**Session - 2.6.1**

**Video 1 : [0:44-1:00, Video -4D2B8121, 2.6.1.1 Start]**

Hey there! In this session, you will learn about HBase, which is Hadoop's distributed NoSQL database. But before you do that, let’s hear from our subject matter expert about what a NoSQL database is and why you need it.

**[ 0:39 - 1:05, Video -4D2B8122, 2.6.1.1 End]**

In this video, you got a brief understanding of the challenges involved in using SQL and the HDFS, and their incompetence in specific use cases. You also learnt about the reasons behind the increasing popularity of NoSQL databases. In the next video, you’ll learn about the CAP theorem, which makes system designers aware of the trade-offs while designing networked shared-data systems.

**Video 2 : [0:03 - 0:21, Video -4D2B8123, 2.6.1.2 Start]**

The previous video gave you a brief understanding of the increasing popularity of NoSQL databases. Now, let’s hear from our subject matter expert about a specific theorem known as the CAP theorem, which is used to make system designers aware of the trade-offs while designing networked shared-data systems.

**[0:02-0:33, Video-4D2B8124, 2.6.1.2, End]**

In this video, you learnt about the CAP theorem, which states that it is impossible for a distributed data store to simultaneously provide more than two out of the three guarantees of consistency, availability, and partition tolerance. From the examples given, you got a good understanding of how system designers make a trade-off between these three guarantees while designing applications. In the next video, you’ll learn about HBase, which is the NoSQL distributed database of Hadoop.

**Video 3: [0:02 - 0:14, Video 4D2B8125, 2.6.1.3 Start]**

Now that you are familiar with NoSQL databases, let’s hear from our subject matter expert about HBase, which is the NoSQL distributed database of the Hadoop ecosystem.

**[0:08 - 0:28, Video 4D2B8125, 2.6.1.3 Start]**

In this video, you learnt about HBase, which is a distributed data store built on top of the HDFS. You also learnt about the features of HBase that differentiate it from Hadoop and other relational or NoSQL data stores. In the next video, you’ll learn about how data is stored in HBase.

**Video 4: [0:03-0:15,Video-4D2B8128, Start 2.6.1.4]**

In the previous video, you got familiar with HBase and its features. Our subject matter expert will now explain how data is stored in this database.

**[0:05-0:29, Video-4D2B8128, End 2.6.1.4]**

In this video, you learnt that HBase also stores data in tabular format, with some modifications to the structure of the table. You also learnt that every entry in an HBase table is identified and indexed by a row key, and for every row key, an unlimited number of columns can be stored. In the next video, you will learn how to perform basic operations in HBase, using HBase shell commands.

**Video 5:** **[0:03-0:21, Video-4D2B8129, Start 2.6.1.5]**

The previous video gave you information on how data is stored in HBase. But, how to perform operations in HBase still remains a question. Let’s hear from our subject matter expert about how you can perform basic operations in HBase, using its shell commands.

**[0:18-0:34, Video-4D2B8130, End 2.6.1.5]**

In this video, you learnt how to perform the basic CRUD operations: create, read, update, and delete in HBase, using HBase shell commands. In the next video, you’ll learn how to perform these operations in HBase using Java.

**Video 6:[0:03-0:14, Video-4D2B8131, Start 2.6.1.6]**

In the previous video, you learnt how to perform basic operations in HBase using shell commands. But, are there other ways to perform them in HBase? Let’s find out the answer to this in the next video!

**[0:21-0:35, Video-4D2B8132, End 2.6.1.6]**

In this video, you learnt how to perform the basic CRUD operations in HBase using Java. In the next video, you will learn how to modify the specifications of the table created and how to view the specifications of a table in HBase.

**Video 7:[0:30 -0:49, Video -4D2B8133 , Start 2.6.2.1]**

In the previous video, you learnt how to perform basic operations such as create, read, update, and delete in HBase, using Java. But, is there any way to modify the specifications of the table created and to view the specifications of a table in HBase? Let’s find out what the answer to this is in the next video!

**[0:32 - 1:09, Video -4D2B8134, End 2.6.2.1]**

In this video, you got familiar with the commands that help you view and modify the specifications of the tables created in HBase. Some of the commands that were discussed were ‘Describe’ for viewing the schema of the table created, ‘Exists’ to check whether a particular table exists in HBase storage or not, ‘Alter’ to modify the existing table, and ‘Drop’ to delete a table. In the next video, you will learn how HBase is capable of storing multiple versions of the data present in a single cell; you will also learn to filter the data stored in HBase tables.

**Video 8:[0:02- 0:31, Video- 4D2B8135, Start 2.6.2.2]**

In the previous video, you got familiar with the commands that help to view and modify the specifications of tables created in HBase. You already know that HBase is capable of storing multiple versions of data in a single cell using timestamps. Our subject matter expert will now demonstrate how the database stores multiple versions of the data present in a single cell and how you can filter the data stored in HBase tables.

**[0:03- 0:31, Video-4D2B8137, End 2.6.2.2]**

In this video, you got an understanding of how HBase stores multiple versions of the data present in a single cell using timestamps. You also got familiar with the “Get” command that helps to filter the data stored in HBase tables, and you learnt about the “Count” command that gives the count of the number of rows present in a table. With this, you have come to the end of this session.