Where do you run

Microservice based application?

Physical vs. VM vs. Containers

Concept

Udemy

Objectives

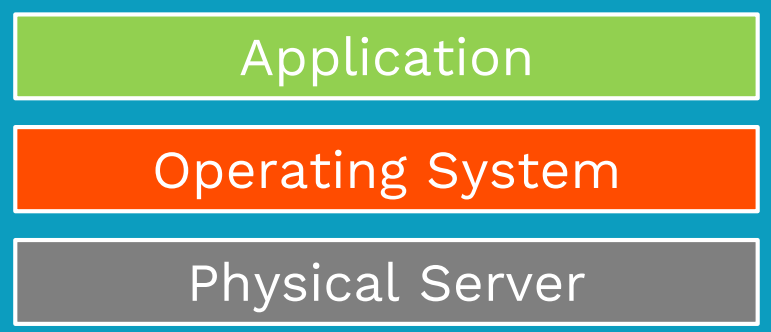
1. Physical Servers
2. Virtual Machines
3. Containers
4. Virtual Machines vs. Containers

Physical Server

- Early to Mid 2000s
- One Software App per Physical Server

Drawbacks:

- CAPEx Costs
- OPEx Costs
  - Power and Cooling
  - Administration Costs
- Overpowered and massively over priced



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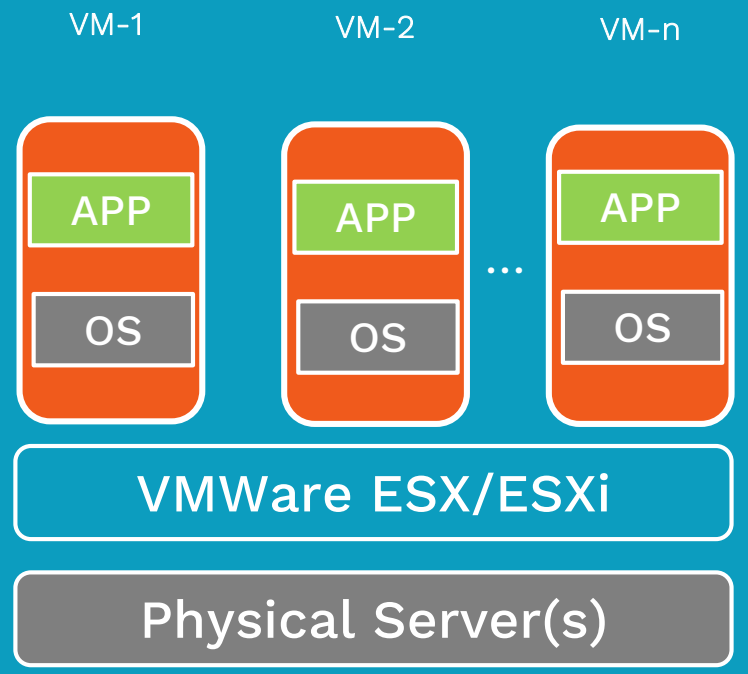
Virtual Machines

Benefits:

- Multiple VMs on Single Machine
- Consolidate apps into single physical machine
  - Cost savings
  - Faster server provisioning

Drawbacks:

- Requires compute and storage
- OS Licenses
- CAPEx costs
- OPEx costs



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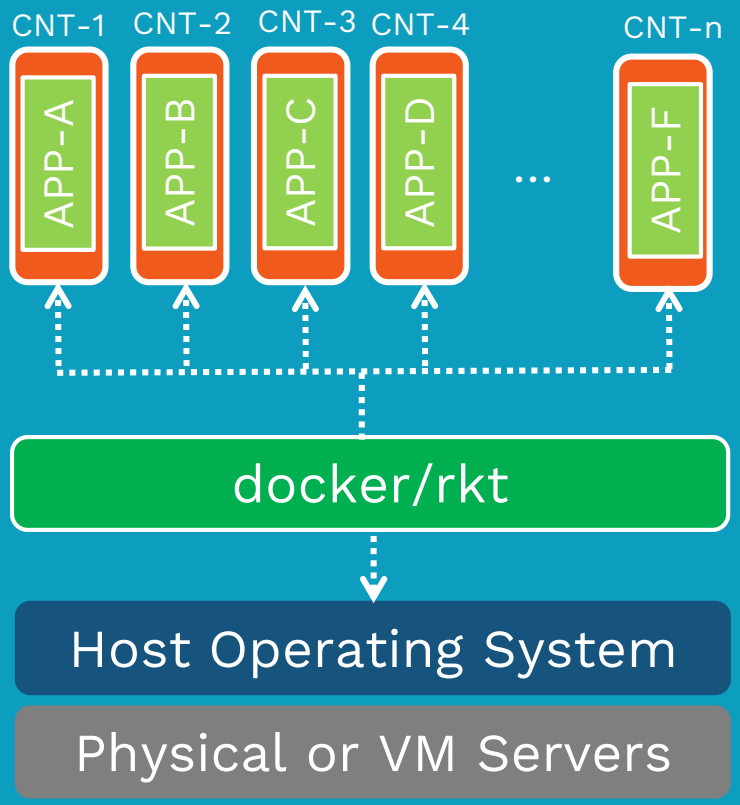
Containers

