Big Data: Application Areas and features with working

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Abstract: *Important and useful information can be obtained only from the data. Size of data matters while obtaining the information from it. To maintain the data with small size and medium size is easy task and required But ,to maintain the data in large size is not easy to maintain and handle. Moreover the process of handling large data size is very time consuming as compare to data in small size. A Mechanism which is used for handling the large data sets and collection of such data sets This mechanism is known as Big data. In Today's world, big data is used for dealing with the large data sets Big data is very broad topic to understand. But, this research paper will focus on the main elements of the Big Data including the introduction of Big Data, applications and features of big data and so on.*
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Key Words: *Mechanism, Data sets, Concept*

INTRODUCTION: Old data processing techniques were very time consuming for handling the datasets with large and huge size. [1]Moreover, to maintain the data using these techniques was not convenient due to the cost factor for maintenance of the data .[2]To tackle such kind of problems, the concept of Big Data introduced. [3] John Mashey gave the term Big Data in 1990.As the size of data is increasing from gigabyte to terabyte and then terabyte to petabytes , the need of big data is increasing after every year with the introduction of the large datasets.[4] It is not necessary that Big Data will use any particular method or technique for maintaining or managing the database.[5] All it depends upon the type of the data. Depending upon the type of data, appropriate technique or method is used for it.[6] We cannot say how big data is ,but the need of appropriate techniques and applications that can handle the available data, helps to define that how big data is.

OBJECTIVE: Data sets are collection of data that is extracted from the database depending upon the category of the data. Data sets are used for making the process of managing and maintain the database smoother. But, sometimes database is huge or collection is database is needed to maintain. In such type of conditions it is difficult to handle and maintain the database using the datasets only. Further added mechanism is needed for managing the whole database. Big data is a concept that deals with maintaining, managing and handling the database.

WORKING: Big data uses various methods for transforming the acquired information from the database into values by categorizing the information based upon various characteristics like velocity, specific technology to be used ,volume of data and so on. Big data uses the various techniques for revealing the various forms of data that can be possible from the database. Big data uses various methods for managing and maintain the database, but the most commonly method used by Big Data is Map Reduce. This method can be considered to understand the working of Big Data.

- **Map Reduce Method:** In this method data in raw form is transformed into meaningful information .Various types of computations are performed on the a number data sets on same time but at multiple systems. This method include two steps. These steps are given below:

1. **Map Function:** In first step the mapping is done by using filtering and sorting the data and categorize the data depending upon the type of the data.

2. **Reduction Function:** This is second step of Map Reduce method. Reduction function includes the process of reducing the data. In this step, data is analyzed and combined at one place.
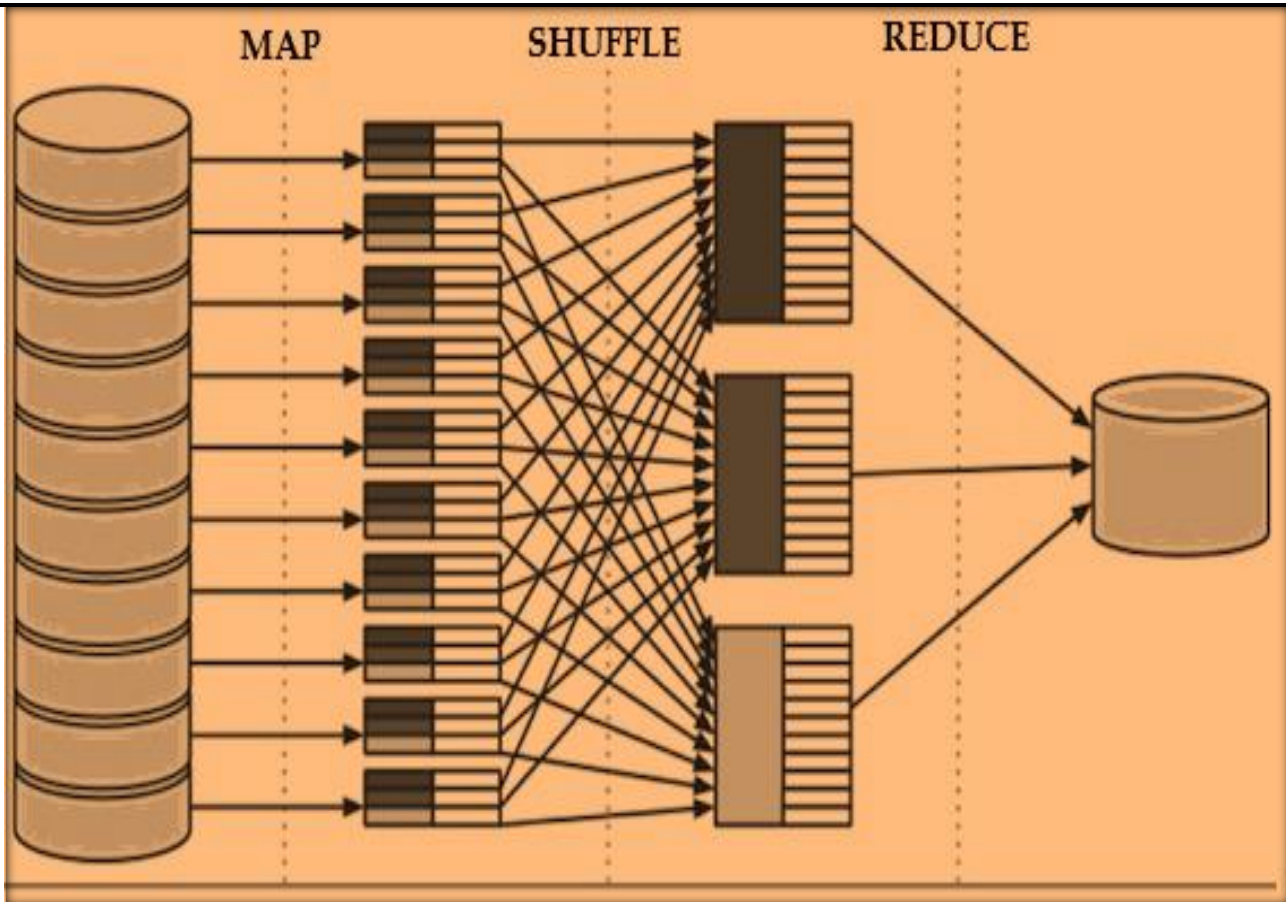
Fig. 1: WORKING OF BIG DATA USING MAP-REDUCE METHOD

