

# Create and Manage Containers

---



**Tim Warner**

Principal Author Evangelist, Pluralsight

@TechTrainerTim   TechTrainerTim.com



# Overview



**Create and manage Windows Server container images**

**Configure container networking**

**Manage container instances**



# Manage Virtual Machines and Containers

**Configure Hyper-V**

**Manage Hyper-V**

**Administer Hyper-V Guest VMs**

**Create and Manage Containers**

**Manage Azure VMs that Run Windows Server**



# Create and Manage Windows Server Container Images



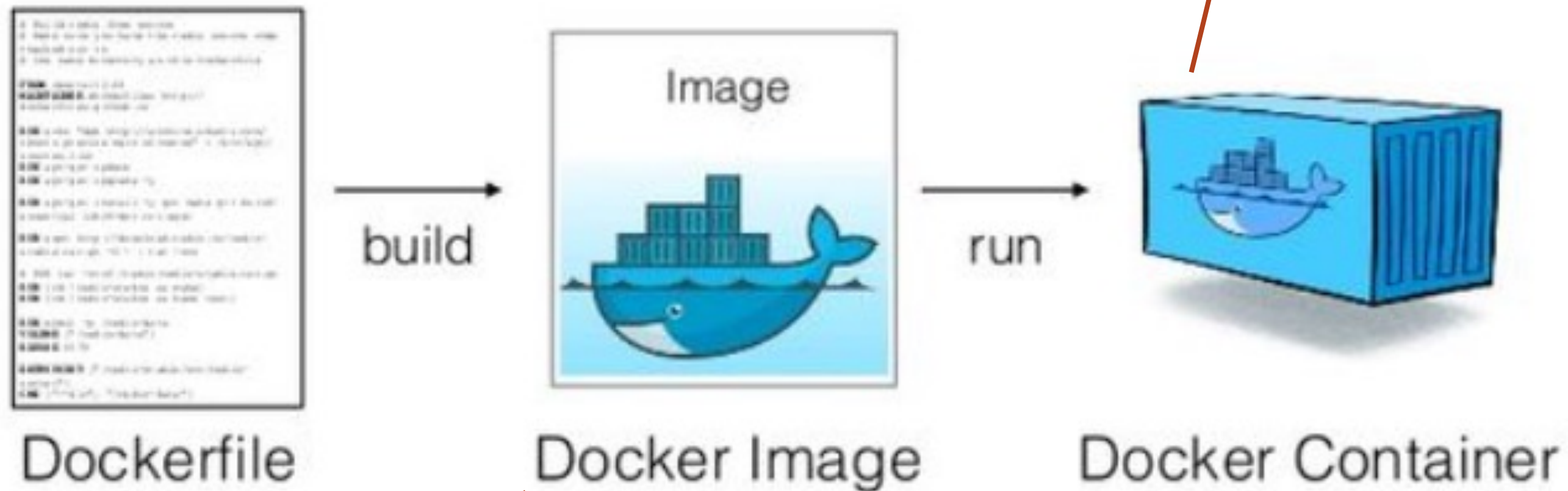
# Docker Containers vs Virtual Machines



# Docker Workflow

Docker CLI

