

What is Docker?

Docker is an open source platform that enables developers to build, deploy, run, update and manage *containers*—standardized, executable components that combine application source code with the operating system (OS) libraries and dependencies required to run that code in any environment.

Why Docker?

Before Docker

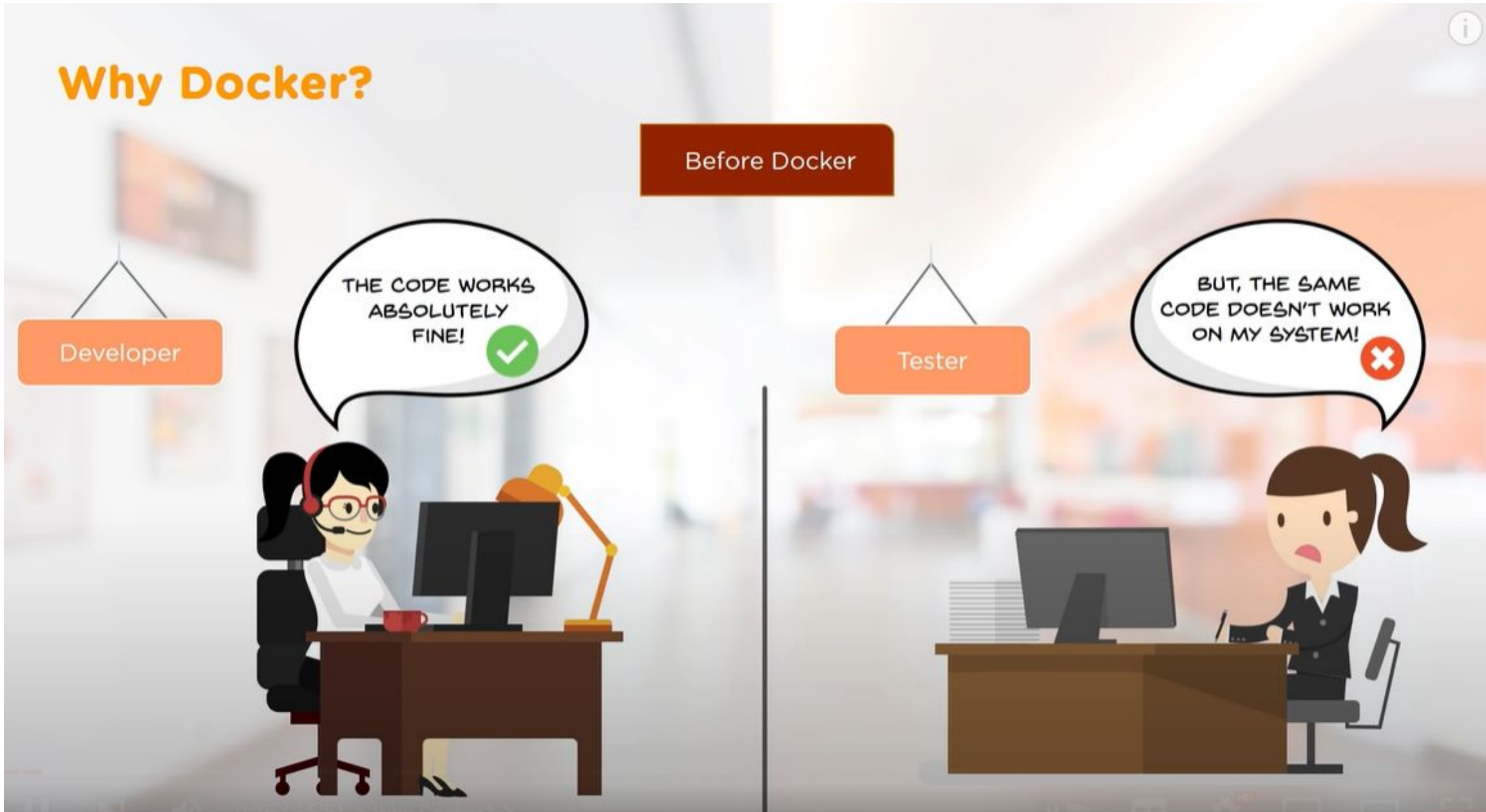
Developer

THE CODE WORKS
ABSOLUTELY
FINE!



