

Build a Custom Docker Image.

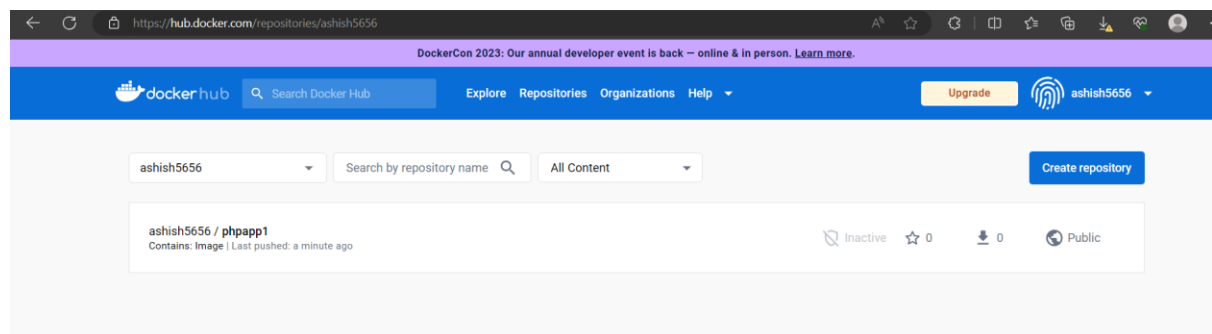
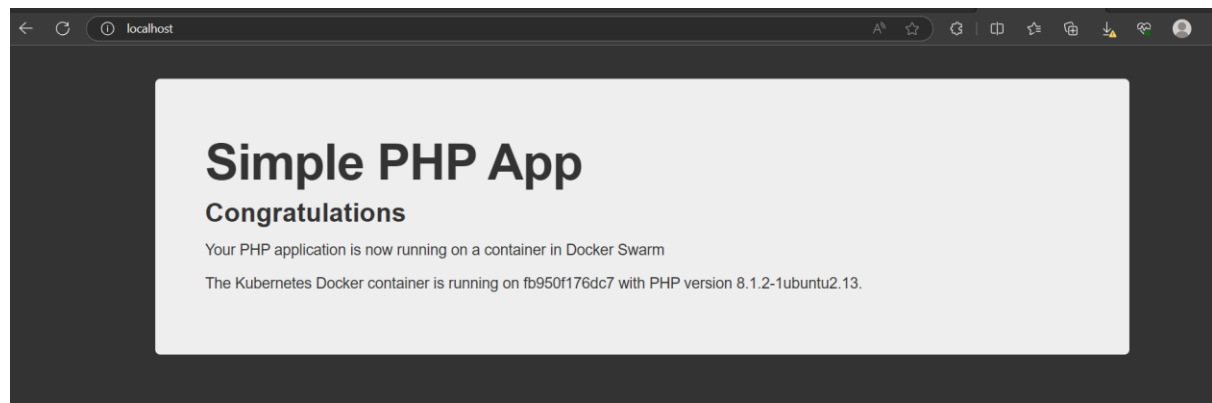
```
C:\Users\Manish Kumar\project1\docker>dir
Volume in drive C is OS
Volume Serial Number is 2818-3735

Directory of C:\Users\Manish Kumar\project1\docker\src

27-07-2023  18:25    <DIR>        .
27-07-2023  18:25    <DIR>        ..
27-07-2023  18:25    <DIR>        assets
27-07-2023  18:25             1,484 index.php
                1 File(s)      1,484 bytes
                3 Dir(s)      52,333,621,248 bytes free

C:\Users\Manish Kumar\project1\docker\src>cd ..
C:\Users\Manish Kumar\project1\docker>docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
C:\Users\Manish Kumar\project1\docker>docker build -t phpapp1 --output type=docker .
[*] Building 4.5s (13/13) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile                0.2s
=> => transferring dockerfile: 574B                                0.1s
=> [internal] load .dockerignore                                  0.2s
=> => transferring context: 2B                                       0.1s
=> [internal] load metadata for docker.io/library/ubuntu:latest   3.4s
=> [auth] library/ubuntu:pull token for registry-1.docker.io      0.0s
=> [1/7] FROM docker.io/library/ubuntu:latest@sha256:8bced47fff3361afa981854fcabed4577cd43cebbb808cen2b1f33a3dd 0.0s
=> [internal] load build context                                  0.2s
=> => transferring context: 323B                                       0.1s
=> CACHED [2/7] RUN apt-get update -y                               0.0s
=> CACHED [3/7] RUN apt-get install -y git curl apache2 php libapache2-mod-php php-mysql 0.0s
=> CACHED [4/7] RUN rm -rf /var/www/html/*                         0.0s
=> CACHED [5/7] ADD src /var/www/html/                             0.0s
=> CACHED [6/7] RUN a2enmod rewrite                                0.0s
=> CACHED [7/7] RUN chown -R www-data:www-data /var/www/html     0.0s
=> exporting to image                                              0.1s
=> => exporting layers                                              0.0s
=> => writing image sha256:dff131b1a9f554f44e19701094a7f05386d2c68731dfcb96f347f31a01856cbd 0.1s
=> => naming to docker.io/library/phpapp1                          0.1s

C:\Users\Manish Kumar\project1\docker>docker run -d --name phpapp1-C -p 80:80 phpapp1
fb950f176dc7748f332a23d41130bf08b9d9b85808beb9af19f076d38d526162
C:\Users\Manish Kumar\project1\docker>docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
fb950f176dc7   phpapp1   "/usr/sbin/apache2 -..." 18 seconds ago   Up 11 seconds   0.0.0.0:80->80/tcp   phpapp1-C
C:\Users\Manish Kumar\project1\docker>docker stop fb950f176dc7
fb950f176dc7
```

