NVIDIA NGC + Docker Quickstart Guide

NVAITC Team: 2021-04-09

Install nvidia-docker manually or alternatively use the NVIDIA data science stack
https://github.com/NVIDIA/data-science-stack

Mapping container port (80) to your host system's port (8080)

```
user@host:~$ docker run -it --rm --gpus all -p 8080:80 nvcr.io/nvidia/cuda:11.0-base
```

Disable network isolation and use the host system's network

```
user@host:~$ docker run -it --rm --gpus all --network=host nvcr.io/nvidia/cuda:11.0-base
```

Mounting a host system storage volume to container path

```
user@host:~$ docker run -it --rm --gpus all -v <host-path>/<container-path> nvcr.io/nvidia/cuda:11.0-base
```

Listing all running containers

```
user@host:~$ docker ps
```

Starting a new shell in a running container

```
user@host:~$ docker exec -it <container-id> /bin/bash
```

Stopping a container (graceful shutdown)

```
user@host:~$ docker stop <container-id>
```

Deleting a stopped container

```
user@host:~$ docker rm <container-id>
```

Killing a container without prior stopping it

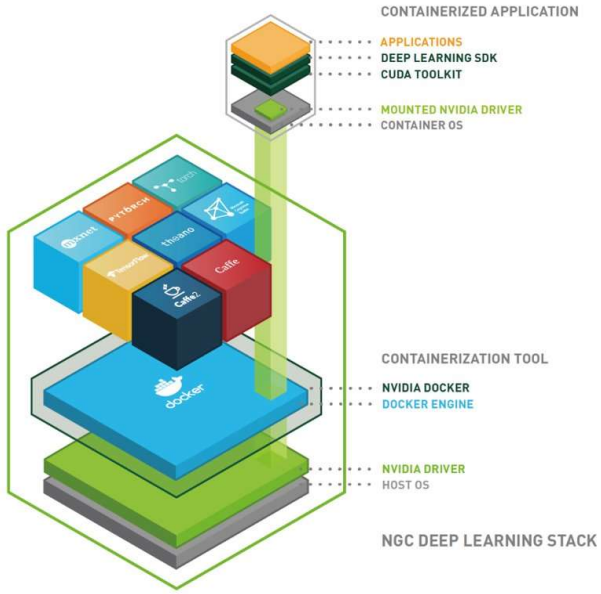
```
user@host:~$ docker kill <container-id>
```

Displaying logs of a running container

```
user@host:~$ docker logs -f <container-id>
```

Running X11/OpenGL application using the CUDAGL image from NVIDIA NGC

```
user@host:~$ xhost +
user@host:~$ docker run --gpus all -it --rm -v /tmp/.X11-unix:/tmp/.X11-unix -e DISPLAY=$DISPLAY \
    nvcr.io/nvidia/cudagl:11.2.0-runtime-ubuntu18.04 bash -c "apt update; apt install mesa-utils -y; glxgears"
```



ngc.nvidia.com

Attaching/Detaching

Attach to container entrypoint

```
user@host:~$ docker attach <container-id>
```

Detach from container using

Ctrl + P Ctrl + Q