

Editing Table Data

Only in DbVisualizer Pro

This feature is only available in the Pro edition. In the Free edition, please execute the corresponding SQL in the [SQL Commander](#).

With the DbVisualizer Pro edition, you can edit table data in the **Data** tab grid; just click a cell value and edit. Edits are saved in a single database transaction which ensures that all or no changes are committed. The editing feature supports saving binary and large text data and it even presents common data formats in their respective viewers, such as image viewer, PDF, XML, HEX, etc.

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Opening the Data tab

To open the **Data** tab for a table:

1. Locate the table in the **Databases** tab tree,
2. Double-click the table node to open its **Object View** tab,
3. Open the **Data** sub tab.

The screenshot shows the DbVisualizer Pro interface for a table named 'COUNTRIES'. The table has three columns: COUNTRY_ID, COUNTRY_NAME, and REGION_ID. The data is displayed in a grid with 20 rows. The status bar at the bottom indicates 'Max Rows: 1000', 'Max Chars: -1', 'Pattern: n/a', '0.000/0.000 sec', '25/3', and '1-21'.

	COUNTRY_ID	COUNTRY_NAME	REGION_ID
1	AR	Argentina	2
2	AU	Australia	3
3	BE	Belgium	1
4	BR	Brazil	2
5	CA	Canada	2
6	CH	Switzerland	1
7	CN	China	3
8	DE	Germany	1
9	DK	Denmark	1
10	EG	Egypt	4
11	FR	France	1
12	HK	HongKong	3
13	IL	Israel	4
14	IN	India	3
15	IT	Italy	1
16	JP	Japan	3
17	KW	Kuwait	4
18	MX	Mexico	2
19	NG	Nigeria	4
20	NL	Netherlands	1
21	SC	Singapore	2

Each column width is automatically resized to match the column width, including the column header, by default. You can disable this behavior in the the Tool Properties dialog, in the **Grid** category under the General tab.

If **Auto Resize Column Widths** is enabled, the **Max Column Width** setting can be used to limit the column width so that an extremely wide column does not take up all space.

Editing Data in the Grid

To edit a column value:

1. Select the column cell,
2. Type the new value, or double click to edit the current value,
3. Click the **Save** toolbar button to update the database.

You can also use the **Set Selected Cells** drop down menu to set a number of column values to things like null or the current date or time.

To add a new row:

1. Select the row above where you want to insert the new row,
2. Click the **Add Row** toolbar button,
3. Enter values for the columns,
4. Click the **Save** toolbar button to update the database.

To duplicate a row:

1. Select the row you want to duplicate,
2. Click the **Duplicate Row** toolbar button,
3. Edit at least the key column(s) value(s),
4. Click the **Save** toolbar button to update the database.

To delete one or more rows:

1. Select the rows to delete,
2. Click the **Delete Rows** toolbar button,
3. Click the **Save** toolbar button to update the database.

If you change your mind, you easily can undo edits:

1. Select the cell(s) you want to revert,
2. Click the **Undo** toolbar button.

Reverting all cells in a row that are marked as **Insert** or **Duplicate** removes the complete row from the grid while a **Delete** marked row is cleared from its delete state. Undoing updated cells simply reverts the changes to the original values.

Copy/Paste

You can copy selected cell values with the **Copy Selection** right-click menu choice or the corresponding key binding (**Ctrl-C** or **Command-C** by default). The data on the clipboard may then be pasted either into DbVisualizer or any external application. The column and newline delimiter used for copy and paste operations in the grid editor are defined by the **Copy Grid Cells in CSV Format** settings in the **Grid** category in the Tool Properties dialog, under the General tab. The default setting are sufficient for most uses.

The grid editor supports pasting data from the major spreadsheet applications, such as Excel and OpenOffice. The grid editor supports pasting single data as well as block of data. Copy/paste of binary data is transparent between grids or in the same grid. Binary files may also be copied in an external application and pasted in a cell in DbVisualizer (target cell must be a binary type).

