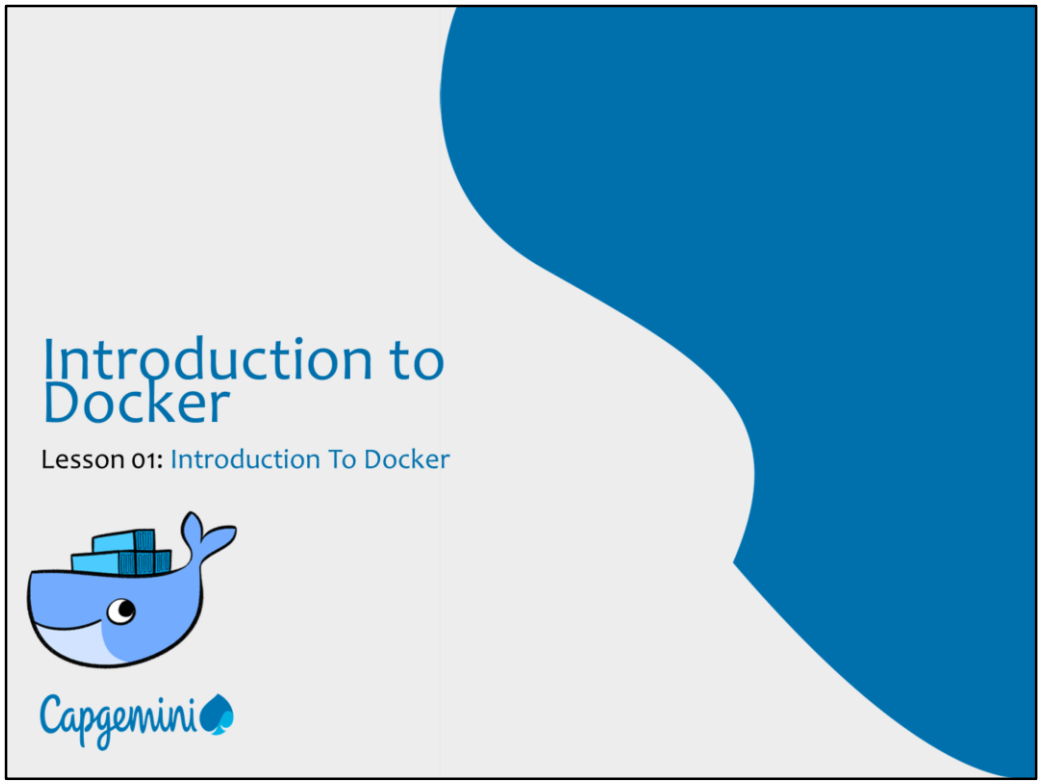
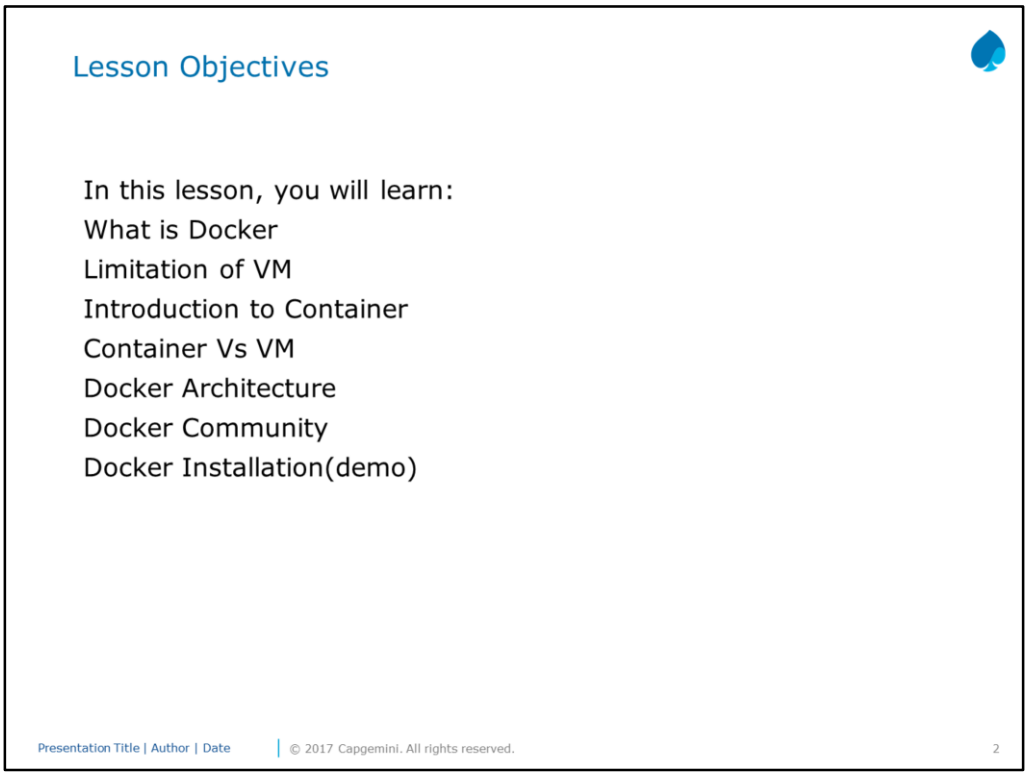
Instructor Notes:

Add instructor notes here.



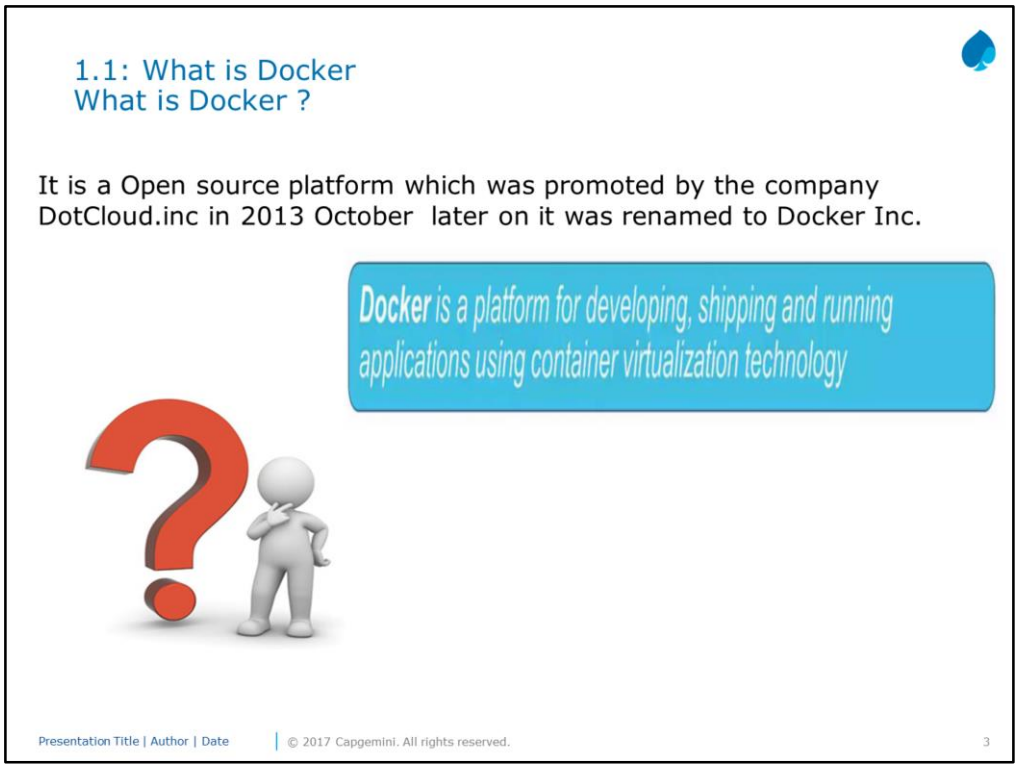
Instructor Notes:

This lesson is to give an Introduction on Java Server Pages



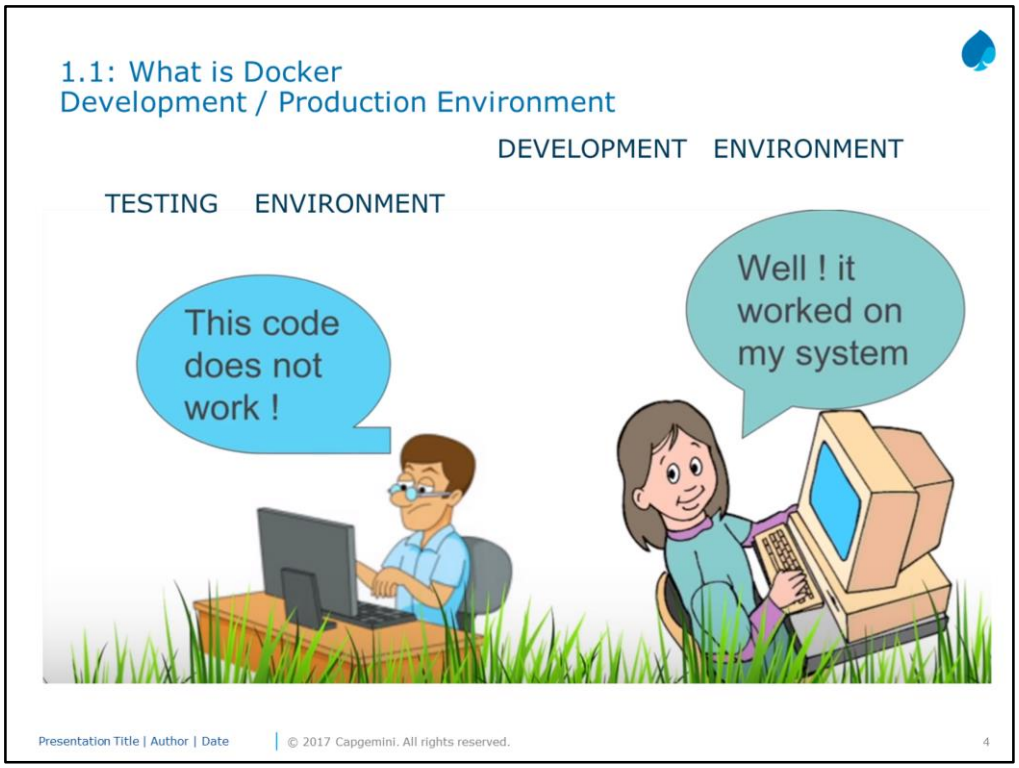
What is Docker
Limitation of VM
Introduction to Container
Container Vs VM
Docker Community
Docker Architecture
Docker Installation(demo)

Instructor Notes:



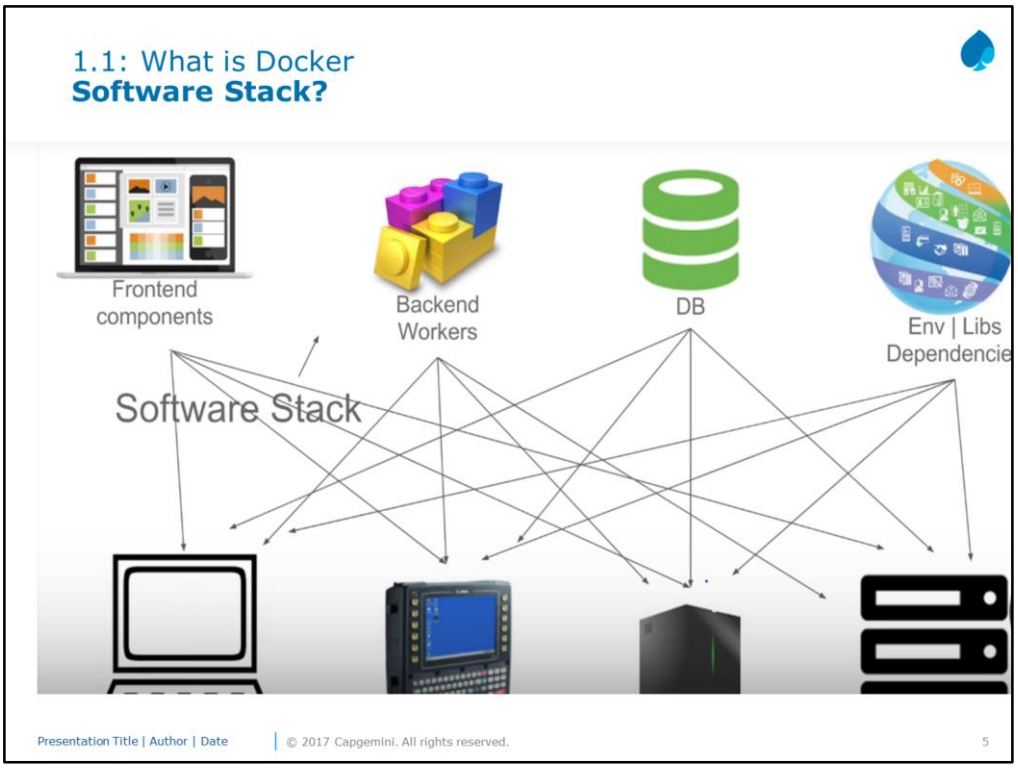
Docker is open source, i.e., anyone can use it and can contribute to Docker to make it easier and more features in it which aren't available in it.

