
Virtualization

- ❏ Types of Virtualization
 - ❏ Server
 - ❏ Desktop
-

Softwares

- ❏ Hyper-V
 - ❏ Workstation
 - ❏ VirtualBox
-

Advantages of V

- ❑ Multiple OS
 - ❑ Easy Maintenance
 - ❑ Lower cost
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Virtualization

APPLICATION

BINS/LIBS

GUEST OS

HYPERVISOR

Hardware

Demo on Virtualization

Disadvantages of V

- ❑ Single Point of HW Failure
 - ❑ Not efficient as Host OS
 - ❑ Long Boot-up Process
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What is the Solution?

Containerization

- ❑ Containerization is just Virtualization at the OS level.

Containerization



The diagram illustrates the layers of containerization. It consists of four stacked rectangular blocks. The top two blocks, 'APPLICATION' (pink) and 'BINS/LIBS' (green), are grouped together by a yellow rounded rectangle. Below this is a cyan block labeled 'container Engine', and at the bottom is a white block labeled 'HOST OS'. The entire stack is set against a dark blue background with horizontal white lines above and below.

APPLICATION

BINS/LIBS

container Engine

HOST OS

Advantages

- ❑ **Lighter and smaller**
 - ❑ **Full Resource utilization**
 - ❑ **Short Boot-up Process**
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Docker

- ❑ Docker is a containerization platform which packages your application and all its dependencies together in the form of Containers.
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Docker



docker

Containerization



The diagram illustrates the containerization stack. It consists of four horizontal layers. The top layer is a magenta bar labeled 'APPLICATION'. The second layer is a green bar labeled 'BINS/LIBS'. These two layers are grouped together by a yellow rounded rectangle. The third layer is a cyan bar labeled 'DOCKEr ENGINE'. The bottom layer is a white bar labeled 'HOST OS'. The entire stack is set against a dark blue background with horizontal white lines above and below the stack.

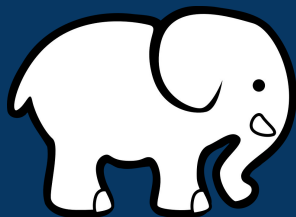
APPLICATION

BINS/LIBS

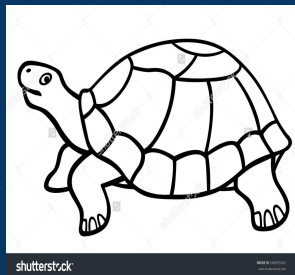
DOCKEr ENGINE

HOST OS

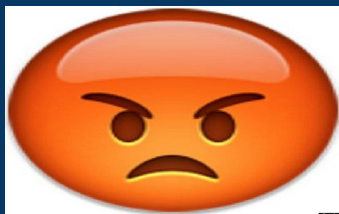
VMs Compare Docker



<-Size->



<---Startup--->



Integration

Who can use Dockers?

- ❑ Docker is designed to benefit both Developers and System Administrators.

