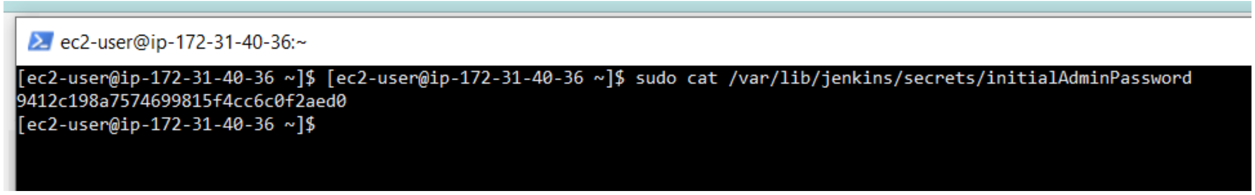
`/var/lib/jenkins/secrets/initialAdminPassword`

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

Administrator password

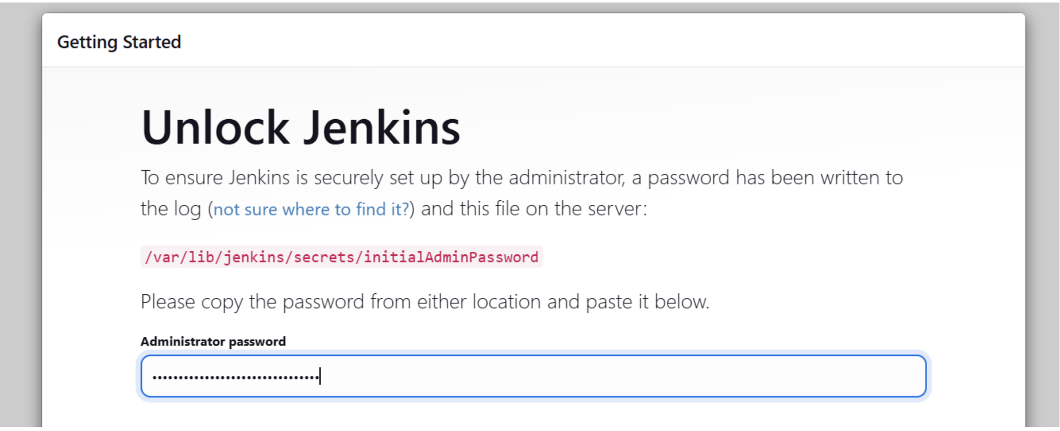
Step2 : Retrieve admin password

- sudo cat /var/lib/jenkins/secrets/initialAdminPassword



ec2-user@ip-172-31-40-36:~

```
[ec2-user@ip-172-31-40-36 ~]$ [ec2-user@ip-172-31-40-36 ~]$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
9412c198a7574699815f4cc6c0f2aed0
[ec2-user@ip-172-31-40-36 ~]$
```