Instructor Notes:



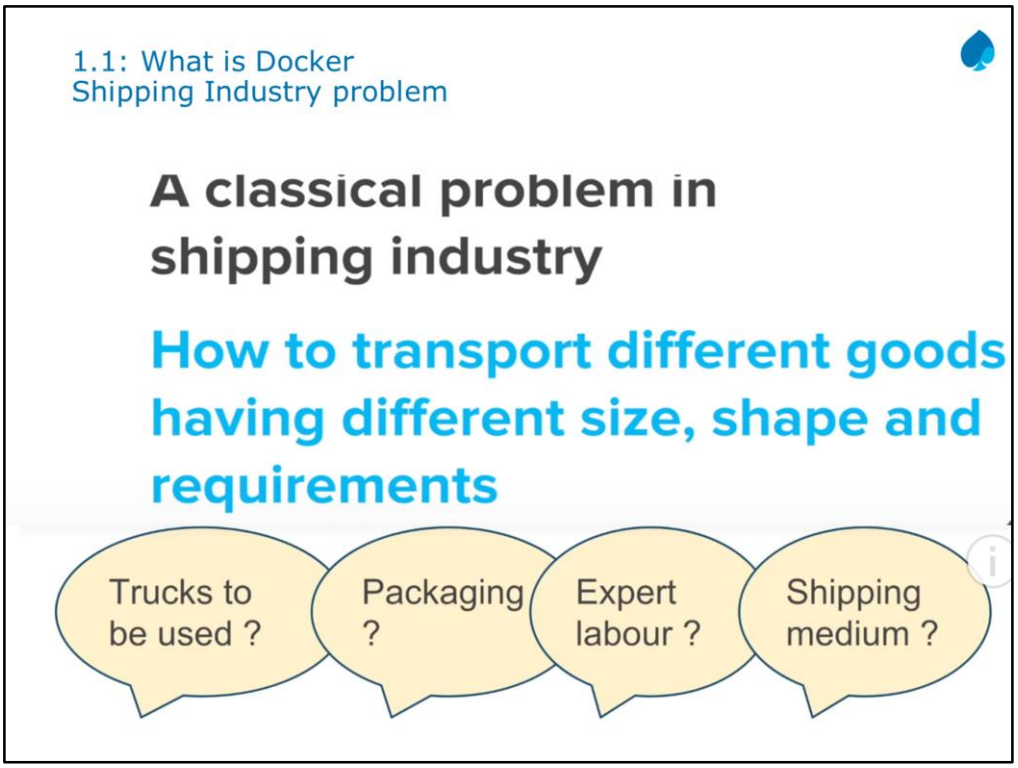
The advantage of Docker platform is to ship, test, and deploy code quicker so that we can reduce the time between writing code and execute it in production.

Instructor Notes:



Now a days The developer and the production people always try that , how the SW should run in every specific platform

Instructor Notes:



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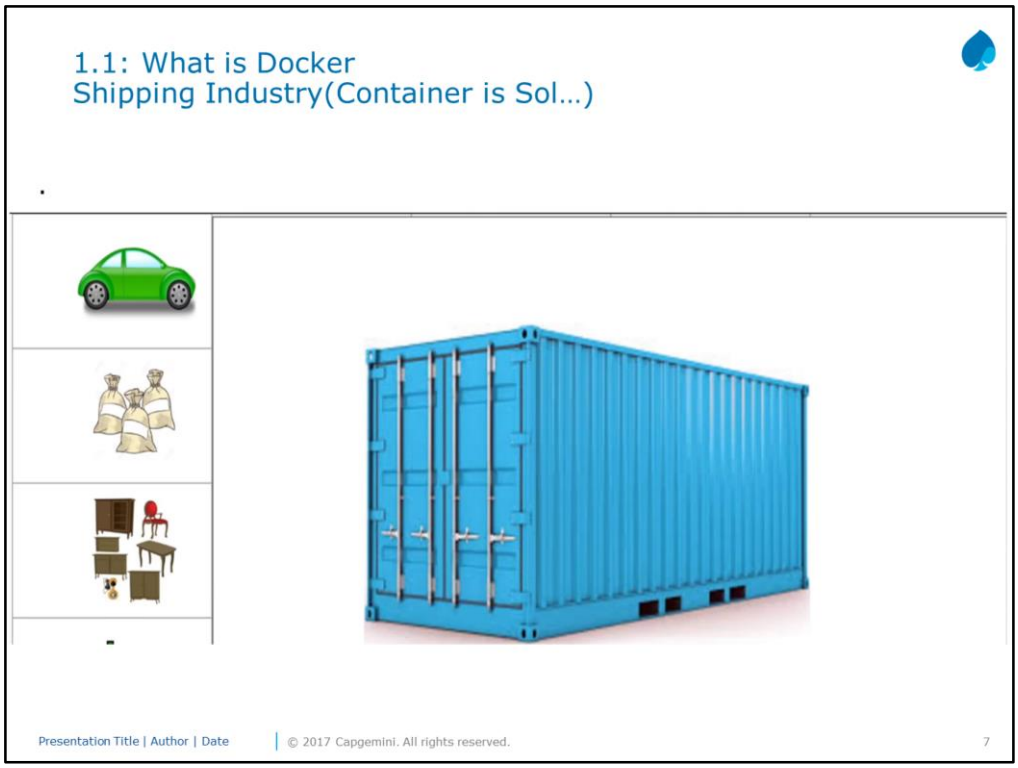
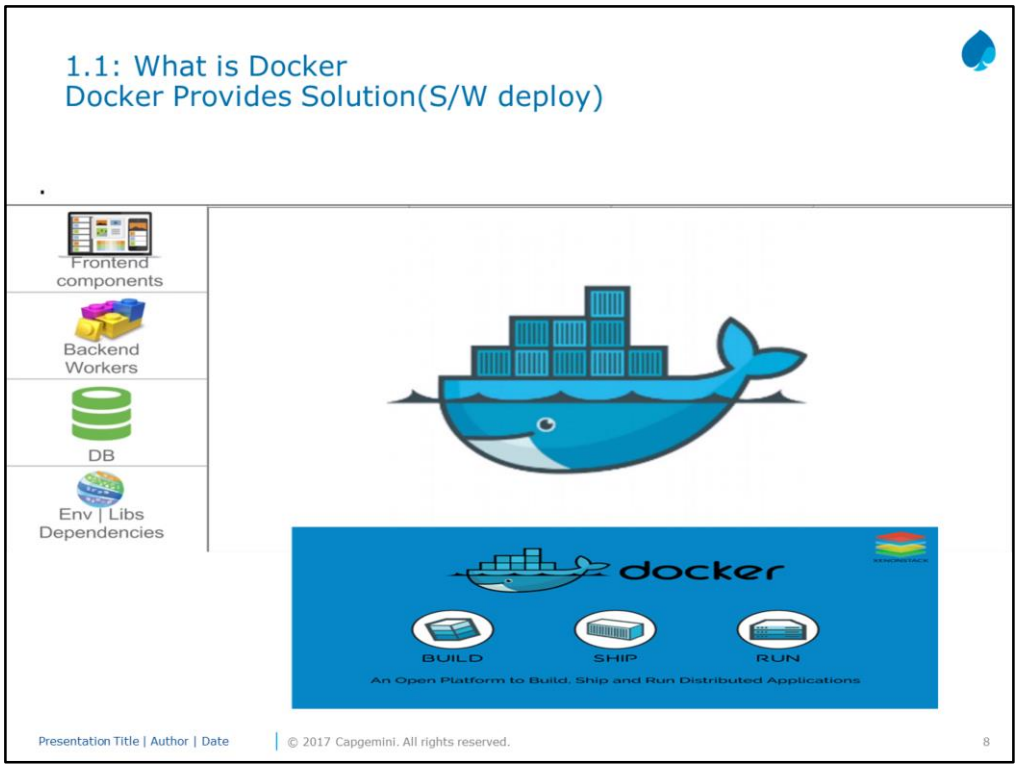


Docker Container allows the developer to package up an application with all the parts it is required i.e. library and other dependencies
And ship it all into a one package.

