

Relations

A common field between two or more tables.

There are Four types of Relations:

1. **One to One:** Primary Key /Primary Key
2. **One to Many:** Primary Key /Non-Primary Key
3. **Many to Many:** Needs a junction table.
4. **Indeterminate:** Non-Primary key / Non-Primary key.

Note :

The common fields (relationship fields) : do not need to have the same names, but they must have the same data type and contain the same kind of information(have the same meaning).

One to Many :

each doctor works in one (or zero) department and the department may have many (including zero) doctors.

Department

<u>Deptno</u>	DeptName	Head	Floor
---------------	----------	------	-------

Doctors

<u>D_id</u>	D_Name	Salary	Phone	Deptno(FK)
-------------	--------	--------	-------	------------

Database Tools → Relationships

1. Primary table : department
2. Related table : doctors
3. Common field/relationship field : deptno-deptno.
4. Relationship type : One to Many

Many to Many

Each patient may be treated by many (including zero) doctors and the doctor treats many patients (including zero).

Doctors

<u>D_id</u>	D_Name	Salary	Phone	Deptno(FK)
-------------	--------	--------	-------	------------

Patient

P_ID	PName	Entry_Date	Address	Gender	Married
------	-------	------------	---------	--------	---------

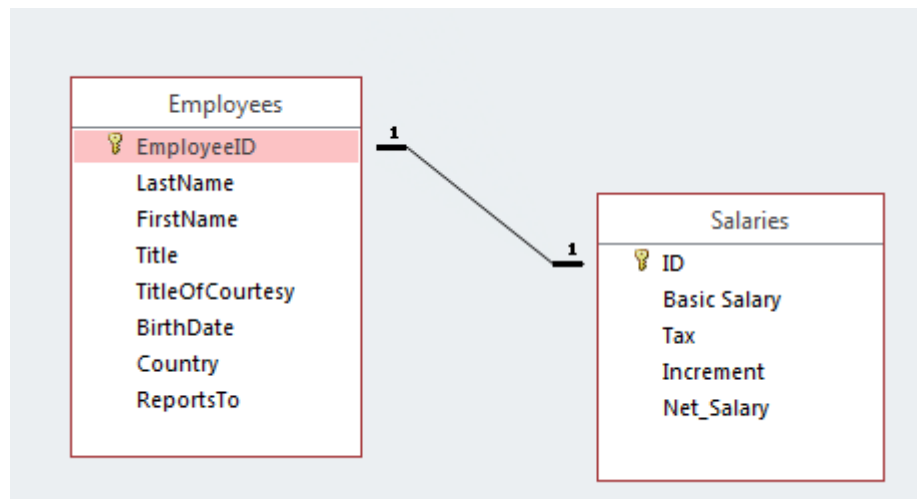
Patient Doctor

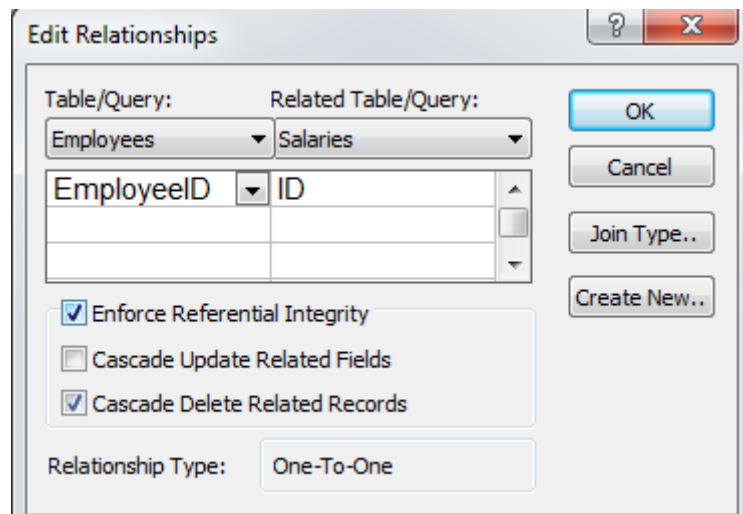
<u>D_id</u>	<u>P_id</u>	<u>Treat Date</u>
-------------	-------------	-------------------

- Needs a junction table: has a composite primary key.
- Primary table: doctor, patients tables
- Related: treatment (patient _doctor) (junction table)

One to One

Each employee has one salary and a certain salary is for one employee.





1. primary table : Employees
2. Related table : Salaries
3. Common field /relationship field : EmployessID – ID.
4. This relation satisfies enforce referential integrity and cascade delete related records. ☒
5. Relationship type : One to one

Indeterminate:

A relationship between two fields that neither of them is primary key .

Enforce referential integrity

No new data in the common field in the related table not in the common field in the primary table.

Cascade update related fields

If you update the **common field** in the **primary table**, then the **common field** in the **related table** will be **updated** automatically.

Cascade delete related records

If you delete a record from the **primary table** all the related records in the **related table** will be deleted automatically

Remember : Database Tools → Relationship