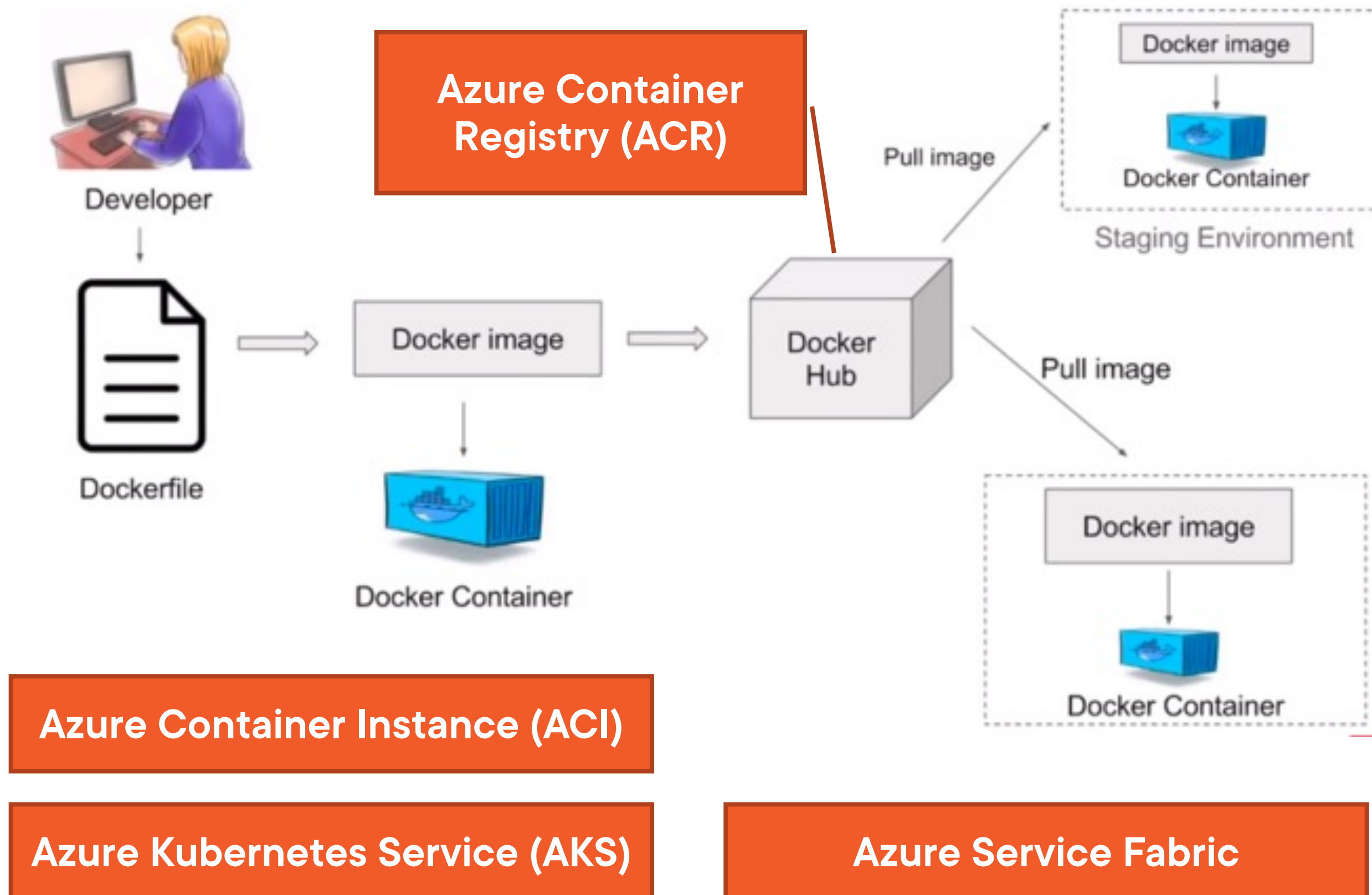
Run in any  
environment



Binary deployable  
unit

Requires Docker  
daemon (server)

# Docker Workflow



# Windows Base OS Container Images



**Nano Server: ultralight environment for .NET Core apps**



**Server Core: Supports .NET Framework apps**



**Windows Server: Includes almost all Windows Server features**





# Windows Server Hyper-V Isolation Modes

**How much isolation do you need for your running Windows Server containers?**



## **Process isolation**

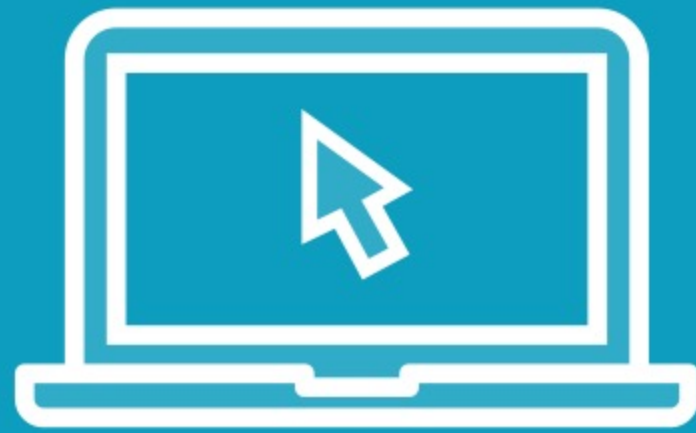
**Containers share same OS kernel with each other and the host**



