Examining the relationship between database objects

This section includes the following topics:

About the Objects tab

This tab enables you to see objects definitions, I/O activity, and space usage over time. This section provides a general description of how to use the Objects tab in your analysis of DB2 objects. For further information on a specific DB2 object, see DB2's relevant documentation.

How the Objects tab is structured

The Objects tab displays information on a selected entity and its associated entities. When you open the Objects tab the selected entity is by default Database Partition, meaning that information is displayed on the Database Partition level. When you launch the Objects tab from the Activity tab with a Table or Index entity, using the launch icon, the tab is launched in context with the entity you selected in the Activity tab.

If you open the Objects tab from another tab, the historical settings (those settings which were selected when you left the tab, such as the last entity you drilled down to) are taken into account and the information displayed the last time you viewed the tab is displayed (similar to clicking the History button and returning to a previous tab).

The selected entity is always reflected in the Tab heading, which serves as a point of orientation. The highest level entity you can view information for in the Objects tab is the Data Partition level. You can select a Data Partition from the Data Partition list.

The entities displayed in the Association area are associated with the selected entity displayed in the Main area. At times, the relationship between the entity displayed in the Main area and those displayed in the Association area is that of parent to child and sometimes it merely represents that there is a relationship between the selected entity and the entities displayed in the Association area.

About the Main area in the Objects tab

The Main area displays overview information for the entity selected in the Association area as well as its related entity. By default, the Objects tab opens displaying information on the Database entity and its last selected related entity. You can change the database to display by selecting the desired database in the Database Partition field at the top of the Main area and its related entity by clicking the Association Control button at the top of the Association area. You can also display information on a different entity by selecting the desired entity from the Association Control button list and the related entity by selecting it from the table displayed in the Association area.

About the Association area in the Objects tab

The Association area is comprised of the Association Control button for selecting the entity whose information you want to display and a table displaying the selected entity's related information. Two entities, Tables and Indexes, display information in two views: the Dictionary tab and the Storage & Statistics tab. The Dictionary tab displays dictionary information for this entity and the Storage & Statistics tab displays statistics based on the last runstat information for this entity.

About Objects tab entities

The Objects tab displays information on different entities. This section provides an overview of all entities, their meaning, and their views.

The following entities can be examined in the Objects tab:

- Schemata
- Tables
- Indexes
- Views
- Database Partition Groups
- Tablespaces
- Bufferpools
- Database Partitions

Schemata

The following table describes the information displayed for the Schemata entity.

Table 1 Schemata

Column	Description
Schema	Schema name.
Owner	Owner name.

Definer	The user who defined the schema.
Creation Time	Time of schema creation.

Tables

Two association selector options are available:

- **Dictionary tab**. Shows dictionary information for the table.
- **Storage & statistics tab**. Shows table storage information and RUNSTATS information. This is the default view. The following table describes the information displayed in the Dictionary tab.

Table 2 Dictionary tab

Column	Description
Name	Table name.
Schema	Table's schema.
Type	Temporary, MDC, MQT or normal.
Tablespace	Name of primary tablespace.
Statistics Run	Date last analyzed.
Range Partitioned	Yes – for Range Partitioned table.
DB Partitions	The number of DB partitions this table exists in.
Indexes	The number of indexes defined for this table.
Logged	No or blank.
Lock Mode	The Lock Mode type.
Index Tablespace	Name of the tablespace which contains the indexes.
LOB Tablespace	Name of the tablespace which contains the LOBs.

The following table describes the information displayed in the Storage and Statistics tab.

Table 3 Storage and Statistics tab

Column	Description
Name	Table name.
Schema	Table's schema.
Type	Temporary, MDC, MQT or normal.
Tablespace	Name of primary tablespace.
Statistics Run	Date last analyzed.
Pages Allocated	How many pages are allocated.
Pages Used	How many pages contain actual data.
Rows	How many rows.
Ave. Row Len	Average row length (bytes).
Clustering Factor	The clustering factor of the clustering index (if one exists) or blank if no clustering index was defined.
Extent size	Size of extent (from tablespace definitions).
% Free Pages	% Free of pages.
% Overflows	% of records overflowing.
Rows per Page	Rows / (# of used pages).

