.

# Lesson 10 Demo 01

# Creating and Executing a Basic GitHub Actions Workflow

**Objective:** To create and execute a basic GitHub Actions workflow for automated testing and deployment, enhancing the efficiency and reliability of project development processes

**Tools required:** GitHub

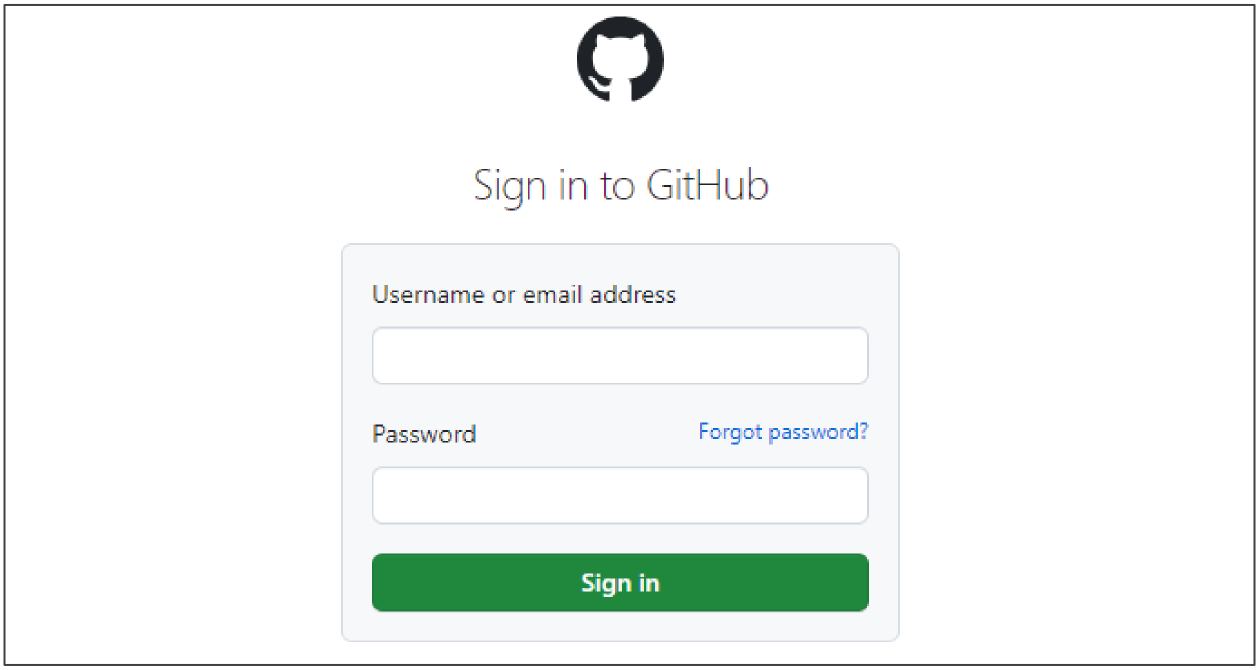
**Prerequisites:** None

Steps to be followed:

