The AWS service for load balancing supports the following types of load balancers:

- Application load balancer which operates at OSI Layer 7 (HTTP/WebSockets) ✔
- Network load balancer which operates at OSI Layer 4 (TCP/UDP) ✔

Your answer is correct.

An AWS Region is

- An organizational unit designed to serve clients from a specific area
- An independent and isolated cloud deployed in a specific geographical region
- An AWS data center ✖

Your answer is incorrect.

Simple Storage Service (S3) helps us

Select one:

- Host web applications
- Create bootable virtual disks that can be attached to EC2 instances
- Store and serve an infinite amount of objects such as images, documents, and videos ✔

Your answer is correct.

RDS is a

- managed container service
- managed relational database service ✔
- serverless database

Your answer is correct.

Documents are stored in S3 in a

- Server
- Bucket ✔
- Storage Account

Your answer is correct.

An EC2 instance can be configured as follows

Select one:

- (•) Based on an instance type which offers certain resources (vCPU, RAM, networking. etc.) ✔
- ( ) Each resource must always be specified independently based on the estimated workload
- ( ) There is no need to configure anything. The instance will scale based on the workload

Your answer is correct.

Software can be automatically installed during the provisioning of the EC2 instance through

User Data ✔ which is composed of A CloudFormation script ✖ .

Simple Storage Service works through

- (•) HTTP ✔
- ( ) SMTP
- ( ) FTP

Your answer is correct.

An EC2 instance is deployed in a specific AZ

Select one:

- (•) True ✔
- ( ) False

Your answer is correct.

Docker is a

- framework
- programming language
- container engine ✔

Your answer is correct.

The connection times out while trying to access an EC2 instance via SSH on the standard port. What is the most likely issue?

- ○ The instance is not reachable via the internet
- ○ The instance type is misconfigured
- ◉ The security group does not explicitly allow traffic on port 22 ✔

Your answer is correct.

Content stored on S3 can be restricted such that it's accessible only through CloudFront by using

- Signed URLs
- S3 Bucket Settings
- Origin Access Identity ✔

Your answer is correct.

Your application tier is running in an Auto Scaling Group and you need to change the instance type. In which of the following area can this be achieved?

- (•) Auto scaling launch template/configuration ✔
- ( ) Auto scaling AMI
- ( ) Auto scaling policy configuration
- ( ) Auto scaling tags configuration

Your answer is correct.

Objects stored in S3 can be made public by configuring the S3 settings ✖

after the objects are uploaded ✖ .

Your answer is incorrect.

Your organization is running a business-critical learning management system (LMS) on its own infrastructure on-premises. Since the platform has been growing exponentially, the stakeholders decided to migrate it to AWS. You are part of the development team and you are responsible for choosing the right services and designing the solution.

The system enables teachers and experts to market, sell, and present their courses to people willing to learn from all around the world. Each course might contain written documents (mostly PDFs and PowerPoint presentations), videos, and images/diagrams. Moreover, students can be notified via email, each course goes through a review process before being published, and teachers have access to the API of the system enabling them to publish the courses on their own websites.

The LMS is composed out of several backend modules written in Java and Node.js which store data in MySQL databases, while the frontend is built with React. Your team has been struggling lately to run the system locally due to its distributed nature and increasing number of dependencies. Another important consideration is that the system transcodes the videos before the course is published in order to optimize bandwidth and playback.

Since this is the core product of your organization, the main focus of the design must be the availability of the system and reducing operational/maintenance overhead. Of course, cost must be optimized whenever possible.

Describe your solution below. Mention which AWS services you would choose, how they communicate to each other, and, equally important, why you have chosen a particular service. Be as explicit as possible.

Optionally, you can upload images to illustrate your design (feel free to use any drawing or diagram tool you wish; images don't have to be pretty).

haha yes