**Route53**

1. In AWS Route 53, which of the following are true? [Select 2]
   1. Route 53 allows you to create a CNAME record at the top node of a DNS namespace.
   2. Alias records can point at any resource with a canonical name.
   3. A CNAME record assigns an Alias Name to an IP address.
   4. Alias records provide a Route-53 specific extension to DNS functionality.
   5. Route53 allows you to create an Alias record at the top node of a DNS namespace
   6. Alias records can point any resources in AWS, but only within the same account.
2. You have an enterprise solution that operates Active-Active with facilities in Regions US-West and India. Due to growth in the Asian market you have been directed by the CTO to ensure that only traffic in Asia (between Turkey and Japan) is directed to the India Region. Which of these will deliver that result? [Select 2]
   1. Route 53 Geoproximity routing policy
   2. Route 53 – Weighted routing policy, calculate the proportion of customers in each and weight the policy to ensure that each location gets a fair load.
   3. CloudFront – a combination of blacklisting and whitelisting to control which countries go to which site.
   4. Route 53 – Geolocation routing policy.
   5. Latency routing policy – this will ensure only customers that are close will go to the India installation.
3. You are a solutions architect working for a busy media company with offices in Japan and the United States. Your production environment is hosted both in US-EAST-1 and AP-NORTHEAST-1. Your European users have been connecting to the production environment in Japan, and are seeing the site in Japanese rather than in English. You need to ensure that they view the English language version. Which of the routing policies could help you achieve this? [Select 2]
   1. Latency based routing
   2. Geoproximity routing
   3. Failover routing.
   4. Simple routing
   5. Weighted routing.
   6. Geolocation.
4. A solutions architect is designing a solution where users will be directed to a backup static error page it the primary website is unavailable The primary website's DNS records are hosted in Amazon Route 53 where their domain is pointing to an Application Load Balancer (ALB) Which configuration should the solutions architect use to meet the company's needs while minimizing changes and infrastructure overhead?
   1. Point a Route 53 alias record to an Amazon CloudFront distribution with the ALB as one of its origins Then, create custom error pages for the distribution
   2. Set up a Route 53 active-passive failover configuration Direct traffic to a static error page hosted within an Amazon S3 bucket when Route 53 health checks determine that the ALB endpoint is unhealthy
   3. Update the Route 53 record to use a latency-based routing policy Add the backup static error page hosted within an Amazon S3 bucket to the record so the traffic is sent to the most responsive endpoints
   4. Set up a Route 53 active-active configuration with the ALB and an Amazon EC2 instance hosting a static error page as endpoints Route 53 will only send requests to the instance if the health checks fail for the ALB
5. You are in the process of creating a Route 53 DNS failover to direct traffic to two EC2 zones. Obviously, if one fails, you would like Route 53 to direct traffic to the other region. Each region has an ELB with some instances being distributed. What is the best way for you to configure the Route 53 health check?

A. Route 53 doesn't support ELB with an internal health check.You need to create your own Route 53 health check of the ELB

B. Route 53 natively supports ELB with an internal health chec

C. Turn "Eva|uate target health" off and "Associate with Health Check" on and R53 will use the ELB's internal health check.

D. Route 53 doesn't support ELB with an internal health chec

E. You need to associate your resource record set for the ELB with your own health check

F. Route 53 natively supports ELB with an internal health chec

G. Turn "Eva|uate target health" on and "Associate with Health Check" off and R53 will use the ELB's internal health check

1. Can resource record sets in a hosted zone have a different domain suffix (for example, www.bIog. acme.com and www.acme.ca)?

A. Yes, it can have for a maximum of three different TLDs.

B. Yes

C. Yes, it can have depending on the TLD.

D. No

1. Having set up a website to automatically be redirected to a backup website if it fails, you realize that there are different types of failovers that are possible. You need all your resources to be available the majority of the time. Using Amazon Route 53 which configuration would best suit this requirement?

A. Active-active failover.

B. Non

C. Route 53 can't failover.

D. Active-passive failover.

E. Active-active-passive and other mixed configuration

1. True or False: In Amazon Route 53, you can create a hosted zone for a top-level domain (TLD).

A. FALSE

B. False, Amazon Route 53 automatically creates it for you.

C. True, only if you send an XML document with a CreateHostedZoneRequest element for TLD.

D. TRUE

1. Regarding Amazon Route 53, if your application is running on Amazon EC2 instances in two or more Amazon EC2 regions and if you have more than one Amazon EC2 instance in one or more regions, you can use to route traffic to the correct region and then use to route traffic to instances within the region, based on probabilities that you specify.

