



MARCH 11, 2023

DevOps Classroomnotes 11/Mar/2023

Topics

- Upstream and Downstream jobs in Jenkins
- Git Submodules
- Git Hooks
- Pull request based workflow
- Branching Strategies
- Build and Deploy of some application
- Adding Security to pipelines
- Exercise

Upstream and Downstream jobs in Jenkins

- Upstream project refers to project that triggered the build of current project. Downstream refers to the project that will be triggered by current project
- This can be configured in
 - PostBuild Actions of Upstream
 - Build triggers of Current Project
- Lets configure B as Downstream of A

Dashboard > FreeStyle > B > Configuration

Configure

- General
- Source Code Management
- Build Triggers**
- Build Environment
- Build Steps
- Post-build Actions

Build Triggers

- ☐ Trigger builds remotely (e.g., from scripts) ?
- ☒ Build after other projects are built ?
- Projects to watch
 - A
- ☒ Trigger only if build is stable
- ☐ Trigger even if the build is unstable
- ☐ Trigger even if the build fails
- ☐ Always trigger, even if the build is aborted
- ☐ Build periodically ?
- ☐ Enable Artifactory trigger

Save **Apply**

Jenkins Search (CTRL+K)

Dashboard > FreeStyle > A >

Project A

Downstream Projects

Permalinks

Build History trend ▾

Filter builds... /

- Lets configure C as Downstream of B

Dashboard > FreeStyle > C > Configuration

Configure

General

Source Code Management

Build Triggers

Build Environment

Build Steps

Post-build Actions

Build Triggers

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

☒ Build after other projects are built ?

Projects to watch

B,

☒ Trigger only if build is stable

☐ Trigger even if the build is unstable

☐ Trigger even if the build fails

☐ Always trigger, even if the build is aborted

☐ Build periodically ?

☐ Enable Artifactory trigger

Save

Apply

Jenkins

Search (CTRL+K)

Dashboard > FreeStyle > B >

Status

</> Changes

Workspace

Build Now

Configure

Delete Project

Rename

Build History

trend

Filter builds...

No builds

Project B

Upstream Projects

A

Downstream Projects

C

Permalinks

Jenkins

Search (CTRL+K)

Dashboard > FreeStyle > C >

Status

</> Changes

Workspace

Build Now

Configure

Delete Project

Rename

Build History

trend

Filter builds...

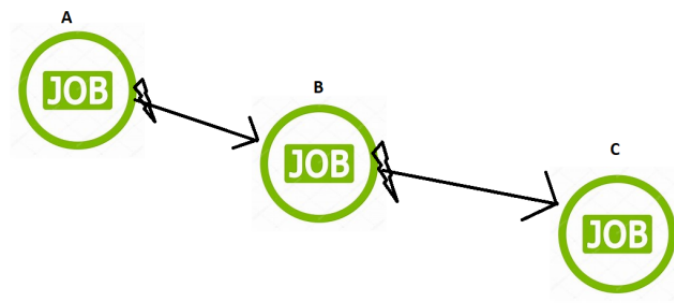
Project C

Upstream Projects

B

Permalinks

- Overview



- Lets Build A

Git Submodules

- Git Submodules allows us to use a repository within repository
- [Refer Here](#) for submodule
- [Refer Here](#) to this repository for submodules
- To push the changes in the submodules the push command `git push origin HEAD:<branch>`

