

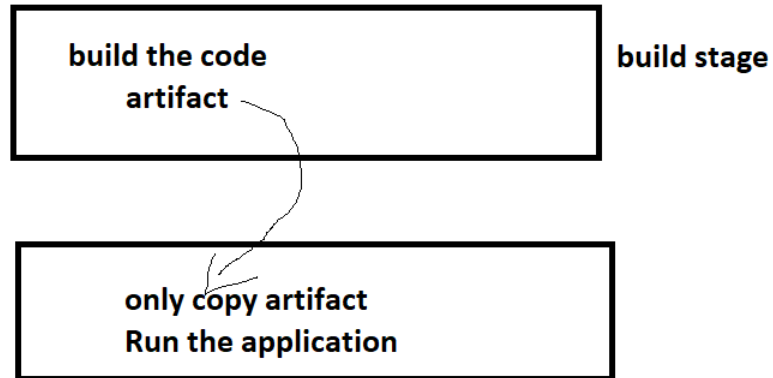


APRIL 16, 2023

# DevOps Classroomnotes 16/Apr/2023

## Multi Stage Docker build

- Multi staged build is used to build the code and copy necessary files into the final stage which will be your image



- [Refer Here](#) for official docs

### Scenario – 1: Java Spring petclinic

- To build this application we need
  - jdk17
  - maven
  - git
- Manual steps:

```
git clone https://github.com/spring-projects/spring-petclinic.git
cd spring-petclinic
mvn package
# a file gets created in target/spring-petclinic-*.jar
```

- To run this application we need jdk 17
- [Refer Here](#) for the changes done to create spring petclinic as multistage build

### Scenario -2 Game of life

- code [Refer Here](#)
- tools:
  - jdk 8
  - git
  - maven
- [Refer Here](#) for the solution

## Pushing images to Registries

### Docker Hub

- Public Registry: Docker Hub [Refer Here](#)

- Create a public Repository

Repositories Create Using 0 of 1 private repositories. [Get more](#)

### Create repository

Namespace: shaikhajabrahim Repository Name: qtspringpetclinic

Description: This is spring petclinic Repository

Visibility: Using 0 of 1 private repositories. [Get more](#)

☒ Public Appears in Docker Hub search results ☐ Private Only visible to you

[Cancel](#) [Create](#)

**Pro tip**  
You can push a new image to this repository using the CLI

```
docker tag local-image:tagname new-repo:tagname
docker push new-repo:tagname
```

Make sure to change tagname with your desired image repository tag.

- Repository will be in the form of <username>/<repo-name>:<tag>

Want faster and simpler Kubernetes development? Test out [Telepresence for Docker](#) today.

dockerhub Search Docker Hub Explore Repositories Organizations Help Upgrade shaikhajabrahim

shaikhajabrahim Repositories qtspringpetclinic General Using 0 of 1 private repositories. [Get more](#)

General Tags Builds Collaborators Webhooks Settings

### shaikhajabrahim / qtspringpetclinic

Description: This is spring petclinic Repository

Tags: Last pushed: a few seconds ago

Docker commands: To push a new tag to this repository, [Public View](#)

```
docker push shaikhajabrahim/qtspringpetclinic:tagname
```

Automated Builds: Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated. [Learn more](#)

- After building the image tag the image to new naming format

```
docker image tag spc:3.0.0 shaikhajabrahim/qtspringpetclinic:3.0.0
```

```
[node1] (local) root@192.168.0.28 ~/go1
$ docker image tag spc:3.0.0 shaikhajabrahim/qtspringpetclinic:3.0.0
$ docker image ls
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
gol	latest	3549b4bf6ef1	32 minutes ago	288MB
<none>	<none>	b06abcb0563d	33 minutes ago	815MB
<none>	<none>	5a69ca09f9bc	34 minutes ago	122MB
spc	3.0.0	d18a3ad41065	50 minutes ago	395MB
shaikhajabrahim/qtspringpetclinic	3.0.0	d18a3ad41065	50 minutes ago	395MB
<none>	<none>	273f7bdce953	51 minutes ago	1.07GB
<none>	<none>	06f0829c0050	54 minutes ago	815MB
<none>	<none>	72a74a1981ea	54 minutes ago	53.3MB
exp	latest	f42693d0d6cb	55 minutes ago	7.05MB
<none>	<none>	45e251fd3e41	55 minutes ago	77.8MB
<none>	<none>	01547d8f37e7	56 minutes ago	77.8MB
<none>	<none>	22878d1af4c0	57 minutes ago	43.6MB
<none>	<none>	4a4be10989b6	59 minutes ago	806MB
<none>	<none>	55d144b5d583	About an hour ago	43.6MB
<none>	<none>	806145e85925	About an hour ago	43.6MB
<none>	<none>	97b6e74d19e7	About an hour ago	43.6MB
<none>	<none>	807d7951ffe1	About an hour ago	43.6MB
maven	3-amazoncorretto-8	69f48fcdcd7a	13 days ago	691MB

\* if this image has to be default also tag with latest (optional)

