

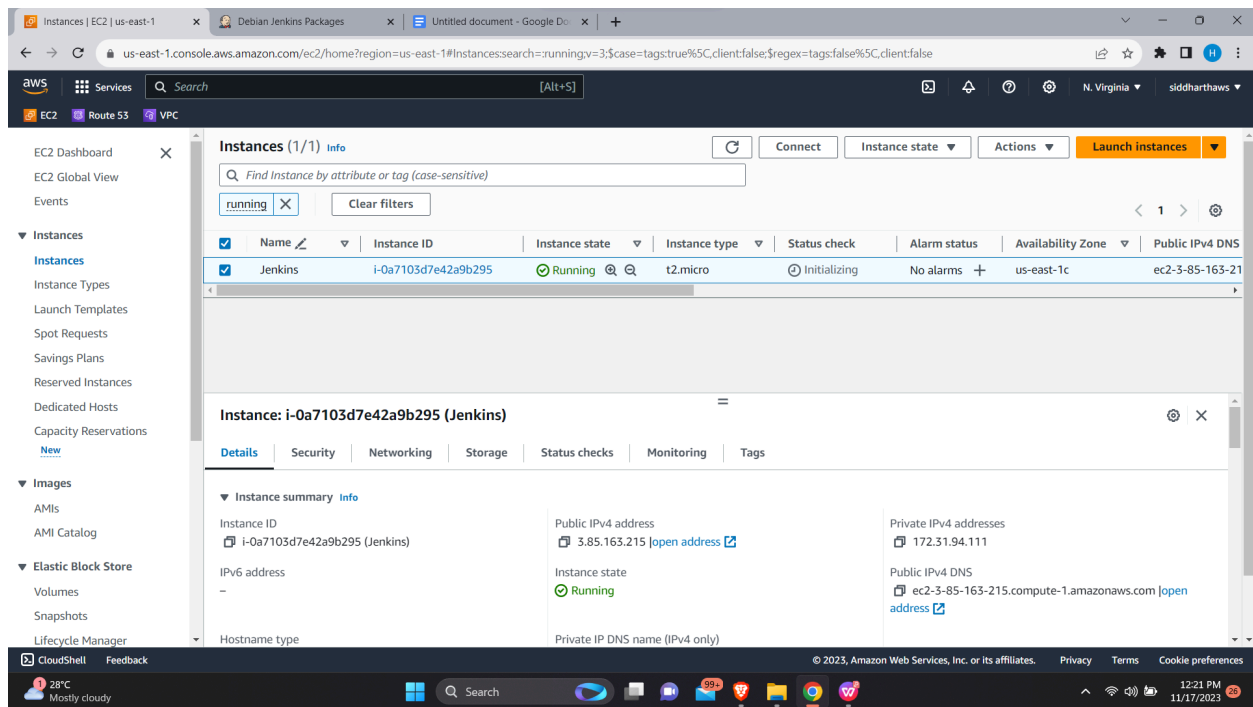
JENKINS

Definition:

Jenkins is an open source continuous integration/continuous delivery and deployment (CI/CD) automation software DevOps tool written in the Java programming language. It is used to implement CI/CD workflows, called pipelines.

JENKINS INSTALLATION STEPS

Create an ec2 instance - Ubuntu 20.04 - t2.micro - keyfile - Security group(all traffic) - launch instance



Connect to the ec2 instance through putty

Search jenkins.io in browser

Copy & paste the jenkins packages in the server

The screenshot shows the Jenkins Debian Packages page. It includes the Jenkins logo and navigation links. The main heading is "Jenkins Debian Packages". Below it, a paragraph states: "This is the Debian package repository of Jenkins to automate installation and upgrade. To use this repository, first add the key to your system (for the Weekly Release Line):". A terminal block shows the command to add the key: `sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \ https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key`. Another paragraph says: "Then add a Jenkins apt repository entry:". A terminal block shows the command to add the repository: `echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \ https://pkg.jenkins.io/debian-stable binary/ | sudo tee \ /etc/apt/sources.list.d/jenkins.list > /dev/null`. A third paragraph says: "Update your local package index, then finally install Jenkins:". A terminal block shows the commands: `sudo apt-get update`, `sudo apt-get install fontconfig openjdk-17-jre`, and `sudo apt-get install jenkins`. A fourth paragraph says: "The apt packages were signed using this key:". A terminal block shows the key details: `pub rsa4096 2023-03-27 [SC] [expires: 2026-03-26] 63667EE74BBA1F0A08A698725BA31D57EF5975CA uid Jenkins Project`. The bottom of the screenshot shows a Windows taskbar with the date 11/17/2023 and time 12:22 PM.

