TASK 2 - Automating CI/CD Pipeline with Jenkins

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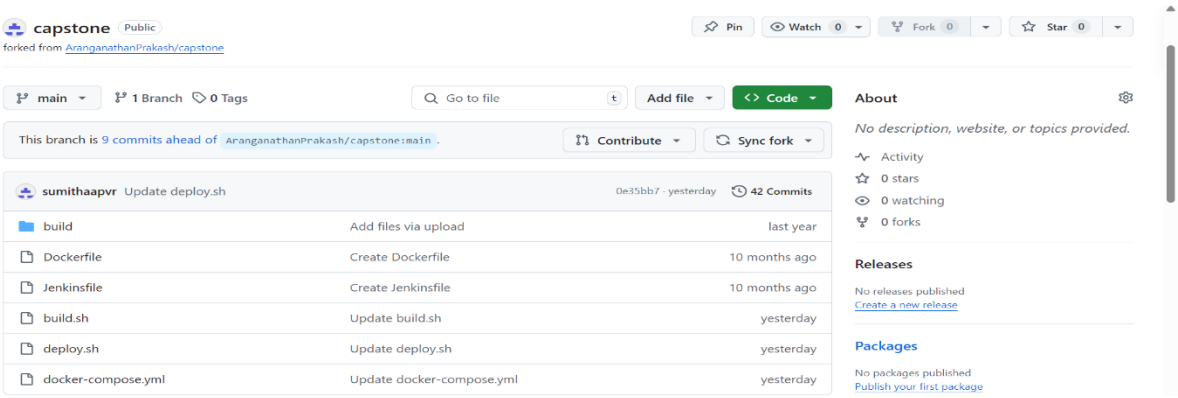
STEP 1: Installation of Docker

Install the Docker using the following commands:

- sudo apt install docker.io
- docker –version
- sudo systemctl start docker
- sudo systemctl enable docker
- sudo systemctl status docker

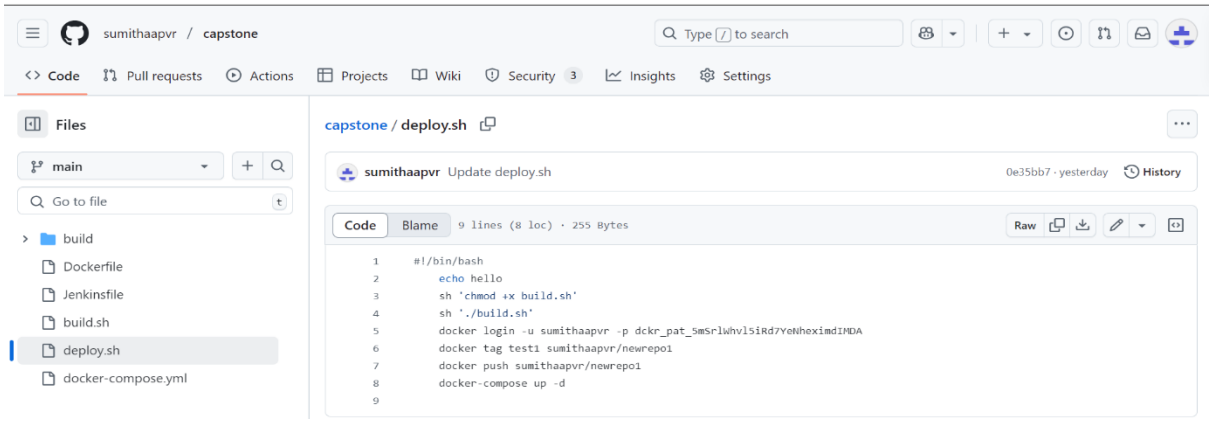
STEP 2: Fork a Github Repository

Fork a copy of a GitHub repository, which will create a clone of that repository in your own account.



