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Test Name:	**Techsavanna Software Inst Site Reliability Engineer**
Taken On:	22 Jul 2021 09:33:42 +03
Time Taken:	122 min 47 sec/ 70 min
Work Experience:	2 years
Invited by:	Tsi
Invited on:	21 Jul 2021 18:12:02 +03
Skills Score:	AWS (Basic) 5/10
Tags Score:	AWS 5/10 Easy 5/10 Operating Systems 40/42

86.9%

86/99

scored in **Techsavanna Software Inst Site Reliability Engineer** in 122 min 47 sec on 22 Jul 2021 09:33:42 +03

Candidate Feedback: Give more options to edit.

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	AWS Web App: Dasabling Load Balancing Across AZs > **Multiple Choice**	4 min 41 sec	5/ 5	✓
Q2	AWS Web App: Enabling Cross Zone Load Balancing > **Multiple Choice**	1 min 14 sec	0/ 5	✗
Q3	OS fundamentals > **Subjective**	2 min 16 sec	3/ 3	⊖
Q4	Os design principles > **Subjective**	3 min 36 sec	3/ 4	⊖
Q5	CPU Scheduling > **Subjective**	6 min 9 sec	3/ 3	⊖
Q6	What is the difference between a program and a process > **Subjective**	2 min 46 sec	2/ 2	⊖
Q7	Components of a process > **Subjective**	5 min 31 sec	4/ 4	⊖
Q8	Logical Vs Physical Addresses > **Subjective**	3 min 51 sec	3/ 3	⊖
Q9	Process states > **Subjective**	2 min 30 sec	4/ 4	⊖
Q10	Process Control Block > **Subjective**	5 min 3 sec	4/ 4	⊖
Q11	In what ways do processes communicate with each other > **Subjective**	7 min 51 sec	2/ 2	⊖
Q12	Bounded Buffer problem > **Subjective**	4 min 43 sec	4/ 4	⊖

Q13	What is a context switch › Subjective	2 min 6 sec	2/ 2	⊖
Q14	Describe "Swapping" as a memory Management technique › Subjective	3 min 58 sec	3/ 3	⊖
Q15	Process scheduling algorithms › Subjective	3 min 45 sec	3/ 4	⊖
Q16	"file management" aspect of the Operating System › Subjective	2 min 32 sec	3/ 3	⊖
Q17	Properties of files › Subjective	4 min 15 sec	3/ 3	⊖
Q18	Ways to allocate disk space to files › Subjective	4 min 25 sec	3/ 3	⊖
Q19	What's the difference between field,record,file and databases › Subjective	4 min 5 sec	3/ 3	⊖
Q20	File Management System Objectives › Subjective	4 min 31 sec	3/ 4	⊖
Q21	What Information Elements of a File Directory can you decipher › Subjective	7 min	4/ 4	⊖
Q22	File access rights › Subjective	6 min 18 sec	7/ 7	⊖
Q23	Intrusion detection systems (IDSs) › Subjective	5 min 33 sec	2/ 2	⊖
Q24	Access Control › Subjective	3 min 46 sec	3/ 3	⊖
Q25	Firewalls › Subjective	6 min 17 sec	4/ 4	⊖
Q26	Access Control Policies › Subjective	6 min 11 sec	3/ 3	⊖
Q27	Security Maintenance › Subjective	3 min 18 sec	1/ 5	⊖
Q28	What do you understand by logging › Subjective	3 min 42 sec	2/ 3	⊖

