



Semester: V  
Academic Year: 2025-26  
Class / Branch: TE IT B  
Subject: Advanced Devops Lab (ADL)  
Name of Instructor: Prof. Manjusha Kashilkar

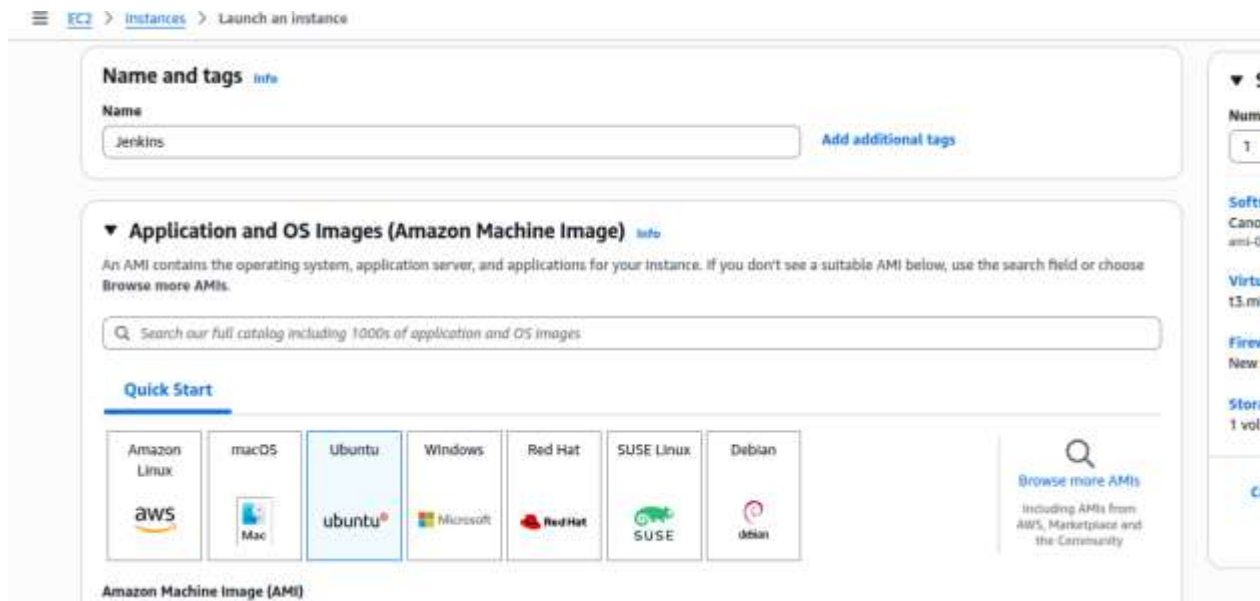
Name of Student: Tanmay Padule  
Student ID: 23104156

## EXPERIMENT NO. 07

**Aim:** To understand Static Analysis SAST process and learn to integrate Jenkins SAST to SonarQube/GitLab.

### Output:

**Step 1:** Create an EC2 Instance named Jenkins and select ubuntu as AMI and similarly create a new key pair also and launch the instance.

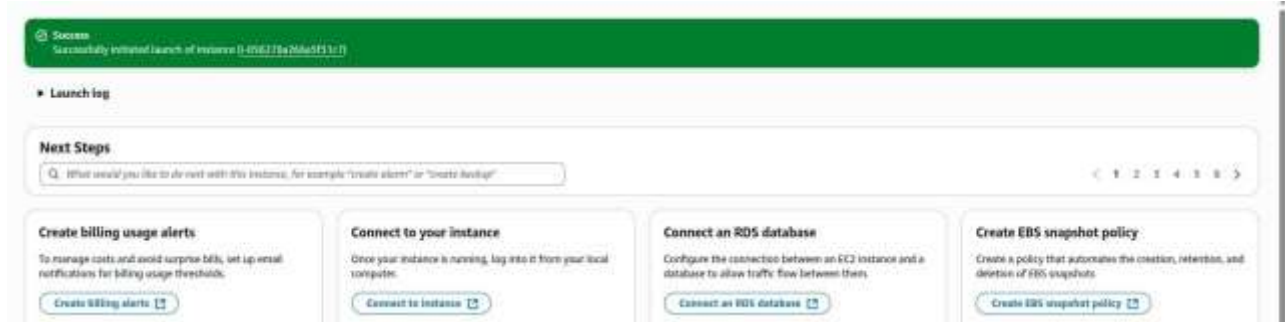




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**Step 2:** The following will be visible when the instance is launched successfully.