Getting Started

Unlock Jenkins

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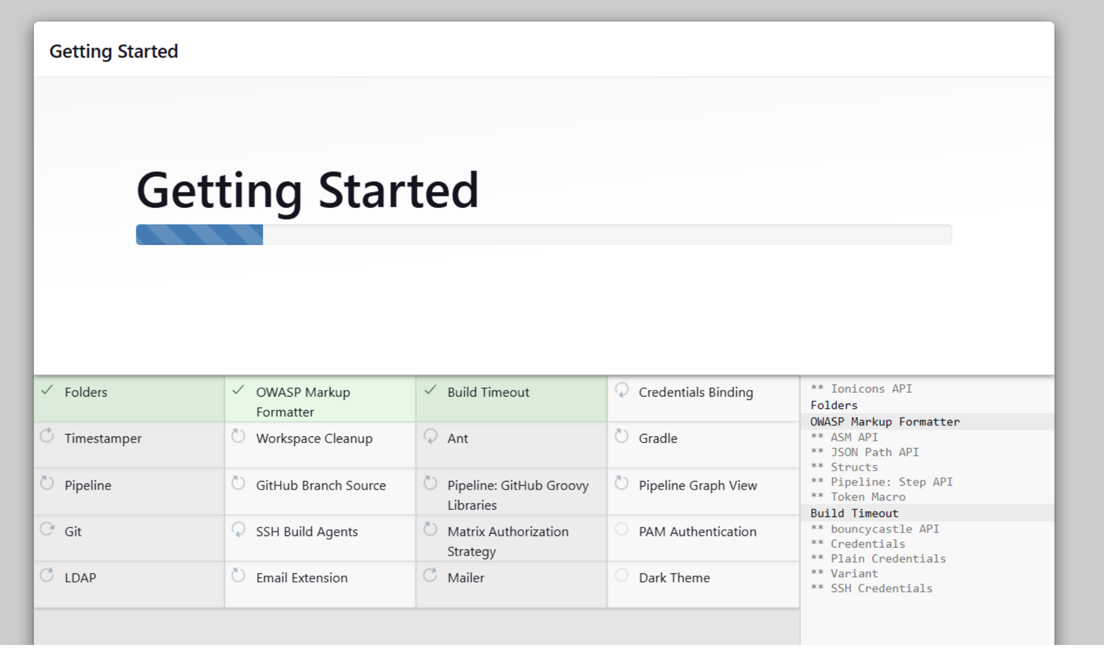
Please copy the password from either location and paste it below.

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

Step3 : Install Suggested Plugin



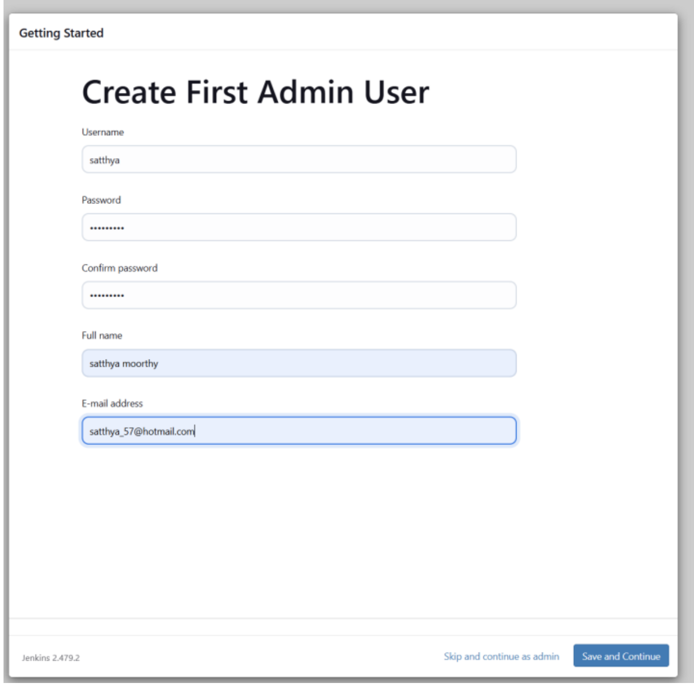
Getting Started

Getting Started

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	Credentials Binding
Timestamper	Workspace Cleanup	Ant	Gradle
Pipeline	GitHub Branch Source	Pipeline: GitHub Groovy Libraries	Pipeline Graph View
Git	SSH Build Agents	Matrix Authorization Strategy	PAM Authentication
LDAP	Email Extension	Mailer	Dark Theme

```
** Ionicons API
Folders
OWASP Markup Formatter
** ASM API
** JSON Path API
** Structs
** Pipeline: Step API
** Token Macro
Build Timeout
** bouncycastle API
** Credentials
** Plain Credentials
** Variant
** SSH Credentials
```