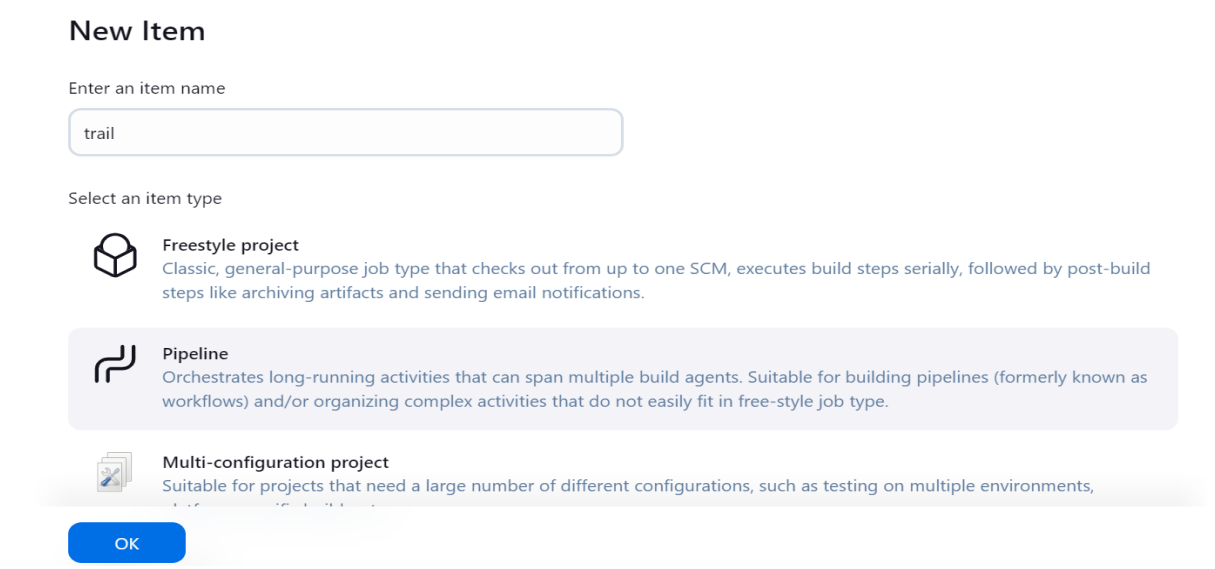
STEP 3: Change the username and image name

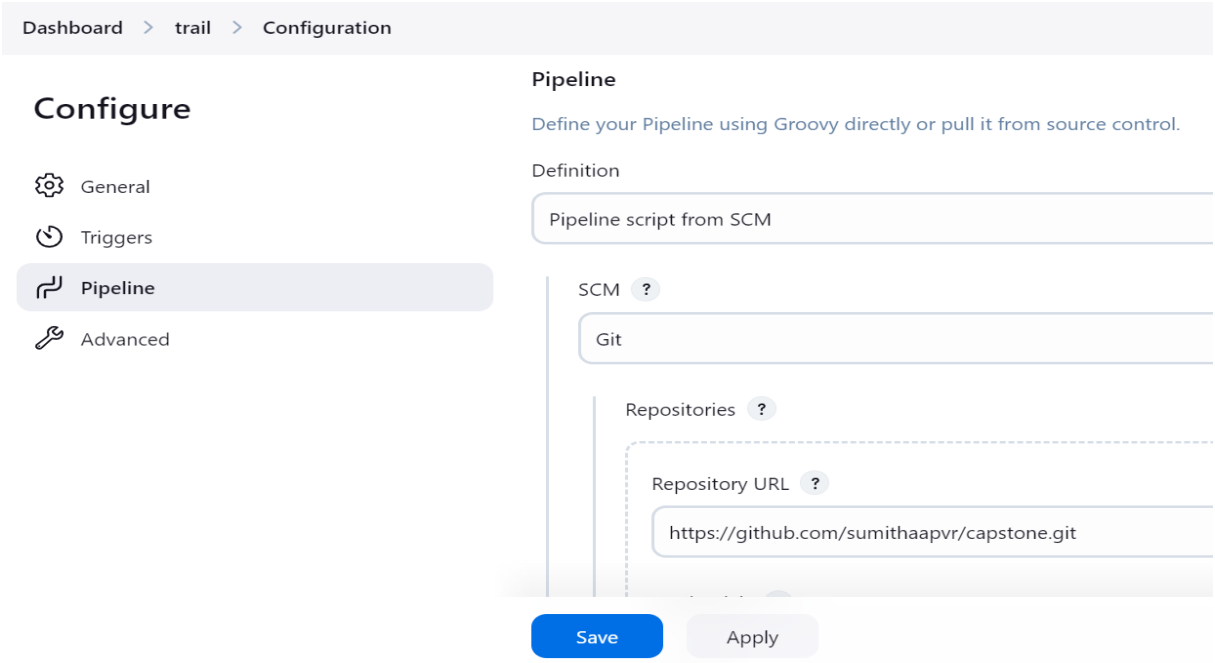
In the deploy.sh file, update your Docker Hub username, personal access token (PAT), and change the image name to the one you created in Docker.

