

Git & GitLab Workflow – Detailed Notes

1. .gitignore

The .gitignore file tells Git which files or directories it should ignore in the version control system.

Why Use:

- Prevents committing temporary or unnecessary files.
- Avoids storing sensitive information in the repository.
- Keeps the repo clean from build artifacts and OS-generated files.

Example:

```
...  
# Ignore log files  
*.log  
# Ignore node modules  
node_modules/  
# Ignore env file  
.env  
...
```

2. Ignoring Unwanted Files

Steps:

1. Create `.gitignore` in the root.
2. Add file/folder patterns to ignore.
3. Commit `.gitignore`.
4. Remove tracked files you want ignored using `git rm --cached filename`.

3. Branching and Merging in Git

Branching:

- Create separate development lines without affecting main code.

Commands:

```
...  
git branch feature-branch  
git checkout feature-branch  
...
```

Merging:

- Combines changes from one branch into another.

Commands:

```
...  
git checkout main  
git merge feature-branch  
...
```

Types:

- Fast-forward merge
- Three-way merge

4. Creating a Branch in GitLab

Steps:

1. Create locally: ``git checkout -b feature-branch``
2. Push to GitLab: ``git push origin feature-branch``

5. Creating a Merge Request in GitLab

Steps:

1. Push your branch to GitLab.
2. Go to Merge Requests → New Merge Request.
3. Select source & target branches.
4. Add title, description, reviewers.
5. Create Merge Request.

6. Resolving Merge Conflicts

Steps:

1. Git marks conflicts inside files.
2. Edit file to keep correct changes.
3. Mark resolved: ``git add filename``
4. Commit changes: ``git commit``

7. Cleaning Up and Pushing Back to Remote

Delete Local Branch:

...

`git branch -d branch-name`

...

Delete Remote Branch:

...

`git push origin --delete branch-name`

...

Remove untracked files:

...

`git clean -f`

...

Push changes:

...

`git push origin main`

...

Git Workflow Diagram

Git Workflow Diagram: Create Branch (Local) → Push Branch to GitLab → Create Merge Request
→ Review & Approve → Merge to Main → Delete Old Branches