What are the advantages of using indexes?

he advantages of indexes are as follows:

* Their use in queries usually results in much better performance.
* They make it possible to quickly retrieve (fetch) data.
* They can be used for sorting. A post-fetch-sort operation can be eliminated.
* Unique indexes guarantee uniquely identifiable records in the database.

The disadvantages of indexes are as follows:

* They decrease performance on inserts, updates, and deletes.
* They take up space (this increases with the number of fields used and the length of the fields).
* Some databases will monocase values in fields that are indexed.

9. How clustering of data can improve query perfonnance?

Clustering data means to store consecutively accessed data closely together so that accessing it requires fewer IO operations. Data clusters are very important in terms of database tuning. Computer clusters, on the other hand, are also very common in a database context—thus making the term cluster very ambiguous. The sentence “Let's use a cluster to improve database performance” is just one example; it might refer to a computer cluster but could also mean a data cluster. In this chapter, cluster generally refers to data clusters.

10. What are the typical tasks provided by a database administrator?

Database administrators (DBAs) use specialized software to store and organize data. The role may include capacity **planning**, installation, configuration, **database design**, migration, performance **monitoring**, security, **troubleshooting**, as well as backup and data recovery.