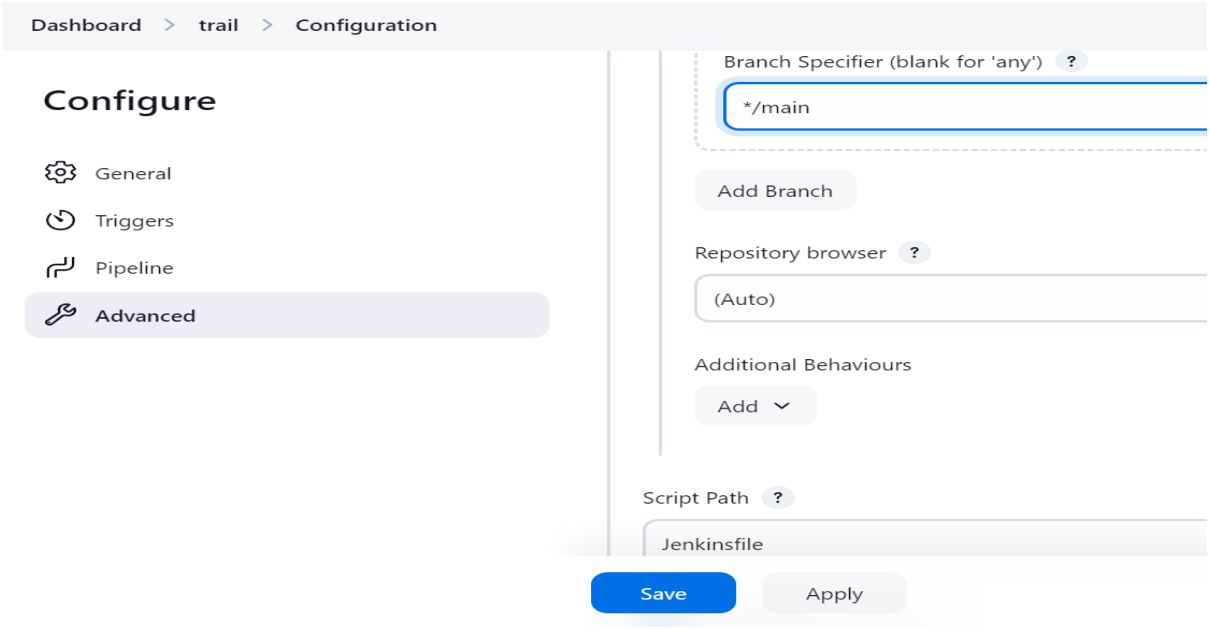


STEP 3: Create a Pipeline Job in the Jenkins

- In Jenkins, create a job using a pipeline.
- In the 'Definition' section, choose 'Pipeline script from SCM'.
- Under SCM, select 'Git', then paste the GitHub repository link in the 'Repository URL' field, which contains the script files for your job.
- Change the branch to match the one you're using in Git, and verify the filename.
- Finally, click 'OK' to proceed.