Step4 : Create Admin User



Getting Started

Create First Admin User

Username: satthya

Password: •••••••••

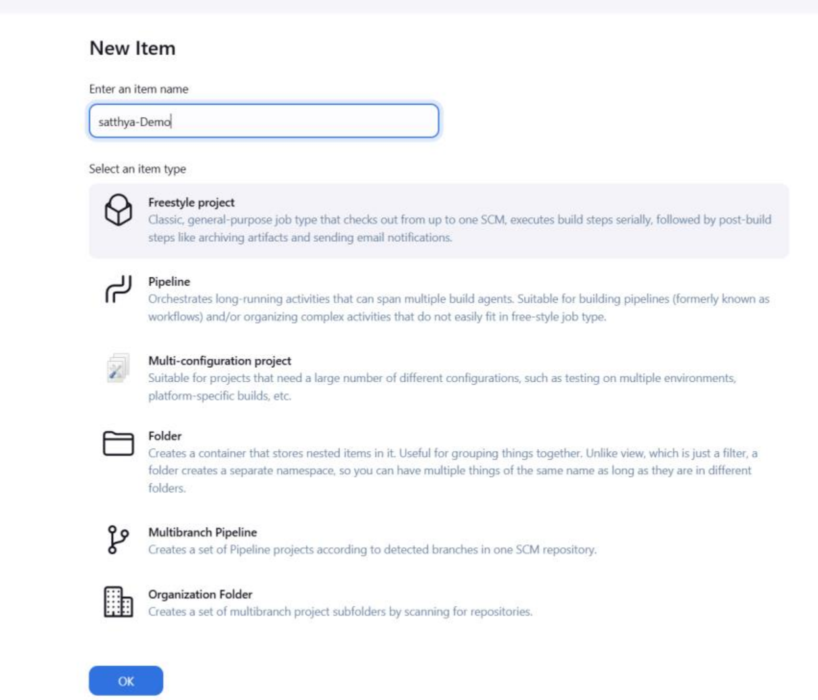
Confirm password: •••••••••

Full name: satthya moorthy

E-mail address: satthya_57@hotmail.com

Step5 : Create Jenkins Project

- **Free Project**
- New Item > Free Project



New Item

Enter an item name: satthya-Demo

Select an item type

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

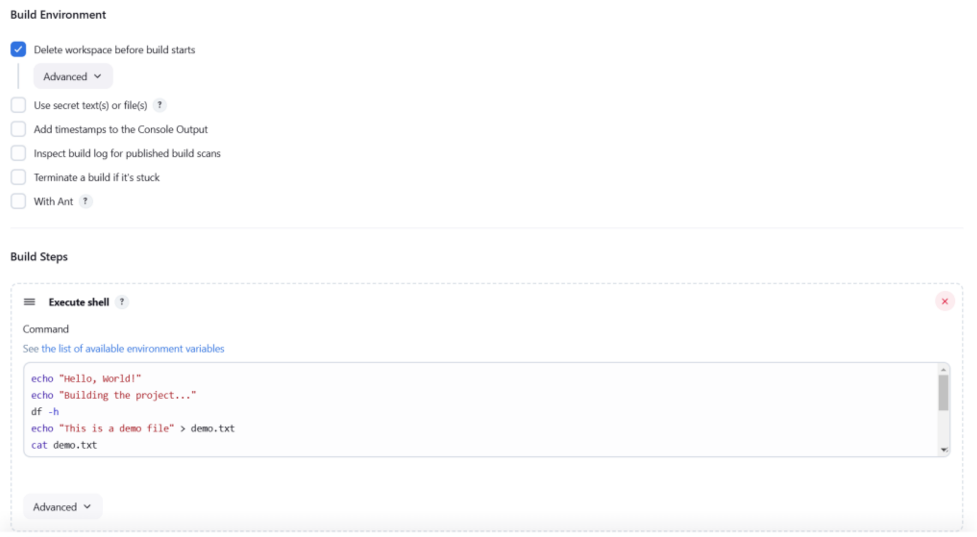
Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in one SCM repository.

Organization Folder
Creates a set of multibranch project subfolders by scanning for repositories.

