

Project 7

Project-DevOps-Jenkins-Installation and Configuration on Linux

Task 1: <https://pkg.jenkins.io/redhat-stable/>

Jenkins

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Jenkins Redhat Packages

To use this repository, run the following command:

WARNING: The gpg key used to sign our packages has been updated on 16th of April 2020, therefore you need to reimport it if you imported before this date.

```
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.key
```

If you've previously imported the key from Jenkins, the `rpm --import` will fail because you already have a key. Please ignore that and move on.

```
yum install jenkins
```

The rpm packages were signed using this key:

```
pub  rsa4096 2020-03-30 [SC] [expires: 2023-03-30]
     62A9756BFD780C377CF24BA8FCE32E745F2C3D5
uid                Jenkins Project
sub  rsa4096 2020-03-30 [E] [expires: 2023-03-30]
```

You will need to explicitly install a Java runtime environment, because Oracle's Java RPMs are incorrect and fail to register as providing a java dependency. Thus, adding an explicit dependency requirement on Java would force installation of the OpenJDK JVM.

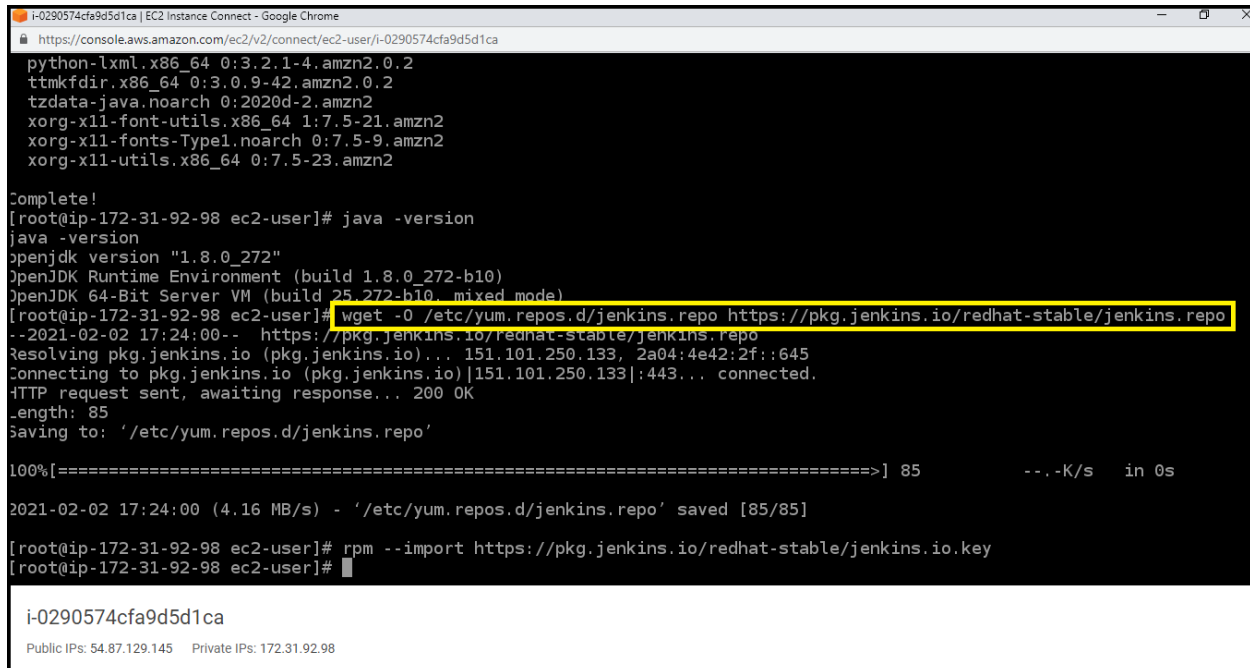
Task 2: Install java

```
i-0290574cfa9d5d1ca | EC2 Instance Connect - Google Chrome
https://console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0290574cfa9d5d1ca

You need to be root to perform this command.
[ec2-user@ip-172-31-92-98 ~]$ sudo su
[root@ip-172-31-92-98 ec2-user]# yum install java-1.8.*
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core | 3.7 kB 00:00:00
Resolving Dependencies
--> Running transaction check
--> Package java-1.8.0-openjdk.x86_64 1:1.8.0.272.b10-1.amzn2.0.1 will be installed
--> Processing Dependency: xorg-x11-fonts-Type1 for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libasound.so.2(ALSA_0.9.0rc4) (64bit) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libasound.so.2(ALSA_0.9) (64bit) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libXcomposite(x86-64) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: gtk2(x86-64) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: fontconfig(x86-64) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libgif.so.4()(64bit) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libasound.so.2()(64bit) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libXtst.so.6()(64bit) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64
--> Processing Dependency: libXrender.so.1()(64bit) for package: 1:java-1.8.0-openjdk-1.8.0.272.b10-1.amzn2.0.1.x86_64

i-0290574cfa9d5d1ca
Public IPs: 54.87.129.145 Private IPs: 172.31.92.98
```

