



CI PIPELINE PROJECT USING JENKINS AND GITHUB



Presented by :
ASMIT PANDEY

Presented to :
Mr. ASHISH AGRAWAL

INTRODUCTION

CI/CD (Continuous Integration/Continuous Delivery) is a holistic DevOps process that focuses on creating a compatible blend between the development cycle and the operations process. This is done by automating workflows and rolling out automatic updates to improve ROI. The CI/CD pipeline implementation is the backbone of the entire DevOps paradigm and facilitates the process of introducing the product to the marketplace faster than ever before.

CI is not entirely an essential prerequisite required for creating a stable software product. However, it definitely serves an important role when developing software products or components that require frequent changes. Furthermore, it also ensures that all the components of an application are integrated properly.

In the SDLC, CI mainly covers the Source and Build phases. A CI pipeline typically involves these steps:

- Detect changes in the code
- Analyze the quality of the source code

- Build
- Execute all unit tests
- Execute all integration tests
- Generate deployable artifacts
- Report status

If any of the above steps fail, the integration stops immediately, and the team is notified about the result.

STEPS

To configure CI pipeline with Jenkins, the first and the most obvious step is to install Jenkins. Follow the steps to do so :

- Launch an instance of Redhat (*instance type t2.small/t3.small*) . Also allow port 8080 in security group while launching .
- Login into the machine using SSH on Command Prompt. Now execute the following commands to install jenkins :
 - sudo -i
 - yum install wget -y
 - 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>

- `sudo yum upgrade`
- `sudo yum install java-17-openjdk`
- `sudo yum install jenkins`
- `sudo systemctl daemon-reload`
- Following screenshots of the executed commands are attached for reference .You can also visit to “ <https://www.jenkins.io/doc/book/installing/linux/#red-hat-centos> ” to see the manual and commands for installing jenkins on Red Hat Linux.



Launch an instance | EC2 | eu-nor X +

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

aws Services Search [Alt+S]

Name: jenkins Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recents Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Li

aws Mac Microsoft Red Hat SUSE

Amazon Machine Image (AMI)

Red Hat icon circled

Summary

Number of instances Info 1

Software Image (AMI) Provided by Red Hat, Inc. ami-0874ff0d73a3ab8cf

Virtual server type (instance type) t3.micro

Firewall (security group) New security group

Storage (volumes) 1 volume(s) - 10 GiB

Cancel Launch instance Review commands

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences

▼ Instance type [Info](#)

Instance type

t3.small

Family: t3 2 vCPU 2 GiB Memory Current generation: true
On-Demand SUSE base pricing: 0.0526 USD per Hour
On-Demand Linux base pricing: 0.0216 USD per Hour
On-Demand RHEL base pricing: 0.0816 USD per Hour
On-Demand Windows base pricing: 0.04 USD per Hour

 All generations[Compare instance types](#)[Additional costs apply for AMIs with pre-installed software](#)▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

asm

[Create new key pair](#)

▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)

Provided by Red Hat, Inc.
ami-0874ff0d73a3ab8cf

Virtual server type (instance type)

t3.small

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 10 GiB

[Cancel](#)[Launch instance](#)[Review commands](#)

Launch an instance | EC2 | eu-nor x +

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

aws Services Search [Alt+S] Stockholm Asmit Pandey

HTTP TCP 80

Source type Info Anywhere Source Info Add CIDR, prefix list or security e.g. SSH for admin desktop

Description - optional Info

Security group rule 4 (TCP, 8080, 0.0.0.0/0)

Type Info Custom TCP Protocol Info TCP Port range Info 8080 Remove

Source type Info Anywhere Source Info Add CIDR, prefix list or security e.g. SSH for admin desktop

Description - optional Info

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only. X

Add security group rule

Summary

Number of instances Info 1

Software Image (AMI) Provided by Red Hat, Inc. ami-0874ff0d73a3ab8cf

Virtual server type (instance type) t3.small

Firewall (security group) New security group

Storage (volumes) 1 volume(s) - 10 GiB

Cancel Launch instance Review commands

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences

Launch an instance | EC2 | eu-north-1 Instances | EC2 | eu-north-1

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances:instanceId=i-07b88303b04a0b357

aws Services Search [Alt+S] X A : Stockholm Asmit Pandey

New EC2 Experience Tell us what you think

EC2 Dashboard EC2 Global View Events Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations Images AMIs AMI Catalog

Instances (1/1) Info C Connect Instance state Actions Launch instances

Find instance by attribute or tag (case-sensitive)

Instance ID = i-07b88303b04a0b357 X Clear filters

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
jenkins	i-07b88303b04a0b357	Running	t3.small	Initializing	No alarms	eu-north-1a

Instance: i-07b88303b04a0b357 (jenkins)

Details Security Networking Storage Status checks Monitoring Tags

Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-07b88303b04a0b357 (jenkins)	16.171.234.172 open address	172.31.17.95
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-16-171-234-172.eu-north-1.compute.amazonaws.com open address

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences

cmd root@ip-172-31-17-95:~

```
Microsoft Windows [Version 10.0.22000.2057]
(c) Microsoft Corporation. All rights reserved.

C:\Users\asmite>ssh -i "Downloads\asm.pem" ec2-user@16.171.234.172
The authenticity of host '16.171.234.172 (16.171.234.172)' can't be established.
ECDSA key fingerprint is SHA256:8lTPxQ7Lt1dJURLfLVv1YCK+3jh0moLEj+I6Yr4hVbE.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '16.171.234.172' (ECDSA) to the list of known hosts.
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-172-31-17-95 ~]$
[ec2-user@ip-172-31-17-95 ~]$
[ec2-user@ip-172-31-17-95 ~]$
[ec2-user@ip-172-31-17-95 ~]$ sudo -i
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]#
```

```
[root@ip-172-31-17-95:~]#
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]# yum install wget -y ←
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppStream from RHUI (RPMs)          50 MB/s | 24 MB   00:00
Red Hat Enterprise Linux 9 for x86_64 - BaseOS from RHUI (RPMs)            43 MB/s | 13 MB   00:00
Red Hat Enterprise Linux 9 Client Configuration                         41 kB/s | 3.4 kB   00:00
Dependencies resolved.

=====
          Package           Architecture      Version       Repository      Size
=====
Installing:
  wget             x86_64        1.21.1-7.el9    rhel-9-appstream-rhui-rpms  794 k

Transaction Summary
=====
Install 1 Package

Total download size: 794 k
Installed size: 3.1 M
Downloading Packages:
wget-1.21.1-7.el9.x86_64.rpm                                         15 MB/s | 794 kB   00:00
-----
Total                                         11 MB/s | 794 kB   00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      :                                         1/1
```

root@ip-172-31-17-95:~

```
Total                                         11 MB/s | 794 kB   00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      : 1/1
  Installing    : wget-1.21.1-7.el9.x86_64 1/1
  Running scriptlet: wget-1.21.1-7.el9.x86_64 1/1
  Verifying      : wget-1.21.1-7.el9.x86_64 1/1
Installed products updated.
```

```
Installed:
  wget-1.21.1-7.el9.x86_64
```

Complete!

```
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]# sudo wget -O /etc/yum.repos.d/jenkins.repo \
>   https://pkg.jenkins.io/redhat-stable/jenkins.repo
--2023-09-06 19:58:04--  https://pkg.jenkins.io/redhat-stable/jenkins.repo
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.86.133, 2a04:4e42:14::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)|151.101.86.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 85
Saving to: '/etc/yum.repos.d/jenkins.repo'

/etc/yum.repos.d/jenkins.repo      100%[=====]     85  --.-KB/s  in 0s

2023-09-06 19:58:05 (2.41 MB/s) - '/etc/yum.repos.d/jenkins.repo' saved [85/85]

[root@ip-172-31-17-95 ~]#
```

c:\ root@ip-172-31-17-95:~

Installed:

Complete!

```
[root@ip-172-31-17-95 ~]#  
[root@ip-172-31-17-95 ~]#  
[root@ip-172-31-17-95 ~]#  
[root@ip-172-31-17-95 ~]# sudo wget -O /etc/yum.repos.d/jenkins.repo \  
> https://pkg.jenkins.io/redhat-stable/jenkins.repo  
--2023-09-06 19:58:04-- https://pkg.jenkins.io/redhat-stable/jenkins.repo  
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.86.133, 2a04:4e42:14::645  
Connecting to pkg.jenkins.io (pkg.jenkins.io)|151.101.86.133|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 85  
Saving to: '/etc/yum.repos.d/jenkins.repo'  
  
[root@ip-172-31-17-95 ~]#
```

/etc/yum.repos.d/jenkins.repo 100%[=====] 85 --.KB/s in 0s

2023-09-06 19:58:05 (2.41 MB/s) - '/etc/yum.repos.d/jenkins.repo' saved [85/85]

```
[root@ip-172-31-17-95:~]#
[root@ip-172-31-17-95:~]#
[root@ip-172-31-17-95:~]#
[root@ip-172-31-17-95:~]#
[root@ip-172-31-17-95:~]# sudo yum upgrade ←
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Jenkins-stable
Dependencies resolved.

=====
          Package           Architecture   Version            Repository      Size
=====
Installing:
kernel                  x86_64        5.14.0-284.25.1.el9_2    rhel-9-baseos-rhui-rpms  3.4 M
kernel-core              x86_64        5.14.0-284.25.1.el9_2    rhel-9-baseos-rhui-rpms  17 M
kernel-modules            x86_64        5.14.0-284.25.1.el9_2    rhel-9-baseos-rhui-rpms 37 M
kernel-modules-core       x86_64        5.14.0-284.25.1.el9_2    rhel-9-baseos-rhui-rpms 36 M
Upgrading:
NetworkManager           x86_64        1:1.42.2-6.el9_2         rhel-9-baseos-rhui-rpms  2.2 M
NetworkManager-cloud-setup x86_64        1:1.42.2-6.el9_2         rhel-9-appstream-rhui-rpms 72 k
NetworkManager-libnm      x86_64        1:1.42.2-6.el9_2         rhel-9-baseos-rhui-rpms  1.8 M
NetworkManager-team       x86_64        1:1.42.2-6.el9_2         rhel-9-baseos-rhui-rpms  39 k
NetworkManager-tui        x86_64        1:1.42.2-6.el9_2         rhel-9-baseos-rhui-rpms 243 k
c-ares                   x86_64        1.17.1-5.el9_2.1        rhel-9-baseos-rhui-rpms 106 k
cloud-init                noarch       22.1-10.el9_2           rhel-9-appstream-rhui-rpms 1.1 M
curl                      x86_64        7.76.1-23.el9_2.2       rhel-9-baseos-rhui-rpms 298 k
dbus                      x86_64        1:1.12.20-7.el9_2.1      rhel-9-baseos-rhui-rpms 7.9 k
dbus-common               noarch       1:1.12.20-7.el9_2.1      rhel-9-baseos-rhui-rpms 18 k
dbus-libs                 x86_64        1:1.12.20-7.el9_2.1      rhel-9-baseos-rhui-rpms 154 k
dbus-tools                x86_64        1:1.12.20-7.el9_2.1      rhel-9-baseos-rhui-rpms 56 k
file                      x86_64        5.39-12.1.el9_2          rhel-9-baseos-rhui-rpms 52 k
```

```
[root@ip-172-31-17-95:~]
```

```
dbus-libs-1:1.12.20-7.el9_2.1.x86_64
file-5.39-12.1.el9_2.x86_64
grub2-common-1:2.06-61.el9_2.1.noarch
grub2-pc-modules-1:2.06-61.el9_2.1.noarch
grub2-tools-minimal-1:2.06-61.el9_2.1.x86_64
iutils-20210202-8.el9_1.1.x86_64
kernel-tools-libs-5.14.0-284.25.1.el9_2.x86_64
krb5-libs-1.20.1-9.el9_2.x86_64
libcurl-7.76.1-23.el9_2.2.x86_64
libeconf-0.4.1-3.el9_2.x86_64
libsss_idmap-2.8.2-3.el9_2.x86_64
libsss_sudo-2.8.2-3.el9_2.x86_64
microcode_ctl-4:20220809-2.20230808.2.el9_2.noarch
openssh-clients-8.7p1-30.el9_2.x86_64
openssl-1:3.0.7-17.el9_2.x86_64
python-unversioned-command-3.9.16-1.el9_2.1.noarch
python3-cloud-what-1.29.33.1-2.el9_2.x86_64
python3-libs-3.9.16-1.el9_2.1.x86_64
python3-requests-2.25.1-7.el9_2.noarch
redhat-cloud-client-configuration-1-10.el9_0.noarch
selinux-policy-38.1.11-2.el9_2.3.noarch
sssd-client-2.8.2-3.el9_2.x86_64
sssd-kcm-2.8.2-3.el9_2.x86_64
systemd-252-14.el9_2.3.x86_64
systemd-pam-252-14.el9_2.3.x86_64
systemd-udev-252-14.el9_2.3.x86_64
```

Installed:

```
freetype-2.10.4-9.el9.x86_64
grub2-tools-extra-1:2.06-61.el9_2.1.x86_64
kernel-core-5.14.0-284.25.1.el9_2.x86_64
libpng-2:1.6.37-12.el9.x86_64
```

Complete!

```
[root@ip-172-31-17-95 ~]#
```

```
dbus-tools-1:1.12.20-7.el9_2.1.x86_64
file-libs-5.39-12.1.el9_2.x86_64
grub2-pc-1:2.06-61.el9_2.1.x86_64
grub2-tools-1:2.06-61.el9_2.1.x86_64
insights-client-3.1.7-12.1.el9_2.noarch
kernel-tools-5.14.0-284.25.1.el9_2.x86_64
kexec-tools-2.0.25-13.el9_2.1.x86_64
less-590-2.el9_2.x86_64
libdnf-plugin-subscription-manager-1.29.33.1-2.el9_2.x86_64
libsss_certmap-2.8.2-3.el9_2.x86_64
libsss_nss_idmap-2.8.2-3.el9_2.x86_64
libxml2-2.9.13-3.el9_2.1.x86_64
openssh-8.7p1-30.el9_2.x86_64
openssh-server-8.7p1-30.el9_2.x86_64
openssl-libs-1:3.0.7-17.el9_2.x86_64
python3-3.9.16-1.el9_2.1.x86_64
python3-file-magic-5.39-12.1.el9_2.noarch
python3-perf-5.14.0-284.25.1.el9_2.x86_64
python3-subscription-manager-rhsm-1.29.33.1-2.el9_2.x86_64
rh-amazon-rhui-client-4.0.10-1.el9.noarch
selinux-policy-targeted-38.1.11-2.el9_2.3.noarch
sssd-common-2.8.2-3.el9_2.x86_64
subscription-manager-1.29.33.1-2.el9_2.x86_64
systemd-libs-252-14.el9_2.3.x86_64
systemd-rpm-macros-252-14.el9_2.3.noarch
```

```
graphite2-1.3.14-9.el9.x86_64
harfbuzz-2.7.4-8.el9.x86_64
kernel-modules-5.14.0-284.25.1.el9_2.x86_64
```

```
grub2-tools-efi-1:2.06-61.el9_2.1.x86_64
kernel-5.14.0-284.25.1.el9_2.x86_64
kernel-modules-core-5.14.0-284.25.1.el9_2.x86_64
```

```
[root@ip-172-31-17-95:~]
```

```
[root@ip-172-31-17-95 ~]# sudo yum install java-17-openjdk
```

Updating Subscription Management repositories.

Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppStream from RHUI (RPMs)

74 kB/s | 4.5 kB 00:00

Red Hat Enterprise Linux 9 for x86_64 - BaseOS from RHUI (RPMs)

81 kB/s | 4.1 kB 00:00

Red Hat Enterprise Linux 9 Client Configuration

46 kB/s | 2.0 kB 00:00

Dependencies resolved.

Package	Architecture	Version	Repository	Size
<hr/>				
Installing:				
java-17-openjdk	x86_64	1:17.0.8.0.7-2.el9	rhel-9-appstream-rhui-rpms	437 k
Installing dependencies:				
ModemManager-glib	x86_64	1.20.2-1.el9	rhel-9-baseos-rhui-rpms	337 k
adobe-source-code-pro-fonts	noarch	2.030.1.050-12.el9.1	rhel-9-appstream-rhui-rpms	836 k
adwaita-cursor-theme	noarch	40.1.1-3.el9	rhel-9-appstream-rhui-rpms	655 k
adwaita-icon-theme	noarch	40.1.1-3.el9	rhel-9-appstream-rhui-rpms	12 M
alsa-lib	x86_64	1.2.8-3.el9	rhel-9-appstream-rhui-rpms	521 k
at-spi2-atk	x86_64	2.38.0-4.el9	rhel-9-appstream-rhui-rpms	90 k
at-spi2-core	x86_64	2.40.3-1.el9	rhel-9-appstream-rhui-rpms	199 k
atk	x86_64	2.36.0-5.el9	rhel-9-appstream-rhui-rpms	296 k
avahi-glib	x86_64	0.8-12.el9_2.1	rhel-9-appstream-rhui-rpms	15 k
avahi-libs	x86_64	0.8-12.el9_2.1	rhel-9-baseos-rhui-rpms	71 k
bluez-libs	x86_64	5.64-2.el9	rhel-9-baseos-rhui-rpms	85 k
bubblewrap	x86_64	0.4.1-6.el9	rhel-9-baseos-rhui-rpms	52 k
cairo	x86_64	1.17.4-7.el9	rhel-9-appstream-rhui-rpms	664 k
cairo-gobject	x86_64	1.17.4-7.el9	rhel-9-appstream-rhui-rpms	20 k
colord-libs	x86_64	1.4.5-4.el9	rhel-9-appstream-rhui-rpms	233 k
copy-jdk-configs	noarch	4.0-3.el9	rhel-9-appstream-rhui-rpms	29 k
cups-libs	x86_64	1:2.3.3op2-16.el9_2.1	rhel-9-baseos-rhui-rpms	264 k
exempi	x86_64	2.6.0-0.2.20211007gite23c213.el9	rhel-9-appstream-rhui-rpms	528 k

[root@ip-172-31-17-95:~]

```
libwebp-1.2.0-6.el9_1.x86_64
libxkbcommon-1.0.3-4.el9.x86_64
libxslt-1.1.34-9.el9.x86_64
llvm-libs-15.0.7-1.el9.x86_64
lua-5.4.4-3.el9.x86_64
mesa-libEGL-22.3.0-2.el9.x86_64
mesa-libgbm-22.3.0-2.el9.x86_64
mesa-vulkan-drivers-22.3.0-2.el9.x86_64
nspr-4.34.0-18.el9_1.x86_64
NSS-softokn-3.79.0-18.el9_1.x86_64
NSS-sysinit-3.79.0-18.el9_1.x86_64
openjpeg2-2.4.0-7.el9.x86_64
orc-0.4.31-6.el9.x86_64
osinfo-db-tools-1.10.0-1.el9.x86_64
p11-kit-server-0.24.1-2.el9.x86_64
pipewire-0.3.47-3.el9_2.x86_64
pipewire-jack-audio-connection-kit-0.3.47-3.el9_2.x86_64
pipewire-pulseaudio-0.3.47-3.el9_2.x86_64
poppler-21.01.0-14.el9.x86_64
poppler-glib-21.01.0-14.el9.x86_64
pulseaudio-utils-15.0-2.el9.x86_64
shared-mime-info-2.1-5.el9.x86_64
totem-pl-parser-3.26.6-2.el9.x86_64
tracker-miners-3.1.2-3.el9.x86_64
tzdata-java-2023c-1.el9.noarch
vulkan-loader-1.3.239.0-1.el9.x86_64
webrtc-audio-processing-0.3.1-8.el9.x86_64
wireplumber-libs-0.4.8-1.el9.x86_64
xdg-desktop-portal-1.12.4-1.el9.x86_64
xkeyboard-config-2.33-2.el9.noarch
xorg-x11-fonts-Type1-7.5-33.el9.noarch
```

Complete!

[root@ip-172-31-17-95 ~]#

```
libxcb-1.13.1-9.el9.x86_64
libxshmfence-1.3-10.el9.x86_64
lksctp-tools-1.0.19-2.el9.x86_64
low-memory-monitor-2.1-4.el9.x86_64
lua-posix-35.0-8.el9.x86_64
mesa-libGL-22.3.0-2.el9.x86_64
mesa-libglapi-22.3.0-2.el9.x86_64
mkfontscale-1.2.1-3.el9.x86_64
NSS-softokn-freebl-3.79.0-18.el9_1.x86_64
NSS-util-3.79.0-18.el9_1.x86_64
opus-1.3.1-10.el9.x86_64
osinfo-db-20221130-1.el9.noarch
ostree-libs-2023.1-6.el9_2.x86_64
pango-1.48.7-3.el9.x86_64
pipewire-alsa-0.3.47-3.el9_2.x86_64
pipewire-libs-0.3.47-3.el9_2.x86_64
pixman-0.40.0-5.el9.x86_64
poppler-data-0.4.9-9.el9.noarch
pulseaudio-libs-15.0-2.el9.x86_64
rtkit-0.11-28.el9.x86_64
sound-theme-freedesktop-0.8-17.el9.noarch
tracker-3.1.2-3.el9_1.x86_64
ttmkfdir-3.0.9-65.el9.x86_64
upower-0.99.13-2.el9.x86_64
webkit2gtk3-jsc-2.38.5-1.el9_2.3.x86_64
wireplumber-0.4.8-1.el9.x86_64
xdg-dbus-proxy-0.1.3-1.el9.x86_64
xdg-desktop-portal-gtk-1.12.0-3.el9.x86_64
xml-common-0.6.3-58.el9.noarch
```

```
root@ip-172-31-17-95:~#  
[root@ip-172-31-17-95 ~]#  
[root@ip-172-31-17-95 ~]# sudo yum install jenkins ←  
Updating Subscription Management repositories.  
Unable to read consumer identity  
  
This system is not registered with an entitlement server. You can use subscription-manager to register.  
  
Last metadata expiration check: 0:02:52 ago on Wed 06 Sep 2023 08:06:54 PM UTC.  
Dependencies resolved.  
=====  


| Package | Architecture | Version     | Repository | Size |
|---------|--------------|-------------|------------|------|
| jenkins | noarch       | 2.414.1-1.1 | jenkins    | 85 M |

  
Installing:  


|         |        |             |         |      |
|---------|--------|-------------|---------|------|
| jenkins | noarch | 2.414.1-1.1 | jenkins | 85 M |
|---------|--------|-------------|---------|------|

  
Transaction Summary  
=====  
Install 1 Package  
  
Total download size: 85 M  
Installed size: 85 M  
Is this ok [y/N]: y  
Downloading Packages:  
jenkins-2.414.1-1.1.noarch.rpm  
-----  
Total  
22 MB/s | 85 MB 00:03  
Running transaction check  
Transaction check succeeded.  
Running transaction test
```

```
[root@ip-172-31-17-95:~]
```

```
Installing:
```

```
jenkins
```

```
noarch
```

```
2.414.1-1.1
```

```
jenkins
```

```
85 M
```

```
Transaction Summary
```

```
=====  
Install 1 Package
```

```
Total download size: 85 M
```

```
Installed size: 85 M
```

```
Is this ok [y/N]: y
```

```
Downloading Packages:
```

```
jenkins-2.414.1-1.1.noarch.rpm
```

```
22 MB/s | 85 MB 00:03
```

```
-----  
Total 22 MB/s | 85 MB 00:03
```

```
Running transaction check
```

```
Transaction check succeeded.
```

```
Running transaction test
```

```
Transaction test succeeded.
```

```
Running transaction
```

```
Preparing : 1/1
```

```
Running scriptlet: jenkins-2.414.1-1.1.noarch 1/1
```

```
Installing : jenkins-2.414.1-1.1.noarch 1/1
```

```
Running scriptlet: jenkins-2.414.1-1.1.noarch 1/1
```

```
Verifying : jenkins-2.414.1-1.1.noarch 1/1
```

```
Installed products updated.
```

```
Installed:
```

```
jenkins-2.414.1-1.1.noarch
```

```
Complete!
```

```
[root@ip-172-31-17-95 ~]# sudo systemctl daemon-reload ←
```

```
[root@ip-172-31-17-95 ~]#
```

```
[root@ip-172-31-17-95 ~]#
```

```
[root@ip-172-31-17-95 ~]#
```

- Check the installed jenkins version :

```
jenkins --version
```

- Now enable the jenkins service using following command :

```
systemctl enable --now jenkins
```

- Now paste the “*publicIP:8080*” on browser to see jenkins login page .

For example :

```
[root@ip-172-31-17-95 ~]#  
[root@ip-172-31-17-95 ~]#  
[root@ip-172-31-17-95 ~]# jenkins --version ←—  
2.414.1  
[root@ip-172-31-17-95 ~]#
```

root@ip-172-31-17-95:~

```
Running scriptlet: jenkins-2.414.1-1.1.noarch  
Verifying      : jenkins-2.414.1-1.1.noarch  
Installed products updated.
```

Installed:

```
jenkins-2.414.1-1.1.noarch
```

Complete!

```
[root@ip-172-31-17-95 ~]# sudo systemctl daemon-reload
```

```
[root@ip-172-31-17-95 ~]#
```

```
[root@ip-172-31-17-95 ~]#
```

```
[root@ip-172-31-17-95 ~]# jenkins --version
```

```
2.414.1
```

```
[root@ip-172-31-17-95 ~]#
```

← [root@ip-172-31-17-95 ~]# systemctl enable --now jenkins

Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.

Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins

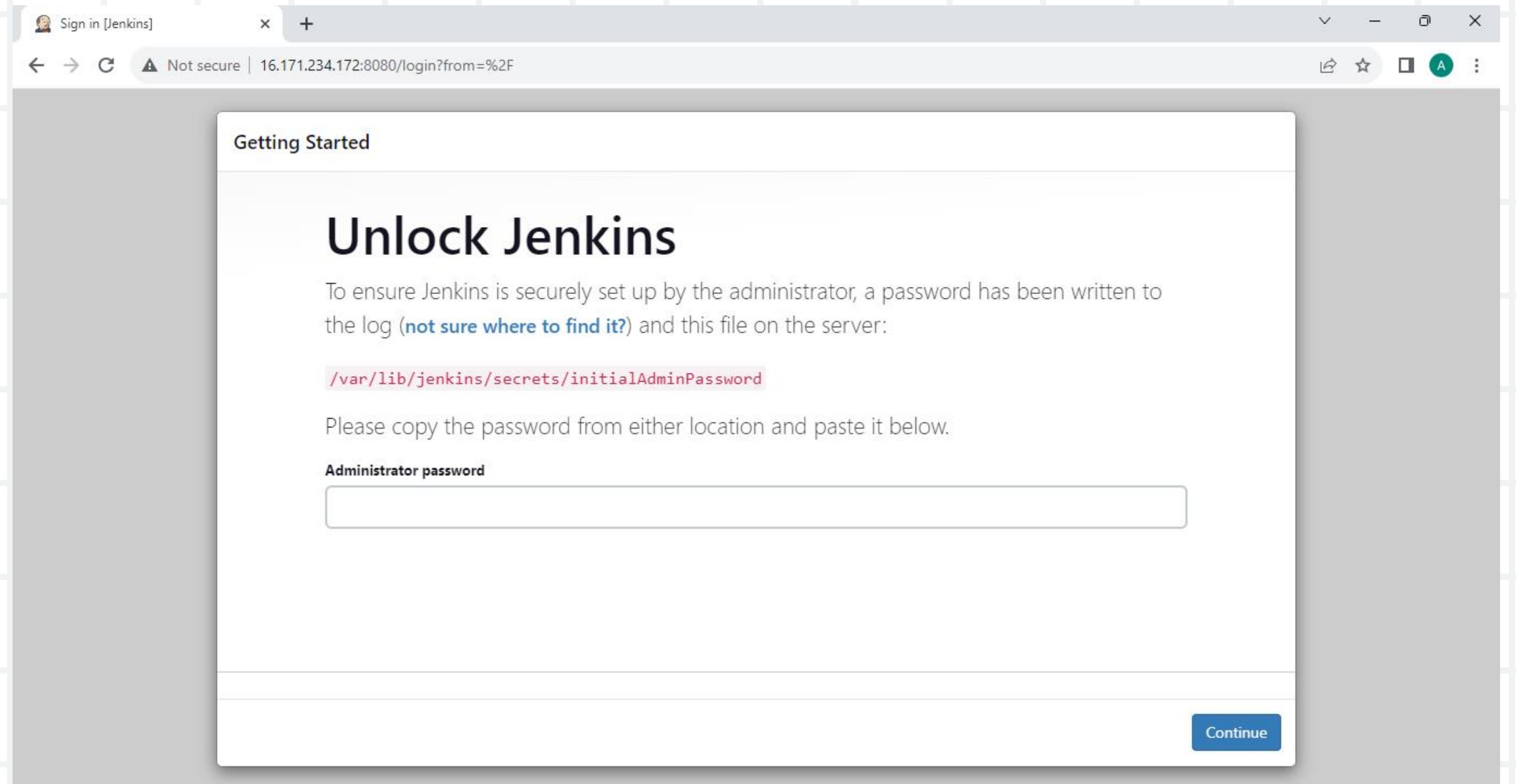
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins.service → /usr/lib/systemd/system/jenkins.service.