Instructor Notes:



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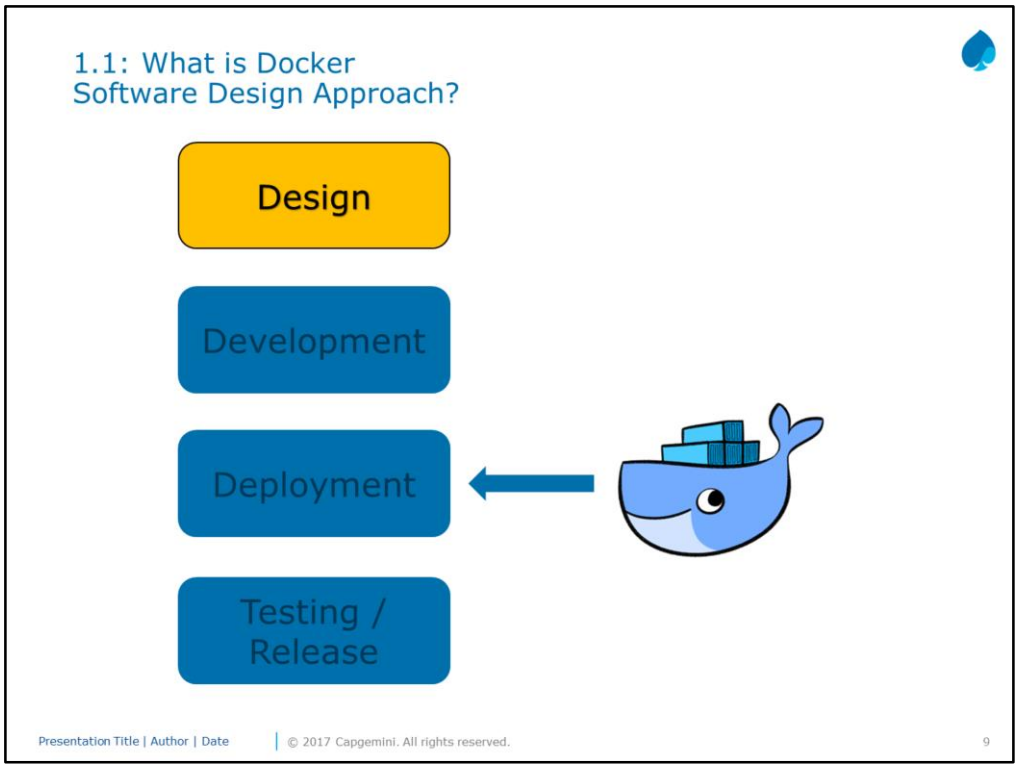
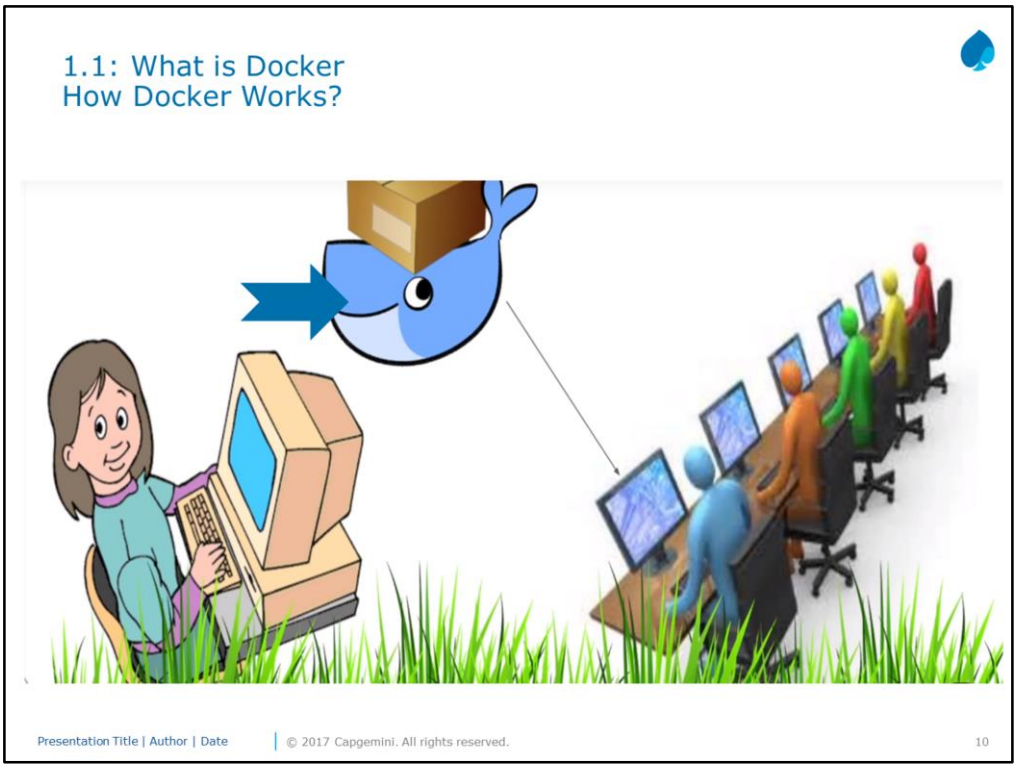