CHARACTERISTICS: There are different types of characteristics of Big Data. Various characteristics of the big data are given below:

- **Velocity**: It means that the pace or speed at which generation of data is made. It also considers speed of the processing the challenges or hurdles that occur during the development of new forms of data.
- **Volume**: Amount of the data that is stored or that is generated. The amount of data specifies the depth of the data and possible forms of the data. By this specification, decision can be taken for this that data should be consider or not.
- **Veracity:** It considers the quality of the data. Analysis of data can be affected with the variation in the quality of the data of the database.
- **Variety:** This concept considers the variety of data. This includes nature of the data and what type of the data is. In this way it becomes easy to analyze the data and possible forms.
- **Variability:** Variations or changes in the database effects the data. In this way, it becomes difficult to handle data sets with changes .

FEATURES: Features of the big data is given below-:

- Various business organizations use the concept of big data for making the future plans for the business by using accessing the various social websites like twitter, facebook and so on.
- Customer feedback systems uses the concept of big data for collecting the feedback of the customers on large scale. In this way Big data increased the customer service improved.
- Big data is also helpful for detection of the risks related with various products available in the market,that can occur in the future.
- Big data is also useful for identifying the data that is not used frequently before moving the data from database to new data sets.
- Another feature of the big data is that it is more efficient than the traditional techniques used in the past that were not capable to process the large data.
- Big Data is capable for handling the large data sets like data sets with size of gigabytes, terabytes or petabytes. It was not possible with the traditional data processing software.

APPLICATION AREAS: There are applications of the big data. Some of them are given below-:

- In manufacturing sector ,data about the supply chain management is available in the form of database, which is handled by the techniques of the big data.
- Big data is also used in the banking sector for maintaining the database of the account details as well as for managing the security. By using big data, it is easier to detect about various frauds that can be occur in the future.
- Big data is also used in Entertainment sector. People want music and videos on demand. For this, maintenance of database is needed, this can be achieved by using the big data.
- Another use of big data is in the field of health care. Information of various health problems with their solutions is available online. To maintain such type of database, big data is used.
- In education sector, big data play a major role for maintaining the database .Online education is provided by using the educational videos and eBooks that are stored in the form of database

CONCLUSION: With the changing technologies and advancement in the computing sector ,the size of storage medium and their capacity increased from gigabytes to terabytes and from terabytes to petabytes . Due to these advancements the need of high storage increased. Due to high storage, the task of maintenance increase with the time. Big data helped the industry for maintaining the large data sets with taking less time with efficiency and accuracy. In the future the need of big data will increase and more techniques of big will introduce for handling large data sets in the future

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