How To Install Jenkins and Send an Email Notification For Job Failed Status

MynotesoracleDBA · Follow

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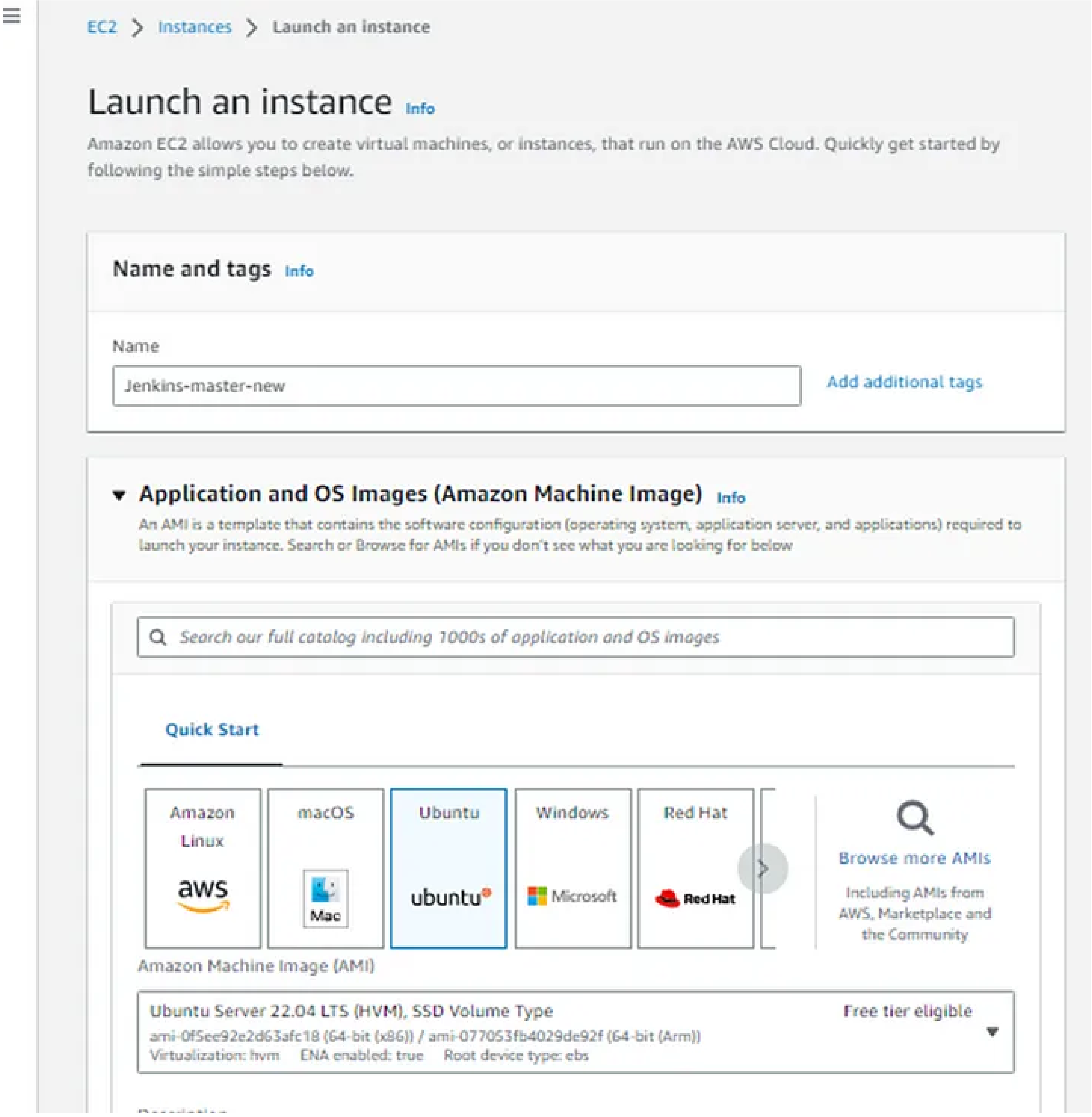
Here We are going to see Jenkins Installation and Sample Project creation step by step

Steps:

1. Login into your AWS account and launch a new instance With the name of "Jenkins-master-new" and choose Ubuntu OS



Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: Jenkins-master-new

Application and OS Images (Amazon Machine Image) Info

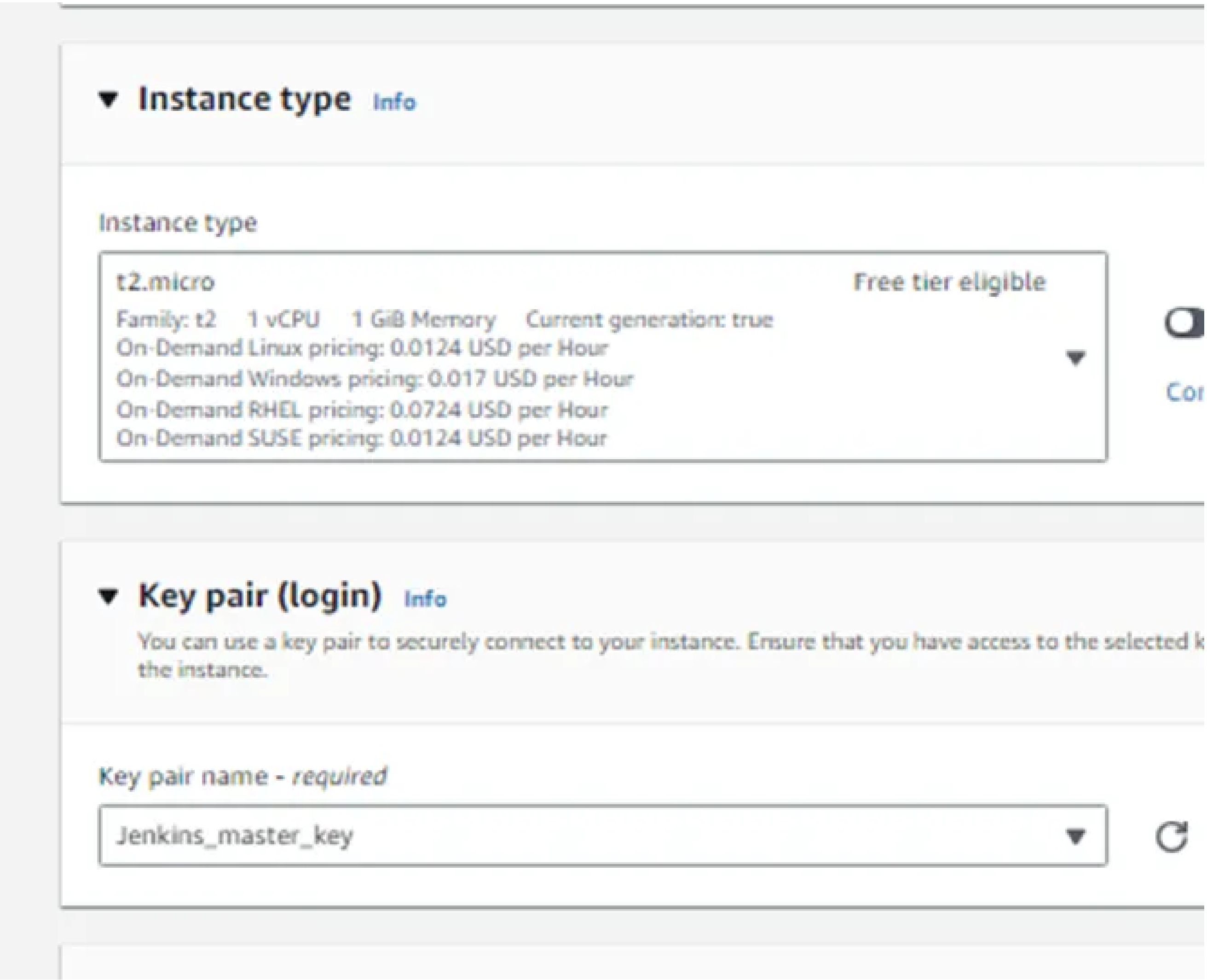
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images
Quick Start
Amazon Linux
aws
macOS
Mac
Ubuntu
ubuntu
Windows
Microsoft
Red Hat
Red Hat
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type — Free tier eligible
ami-0f5ee92e2d63afc18 (64-bit (x86)) / ami-077053fb4029de92f (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

2. Choose the instance type and create a key pair



▼ Instance type Info

Instance type

t2.micro Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux pricing: 0.0124 USD per Hour
On-Demand Windows pricing: 0.017 USD per Hour
On-Demand RHEL pricing: 0.0724 USD per Hour
On-Demand SUSE pricing: 0.0124 USD per Hour

