Containerization

It is the virtualization of an Operating System. Means, we will virtualize OS on level basis. (virtualization can be done Storage level, Network Level etc).

The main challenge faced by the software developers is the version updation. Consider that we are versioning a software which is handled by 100 clients and if we update any add-on's (ie, versioning) and if any of the file is missed that will affect badly. To make this more sophisticated we can go for containerization.

- Here docker plays a role. This is done by encapsulating the entire application to a single image file which contains scripts, so that it will be easier when it comes to versioning.
- Through containerization everything will be sophisticated. We can add different images in different independent containers.

Docker

- It is a service (PaS) which uses the containerization technique.
- This means we can convert a software package to a container, service give platform.
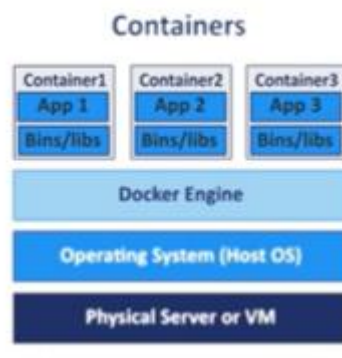- Docker mainly helps SDLC process.

Fig1:Docker Architecture

- These containers shares a single Operating system there by using maximum server capacity.
- IF VM is booted in minutes, docker will in seconds.
- Virtualization of process is Docker does.

Benefits

- Portable
- Require limited resources- In VM we use hypervisor so it uses many resources.
- Fast – since process is being virtualized.
- If docker installed it can leverage the Kubernetes.

Docker File/ Docker Image

- Container is an instance of docker Image. When we run an image, a new instance of container is created. It can be in azure/ Kubernetes/ Google cloud).
- If all on a sudden if user access to an application is increased, container initiate new container there by manging the users. This mainly fulfills the scalability.
- Docker file contains set of instructions that we build, run and configure our application inside our docker container.