

# Git Workflow for Implementing New Features

## 1. Ensure Local `main` Branch is Up to Date

First, make sure your local `main` branch is up-to-date with the remote repository:

```
git checkout main
```

```
git pull origin main
```

## 2. Create a New Feature Branch

Create a new branch from the `main` branch for your new feature:

```
git checkout -b feature/new-feature-name
```

Naming convention: It's common to name the branch starting with `feature/` followed by a descriptive name of the feature.

## 3. Develop Your Feature

Make your changes in the codebase and commit them incrementally:

```
git add .
```

```
git commit -m "Implement the new feature XYZ"
```

Repeat the process of making changes and committing them as necessary.

## 4. Push Your Feature Branch to the Remote Repository

Push your local feature branch to the remote repository:

```
git push -u origin feature/new-feature-name
```

The `-u` flag sets the upstream tracking for the branch, so future pushes and pulls will default to this branch.

## **5. Create a Pull Request (PR)/Merge Request (MR)**

Go to your Git hosting service (e.g., GitHub, GitLab, Bitbucket) and create a Pull Request (PR) or Merge Request (MR) to merge your feature branch into the `main` branch. Provide a clear description of the feature and any relevant information.

## **6. Code Review and Address Feedback**

Collaborators will review your PR/MR. They might request changes or suggest improvements. If changes are requested, update your code in the feature branch and push the changes:

```
git add .  
git commit -m "Address review feedback"  
git push
```

## **7. Merge the Feature Branch into `main`**

Once the PR/MR is approved, merge your feature branch into `main`. This can usually be done via the web interface of your Git hosting service.

## **8. Clean Up**

After the feature branch has been merged into `main`, delete the feature branch both locally and remotely:

```
git checkout main  
git branch -d feature/new-feature-name  
git push origin --delete feature/new-feature-name
```

## 9. Update Local `main` Branch

Pull the latest changes into your local `main` branch to make sure it reflects the most recent updates:

```
git checkout main
```

```
git pull origin main
```