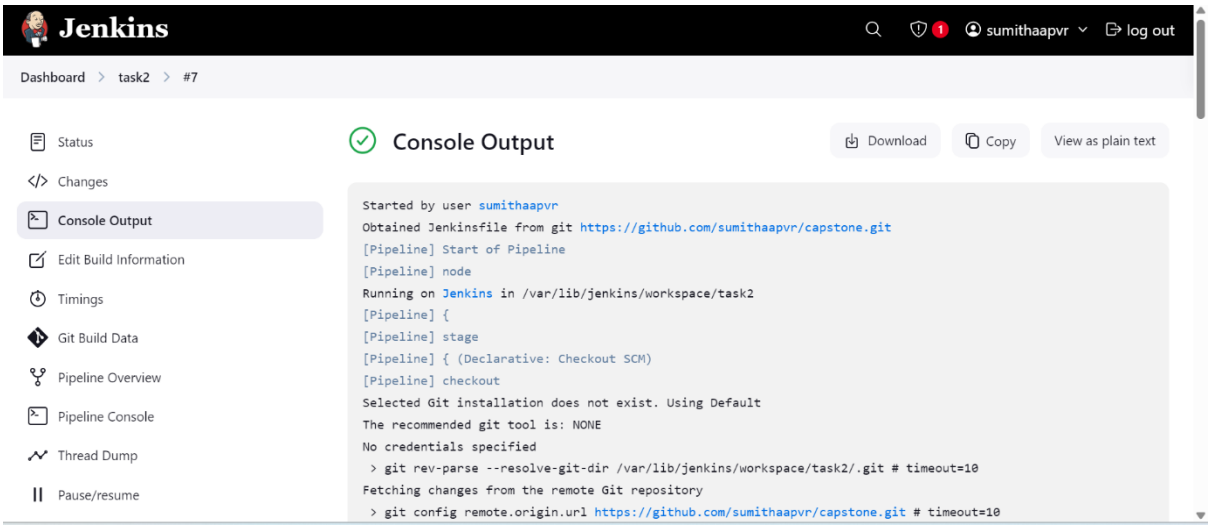


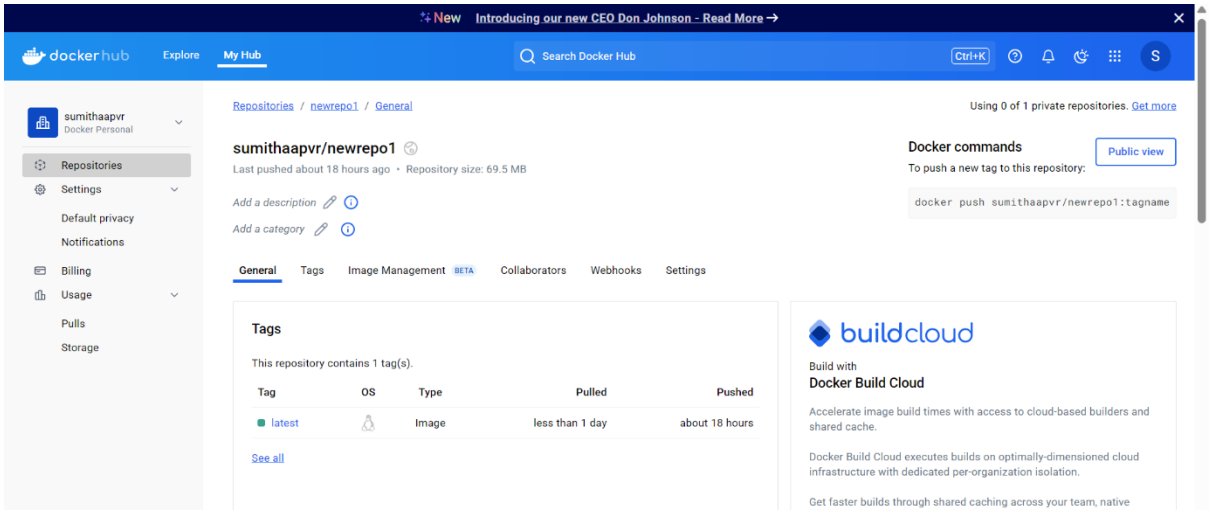




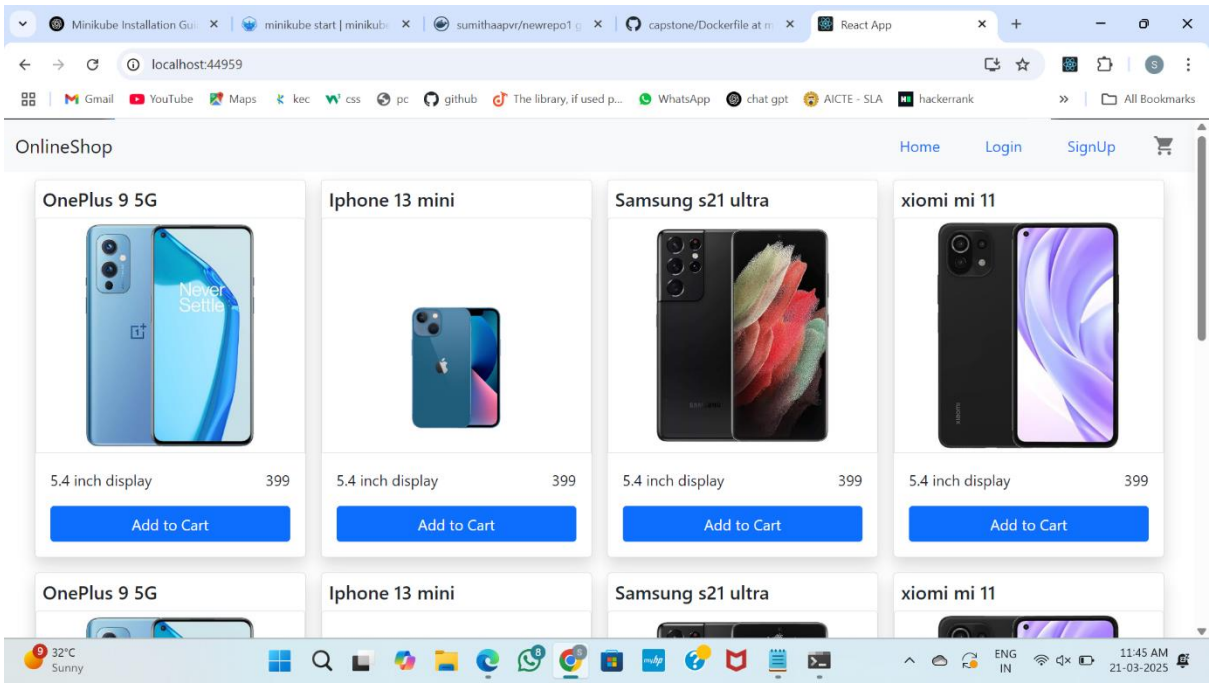
STEP 4: Built Now

After creating the job, build it. The console output will be displayed, and the Docker image will be built and pushed to your Docker Hub repository.





