

# One To One Relationship Usage Reasons

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Overview

This document is intended to provide reasons to use one to one relationship although there are no duplication in data.

## Reasons to use one to one relationship

### 1. Optional or Rarely Used Fields

When only some rows need extra data:

- Instead of having many `NULLS` in one large table, move that data to a related table.
- Improves **storage efficiency** and **query performance** (smaller row size in main table).

Example: Not every employee might have a company phone.

### 2-Security and Access Control

You might want to:

- Restrict access to sensitive info (e.g., `EmployeeSSN`) by isolating it in a separate table
- Grant access at the table level rather than using row-level security

### 3-Avoiding Table Locking Conflicts

Separating frequently-updated data (e.g., contact info) from stable data (e.g., name, DOB) can reduce row-level locking issues in high-write environments.

### 4-Separation of Concerns / Logical Grouping

You might split a table into two if some columns are conceptually different. For example:

- `Employee` table holds general info
- `EmployeeDetails` or `Phone` table holds optional or less-frequently used data

This keeps the main table clean and focused.

## Conclusion:

Even without duplication, one-to-one relationships can improve design **clarity, performance, modularity, and security**.