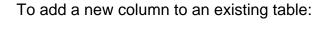
1. Adding a Column



```
ALTER TABLE table_name

ADD column_name column_type;

Example:

ALTER TABLE employees

ADD date_of_birth DATE;
```

This adds a date_of_birth column of type DATE to the employees table.

2. Dropping a Column

To remove an existing column from a table:

```
ALTER TABLE table_name

DROP COLUMN column_name;

Example:

ALTER TABLE employees

DROP COLUMN date_of_birth;
```

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3. Modifying a Column

To change the data type or attributes of an existing column:

```
ALTER TABLE table_name

MODIFY COLUMN column_name new_data_type;

Example:

ALTER TABLE employees

MODIFY COLUMN last_name VARCHAR(100);
```

This changes the last_name column to a VARCHAR type with a maximum length of 100 characters.

4. Renaming a Column

To rename an existing column:

```
ALTER TABLE table_name

CHANGE old_column_name new_column_name column_type;

Example:
```

```
ALTER TABLE employees

CHANGE COLUMN last_name surname VARCHAR(100);
```

This renames the last_name column to surname and sets its type to VARCHAR(100).

5. Renaming a Table

To rename an existing table:

```
ALTER TABLE old_table_name

RENAME TO new_table_name;

Example:

ALTER TABLE employees

RENAME TO staff;
```

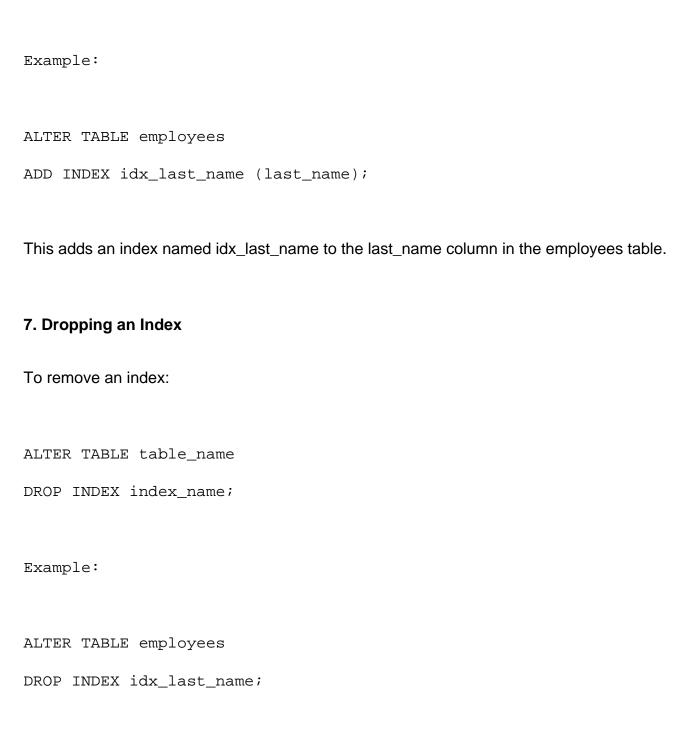
This renames the employees table to staff.

6. Adding an Index

To add an index to a column or a set of columns:

```
ALTER TABLE table_name

ADD INDEX index_name (column_name);
```



This removes the index idx_last_name from the employees table.

8. Adding a Primary Key

To add a primary key constraint:

```
ALTER TABLE table_name

ADD PRIMARY KEY (column_name);

Example:

ALTER TABLE employees

ADD PRIMARY KEY (employee_id);

This adds a primary key constraint to the employee_id column.

9. Dropping a Primary Key
```

To remove a primary key constraint:

```
ALTER TABLE table_name

DROP PRIMARY KEY;

Example:

ALTER TABLE employees

DROP PRIMARY KEY;
```

This removes the primary key constraint from the employees table.

10. Adding a Foreign Key

To add a foreign key constraint:

```
ALTER TABLE table_name
ADD
      CONSTRAINT
                    fk_name
                              FOREIGN
                                         KEY
                                                (column_name)
                                                                REFERENCES
other_table(other_column);
Example:
ALTER TABLE employees
ADD
     CONSTRAINT fk_department FOREIGN KEY
                                               (department_id)
                                                                REFERENCES
departments(department_id);
```

This adds a foreign key constraint named fk_department to the department_id column, referencing the department_id column in the departments table.

11. Dropping a Foreign Key

To remove a foreign key constraint:

```
ALTER TABLE table_name

DROP FOREIGN KEY fk_name;

Example:
```

ALTER TABLE employees

DROP FOREIGN KEY fk_department;

This removes the foreign key constraint fk_department from the employees table.

12. Setting a Default Value for a Column

To set a default value for a column:

```
ALTER TABLE table_name
```

ALTER COLUMN column_name SET DEFAULT default_value;

Example:

ALTER TABLE employees

ALTER COLUMN status SET DEFAULT 'active';

This sets the default value of the status column to 'active'.

13. Dropping a Default Value

To remove the default value of a column:

```
ALTER TABLE table_name
```

ALTER COLUMN column_name DROP DEFAULT;

```
Example:

ALTER TABLE employees

ALTER COLUMN status DROP DEFAULT;
```

This removes the default value of the status column.

Combining Multiple Alterations

You can combine multiple ALTER TABLE operations in a single statement, separated by commas:

```
ALTER TABLE table_name

ADD column_name column_type,

MODIFY COLUMN column_name new_data_type,

DROP COLUMN column_name;

Example:

ALTER TABLE employees

ADD middle_name VARCHAR(50),

MODIFY COLUMN surname VARCHAR(100),

DROP COLUMN nickname;
```

This adds a middle_name column, changes the surname column to VARCHAR(100), and drops the nickname column in the employees table.