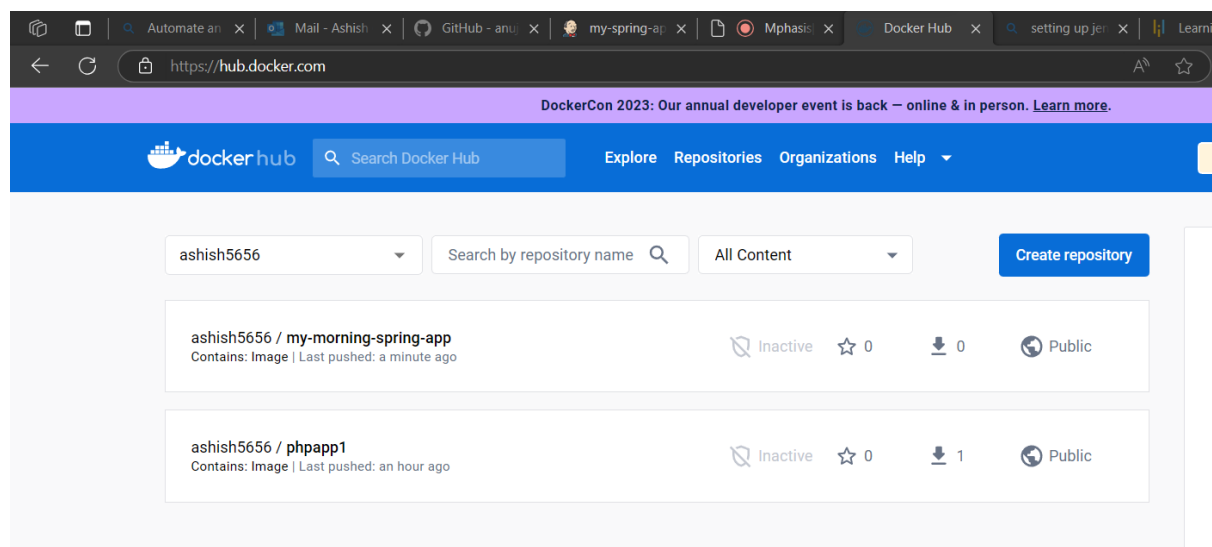
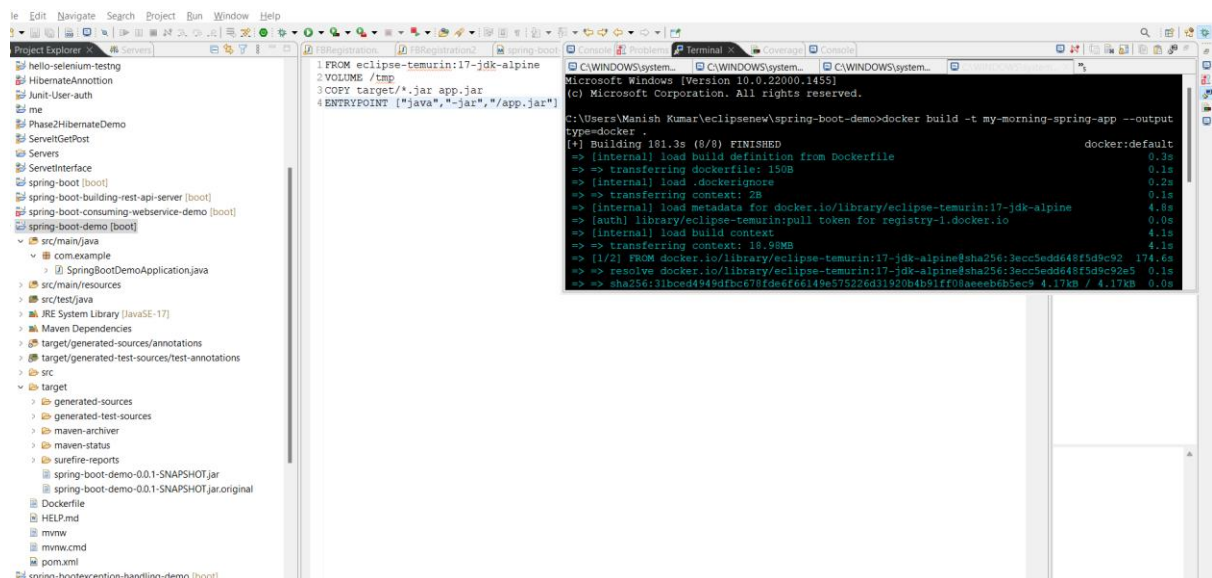