1/1

1/1

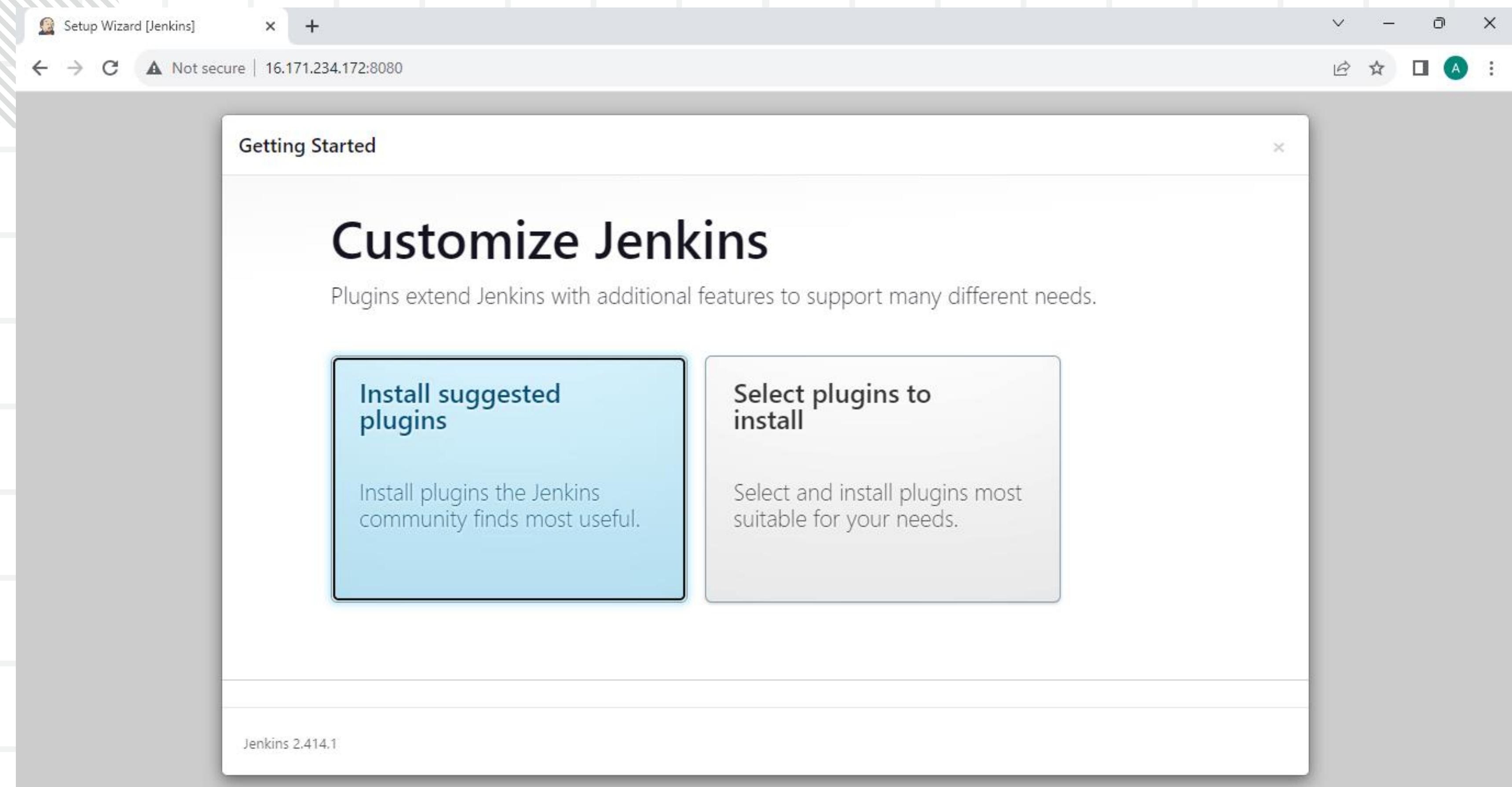
- To unlock this, open the following file in terminal and paste the password here :

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

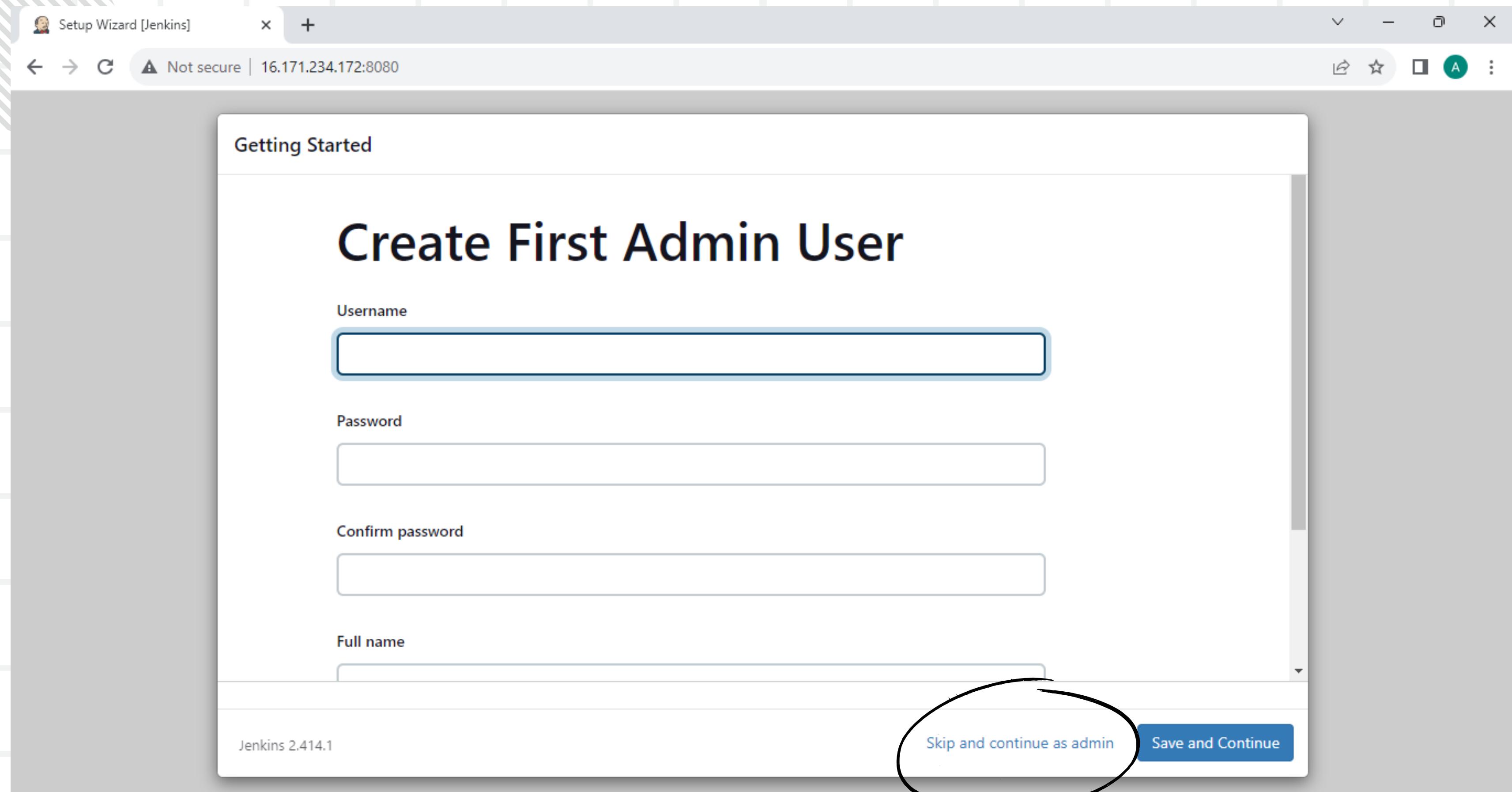


- Copy and Paste this password in the jenkins server page .

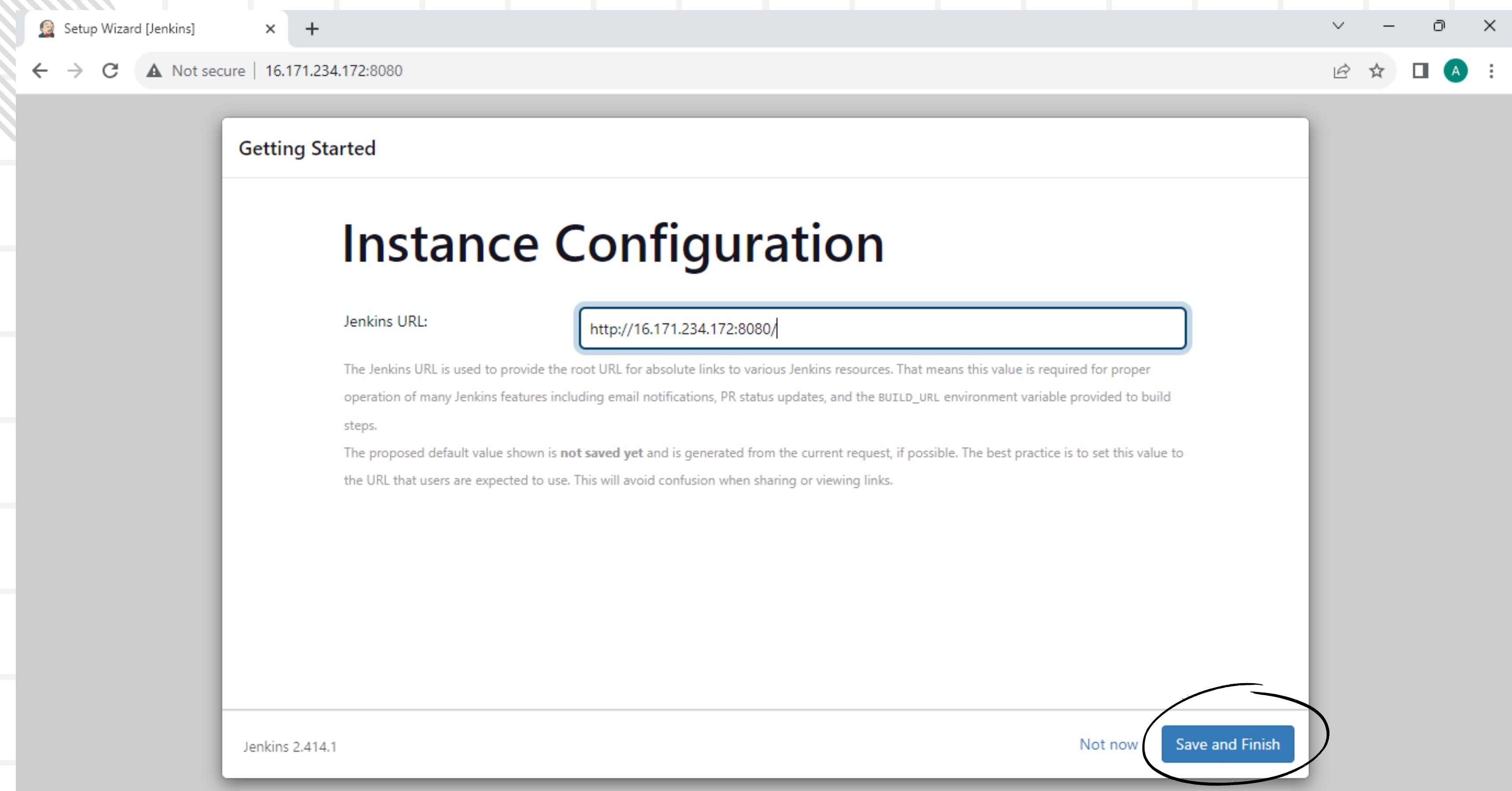
- Click on install suggested plugins.



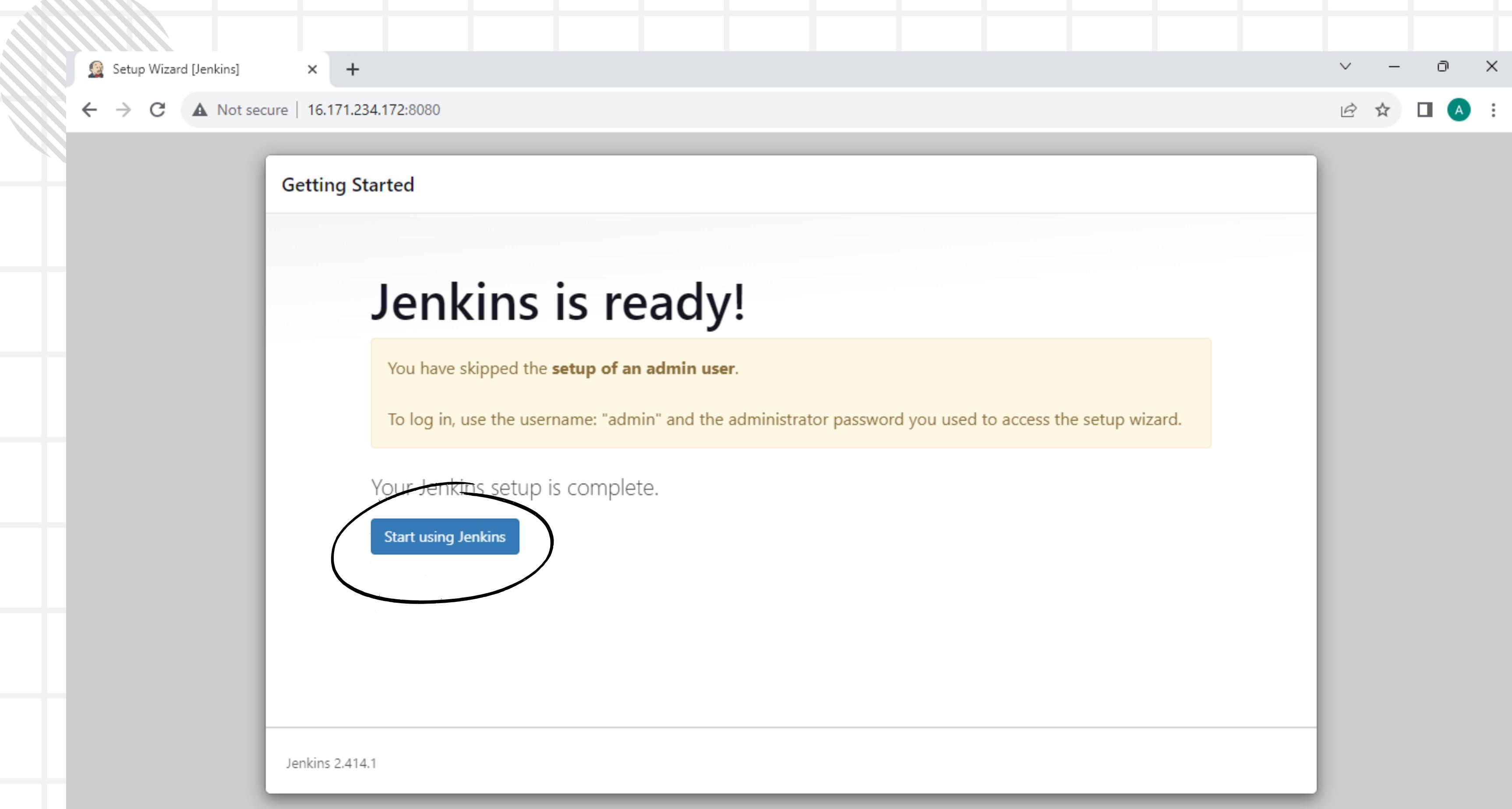
- Click on skip and continue as admin.