Configure free style



Build Environment

☑ Delete workspace before build starts

Advanced

☐ Use secret text(s) or file(s)

☐ Add timestamps to the Console Output

☐ Inspect build log for published build scans

☐ Terminate a build if it's stuck

☐ With Ant

Build Steps

Execute shell

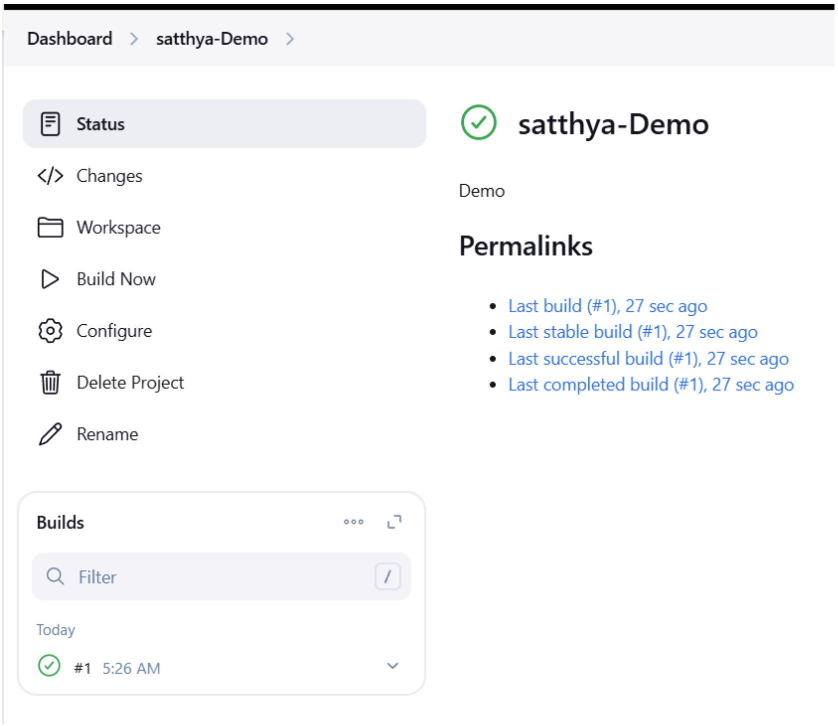
Command

See the list of available environment variables

```
echo "Hello, World!"
echo "Building the project..."
df -h
echo "This is a demo file" > demo.txt
cat demo.txt
```

Advanced

Build Now



✓ satthya-Demo

Demo

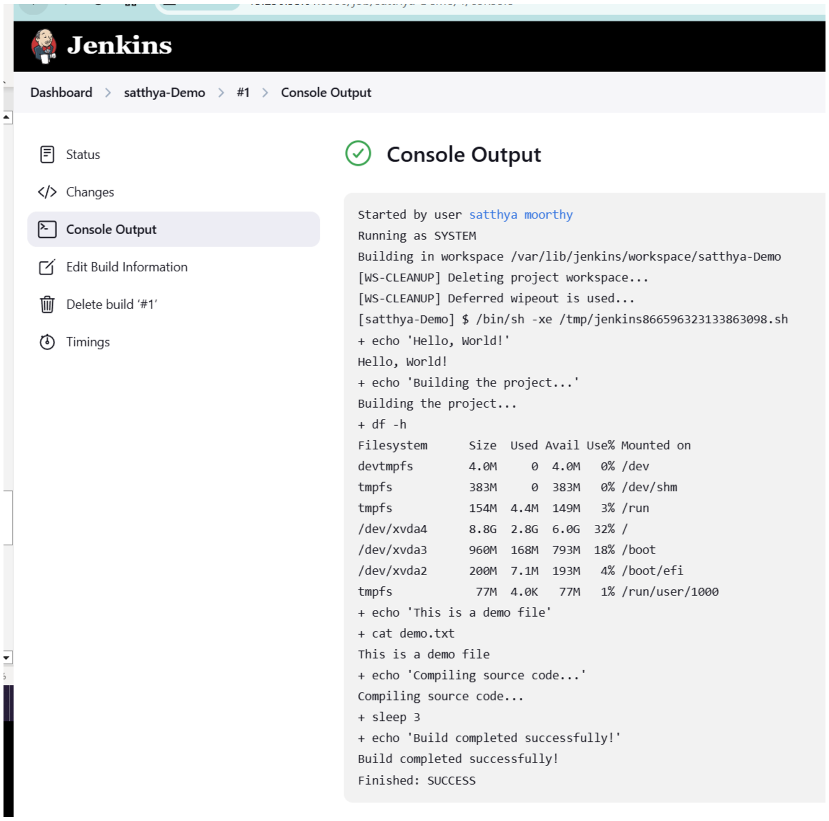
Permalinks

- Last build (#1), 27 sec ago
- Last stable build (#1), 27 sec ago
- Last successful build (#1), 27 sec ago
- Last completed build (#1), 27 sec ago