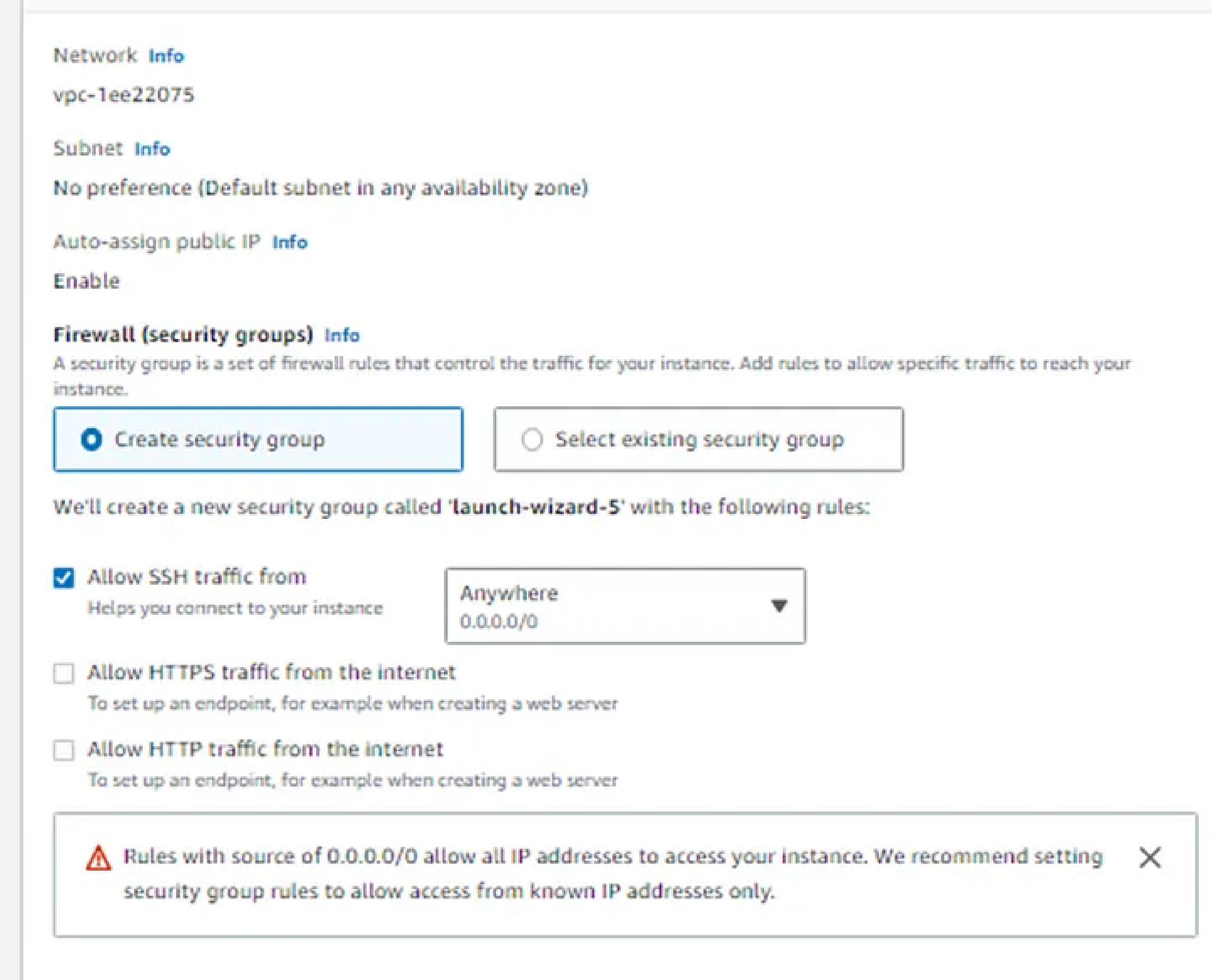
▼ Key pair (login) Info

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

Key pair name - *required*

Jenkins_master_key

3. Create a security group if we don't have or else select the existing one



Network Info

vpc-1ee22075

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

● Create security group ○ Select existing security group

We'll create a new security group called '**launch-wizard-5**' with the following rules:

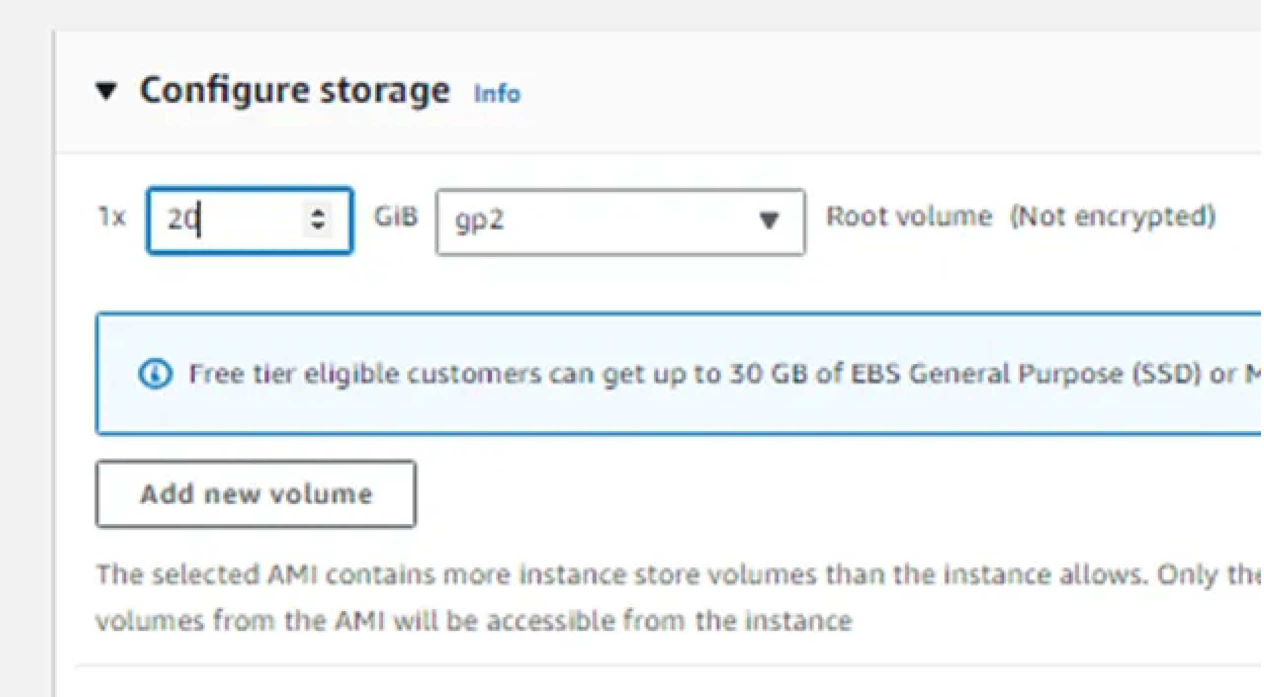
☑ Allow SSH traffic from — Anywhere 0.0.0.0/0
Helps you connect to your instance

□ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

□ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

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.

4. Allocate the disc size



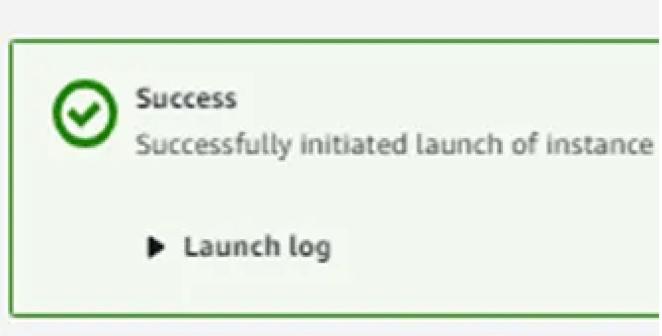
Configure storage Info

1x 20 GiB gp2 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or M

The selected AMI contains more instance store volumes than the instance allows. Only the volumes from the AMI will be accessible from the instance

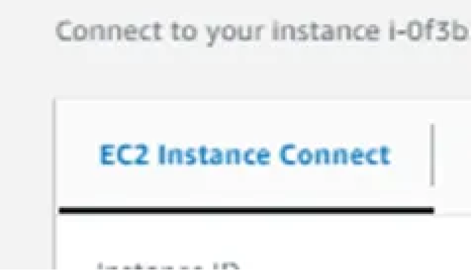
5. review the configuration of Ec2 and Launch the instances