- Click on Save and finish.



- Click on Start using Jenkins.



- Go to Admin -> Configure -> scroll down to set custom password.

The screenshot shows the Jenkins Dashboard. At the top right, there is a user menu with the following items: a question mark icon, a shield icon with a red '1', an 'admin' icon, and a 'log out' link. A dropdown menu is open over the 'admin' link, containing four options: 'Builds', 'Configure', 'My Views', and 'Credentials'. A black arrow points from the bottom right towards the 'Configure' option. The main content area features a 'Welcome to Jenkins!' message, a 'Start building your software project' button, and sections for 'Create a job', 'Set up a distributed build', 'Set up an agent', and 'Configure a cloud'. On the left side, there are links for 'Dashboard', 'New Item', 'People', 'Build History', 'Manage Jenkins', and 'My Views'. Below these are two dropdown menus: 'Build Queue' (showing 'No builds in the queue.') and 'Build Executor Status' (showing '1 Idle' and '2 Idle'). The URL in the browser bar is '16.171.234.172:8080/user/admin/configure'.

- Type and confirm the new password and then apply and save it .

User 'admin' Configuration [Jenk]

Not secure | 16.171.234.172:8080/user/admin/configure

Dashboard > admin > Configure

Password

Password:

.....

Confirm Password:

.....

Session Termination

Terminate All Sessions ?

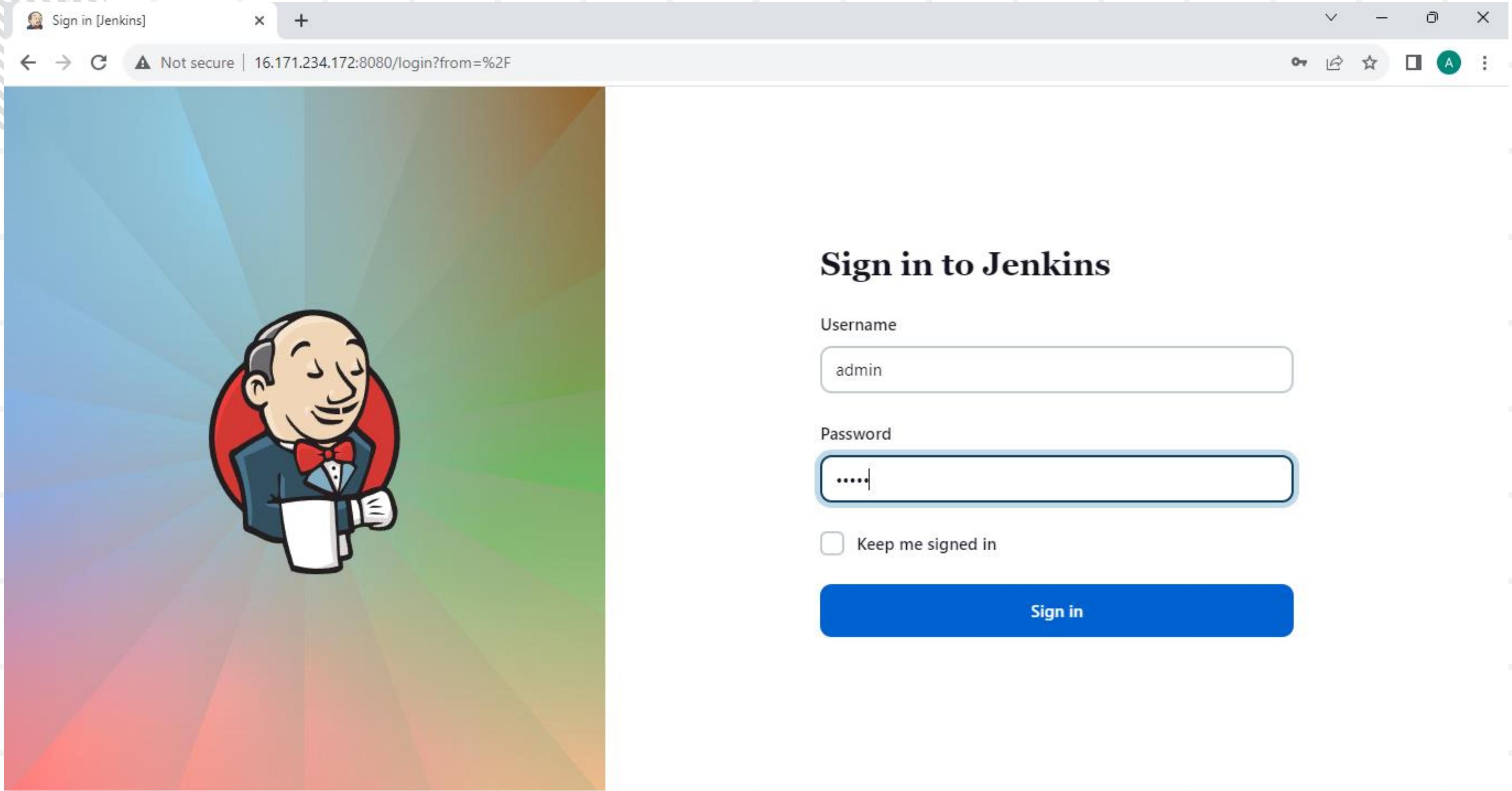
Setting for search

Case-sensitivity

Insensitive search tool

Save **Apply**

- Login again using your credentials.



Providing root permissions to Jenkins

- Open terminal and fire “sudo visudo”. A file gets opened , scroll down to “#Allow root to run any command anywhere.”

```
root@ip-172-31-17-95:~#
## Sudoers allows particular users to run various commands as
## the root user, without needing the root password.
##
## Examples are provided at the bottom of the file for collections
## of related commands, which can then be delegated out to particular
## users or groups.
##
## This file must be edited with the 'visudo' command.

## Host Aliases
## Groups of machines. You may prefer to use hostnames (perhaps using
## wildcards for entire domains) or IP addresses instead.
# Host_Alias      FILESERVERS = fs1, fs2
# Host_Alias      MAILSERVERS = smtp, smtp2

## User Aliases
## These aren't often necessary, as you can use regular groups
## (ie, from files, LDAP, NIS, etc) in this file - just use %groupname
## rather than USERALIAS
# User_Alias ADMINS = jsmith, mikem

## Command Aliases
## These are groups of related commands...

## Networking
# Cmnd_Alias NETWORKING = /sbin/route, /sbin/ifconfig, /bin/ping, /sbin/dhclient, /usr/bin/net, /sbin/iptables, /usr/bin/rfcomm, /usr/bin/wvdial, /sbin/iwconfig, /sbin/mii-tool

## Installation and management of software
# Cmnd_Alias SOFTWARE = /bin/rpm, /usr/bin/up2date, /usr/bin/yum

## Services
-- INSERT --
```

- Add the following with proper alignment as shown :

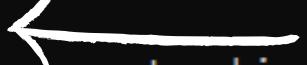
jenkins

ALL=(ALL)

NOPASSWD:ALL

```
root@ip-172-31-17-95:~#
# Defaults    env_keep += "HOME"

Defaults    secure_path = /sbin:/bin:/usr/sbin:/usr/bin

## Next comes the main part: which users can run what software on
## which machines (the sudoers file can be shared between multiple
## systems).
## Syntax:
##
##       user      MACHINE=COMMANDS
##
## The COMMANDS section may have other options added to it.
##
## Allow root to run any commands anywhere
root    ALL=(ALL)      ALL
jenkins ALL=(ALL)      NOPASSWD:ALL. 
## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
# %sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING, PROCESSES, LOCATE, DRIVERS

## Allows people in group wheel to run all commands
%wheel  ALL=(ALL)      ALL

## Same thing without a password
# %wheel      ALL=(ALL)      NOPASSWD: ALL

## Allows members of the users group to mount and unmount the
## cdrom as root
# %users  ALL=/sbin/mount /mnt/cdrom, /sbin/umount /mnt/cdrom

## Allows members of the users group to shutdown this system
# %users  localhost=/sbin/shutdown -h now

-- INSERT --
```

- On jenkins page click on : New item -> project name -> freestyle project -> Ok

New Item [Jenkins]

Not secure | 16.171.234.172:8080/view/all/newJob

Jenkins

Search (CTRL+K)

admin log out

Dashboard > All >

Enter an item name

project1

» Required field

Freestyle project

This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

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.

OK

- Scroll down to build steps -> add build steps -> execute shell.

The screenshot shows the Jenkins configuration interface for a project named "project1". The left sidebar lists various configuration sections: General, Source Code Management, Build Triggers, Build Environment (which is currently selected), Build Steps (also listed under General), and Post-build Actions. The main content area is titled "Configure" and shows several global configuration options like "Add timestamps to the Console Output" and "Inspect build log for published build scans". Below these is a "Build Steps" section. A dropdown menu titled "Add build step" is open, showing options such as "Execute Windows batch command", "Execute shell" (which is highlighted with a blue selection bar), "Invoke Ant", "Invoke Gradle script", "Invoke top-level Maven targets", "Run with timeout", and "Set build status to "pending" on GitHub commit".

project1 Config [Jenkins] Not secure | 16.171.234.172:8080/job/project1/configure

Dashboard > project1 > Configuration

Configure

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

Build Steps

Add build step ▾

Filter

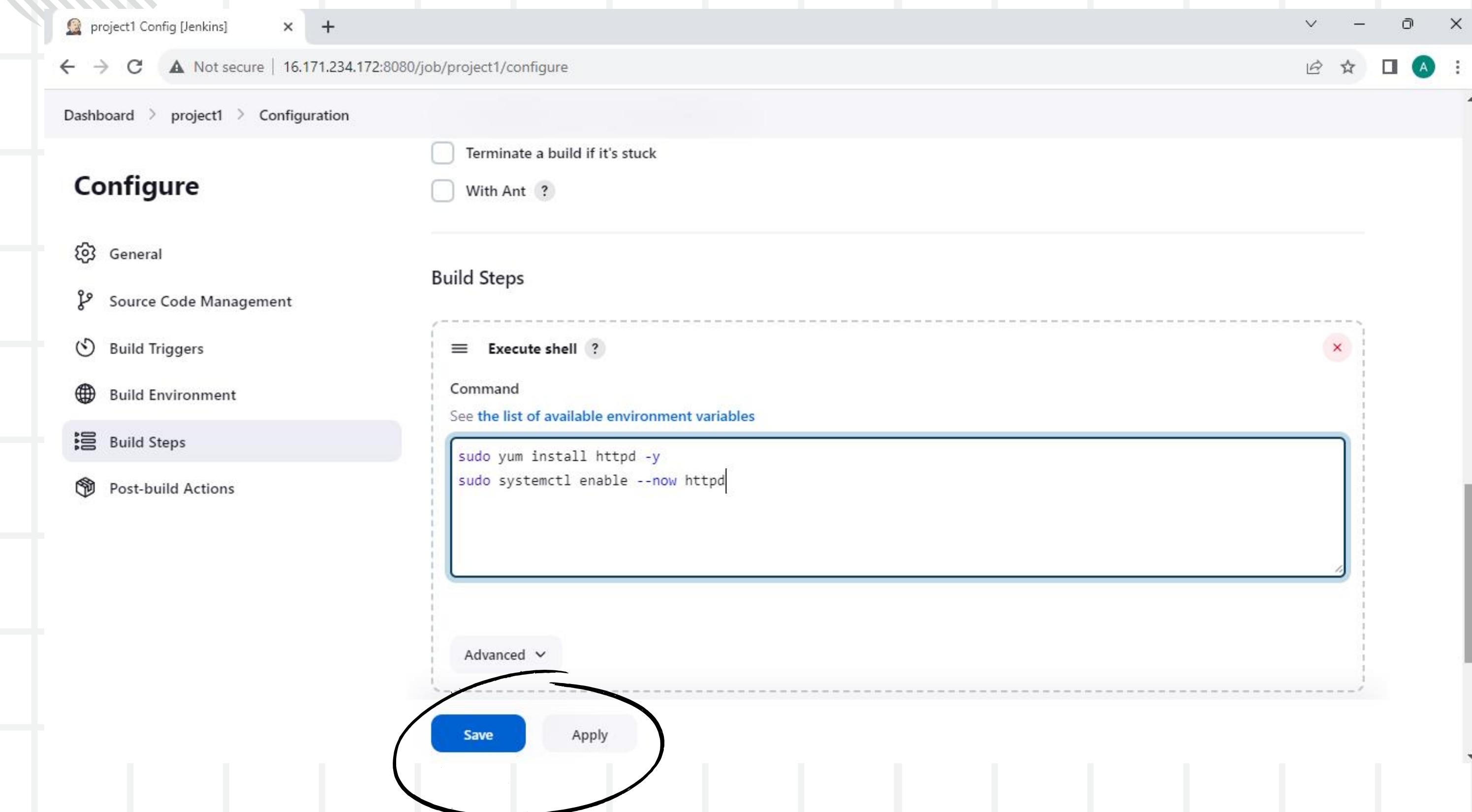
- Execute Windows batch command
- Execute shell
- Invoke Ant
- Invoke Gradle script
- Invoke top-level Maven targets
- Run with timeout
- Set build status to "pending" on GitHub commit

REST API Jenkins 2.414.1

- Type the following commands in execute shell box as shown then apply and save:

```
sudo yum install httpd -y
```

```
sudo systemctl enable --now httpd
```



- Click on Build now.

The screenshot shows the Jenkins interface for a project named "project1". The top navigation bar includes a user icon, the project name "project1 [Jenkins]", and standard browser controls. The main header features the Jenkins logo and the project name "Jenkins". A search bar and a user dropdown are also present. The left sidebar contains links for "Status", "Changes", "Workspace", "Build Now" (which is highlighted with a red oval), "Configure", "Delete Project", and "Rename". The right side of the screen displays the "Project project1" title and a "Permalinks" section. At the bottom, there is a "Build History" section showing "No builds". The URL in the address bar is "16.171.234.172:8080/job/project1/build?delay=0sec".

project1 [Jenkins] x + v - □ X

Not secure | 16.171.234.172:8080/job/project1/

🔗 ★ □ A ⋮

Jenkins

Search (CTRL+K) ?

! 1 admin log out

Dashboard > project1 >

>Status

</> Changes

Workspace

Build Now

Configure

Delete Project

Rename

Build History trend ▼

No builds

16.171.234.172:8080/job/project1/build?delay=0sec lures

Add description

Disable Project

Project project1

Permalinks

</> Changes

Workspace

Build Now

Configure

Delete Project

Rename

Sun icon Build History

trend ▾

Filter builds...