A. weighted-based routing; alias resource record sets

B. latency-based routing; weighted resource record sets

C. weighted-based routing; weighted resource record sets

D. latency-based routing; alias resource record sets

1. In Route 53, what does a Hosted Zone refer to?

A. A hosted zone is a collection of geographical load balancing rules for Route 53.

B. A hosted zone is a collection of resource record sets hosted by Route 53.

C. A hosted zone is a selection of specific resource record sets hosted by CIoudFront for distribution to Route 53.

D. A hosted zone is the Edge Location that hosts the Route 53 records for a use.

1. You are in the process of moving your friend's WordPress site onto AWS to try and save him some money, and you have told him that he should probably also move his domain name. He asks why he can't leave

his domain name where it is and just have his infrastructure on AWS. What would be an incorrect response to his question ?

A. Route 53 offers low query latency for your end users.

B. Route 53 is designed to automatically answer queries from the optimal location depending on network conditions.

C. The globally distributed nature of AWS's DNS servers helps ensure a consistent ability to route your end users to your application.

D. Route 53 supports Domain Name System Security Extensions (DNSSEC).

1. In AWS Route 53, which of the following are true? [Select 2]
   1. Allows you to create an Alias record at the top node of a DNS namespace (zone apex).
   2. Allows you to create an CNAME record at the top node of a DNS namespace (zone apex).
   3. Alias Records provides a Route-53 specific extension to DNS functionality.
   4. A CNAME record assigns an Alias Name to an IP Address.

**Active-active failover**

Use this failover configuration when you want all of your resources to be available the majority of the time. When a resource becomes unavailable, Route 53 can detect that it's unhealthy and stop including it when responding to queries.

In active-active failover, all the records that have the same name, the same type (such as A or AAAA), and the same routing policy (such as weighted or latency) are active unless Route 53 considers them unhealthy. Route 53 can respond to a DNS query using any healthy record.

**Stuffs**

Route 53 has a security feature that prevents internal DNS from being read by external sources. The work around is to create a EC2 hosted DNS instance that does zone transfers from the internal DNS, and allows itself to be queried by external servers.

**Q. What is the difference between a Domain and a Hosted Zone?**

A domain is a general DNS concept. Domain names are easily recognizable names for numerically addressed Internet resources. For example, amazon.com is a domain. A hosted zone is an Amazon Route 53 concept. A hosted zone is analogous to a traditional DNS zone file; it represents a collection of records that can be managed together, belonging to a single parent domain name. All resource record sets within a hosted zone must have the hosted zone’s domain name as a suffix. For example, the amazon.com hosted zone may contain records named www.amazon.com, and www.aws.amazon.com, but not a record named www.amazon.ca. You can use the Route 53 Management Console or API to create, inspect, modify, and delete hosted zones. You can also use the Management Console or API to register new domain names and transfer existing domain names into Route 53’s management.

**Q. I have subscribed for Amazon Route 53 but when I try to use the service it says "The AWS Access Key ID needs a subscription for the service."**

When you sign up for a new AWS service, it can take up to 24 hours in some cases to complete activation, during which time you cannot sign up for the service again. If you've been waiting longer than 24 hours without receiving an email confirming activation, this could indicate a problem with your account or the authorization of your payment details.

**Q. When is my hosted zone charged?**

Hosted zones are billed once when they are created and then on the first day of each month.

**Q. Why do I see two charges for the same hosted zone in the same month?**

Hosted zones have a grace period of 12 hours--if you delete a hosted zone within 12 hours after you create it, we don't charge you for the hosted zone. After the grace period ends, we immediately charge the standard monthly fee for a hosted zone. If you create a hosted zone on the last day of the month (for example, January 31st), the charge for January might appear on the February invoice, along with the charge for February.

**Q. Does Amazon Route 53 provide query logging capability?**

You can configure Amazon Route 53 to log information about the queries that Amazon Route 53 receives including date-time stamp, domain name, query type, location etc. When you configure query logging, Amazon Route 53 starts to send logs to CloudWatch Logs. You use CloudWatch Logs tools to access the query logs.

