Automating Docker Deployment with Jenkins and GitHub Webhooks

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Step 1: Install Docker on Ubuntu

Run the following commands to install and start Docker:

sudo apt update

sudo apt install -y docker.io

sudo systemctl start docker

sudo systemctl enable docker

sudo systemctl status docker

Step 2: Fork a GitHub Repository

1. Go to GitHub and fork the required repository that contains necessary files.
2. This will create a copy of the repository in your GitHub account.

Take a screenshot of the forked repository for reference.

Step 3: Modify deploy.sh with Docker Hub Credentials

1. Open your forked repository.
2. Locate the deploy.sh file.
3. Update the **Docker Hub token** and **repository name** inside deploy.sh.

Save the file and commit changes.

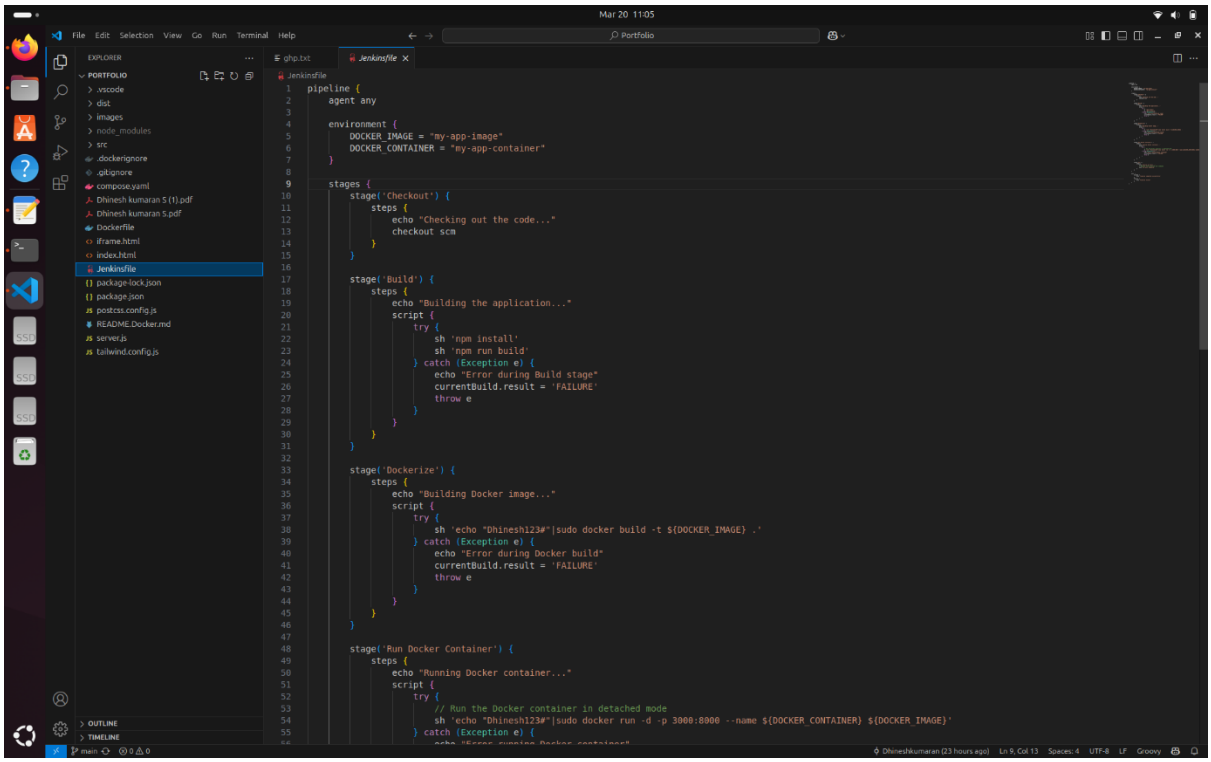
Step 4: Copy the Repository URL for Jenkins

1. Copy the **GitHub repository URL** from your forked repository.
2. This will be used in Jenkins for integration.

Step 5: Create a Pipeline Job in Jenkins

1. Open **Jenkins Dashboard** → Click **New Item**.
2. Enter a project name and select **Pipeline** → Click **OK**.
3. In the pipeline configuration:
    - Add the **GitHub repository URL**.
    - Set the **correct branch**.
    - Specify the **Jenkinsfile**.