Success

Successfully initiated launch of instance

6. Choose the instance → connect the instance



Connect to your instance i-0f3b

7. once your machine is logged install the pre-requisites software

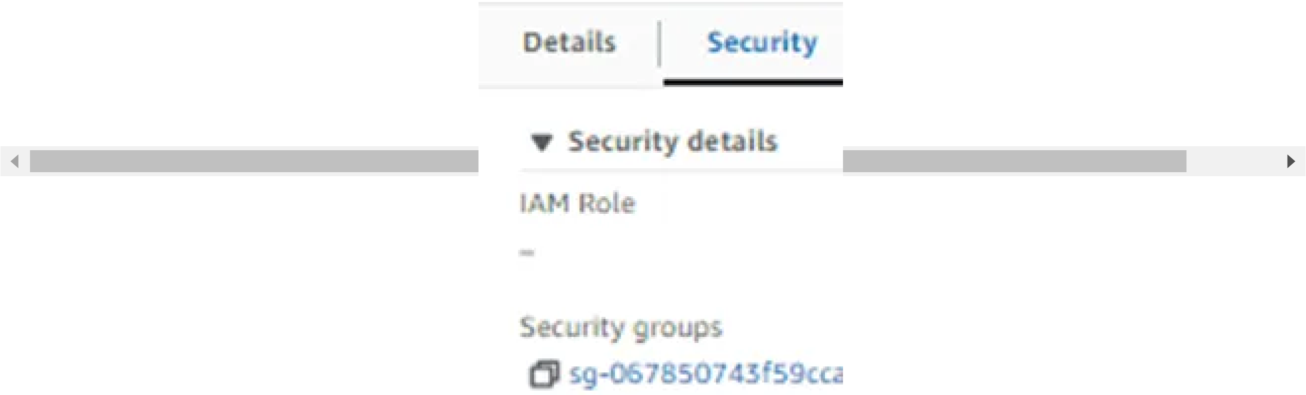
```
sudo apt update

sudo apt install default-jre -y

java -version

sudo apt install default-jdk -y

javac -version
```

8. Install the Jenkins software and check the status

```
curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee
  /usr/share/keyrings/jenkins-keyring.asc > /dev/null
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
sudo apt-get update
sudo apt-get install jenkins -y
sudo systemctl status jenkins
```

9. Even though we had installed Jenkins we are unable to access the software due to the port was not added to the security group

Instances → security(below tab) → click the SG id → Edit inbound → add port 8080



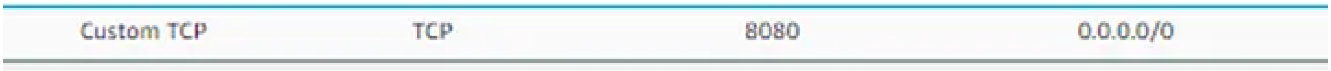
▼ Security details

IAM Role

–

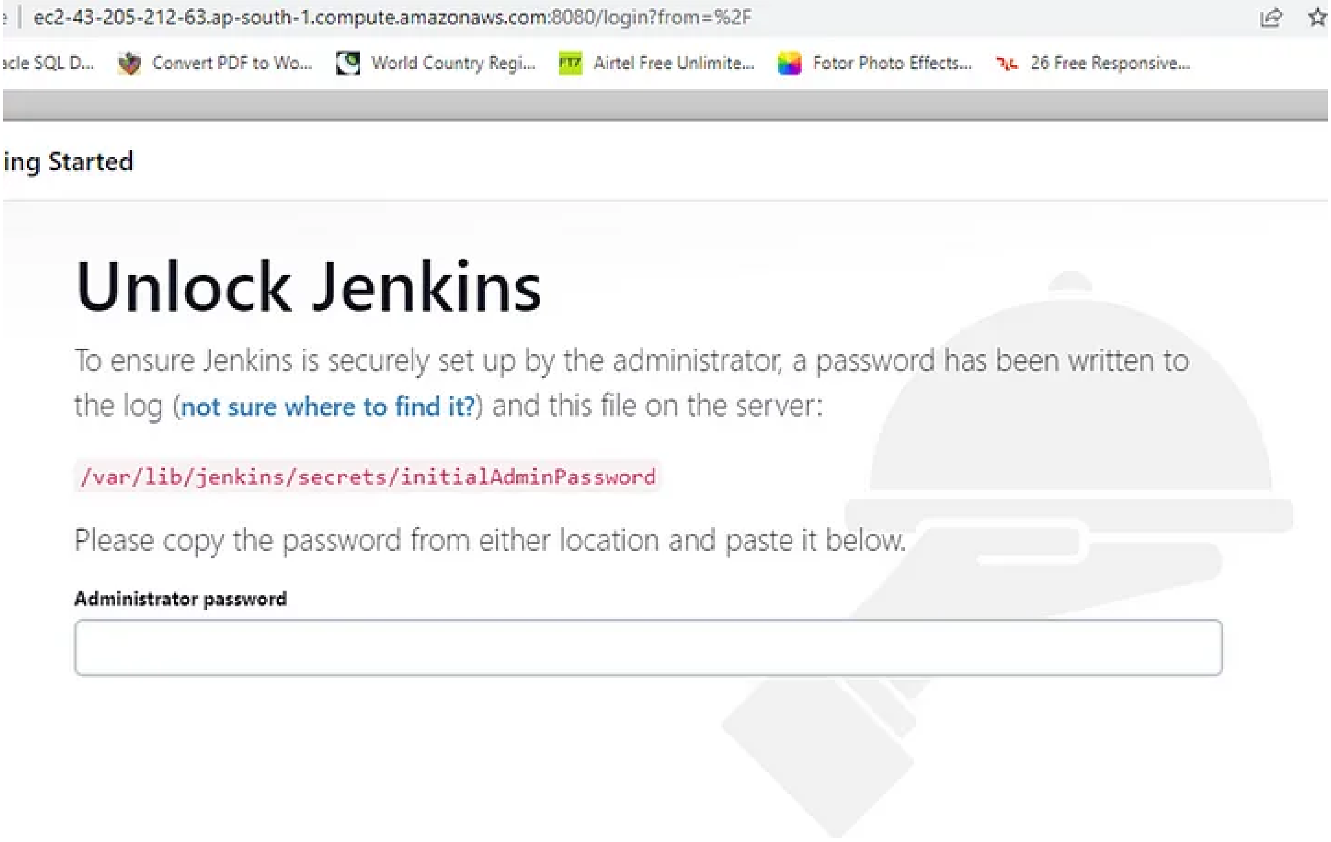
Security groups

sg-067850743f59cca



Custom TCP	TCP	8080	0.0.0.0/0

once we added this save into SG and copy this instance "Public DNS" and go to the browser and paste the URL, The screen will be displayed like below



ec2-43-205-212-63.ap-south-1.compute.amazonaws.com:8080/login?from=%2F

ing Started

Unlock Jenkins

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`

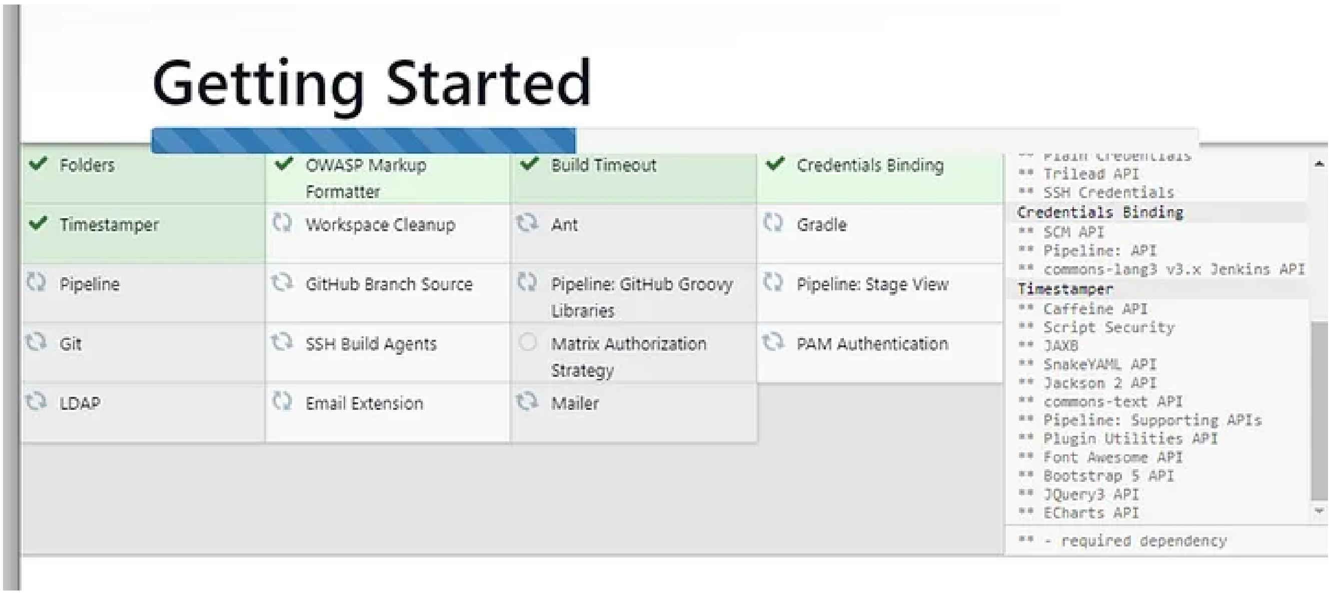
Please copy the password from either location and paste it below.

