6.Set up a Jenkins and run few sample jobs on a different server for deployments (download sample code from git and need to deploy in remote server)

Prerequisites:

- Jenkins installed and configured on a server (e.g., Jenkins Server)
- Git repository set up (e.g., Git-hub)
- Remote server with SSH access (e.g., Deployment Server)

Step 1: Install and Configure Jenkins

- Install Jenkins on the Jenkins Server
- Configure Jenkins by setting up the administrator account and plugins

Step 2: Create a New Jenkins Job

- Log in to Jenkins and click on "New Item"
- Enter a job name (e.g., "Demo") and select "Freestyle project"
- Click "OK"

Step 3: Add Credentials and publish over ssh

- Dashboard-Manage Jenkins-Credentials-Click on global (Add details e.g,name,kind,username,Private key)
- Dashboard-Manage Jenkins-add Jenkins URL(e.g,**HTTP://65.1.85.248:8080/**)-Publish over SSH-add SSH server-Name(Ubuntu)-Host name(e.g,**65.1.85.248**)-username(**Ubuntu)**-Remote Directory(**/var/www/myapp**)-click on Apply and Save.
- Dashboard-Manage Keys-Security-Git Host Key Verification Configuration-Manually Provided Keys-apply-save.

Step 4: Configure Git Repository

- In the job configuration page, scroll down to the "Source Code Management" section
- Select "Git" and enter the repository URL (e.g.,(**https://git-hub.com/Noorjahan153/github-ass1.git**))
- Adding webhook from github (**http://65.1.85.248:8080/github-webhook/**)
- Click "Save"
- Credentials-(e.g,Ubuntu)
- Build Triggers-(Git-hub hook trigger for GiTScm polling)
- Build Environment(Send files or execute command over SSH after the build runs)
- Add SSH Server(E.g,Name,Source Files,etc..)
- Build Steps-Execute Shell-Apply-Save.

Step 6: Run the Job

- Click on "Build Now" to run the job
- Jenkins will clone the Git repository and deploy the code to the remote server using SSH

Expected Outcome:

- Jenkins will successfully deploy the code to the remote server
- The deployment will be successful, and the log will show "Finished: SUCCESS"
- Test the Deployment(Open a web browser e.g,(http://65.1.85.248/Jenkins.html))

Commands

- Installing Jenkins

1 sudo apt update
2 sudo apt install fontconfig openjdk-17-jre
3 java -version
4 sudo wget -O /usr/share/keyrings/jenkins-keyring.asc
https://pkg.jenkins.io/debian/jenkins.io-2023.key
5 echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]" https://pkg.jenkins.io/debian
binary/ | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null
6 sudo apt-get update
7 sudo apt-get install jenkins
8 sudo cat /var/lib/jenkins/secrets/initialAdminPassword

- Create SSH directory for Jenkins
9 sudo mkdir -p /var/lib/jenkins/.ssh

- Add remote server to known_hosts to avoid SSH prompts
10 sudo ssh-keyscan -H **65.1.85.248** | sudo tee -a /var/lib/jenkins/.ssh/known_hosts

- Set permissions for Jenkins SSH directory and files
11 sudo chmod 700 /var/lib/jenkins/.ssh
sudo chmod 644 /var/lib/jenkins/.ssh/known_hosts
sudo chown -R jenkins:jenkins /var/lib/jenkins/.ssh

- Switch to Jenkins user and test SSH connection
12 sudo -u jenkins -i
ssh -i /var/lib/jenkins/.ssh/id_rsa ubuntu@**65.1.85.248**

