

Managing your Dev. Environment: Docker & Docker Hub

AI Seminar (2021.07.01)

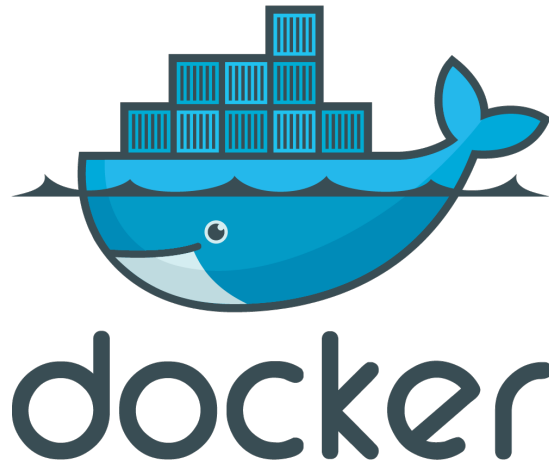
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Reference if presentation is a seminar

What is Docker?

(TL;DR – Virtual Machine(VM) (not quite, but close enough) without UI)

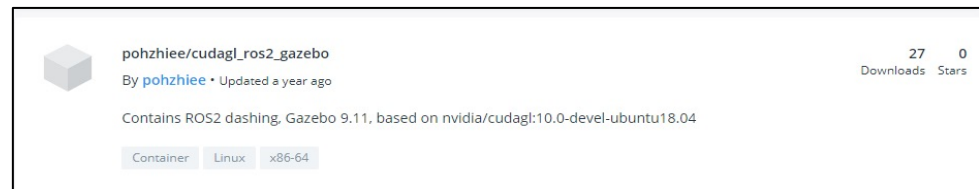
- Open platform for developing, shipping and running applications.
- Enables the separation of your applications from your infrastructure.



Why Docker is Essential?

1. Quick Set-up of Various Environments

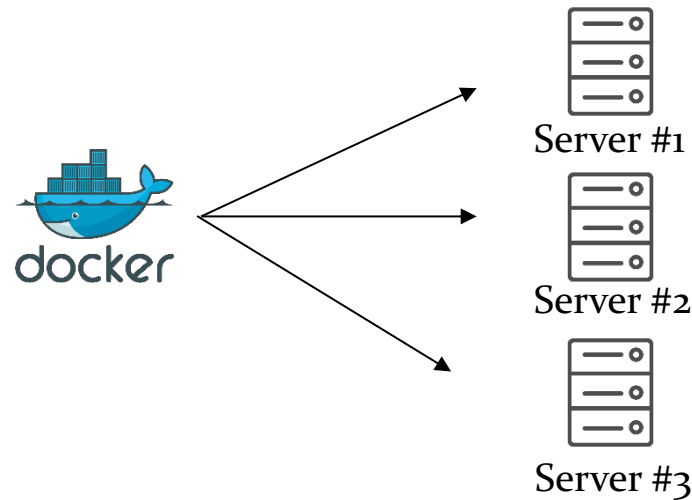
- Docker Hub (<https://hub.docker.com/>) : Open platform to share different environments
 - *What if the local machine is installed with CUDA 10.0 and a project requires 10.2?*
 - *OpenGL is very cumbersome to install, especially with CUDA...*
 - *What if I want to run ROS2, but I'm scared to install ROS2 on local because it may clash with ROS that's already installed?*



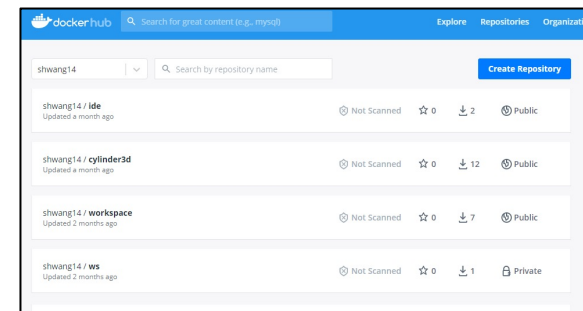
Why Docker is Essential?

