review

review questions

**Elastic Load Balancing
V1.00**

Course title

**BackSpace Academy
AWS Certified Associate**

This "learning by quizzes" exercise will be based upon the course videos and the following reference material:

Section: How Elastic Load Balancing Works

Reference: Elastic Load Balancing User Guide

https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html

Question

You configure your load balancer to accept incoming traffic by specifying one or more:

Answers

    A. Ports
    B. Sockets
    C. Listeners
    D. Gateways

C
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html

Question

When you enable an Availability Zone for your load balancer, Elastic Load Balancing:

Answers

- A. Creates another load balancer node in the Availability Zone.
- B. Creates a load balancer redirection node in the Availability Zone.
- C. Creates a load balancer cache node in the Availability Zone.
- D. Creates a master load balancer node in one Availability Zone and a child node in both Availability Zones.
- E. None of the above

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html#availability-zones

Question

Cross-zone load balancing reduces the need to maintain equivalent numbers of back-end instances in each zone, and improves the application's ability to handle the loss of one or more back-end instances.
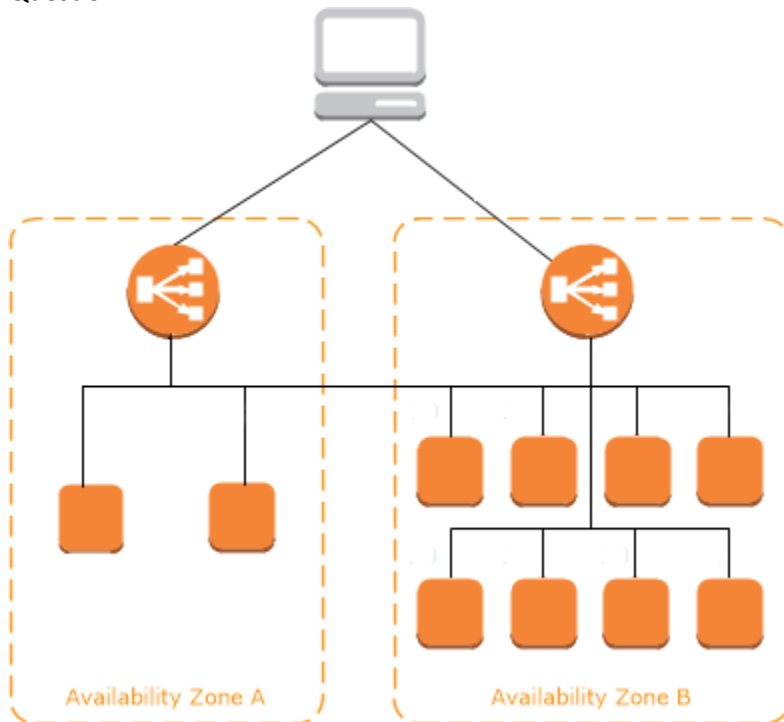
Answers

A. True
B. False

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html#availability-zones

Question

There are two enabled Availability Zones, with 2 targets in Availability Zone A and 8 targets in Availability Zone B. If cross-zone load balancing is enabled:

Answers

   A.   Each of the 10 targets receives 10% of the traffic
   B.   Availability Zone A targets receive 25%, Availability Zone B targets receive 6.25%
   C.   Availability Zone A targets receive 6.25%, Availability Zone B targets receive 25%

A
If cross-zone load balancing is enabled, each of the 10 targets receives 10% of the traffic. This is because each load balancer node can route its 50% of the client traffic to all 10 targets (including outside its own availability zone).
If cross-zone load balancing is disabled, each of the 2 targets in Availability Zone A receives 25% of the traffic and each of the 8 targets in Availability Zone B receives 6.25% of the traffic. This is because each load balancer node can route its 50% of the client traffic only to targets in its Availability Zone.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html#availability-zones

Question

Your targets do not need public IP addresses to receive requests from an Internet-facing load balancer.

