International Journal of Studies in Advanced Education
Volume 02, Issue 05, May, 2023
ISSN (E): 2949-8945
Scholarsdigest.org

ANALYSIS OF TECHNOLOGY IN CLIENT SERVER SYSTEMS

Мирзарахимов Мирзарахим Аминжон угли,
Ферганский государственный университет, докторант.
mirzaraxim@pf.fdu.uz

Бахромова Мансур Махсуд угли,
преподаватель кафедры «Точные и естественные науки»
Ферганского государственного университета
bahromovmansur295@gmail.com

Annotation
Nowadays, there is a huge amount of data that needs to be processed and stored. Client-server systems must be able to handle large amounts of data in order to function effectively. Distributed data processing technologies help solve this problem by speeding up processes and improving the quality of the system. Modern client-server systems work with large amounts of data, which requires efficient processing and storage of information. Distributed data processing technologies make it possible to solve this problem by speeding up processes and improving the quality of the system.

Introduction
One of the most popular distributed data processing technologies is Apache Hadoop. It is based on the use of the HDFS distributed file system and the MapReduce framework for data processing. Hadoop allows you to work with large amounts of data, speeds up processes and increases the reliability of the system.
Another popular technology is Apache Spark. It is based on the use of a distributed in-memory computational model and the Spark SQL framework for data processing. Spark allows you to process data in real time, speeds up processes and improves the quality of work.
Redis is a key-value data store that can be used to cache data and speed up the system. It can also be used to process streaming data and implement message queues.
Restful API is an architectural style for building web services that uses the HTTP protocol to work with data. It allows you to create easily extensible and flexible APIs for processing requests and transferring data between client and server.
In addition to the technologies mentioned above, there are many other methods and tools for distributed data processing in client-server systems.
Apache Kafka is a distributed stream data processing system that allows you to process large amounts of data in real time. It can be used for streaming data processing, data analytics, and integration of various systems.

Apache Storm is a distributed stream data processing system that allows you to process large amounts of data in real time. It can be used for streaming data processing, data analytics, and machine learning.

Apache Flink is a distributed stream data processing system that allows you to process large amounts of data in real time. It can be used for streaming data processing, data analytics, and machine learning.

Apache Cassandra is a distributed database that allows you to store and process large amounts of data in real time. It can be used to store and process structured and unstructured data.

Apache ZooKeeper is a distributed configuration management system that allows you to manage and coordinate distributed applications and services.

Docker is a containerized platform that allows you to package applications and their dependencies into containers to run more efficiently in a distributed environment.

Kubernetes is a container management system that allows you to automate the deployment, scaling, and management of containers in a distributed environment [9,10].

In general, the use of various technologies and methods for distributed data processing in client-server systems allows you to create more efficient and scalable applications. However, when choosing specific tools, it is necessary to take into account the requirements for the system and its specific tasks.

Outcomes

The use of distributed data processing technologies in client-server systems allows you to solve many problems related to the processing of large amounts of data. They can be applied in various fields such as finance, medicine, manufacturing, etc.

One example of successful application of distributed data processing technologies is Amazon Web Services. They use Hadoop and Spark to process large amounts of data, which allows them to provide high-quality cloud computing services.

Discussion

Distributed data processing technologies are an integral part of modern client-server systems. They allow you to efficiently process large amounts of data, speed up processes and improve the quality of work. However, there are a number of factors to consider when using these technologies, such as data security and system performance optimization.

Redis and Restful APIs are also important technologies for client-server systems. Redis can be used to cache data and speed up the system, and the Restful API allows you to create flexible and extensible APIs for processing requests and transferring data between the client and the server [5,6,7,8].

In general, the use of distributed data processing technologies, Redis and Restful API allows you to create high-performance and reliable client-server systems. However, when choosing technologies, it is necessary to take into account the requirements for the system and its specific tasks.

Conclusion:

Nowadays, with the increase in the amount of data that needs to be processed, distributed systems are becoming more and more popular. They allow you to efficiently process large amounts of data, providing high performance and fault tolerance.

One of the main challenges in distributed systems is real-time data processing. To solve this problem, streaming systems are used that allow you to process data in real time.

One of the most popular streaming systems is Apache Kafka. This system allows data transfer between different applications and provides high performance and fault tolerance [1,2,3,4].