Task 3: `sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo`



The screenshot shows a terminal window titled "i-0290574cfa9d5d1ca | EC2 Instance Connect - Google Chrome". The terminal output shows the installation of Java 1.8.0_272 and the successful execution of the command to download the Jenkins repository file. The command is highlighted in yellow. The output shows the file being saved to /etc/yum.repos.d/jenkins.repo. The terminal also shows the public and private IP addresses of the EC2 instance.

```
i-0290574cfa9d5d1ca | EC2 Instance Connect - Google Chrome
https://console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0290574cfa9d5d1ca
python-lxml.x86_64 0:3.2.1-4.amzn2.0.2
ttmkfdir.x86_64 0:3.0.9-42.amzn2.0.2
tzdata-java.noarch 0:2020d-2.amzn2
xorg-x11-font-utls.x86_64 1:7.5-21.amzn2
xorg-x11-fonts-Type1.noarch 0:7.5-9.amzn2
xorg-x11-utls.x86_64 0:7.5-23.amzn2

Complete!
[root@ip-172-31-92-98 ec2-user]# java -version
java -version
openjdk version "1.8.0_272"
OpenJDK Runtime Environment (build 1.8.0_272-b10)
OpenJDK 64-Bit Server VM (build 25.272-b10, mixed mode)
[root@ip-172-31-92-98 ec2-user]# wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
--2021-02-02 17:24:00-- https://pkg.jenkins.io/redhat-stable/jenkins.repo
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.250.133, 2a04:4e42:2f::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)[151.101.250.133]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 85
Saving to: '/etc/yum.repos.d/jenkins.repo'

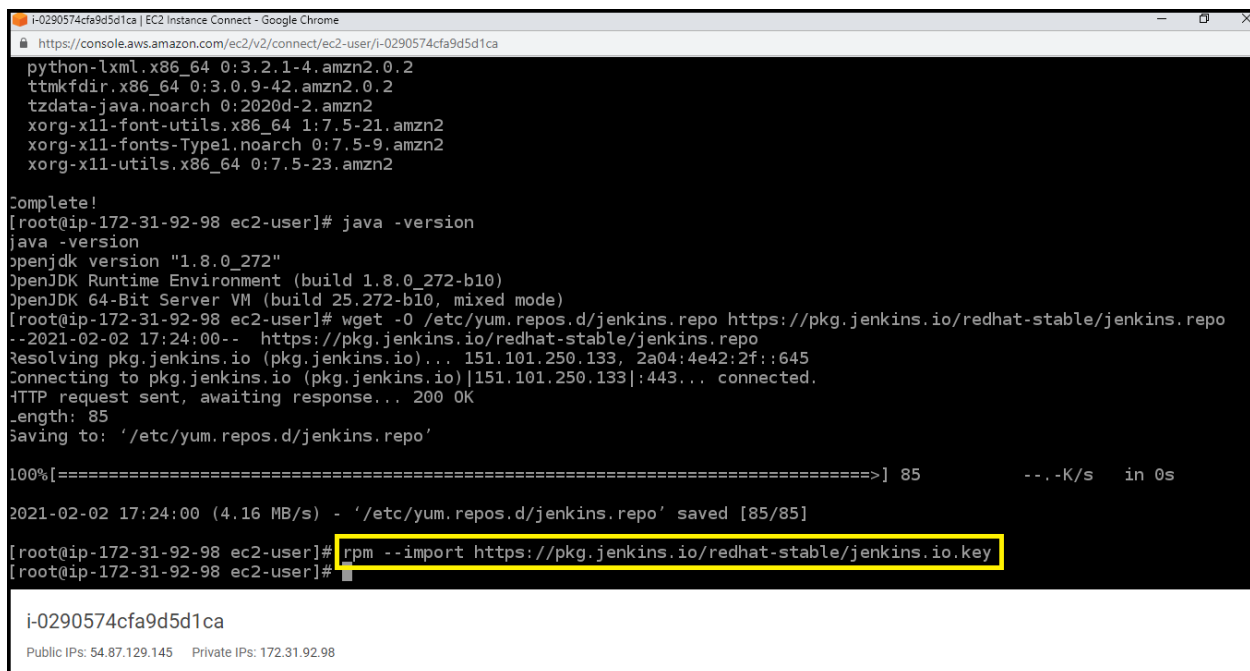
100%[=====] 85 --.-K/s in 0s

2021-02-02 17:24:00 (4.16 MB/s) - '/etc/yum.repos.d/jenkins.repo' saved [85/85]

[root@ip-172-31-92-98 ec2-user]# rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key
[root@ip-172-31-92-98 ec2-user]#

i-0290574cfa9d5d1ca
Public IPs: 54.87.129.145 Private IPs: 172.31.92.98
```

