**To study and implement containers and dockers**

**Instructions:**

**A** container image is a lightweight, stand-alone, executable package of a piece of software that includes everything needed to run it: code, runtime, system tools, system libraries, settings.

 

The VM Approach The container approach

Figure 10.1: The difference between container and VM approach

**Lab Tasks**

***Docker commands***

* Download and install the VMware toolbox for windows
* List the images available on your system with command “docker image ls”.
* Goto dockerhub.com and browse for repositories of alpine, python, tensorflow
* Pull the repository of alpine using docker pull alpine:latet
* Now list down the images again
* Start a container using command docker container run -it alpine:latest /bin/bash
* Run a ps command from inside of the container to list all running processes
* Press Ctrl-PQ to exit the container without terminating it
* You can see all running containers on your system using the docker container ls
* Attach to the running container again with command “docker container exec -it vigilant\_borg bash” where vigilant\_borg is the name of yhour cotinaer
* Press Ctl-PQ again to exit the container
* Stop the running container with command “docker container stop vigilant\_borg”.
* Remove the container using command docker container rm vigilant\_borg

***Building docker images***

* Clone a repository using command “git clone <https://github.com/nigelpoulton/psweb.git>”
* Change your directory using “cd psweb”
* List the contents of the Dockerfile using “cat Dockerfile”
* Build the docker image using “docker image build –t os:latest .”
* Check to make sure that the new os:latest image exists on your host
* Now run a container with the newly create image “docker container run -d --name web1 -p 8080:8080 os:latest”
* Open a web browser and navigate to the DNS name or IP address of the host that you are running the container from and point it to port 8080
* Well done. You’ve taken an application and containerized it (built a Docker image from it).