[AWS Certified Solutions Architect - Professional exam preparation](#)

This post, [AWS Professional Solution Architect Certification Tips](#), is one of the best I've read so far regarding preparing for the AWS Solution Architect – Professional exam. I have prepared a basic study guide for myself, which is by no means exhaustive.

1 Domain 1.0: High Availability and Business Continuity

1.1 Demonstrate ability to architect the appropriate level of availability based on stakeholder requirements

- http://media.amazonwebservices.com/AWS_Building_Fault_Tolerant_Applications.pdf
- https://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_ftha_04.pdf
- http://harish11g.blogspot.com/2012/06/aws-high-availability-outage.html
- https://d0.awsstatic.com/whitepapers/wordpress-best-practices-on-aws.pdf

1.2 Demonstrate ability to implement DR for systems based on RPO and RTO

- https://media.amazonwebservices.com/AWS_Disaster_Recovery.pdf

1.3 Determine appropriate use of multi-Availability Zones vs.

multi-Region architectures

- http://cloudacademy.com/blog/aws-regions-and-availability-zones-the-simplest-explanation-you-will-ever-find-around/
- http://harish11g.blogspot.in/2012/06/aws-multi-region-high-availability.html

1.4 Demonstrate ability to implement self-healing capabilities Content may include the following: High Availability vs. Fault Tolerance

- http://jineshvaria.s3.amazonaws.com/public/cloudbestpractices-jvaria.pdf
- http://media.amazonwebservices.com/AWS_Operational_Checklists.pdf (Application HA/Resilience, pg 12)

2 Domain 2.0: Costing

2.1 Demonstrate ability to make architectural decisions that minimize and optimize infrastructure cost

- http://www.slideshare.net/AmazonWebServices/journey-through-the-cloud-cost-optimisation
- https://aws.amazon.com/premiumsupport/trustedadvisor/best-practices/#cost-optimizing

2.2 Apply the appropriate AWS account and billing set-up options based on scenario

- http://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/billing-what-is.html
- https://aws.amazon.com/billing/faqs/

2.3 Ability to compare and contrast the cost implications of different architectures

- http://media.amazonwebservices.com/AWS_TCO_Web_Applications.pdf

- http://media.amazonwebservices.com/AWS_Cloud_Architectures.pdf

3 Domain 3.0: Deployment Management

3.1 Ability to manage the lifecycle of an application on AWS

- http://www.slideshare.net/AmazonWebServices/managing-your-application-lifecycle-on-aws-continuous-integration-and-deployment

3.2 Demonstrate ability to implement the right architecture for development, testing, and staging environments

- https://aws.amazon.com/application-management/
- http://d0.awsstatic.com/whitepapers/AWS_DevOps.pdf

3.3 Position and select most appropriate AWS deployment mechanism based on scenario

- https://d0.awsstatic.com/whitepapers/overview-of-deployment-options-on-aws.pdf

4 Domain 4.0: Network Design for a complex large scale deployment

4.1 Demonstrate ability to design and implement networking features of AWS

- http://cloudacademy.com/blog/aws-networking-the-differen

- ces/
  - http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Networking.html
  - http://www.slideshare.net/AmazonWebServices/sdd419-amazon-ec2-networking-deep-dive-and-best-practices-aws-reinvent-2014

4.2 Demonstrate ability to design and implement connectivity features of AWS

- http://media.amazonwebservices.com/AWS_Amazon_VPC_Connectivity_Options.pdf

5 Domain 5.0: Data Storage for a complex large scale deployment

5.1 Demonstrate ability to make architectural trade off decisions involving storage options

- http://media.amazonwebservices.com/AWS_Storage_Options.pdf

5.2 Demonstrate ability to make architectural trade off decisions involving database options

- https://aws.amazon.com/running_databases/

5.3 Demonstrate ability to implement the most appropriate data storage architecture

- http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Storage.html

5.4 Determine use of synchronous versus asynchronous replication

- https://aws.amazon.com/rds/faqs/

6 Domain 6.0: Security

6.1 Design information security management systems and compliance controls

- https://d0.awsstatic.com/whitepapers/Security/AWS%20Security%20Whitepaper.pdf

6.2 Design security controls with the AWS shared responsibility model and global infrastructure

- https://d0.awsstatic.com/whitepapers/aws-security-best-practices.pdf

6.3 Design identity and access management controls

- http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html
- http://docs.aws.amazon.com/IAM/latest/UserGuide/access.html