Copy from spreadsheet					Paste into DbVisualizer grid				
A single cell is copied					Paste into selected target cell				
	A	B	C	D		EMPLOYEE_ID	FIRST_NAME	LAST_NAME	PHO
1	200	Jennifer	Whalen	515.123.4444	7	100	Steven	King	515.
2	201	Michael	Hartstein	515.123.5555	8	101	Neena	Kochhar	515.
3	203	Susan	Mavris	515.123.7777	9	102	Lex	Susan	515.
4	204	Hermann	Baer	515.123.8888	10	108	Nancy	Greenberg	515.
5	205	Shelley	Higgins	515.123.8080	11	109	Daniel	Faviet	515.
6	206	William	Gietz	515.123.8181	12	110	John	Chen	515.
7	100	Steven	King	515.123.4567	13	111	Ismael	Sciarra	515.
8	101	Neena	Kochhar	515.123.4568	14	112	Jose Manuel	Urman	515.
9	102	Lex	De Haan	515.123.4569	15	113	Luis	Popp	515.
					16	114	Den	Raphaely	515.

A single cell is copied

	A	B	C	D
1	200	Jennifer	Whalen	515.123.4444
2	201	Michael	Hartstein	515.123.5555
3	203	Susan	Mavris	515.123.7777
4	204	Hermann	Baer	515.123.8888
5	205	Shelley	Higgins	515.123.8080
6	206	William	Gietz	515.123.8181
7	100	Steven	King	515.123.4567
8	101	Neena	Kochhar	515.123.4568
9	102	Lex	De Haan	515.123.4569



Paste and fill the single column target selection

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	PHO
7	100	Steven	King	515.
8	101	Neena	Kochhar	515.
9	102	Susan	De Haan	515.
10	108	Susan	Greenberg	515.
11	109	Susan	Faviet	515.
12	110	Susan	Chen	515.
13	111	Ismael	Sciarra	515.
14	112	Jose Manuel	Urman	515.
15	113	Luis	Popp	515.
16	114	Den	Raphaely	515.

Multiple cells in a single row is copied

	A	B	C	D
1	200	Jennifer	Whalen	515.123.4444
2	201	Michael	Hartstein	515.123.5555
3	203	Susan	Mavris	515.123.7777
4	204	Hermann	Baer	515.123.8888
5	205	Shelley	Higgins	515.123.8080
6	206	William	Gietz	515.123.8181
7	100	Steven	King	515.123.4567
8	101	Neena	Kochhar	515.123.4568
9	102	Lex	De Haan	515.123.4569



Paste and fill the target selection

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	PHO
7	100	Steven	King	515.
8	101	Neena	Kochhar	515.
9	102	Susan	Mavris	515.
10	108	Susan	Mavris	515.
11	109	Susan	Mavris	515.
12	110	Susan	Mavris	515.
13	111	Ismael	Sciarra	515.
14	112	Jose Manuel	Urman	515.
15	113	Luis	Popp	515.
16	114	Den	Raphaely	515.

A block of cells is copied

	A	B	C	D
1	200	Jennifer	Whalen	515.123.4444
2	201	Michael	Hartstein	515.123.5555
3	203	Susan	Mavris	515.123.7777
4	204	Hermann	Baer	515.123.8888
5	205	Shelley	Higgins	515.123.8080
6	206	William	Gietz	515.123.8181
7	100	Steven	King	515.123.4567
8	101	Neena	Kochhar	515.123.4568
9	102	Lex	De Haan	515.123.4569



The block is pasted into the selected region

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	PHO
7	100	Steven	King	515.
8	101	Neena	Kochhar	515.
9	102	Susan	Mavris	515.
10	108	Hermann	Baer	515.
11	109	Shelley	Higgins	515.
12	110	William	Gietz	515.
13	111	Ismael	Sciarra	515.
14	112	Jose Manuel	Urman	515.
15	113	Luis	Popp	515.
16	114	Den	Raphaely	515.

