

Setup a working post-receive hook in server side

I already have a working Git repository on my local machine. I call it `rock_paper_scissors`. I have a Linux server (I use Ubuntu 20.04) and I can use ssh to connect from my local computer to my remote server. First i'm going to run typescript on my server side.

```
arash@server:~$ script
Script started, file is typescript
arash@server:~$ pwd
/home/arash
```

I make a directory in server side and Initialize an empty Git repository in this.

```
arash@server:~$ mkdir rock_paper_scissors.git
arash@server:~$ cd rock_paper_scissors.git/
arash@server:~/rock_paper_scissors.git$ git init --bare
Initialized empty Git repository in /home/arash/rock_paper_scissors.git/
arash@server:~/rock_paper_scissors.git$ ll
total 40
drwxr-xr-x 7 arash arash 4096 Dec 21 01:24 ./
drwxr-xr-x 6 arash arash 4096 Dec 21 01:23 ../
-rw-r--r-- 1 arash arash   23 Dec 21 01:24 HEAD
drwxr-xr-x 2 arash arash 4096 Dec 21 01:24 branches/
-rw-r--r-- 1 arash arash   66 Dec 21 01:24 config
-rw-r--r-- 1 arash arash   73 Dec 21 01:24 description
drwxr-xr-x 2 arash arash 4096 Dec 21 01:24 hooks/
drwxr-xr-x 2 arash arash 4096 Dec 21 01:24 info/
drwxr-xr-x 4 arash arash 4096 Dec 21 01:24 objects/
drwxr-xr-x 4 arash arash 4096 Dec 21 01:24 refs/
```

Git init structure:

```
arash@server:~/rock_paper_scissors.git$ tree
```

```
|-- prepare-commit-msg.sample
|  |-- update.sample
|-- info```
|-- HEAD
|-- branches
|-- config
|-- description
|-- hooks
|   |-- applypatch-msg.sample
|   |-- commit-msg.sample
|   |-- fsmonitor-watchman.sample
|   |-- post-update.sample
|   |-- pre-applypatch.sample
|   |-- pre-commit.sample
|   |-- pre-merge-commit.sample
|   |-- pre-push.sample
|   |-- pre-rebase.sample
|   |-- pre-receive.sample
```

```
|
|  `-- exclude
|-- objects
|  |-- info
|  `-- pack
`-- refs
    |-- heads
    `-- tags
```

I'm going to create a new directory under **var/www/rock_paper_scissors/output**.

```
arash@server:~$ mkdir var
arash@server:~$ cd var
arash@server:~/var$ mkdir www
arash@server:~$ cd www
arash@server:~/var/www$ mkdir rock_paper_scissors
arash@server:~/var/www$ cd rock_paper_scissors
arash@server:~/var/www/rock_paper_scissors$ mkdir output
```

Find out my current remote config in client side (using the `git remote -v` command).

```
46704@Lenovo5 MINGW64 ~/OneDrive/Skrivbord/100days_python/rock_paper_scissors (main)
$ git remote -v
origin  https://github.com/arashafazeli/100days_python_coding.git (fetch)
origin  https://github.com/arashafazeli/100days_python_coding.git (push)
```

I'm going to make a **post-receive** in the hooks file (inside of `rock_paper_scissors.git`) on my remote server.

```
arash@server:~$ cd rock_paper_scissors.git/
arash@server:~/rock_paper_scissors.git$ cd hooks/
arash@server:~/rock_paper_scissors.git/hooks$ touch post-receive
arash@server:~/rock_paper_scissors.git/hooks$ ll
total 60
drwxr-xr-x 2 arash arash 4096 Dec 21 02:24 ./
drwxr-xr-x 7 arash arash 4096 Dec 21 01:24 ../
-rwxr-xr-x 1 arash arash  478 Dec 21 01:24 applypatch-msg.sample*
-rwxr-xr-x 1 arash arash   896 Dec 21 01:24 commit-msg.sample*
-rwxr-xr-x 1 arash arash 3079 Dec 21 01:24 fsmonitor-watchman.sample*
-rw-r--r-- 1 arash arash    0 Dec 21 02:24 post-receive
-rwxr-xr-x 1 arash arash  189 Dec 21 01:24 post-update.sample*
-rwxr-xr-x 1 arash arash  424 Dec 21 01:24 pre-applypatch.sample*
-rwxr-xr-x 1 arash arash 1638 Dec 21 01:24 pre-commit.sample*
-rwxr-xr-x 1 arash arash  416 Dec 21 01:24 pre-merge-commit.sample*
-rwxr-xr-x 1 arash arash 1348 Dec 21 01:24 pre-push.sample*
-rwxr-xr-x 1 arash arash 4898 Dec 21 01:24 pre-rebase.sample*
-rwxr-xr-x 1 arash arash   544 Dec 21 01:24 pre-receive.sample*
-rwxr-xr-x 1 arash arash 1492 Dec 21 01:24 prepare-commit-msg.sample*
-rwxr-xr-x 1 arash arash 3610 Dec 21 01:24 update.sample*
```

Then add the following remote script to **post-receive**:

```
#!/bin/sh

# Check out the files
echo "THE POST-RECEIVE SCRIPT IS ALIVE"
git --work-tree=/home/arash/var/www/rock_paper_scissors/output --git-dir=/home/arash/rock_paper_scissors.git checkout -f main
echo "THE WORK IS DONE"
```

We need to make the **post-receive** file executable.

```
arash@server:~/rock_paper_scissors.git/hooks$ chmod +x post-receive
arash@server:~/rock_paper_scissors.git/hooks$ ll
total 64
drwxr-xr-x 2 arash arash 4096 Dec 21 03:12 ./
drwxr-xr-x 7 arash arash 4096 Dec 21 01:24 ../
-rwxr-xr-x 1 arash arash  478 Dec 21 01:24 applypatch-msg.sample*
-rwxr-xr-x 1 arash arash  896 Dec 21 01:24 commit-msg.sample*
-rwxr-xr-x 1 arash arash 3079 Dec 21 01:24 fsmonitor-watchman.sample*
-rwxr-xr-x 1 arash arash  219 Dec 21 03:12 post-receive*
-rwxr-xr-x 1 arash arash  189 Dec 21 01:24 post-update.sample*
-rwxr-xr-x 1 arash arash  424 Dec 21 01:24 pre-applypatch.sample*
-rwxr-xr-x 1 arash arash 1638 Dec 21 01:24 pre-commit.sample*
-rwxr-xr-x 1 arash arash  416 Dec 21 01:24 pre-merge-commit.sample*
-rwxr-xr-x 1 arash arash 1348 Dec 21 01:24 pre-push.sample*
-rwxr-xr-x 1 arash arash 4898 Dec 21 01:24 pre-rebase.sample*
-rwxr-xr-x 1 arash arash  544 Dec 21 01:24 pre-receive.sample*
-rwxr-xr-x 1 arash arash 1492 Dec 21 01:24 prepare-commit-msg.sample*
-rwxr-xr-x 1 arash arash 3610 Dec 21 01:24 update.sample*
```

I'll add a "remote" to my local repo and Configure my local repo to push to the server.

```
46704@Lenovo5 MINGW64 ~/OneDrive/Skrivbord/100days_python/rock_paper_scissors (main)
$ git remote add lenovo-vm "
[arash@192.168.68.123:32445]:/home/arash/rock_paper_scissors.git"
```

Then On my local machine, i'm going to run git push :

```
46704@Lenovo5 MINGW64 ~/OneDrive/Skrivbord/100days_python/rock_paper_scissors (main)
$ git push lenovo-vm main
arash@192.168.68.123's password:
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 1.15 KiB | 1.15 MiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
remote: THE POST-RECEIVE SCRIPT IS ALIVE
remote: Switched to branch 'main'
remote: THE WORK IS DONE.
To 192.168.68.123:32445]:/home/arash/rock_paper_scissors.git
 * [new branch]      main -> main
```

Now i can check the **output** directory that made before on the server.

```
arash@server:~/var/www/rock_paper_scissors/output$ ll
total 16
drwxr-xr-x 2 arash arash 4096 Dec 21 09:27 ./
drwxr-xr-x 3 arash arash 4096 Dec 21 03:54 ../
-rw-r--r-- 1 arash arash  977 Dec 21 09:27 README.md
-rw-r--r-- 1 arash arash 1451 Dec 21 09:27 main.py
```

As you see i made a **post-receive** Hook inside the VM that i can push one repo from my local machine to the server with help of this.

Guides followed:

- <https://daveceddia.com/deploy-git-repo-to-server/>
- <https://towardsdatascience.com/how-to-create-a-git-hook-to-push-to-your-server-and-github-repo-fe51f59122dd>