**Step 3:** Now click on connect which will in turn open a terminal.

```
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/prp

System information as of Thu Sep 11 07:57:27 UTC 2020

System load: 0.00 Processes: 104
Usage of /: 22.5% of 7.67GB Users logged in: 0
Memory usage: 21% IP4 address for eth0: 172.31.22.134
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.
No updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo apt update

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo command".
See "man sudo_root" for details.

ubuntu@ip-172-31-22-134:~$
```

**Step 4:** Run the following commands on the terminal.

**sudo apt update**

**sudo apt install openjdk-11-jdk -y**

**java --version**



**Step 5:** Now access the website <https://pkg.jenkins.io/> and select the Debian-stable/ and run all the commands till the installation of jenkins.

## Index of /

Name	Last modified	Size	Description
 <a href="#">debian-rc/</a>	2016-04-07 04:19	-	
 <a href="#">debian-stable-rc/</a>	2016-02-04 19:46	-	
 <a href="#">debian-stable/</a>	2025-08-20 15:59	-	
 <a href="#">debian/</a>	2025-09-09 13:09	-	
 <a href="#">opensuse-rc/</a>	2016-04-07 04:21	-	
 <a href="#">opensuse-stable-rc/</a>	2016-02-04 19:48	-	
 <a href="#">opensuse-stable/</a>	2025-08-20 15:59	-	
 <a href="#">opensuse/</a>	2025-09-09 13:09	-	
 <a href="#">redhat-rc/</a>	2016-04-07 04:20	-	
 <a href="#">redhat-stable-rc/</a>	2016-02-04 19:47	-	
 <a href="#">redhat-stable/</a>	2025-08-20 15:59	-	
 <a href="#">redhat/</a>	2025-09-09 13:09	-	
 <a href="#">war/</a>	2020-04-16 16:01	-	
 <a href="#">windows/</a>	2020-04-16 16:02	-	

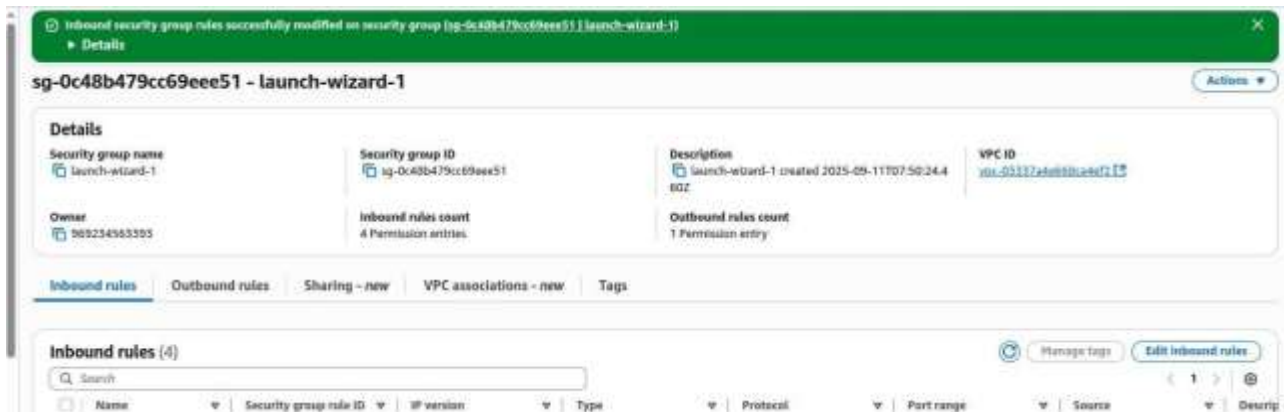
### Run the following commands:

```
sudo systemctl start jenkins  
sudo systemctl enable jenkins  
sudo systemctl status Jenkins
```

**Step 6:** Now go to instance and try to access the web page using the public ip address specified in the specific instance.

