Improve Jenkins Speed and Run Periodic Job on AWS EC2

Note: Restarting the EC2 instance may cause Jenkins to load slowly as it initializes. To speed this up:

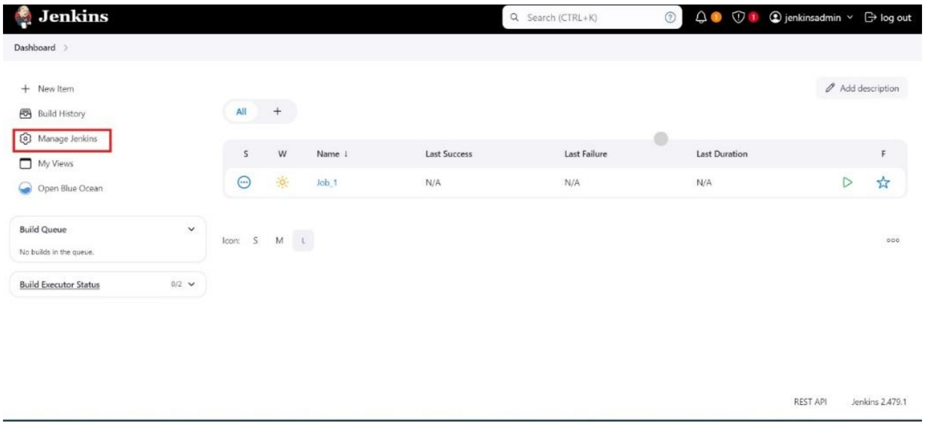
Steps to Configure Jenkins and Set Up a Periodic Job

1. Log in to Jenkins:

- Open Jenkins in your browser and log in with your username and password.

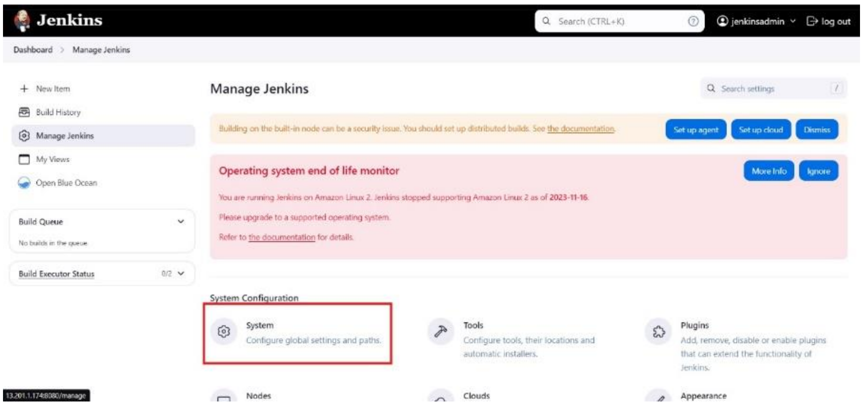
2. Update Jenkins URL:

- Go to Manage Jenkins on the dashboard.



S	W	Name ↓	Last Success	Last Failure	Last Duration	F
		Job_1	N/A	N/A	N/A	

- Click on System

- 

Manage Jenkins

Building on the built-in node can be a security issue. You should set up distributed builds. See the documentation.

Operating system end of life monitor

You are running Jenkins on Amazon Linux 2. Jenkins stopped supporting Amazon Linux 2 as of 2023-11-16.

Please upgrade to a supported operating system.

Refer to the documentation for details.

No builds in the queue.

Configure global settings and paths.

Configure tools, their locations and automatic installers.

Add, remove, disable or enable plugins that can extend the functionality of Jenkins.

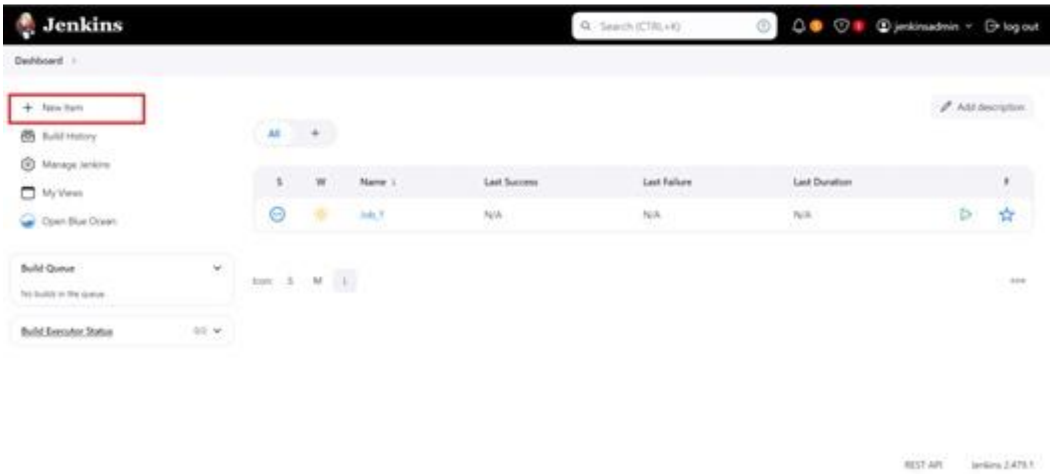
- Update the Jenkins URL field with the current IP or domain of your AWS EC2 instance, then Save.

Creating the FreeStyle Job

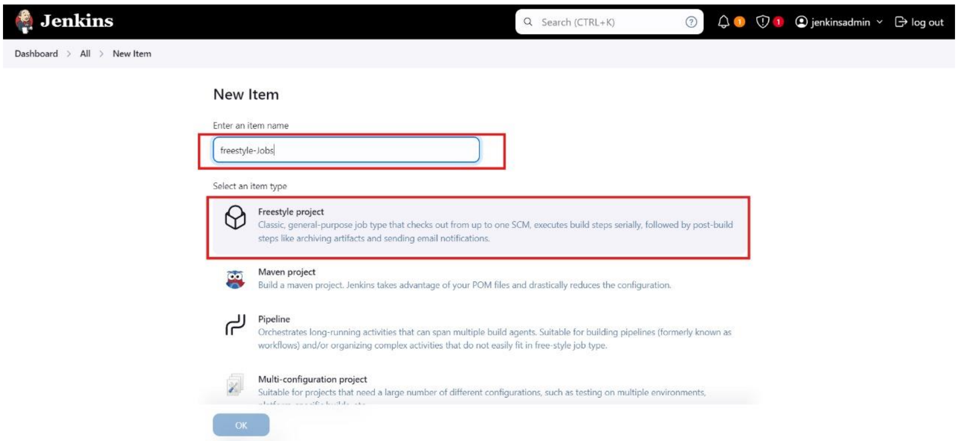
(Part 2)

1. Create a New Free Style:

- On the Jenkins dashboard, click New Item.



- Enter a job name (e.g."freestyle-jobs").



New Item

Enter an item name

freestyle-Jobs

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.

Maven project
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

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,

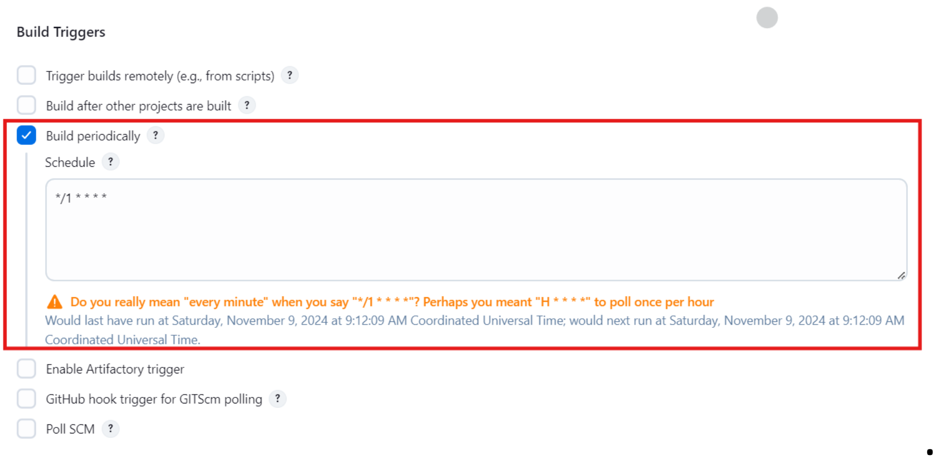
- Select Freestyle Project and click OK.

