working-with-Git-Remote

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work with Git remote repositories

pre requisite: create an account on https://github.com/ & login

Scenario 1: create a empty repository on remote ( github.com ) &
configure it as remote for a local repository

    on github -- login to your acct -- after login -- right top corner
click on '+' symbol & New Repository
    Enter the Reposiotry Name -- choose public -- create repository

    note down the Porject URL displyed on screen.  ex:- https://github.
com/lerndevops/test1.git

    create a new repository on the command line & configure the remote
        mkdir /projectA ; cd /projectA
        git init
        touch readme.txt
        git add .
        git commit -m "first commit"
        git remote add origin https://github.com/lerndevops/test1.git

    OR configure remote to an existing repository from the command line
        on your machine -- get into the existing project
        cd /path/to/project
        git remote add origin https://github.com/lerndevops/test1.git

Scenario 2: check the remote reposiotry configured to a local
repository, configure it if not configured & push the changes into
remote reposiotry

    on your machine "cd /path/to/project"
    git remote -v --> to see the configured remote reposiotry"
    git status --> ensure working directory is clean
    git remote add origin https://github.com/lerndevops/test1.git
    git push origin master --> to push the changes to remote reposiotry.


Scenario 3: get any differences between your local reposiotry & remote
repository, then merge the changes in remote to to local repository,
then push all changes together into remote repository

    on your machine "cd /path/to/project"
    git remote -v  --> to see the configured remote reposiotry, if not
configured, configure a remote reposiotry
    git remote add origin https://github.com/lerndevops/test1.git
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git fetch --> will fetch the differences between your local & remote reposiotry, if no differences found no output will be written on the screen

git pull --> if there are any changes in remote reposiotry which are not available in your local reposiotry then it will pull those changes into your local & merges with your local repository.

git push origin master --> to push the changes into remote repository

Note: if some changes in remote repo are not present in your local repository, git will reject your changes while your pushing them. so we need to do a "git fetch" to see the changes then "git pull" to pull those changes into local and then "git push" to update your remote repository.

so it is suggested that before your push to a remote repository it is always recomended to do git fetch & git pull then do git push.

Scenario 4: copy a remote repository into your local, make changes & push it back to remote.

git clone <remote project URL> -- to copy/download the remote repository into your local

ex:- git clone https://github.com/lerndevops/test1.git

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cd /path/to/project
make changes
git add .
git commit -m "any message"
git fetch
git pull
git push origin master
```

Scenario 5: copy a public repository on github into your account on github (simply taking a copy of publicly availabe project & make your own changes)

login to your github account
on github webpage in "seach bar" on top left
search for a project of your choice & open the project
if it s a publicly available project - you will see a "fork" option on top right -- click on it -- the project will be copied on to your account successfully.

goto your repositories & see it is available on your repositories list. you can clone it & make changes, push it back to your remote.

Note: all the chagnes you push will be pushed to the project under you account, but not to the project from where you copied, if you want

update/merge your chages into the original project you need to create a pull request & the original owner of the project will review & accept if they are ok.