1. Create a new GitHub repository
2. Create and execute a new workflow file

## Step 1: Create a new GitHub repository

1.1 Open the browser in your lab, go to **github.com**, and log in to your account



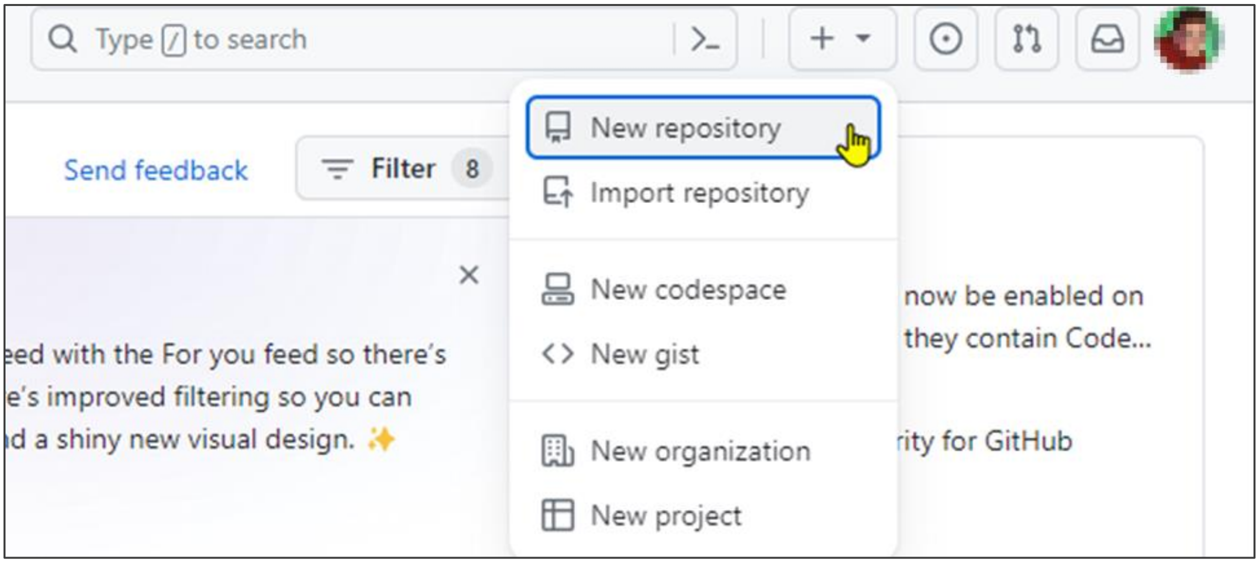
Sign in to GitHub

Username or email address

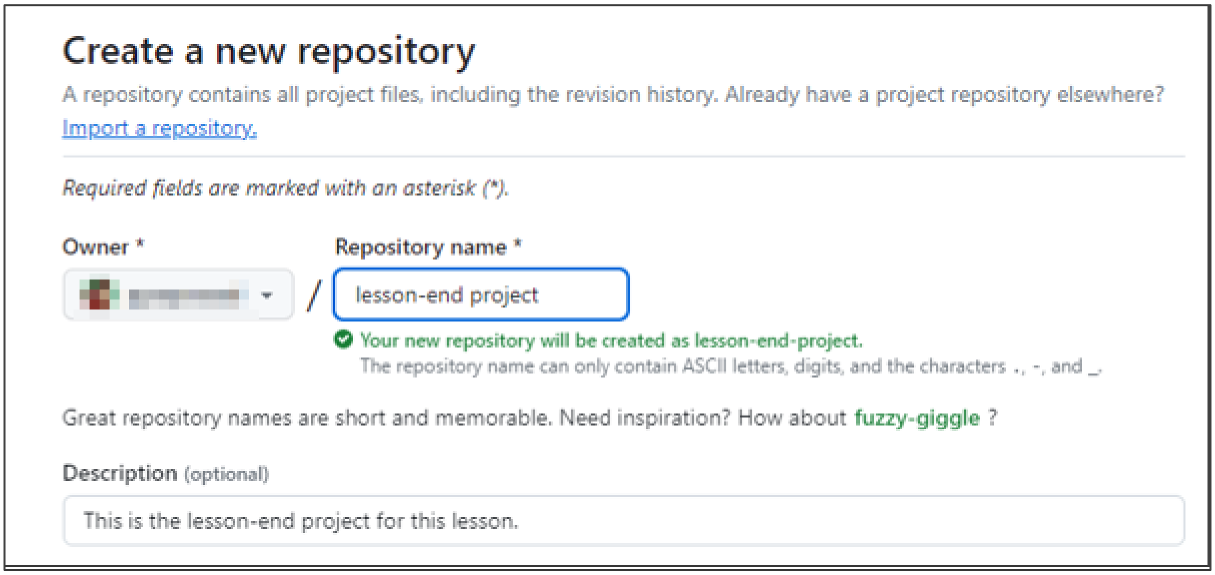
Password

**Note**: If you do not have a GitHub account, visit the official website at https://github.com/signup and create a new account

1.2 Click on the **+** icon from the upper-right corner of the page and select **New repository** from the drop-down menu



1.3 Enter the name and description for the GitHub repository



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

*Required fields are marked with an asterisk (*).*

Owner *

Repository name *

lesson-end project

Your new repository will be created as lesson-end-project.

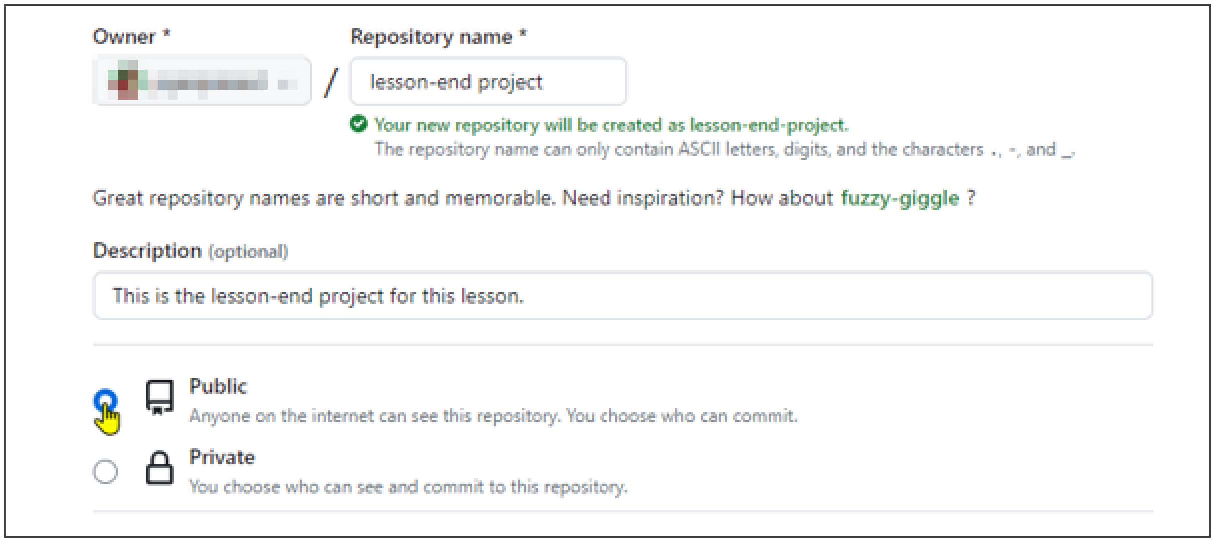
The repository name can only contain ASCII letters, digits, and the characters ., -, and _.

