Experiment No.: 01 —
Title: VMWare Workstation Installation and Configuration

Batch: A4 **Roll No.: 16010420117** **Experiment No.:1**

Aim: VMware workstation installation and configuration

Resources needed: VMWare Setup

Pre Requisite: Understanding of Installation of Operating System

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Theory:

Concept of Virtualization

Virtualization addresses IT's most pressing challenge: the infrastructure sprawl that compels IT departments to channel 70 percent of their budget into maintenance, leaving scant resources for business-building innovation.

The difficulty stems from the architecture of today's X86 computers: they're designed to run just one operating system and application at a time. As a result, even small data centers have to deploy many servers, each operating at just five percent to 15 percent of capacity—highly inefficient by any standard.

Virtualization software solves the problem by enabling several operating systems and applications to run on one physical server or "host." Each self-contained "virtual machine" is isolated from the others, and uses as much of the host's computing resources as it requires.

Advantages of virtualization

- Run multiple operation systems on one server. For example, instead of having development-server and QA-server, you can run both development and QA on a single server.
- You can have multiple flavours of OS on one server. For example, you can run 2 Linux OS, 1 Windows OS on a single server.
- Multiple OS running on the server shares the hardware resources among them. For example, CPU, RAM, network devices are shared among development-server and QA-server running on the same hardware.
- Allocate hardware resources to different applications based on the utilization. For example, if you have 8GB of RAM on the server, you can assign less RAM to one virtual machine (2GB to development-server) and more RAM (6GB to QA-server) to another virtual machine that is running on that server

- High availability and business continuity. If VMware is implemented properly, you can migrate a virtual machine from one server to another server quickly without any downtime.
- This reduces the operational cost and power consumption. For example, instead of buying and running two servers, you will be using only one server and run both development and QA on it.

VMware
VMware is a virtualization and cloud computing software provider for x86-compatible computers. VMware Inc. is a subsidiary of EMC Corporation and has its headquarters in Palo Alto, California. VMware Workstation makes it possible to partition a single physical server into multiple virtual machines. VMware workstation works with Windows, Solaris, Linux and Netware, any or all of which can be used concurrently on the same hardware.

Procedure:

1. Download VMWare workstation from
   https://www.vmware.com/in/download/open_source.html

2. Download the s e t u p file and run the executable when the download is completed. When the download is completed, click **Run** again and the executable will start the VMware Installation Wizard.

3. Install VMware Server and Crate Virtual machine.

Results: (Steps with screenshots)

Questions:

1. On a particular server, within each virtual machine:
   a. You can run any version of Windows without regard for the version(s) running in the other virtual machines.
   b. The versions of Windows must be no more than one release level apart
   c. The versions of Windows must be the exactly same.

2. On a particular server:
   a. If you need to reboot one virtual machine, you have to first reboot the physical server, the individual virtual machines and then reboot automatically when the physical-machine reboot is finished.
   b. If you reboot one virtual machine, all the other virtual machines reboot at the same time.
   c. You can reboot a virtual machine without it having any effect on the other virtual machines.

3. When choosing which applications or databases to place on one physical machine (using a virtual machine for each application), it is best to:
   a. Choose a mixture of applications and databases with different workloads.
   b. Keep all the heavy-workload application/databases together and all the light-workload applications and databases together.

4. Introduction of server virtualization in a data center:
    a. Will make the introduction of Storage –Area Network (SAN) absolutely necessary.
    b. Will make the introduction of Storage –Area Network (SAN) desirable.
    c. Will not materially change storage requirements.

5. In a virtualized- server environment, compared with a traditional server environment:
    a. It is easier to keep track of software licensing.
    b. Tracking software licensing is neither materially easier nor harder.
    c. It is significantly harder to keep track of software licensing.
6. The VM Kernel can't boot it by itself, so that it takes the help of the 3rd party operating system.
    a. True
    b. False

7. List the major components of Vmware Infrastructure?

Ans: The major components of VMware infrastructure are:

- Web Browser
- ESX server host
- Database
- Virtual Centre Server
- License Server
- Virtual Infrastructure (VI) client

Outcomes:

CO1: Understand Virtualization

Conclusion: (Conclusion to be based on the objectives and outcomes achieved)

During the course of this experiment, we understood virtualization and installed Xen Server operating system on the VMware workstation player.

Grade: AA / AB / BB / BC / CC / CD /DD

Signature of faculty in-charge with date

References:

Books/ Journals/ Websites:

1. http://www.vmware.com/in