[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/