EDG Diagram

The EDG Diagram is the latest visualization feature of EDG. It replaces Class Diagram, NeighborGram and the Relationship Tree Diagram. All of these features have been combined into a single one stop shop of relationship exploration.

The EDG Diagram is a panel, users can have many diagram panels open at the same time. However note that large diagrams can take a lot of resources to render/animate and maintain.

Definitions:

Node: A node is an element on the diagram that represents a Class, Resource or Property Shape.

Edge: An edge is an element on the diagram that represents a relationship between nodes.

For the purposes of this document diagram elements will be referred to as Nodes and Edges.

Diagram Buttons

From left to right the buttons are:
Diagram Settings
Reset Diagram
Save Diagram
Open Diagram
Export Diagram (GraphML, SVG, PNG)
Search (within diagram)
Zoom In
Zoom Out
Center Diagram in viewport
Lock Node
Unlock Node
Undo
Redo
Toggle Overview Visibility
Expand All Nodes
Collapse All Nodes

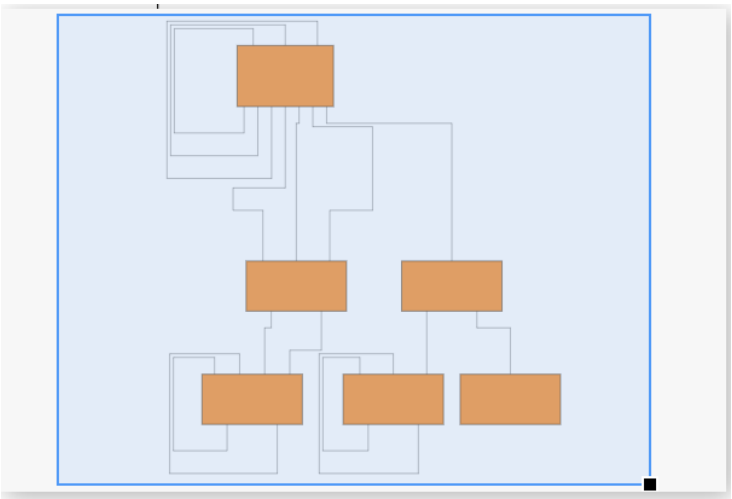
Buttons Explained

Undo/Redo

While working with the diagram all actions can be undone or reapplied. There are only three limitations: 1) a diagram history does not persist with a saved diagram, if a diagram is saved and reopened the complete history of how the diagram was built is not maintained. 2) the diagram history does not persist when a panel is closed. 3) if the diagram is reset via the ‘trash’ button the diagram history is cleared when the diagram is reset.

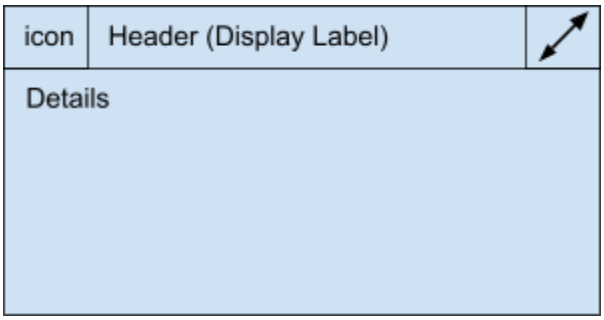
Toggle Overview Visibility

The EDG Diagram has a low fidelity overview panel in the lower right corner of the diagram. This panel is hidden by default.

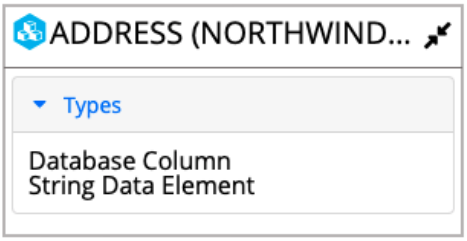


Node Types

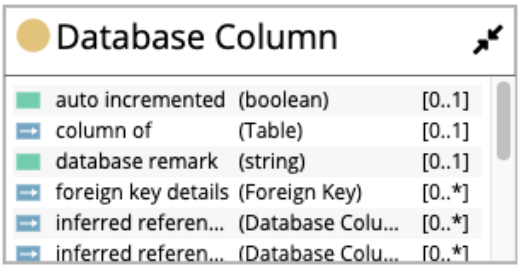
By default EDG Diagram supports three node types. Observe the image below, all three nodes will follow this layout, but will offer unique detailed information.



