



MariaDB is a relational Database, this means that the design of the table structure is conducive to efficient storage, the ultimate aim being to hold a piece of data in one place only and to be able to reference it throughout the database, this means it only needs to be updated once each time a change is needed and there is no problem with keeping the integrity of the data because there is only one version in the entire system.

In order to create output which is complete and informative, the User must link tables together.



Earlier we introduced using the name of the table in front of each column to identify which table to use, this is only when more than one table is in the SQL and when identically named columns are used, table names can be up to thirty characters wide, therefore we recommend using a table alias.

A table alias is a small acronym placed immediately after the name of the table in the from clause ...

from <table> tab1

Its is this alias that is used in front of the appropriate columns



Table aliases can not begin with a number

Table aliases are not case sensitive

Table aliases can use the 'as' keyword

Table aliases cannot be enclosed with quotes

Joining Tables – Cartesian products



When linking tables the User must make sure that a common value is used in the join.

If a join isn't specified a cartesian product will occur, this will cause MariaDB to display all records from one table multiplied by the number of records from the other, some of the records will match most wont ! ...

Putting in an incorrect join will result in no records being retrieved.

Tables to be joined must have a common column - these are called 'foreign keys'



The problem most users face is identifying the columns which will need to be joined together between the two tables.

The System should have an Entity Relationship diagram (ERD) to display the relationship or the linkage can be ascertained by careful examination of the names of the columns in each table and their types.

In the next example spot the obvious links between two tables ...



Joining Tables - Linking Tables

```
desc employee_details;
```

Field	Type	Null	Key	Default	Extra
ed_id_no	int(11)	NO	PRI	NULL	
ed_employee_name	text	NO		NULL	
ed_employee_section_num	int(11)	YES		NULL	
ed_employee_extno	text	YES		NULL	
ed_employee_sex	int(11)	NO		NULL	
ed_employee_location_id	int(11)	YES		NULL	
ed_employee_manager	text	YES		NULL	
ed_created_date	date	NO		NULL	
ed_updated_date	date	YES		NULL	

```
desc employee_history;
```

Field	Type	Null	Key	Default	Extra
EH_ID_NO	int(11)	NO	PRI	NULL	
EH_INDOCTRINATION	text	YES		NULL	
EH_WORKING_WITH_OTHERS	text	YES		NULL	
EH_CUSTOMER_LIAISON	text	YES		NULL	
EH_TEAM_LEADER	text	YES		NULL	
EH_STAFF_INTERVIEWING	text	YES		NULL	
EH_STAFF_REPORTING	text	YES		NULL	
EH_SUPERVISORY	text	YES		NULL	
EH_HEAD_OF_DEPARTMENT	text	YES		NULL	
EH_LEVEL_1_MANAGEMENT	text	YES		NULL	
EH_LEVEL_2_MANAGEMENT	text	YES		NULL	
EH_LEVEL_3_MANAGEMENT	text	YES		NULL	
EH_BRANCH_MANAGER	text	YES		NULL	
EH_CREATED_DATE	date	NO		NULL	
EH_UPDATED_DATE	date	YES		NULL	