Great repository names are short and memorable. Need inspiration? How about fuzzy-giggle ?

Description (optional)

This is the lesson-end project for this lesson.

1.4 Choose **Public** for the repository type



Owner * [redacted] / Repository name * lesson-end project

Your new repository will be created as lesson-end-project.
The repository name can only contain ASCII letters, digits, and the characters ., -, and _.

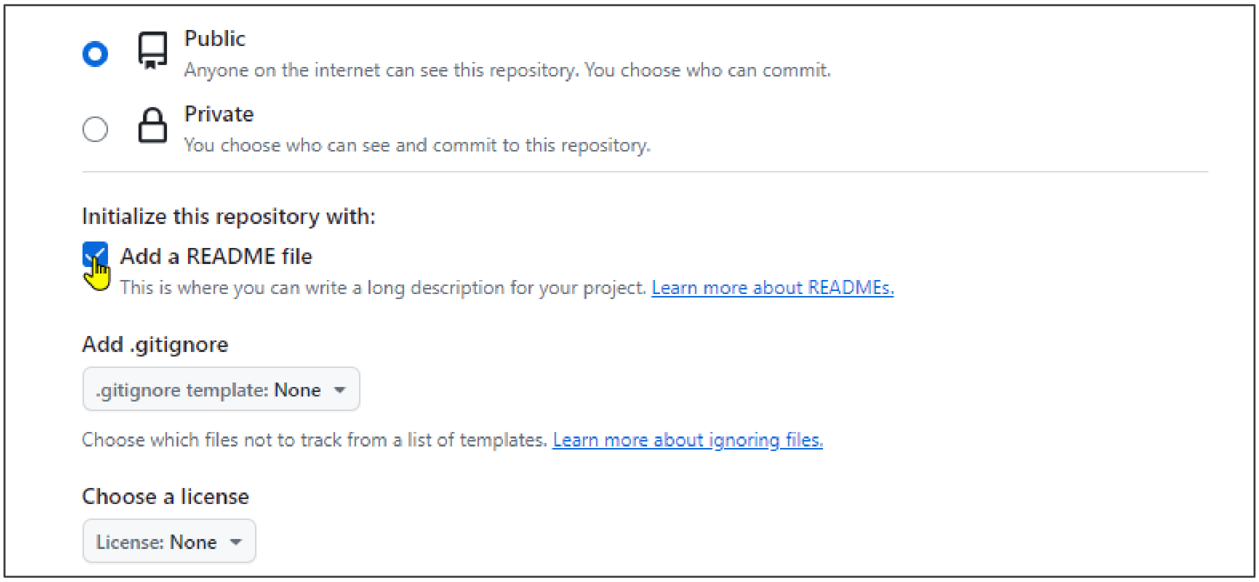
Great repository names are short and memorable. Need inspiration? How about fuzzy-giggle ?

Description (optional): This is the lesson-end project for this lesson.

● Public
Anyone on the internet can see this repository. You choose who can commit.

○ Private
You choose who can see and commit to this repository.

1.5 Select **Initialize this repository with a README** to include a README file for the repository



● Public
Anyone on the internet can see this repository. You choose who can commit.

○ Private
You choose who can see and commit to this repository.

