

# [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](http://media.amazonwebservices.com/AWS_Building_Fault_Tolerant_Applications.pdf)
- [https://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_ftha\\_04.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 RT0

- [https://media.amazonwebservices.com/AWS\\_Disaster\\_Recovery.pdf](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](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_TCO_Web_Applications.pdf)

- [http://media.amazonwebservices.com/AWS\\_Cloud\\_Architectures.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](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/VP\\_C\\_Networking.html](http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VP_C_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](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](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/](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](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](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](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](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/>
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