Lab Exercise: Building an Image With a Dockerfile

Preamble

This lab exercise involves the creation of a Docker image using a Dockerfile and the `docker build` CLI command.

The aim of the lab is to create a Docker image capable of running the nginx web server. Whilst it is not common practice to create images that contain build components alongside a built artefact, for the purposes of this exercise, we will build the nginx binary from source inside the container, before it is prepared for consumption.

Key Points

1. Usefully use as many Dockerfile instructions as you can.
2. Try and strike a balance between image readability and image layer efficiency
3. Minimise the size of the image
4. Incorporate flexibility within the image to allow for different use cases or scenarios

Nginx is a highly configurable tool, so for the purposes of this exercise, use the default build parameters. There is no 'correct method' to the exercise, and the value in conducting the exercise is to learn from the iterative process involved in building Docker images from Dockerfile instructions. If you get stuck, an example solution is provided in Appendix 3.

Notes

1. The nginx source code can be [downloaded](#) from the [nginx.org](#) website
2. [Building nginx from its source](#) requires your image to contain build tools and some essential libraries
3. Be sure that nginx is configured to run in the [foreground](#), otherwise Docker will assume that the process in any derived containers has exited, and will stop the container