```
docker image tag spc:3.0.0 shaikhajabrahim/qtspringpetclinic:latest
```

```
[node1] (local) root@192.168.0.28 ~/go1
$ docker image ls
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
gol	latest	3549b4bf6ef1	33 minutes ago	288MB
<none>	<none>	b06abcb0563d	35 minutes ago	815MB
<none>	<none>	5a69ca09f9bc	35 minutes ago	122MB
spc	3.0.0	d18a3ad41065	52 minutes ago	395MB
shaikhajabrahim/qtspringpetclinic	3.0.0	d18a3ad41065	52 minutes ago	395MB
shaikhajabrahim/qtspringpetclinic	latest	d18a3ad41065	52 minutes ago	395MB
<none>	<none>	273f7bdce953	52 minutes ago	1.07GB
<none>	<none>	06f0829c0050	55 minutes ago	815MB
<none>	<none>	72a74a1981ea	55 minutes ago	53.3MB
exp	latest	f42693d0d6cb	57 minutes ago	7.05MB
<none>	<none>	45e251fd3e41	57 minutes ago	77.8MB
<none>	<none>	01547d8f37e7	58 minutes ago	77.8MB
<none>	<none>	22878d1af4c0	58 minutes ago	43.6MB
<none>	<none>	4a4be10989b6	About an hour ago	806MB
<none>	<none>	55d144b5d583	About an hour ago	43.6MB
<none>	<none>	806145e85925	About an hour ago	43.6MB
<none>	<none>	97b6e74d19e7	About an hour ago	43.6MB
<none>	<none>	807d7951ffe1	About an hour ago	43.6MB
maven	3-amazoncorretto-17	09c4bb437316	13 days ago	806MB
maven	3-amazoncorretto-8	69f48fcdcd7a	13 days ago	691MB
amazoncorretto	17-alpine-jdk	158df40ae0fd	2 weeks ago	340MB
alpine	latest	9ed4aefc74f6	2 weeks ago	7.05MB
tomcat	9-jdk8	3c88c90d69b7	2 weeks ago	285MB
ubuntu	latest	08d22c0ceb15	5 weeks ago	77.8MB
ubuntu	20.04	1c5c8d0b973a	5 weeks ago	72.8MB

\* login into docker hub from cli

```
docker login
```

```
[node1] (local) root@192.168.0.28 ~/gol
$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker
ID, head over to https://hub.docker.com to create one.
Username: shaikkhajaibrahim
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
[node1] (local) root@192.168.0.28 ~/gol
$
```

\* lets push the images

```
[node1] (local) root@192.168.0.28 ~/gol
$ docker image push -a shaikkhajaibrahim/qtspringpetclinic
The push refers to repository [docker.io/shaikkhajaibrahim/qtspringpetclinic]
3592a26991ee: Pushed
63a1cb5583d1: Pushed
2548fe26acb0: Mounted from library/amazoncorretto
f1417ff83b31: Mounted from library/amazoncorretto
latest: digest: sha256:687e20636ba98fa2022c5557119c77943d51003258f3e296e48b2f790cbc3dd7 size:
1159
[node1] (local) root@192.168.0.28 ~/gol
$
```

```
[node1] (local) root@192.168.0.28 ~/gol
$ docker image push shaikkhajaibrahim/qtspringpetclinic:3.0.0
The push refers to repository [docker.io/shaikkhajaibrahim/qtspringpetclinic]
3592a26991ee: Layer already exists
63a1cb5583d1: Layer already exists
2548fe26acb0: Layer already exists
f1417ff83b31: Layer already exists
3.0.0: digest: sha256:687e20636ba98fa2022c5557119c77943d51003258f3e296e48b2f790cbc3dd7 size:
1159
[node1] (local) root@192.168.0.28 ~/gol
$
```

shaikkhajaibrahim / qtspringpetclinic

Description

This is spring petclinic Repository

Last pushed: a few seconds ago

Tags

This repository contains 2 tag(s).

