

1. What is docker?

* Docker is a centralized platform for packaging, deploying, and running applications.
* Before Docker, many users face the problem that a particular code is running in the developer's system but not in the user's system. So, the main reason to develop docker is to help developers to develop applications easily, ship them into containers, and can be deployed anywhere.
* Docker uses a container on the host's operating system to run applications. It allows applications to use the same Linux kernel as a system on the host computer, rather than creating a whole virtual operating system.

2. Docker Containers

* Docker containers are lightweight alternatives to the virtual machine.
* It allows developers to package up the application with all its libraries and dependencies, and ship it as a single package.
* The advantage of using a docker container is that you don't need to allocate any RAM and disk space for the applications. It automatically generates storage and space according to the application requirement.

3. Virtual Machine

* A virtual machine is a software that allows us to install and use other operating systems (Windows, Linux, and Debian) simultaneously on our machine.
* The operating system in which virtual machine runs are called virtualized operating systems.
* These virtualized operating systems can run programs and performs tasks that we perform in a real operating system.

4. Containers Vs. Virtual Machine

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| **Containers** | **Virtual Machine** |
| Integration in a container is faster and cheap. | Integration in virtual is slow and costly. |
| No wastage of memory. | Wastage of memory. |
| It uses the same kernel, but different distribution. | It uses multiple independent operating systems. |

5. Docker daemon?

* Docker daemon runs on the host operating system.
* It is responsible for running containers to manage docker services.
* Docker daemon communicates with other daemons. It offers various Docker objects such as images, containers, networking, and storage.

6. Docker Architecture

