**APACHE CASSANDRA**

1. **USE CASES:**

Nearly 1500 organizations use Cassandra for different purposes such as Collecting, Processing and Analyzing data from Sensors (CERN, Internet of Things, Smart Meter), Recommendation to the users from data collected from online websites (Netflix, IMDB, GrubHub), Fraud Detection from multiple resources (Barracuda Networks), Location Based Services (HERE Maps, Google Maps, Uber, Lyft, Hailo) and Segregating data for providing financial advice through Financial Products (Intuit).

1. **Advantages:**

* **High Throughput –** Amount of data getting traversed over the network is very high
* **Massive Scalability –** As the engine is distributed system, scalability is massive which means the need for additional storage systems can be scaled easily based on the amount of incoming data
* **High Availability –** As the data is distributed across different nodes in the cluster, when one node goes down, the other node can be picked up to respond to the write or read requests. Also, the cluster can be distributed across different data centers. Once a data center goes down, the cluster can be accessed from other data centers.

1. **Architecture:**

All the nodes present in a single network is called a Cluster. Every node present in a cluster, has the same functionality as the others.

NODE 1

NODE 4 CLUSTER NODE 2

NODE 3

As a Cassandra is a distributed database system, data is distributed across multiple servers which gives doorway to horizontal scalability.