



## Build jar file

### mvn clean package

```
Administrator: C:\Windows\S...
Microsoft Windows [Version 10.0.22631.3593]
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C:\Users\saumyasingh\Nagarro_Assignments\assignment>mvn clean package
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.docker:assignment >-----
[INFO] Building assignment 0.0.1-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- clean:3.3.2:clean (default-clean) @ assignment ---
[INFO] Deleting C:\Users\saumyasingh\Nagarro_Assignments\assignment\target
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ assignment ---
[INFO] Copying 1 resource from src\main\resources to target\classes
[INFO] Copying 0 resource from src\main\resources to target\classes
[INFO]
[INFO] --- compiler:3.13.0:compile (default-compile) @ assignment ---
[INFO] Recompiling the module because of changed source code.
[INFO] Compiling 2 source files with javac [debug parameters release 17] to target\classes
[INFO]
[INFO] --- resources:3.3.1:testResources (default-testResources) @ assignment ---
[INFO] skip non existing resourceDirectory C:\Users\saumyasingh\Nagarro_Assignments\assignment\src\test\resources
[INFO]
[INFO] --- compiler:3.13.0:testCompile (default-testCompile) @ assignment ---
[INFO] Recompiling the module because of changed dependency.
[INFO] Compiling 1 source file with javac [debug parameters release 17] to target\test-classes
[INFO]
[INFO] --- surefire:3.2.5:test (default-test) @ assignment ---
[INFO] Using auto detected provider org.apache.maven.surefire.junitplatform.JUnitPlatformProvider
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.docker.assignment.AssignmentApplicationTests
```

### Jar file created:

 assignment-0.0.1-SNAPSHOT.jar	30-05-2024 17:05	Executable Jar File	19,792 KB
 assignment-0.0.1-SNAPSHOT.jar.original	30-05-2024 17:05	ORIGINAL File	4 KB

## Make docker image

### docker build -t saumya11031998/assignment .

```
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ docker build -t saumya11031998/assignment .
Sending build context to Docker daemon 20.36MB
Step 1/5 : FROM openjdk:17-jdk-alpine
17-jdk-alpine: Pulling from library/openjdk
5843afab3874: Pull complete
53c9466125e4: Pull complete
d8d715783b80: Pull complete
Digest: sha256:4b6abae565492dbe9e7a894137c966a7485154238902f2f25e9dbd9784383d81
Status: Downloaded newer image for openjdk:17-jdk-alpine
--> 264c9bdce361
Step 2/5 : WORKDIR /app
--> Running in f0288fb82a70
Removing intermediate container f0288fb82a70
--> ab256c66677e
Step 3/5 : COPY target/assignment-0.0.1-SNAPSHOT.jar /app/assignment-0.0.1-SNAPSHOT.jar
--> 8b256e3e9157
Step 4/5 : EXPOSE 9090
--> Running in d98803d6e9ea
Removing intermediate container d98803d6e9ea
--> 21301be505b6
Step 5/5 : ENTRYPOINT ["java", "-jar", "/app/assignment-0.0.1-SNAPSHOT.jar"]
--> Running in e3878830e0a2
Removing intermediate container e3878830e0a2
--> f5465533b07a
Successfully built f5465533b07a
Successfully tagged saumya11031998/assignment:latest
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ |
```

## docker login

### give dockerhub username and it's password

```
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ docker login
Authenticating with existing credentials...
WARNING! Your password will be stored unencrypted in /home/saumyasingh/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ |
```

## docker push saumya11031998/assignment

```
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ docker push saumya11031998/assignment
Using default tag: latest
The push refers to repository [docker.io/saumya11031998/assignment]
37e2bea8f0ae: Pushing [=====] 20.27MB/20.27MB
42d22eab50f8: Pushed
34f7184834b2: Mounted from library/openjdk
5836ece05bfd: Mounted from library/openjdk
72e830a4dff5: Mounted from library/openjdk
error parsing HTTP 400 response body: invalid character '<' looking for beginning of value: "<html><body><h1>400 Bad request</h1>\nYo
ur browser sent an invalid request.\n</body></html>\n\n"
```

```
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ docker push saumya11031998/assignment
Using default tag: latest
The push refers to repository [docker.io/saumya11031998/assignment]
37e2bea8f0ae: Pushed
42d22eab50f8: Layer already exists
34f7184834b2: Layer already exists
5836ece05bfd: Layer already exists
72e830a4dff5: Layer already exists
latest: digest: sha256:f80d0363dd647cf81b6e3199f12100c56e195baea17e6cca969d9da1c6aa95ab size: 1369
```

