
Running docker inside MAC OSX

Guide for MAC users only

Downloading and Installing docker

1. First of all, you need to install the Docker Desktop app. Click on this [link](#) to begin the download.
2. After the dmg file is downloaded, please open it and install it.
3. Drag and drop the Docker.app file into the Applications directory.
4. At some point, it will ask you for your system privileges. Grant it.
5. The installation will finish and you should be able to see the docker icon in the top-right icon bar.
6. Now, fire up a new terminal, and type `docker -version`. If you are able to see the docker version info you can be sure that the docker is installed.

Setting up docker to run GUI s/ws inside it!

- Follow [this](#) link or run the set of commands below:

```
> brew install socat
```

```
> socat TCP-LISTEN:6000,reuseaddr,fork  
UNIX-CLIENT:\"$DISPLAY\"
```

```
(keep this window open, open a new window for all of the  
work below)
```

```
> brew install xquartz
```

```
> open -a Xquartz
```

- A white terminal window will pop up. Now open up the preferences from the top menu and go to the last tab 'security'. There we need to make sure the "allow connections from network clients" is checked "on"
 - Shoot the following command next:
-

```
> ifconfig
```

Take the ip address from the interface through which you are using internet, for example:

```
> ifconfig en0
```

```
en0:
```

```
...
```

```
inet 192.168.0.235 netmask 0xffffffff00 broadcast  
192.168.199.255
```

```
...
```

```
So here ip is 192.168.0.235
```

- Set up the private IITB VPN to access the laboratory, follow [this link](#) (use your institute LDAP credentials when you login with above link)
- Keep your cool, you are just a few more steps away from the setup. Login to the virtual laboratory of Software Lab with this command:

```
> docker login docker.cse.iitb.ac.in
```

1. When prompted with a username and password, use the credentials below to enter them:

Username: `cse_user`

Password: `user_auth_pass`

2. All done, now pull the software you require with the following command:

```
> docker pull docker.cse.iitb.ac.in/[name]
```

Here, the place holder [name], is the course code or the name of the software required to be installed, all such names are listed at the end of this document.

3. Follow step 2, for each course you require the laboratory.

4. To start a course, just use the command similar to this in the table given at the end of this document:

Run the following command replacing the ip address you got on running `ifconfig` command below with your own ip address(as shown in above output when you ran `ifconfig`):

```
> docker run --name cs699 -it --net=host --env="DISPLAY =  
192.168.1.9:0" -v "$HOME:/host"  
docker.cse.iitb.ac.in/[course_code]
```

[name_work] : You can give the any name of the laboratory in the placeholder

[name] : Mandatory to use [name] used in step 2

[\$HOME:/host] : You can access your home directory in /host dir in docker image

5. Now, you are inside the laboratory, you can start your lab now.

6. Once, done you can exit with the following command :

```
root@fdccb3348927:/home#exit
```

NOTE: ONCE YOUR IP ADDRESS CHANGES YOU HAVE TO MAKE THE APPROPRIATE CHANGES IN THE RUN COMMAND.

List of course names with code in CSE docker registry

Softwares included in docker images:

Docker image name	Size	Software included	Commands to run
cs699	4.11GB	Bash, Python, Matplotlib, scikit-learn, Latex, git, PHP, Java, sublime-text, vim, firefox, doxygen, docker, emacs, cmake, make, pip3, jdk_13, gdb, code, miniconda	<pre>\$ docker pull docker.cse.iitb.ac.in/cs699 \$ docker run --name cs699 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/cs699 \$ docker start cs699 \$ docker exec -it cs699 /bin/bash</pre>
cs293	592MB	g++, vim, sublime-text	<pre>\$ docker pull docker.cse.iitb.ac.in/cs293 \$ docker run --name cs293 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/cs293 \$ docker start cs293 \$ docker exec -it cs293 /bin/bash</pre>
cs333	701MB	manpages-posix-dev, sublime editor, strace, nasm, lsof, glibc-doc, vim, sublime-text	<pre>\$ sudo docker pull docker.cse.iitb.ac.in/cs333 \$ sudo docker run --name cs333 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host"</pre>

			docker.cse.iitb.ac.in/cs333 \$ sudo docker start cs333 \$ sudo docker exec -it cs333 /bin/bash
cs341	2.49GB	qt4-dev-tools, qt4-doc, libqt4-help,winehq,qtspim,vim	\$ sudo docker pull docker.cse.iitb.ac.in/cs341 \$ sudo docker run --name cs341 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/cs341 \$ sudo docker start cs341 \$ sudo docker exec -it cs341 /bin/bash
cs251	3.29GB	git, latex, python3, pip3, numpy, scipy, pandas, matplotlib, sqlite3, jdk_13, cmake, make, gdb, doxygen, docker, emacs, vim, sublime-text, firefox	\$ sudo docker pull docker.cse.iitb.ac.in/cs251 \$ sudo docker run --name cs251 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/cs251 \$ sudo docker start cs251 \$ sudo docker exec -it cs251 /bin/bash
cs337	882MB	python3, numpy, matplotlib,scipy, PIL, Pandas, pip3, vim, sublime-text	\$ sudo docker pull docker.cse.iitb.ac.in/cs337 \$ sudo docker run --name cs337 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/cs337 \$ sudo docker start cs337 \$ sudo docker exec -it cs337 /bin/bash
cs747	1.4GB	Python 3.8.5, Numpy v1.19,	\$ sudo docker pull

		Matplotlib 3.3.0, Pulp 2.3	docker.cse.iitb.ac.in/cs747 <pre>\$ sudo docker run --name cs747 -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/cs747 \$ sudo docker start cs747 \$ sudo docker exec -it cs747 /bin/bash</pre>
base_lab (covers cs699, cs293, cs337 course softwares)	2.65GB	python, matplotlib, scipy, numpy, scikit-learn, java, php, build essential, sublime, gedit, geany, vim, tree, net-tools, git, latex, evince, flex, bison, G++, php, PIL, Pandas	<pre>\$ sudo docker pull docker.cse.iitb.ac.in/base_lab \$ sudo docker run --name base_lab -it --net=host --env="DISPLAY=192.168.1.9:0" -v "\$HOME:/host" docker.cse.iitb.ac.in/base_lab \$ sudo docker start base_lab \$ sudo docker exec -it base_lab /bin/bash</pre>