**Q. Is there a limit to the number of hosted zones I can manage using Amazon Route 53?**

Each Amazon Route 53 account is limited to a maximum of 500 hosted zones and 10,000 resource record sets per hosted zone.

**Q. Can I create multiple hosted zones for the same domain name?**

Yes. Creating multiple hosted zones allows you to verify your DNS setting in a “test” environment, and then replicate those settings on a “production” hosted zone. For example, hosted zone Z1234 might be your test version of example.com, hosted on name servers ns-1, ns-2, ns-3, and ns-4. Similarly, hosted zone Z5678 might be your production version of example.com, hosted on ns-5, ns-6, ns-7, and ns-8. Since each hosted zone has a virtual set of name servers associated with that zone, Route 53 will answer DNS queries for example.com differently depending on which name server you send the DNS query to.

**Q. Does Amazon Route 53 also provide website hosting?**

No. Amazon Route 53 is an authoritative DNS service and does not provide website hosting.

**Q. Which DNS record types does Amazon Route 53 support?**

Amazon Route 53 currently supports the following DNS record types:

A (address record)

AAAA (IPv6 address record)

CNAME (canonical name record)

CAA (certification authority authorization)

MX (mail exchange record)

NAPTR (name authority pointer record)

NS (name server record)

PTR (pointer record)

SOA (start of authority record)

SPF (sender policy framework)

SRV (service locator)

TXT (text record)

Amazon Route 53 also offers alias records, which are an Amazon Route 53-specific extension to DNS. You can create alias records to route traffic to selected AWS resources, including Amazon Elastic Load Balancing load balancers, Amazon CloudFront distributions, AWS Elastic Beanstalk environments, API Gateways, VPC interface endpoints, and Amazon S3 buckets that are configured as websites. Alias record typically have a type of A or AAAA, but they work like a CNAME record. Using an alias record, you can map your record name (example.com) to the DNS name for an AWS resource(elb1234.elb.amazonaws.com). Resolvers see the A or AAAA record and the IP address of the AWS resource.

We anticipate adding additional record types in the future.

**Q. Does Amazon Route 53 support wildcard entries? If so, what record types support them?**

Yes. To make it even easier for you to configure DNS settings for your domain, Amazon Route 53 supports wildcard entries for all record types, except NS records. A wildcard entry is a record in a DNS zone that will match requests for any domain name based on the configuration you set. For example, a wildcard DNS record such as \*.example.com will match queries for www.example.com and subdomain.example.com.

**Q. Can I use 'Alias' records with my sub-domains?**

Yes. You can also use Alias records to map your sub-domains (www.example.com, pictures.example.com, etc.) to your ELB load balancers, CloudFront distributions, or S3 website buckets.

**Q. Are changes to resource record sets transactional?**

Yes. A transactional change helps ensure that the change is consistent, reliable, and independent of other changes. Amazon Route 53 has been designed so that changes complete entirely on any individual DNS server, or not at all. This helps ensure your DNS queries are always answered consistently, which is important when making changes such as flipping between destination servers. When using the API, each call to ChangeResourceRecordSets returns an identifier that can be used to track the status of the change. Once the status is reported as INSYNC, your change has been performed on all of the Route 53 DNS servers.

**Q. Can I associate multiple IP addresses with a single record?**

Yes. Associating multiple IP addresses with a single record is often used for balancing the load of geographically-distributed web servers. Amazon Route 53 allows you to list multiple IP addresses for an A record and responds to DNS requests with the list of all configured IP addresses.

**Q. How quickly will changes I make to my DNS settings on Amazon Route 53 propagate globally?**

Amazon Route 53 is designed to propagate updates you make to your DNS records to its world-wide network of authoritative DNS servers within 60 seconds under normal conditions. A change is successfully propagated world-wide when the API call returns an INSYNC status listing.

Note that caching DNS resolvers are outside the control of the Amazon Route 53 service and will cache your resource record sets according to their time to live (TTL). The INSYNC or PENDING status of a change refers only to the state of Route 53’s authoritative DNS servers.

**Q. Can I see a history of my changes and other operations on my Route 53 resources?**

Yes, via AWS CloudTrail you can record and log the API call history for Route 53.

**Q. Can I use AWS CloudTrail logs to roll back changes to my hosted zones?**

No. We recommend that you do not use CloudTrail logs to roll back changes to your hosted zones, because reconstruction of your zone change history using your CloudTrail logs may be incomplete.