## docker images

```
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
saumya11031998/assignment  latest             f5465533b07a       14 minutes ago     346MB
saumya11031998/assignment  <none>             7d74fd69c430       24 hours ago       244MB
ubuntu               latest             bf3dc08bfed0       4 weeks ago        76.2MB
openjdk              11-jre-slim       764a04af3eff       22 months ago      223MB
openjdk              17-jdk-alpine     264c9bdce361       2 years ago        326MB
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$
```

The screenshot shows the Docker Hub interface for the repository `saumya11031998/assignment`. The page includes tabs for General, Tags, Builds, Collaborators, Webhooks, and Settings. The General tab is active, showing the repository name, update time (11 minutes ago), and status (INCOMPLETE). It also displays Docker commands for pushing a new tag: `docker push saumya11031998/assignment:tagname`. A section for Tags shows one tag, `latest`, with its OS, Type, and Pushed time. The Automated Builds section provides information on connecting to GitHub or Bitbucket for automatic builds. The Repository overview section at the bottom indicates the repository is INCOMPLETE.

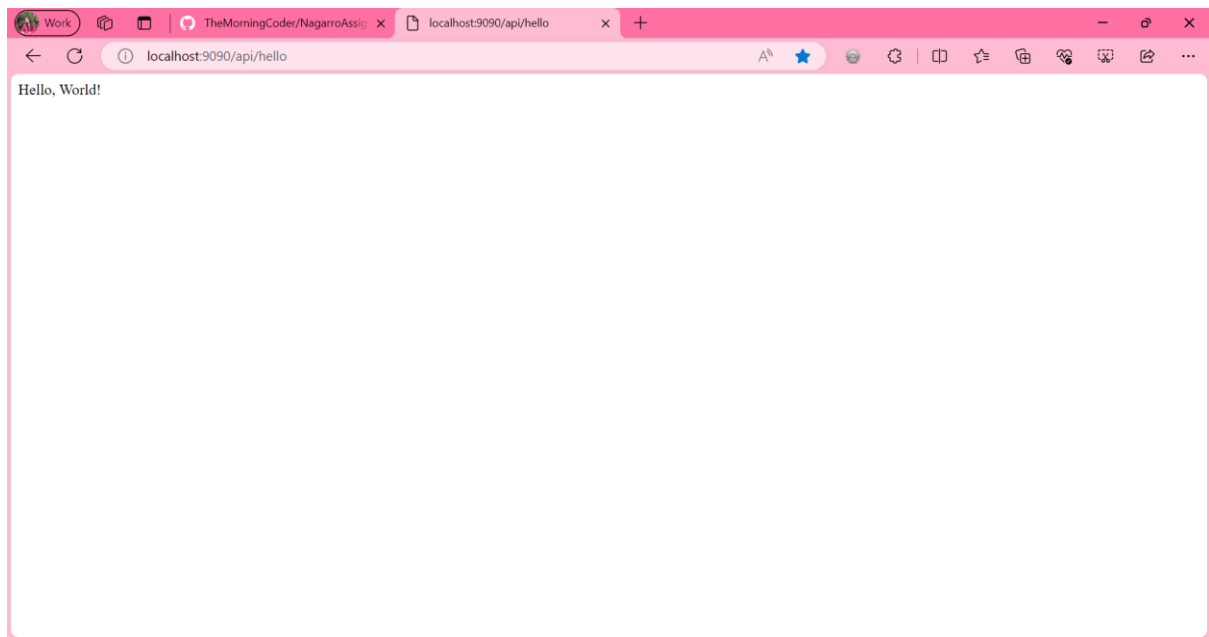
## docker run -p 9090:9090 saumya11031998/assignment

```
saumyasingh@IN-72MRXM3:/mnt/c/Users/saumyasingh/Nagarro_Assignments/assignment$ docker run -p 9090:9090 saumya11031998/assignment

:: Spring Boot ::
(v3.3.0)

2024-05-30T11:59:17.782Z INFO 1 --- [assignment] [main] c.d.assignment.AssignmentApplication : Starting AssignmentApplication v0.0.1-SNAPSHOT using Java 17-ea with PID 1 (/app/assignment-0.0.1-SNAPSHOT.jar started by root in /app)
2024-05-30T11:59:17.787Z INFO 1 --- [assignment] [main] c.d.assignment.AssignmentApplication : No active profile set, falling back to 1 default profile: "default"
2024-05-30T11:59:18.991Z INFO 1 --- [assignment] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 9090 (http)
2024-05-30T11:59:19.014Z INFO 1 --- [assignment] [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-05-30T11:59:19.015Z INFO 1 --- [assignment] [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.24]
2024-05-30T11:59:19.070Z INFO 1 --- [assignment] [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-05-30T11:59:19.073Z INFO 1 --- [assignment] [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1168 ms
2024-05-30T11:59:19.548Z INFO 1 --- [assignment] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 9090 (http) with context path '/'
2024-05-30T11:59:19.568Z INFO 1 --- [assignment] [main] c.d.assignment.AssignmentApplication : Started AssignmentApplication in 2.367 seconds (process running for 2.906)
```