Administrator password

10. Inside the instances type and copy the password paste it above

```
$ sudo cat /var/lib/jenkins/secrets/intialAdminPassword
```

11. Install all of the default plugins

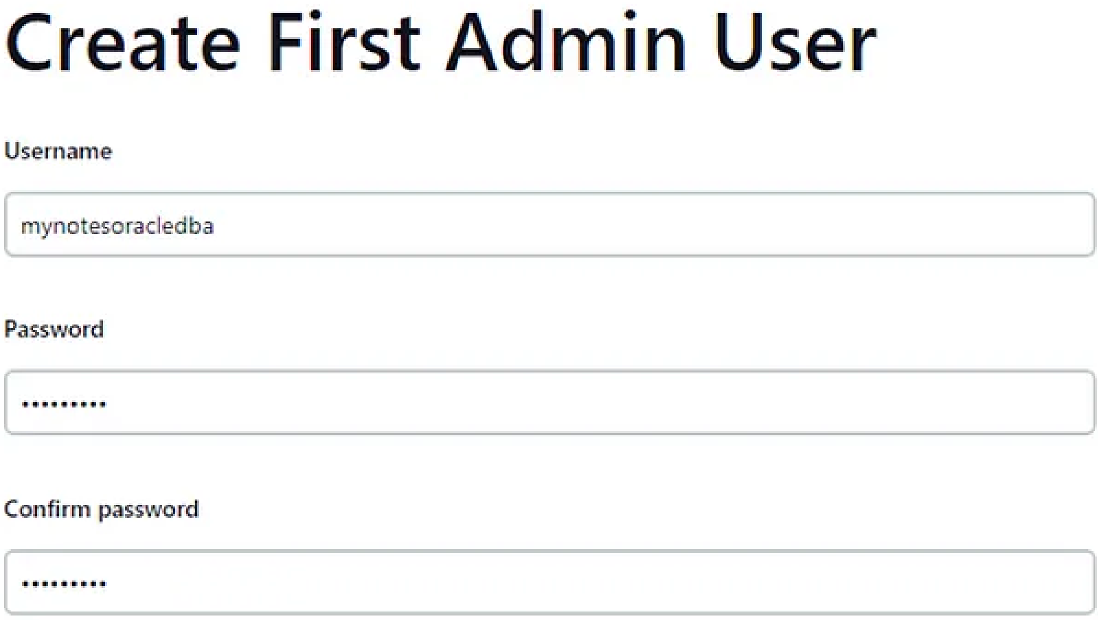


Getting Started

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	✓ Credentials Binding
✓ Timestamper	⟳ Workspace Cleanup	⟳ Ant	⟳ Gradle
⟳ Pipeline	⟳ GitHub Branch Source	⟳ Pipeline: GitHub Groovy Libraries	⟳ Pipeline: Stage View
⟳ Git	⟳ SSH Build Agents	○ Matrix Authorization Strategy	⟳ PAM Authentication
⟳ LDAP	⟳ Email Extension	⟳ Mailer	

```
** Plain Credentials
** Trilead API
** SSH Credentials
Credentials Binding
** SCM API
** Pipeline: API
** commons-lang3 v3.x Jenkins API
Timestamper
** Caffeine API
** Script Security
** JAXB
** SnakeYAML API
** Jackson 2 API
** commons-text API
** Pipeline: Supporting APIs
** Plugin Utilities API
** Font Awesome API
** Bootstrap 5 API
** JQuery3 API
** ECharts API
** - required dependency
```

