

Docker-Doh



*Now in Stores
Nationwide!*

Class assignment - Docker Doh'

In this assignment we are going to play around with **Docker** by pulling images from Docker Hub, creating our own images and fire up containers! Start by opening the **Docker-Doh** can located on the table in front of you and start exploring the world of **Docker**! As always, good luck!

Prerequisites

In order to start working on this project, you must setup **Docker** on your machine.

Windows: <https://hub.docker.com/editions/community/docker-ce-desktop-windows>

Mac: <https://hub.docker.com/editions/community/docker-ce-desktop-mac>

Linux (Ubuntu): <https://docs.docker.com/install/linux/docker-ce/ubuntu/>

Assignment description

Here below are the steps required for this assignment:

1. **(5%)** Start by pulling and running a **Hello World** container (https://hub.docker.com/_/hello-world)
2. **(0%)** Now download **donuts-web.zip** which is a simple **NodeJS** web api which runs on port 5000
3. **(5%)** The **NodeJS** web api is using a **MongoDb** database which has not been created yet. It is used to retrieve all these delicious donuts!
 - 3.1. Create a new instance of a database with **MongoDb Atlas**
4. **(50%)** Create a custom **Dockerfile**
 - 4.1. **(5%)** Should be composed out of a **node** image
 - 4.2. **(5%)** Should be labeled with your name or the group name as author
 - 4.3. **(10%)** Set environment variables **DONUT_DBHOST**, **DONUT_DBNAME**, **DONUT_DBUSER** and **DONUT_DBPWD** to the values for the database host, database name, user and password
 - 4.4. **(10%)** Should copy all files within the **donuts-web/** folder to a folder called **app/** within the container excluding **node_modules/** and **package-lock.json**
 - 4.5. **(10%)** Should execute **npm install**
 - 4.6. **(10%)** Should always execute a command (*cannot be overwritten*) when the container starts **npm start**
5. **(5%)** Now build an image out of the custom **Dockerfile** called <your-name>/donuts-web
6. **(10%)** Run a container which uses that image as follows:
 - 6.1. **(5%)** Port 9000 should be mapped to the internal port which is used to run the **NodeJS** web api
 - 6.2. **(5%)** The container should be executed in detached mode
7. **(5%)** Connect to the container in interactive mode and get shell access
8. **(5%)** When you have shell access run the seed script for the database called **seed.js** which is located in the **data/** folder
9. **(0%)** Now using either CURL or Postman issue a GET request to <http://localhost:9000/api/donuts> and see all the wonderful donuts!
10. **(15%)** At last, we are going to publish our new image to **Docker Hub**!

Submission

A single compressed file (*.zip, *.rar) which should include the following files:

- commands.txt - Should include the docker commands used to create the images, containers and such associated with the assignment description
- Dockerfile - The custom Dockerfile used to build the image for <your-name>/donuts-web
- .dockerignore - Should include all files or folder that should be excluded from the container

Don't forget to comment the names of your group members (*excluding the one submitting the assignment*).