## **Hyper-V isolation**

**Container runs in highly optimized VM with its own OS kernel**

# Demo



# 1

**Build image**

**Start and manage container**

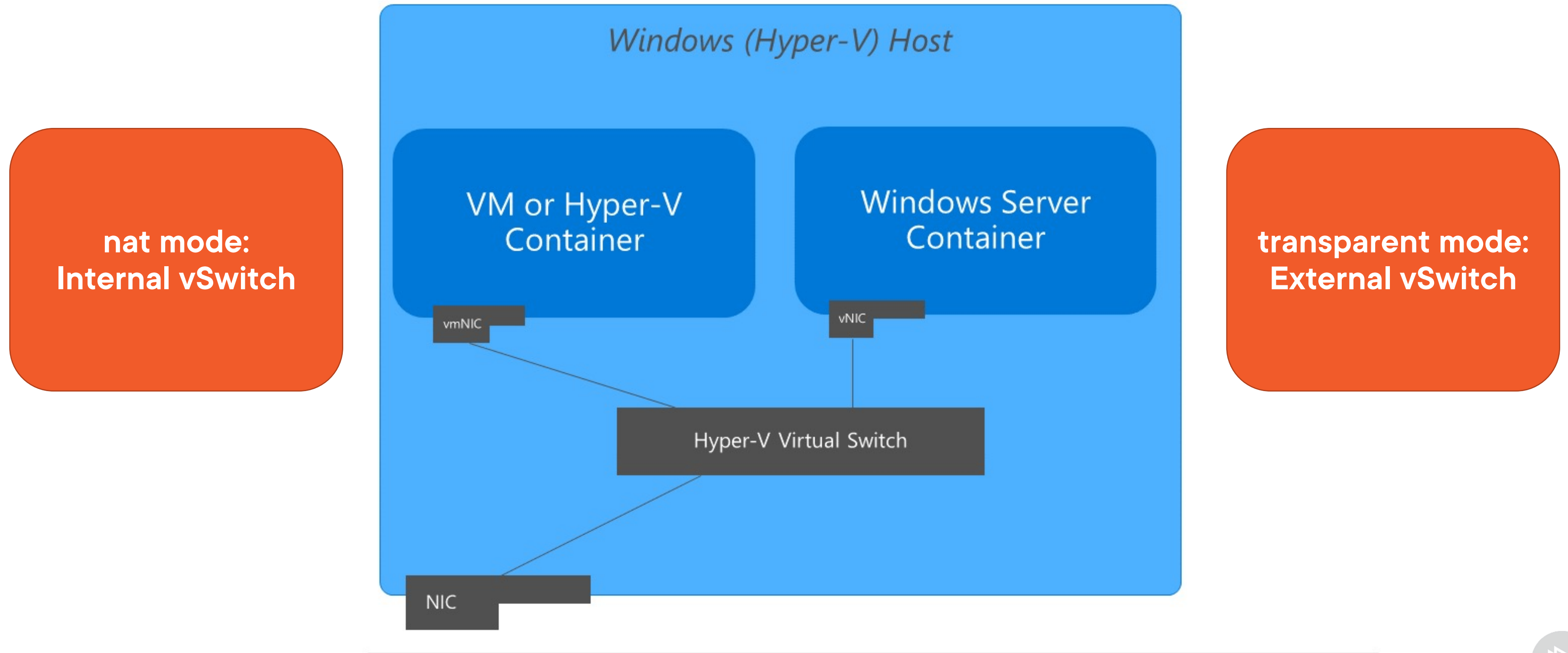
- Isolation modes



# Configure Container Networking



# Windows Container Networking



# Manage Container Instances



# Docker CLI Cheat Sheet

# build an image from a Dockerfile

```
docker build -t myimage:1.0
```

# list images

```
docker image ls
```

# delete an image

```
docker image rm myimage:1.0
```

# run a Windows Container image

```
docker run -it --isolation=hyperv myimage:1.0 cmd
```

```
docker run -it --isolation=process myimage:1.0 cmd
```