For the design of distributed systems and streaming systems, you can use the books "Designing Data-Intensive Applications" by Martin Kleppmann and "Distributed Systems: Principles and Paradigms" by Andrew Tanenbaum and Maarten Van Steen.

Also useful reading can be the book "Streaming Systems: The What, Where, When, and How of Large-Scale Data Processing" by Tyler Akidau, Slava Chernyak and Reuben Lax, which provides information about streaming systems and their applications.

To learn how big data works and create scalable systems, you can refer to the book "Big Data: Principles and best practices of scalable realtime data systems" by Nathan Marz and James Warren.

Thus, the study of the literature on distributed systems and streaming systems can help in creating efficient and scalable systems for processing large amounts of data.

References:

1. "Designing Data-Intensive Applications" by Martin Kleppmann
2. "Distributed Systems: Principles and Paradigms" by Andrew S. Tanenbaum and Maarten Van Steen
3. "Streaming Systems: The What, Where, When, and How of Large-Scale Data Processing" by Tyler Akidau, Slava Chernyak, and Reuven Lax
4. "Big Data: Principles and best practices of scalable realtime data systems" by Nathan Marz and James Warren
5. "Apache Kafka: A Distributed Streaming Platform" by Neha Narkhede, Gwen Shapira, and Todd Palino.
6. Axmadjonov M. F., Mirzaraximov M. A. FIREBASE IN REAL-TIME SYSTEMS BASED ON CLIENT SERVER TECHNOLOGY //Oriental renaissance: Innovative, educational, natural and social sciences. – 2022. – Т. 2. – №. 1. – С. 146-150.
7. Мирзарахим М. А., Назиркулов А. To assist individuals desiring to benefit the worldwide work of Jehovah's Witnesses through some form of charitable planning, a brochure has been prepared in English and English. FarDU. – SCIENTIFIC REPORTS-1-2021.
8. Bakhromov M. THE IMPORTANCE OF ELECTRONIC LEARNING RESOURCES IN ORGANIZING AND CONDUCTING DISTANCE LESSONS //INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH. – 2022. – Т. 11. – №. 09. – С. 91-95.

9. Son B. M. M. THE BIBLE'S VIEWPOINT OF THE BIBLE'S VIEWPOINT OF THE BIBLE'S VIEWPOINT – 2022. – Т. 8. – С. 77-80.
10. Haydarov I. U. et al. KATTA HAJMLI TASVIRNI QAYTA ISHLASH ALGORITMLARINI ISHLAB CHIQISH //Finland International Scientific Journal of Education, Social Science & Humanities. – 2023. – Т. 11. – №. 1. – С. 537-545.
11. Mirzarakhimov M. A. 'THE ROLE OF MOBILE COMMUNICATION SYSTEMS IN THE DEVELOPMENT OF DATA PROCESSING SOFTWARE PRODUCTS BASED ON CLIENT-SERVER TECHNOLOGY IN UZBEKISTAN .INTERNATIONAL SCIENTIFIC RESEARCH CONFERENCE. – 2023. – Т. 2. – No. 14. – С. 75-77.
12. Usmonalievich X. I., Farxodjon o'g'li D. X., Aminjon o'g'li M. M. MA'LUMOTLARGA TAQSIMLANGAN HOLDAGI ISHLOV BERISH TEXNOLOGIYALARI //ITALY" ACTUAL PROBLEMS OF SCIENCE AND EDUCATION IN THE FACE OF MODERN CHALLENGES". – 2023. – Т. 14. – №. 1.
13. Mirzaraximov M.A., Sirojiddinov A.A., Nazirqulov J.D. Study of the algorithm of selection of qualified personnel from the system in real time on the basis of fuzzy logic. Scientific journal of the Fergana State University, 2021(1). Fergana, Publ: Fergana State University, 2021.
14. Mirzaraximov, Mirzaraxim & Жўраев, Н.М. (2020). Телекоммуникация технологияларининг мижозсервер технологияси асосидаги дастурий махсулотларни ривожланишидаги тутган ўрни. 10.13140/RG.2.2.25175.60325.
15. Khaydarov, I. / Dadaoev, X. / Mirzaraximov, Mirzaraxim. (2022). Advantages of processing algorithms distributed in real-time based on client server technology.