12 . Once the plugins are installed it will ask for the username and password



Create First Admin User

Username

mynotesoracledba

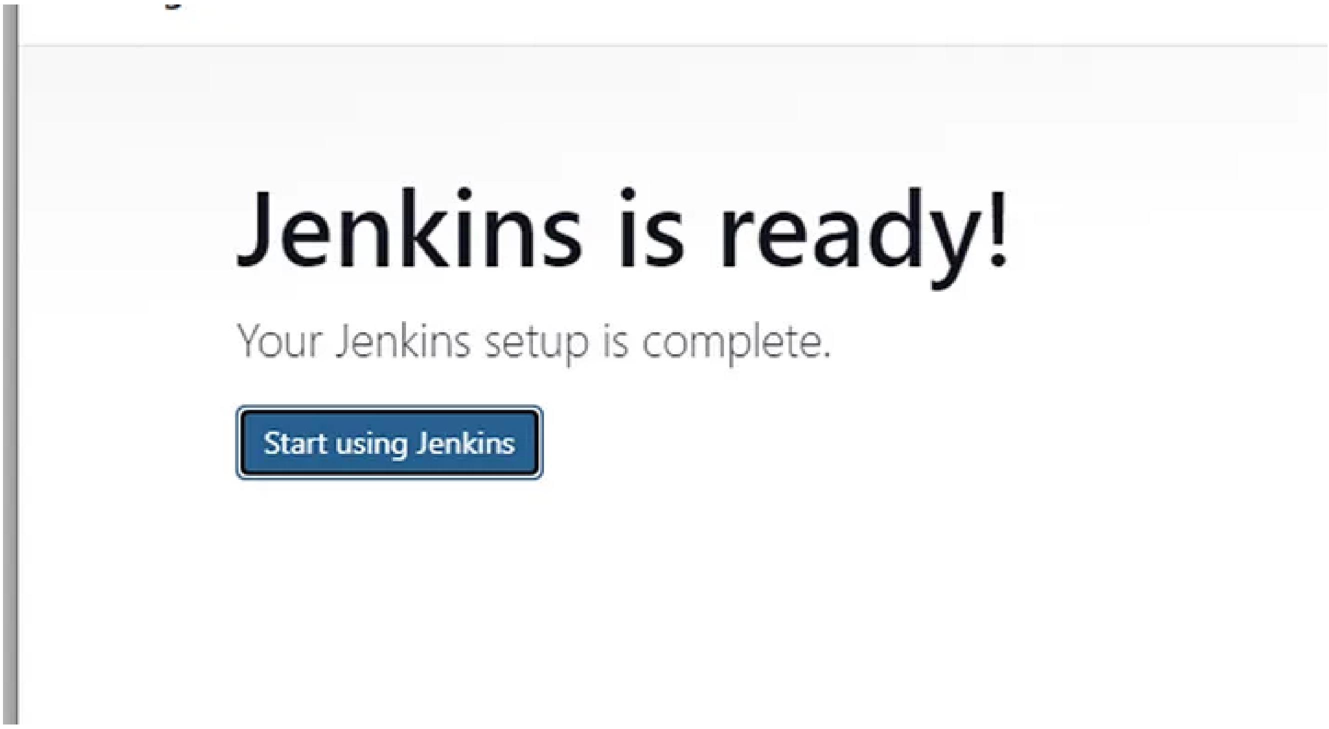
Password

•••••••••

Confirm password

•••••••••

13. Now our Jenkins machine is ready



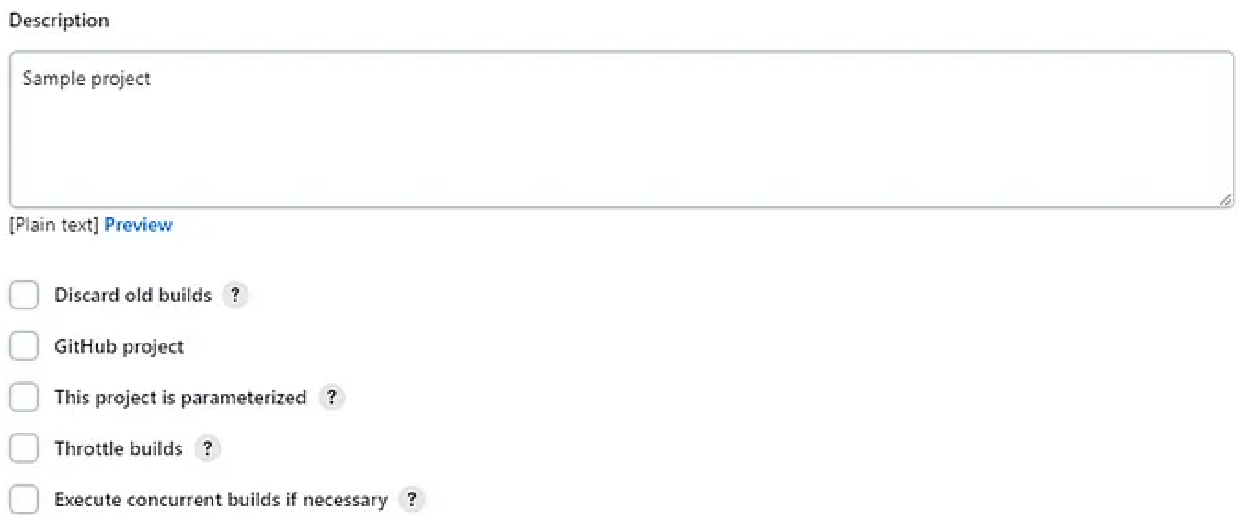
Jenkins is ready!

Your Jenkins setup is complete.

14. Create a sample project or job in Jenkins

Dashboard → New item → “sample project” → Free style → ok

15. It will ask for the description of the job



Description

Sample project

[Plain text] Preview

□ Discard old builds ?

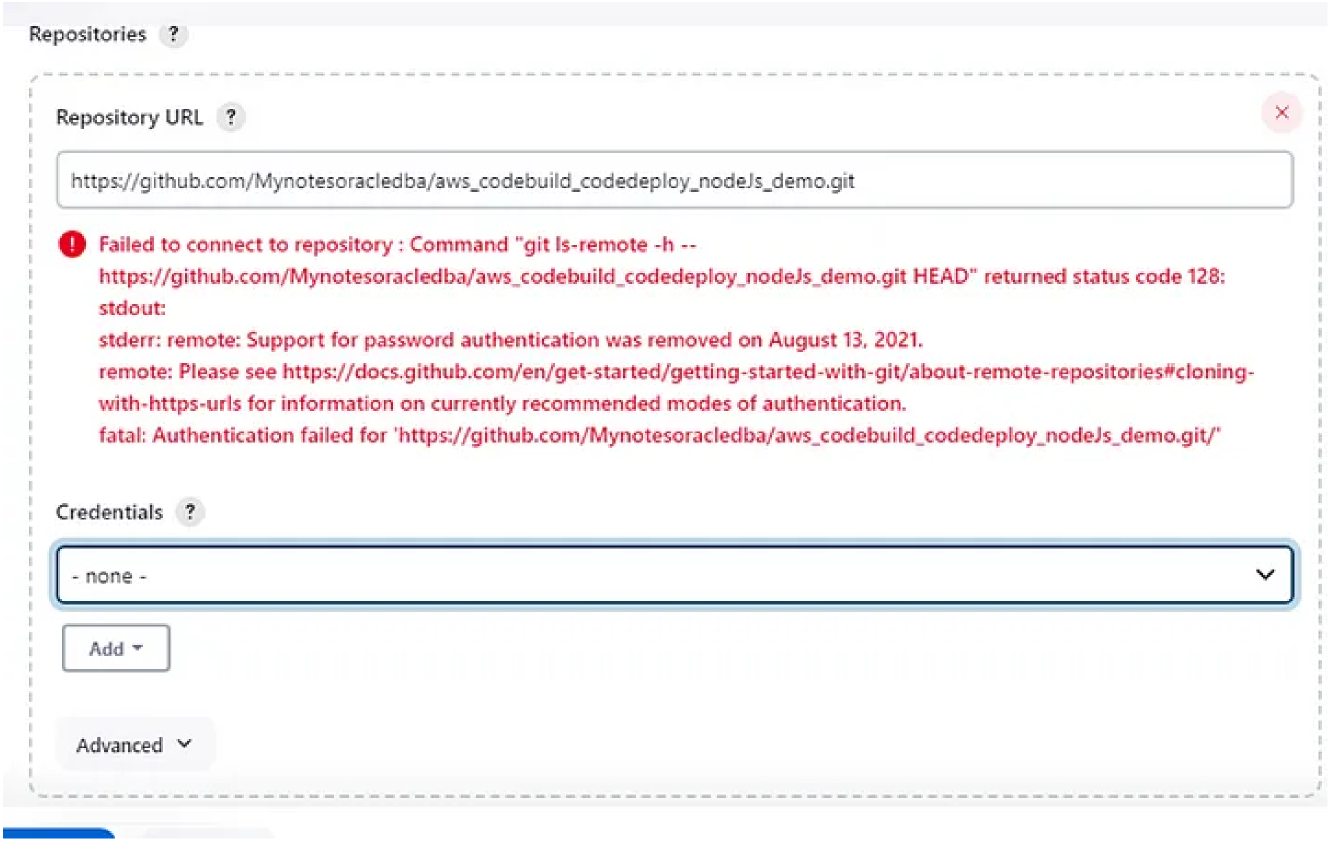
□ GitHub project

□ This project is parameterized ?

□ Throttle builds ?

□ Execute concurrent builds if necessary ?

16. Let us go to my GitHub and take this private repo for this testing (I have taken it from Sandip das account for CI/CD pipeline creation) and past in the repository URL



Repositories ?

Repository URL ?

https://github.com/Mynotesoracledba/aws_codebuild_codedeploy_nodeJs_demo.git

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

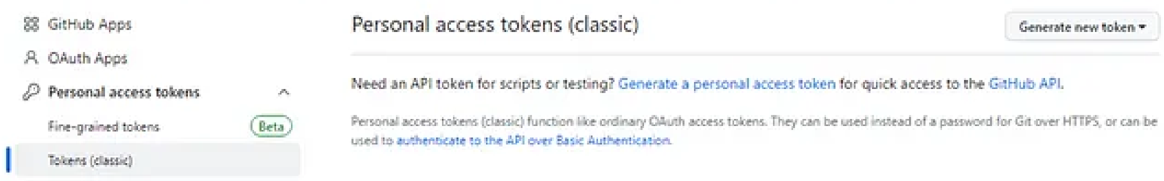
Credentials ?

- none -

Here it will show an error due to this private repo doesn't have privs/permissions.