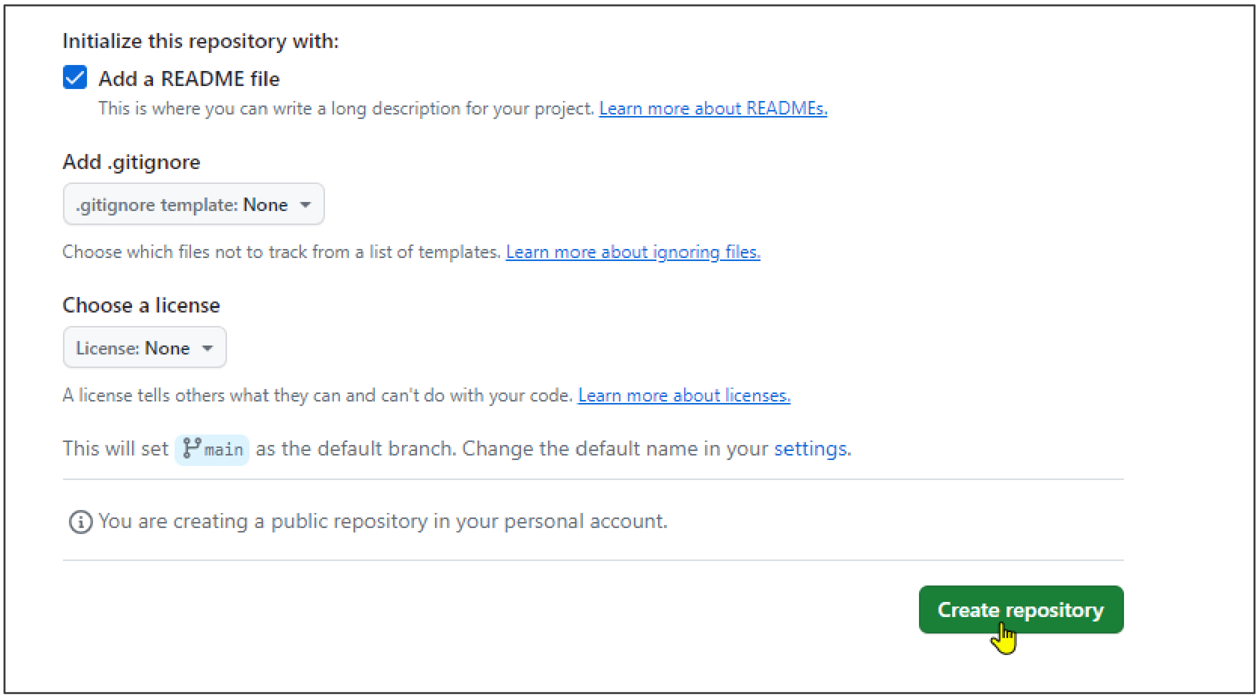
Initialize this repository with:

☑ Add a README file
This is where you can write a long description for your project. Learn more about READMEs.

Add .gitignore
.gitignore template: None
Choose which files not to track from a list of templates. Learn more about ignoring files.

Choose a license
License: None

1.6 Click on the **Create repository** button



Initialize this repository with:

☑ Add a README file

This is where you can write a long description for your project. Learn more about READMEs.

Add .gitignore

.gitignore template: None

Choose which files not to track from a list of templates. Learn more about ignoring files.

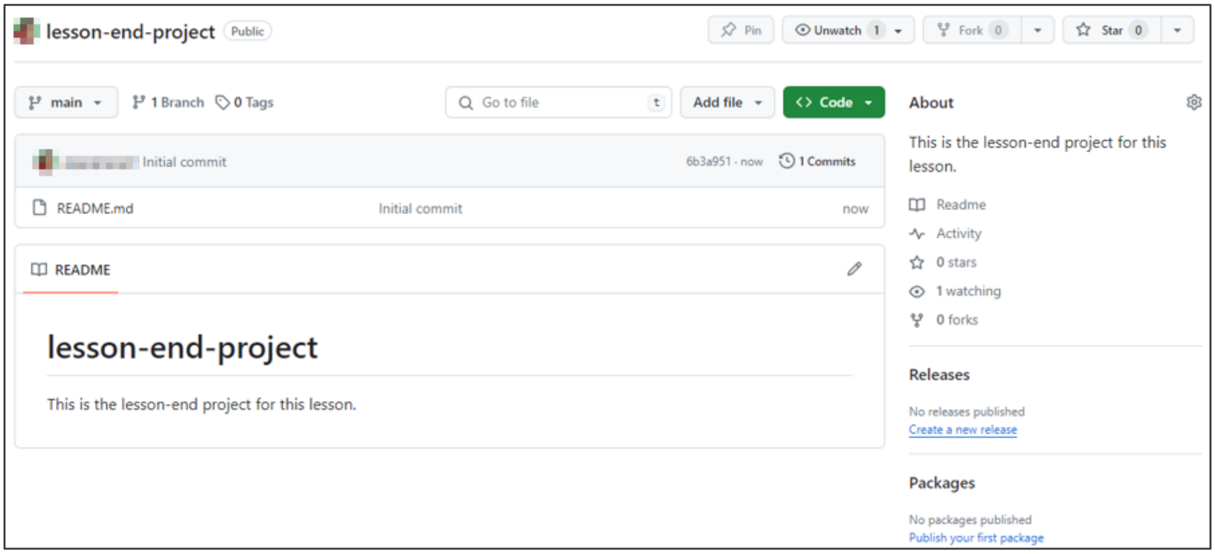
Choose a license

License: None

A license tells others what they can and can't do with your code. Learn more about licenses.

This will set `main` as the default branch. Change the default name in your settings.

You are creating a public repository in your personal account.