A block of cells is copied


	A	B	C	D
1	200	Jennifer	Whalen	515.123.4444
2	201	Michael	Hartstein	515.123.5555
3	203	Susan	Mavris	515.123.7777
4	204	Hermann	Baer	515.123.8888
5	205	Shelley	Higgins	515.123.8080
6	206	William	Gietz	515.123.8181
7	100	Steven	King	515.123.4567
8	101	Neena	Kochhar	515.123.4568
9	102	Lex	De Haan	515.123.4569



The block is pasted into a non equal number of target cells

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	PHO
7	100	Steven	King	515.
8	101	Neena	Kochhar	515.
9	102	Lex	De Haan	515.
10	108	Nancy	Greenberg	515.
11	109	Daniel	Faviet	515.
12	110	John	Chen	515.

Notification Alert

 You have requested to paste 4 rows into the selection of 4 rows. Do you want to **Add Rows** in the grid so that all rows in the selection are highlighted?

Updates and Deletes Must Match Only One Table Row



When you update or delete rows, DbVisualizer ensures that only one row in the table will be affected. This is to prevent changes in one row to silently affect data in other rows. DbVisualizer uses the following strategies to determine the uniqueness of the edited row:


1. Primary Key,
2. Unique Index,
3. Manually Selected Columns.

The Primary Key concept is widely used in databases to uniquely identify the key columns in tables. If the table has a primary key, DbVisualizer uses it. There are situations when primary keys are not supported by a database or when primary keys are supported but not used. If no primary key is defined, DbVisualizer checks if there is a unique index. If there are several unique indexes, DbVisualizer picks one of them. If there is no primary key or any unique indexes defined for the table, you need to manually choose what columns to use. The **Key Column Chooser** is automatically displayed if the key columns can't be determined automatically.

Key Column(s) Chooser

Normally database tables have a primary key or at least one unique index. If this is the case, editing is no problem. If there is no way to uniquely identify rows in the table, you need to manually define what columns DbVisualizer should use. While saving the changes, DbVisualizer checks that there is a way to identify unique rows in the table. If it cannot be accomplished, the following window is displayed.

* 	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
1	100	Steven	King	SKING	515.123.4567
2	101	Neena	Kochhar	NKOCHHAR	515.123.4568
3	102	Lex	De Haan	LDEHAAN	515.123.4569
4 	103	Alex	Hunold	AHUNOLD	590.423.4567
5	104	Bruce	Ernst	BERNST	590.423.4568
6	105	David	Austin	DAUSTIN	590.423.4569
7	106	John	Abel	JABEL	590.423.4567
8	107	Christina	Baer	CBAAER	590.423.4568
9	108	Georg	Raisley	GRRAISLY	590.423.4569
10	109	Den	Raphaely	DRRAPHY	590.423.4567
11	110	Alexis	Baer	ABAAER	590.423.4568
12	111	Julia	Abel	JABEL	590.423.4569
13	112	Gordon	Abel	GABEL	590.423.4567
14	113	Serge	Abel	SABEL	590.423.4568
15	114	Clara	Abel	CABEL	590.423.4569
16	115	Pat	Abel	PABEL	590.423.4567
17	116	Walter	Abel	WABEL	590.423.4568
18	117	Elena	Abel	EABEL	590.423.4569
19	118	Oliver	Abel	OABEL	590.423.4567
20	119	Tony	Abel	TABEL	590.423.4568
21	120	Shelley	Abel	SABEL	590.423.4569
22	121	Timothy	Abel	TABEL	590.423.4567
23	122	Jones	Abel	JABEL	590.423.4568
24	123	Shirley	Abel	SABEL	590.423.4569
25	124	Kevin	Mourgos	KMOURGOS	650.123.5234

 Key Column(s) Chooser ✕

Select the column(s) that will be used to form the **where** clause for **update** and **delete** edits. This is used by DbVisualizer to ensure that only one row in the target database table will be affected by each edited row. (If there is a primary key or unique index for the table then the Key Column is automatically set).