QUESTION 1

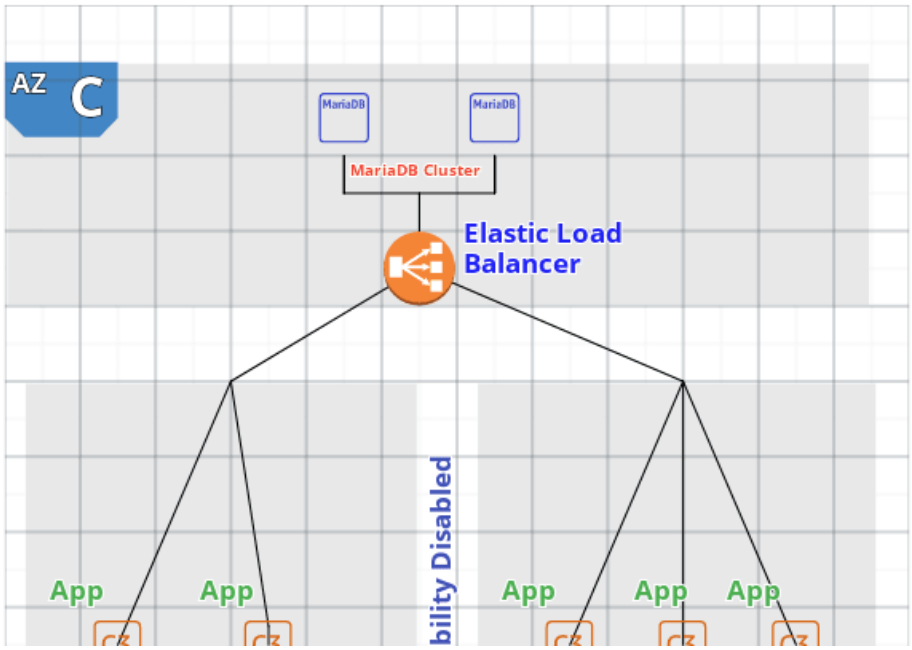
Correct Answer

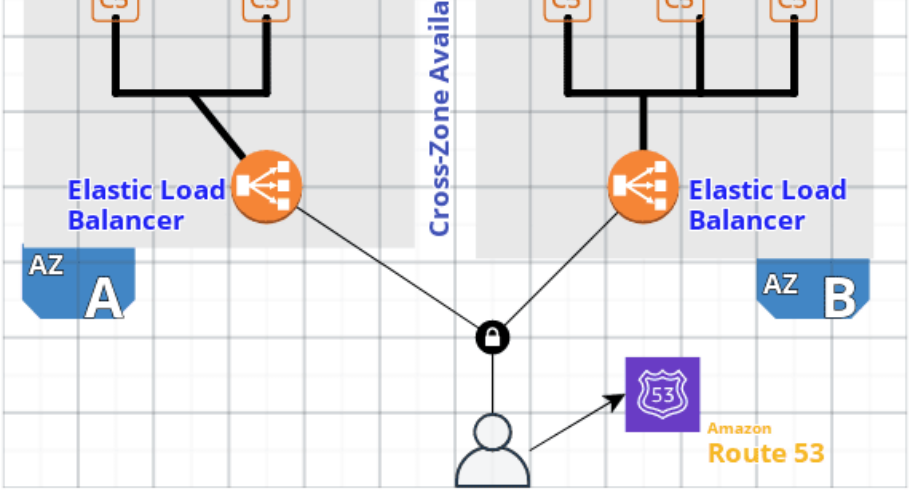
Score 5

AWS Web App: Dasabling Load Balancing Across AZs › Multiple Choice AWS Easy

QUESTION DESCRIPTION

This is an architectural diagram of a simple web application. The whole service is hosted in a single AWS region (us-east-2).





There are two Availability Zones(AZs), with 2 targets in AZ A and 3 targets in AZ B.
Clients send requests and Amazon Route 53 responds to each request with the IP address of one of the load balancer nodes.
Route 53 has been configured in a way that each load balancer node receives an equal share of the traffic from the clients.
Each load balancer node distributes its share of the traffic across the registered targets in its scope.
Answer the question below.

