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VMware Interview Questions and Answers

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VMware is one of the leading virtualization and cloud computing software companies. Virtualizing hardware is one of the most efficient methods of OS management. VMware is trusted by some of the most high-profile governmental and non-governmental organizations. IT graduates, students, and job seekers are going crazy over securing a job on VMware or any other cloud computing enterprise. Check out the below VMware interview questions and answers to land a job at VMware or any cloud computing virtualization enterprise with ease.

VMware interview questions and answers

1. What are containers in VMware?

Containers are units of software that are executable, in which application code is packaged along with its libraries and dependencies in common ways so that the code can be run across different platforms, whether it be on desktop, traditional IT, or the cloud. Containers perform their function by taking advantage of a form of operating system virtualization in which features of the OS kernel, e.g., Linux namespaces and cgroups, Windows silos, and job objects, can be leveraged to isolate processes and control the amount of CPU,

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memory, and disk that can be accessed by those processes. Containers don't necessarily need to include a guest OS in every instance and can instead simply leverage the features and resources of the host OS.

2. What are the benefits of containers? (VMware troubleshooting interview)

- Lightweight: Containers share a machine OS kernel, eliminating the need for a full operating system instance per application and making container files small and easy on resources. Their smaller size, especially compared to VMs, means containers can spin up quickly and better support cloud-friendly applications that scale horizontally.
- Portable and platform-independent: Containers carry all their dependents with them, meaning that software can be written once and then run without needing to be re-configured across laptops, cloud computing, and on-premises computing environments (works across platforms).
- Supports modern development and architecture: Due to a combination of their deployment portability and consistency across platforms and their small size, containers are an ideal fit for modern development and application patterns such as DevOps and are built using regular code deployments in small increments.
- Improves utilization: Like VMs before them, containers enable developers and operators to improve the CPU and memory utilization of physical machines. Where containers go even further is that because they also have a microservice architecture, application components can be deployed and scaled more easily. This is a desirable alternative to having to scale up an entire monolithic application because a single component is struggling with its load.

3. What are some of the uses of containers?

- Microservices: Containers are small and lightweight, which makes them a good fit for microservice architectures where applications are constructed out of many, loosely coupled, and independently deployable smaller services.
- DevOps: The combination of microservices as an architecture and containers as a platform is a common foundation for many teams that depend on DevOps to run, ship, and build software.
- Hybrid, multi-cloud: Because containers can run consistently anywhere across laptops, on-premises, and cloud environments, they are an ideal baseline architecture for hybrid cloud and multi-cloud scenarios in which organizations find themselves operating across a mix of multiple public clouds combining with their own data centers.
- Application and migration: One of the most common approaches to application modernization is to containerize applications to prepare them for cloud migration.

4. Describe the process of containerization.

The process of containerizing an application includes packaging the application with its relevant environment variables, configuration files, libraries, and software dependencies. The result of this process is a container image that can then be run on a container platform.

5. Describe VMware containers. (VMware interview questions)

Containers offer more speed and use hardware computing power more efficiently than VMs, but they are not suitable for all cases. Users might want to develop an entirely new application that divides small pieces of functionality called microservices into separate containers, making application development and

maintenance more agile. On the other hand, a legacy application written to run as a single binary program will be more suitable for running in a VM that mirrors the environment it is used to. Users can take advantage of containers and VMs together using VMware's vSphere Integrated Containers feature, which fills the gap between the two by allowing containers to run in VMware environments. It comprises three components:

- The VSphere Integrated Container Engine lets developers run containerized apps based on the popular Docker container format alongside VMs in the environment of the same vSphere infrastructure.
- Project Harbor is an enterprise container registry that lets developers store and distribute their container images so other developers can reuse them.
- Project Admiral is a management portal that lets development teams manage provision and containers.

6. What is an airwatch?

Airwatch is a sub-product of the VMware division, which focuses on enterprise mobility management. Airwatch technology functions as the basis for VMware's Workspace ONE Unified Endpoint Management product, which lets users manage endpoints ranging from desktops to small-footprint Internet of Things (IoT) devices using only a single management console.

Companies have security vulnerabilities called endpoints. Endpoints get exploited by attackers, which makes those attackers gain access to the whole network by infecting a single endpoint with malware. Endpoints are also prone to physical theft, making the data on them vulnerable. Centrally managing all endpoints, even when they are not on the office network, helps administrators ensure that the endpoints are properly secured and

encrypted.

The endpoint management product supports a variety of operating systems, from Android through MacOS, and even IoT-focused systems such as QNX. Users can customize usage policies and security settings for each device on the network.

7. What are the types of virtualization?

The following are the available types of virtualization:

- Server Virtualization: This type of virtualization has many virtual machines (VMs) running on one physical server. Since users do not have to buy new servers or expand their server rooms, they save floor space and money. Server virtualization is generally offered by a few well-known providers, such as vSphere, XenServer, Hyper-V, and RedHat.
- Network virtualization: This is the process of combining all the physical network components into one virtual network. A virtual network is composed of NICs, switches, VLANs, network storage devices, virtual network containers, and network media. This type of virtualization has the primary function of eliminating dependence on physical network devices. One of its examples is VMware NSX.

