One-to-One (1:1) Relationship

Question: Where should the **foreign key (FK)** go?

👉 Short answer: **It depends on ownership, optionality, and lifecycle.**

🔑 **Rule 1: Put the foreign key on the dependent (optional) side**

If **one table cannot exist without the other**, the FK goes in the **dependent table**.

Example: Employee ↔ Passport

- An **employee may or may not have a passport**

- A **passport cannot exist without an employee**

🔑 **Rule 2: Put the foreign key where it makes business sense**

Ask:

"Which entity **logically belongs** to the other?"

Example: User ↔ Profile

- User exists first

- Profile is extra info

🔑 **Rule 3: Avoid foreign keys on both tables (usually)**

Putting FKs in **both tables** causes:

- Circular dependency

- Insert problems

- Harder maintenance

🔑 **Rule 4: Use a shared primary key for strong 1-to-1**

When the relationship is **mandatory on both sides**, use **same PK**.

Example: Employee ↔ Employee_Details

- Every employee must have details

- Details cannot exist alone