

Task2 - CI/CD Pipeline with Jenkins and Docker

Overview

This project involves setting up a CI/CD pipeline using Jenkins to build, test, and deploy a Docker container. The pipeline automates the process of pushing Docker images to Docker Hub and ensures seamless integration and deployment.

Technologies Used

- **Jenkins:** For CI/CD automation
- **Docker:** For containerization
- **Docker Hub:** For storing and distributing Docker images
- **Node.js:** Application environment (based on logs)

Pipeline Stages

1. **Cloning Repository:** Fetch the source code from the repository.
2. **Building Docker Image:** Create a Docker image from the source code.
3. **Pushing to Docker Hub:** Upload the built image to Docker Hub.
4. **Deployment:** Deploy the containerized application.

Jenkins Setup

1. Install Jenkins and required plugins (Pipeline, Docker Pipeline, Git, etc.).
2. Configure Jenkins to pull source code from a version control system.
3. Create a Jenkins pipeline job with the following steps:
 - Build the Docker image.
 - Push the Docker image to Docker Hub.
 - Deploy the Docker container.

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S	W	Name	Last Success	Last Failure	Last Duration
✓	🔔	task2	23 hr #6	23 hr #5	1 min 7 sec

Build Queue

No builds in the queue.

Build Executor Status

0/2

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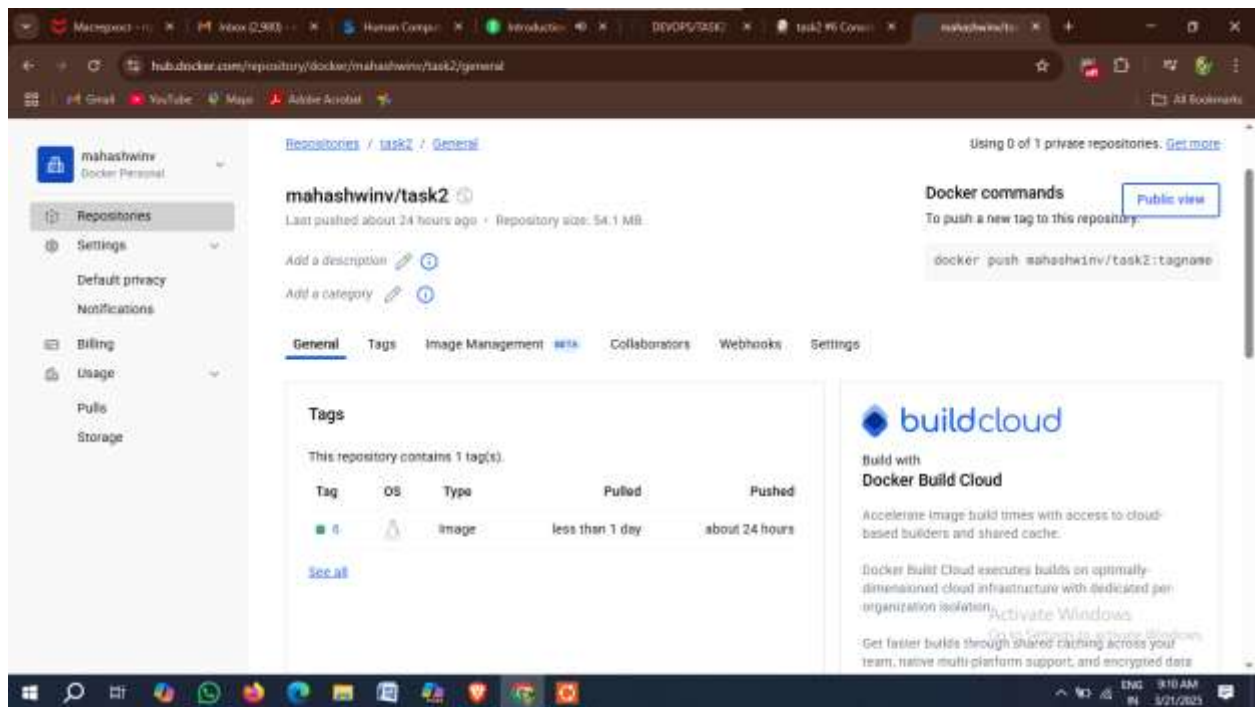
localhost:8080/job/task2/6/console

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Dashboard > task2 > #6

```
5ffdd8016f56: Waiting
adc99b871e15: Waiting
617df26c9e2b: Waiting
9e07a17fe742: Mounted from library/node
ca5ae775b140: Pushed
88969399e048: Pushed
5ffdd8016f56: Mounted from library/node
617df26c9e2b: Mounted from library/node
adc99b871e15: Mounted from library/node
ee88fe41b2fe: Pushed
u6e4f0b0bc2d: Pushed
6: digest: sha256:cca4f26f40e6d334cef7f40ed58f8e9f8f1f983436882a485b604a3b5dbf2e22 size: 1995
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

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Code:

```
pipeline { agent any environment { DOCKERHUB_CREDENTIALS = credentials('docker-
token') APP_NAME = "mahashwinn/task2" }

stages { stage('SCM Checkout') { steps { git branch: 'main', url: 'https://github.com/lily4499/lil-
node-app.git' } }

stage('Build docker image') {
    steps {
        sh 'docker build t $APP_NAME:$BUILD_NUMBER .'
    }
}

stage('login to dockerhub') {
    steps {
        sh 'echo $DOCKERHUB_CREDENTIALS_PSW | docker login -u
$DOCKERHUB_CREDENTIALS_USR --password-stdin'
    }
}

stage('push image') {
    steps {
        sh 'docker push $APP_NAME:$BUILD_NUMBER'
    }
}

}}
```