17.To fix this issue

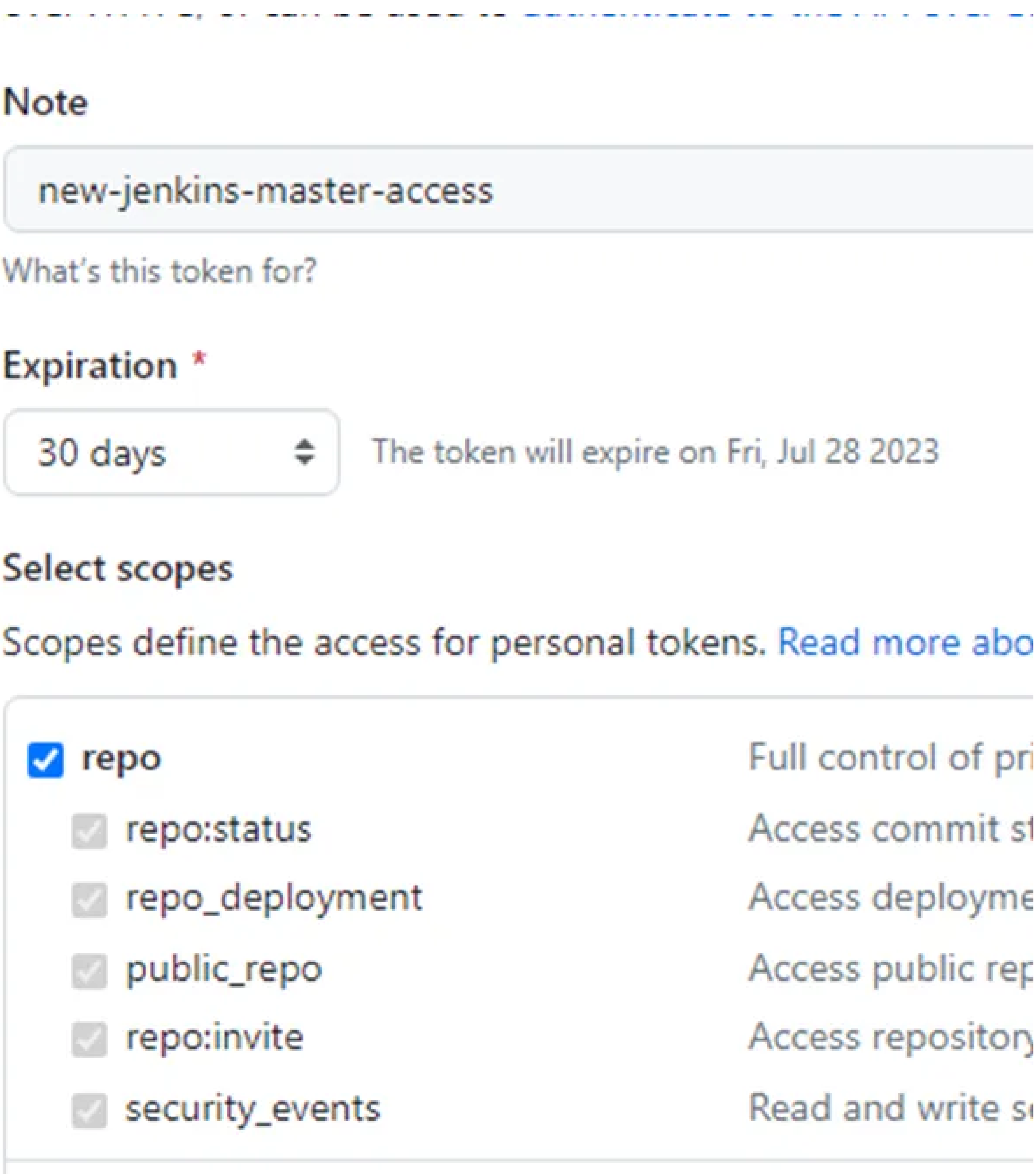
Go to Github → Profile → settings → Developer Settings → Personal access tokens → token classic → Generate new classic token



Personal access tokens (classic)

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

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



Note

new-jenkins-master-access

What's this token for?

Expiration *

30 days

The token will expire on Fri, Jul 28 2023

Select scopes

Scopes define the access for personal tokens. Read more abo

☑ repo Full control of pri

☑ repo:status Access commit st

☑ repo_deployment Access deployme

☑ public_repo Access public rep

☑ repo:invite Access repository

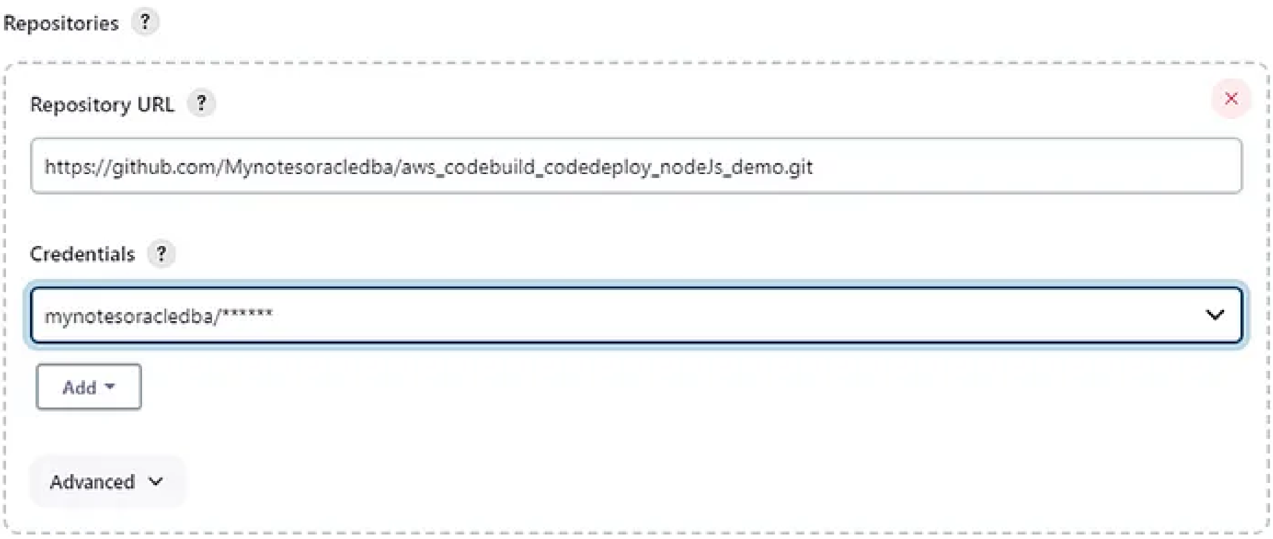
☑ security_events Read and write s

Generate → copy this value into notepad

18. Now go back to our Jenkins page

Copied values of Generate Token → add this value into Jenkins → credentials → add → username and password → username “mynotesoracledba” password → paste the generated token value.

Once we added these credentials after that the error is been disappeared



Repositories ?

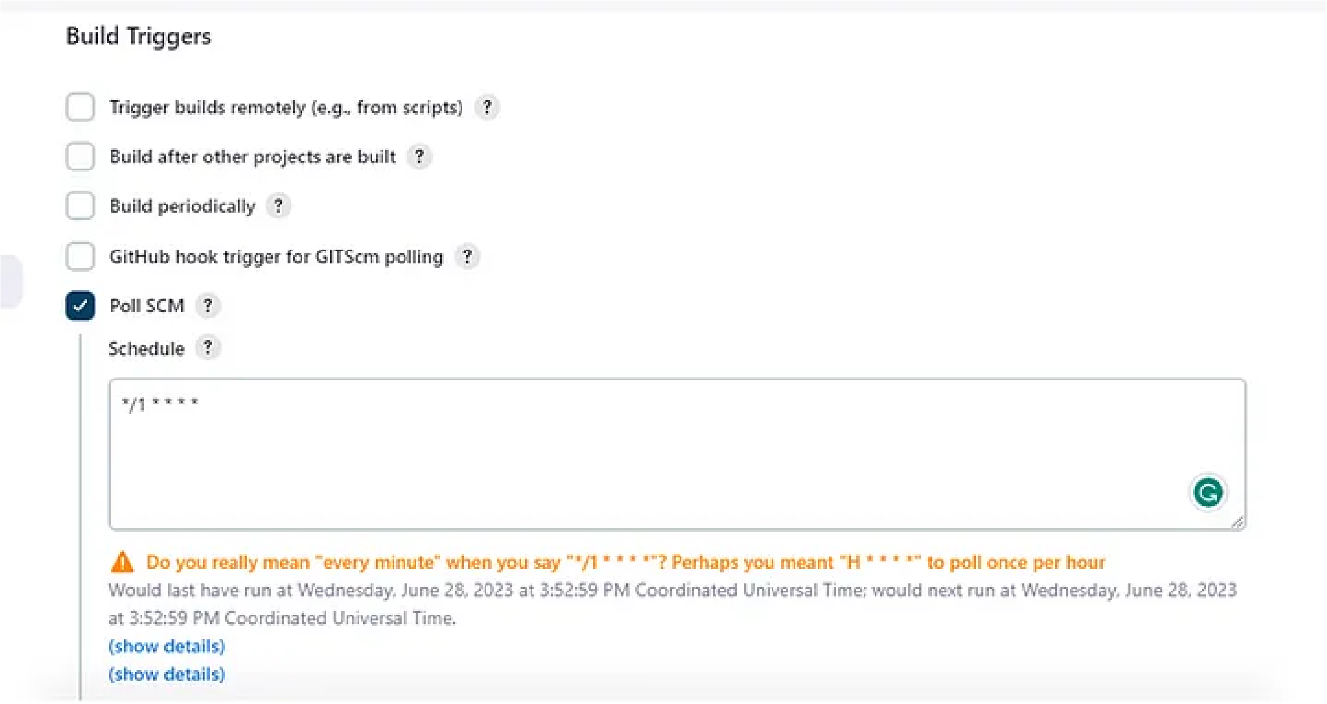
Repository URL ?

https://github.com/Mynotesoracledba/aws_codebuild_codedeploy_nodeJs_demo.git

Credentials ?

mynotesoracledba/******

19. We can schedule the trigger for the job like below for every 1min



Build Triggers

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

☐ Build after other projects are built ?

☐ Build periodically ?

☐ GitHub hook trigger for GITScm polling ?

☑ Poll SCM ?

