

Continuous Integration with GitHub Actions: A Brief Overview

Continuous Integration (CI) with GitHub Actions is a powerful approach to automating software development workflows directly within the GitHub ecosystem. It enables teams to integrate code changes, run tests, and deploy applications seamlessly, all from within their GitHub repositories. Here's a concise overview of CI with GitHub Actions:

Key Features:

- 1. Native Integration:** GitHub Actions is tightly integrated with GitHub repositories, allowing developers to define custom workflows directly within their codebase.
- 2. Workflow Automation:** With GitHub Actions, developers can automate various tasks such as building, testing, and deploying applications based on predefined triggers and events.
- 3. Customizable Workflows:** GitHub Actions workflows are highly customizable and can be tailored to fit the specific requirements of each project, enabling teams to define their CI processes with ease.
- 4. Diverse Ecosystem:** GitHub Actions offers a wide range of pre-built actions and community-contributed workflows, making it easy for developers to leverage existing tools and integrations to enhance their CI pipelines.

Branch – Orthi

Orthi CI.yml

```
# This workflow will do a clean installation of node dependencies, cache/restore them, build the source
code and run tests across different versions of node
# For more information see: https://docs.github.com/en/actions/automating-builds-and-tests/building-and-
testing-nodejs

name: orthi.js CI

on:
  push:
    branches: [ "orthi" ]
  pull_request:
    branches: [ "orthi" ]

jobs:
  build:

    runs-on: ubuntu-latest

    strategy:
      matrix:
        node-version: [20.x]
        # See supported Node.js release schedule at https://nodejs.org/en/about/releases/
```

steps:

```
- uses: actions/checkout@v3
- name: Use Node.js ${{ matrix.node-version }}
  uses: actions/setup-node@v3
  with:
    node-version: ${{ matrix.node-version }}
```

```
- name: Install Backend Dependencies
  working-directory: ebook-server
  run: npm install
```

```
- name: Install Client Dependencies
  working-directory: ebook-client
  run: npm install
```

Report :

The screenshot shows a web browser displaying the GitHub Actions interface for a workflow named 'Update orthi_ci.yml #3'. The browser's address bar shows the URL: `github.com/Sajia09/JU_ebook_store/actions/runs/8050781602/job/21989903740`. The page header includes navigation links for 'Settings', 'Online Compil...', and 'All Bookmarks'. The main content area shows the workflow status as 'Update orthi_ci.yml #3' with a green checkmark. Below this, there is a 'Summary' section and a 'Jobs' section. The 'Jobs' section lists the workflow steps: 'build (20.x)' (succeeded), 'Set up job' (1s), 'Run actions/checkout@v3' (1s), 'Use Node.js 20.x' (1s), 'Install Backend Dependencies' (4s), 'Install Client Dependencies' (3s), 'Post Use Node.js 20.x' (0s), 'Post Run actions/checkout@v3' (0s), and 'Complete job' (0s). The 'build (20.x)' job is highlighted, and its details are shown in a dark-themed panel on the right. The panel includes a 'Beta' badge, a 'Give feedback' link, and a 'Search logs' input field. The Windows taskbar at the bottom shows the system clock as 9:44 PM and the temperature as 22°C.

Branch – fariha

fariha ci.yml

```
# This workflow will do a clean installation of node dependencies, cache/restore them, build the source
code and run tests across different versions of node
# For more information see: https://docs.github.com/en/actions/automating-builds-and-tests/building-and-testing-nodejs
```

```
name: fariha.js CI
```

```
on:
```

```
  push:
```

```
    branches: [ "fariha" ]
```

```
  pull_request:
```

```
    branches: [ "fariha" ]
```

```
jobs:
```

```
  build:
```

```
    runs-on: ubuntu-latest
```

```
    strategy:
```

```
      matrix:
```

```
        node-version: [20.x]
```

```
        # See supported Node.js release schedule at https://nodejs.org/en/about/releases/
```

```
    steps:
```

```
      - uses: actions/checkout@v3
```

```
      - name: Use Node.js ${{ matrix.node-version }}
```

```
        uses: actions/setup-node@v3
```

```
        with:
```

```
          node-version: ${{ matrix.node-version }}
```

```
      - name: Install Backend Dependencies
```

```
        working-directory: ebook-server
```

```
        run: npm install
```

```
      - name: Install Client Dependencies
```

```
        working-directory: ebook-client
```

```
        run: npm install
```