2. Easy Distribution of Identical Environments to Different Machines

- I don't want to install everything over and over again to migrate my projects to different server...!*



Save it as zip file (\$ docker save)



Public upload to docker hub

Why Docker is Essential?

3. Ready-to-use Environments are Sharable in Developing Communities

traveller59 / spconv

<> Code

Issues 207

Pull requests 6

Actions

Projects

Wiki

Security

Insights

SpConv: PyTorch Spatially Sparse Convolution Library

This is a spatially sparse convolution library like [SparseConvNet](#) but faster and easy to read. This library provide sparse convolution/transposed, submanifold convolution, inverse convolution and sparse maxpool.

2020-5-2, we add ConcatTable, JoinTable, AddTable, and Identity function to build ResNet and Unet in this version of spconv.

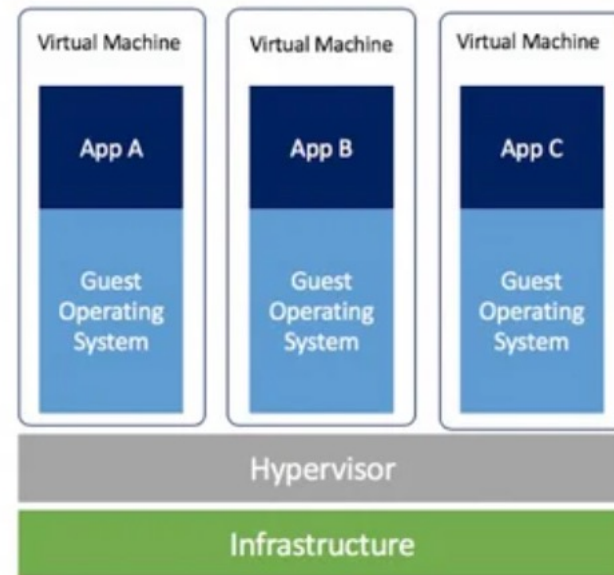
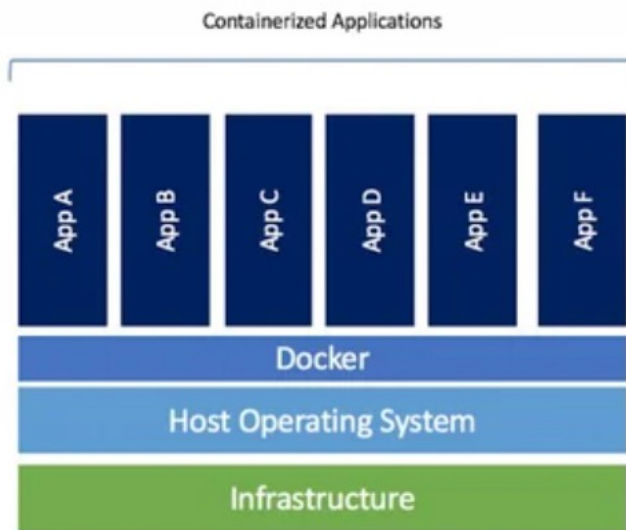
Docker:

```
docker pull scrin/dev-spconv , contains python 3.8, cuda 10.1, fish shell, newest pytorch and tensorflow.
```

Why Docker is Essential?

4. Clean Environment & Dependency Control in Server

Knowing how to use DOCKER = Knowing how to use SERVER



Overview of Comparison between Docker and VM

Why Docker is Essential?

5. COMFORTABLE!

- *Many of us experiences...*
 1. *Dependencies broke while installing a new software*
 2. *Things start to break apart...*
 3. *Re install OS*
 4. *Repeat 1-3*
- *With Docker,*
 1. *Download an image with a software ALREADY INSTALLED*
 2. *IF things broke, just delete the container and start again (with one line of command, "\$ exit")*