

# Flask Git & GitHub Setup Guide for P3 Advanced Programming

## Step 1: Navigate to Your Project Directory

```
cd P3-AdvPro/UNIT1-INTRO-TO-FLASK/01-Intro
```

## Step 2: Set Up Python Virtual Environment

```
# Create virtual environment
python -m venv .venv

# Activate virtual environment
# On Windows:
.venv\Scripts\activate
# On Mac/Linux:
source .venv/bin/activate
```

## Step 3: Install Flask and Create Requirements File

```
# Install Flask
pip install Flask

# Create requirements.txt
pip freeze > requirements.txt
```

## Step 4: Create .gitignore File

```
echo ".venv/  
__pycache__/  
*.pyc  
*.pyo  
*.pyd  
.env  
.DS_Store  
*.log" > .gitignore
```

## Step 5: Create Basic Flask Application

```
echo "from flask import Flask  
  
app = Flask(__name__)  
  
@app.route('/')  
def hello():  
    return 'Hello, Flask! This is my first Flask app.'  
  
if __name__ == '__main__':  
    app.run(debug=True)" > app.py
```

## Step 6: Initialize Git Repository

```
git init
```

## Step 7: Add Files to Git

```
git add .
```

## Step 8: Commit Your Changes

```
git commit -m "Initial commit: Flask setup"
```

## Step 9: Create GitHub Repository and Push

### First, authenticate with GitHub:

```
gh auth login
```

Follow the prompts:

1. Choose "[GitHub.com](https://github.com)"
2. Choose "HTTPS"
3. Choose "Login with a web browser"
4. Copy the one-time code shown in the terminal
5. Press Enter to open browser
6. Paste the code and authorize

### Alternative 1 step-by-step method:

```
# Create repository on GitHub
gh repo create unit1-flask-intro --public

# Add remote origin
git remote add origin https://github.com/YOUR_USERNAME/unit1-flask-intro.git

# Push to GitHub
git branch -M main
git push -u origin main
```

### Alternative 2 step-by-step method:

```
# Create repository and push (replace YOUR_REPO_NAME)
gh repo create unit1-flask-intro --public --source=. --remote=origin --push
```

# Step 10: Verify Everything Works

```
# Check git status
git status

# Check your requirements
cat requirements.txt

# Test your Flask app
python app.py
# Visit http://127.0.0.1:5000 in your browser

# View repository online
gh repo view --web
```

## Project Structure

Your final project structure should look like:

```
P3-AdvPro/
├── UNIT1-INTRO-TO-FLASK/
│   ├── 01-Intro/
│   │   ├── .venv/          # Virtual environment (ignored by git)
│   │   ├── app.py          # Flask application
│   │   ├── requirements.txt # Python dependencies
│   │   ├── .gitignore      # Git ignore file
│   │   └── .git/           # Git repository
```

## Important Notes

- Keep your virtual environment activated when working on the project
- Always run `pip freeze > requirements.txt` after installing new packages
- The `.venv/` folder is ignored by git (it's in `.gitignore`)
- To deactivate virtual environment: `deactivate`

# Quick Commands for Future Use

```
# Activate environment and run app
source .venv/bin/activate # Mac/Linux
# OR
.venv\Scripts\activate    # Windows
python app.py

# Update requirements after installing packages
pip freeze > requirements.txt
git add . && git commit -m "Update dependencies" && git push
```

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*Remember: Always keep your virtual environment activated when working on Flask projects!*