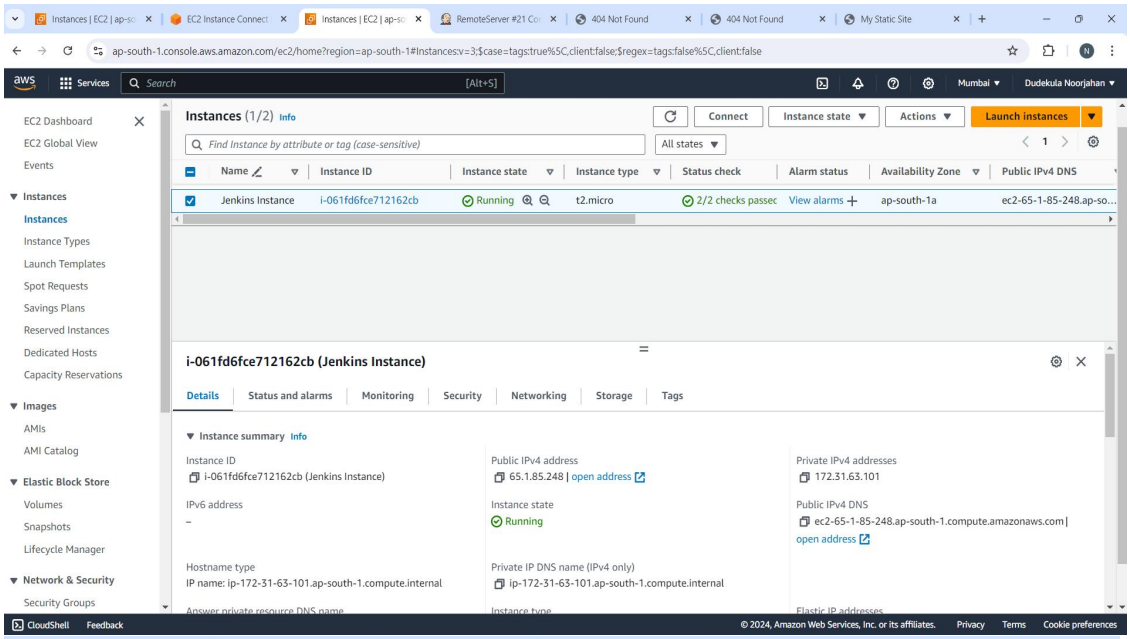
- **Install Apache on the remote server**
13 sudo apt install apache2

- **Move Jenkins.html to Apache's web directory**
14 sudo mv /var/www/html/Jenkins.html /home/ubuntu/deployment/
sudo mv /home/ubuntu/deployment/Jenkins.html /var/www/html/

- **Set permissions for the moved file**
15 sudo chmod 644 /var/www/html/Jenkins.html
sudo chown www-data:www-data /var/www/html/Jenkins.html

- **Restart Apache to apply changes**
16 sudo systemctl restart apache2

- **Copy Jenkins.html from Jenkins workspace to the remote server**
17 scp -i /var/lib/jenkins/.ssh/id_rsa /var/lib/jenkins/workspace/RemoteServer/Jenkins.html
ubuntu@:**65.1.85.248**/home/ubuntu/deployment/


ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:v=3;$case=tags:true%5C,client:false;$regex=tags:false%5C,client:false
Services
Search
[Alt+S]
Mumbai
Dudekula Noorjahan
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
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Instances (1/2) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
Jenkins Instance
i-061fd6fce712162cb
Running
t2.micro
2/2 checks passed
View alarms
ap-south-1a
ec2-65-1-85-248.ap-so...
i-061fd6fce712162cb (Jenkins Instance)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-061fd6fce712162cb (Jenkins Instance)
Public IPv4 address
65.1.85.248 | open address
Private IPv4 addresses
172.31.63.101
IPv6 address
Instance state
Running
Public IPv4 DNS
ec2-65-1-85-248.ap-south-1.compute.amazonaws.com | open address
Hostname type
IP name: ip-172-31-63-101.ap-south-1.compute.internal
Private IP DNS name (IPv4 only)
ip-172-31-63-101.ap-south-1.compute.internal
CloudShell
Feedback
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Privacy
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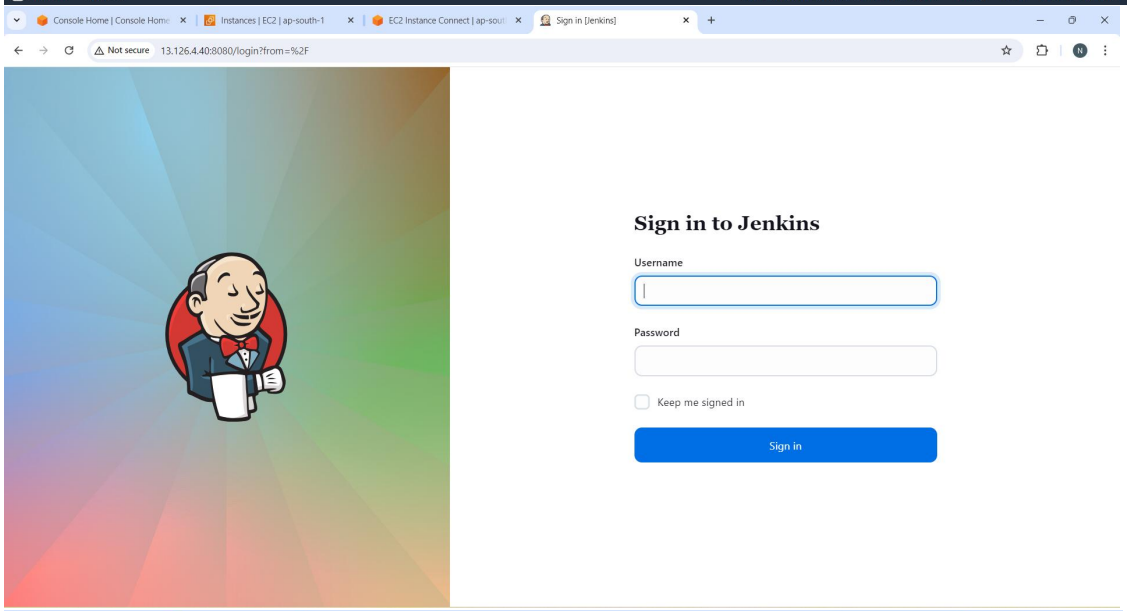
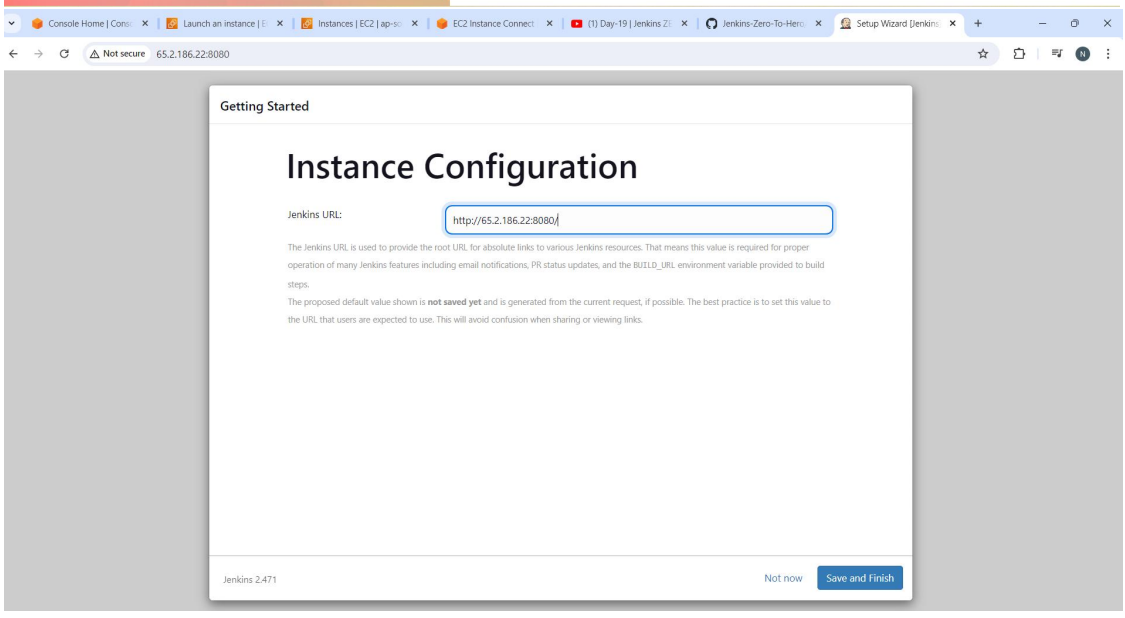
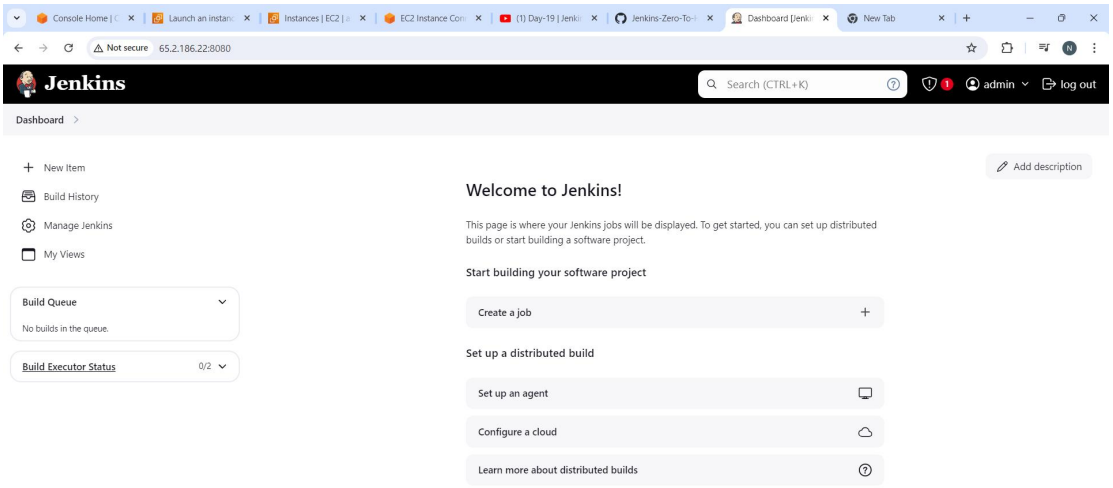
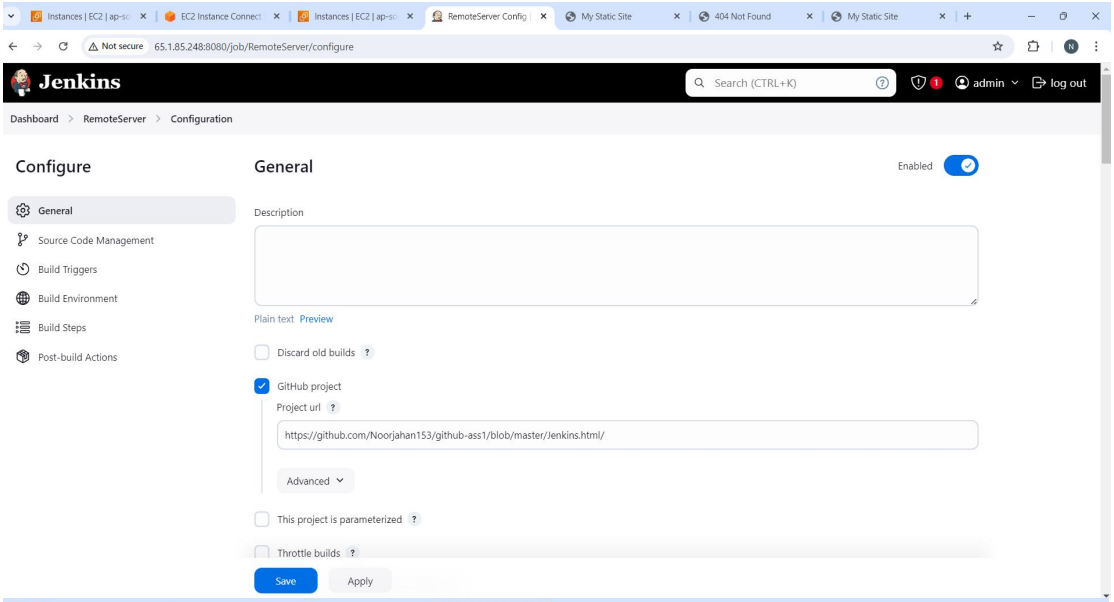
Cookie preferences