Report :

The screenshot displays the GitHub Actions interface for a workflow named 'fariha.js CI'. The workflow is in a 'Completed' state, indicated by a green checkmark and the text 'Update fariha_ci.yml #2'. A 'Re-run all jobs' button is visible in the top right. The left sidebar shows the workflow's structure: 'Summary', 'Jobs', 'Run details', 'Usage', and 'Workflow file'. The 'Jobs' section highlights the 'build (20.x)' job. The main panel shows the job's details, including a 'Beta' badge, 'Give feedback' link, and 'Search logs' input. The job's status is 'succeeded 46 minutes ago in 11s'. The job steps are listed with their durations:

Step	Duration
Set up job	1s
Run actions/checkout@v3	1s
Use Node.js 20.x	0s
Install Backend Dependencies	4s
Install Client Dependencies	3s
Post Use Node.js 20.x	1s
Post Run actions/checkout@v3	0s
Complete job	0s

Branch-tanzila1

tanzila1 ci.yml

This workflow will do a clean installation of node dependencies, cache/restore them, build the source code and run tests across different versions of node
For more information see: <https://docs.github.com/en/actions/automating-builds-and-tests/building-and-testing-nodejs>

name: tanzila1.js CI

on:

push:

branches: ["tanzila1"]

pull_request:

branches: ["tanzila1"]

jobs:

build:

runs-on: ubuntu-latest

strategy:

matrix:

node-version: [20.x]

See supported Node.js release schedule at <https://nodejs.org/en/about/releases/>

steps:

- uses: actions/checkout@v3

- name: Use Node.js \${{ matrix.node-version }}

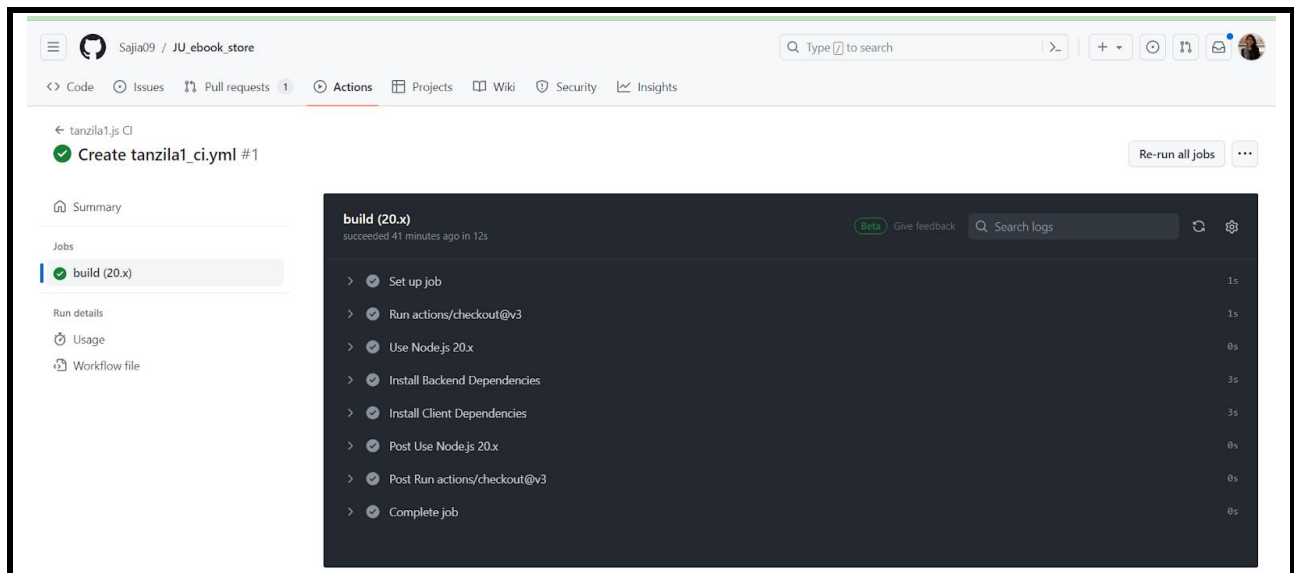
uses: actions/setup-node@v3

with:
node-version: \${{ matrix.node-version }}

- name: Install Backend Dependencies
working-directory: ebook-server
run: npm install