Today

✓ #1 5:26 AM

- Console Output

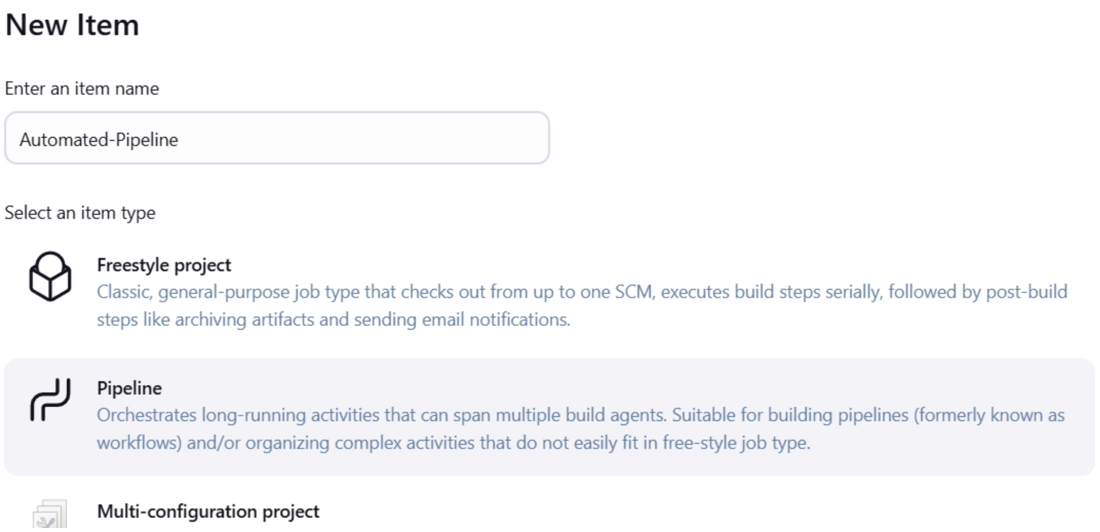


Console Output

```
Started by user satthya moorthy
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/satthya-Demo
[WS-CLEANUP] Deleting project workspace...
[WS-CLEANUP] Deferred wipeout is used...
[satthya-Demo] $ /bin/sh -xe /tmp/jenkins866596323133863098.sh
+ echo 'Hello, World!'
Hello, World!
+ echo 'Building the project...'
Building the project...
+ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M     0  4.0M   0% /dev
tmpfs           383M     0  383M   0% /dev/shm
tmpfs           154M  4.4M  149M   3% /run
/dev/xvda4      8.8G  2.8G  6.0G  32% /
/dev/xvda3      960M  168M  793M  18% /boot
/dev/xvda2      200M  7.1M  193M   4% /boot/efi
tmpfs            77M  4.0K   77M   1% /run/user/1000
+ echo 'This is a demo file'
+ cat demo.txt
This is a demo file
+ echo 'Compiling source code...'
Compiling source code...
+ sleep 3
+ echo 'Build completed successfully!'
Build completed successfully!
Finished: SUCCESS
```

