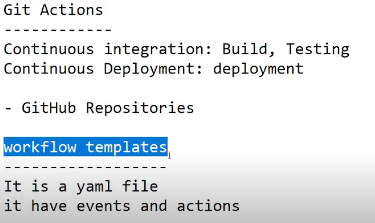
**Git Actions (Git CI/CD)**

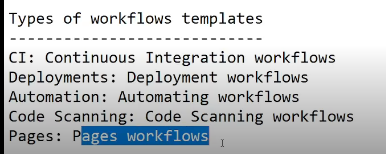
**Git Actions** are **automated tasks you can perform in GitHub using workflows**.

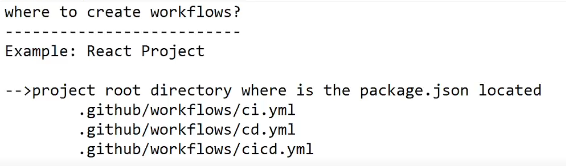
They help **automate testing, building, and deploying your code** whenever you **push code or open pull requests**.

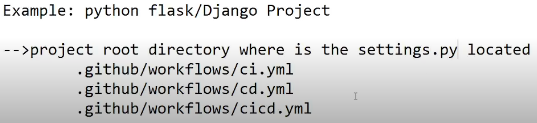
**Key points:**

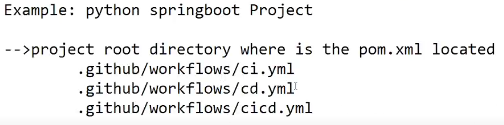
* Part of **GitHub Actions** (a CI/CD feature of GitHub).
* Helps in **Continuous Integration (CI)** and **Continuous Deployment (CD)**.
* You can write workflows in **YAML files** in .github/workflows/.
* Triggers automatically on **events** like push, pull\_request, or on a schedule.
* Uses **runners** (servers) to execute jobs like testing, building, or deploying your application automatically.

