

Lab 4 – Dockerfile

Build docker image

Build image from scratch

1. Write a C program that displays "Hello DevOps !!".
2. Compile the program with a **static library**.
3. Write a dockerfile file with the following content:

```
FROM      scratch
COPY      app  app
CMD       ["/app"]
```

4. Build image myapp:1.0
5. Create new container with builded image.

Build web app image

6. Create a new directory named wiki_app, then move to it.
7. Create à Dockerfile to build a container image of the mediawiki web application
 - Build from nginx image
 - Configure nginx server
 - Update the system
 - Install the required packages
 - Download mediawiki from <https://releases.wikimedia.org/mediawiki/1.32/mediawiki-1.32.1.tar.gz>
 - Unzip and extract downloaded mediawiki file
 - Create persistant volumes for /var/log/nginx and /usr/share/nginx
8. Build the image wiki_app:1.0
9. Run wiki_app:1.0 image as follows :
 - container name : myapp
 - publish web port : 8000:80
 - detach running container from console
10. Test the web application (browser).

- Is there any error ?

Build web db image

11. Create a new directory named wiki_db, then move to it.
12. Create a Dockerfile to build a container image of the mediawiki web database
 - Build from maraidb image
 - Create the root password and a user account
 - Install and run mysqld_exporter.
13. Build the image wiki_db:1.0
14. Run Wiki_db image as follows :
 - container name : mydb
 - Publish port : 33066:3306
 - detach running container from console
15. Test the web db (commands or tools).

Push docker images to remote registry

16. Create an account in hub.docker.com/ registry, then create new repository in your remote registry.
17. Push wiki_app:1.0 and wiki_db images to your remote repository.

```
docker tag wiki_app:1.0 brahimhamdi/mywiki_app:1.0
docker push brahimhamdi/mywiki_app:1.0
docker tag wiki_db:1.0 brahimhamdi/mywiki_db:1.0
docker push brahimhamdi/mywiki_app:1.0
```
18. Delete the local wiki_app and wiki_db images.
19. Create myapp and mydb containers with pushed images.