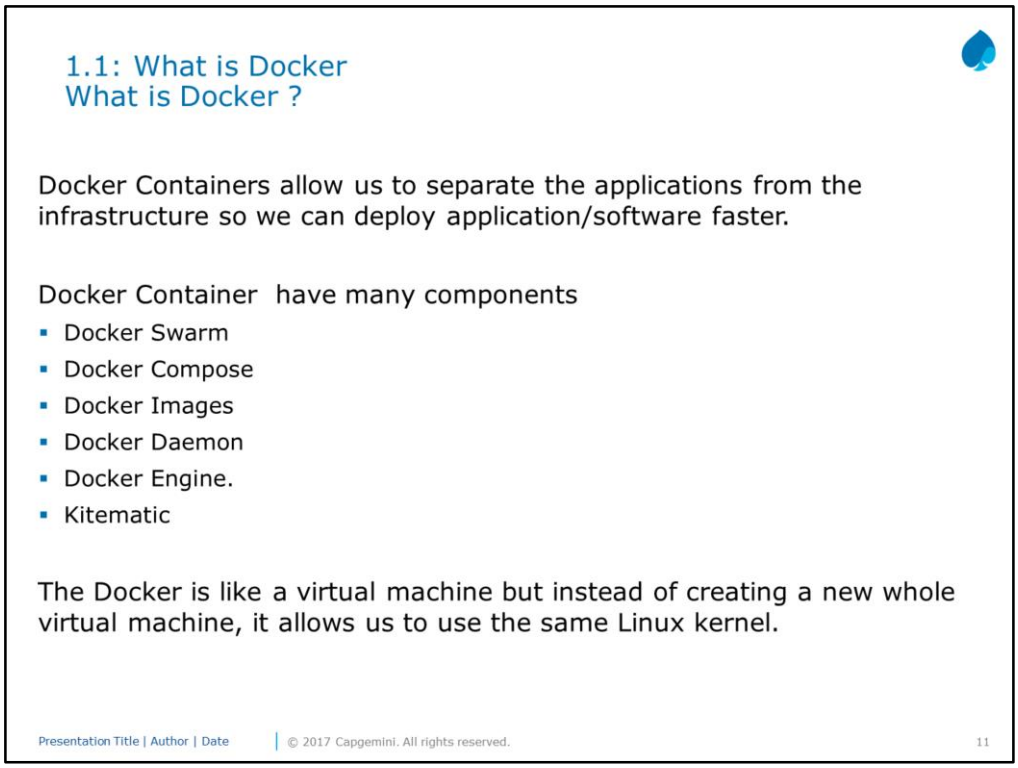
Docker mainly use in Deployment stage. It makes the deployment process very easy , efficient .

Instructor Notes:



Developer can create the application and package the SW into to Docker container and he will not worry about where and in which platform this package will be deployed. The complete deployment will be taken care by Docker.

Instructor Notes:



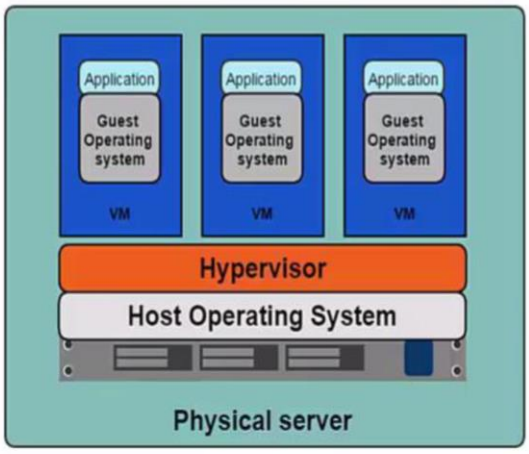
We can manage our infrastructure in the same ways as we manage our applications. The Docker is like a virtual machine but creating a new whole virtual machine; it allows us to use the same Linux kernel.

Instructor Notes:

1.2:Limitation of VM
Limitation of VM(Virtualization)

Each VM still require

- CPU Allocation
- Storage
- RAM
- Entire Guest O/S



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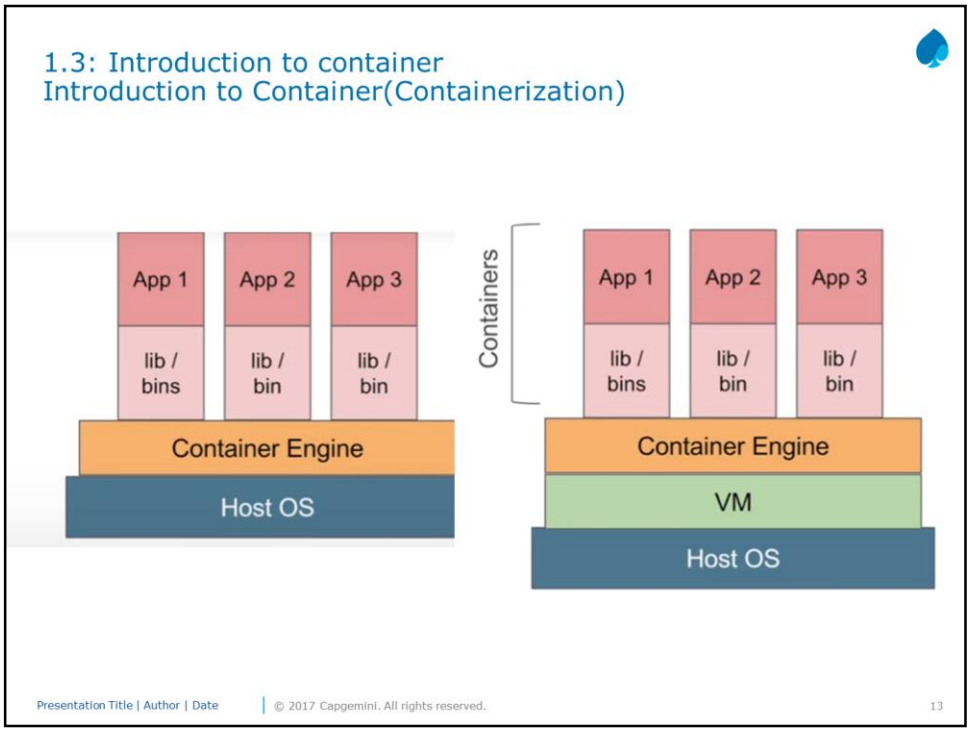
Hypervisor – It is a SW which helps to create multiple VM s on a Host OS.
Each VM has it's own O/S and it doesn't use the Host Operating System(O/S)
It could be a overhead for Host platform
We also need to provide a separate Space , RAM for Each VM , which is a lot of wastage of Memory and space

Guest Operating System :- It means more wasted resources

Application Portability also not sure

Instructor Notes:

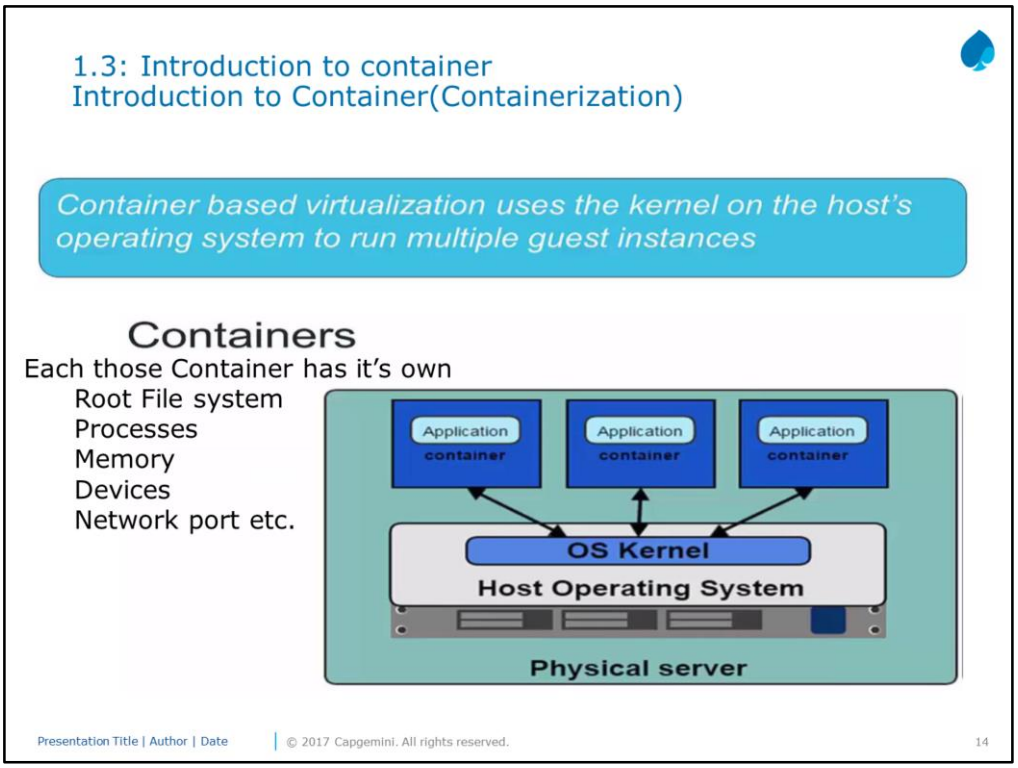


Here no Hypervisor but Container Engine is there and In App , there is no guest O/S but dependency of App are there.

Here there are no wastage of memory and the load on Host O/S is less .

In some scenario where we work on Window O/S and launching a Linux Machine on Window platform , VM is required

Instructor Notes:

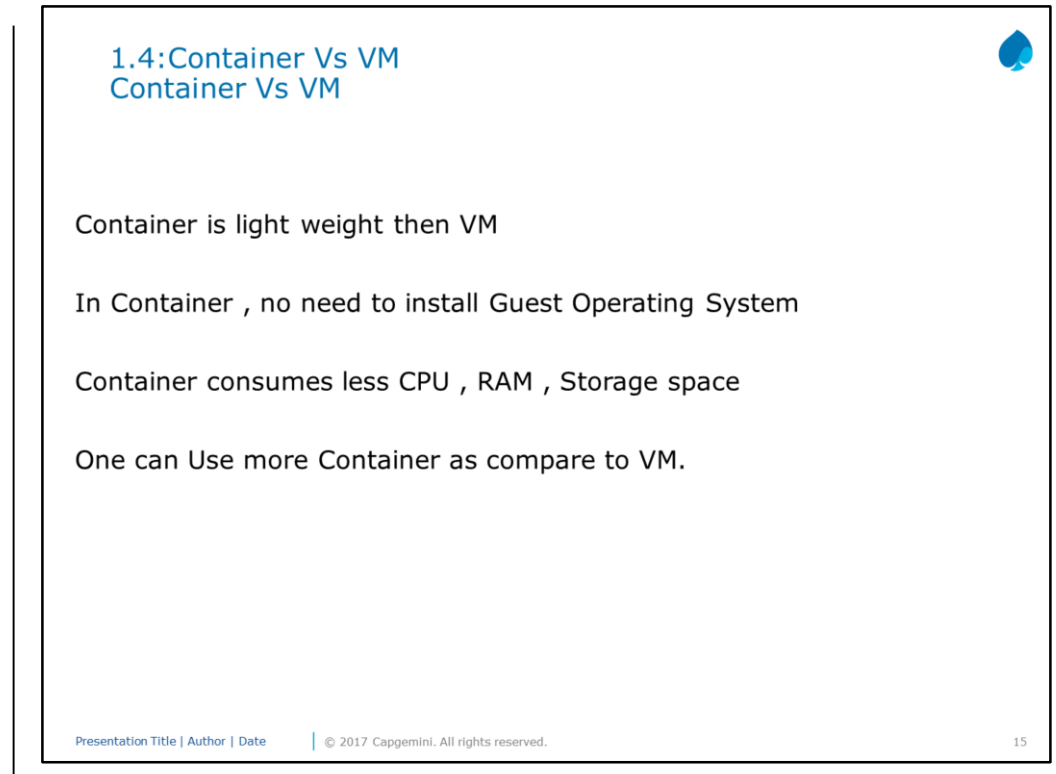


Each those Guest instances are called as Container

Each those Container has it's own

- Root File system
- Processes
- Memory
- Devices
- Network port etc.

Instructor Notes:



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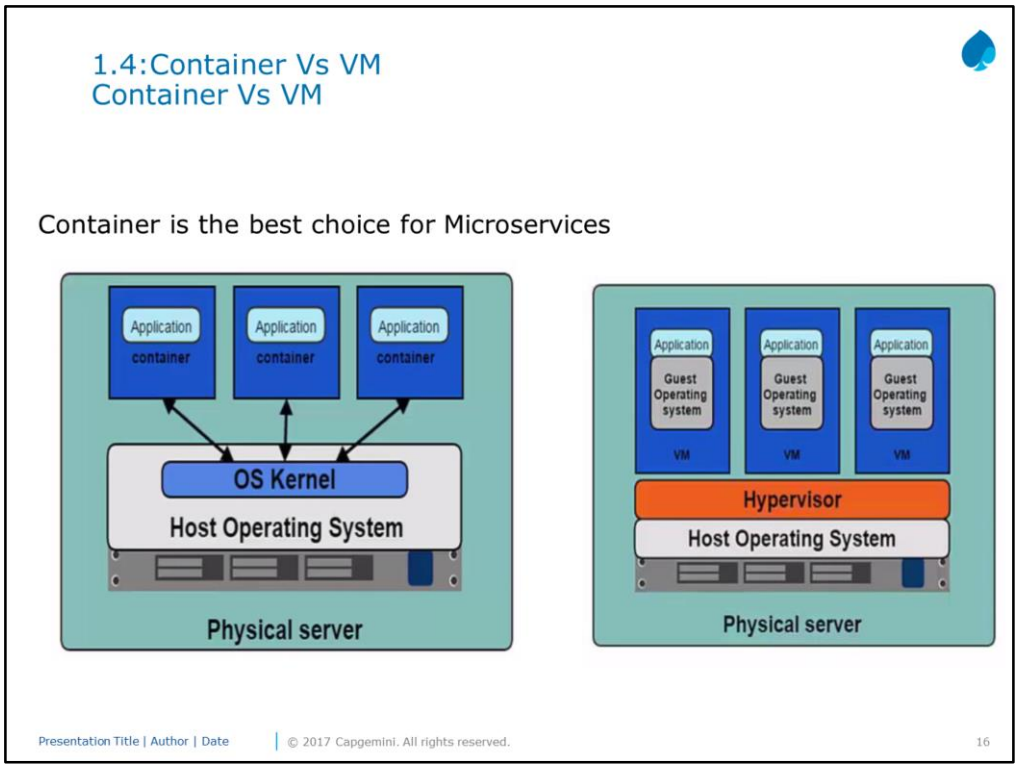