Your AWS CloudTrail logs can be used for the purposes of security analysis, resource change tracking, and compliance auditing.

**Q. Does Amazon Route 53 support DNSSEC?**

Yes. You can enable DNSSEC signing for existing and new public hosted zones, as well as DNSSEC validation for Amazon Route 53 Resolver. Additionally, Amazon Route 53 allows DNSSEC on domain registration.

**Q. Does Amazon Route 53 support IPv6?**

Yes. Amazon Route 53 supports both forward (AAAA) and reverse (PTR) IPv6 records. The Amazon Route 53 service itself is also available over IPv6. Recursive DNS resolvers on IPv6 networks can use either IPv4 or IPv6 transport in order to submit DNS queries to Amazon Route 53. Amazon Route 53 health checks also support monitoring of endpoints using the IPv6 protocol.

Can I point my zone apex (example.com versus www.example.com)

1. my Amazon API Gateway
2. VPC endpoint
3. AWS Elastic Beanstalk environment.
4. CloudFront distribution.
5. Website hosted on S3
6. ELB
7. CloudFront

**Q. Does Amazon Route 53 support Weighted Round Robin (WRR)?**

Yes. Weighted Round Robin allows you to assign weights to resource record sets in order to specify the frequency with which different responses are served. You may want to use this capability to do A/B testing, sending a small portion of traffic to a server on which you’ve made a software change. For instance, suppose you have two record sets associated with one DNS name—one with weight 3 and one with weight 1.

**Q. What is Amazon Route 53's Latency Based Routing (LBR) feature?**

LBR (Latency Based Routing) is a new feature for Amazon Route 53 that helps you improve your application’s performance for a global audience. You can run applications in multiple AWS regions and Amazon Route 53, using dozens of edge locations worldwide, will route end users to the AWS region that provides the lowest latency.

**Q. How do I get started using Amazon Route 53's Latency Based Routing (LBR) feature?**

You can start using Amazon Route 53’s new LBR feature quickly and easily by using either the AWS Management Console or a simple API. You simply create a record set that includes the IP addresses or ELB names of various AWS endpoints and mark that record set as an LBR-enabled Record Set, much like you mark a record set as a Weighted Record Set. Amazon Route 53 takes care of the rest - determining the best endpoint for each request and routing end users accordingly, much like Amazon CloudFront, Amazon’s global content delivery service, does

**Q. What is Amazon Route 53's Geo DNS feature?**

Route 53 Geo DNS lets you balance load by directing requests to specific endpoints based on the geographic location from which the request originates.

**Q. Can I have a Geo DNS record for a continent and different Geo DNS records for countries within that continent? Or a Geo DNS record for a country and Geo DNS records for states within that country?**

Yes, you can have Geo DNS records for overlapping geographic regions (e.g., a continent and countries within that continent, or a country and states within that country)

**Q. What is the difference between Latency Based Routing and Geo DNS?**

Geo DNS bases routing decisions on the geographic location of the requests. In some cases, geography is a good proxy for latency; but there are certainly situations where it is not. LatencyBased Routing utilizes latency measurements between viewer networks and AWS datacenters. These measurements are used to determine which endpoint to direct users toward.

If your goal is to minimize end-user latency, we recommend using Latency Based Routing. If you have compliance, localization requirements, or other use cases that require stable routing from a specific geography to a specific endpoint, we recommend using Geo DNS.

**Q. Is there a charge for traffic policies that don’t have a policy record?**

No. We only charge for policy records; there is no charge for creating the traffic policy itself.

**Q. What are the advanced query types supported in Amazon Route 53 Traffic Flow?**

Traffic Flow supports all Amazon Route 53 DNS Routing policies including latency, endpoint health, multivalue; answers, weighted round robin, and geo. In addition to these, Traffic Flow also supports geoproximity based routing with traffic biasing.