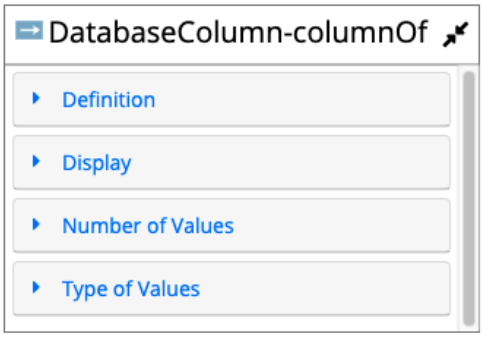
Resource Node: A resource node is a node that represents an instance of a class. The information in a resource node is controlled by [DASH Property Roles].



Class Node: A class node is a node that represents a class definition. A class node will present the list of declared properties. EDG Diagram has the ability to optionally render inherited properties as well. This is controlled by a per diagram global setting.



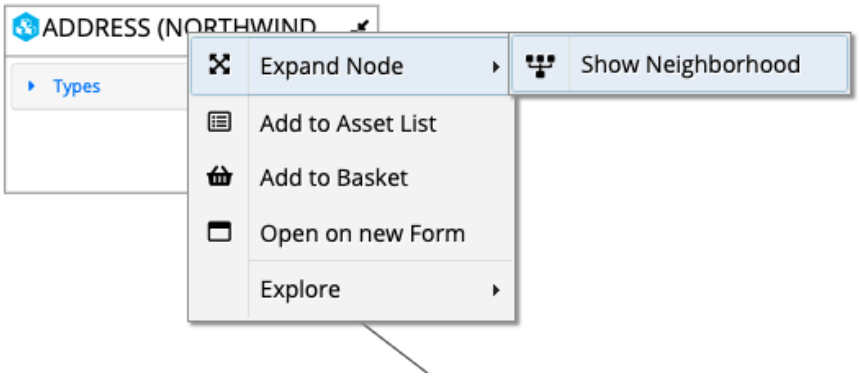
Property Shape Node: A property shape node is a node that represents a property shape definition. A property shape node will mirror the editor form, rendering the property group and all properties relevant to the property shape definition.



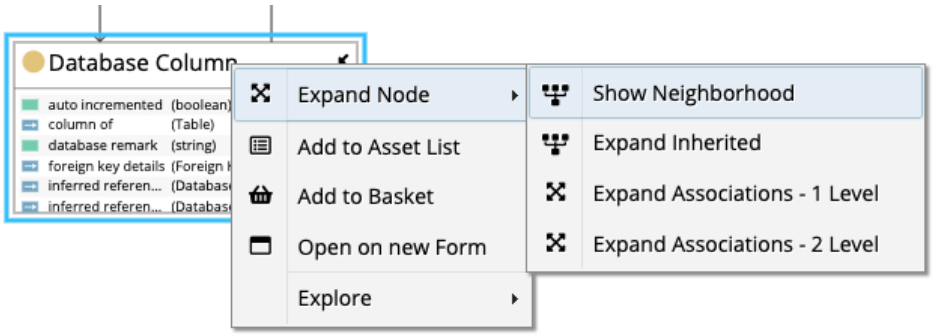
Node Type Interaction

All three nodes have a (right-click) context menu that is **only accessible through the 'header'** of the node. This context menu is the same that is available throughout the EDG editor. However, there are now some node specific actions. These actions will vary depending on the current node type.