As per the requirement Container consume memory , RAM

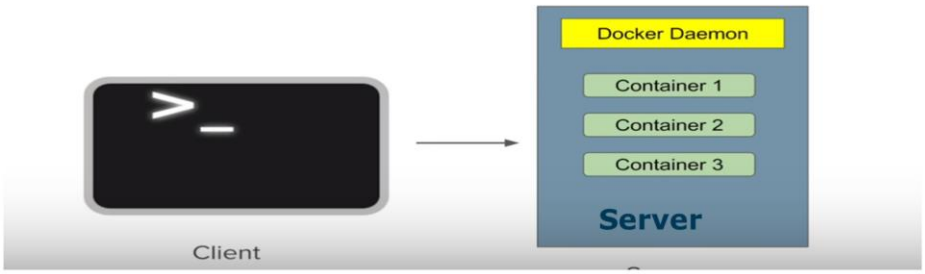
Instructor Notes:

1.5:Docker Architecture
Docker Architecture

Docker follows the Client – Server Architecture

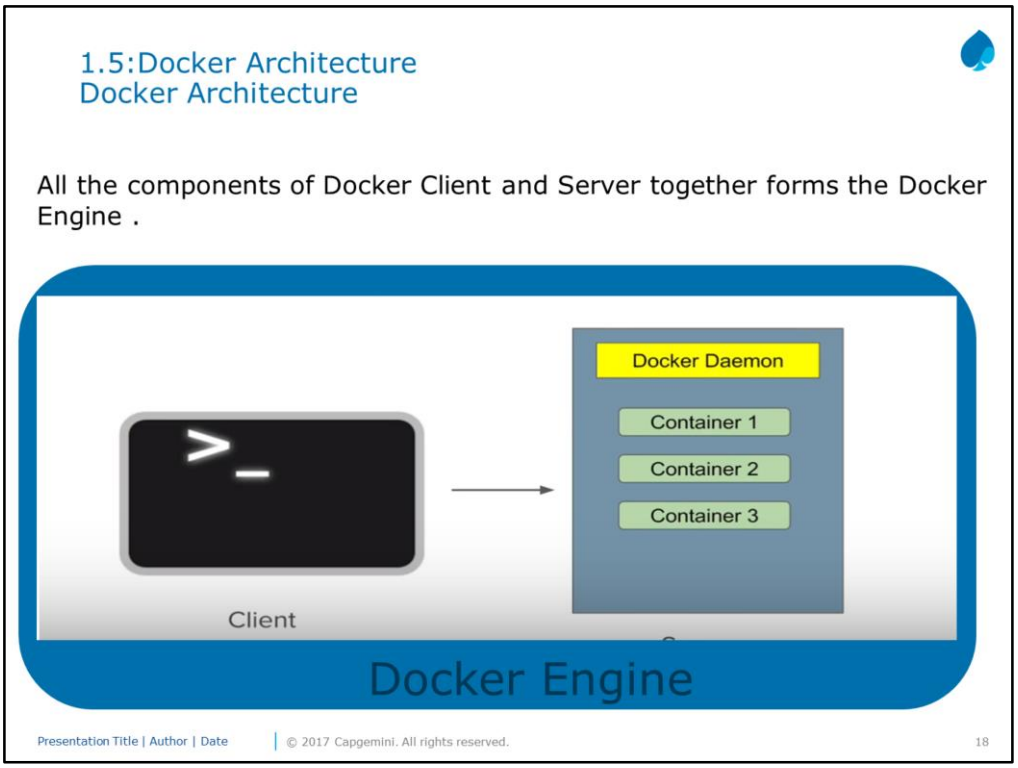
Docker Server receives the Client request from a Command line or through Rest Service API.

Docker Client and Server may be located in Same Host or in a different Host machine



Docker Client : It could be a Command line Prompt

Instructor Notes:

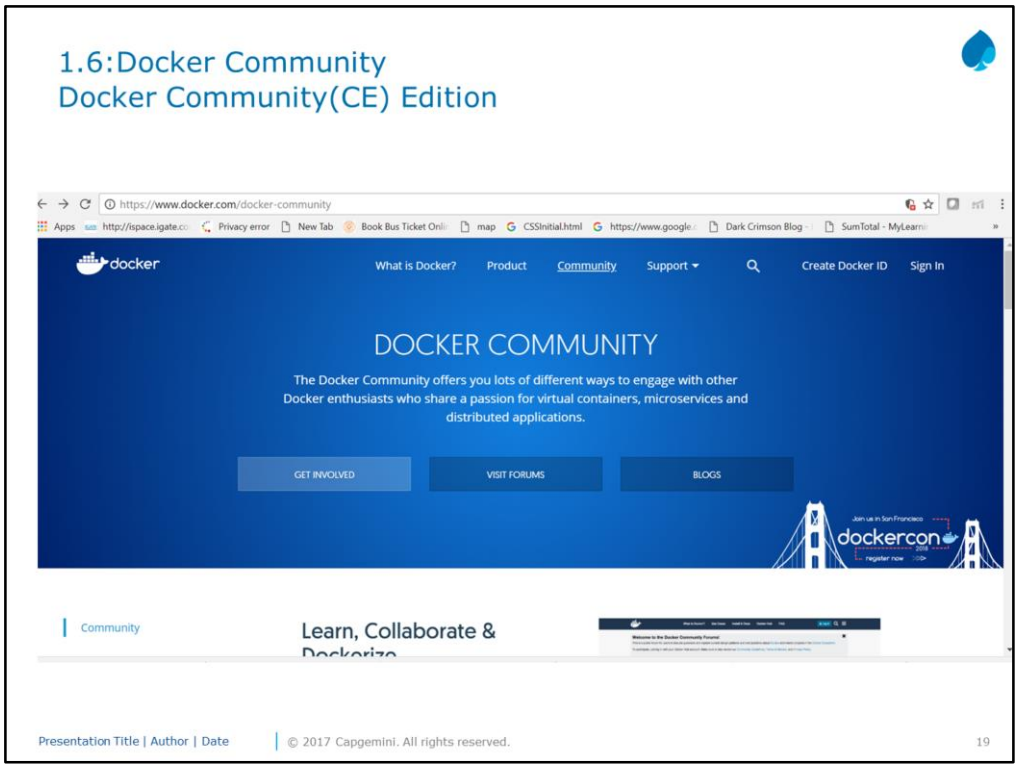


The Docker Daemon Server receives the commands from Docker Client through CLI or REST API,s. and builds , run and distributed the container

Docker Client and Server may be located in Same Host or in a different Host machine

