

1. One way to horizontally scale databases has a single server where all data modifications are done, and multiple other servers where the data is synced and can handle data read requests. What is this called?

1 / 1 point

- ☐ Round robin
- ☐ Content delivery network
- ☒ Master-slave replication
- ☐ Sharding

✓ **Correct**

That's correct! Though only one server can handle the changes that are needed, there are many that can handle any read requests, which typically have a higher volume.

2. True or False: A round-robin load balancer distributes incoming traffic equally across all servers.

1 / 1 point

- ☒ True
- ☐ False

✓ **Correct**

That's correct! In round-robin load balancing the load is equally distributed across multiple servers. But this process is less efficient than health-based load balancing.

5. Hypervisors are used when using _____ to virtualize servers.

1 / 1 point

- ☐ VirtualBox
- ☒ Virtual machines
- ☐ Docker
- ☐ Containers

✓ **Correct**

That's correct! Hypervisors control virtual machine environments, where each server is running its own operating system and set of individualized software.

6. True or False: Container image files can contain both applications and their dependencies.

1 / 1 point

- ☒ True
- ☐ False

✓ **Correct**

That's correct! Container image files make it easy to quickly deploy applications and their dependencies on any hardware running the necessary container engine.

7. Which of the following is a benefit of a content delivery network, or CDN?

1 / 1 point

- ☐ Files changed on the web server are immediately available
- ☐ Lower costs
- ☒ Lower workload for the web server
- ☐ Increase the bandwidth on the server

✓ **Correct**

That's correct! Any static files, like images or script files, are no longer requested from the web server, only dynamic content.

8. If a web application is being overwhelmed with requests, and additional web servers are added to distribute the load across them and increase capacity, this is an example of what?

1 / 1 point

- ☐ Vertical scaling
- ☒ Horizontal scaling
- ☐ Sharding
- ☐ Auto scaling

✓ **Correct**

That's correct! Horizontal scaling is the process of adding additional nodes to handle the load, and typically involves some kind of load balancing to distribute the incoming load.

9. What are three of the database types offered through public cloud providers? Select all that apply.

1 / 1 point

☒ Time series

✓ **Correct**

That's correct! Some examples of time series databases are Influx dB and Prometheus.

☐ Object

☒ SQL

✓ **Correct**

That's correct! Some examples of SQL databases are MariaDB and PostgreSQL.

☒ NoSQL

✓ **Correct**

That's correct! Some examples of NoSQL databases are MongoDB and DynamoDB.

10. Which of the following are some of the disadvantages of the serverless computing model?

1 / 1 point

☒ Vendor-locked

✓ **Correct**

That's correct! You get vendor locked when using a serverless provider because your application code uses the services provided by the serverless vendor. To host your application with a different provider, a code change is necessary.

☐ Unmanaged

☒ Can be expensive over time

✓ **Correct**

That's correct! The serverless providers charge you by usage. Any unmonitored usage, unoptimized code or abuse can cause a heavy spike in monthly bills. Also, it can be expensive as your application continues to grow.

☐ No server is required