

Program systems development practice

Practice 03

Summary

Docker commands:

docker run [image_name]

It runs a docker image that can be found in the docker image storage (if it cannot be found locally, it will be pulled from the Docker Hub). The result is a Docker container.

Options:

- d: run the container in background
- i: make it interactive
- t: creates a Pseudo Terminal for the container

docker ps

It shows the running containers.

Options:

- a: lists all the containers (stopped and running as well)

docker stop [container_id]

It stops a running container, but it won't be removed. (Container ID can be get by the **docker ps** command.)

docker start [container_id]

It starts a stopped container which was not removed. (Container ID can be get by the **docker ps** command.)

docker rm [container_id]

It removes a container from the list of the containers. A removed container cannot be restarted again.

docker build .

It builds up a docker image from a docker file which **is placed in the folder that we are in at the time of the execution of the command** and the name of the dockerfile is **Dockerfile** without extensions.

Options:

- t: specify the name of the output (the name of the wanted image)
- f: specify the name of the docker file (e.g.: mydockerfile.txt)

docker exec [container_id] [command]

It executes a command in the running docker container that is specified by the ID. E.g.: run a bash (terminal) in our Linux distribution (containerID: abcde12345) and make it interactive:

docker exec -i -t abcde12345 /bin/bash.

Options: -i: make it interactive
 -t: use a Pseudo Terminal

Docker file commands:

FROM

If a statement starts with from, it starts the creation of the image from a pre-created one (e.g.: start from an Ubuntu distribution)

After the name of the image we can specify the version of it.

E.g.: FROM ubuntu:16.04

RUN

The RUN statements execute commands that we want (e.g.: install something). Mainly install processes are put here. The RUN commands are executed during the build of the image. In a docker file we can have more than one RUN statements.

E.g.: RUN apt-get install nano

CMD

The CMD statement is used for executing something at the beginning of the container start. In a docker file we can have only one CMD statement.