- **Automating Jenkins Pipeline**

- New Item > Pipeline



New Item

Enter an item name

Automated-Pipeline

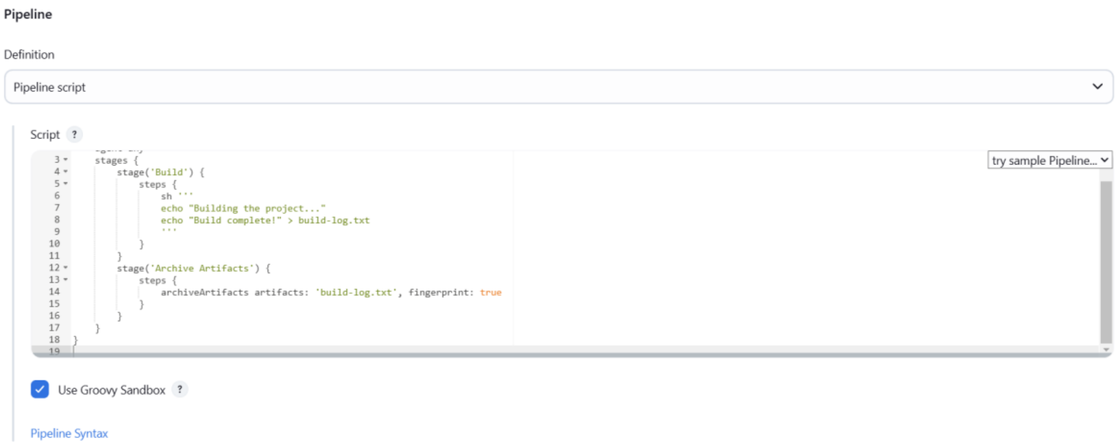
Select an item type

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project

Configure Pipeline Job



Pipeline

Definition

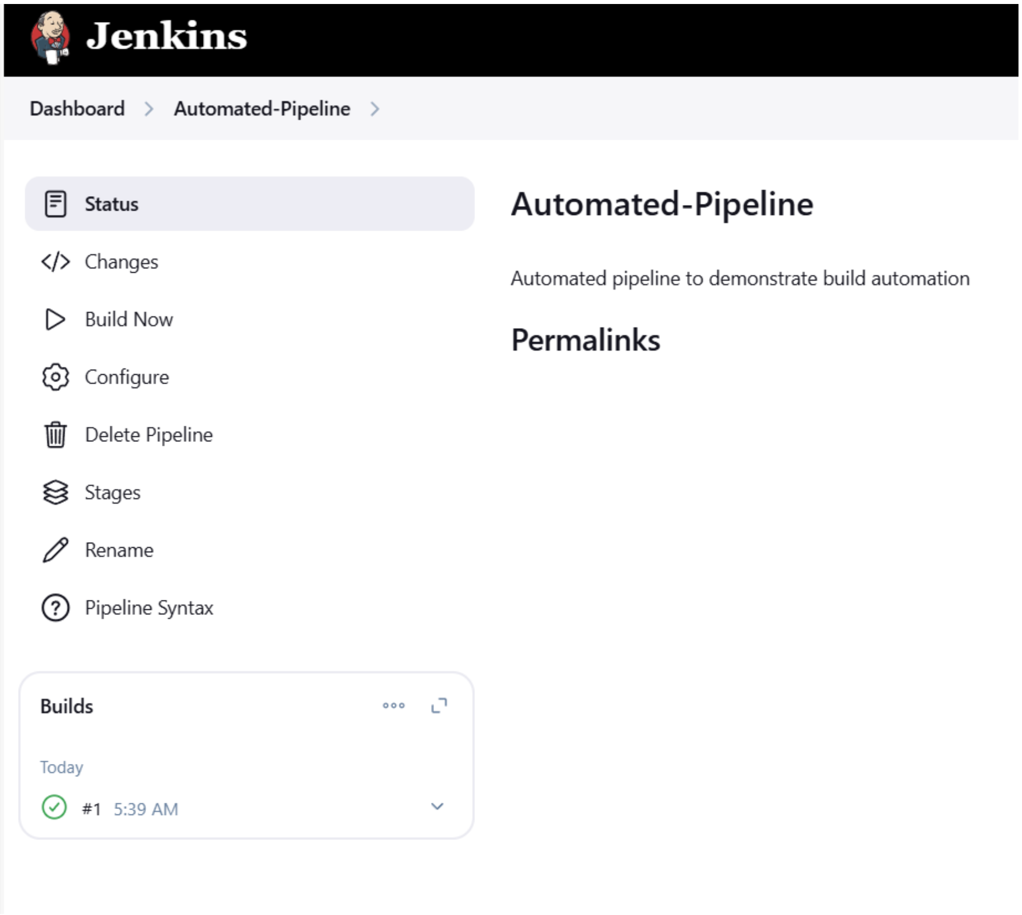
Pipeline script

Script

```
    stages {
        stage('Build') {
            steps {
                sh '''
                echo "Building the project..."
                echo "Build complete!" > build-log.txt
                '''
            }
        }
        stage('Archive Artifacts') {
            steps {
                archiveArtifacts artifacts: 'build-log.txt', fingerprint: true
            }
        }
    }
}
```