#1

Sep 6, 2023, 8:51 PM



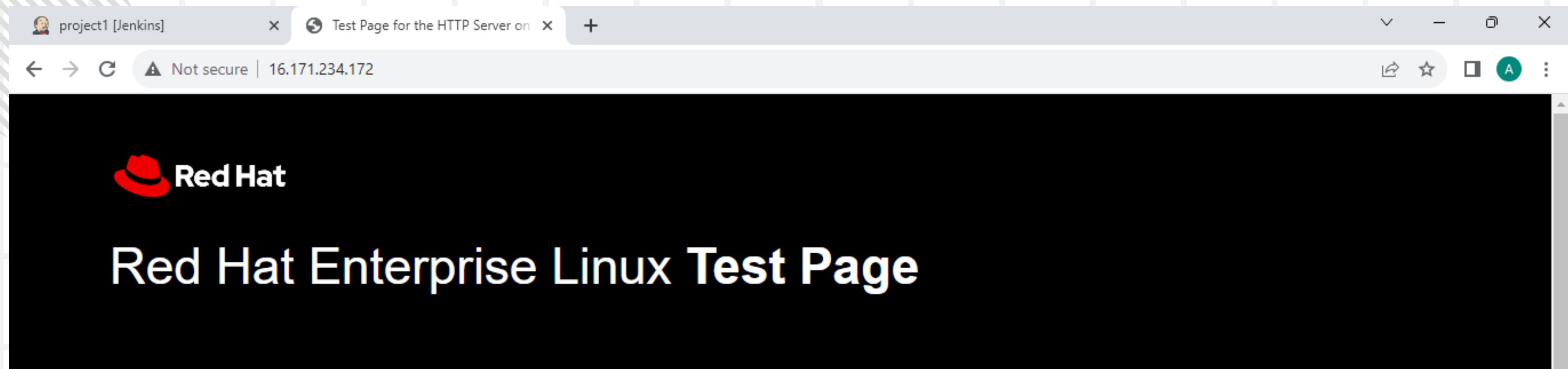
Atom feed for all

Atom feed for failures

Permalinks

Green color indicates that
your build is successful.

- Paste the public IP on google to see the default httpd page.



This page is used to test the proper operation of the HTTP server after it has been installed. If you can read this page, it means that the HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

If you are the website administrator:

You may now add content to the webroot directory. Note that until you do so, people visiting your website will see this page, and not your content.

For systems using the Apache HTTP Server: You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

Git Installation and working part

- Launch a machine named “developer” and install git on it.
- Now login to machine(using ssh) and execute the following set of commands :

- sudo -i
- yum install git -y
- git --version
- mkdir d1
- cd d1/
- vi index.html -> “write anything” -> save and exit.
- vi asmit.html -> “write anything” -> save and exit.
- git init
- git add *
- git commit -m “Write Commit message”

- Following screenshots shows one by one execution of the above commands.

The screenshot shows the AWS EC2 'Launch an instance' wizard. The current step is 'Application and OS Images (Amazon Machine Image)'. A search bar at the top left contains the text 'developer'. Below it, a section titled 'Recent' has a blue box highlighting 'Amazon Linux' with the AWS logo. Other options include 'macOS', 'Ubuntu', 'Windows', 'Red Hat', and 'SUSE Linux'. To the right, a summary panel shows 'Number of instances' set to 1, 'Software Image (AMI)' as 'Amazon Linux 2023 AMI 2023.1.2...', 'Virtual server type (instance type)' as 't3.micro', and 'Storage (volumes)' as '1 volume(s) - 8 GiB'. At the bottom right is a large orange 'Launch instance' button.

Launch an instance | EC2 | eu-nor Launch an instance | EC2 | eu-nor +

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

aws Services Search [Alt+S]

Name developer Add additional tags

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recent

Amazon Linux

Quick Start

macOS

Ubuntu

Windows

Red Hat

SUSE Li

aws

Mac

ubuntu® Microsoft Red Hat SUS

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Cancel

Launch instance

Review commands

CloudShell Feedback Languages © 2023 Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences

```
root@ip-172-31-36-3:~
```

```
Microsoft Windows [Version 10.0.22000.2057]
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\asmits>ssh -i Downloads\asm.pem ec2-user@16.171.206.245
The authenticity of host '16.171.206.245 (16.171.206.245)' can't be established.
ECDSA key fingerprint is SHA256:NfLxanDXQPp+J6ynoa7LmhlyJFIMjRrzuYtKkwGnn/w.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '16.171.206.245' (ECDSA) to the list of known hosts.
```

```
,      #
~\_\_ #####_      Amazon Linux 2023
~~ \_\#####\
~~   \###|
~~     \#/ _   https://aws.amazon.com/linux/amazon-linux-2023
~~       V~' '-'>
~~~      /
~~-._. /_
~/m/'
```

```
[ec2-user@ip-172-31-36-3 ~]$ sudo -i
[root@ip-172-31-36-3 ~]#
```

```
[root@ip-172-31-36-3 ~]#
[root@ip-172-31-36-3 ~]#
[root@ip-172-31-36-3 ~]#
```

```
root@ip-172-31-36-3:~  
/[m/'  
[ec2-user@ip-172-31-36-3 ~]$ sudo -i  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]# yum install git -y ←  
Last metadata expiration check: 0:02:02 ago on Wed Sep 6 21:05:19 2023.  
Dependencies resolved.  
=====  


| Package                  | Architecture | Version                  | Repository  | Size  |
|--------------------------|--------------|--------------------------|-------------|-------|
| git                      | x86_64       | 2.40.1-1.amzn2023.0.1    | amazonlinux | 57 k  |
| Installing dependencies: |              |                          |             |       |
| git-core                 | x86_64       | 2.40.1-1.amzn2023.0.1    | amazonlinux | 4.3 M |
| git-core-doc             | noarch       | 2.40.1-1.amzn2023.0.1    | amazonlinux | 2.6 M |
| perl-Error               | noarch       | 1:0.17029-5.amzn2023.0.2 | amazonlinux | 41 k  |
| perl-File-Find           | noarch       | 1.37-477.amzn2023.0.5    | amazonlinux | 26 k  |
| perl-Git                 | noarch       | 2.40.1-1.amzn2023.0.1    | amazonlinux | 45 k  |
| perl-TermReadKey         | x86_64       | 2.38-9.amzn2023.0.2      | amazonlinux | 36 k  |
| perl-lib                 | x86_64       | 0.65-477.amzn2023.0.5    | amazonlinux | 15 k  |


Transaction Summary  
=====  
Install 8 Packages  
  
Total download size: 7.1 M  
Installed size: 34 M  
Downloading Packages:  
(1/8): perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64.rpm  
(2/8): git-2.40.1-1.amzn2023.0.1.x86_64.rpm  
(3/8): perl-File-Find-1.37-477.amzn2023.0.5.noarch.rpm  
(4/8): perl-lib-0.65-477.amzn2023.0.5.x86_64.rpm  
(5/8): perl-Error-0.17029-5.amzn2023.0.2.noarch.rpm  
606 kB/s | 36 kB 00:00  
873 kB/s | 57 kB 00:00  
922 kB/s | 26 kB 00:00  
244 kB/s | 15 kB 00:00  
1.1 MB/s | 41 kB 00:00


```

```
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]# git --version ←  
git version 2.40.1  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]# mkdir d1 ←  
[root@ip-172-31-36-3 ~]#  
[root@ip-172-31-36-3 ~]# cd d1/ ←  
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]# vi index.html ←
```

- HTML code , one can write simple text also . Save and exit and do similarly for “asmit.html”.

```
root@ip-172-31-36-3:~/d1
}
body{
    font-family: 'Raleway', sans-serif;
    background: $background-color;
}
header.header{
    position: absolute;
    top: 50%;
    left: 4%;
    width: 100%;
    transform: translateY(-50%);
    h1{
        font-size: 4rem;
        color: $headline-color;
        text-align: center;
        margin-top: 0;
        text-
transform: uppercase;
        font-weight: 900;
    }
}
</style>
</head>
<body>
    <header class="header">
        <h1 class="glitched">Hello Alll !!!! Asmit here ;)</h1>
    </header>
</body>
</html>
~
:wq
```

```
[root@ip-172-31-36-3:~/d1]
```

```
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]# git init  
hint: Using 'master' as the name for the initial branch. This default branch name  
hint: is subject to change. To configure the initial branch name to use in all  
hint: of your new repositories, which will suppress this warning, call:  
hint:  
hint:   git config --global init.defaultBranch <name>  
hint:  
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and  
hint: 'development'. The just-created branch can be renamed via this command:  
hint:  
hint:   git branch -m <name>
```

```
Initialized empty Git repository in /root/d1/.git/
```

```
[root@ip-172-31-36-3 d1]# git add *
```



```
[root@ip-172-31-36-3 d1]#
```

```
[root@ip-172-31-36-3 d1]# git status
```



```
On branch master
```

```
No commits yet
```

```
Changes to be committed:
```

```
(use "git rm --cached <file>..." to unstage)  
  new file: asmit.html  
  new file: index.html
```

```
[root@ip-172-31-36-3 d1]# git commit -m "1st commit"
```

```
[master (root-commit) 1d956ca] 1st commit
```

```
Committer: root <root@ip-172-31-36-3.eu-north-1.compute.internal>
```

```
Your name and email address were configured automatically based  
on your username and hostname. Please check that they are accurate.  
You can suppress this message by setting them explicitly. Run the  
following command and follow the instructions in your editor to edit  
your configuration file:
```

```
root@ip-172-31-36-3:~/d1
```

```
Changes to be committed:  
(use "git rm --cached <file>..." to unstage)  
  new file:  asmit.html  
  new file:  index.html
```

```
[root@ip-172-31-36-3 d1]# git commit -m "1st commit" ←  
[master (root-commit) 1d956ca] 1st commit  
Committer: root <root@ip-172-31-36-3.eu-north-1.compute.internal>  
Your name and email address were configured automatically based  
on your username and hostname. Please check that they are accurate.  
You can suppress this message by setting them explicitly. Run the  
following command and follow the instructions in your editor to edit  
your configuration file:
```

```
git config --global --edit
```

After doing this, you may fix the identity used for this commit with:

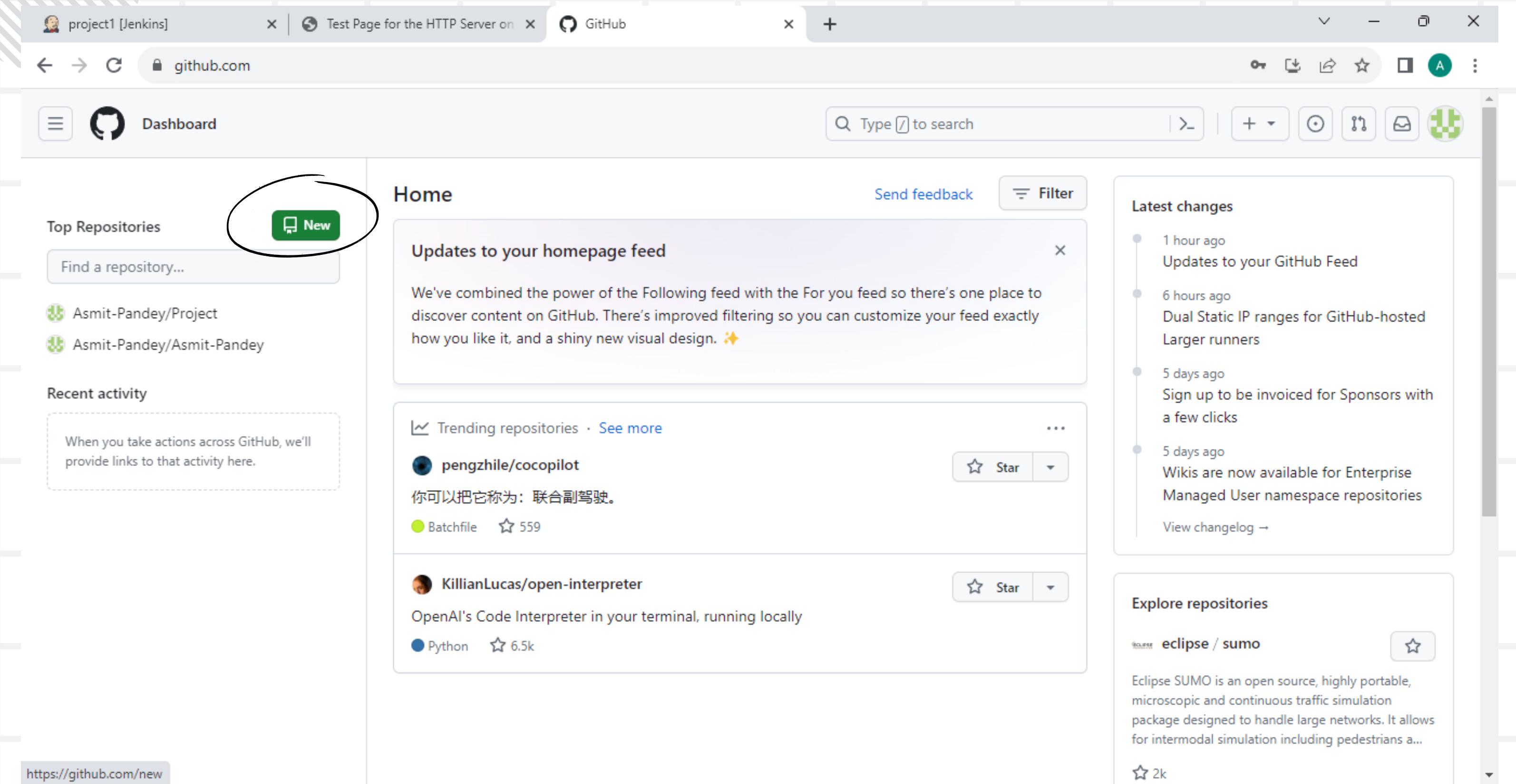
```
git commit --amend --reset-author
```

```
2 files changed, 75 insertions(+)  
create mode 100644 asmit.html  
create mode 100644 index.html  
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]#  
[root@ip-172-31-36-3 d1]# git log ←  
commit 1d956ca464d5c1c66da19a50e8ddeab3d2a751478 (HEAD -> master)  
Author: root <root@ip-172-31-36-3.eu-north-1.compute.internal>  
Date:   Wed Sep 6 21:17:15 2023 +0000
```