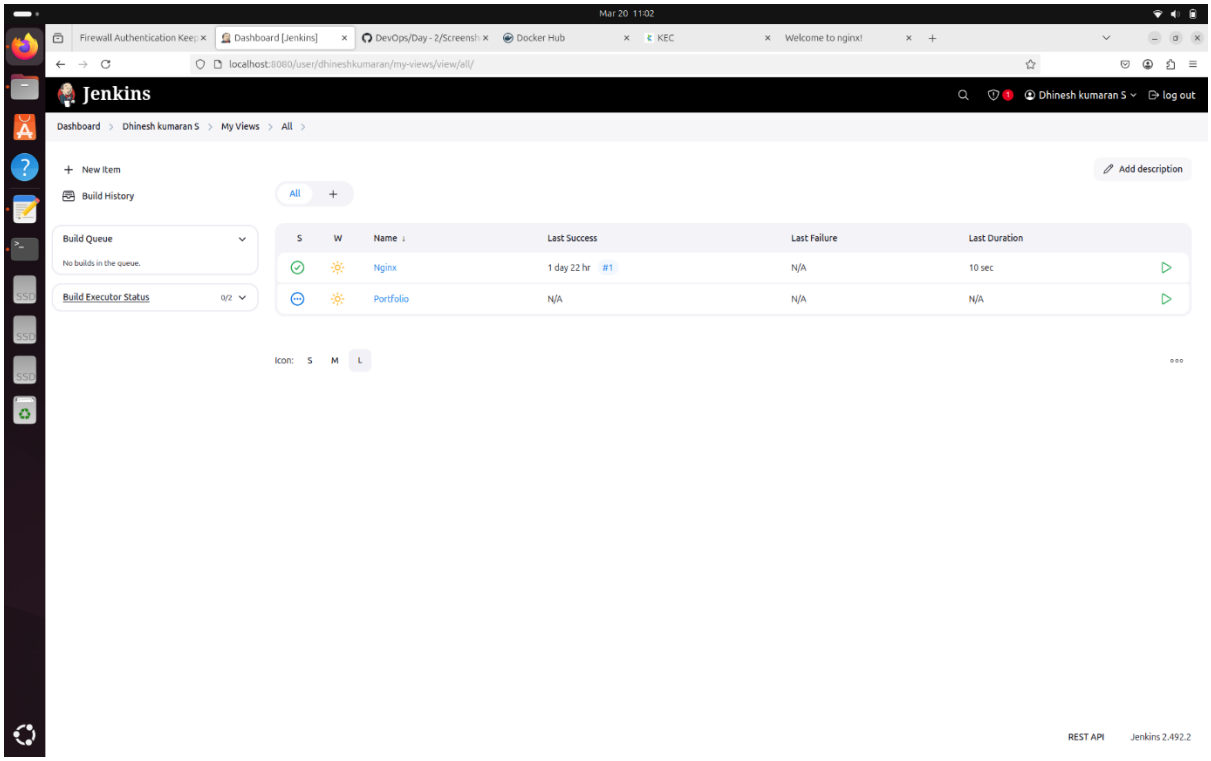
✅ **Save the configuration.**



Step 6: Build the Pipeline

1. Click **Build Now** to execute the job.
2. The console output will show the process, and the **Docker image will be created**.

