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**Warning:** This documentation is for a pre-release version of pgAdmin 4

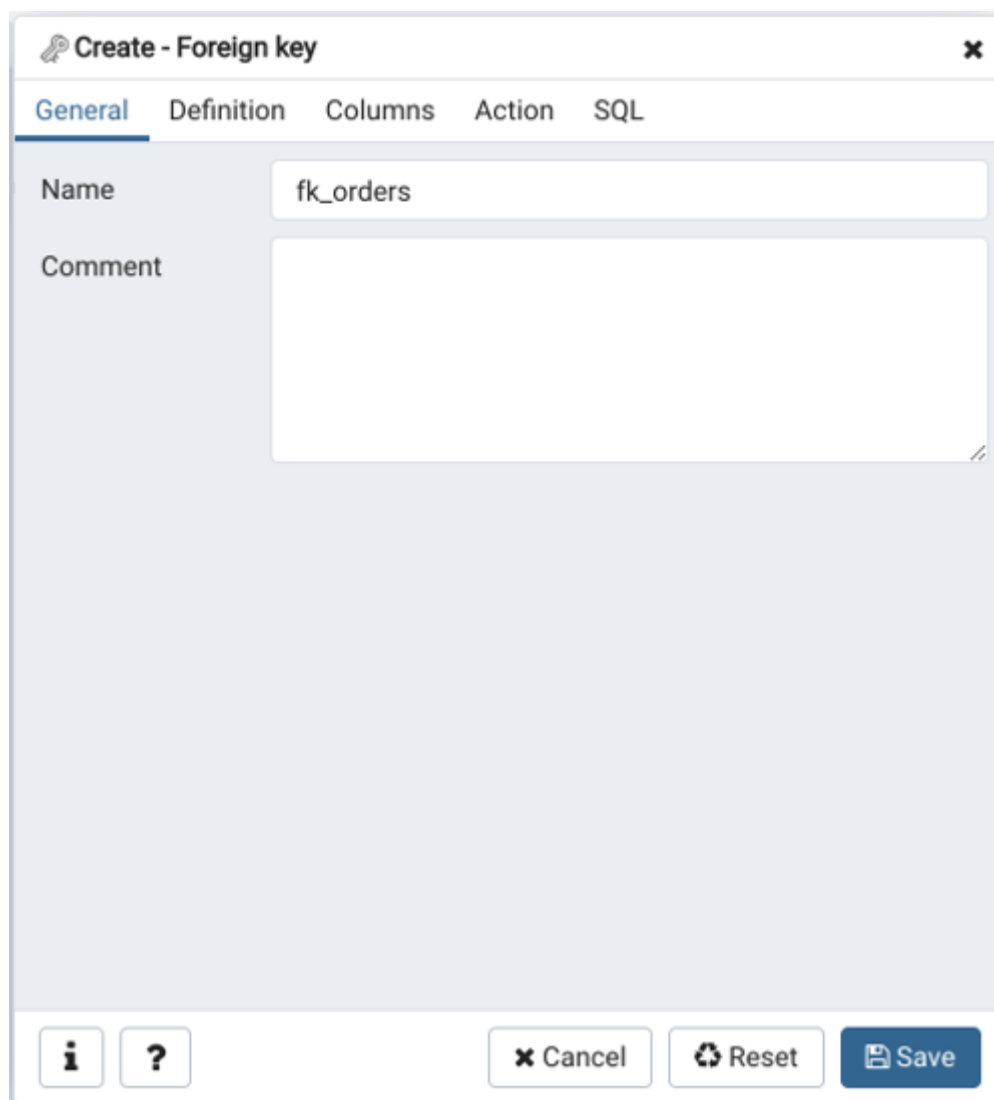
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## Foreign key Dialog

Use the *Foreign key* dialog to specify the behavior of a foreign key constraint. A foreign key constraint maintains referential integrity between two tables. A foreign key constraint cannot be defined between a temporary table and a permanent table.

The *Foreign key* dialog organizes the development of a foreign key constraint through the following dialog tabs: *General*, *Definition*, *Columns*, and *Action*. The *SQL* tab displays the SQL code generated by dialog selections.