```
1st commit  
[root@ip-172-31-36-3 d1]#
```

- Open “<https://github.com/>” and login and do following as shown :

Create a New repo -> Name it -> Click on create repo.



[github.com/new](#)

New repository

 Type / to search

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?
[Import a repository.](#)

Required fields are marked with an asterisk ().*

Owner *



Repository name *

 CI-Pipeline-project

CI-Pipeline-project is available.

Great repository names are short and memorable. Need inspiration? How about [probable-octo-robot](#) ?

Description (optional)

Public

Anyone on the internet can see this repository. You choose who can commit.

Private

You choose who can see and commit to this repository.

Initialize this repository with:

Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

Public

Anyone on the internet can see this repository. You choose who can commit.

 Private

You choose who can see and commit to this repository.

Initialize this repository with:

 Add a README file

This is where you can write a long description for your project. [Learn more about READMEs](#).

Add .gitignore

[.gitignore template: None](#)

Choose which files not to track from a list of templates. [Learn more about ignoring files](#).

Choose a license

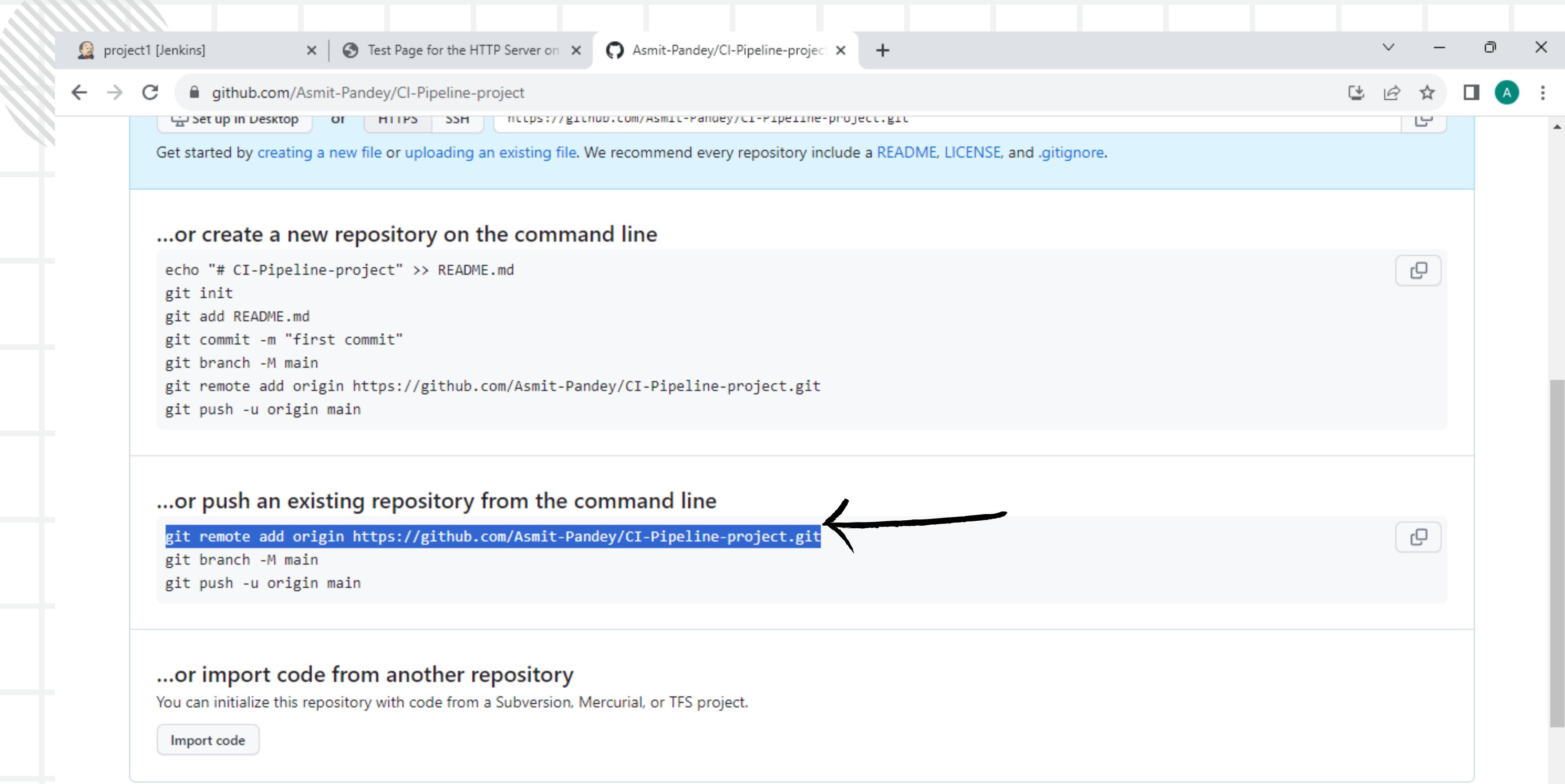
[License: None](#)

A license tells others what they can and can't do with your code. [Learn more about licenses](#).

You are creating a public repository in your personal account.


Create repository

- Scroll down & copy the following command.



project1 [Jenkins] | Test Page for the HTTP Server on | Asmit-Pandey/CI-Pipeline-project

github.com/Asmit-Pandey/CI-Pipeline-project

Get started by creating a new file or uploading an existing file. We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

...or create a new repository on the command line

```
echo "# CI-Pipeline-project" >> README.md  
git init  
git add README.md  
git commit -m "first commit"  
git branch -M main  
git remote add origin https://github.com/Asmit-Pandey/CI-Pipeline-project.git  
git push -u origin main
```

...or push an existing repository from the command line

```
git remote add origin https://github.com/Asmit-Pandey/CI-Pipeline-project.git  
git branch -M main  
git push -u origin main
```

...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

ProTip! Use the URL for this page when adding GitHub as a remote.

- Paste the copied command in developer machine.& hit enter.

```
root@ip-172-31-36-3:~/d1
[root@ip-172-31-36-3 d1]# git commit -m "1st commit"
[master (root-commit) 1d956ca] 1st commit
Committer: root <root@ip-172-31-36-3.eu-north-1.compute.internal>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

git config --global --edit

After doing this, you may fix the identity used for this commit with:

git commit --amend --reset-author

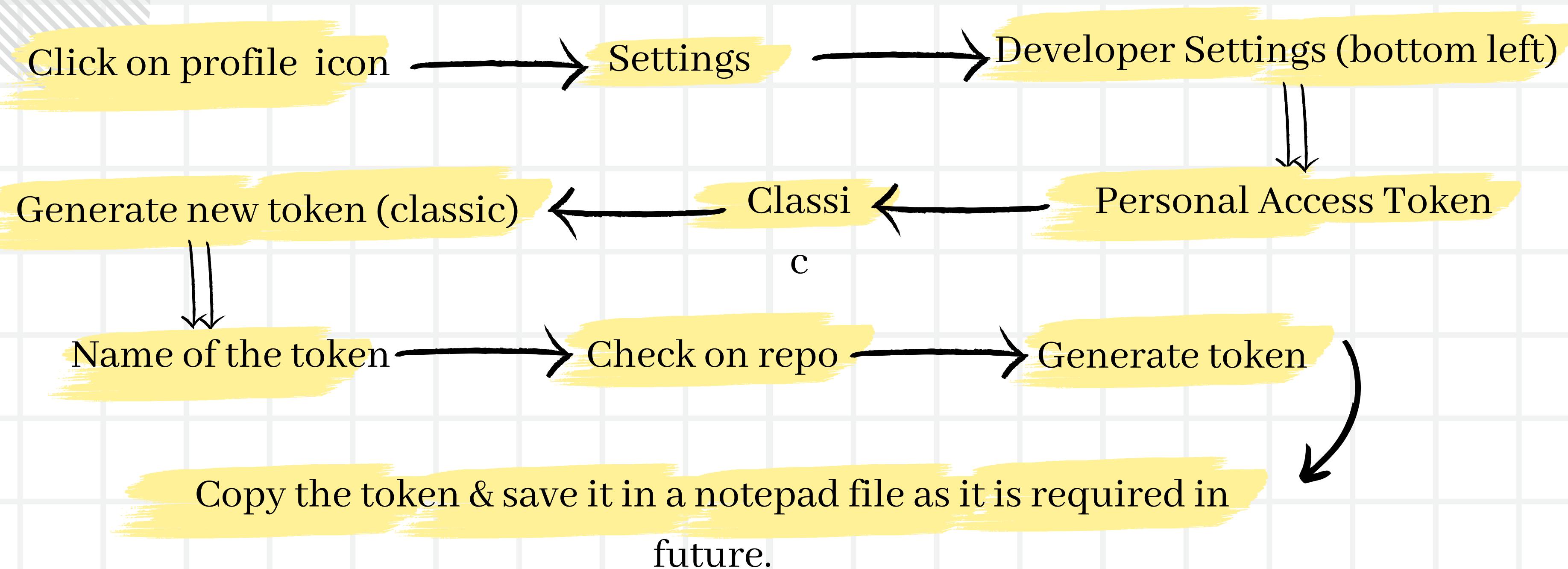
2 files changed, 75 insertions(+)
create mode 100644 asmit.html
create mode 100644 index.html
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]# git log
commit 1d956ca464d5c1c66da19a50e8dde3d2a751478 (HEAD -> master)
Author: root <root@ip-172-31-36-3.eu-north-1.compute.internal>
Date:   Wed Sep 6 21:17:15 2023 +0000

    1st commit
[root@ip-172-31-36-3 d1]# git remote add origin https://github.com/Asmit-Pandey/CI-Pipeline-project.git
```



Generating PAT(Personal Access Token)

To push files on Github we require PAT .Go to “<https://github.com/>” and login and follow the below steps to generate PAT :



A screenshot of a web browser window showing a GitHub repository page and a user profile sidebar.

The browser tabs are:

- project1 [Jenkins]
- Test Page for the HTTP Server on
- Asmit-Pandey/CI-Pipeline-project

The address bar shows the URL: github.com/Asmit-Pandey/CI-Pipeline-project.

The GitHub repository page for "CI-Pipeline-project" (Public) displays:

- Set up GitHub Copilot**: Use GitHub's AI pair programmer to autocomplete suggestions as you code. Includes a "Get started with GitHub Copilot" button.
- Add collaborators to this repository**: Search for people using their GitHub username or email. Includes an "Invite collaborators" button.
- Quick setup — if you've done this kind of thing before**: Options to "Set up in Desktop" (using HTTPS or SSH), a copy link, and a "Settings" button.
- ...or create a new repository on the command line**: A snippet of shell script:

```
echo "# CI-Pipeline-project" >> README.md  
git init
```

The GitHub sidebar for "Asmit-Pandey" shows:

- Profile picture: Asmit-Pandey
- Status: Loading...
- Links:
 - Your profile
 - Your repositories
 - Your projects
 - Your codespaces
 - Your stars
 - Your sponsors
 - Your gists
- Settings (highlighted with a black arrow)
- GitHub Docs
- GitHub Support
- Sign out

↳ Packages

Copilot

Pages

Saved replies

Security

Code security and analysis

Integrations

Applications

Scheduled reminders

Archives

Security log

Sponsorship log

Developer settings

Link to social profile

Link to social profile

Link to social profile

Link to social profile

Company

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

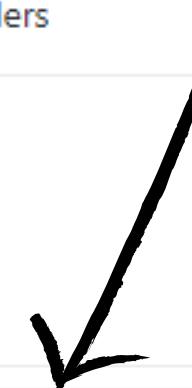
Location

 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.**Update profile**

Contributions & Activity

 Make profile private and hide activity

github.com/settings/tokens/new[GitHub Apps](#)[OAuth Apps](#)[Personal access tokens](#)[Fine-grained tokens](#)[Beta](#)[Tokens \(classic\)](#)

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

[CI-Pipeline Token](#)[What's this token for?](#)

Expiration *

30 days

The token will expire on Sat, Oct 7 2023

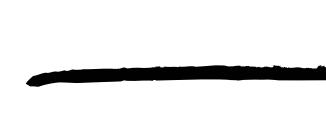
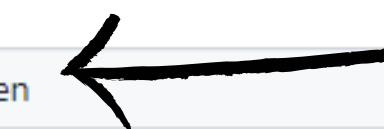
Select scopes

Scopes define the access for personal tokens. [Read more about OAuth scopes.](#)

<input checked="" type="checkbox"/> repo	Full control of private repositories
<input checked="" type="checkbox"/> repo:status	Access commit status
<input checked="" type="checkbox"/> repo_deployment	Access deployment status
<input checked="" type="checkbox"/> public_repo	Access public repositories
<input checked="" type="checkbox"/> repo:invite	Access repository invitations
<input checked="" type="checkbox"/> security_events	Read and write security events

<input type="checkbox"/> workflow	Update GitHub Action workflows
-----------------------------------	--------------------------------

<input type="checkbox"/> write:packages	Upload packages to GitHub Package Registry
<input type="checkbox"/> read:packages	Download packages from GitHub Package Registry



project1 [Jenkins] | Test Page for the HTTP Server on | Personal Access Tokens (Classic) | +

github.com/settings/tokens

Settings / Developer Settings

Type / to search

Some of the scopes you've selected are included in other scopes. Only the minimum set of necessary scopes has been saved.

GitHub Apps

OAuth Apps

Personal access tokens

Fine-grained tokens Beta

Tokens (classic)

Personal access tokens (classic)

Generate new token | Revoke all

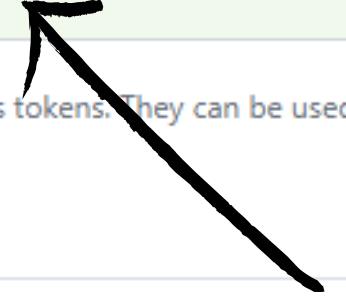
Tokens you have generated that can be used to access the GitHub API.

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

✓ ghp_ILVwSWBPO1Jvpw9aEkF0Dznt6mMydS3U2Fjz  Delete

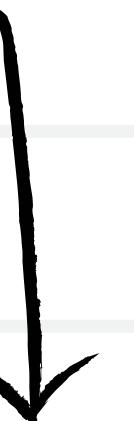
Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.

© 2023 GitHub, Inc. Terms Privacy Security Status Docs Contact GitHub Pricing API Training Blog About



- Now ,since the PAT is generated we can use it to push files on our project repository.
- Come in developer machine and fire the following commands to push html files on Github.
 - git push origin master
 - enter username
 - paste PAT

Below Screenshots shows the execution of the above steps :



```
[root@ip-172-31-36-3:~/d1]
```

```
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]# git push origin master
Username for 'https://github.com': Asmit-Pandey
Password for 'https://Asmit-Pandey@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 2 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 794 bytes | 794.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/Asmit-Pandey/CI-Pipeline-project.git
 * [new branch]      master -> master
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
[root@ip-172-31-36-3 d1]#
```



- We can see that the files have been added in the project repo.

A screenshot of a GitHub repository page for 'Asmit-Pandey / CI-Pipeline-project'. The repository is public and has one branch, 'master', with one commit. Two files are listed in the commit: 'asmit.html' and 'index.html', both of which are 1st commits. A large black arrow points from the left margin towards the commit list. The repository details show 0 stars, 1 watching, and 0 forks. There are sections for 'About', 'Releases', and 'Packages', each with a note that no content has been published.

Asmit-Pandey / CI-Pipeline-project

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

CI-Pipeline-project Public

master 1 branch 0 tags

root 1st commit 1d956ca 40 minutes ago 1 commit

asmit.html 1st commit 40 minutes ago

index.html 1st commit 40 minutes ago

Help people interested in this repository understand your project by adding a README. Add a README

About

No description, website, or topics provided.

Activity 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

Packages

No packages published Publish your first package

- Install git on jenkins machine .

