We’ll do:

* A GitHub repo with an index.html, an Ansible playbook, and inventory file.
* A GitHub Actions workflow that runs the playbook when code is pushed.

**🔹 Step-by-Step Tutorial**

**1. Project Structure**

my-ansible-cicd/

├── .github/

│ └── workflows/

│ └── deploy.yml # GitHub Actions workflow

├── deploy.yml # Ansible playbook

├── inventory.ini # Inventory with target server

└── index.html # Web app content

**2. index.html**

<!DOCTYPE html>

<html>

<head>

<title>Hello CI/CD with Ansible</title>

</head>

<body>

<h1>Deployed via GitHub Actions + Ansible 🚀</h1>

</body>

</html>

**3. deploy.yml (Ansible Playbook)**

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- name: Deploy simple web page

hosts: webservers

become: yes

tasks:

- name: Install Nginx

apt:

name: nginx

state: present

update\_cache: yes

- name: Copy index.html

copy:

src: ./index.html

dest: /var/www/html/index.html

mode: '0644'

- name: Restart Nginx

service:

name: nginx

state: restarted

**4. inventory.ini**

[webservers]

your-server-ip ansible\_user=ubuntu ansible\_ssh\_private\_key\_file=~/.ssh/id\_rsa

👉 Replace your-server-ip with your VM/EC2 IP.

**5. GitHub Secrets (for SSH access)**

In your GitHub repo → **Settings → Secrets and variables → Actions** → Add:

* ANSIBLE\_PRIVATE\_KEY → paste your SSH private key
* SERVER\_IP → your server’s IP

**6. GitHub Actions Workflow (.github/workflows/deploy.yml)**

name: CI-CD with Ansible

on:

push:

branches:

- main

jobs:

deploy:

runs-on: ubuntu-latest

steps:

- name: Checkout repo

uses: actions/checkout@v3

- name: Setup SSH key

run: |

mkdir -p ~/.ssh

echo "${{ secrets.ANSIBLE\_PRIVATE\_KEY }}" > ~/.ssh/id\_rsa

chmod 600 ~/.ssh/id\_rsa

ssh-keyscan -H ${{ secrets.SERVER\_IP }} >> ~/.ssh/known\_hosts

- name: Install Ansible

run: sudo apt-get update && sudo apt-get install -y ansible

- name: Run Ansible Playbook

run: ansible-playbook -i inventory.ini deploy.yml

**7. Workflow**

1. Push code (git push origin main).
2. GitHub Actions triggers.
3. It sets up SSH → installs Ansible → runs the playbook.
4. Your web server is updated with the new index.html.

✅ That’s it — a **minimal working CI/CD pipeline** with only Ansible + GitHub Actions.