Schedule ?

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

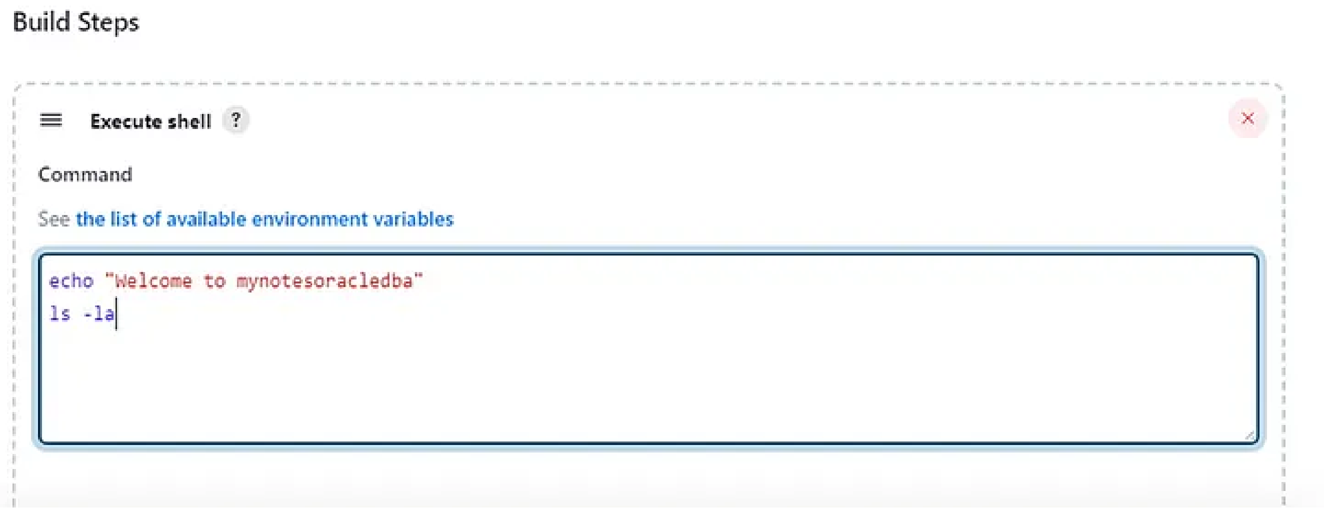
⚠ Do you really mean "every minute" when you say "*/1 * * * *"? Perhaps you meant "H * * * *" to poll once per hour

Would last have run at Wednesday, June 28, 2023 at 3:52:59 PM Coordinated Universal Time; would next run at Wednesday, June 28, 2023 at 3:52:59 PM Coordinated Universal Time.

(show details)

(show details)

20. Added the build steps code to verify the our these codes are working or not


Build Steps

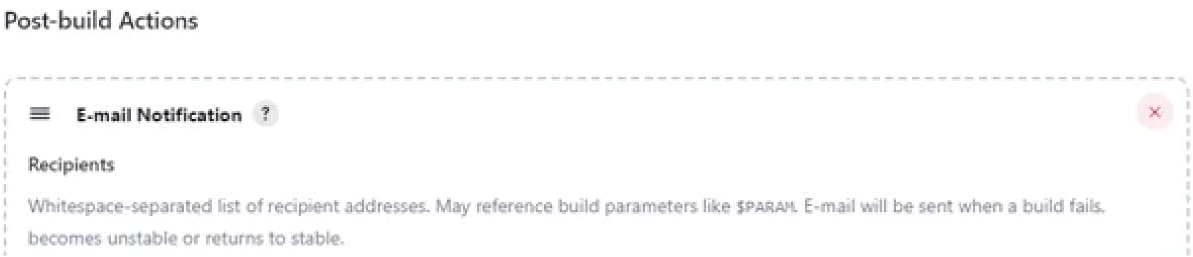
Execute shell ?

Command

See the list of available environment variables

```
echo "Welcome to mynotesoracledba"
ls -la
```

21. Add email Notifications in case of our build gets failed, I have given my email “jenkinsmynotesoracledba@gmail.com” here


Post-build Actions

E-mail Notification ?

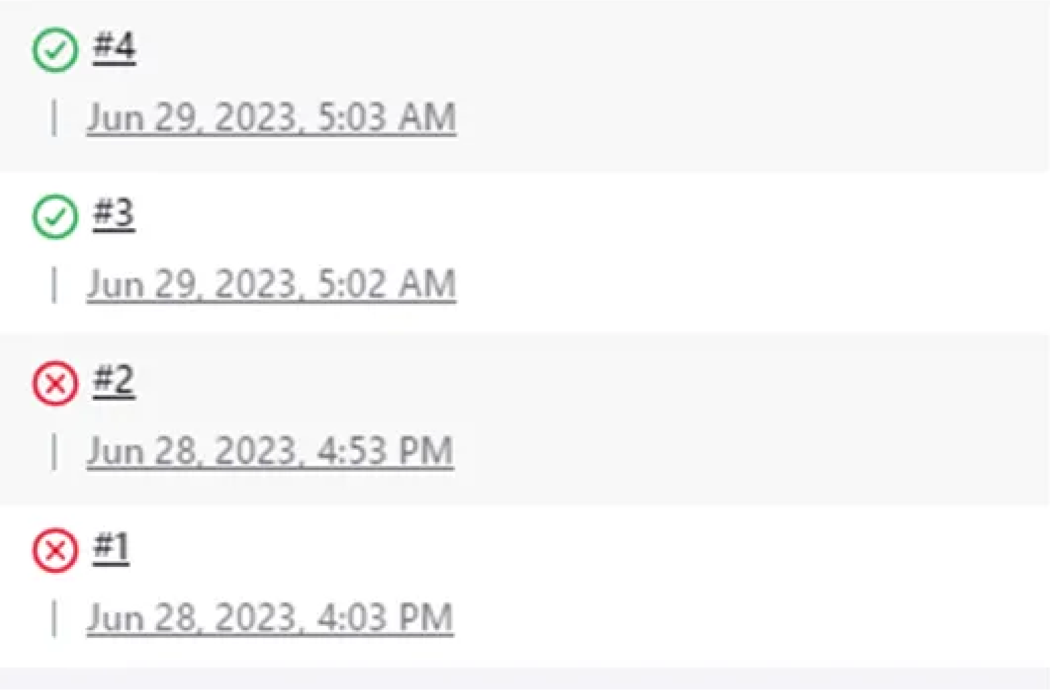
Recipients

Whitespace-separated list of recipient addresses. May reference build parameters like $PARAM. E-mail will be sent when a build fails, becomes unstable or returns to stable.

22. Save this job,now take our repos local using git clone add a new file

```
vi  mynotesoracledba.txt #add some contents in side the files

 git add .
git commit -m "new file added for Sample Jenkins email test"
git push origin Master
```

23. Our Jenkins will look out for the changes in the repos for every single min and the build would keep on running as per the schedule