- Application virtualization is the process of virtualizing and hosting applications on a server so that users on the end can have access to them on their devices, such as laptops, smartphones, and tablets. The app can be accessed via any Internet-connected device, so users don't have to log in to a desktop to use it. Its examples include VMware ThinApp, Citric XenApp, etc.
- Desktop Virtualization: AKA OS virtualization or VDI (Virtual Desktop Infrastructure), desktop virtualization is the process that enables users to

run or deploy multiple virtual desktop OSes on a physical server. The user may access his or her virtual desktop from anywhere since it is stored on a remote server. In this way, individual CPUs are not required. Its examples include VMware Horizon View, Citrix Xen Desktop, etc.

- Storage Virtualization: By using storage virtualization, multiple network storage devices can be combined into a single storage device or array by pooling together their physical storage. This provides an easy way to manage storage and ensure consistent performance. Its example includes vSAN.

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8. Name some of the VMware products.

The following are the products offered by VMware:

- VMware ThinApp
- VMware vCloud NFV
- VMware Mirage
- VMware Pivotal Container
- VMware Photon Platform
- VMware vCloud NFV OpenStack
- VMware vRealize
- VMware vRealize Operations, etc.

9. What is a port group?

Port groups are groups of virtual ports on the virtual switch. Generally, the port group provides a stable anchor point for virtual machines connected to labeled networks by combining multiple ports into a single configuration. Every port group is assigned a network label, which is unique to the host. VLAN (Virtual Local Area Network) tags are shared by each port group member and can be considered an example. Check out

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10. What is RDM?

RDM stands for Raw Device Mapping. In RDM, files are contained in VMFS and act as proxies for raw physical devices. This feature enables VMware's virtual machines (VMs) to access logical unit numbers (LUNs) directly. This makes the need to use the virtual machine file system (VMFS) not necessary because the LUN can be formatted using any file system, like NTFS (New Technology File System). It is generally beneficial for cluster customization, including VM-to-VM, physical-to-VM, or SAN (Storage Area Network) snapshots. It also has some limitations, including the inability to map disk partitions and possibly not working with direct-attached block devices.

11. What is VMotion?

VMware's VMotion technology enables users to migrate active virtual machines from one ESX host to another without disrupting service or functionality during the process. In this process, there is zero downtime, constant service availability, and overall transaction integrity, which is an advantage. vMotion technology is important in creating a dynamic, automated, and self-optimizing data center and provides great flexibility for virtual environments. Ensure that both hardware and software requirements are met by the cloud provider. If powered-off VMs are migrated, the compatibility requirements are reduced. Find out more about **VMware training here in Chennai**.

12. What is promiscuous mode? (VMware interview questions)

A promiscuous mode is a network security, monitoring, and administration method that allows any type of network adapter customized on a host system to access

all network data packets. Users can specify it at the virtual switch or port group level in vSphere ESX/ESXi. At the end of the day, promiscuous mode is a method of monitoring (sniffing) network traffic. Users have two options: accept or reject. Additionally, all communication will be visible to all virtual machines if the promiscuous mode is set to accept.

13. How do snapshots contribute to VMware? (VMware troubleshooting interview questions and answers)

VMware snapshots allow users to quickly and easily save the current state of a VM before making changes. A snapshot is taken when upgrading or installing software. In VMware snapshots, the current state of the virtual machine is preserved, so after the testing process, the machine can be quickly changed back to the desired state. After a specific task is completed, a snapshot should be removed to improve performance

14. Explain the concepts of vSS and vDS.

vSS and vDS are virtual switches that are used to connect virtual machines.

vSphere Standard Switch (VSS): VSS is the default virtual switch that is available when ESXi is installed. The switch allows VMs installed on one physical host to communicate with one another. The switch influences how a VM communicates with another VM on the same physical server, exactly as a physical switch would.

vSphere Distributed Switch (VDS): This acts as the single switch in a virtual environment and provides central provisioning, administrative capabilities, and monitoring capabilities for virtual networks. In addition to that, it also supports advanced networking features in VMware vSphere.

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15. What are the parts of VMware virtualization, and tell us how each part helps in VMware's processes? (VMware troubleshooting interview)

The following are the different elements that are integral to VMware's virtualization:

- VMware hypervisor: VMware virtualizes physical computers using its important product, the hypervisor. A hypervisor acts as a software layer that interacts with the underlying resources of a physical computer, which is called the host, and allocates those resources to other guest operating systems. Guest operating systems make resource requests to the hypervisor, which ensures the separation of each guest OS, allowing them to run independently without affecting others. This isolation proves crucial in scenarios where one guest OS encounters issues like application crashes, instability, or malware infections, as it safeguards the performance and operation of other operating systems on the host.

- VMware ESX: VMware's ESXi, a hypervisor focused on data centers, operates as a type 1 or "bare metal" hypervisor. It takes the place of the primary operating system that traditionally interacts with a computer's physical components. ESXi, the successor to ESX, offers a more streamlined approach by utilizing fewer host computer resources. Unlike its predecessor, which consumed more resources, ESXi enhances the efficiency of the virtualization process. It's noteworthy that VMware has discontinued ESX in favor of ESXi. If you're interested, explore our **VMware course syllabus** for more details.

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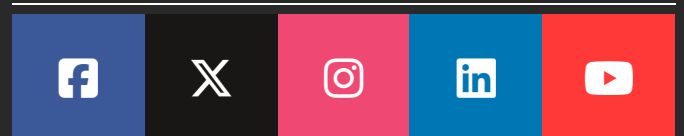
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