6.4 Design protection of Data at Rest controls

- https://aws.amazon.com/blogs/aws/new-encryption-options-for-amazon-rds/
- https://d0.awsstatic.com/whitepapers/AWS_Securing_Data_at_Rest_with_Encryption.pdf

6.5 Design protection of Data in Flight and Network Perimeter controls

- How-to-Address-the-PCI-DSS-Requirements-for-Data-Encryption-in-Transit-Using-Amazon-VPC

7 Domain 7.0: Scalability and

Elasticity

7.1 Demonstrate the ability to design a loosely coupled system

- https://aws.amazon.com/blogs/aws/on-using-aws-in/
- http://blog.bwhaley.com/loosely-coupled
- http://blog.bwhaley.com/loosely-coupled-part-2

7.2 Demonstrate ability to implement the most appropriate front-end scaling architecture

- DNS
    - https://aws.amazon.com/route53/details/
    - https://aws.amazon.com/route53/faqs/
- CDN
    - https://aws.amazon.com/cloudfront/details/
    - https://aws.amazon.com/cloudfront/faqs/
- ELB
    - https://aws.amazon.com/elasticloadbalancing/details/
    - https://aws.amazon.com/ec2/faqs/#elastic-load-balancing
- Autoscaling
    - https://aws.amazon.com/autoscaling/details/
    - https://aws.amazon.com/ec2/faqs/#auto-scaling
- Containers
    - https://aws.amazon.com/ecs/details/
    - https://aws.amazon.com/ecs/faqs/
- ElasticBeanstalk
    - https://aws.amazon.com/elasticbeanstalk/details/
    - https://aws.amazon.com/elasticbeanstalk/faqs/

7.3 Demonstrate ability to implement the most appropriate middle-tier scaling architecture

- Queuing
    - https://aws.amazon.com/sqs/details/
    - https://aws.amazon.com/sqs/faqs/

- Appstream
    - https://aws.amazon.com/appstream/
- Email
    - https://aws.amazon.com/ses/details/
- Notification
    - https://aws.amazon.com/sns/details/
- Search
    - https://aws.amazon.com/cloudsearch/
    - https://aws.amazon.com/cloudsearch/faqs/

7.4 Demonstrate ability to implement the most appropriate data storage scaling architecture

- Relational DB
    - https://aws.amazon.com/rds/details/
    - https://aws.amazon.com/rds/faqs/#hardware-scaling
- NoSQL
    - https://aws.amazon.com/dynamodb/details/
    - https://aws.amazon.com/dynamodb/faqs/#scale_anchor
- Caching
    - https://aws.amazon.com/elasticache/details/
    - https://aws.amazon.com/elasticache/faqs/
- Data Warehousing
    - https://aws.amazon.com/redshift/
    - https://aws.amazon.com/redshift/faqs/#scalability
- Big Data
    - https://aws.amazon.com/elasticmapreduce/
    - https://aws.amazon.com/elasticmapreduce/details/

7.5 Determine trade-offs between vertical and horizontal scaling

- https://en.wikipedia.org/wiki/Scalability#Horizontal_and_vertical_scaling

8 Domain 8.0: Cloud Migration and Hybrid Architecture

8.1 Plan and execute for applications migrations

- http://media.amazonwebservices.com/CloudMigration-main.pdf

8.2 Demonstrate ability to design hybrid cloud architectures

- https://aws.amazon.com/enterprise/hybrid/

[ELB https listener times out after renaming instance](#)

After renaming an EC2 instance behind an AWS Elastic Load Balancer (ELB), I noticed that the https listener was timing out. I had multiple ELBs pointing to the same instance because we terminate SSL on each ELB (one ELB per apache virtual host).

This is our setup but its not certain what the actual conditions are to experience this bug.

The solution was to delete the https listener on each ELB and recreate it.

Https was immediately accessible after doing this.