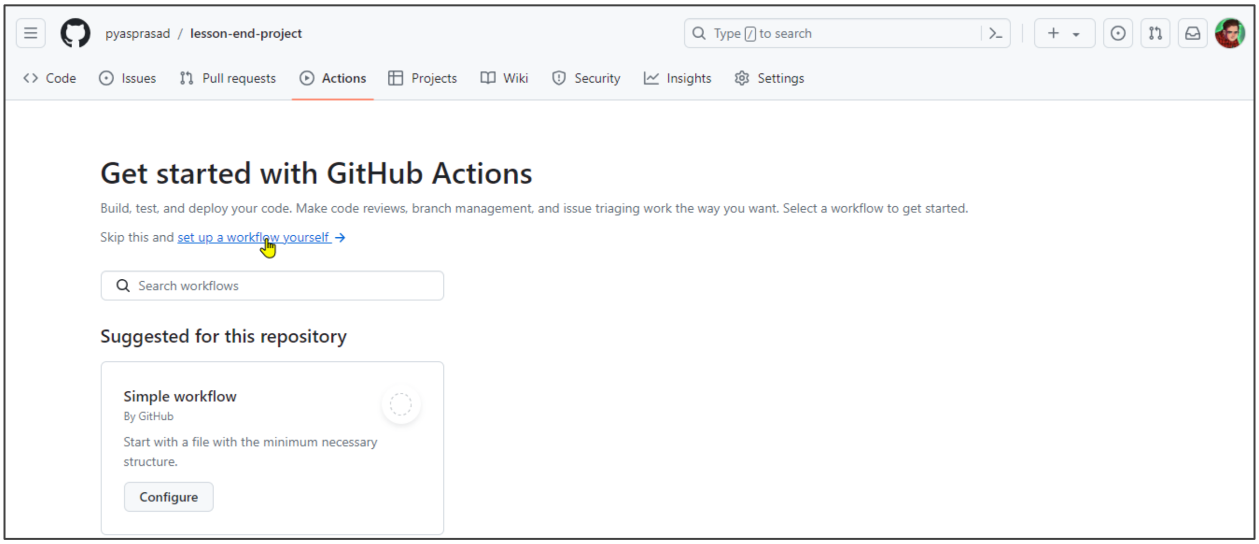
lesson-end-project

This is the lesson-end project for this lesson.

The remote GitHub repository is created.

## Step 2: Create and execute a new workflow file

2.1 Navigate to the **Actions** tab and click on **set up a workflow yourself** to create a **.github/workflows** directory



Get started with GitHub Actions

Build, test, and deploy your code. Make code reviews, branch management, and issue triaging work the way you want. Select a workflow to get started.

Skip this and set up a workflow yourself →

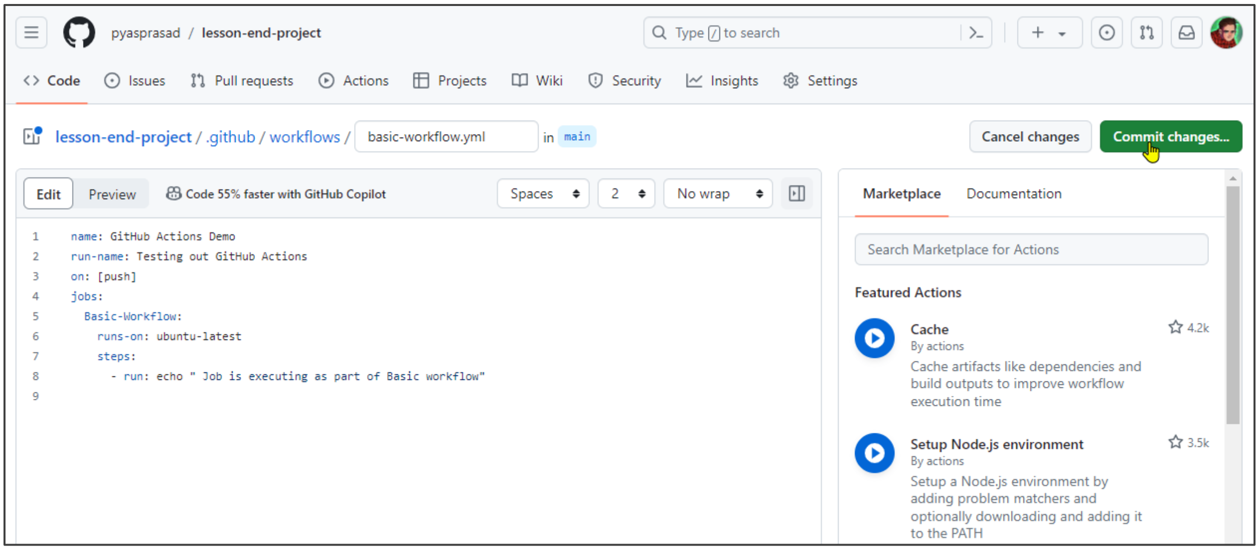
Suggested for this repository

Simple workflow
By GitHub
Start with a file with the minimum necessary structure.

