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# USING DATABASE INDEXES - DECI WHICH INDEXES TO CREATE

Before you create indexes for a database table, consider how you will use the table. The two most common oper

- Insert, update, and delete records
- Retrieve records

If you most often insert, update, and delete records, then the fewer indexes associated with the table, the better because the driver must maintain the indexes as well as the database tables, thus slowing down the performance deletes. It may be more efficient to drop all indexes before modifying a large number of records, and re-create th

If you most often retrieve records, you must look further to define the criteria for retrieving records and create in performance of these retrievals. Assume you have an employee database table and you will retrieve records bas department, or hire date. You would create three indexes-one on the DEPT field, one on the HIRE_DATE field, ar Or perhaps, for the retrievals based on the name field, you would want an index that concatenates the LAST_NA (see "Indexing Multiple Fields" for details).

Here are a few rules to help you decide which indexes to create:

- If your record retrievals are based on one field at a time (for example, dept='D101'), create an index on th
- If your record retrievals are based on a combination of fields, look at the combinations.
- If the comparison operator for the conditions is AND (for example, CITY = 'Raleigh' AND STATE = 'NC'), th the CITY and STATE fields. This index is also useful for retrieving records based on the CITY field.
- If the comparison operator is OR (for example, DEPT = 'D101' OR HIRE_DATE > {01/30/89}), an index do Therefore, you need not create one.
- If the retrieval conditions contain both AND and OR comparison operators, you can use an index if the OR example:

  ```
  dept = 'D101' AND (hire_date > {01/30/89} OR exempt = 1)
  ```

  In this case, an index on the DEPT field improves performance.
- If the AND conditions are grouped, an index does not improve performance. For example:

  ```
  (dept = 'D101' AND hire_date) > {01/30/89}) OR exempt = 1
  ```

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