- Containers virtualize at the OS level
- Multiple containers will run on single OS

Benefits:

- Containers become very light weight
- It boots up in matter of seconds
- Takes fraction of disk and memory space



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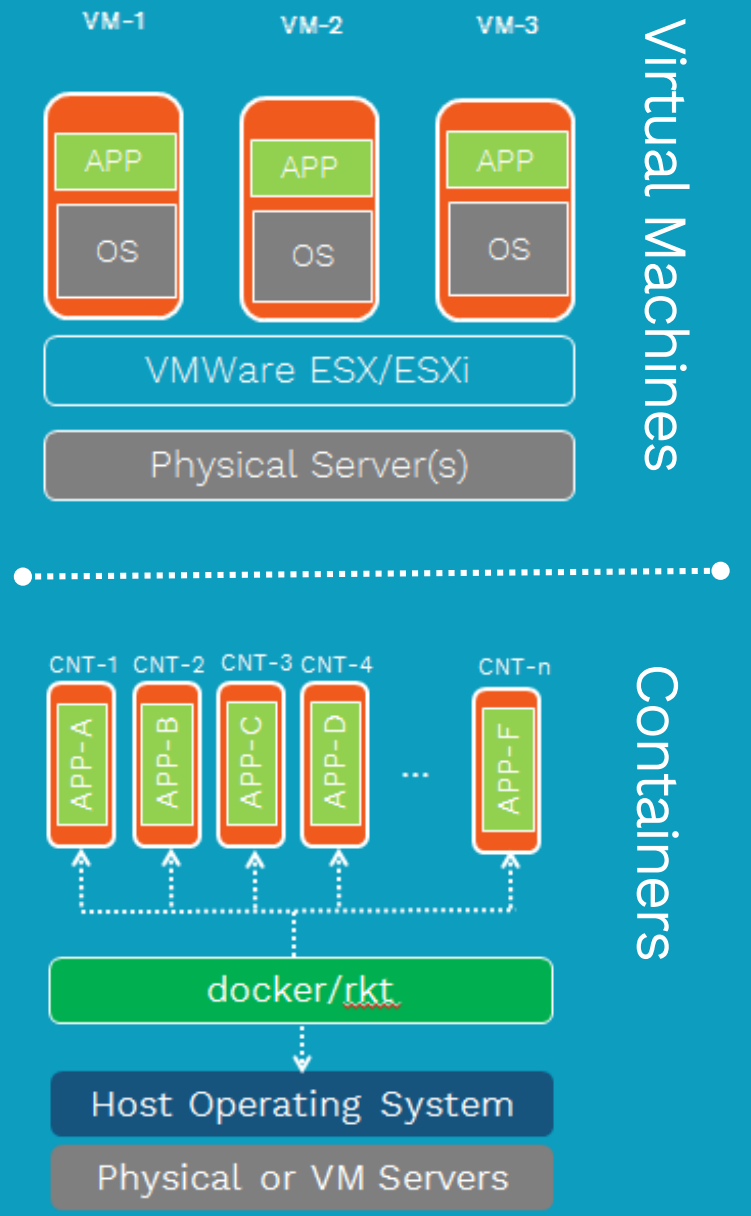
Virtual Machines vs. Containers

- Containers don’t replace VMs
- VM virtualizes hardware
- Containers virtualizes OS
- Containers can run within VMs

Value	Containers	VMs
Boot Speed	✓	
Footprint Size	✓	
Maturity		✓
Security		✓
Ease of patching	✓	
Developer Agility	✓	



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Summary

1. Physical Servers
2. Virtual Machines
3. Containers
4. Virtual Machines vs. Containers

Coming up...

Docker

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