After Successfully installed jenkins.

To check the jenkins portnumber to connect the jenkins dashboard in webserver

#ps -ef | grep jenkins

The screenshot shows the output of the command `ps -ef | grep jenkins` in a terminal. The output is as follows:
ubuntu@ip-172-31-94-111:~\$ ps -ef | grep jenkins
jenkins 4967 1 16 06:55 2 00:00:41 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080
ubuntu 5266 1333 0 06:59 pts/0 00:00:00 grep --color=auto jenkins

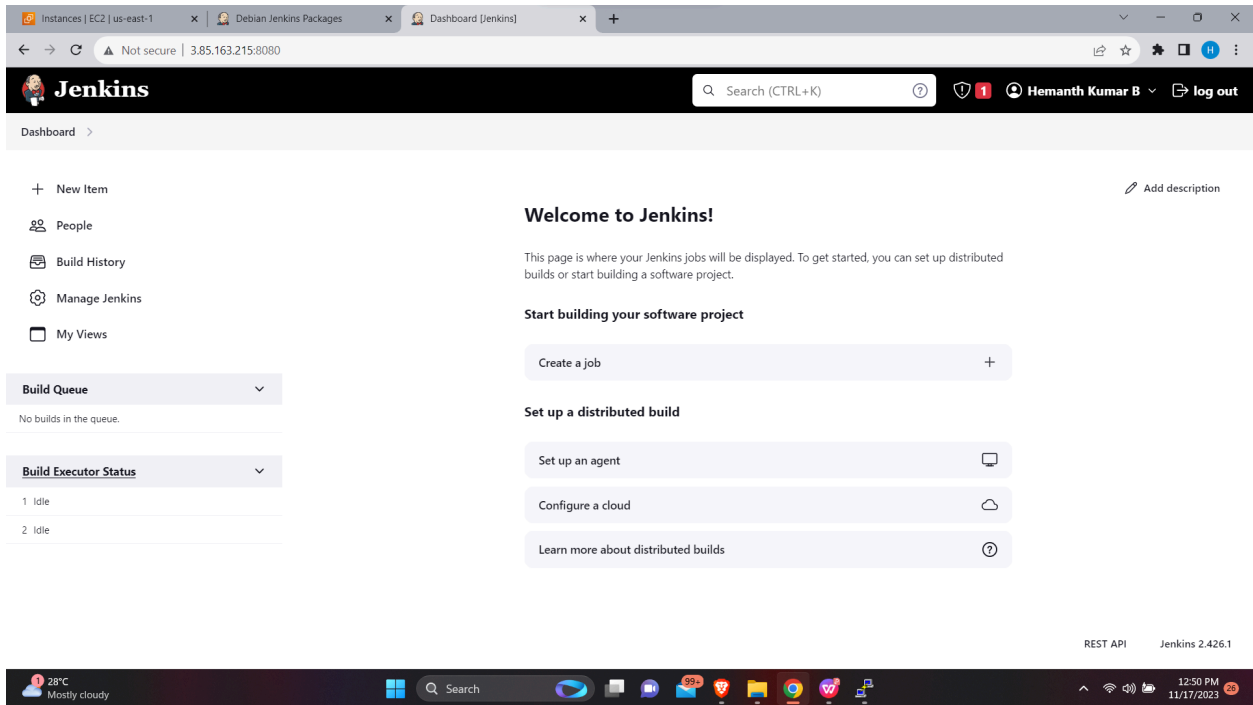
Hit jenkins server pub-ip along with port number in browser

The screenshot shows the Jenkins "Getting Started" page. The heading is "Unlock Jenkins". Below it, a paragraph states: "To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server: /var/lib/jenkins/secrets/initialAdminPassword". Another paragraph says: "Please copy the password from either location and paste it below." Below this, there is a text input field labeled "Administrator password" with a masked password ".....". A "Continue" button is at the bottom right. The bottom of the screenshot shows a Windows taskbar with the date 11/17/2023 and time 12:28 PM.