2.2 Create a new workflow file **basic-workflow.yml** with the below code, then click on **Commit changes**:

```
name: GitHub Actions Demo
run-name: Testing out GitHub Actions
on: [push]
jobs:
  Basic-Workflow:
    runs-on: ubuntu-latest
    steps:
      - run: echo " Job is executing as part of Basic workflow"
```

.


pyaspprasad / lesson-end-project
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Cancel changes
Commit changes...
Edit
Preview
Code 55% faster with GitHub Copilot
Marketplace
Documentation
Search Marketplace for Actions
Featured Actions
Cache
By actions
Cache artifacts like dependencies and build outputs to improve workflow execution time
4.2k
Setup Node.js environment
By actions
Setup a Node.js environment by adding problem matchers and optionally downloading and adding it to the PATH
3.5k

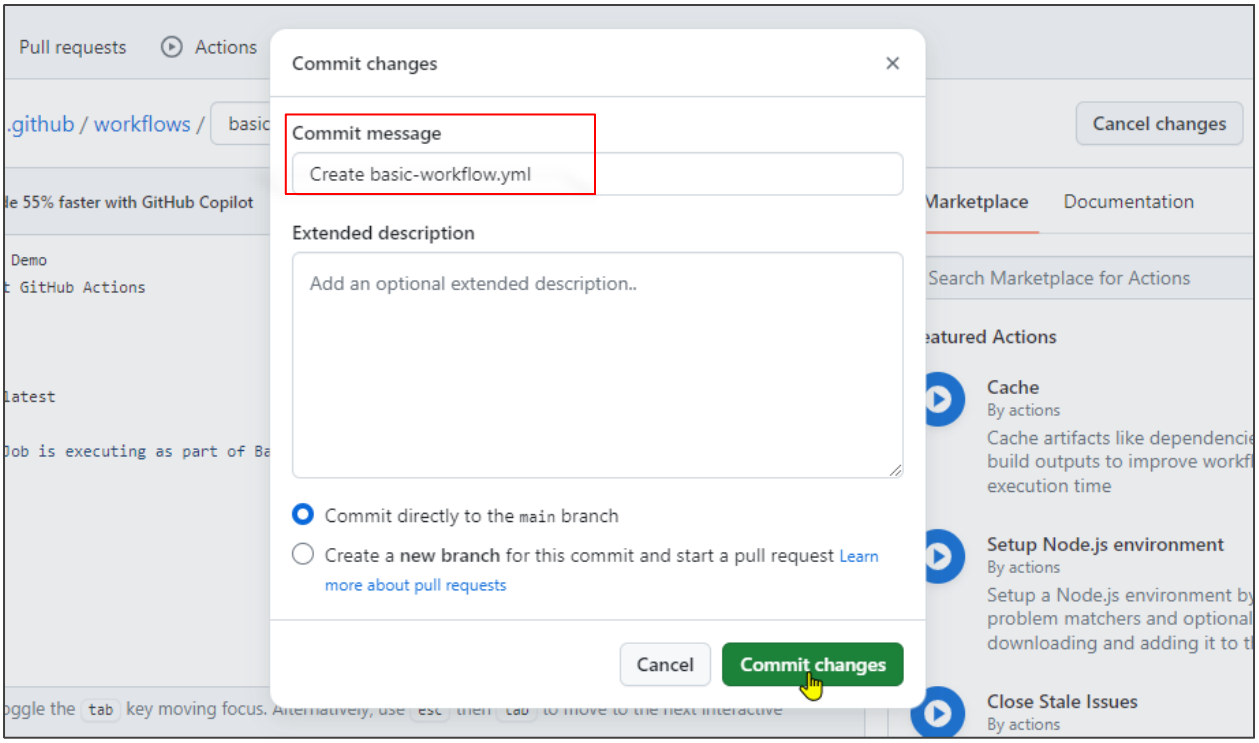
lesson-end-project / .github / workflows / basic-workflow.yml in main

Spaces 2 No wrap

```yaml
name: GitHub Actions Demo
run-name: Testing out GitHub Actions
on: [push]
jobs:
  Basic-Workflow:
    runs-on: ubuntu-latest
    steps:
      - run: echo " Job is executing as part of Basic workflow"

```

2.3 Add the **Commit message** as **Create basic-workflow.yml** and then click on **Commit changes** to save the workflow file in the code repository


Pull requests
Actions
.github / workflows / basic
Cancel changes
le 55% faster with GitHub Copilot
Marketplace
Documentation
Search Marketplace for Actions
atured Actions
Cache
By actions
Cache artifacts like dependenci
build outputs to improve workf
execution time
Setup Node.js environment
By actions
Setup a Node.js environment b
problem matchers and optional
downloading and adding it to t
Close Stale Issues
By actions
Cancel
Commit changes

