

Assignment → 2

1. Que → Difference between virtualization and Containerization?

Ans → The Difference between virtualization and Containerization are: →

| Area | Virtualization | Containerization |
|--------------------------|--|---|
| (1.) Isolation | Provides complete isolation from the host operating system and the other VMs | Typically provides lightweight isolation from the host and other containers but doesn't provide as strong a security boundary as a VM |
| (2.) Operating System | Runs a complete operating system including the kernel, thus requiring more system resources such as CPU, memory and storage. | Runs the user-mode portion of an OS, and can be tailored to contain just the needed services for your app using fewer system resources. |
| (3.) Guest Compatibility | Run just about any OS inside the virtual machine. | Runs on the same OS version as the host |

(4.) Deployment Virtualization

Deploy individual VMs by using Hypervisor Software

Containerization

Deploy individual Containers by using Docker or deploy multiple Containers by using an Orchestrator such as Kubernetes.

(5.) Persistent Storage

Use a virtual hard disk (VHD) for local Storage for a single VM or a Server Message Block (SMB) file share for Storage Shared by multiple Servers

Use local disk for local Storage for a single node or SMB for Storage Shared by multiple nodes or Servers.

(6.) Load Balancing

Virtual Machine load balancing is done by running VMs in other Servers in a failover Cluster

An Orchestrator can automatically start or stop Containers on cluster nodes to manage changes in load and availability.

Networking

use virtual network adapters

uses an isolated view of a virtual Network adapters. Thus, provides a little less virtualization.