At first it will show this page cant be reached so then go to the security tab of the instance and add an inbound rule for Jenkins port number.

On saving the changes the following screen will be visible.



**Step 7:** Now the same public ip address web page alongwith the port number of Jenkins will render the following.

Now to know the password for Jenkins run the following command on the terminal and copy its output in the password field with the username set to admin

**Sudo cat /var/lib/jenkins/secrets/initialAdminPassword**





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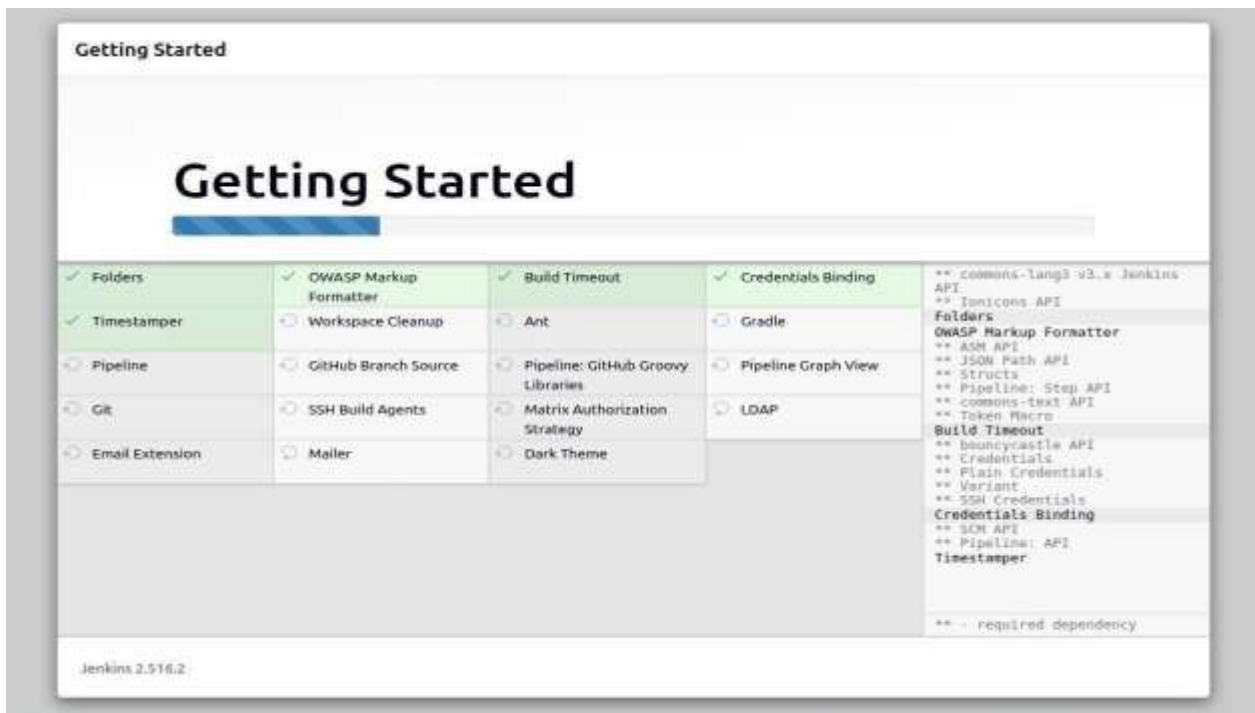
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**Step 8:** Now click on Install suggested plugins which will automatically start installing the required plugins.





