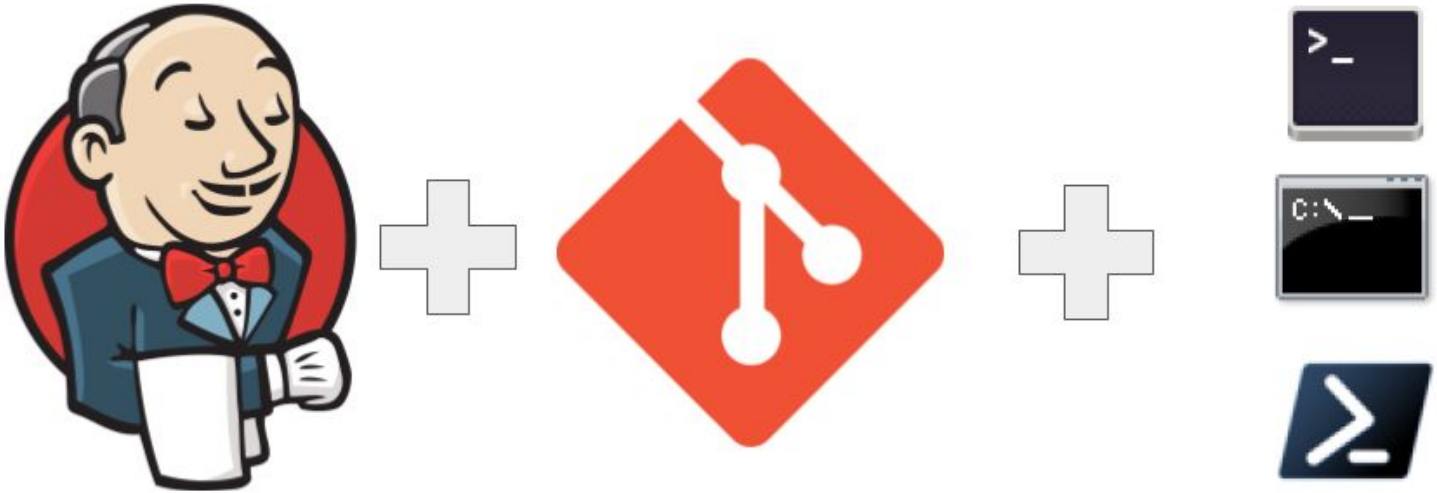
Git Credentials Binding



Harshit Chopra
GitHub: arpoch
LinkedIn: harshit-chopra-275269178

Project Overview

- Started as a Jenkins issue: 28335

Jenkins / JENKINS-28335

Pipeline step to run Git commands with credentials & tool

- Jenkins in Google Summer of Code (GSoC)

Before the project

Workarounds to run git authenticated commands using

- Credentials Binding plugin

```
withCredentials([usernamePassword(credentialsId: 'fixed',
                 usernameVariable: 'username',
                 passwordVariable: 'password')]){
    sh("git push http://$username:$password@git.corp.mycompany.com/repo")
}
```

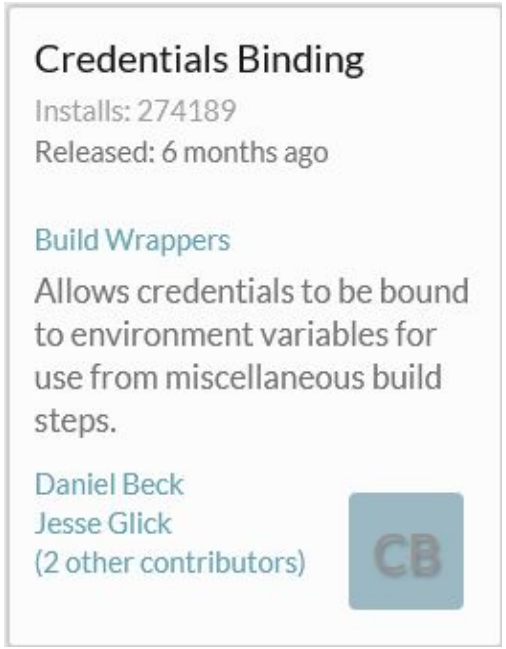
```
withCredentials([sshUserPrivateKey(credentialsId: 'ci', keyFileVariable: 'SSH_KEY')]) {
    sh 'echo ssh -i $SSH_KEY -l git -o StrictHostKeyChecking=no \\"\\$@\\" > local_ssh.sh'
    sh 'chmod +x local_ssh.sh'
    withEnv(['GIT_SSH=./local_ssh.sh']) {
        sh 'git push origin develop'
    }
}
```

- SSH Agent plugin

```
sshagent(credentials: ["406ef572-9598-45ee-8d39-9c9a227a9227"]) {
               def repository = "git@" + env.GIT_URL.replaceFirst(".+://", "").replaceFirst("/", ":")
               sh("git remote set-url origin $repository")
               sh("git tag --force build-${env.BRANCH_NAME}")
               sh("git push --force origin build-${env.BRANCH_NAME}")
           }
```

Implementation

- Using Credentials Binding plugin APIs

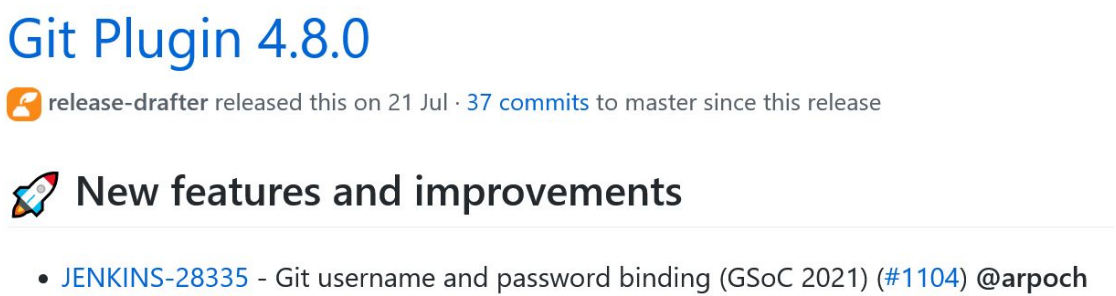


- Git environment variables
  - GIT_ASKPASS
  - GIT_SSH
  - GIT_SSH_COMMAND

- Support command-line git

Git Username and Password Binding

1. Git authentication support for HTTPS protocol
2. gitUsernamePassword binding was released in git-plugin v4.8.0



Git Plugin 4.8.0

release-drafter released this on 21 Jul · 37 commits to master since this release

🚀 New features and improvements

- JENKINS-28335 - Git username and password binding (GSoC 2021) (#1104) **@arpoch**

Git SSH Private Key Binding

1. Git authentication support for SSH protocol

2. Supported private key formats:
   a. OpenSSH
   b. PEM
   c. PKCS#8

3. Supported encryption algorithms:
   a. RSA
   b. DSA
   c. ECDSA
   d. ED25519

Outcomes

1. Two Git Credential bindings implemented in Git plugin as a feature.
   1.1. gitUsernamePassword
   1.2. gitSshPrivateKey
2. Available for command-line git version 1.8.3 and later
3. Available for various OS environments
4. Available for both freestyle project and pipeline job users

Q&A