✅ **Ensure the image is successfully built.**



Step 7: Run the Docker Container and Host the Application

1. Open a terminal and run the following command:

docker run -d -p <PORT_NUMBER>:80 <IMAGE_NAME>

2. Open a browser and visit:

http://localhost:<PORT_NUMBER>

✅ **Your application should now be accessible.**

Step 8: Use Docker Compose for Automation (Optional)

Instead of manually running the image, create a docker-compose.yml file:

yaml

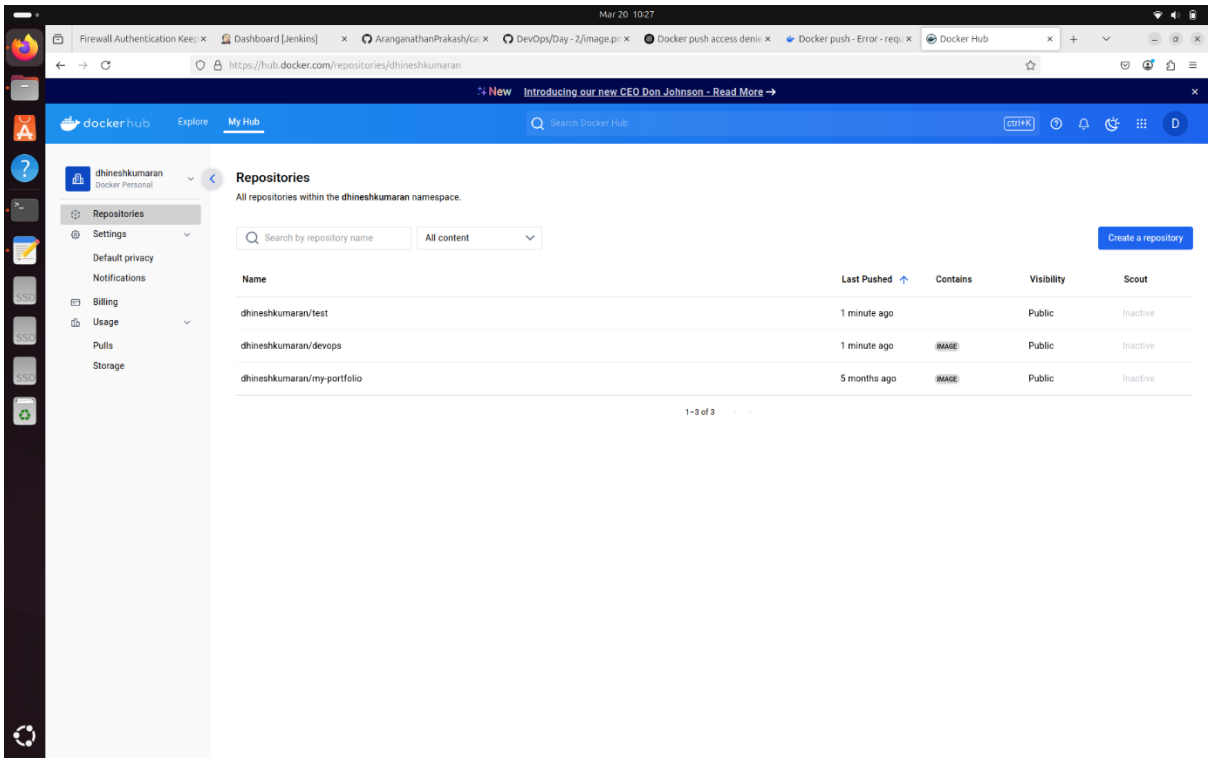
CopyEdit

```
version: '3'
services:
  react-capstone:
    image: "test1"
    ports:
      - "85:80"
```

Run the following command to start the container:

docker-compose up -d

✅ **This simplifies deployment.**



Step 9: Install Ngrok for Public Access

1. Sign in to **Ngrok** using GitHub or Google.
2. Install Ngrok:

sudo snap install ngrok

3. Add your Ngrok authentication token:

ngrok config add-authtoken <YOUR_AUTHTOKEN>

4. Start an HTTP tunnel:

ngrok http 8080

✅ **Copy the generated public URL for remote access.**

Step 10: Add a GitHub Webhook

1. Go to **GitHub Repository** → Click **Settings**.
2. Navigate to **Webhooks** → Click **Add Webhook**.

3. Set the **Payload URL** to:

http://localhost:8080/github-webhook/

4. Choose **application/json** as the Content Type.
5. Select **Just the push event** → Click **Add Webhook**.

✅ **This will trigger Jenkins builds on repository changes.**

Step 11: Configure Jenkins for Webhook Triggering

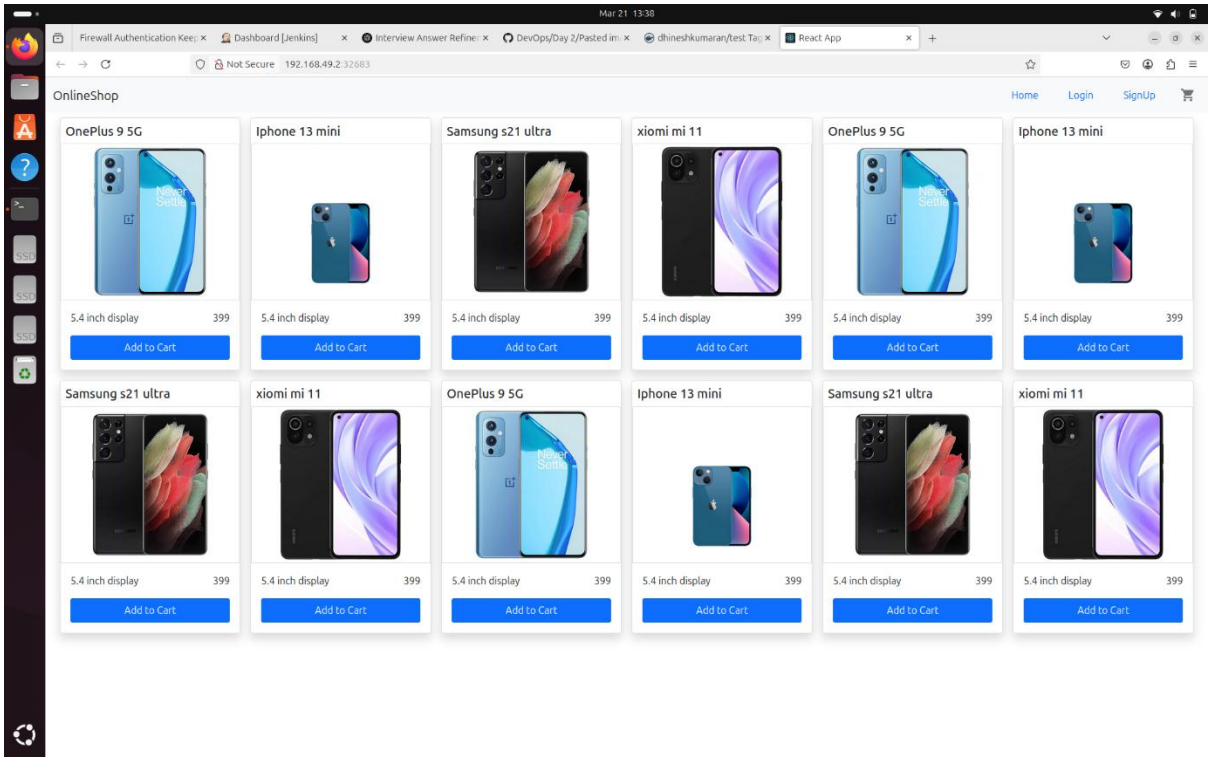
1. Open **Jenkins** → Click the **Pipeline Job**.
2. Click **Configure** → Go to **Build Triggers**.
3. Select **GitHub Hook Trigger for GITScm Polling**.
4. Click **Save**.

✅ **Jenkins will now auto-build on GitHub changes.**

Step 12: Commit Changes to Trigger Auto-Build

1. Edit any file in your GitHub repository.
2. Click **Commit Changes**.
3. This will automatically trigger a **new Jenkins build**.

✅ **Check Jenkins for auto-build confirmation.**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Firewall Authentication Keep
Dashboard [Jenkins]
Interview Answer Refiner
DevOps/Day 2/Pasted im
dhineshkumaran/test Tag
React App
Not Secure 192.168.49.2:32683
OnlineShop
Home
Login
SignUp
OnePlus 9 5G
Iphone 13 mini
Samsung s21 ultra
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