2. Configure the Job:

Set Up a Build Trigger:

- In the job configuration page, scroll to Build Triggers.

- Select Build periodically and enter the cron schedule */1 * * * *



Build Triggers

□ Trigger builds remotely (e.g., from scripts) ?

□ Build after other projects are built ?

☑ Build periodically ?

Schedule ?

```
*/1 * * * *
```

⚠ Do you really mean "every minute" when you say "*/1 * * * *"? Perhaps you meant "H * * * *" to poll once per hour
Would last have run at Saturday, November 9, 2024 at 9:12:09 AM Coordinated Universal Time; would next run at Saturday, November 9, 2024 at 9:12:09 AM Coordinated Universal Time.

□ Enable Artifactory trigger

□ GitHub hook trigger for GITScm polling ?

□ Poll SCM ?

- This schedule triggers the job every minute.

Add the Build Step:

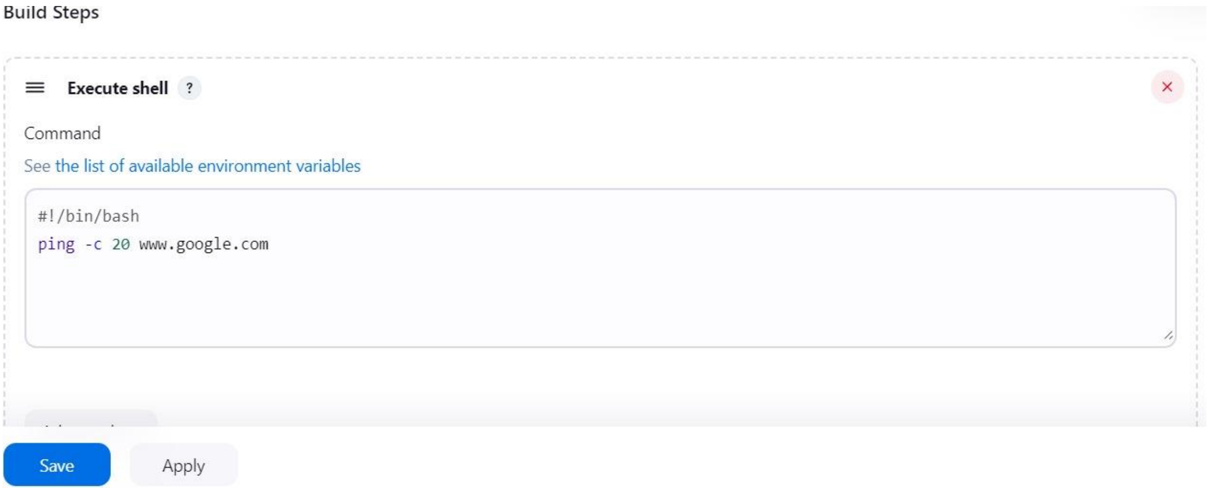
- Scroll to the Build section, click Add build step, and choose Execute shell.

- In the shell command box, enter:

bash

#!/bin/bash

ping -c 20 www.google.com



Build Steps

Execute shell ?

Command

See the list of available environment variables

```
#!/bin/bash
ping -c 20 www.google.com
```

3. Save and Run the Job:

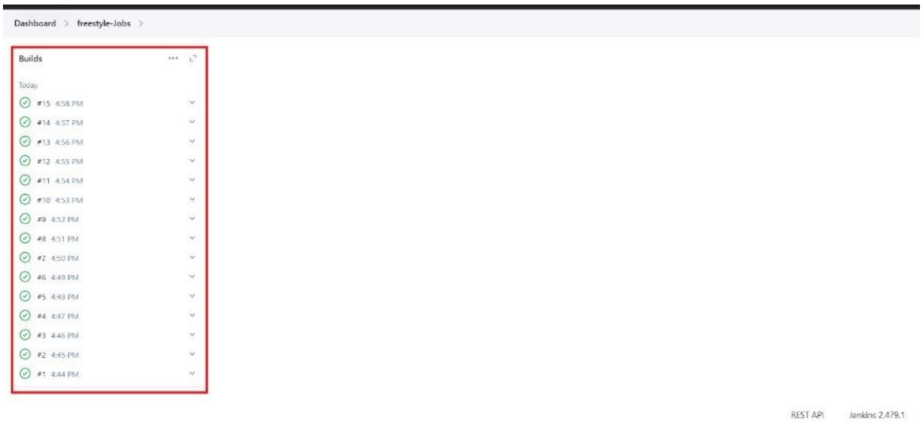
- Click Save to apply the configuration.

- The job will now run automatically every minute.

4. Check the Output:

- In Build History on the job's page, click the latest build number to view Console Output.

- You’ll see the results of the ping command, showing connectivity to www.google.com



Today

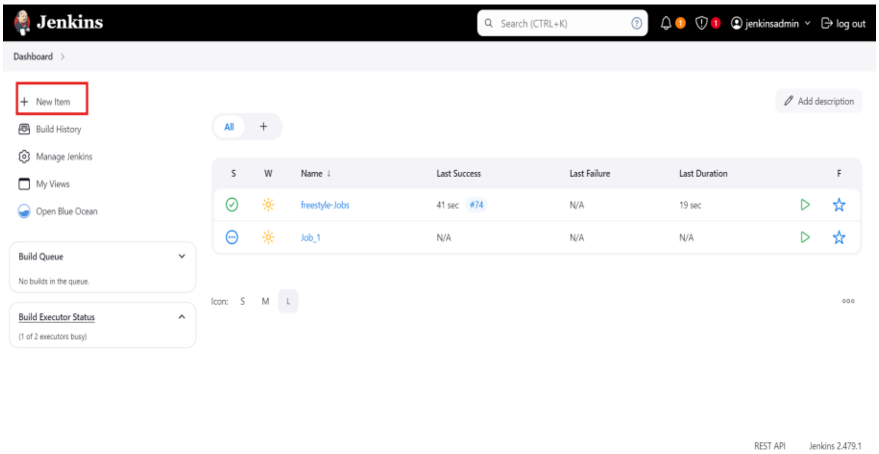
#15 4:58 PM
#14 4:57 PM
#13 4:56 PM
#12 4:55 PM
#11 4:54 PM
#10 4:53 PM
#9 4:52 PM
#8 4:51 PM
#7 4:50 PM
#6 4:49 PM
#5 4:48 PM
#4 4:47 PM
#3 4:46 PM
#2 4:45 PM
#1 4:44 PM

.

To Create the Maven Job in Jenkins

(Part 3)

1. First click on the New Item



Jenkins

Search (CTRL+K)

jenkinsadmin

log out

Dashboard

- New Item
- Build History
- Manage Jenkins
- My Views
- Open Blue Ocean

Add description

All +

S	W	Name ↓	Last Success	Last Failure	Last Duration	F
		freestyle-Jobs	41 sec #74	N/A	19 sec	
		Job_1	N/A	N/A	N/A	

Build Queue

No builds in the queue.

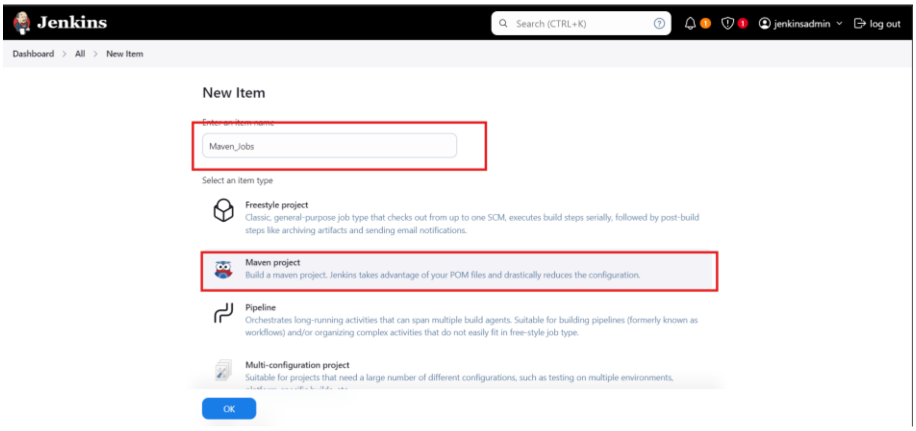
Build Executor Status

(1 of 2 executors busy)

Icon: S M L

REST API Jenkins 2.479.1

2. Name the Job “Maven_Job” and select Maven Project



Jenkins

Search (CTRL+K)

jenkinsadmin

log out

Dashboard > All > New Item

New Item

Enter an item name

Maven_Jobs

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.