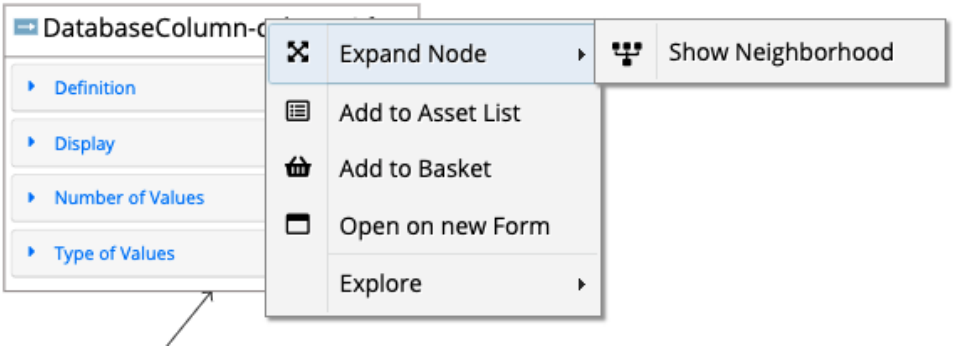
Resource Node Context Menu:



Class Node Context Menu:

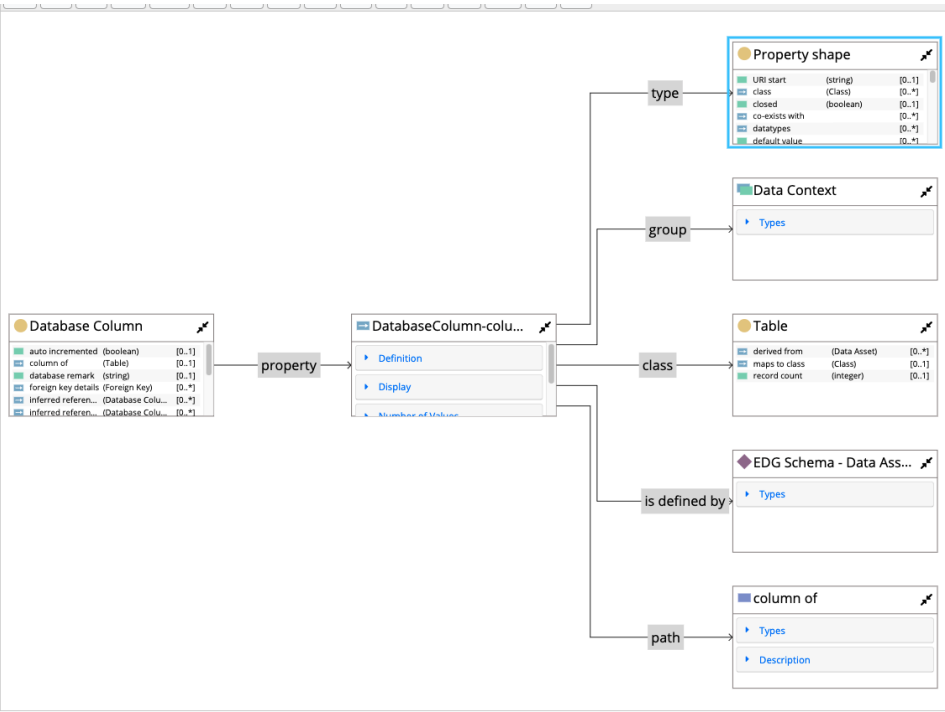


Property Shape Node Context Menu:

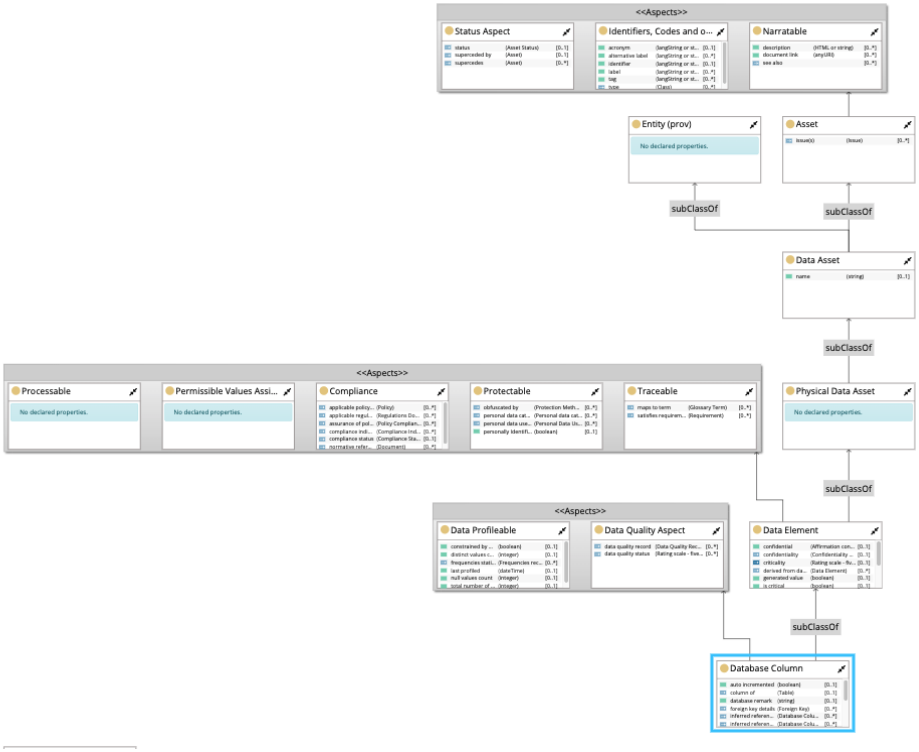


Context Menu Explained

Show Neighborhood: Show Neighborhood expands from left (incoming) to right (outgoing) using the target node as the center. This action uses the same data algorithm as NeighborGram. Neighborhoods can be busy, depending on the target node type.

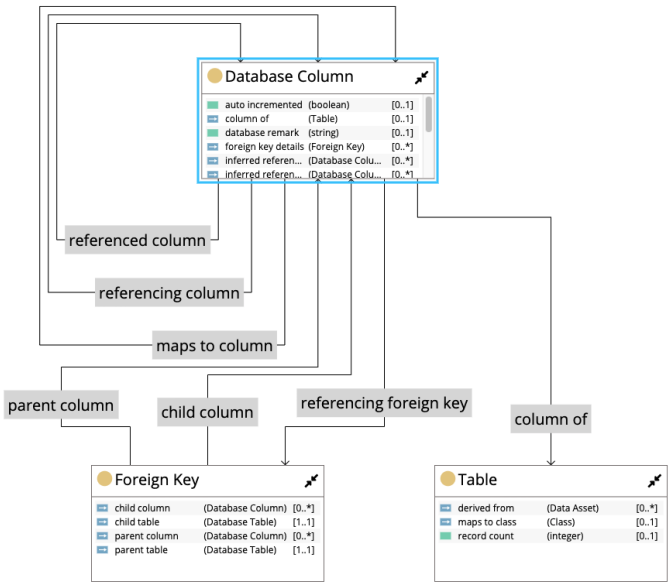


Expand Inherited: The expand inherited action uses the same data algorithm as the Class Diagram panel. This action will calculate the inheritance chain of the target node. The layout is from bottom to top, where the target node is the bottom.

