**AWS Certified Developer Associate Certification 2017**

AWS certs are the most popular certifications in 2016. Partners drive certifications like technology partners and consulting partners. Use these notes in addition with CSAA

Identical sections:

* Section 6 – Databases – Overviews & Concepts
* Section 13 – VPC

Similar sections:

* Section 2 – AWS 10,000 Foot Overview
* Section 3 – IAM
* Section 4 – EC2
* Section 5 – S3
* Section 8 – SQS
* Route 53

<https://acloud.guru/course/aws-certified-developer-associate/dashboard>

<https://www.wired.com/2015/10/meet-walking-dead-hp-cisco-dell-emc-ibm-oracle/>

Exam focus:

* AWS Fundamentals – 10%
* Designing and Developing 40%
* Deployment & Security 30%
* Debugging – 20%

<https://media.acloud.guru/aws-cda/resource/b3d92ac6-91ee-4410-a71c-82e761f9442c_1:6/aws-cda-154e2655-4e24-49d3-bac6-75695dc47b91.pdf?Expires=1498450645&Signature=KQapB6fozQaV0XzuW/VVt4KrgPTjRxDOtHSo3DJlkDQwykF8SLEM8BHECItiOvoddDoUUGHPYZbMPrtZ7XZw53wFC9nba26UX5530dNu2NxTB173MHm00emjNajyD+IyIpRiCF6BmjtlxOOlH9NwZboDLewRxX4mAvy5g/sTn6YSRLDMkn/BdzaKd9w0GJBNK+AqHwNUjH46qaoec7/ip2gkuHSlj58OcZcdsjVmDwOEqfzi1P9D1WGbaRAxdrIl1nXIWg7Xl3O8sMmKAtP7vtqq0VT/pS37xyQvgttCP114XTbr9935g7OXlDiyNjcYnhO55DH+gcDZqBV0g6FCkw==&Key-Pair-Id=APKAISLU6JPYU7SF6EUA>

**AWS – History So Far**

* **AWS Infrastructure, compute, database, storage, network & content deliver, management tools, security & identity. Focuses on API calls and dynamoDB.**
* **Still need to read database, ec2, finish security whitepaper, s3, application services**
* **I’ve already read VPC, Route 53, possibly S3.**
* AZ could be a collection of datacenters.
* Elastic Beanstalk can spin up the underlying infrastructure when code is uploaded to deploy those services.
* DMS – SQL, MySQL, Oracle, Aurora, Postgres, SAP ESE.
* **SMS (Server Migration Service)** – migrate VmWare VM to cloud. 50 at the same time.
* **Athena** – SQL queries on S3
* **Cloud Search** – managed service to enable search capabilities on your website.
* **Config** – proactively monitor environment in AWS.
* **Step Functions** – a way to visualize what is going on in your application.
* **PinPoint** – enables and engage with your users. Gather data with users and the apps they use.

**IAM (Identity Access Management)**

* You can authenticate your services with **Web Identity Federation** like LinkedIn, FB, etc.
  + Done by STS
  + Found in IAM under “Web Identity Federation Playground”
  + API call is AssumeRoleWithSAML
    - Covered quite a bit in the quiz.

**EC2**

* Reserved – reserve capacity for continued workloads.
* Dedicated – Save costs by use server-bound licenses.
  + Useful for regulatory requirements
* EBS – put in an AZ to protect from storage array failures
  + Magnetic volumes is important for not frequently accessed data except for ST1
  + Magnetic Standard is basically cold but is bootable.
  + Can encrypt by using a third-party tool or by creating a copy and encrypting from that volume.
  + Can get data corruption if you are running an action while detaching a EBS volume.
  + Best to stop the instance when creating a snapshot although you can still take one while it is running.
  + Can change EBS volumes on the fly except magnetic standard drives.
  + Volumes must be in the same AZ. Can scale up only. Wait for 6 hours before making another change.
* Public key/private key are padlocks.
* System Status checks and instance status checks.
* 1 instance can have multiple security groups
* AWS command line
  + Best not to have a user but sometimes it is a must if your accessing the console remote via command line.
  + Use region command for pulling data from S3.
  + **Commands to know:**
    - **Aws configure**
    - **Describe-instances**
    - **Describe-images**
    - **Run-instances**
      * Use right key pair and security group
    - **Terminate-instances**
    - **--dry --run**
* Roles
  + Can attach existing roles to a running ec2 instance. Change happens immediately.

<https://aws.amazon.com/blogs/security/new-attach-an-aws-iam-role-to-an-existing-amazon-ec2-instance-by-using-the-aws-cli/>

<https://aws.amazon.com/blogs/security/easily-replace-or-attach-an-iam-role-to-an-existing-ec2-instance-by-using-the-ec2-console/>

Http responses can be done with API gateway using SDK’s with Lambda.

**Setting up PHP SDK:**

#!/bin/bash

yum update -y

yum install httpd24 php56 git -y

service httpd start

chkconfig httpd on

cd /var/www/html

echo "<?php phpinfo();?>" > test.php

git clone <https://github.com/acloudguru/s3>

curl –sS <https://getcomposer.org/installer> | php

php composer.phar require aws/aws-sdk-php

http://docs.aws.amazon.com/aws-sdk-php/v3/guide/getting-started/installation.html

* <https://aws.amazon.com/tools/> - Android, iOS, JavaScript, Java, .NET, PHP, Node.js, Python, Ruby, Go, C++
* Default Region is US-EAST-1.
* Some have a default regions (Java)
* Some do not (Node.js)

**ELB**

* ALB use target groups. ELB ties the instances from the AZ’s.

<https://aws.amazon.com/ec2/>

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/Storage.html>

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-metadata.html>

**S3**

* Add random letter so they are evenly distributed across S3.

CORS Resource Sharing:

<!--CORS Code - Copyright ACloud.guru-->

<script src="https://code.jquery.com/jquery-1.11.0.min.js"></script>

<script src="https://code.jquery.com/jquery-migrate-1.2.1.min.js"></script>

<html><body><h1>Welcome to the Index Page!</h1>

<div id="get-html-from-other-s3"></div>

<script>

$("#get-html-from-other-s3").load("http://mycorstestbucketlondon.s3-website.eu-west-2.amazonaws.com/loadpage.html")

</script>

* Have to add the CORS configuration policy to the bucket to allow the main bucket to access the secondary bucket.

If you delete a version, it is gone forever. Objects can be restored.

Previous versions replicate on cross region replication. Delete markers for versions don’t replicate. Delete Markers are replicated. Object deletion do.

Previous versions with lifecycle are deleted permanently. Lifecycle can be used in conjunction with versioning.

CDN

* Origin – source of the content. S3/EC2/ELB. Can have your own default origin.
* Edge location separate from AZ. Edge locations are not just read only. Can be written in.
* Invalidations stop caches at edge locations. Cost’s money.
* Can whitelist/blacklist countries.
* Can upload files and not just download.

Storage Gateway

* Virtual tape library is backed by Amazon S3
* Virtual Tape Shelf backed by Glacier.
  + Access is instantaneous
  + If you need a lower RTO, go with virtual tape library based 24 hours.
  + Dell, Symantec, Microsoft, Veeam are supported.
* Need storage for local buffer and upload buffer. Open 443 and 80, 3260, 53.
* Can create stored volumes from snapshot.
* Stored gateway stored snapshots in S3
* Need more than 1 gateway using more than one location.

Snowball

* Snowball edge is not just storage but also has compute. Can run lambda functions

Serverless

* S3 should have the same name as the domain name to tie the website to a domain.