**Run a web server in Docker**   
  
Nginx is a server technology that can be used to host a web application with static html pages.  
  
Create an Hello World html page and host it in the nginx docker container.  
  
Follow steps below to incorporate the same:

* Create folder d:\docker-learn\html
* Create a file named home.html in the new folder created above. In home.html, include html script that displays Hello World message
* Execute the following docker command that gets the nginx image from https://hub.docker.com

docker pull nginx:1.17.5

* Verify if image is available with this command:

docker image ls

* Execute the following command to run the nginx container from the nginx image. [NOTE: This command can be directly executed without executing the pull command. If the image is not available, the run command itself will download it and then run the container]

docker run --name my-nginx -d -p 8085:80 -v d:\docker-learn\html:/usr/share/nginx/html nginx:1.17.5

* Explanation for the above command:
  + run - starts the container
  + --name - provides an user defined name for the container
  + -d - runs nginx in the background and get back the control to the prompt
  + -p - specifies that port 80 of nginx needs to be mapped to 8085 port of local desktop
  + -v - creates a volume so that the html file in the desktop can be copied to the folder where nginx container looks for html files, so that it copies home.html to /usr/share/nginx/html folder of the container.
  + nginx - denotes the image
  + 1.17.5 is known as the tag that points to the respective software version
* The output of the above command does not result in any significant output, but it would have started the nginx server.
* Issue the below docker command to check if the container is running:

docker container ls

* Test the execution of the nginx server by opening http://locahost:8085 in the browser
* Command to stop the server

docker stop my-nginx

* Now issue the below command will not display the container. As this command does not list stopped container

docker container ls

* Issue the following command to view stopped containers

docker container ls -a

* Command to start the server

docker start my-nginx

**Start nginx using Dockerfile**

* Create file named 'Dockerfile' in d:\docker-learn\html folder
* Include following content in 'Dockerfile':

FROM nginx:1.17.5

COPY home.html /usr/share/nginx/html

* FROM command pulls the image if it is not locally available
* COPY command transfers file from desktop to a folder in container
* If nginx container is already running, stop it
* In command prompt go to d:\docker-learn\html folder
* Execute the following command to run the container:

docker build .

* The above command uses the options specified in Dockerfile and runs the container
* Check if the application runs using browser

**Deleting container and image**

* Use 'docker image ls', 'docker container ls' and 'docker container ls -a' to view the list of existing images and containers
* Use 'docker image rm [IMAGE\_ID]' and 'docker container rm [CONTAINER\_ID]' to remove an image. IMAGE\_ID And CONTAINER\_ID can be obtained using the ls command

**Test Cases**