

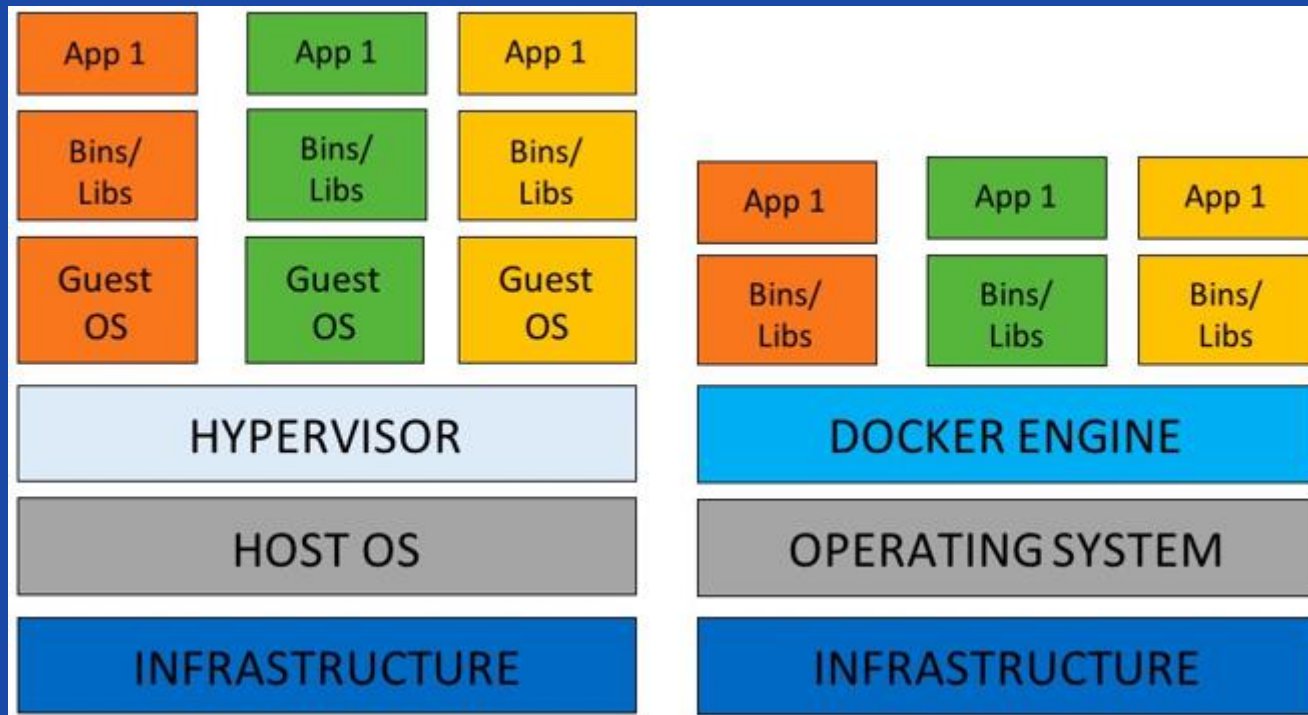
Singularity Containers

for HPC and GPUS

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What is a Singularity Container?

Singularity is a *container* platform. It allows you to create and run containers that package up pieces of software in a way that is portable and reproducible. You can build a container using Singularity on your laptop, and then run it on many of the largest HPC clusters in the world, local university or company clusters, a single server, in the cloud, or on a workstation down the hall. Your container is a single file, and you don't have to worry about how to install all the software you need on each different operating system and system.



VM vs Containers

Why Use Containers?

- Every container is independent of each other
- Solves Dependency Hell
- Repeatability
- Time
- Easier to share and ship code
- OS agnostic
- Shares Kernel so less overhead than VM

Why will we use Containers

- TIME!!!
- Ease of use
- Nvidia Optimizes for many specific workloads
- Utilize their expertise for our time savings
- Applications consistency
- Keeps you and the Resources safe and secure

RCI Overview

- High Performance Computing
- Large Scale Data Storage
- Research Hosting
- IT Infrastructure for Major Research Equipment
- Specialized Research Technology Needs
- Data Workflow and Management Planning
- It Infrastructure Service Budgeting for Grants
- Outreach and Support for Services

What will be doing

1. Logging into GPU system via SSH
2. Cloning a Git lab Repo
3. Pulling the Container from Nvidia
4. Running code in the container
5. Group Help

Git Lab repo

- <https://gitlab.com/asalois/gpucontainers101>