☑ Use Groovy Sandbox

Save and build now



Automated-Pipeline

Automated pipeline to demonstrate build automation

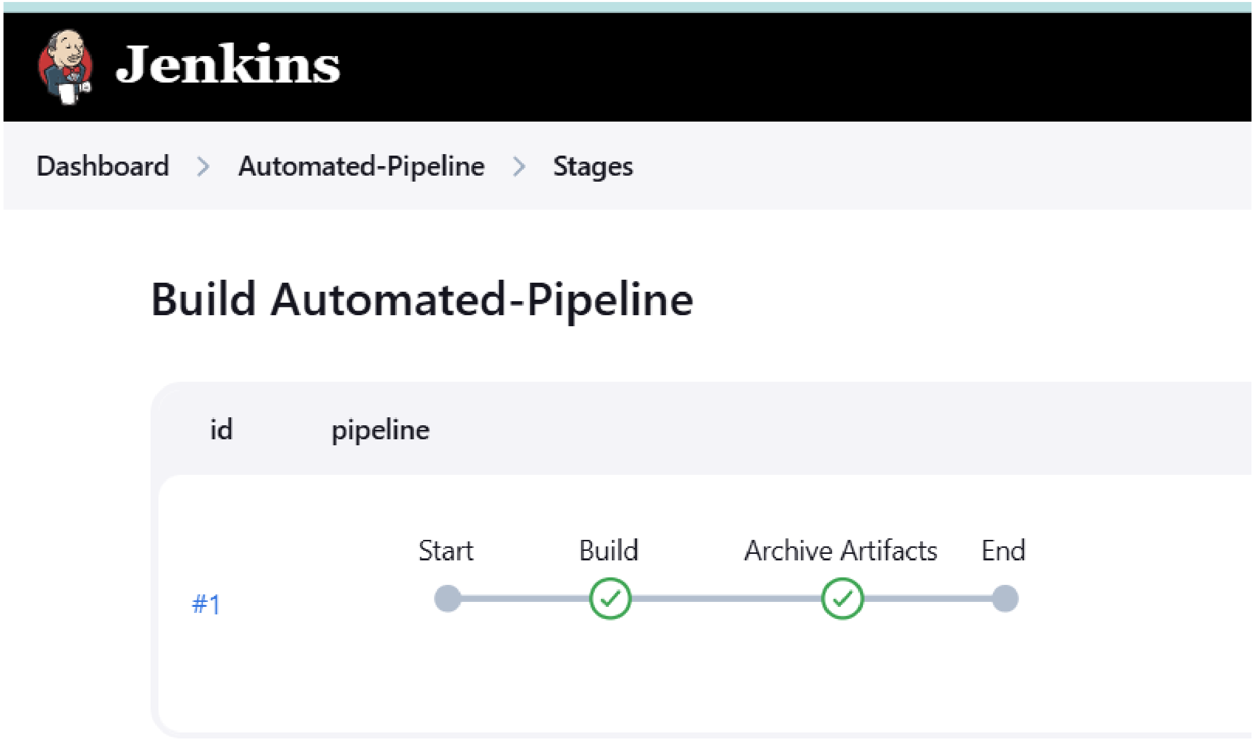
Permalinks

Builds

Today

✓ #1 5:39 AM

- Go to the pipeline’s page and view the execution under **Pipeline Steps**.
- Click on individual stages to see logs.


Jenkins
Dashboard > Automated-Pipeline > Stages
Build Automated-Pipeline
id
pipeline
#1
Start
Build
Archive Artifacts
End