Copy the password from above path using #cat command

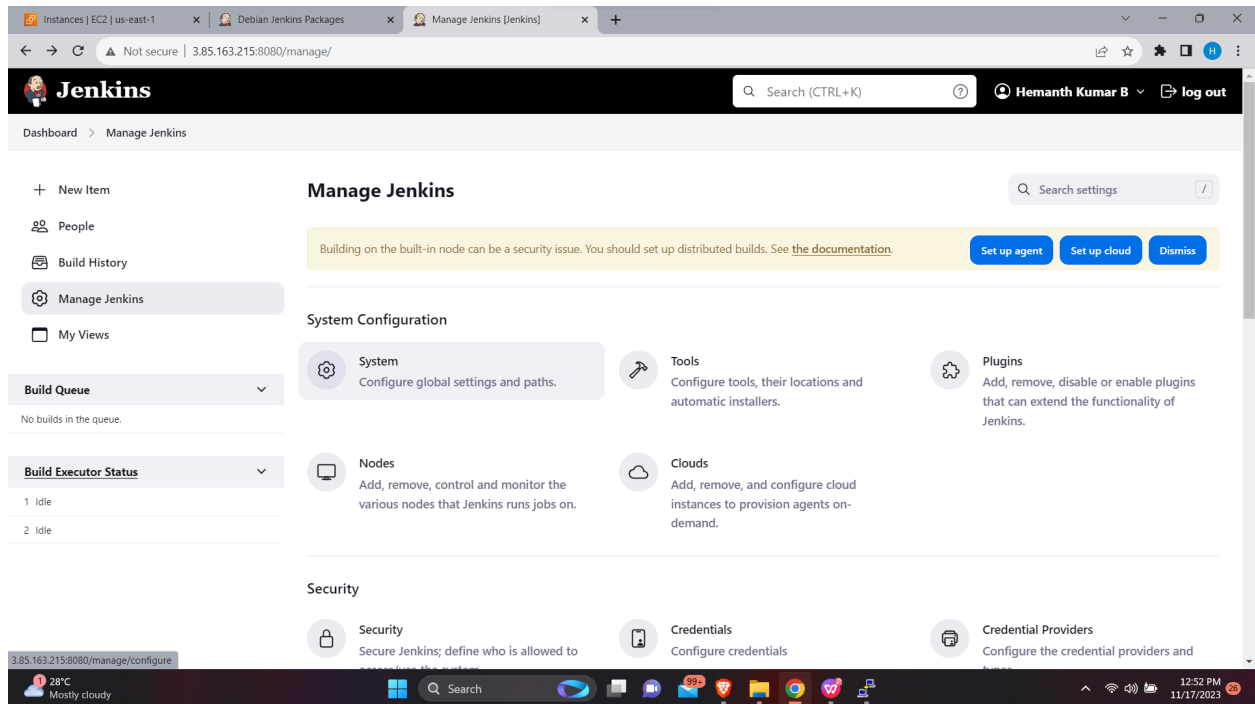
```
ubuntu@ip-172-31-94-111:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
d6b6b7190de94a69a9fd6c003a640a01
```

Enter the first Admin User Credentials - Save and Continue
Jenkins dashboard is successfully hosted