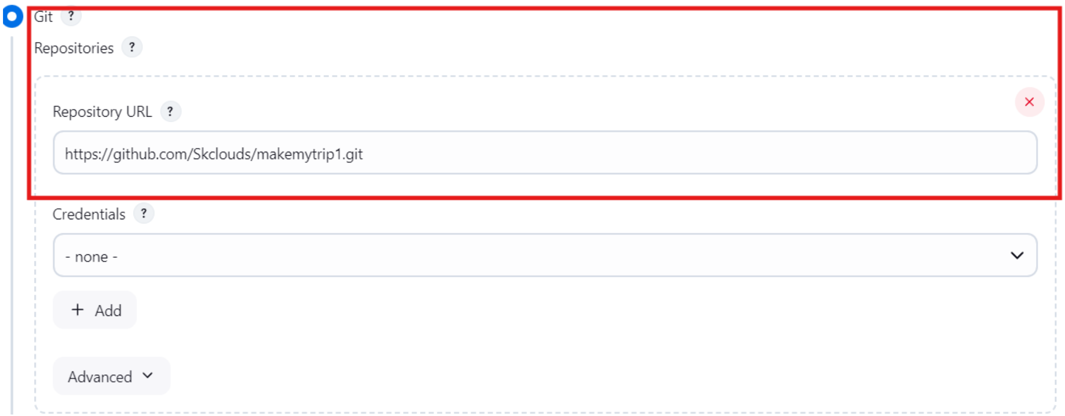
Maven project
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

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,

OK

3. Add the Git hub repo where the Code is present



● Git ?

Repositories ?

Repository URL ?

https://github.com/Skclouds/makemytrip1.git

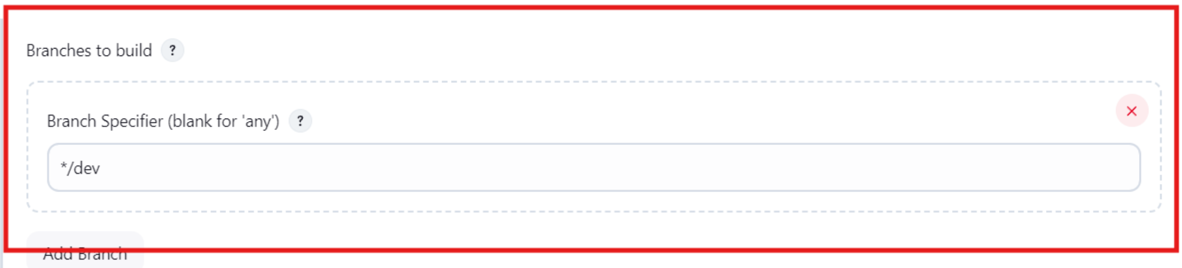
Credentials ?

- none -

+ Add

Advanced

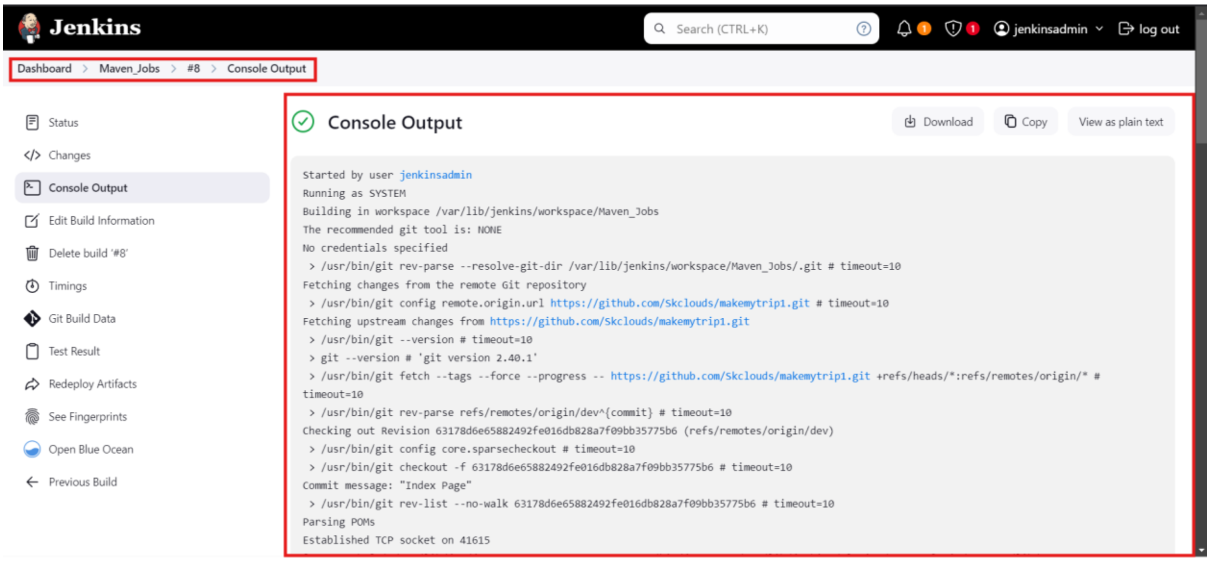
4. **Add the branch we have to create**



Branches to build

Branch Specifier (blank for 'any'): */dev

5. **Remaining set default and click on Save**
6. **Click on the Build now the Job will run and we can see the log as successful**