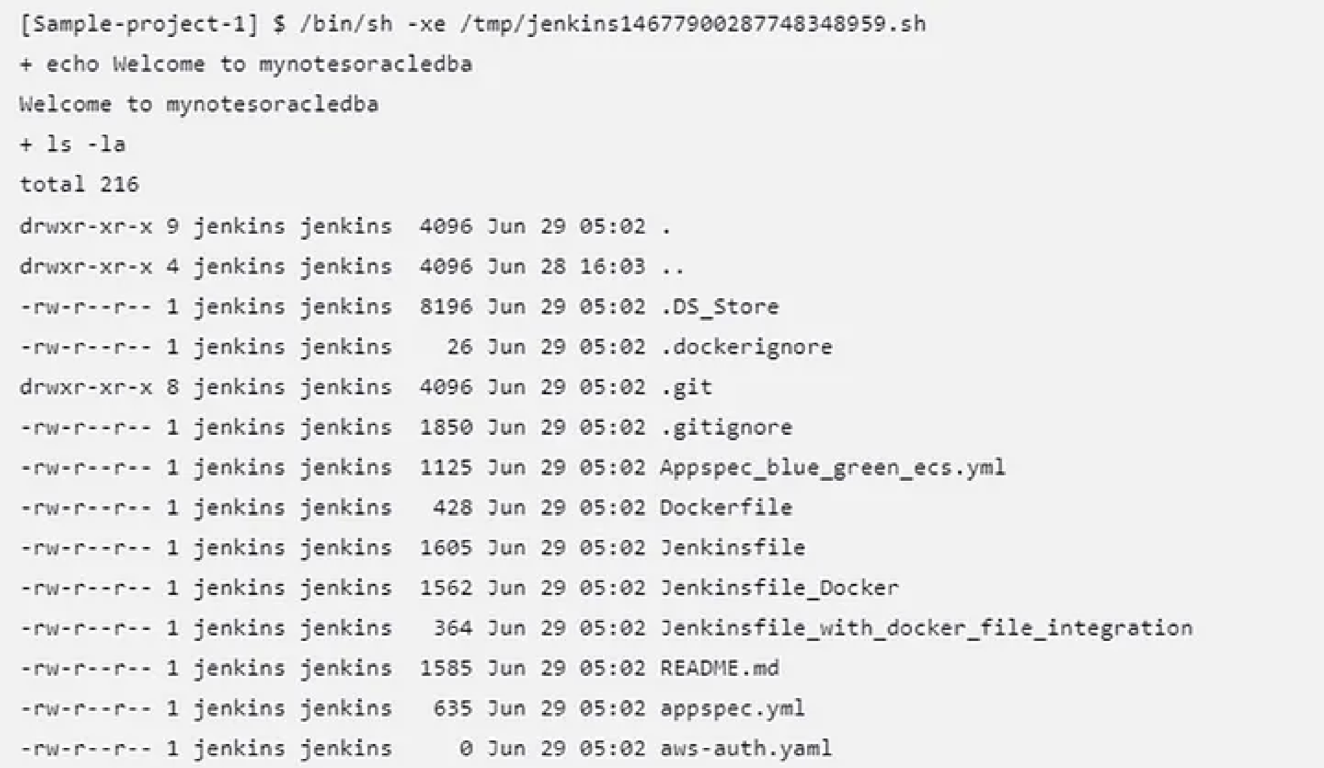
✓ #4
| Jun 29, 2023, 5:03 AM

✓ #3
| Jun 29, 2023, 5:02 AM

⊗ #2
| Jun 28, 2023, 4:53 PM

⊗ #1
| Jun 28, 2023, 4:03 PM

24. The success logs will be shown here



```
[Sample-project-1] $ /bin/sh -xe /tmp/jenkins14677900287748348959.sh
+ echo Welcome to mynotesoracledba
Welcome to mynotesoracledba
+ ls -la
total 216
drwxr-xr-x 9 jenkins jenkins  4096 Jun 29 05:02 .
drwxr-xr-x 4 jenkins jenkins  4096 Jun 28 16:03 ..
-rw-r--r-- 1 jenkins jenkins  8196 Jun 29 05:02 .DS_Store
-rw-r--r-- 1 jenkins jenkins    26 Jun 29 05:02 .dockerignore
drwxr-xr-x 8 jenkins jenkins  4096 Jun 29 05:02 .git
-rw-r--r-- 1 jenkins jenkins  1850 Jun 29 05:02 .gitignore
-rw-r--r-- 1 jenkins jenkins  1125 Jun 29 05:02 Appspec_blue_green_ecs.yml
-rw-r--r-- 1 jenkins jenkins   428 Jun 29 05:02 Dockerfile
-rw-r--r-- 1 jenkins jenkins  1605 Jun 29 05:02 Jenkinsfile
-rw-r--r-- 1 jenkins jenkins  1562 Jun 29 05:02 Jenkinsfile_Docker
-rw-r--r-- 1 jenkins jenkins   364 Jun 29 05:02 Jenkinsfile_with_docker_file_integration
-rw-r--r-- 1 jenkins jenkins  1585 Jun 29 05:02 README.md
-rw-r--r-- 1 jenkins jenkins   635 Jun 29 05:02 appspec.yml
-rw-r--r-- 1 jenkins jenkins     0 Jun 29 05:02 aws-auth.yaml
```

25. Now we missed an interesting part of why the first two builds are getting failed here the notification did not send through email, The actual reason “The first two jobs were got failed is due to the branch name being improper”. in repos of Jenkins would show as a branch “/master” but actually would be present in GitHub i.e “Master” Make sure that the branch name would be the same format.

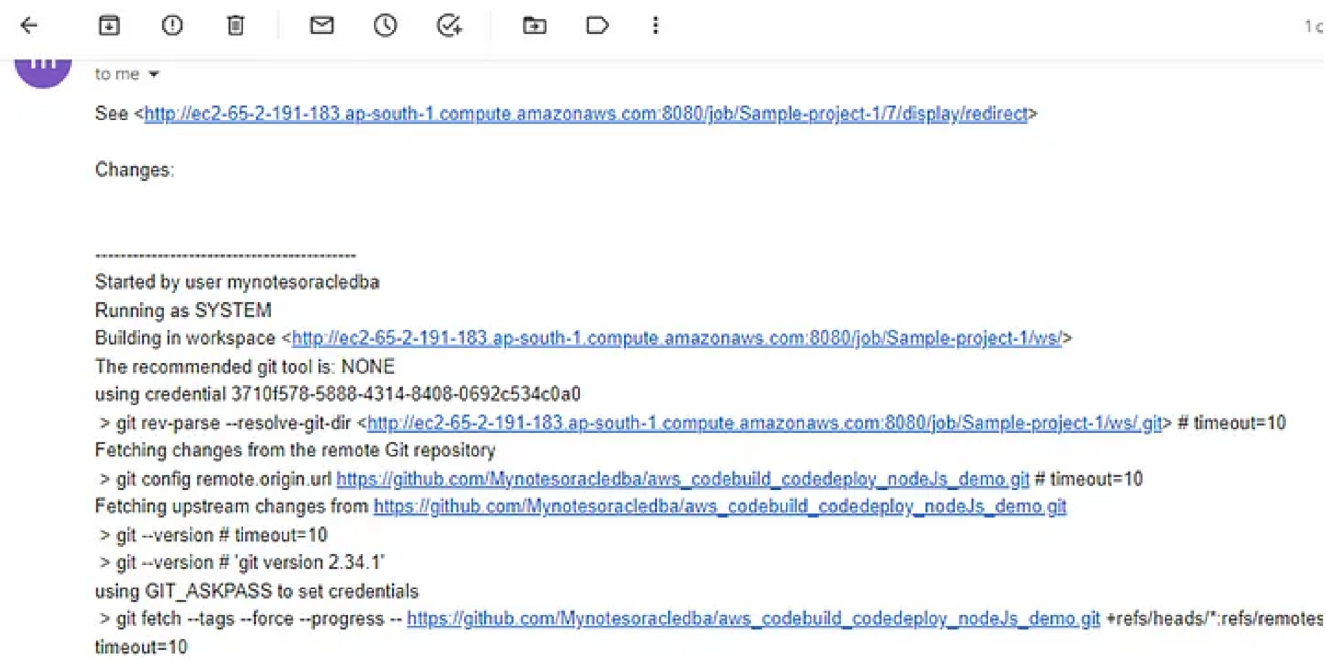
How to configure email notifications?

The steps to configure SMTP for Gmail have been explained here . Please have a look

26. Now we have to verify the email notification. Modify the repo branch name has improper add the files into our github repos

```
vi  mynotesoracledba.txt #add some contents in side the files

  git add .
 git commit -m "new file added for Sample Jenkins email test"
 git push origin Master
```

27. My Jenkins latest build failed due to an improper branch name as we expected and we received failed build Jenkins notification



to me

```
See <http://ec2-65-2-191-183.ap-south-1.compute.amazonaws.com:8080/job/Sample-project-1/7/display/redirect>

Changes:



------------------------------------------
Started by user mynotesoracledba
Running as SYSTEM
Building in workspace <http://ec2-65-2-191-183.ap-south-1.compute.amazonaws.com:8080/job/Sample-project-1/ws/>
The recommended git tool is: NONE
using credential 3710f578-5888-4314-8408-0692c534c0a0
 > git rev-parse --resolve-git-dir <http://ec2-65-2-191-183.ap-south-1.compute.amazonaws.com:8080/job/Sample-project-1/ws/.git> # timeout=10
Fetching changes from the remote Git repository
 > git config remote.origin.url https://github.com/Mynotesoracledba/aws_codebuild_codedeploy_nodeJs_demo.git # timeout=10
Fetching upstream changes from https://github.com/Mynotesoracledba/aws_codebuild_codedeploy_nodeJs_demo.git
 > git --version # timeout=10
 > git --version # 'git version 2.34.1'
using GIT_ASKPASS to set credentials
 > git fetch --tags --force --progress -- https://github.com/Mynotesoracledba/aws_codebuild_codedeploy_nodeJs_demo.git +refs/heads/*:refs/remotes
timeout=10
```

Jenkins

Jenkins Pipeline