AWS Notes

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# Compute

## EC2 – Elastic Cloud Compute

Monitoring EC2 with Custom Metrics – ACG Sysops

## ELB – Elastic Load Balancing

Monitoring ELB – ACG Sysops

## EC2 Auto Scaling

## ECS – Elastic Container Service (Docker Container Run)

## ECR – Elastic Container Registry (Docker Image Registry)

## Fargate (Simple ECS)

## Lambda (Serverless)

## Lightsail

## Batch

## Beanstalk

# Storage

## S3 – Simple Storage Service (Object Storage)

### S3 Overview

* S3 = Simple Storage Service
* Simple Web Services interface
* Store and Retrieve any amount of data, at any time, from anywhere on the web
* Highly Scalable, Reliable, Fast, Inexpensive Data storage infrastructure

### Buckets & Objects

#### Bucket Overview

* Container for Objects stored in S3
* Un-limited number of Objects

#### S3 Bucket Constraints/Limits

* Name is Globally Unique, shared across all accounts
* Name cannot be used by any AWS account in any other Region until deleted
* Buckets are created in Region specified
* Objects in a bucket can never leave the region it is created unless explicitly transferred via Cross-Region-Replication
* Can create by default up-to 100 buckets/account; Can be increased to maximum of 1000 by submitting service limit increase to AWS

Performance Tip: Choose AWS Region geographically closer to workload

#### Bucket Naming

Restrictions:

Tips:

#### Bucket ARN

#### Bucket URL

Virtual Hosted Style

Bucket name is part of the Domain Name in the URL

<http://my-bucket.s3.amazonaws.com>

<http://my-bucket.s3-us-east-1.amazonaws.com>

#### Bucket Region

#### Bucket Versioning

#### Bucket Structure

#### Bucket-Object Operations

##### Adding Files/Folders to Buckets

##### Deleting Files/Folders from Buckets

##### Updating Files/Folders from Buckets

### S3 Permission and Security (s3-access-control.html)

#### Access to Buckets

#### Access to Files

#### Encryption

##### Encryption-at-Rest (Server-side encryption)

##### Encryption-in-transfer (Client-side encryption)

#### Bucket Policy

#### CORS

#### Accessing S3 from Other Services – EC2, Lambda etc.

#### Accessing S3 from VPC End-points

#### S3 Pre-signed URLs

#### How to access S3 from APIs?

#### How to get Temporary access to S3 from STS?

Monitoring S3 Access via CloudWatch

### S3 Performance

How Many Get/Put Requests can S3 handle?

Increasing performance of S3 PUT Requests – Random Prefix (request-rate-perf-considerations)

### S3 Costs

S3 Storage Types – RRS, IA, IA-1A

How to calculate S3 Cost due to versioning?

### S3 Management

#### S3 Lifecycle Policies

#### Replication

#### Analytics

#### Metrics

#### Inventory

### Static Website Hosting

### S3 Events

### Cross Region Replication

### Server Access Logging

### Object-Level Logging

### Tags

### Transfer Acceleration

### Requester Pays

### Relationship with Cloud-Front

### CORS

## S3 CLI Access

## S3 API Access

## S3 Questions

Cost Effective way to Host Static Web-sites

How to Prevent Loss of documents in S3 by over-writing

How to use Storage Gateway with S3 for Cached storage

Accessing S3 documents via VPC end-points

Best Way to Prevent Public Access to S3 Resources

Control Access to S3 Buckets

Control Access to S3 Objects

## S3 Glacier – (Archive Storage)

## EBS – Elastic Block Storage (Block Storage)

Monitoring EBS – ACG Sysops

## EFS – Elastic File System (File Storage)

## SnowFamily – Data Migration Devices (Snowball, Snowball Edge, SnowMobile)

## Storage Gateway – Hybrid Storage Integration (Cache & Backup)

References:

<https://www.sumologic.com/aws/s3/10-things-might-not-know-using-s3/>

# Database

## RDS – Relational Database Service (Relational)

## Aurora – MySQL compatible (Relational)

## 

## ElastiCache – In-Memory Cache (Redis, Memcached)

Monitoring Elasticache – ACG Sysops

## DynamoDB – NoSQL Database Service (NoSQL – Key-Value Database)

## DocumentDB – MongoDB Compatible (NoSQL - Document Database)

## Neptune – (NoSQL Graph Database)

## TimeStream – (NoSQL TimeSeries Database)

## Quantum – (NoSQL Ledger Database)

## RedShift – Petabyte-scale Data-Warehouse

## RDS on VMWARE (On-Premisis RDS)

## Database Migration Service

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