Multibranch Pipeline with a Webhook on Jenkins

Sometimes it may be necessary to create a pipeline on Jenkins for each Git branch. In this case it could be difficult to create independent pipeline for each branch. Besides that what if we create or delete a branch in future? So someone has to take care of the pipelines on Jenkins whenever there is change in branches. that's where Multibranch pipeline comes into picture.

Through Multibranch pipeline we can create a pipeline for each branch in a repository and it also create or remove when there is a change in the branches. Lets see how it works !!

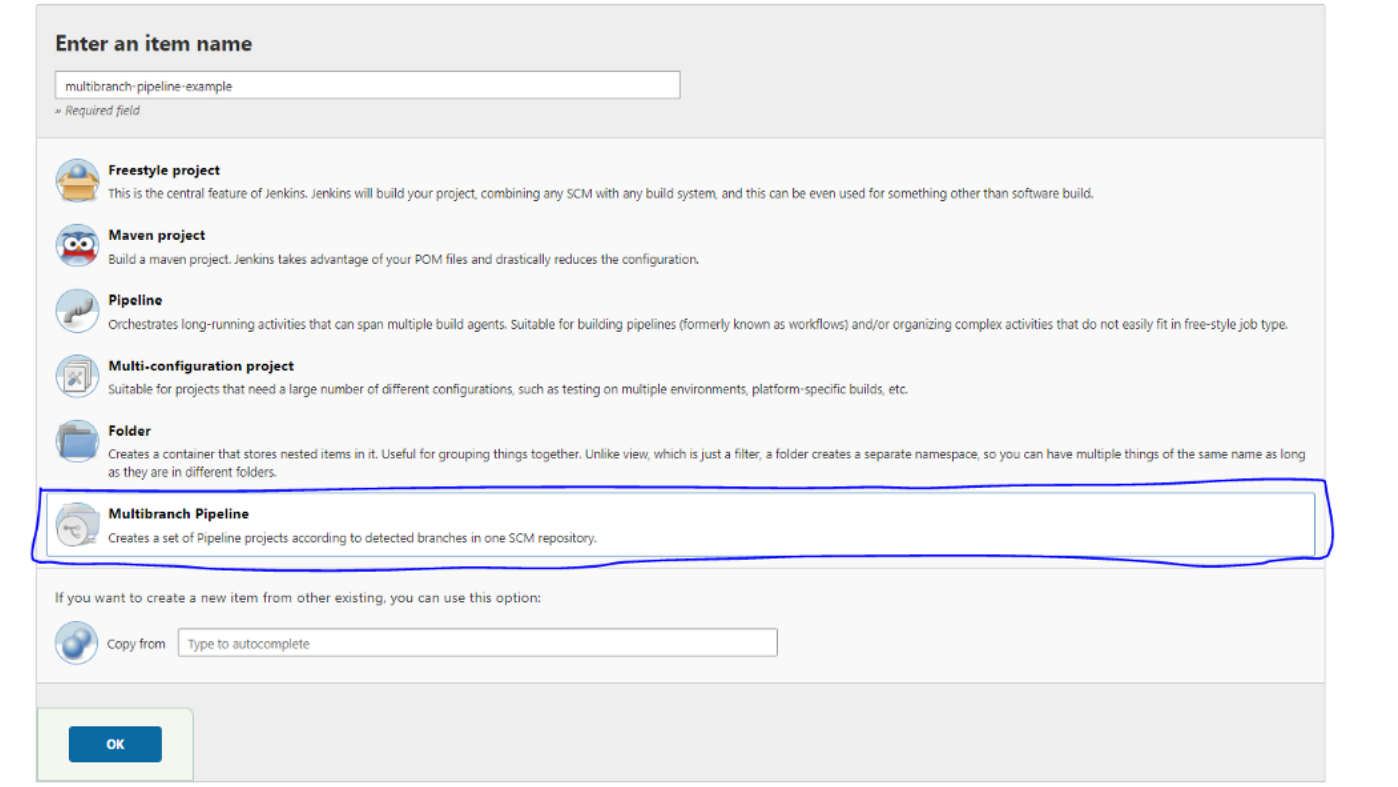
Pre-Requisites:

1. Expected a Jenkins server is already up and running
2. A Git repository with more than one branch

In my case I am using a repository called https://github.com/ravdy/test-nodejs-app.git

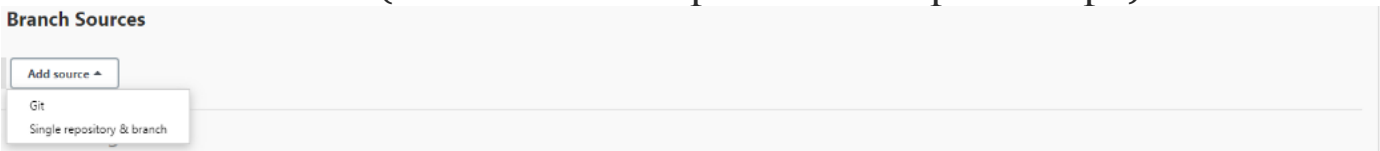
Create a Multibranch Pipeline

1. Login to Jenkins GUI
2. Click on “New Item” → Specify a job name → Select “Multibranch Pipeline option”



3. Give Display Name and Description

4. Under Branch Sources → Add source → Chose Git → and provide GitHub URL and Credentials (Credentials are optional if it is public repo)



Branch Source Image

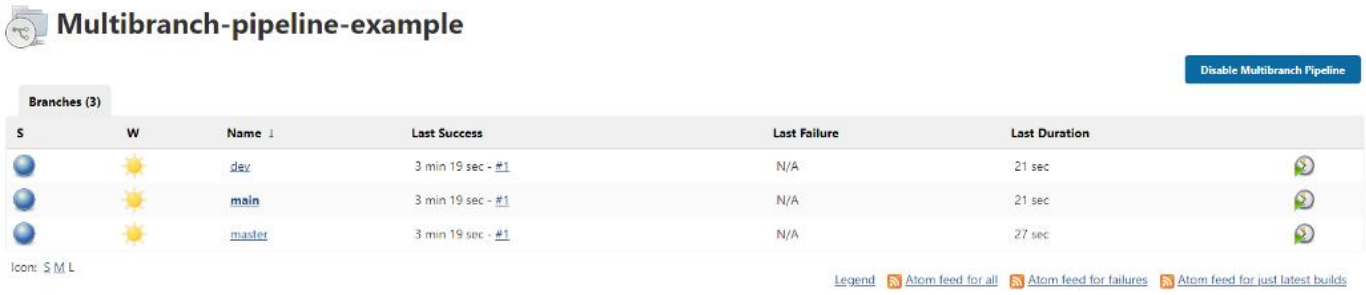
Git Repo Information

5. Under Build Configuration → chose Jenkinsfile path. Most of the case it will be under Repo root directory.

