What are Containers

A Definition - System Isolation

- A *Container* is simply an Operating System-level Virtualisation based on process **isolation** on the host machine.
- The *Isolation* leverages kernel **namespaces** (separate processes name space) and **CGroups** (separate CPU, Memory, I/O, Quotas) system isolation features in Linux operating systems.
- The kernel allows the existence of multiple isolated userspace instances.
- Unlike *Virtual Machines, Containers:*
    - Share the same Host Kernel
    - Has packaging and a distribution methods.

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Streamlined and tight OS image

A *Container* consists of and ***Image***, an ***executable*** *pipeline*, and a ***containment*** *rules(isolation rule)*

Init process (scripts, executable commands

Control Group (CGroups). & Namespaces restrict containers execute pipeline to minimal resources (Least Responsiblity principle)