Task 4: `sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key`



The screenshot shows the same terminal window as Task 3, but with the command to import the Jenkins GPG key highlighted in yellow. The output shows the key being imported successfully. The terminal also shows the public and private IP addresses of the EC2 instance.

```
i-0290574cfa9d5d1ca | EC2 Instance Connect - Google Chrome
https://console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0290574cfa9d5d1ca
python-lxml.x86_64 0:3.2.1-4.amzn2.0.2
ttmkfdir.x86_64 0:3.0.9-42.amzn2.0.2
tzdata-java.noarch 0:2020d-2.amzn2
xorg-x11-font-utls.x86_64 1:7.5-21.amzn2
xorg-x11-fonts-Type1.noarch 0:7.5-9.amzn2
xorg-x11-utls.x86_64 0:7.5-23.amzn2

Complete!
[root@ip-172-31-92-98 ec2-user]# java -version
java -version
openjdk version "1.8.0_272"
OpenJDK Runtime Environment (build 1.8.0_272-b10)
OpenJDK 64-Bit Server VM (build 25.272-b10, mixed mode)
[root@ip-172-31-92-98 ec2-user]# wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
--2021-02-02 17:24:00-- https://pkg.jenkins.io/redhat-stable/jenkins.repo
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.250.133, 2a04:4e42:2f::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)[151.101.250.133]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 85
Saving to: '/etc/yum.repos.d/jenkins.repo'

100%[=====] 85 --.-K/s in 0s

2021-02-02 17:24:00 (4.16 MB/s) - '/etc/yum.repos.d/jenkins.repo' saved [85/85]

[root@ip-172-31-92-98 ec2-user]# rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key
[root@ip-172-31-92-98 ec2-user]#

i-0290574cfa9d5d1ca
Public IPs: 54.87.129.145 Private IPs: 172.31.92.98
```