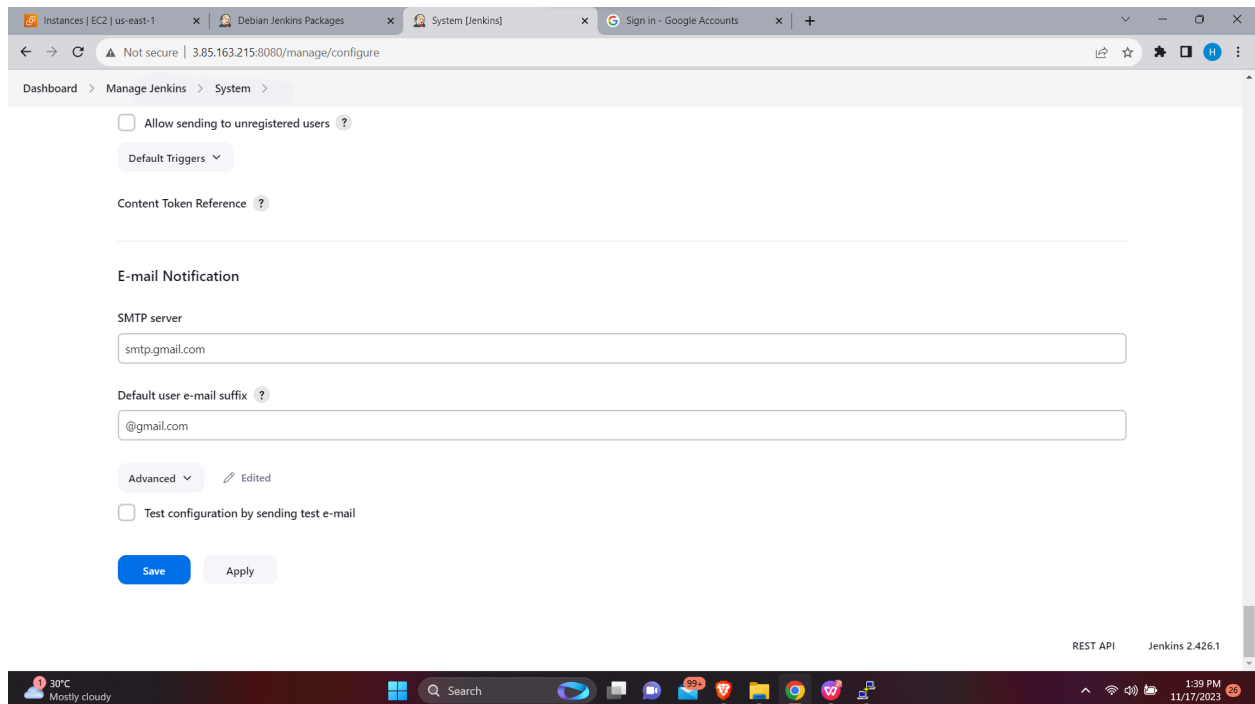


STEPS TO CONFIGURE EMAIL NOTIFICATION

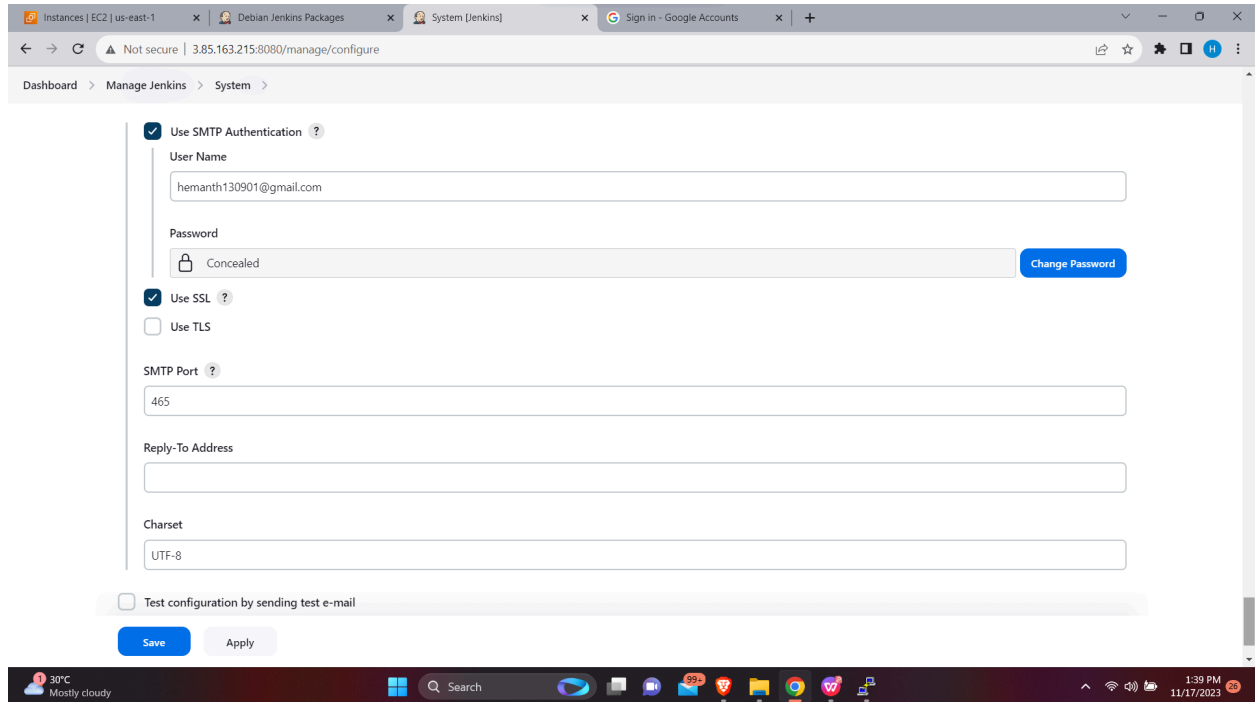
In jenkins dashboard, go to Manage Jenkins - System