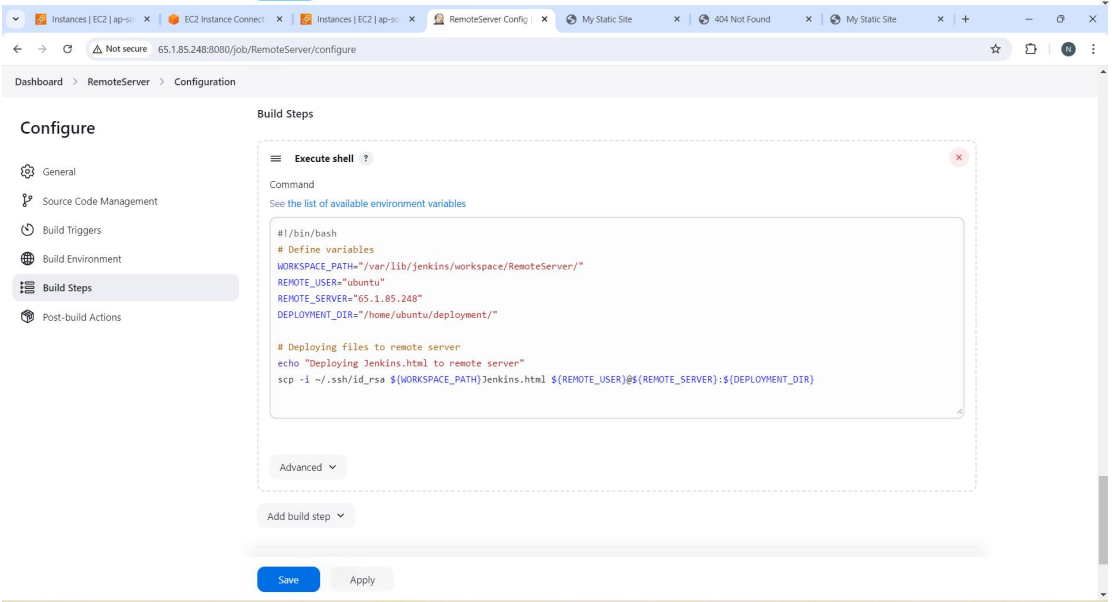

Not secure
13.126.4.40:8080/login?from=%2F
Sign in to Jenkins
Username
Password
Keep me signed in
Sign in

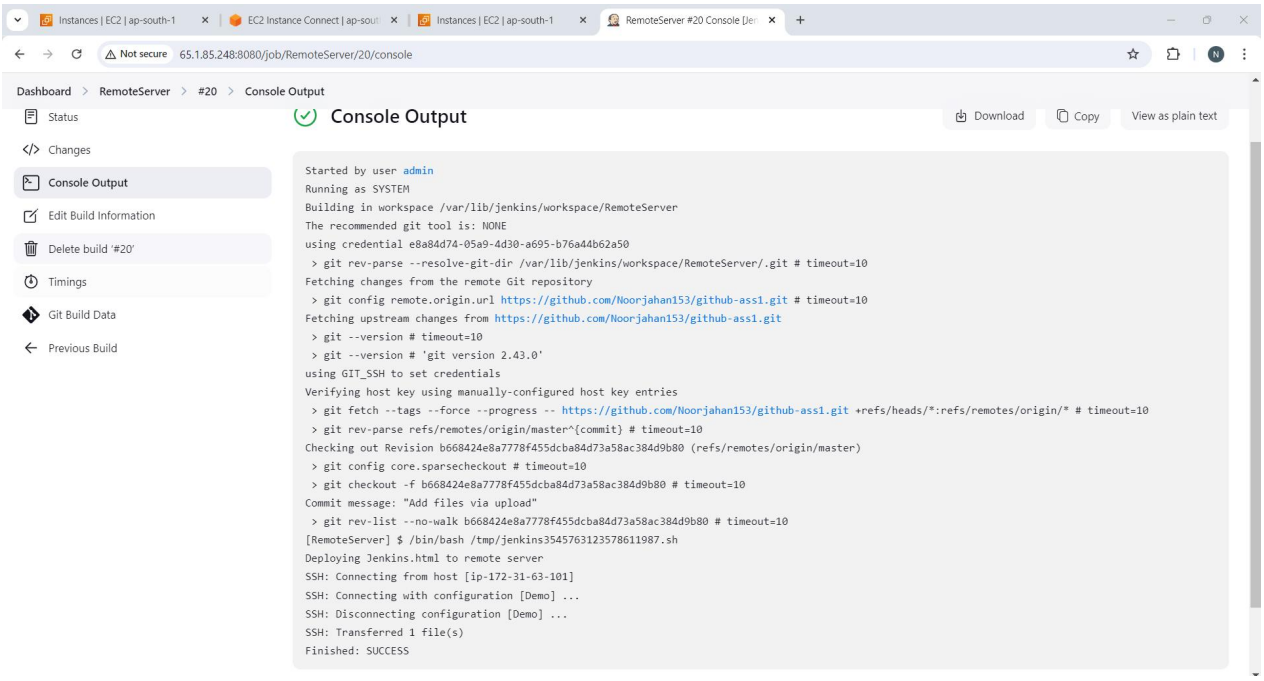

Not secure
65.2.186.22:8080
Getting Started
Instance Configuration
Jenkins URL:
http://65.2.186.22:8080/
The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the BUILD_URL environment variable provided to build steps.
The proposed default value shown is not saved yet and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.
Jenkins 2.471
Not now
Save and Finish

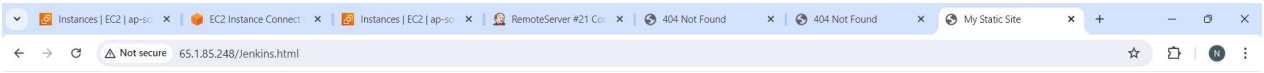


REST API Jenkins 2.471









Welcome to My Static Site!

This is a sample static website deployed using Jenkins.