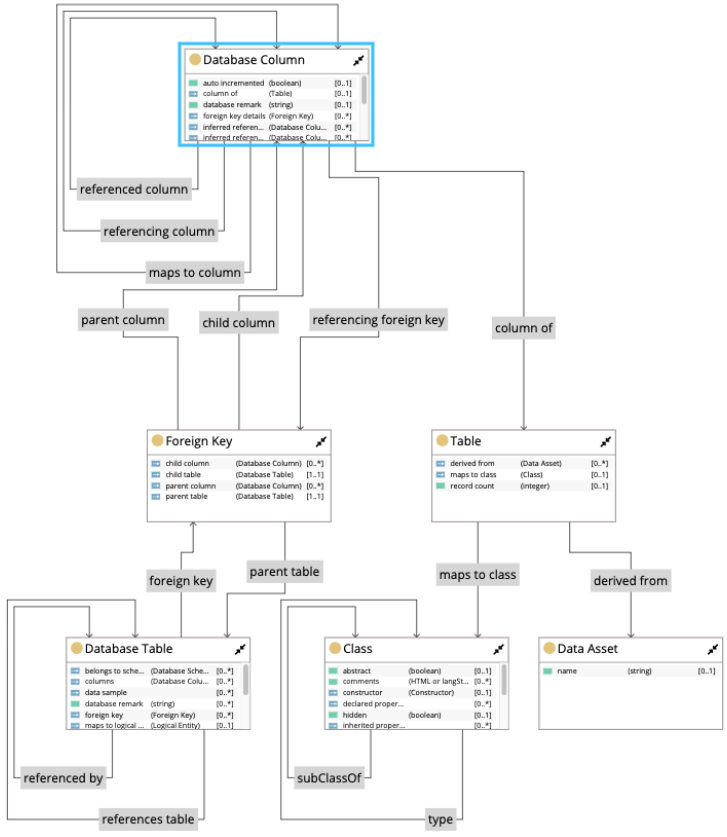


Expand Associations 1 - Level / 2 - Level: The expand inherited action uses the same data algorithm as the Class Diagram panel. The default layout is top to bottom, where the target node is at the top. The only difference between 1 - Level / 2 - Level is the number of graph traversals. 1 - Level will reveal the immediate relationships the target node contains. 2 - Level will follow the immediate relationships and expand their relationships as well.