- name: Install Client Dependencies
working-directory: ebook-client
run: npm install

Report :



The screenshot shows the GitHub Actions interface for a workflow named 'tanzila1.js CI'. The workflow is currently running, and the 'build (20.x)' job has succeeded 41 minutes ago. The job summary lists the following steps and their durations:

Step	Duration
Set up job	1s
Run actions/checkout@v3	1s
Use Node.js 20.x	0s
Install Backend Dependencies	3s
Install Client Dependencies	3s
Post Use Node.js 20.x	0s
Post Run actions/checkout@v3	0s
Complete job	0s

Branch - Sajia

name: sajia.js CI

on:
push:
 branches: ["Sajia"]
pull_request:
 branches: ["Sajia"]

jobs:
 build:

 runs-on: ubuntu-latest

```

strategy:
  matrix:
    node-version: [20.x]
    # See supported Node.js release schedule at https://nodejs.org/en/about/releases/

steps:
- uses: actions/checkout@v3
- name: Use Node.js ${{ matrix.node-version }}
  uses: actions/setup-node@v3
  with:
    node-version: ${{ matrix.node-version }}

- name: Install Backend Dependencies
  working-directory: ebook-server
  run: npm install

- name: Install Client Dependencies
  working-directory: ebook-client
  run: npm install

```

Report:

The screenshot displays the GitHub Actions interface for a workflow named 'sajia.js CI'. The workflow is in a 'Completed' state, indicated by a green checkmark. The current job, 'build (20.x)', is also completed successfully, with a duration of 23 minutes and 12 seconds. The job summary shows a list of steps, all of which passed:

- Set up job (1s)
- Run actions/checkout@v3 (1s)
- Use Node.js 20.x (1s)
- Install Backend Dependencies (4s)
- Install Client Dependencies (3s)
- Post Use Node.js 20.x (0s)
- Post Run actions/checkout@v3 (0s)
- Complete job (0s)

The interface includes a sidebar with navigation options: Summary, Jobs, Run details, Usage, and Workflow file. The main panel shows the job details, including a search bar for logs and a 'Re-run all jobs' button. An 'Activate Windows' watermark is visible in the bottom right corner.

Branch - master

node.js.yml

```
# This workflow will do a clean installation of node dependencies, cache/restore them, build the source code and run tests across different versions of node
# For more information see: https://docs.github.com/en/actions/automating-builds-and-tests/building-and-testing-nodejs
```

```
name: Node.js CI
```

```
on:
```

```
  push:
```

```
    branches: [ "master" ]
```

```
  pull_request:
```

```
    branches: [ "master" ]
```

```
jobs:
```

```
  build:
```

```
    runs-on: ubuntu-latest
```

```
    strategy:
```

```
      matrix:
```

```
        node-version: [20.9.0]
```

```
        # See supported Node.js release schedule at https://nodejs.org/en/about/releases/
```

```
    steps:
```

```
      - uses: actions/checkout@v3
```

```
      - name: Use Node.js ${{ matrix.node-version }}
```

```
        uses: actions/setup-node@v3
```

```
        with:
```

```
          node-version: ${{ matrix.node-version }}
```

```
          cache: 'npm'
```

```
          cache-dependency-path: ./ebook-client/package-lock.json
```

```
      - run: git config --global url."git@github.com:".insteadOf git://github.com/
```

```
      - run: npm install --legacy-peer-deps
```

```
        working-directory: ./ebook-client
```

```
      - run: npm ci
```

```
        working-directory: ./ebook-client
```

```
      - run: npm run build --if-present
```

```
        working-directory: ./ebook-client
```

Report:

<> Code

Issues

Pull requests 1

Actions

Projects

Wiki

Security

Insights

← Node.js CI

Update node.js.yml #30

Re-run all jobs

...

Summary

Jobs

Run details

Usage

Workflow file

build (20.9.0)

succeeded 27 minutes ago in 20s

Beta Give feedback

Search logs

Refresh

Settings

> Set up job0s

> Run actions/checkout@v31s

> Use Node.js 20.9.04s

> Run git config --global url."git@github.com:".insteadOf git://github.com/0s

> Run npm install --legacy-peer-deps6s

> Run npm ci2s

> Run npm run build --if-present1s

> Post Use Node.js 20.9.02s

> Post Run actions/checkout@v31s

> Complete job0s