Dashboard > Maven_Jobs > #8 > Console Output

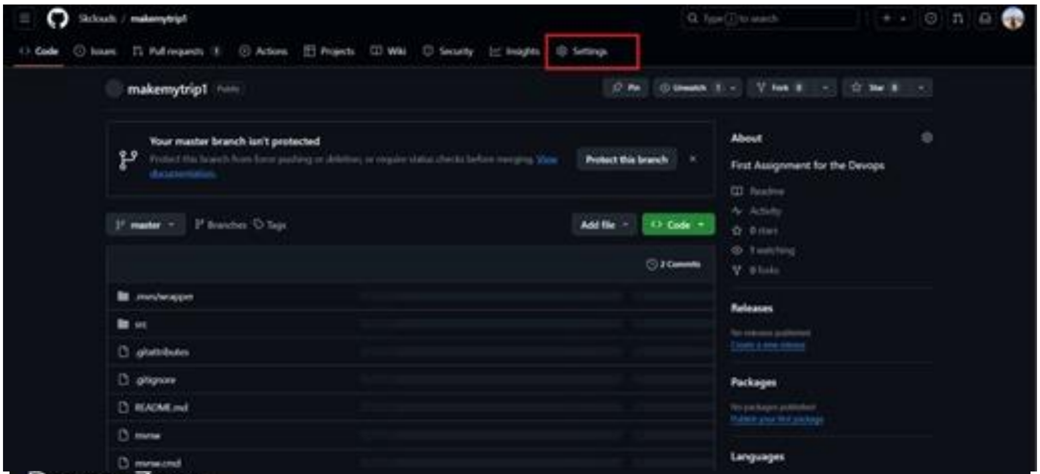
Console Output

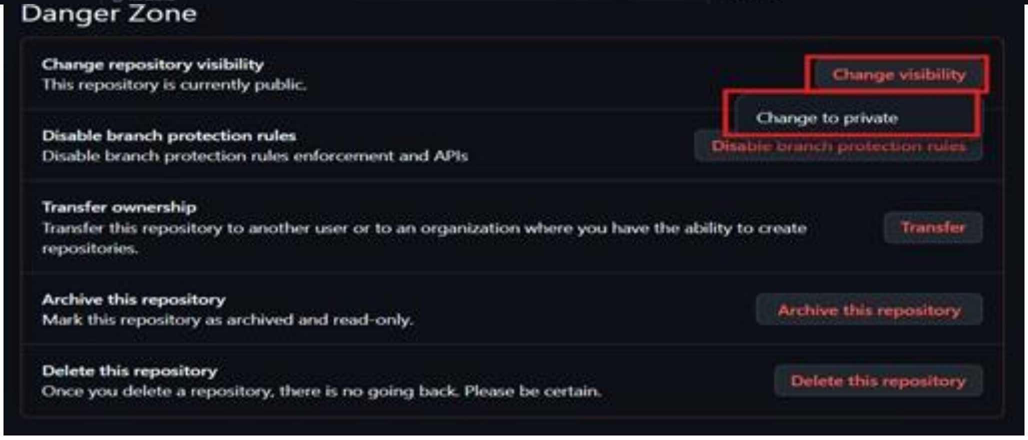
```
Started by user jenkinsadmin
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Maven_Jobs
The recommended git tool is: NONE
No credentials specified
 > /usr/bin/git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Maven_Jobs/.git # timeout=10
Fetching changes from the remote Git repository
 > /usr/bin/git config remote.origin.url https://github.com/Skclouds/makemytrip1.git # timeout=10
Fetching upstream changes from https://github.com/Skclouds/makemytrip1.git
 > /usr/bin/git --version # timeout=10
 > git --version # 'git version 2.40.1'
 > /usr/bin/git fetch --tags --force --progress -- https://github.com/Skclouds/makemytrip1.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
 > /usr/bin/git rev-parse refs/remotes/origin/dev^{commit} # timeout=10
Checking out Revision 63178d6e65882492fe016db828a7f09bb35775b6 (refs/remotes/origin/dev)
 > /usr/bin/git config core.sparsecheckout # timeout=10
 > /usr/bin/git checkout -f 63178d6e65882492fe016db828a7f09bb35775b6 # timeout=10
Commit message: "Index Page"
 > /usr/bin/git rev-list --no-walk 63178d6e65882492fe016db828a7f09bb35775b6 # timeout=10
Parsing POMs
Established TCP socket on 41615
```

Create Maven Job in Jenkins with Private GitHub Repo Access

(Part 4)

1. **Create GitHub Repo Private**
   Click on Setting→ Click on the Repo Change Visibility→Change to private →





Danger Zone

Change repository visibility
This repository is currently public.
Change visibility
Change to private

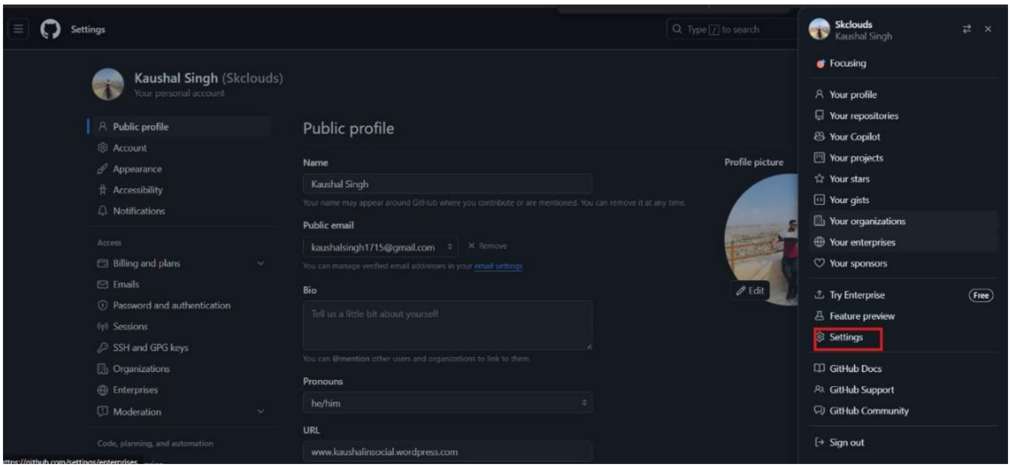
Disable branch protection rules
Disable branch protection rules enforcement and APIs
Disable branch protection rules

Transfer ownership
Transfer this repository to another user or to an organization where you have the ability to create repositories.
Transfer

Archive this repository
Mark this repository as archived and read-only.
Archive this repository

Delete this repository
Once you delete a repository, there is no going back. Please be certain.
Delete this repository

2. **Create the Token for the Repo**
   Click on Profile→Setting→Developer Setting→Personal Access Token→Token Access→Generate New Token→Name the Token→Select all the permissions-→Generate Token then token will be generated



Public profile

Name

Kaushal Singh

Your name may appear around GitHub where you contribute or are mentioned. You can remove it at any time.

Public email

kaushalsingh1715@gmail.com ✕ Remove

You can manage verified email addresses in your email settings.

Bio

Tell us a little bit about yourself

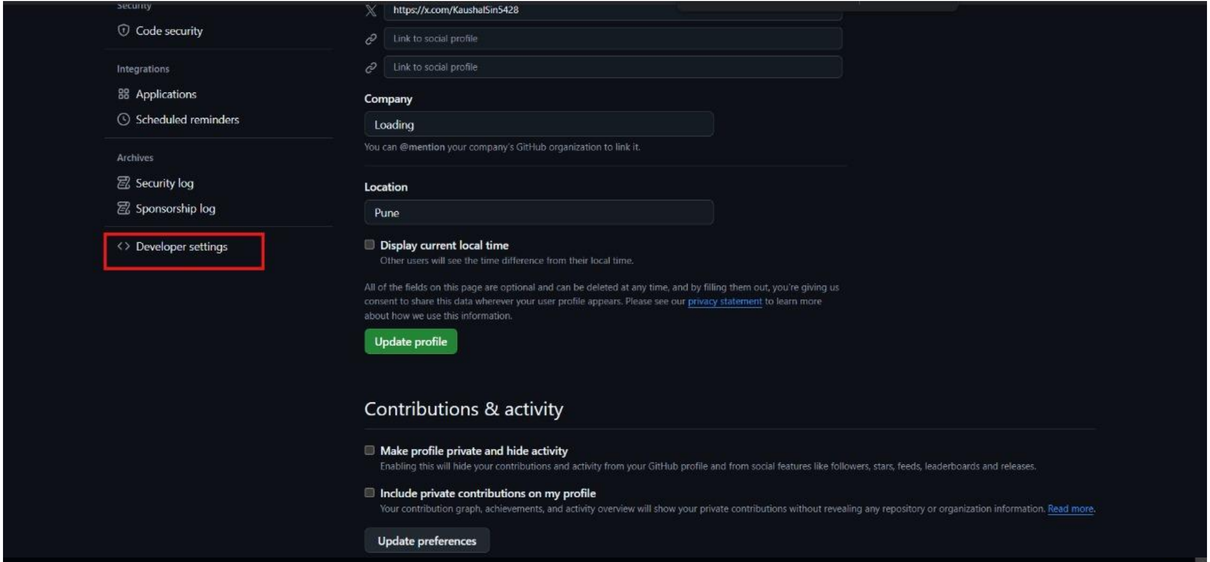
You can @mention other users and organizations to link to them.

Pronouns

he/him

URL

www.kaushalinsocial.wordpress.com



https://x.com/KaushalSin5428

Link to social profile

Link to social profile

Company

Loading

You can @mention your company's GitHub organization to link it.

Location

Pune

□ Display current local time

Other users will see the time difference from their local time.

All of the fields on this page are optional and can be deleted at any time, and by filling them out, you're giving us consent to share this data wherever your user profile appears. Please see our privacy statement to learn more about how we use this information.

