**Docker LAB**

1. Install Docker

Follow the official guide: <https://docs.docker.com/engine/install/>

1. Pull Container from DockerHub
   1. Pull nginx container

*sudo docker pull nginx*

* 1. *Run nginx container. Verify the state. Test the web service*

*sudo docker run -d -p 80:80 nginx*

*sudo docker ps -a*

* 1. *Create container using Dockerfile*
     1. *Clone* [*https://github.com/georgkal/Docker\_Web\_App.git*](https://github.com/georgkal/Docker_Web_App.git)
     2. *Navigate to the directory. Copy app.py to different directory(create web\_app directory).*
     3. *Create Dockerfile in the same (web\_app) directory(where the app.py is)*
     4. *Construct container based on:*

*Dockerfile reference:* [*https://docs.docker.com/engine/reference/builder/*](https://docs.docker.com/engine/reference/builder/)

* + - 1. *To use Ubuntu*
      2. *Update and install(using apt):*
         1. *python3*
         2. *python3-pip*
      3. *Install web.py using pip3*
      4. *Set WORKDIR to /home/ubuntu*
      5. *copy app.py from current directory to /home/ubuntu*
      6. *start the app*
    1. *Build the container*
    2. *Test the web app*

1. *Create bash script that is performing the same actions*
   1. *Build container based on the Dockerfile*
   2. *Run/Start container with name Web\_App*
2. *Open Github and create Public/Private repo with name web\_app(repo name must be the same as your working dir)*
3. *Init local Git repo*
4. *“Connect” local repo with remote repo*

*git remote add origin* [*https://github.com/github-username/web-app.git*](https://github.com/github-username/sample-app.git) *(use your link)*

1. *Stage, commit, and push the web-app files to the GitHub repository.*

**Stop and Remove Web\_App container**

*sudo docker stop Web\_App*

*sudo docker rm Web\_App*

**Build Web\_App container using Jenkins**

1. *Setup Jenkins*

*Open* [*https://contenthub.netacad.com/courses/devnet/\_common/6.3.6-lab---build-a-ci-cd-pipeline-using-jenkins.pdf*](https://contenthub.netacad.com/courses/devnet/_common/6.3.6-lab---build-a-ci-cd-pipeline-using-jenkins.pdf)

*Jump to “Part 4: Download and Run the Jenkins Docker Image”. Follow the steps .*

*IMPORTANT: in “Step 2: Start the Jenkins Docker container” remove “--rm”.*

*Continue with Part 5 and Part 6.*

*NOTE: Results are slight different*