As cross-zone load balancing is disabled, how much traffic will each of the 2 AZs receive?
Select all that are correct.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Availability Zone A receives 25% of the traffic
- Availability Zone B receives 75% of the traffic
- ✓ Availability Zone A receives 50% of the traffic
- ✓ Availability Zone B receives 50% of the traffic

No Comments

QUESTION 2

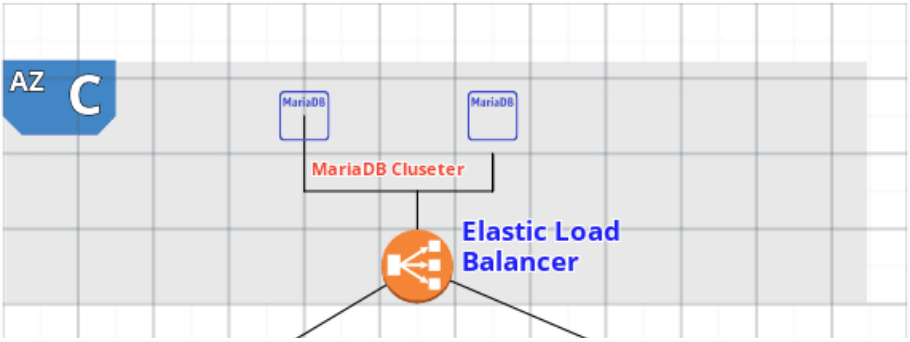
Wrong Answer

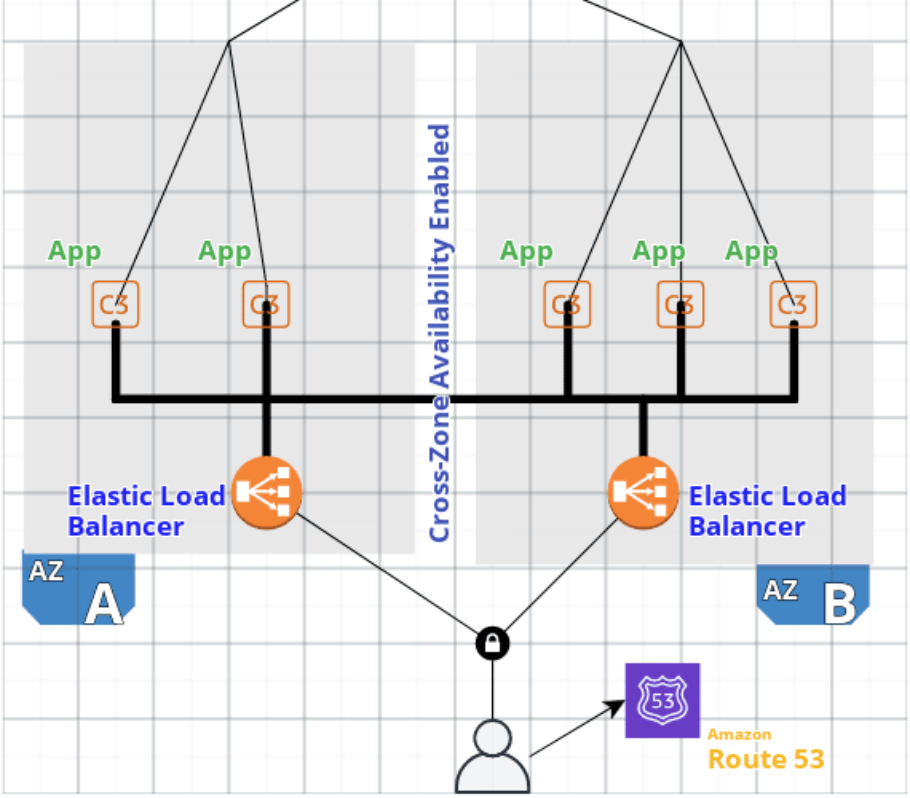
Score 0

AWS Web App: Enabling Cross Zone Load Balancing › Multiple Choice AWS Easy

QUESTION DESCRIPTION

This is an architectural diagram of a simple web application. The whole service is hosted in a single AWS region (us-east-2).