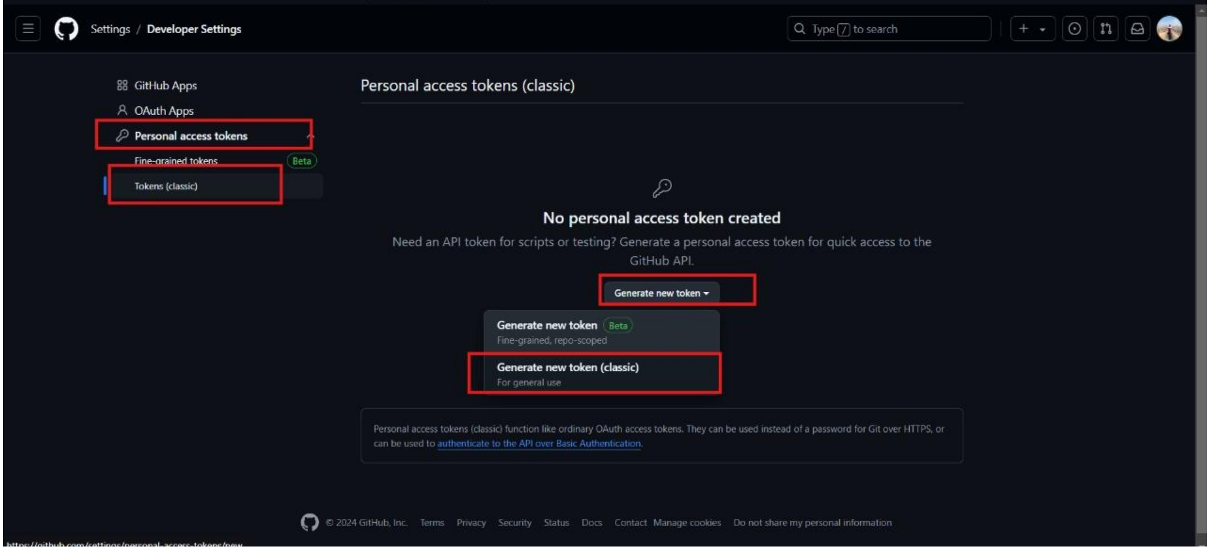
Contributions & activity

□ Make profile private and hide activity

Enabling this will hide your contributions and activity from your GitHub profile and from social features like followers, stars, feeds, leaderboards and releases.

□ Include private contributions on my profile

Your contribution graph, achievements, and activity overview will show your private contributions without revealing any repository or organization information. Read more.

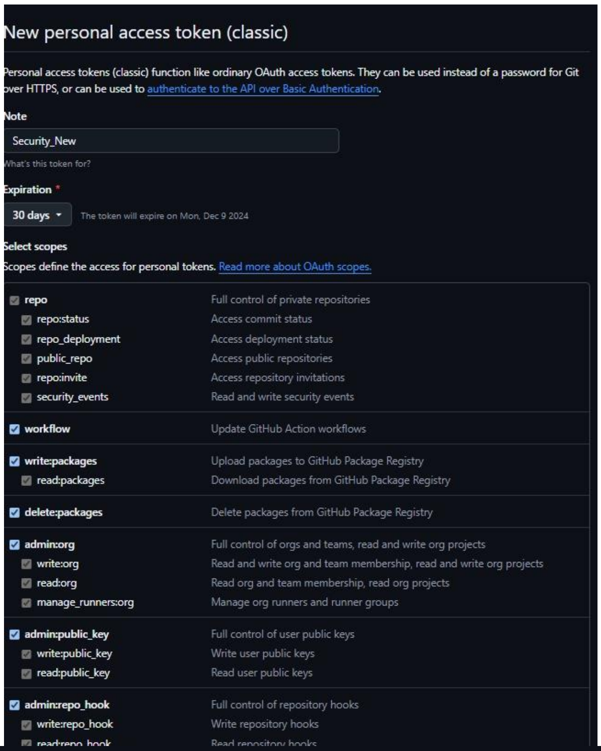


Personal access tokens (classic)

No personal access token created

Need an API token for scripts or testing? Generate a personal access token for quick access to the GitHub API.

Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.



New personal access token (classic)

Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.

Note

Security_New

What's this token for?

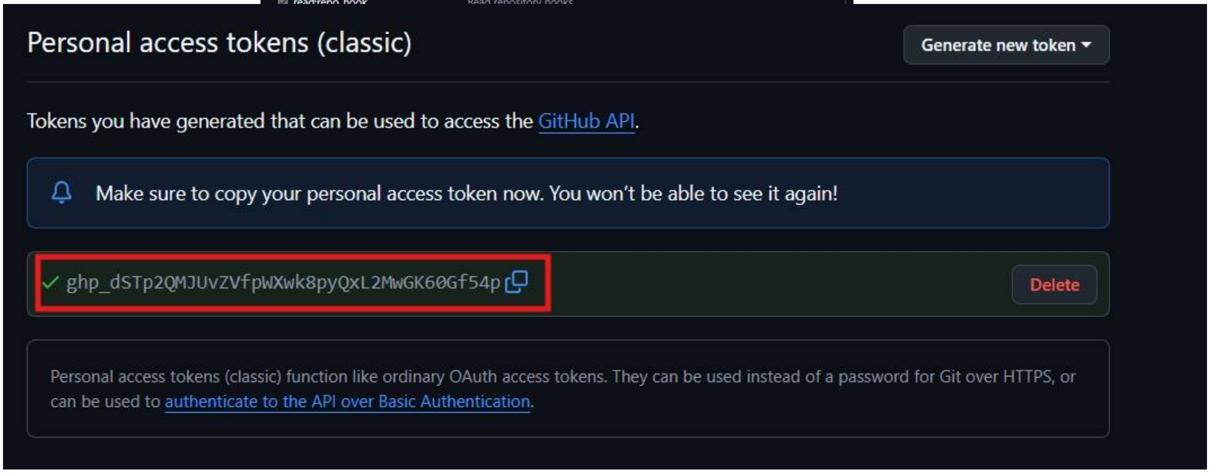
Expiration *

30 days ▾ The token will expire on Mon, Dec 9 2024

Select scopes

Scopes define the access for personal tokens. Read more about OAuth scopes.

☑ repo	Full control of private repositories
☑ repo:status	Access commit status
☑ repo_deployment	Access deployment status
☑ public_repo	Access public repositories
☑ repo:invite	Access repository invitations
☑ security_events	Read and write security events
☑ workflow	Update GitHub Action workflows
☑ write:packages	Upload packages to GitHub Package Registry
☑ read:packages	Download packages from GitHub Package Registry
☑ delete:packages	Delete packages from GitHub Package Registry
☑ admin:org	Full control of orgs and teams, read and write org projects
☑ write:org	Read and write org and team membership, read and write org projects
☑ read:org	Read org and team membership, read org projects
☑ manage_runners:org	Manage org runners and runner groups
☑ admin:public_key	Full control of user public keys
☑ write:public_key	Write user public keys
☑ read:public_key	Read user public keys
☑ admin:repo_hook	Full control of repository hooks
☑ write:repo_hook	Write repository hooks
☑ read:repo_hook	Read repository hooks



Personal access tokens (classic)

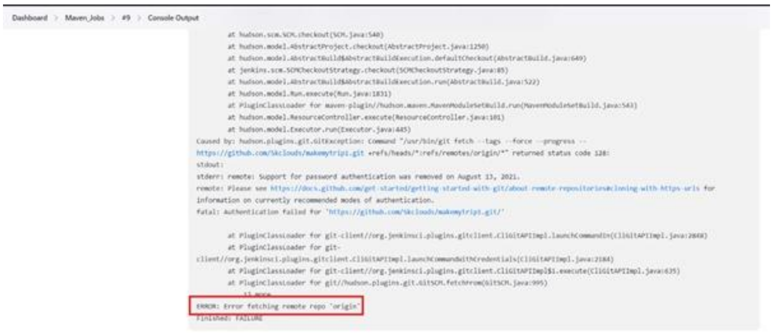
Tokens you have generated that can be used to access the GitHub API.

Make sure to copy your personal access token now. You won't be able to see it again!

✓ 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

Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.

