

Dockers - Task #1

Goals

- Use existing *Dockerfile* for Ubuntu 20.04
- Extend it to install a python module
- Build the new image
- Run interactively and perform basic numpy operations
- Save results to a file

Estimated Time: 15 - 30 minutes

Prerequisites

All steps below should be performed in your personal Cloud9 environment.

Steps

1. Create a new folder under the Cloud9 file-system named “*my-numpy-docker*”
2. Use the following *Dockerfile* contents as basis for a new *Dockerfile* inside the newly created folder:

```
FROM ubuntu:20.04
RUN apt update
RUN apt install -y python3 python3-pip ipython3
```

3. Add a directive that requests to install the *numpy* module using *pip3*
4. In the Cloud9 terminal issue a command to build the new image as follows:
`# docker build my-numpy-docker -t my-numpy-docker`
5. Type in terminal to check the newly build image is available:
`# docker images`
6. Start an interactive instance of the new image
7. Open a python shell (python3 / ipython3)
8. Write a tiny program that computes 20 random numbers
You may use: [numpy.random.random — NumPy v1.16 Manual](#)
9. Save those numbers to a file located in the home directory of the container
10. Exit the python shell and verify the file contents are OK

11. Exit the container

12. Now, return to step 6 (only)

a. Start the container again, can you see the file just created?