Jenkinsfile path

6. Apply and Save the job

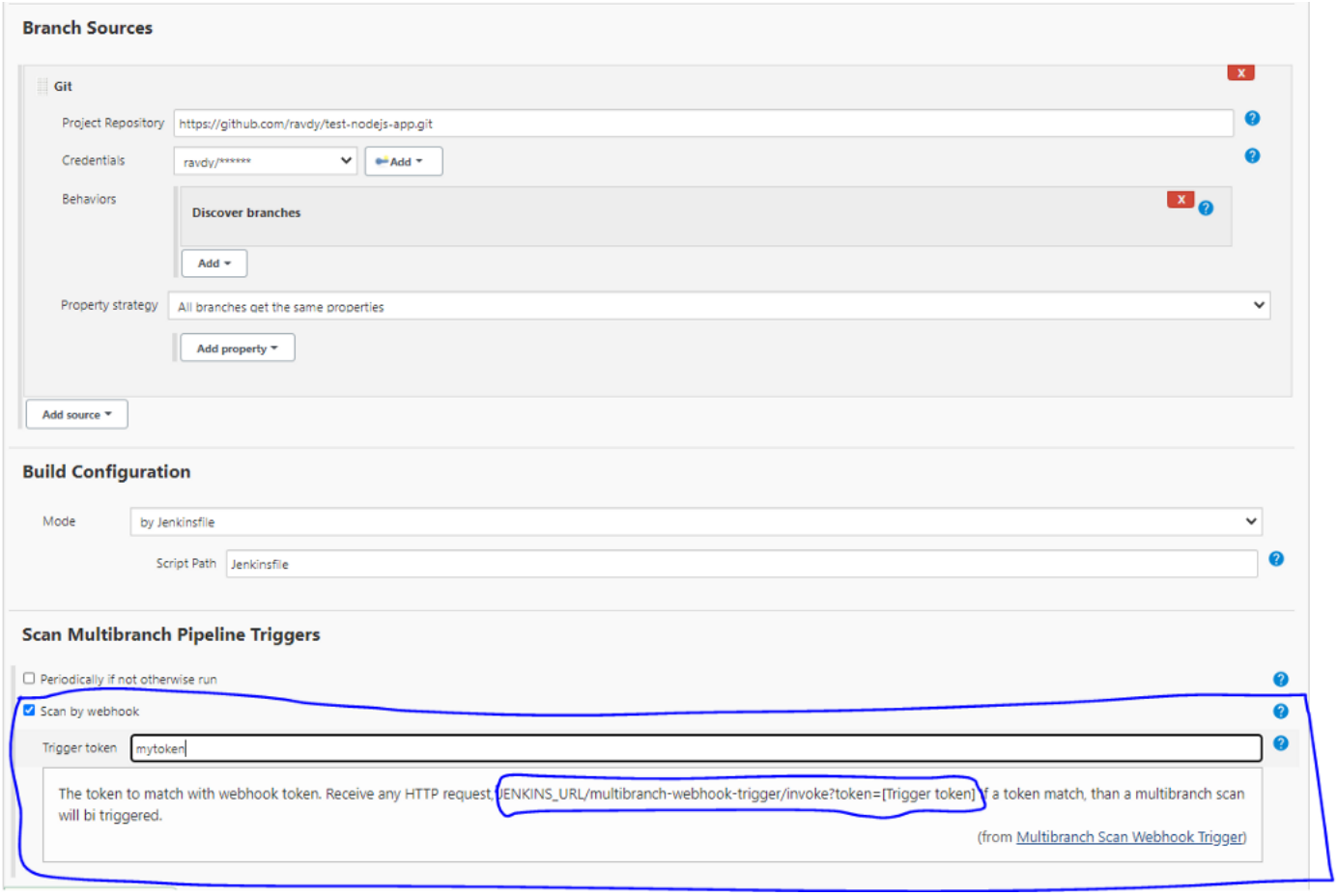
Now Jenkins automatically scans the repository and create a job for each branch wherever it finds a Jenkinsfile and initiate first build.



Multibranch Pipeline

Using Webhook

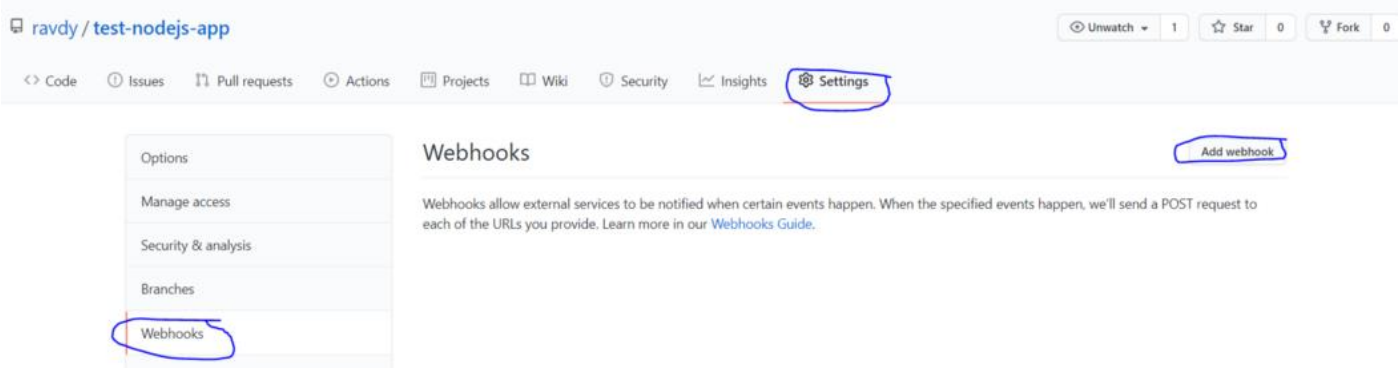
If you wish to automate the build process in the multibranch pipeline we can use Webhook. This feature is not enabled until we install “Multibranch Scan Webhook Trigger”. This enables an option “scan by webhook” under “Scan Multibranch Pipeline Triggers”. Here we should give a token. I am giving it as “mytoken”. by this time your job looks something like below.