3. **After making the repo private and we have build the job manual and the result is**



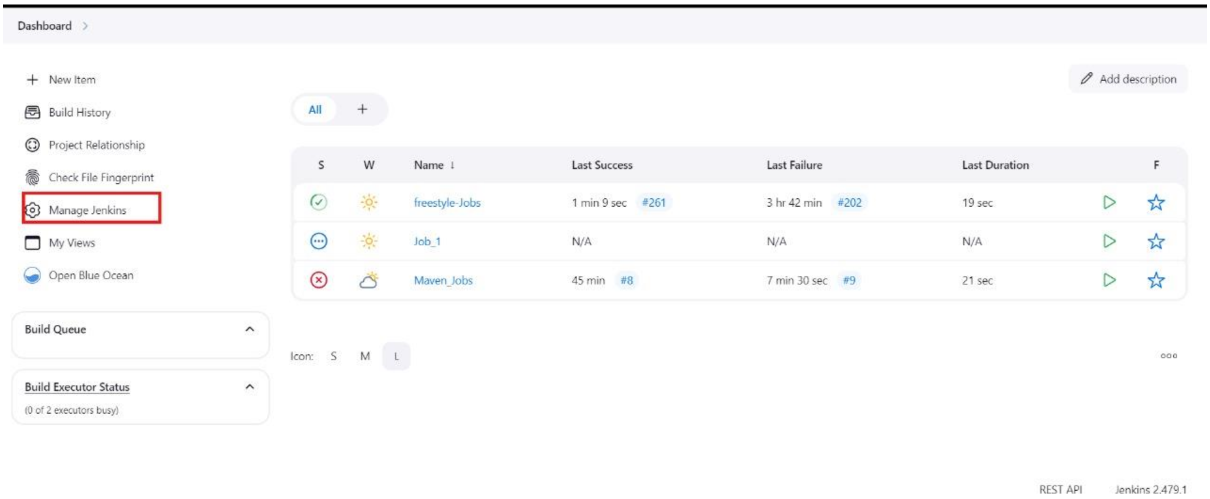
```
        at hudson.scm.SCM.checkout(SCM.java:540)
        at hudson.model.AbstractProject.checkout(AbstractProject.java:1250)
        at hudson.model.AbstractBuild$AbstractBuildExecution.defaultCheckout(AbstractBuild.java:649)
        at jenkins.scm.SCMCheckoutStrategy.checkout(SCMCheckoutStrategy.java:85)
        at hudson.model.AbstractBuild$AbstractBuildExecution.run(AbstractBuild.java:522)
        at hudson.model.Run.execute(Run.java:1831)
        at PluginClassLoader for maven-plugin//hudson.maven.MavenModuleSetBuild.run(MavenModuleSetBuild.java:543)
        at hudson.model.ResourceController.execute(ResourceController.java:101)
        at hudson.model.Executor.run(Executor.java:445)
Caused by: hudson.plugins.git.GitException: Command "/usr/bin/git fetch --tags --force --progress --
https://github.com/Skclouds/makemytrip1.git +refs/heads/*:refs/remotes/origin/*" returned status code 128:
stdout:
stderr: remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for
information on currently recommended modes of authentication.
fatal: Authentication failed for 'https://github.com/Skclouds/makemytrip1.git/'

        at PluginClassLoader for git-client//org.jenkinsci.plugins.gitclient.CliGitAPIImpl.launchCommandIn(CliGitAPIImpl.java:2848)
        at PluginClassLoader for git-
client//org.jenkinsci.plugins.gitclient.CliGitAPIImpl.launchCommandWithCredentials(CliGitAPIImpl.java:2184)
        at PluginClassLoader for git-client//org.jenkinsci.plugins.gitclient.CliGitAPIImpl$1.execute(CliGitAPIImpl.java:635)
        at PluginClassLoader for git//hudson.plugins.git.GitSCM.fetchFrom(GitSCM.java:995)
          11 more
ERROR: Error fetching remote repo 'origin'
Finished: FAILURE
```

4. To complete This Job we have create a credential in Jenkins for the repo

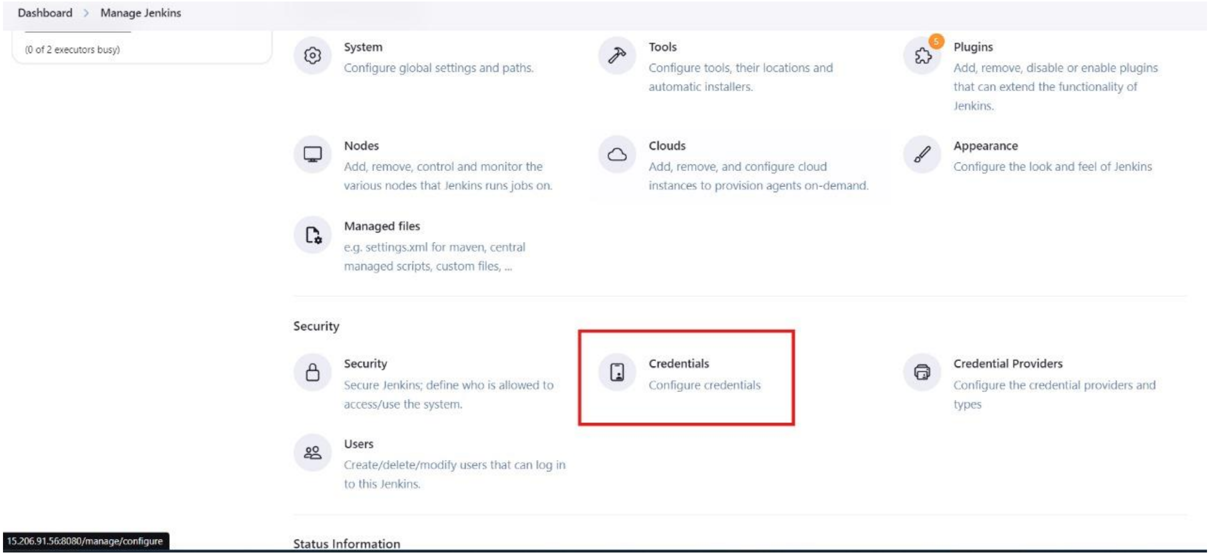
Steps are as Follow

i. Click on Manage Jenkins



S	W	Name ↓	Last Success	Last Failure	Last Duration	F
✓	☀	freestyle-Jobs	1 min 9 sec #261	3 hr 42 min #202	19 sec	▷ ☆
⋯	☀	Job_1	N/A	N/A	N/A	▷ ☆
⊗	⛅	Maven_Jobs	45 min #8	7 min 30 sec #9	21 sec	▷ ☆

ii. Scroll down and select the credential option and select the global option


Dashboard > Manage Jenkins
(0 of 2 executors busy)
15.206.91.56:8080/manage/configure
Status Information

System
Configure global settings and paths.

Tools
Configure tools, their locations and automatic installers.

Plugins
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.

Nodes
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.

Clouds
Add, remove, and configure cloud instances to provision agents on-demand.

Appearance
Configure the look and feel of Jenkins

Managed files
e.g. settings.xml for maven, central managed scripts, custom files, ...

Security

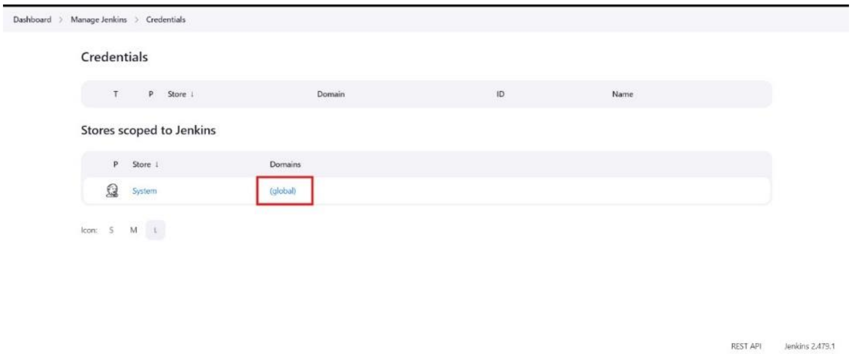
Security
Secure Jenkins; define who is allowed to access/use the system.