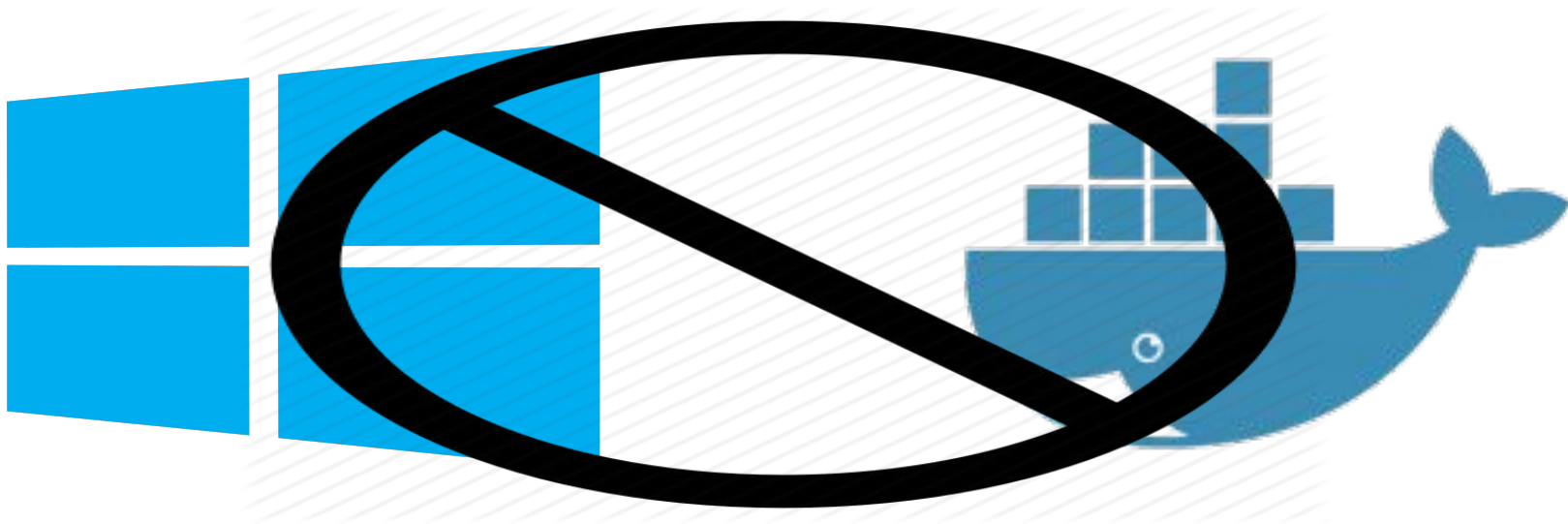
Developers

- ❑ Developers can write code without worrying about the Testing/production Environment.

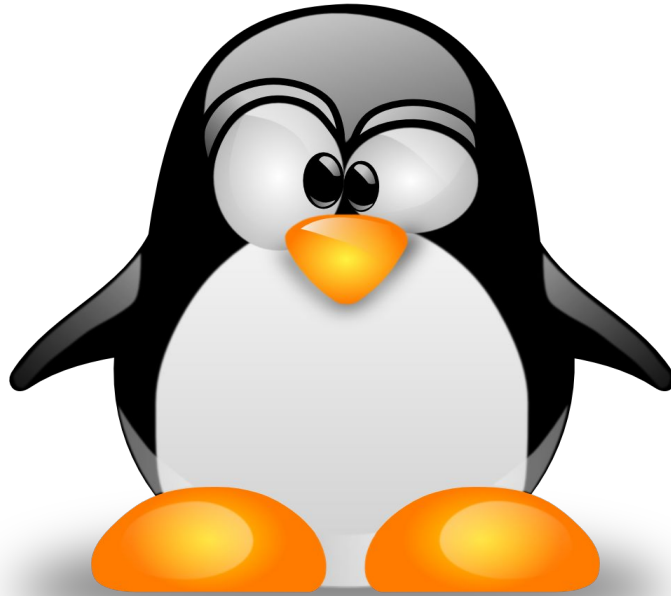
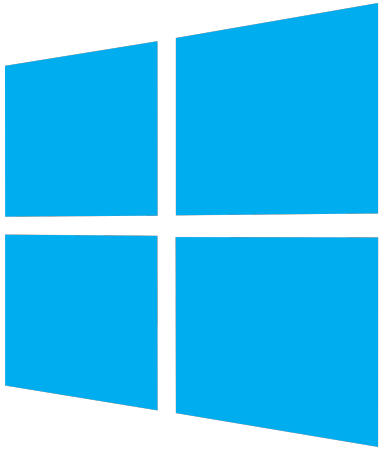
System Administrators

- ❑ System Admins need not worry about infrastructures as docker can easily scale up /scale down the no. of systems.

Docker Support



Docker



Docker in Windows

- ❑ Docker will not support in windows directly.
 - ❑ It will install a VM (Linux)
 - ❑ All images run in a VM
 - ❑ We can control images from windows.
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Demo on Docker

Demo on Docker