Tag	OS	Type	Pulled	Pushed
3.0.0	linux	Image	---	a few seconds ago
latest	linux	Image	---	2 minutes ago

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#)

## Private Registries

- There are many applications for hosting private registries
  - AWS: ECR (Elastic container registry)
  - Azure: ACR (Azure Container Registry)
  - Jfrog

## AWS ECR

- Create an ECR Repository

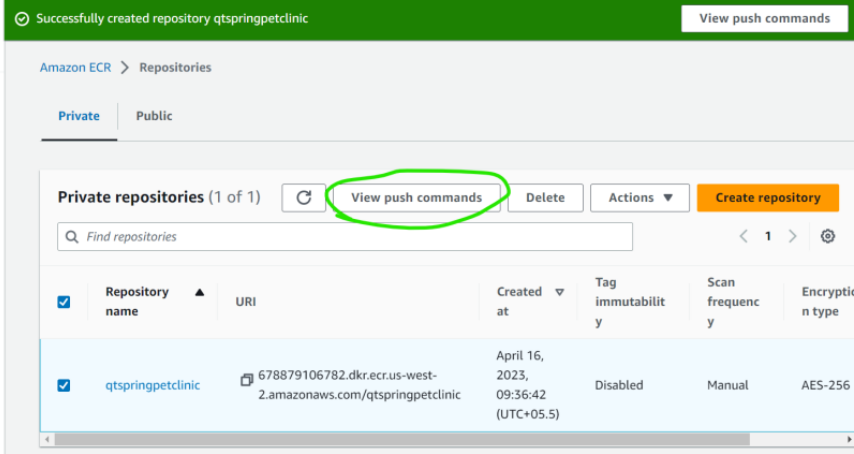
The image shows a sequence of three screenshots from the AWS Management Console illustrating the steps to create an Elastic Container Registry (ECR) repository.

**Top Screenshot:** The 'Services' search results for 'ECR' are displayed. The 'Elastic Container Registry' service is highlighted with a green circle. The description states: 'Fully-managed Docker container registry : Share and deploy container software, publ...'. Other services like Secrets Manager, Key Management Service, and Systems Manager are also visible.

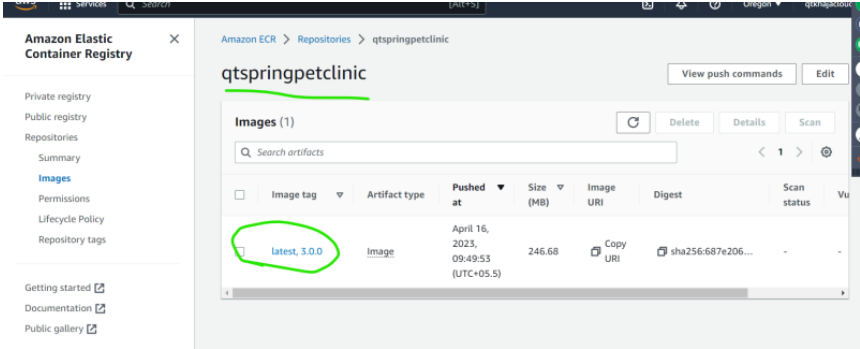
**Middle Screenshot:** The 'Amazon Elastic Container Registry' console page is shown. The 'Private' tab is selected and highlighted with a green circle. In the 'Private repositories' section, the 'Create repository' button is highlighted with a green circle. The table below shows 'No repositories' found.

**Bottom Screenshot:** The 'General settings' page for creating a repository is shown. The 'Private' visibility setting is selected. The repository name is '678879106782.dkr.ecr.us-west-2.amazonaws.com/qtspringpetclinic', with 'qtspringpetclinic' highlighted by a green circle. The 'Tag immutability' is set to 'Disabled'. A blue information box states: 'Once a repository is created, the visibility setting of the repository can't be changed.' Below this, a 'Deprecation warning' box mentions 'ScanOnPush configuration'. The 'Scan on push' setting is also 'Disabled'. The 'Encryption settings' section shows 'KMS encryption' is 'Disabled', with a note: 'The KMS encryption settings cannot be changed or disabled after the repository is created.' At the bottom right, the 'Create repository' button is highlighted with a green circle.

- view push commands



- install and configure aws cli [Refer Here](#)
- follow as shown in class



Azure ACR

- [Refer Here](#) for detailed information

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