Credentials
Configure credentials

Credential Providers
Configure the credential providers and types

Users
Create/delete/modify users that can log in to this Jenkins.

iii. Click on the Add Credential



Dashboard > Manage Jenkins > Credentials

Credentials

T	P	Store ↓	Domain	ID	Name

Stores scoped to Jenkins

P	Store ↓	Domains
	System	(global)

Icon: S M L

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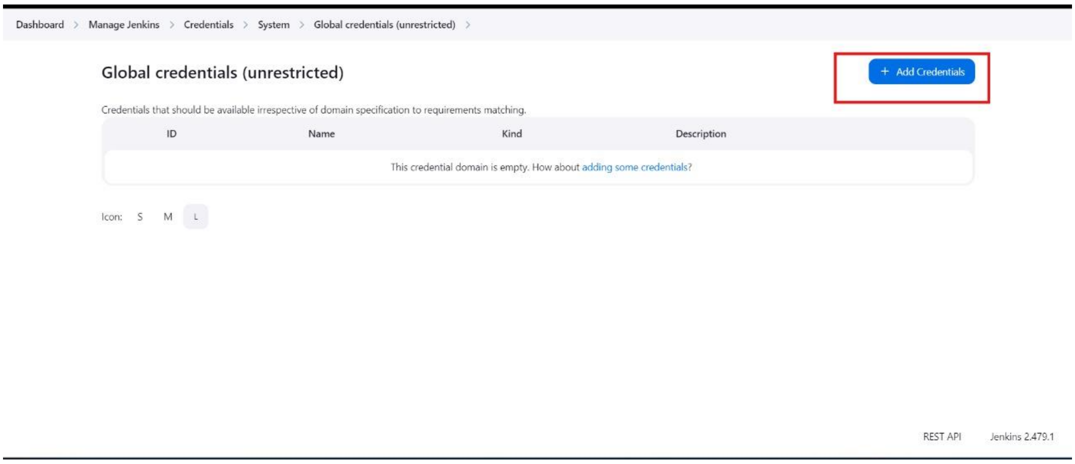


Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

Global credentials (unrestricted)

Credentials that should be available irrespective of domain specification to requirements matching.

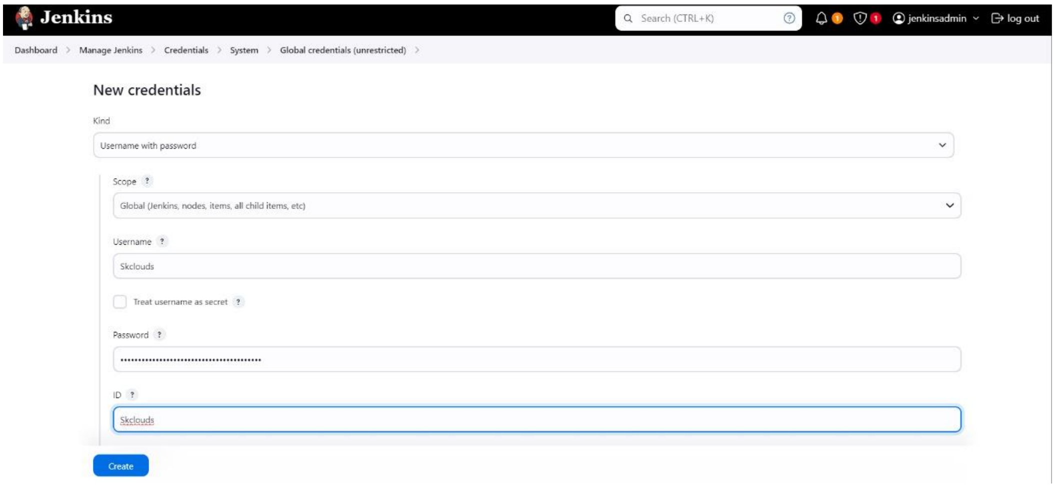
ID	Name	Kind	Description

This credential domain is empty. How about adding some credentials?

Icon: S M L

REST API Jenkins 2.479.1

iv. **The type of the Credential will be Username and Password username will be the github username and userid will be same github username and password will be the token generated previously**



Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

New credentials

Kind: Username with password

Scope: Global (Jenkins, nodes, items, all child items, etc)

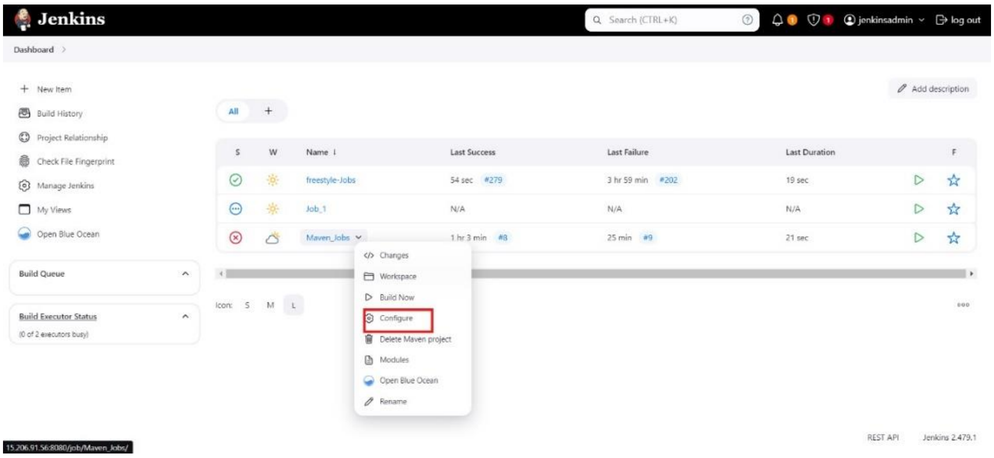
Username: Skclouds

□ Treat username as secret

Password: ••

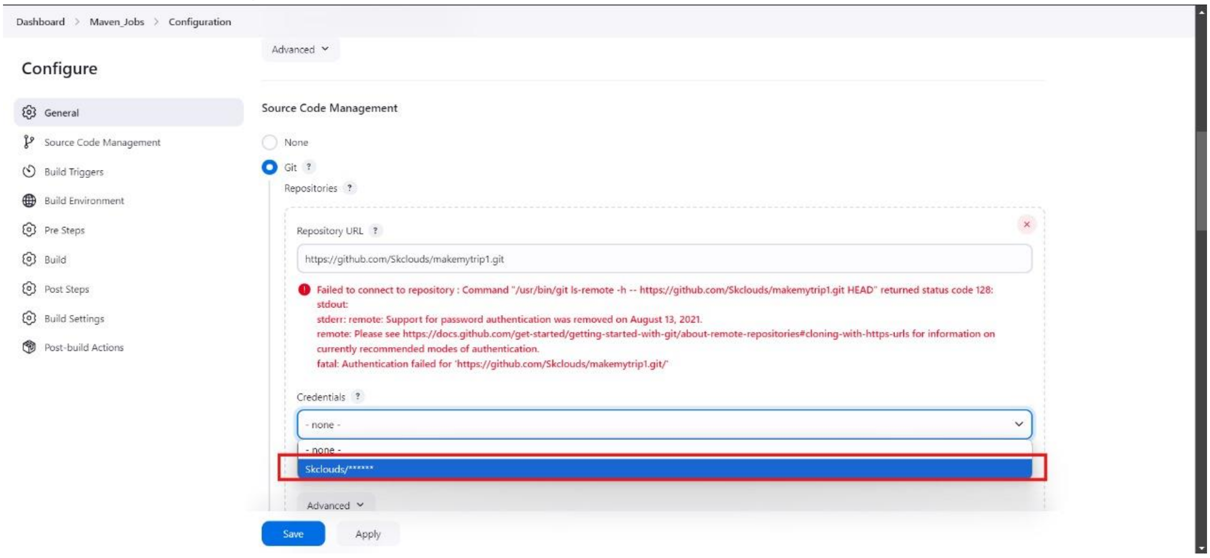
ID: Skclouds

v. **Go to Maven Job Configuration**



S	W	Name ↓	Last Success	Last Failure	Last Duration	F
		freestyle-Jobs	54 sec #279	3 hr 59 min #202	19 sec	
		Job_1	N/A	N/A	N/A	
		Maven_Jobs	1 hr 3 min #8	25 min #9	21 sec	

vi. Scroll down and in the Section of Source Code management Click on the Credential and select the recently created Credential



