

Questions answered through chat window during session #4 on 07 Feb 2022

Question Asked	Answer Given
is professor running model on docker created in dgx server	Running on DGX server but was pulled from remote NVIDIA NGC container repository
How to use docker pull command in windows	Docker pull command is always the same. If you have Docker installation on Windows you can use same pull command.
We can create different environment for different project right?	Yes one way to solve this is via using environment like virtualenv. But virtualenv still has some limitations. Containers have much more which is explained in next slides like it encapsulates all dependencies and you can package it and shift to say other machines
i did not receive any link for downloading dockers yet	Please look at the announcement channel in slack. Please follow slack channel for all announcement. As has been indicated multiple times, no mail are going to be sent. As has been indicated at the beginning of the session, please join slack and monitor the announcement channel regularly
can the isolated virtual machines be with the same OS type? Like, both Ubuntu, or both	It can be same type or different type OS also
is the docker helping with segmentation of stuff on our device? or is it taking the command and running it on a separate	It is basically allowing you to run things on your machine without explicitly installing it. It still uses your machine when you run it. It just pulls from the remote repository
I am getting the error message "Docker desktop failed to start" . Kindly help	Please post on slack on steps followed. The TA will help you answer the queries.
Docker running in DGX. what is it?	The instructor is showing how to pull docker container from remote repository and running on a server DGX which has 8 NVIDIA GPU
We can use multiple environments to make multiple versions work right?	Yes you may use things like conda or virtualenv. But container does have some additional advantage. Like once encapsulated all dependencies you can host and pull a container to another machine as well.
Where is it being pulled from? Like do we have to have internal files with ubuntu os?	There are multiple repositories from where you can pull from. Like Docker Hub or Nvidia NGC. You can give the path and it will pull from there. By default docker pulls from Docker Hub
what is daemon and how is it related to -d?	Daemon means run in the container in background so that you get your shell back and do other operation till Docker finishes its job. It is like running any other process as daemon
I followed all the commands and i was able to follow. But after % docker exec -it ubuntu1 /bin/bash it shows "Error no such container:ubuntu1". Please help what did i do wrong	can you try docker exec -it ubuntu:18.04 . It should ideally download the ubuntu 18.04 and execute it

How is a docker different from the available cloud services?	Cloud primarily uses VM . When you launch a job on cloud it creates a VM and gives you a fresh instance. Docker containers are something you can pull in your machine and run on your machine. Cloud can also run containers but I believe it is a different topic all together
Can the host show us where these images are installed?	Docker has fixed location to store these images. You can change the PATH of this installation if required. Like on linux ideally it should be at <code>/var/lib/docker/overlay2</code>
is an image the same as a .iso installer? so if i have the .iso of an os in <code>/var/lib/docker/overlay2</code> will it be accessible by docker (on linux)?	Docker has its own way of creating an image. You cannot have a traditional ISO and just use it .
"A: can you try <code>docker exec -it ubuntu:18.04</code> " is this how we install an image into the docker repository?	this download the remote repository to your machine. The name of repository that you are pulling is ubuntu version 18.04 . You can download many other repositories for all AI frameworks
I'm getting below error while opening docker app "access to the path	Please post on slack with steps followed. TA will answer on slack
What does the pulled image contain? Is it just a part of the full OS?	It is self sufficient and contains all the major OS files required and needed to run
Does the container always login as root? Why is this?	You can change to other user as well. By default it is root.
Does the docker container have network interfaces configured by default? If not, what changes need to be made?	There was ways to expose docker network interfaces and configure them. You can also ask docker to use host OS network interface like say <code>--network=host</code> with docker run
Does building layer by layer optimize the size of the resulting image? If yes, how?	Layer by layer is more of checkpointing. Like I can take a base OS and add a layer of say installing a sklearn package. Over which I can install another layer of equivalent GPU package like RAPIDS. So it brings in modularity. The more layers it has the more size it will take
how to get the id ubuntu1?	you can get container id by running <code>"docker ps"</code>
Sir if i am working is one docker than can somebody also use the same docker at the same time in another system.	
What is Cuda toolkit? Is it for data processing?	CUDA is GPU architecture by NVIDIA. You can code GPU using CUDA toolkit. Data processing and frameworks like PyTorch, TensorFlow internally call CUDA toolkit libraries to run on GPU
Is docker like a git repository?	Docker is a container which can be hosted in repository like Docker Hub or NVIDIA NGC. Docker Hub acts like a repository like git but for containers.

<p>If we install the tensorflow python package and install tensorflow container using this docker implementation. What is the difference?</p>	<p>You may install manually tensorflow. But it is error prone like you may want to install dependencies which are missing. What if tomorrow you want another version of tensorflow or want to shift to PyTorch . Docker are packages which provide you isolations and keep your system clean and isolate dependencies. Also you can save state of container and transfer to another machine by just pulling it. Same cannot be done in case you manually install in one machine</p>
<p>what docker ps command means?</p>	<p>It shows list of all running docker containers if any</p>
<p>sir could you please share the docker container link on the slack platform?</p>	<p>which container are you referring to? All the steps mentioned in the demo will be shared in slack so that you can try in your own machines later.</p>