**Step 9:** Now create a new user and fill the specified information.

Getting Started

## Create First Admin User

Username  
Hrugveda

Password  
\*\*\*\*\*

Confirm password  
\*\*\*\*\*

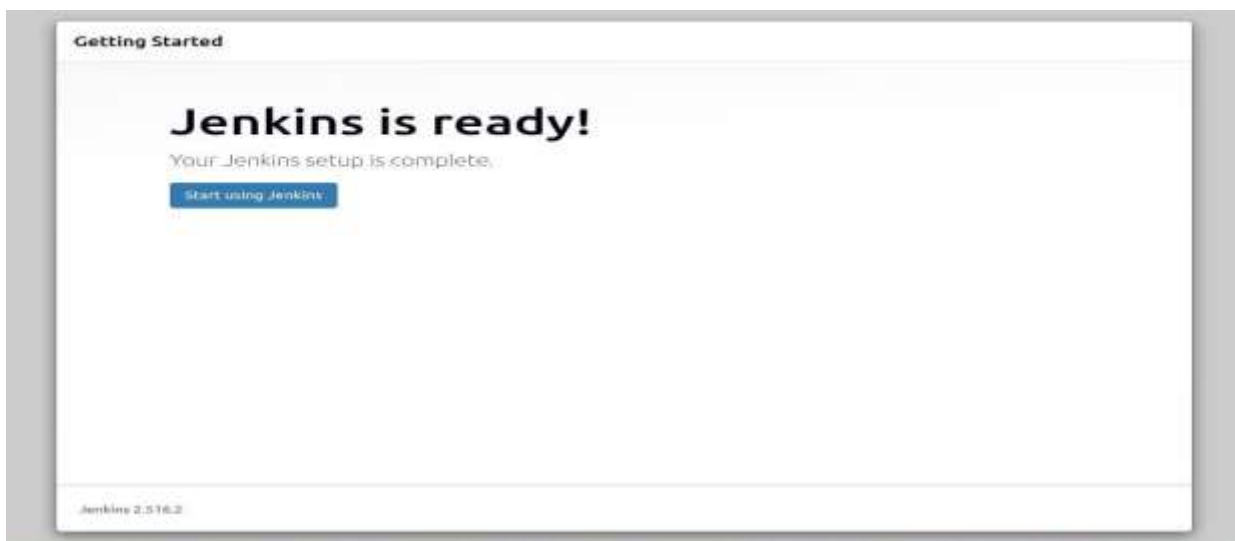
Full name  
Hrugveda Nitin Mane

E-mail address  
hrugveda@apshait.edu.in

Jenkins 2.516.2

[Skip and continue as admin](#) [Save and Continue](#)

**Step 10:** The following page will appear indicating that the user has been set successfully.







**Step 11:** The dashboard will now be visible for the Jenkins.



**Step 12:** Now it is time to do the sonarqube setup. Run the following commands on the terminal.

```
sudo apt install docker.io
```

```
docker run -d -p 9000:9000 sonarqube
```