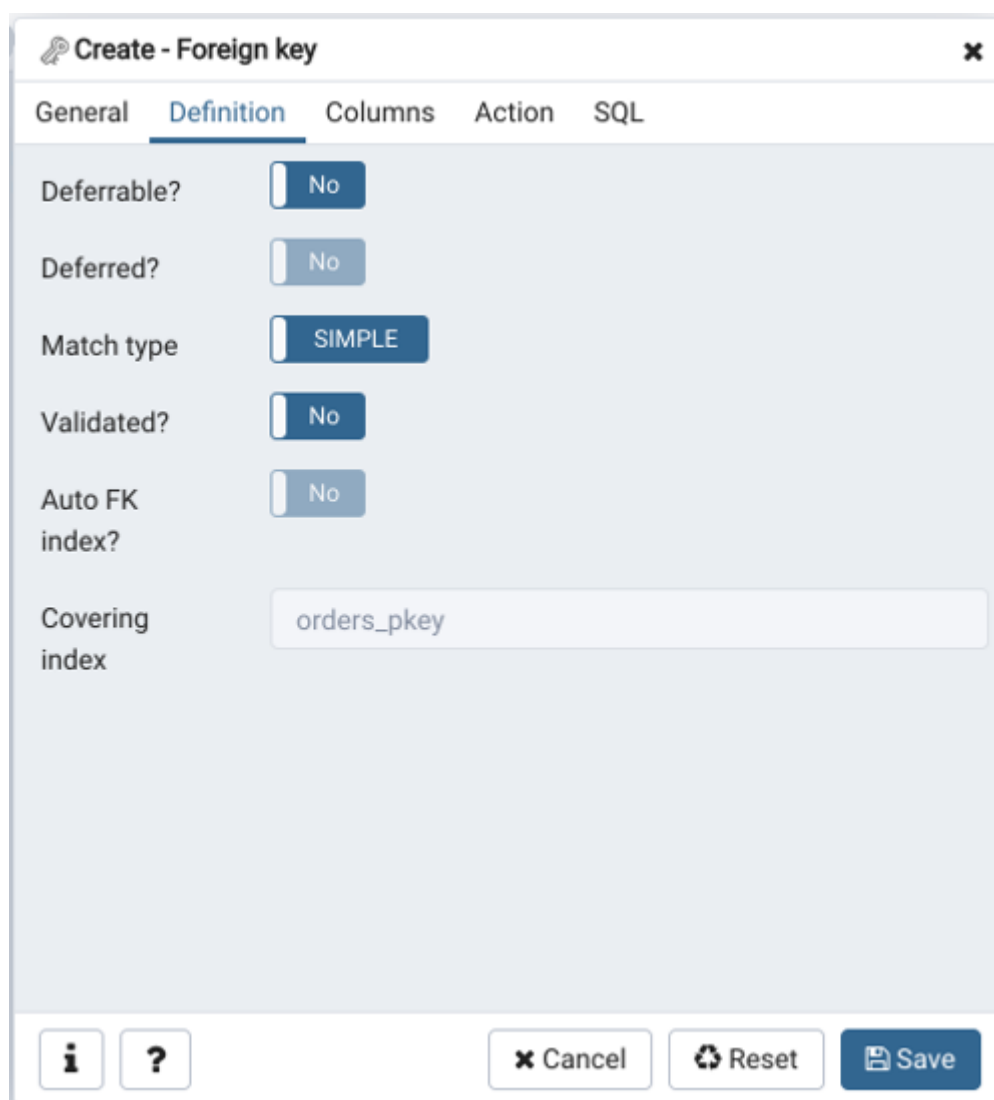


The image shows the 'Create - Foreign key' dialog box with the 'General' tab selected. The 'Name' field contains 'fk\_orders' and the 'Comment' field is empty. The dialog has tabs for 'General', 'Definition', 'Columns', 'Action', and 'SQL'. At the bottom, there are buttons for 'Cancel', 'Reset', and 'Save', along with information and help icons.

Use the fields in the *General* tab to identify the foreign key constraint:

- Use the *Name* field to add a descriptive name for the foreign key. The name will be displayed in the *pgAdmin* tree control.
- Store notes about the foreign key constraint in the *Comment* field.

Click the *Definition* tab to continue.