Key Column	Column Name	Data Type
<input checked="" type="checkbox"/>	EMPLOYEE_ID	NUMBER
<input type="checkbox"/>	FIRST_NAME	VARCHAR2
<input type="checkbox"/>	LAST_NAME	VARCHAR2
<input type="checkbox"/>	EMAIL	VARCHAR2
<input type="checkbox"/>	PHONE_NUMBER	VARCHAR2
<input type="checkbox"/>	HIRE_DATE	DATE
<input type="checkbox"/>	JOB_ID	VARCHAR2
<input type="checkbox"/>	SALARY	NUMBER

The key column chooser can also be manually opened via the **Edit Table Data->Key Column Chooser** right-click menu choice.

If the database request to save the edits cannot uniquely identify the single row that should be changed, an error dialog is displayed and the editing state is kept for that row in the grid editor.

Editing Multiple Rows

The grid editor supports editing multiple rows and saving all changes in one database transaction. Edited rows are indicated with an icon in the row header:

-  Cell(s) in the row has been edited
-  Row is new
-  Row is duplicated from another row
-  Row is marked for deletion (edit is not allowed)

Data Type checking

When leaving an edited cell, the new value is validated with the data type for the column. If there is an error, the following dialog is displayed.

* 🔑	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE
1	100	Steven	King	SKING	515.123.4567	1987-06-17 00:00:00
2	101	Neena	Kochhar	NKOCHHAR	515.123.4568	1989-09-21 00:00:00
3	102	Lex	De Haan	LDEHAAN	515.123.4569	1993-01-13 00:00:00
4	103	Alex	Hunold	AHUNOLD	590.423.4567	June 6 2016
5	104	Bruce	Ernst	BERNST	590.423.4568	1991-05-21 00:00:00
6	105	David				00:00:00
7	106	Valli				00:00:00
8	107	Diana				00:00:00
9	108	Nancy				00:00:00
10	109	Daniel				00:00:00
11	110	John				00:00:00
12	111	Ismail				00:00:00
13	112	Jose				00:00:00
14	113	Luis				00:00:00
15	114	Den	Raphaely	DRAPHEAL	515.127.4561	1994-12-07 00:00:00

Notification Alert

The entered value doesn't match the format for the column.

Value: **"June 6 201600:00:00"**
 Valid Timestamp/Datetime Format: **yyyy-MM-dd HH:mm:ss**

Correct the value or press **ESC** key to revert the edit.

New Line and Carriage Return

If a cell in the grid editor or form editor contains new line, carriage return or tab characters, these are not visually represented in the grid. Instead a warning will be displayed whenever you try to edit such value:

* 🔑	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE
1	100	Steven	King	SKING	515.123.4567	1987-06-17
2	101	Neena	Kochhar	NKOCHHAR	515.123.4568	1989-09-21
3	102	Lex	De Haan	LDEHAAN	515.123.4569	1993-01-13
4	103	Alex	Hunoldthe gr...	AHUNOLD	590.423.4567	1990-01-03
5	104	Bruce	Ernst	BERNST	590.423.4568	1991-05-21
6						5-25
7						2-05
8						2-07
9						3-17
10						3-16
11						9-28
12						9-30
13						3-07
14						2-07
15	114	Den	Raphaely	DRAPHEAL	515.127.4561	1994-12-07

Formatting Characters in Cell

The data in this cell contains formatting characters (newline, carriage return or tab). It is **not recommended** to edit this data in the inline editor as it may remove any formatting characters. Instead you should use the multi-row **Cell Editor**.

Do not show this message again

You may chose to edit the value in the [Cell Editor](#), which we recommend, as the control characters will then be preserved. Alternatively, you can edit the value in the grid anyway but you then risk loosing the control characters.