**Step 13:** The login page will appear as follows

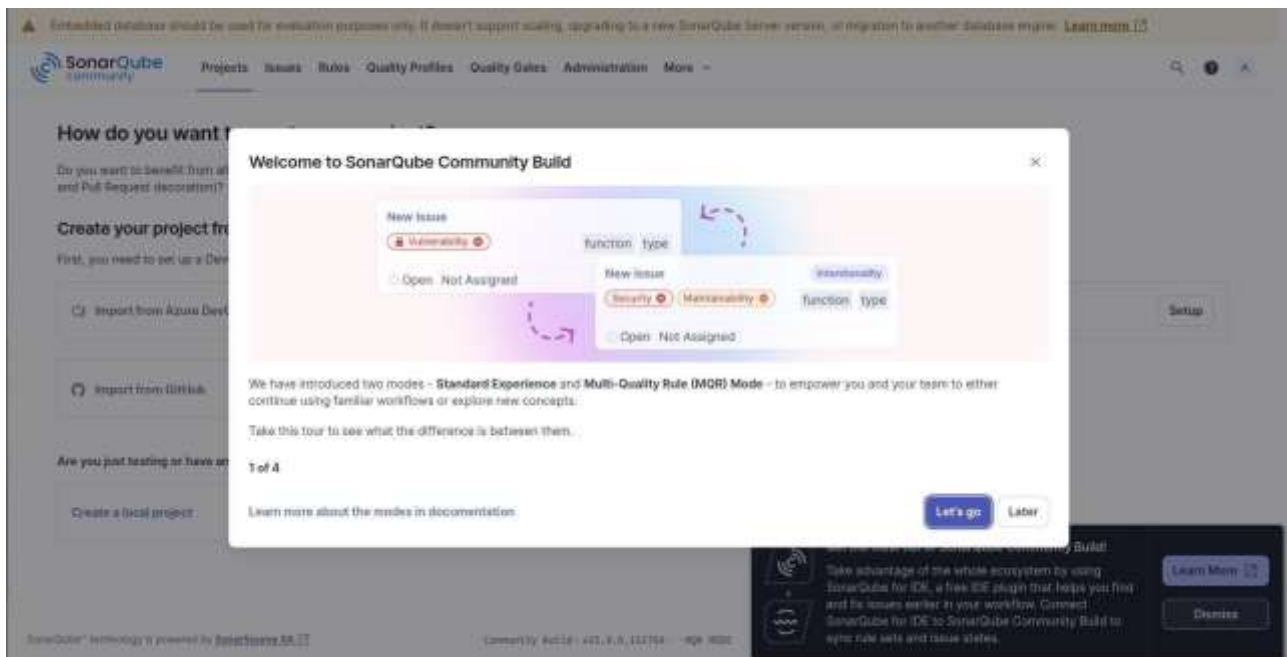




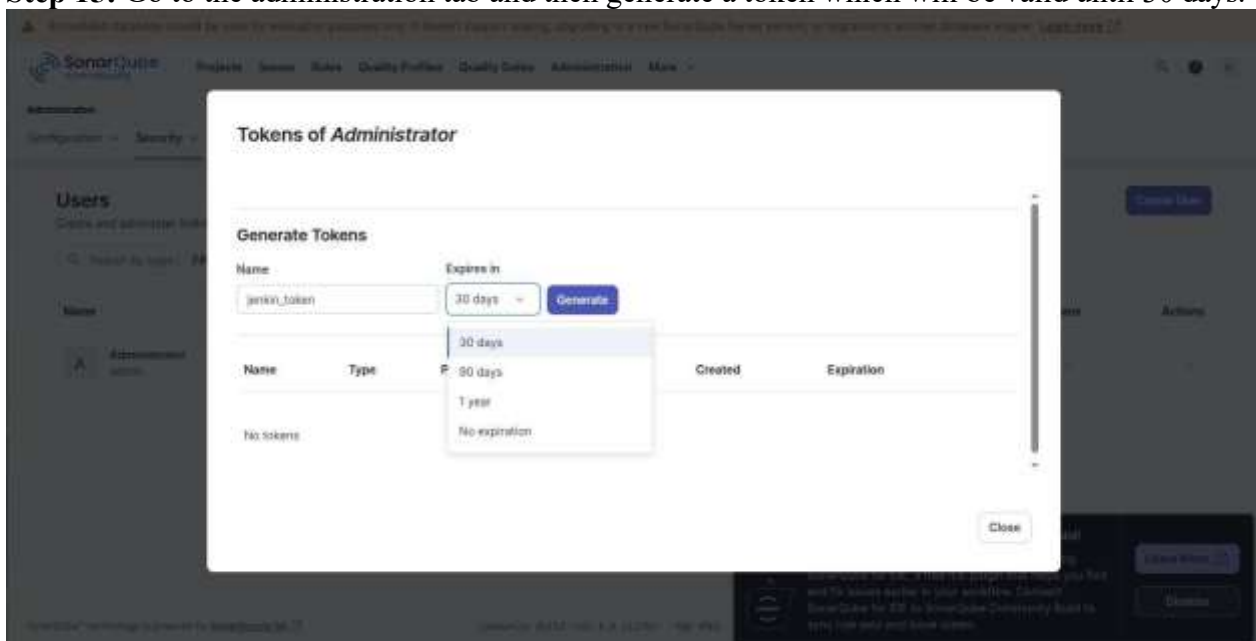
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**Step 14:** The dashboard will look something like this.