## Api running



## minikube start

## minikube status

```
C:\WINDOWS\system32\cmd. x + v
Microsoft Windows [Version 10.0.22631.3593]
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C:\Users\saumyasingh>minikube start
* minikube v1.33.1 on Microsoft Windows 11 Pro 10.0.22631.3593 Build 22631.3593
* Using the hyperv driver based on existing profile
* Starting "minikube" primary control-plane node in "minikube" cluster
* Updating the running hyperv "minikube" VM ...
! This VM is having trouble accessing https://registry.k8s.io
* To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/networking/proxy/
* Preparing Kubernetes v1.30.0 on Docker 26.0.2 ...
* Configuring bridge CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
  - Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default

C:\Users\saumyasingh>minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

C:\Users\saumyasingh>
```

**kubectl apply -f deployment.yaml**

**kubectl apply -f service.yaml**

```
C:\Users\saumyasingh\Nagarro_Assignments>kubectl apply -f deployment.yaml
deployment.apps/assignment created

C:\Users\saumyasingh\Nagarro_Assignments>kubectl apply -f service.yaml
service/assignment-service created
```

**kubectl get deployments**

```
C:\Users\saumyasingh\Nagarro_Assignments>kubectl get deployments
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
assignment    2/2     2            2           87s
```

**kubectl get services**

```
C:\Users\saumyasingh\Nagarro_Assignments>kubectl get services
NAME             TYPE          CLUSTER-IP    EXTERNAL-IP   PORT(S)          AGE
assignment-service  LoadBalancer  10.102.119.40 <pending>     80:31153/TCP     7m2s
kubernetes        ClusterIP      10.96.0.1     <none>        443/TCP          22h
```

**minikube service assignment-service --url**

```
C:\Users\saumyasingh\Nagarro_Assignments>minikube service assignment-service --url
http://172.29.171.129:31153

C:\Users\saumyasingh\Nagarro_Assignments>|
```

## minikube dashboard

```
C:\Users\saumyasingh\Nagarro_Assignments>minikube dashboard
* Enabling dashboard ...
  - Using image docker.io/kubernetesui/dashboard:v2.7.0
  - Using image docker.io/kubernetesui/metrics-scrafer:v1.0.8
* Some dashboard features require the metrics-server addon. To enable all features please run:

    minikube addons enable metrics-server

* Verifying dashboard health ...
* Launching proxy ...
* Verifying proxy health ...
* Opening http://127.0.0.1:63552/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
```

The screenshot shows the Kubernetes Dashboard interface. The top navigation bar includes the Kubernetes logo, a dropdown menu set to 'default', a search bar, and a notification bell. The left sidebar contains a 'Workloads' section with a list of resource types: Cron Jobs, Daemon Sets, Deployments, Jobs, Pods, Replica Sets, Replication Controllers, and Stateful Sets. The main content area is titled 'Workload Status' and displays three large green circles representing the status of Deployments (Running: 1), Pods (Running: 2), and Replica Sets (Running: 1). Below this, there is a 'Deployments' section with a table showing the details of the deployment.

Name	Images	Labels	Pods	Created
assignment	saumya11031998/assignment:latest	app: assignment	2 / 2	19 minutes ago

This screenshot provides a detailed view of the 'assignment' deployment. The top bar shows the deployment name 'assignment', the image 'saumya11031998/assignment:latest', and the status '2 / 2' pods running, created '19 minutes ago'. The 'Pods' section contains a table with the following data:

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created
assignment-664b6557f6-29gqc	saumya11031998/assignment:latest	app: assignment, pod-template-hash: 664b6557f6	minikube	Running	0	-	-	19 minutes ago
assignment-664b6557f6-r5xqp	saumya11031998/assignment:latest	app: assignment, pod-template-hash: 664b6557f6	minikube	Running	0	-	-	19 minutes ago

The 'Replica Sets' section shows a single replica set:

Name	Images	Labels	Pods	Created
assignment-664b6557f6	saumya11031998/assignment:latest	app: assignment, pod-template-hash: 664b6557f6	2 / 2	19 minutes ago