Commit changes

Commit message

Create basic-workflow.yml

Extended description

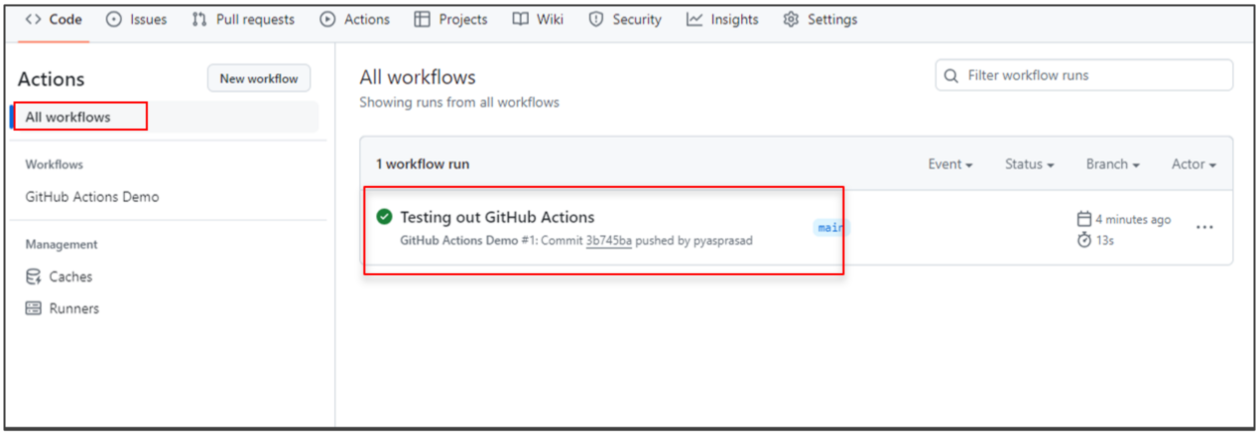
Add an optional extended description..

● Commit directly to the main branch

○ Create a **new branch** for this commit and start a pull request Learn more about pull requests

.

2.4 Navigate to the **Actions** tab to access the workflow execution, and under **All workflows,** click on the **Testing out GitHub Actions**



