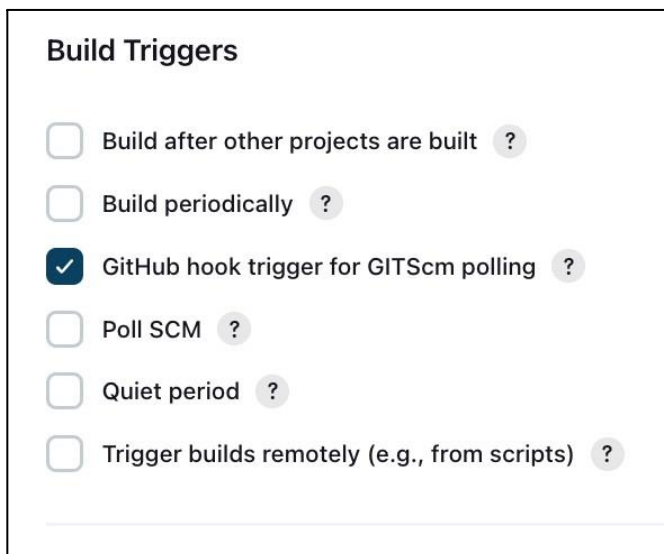


## Triggers and Webhooks - Github

Now that our pipeline is working, the last step is to connect Github and Jenkins so that any push to Github automatically starts a build.

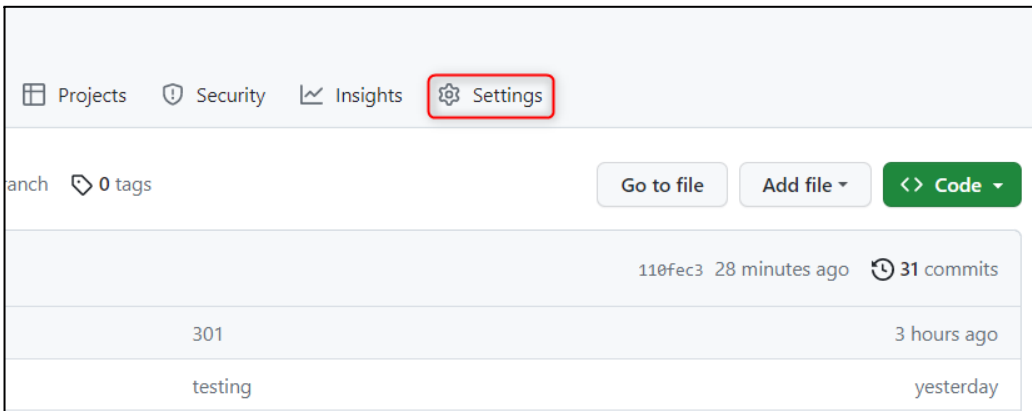
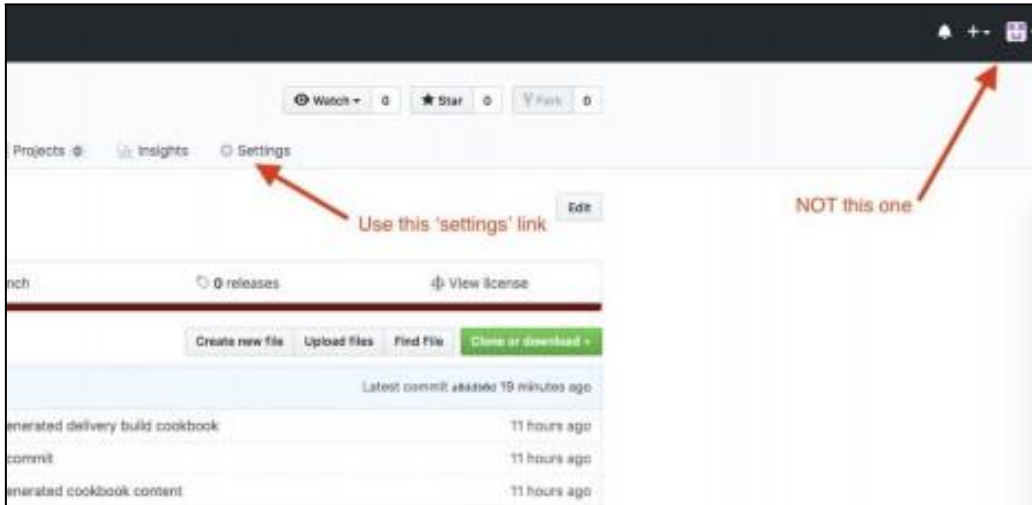
1. In Jenkins, configure your project to receive a Webhook notification from Github
2. In your Jenkins **Declarative Pipeline (Jenkinsfile with SCM)** project configuration, under **'Build Triggers'**, check mark **'GitHub hook trigger for GITScm polling'**