Tester

BUT, THE SAME
CODE DOESN'T WORK
ON MY SYSTEM!



Why Docker?

Before Docker

The code doesn't work on the other system due to the difference in computer environments
So, what could be the solution to this?

VIRTUAL MACHINE
CAN BE THE
SOLUTION

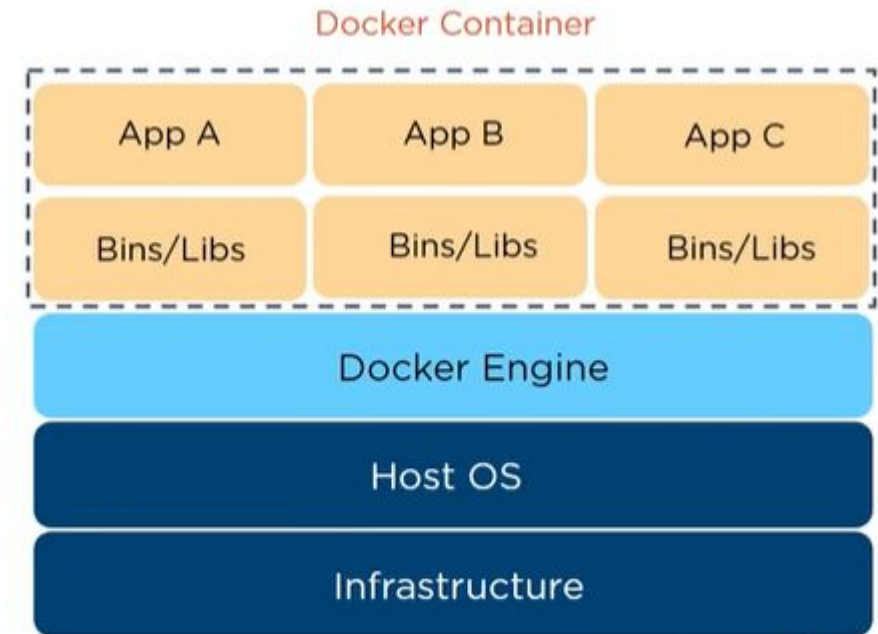
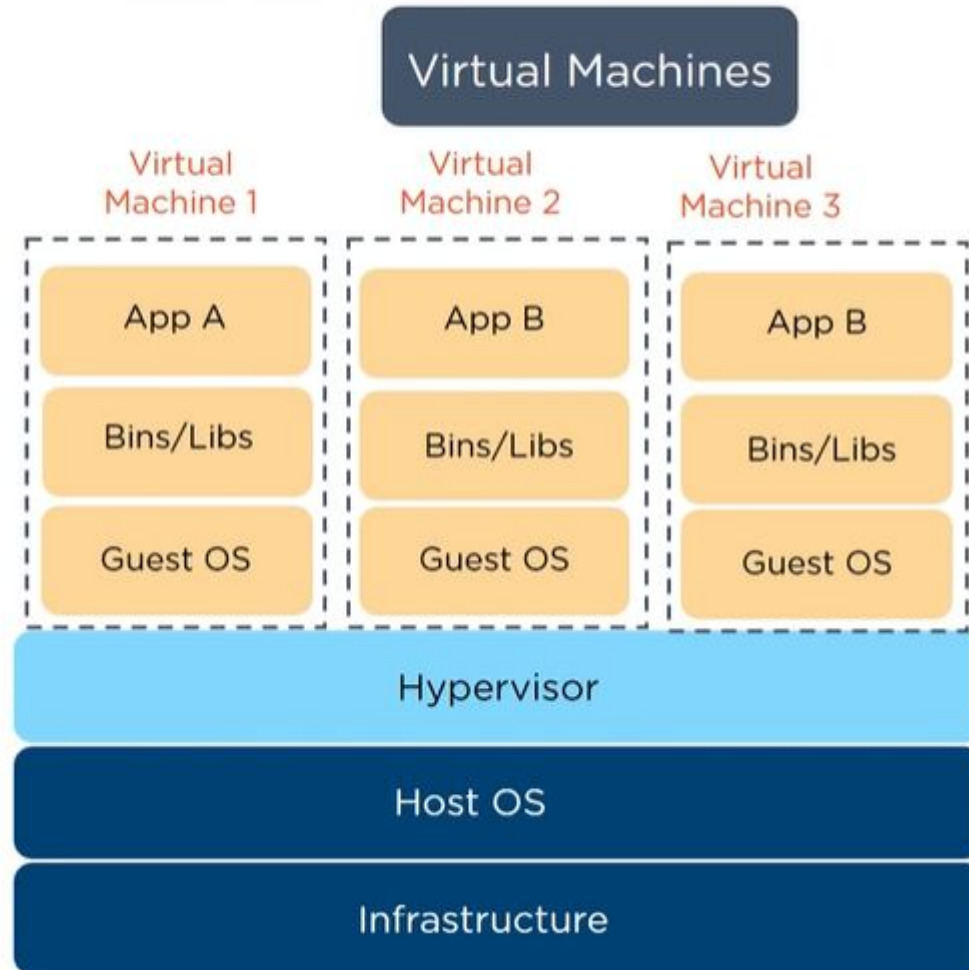


