MySQL 官方手册阅读之Chapter 8 Optimization

Optimizing at the Database Level :

table structure, column data types

indexes

storage engine

row format eg. compressed tables

locking strategy

memory cache

Optimizing at the Hardware Level :

disk seeks : to distribute the data onto more than one disk.

disk reading and writing : multiple disks

CPU cycles : big tables

Memory bandwidth

Balancing Portability and Performance :

wrap MySQLspecific

keywords in a statement within /*! */ comment delimiters.

Optimizing SQL Statements

Optimizing SELECT Statements

1. whether to add a index
2. Isolate and tune any part of the query, such as a function call, that takes excessive time.
3. Minimize the number of full table scans.in your queries, particularly for big table.
4. use the ANALYZE TABLE statement periodically to keep table statistics up to date.
5. learn the tuning techniques, indexing techniques, and configuration parameters that are specific to the storage engine for each table.
6. Optimize single-query transactions for InnoDB tables.
7. Avoid transforming the query in ways that make it hard to understand.
8. investigate the internal details of the specific query by reading the EXPLAIN plan and adjusting your indexes, WHERE clauses, join clauses, and so on.
9. Adjust the size and properties of the memory areas that MySQL uses for caching.
10. Even for a query that runs fast using the cache memory areas, you might still optimize further so that they require less cache memory, making your application more scalable.
11. Deal with locking issues.

1) Where Clause Optimization