```
root@ip-172-31-17-95:~#
[root@ip-172-31-17-95 ~]#
[root@ip-172-31-17-95 ~]# yum install git -y
Updating Subscription Management repositories. ←
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Last metadata expiration check: 1:46:46 ago on Wed 06 Sep 2023 08:21:53 PM UTC.
Dependencies resolved.

=====
 Package          Architecture      Version       Repository      Size
=====
Installing:
 git              x86_64           2.39.3-1.el9_2   rhel-9-appstream-rhui-rpms  66 k
Installing dependencies:
 emacs-filesystem noarch          1:27.2-8.el9_2.1  rhel-9-appstream-rhui-rpms  9.6 k
 git-core         x86_64           2.39.3-1.el9_2   rhel-9-appstream-rhui-rpms  4.3 M
 git-core-doc     noarch          2.39.3-1.el9_2   rhel-9-appstream-rhui-rpms  2.9 M
 perl-AutoLoader noarch          5.74-480.el9    rhel-9-appstream-rhui-rpms  23 k
 perl-B           x86_64           1.80-480.el9    rhel-9-appstream-rhui-rpms  185 k
 perl-Carp        noarch          1.50-460.el9    rhel-9-appstream-rhui-rpms  31 k
 perl-Class-Struct noarch          0.66-480.el9    rhel-9-appstream-rhui-rpms  24 k
 perl-Data-Dumper x86_64           2.174-462.el9  rhel-9-appstream-rhui-rpms  59 k
 perl-Digest      noarch          1.19-4.el9     rhel-9-appstream-rhui-rpms  29 k
 perl-Digest-MD5 x86_64           2.58-4.el9     rhel-9-appstream-rhui-rpms  39 k
 perl-DynaLoader  x86_64           1.47-480.el9  rhel-9-appstream-rhui-rpms  27 k
 perl-Encode       x86_64           4:3.08-462.el9 rhel-9-appstream-rhui-rpms  1.7 M
 perl-Errno        x86_64           1.30-480.el9  rhel-9-appstream-rhui-rpms  17 k
 perl-Error        noarch          1:0.17029-7.el9 rhel-9-appstream-rhui-rpms  46 k
 perl-Exporter     noarch          5.74-461.el9    rhel-9-appstream-rhui-rpms  34 k
 perl-Fcntl        x86_64           1.13-480.el9  rhel-9-appstream-rhui-rpms  23 k
 perl-File-Basename noarch          2.85-480.el9  rhel-9-appstream-rhui-rpms  19 k
perl-File-Find    noarch          1.37-480.el9  rhel-9-appstream-rhui-rpms  27 k
```

- Copy this URL .

A screenshot of a GitHub repository page for "Asmit-Pandey/CI-Pipeline-project". The repository is public and contains one branch ("master") and two files: "asmit.html" and "index.html", both of which are 1st commit. A context menu is open over the "Copied!" button next to the HTTPS clone URL, with a large black arrow pointing to it from below. The menu options include "Go to file", "Add file", "Code" (which is selected), "Local", "Codespaces", "Clone", "HTTPS" (selected), "SSH", "GitHub CLI", "Open with GitHub Desktop", and "Download ZIP". The "About" section indicates no description, website, or topics are provided. It shows 0 stars, 1 watching, and 0 forks. The "Releases" and "Packages" sections are also visible.

project1 [Jenkins] | Test Page for the HTTP Server on | Asmit-Pandey/CI-Pipeline-project | +

github.com/Asmit-Pandey/CI-Pipeline-project

Asmit-Pandey / CI-Pipeline-project

Type to search

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Cl-Pipeline-project Public

master 1 branch 0 tags

root 1st commit

asmit.html 1st commit

index.html 1st commit

Help people interested in this repository understand your project by adding a

Go to file Add file ▾ <> Code ▾ Local Codespaces New

Clone HTTPS SSH GitHub CLI Copied!

https://github.com/Asmit-Pandey/CI-Pipeline-p ✓

Use Git or checkout with SVN using the web URL.

Open with GitHub Desktop

Download ZIP

About

No description, website, or topics provided.

Activity 0 stars 1 watching 0 forks

Releases

No releases published Create a new release

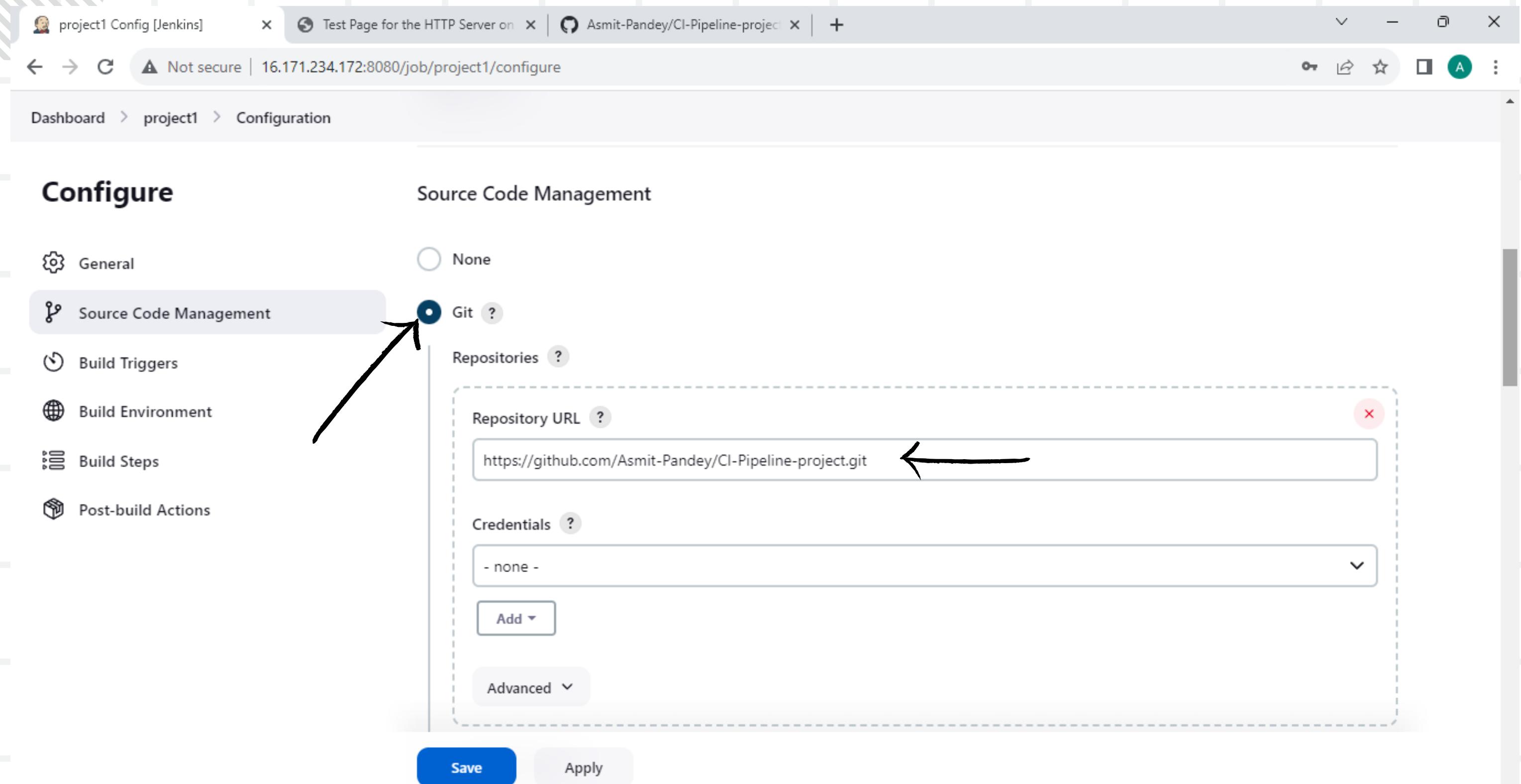
Packages

No packages published Publish your first package

81°F Cloudy Search

ENG IN 3:40 AM 9/7/2023 7

- On Jenkins page go to -> project1 -> Configure -> check git and paste the copied url in repo bar .



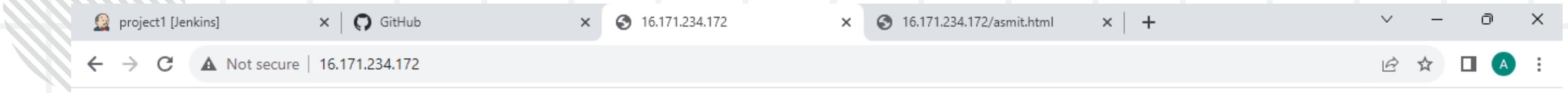
- Add the following two commands in execute shell box, then Apply -> Save -> build now.
- `sudo cp index.html /var/www/html/index.html`
- `sudo cp asmit.html /var/www/html/asmit.html`

The screenshot shows the Jenkins configuration page for a job named 'project1'. The 'Build Environment' section is currently selected. Under the 'Build Steps' section, there is a single 'Execute shell' step. The 'Command' field contains the following four lines of shell script:

```
sudo yum install httpd -y
sudo systemctl enable --now httpd
sudo cp index.html /var/www/html/index.html
sudo cp asmit.html /var/www/html/asmit.html
```

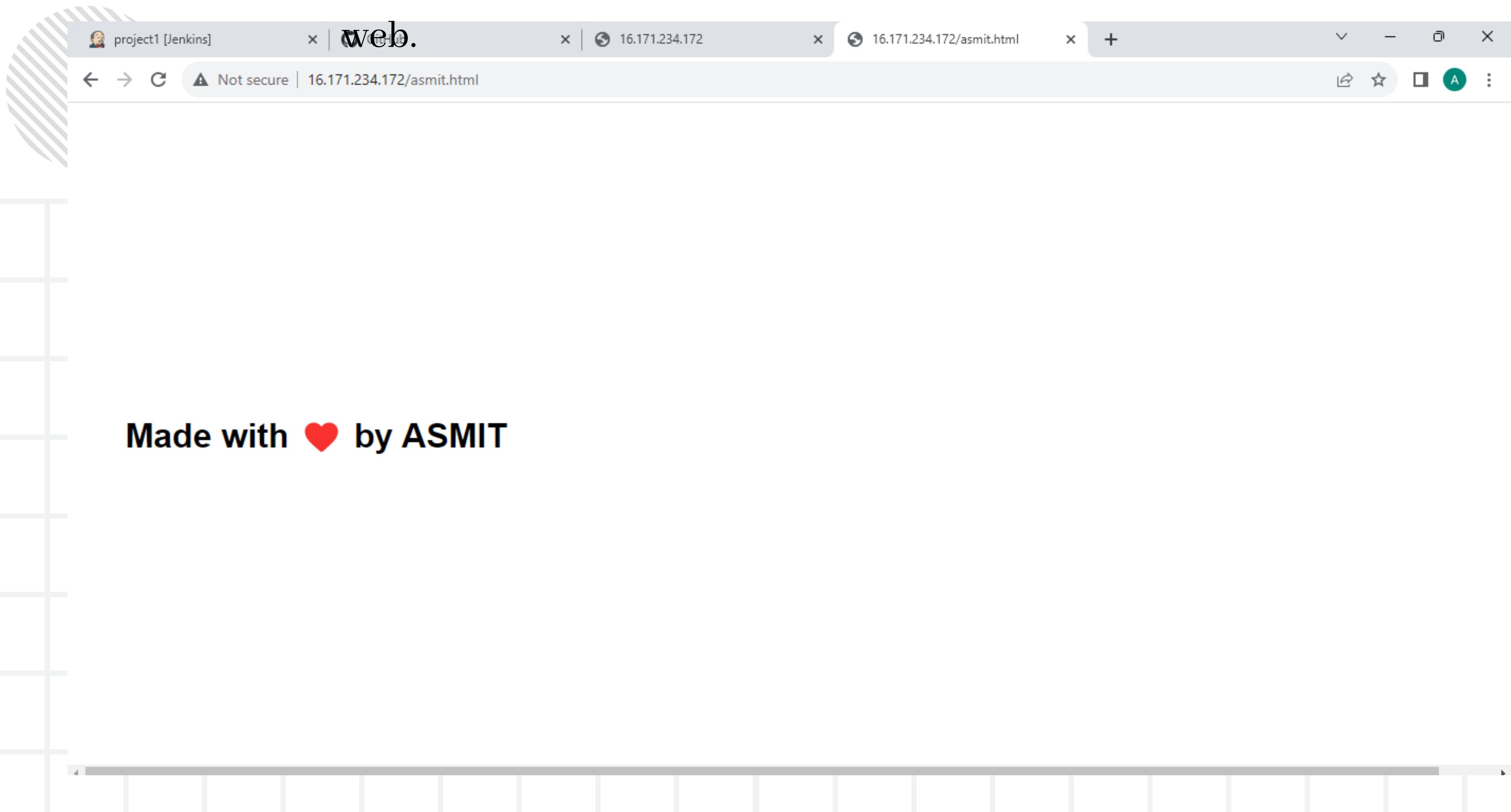
Below the command field, there is an 'Advanced' dropdown menu and two buttons at the bottom: 'Save' and 'Apply'.

- After build is successfully completed , paste the public ip on browser to see the output.



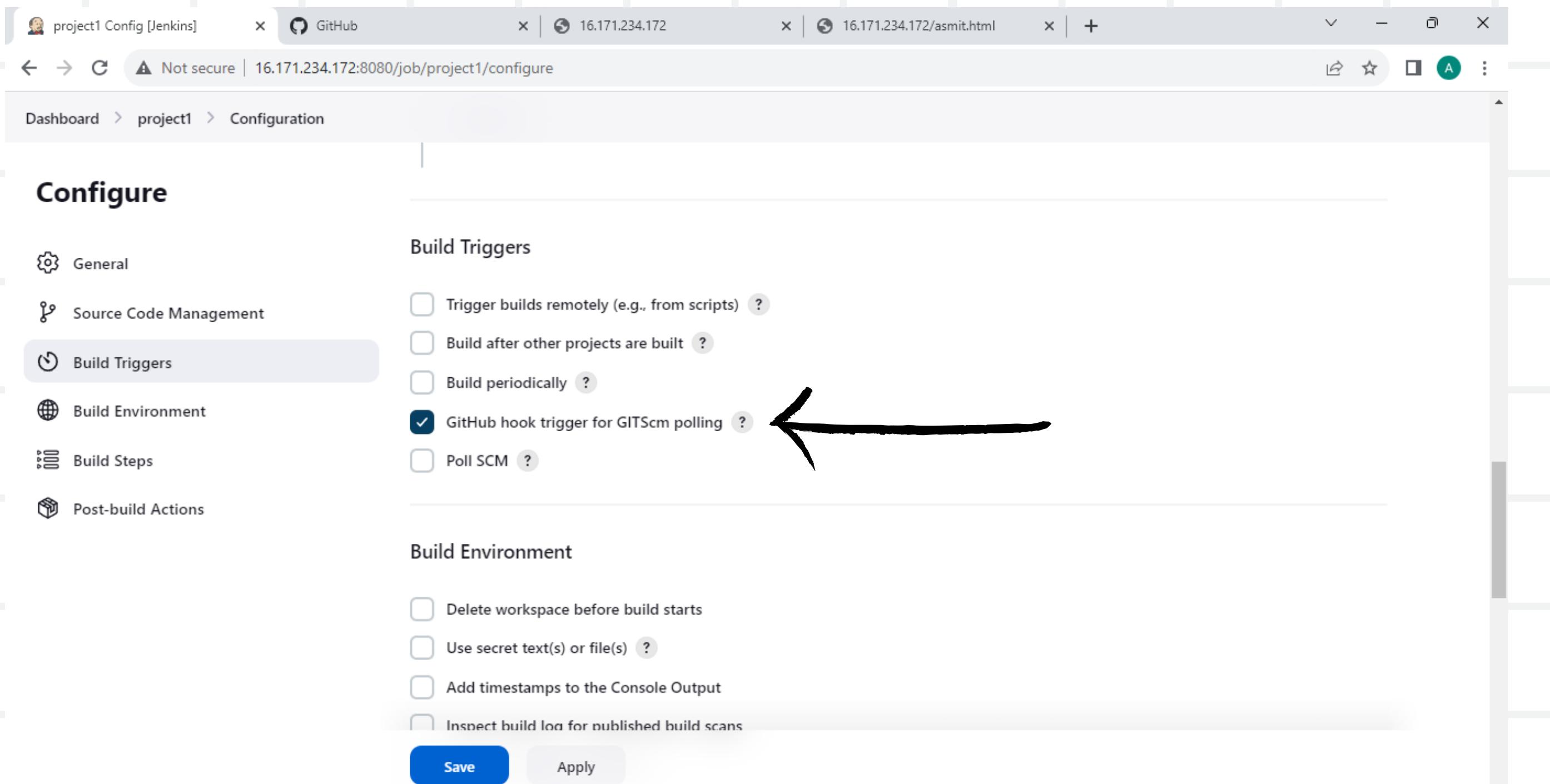
Hello All !!!! Asmit here ;)

- Paste “ip/asmit.html” to see this on

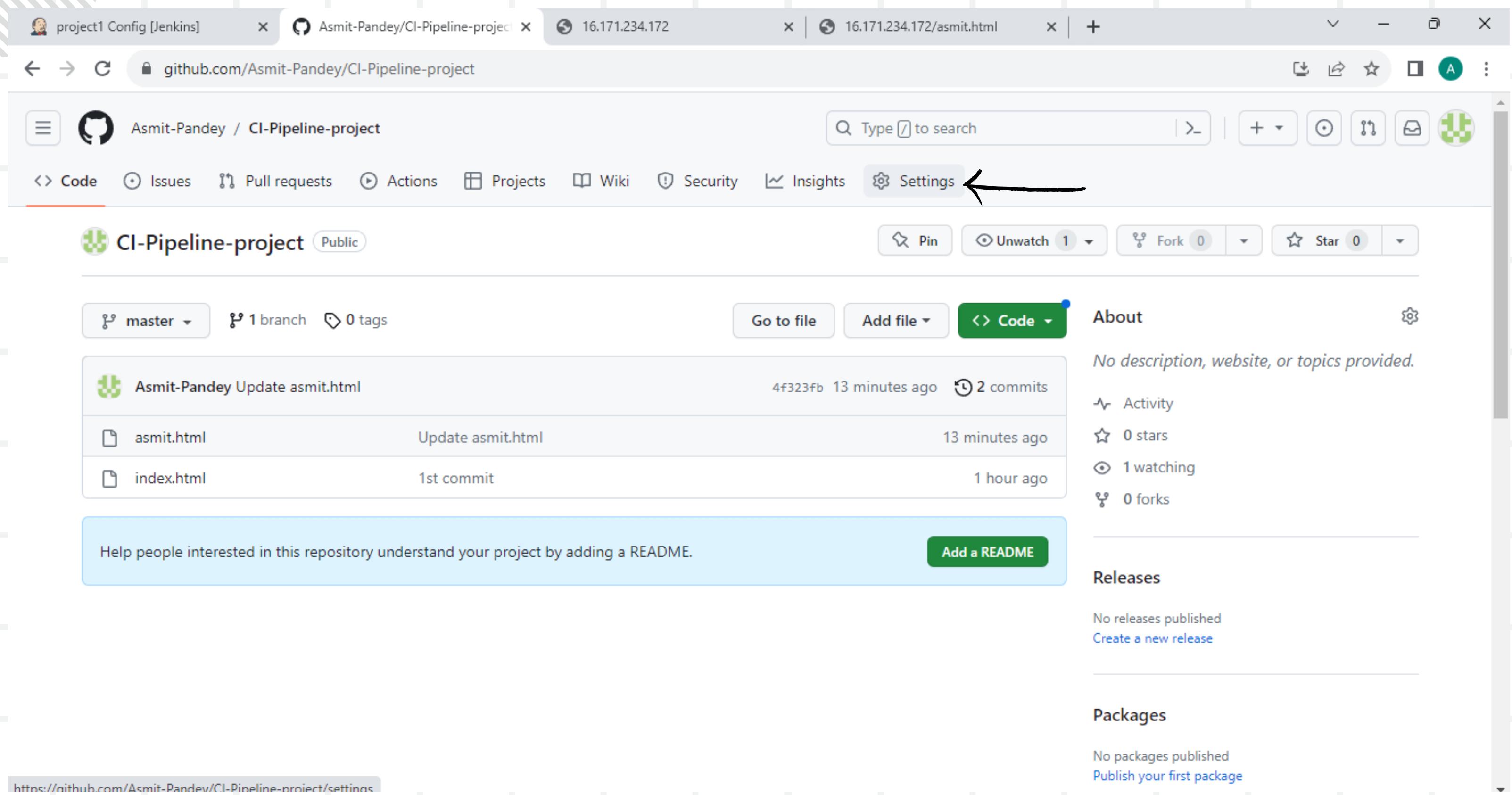


Setting up CI Pipeline

- Lets finally set up the CI pipeline using github webhooks.
- On Jenkins page go to : project1 -> configure -> check “GitHub hook trigger for GITScm polling” ->apply and save -> build now.



- Now lets add webhook.
- On github project repo : Click on settings -> webhooks -> add webhook



The screenshot shows a browser window with four tabs open:

- project1 Config [Jenkins]
- Asmit-Pandey/CI-Pipeline-project
- 16.171.234.172
- 16.171.234.172/asmit.html

The main content area displays the GitHub repository page for "Asmit-Pandey / CI-Pipeline-project". The "Code" tab is selected. A black arrow points to the "Settings" tab in the top navigation bar. The repository details show it's a public project with 1 branch (master) and 0 tags. The commit history lists three commits by "Asmit-Pandey":

- Update asmit.html (4f323fb, 13 minutes ago)
- Update asmit.html (13 minutes ago)
- 1st commit (index.html, 1 hour ago)

A blue button at the bottom encourages adding a README. To the right, sections for "About", "Releases", and "Packages" are shown, each with a "Create a new" link.

<https://github.com/Asmit-Pandey/CI-Pipeline-project/settings>

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Webhooks

Environments

Codespaces

Pages

Security

Code security and analysis

Deploy keys

Secrets and variables

Integrations

GitHub Apps

Repository name

CI-Pipeline-project

Rename

 Template repository

Template repositories let users generate new repositories with the same directory structure and files. [Learn more about template repositories](#).

 Require contributors to sign off on web-based commits

Enabling this setting will require contributors to sign off on commits made through GitHub's web interface. Signing off is a way for contributors to affirm that their commit complies with the repository's terms, commonly the [Developer Certificate of Origin \(DCO\)](#). [Learn more about signing off on commits](#).

Default branch

The default branch is considered the "base" branch in your repository, against which all pull requests and code commits are automatically made, unless you specify a different branch.

master

Social Preview

Upload an image to customize your repository's social media preview.

Images should be at least 640×320px (1280×640px for best display).

[Download template](#)

Edit

- Paste the url of jenkins in Payload URL and add “/github-webhook/” at the end -> click on add webhook.

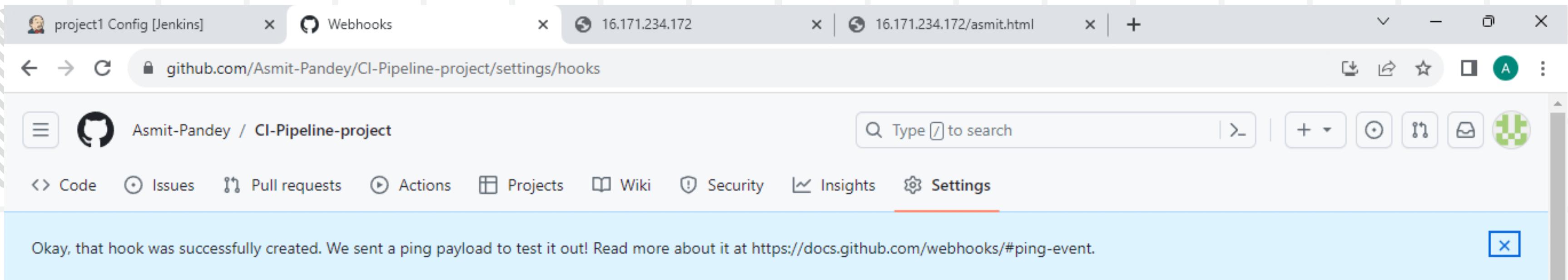
The screenshot shows a browser window with four tabs open:

- project1 Config [Jenkins]
- Add webhook
- 16.171.234.172
- 16.171.234.172/asmit.html

The main content area is a GitHub project settings page for "Asmit-Pandey / CI-Pipeline-project". The "Settings" tab is selected. On the left, a sidebar lists project settings categories: General, Access, Collaborators, Moderation options, Code and automation (Branches, Tags, Rules), Actions, Webhooks (which is currently selected and highlighted in blue), Environments, Codespaces, Pages, and Security.

In the center, the "Webhooks / Add webhook" form is displayed. It contains the following fields:

- Payload URL ***: A text input field containing the URL `http://16.171.234.172:8080/github-webhook/`. A large black arrow points to this field from the top-left of the image.
- Content type**: A dropdown menu set to `application/x-www-form-urlencoded`.
- Secret**: An empty text input field.
- Which events would you like to trigger this webhook?**: Two radio button options:
 - Just the push event.
 - Send me everything.



Webhooks

Add webhook

Access

82 Co

Collaborators

Moderation options

Code and automation

 Branches

Tags

Rules

▶ Action

 Webhook

Environments

CodeSpaces

Pages

Webhook added successfully

- Now come to the developer machine and do the changes in “index.html” and “asmjit.html” to see if the changes are reflected automatically.

```
root@ip-172-31-36-3:~/d1
        box-sizing: border-box;
    }
body{
    font-family: 'Raleway', sans-serif;
    background: $background-color;
}
header.header{
    position: absolute;
    top: 50%;
    left: 4%;
    width: 100%;
    transform: translateY(-50%);
    h1{
        font-size: 4rem;
        color: $headline-color;
        text-align: center;
        margin-top: 0;
        text-
transform: uppercase;
        font-weight: 900;
    }
}
</style>
</head>
<body>
    <header class="header">
        <h1 class="glitched">!!!! Project Successful :) !!!!!</h1>
    </header>
</body>
</html>
```

This is
“index.html”

34,58-86 Bot

- Modifying “asmit.html”

```
root@ip-172-31-36-3:~/d1
}
body{
    font-family: 'Raleway', sans-serif;
    background: $background-color;
}
header.header{
    position: absolute;
    top: 50%;
    left: 4%;
    width: 100%;
    transform: translateY(-50%);
    h1{
        font-size: 4rem;
        color: $headline-color;
        text-align: center;
        margin-top: 0;
        text-
transform: uppercase;

        font-weight: 900;
    }
}
</style>
</head>
<body>
    <header class="header">
        <h1 class="glitched"> Thankyou <u>Ashish Sir</u> for the valuable guidance throughout , truly enlightening. ❤ </h1>
    </header>
</body>
</html>
-- INSERT --
```

- Now fire the following commands to commit changes & push it to github repo :

`git add *`

`git commit -m "Write Commit message"`

```
root@ip-172-31-26-138:~/d1
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]# vi index.html
[root@ip-172-31-26-138 d1]# 37L, 1322B written
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]# vi asmit.html
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]# git add * ←
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]# git status ←
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   asmit.html
    modified:   index.html

[root@ip-172-31-26-138 d1]# git commit -m "final commit" ←
[master a6587ee] final commit
Committer: root <root@ip-172-31-26-138.eu-north-1.compute.internal>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

  git config --global --edit

After doing this, you may fix the identity used for this commit with:

  git commit --amend --reset-author

2 files changed, 2 insertions(+), 2 deletions(-)
[root@ip-172-31-26-138 d1]#
```

git push origin master

enter username

Paste PAT

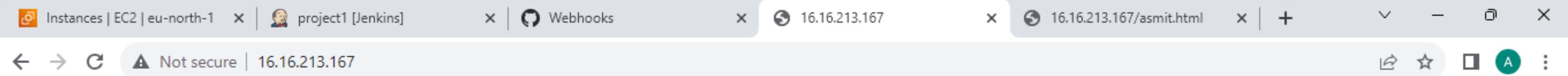
```
root@ip-172-31-26-138:~/d1
2 files changed, 2 insertions(+), 2 deletions(-)
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]# git push origin master ←
Username for 'https://github.com': Asmit-Pandey
Password for 'https://Asmit-Pandey@github.com':
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 2 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 487 bytes | 487.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Asmit-Pandey/CI-Pipeline-project.git
  fcf008e..a6587ee master -> master
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]#
[root@ip-172-31-26-138 d1]# git status ←
On branch master
nothing to commit, working tree clean
[root@ip-172-31-26-138 d1]# git log ←
commit a6587eeb233a0d855ca6256c3e6d90f18452972 (HEAD -> master, origin/master)
Author: root <root@ip-172-31-26-138.eu-north-1.compute.internal>
Date:   Sat Sep 9 21:52:31 2023 +0000

final commit

commit fcf008ed7ad7f27c0fb398bf3e817616ce33e282
Author: root <root@ip-172-31-26-138.eu-north-1.compute.internal>
Date:   Sat Sep 9 21:32:50 2023 +0000

1st commit
[root@ip-172-31-26-138 d1]#
```

Refresh the web pages on browser and you'll be able to see the changes reflected automatically. Hence our CI pipeline is build and successful.



!!!! Project Successful ;) !!!!

Not secure | 16.16.213.167/asmit.html

Thankyou Ashish Sir for the valuable guidance throughout , truly enlightening. ❤

THANK YOU