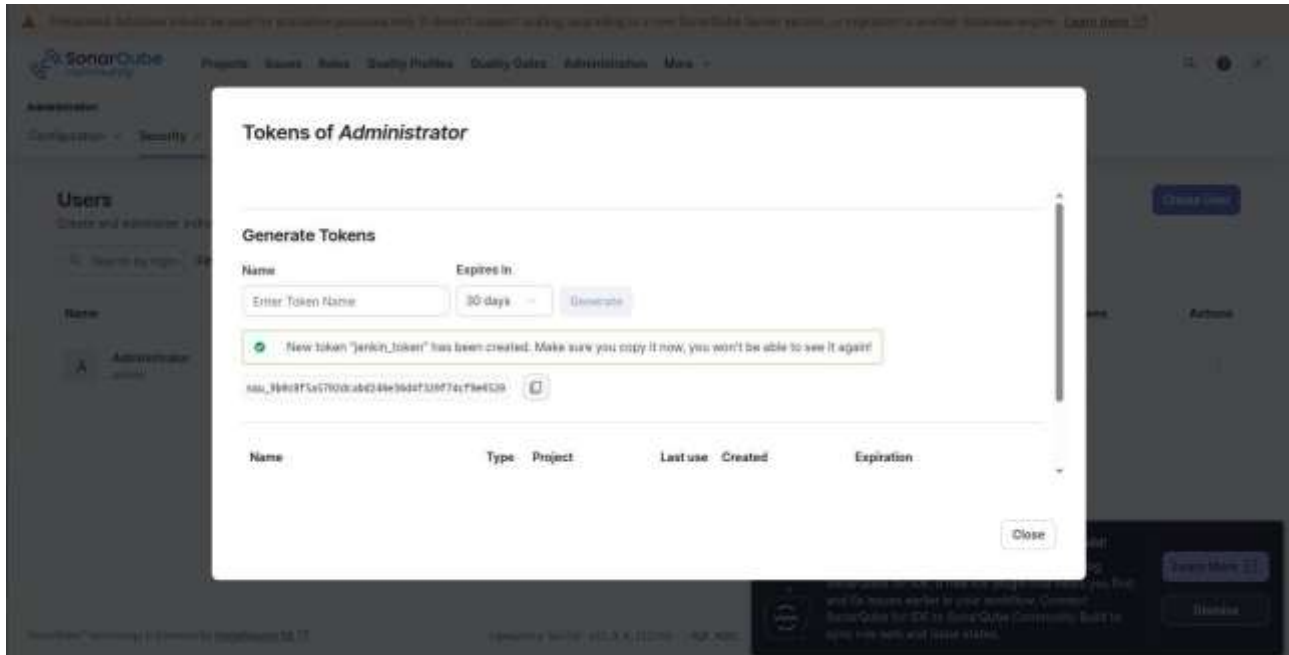
**Step 15:** Go to the administration tab and then generate a token which will be valid until 30 days.







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**Step 16:** We need to configure the Jenkins plugin for SonarQube Scanner to make a connection with the SonarQube Instance. For that, got to Manage Jenkins > Configure System > SonarQube Server. Then, Add SonarQube.

**SonarQube servers**

☐ **Environment variables** Enable injection of SonarQube server configuration as build environment variables  
If checked, job administrators will be able to inject a SonarQube server configuration as environment variables in the build.

**SonarQube installations**

**Name**  
SonarQube

**Server URL**  
http://localhost:9000  
Default is http://localhost:9000

**Server authentication token**  
sonarqube

SonarQube authentication token. Mandatory when anonymous access is disabled.



**Step 17:** we need to set-up the SonarQube Scanner to scan the source code in the various stage. For the same, go to Manage Jenkins > Global Tool Configuration > SonarQube Scanner. Then, Click Add SonarQube Scanner Button

Then, Click Add SonarQube Scanner Button. From there, give some name of the scanner type and Add Installer of your choice. In this case, I have selected SonarQube Scanner from Maven Central.

**Step 18:** Now create a new item and integrate it with git url.

**Step 19:** Write the following script in the pipeline script of the item and build it.



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Conclusion: Thus we have studied Static Analysis SAST process and learn to integrate Jenkins SAST to SonarQube/GitLab.