Microservice orchestration platforms using Kubernetes

Docker basics

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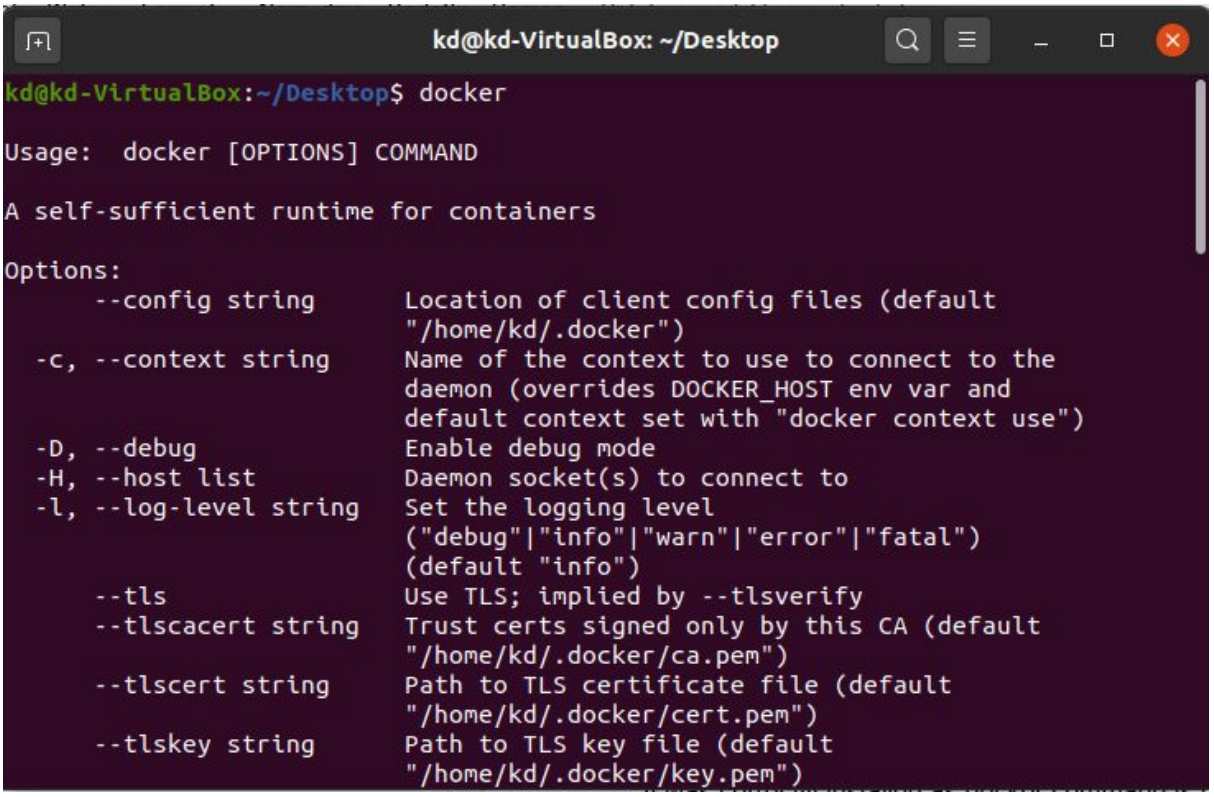
Introduction
During this laboratory our task was to deploy 5 different images on docker platform, to gain some basic knowledge about docker and its commands.

First of all the docker was installed with use of following commands:

```
$ sudo apt-get update
$ sudo apt-get install docker-ce docker-ce-cli containerd.io
```

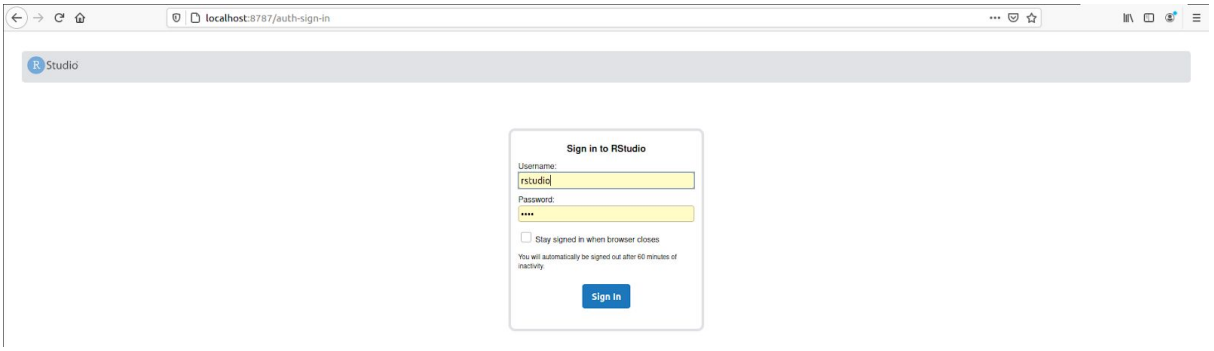
It was correctly installed as docker command is now recognized by my system:

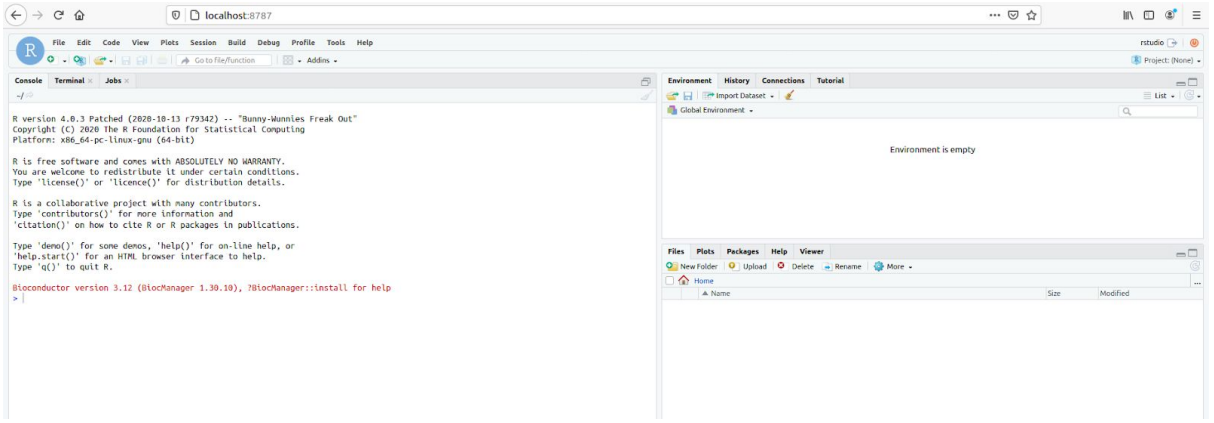


As instructed by the tutor bioconductor container was deployed on the docker with usage of following command:

```
docker run \
    -e PASSWORD=bioc \
    -p 8787:8787 \
    bioconductor/bioconductor_docker:devel
```

It could be accessed on the http://localhost:8787 address as shown in figure below:





After that I just found couple of other container images on docker hub and deployed them. With following command:

docker pull *image name*

List of all containers with use of command docker ps -a is presented below:

```
kd@kd-VirtualBox:~/Desktop$ docker ps -a
CONTAINER ID        IMAGE                                  COMMAND                  CREATED             STATUS                      PORTS                                            NAMES
afa76120c78d        solr                                   "docker-entrypoint.s…"   28 seconds ago      Up 26 seconds               0.0.0.0:8983->8983/tcp                           mystifying_newto
n
460a82e3d123        jenkins                                "/bin/tini -- /usr/l…"   3 minutes ago       Up 2 minutes                0.0.0.0:8080->8080/tcp, 0.0.0.0:50000->50000/tcp   priceless_bartik
93033fa6465b        hello-world                            "/hello"                 14 minutes ago      Exited (0) 14 minutes ago                                                    unruffled_mclare
n
01ce7840aed0        bioconductor/bioconductor_docker:devel "/init"                  28 minutes ago      Exited (0) 22 minutes ago                                                    ecstatic_wright
c6cda32e66a9        gcr.io/k8s-minikube/kicbase:v0.0.13    "/usr/local/bin/entr…"   6 days ago          Exited (130) 28 minutes ago                                                  minikube
kd@kd-VirtualBox:~/Desktop$
```

As we can see two containers are still running, to stop them we can use following command:

docker stop *container id*

```
CONTAINER ID        IMAGE                                  COMMAND                  CREATED             STATUS
afa76120c78d        solr                                   "docker-entrypoint.s…"   3 minutes ago       Exited (137) 1 second ago
n
460a82e3d123        jenkins                                "/bin/tini -- /usr/l…"   5 minutes ago       Up 5 minutes
93033fa6465b        hello-world                            "/hello"                 17 minutes ago      Exited (0) 17 minutes ago
n
01ce7840aed0        bioconductor/bioconductor_docker:devel "/init"                  30 minutes ago      Exited (0) 25 minutes ago
c6cda32e66a9        gcr.io/k8s-minikube/kicbase:v0.0.13    "/usr/local/bin/entr…"   6 days ago          Exited (130) 30 minutes ago
```

Conclusions

During this laboratory I gained knowledge about basics devoted to docker, how to pull an image, deploy and run it as well as stop it.