Assignment 9.1 Answers

1. What is NoSQL database?

Answer –

NoSQL is an approach to databases that represents a shift away from traditional relational database management systems (RDBMS). To define NoSQL, it is helpful to start by describing SQL, which is a query language used by RDBMS. Relational databases rely on tables, columns, rows, or schemas to organize and retrieve data. In contrast, NoSQL databases do not rely on these structures and use more flexible data models. NoSQL can mean “not SQL” or “not only SQL.” As RDBMS have increasingly failed to meet the performance, scalability, and flexibility needs that next-generation, data-intensive applications require, NoSQL databases have been adopted by mainstream enterprises. NoSQL is particularly useful for storing unstructured data, which is growing far more rapidly than structured data and does not fit the relational schemas of RDBMS. Common types of unstructured data include: user and session data; chat, messaging, and log data; time series data such as IoT and device data; and large objects such as video and images.

1. How does data get stored in NoSQL database?

Answer –

Key-value stores are the simplest NoSQL databases. Every single item in the database is stored as an attribute name (or 'key'), together with its value.

1. What is column family in HBase?

Answer –

In the HBase data model columns are grouped into column families, which must be defined up front during table creation. Column families are stored together on disk, which is why HBase is referred to as a column-oriented data store.

1. How many maximum number of columns can be added to HBase table?

Answer –

No limit

1. Why columns are not defined at the time of table creation in HBase?

Answer –

Column families must be declared up front at schema definition time whereas columns do not need to be defined at schema time but can be conjured on the fly while the table is up an running

1. How does data get managed in HBase?
2. What happens internally when new data gets inserted into HBase table?