Push an Image to Docker Hub

```
C:\Users\Manish Kumar\project1\docker>docker tag phpapp1 ashish5656/phpapp1

C:\Users\Manish Kumar\project1\docker>docker push ashish5656/phpapp1
Using default tag: latest
The push refers to repository [docker.io/ashish5656/phpapp1]
7451e610fa1b: Pushed
db3ee357295c: Pushed
6b6f69f22075: Pushed
9fd4b4764405: Pushed
8d0419a77f6e: Pushing 65.26MB/155.8MB
8d0419a77f6e: Pushed
5f42a5ca776d: Pushed
/42.33MBntu
latest: digest: sha256:1abee45c1a086814d0ab2a306908804582819d354540edef8400868b0e3773d8 size: 1785

C:\Users\Manish Kumar\project1\docker>
```



```
C:\Users\Manish Kumar\spring-boot-demo>docker tag ashish5656/phpapp1
C:\Users\Manish Kumar\spring-boot-demo>docker tag my-morning-spring-app ashish5656/my-morning-spring-app
C:\Users\Manish Kumar\spring-boot-demo>docker push ashish5656/my-morning-spring-app
Using default tag: latest
The push refers to repository [docker.io/ashish5656/my-morning-spring-app]
901b18376477: Pushed
23d7182b8e52: Mounted from library/eclipse-temurin
644a85248299: Mounted from library/eclipse-temurin
4aab2363d488: Mounted from library/eclipse-temurin
78a822fe2a2d: Mounted from library/eclipse-temurin
latest: digest: sha256:8990751fc311ed8805aa4bad7544637c7b9bb311e682536b7779d048550c2287 size: 1371
C:\Users\Manish Kumar\spring-boot-demo>
```

