Git-Day-2

17 November 2023   12:14

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Clone repo
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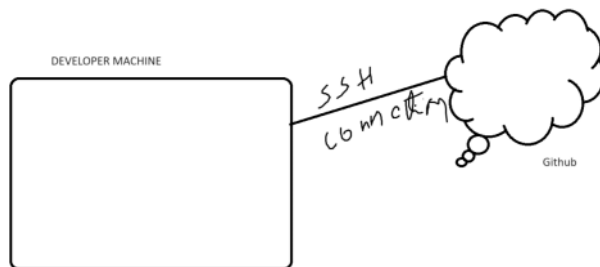
► To **copy entire remote repository as a local repository into developer machine** can be done using git **clone** command.

► In two ways we can repo using
  ○ https GitHub URL
  ○ SSH URL

► **Let's see how to clone repo using https URL**
  git clone <https_github_url>

  Since our repositories are public repositories we don't need to enter user-name & password while cloning repositories.
  If it's a private repository we have to enter credentials.

► **Now how clone repo using SSH**

  ○ To clone repo from GitHub to Developer machine **SSH Connection** must be established.

  ○ **How to setup SSH connection?**
    ▪ On the developer machine create ssh-key's for the user.
      ssh-keygen -t rsa

    ▪ Now public key & private key is generated for the user under current user home directory.

    ▪ Next add the public-key in GitHub account & don't share private key with anyone, it's like password.

  ○ Clone repo
    git clone <ssh url of repo>

    Homework: Try to clone repo in Linux machine using SSH

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PULL
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► Let's assume there are two developers DEVELOPER-1 & DEVELOPER-2 are working on same GitHub repository & master branch having 3-commits.

► Now DEVELOPER-1 & DEVELOPER-2 are cloned repositories made few changes in code & committed in Local repository.

► Now DEVELOPER-1 pushed the code into GITHUB repo & this got successful.

► **In the same way If DEVELOPER-2 want to push the code into GITHUB it will get failed. Why its failed?**
  Because when DEVELOPER-2 cloned repository it was in V3 & this version updated to V4 by DEVELOPER-1.
  Now DEVELOPER-2 can only update the V4 & not the V3.

► To fix the issue first DEVELOPER-2 has to pull the latest changes of remote master branch in GitHub repo & integrate into DEVELOPER-2 master branch in local repo & after that he need to push it.

► Let's see this practically
  ○ **GitHub repo:** With 3 commits

  ○ **Clone repo**
    DEVELOPER-1: git clone <repo>
    DEVELOPER-2: git clone <repo>

  ○ **Push code**
    DEVELOPER-1:
            git add file1.java
            git commit -m "Adding file1 by dev-1"
            git push origin master
    DEVELOPER-2: git push will be failed
            git add file2.java
            git commit -m "Adding file2 by dev-2"
            git push origin master

- **Pull the code**
  DEVELOPER-2: git pull origin master
                  git push origin master