Task 5: yum install Jenkins

```
i-0290574cfa9d5d1ca | EC2 Instance Connect - Google Chrome
https://console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0290574cfa9d5d1ca

[root@ip-172-31-92-98 ec2-user]# rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key
[root@ip-172-31-92-98 ec2-user]# yum install jenkins
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                | 3.7 kB  00:00:00
jenkins                                   | 2.9 kB  00:00:00
jenkins/primary_db                         | 36 kB  00:00:00
Resolving Dependencies
--> Running transaction check
--> Package jenkins.noarch 0:2.263.3-1.1 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

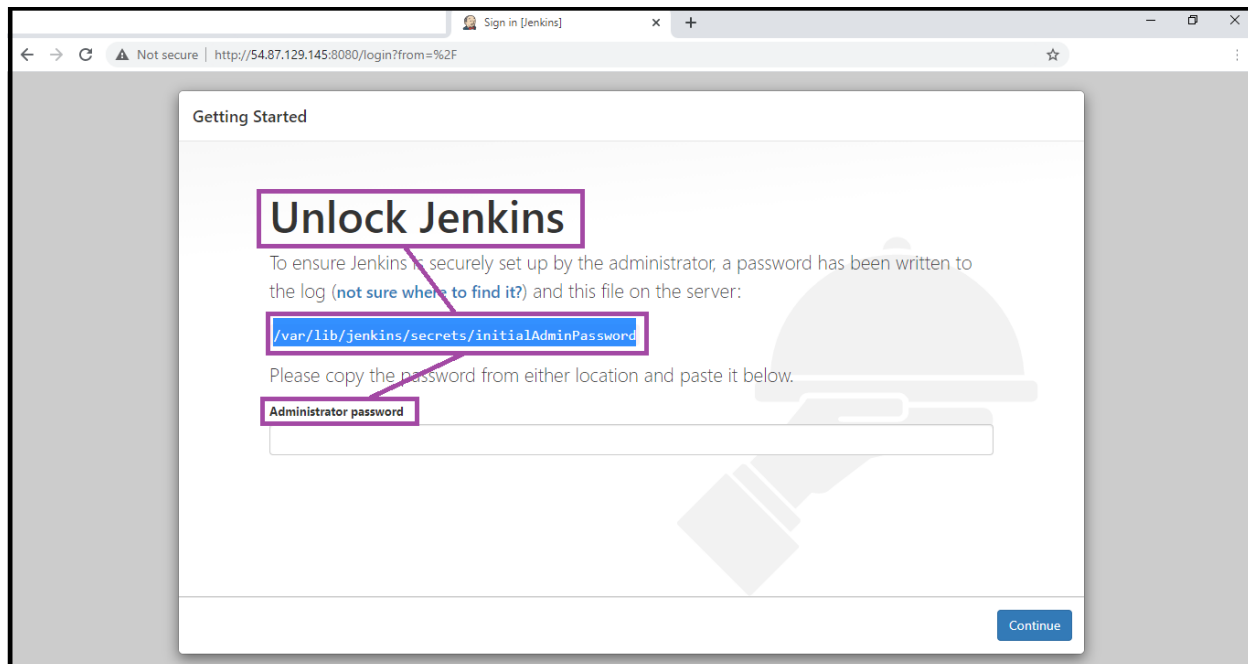
=====
Package                Arch          Version           Repository        Size
=====
[Installing:]
jenkins                 noarch        2.263.3-1.1       jenkins           64 M
=====

Transaction Summary
=====
[Install] 1 Package

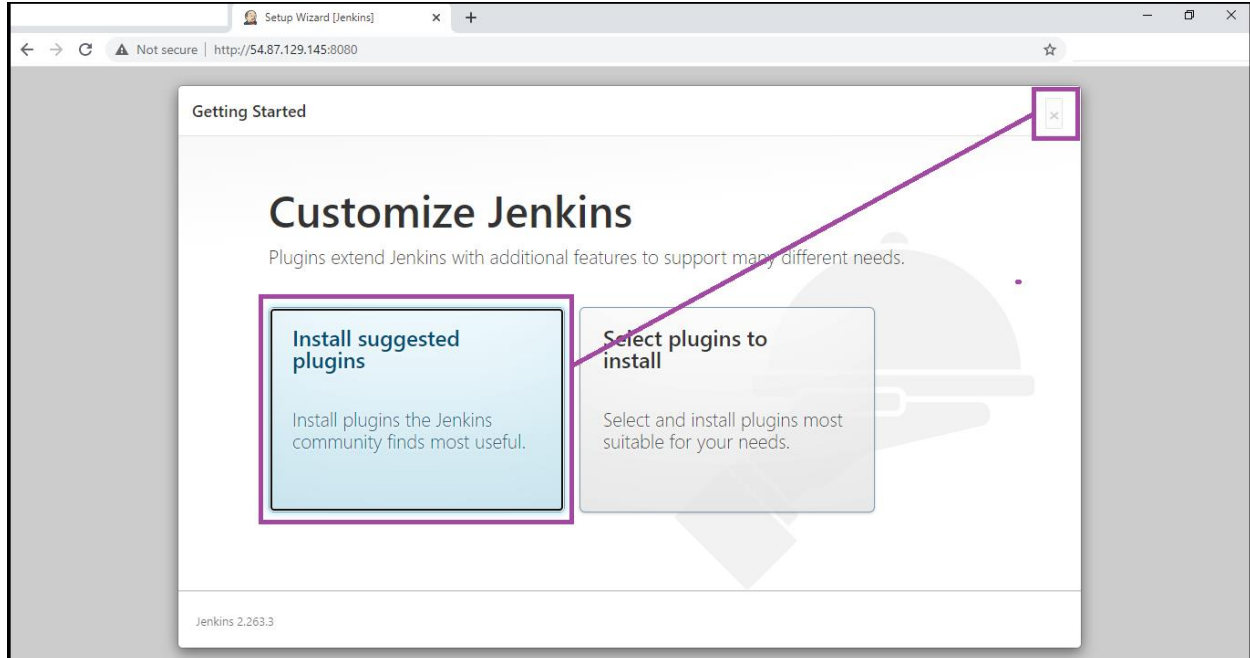
Total download size: 64 M
Installed size: 64 M
Is this ok [y/d/N]: █

i-0290574cfa9d5d1ca
Public IPs: 54.87.129.145   Private IPs: 172.31.92.98
```

