

Composite index strategy

Composite indexes in database optimization

Composite indexes are database structures that combine multiple columns into a single index to enhance query performance. They are particularly effective when queries filter or sort data using multiple fields, as they minimize full table scans and reduce query execution time. Unlike single column indexes, composite indexes allow efficient retrieval of records where multiple conditions are applied, and improving query selectivity. However their effectiveness depends on column order, as the indexes can only be used optimally when the query includes the leading column. Proper design of composite indexes is crucial for balancing performance and storage cost (Elmansri, 2016)

Bibliography

Elmansri, R. & N. S., 2016. *Fundamentals of database system*. 7th ed. Boston: Pearson.