



# Referential Integrity

# What is Referential Integrity

Referential integrity is the logical dependency of a foreign key on a primary key (may be candidate key). The integrity of a row that contains a foreign key depends on the integrity of the row that it references—the row that contains the matching primary key.

# Why do we need Referential Integrity

## RI Ensures that :-

- **When a record is not in the main table , it cannot be in the txn table.**
- **When a record is deleted from the main table ,it may have to be deleted from the txn table.**
- **When some data is edited (updated ) in the main table, it has to be updated in the Txn Tables too.**

# Pre Conditions

- **Existence of a Primary key / Alternate key in the main Table**
- **Existence of the same key (name might differ, data type cannot) in the txn table. (This is called foreign key)**

# The syntax on command line

```
ALTER TABLE dsoi ADD FOREIGN KEY (`dsoi_no`)  
REFERENCES `main` (`dsoi_mem_no`) ON DELETE RESTRICT  
ON UPDATE RESTRICT;
```

OR

```
ALTER TABLE dsoi ADD FOREIGN KEY (`dsoi_no`)  
REFERENCES `main` (`dsoi_mem_no`)
```

# Referential Integrity through Phpmyadmin

Server: localhost:3306 » Database: sibhapvv\_mcte » Table: dsoi

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)		
			Database	Table	Column
	<input type="text" value="Constraint name"/>	<input type="text" value="dsoi_no"/>	<input type="text" value="sibhapvv_mcte"/>	<input type="text" value="main"/>	<input type="text" value="dsoi_mem_no"/>
ON DELETE	RESTRICT	<a href="#">+ Add column</a>			
ON UPDATE	RESTRICT				

[+ Add constraint](#)

# Options

## **restrict or No Action -**

The txn is stopped with a warning. No action is done.

## **Cascade -**

- Any update in the main table is reflected in the txn table. (update not permitted in the txn table)
- Any deletion in the main table deletes corresponding record in the txn table