Answers

A. True
B. False

A
The nodes of an Internet-facing load balancer have public IP addresses. The DNS name of an Internet-facing load balancer is publicly resolvable to the public IP addresses of the nodes. Therefore, Internet-facing load balancers can route requests from clients over the Internet.
Both Internet-facing and internal load balancers route requests to your targets using private IP addresses.
Therefore, your targets do not need public IP addresses to receive requests from an internal or an Internet-facing load balancer.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html#load-balancer-scheme

Question

Load balancers can not only span multiple Availability Zones within an EC2 Region, they can also span multiple regions.

Answers

- A. True
- B. False

B
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html#availability-zones

This "learning by quizzes" exercise will be based upon the course videos and the following reference material:

Section: What Is Elastic Load Balancing?

Reference: Classic Load Balancers User Guide

https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/introduction.html

Question

When you use Classic Elastic Load Balancing to manage traffic to your application, you get the following benefits:

- Distribution of requests to Amazon EC2 instances (servers) in multiple Availability Zones
- Continuous monitoring of the health of Amazon EC2 instances
- Support for end-to-end traffic encryption on those networks that use secure (HTTPS/SSL) connections.
- The ability to take over the encryption and decryption work from the Amazon EC2 instances, and manage it centrally on the load balancer.
- Support for the sticky session feature & association of the load balancer with your domain name.
- When used in an Amazon Virtual Private Cloud (Amazon VPC), support for creation and management of security groups associated with your load. Supports use of both the Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6).

Answers

A. True
B. False

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/introduction.html

Question

You can use Amazon Route 53 to associate the custom domain name of your Classic or Application load balancer with the load balancer DNS name.

Answers

    A. True
    B. False

A
Both Classic and Application Load balancers allow Route 53 custom domain names.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/using-domain-names-with-elb.html

Question

_____causes the ELB load balancer to stop sending new requests to a deregistering instance or an unhealthy instance, while keeping the existing connections open. This allows the load balancer to complete in-flight requests made to the deregistering or unhealthy instances.

Answers

    A.   Health Check
    B.   Connection draining
    C.   Keepalive

B
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/config-conn-drain.html

Question

When you enable _____ for your load balancer, you can set a maximum time for the load balancer to continue serving in-flight requests to the deregistering instance before the load balancer closes the connection. The load balancer forcibly closes connections to the deregistering instance when the maximum time limit is reached.

Answers

- A. connection draining
- B. connection deregistering
- C. connection closing
- D. connection unloading

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/config-conn-drain.html

Question

While the in-flight requests are being served, the load balancer reports the instance state of the deregistering instance as, InService: Instance deregistration currently in progress.

Answers

A. True
B. False

A
See: https://aws.amazon.com/blogs/aws/elb-connection-draining-remove-instances-from-service-with-care/

Question

You can use the _____ feature (also known as session affinity), which enables the load balancer to bind a user's session to a specific application instance.

Answers

    A.   ELB session
    B.   direct session
    C.   sticky session
    D.   application session

C

By default, a Classic Load Balancer routes each request independently to the registered instance with the smallest load. However, you can use the sticky session feature (also known as session affinity), which enables the load balancer to bind a user's session to a specific instance. This ensures that all requests from the user during the session are sent to the same instance.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-sticky-sessions.html

Question

To enable HTTPS support for your Classic or Application load balancer, you'll have to install an SSL server certificate on your load balancer. The load balancer uses the certificate to terminate and then decrypt requests before sending them to the back-end instances.

Answers

    A. True
    B. False

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/create-https-listener.html
And
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-create-https-ssl-load-balancer.html

Question

When _____ is enabled, the Classic Load Balancer adds a human-readable format header that contains the connection information, such as the source IP address, destination IP address, and port numbers of the client. The header is then sent to the back-end instance as a part of the reques You can parse the first line of the request to retrieve your client's IP address and the port number.

Answers

    A. HTTPS
    B. Proxy Protocol
    C. ELB Logging
    D. Sticky Session

B
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/enable-proxy-protocol.html

Question

The _____ request header helps you identify the IP address of a client when you use HTTP/HTTPS load balancer.

Answers

    A. X-Forwarded-Proto
    B. X-Forwarded-From
    C. X-Forwarded-For
    D. X-Forwarded-Client

C

The X-Forwarded-For request header helps you identify the IP address of a client when you use an HTTP or HTTPS load balancer. Because load balancers intercept traffic between clients and servers, your server access logs contain only the IP address of the load balancer. To see the IP address of the client, use the X-Forwarded-For request header. Elastic Load Balancing stores the IP address of the client in the X-Forwarded-For request header and passes the header to your server.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/x-forwarded-headers.html#x-forwarded-for

Question

A _____is a combination of SSL Protocols, SSL Ciphers, and the Server Order Preference option.

Answers

    A.   security policy
    B.   security group
    C.   security definition
    D.   None of the above

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-ssl-security-policy.html

Question

Classic Elastic Load Balancing supports the following versions of the SSL protocol:

TLS 1.3
TLS 1.2
TLS 1.1
TLS 1.0
SSL 3.0
SSL 2.0

Answers

    A. True
    B. False

B
The following versions of the SSL protocol are supported:

- TLS 1.2
- TLS 1.1
- TLS 1.0
- SSL 3.0

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-ssl-security-policy.html#ssl-protocols

Question

SSL _____ is an encryption algorithm that uses encryption keys to create a coded message. SSL protocols use several _____ algorithms to encrypt data over the Internet.

Answers

- A. Decoder
- B. Cipher
- C. Token
- D. Combination
- E. None of the above

B

Elastic Load Balancing provides predefined SSL negotiation configurations that are used for SSL negotiation when a connection is established between a client and your load balancer. The SSL negotiation configurations provide compatibility with a broad range of clients and use high-strength cryptographic algorithms called ciphers.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-listener-config.html#https-ssl-listeners

Question

Elastic Load Balancing supports _____ for negotiating connections between the client and the load balancer.

Answers

- A. SSL
- B. HTTPS
- C. Server Order Preference
- D. TLS
- E. None of the above

C

Elastic Load Balancing supports the Server Order Preference option for negotiating connections between a client and a load balancer. During the SSL connection negotiation process, the client and the load balancer present a list of ciphers and protocols that they each support, in order of preference. By default, the first cipher on the client's list that matches any one of the load balancer's ciphers is selected for the SSL connection. If the load balancer is configured to support Server Order Preference, then the load balancer selects the first cipher in its list that is in the client's list of ciphers. This ensures that the load balancer determines which cipher is used for SSL connection. If you do not enable Server Order Preference, the order of ciphers presented by the client is used to negotiate connections between the client and the load balancer.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-ssl-security-policy.html#server-order-preference

Question

Elastic Load Balancing provides you with the following Security Policy options to configure settings for SSL negotiations for your load balancer. A _____ Security Policy is a list of _____ SSL negotiation configurations with enabled ciphers and protocols.

Answers

    A. Predefined
    B. Custom
    C. ELB
    D. EC2
    E. None of the above

A

Elastic Load Balancing provides security policies that have predefined SSL negotiation configurations to use to negotiate SSL connections between clients and your load balancer. If you are using the HTTPS/SSL protocol for your listener, you can use one of the predefined security policies, or use your own custom security policy.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ssl-config-update.html

This "learning by quizzes" exercise will be based upon the course videos and the following reference material:

Section: Monitor Your Classic Load Balancer

Reference: Classic Load Balancers User Guide

https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-monitor-logs.html

Question

If there are no requests or data for a given metric, the metric will not be reported to CloudWatch. If there are requests flowing through the Classic, Application or Network Load Balancer, Elastic Load Balancing will measure and send metrics for that load balancer in 60-second intervals.

Answers

    A. True
    B. False

A
Elastic Load Balancing reports metrics to CloudWatch only when requests are flowing through the load balancer. If there are requests flowing through the load balancer, Elastic Load Balancing measures and sends its metrics in 60-second intervals. If there are no requests flowing through the load balancer or no data for a metric, the metric is not reported.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-cloudwatch-metrics.html

Question

The following Classic Elastic Load Balancing metrics are available from Amazon CloudWatch:

- HTTPCode_ELB_4XX
- HTTPCode_ELB_5XX
- HTTPCode_Backend_2XX
- HTTPCode_Backend_3XX
- HTTPCode_Backend_4XX
- HTTPCode_Backend_5XX

Answers

A. True
B. False

A
See: https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/elb-metricscollected.html

Question

Elastic Load Balancing will measure and send metrics in 5-minute intervals.

