Managing your Dev. Environment: Docker & Docker Hub

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https://github.com/deepshwang/howtodocker
https://gitlab.com/urobotkaist/howtodocker

Temporary Server Address

aiwc1 143.248.150.95:8812 temp1 12345
aiwc1 143.248.150.95:8812 temp2 12345

aiwc4 143.248.150.95:8842 temp1 12345
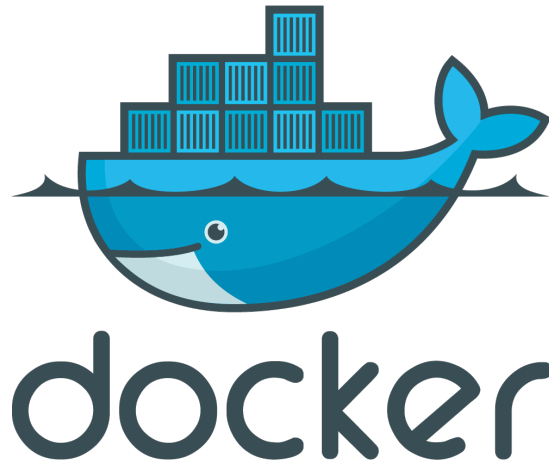aiwc4 143.248.150.95:8842 temp2 12345

aiwc5 143.248.150.95:8852 temp1 12345
aiwc5 143.248.150.95:8852 temp2 12345

What is Docker?

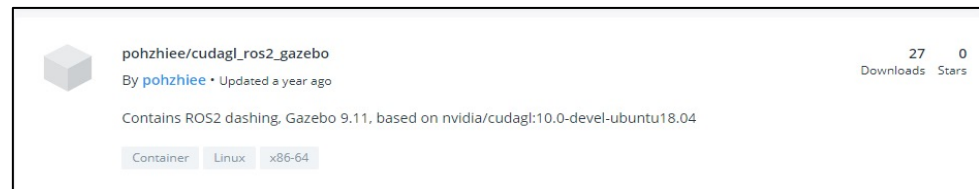**(TL;DR – Virtual Machine(VM) (not quite, but close enough) without UI)**

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

Why Docker is Essential?
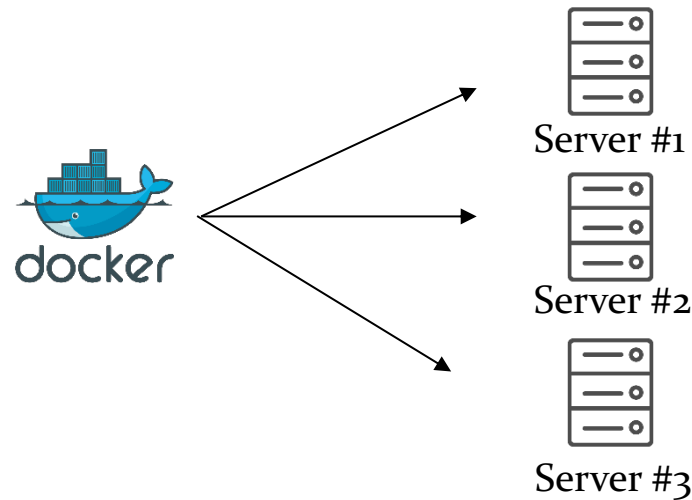
1. Quick Set-up of Various Environments

- 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?*
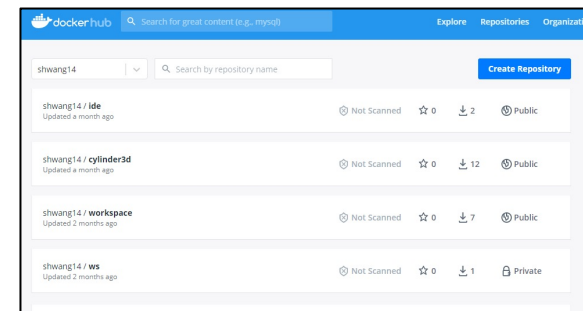
Why Docker is Essential?

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…!*

Server #1

Server #2

Server #3

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.
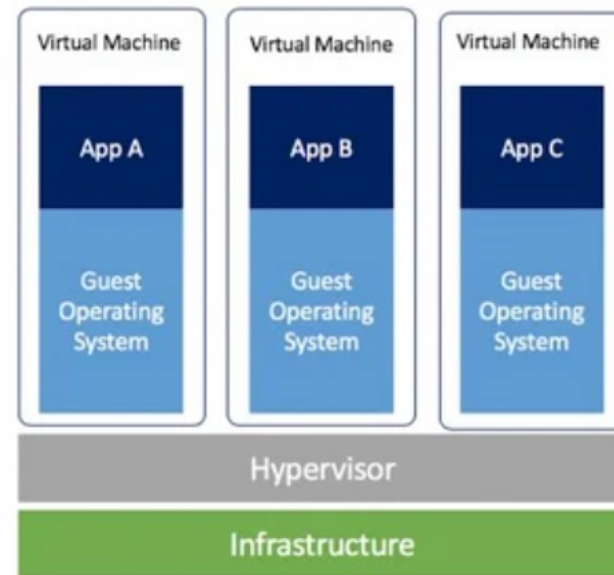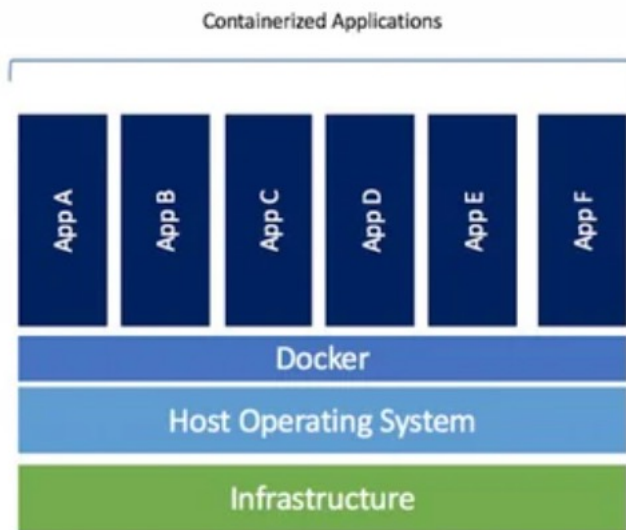
Docker:

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")*