**TABLES AND FILTERED VIEW**

**Filtered view**

Microsoft Dynamics CRM data and metadata are stored in a Microsoft SQL Server database named <organization\_name>\_MSCRM on the server that is running Microsoft SQL Server in the Microsoft Dynamics CRM (on-premises) deployment.

SQL-based reports in Microsoft Dynamics CRM use the filtered views provided for each entity to retrieve data for the reports. **Filtered views are fully compliant with the Microsoft Dynamics CRM security model. When you run a report that obtains data from filtered views, the Microsoft Dynamics CRM security role determines what data you can view in the report. Data in filtered views is restricted at these levels: the organization, the business unit, the owner, and at the field level.**

Filtered views exist for all Microsoft Dynamics CRM entities, including custom entities. Your custom SQL-based reports cannot read data directly from the Microsoft Dynamics CRM database tables. Instead, you must use the filtered views to retrieve data for your custom SQL-based reports.

The benefits of Filtered views are

* Security is embedded in the view
* All the column names are in lower case
* Filtered views are automatically created and updated for custom entities
* Date time fields are held in date time and UTC
* Drop down values are held in filtered views

#### Security is embedded in the view

Filtered views are purposely created for CRM developers to use in their reports.  One of the main benefits is Filtered views use the Microsoft Dynamics CRM security model.   This means the data shown in a report using a filtered view would only contain the data the users can view in CRM.

Filtered views take uses security levels e.g. organization, business unit, owner and field level and these only show the levels each individual user can see.

If you created a view created directly on the Microsoft Dynamics CRM tables then it would show all the data to all users.

#### All the column names are in lower case

All the column names in a filtered view are in lower case, so you do not have any problems with case sentivity

#### Filtered views are automatically created and updated for custom entities

Microsoft is busy in the background and when you create a new entity or add fields to a custom entity or System entity, Microsoft automatically creates a new filtered view for custom entities and adds the new fields to existing filtered views.

#### Date time fields are held in date time and UTC

Filtered views have two date time fields for every date time field you add.  One Date Time field and one UTC Date Time field.

The Date Time field holds the date time for the users’ time zone

Date Time UTC holds the time in UTC

#### Drop down values are held in filtered views

Option sets have two fields in a filtered view, one holds the value the other holds the string representation

One field holds the string value of the option set

Another value holds the number

If you had an option set field account rating with an option set value set of Gold – 1.

Account rating = 1

Account rating name = “Gold”

You cannot access filtered views in Microsoft Dynamics CRM Online because access to the SQL database is not supported in Microsoft Dynamics CRM Online.

You can use these filtered views to securely retrieve data for your custom SQL-based reports, and display the reports to a user based on their security role in Microsoft Dynamics CRM.

**NOTE :**

In CRM 2013 and latest version of CRM this two tables are merged to one table.

The merging  gives below benefits

**Why does this matter?**

* Fewer Joins
* Fewer Locks
* Higher efficiency in queries and views
* Streamlined design
* Less data overhead
* Redundant keys are removed

**CRM 2011 and Earlier Configuration:** Default and custom fields stored in separate tables.  
< entity>Base i.e. AccountBase – Holds OOTB data elements and key information for the entity  
< entity>ExtensionBase ie.AccountExtensionBase – Holds all custom fields you’ve created and added to the entity. This requires an extra key in the database to store that relationship between the base entity and the extension.

**Direct updates to SQL tables in CRM:**

Direct sql update to crm tables is not at all good practice.

Direct SQl server updates are not supported by Microsoft means if you break your system by doing this then Microsoft will not provide any support and it will voids the warranty even though you are in annual maintenance.

Yes. Direct SQL update in CRM is completely unsupported. And there are more chances that CRM will not work after you do update using SQL. And for this Microsoft will not support.

Main thing is that why you need to update directly SQL if you can do most of the operations using CRM sdk

Modifying tables, stored procedures, or views in the database is not supported. Adding tables, stored procedures, or views to the database is also not supported because of referential integrity or upgrade issues.

Here are differences between Views and FilteredViews:

1. FilteredViews available for any user. Views available only for users with Sys Admin privileges.
2. FilteredViews contains logic that returns data that is available for user that asks for a data (business units, sharing, e.t.c.).
3. FilteredViews return Label fields for every Lookup, OptionSet (that means additional joins on other tables) and converts all datetime fields to local time of user that asks data. Views return data as it is is in database.

**Config Database: MSCRM\_Config**

This database will contain CRM Server information deployment, such as users and licensing. One config database will be created during the time you  install CRM server. It is important to remem that  “**Each CRM Deployment will require its own SQL instance**“.

**Content Database: Organization\_name\_MSCRM**