# Update Ontology Tables

## How classic i2b2 works

The standard i2b2 star schema only allows for one fact table. In the i2b2 database this is the observation_fact table.  When running a query in the i2b2, the CRC queries against the observation_fact table by default.

# Update Metadata

The CRC needs to know the name of the fact table to search when a term is used in a query. This is done by updating the metadata tables for each term you want redirected to an alternate fact table. You need to update the value in c_facttablecolumn column to now be *facttablename*.columnname.  Examples are provided below.

The good news is, you only need to update those terms you want to redirect to a different fact table. If the term is still going to the observation_fact table you do not need to update it. If a table name does not preface the column name the system will work as it does now and the observation_fact table will be searched.

**Example:**

concept_cd  vs.  lab_facts.concept_cd

> (i) The sample tables shown below are only displaying 5 of the 25 columns that are currently part of the i2b2 metadata tables.

## Single fact table

This sample shows how the i2b2 metadata table is setup to work with a single fact table.

| ... | c_name | c_basecode | c_facttablecolumn | c_tablename | c_columnname | ... |
|---|---|---|---|---|---|---|
| | Diabetes mellitus | ICD9:250.00 | concept_cd | concept_dimension | concept_path | |
| | Amoxicillin | NDC: 559553071670 | concept_cd | concept_dimension | concept_path | |
| | Hematocrit | LOINC:4544-3 | concept_cd | concept_dimension | concept_path | |
| | X-Ray Report | LCS-i2b2: XR_RPT | concept_cd | concept_dimension | concept_path | |

## Multiple fact tables

In this sample, we take the above table and update it to point to multiple fact tables. The diagnoses are still going to the observation_fact table, the other three facts are going to one of these three new fact tables:

1. medication_fact (Amoxicillin)

2. lab_fact (Hematocrit)

3. diagnostic_fact  (X-Ray Report)

Using this example the i2b2 metadata table would look like:

| ... | c_name | c_basecode | c_facttablecolumn | c_tablename | c_columnname | ... |
|---|---|---|---|---|---|---|
| | Diabetes mellitus | ICD9:250.00 | concept_cd | concept_dimension | concept_path | |
| | Amoxicillin | NDC: 559553071670 | medication_fact. concept_cd | concept_dimension | concept_path | |
| | Hematocrit | LOINC:4544-3 | lab_fact.concept_cd | concept_dimension | concept_path | |
| | X-Ray Report | LCS-i2b2: XR_RPT | diagnostic_fact. concept_cd | concept_dimension | concept_path | |

In the above example, you will notice the entry for Diabetes does not have the prefix 'observation_fact.'. This is because it is not needed. If a prefix does not exist the system will automatically look to the observation_fact table.