# manage containers

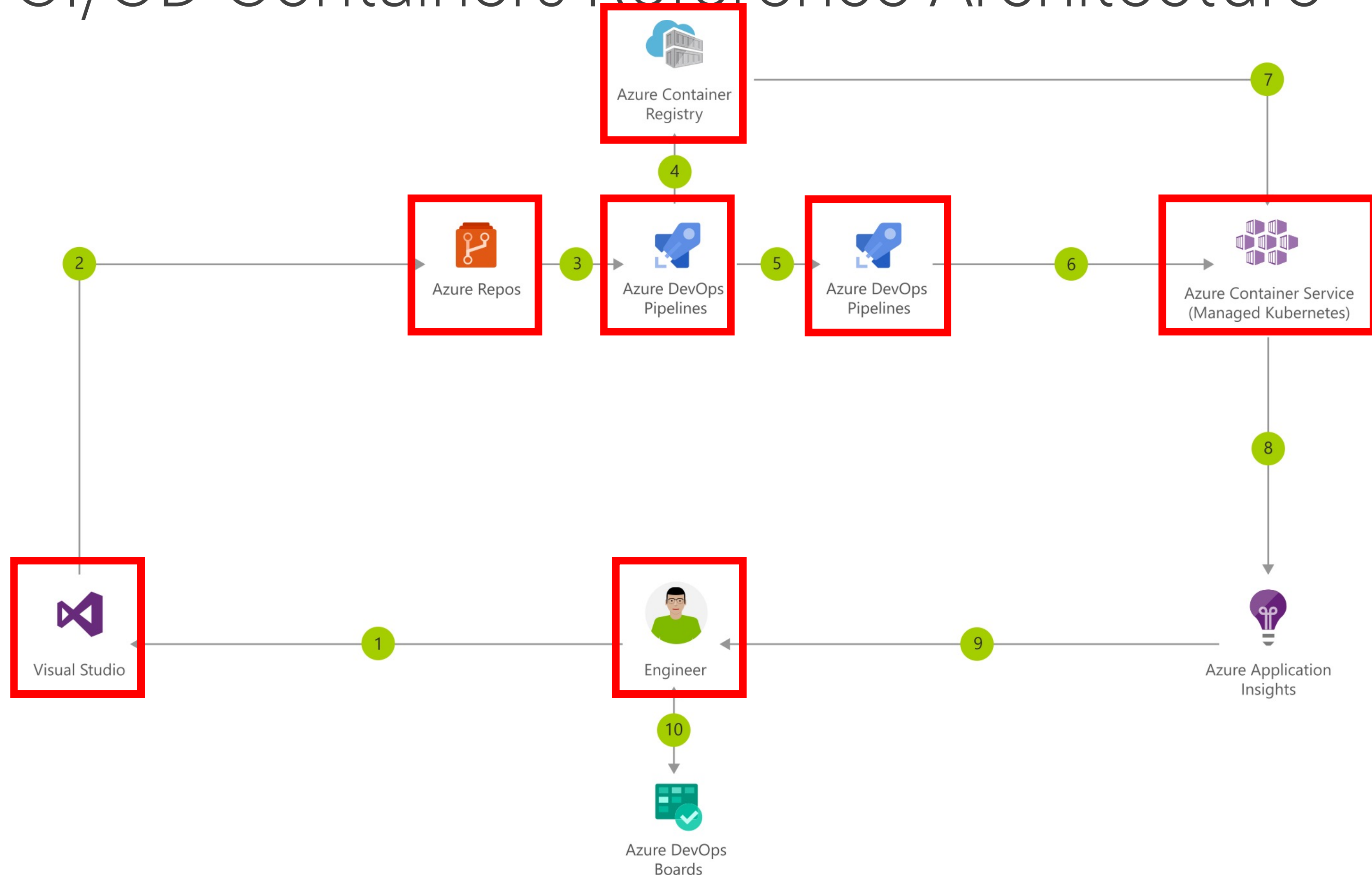
```
docker container stop myimage
```

# list running containers

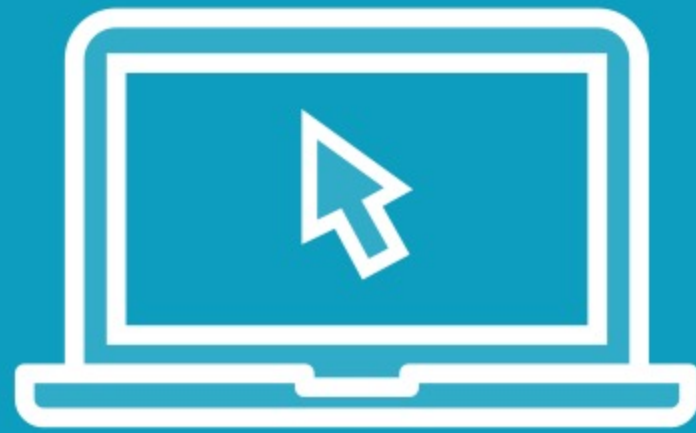
```
docker container ls
```



# CI/CD Containers Reference Architecture



# Demo



# 2

**Push image to ACR**

**Start container from ACI**





## Summary



### **Microsoft and Docker formed a deep partnership**

- Windows Server
- Windows Client
- Microsoft Azure

### **Containerization forms the basis of a microservices architecture**

- Consider this idea in your Azure application migration plans



Up Next:

Manage Azure Virtual Machines that Run  
Windows Server

---

