**What are Placement Groups?**

When we launch a new EC2, the EC2 service attempts to place the instance in such a way that all of our instances are spread out across underlying hardware to minimize correlated failures (mutual failures). This means failure in one effect the other.

We can use placement groups to influence the placement of a group of interdependent instances to meet the needs of your work load.

There are 3 placement strategies available with amazon EC2 placement groups.

**1.** Cluster

**2.** Partition

**3.** Spread

**Cluster**

Cluster placement group packs the instances close together inside an availability zone. This is used to achieve the low latency network performance.

When we need low network latency and high network throughput, we place the instance in this placement group.


                A cluster placement group
            

Cluster placement groups are recommended for applications that benefit from low network latency, high network throughput, or both. They are also recommended when the majority of the network traffic is between the instances in the group.

**Partition**

Partition placement group spreads our instances across logical partitions such that groups of instances in one partition do not share the underlying hardware with groups of instances in different partitions.

This means instances are grouped into logical segments called partitions which uses distinct hardware.

This placement group is suitable for large distributed and replicated workloads like Hadoop, Cassandra and Kafka.

**Spread**

Spread placement group places a small group of instances across distinct underlying hardware to reduce correlated failures. This group can span across multiple