The image shows the 'Create - Foreign key' dialog box with the 'Definition' tab selected. The 'Deferrable?' switch is set to 'No'. The 'Deferred?' switch is set to 'No'. The 'Match type' dropdown is set to 'SIMPLE'. The 'Validated?' switch is set to 'No'. The 'Auto FK index?' switch is set to 'No'. The 'Covering index' field contains 'orders\_pkey'. The dialog has tabs for 'General', 'Definition', 'Columns', 'Action', and 'SQL'. At the bottom, there are buttons for 'Cancel', 'Reset', and 'Save', along with information and help icons.

Use the fields in the *Definition* tab to define the foreign key constraint:

- Move the *Deferrable?* switch to the *Yes* position to specify the timing of the constraint is deferrable and can be postponed until the end of the statement. The default is *No*.

- If enabled, move the *Deferred?* switch to the *Yes* position to specify the timing of the constraint is deferred to the end of the statement. The default is *No*.
- Move the *Match type* switch specify the type of matching that is enforced by the constraint:
 

- Select *Full* to indicate that all columns of a multicolumn foreign key must be null if any column is null; if all columns are null, the row is not required to have a match in the referenced table.
  - Select *Simple* to specify that a single foreign key column may be null; if any column is null, the row is not required to have a match in the referenced table.
- Move the *Validated* switch to the *Yes* position to instruct the server to validate the existing table content (against a foreign key or check constraint) when you save modifications to this dialog.
- Move the *Auto FK Index* switch to the *No* position to disable the automatic index feature.
- The field next to *Covering Index* generates the name of an index if the *Auto FK Index* switch is in the *Yes* position; or, this field is disabled.

Click the *Columns* tab to continue.

The screenshot shows the 'Create - Foreign key' dialog box with the 'Columns' tab selected. The dialog has five tabs: General, Definition, Columns, Action, and SQL. The 'Columns' tab contains the following fields:

- Local column:** A dropdown menu showing 'o\_orderkey'.
- References:** A dropdown menu showing 'public.nation'.
- Referencing:** A dropdown menu showing 'n\_regionkey'.

Below these fields is a table with two columns: 'Local' and 'Referenced'.

Local	Referenced
o_orderkey	n_regionkey

At the bottom of the dialog are three buttons: 'Cancel', 'Reset', and 'Save'.

Use the fields in the *Columns* tab to specify one or more reference column(s). A Foreign Key constraint requires that one or more columns of a table must only contain values that match values in the referenced column(s) of a row of a referenced table:

- Use the drop-down listbox next to *Local column* to specify the column in the current table that will be compared to the foreign table.

- Use the drop-down listbox next to *References* to specify the name of the table in which the comparison column(s) resides.
- Use the drop-down listbox next to *Referencing* to specify a column in the foreign table.

Click the *Add* icon (+) to add a column to the list; repeat the steps above and click the *Add* icon (+) to add additional columns. To discard an entry, click the trash icon to the left of the entry and confirm deletion in the *Delete Row* popup.

Click the *Action* tab to continue.

The screenshot shows a dialog box titled "Create - Foreign key" with a close button (X) in the top right corner. The dialog has five tabs: "General", "Definition", "Columns", "Action" (which is selected and highlighted with a blue underline), and "SQL". Under the "Action" tab, there are two rows. The first row is labeled "On update" and has a dropdown menu showing "RESTRICT". The second row is labeled "On delete" and also has a dropdown menu showing "RESTRICT". At the bottom of the dialog, there are four buttons: an information icon (i), a help icon (?), a "Cancel" button with an X icon, a "Reset" button with a circular arrow icon, and a "Save" button with a floppy disk icon.

Use the drop-down listboxes on the *Action* tab to specify behavior related to the foreign key constraint that will be performed when data within the table is updated or deleted:

- Use the drop-down listbox next to *On update* to select an action that will be performed when data in the table is updated.
- Use the drop-down listbox next to *On delete* to select an action that will be performed when data in the table is deleted.

The supported actions are:

NO ACTION	Produce an error indicating that the deletion or update will create a foreign key constraint violation. If the constraint is deferred, this error will be produced at constraint check time if any referencing rows still exist. This is the default.
RESTRICT	Throw an error indicating that the deletion or update would create a foreign key constraint violation. This is the same as NO ACTION except that the check is not deferrable.
CASCADE	Delete any rows referencing the deleted row, or update the values of the referencing column(s) to the new values of the referenced columns, respectively.