1 - Level

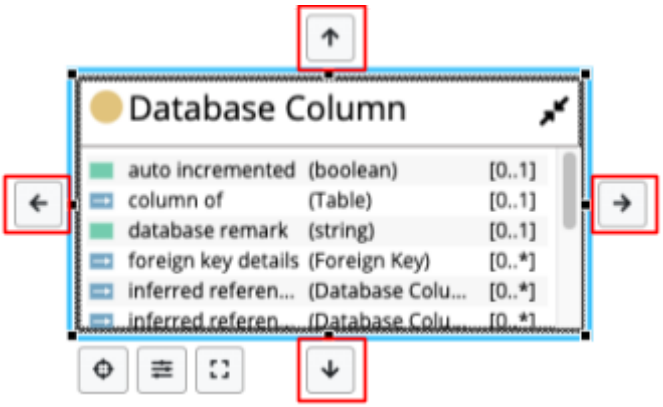


2 - Level

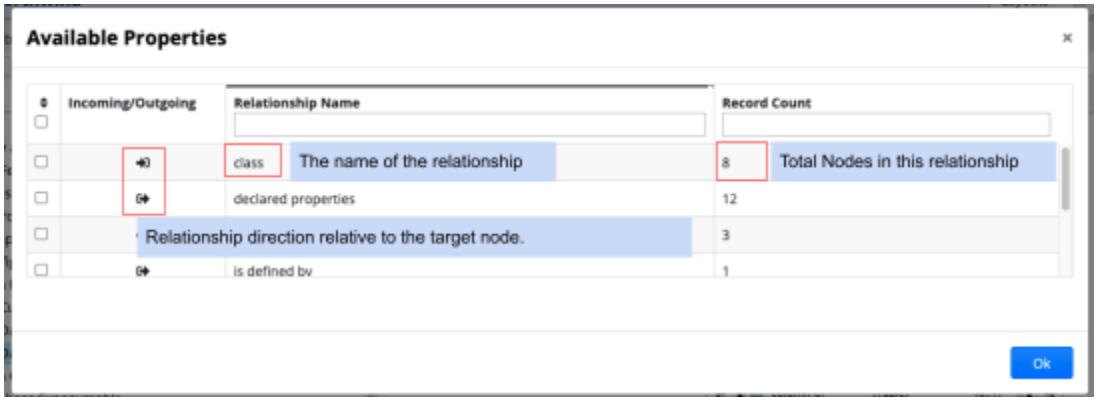


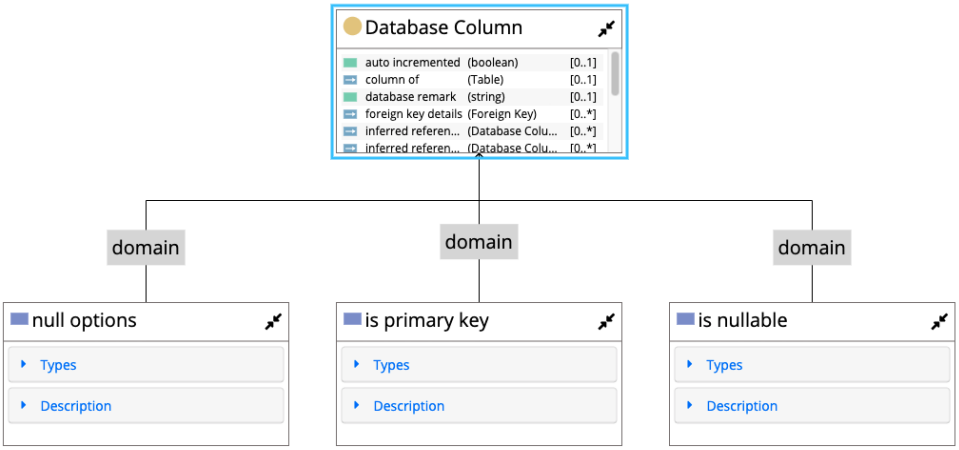
Other Expansion Options

Outside of the default layout algorithms each node has the ability to expand upon known relationships. This can be done in a directional manner (North, South, East, West). When selected the target node will reveal several action buttons.



Selecting any of these buttons will open a dialog presenting the available relationships. Only existing relationships will be available, not potential relationships as defined by Property Shapes. Select the target relationships and click Ok to accept. Then observe the layout of the nodes in that direction. (North: Bottom-Top, South: Top-Bottom, East: Right-Left, West: Left-Right)





Once a relationship has been selected it is no longer available as a candidate for the other directions.

Auto Relationships
The EDG Diagram will automatically resolve relationships between existing nodes on a diagram.

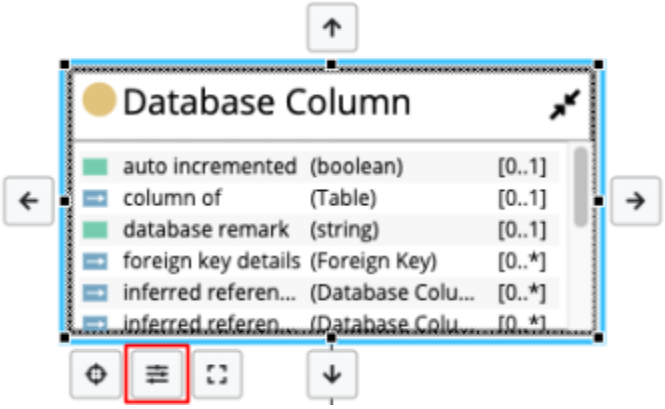
Relationship Filtering
The EDG Diagram has the ability to filter relationships. There are two filter options, global or local. If global filters are applied, local filters are possible as the number of filter combinations would become difficult to maintain.

Global Filtering

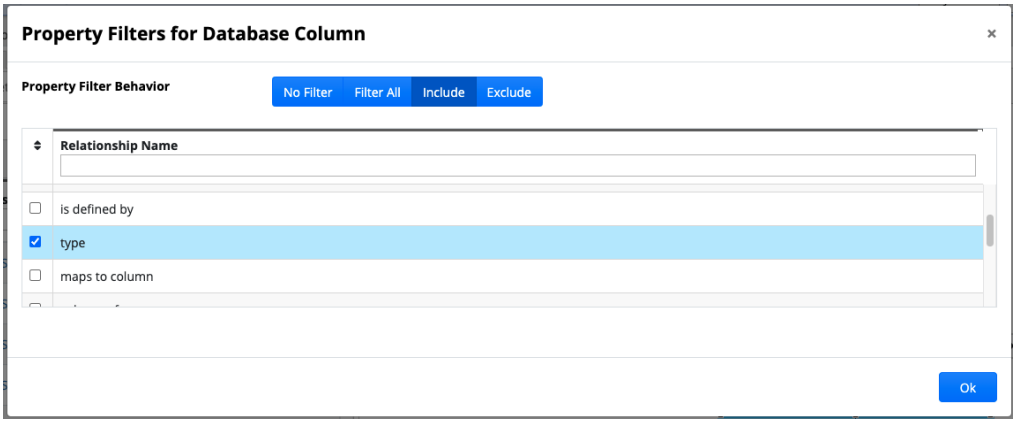
The Diagram Settings Dialog accessible through the gear icon in the diagram toolbar has four setting areas. To set a relationship filter, select one of the options No Filter, Filter All, Include, Exclude. Filter All will hide all relationships and properties. Include will prevent all relationships except for those selected. Exclude will allow all relationships except for those selected. Include/Exclude will list all possible relationships for the current Asset Collection.