Git Alias

- [Refer Here](#) For Git Alias
- Git allows to create alias for existing commands.
- Alias are stored in config files

```
alias.pushsub=push origin HEAD:master
alias.rpush=push --recurse-submodules=check
alias.history=log --graph --decorate --pretty=oneline --abbrev-commit
alias.pushmain=push origin HEAD:main
alias.s=status
alias.pr=pull
```

```
Dell@DESKTOP-TM7SH71 MINGW64 /c/temp/testing/cicdprojects (main)
$ git s
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean

Dell@DESKTOP-TM7SH71 MINGW64 /c/temp/testing/cicdprojects (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

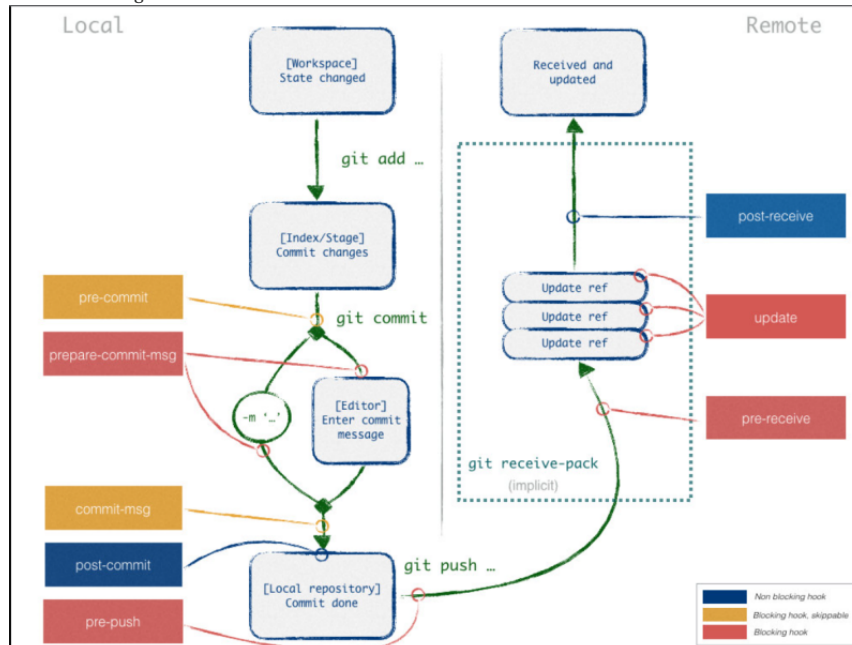
nothing to commit, working tree clean

Dell@DESKTOP-TM7SH71 MINGW64 /c/temp/testing/cicdprojects (main)
$
```

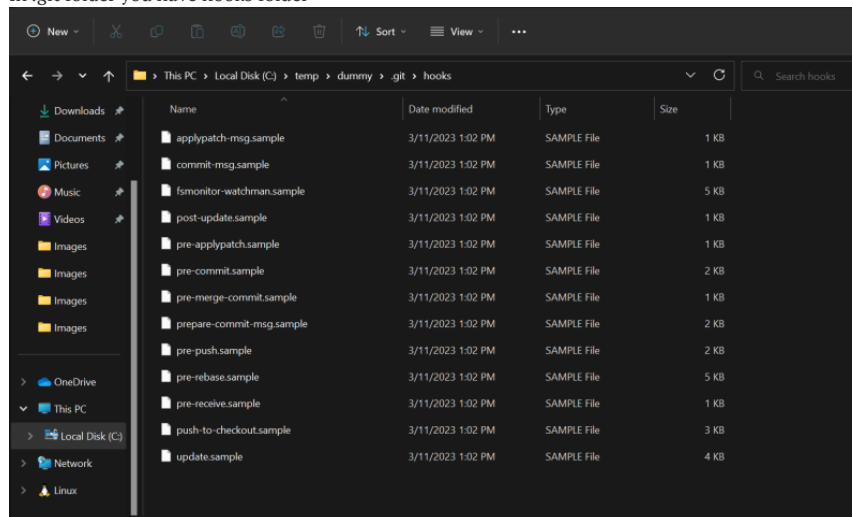
Git Hooks

- Hooks help us in adding custom behavior to Git
- To handle local events git has client side hooks and to handle remote events git has server side hooks.

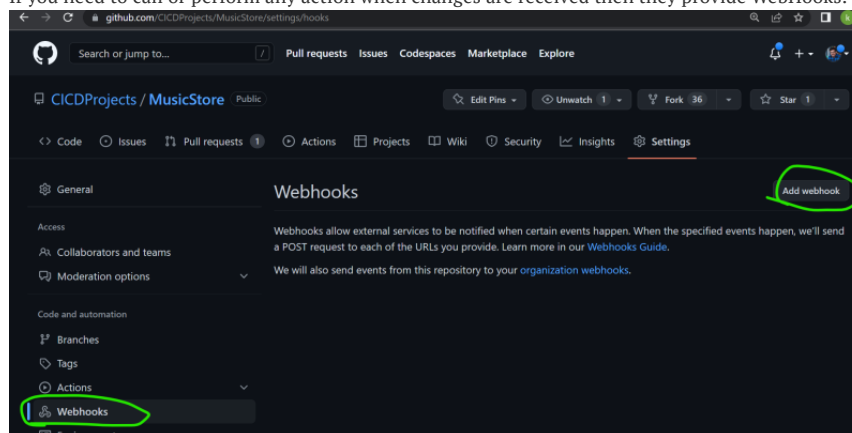
- [Refer Here](#) for git hooks



- In .git folder you have hooks folder



- [Refer Here](#) for sample hooks repo
- For Remote repositories which are self hosted, we can change the hooks
- For remote repo which is cloud hosted there we have to deal with access control for stopping users from pushing changes etc.
- If you need to call or perform any action when changes are received then they provide WebHooks.



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