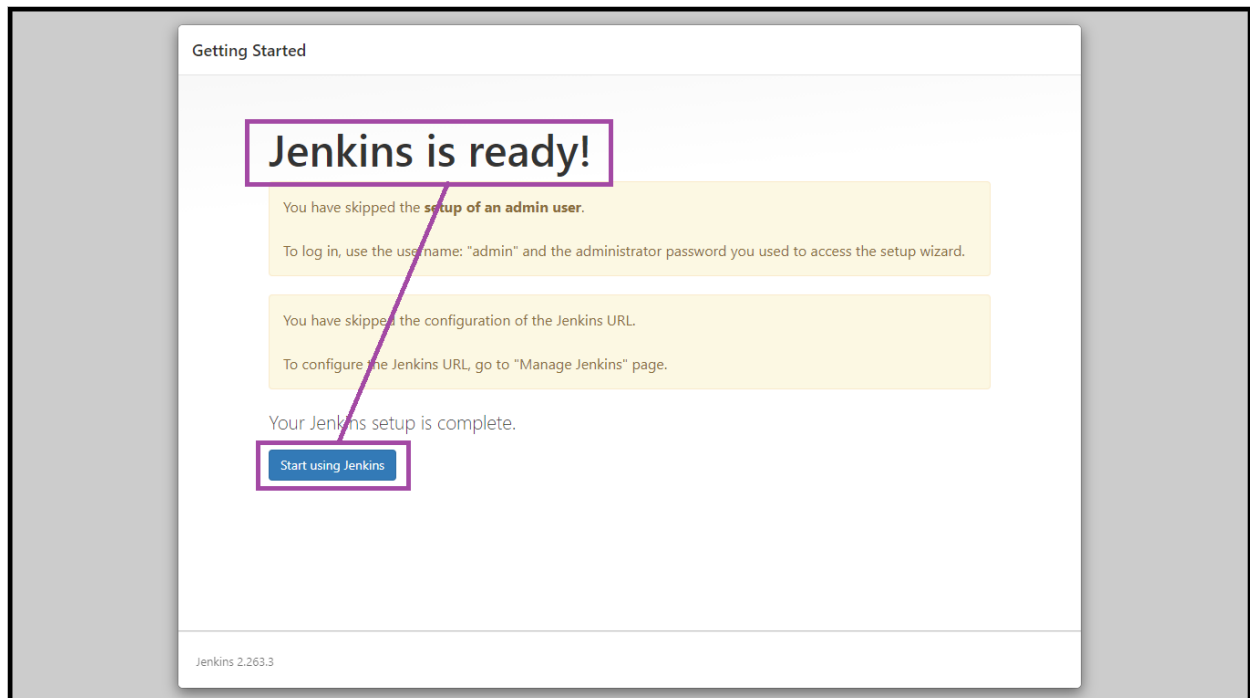
Task 6: Extract the password from the location



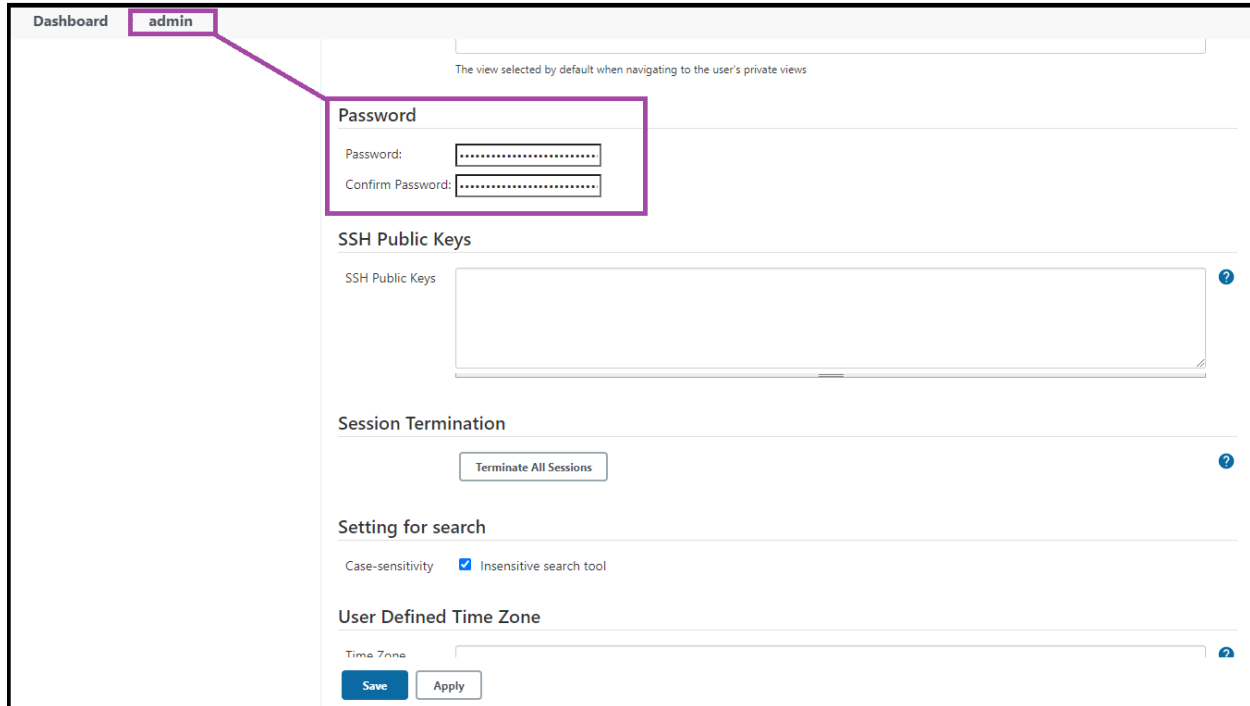
Task 7: Skip installing plugins



Task 8: Start using Jenkins



Task 9: Change the admin password



The screenshot shows the Jenkins Admin interface. The 'admin' tab is selected in the top navigation bar. The 'Password' section is highlighted with a red box. It contains two input fields: 'Password:' and 'Confirm Password:'. Below this, there are sections for 'SSH Public Keys', 'Session Termination' (with a 'Terminate All Sessions' button), 'Setting for search' (with a checked 'Insensitive search tool' option), and 'User Defined Time Zone' (with a 'Time Zone' dropdown and 'Save'/'Apply' buttons).