|  |  |  |
| --- | --- | --- |
| No | Answer | Explanation |
| 1 | D,E | Alias Records have special functions that are not present in other DNS servers. Their main function is to provide special functionality and integration into AWS services. Unlike CNAME records, they can also be used at the Zone Apex, where CNAME records cannot. Alias Records can also point to AWS Resources that are hosted in other accounts by manually entering the ARN |
|  |  | R**oute 53 has the following routing policies - Simple, Weighted, Latency, Failover, Multivalue answer, Geoproximity. and Geolocation** |
| 2 | A, D | The instruction from the CTO is clear that that the division is based on geography. Latency based routing will approximate geographic balance only when all routes and traffic evenly supported which is rarely the case due to infrastructure and day night variations. You cannot combine blacklisting and whitelisting in CloudFront. Weighted routing is randomized and will not respect Geo boundaries. Geolocation is based on national boundaries and will meet the needs well. Geoproximity is based on Latitude & Longitude and will also provide a good approximation with potentially less configuration. |
| 3 | B, F | The aim is to direct sessions to the host that will provide the correct language. Geolocation is the best option because it is based on national borders. Geoproximity routing is another option where the decision can be based on distance. While latency-based routing will usually direct the client to the correct host, connectivity issues with the US Regions might direct traffic to AP. In this case, the word "ensure" is operative: users MUST connect to the English-language site. Watch the wording in the exam: a requirement may be presented very casually in the wording of the question. However, understanding that requirement is mandatory if you're going to arrive at the correct answer |
| 4 | B |  |
| 5 | D | With DNS Failover, Amazon Route 53 can help detect an outage of your website and redirect your end users to alternate locations where your application is operating properly. When you enable this feature, Route 53 uses health checks-regularly making Internet requests to your appIication’s endpoints  from multiple locations around the world-to determine whether each endpoint of your application is up or down.  To enable DNS Failover for an ELB endpoint, create an Alias record pointing to the ELB and set the "EvaIuate Target HeaIth" parameter to true. Route 53 creates and manages the health checks for your ELB automatically. You do not need to create your own Route 53 health check of the ELB. You also do not need to associate your resource record set for the ELB with your own health check, because Route 53 automatically associates it with the health checks that Route 53 manages on your behalf. The ELB health check will also inherit the health of your backend instances behind that ELB. |
| 6 | D | The resource record sets contained in a hosted zone must share the same suffix. For example, the exampIe.com hosted zone can contain resource record sets for www.exampIe.com and wvvw.aws.exampIe.com subdomains, but it cannot contain resource record sets for a www.exampIe.ca subdomain |
| 7 | A | You can set up a variety of failover configurations using Amazon Route 53 alias: weighted, latency, geolocation routing, and failover resource record sets.  Active-active failover: Use this failover configuration when you want all of your resources to be available the majority of the time. When a resource becomes unavailable, Amazon Route 53 can detect that it's unhealthy and stop including it when responding to queries.  Active-passive failover: Use this failover configuration when you want a primary group of resources to be available the majority of the time and you want a secondary group of resources to be on standby in case all of the primary resources become unavailable. When responding to queries, Amazon Route 53 includes only the healthy primary resources. If all of the primary resources are unhealthy, Amazon Route 53 begins to include only the healthy secondary resources in response to DNS queries.  Active-active-passive and other mixed configurations: You can combine alias and non-alias resource record sets to produce a variety of Amazon Route 53 behaviors. |
| 8 | A | In Amazon Route 53, you cannot create a hosted zone for a top-level domain (TLD). |
| 9 | B | Regarding Amazon Route 53, if your application is running on Amazon EC2 instances in two or more Amazon EC2 regions, and if you have more than one Amazon EC2 instance in one or more regions, you can use latency-based routing to route traffic to the correct region and then use weighted resource record sets to route traffic to instances within the region based on weights that you specify |
| 10 | B | A Hosted Zone refers to a selection of resource record sets hosted by Route 53 |
| 11 | D | Amazon Route 53 provides highly available and scalable Domain Name System (DNS), domain name registration, and health-checking web services.  Route 53 is built using AWS’s highly available and reliable infrastructure. The globally distributed nature of our DNS servers helps ensure a consistent ability to route your end users to your application by circumventing any internet or network related issues. Route 53 is designed to provide the level of dependability required by important applications. Using a global anycast network of DNS servers around the world, Route 53 is designed to automatically answer queries from  the optimal location depending on network conditions. As a result, the service offers low query latency for your end users. Amazon Route 53 does not support Domain Name System Security Extensions (DNSSEC) at this time |
| 12 | A, C | Alias Records have special functions that are not present in other DNS servers. Their main function is to provide special functionality and integration into AWS services. Unlike CNAME records, they can also be used at the Zone Apex, where CNAME records cannot. Alias Records can also point to AWS Resources that are hosted in other accounts by manually entering the ARN |