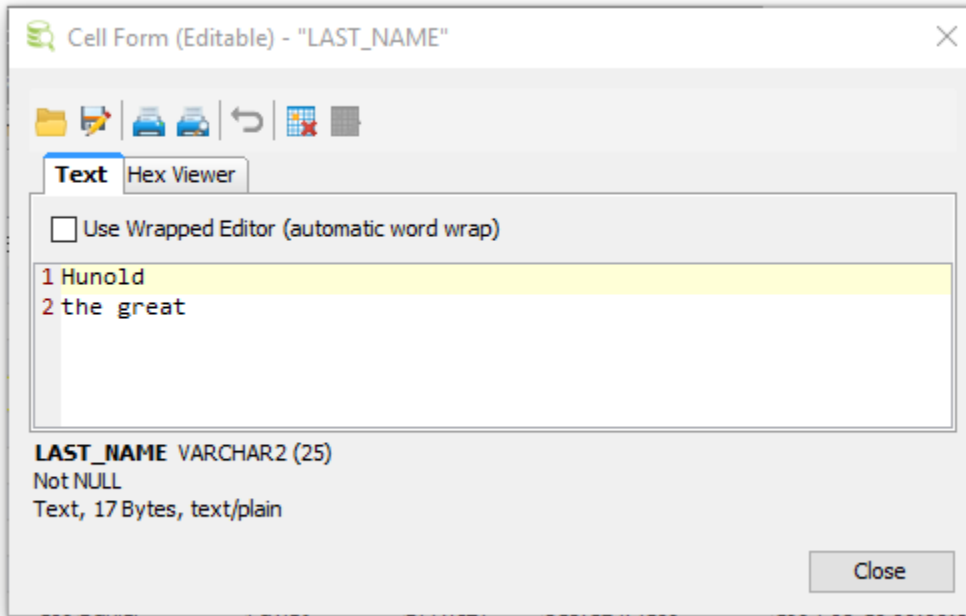
Using the Cell Editor/Viewer

The **Cell Viewer** is available in the right-click menu for all grids in DbVisualizer. It presents the data for a single cell (column in a row) in a window. If the data is of a recognized type, it is presented by a corresponding viewer:

- Image viewer
- XML viewer
- Serialized Java object viewer
- Hex viewer
- Text viewer

The Cell Viewer also allow you to save the data to a file and to print it.

The **Cell Editor** adds editing capability to the cell viewer. You may import data from a file or manually change the text in a text editor.



Using the Form Editor/Viewer

The **Form Viewer** is available in the right-click menu (**Browse Row in Form**) for all grids in DbVisualizer. It is used to browse information and to present binary data in viewers.

The **Form Editor** adds editing capability to the form viewer. This editor is useful when inserting new rows and when it is important to get a more balanced overview of all the data.


The form editor "rotate" the data in one row and presents it as a vertical form with the column name as a label. All edits made in the form editor are reflected in the grid with the edited state icon being updated along with new values. Saving edits in the database is always done with the Save button in the grid editor toolbar, just as for data edited directly in the grid.

Open the form editor via the **Edit Row in Form** right-click menu choice, via the corresponding button in the toolbar or by double-clicking the row number header.

* 🔑	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	PHOTO
1	100	Steven	King	SKING	515.123.4567	(null)
2	101	Neena	Kochhar	NKOCHHAR	515.123.4568	(null)
3	102	Lex	De Haan	LDEHAAN	515.123.4569	(null)
4 ✎	103	Alexander	Hunold	AHUNOLD	590.423.4567	BINARY, 8,327 Bytes
5	104	Bruce	Ernst	BERNST	590.423.4568	(null)
6	105	David	Austin	DAUSTIN	590.423.4569	(null)

The same row looks like this in the row form window:

Row Form (Editable) [X]

Key	Name	Value
	EMPLOYEE_ID	103
	FIRST_NAME	Alexander
	LAST_NAME	Hunold
	EMAIL	AHUNOLD
	PHONE_NUMBER	590.423.4567
	HIRE_DATE	1990-01-03 00:00:00
	JOB_ID	IT_PROG
	SALARY	9000
	COMMISSION_PCT	(null)
	MANAGER_ID	102
	DEPARTMENT_ID	60
	PHOTO	 BINARY, 8,327 Bytes, image/jpeg
	RESUME	(null)

Close

The **Key** field contains an icon for primary key columns and the **Name** field corresponds to the column name in the grid. None of **Key** or the **Name** fields can be edited. You can edit the values in the form in the same way as you edit values in the grid editor.