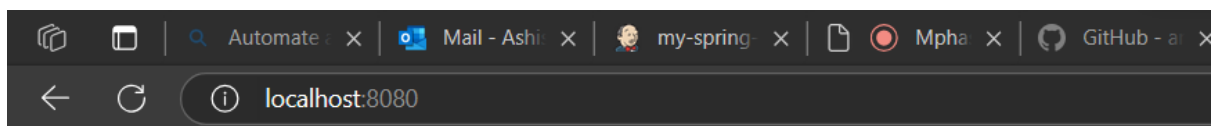
Container Deployment Using Docker Swarm.

```
Command Prompt
REPOSITORY          TAG          IMAGE ID       CREATED        SIZE
ashish5656/my-morning-spring-app  latest      8c0b636a9b2e   2 hours ago   319MB
my-morning-spring-app             latest      8c0b636a9b2e   2 hours ago   319MB
ashish5656/phpapp1              latest      dff131b1a9f5   23 hours ago   276MB
phpapp1                        latest      dff131b1a9f5   23 hours ago   276MB
phpcode                       latest      dff131b1a9f5   23 hours ago   276MB

C:\Users\Manish Kumar\project1\Docker>docker service create -p 8080:8080 --name my-spring-webapp my-morning-spring-app
image my-morning-spring-app:latest could not be accessed on a registry to record
its digest. Each node will access my-morning-spring-app:latest independently,
possibly leading to different nodes running different
versions of the image.

j4mh23hxx5wgp024a4yhtv5o
overall progress: 1 out of 1 tasks
1/1: running
verify: Service converged
stable...
C:\Users\Manish Kumar\project1\Docker>docker service ls
ID            NAME              MODE          REPLICAS    IMAGE                               PORTS
j4mh23hxx5w  my-spring-webapp  replicated    1/1          my-morning-spring-app:latest       *:8080->8080/tcp

C:\Users\Manish Kumar\project1\Docker>
```



[WEBAPPID java.util.Random@75f65e45] Hello World from Spring

Container Scaling with Docker Swarm.

```
Command Prompt

ID            NAME            MODE            REPLICAS    IMAGE            PORTS
j4mh23hxx5wg  my-spring-webapp  replicated      1/1         my-morning-spring-app:latest  *:8080->8080/tcp

C:\Users\Manish Kumar\project1\Docke>docker service scale my-spring-webapp
Invalid scale specifier 'my-spring-webapp'.
See 'docker service scale --help'.

Usage:  docker service scale SERVICE=REPLICAS [SERVICE=REPLICAS...]

Scale one or multiple replicated services

C:\Users\Manish Kumar\project1\Docke>docker service scale my-spring-webapp=2
my-spring-webapp scaled to 2
overall progress: 2 out of 2 tasks
1/2: running
2/2: running
verify: Service converged
stable...
C:\Users\Manish Kumar\project1\Docke>docker service ls
ID            NAME            MODE            REPLICAS    IMAGE            PORTS
j4mh23hxx5wg  my-spring-webapp  replicated      2/2         my-morning-spring-app:latest  *:8080->8080/tcp

C:\Users\Manish Kumar\project1\Docke>
```

```
Scale one or multiple replicated services

C:\Users\Manish Kumar\project1\Docke>docker service scale my-spring-webapp=2
my-spring-webapp scaled to 2
overall progress: 2 out of 2 tasks
1/2: running
2/2: running
verify: Service converged
stable...
C:\Users\Manish Kumar\project1\Docke>docker service ls
ID            NAME            MODE            REPLICAS    IMAGE            PORTS
j4mh23hxx5wg  my-spring-webapp  replicated      2/2         my-morning-spring-app:latest  *:8080->8080/tcp

C:\Users\Manish Kumar\project1\Docke>docker service scale my-spring-webapp=0
my-spring-webapp scaled to 0
overall progress: 0 out of 0 tasks
verify: Service converged
stable...
C:\Users\Manish Kumar\project1\Docke>docker service rm j4mh23hxx5wg
j4mh23hxx5wg

C:\Users\Manish Kumar\project1\Docke>
```