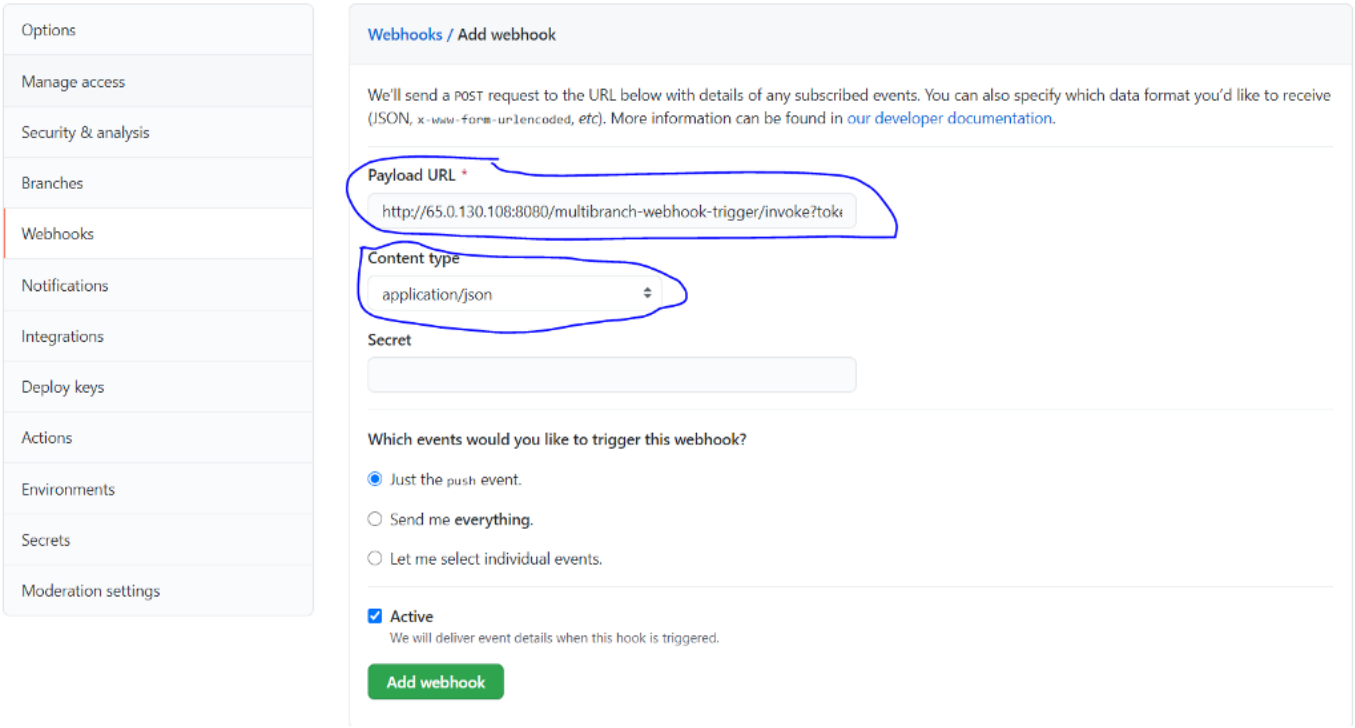
Jenkins Multibranch pipeline with webhook