Answers

A. True
B. False

B
Elastic Load Balancing reports metrics to CloudWatch only when requests are flowing through the load balancer. If there are requests flowing through the load balancer, Elastic Load Balancing measures and sends its metrics in 60-second intervals. If there are no requests flowing through the load balancer or no data for a metric, the metric is not reported.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-cloudwatch-metrics.html

Question

Each ELB access log contains details such as the time a request was received, client's IP address, latencies, request path, and server responses.

Answers

A. True
B. False

A

Elastic Load Balancing provides access logs that capture detailed information about requests sent to your load balancer. Each log contains information such as the time the request was received, the client's IP address, latencies, request paths, and server responses. You can use these access logs to analyze traffic patterns and to troubleshoot issues.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/access-log-collection.html

Question

ELB access logging is enabled by default.

Answers

A. True
B. False

B

Access logging is an optional feature of Elastic Load Balancing that is disabled by default. After you enable access logging for your load balancer, Elastic Load Balancing captures the logs and stores them in the Amazon S3 bucket that you specify. You can disable access logging at any time.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/access-log-collection.html

Question

There is no additional charge for access logs.

Answers

A. True
B. False

A
There is no additional charge for access logs. You will be charged storage costs for Amazon S3, but will not be charged for the bandwidth used by Elastic Load Balancing to send log files to Amazon S3.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/access-log-collection.html

Question

By default, Elastic Load Balancing publishes the log at a 60 minute interval.

Answers

    A. True
    B. False

A
Elastic Load Balancing publishes a log file for each load balancer node at the interval you specify. You can specify a publishing interval of either 5 minutes or 60 minutes when you enable the access log for your load balancer. By default, Elastic Load Balancing publishes logs at a 60-minute interval.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/access-log-collection.html

Question

Is this a correct Elastic Load Balancing log file name?

S3://mylogsbucket/myapp/prod/AWSLogs/123456789012/elasticloadbalancing/us-east-1/2014/02/15/123456789012_elasticloadbalancing_my-test-loadbalancer_20140215T2340Z_172.160.001.192_20sg8hgm.log

Answers

   A. True
   B. False

B
The file names of the access logs use the following format:bucket[/prefix]/AWSLogs/aws-account-id/elasticloadbalancing/region/yyyy/mm/dd/aws-account-id_elasticloadbalancing_region_load-balancer-name_end-time_ip-address_random-string.log

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/access-log-collection.html#access-log-file-format

Question

You can use AWS CloudTrail to capture Elastic Load Balancing (ELB) API calls made by or on behalf of your Amazon Web Services (AWS) account.

Answers

    A.   True
    B.   False

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ELB-API-Logs.html

This "learning by quizzes" exercise will be based upon the course videos and the following reference material:

Section: Troubleshoot Your Classic Load Balancer

Reference: Classic Load Balancers User Guide

https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-troubleshooting.html

Question

A likely cause of an HTTP 405: METHOD_NOT_ALLOWED error.

Answers

    A. The instance's security group does not allow communication with load balancer.
    B. A transient internal problem within the Elastic Load Balancing service or the underlying network.
    C. The length of the method in the request header exceeds 127 characters
    D. Insufficient capacity in the load balancer to handle the request.
    E. All of the above

C
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ts-elb-error-message.html#ts-elb-errorcodes-http405

Question

A likely cause of the instance not receiving traffic from the load balancer.

