

Devops Practical 3:

a. Create a Git repository, initialize it, and add a Python project

Step 1: Create a Project Directory

```
mkdir git-prac3
```

```
cd git-prac3
```

Step 2: Create a Sample Python Project

```
echo "print('Hello from main branch')" > app.py
```

Step 3: Initialize Git

```
git init
```

Step 4: Add Files and Commit

```
git add .
```

```
git commit -m "Initial commit with basic app.py"
```

Step 5: Create a Remote Repo on GitHub

- Go to <https://github.com>
- Click New Repository → Name: git-prac3
- **DO NOT** initialize with README

Step 6: Add Remote and Push(in VSCode)

```
git remote add origin https://github.com/YOUR_USERNAME/git-prac3.git
```

```
git branch -M main
```

```
git push -u origin main
```

b. Demonstrate branching and pull requests

Step 1: Create a Feature Branch

```
git checkout -b feature/greet-user
```

Step 2: Add New Code

Edit app.py:

```
name = input("Enter your name: ")
```

```
print(f"Hello, {name}!")
```

Then in Powershell:

```
git add app.py
```

```
git commit -m "Add user greeting feature"
```

```
git push origin feature/greet-user
```

Step 3: Create a Pull Request

1. Go to your repo on GitHub
 2. You'll see a prompt: **"Compare & pull request"**
 3. Click it → Add a description → Click **"Create pull request"**
 4. Review and click **"Merge pull request"**
 5. Confirm merge and delete branch (optional)
-

c. Simulate a conflict and resolve it

Step 1: Create Two Feature Branches from Main

```
git checkout main
```

```
git checkout -b feature/conflict-A
```

Change app.py:

```
print("This is branch A")
```

Then:

```
git add app.py
```

```
git commit -m "Change message in branch A"
```

```
git push origin feature/conflict-A
```

Optional:

Now create another conflicting branch:

```
git checkout main
```

```
git checkout -b feature/conflict-B
```

Edit the **same line** in app.py:

```
print("This is branch B")
```

Then:

```
git add app.py
```

```
git commit -m "Change message in branch B"
```

```
git push origin feature/conflict-B
```

Optional Close_____

Step 2: Merge One Branch First (e.g., conflict-A)

- On GitHub → Create PR from feature/conflict-A → Merge into main

Step 3: Create PR from conflict-B

- On GitHub → Create PR from feature/conflict-B
- GitHub will **detect a conflict**
- Click “**Resolve conflict**”
- Manually fix the conflict. Example:

```
<<<<<<< HEAD
```

```
print("This is branch A")
```

```
=====
```

```
print("This is branch B")
```

```
>>>>>>> feature/conflict-B
```

Edit it to:

```
print("This is the resolved version")
```

Click “**Mark as resolved**” → Commit → Merge the pull request