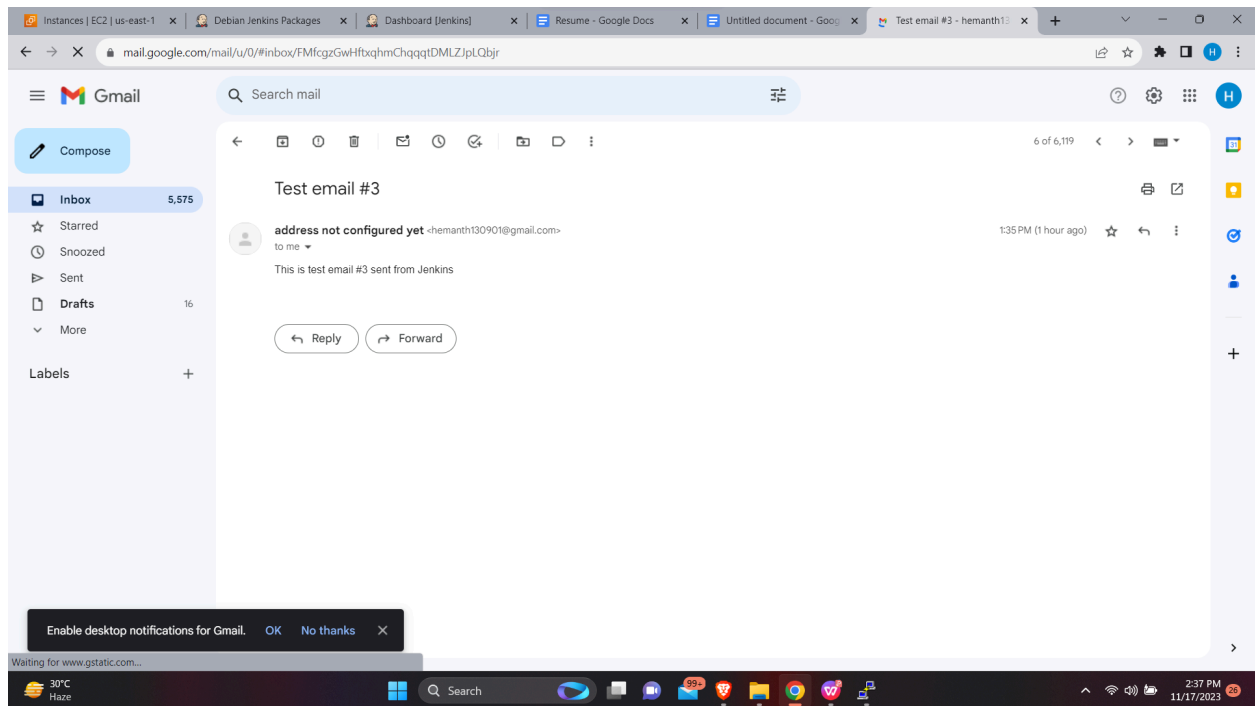
Scroll down to email notification



In google account, go to manage your account - security - 2 step verification - get password - create password
Then click advanced and configure recipient's email