There are two enabled Availability Zones (AZs), with 2 targets in AZ A and 3 targets in AZ B.
Clients send requests, and Amazon Route 53 responds to each request with the IP address of one of the load balancer nodes.
Route 53 has been configured in a way that each load balancer node receives an equal share of the traffic from the clients.
Each load balancer node distributes its share of the traffic across the registered targets in its scope.

Answer the question below.

As cross-zone load balancing is enabled, how much traffic will each of the 5 targets receive?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Each target will receive 50% of traffic from the clients
- Each target will receive 25% of traffic from the clients
- ✓ Each target will receive 20% of traffic from the clients
- Each target will receive 100% of traffic from the clients

Each target will receive 20%
- Tsi (28 Jul 2021 10:38:04 +03)

QUESTION 3

Self Evaluation

Score 3

OS fundamentals › Subjective Operating Systems

QUESTION DESCRIPTION

What do you understand by the term "Operating System"

CANDIDATE ANSWER

- Operating system is a collection of software that manages computer hardware and software and provides services for programs.

No Comments

QUESTION 4

Self Evaluation

Score 3

Os design principles › Subjective Operating Systems

QUESTION DESCRIPTION

List the O/S design principles you know:

CANDIDATE ANSWER

1. Optimization of common case
2. Abstraction
3. Separation of mechanism and policy by implementing flexible mechanisms to support policies.

No Comments

QUESTION 5

Self Evaluation

Score 3

CPU Scheduling › Subjective Operating Systems

QUESTION DESCRIPTION

Describe how CPU scheduling is carried out including the list of strategies used:

CANDIDATE ANSWER

CPU Scheduling is the activity of process manager that handles removal of running processes from CPU and the selection of another process on basis of particular strategy.

Process scheduling queues which include:

1. Job queues

2. Ready queues

3. device queues

Strategies used are:

1. Two state

2. Running queues.

No Comments

QUESTION 6

Self Evaluation

Score 2

What is the difference between a program and a process › Subjective

Operating Systems

QUESTION DESCRIPTION

What is the difference between a program and a process

CANDIDATE ANSWER

- Process is a program in execution whereas a program are a combined set of instructions to be executed by the Computer.

No Comments

QUESTION 7

Self Evaluation

Score 4

Components of a process › Subjective Operating Systems

QUESTION DESCRIPTION

List the components of a process

CANDIDATE ANSWER

1. Stack - contains temporary data such as method/function parameters and local variables.

2. heap - dynamically allocated memory to a process during runtime

3. Data - contains global and static variables

4. Text

No Comments

QUESTION 8

Self Evaluation

Score 3

Logical Vs Physical Addresses › Subjective Operating Systems

QUESTION DESCRIPTION

What is the difference between Logical Vs Physical Addresses

CANDIDATE ANSWER

1. Logical address - also known as page address and is represented by page number and offset,

2. Physical address- A loader generates these addresses when a program is loaded into main memory. represented by frame number and offset.

No Comments

QUESTION 9

Self Evaluation

Score 4

Process states › Subjective Operating Systems

QUESTION DESCRIPTION

List the different process states you know

CANDIDATE ANSWER

1. Start
2. Ready
3. Running
4. Wait
5. Terminate

No Comments

QUESTION 10

Self Evaluation

Score 4

Process Control Block › Subjective Operating Systems

QUESTION DESCRIPTION

What information does a PCB store and of what significance is it

CANDIDATE ANSWER

A process control block (PCB) is a data structure maintained by the Operating system for every process. PCB is identified by an integer Process ID which helps keep track of a process using the following:

1 Process state which is the current state of the process

2 Process Privilege allow and or revoke access to system resources.

3 Process ID is the unique identification

4. Pointer is a pointer to the parent process.

No Comments

QUESTION 11

Self Evaluation

Score 2

In what ways do processes communicate with each other › Subjective

Operating Systems

QUESTION DESCRIPTION

In what ways do processes communicate with each other

CANDIDATE ANSWER

Processes can use two methods to communicate with each other

1. Shared Memory - Product produces the item and consumer consumes the item. two processes shared a common memory allocation called buffer where items produced by producer are stored and where consumer consumes items if needed. This method has two problems

- Unbounded buffer- producer can keep producing items and there is no limit to the size of the buffer.
- Bounded buffer- producer can only produce items up-to a certain amount then waits for consumer to consume items.

2. Message Parsing - processes communicate with one another without any kind of shared memory. The processes first establish a communication link and start exchanging messages using primitive languages.

No Comments

QUESTION 12

Self Evaluation

Score 4

Bounded Buffer problem › Subjective Operating Systems

QUESTION DESCRIPTION

What is the bounded buffer problem.Explain

CANDIDATE ANSWER

A bounded buffer problem is a problem captured within the shared memory method of communication within a process.

The producer can only produce items up-to a certain amount and then waits for the consumer to consume the items and clear the buffer. Producer does not produce more than the allocated size of the buffer and ones buffer is full it has to wait on the consumer to consume it. Consumer constantly checks on availability of items and if none are produced they wait.

No Comments

QUESTION 13

Self Evaluation

Score 2

What is a context switch › Subjective Operating Systems

QUESTION DESCRIPTION

What is a context switch

CANDIDATE ANSWER

- Context Switching is the mechanism to restore the state of a CPU in a process control block so that a process execution can be resumed from the same point at a later stage.

No Comments

QUESTION 14

Self Evaluation

Score 3

Describe "Swapping" as a memory Management technique › Subjective

Operating Systems

QUESTION DESCRIPTION

Describe "Swapping" as a memory Management technique

CANDIDATE ANSWER

- Swapping is the mechanism of temporarily removing a process out of the main memory to a secondary storage and make the main memory free for other processes.

No Comments

QUESTION 15

Self Evaluation

Score 3

Process scheduling algorithms › Subjective Operating Systems

QUESTION DESCRIPTION

Name the process scheduling algorithms you know

CANDIDATE ANSWER

- FCFS - First come First Serve
- Round Robin
- Priority Scheduling

No Comments

QUESTION 16

Self Evaluation

Score 3

"file management" aspect of the Operating System › Subjective

QUESTION DESCRIPTION

What do you understand by "file management" aspect of the Operating System

CANDIDATE ANSWER

- File Management is a way of storing a collection of related information in secondary storage devices such as HDD, optical drives.

No Comments

QUESTION 17

Self Evaluation

Score 3

Properties of files › Subjective

QUESTION DESCRIPTION

What are the desirable properties of files

CANDIDATE ANSWER

1. Long term Existence- files can be stored on secondary device and cannot be erased/disappear when user logs off

2. Structure organization in complex structures to show relationships among files.

3. Sharable between processes files can have names and access rights that allow control.

No Comments

QUESTION 18

Self Evaluation

Score 3

Ways to allocate disk space to files › Subjective

QUESTION DESCRIPTION

Operating systems deploy three main ways to allocate disk space to files,namely

CANDIDATE ANSWER

1. Linked Allocation - Each file carries a list of links to disk blocks
2. Contiguous Allocation -each file occupies a contiguous address space on the Disk
3. Indexed Allocation -

No Comments

QUESTION 19

Self Evaluation

Score 3

What's the difference between field,record,file and databases › Subjective

QUESTION DESCRIPTION

What's the difference between field,record,file and databases

CANDIDATE ANSWER

1. Field - basic element of data
2. Record - collection of related fields that can be treated as a unit by some application program
3. File - collection of similar records
4. Database is a collection of related data. it consists of one or more types of files.