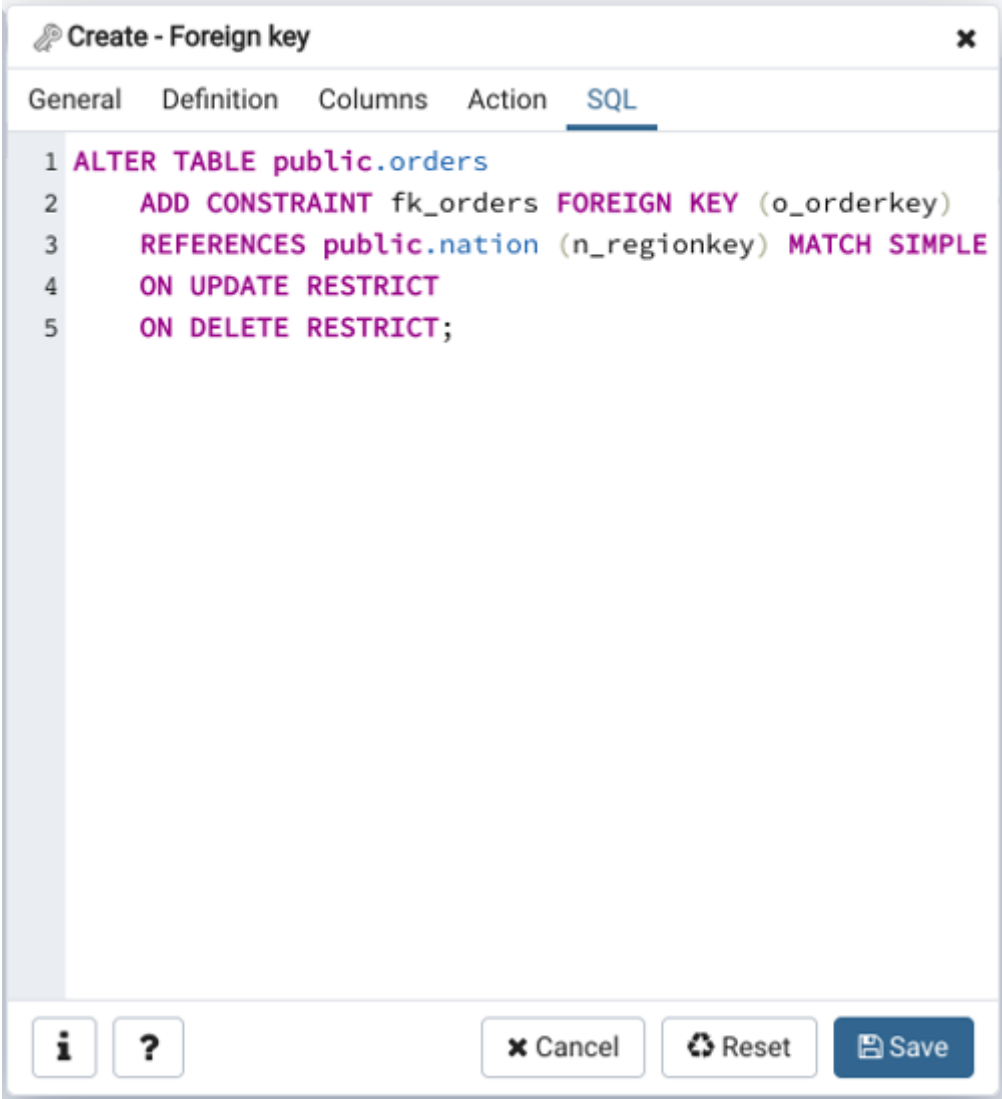
SET NULL	Set the referencing column(s) to null.
SET DEFAULT	Set the referencing column(s) to their default values. There must be a row in the referenced table that matches the default values (if they are not null), or the operation will fail.

Click the SQL tab to continue.

Your entries in the *Foreign key* dialog generate a SQL command (see an example below). Use the SQL tab for review; revisit or switch tabs to make any changes to the SQL command.

Example ¶

The following is an example of the sql command generated by user selections in the *Foreign key* dialog:



The example shown demonstrates creating a foreign key constraint named *territory\_fkey* that matches values in the *distributors* table *territory* column with those of the *sales\_territories* table *region* column.

- Click the *Info* button (i) to access online help.
- Click the *Save* button to save work.
- Click the *Cancel* button to exit without saving work.
- Click the *Reset* button to restore configuration parameters.