Now to enable auto build process we should provide Jenkins URL with token in the GitHub. in this case like should be http://65.0.130.108:8080/multibranch-webhook-trigger/invoke?token=mytoke

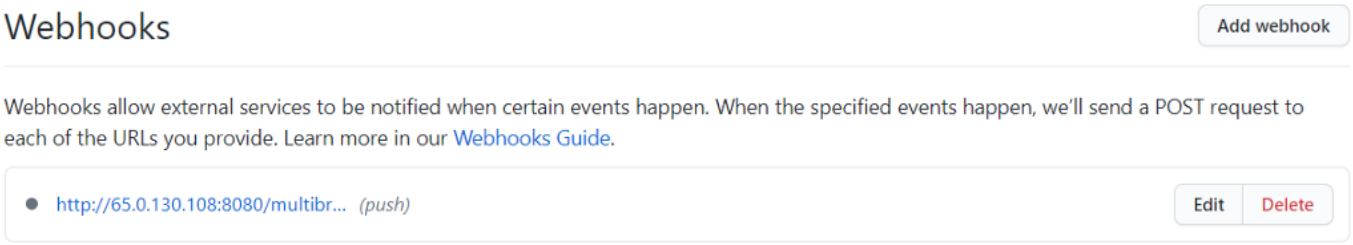
for this log into GitHub → settings → Webhooks → Add webhook



Provide Payload URL as "http://65.0.130.108:8080/multibranch-webhook-trigger/invoke?token=mytoke" and Content type as "application/json" and click on Add webhook



Once this is done you can see a new webhook and its time to do some changes in the repository to test the webhook connection.

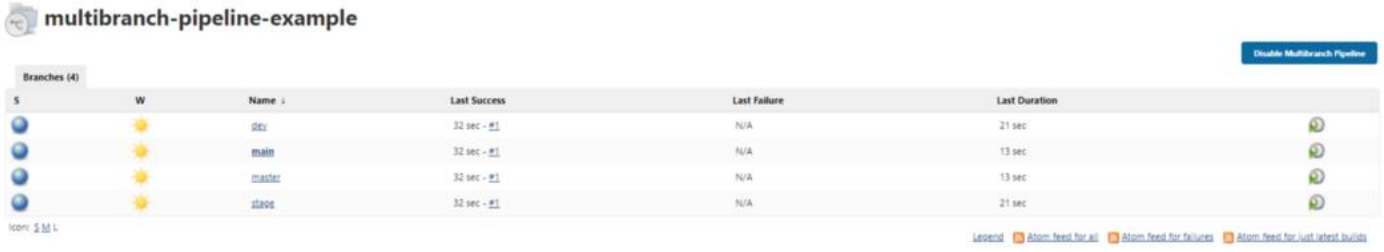


In this demonstration, I am going to create a new branch called “stage” and push the changes onto remote repo.

```
lsvalaxy (main) nodejs
$ ls
Jenkinsfile  package.json  README.md  server.js
valaxy (main) nodejs
$ git checkout -b stage
Switched to a new branch 'stage'
valaxy (stage) nodejs
$ git status
On branch stage
nothing to commit, working tree clean
valaxy (stage) nodejs
$ git push origin stage
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote: This repository moved. Please use the new location:
remote:   https://github.com/ravdy/test-nodejs-app.git
remote:
remote: Create a pull request for 'stage' on GitHub by visiting:
remote:      https://github.com/ravdy/test-nodejs-app/pull/new/stage
remote:
To https://github.com/ravdy/nodejs.git
 * [new branch]      stage -> stage
valaxy (stage) nodejs
$
```

New branch creation on Git and pushed changes onto GitHub

Now you could see a build has been triggered automatically on Jenkins and it scan and create a job for the new branch as well.



Hope this has given fair idea about how Jenkins multibranch pipelines work with webhook.