Click test configuration

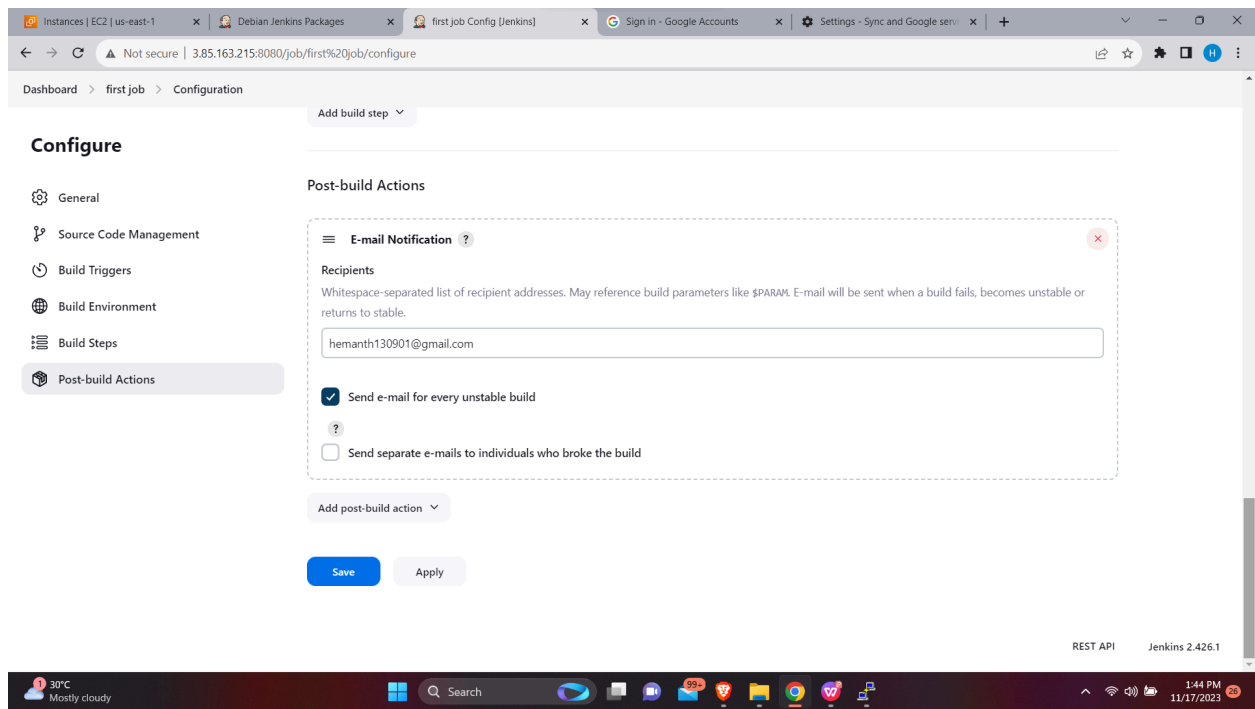
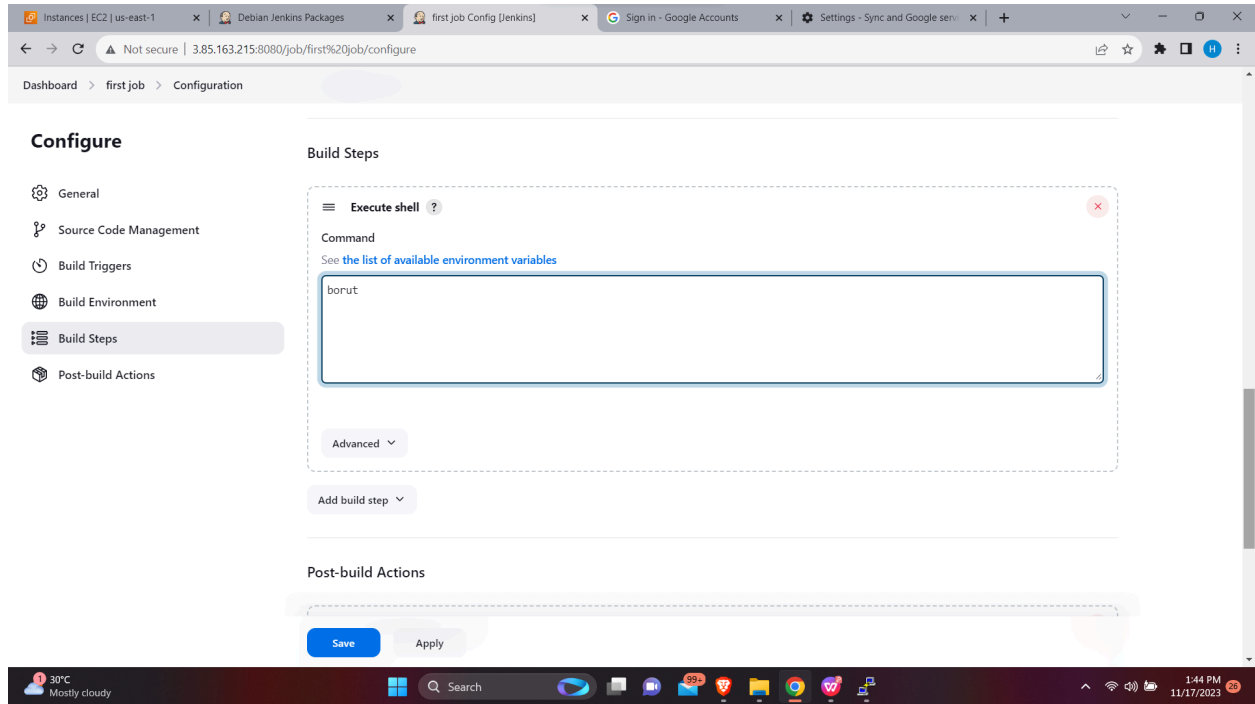


