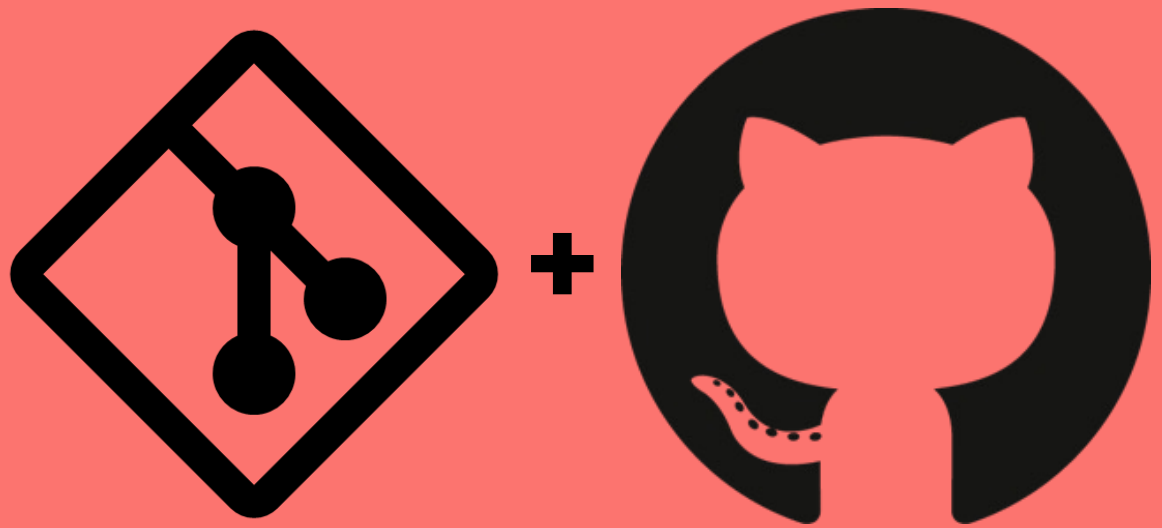
Git

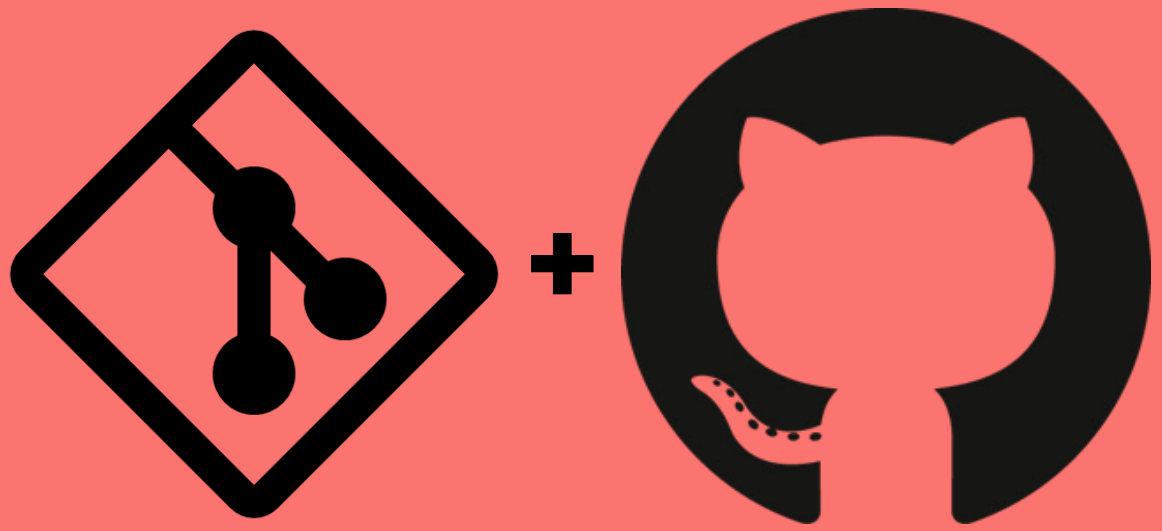
In Practice



1 Origin and Upstream

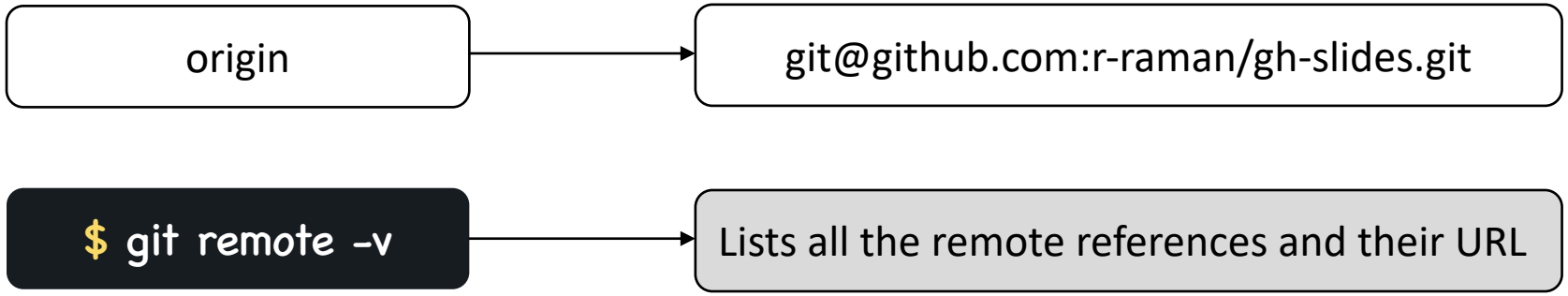
Git

In Practice



What Is origin?