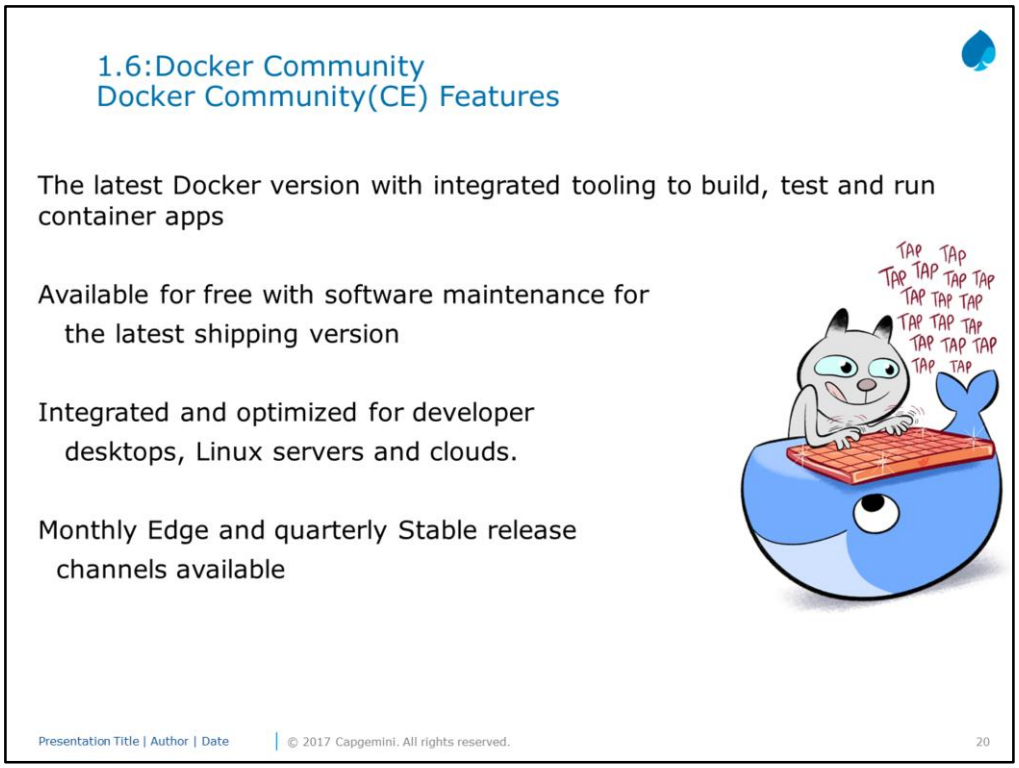
Docker client may be CLI client or in GUI(Kitematic)

Instructor Notes:



Docker Community Edition (CE) is ideal for developers and small teams looking to get started with Docker and experimenting with container-based apps. Available for many popular infrastructure platforms like desktop, cloud and open source operating systems, Docker CE provides an installer for a simple and quick install .... so you can start developing immediately. Docker CE is integrated and optimized to the infrastructure so you can maintain a native app experience while getting started with Docker.

Instructor Notes:



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Instructor Notes:

1.6:Docker Community
Docker Community(CE) Features

Native desktop or cloud provider experience for easy onboarding

Unlimited public and one free private repo storage as a service

Automated builds as a service

Image scanning and continuous vulnerability monitoring as a service

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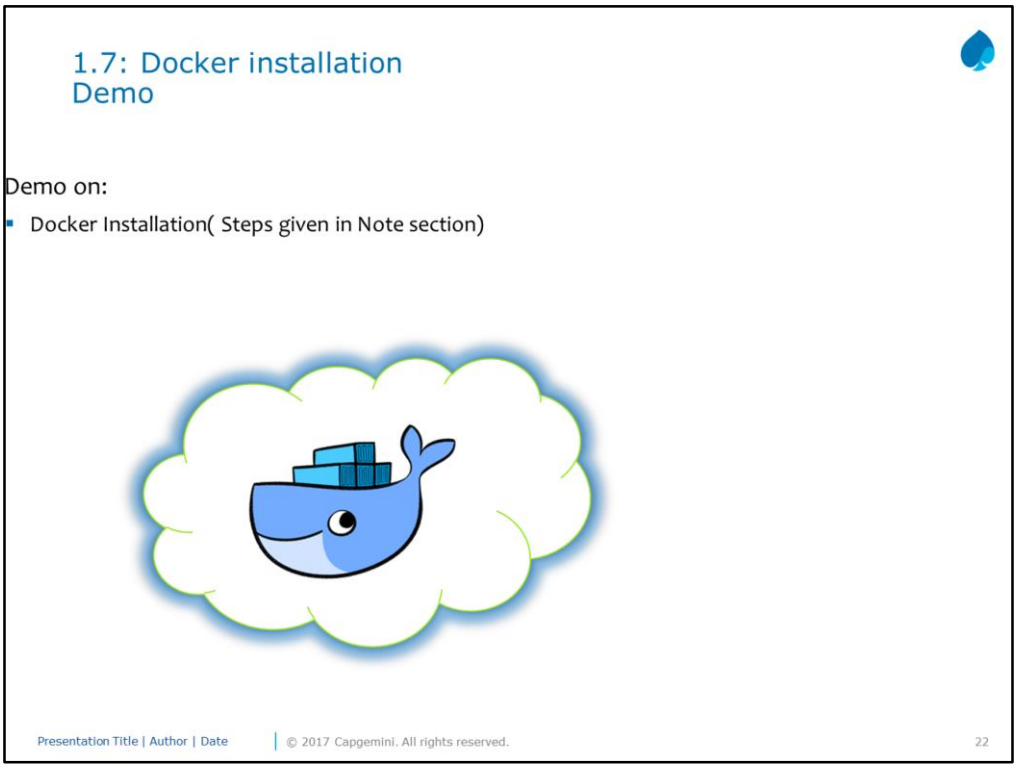

Step 1 : Go To your EC2 instance and note the public IP address

Step 2: In your Window platform Use the puttygen and putty.exe files to connect to your Linux server instance in AWS .

Type the command to install Docker

Step 3 : **sudo yum update –y**

Step 4: **sudo yum install -y docker**

Check the Docker is successfully installed or not

Step 5 : Type the command “docker -v”

Type the command to Start the Docker service

Step 6: **sudo service docker start**

Now Add the EC2 user to your Docker group . Type the command

Step 7: **sudo usermod -a -G docker ec2-user**

Step 8 : Now type the command “Docker info”

Below Command for Stop the Docker

Step 8 : **sudo service docker stop**

To uninstall the docker . Type the below command

Step 9 : **sudo yum remove docker**

Instructor Notes:

Summary

In this lesson, you have learnt:

- Introduction to Docker
- How Docker provides Solution in SW or Application implemented
- Limitation of VM
- What is Containerization
- The Differences between VM and Container
- Docker Architecture
- Docker community

Instructor Notes:

Answers for the Review Questions:

Answer 1: True

Answer 2: VM