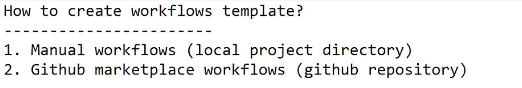


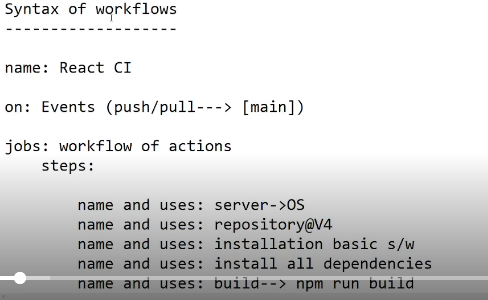


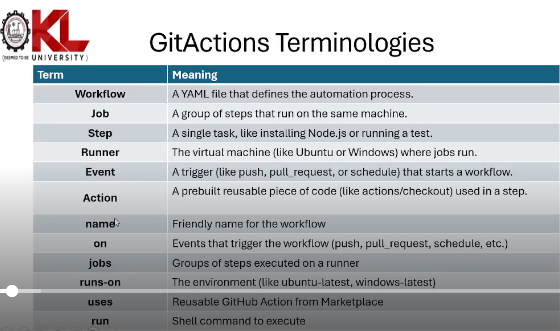


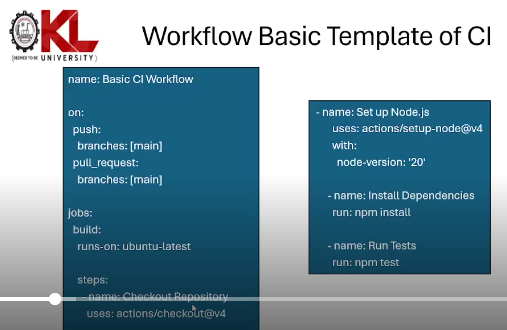


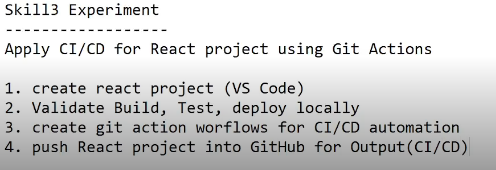


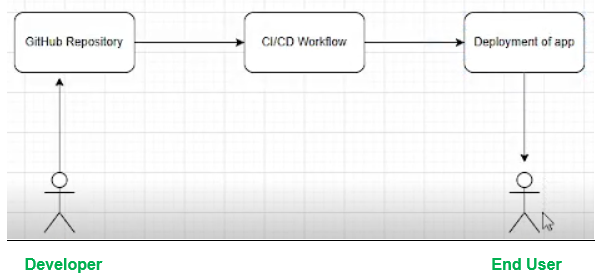




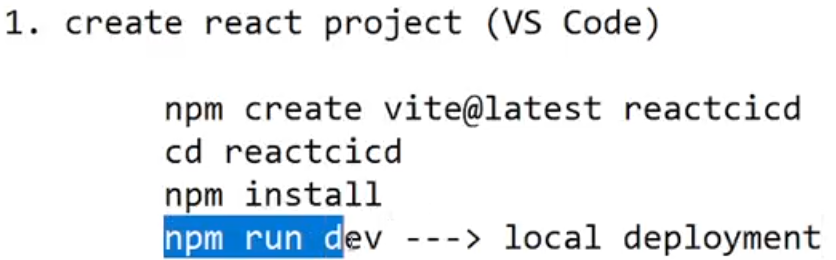








**Manual Workflow**



**Note:** Select variant (JavaScript + SWC) while creating a new project.

**2. Validate Build, Test,Deploy locally**

Build => npm run build

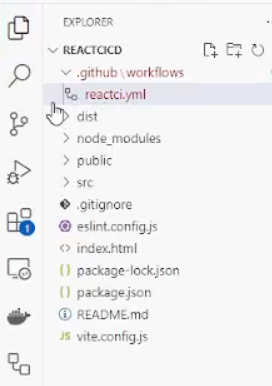
Test => npm test - -if-present

Deploy => npm run dev

**Step-3:**

Create a folder named .github\workflows, inside this folder, create a file named reactci.yml

As follows:



Reactci.yml file

==============================================

name: React CI

on:

  push:

    branches: [main]

  pull\_request:

    branches: [main]

jobs:

  build-and-test:

    runs-on: ubuntu-latest

    steps:

      - name: Checkout repository

        uses: actions/checkout@v4

      - name: Set up Node.js

        uses: actions/setup-node@v4

        with:

          node-version: '18'

      - name: npm ci

        run: npm ci

      - name: Install dependencies

        run: npm install vite@latest

      - name: Run tests

        run: npm test --if-present

      - name: Build project

        run: npm run build --if-present

============================================

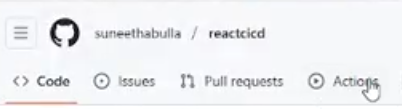
Now save this file.

And push into github.

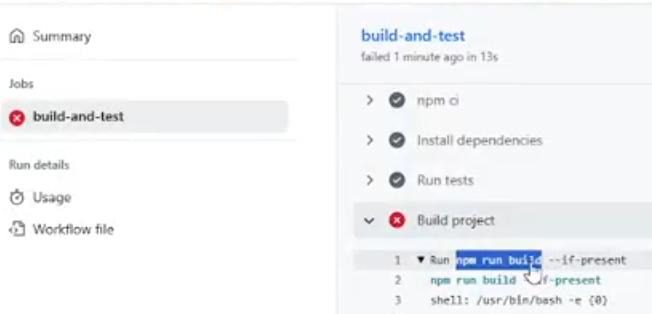
**Note:** We can see output only in github only. We can’t see in the browser.

Create a new repository in the github, named as reactcicd and push above react project into it.

After pushing, In the github click on “Actions” Tab (it appears after “Pull Request” Tab), it will automatically detect “github/workflows” folder to execute.



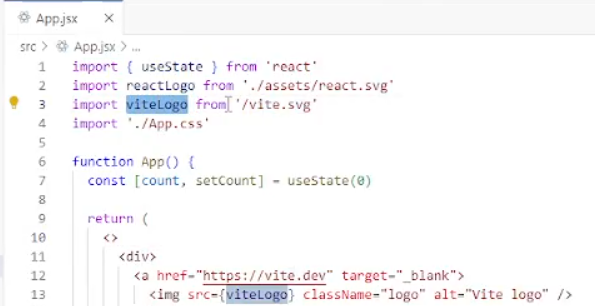
We will get error.



Errror is could not load vite.svg file

In VS code open App.jsx file and update viteLogo with reactLogo, because viteLogo is in the public folder which was not detected by the Git Actions.

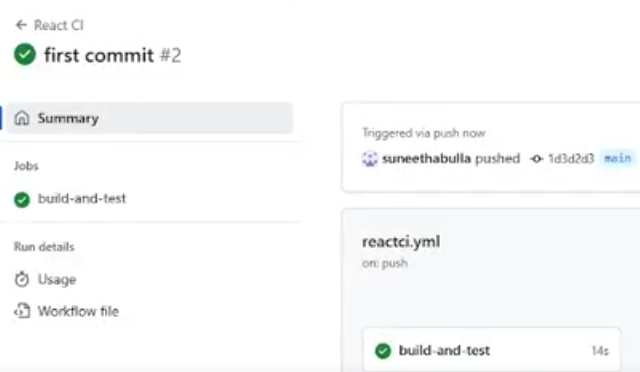
Remove 3rd line and update 13th line.



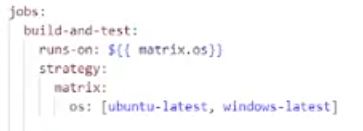
Save it and do commit above changes, It is called CI.

Commands to commit: add, commit and push

Again click on Actions in the github. Now it will show build success.



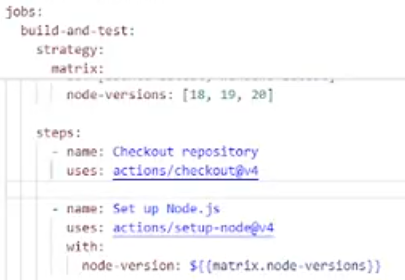
Now modify the Yml file in VScode to test with windows and ubuntu OS. (Optional)



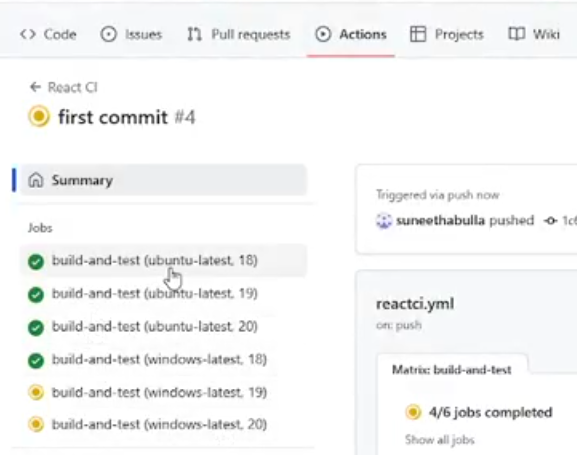
Now again do commit the above chages using the commands, add, commit, push.

Now click on Actions button in the github.

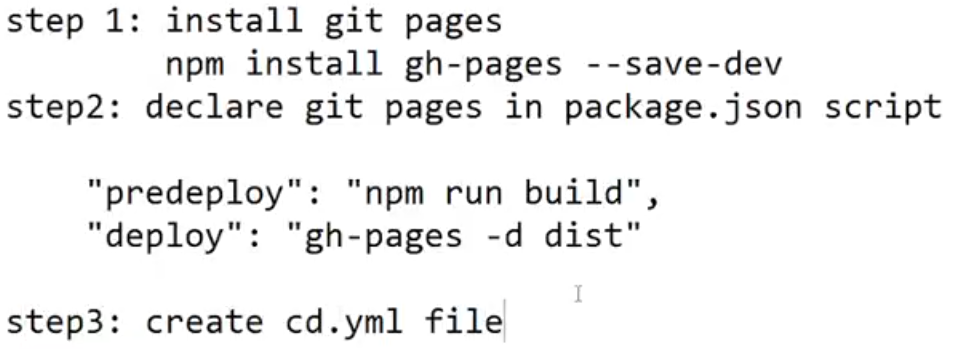
Now again modify the yaml file in VS code as follows and do commit and test in github. (Optional)



Output as follows:



**Manual workflows for CD using Git Pages**



Install git pages in the VS code using the above command.

Add the 3 lines code in the package.json file (within the scripts, shown in red color) as follows:

{

  "name": "reactcicd",

  "private": true,

  "version": "0.0.0",

  "type": "module",

  "homepage": "https://lakshminarayana-kodavali.github.io/reactcicd",

  "scripts": {

    "dev": "vite",

    "build": "vite build",

    "lint": "eslint .",

    "preview": "vite preview",

    "predeploy": "npm run build",

    "deploy": "gh-pages -d dist"

  },

  "dependencies": {

    "react": "^19.1.0",

    "react-dom": "^19.1.0"

  },

Update vite.config.js file as follows: (add last line)

=========================================

import { defineConfig } from 'vite';

import react from '@vitejs/plugin-react-swc';

// https://vitejs.dev/config/

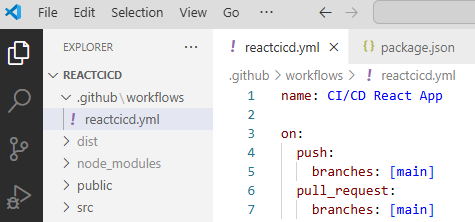
export default defineConfig({

  plugins: [react()],

  base: '/reactcicd/',

});

Rename the reactci.yml file as reactcicd.yml file in the github/workflow dir as follows:



Reactcicd.yml file

name: CI/CD React App

on:

  push:

    branches: [main]

  pull\_request:

    branches: [main]

permissions:

  contents: write

jobs:

  build-and-deploy:

    runs-on: ubuntu-latest

    steps:

      - name: Checkout code

        uses: actions/checkout@v4

      - name: Set up Node.js

        uses: actions/setup-node@v4

        with:

          node-version: 18

      - name: Install dependencies

        run: npm ci

      - name: Run tests

        run: npm test --if-present

      - name: Build the project

        run: npm run build

      # Configure Git identity

      - name: Configure Git

        run: |

          git config --global user.name "suneethabulla"

          git config --global user.email "suneethabulla@example.com"

      # Deploy to GitHub Pages

      - name: Deploy to GitHub Pages

        env:

          GITHUB\_TOKEN: ${{ secrets.GITHUB\_TOKEN }}

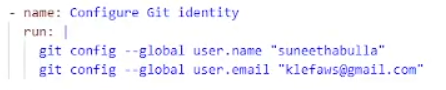
        run: |

          git remote set-url origin https://x-access-token:${GITHUB\_TOKEN}@github.com/${{ github.repository }}.git

          npm run deploy

==========================================================

Remove the existing code and Copy paste the CICD code and update the git credentials in the following lines.



Above file consists of the code of both CI and CD.

Now save the file and push into the github, and click on the “Actions” button.

It will get success message.

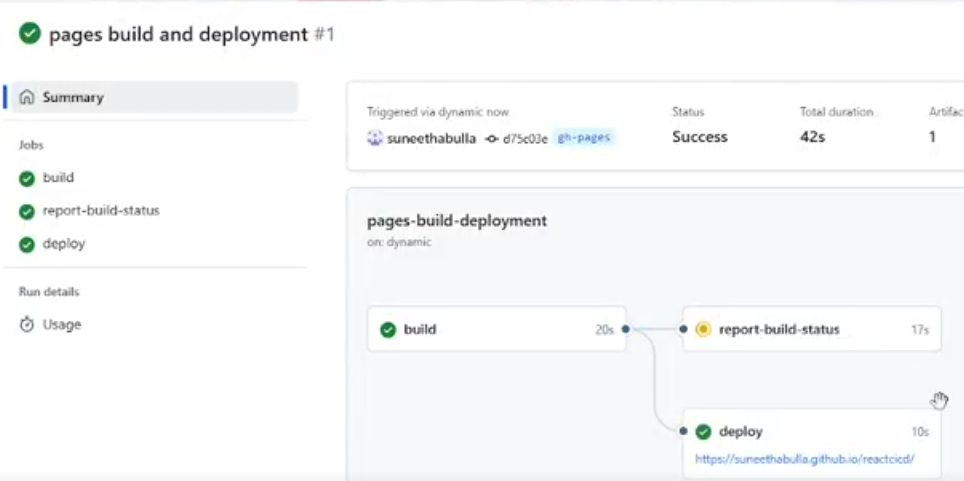
**To see the deployment link:**

Settings ->Action -> General -> scroll down to Workflow Conditions and click on “Read and write permissions” and click on save button.

Scroll down to “pages” and select Branch as “gh-pages” as follows and save it:



Now again click on the Actions button.



Click on the above deployed link to see the output of the project.

<https://lakshminarayana-kodavali.github.io/reactcicd/>



==============================================================