The form viewer presents images as thumbnails. The size of these is controlled by the **Image Thumbnail Size** setting in the Tool Properties dialog, in the **Form Viewer** category under the General tab. To see the original size of an image, open the cell in the cell viewer either by selecting **Edit in Cell Window** in the grid right-click menu, the toolbar button or by double-clicking on the image.

If you want numbers to be right-aligned in the Form Viewer, enable **Right Aligned Numbers** in the Tool Properties dialog, in the **Form Viewer** category under the General tab.

Preview Changes

You may preview the SQL statements that will be executed when choosing to **Save** the edits via the **Edit Table Data->SQL Preview** right-click menu choice.

* 🔑	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID
1	100	Steven	King	SKING	515.123.4567	1987-06-17 00:00:00	AD_PRES
2	101	Neena	Kochhar	NKOCHHAR	515.123.4568	1989-09-21 00:00:00	AD_VP
3	102	Lex	De Haan	LDEHAAN	515.123.4569	1993-01-13 00:00:00	AD_VP
4 ✎	103	Alex	Hunold	AHUNOLD	590.423.4567	1990-01-03 00:00:00	IT_PROG
5 ✎	104	Bro	Ernst	BERNST	590.423.4568	1991-05-21 00:00:00	IT_PROG
6	105	David	Austin	DAUSTIN	590.423.4569	1997-06-25 00:00:00	IT_PROG
7 ☆	105	David	Austin	DAUSTIN	590.423.4569	1997-06-25 00:00:00	IT_PROG
8 ✖	106	Valli	Pataballa	VPATABAL	590.423.4560	1998-02-05 00:00:00	IT_PROG
9 ✖	107	Diana	Lorentz	DLORENTZ	590.423.5567	1999-02-07 00:00:00	IT_PROG
10	108	Nancy	Greenberg	NGREENBE	515.124.4569	1994-08-17 00:00:00	FI_MGR
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27	125	Julia	Nayer	JNAYER	650.124.1214	1997-07-16 00:00:00	ST_CLERK

SQL Preview

This is a preview of the SQL that will be executed when the table data edit(s) are saved.

```

1 UPDATE "HR"."EMPLOYEES" SET "FIRST_NAME" = 'Alex' WHERE "EMPLOYEE_ID" = 103;
2 UPDATE "HR"."EMPLOYEES" SET "FIRST_NAME" = 'Bro' WHERE "EMPLOYEE_ID" = 104;
3 INSERT INTO "HR"."EMPLOYEES" ("EMPLOYEE_ID", "FIRST_NAME", "LAST_NAME", "EMAIL", "PH
4 DELETE FROM "HR"."EMPLOYEES" WHERE "EMPLOYEE_ID" = 106;
5 DELETE FROM "HR"."EMPLOYEES" WHERE "EMPLOYEE_ID" = 107

```

Close

The listed SQL statements may not be 100% identical to what is sent to the database, as the save process uses variable binding to pass values to the database.

Editing Binary/BLOB and CLOB Data

Due to the nature of binary/BLOB and CLOB data, cells of these types can only be fully modified and viewed in the [Cell Editor](#). (There is partial support in the [Form Editor](#) to view image data and to load from file).

In the grid, Binary/BLOB and CLOB data is by default presented by an icon and the size of the value. You can select another presentation format in the Tools Properties dialog, in the Grid / Binary/BLOB and CLOB Data category under the General tab. Selecting **By Value** results in performance penalties and the memory consumption increases dramatically.

In the same Tool Properties category, you can also specify how to handle **Copy/Paste and Drag and Drop** when pasting binary data in a target component that doesn't support binary data.

Editing binary data can be done by importing from a file or via the text editor in the Cell Editor. You can also copy the file in the operating system's file browser and paste it into a BLOB/CLOB cell.

Binary data in DbVisualizer is the generic term for several common binary database types:

- LONGVARBINARY
- BINARY
- VARBINARY
- BLOB

The Image Viewer supports displaying full size images for the following formats:

- GIF
- JPG
- PNG
- TIFF
- BMP
- PDF

