Documentation DOCKER

Initialization of the images:

To have a single image, for an individual group, we decided to create a Docker hub, and initialize two distinct images : the database server and the web server.

- ***MySQL Docker image: duunky/dunkyandfilscorporation:BDD-GIS***
- ***NGINX Docker image: duunky/dunkyandfilscorporation:server-web-GIS***

Docker already offers sample images available for containers.

For the organization of our project we have create two folder, one for each image, the server-web folder and the BDD folder, on those two folder there is a Dockerfile, who allow the initial launching configuration.

BDD :

FROM import the image of the Docker Hub, WORDIR /app go to the emplacement of the Docker image and work on it, COPY . /app copy all the actual folder on the folder /app, ADD lancement.sql /docker-entrypoint-initdb.d allow the execution of the SQL file, create in the same time the database, EXPOSE 3306 open the named port.

Server-Web :

RUN execute a command on the machine terminal, this command create the folder API and allow execution right on the script. RUN the installationDotNet.sh for installing Dotnet, update the image and downloads the needed tools. COPY the folder API from our machine in the new folder on the image. COPY default.conf in the path /etc/nginx/conf.d/default.d for setup Nginx on the rightfull port, CMD for running after the machine is on the start.sh, who launch the API with ***"dotnet run –project /API/ "***.

Docker Compose:

Docker compose is a tools for setup and manage multiples Docker containers at the same time, this is very useful for manage multiples services or container who need to interact betweens them (the BDD and the Web).

On my docker-compose.yml file, we call the two service BDD/WEB on a given path, who take the image already create on the Docker hub, and give them port, 3306:3306 for the DB and 8080:80 for the WEB.

We give a name to the container “container_name” and we give them a IP address on the network 172.16.238.0/24:

IP DB: 172.16.238.10

IP WEB : 172.16.238.11

“Docker-compose up –build” allow to assemble the two images and create a container with those two services.

You can use the command:

“winpty exec -it nom_du_container” “type d’interpréteur (bash,shell,sql…)”

For enter in one of the two services.

Exemple :

Web : « winpty exec -it server-web-GIS bash»
DB: « winpty exec -it BDD-GIS mysql -u root …»