Module – 2 **Security in the Cloud**

1. What is virtualization and virtualization type?

Ans - **Virtualization** is the process of creating a **virtual version** of something

like a server, storage device, network, or even an operating system using software. There are some types of virtualization are as follow :-

1. Hardware Virtualization
2. Operating System virtualization
3. Network Virtualization
4. Storage Virtualization
5. Desktop Virtualization
6. Type of hypervisor and how to manage it?

Ans - Type 1 Hypervisor (Bare-metal)

. Manage

1. Managed via **vSphere Client** or **vCenter Server.**
2. Managed via **Hyper-V Manager**, **SCVMM (System Center Virtual Machine Manager)**, or **PowerShell.**
3. Managed via **virt-manager**, **virsh (CLI tool)**, **Cockpit**, or **OpenStack.**

Type 2 Hypervisor (Hosted)

Manage

1. Managed through its GUI or the VBoxManage CLI tool.
2. GUI-based or CLI via vmrun.
3. Managed through the Parallels Control Center or CLI (prlctl).
4. Roles of virtualization in cloud computing?

Ans - There are some roles of virtualization in cloud computing are as follow :-

1. Roles Optimization
2. Scalability and flexibility
3. Isolation and security
4. Cost Efficiency
5. Disaster recovery and backup
6. Improved resource management
7. Multi tenancy
8. Environment Standardization
9. What is container?

Ans - A **container** in cloud computing is a lightweight, standalone, and executable software package that includes everything needed to run a piece of software the code, runtime, libraries, and system tools but **without the overhead of a full virtual machine**.

1. What is high availability and live migration in virtualization?

Ans – High availability :-

**High Availability** ensures that virtual machines (VMs) and services remain **continuously operational**, even if part of the system fails.

**Live availability :-**

**Live Migration means moving a running VM from one physical host to another without shutting it down — the user doesn’t even notice.**