All workflows

Showing runs from all workflows

1 workflow run

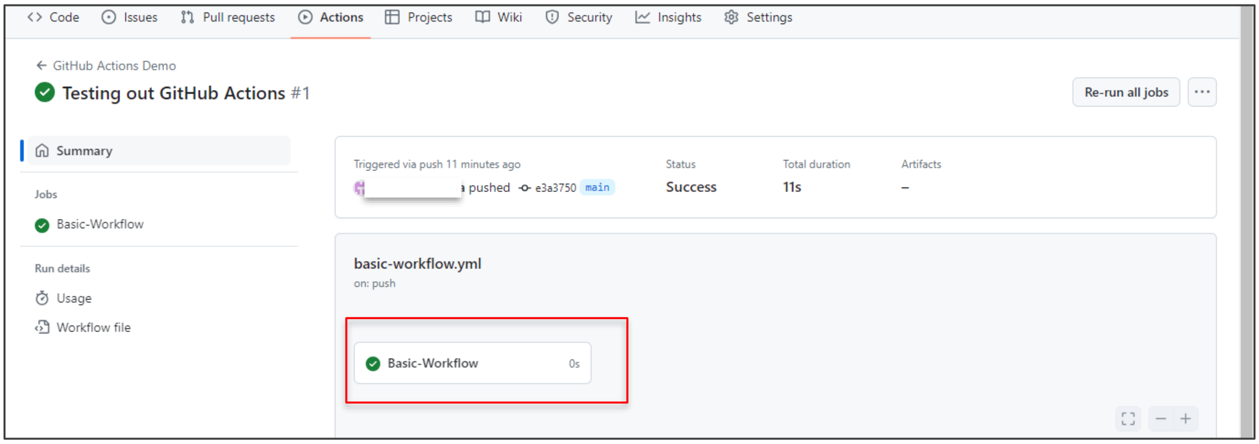
Testing out GitHub Actions

GitHub Actions Demo #1: Commit 3b745ba pushed by pyasprasad

4 minutes ago

13s

2.5 Click on the **Basic-Workflow** to view the job execution details



Testing out GitHub Actions #1

Triggered via push 11 minutes ago

[redacted] pushed e3a3750 main

Status: Success

Total duration: 11s

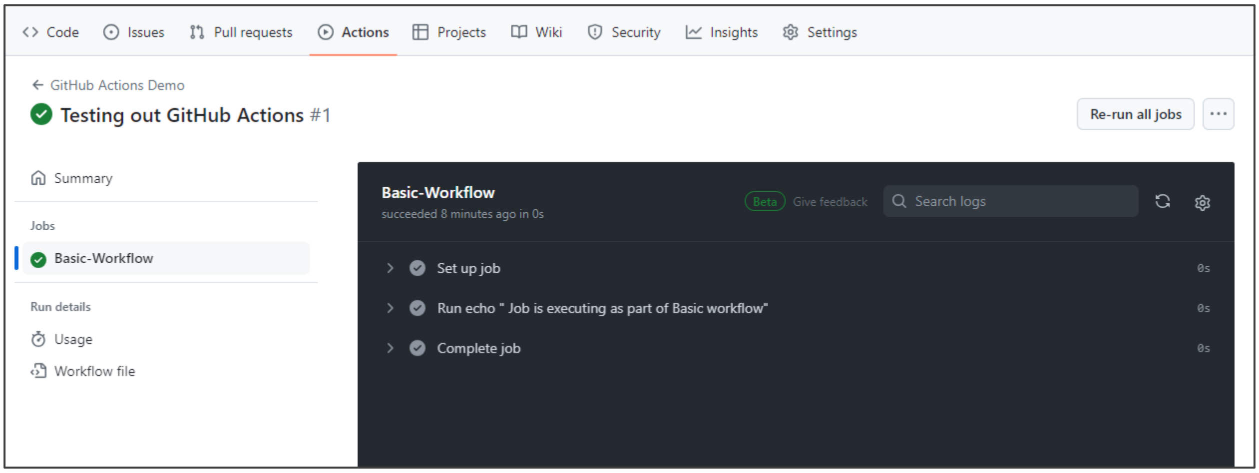
Artifacts: –

basic-workflow.yml

on: push

Basic-Workflow 0s

The **Basic-Workflow** screen will appear as shown below:



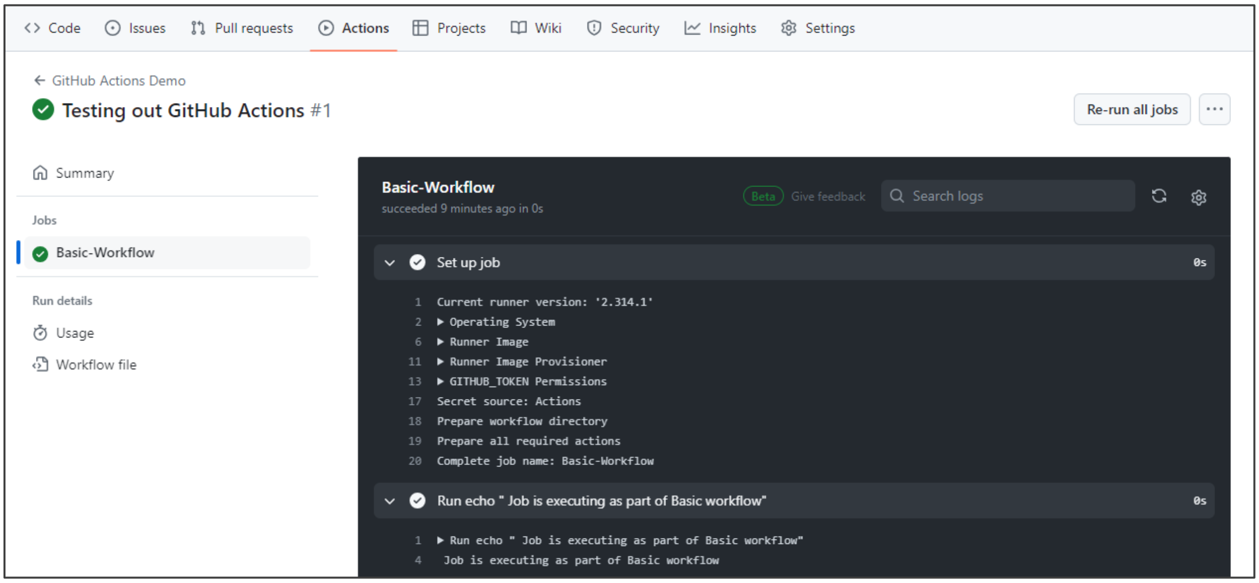
Testing out GitHub Actions #1

Basic-Workflow

succeeded 8 minutes ago in 0s

```
Set up job                                                   0s
Run echo " Job is executing as part of Basic workflow"      0s
Complete job                                                 0s
```

2.6 Expand the output under the **Basic-Workflow**



Testing out GitHub Actions #1

Basic-Workflow

Basic-Workflow
succeeded 9 minutes ago in 0s

Set up job 0s

```
Current runner version: '2.314.1'
▶ Operating System
▶ Runner Image
▶ Runner Image Provisioner
▶ GITHUB_TOKEN Permissions
Secret source: Actions
Prepare workflow directory
Prepare all required actions
Complete job name: Basic-Workflow
```

Run echo " Job is executing as part of Basic workflow" 0s

```
▶ Run echo " Job is executing as part of Basic workflow"
 Job is executing as part of Basic workflow
```

By following these steps, you have successfully created and executed a basic GitHub Actions workflow for automated testing and deployment, enhancing the efficiency and reliability of project development processes.