EC2-Elastic Compute Cloud

* Amazon EC2 is a web service that provides resizable compute capacity in the cloud. It reduces the time required to obtain and boot new server instances to minutes, allowing scaling (both up and down).

EC2 Options

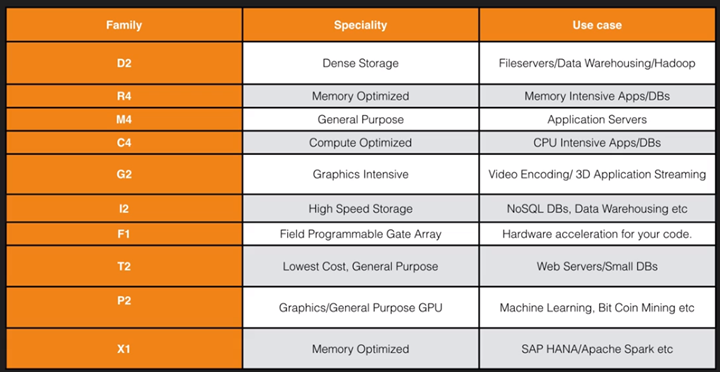
* On Demand – allow you to pay a fixed rate by the hour with no commitment.
* Users that want low cost and flexibility of amazon EC2 **without any upfront payment or long term commitment**
* Applications with short term, spiky or **unpredictable workloads that cannot be interrupted**
* Applications being developed or tested on Amazon EC2 for the first time
* Reserved – provides a capacity reservation and offers a significant discount on the hourly charge for an instance (1 or 3 year contract)
* Application with steady state or predictable usage
* Application that require reserved capacity
* Users able to make upfront payments to reduce their total computing costs even further
* Spot- enables you to bid whatever price you want for instance capacity. To be used when your application has flexible start and end times.
* Applications that have flexible start and end times.
* Applications that are feasible only at very low compute prices
* Pharmaceutical companies use them usually

**Note**: If Spot instances are terminated by Amazon EC2 service, you will not be charged for a partial hour(this happens when spot prices goes higher than your bid price).

However if you terminate the instance by yourself you are charged for partial hour as complete hour.

* Dedicated hosts – Physical EC2 server dedicated for your use. Dedicated Hosts can help reduce costs by allowing you to use your existing server-bound software licenses.
* Useful for regulatory requirements that may not support multi-tenant virtualization. Eg- govt bodies, banks etc
* Good for licensing which does not support multi-tenancy or cloud deployments

EC2 Instance Types



\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*to be done from docs\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

EBS-Elastic Block Storage

* Amazon EBS allows creating storage volumes and attaching them to EC2 instances.After attaching we can create file system,format,partition,run a DB or anything we would do with a block storage.
* EBS volumes are placed in an AZ and are automatically replicated there (in the same AZso failure of a complete AZ can be serious in terms of EBS)

EBS Types

* Amazon EBS provides the following volume types, which differ in performance characteristics and price, so that you can tailor your storage performance and cost to the needs of your applications. The volumes types fall into two categories:
* SSD-backed volumes optimized for transactional workloads involving frequent read/write operations with small I/O size, where the dominant performance attribute is IOPS
* HDD-backed volumes optimized for large streaming workloads where throughput (measured in MiB/s) is a better performance measure than IOPS

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