Dashboard **admin**

The view selected by default when navigating to the user's private views

Password

Password:

Confirm Password:

SSH Public Keys

SSH Public Keys

Session Termination

[Terminate All Sessions](#)

Setting for search

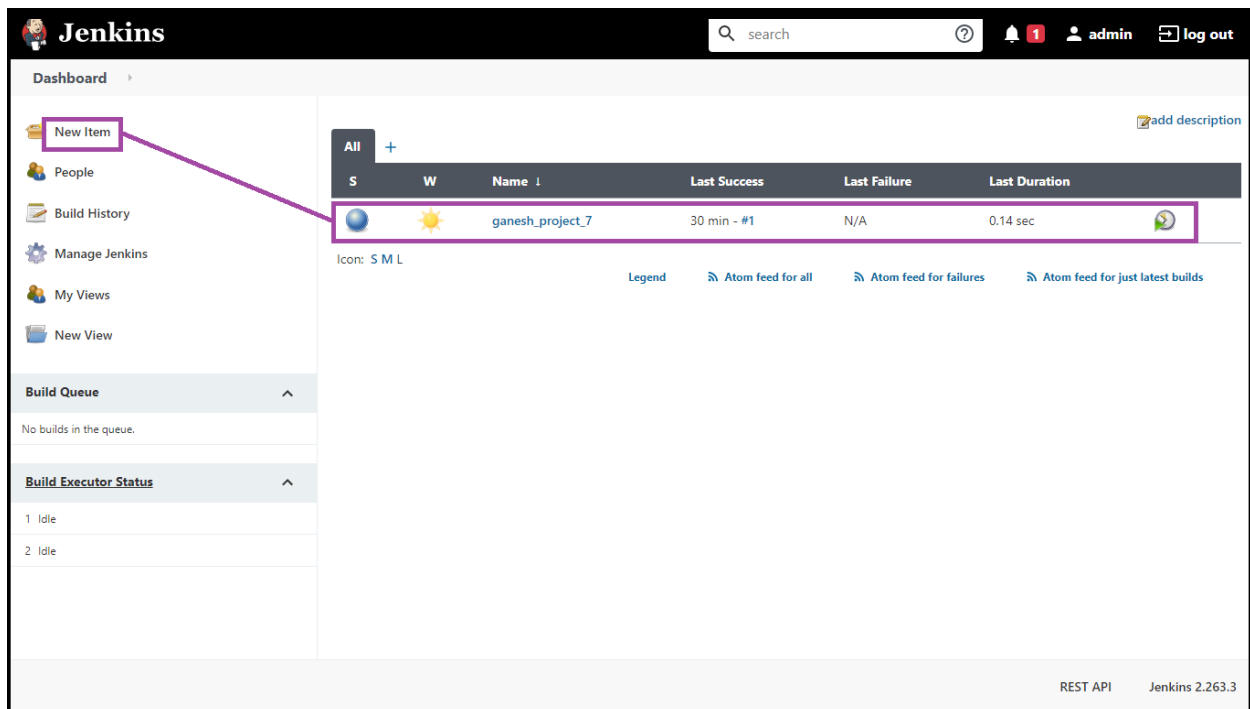
Case-sensitivity ☒ Insensitive search tool

User Defined Time Zone

Time Zone

[Save](#) [Apply](#)

Task 10: Create a new job



The screenshot shows the Jenkins Dashboard. The 'New Item' button is highlighted with a red box. The dashboard includes a sidebar with navigation links like 'People', 'Build History', 'Manage Jenkins', 'My Views', and 'New View'. The main content area shows a table of jobs. The first job, 'ganesh_project_7', is highlighted with a red box. The table has columns for 'S', 'W', 'Name', 'Last Success', 'Last Failure', and 'Last Duration'. Below the table, there are links for 'Legend', 'Atom feed for all', 'Atom feed for failures', and 'Atom feed for just latest builds'. The footer shows 'REST API' and 'Jenkins 2.263.3'.

Jenkins search ? 1 admin log out

Dashboard

New Item

People

Build History

Manage Jenkins

My Views

New View

Build Queue

No builds in the queue.

