AWS EC2 Instances

Instance types

General Purpose - Balences all resouces - Compute, Memomry and Network

- T2
    - Burstable
    - Accures credits when CPU is idle
    - Credits are used when traffic is active
    - Lowest cost , general Purpose
        - Use cases - Websites and web applications, development environments,
        - build servers, code repositories, micro services, test and staging environments,
        - and line of business applications.
- M4
    - EBS Optimized at no additional cost
    - Supports enhanced Network features - cluster networking
        - Use cases - Small and mid-size databases, data processing tasks that require additional memory, caching fleets, and for running backend servers for SAP, Microsoft SharePoint, cluster computing M3
- SSD based instance storage
    - Use cases - Same use cases as above

Compute Optimized - Have high performing processors

- C4 (compute)
    - EBS Optimized, enhanced networking & clustering
    - High performance front-end fleets, web-servers,
    - Batch processing, distributed analytics,
        - Use cases - high performance science and engineering applications, ad serving, MMO gaming, and video-encoding. C3 (Compute)
    - SSD backed instance
    - Supports enahcned networking

Memomry Optimized

- X1
    - For Large scale, enterprise class in-memory applications
    - EBS Optimized
        - Use cases - in-memory databases like SAP HANA, big data processing engines like Apache Spark or Presto, and high performance computing (HPC) applications.
- R4 (RAM)
    - memory intensive applications
        - Use cases - High performance databases, data mining & analysis, in-memory databases, distributed web scale in-memory caches, applications performing real-time processing of

unstructured big data, Hadoop/Spark clusters

- R3 (RAM) * Use cases -high performance databases, distributed memory caches, in-memory analytics, genome assembly and analysis, Microsoft SharePoint

Accelerated Computing -

- P2 (Powerfull)
    - General purpose GPU computing Use cases - Machine learning, high performance databases, computational fluid dynamics, computational finance, seismic analysis, molecular modeling, genomics, rendering, and other server-side GPU compute workloads.
- G3 (Grphics)
    - Optimized for Grpahics intensive applications Use cases - 3D visualizations, graphics-intensive remote workstation, 3D rendering, application streaming, video encoding, and other server-side graphics workloads.
- F1 (FGPA) Field programming gate arrays Genomics research, financial analytics, real-time video processing, big data search and analysis, and security.

Storage Optimized

- I3 (iops)
    - NVMe SSD Storage
        - Use cases - NoSQL databases like Cassandra, MongoDB, Redis, in-memory databases such as Aerospike, scale out transactional databases, data warehousing, Elasticsearch, analytics workloa
- D2 (Dense)
    - Dense storage (48 tb) Use cases - Massively Parallel Processing (MPP) data warehousing, MapReduce and Hadoop distributed computing, distributed file systems, network file systems, log or data-processing applications