#Deep Dive in Git & GitHub for DevOps Engineers – Day 9

1. **What is Git and why is it important?**
   - Git is a tool.
   - It is a Distributed Version Control System (DVCS), which allows us to version control.
   - Multiple people can work on same repository at same time and push changes made by individuals and can pull the changes made by team.

   Why git is important?

   - We can revert the changes if something is not working as per our expectations.
   - We can see the history of commits.
   - We can restore the staged files in local if those got deleted.
   - One who has access to repository can take clone of the repository in his local.
   - As everyone has local copy of repository we can commit our changes and push them and others can take pull and get those changes.

2. **What is difference Between Main Branch and Master Branch?**
   - There is no difference between master and main branch. When we are creating new repository, **main** branch is getting created as default branch.

3. **Can you explain the difference between Git and GitHub?**
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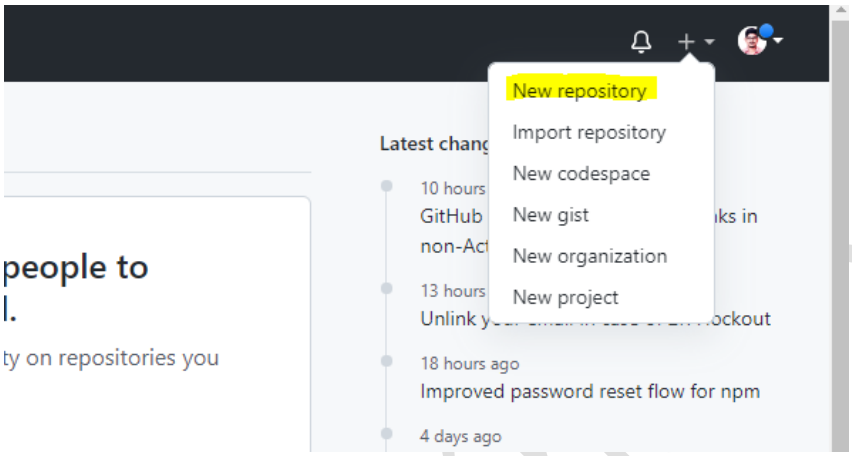
Git	GitHub
1. It is a software	1. It is a service
2. We can install git locally.	2. We can use GitHub from browser as it is cloud based.
3. It is a Command Line Interface based tool.	3. It is GUI based service.
4. Git is open source, so we can use it free.	4. GitHub is free, and it has subscription also where we can pay-as-go.

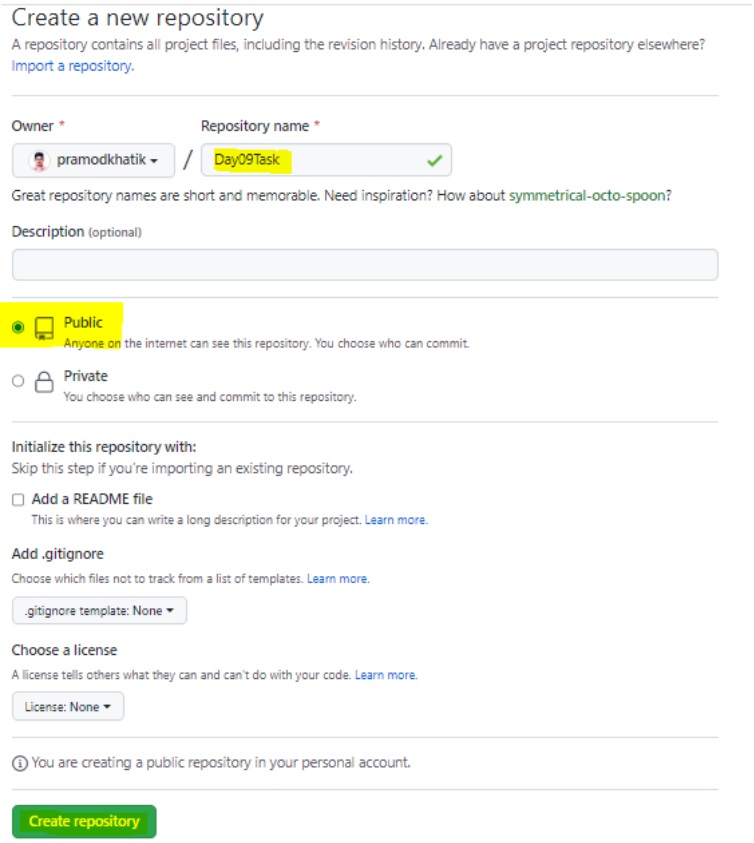
4. **How do you create a new repository on GitHub?**
   - **Step-I:** First we need to create a GitHub account.

Step-II: Once we create an account go to homepage and click on + sign in left corner or click on new  button.

Step-III: Click on new repository after clicking on + sign.



Step IV: After clicking on new repository we will get below page:



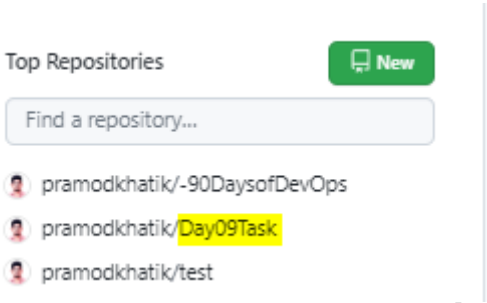
In above page give our repository name which should be unique.

Give description of our repository, which is optional.

Now select who can see your repository if you want to make it public and want to showcase your tasks and code you

can select public or if you want to make your repository private then select private.

Step V: At last click on create repository, your repository will get created and you can see it on homepage.



Step VI: If we haven't selected option to create README.md file at initial stage, then we need to follow below steps from Gitbash:

- echo "# Day09Task" >> README.md
- git init
- git add README.md
- git commit -m "first commit"
- git branch -M main
- git remote add origin git@github.com:pramodkhatik/Day09Task.git
- git push -u origin main

Step VII: Now add the username and email if not provided already, by using below commands:

- git config --global user.name "Your Name"
- git config --global user.email youremail@yourdomain.com

5. What is difference between local & remote repository? How to connect local to remote?

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Local Repository	Remote Repository
1. Local repositories are in our local system.	1. Remote repositories are in GitHub.
2. Only we can see the local repository.	2. We our teammates and all who has access to the remote repository can access it.
3. We need to use below command to take clone in our system from remote repository: **git clone <Repository_URL>**	3. We need to use below command to connect local repository to remote after creating blank repository: **git remote add origin <Repository_URL>**