Source Code Management

○ None

● Git

Repositories

Repository URL: https://github.com/Skclouds/makemytrip1.git

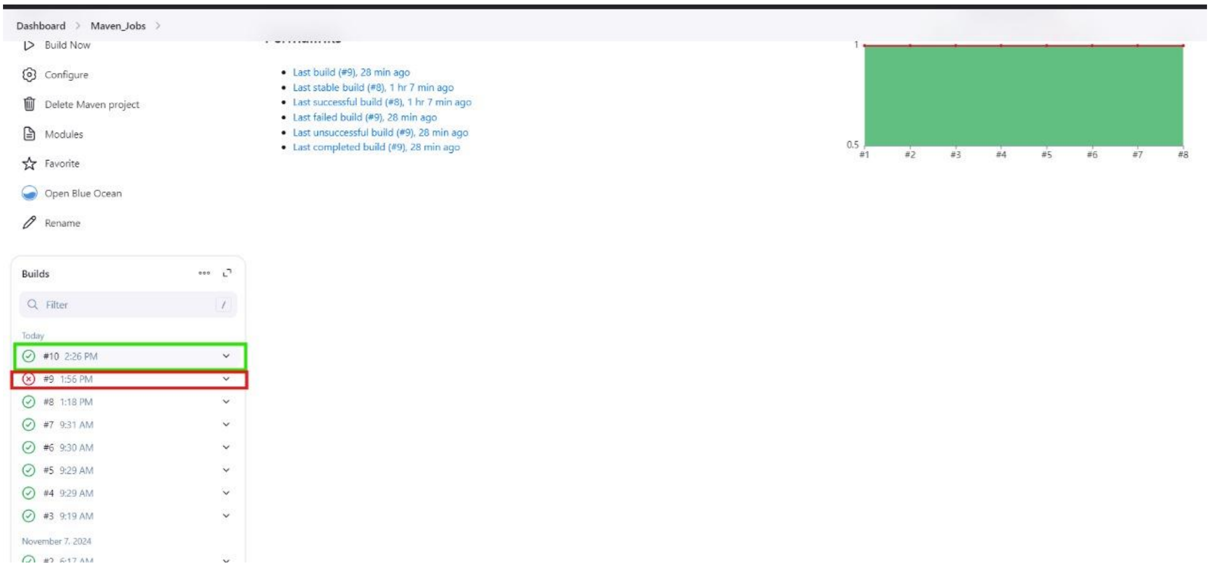
```
Failed to connect to repository : Command "/usr/bin/git ls-remote -h -- https://github.com/Skclouds/makemytrip1.git HEAD" returned status code 128:
stdout:
stderr: remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for information on currently recommended modes of authentication.
fatal: Authentication failed for 'https://github.com/Skclouds/makemytrip1.git/'
```

Credentials: - none -

- none -
Skclouds/******

vii. Select the branch dev and Click on Save

viii. As we can see the previous job is showing cross and the recently created job is showing correct



- Last build (#9), 28 min ago
- Last stable build (#8), 1 hr 7 min ago
- Last successful build (#8), 1 hr 7 min ago
- Last failed build (#9), 28 min ago
- Last unsuccessful build (#9), 28 min ago
- Last completed build (#9), 28 min ago

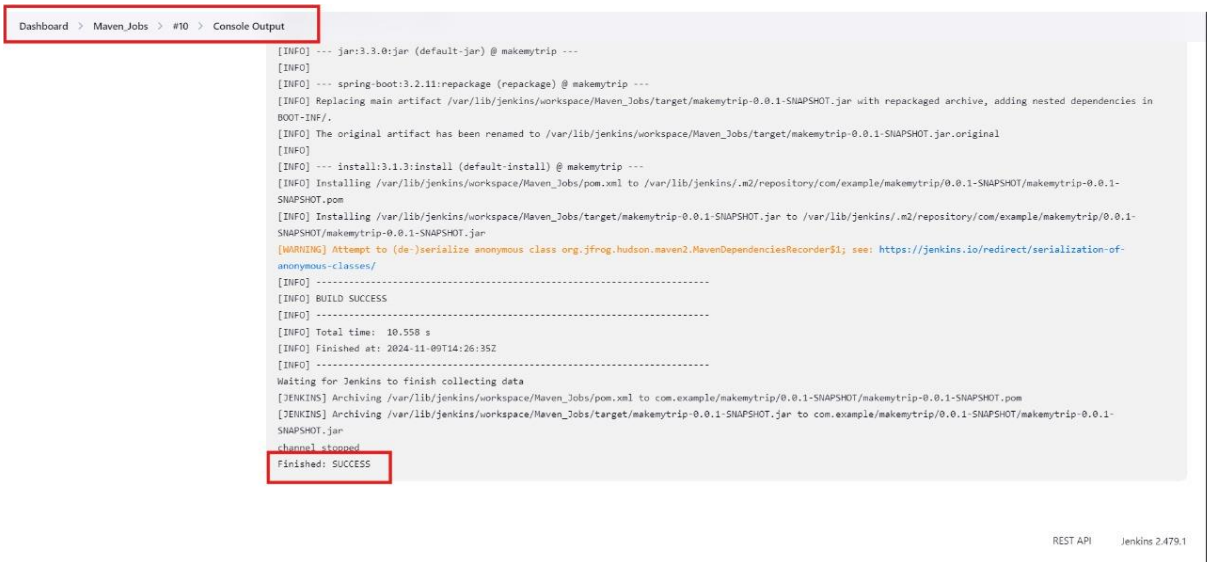
Today

✓ #10 2:26 PM
☒ #9 1:56 PM
✓ #8 1:18 PM
✓ #7 9:31 AM
✓ #6 9:30 AM
✓ #5 9:29 AM
✓ #4 9:29 AM
✓ #3 9:19 AM

November 7, 2024

✓ #2 6:17 AM

ix. **The log of the Job is also showing the job run successfully without any error**



```
[INFO] --- jar:3.3.0:jar (default-jar) @ makemytrip ---
[INFO]
[INFO] --- spring-boot:3.2.11:repackage (repackage) @ makemytrip ---
[INFO] Replacing main artifact /var/lib/jenkins/workspace/Maven_Jobs/target/makemytrip-0.0.1-SNAPSHOT.jar with repackaged archive, adding nested dependencies in
BOOT-INF/.
[INFO] The original artifact has been renamed to /var/lib/jenkins/workspace/Maven_Jobs/target/makemytrip-0.0.1-SNAPSHOT.jar.original
[INFO]
[INFO] --- install:3.1.3:install (default-install) @ makemytrip ---
[INFO] Installing /var/lib/jenkins/workspace/Maven_Jobs/pom.xml to /var/lib/jenkins/.m2/repository/com/example/makemytrip/0.0.1-SNAPSHOT/makemytrip-0.0.1-
SNAPSHOT.pom
[INFO] Installing /var/lib/jenkins/workspace/Maven_Jobs/target/makemytrip-0.0.1-SNAPSHOT.jar to /var/lib/jenkins/.m2/repository/com/example/makemytrip/0.0.1-
SNAPSHOT/makemytrip-0.0.1-SNAPSHOT.jar
[WARNING] Attempt to (de-)serialize anonymous class org.jfrog.hudson.maven2.MavenDependenciesRecorder$1; see: https://jenkins.io/redirect/serialization-of-
anonymous-classes/
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  10.558 s
[INFO] Finished at: 2024-11-09T14:26:35Z
[INFO] ------------------------------------------------------------------------
Waiting for Jenkins to finish collecting data
[JENKINS] Archiving /var/lib/jenkins/workspace/Maven_Jobs/pom.xml to com.example/makemytrip/0.0.1-SNAPSHOT/makemytrip-0.0.1-SNAPSHOT.pom
[JENKINS] Archiving /var/lib/jenkins/workspace/Maven_Jobs/target/makemytrip-0.0.1-SNAPSHOT.jar to com.example/makemytrip/0.0.1-SNAPSHOT/makemytrip-0.0.1-
SNAPSHOT.jar
channel stopped
Finished: SUCCESS
```