

# Lab 3 – Docker Engine

## Manage containers and images

### Docker status informations

1. Verify docker is installed and works:
2. Display information about the docker version:
  - What is the docker client version ?
  - What is the docker server version ?

### Manage containers

3. List all docker containers
4. Find existing nginx images at the registry [hub.docker.com/](https://hub.docker.com/).
5. Start a container based on the latest nginx Docker Image
  - What is the id, name and status of the created container ?
  - Remove the container
6. Start a container based on the latest nginx Docker Image in the background, with *nginx1* name.
  - What is the id, name and status of the created container ?
7. Display more informations about nginx1 container.
  - What is the ip address, netmask, gateway, MAC address and open TCP/ports of nginx1 container ?
8. Test the nginx web page on the browser.

Connect to nginx1 container and modify the « index.html » to display this :

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*[Your Name]*

9. Stop nginx1 container and then start it.

10. Remove nginx1 container.
  - Is nginx image removed too ?

## Manage images

11. List all local docker images
12. Display detailed informations about the nginx image
  - What is the hash, version and creation date of the nginx image ?
13. Save nginx image to nginx.tar file
14. Run a container with nginx image
15. Remove the nginx image
  - Is the nginx image removed ? Why ?
16. Stop the container, then remove the image.
  - Is the nginx image removed ? How to remove the image ?
17. Load nginx image from nginx.tar archive

## Manage volumes

18. Create volume vol1.

What is the path of vol1 mount point ? Is it empty ?
19. Run a container with nginx image, that attach volume vol1 to `/usr/share/nginx/html` folder.

Is vol1 empty ?
20. Using vol1, modify « index.html » file to display this :  
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*[Your Name]*
21. Run another container with nginx image, that attach vol1.

What it display on the web page ?
22. Run a container with mariadb image.

Test sql connexion to the container.

**23.** Is there any attached volume to the DB container ? If yes, where does it come from ?

**24.** Remove all volumes. Is there any problem ? Why ?

Stop all containers and then remove all volumes. Is there any problem ? Why ?

Remove all volumes