Setting up a Jenkins Pipeline

```
pipeline{
```

```
    agent any
```

```
    tools{
```

```
        maven "Maven-3.9.3"
```

```
    }
```

```

stages {

    stage('Checkout from GitHub') {

        steps {

            git branch: 'main', url: "https://github.com/awtraining1/sl.git"

        }

    }

    stage('Maven Build') {

        steps {

            dir('PHASE5/my/spring-boot-demo') {

                bat "mvn -Dmaven.test.skip=true clean package"

            }

        }

    }

    stage('Build Docker Image') {

        steps {

            dir('PHASE5/my/spring-boot-demo') {

                bat "docker build -t my-morning-spring-app-1 --output type=docker
                ."

            }

        }

    }

    stage('Push Docker Image') {

        steps {

            bat "docker tag my-morning-spring-app-1 ashish5656/my-morning-spring-
            app-1"

            bat "docker push ashish5656/my-morning-spring-app-1"

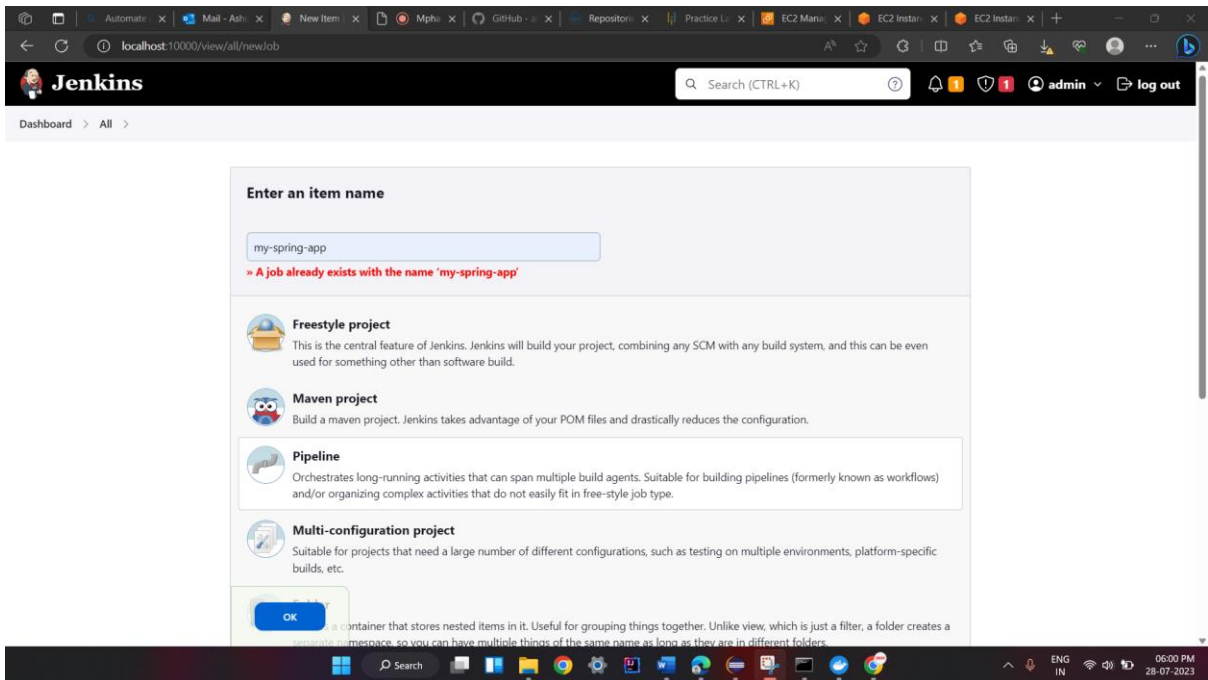
```

}

}

}

}



```
localhost:10000/job/my-afternoon-spring-app/4/console

Dashboard > my-afternoon-spring-app > #4

#5 transferring context: 8.69MB 7.0s
#5 transferring context: 18.98MB 10.5s done
#5 DONE 10.6s

#4 [1/2] FROM docker.io/library/eclipse-temurin:17-jdk-alpine@sha256:3ecc5edd648f5d9c92e53e8eb6361cfra626220f8308332f239dfb03418c1c
#4 CACHED

#6 [2/2] COPY target/*.jar app.jar
#6 DONE 1.7s

#7 exporting to image
#7 exporting layers
#7 exporting layers 1.7s done
#7 writing image sha256:25f577f9103f6e1056db948d9f02a9980b6649abd4ba245c6e7267d7f82907 0.0s done
#7 naming to docker.io/library/my-morning-spring-app:1.0.0s done
#7 DONE 1.8s

[Pipeline] }
[Pipeline] // dir
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Build Now

Configure

Delete Pipeline

Full Stage View

Rename

Pipeline Syntax

Build History

trend

Filter builds...

#5

Jul 28, 2023, 4:59 PM

#4

Jul 28, 2023, 4:37 PM

#3

Jul 28, 2023, 4:03 PM

#2

Jul 28, 2023, 4:01 PM

#1

Jul 28, 2023, 3:58 PM

Stage View

Average stage times:
(Average full run time: ~1min 35s)

	Declarative: Tool Install	Checkout from GitHub	Maven Build	Build Docker Image
#5	231ms			
#4	775ms	14s	58s	27s
#3	1s	12s	1min 5s	