Lesson 10 – Apache HBase

Spontaneous fulfilment of desires

WHOLENESS OF THE LESSON

Apache HBase is a distributed, NoSQL, column-oriented database which runs on top of HDFS and is a good choice when random, real-time, read/write/update access to very large datasets is required. Science & Technology of Consciousness: Real time querying was not possible with Hadoop earlier but with the advent of HBase, all our desires of finding insights in real time and making random updates to the underlying data are going to be spontaneously fulfilled by HBase, just like TM which supports spontaneous fulfilment of desires.

MAIN POINTS

1. Each cell in HBase is defined as a key/value pair, and each key to identify a cell is made up of row-key, CF name, column name and time-stamp. So we can say HBase is like a distributed hash map where each cell of a table is stored independently. Science & Technology of Consciousness: Even though each HBase cell is stored independently, it is still the part of the same underlying big dataset in HDFS. Similarly, even though all the things in the relative world look different, they are nothing but the distributed impulses of the underlying pure field of intelligence which is the absolute source of all relative creation and can be directly experienced through the human nervous system.

2. There are 5 major components of HBase: Zookeeper, HMaster, RegionServer, Regions and Meta table. But to get a complete knowledge of HBase, not only these 5 components but the others like MetaStore, BlockCache, WAL, HFiles and the ultimate underlying HDFS needs to be properly understood. Science & Technology of Consciousness: The level of life that is open to the 5 senses of perception is merely the most obvious and surface level of creation. Most of the layers of existence are not available to sensory perception— the cellular, the molecular, the atomic, sub-atomic, quantum force fields, and ultimately the Unified Field of all the laws of nature are all part of life's inherent holistic structure. In order to know and live life fully, the entire range of creation— from gross, to subtle, to subtlest, to life's ultimate, unified transcendental source—must be open to one's awareness.

3. Compaction chooses some HFiles from a region and combines them so that there'll be only one HFile per column family. Compaction reduces read amplification but major compaction creates write amplification and so it should be done when the cluster is not in heavy use. Doing compactions regularly increases the efficiency of HBase. Science & Technology of Consciousness: Nature functions in the most efficient way. Action in enlightenment expresses this law.

UNITY CHART

CONNECTING THE PARTS OF KNOWLEDGE WITH THE WHOLENESS OF KNOWLEDGE:

Satisfying the need of random real time read/write/updates

1. HBase is a column-oriented non-relational database that runs on top of HDFS. HBase provides a fault-tolerant way of storing sparse data sets, which are common in many big data use cases. It is well suited for real-time data processing.

2. HBase does not support SQL; in fact, HBase isn't a relational data store at all. HBase applications are written in Java much like a typical MapReduce application.

3. <u>Transcendental consciousness:</u> is the abstract field that underlies the particulars of thoughts and perceptions.

4. <u>Impulses within the Transcendental Field</u>: Because TC is free from the particulars of thoughts and outer activity, contact with this field brings greater mastery over the field of thinking and action.

5. <u>Wholeness moving within itself:</u> In Unity Consciousness, thoughts and action are saturated with the unbounded field from which they arise. As a result, someone in Unity Consciousness is fully able to do what is needed by Natural Law at any given moment.