Answers

A. The security group on the instances does not allow traffic from the load balancer.
B. The security group of your EC2-VPC load balancer does not have egress rules set up to send traffic to the back-end instances.
C. All of the above

C
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ts-elb-healthcheck.html#ts-elb-healthcheck-securitygroup

Question
HTTP status code series for successful response

Answers

- A. 1XX
- B. 2XX
- C. 3XX
- D. 4XX
- E. 5XX
- F. None of the above

B
See:
https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ts-elb-http-errors.html

Question

HTTP status code series for client errors

Answers

A. 1XX
B. 2XX
C. 3XX
D. 4XX
E. 5XX
F. None of the above

D
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ts-elb-http-errors.html

Question

HTTP status code series for redirect response

Answers

   A.   1XX
   B.   2XX
   C.   3XX
   D.   4XX
   E.   5XX
   F.   None of the above

C
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ts-elb-http-errors.html

Question

HTTP status code series for back end errors

Answers

- A. 1XX
- B. 2XX
- C. 3XX
- D. 4XX
- E. 5XX
- F. None of the above

E
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/ts-elb-http-errors.html

Question

How can you check the current health state of EC2 instances registered with your load balancer.

Answers

- A. AWS Management Console
- B. describe-instance-health AWS CLI command
- C. DescribeInstanceHealth API command
- D. None of the above
- E. All of the above

E
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-healthchecks.html#check-instance-health

See: https://docs.aws.amazon.com/cli/latest/reference/elb/describe-instance-health.html

This "learning by quizzes" exercise will be based upon the course videos and the following reference material:

Section: What Is an Application Load Balancer?

Reference: Application Load Balancers User Guide

https://docs.aws.amazon.com/elasticloadbalancing/latest/application/introduction.html#application-load-balancer-overview

Question

An Application Load Balancer functions at the application layer, the _____ layer of the Open Systems Interconnection (OSI) model.

Answers

- A. 1st
- B. 2nd
- C. 3rd
- D. 4th
- E. 5th
- F. 6th
- G. 7th
- H. 8th

G
See:
https://docs.aws.amazon.com/elasticloadbalancing/latest/application/introduction.html#application-load-balancer-overview

Question

Each _____ group routes requests to one or more registered_____, such as EC2 instances, using the protocol and port number that you specify.

Answers

    A. port
    B. listener
    C. target
    D. controller

C
Each target group routes requests to one or more registered targets, such as EC2 instances, using the protocol and port number that you specify. You can register a target with multiple target groups.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/introduction.html#application-load-balancer-overview

Question

You can register a single target with multiple target groups.

Answers

A.   True
B.   False

A

You can register a target with multiple target groups. You can configure health checks on a per target group basis. Health checks are performed on all targets registered to a target group that is specified in a listener rule for your load balancer.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/introduction.html#application-load-balancer-overview

Question

With _____ you can configure rules for your listener that forward requests based on the URL in the request. This enables you to structure your application as smaller services, and route requests to the correct service based on the content of the URL.

Answers

    A.   path-based routing
    B.   host-based routing
    C.   health-based routing
    D.   dns-based routing

A
Path-based routing. You can configure rules for your listener that forward requests based on the URL in the request. This enables you to structure your application as smaller services, and route requests to the correct service based on the content of the URL.
Host-based routing. You can configure rules for your listener that forward requests based on the host field in the HTTP header. This enables you to route requests to multiple domains using a single load balancer.

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/introduction.html#application-load-balancer-components

This "learning by quizzes" exercise will be based upon the course videos and the following reference material:

Section: What Is a Network Load Balancer?

Reference: Network Load Balancers User Guide

https://docs.aws.amazon.com/elasticloadbalancing/latest/network/introduction.html

Question

Network ELB listeners support the following protocols and ports:

- Protocols: TCP, HTTP,HTTPS
- Ports: 1-65535

Answers

A.   True
B.   False

B

Network ELB listeners support the following protocols and ports:

- Protocols: TCP
- Ports: 1-65535

See: https://docs.aws.amazon.com/elasticloadbalancing/latest/network/load-balancer-listeners.html#listener-configuration

Question

You can use WebSockets with your TCP listeners.

Answers

    A.   True
    B.   False

A
See: https://docs.aws.amazon.com/elasticloadbalancing/latest/network/load-balancer-listeners.html#listener-configuration

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