Successfully Configured Email Notification in Jenkins Dashboard.

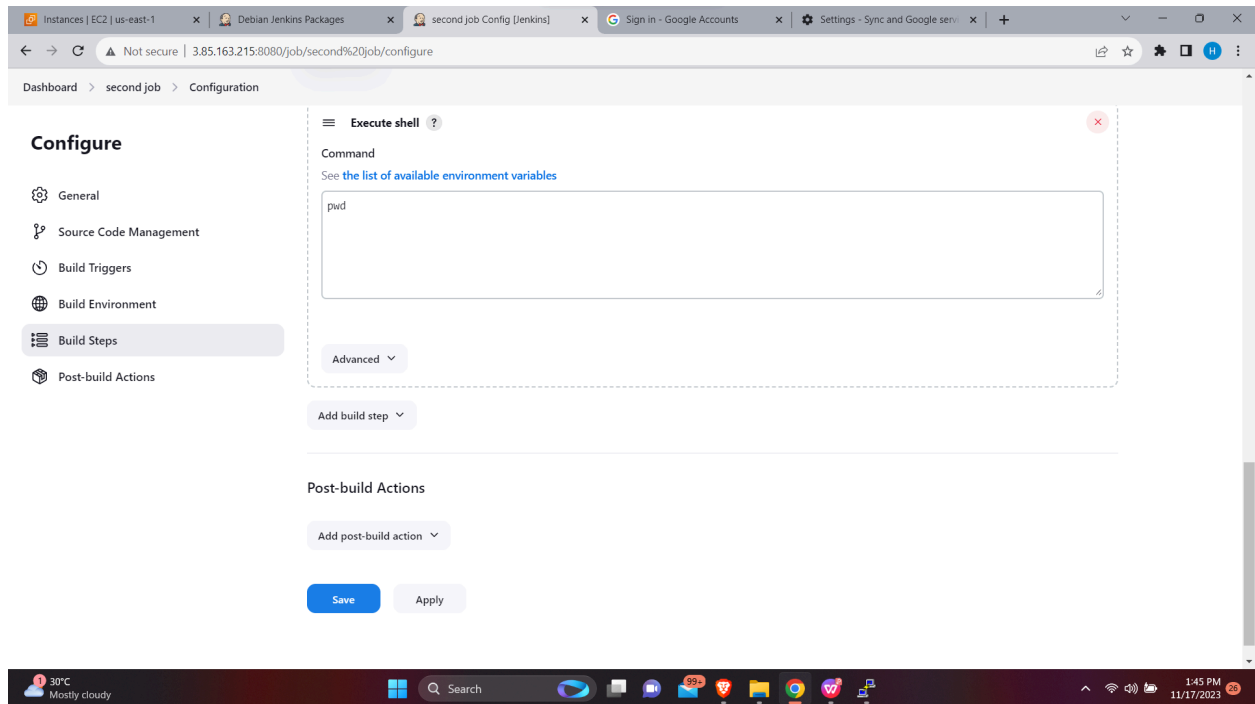
Now create 2 jobs and add configured email to get notification is the job fails.