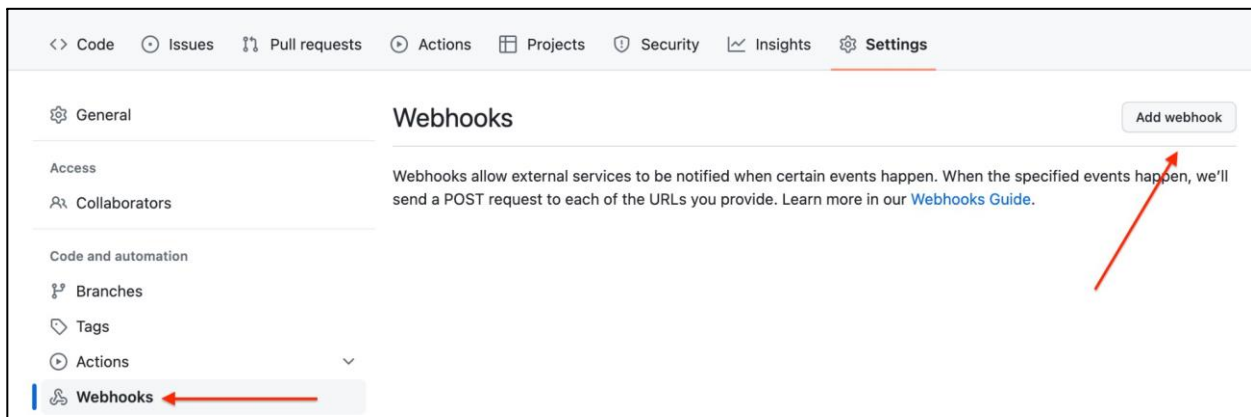
**Build Triggers**

- Build after other projects are built ?
- Build periodically ?
- GitHub hook trigger for GITScm polling ?
- Poll SCM ?
- Quiet period ?
- Trigger builds remotely (e.g., from scripts) ?

3. Next, save your project
4. In Github, configure your repo to send notification to Jenkins
5. Open the repo settings (not the account settings)



## 6. Click 'Webhooks' and then 'Add webhook'



7. You may be asked to authenticate
8. Payload URL: This is the hostname of your Jenkins Master, followed by /jenkins, followed by /github-webhook/

**Note: the trailing slash after "github-webhook" is required**

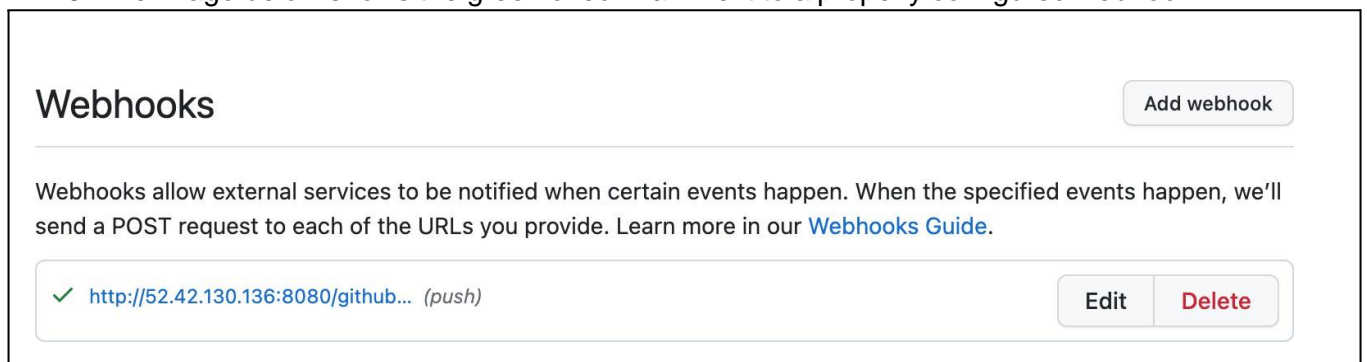
The entire Payload URL would look like:

<http://192.168.63.128:8080/github-webhook/>

9. Leave the Content type as:  
**application/x-www-form-urlencoded**
10. Leave the 'Secret' field blank
11. Under events to trigger this webhook, leave it as '**Just the push event**'
12. Leave the '**Active**' button checked
13. Click '**Add webhook**'
14. You should see a **green checkmark** if Github was able to make a successful connection to your Jenkins Master

**Note: If your webhook fails, it is best to delete it and recreate it, rather than update it. Updates to the webhook sometimes don't work.**

15. The image below shows the green checkmark next to a properly configured webhook:



16. In case above command is not showing successful

To expose your Jenkins server using ngrok, you can follow these steps:

Step 1:

- Visit the ngrok website (<https://ngrok.com/>) and sign up for a free account.
- Download ngrok and follow the installation instructions for your ubuntu system

Run below commands

```
wget https://bin.equinox.io/c/bNyj1mQVY4c/ngrok-v3-stable-linux-amd64.tgz
tar -zxvf ngrok-v3-stable-linux-amd64.tgz
cp ngrok /usr/local/bin
```

Step 2: Start ngrok

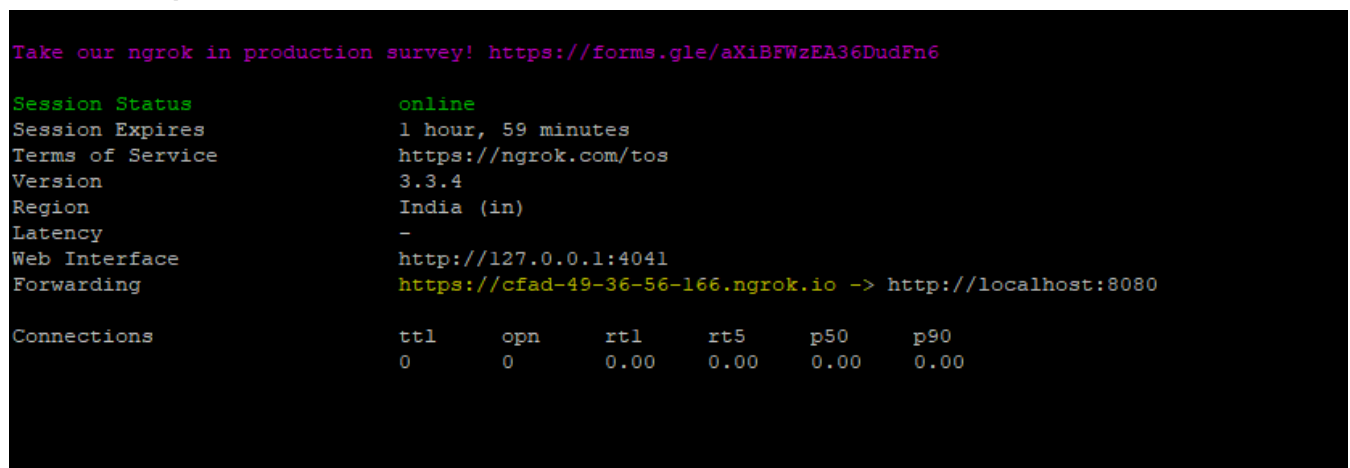
- Open a terminal or command prompt.
- Navigate to the directory where ngrok is installed.
- Run the following command to start ngrok and expose the Jenkins port (default is 8080):

...

```
ngrok http 8080
```

...

**Note: don't press ctrl+C**



```
Take our ngrok in production survey! https://forms.gle/aXiBFWzEA36DudFn6
Session Status      online
Session Expires    1 hour, 59 minutes
Terms of Service    https://ngrok.com/tos
Version             3.3.4
Region              India (in)
Latency             -
Web Interface       http://127.0.0.1:4041
Forwarding           https://cfad-49-36-56-166.ngrok.io -> http://localhost:8080

Connections        ttl    opn    rt1    rt5    p50    p90
                   0      0      0.00  0.00  0.00  0.00
```

Copy the address highlighted in yellow, it is ngrok url

Step 3: Configure Jenkins

- Open your Jenkins dashboard.
- Go to "Manage Jenkins" and click on "Configure Global Security."
- Under "Authentication" > "Security Realm," select "Jenkins' own user database."
- Enable the option "Allow users to sign up"
- Scroll down to "TCP port for JNLP agents/TCP port for inbound agents" and set it to a fixed port

number (e.g., 50000).

- Save the configuration.

#### Step 4: Update Jenkins URL

- In your Jenkins dashboard, go to "Manage Jenkins" > "Configure System."
- Under "Jenkins Location," set the "Jenkins URL" to the ngrok URL provided in the terminal/console where ngrok is running. It will look like `https://cfad-49-36-56-166.ngrok.io``.
- Save the configuration.

#### Step 5: Access Jenkins via ngrok

- In the terminal/console where ngrok is running, you'll see a forwarding URL generated by ngrok (e.g., `Forwarding https://cfad-49-36-56-166.ngrok.io-> http://localhost:8080``).
- Copy the ngrok forwarding URL.
- Open a web browser and paste the ngrok URL. It should take you to your Jenkins server.

#### 17. Test the end to end pipeline

- a. Open the main dashboard of your project, so you can see the Build stages
- b. Open E-mail so you can see the notification you will receive
- c. Make a change to your Readme file. Even adding just a comment to a file will be enough
- d. Save, add, commit and push to Github