Build Executor Status

1 Idle

2 Idle

ganesh_project_7

30 min - #1

N/A

0.14 sec

Legend

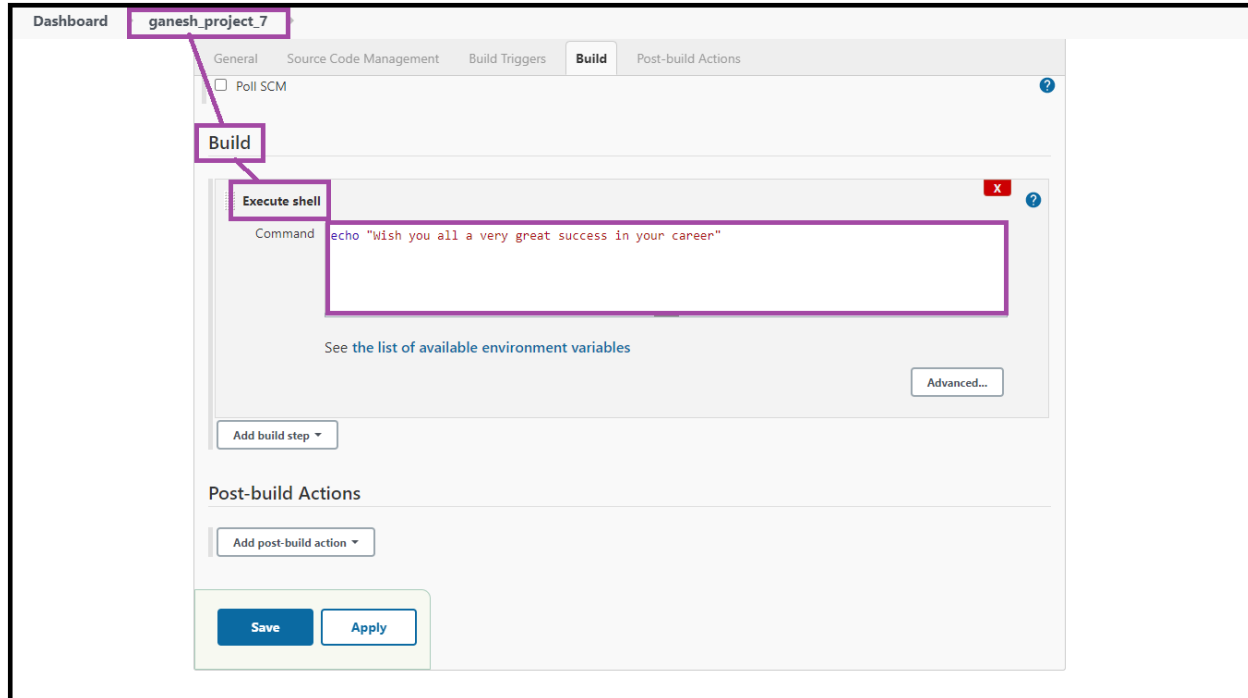
Atom feed for all

Atom feed for failures

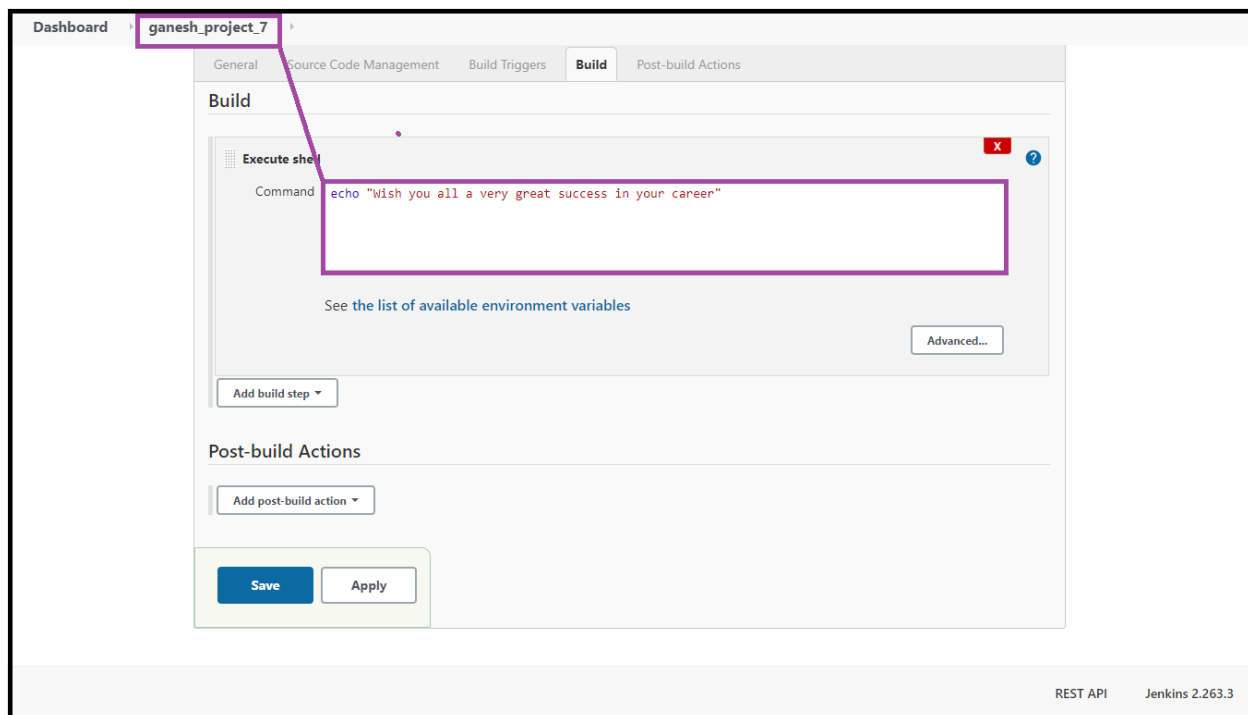
Atom feed for just latest builds

REST API Jenkins 2.263.3

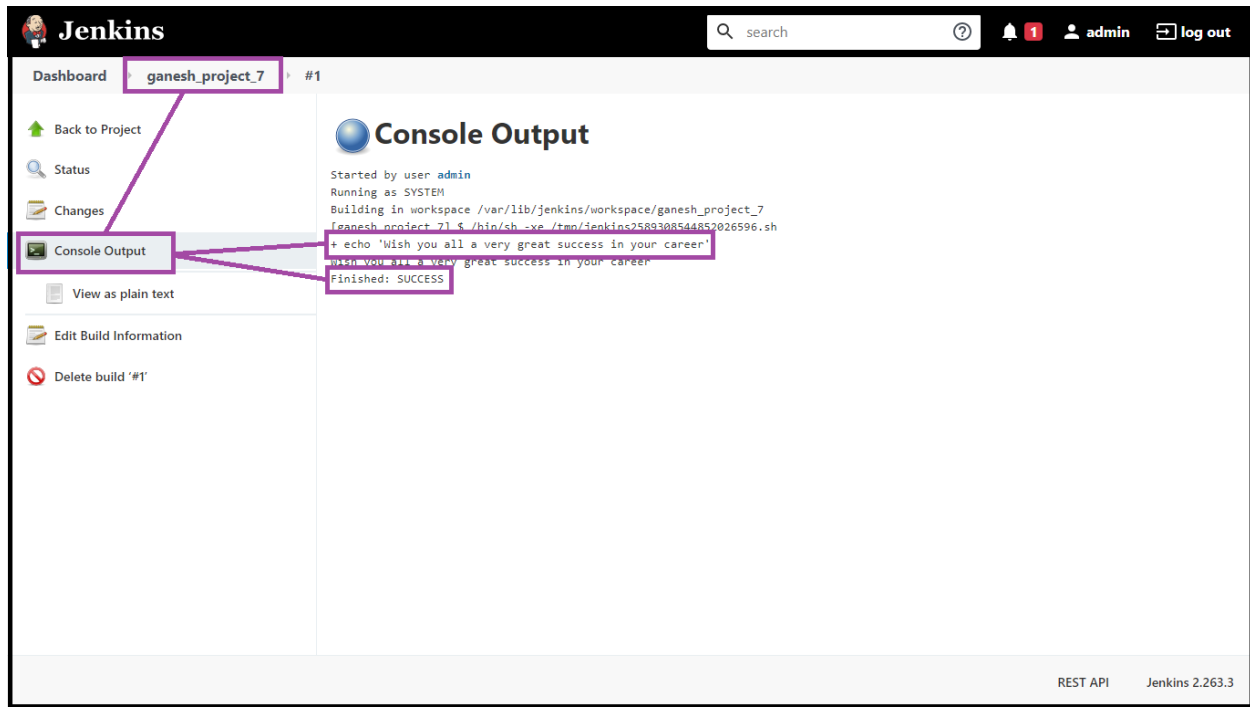
Task 11: Build step: execute shell



Task 12: echo "Wish you all a very great success in your career"



Task 13: Build the job



The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, a notification bell with a red '1', the user 'admin', and a 'log out' button. The breadcrumb trail is 'Dashboard' > 'ganesh_project_7' > '#1'. The left sidebar contains links for 'Back to Project', 'Status', 'Changes', 'Console Output' (highlighted with a purple box), 'View as plain text', 'Edit Build Information', and 'Delete build '#1''. The main content area is titled 'Console Output' and displays the following text:

```
Started by user admin
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/ganesh_project_7
[ganesh_project_7] $ /bin/sh -xe /tmp/jenkins258308544852026596.sh
+ echo 'Wish you all a very great success in your career'
Wish you all a very great success in your career
Finished: SUCCESS
```

At the bottom right of the interface, the text 'REST API' and 'Jenkins 2.263.3' is visible.