No Comments

QUESTION 20

Self Evaluation

Score 3

File Management System Objectives › Subjective

QUESTION DESCRIPTION

What are some of the File Management System Objectives you know of

CANDIDATE ANSWER

1. Provides access/revokes right to the file resources.

2. Provides organized storage of files which user can use later.

3. Minimizes the chances of Loss of data within the Operating system.

No Comments

QUESTION 21

Self Evaluation

Score 4

What Information Elements of a File Directory can you decipher › Subjective

QUESTION DESCRIPTION

What Information Elements of a File Directory can you decipher

CANDIDATE ANSWER

1. Basic information

- file name - this is as selected by the the creator of the file
- file type -
- file organization for systems that support different file organization

2. Address Information

- volume - location onto which the file is stored
- size used - amount of size of file used within the storage volume.
- size allocated -

3. Access control information

- owner - user who is in control of the file and its contents
- permitted actions - control access permissions such as read write share copy.

No Comments

QUESTION 22

Self Evaluation

Score 7

File access rights › Subjective

QUESTION DESCRIPTION

What access rights to a file/files can be granted to a user

CANDIDATE ANSWER

- None - user does not have access rights to the directory file is stored.
- Execution - user can load and execute but cannot copy the file.
- Reading - user has rights to read the file only
- Appending - user can only write to the file
- Update - user has rights to modify add and delete to the file.
- Changing protection - user can change access rights granted to other users
- Deletion - user can delete the file from the system

No Comments

QUESTION 23

Self Evaluation

Score 2

Intrusion detection systems (IDSs) › Subjective

QUESTION DESCRIPTION

Give the classifications of Intrusion detection systems (IDSs)

CANDIDATE ANSWER

- Network intrusion Detection system - include firewalls.
- Software intrusion Detection system - include anti-virus

No Comments

QUESTION 24

Self Evaluation

Score 3

Access Control › Subjective

QUESTION DESCRIPTION

What do you understand by the term Access Control

CANDIDATE ANSWER

- Access Control are rights and privileges granted to a user for a file within a system. The rights can include No rights at all(Revoked access) to complete access such as updating, modifying and deleting a file.

No Comments

QUESTION 25

Self Evaluation

Score 4

Firewalls › Subjective

QUESTION DESCRIPTION

Why do we need firewalls in a distributed system

CANDIDATE ANSWER

Firewalls provide a layer of protection access towards a system and ensure there is no unauthorized access to the system. A distributed system consists of multiple nodes and only authorized users can access the nodes. The nodes are completely independent although all work towards the same goal and the transactions within a distributed system require some protection to prevent malicious attempts to the sensitive data communicated.

No Comments

QUESTION 26

Self Evaluation

Score 3

Access Control Policies › Subjective

QUESTION DESCRIPTION

List any Access Control Policies you know

CANDIDATE ANSWER

1. Biometrics
2. Facial recognition
3. Speech recognition
4. Key Locks
5. Motion Sensors.

No Comments

QUESTION 27

Self Evaluation

Score 1

Security Maintenance › Subjective

QUESTION DESCRIPTION

The process of security maintenance includes which steps

CANDIDATE ANSWER

1. Regularly testing firewalls to see if there is a security risk.

2.

1performing
regular backups
2.regularly testing
system security
3.monitoring
and
analyzing
logging
information
4.recovering from
security
compromises
5.using appropriate
software maintenance
processes to patch
and update all critical
software and to
monitor and revise
configuration as
needed
- Tsi (28 Jul 2021 10:46:16 +03)

QUESTION 28

Self Evaluation

Score 2

What do you understand by logging › Subjective

QUESTION DESCRIPTION

What do you understand by logging in security maintenance

CANDIDATE ANSWER

Logging is the process which a system writes onto system registry all events that have happened within the system.

Also to O/system log file eg windows event log
- Tsi (28 Jul 2021 10:47:11 +03)