Indexes

The following table describes the information displayed in the Dictionary tab.

Table 4 Dictionary tab

Column	Description
Name	Index name.
Schema	Index schema.
Table Name	Base table name.
Key Columns	The number of participating columns in the index.
Includes	The number of columns included in the index.
Type	Clustering, Dimensions block, Block or blank for regular.
Unique	Yes, No, or Primary.
Columns	The list of participating columns in the index.
Statistics Run	Time last analyzed.
Tablespace	Name of the tablespace which contains the index.
Table Schema	The table's schema.

The following table describes the information displayed in the Storage and Statistics tab.

Table 5 Storage and Statistics tab

Column	Description
Name	Index name.
Schema	Index schema.
Tablespace	Name of the tablespace which contains the index.
Statistics Run	Time last analyzed.
Clustering Factor	Clustering factor or Cluster ratio if factor is not available.
Levels	How many levels exist.
First Column Distincts	The number of distinct first-key values.
Second Column Distincts	The number of distinct keys using the first two columns.
Distinct Values	The number of distinct values.
Leafs	How many leaf pages are in use.
Key Length	The key length.
% Deleted Rows	The percentage of rows marked 'Deleted'.
Leaf Distribution	Avg. length between leaf pages.
% Empty Pages	Percentage of empty pages.
% Free	Percentage of each index page to be reserved during initial index building.
Extent Size	Taken from tablespace definitions.

Views

The following table describes the information displayed for the Views entity.

Table 6 Views

Column	Description
View Name	View name.

Owner	View owner.
Definer	Name of view creator.
Valid	Is the view valid.
Text	Unformatted first *N* characters of view's definition.

Database Partition Groups

The following table describes the information displayed for the Database Partition Groups entity.

Table 7 Database Partition Groups

Column	Description
Name	Name of the partition group.
Partitions	Number of partitions in this group.
Definer	Name of the user who defined the group.
Create Time	Time group was created.

Tablespaces

The following table describes the information displayed for the Tablespaces entity.

Table 8 Tablespaces

Column	Description
Name	Tablespace name.
Type	DMS or SMS.
Data Type	All, LOB, System temp or Declared temp.
Bufferpool	Name of the bufferpool associated with this tablespace.
Bufferpool Size	Size of bufferpool on all partitions.
Page Size	Page size.
Pages Allocated	Total tablespace size.
Pages Used	Total tablespace used (only for DMS).
Extent Size	Number of pages per extent.
Prefetch Size	Defined prefetch size or Automatic.
Defined in Group	The name of the partitioned group.
Overhead	DB2 internal parameter describing the overhead associated with the tablespace's disks.
Transfer Rate	DB2 internal parameter, describing the time it takes to read one page.
Definer	Name of the user who defined the tablespace.
Remarks	User comments.

Bufferpools

The following table describes the information displayed for the Bufferpools entity.

Table 9 Bufferpools

Column	Description
Name	Bufferpool name.
Size (Pages)	Bufferpool size.

Page Size	Page size of the bufferpool.
Defined in Groups	Comma separated list of the DB partition groups to which it belongs.
All Tablespaces Size	Size, in MB, of all tablespaces associated with this bufferpool.
Tablespaces	The number of tablespaces defined to use this bufferpool.

Database Partitions

The following table describes the information displayed for the Database Partitions entity.

Table 10 Database Partitions

Column	Description
Server	Server name.
ID	ID of the partition.
Default on Server?	Yes, if this is the default partition when connecting to the database on that machine.
Total Memory	Total shared memory dedicated for this database partition.
Total Bufferpools Size	Total shared memory dedicated for this partition's BPs.
Defined in Groups	Comma separated list of DB partition groups in which this DB partition participates.