Types of Queries in Database System

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Abstract:

Queries are the important part of database. All the operations of a data can be done in database with the help of query. In this paper, we have tried to mention the different types of database queries. Queries are categorized as functional, OLTP and DSS queries. DSS queries are complex in nature and take more time as compare to other queries. Functional queries are further categorized as create, manage and control queries. Data management queries are used to manipulate the data by using insert, delete and update operations. Data control queries are used commit and grant operations. In online transaction processing system (OLTP); real updates are performed but decision support system (DSS) queries perform batch which is totally different from OLTP.

Keyword: Query, OLTP, DSS.

1. Introduction:

Database is the collection of interrelated tables; Table is the collection of interrelated records; Records is the collection of interrelated fields and the field is the set of value define by the single domain. Distributed database system is defined as the set of interrelated data distributed over several sites. Distributed database is the kind of virtual database whose components parts are physically stored in the number of real database at the number of distinct locations. The user at any location can access data anywhere. The distributed database system is a technology emerged by the development of database technology and computer network. Distributed Database explore the communication facilities of the computer network to offer distributed users the same level of services obtained in the centralized database system.

Queries can be categorized as functional, OLTP and DSS functional queries, Data management queries, data control query, OLTP and DSS queries. Functional queries are further categorized as create, manage and control queries. All the data in the database can be create and drop by using create and drop query, by using manage query all the data in the database are insert, delete and update. In data creation and data destruction queries create, insert and drop statements are used. In database queries data is managed and manipulate, data can be insert, delete and update. In data control query we can save data using commit command; permission can be granted using grant command.
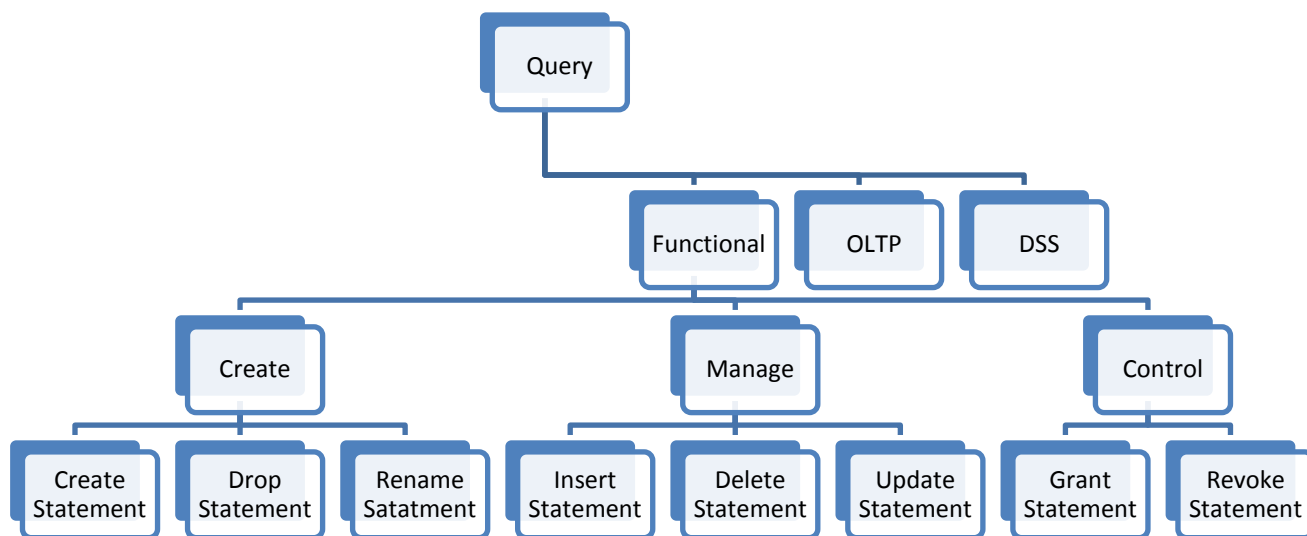
OLTP stands for online transaction processing, In OLTP the execution time is less and predictable. In decision support system (DSS) queries used to retrieve data from large database. The time of running is predictable in DSS query. Distributed queries are more difficult to handle as compare to centralized database system. Decision support system (DSS) queries are more complex as compare to online transaction processing queries (OLTP). The DSS query is distributed in nature because it is used to retrieve data from multiple sites. In online transaction processing system (OLTP); real updates are performed but decision support system (DSS) queries perform batch which is totally different from OLTP. The process of optimization in Decision support system (DSS) queries is complex as compare to OLTP queries.

2. Objective of study

- To understand the basic concepts of query
- To know the different types of database queries
- To know the difference between OLTP and DSS queries

3. Types of Queries

A query is a language expression that describes data to be retrieved from a database. Queries are used in several settings; the most obvious application is that of direct request by the end user who need information about the structure of the database. Queries can be categorized as data creation and data destruction, Data management quarries, Data control quarry, OLTP and DSS quarries. In data creation and data destruction quarries create, insert and drop quarries are used. In data management quarry data is managed and manipulate, data can be insert, delete and update. In data control quarry we can save data using commit command; permission can be granted using grant command. In online transaction processing (OLTP) the work analysis and query optimization is done. In decision support system (DSS) queries used to retrieve data from large database [1][2][3][4][5][6].

The execution time is not predictable in DSS query. Decision support system (DSS) queries are more complex as compare to online transaction processing queries (OLTP). The running time of DSS queries are unpredictable as compare to OLTP. The process of optimization in Decision support system (DSS) queries is complex as compare to OLTP queries.

The DSS query is distributed in nature because it is used to retrieve data from multiple sites. In online transaction processing system (OLTP); real updates are performed but decision support system (DSS) queries perform batch which is totally different from OLTP. Online transaction processing (OLTP) database applications are optimal for managing changing data; these applications typically have many users who are performing transaction at the same time that change real time data, in other words OLTP is a live database. On other side the tables in a decision support database are heavily indexed and the raw data is frequently preprocessed and organized to support various types of queries to be used.

4. Comparison of OLTP/DSS

As per references [1][6][7][13][16][22] OLTP differ from DSS in the following manners.

OLTP	DSS
1. OLTP stands from online transaction processing.	**1.** DSS stands for decision support system.
2. The OLTP has common routine work.	**2.** The DSS has aggregate or subroutine information.
3. The execution time of OLTP is less as compare to DSS.	**3.** The execution time of DSS is more as compare to OLTP.
4. In case of OLTP, the execution time is predictable.	**4.** The execution time is not predictable in case of DSS.
5. In OLTP, less resources are used i.e. Less memory is used.	**5.** In DSS, more resources are used i.e. more memory is used.
6. The OLTP is less costly in terms of execution time and system resources.	**6.** On the other side DSS is more costly in terms of execution time and system resources.

5. Conclusion

In this paper, an effort is made to understand the concept of database queries. We have described different types of queries. Moreover, the difference between OLTP and DSS queries is also mentioned.

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