## **6. Working with Remote Repositories in Git**

A **remote repository** is a version of your repository hosted on the internet or a network. This allows multiple developers to collaborate on a project.

### **6.1 Adding a Remote Repository**

To connect a local repository to a remote one (e.g., GitHub, GitLab, or Bitbucket), use:

git remote add origin <repository\_url>

**Example:**  
Let's say you created a repository on GitHub with the URL:

https://github.com/kundan/my-project.git

To link your local project to this remote repository:

git remote add origin https://github.com/kundan/my-project.git

This sets origin as the name for your remote repository.

### **6.2 Viewing Remote Repositories**

To check the remote repositories linked to your project, use:

git remote -v

**Example Output:**

origin https://github.com/kundan/my-project.git (fetch)

origin https://github.com/kundan/my-project.git (push)

This shows that origin is the remote repository for fetching and pushing changes.

### **6.3 Fetching Changes from Remote**

Fetching retrieves the latest changes from the remote repository without merging them into your local branch.

git fetch origin

**Example:** If another developer has pushed new changes to the remote repository, running git fetch origin will download those changes, but your working directory remains unchanged.

To view the fetched changes:

git log origin/main --oneline

### **6.4 Pulling Changes from Remote**

Pulling updates your local repository with the latest changes from the remote repository.

git pull origin main

This is equivalent to git fetch followed by git merge.

**Example:** If someone else has added commits to the main branch on GitHub, running:

git pull origin main

will update your local main branch with those changes.

### **6.5 Pushing Changes to Remote**

To upload your local changes to the remote repository:

git push origin main

**Example:** After committing changes locally, you can push them to GitHub:

git commit -m "Updated the README file"

git push origin main

### **6.6 Changing the Remote Repository URL**

If you need to change the linked remote repository:

git remote set-url origin <new\_repository\_url>

**Example:**

git remote set-url origin https://github.com/kundan/new-repo.git

### **6.7 Removing a Remote Repository**

To remove the remote link:

git remote remove origin

This disconnects your local repository from the remote.

### **Summary**

Would you like a practical demo for better understanding?