

Quiz 1

Question 1

Which of the following is a characteristic of IaaS?

Question 1 Answer

- a.
Focuses on data storage and retrieval services
- b.
Delivers software applications over the internet
- c.
Provides virtualized computing resources over the internet
- d.
Offers a platform allowing customers to develop applications

Feedback

The correct answer is:

Provides virtualized computing resources over the internet

Question 2

The Shadow Page Table (SPT) mechanism in hardware virtualization is used to

Question 2 Answer

- a.
Track page table modifications made by guest operating systems
- b.
Isolate the guest operating system's memory from the host operating system
- c.
Limit the guest operating system's access to physical memory
- d.
Translate virtual memory addresses used by guest operating systems

Feedback

The correct answer is:

Track page table modifications made by guest operating systems

Question **3**

What is a key feature of Infrastructure as a Service (IaaS)?

Question 3 Answer

- a.
Offers a platform for developing applications
- b.
Provides virtualized computing resources over the internet
- c.
Focuses on data storage solutions
- d.
Delivers software applications over the internet

Feedback

The correct answer is:

Provides virtualized computing resources over the internet

Question **4**

What is the primary function of a hypervisor in virtualization?

Question 4 Answer

- a.
To allocate resources to virtual machines
- b.
To manage network traffic
- c.
To encrypt data on virtual machines
- d.
To provide user authentication

Feedback

The correct answer is:

To allocate resources to virtual machines

Question **5**

If you were designing a new hypervisor for x86 hardware that aims to optimize CPU performance, what feature would you prioritize implementing first?

Question 5 Answer

- a.
Virtual network interface cards (vNICs)
- b.
Dynamic memory allocation
- c.
Snapshot management
- d.
Hardware-assisted virtualization (Intel VT-x/AMD-V)

Feedback

The correct answer is:

Hardware-assisted virtualization (Intel VT-x/AMD-V)

Question 6

Which of the following is a key factor that motivated the development of cloud computing?

Question 6 Answer

- a.
The emergence of virtualization technologies
- b.
The need for faster data processing
- c.
The increasing cost of data storage
- d.
The decline in the use of personal computers

Feedback

The correct answer is:

The emergence of virtualization technologies

Question **7**

In a scenario where a container is consuming excessive CPU resources, which cgroup setting would you adjust to address this issue?

Question 7 Answer

- a.
pids.max
- b.
memory.limit_in_bytes
- c.
cpu.cfs_quota_us
- d.
blkio.throttle.write_bps_device

Feedback

The correct answer is:

cpu.cfs_quota_us

Question **8**

Which of the following is a characteristic of a public cloud?

Question 8 Answer

- a.
Owned and operated by a third-party provider
- b.
Exclusive access for a single organization
- c.
Hosted on-premises by the organization
- d.
Requires a private network connection

Feedback

The correct answer is:

Owned and operated by a third-party provider

Question **9**

Which of the following is a key characteristic of the cloud computing service model known as Platform as a Service (PaaS)?

Question 9 Answer

- a.
Provides access to fully managed applications
- b.
Offers pre-configured development environments
- c.
Allows users to manage their own operating systems
- d.
Provides access to virtualized hardware resources

Feedback

The correct answer is:
Offers pre-configured development environments

Question **10**

When examining the security features of system and application containers, what is a notable difference?

Question 10 Answer

- a.
System containers offer more granular security controls at the OS level
- b.
Application containers provide more robust isolation at the application level
- c.
Both types of containers offer the same security features
- d.

System containers have less secure networking compared to application containers

Feedback

The correct answer is:

Application containers provide more robust isolation at the application level

Question **11**

Evaluate the impact of using namespaces on container security. Which statement best describes the effect?

Question 11Answer

- a.
Namespaces reduce security risks by allowing containers to share the same kernel.
- b.
Namespaces increase container security by isolating processes and network resources.
- c.
Namespaces make containers less secure by increasing complexity.
- d.
Namespaces do not affect security as they only manage resource allocation

Feedback

The correct answer is:

Namespaces increase container security by isolating processes and network resources.

Question **12**

Which of the following is a type of container that isolates and runs multiple processes within a single host operating system?

Question 12Answer

- a.
Virtual machine
- b.
Application container
- c.
System container

d.
Serverless container

Feedback

The correct answer is:
Virtual machine

Question **13**

A company is comparing PaaS and IaaS. Which of the following considerations might lead them to choose IaaS?

Question 13 Answer

- a.
Desire to control and customize virtual machines
- b.
Requirement for minimal setup and deployment time
- c.
Need for less infrastructure management
- d.
Interest in using a pre-configured development environment

Feedback

The correct answer is:

Desire to control and customize virtual machines

Question **14**

To deploy a Docker containerized application with a web frontend and a backend database, which configuration file defines the relationships and settings between these services?

Question 14 Answer

- a.
Docker-config.yml

- b.
Dockerfile
- c.
docker-composer.yml
- d.
dockerfile.json

Feedback

The correct answer is:
docker-composer.yml

Question **15**

Assume a task involves developing a security feature for an x86 hypervisor to prevent a guest Virtual Machine (VM) from accessing unauthorized physical memory. What strategy could be devised?

Question 15Answer

- a.
Developing a load balancer to distribute memory usage
- b.
Implementing a virtual firewall between VMs
- c.
Creating a snapshot system to roll back VMs
- d.
Utilizing Extended Page Tables (EPT) to enforce memory isolation

Feedback

The correct answer is:

Utilizing Extended Page Tables (EPT) to enforce memory isolation

Question **16**

Which command sequence should be used to update an existing Docker image with new application code?

Question 16Answer

- a.
docker stop <container_id> followed by docker start <container_id>
- b.
docker build -t <new_image_name> . followed by docker run <new_image_name>
- c.
docker commit <container_id> <new_image_name> followed by docker run <new_image_name>
- d.
docker pull <image_name> followed by docker run <image_name>

Feedback

The correct answer is:

docker build -t <new_image_name> . followed by docker run <new_image_name>

Question **17**

Which of the following is NOT a major virtualization technique?

Question 17Answer

- a.
Binary translation
- b.
Paravirtualization
- c.
Full virtualization
- d.
Operating system-level virtualization

Feedback

The correct answer is:

Binary translation

Question **18**

A business requires a scalable environment to develop, test, and deploy custom applications. Which cloud service model is most suitable?

Question 18Answer

- a.
PaaS
- b.
FaaS
- c.
SaaS
- d.
IaaS

Feedback

The correct answer is:

PaaS

Question **19**

Given a Dockerfile snippet, what would be the expected output when building the Docker image?

Question 19Answer

- a.
The listing of all available Docker images
- b.
The installation of the specified software and dependencies in an image
- c.
The update of the Docker daemon configuration
- d.
The creation of a new Docker container

Feedback

The correct answer is:

The installation of the specified software and dependencies in an image

Question **20**

Which deployment model is best for organizations with sensitive data?

Question 20Answer

- a.
Public Cloud
- b.
Private Cloud
- c.
Hybrid Cloud
- d.
Community Cloud

Feedback

The correct answer is:

Private Cloud