docker



I THINK DOCKER WILL
BE A BETTER
SOLUTION



Why Docker?



Why Docker?

Criteria	 Virtual Machine	Docker 
OS support	Occupies a lot of memory space	Docker Containers occupy less space
Boot-up time	Long boot-up time	Short boot-up time
Performance	Running multiple virtual machines leads to unstable performance	Containers have a better performance as they are hosted in a single Docker engine
Scaling	Difficult to scale up	Easy to scale up
Efficiency	Low efficiency	High efficiency
Portability	Compatibility issues while porting across different platforms	Easily portable across different platforms
Space allocation	Data volumes cannot be shared	Data volumes can be shared and reused among multiple containers

Why Docker?

After Docker

Developer

THE CODE WORKS
ABSOLUTELY
FINE! ✓

Tester

NOW, THE CODE
WORKS FOR ME TOO!! ✓



docker

What is Docker?

Docker is a tool which is used to automate the deployment of applications in lightweight containers so that applications can work efficiently in different environments



Note: Container is a software package that consists of all the dependencies required to run an application

What is Docker?

Let's take an example where you plan to rent a house in Airbnb

Because every individual has different preferences when it comes to the cupboard and the kitchen usage



Room



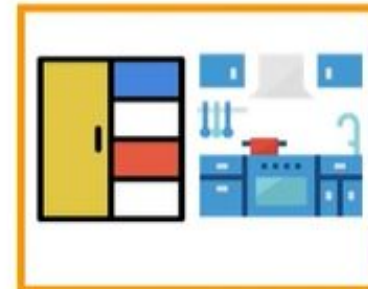
Room



Room



Cupboard and Kitchen



What is Docker?

Suppose you have installed the *perfect* framework of version 1, then automatically Application 1 and 2 will not work

WHAT IF I WANT TO RUN ALL
MY APPLICATIONS WITH
THEIR SUITABLE
FRAMEWORKS?



