



EC2 Exam Tips

- **On Demand** - allows you to pay a fixed rate by the hour (or by the second) with no commitment.
- **Reserved** - provides you with a capacity reservation, and offer a significant discount on the hourly charge for an instance. 1 Year or 3 Year Terms
- **Spot** - enables you to bid whatever price you want for instance capacity, providing for even greater savings if your applications have flexible start and end times.
- **Dedicated Hosts** - Physical EC2 server dedicated for your use. Dedicated Hosts can help you reduce costs by allowing you to use your existing server-bound software licenses.



EC2 Exam Tips

If a Spot instance is terminated by Amazon EC2, you will not be charged for a partial hour of usage. However, if you terminate the instance yourself, you will be charged for the complete hour in which the instance ran.

EC2 Exam Tips



FIGHT DR MC PX!



SCOTLAND

EC2 Exam Tips

SSD

General Purpose SSD - balances price and performance for a wide variety of workloads.

Provisioned IOPS SSD - Highest-performance SSD volume for mission-critical low-latency or high-throughput workloads

Magnetic

Throughput Optimized HDD - Low cost HDD volume designed for frequently accessed, throughput-intensive workloads

Cold HDD - Lowest cost HDD volume designed for less frequently accessed workloads

Magnetic - Previous Generation. Can be a boot volume.



ELB Exam Tips

- 3 Types of Load Balancers;
 - Application Load Balancers
 - Network Load Balancers
 - Classic Load Balancers
- 504 Error means the gateway has timed out. This means that the application not responding within the idle timeout period.
 - Trouble shoot the application. Is it the Web Server or Database Server?
- If you need the IPv4 address of your end user, look for the X-Forwarded-For header.

Route53 - Exam Tips

- Route53 is Amazon's DNS service
- Allows you to map your domain names to
 - EC2 Instances
 - Load Balancers
 - S3 Buckets



CLI Tips



Least Privilege - Always give your users the minimum amount of access required.

Create Groups - Assign your users to groups. Your users will automatically inherit the permissions of the group. The groups permissions are assigned using policy documents.

CLI Tips



Secret Access Key - You will see this only once. If you do not save it, you can delete the Key Pair (Access Key ID and Secret Access Key) and regenerate it. You will need to run **aws configure** again.

Do not use just one access key - Do not create just one access key and share that with all your developers. If someone leaves the company on bad terms, then you will need to delete the key and create a new one and every developer would then need to update their keys. Instead create one key pair per developer.

CLI Tips



You can use the CLI on your PC - You can install the CLI on your Mac, Linux or Windows PC. I personally use S3 to store all my files up in the cloud.

EXAM TIPS



- Roles allow you to not use Access Key ID's and Secret Access Keys
- Roles are preferred from a security perspective
- Roles are controlled by policies
- You can change a policy on a role and it will take immediate affect
- You can attach and detach roles to running EC2 instances without having to stop or terminate these instances

EXAM TIPS



- You can encrypt the root device volume (the volume the OS is installed on) using Operating System level encryption
- You can encrypt the root device volume by first taking a snapshot of that volume, and then creating a copy of that snap with encryption. You can then make an AML of this snap and deploy the encrypted root device volume
- You can encrypt additional attached volumes using the console, CLI or API

AWS Database Types - Summary

- RDS - OLTP
 - SQL
 - MySQL
 - PostgreSQL
 - Oracle
 - Aurora
 - MariaDB
- DynamoDB - No SQL
- RedShift - OLAP
- ElastiCache - In Memory Caching:
 - Memcached
 - Redis

What is Multi-AZ RDS?

Multi-AZ is for Disaster Recovery only. It is not primarily used for improving performance. For performance improvement, you need Read Replicas.



Read Replica Databases

- Used for scaling, **not** for DR!
- Must have automatic backups turned on in order to deploy a read replica.
- You can have up to 5 read replica copies of any database.
- You can have read replicas of read replicas (but watch out for latency.)
- Each read replica will have its own DNS endpoint.
- You **can** have read replicas that have Multi-AZ.
- You **can** create read replicas of Multi-AZ source databases.
- Read replicas can be promoted to be their own databases. This breaks the replication.
- You can have a read replica in a second region (for MySQL and MariaDB.)



Elasticache Exam Tips

Typically, you will be given a scenario where a particular database is under a lot of stress/load. You may be asked which service you should use to alleviate this.

Elasticache is a good choice if your database is particularly read-heavy and not prone to frequent changing.

Redshift is a good answer if the reason your database is feeling stress is because management keep running OLAP transactions on it etc.

Elastichache Exam Tips

Use Memcached if

- Object caching is your primary goal
- You want to keep things as simple as possible
- You want to scale your cache horizontally (scale out)

Use Redis if

- You have advanced data types, such as lists, hashes, and sets.
- You are doing data sorting and ranking (such as leader boards)
- Data Persistence
- Multi AZ
- Pub/Sub capabilities are needed