1. *origin* is a shorthand name for the remote repository that a project was originally cloned from
2. *origin* is an *alias* and is not a property of the repository
3. There's no requirement to name the remote repository *origin*
   a. The word *origin* is a standard convention
   b. Another user can have a different name for the same repository
   c. Meaning, the names/refs of the repository are local to the machine



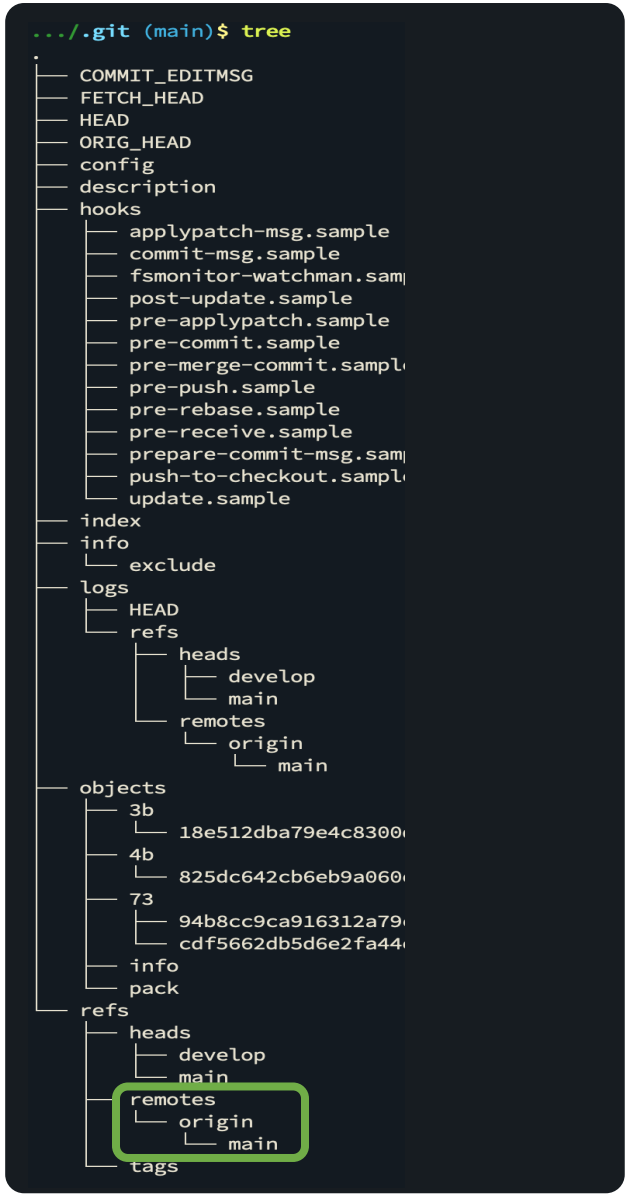
Command – git remote add

```
→ project-1$ cat ./.git/config
[core]
    repositoryformatversion = 0
    filemode = true
    bare = false
    logallrefupdates = true
    ignorecase = true
    precomposeunicode = true

[remote "origin"]
    url = ../remote  # Directory path / URL of the remote repo
    fetch = +refs/heads/*:refs/remotes/origin/*
```

```
$ git remote add origin <url>
```

Command – git remote add



What Is Upstream?

1. *Upstream* is where the repository is cloned from – eg., origin/master
2. Upstream branches are remote tracking branches
3. Git does not allow editing of upstream branches directly
4. Instead, Git supports linking downstream branches (master) to upstream branches (origin/master) through `--set-upstream` option
5. The `--set-upstream` option converts a local branch to a tracking branch by connecting the remote tracking branch (local remote branch)

"

Commands – Setting Upstream

```
→ project-1$ cat ./.git/config
[core]
    repositoryformatversion = 0
    filemode = true
    bare = false
    logallrefupdates = true
    ignorecase = true
    precomposeunicode = true

[remote "origin"]
    url = ../remote  # Directory path / URL of the remote repo
    fetch = +refs/heads/*:refs/remotes/origin/*

[branch "master"]
    remote = origin
    merge = refs/heads/master
```

`$ git branch --set-upstream-to=<remote>/<local branch>` = `$ git branch -u <remote> <local branch>`

Commands – Setting Upstream

```
$ git fetch --set-upstream-to=<remote>/<local branch>
```

<=>

```
$ git fetch -u <remote> <local branch>
```

Shortcut

```
$ git pull --set-upstream-to=<remote>/<local branch>
```

<=>

```
$ git pull -u <remote> <local branch>
```

Shortcut

```
$ git push --set-upstream-to=<remote>/<local branch>
```

<=>

```
$ git push -u <remote> <local branch>
```

Shortcut

Let us practice

Github


→ project-1$ git init
→ project-1$ git branch -M main # rename master to main
1
→ project-1$ echo "# gh-slides" >> README.md
→ project-1$ git add README.md
→ project-1$ git commit -m "Initial commit”
2
→ project-1$ git remote add origin git@github.com:r-raman/gh-slides.git
→ project-1$ git push -u origin main
3

Let us practice