DOCKER WILL HELP YOU
RUN APPLICATIONS WITH
THEIR SUITABLE
FRAMEWORKS



docker

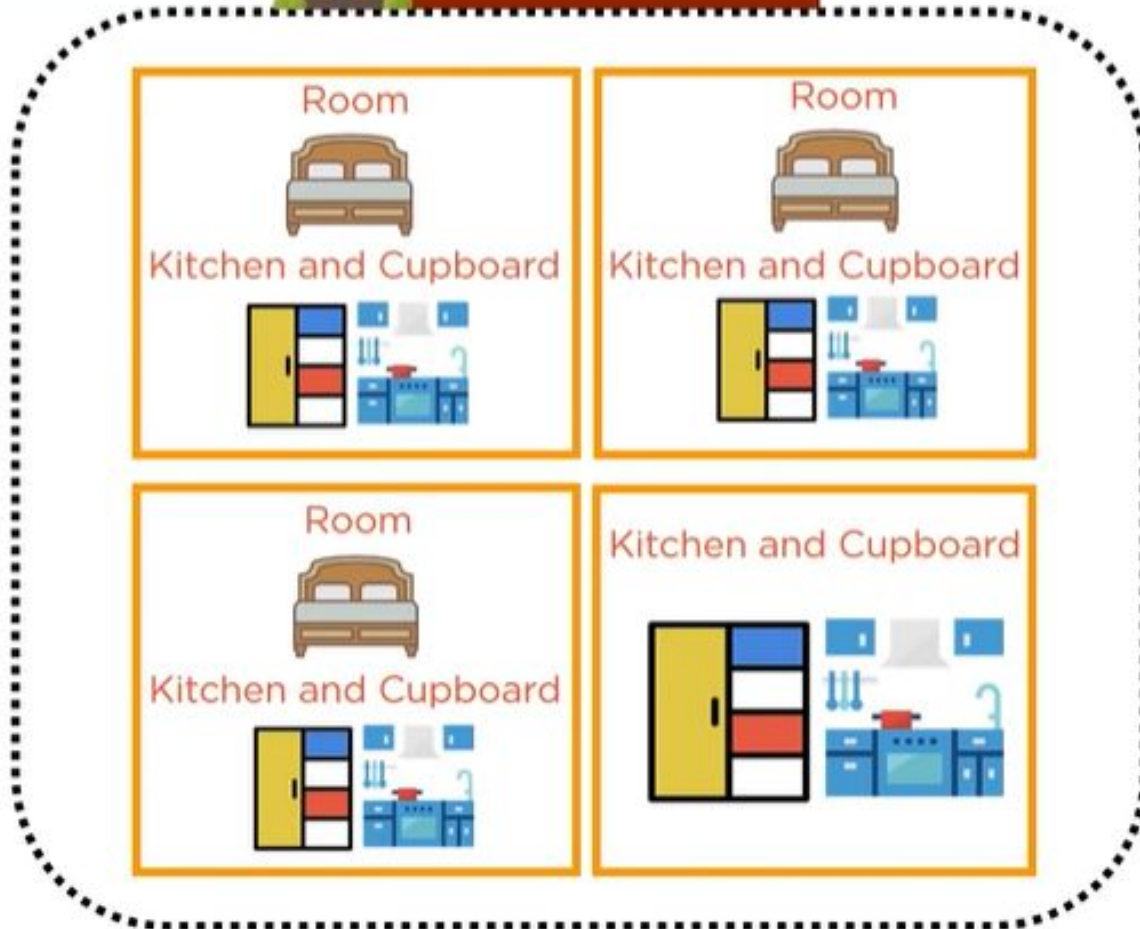


What is Docker?

Solution:



Airbnb



HERE, THE ISSUE GETS
RESOLVED, IF THE
OWNER PROVIDES A
KITCHEN AND A
CUPBOARD FOR EACH
ROOM



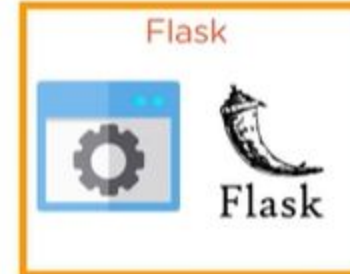
What is Docker?

Solution:



Computer

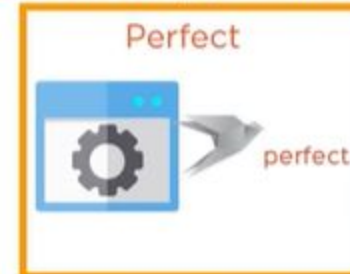
Software application 1



Software application 2



Software application 3



Framework



What is Docker?

Solution:

Host



Computer

SINCE EVERY APPLICATION HAS A FRAMEWORK WITH A SUITABLE VERSION, THIS SPACE ALSO CAN BE UTILIZED FOR A NEW SOFTWARE APPLICATION, ALONG WITH ITS REQUIRED FRAMEWORK



Software application 1

Flask



Flask

Software application 2

Rails



RAILS

Software application 3

Perfect



perfect

Framework



Flask



perfect

What is Docker?

Solution:



Computer

AS A RESULT, DOCKER
MAKES MORE EFFICIENT USE
OF SYSTEM RESOURCES



Software application 1

Flask



Software application 2

Rails



Software application 3

Perfect



New application

Cake PHP



What is Docker?

Solution:

