1. Where can you find AWS Products and Services?

   A. On the AWS Management Console
      Service Catalog

2. In the AWS "Shared Responsibility Model":

   - ***Application User's Identity and Access Management***

   Is the Responsibility of?

   A. **AWS Tenant**

3. In the AWS "Shared Responsibility Model":

   - ***Network and Server Encryption***

   Is the Responsibility of?

   A. AWS Tenant

4. What service provides scalable load balancing for your application's public-facing web servers or private application servers?
      A. ELB

5. For each of the following, match the most appropriate AWS Service.
   A.
      Firewall – security group
      AWS Users – IAM
      Subnet control - VPC
      Server – EC2
      DNS – Round S3

6. In the AWS "Shared Responsibility Model":

   - ***Network***

   Is the Responsibility of?

   A. **AWS**

7. For Each of the following, match the most appropriate AWS Service.
   A.
      Managed SQL DBs – RDS

Storage for Servers – EBS
Backups – Glaciers
File Server – S3

8. Select the ways discussed in the course text on how to manage "Distributed State":
   A.

   State sharded and replicated
   Queries for state deleated from master server to reply servers
   Store on one machine
   State sharded with cached data

9. What was the analogy used for Cloud Computing in the "Power of the Cloud" talk?

   A. Pay-as-you-Go

10. A feature toggle is the ability for a release of a feature to be rolled-out into production only for specific tenants.

    A. True

11. Match the examples with the distributed systems composition patterns:
    A.
    EC2 Web Servers serving the same static content – Load Balancer with multiple backend replicas
    HTTP queries processed via Fan-Out and Fan-In of results - Server with multiple backends

    Terabyte datasets processed by servers in shards - Server tree

12. AWS Security Groups can define egress and ingress traffic from/to Virtual Servers inside a VPC.

    True

13. Matching the statements below to the best Selection Strategy for Cloud Services:
    A.
    Using VM's or Containers – Default to Virtual
    Outsource Infarastructure - Leverage Provider Expertise
    Short Term / Temporary Use – Ephemeral Computing
    Compare Public vs. Private - Cost Based

14. Exported functions in Go Packages are named with a beginning lowercase letter.
    A.False

15. Steal time is the time a Tenant VM on shared hardware loses to another VM due to over commits.
    A. True
16. In the MSDN Paper, the Three Approaches to Managing Multi-Tenant Data Discussed were:
    A. Dedicated, Shared with Fixed Extension Set, Shared with Custom Extensions

17. A Method of Load Balancing where New Servers don't get Overloaded on Startup.
    A. Least Load with Slow Start

18. Physically distinct groups of AWS datacenters isolated from each other from a natural disaster.
    A. AWS Region

19. Match the Correct Option the the AKF Scale Cube Dimension:
    A.
          Replica Split – x-axis
          Resource Split – Y-axis
          Data Split – z-axis

20. Functions in Go can return multiple values
    A. True
21. Variables declared without an explicit initial value are given their *zero value*. Match the zero values for the following:
          A.
          Numeric Types – 0
          Boolean Types – false
          String Types - ""

22. Deferred function calls are pushed onto a stack. When a function returns, its deferred calls are executed in first-in-first-out order.
    A.False

23. Multi-Tenancy is defined as: (pick the best answer)
    A. The ability to provide isolation and good performance to multiple customers using a cloud infrastructure.

24. Docker Cloud can link to GitHub to Build Docker Images.
    A. True

25. Docker Hub is a Repository for Sharing Docker Images
    A. True
26. Match the attributes for Containers:
    A.
    Virtualization Level – Operating Systems Virtualization
    Resource Consumption – Lightweight
    Provisioning Speed – Real-time Provisioning
    Performance Characteristics – Native Performance
    Isolation Model – Process-Level isolation

27. To build a Docker image, the following is needed:
    A.
    Dockerfile

28. The following Docker commands:

    docker run --name wp-mysql -e MYSQL_ROOT_PASSWORD=welcome -dt
    mysql

    docker run --name wordpress --link wp-mysql:mysql -p 10003:80 -dt wordpress

    A.
    Links wordpress container to wp-mysql container
    Maps external port 10003 to wordpress exposed port 80

29. **The following REST API is consider what type of API according to Richardson's API Maturity Model?**

        FORMAT: 1A
        HOST: http://restbucksapi.apiblueprint.org/

        # RestBucks API

        Example from REST in Practice Book

        ## Orders [/order]

        ### Get All Orders [GET]

        + Response 200 (application/json)

            [
              {
                "id" : 1
                "location": "takeAway",

```
        "items" : [
          "item": {
            "name : "latte",
            "quantity" : 1,
            "milk" : "whole",
            "size" : "small"
          }
        ],
        "status" : "pending"
      }
    ]
```

Create a New Order [POST]

+ Request (application/json)

```
    {
      "location": "takeAway",
      "item": {
        "name : "latte",
        "quantity" : 1,
        "milk" : "whole",
        "size" : "small"
      }
    }
```

+ Response 201 (application/json)

    + Headers

        Location: /order/1

    + Body

```
        {
          "id" : 1,
          "location": "takeAway",
          "items" : [
            "item": {
              "name : "latte",
              "quantity" : 1,
              "milk" : "whole",
              "size" : "small"
            }
          ],
          "status" : "pending"
```

```
        }

## Order [/order/{id}]

### Get Order by ID [GET]

+ Response 200 (application/json)

  + Attributes (object)
      + id: 1 (number)

  + Body

        {
            "id" : 1,
            "location": "takeAway",
            "items" : [
               "item": {
                   "name : "latte",
                   "quantity" : 1,
                   "milk" : "whole",
                   "size" : "small"
                }
            ],
            "status" : "pending"
        }


### Update Order by ID [PUT]

+ Request (application/json)

        {
            "location": "takeAway",
            "item": {
                "name : "cappuccino",
                "quantity" : 1,
                "milk" : "skim",
                "size" : "large"
            }
        }

+ Response 200 (application/json)

  + Attributes (object)
      + id: 1 (number)
```

```
+ Body

            {
                "id" : 1
                "location": "takeAway",
                "items" : [
                    "item": {
                        "name : "cappuccino",
                        "quantity" : 1,
                        "milk" : "skim",
                        "size" : "large"
                    }
                ],
                "status" : "preparing"
            }
```

Delete Order by ID [DELETE]

+ Response 204 (application/json)

A. CRUD API

30. Match the correct statements describing Richardson's Rest API Maturity Model
    A.
Services that use a single URI and a single HTTP Method – Level 0
Services that use a many URIs and a single HTTP Method - Level 1

Services that use a many URIs and a many HTTP Methods - Level 2

Services that use the Hypemedia as the Engine of Application State - Level 3

31. Event Sourcing stores "Facts" and not "State". State is derived from the set of "Facts".
    A. True
32. CQRS stands for: Command Query REST Service
    A. False

33. Select all the true statements about the 12-Factor Apps:

    A.
    One Code Base, Many Deploys
    Backing Resources Should be Attached
    Scale Out using Process Model

34. If a Go initializer is present, the type can be omitted; the variable will take the type of the initializer.

> For example, i and j below are type "int".

> var i, j = 1, 2

> And is equivalent to:

> var i, j int = 1, 2

A. True

35. Your web application's static assets and some of its dynamic content can be cached. What Amazon Web Service would support this?

CloudFront