Create a job(first job)

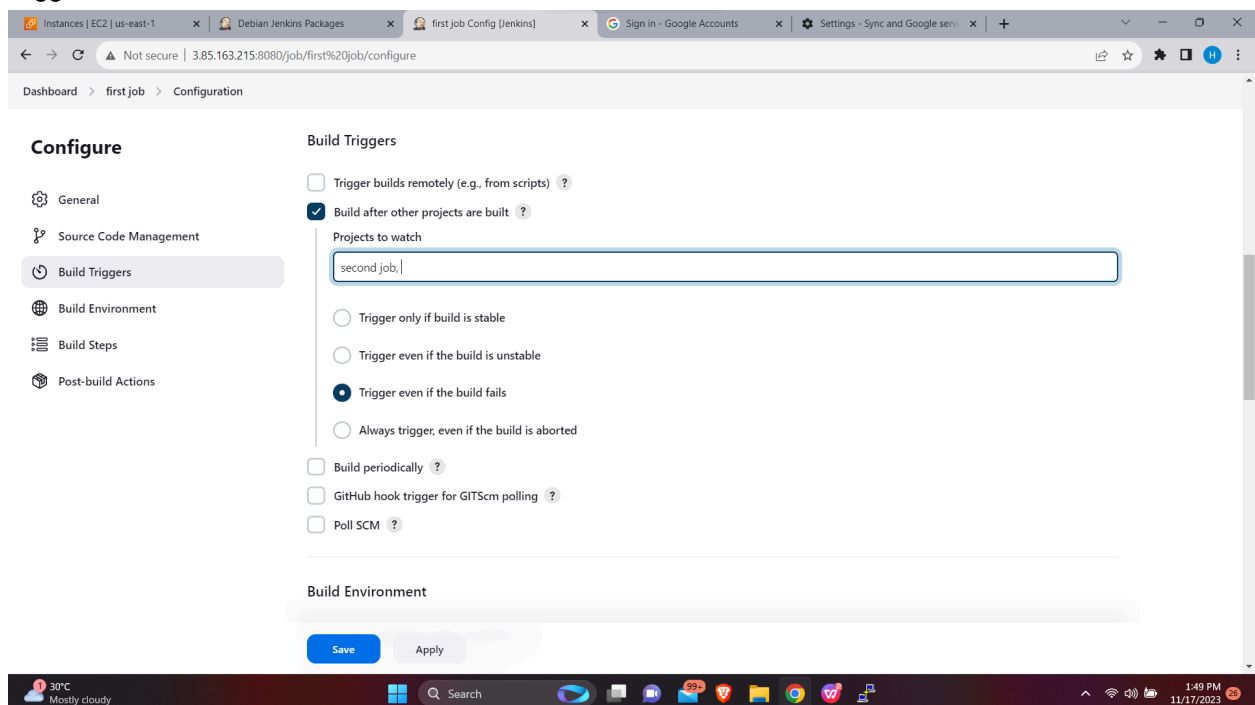
In configure - Build Steps - choose execute shell - enter Wrong command to ensure the email notification works properly if the job gets failed - In Post build Action - Enter already configured Email-ID - Save.



Create another job - Set a job name (SecondJob) - Freestyle project - Ok.
In configure - Build Steps - Choose Execute Shell - Enter working command in ubuntu server Eg: pwd - Save.



In configure - build triggers - Choose build other projects - Enter the Second job name - Choose Trigger even if the build fails - save.



In dashboard - Start the job - Can view the First job gets failure and automatically second job get success as we Configure the jobs.
Ensure Email notification is received for job failure.

Jenkins Dashboard screenshot showing the Build Queue and Build Executor Status sections.

Build Queue

S	W	Name ↓	Last Success	Last Failure	Last Duration
⊗	☁	first job	N/A	6 min 40 sec #3	0.49 sec
⊙	☀	second job	6 min 48 sec #1	N/A	28 ms

Build Executor Status

- 1 Idle
- 2 Idle

REST API Jenkins 2.426.1

Gmail screenshot showing an email notification for a Jenkins build failure.

Build failed in Jenkins: first job #1

address not configured yet <hemanth130901@gmail.com> to me

See <<http://3.85.163.215.8080/job/first%20job/1/display/redirect>>

Changes:

Started by user Hemanth Kumar B
Running as SYSTEM
Building in workspace <<http://3.85.163.215.8080/job/first%20job/ws/>>
[first job] \$ /bin/sh -xe /tmp/jenkins6269222658663040525.sh
+ borut
/tmp/jenkins6269222658663040525.sh: 2: borut: not found
Build step 'Execute shell' marked build as failure

Successfully configured the Email notification and Configured Automation Job done using Jenkins.
Also received job failure Email notification.