

COMPARATIVE STUDY OF BIG DATA OPEN SOURCE TOOLS

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ABSTRACT: Today data is growing in volume, variety and velocity. To handle this data, one has to use databases with massively parallel software running on tens, hundreds, or more than thousands of servers. 50 billion devices are expected to have been connected to internet by 2020. So Big data platforms are used to acquire, organize and analyze these types of data. There is no direct definition of how big a dataset has to be to be labeled Big Data. Nevertheless, new technologies have to be in place to manage the Big Data phenomenon. Over the past era, there have been a lot of efforts and studies carried out in growing proficient tools for performing various tasks in big data. Recently big data have gained a lot of publicity for their good reasons. Big Data gains global attention due to the increased usage of social media. Due to the large and complex collection of datasets it is difficult to process on traditional data processing applications. This concern turns to be further mandatory for producing various tools in big data. This paper discusses the back ground of Big Data tools and state-of-art of Big Data tools. The paper first introduced general characteristics of Big Data. Then it focuses on overview of different Big Data tools. Finally the paper touches upon the comparative aspects of the various tools in Big Data followed by a brief conclusion.

Keywords: Big Data, Hadoop, MapReduce, Sqoop, Velocity

1. INTRODUCTION

In the past, type of information available was little. There was a well-defined set of technology closer for managing information. But in today's world, the amount of data in our world has been blowing. It has grown to terabytes and petabytes. As a result, day by day the amount of data uploaded is increasing fast [1] and leads to an extraordinary rate of data creation. Big data distinct from large existing data stored in various relational databases. It refers to a collection of large data sets which are very complex. Big data can be described using following terms:

1) **Volume:** Some small sized organizations may have gigabytes or terabytes of data storage. Data volume will continue to grow, nevertheless of the organization's size. Many of these companies' datasets are within the terabytes range today but, soon they could reach petabytes or even exabytes. Machine generated data is huge in volume than the traditional data. The increase in the volume of various data records is typically managed by purchasing online storage.

2) **Variety:** Various types of data are captured. It may be structured, semi structures or unstructured. Refers to the many different data and file types that are important to manage and examine more thoroughly, but for which traditional relational databases are poorly suited. Some examples of this variety include sound and movie files, images, documents, geo-location data, web logs, text strings, web contents etc [2].

3) **Velocity:** The data is arriving continuously as streams of data. It is about the speed in the data and how rapidly it must be used to create real value [3].

4) **Veracity:** Veracity isn't just about data quality, it's about data understandability. If the data coming in large volume are not correct, they can create a problem and are of no use. So, it should be correct. There are three types of big data. Structured, unstructured and semi structured. Similar entities are grouped together in structured data. Fig.2 illustrates the three primary layers involved in Big Data computation.

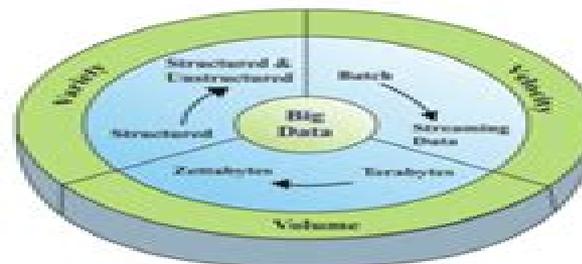


Fig.1. Structure of Big Data

The rest of this paper is structured as follows. Section1 discusses the growth and significance of Big

Comparative Study Of Big Data Computing And Storage Tools

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The Top Books of the Year Comparative Study Of Big Data Computing And Storage Tools The year 2023 has witnessed a remarkable surge in literary brilliance, with numerous captivating novels captivating the hearts of readers worldwide. Lets delve into the realm of bestselling books, exploring the engaging narratives that have enthralled audiences this year.

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These popular novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of captivating stories waiting to be discovered.

The novel begins with Richard Papen, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts.

The Secret History is a masterful and suspenseful novel that will keep you speculating until the very end. The novel is a cautionary tale about the dangers of obsession and the power of evil.

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Table of Contents Comparative Study Of Big Data Computing And Storage Tools

1. Understanding the eBook Comparative Study Of Big Data Computing And Storage Tools
 - The Rise of Digital Reading Comparative Study Of Big Data Computing And Storage Tools
 - Advantages of eBooks Over Traditional Books
2. Identifying Comparative Study Of Big Data Computing And Storage Tools
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in a Comparative Study Of Big Data Computing And Storage Tools
 - User-Friendly Interface
4. Exploring eBook Recommendations from Comparative Study Of Big Data Computing And Storage Tools
 - Personalized Recommendations
 - Comparative Study Of Big Data Computing And Storage Tools User Reviews and Ratings
 - Comparative Study Of Big Data Computing And Storage Tools and Bestseller Lists
5. Accessing Comparative Study Of Big Data Computing And Storage Tools Free and Paid eBooks
 - Comparative Study Of Big Data Computing And Storage Tools Public Domain eBooks
 - Comparative Study Of Big Data Computing And Storage Tools eBook Subscription Services
 - Comparative Study Of Big Data Computing And Storage Tools Budget-Friendly Options
6. Navigating Comparative Study Of Big Data Computing And Storage Tools eBook Formats
 - ePub, PDF, MOBI, and More
 - Comparative Study Of Big Data Computing And Storage Tools Compatibility with Devices
 - Comparative Study Of Big Data Computing And Storage Tools Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Comparative Study Of Big Data Computing And Storage Tools
 - Highlighting and Note-Taking Comparative Study Of Big Data Computing And Storage Tools
 - Interactive Elements Comparative Study Of Big Data Computing And Storage Tools
8. Staying Engaged with Comparative Study Of Big Data Computing And Storage Tools

- Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Comparative Study Of Big Data Computing And Storage Tools
9. Balancing eBooks and Physical Books Comparative Study Of Big Data Computing And Storage Tools
- Benefits of a Digital Library
 - Creating a Diverse Reading Collection Comparative Study Of Big Data Computing And Storage Tools
10. Overcoming Reading Challenges
- Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Comparative Study Of Big Data Computing And Storage Tools
- Setting Reading Goals Comparative Study Of Big Data Computing And Storage Tools
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Comparative Study Of Big Data Computing And Storage Tools
- Fact-Checking eBook Content of Comparative Study Of Big Data Computing And Storage Tools
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning
- Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
- Integration of Multimedia Elements
 - Interactive and Gamified eBooks

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