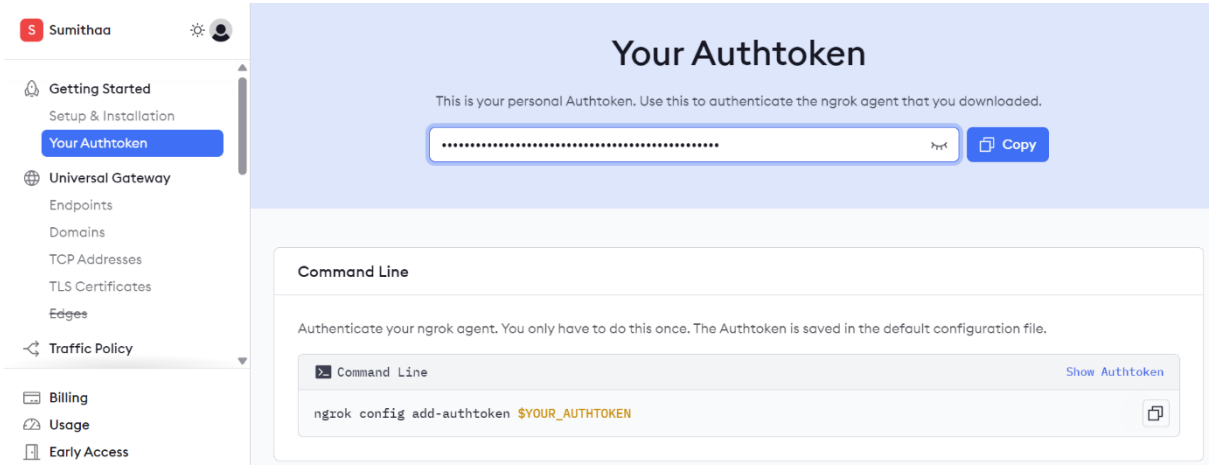
STEP 5: View the output in the browser

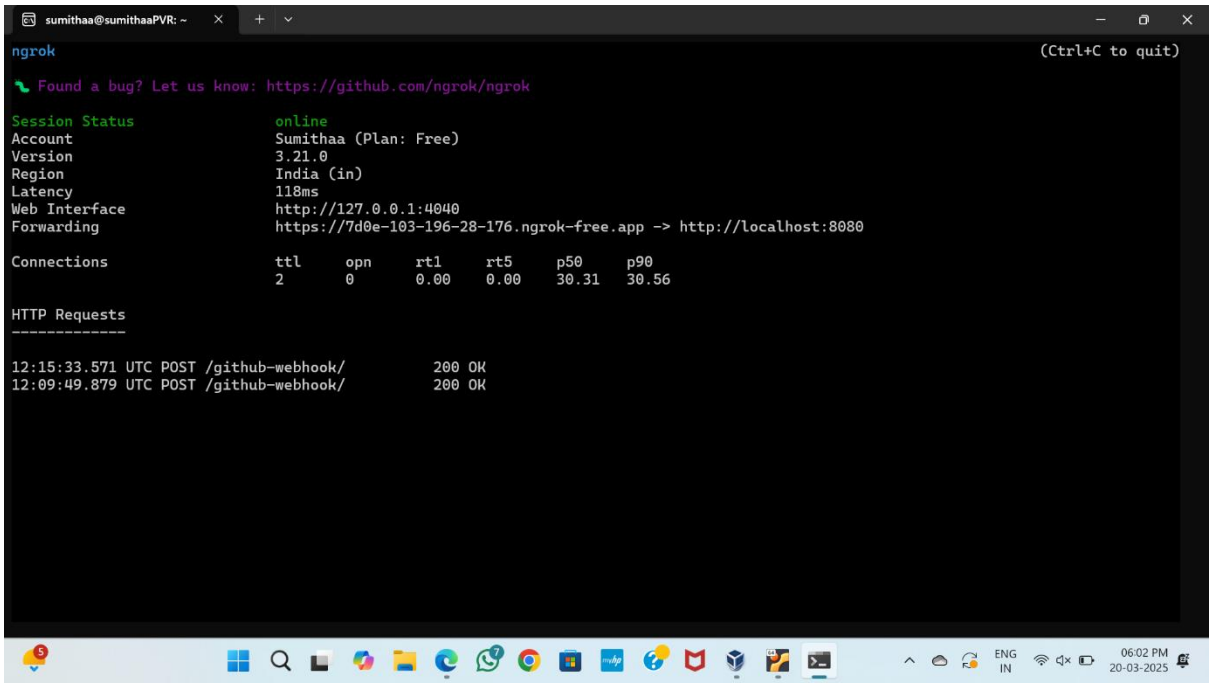


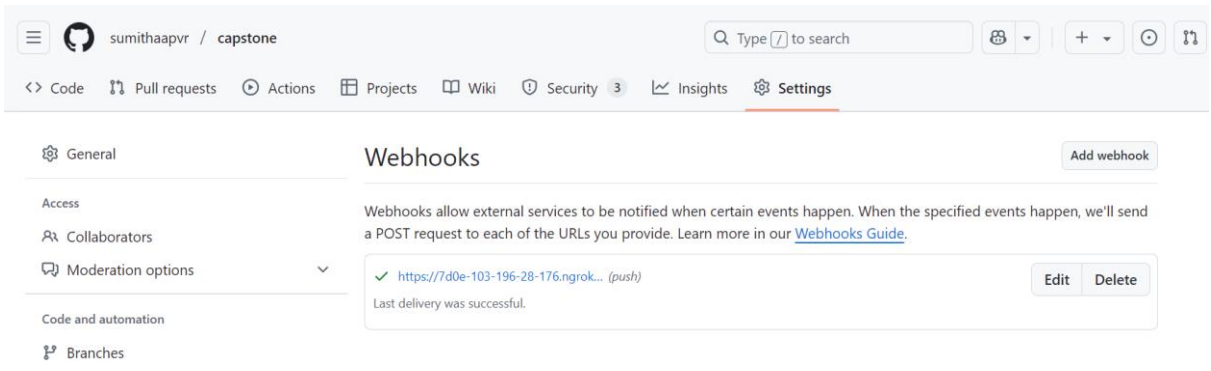
Setting Up a GitHub Webhook for Automatic Project Builds in Jenkins:

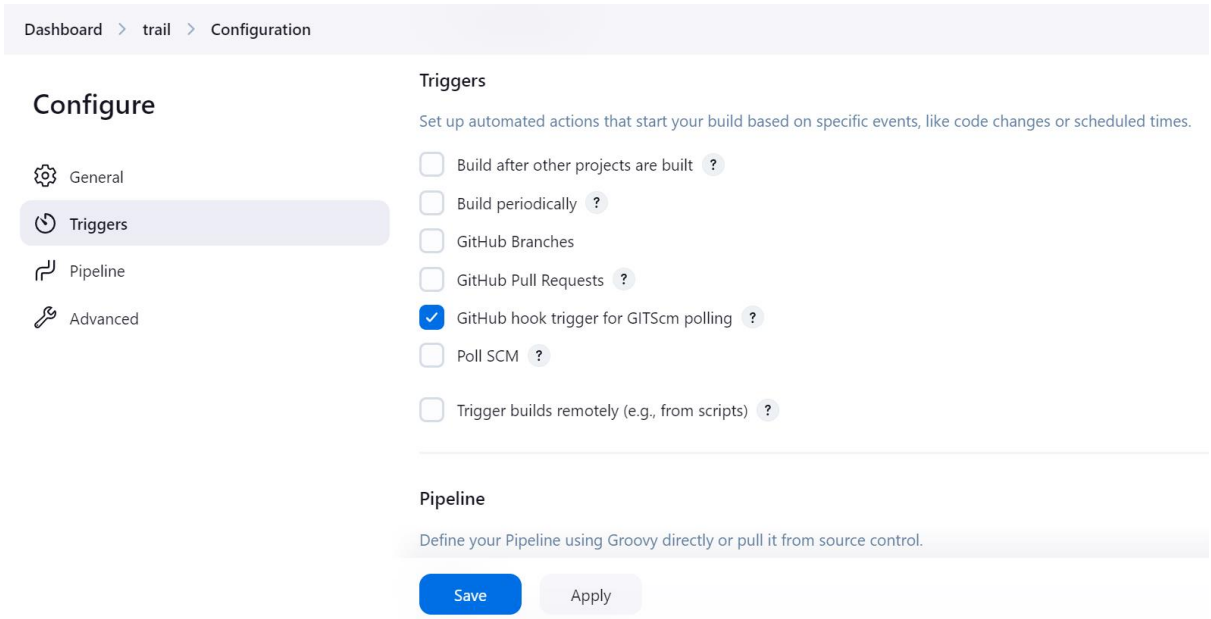
STEPS:

- To create a webhook in GitHub, install ngrok using the following command
  sudo snap install ngrok
- Create an account on the official website, and obtain the authentication or configuration command.
- After running the command in the terminal, you will receive the webhook URL for the GitHub repository.
- Add this webhook URL to your GitHub repository for automatic builds of the project.
- Additionally, in the Jenkins configuration page, check the box labeled GitHub hook trigger for GITScm polling.


Sumithaa
Getting Started
Setup & Installation
Your Authtoken
Universal Gateway
Endpoints
Domains
TCP Addresses
TLS Certificates
Edges
Traffic Policy
Billing
Usage
Early Access
Your Authtoken
This is your personal Authtoken. Use this to authenticate the ngrok agent that you downloaded.
Copy
Command Line
Authenticate your ngrok agent. You only have to do this once. The Authtoken is saved in the default configuration file.
Command Line
Show Authtoken
ngrok config add-authtoken $YOUR_AUTHTOKEN


sumithaa@sumithaaPVR: ~
ngrok
(Ctrl+C to quit)
Found a bug? Let us know: https://github.com/ngrok/ngrok
Session Status online
Account Sumithaa (Plan: Free)
Version 3.21.0
Region India (in)
Latency 118ms
Web Interface http://127.0.0.1:4040
Forwarding https://7d0e-103-196-28-176.ngrok-free.app -> http://localhost:8080
Connections ttl opn rt1 rt5 p50 p90
2 0 0.00 0.00 30.31 30.56
HTTP Requests
12:15:33.571 UTC POST /github-webhook/ 200 OK
12:09:49.879 UTC POST /github-webhook/ 200 OK
ENG
IN
06:02 PM
20-03-2025


sumithaapvr / capstone
Type / to search
Code
Pull requests
Actions
Projects
Wiki
Security 3
Insights
Settings
General
Access
Collaborators
Moderation options
Code and automation
Branches
Webhooks
Add webhook
Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.
https://7d0e-103-196-28-176.ngrok... (push)
Last delivery was successful.
Edit
Delete


Dashboard
trail
Configuration
Configure
General
Triggers
Pipeline
Advanced
Triggers
Set up automated actions that start your build based on specific events, like code changes or scheduled times.
Build after other projects are built
Build periodically
GitHub Branches
GitHub Pull Requests
GitHub hook trigger for GITScm polling
Poll SCM
Trigger builds remotely (e.g., from scripts)
Pipeline
Define your Pipeline using Groovy directly or pull it from source control.
Save
Apply