Local FIlter

Local filtering has the same options as global filters, the primary difference is that the filter only applies to the target node and relationships that are connected to the target node.



Local filters are per node and accessible via the settings button visible when a node is selected. Only relationships that the target node could have will be options to include/exclude.

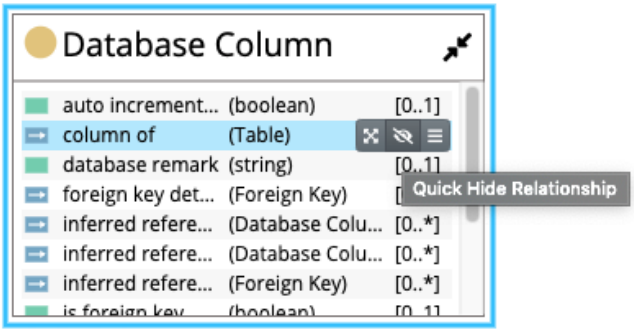


Node Focus

Focusing on a node in NeighorGram meant re-drawing the entire diagram around the new focus node. Node focus in the EDG diagram means hiding elements that are not connected to the target node. The undo button can be used to revert the action.

Property Hover Menu (Class Nodes Only)

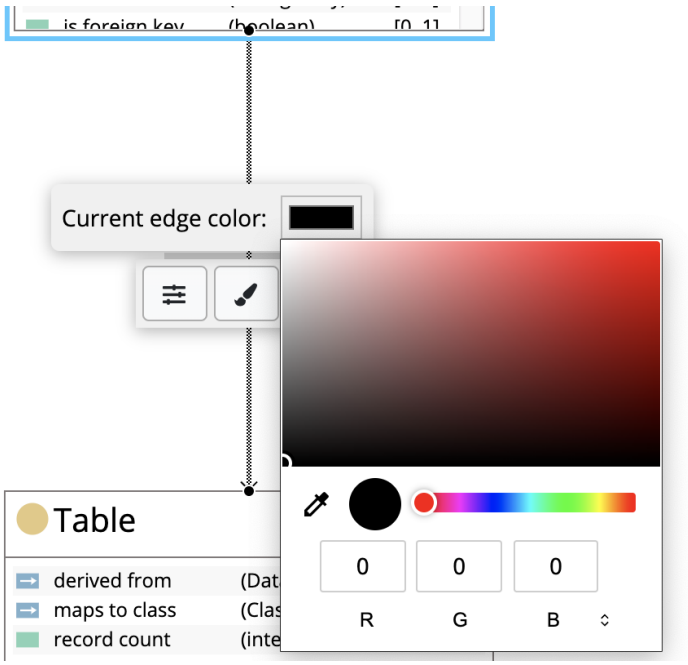
The property hover menu presents ‘quick’ actions. Properties that have a relationship with another Resource will have three options. Expand Relationship, Quick Hide Relationship, Menu: The expand relationship will expand upon the target property. The default layout is bottom-to-top, expanded nodes may layout above or below the target node depending on the direction of the relationship. The quick hide relationship action will hide the property from the ClassNode and close any open edges/node on that relationship. If a relationship is hidden with the quick hide the global/local filters will have no effect on that relationship. The ‘menu’ action will open the context menu for the target property.

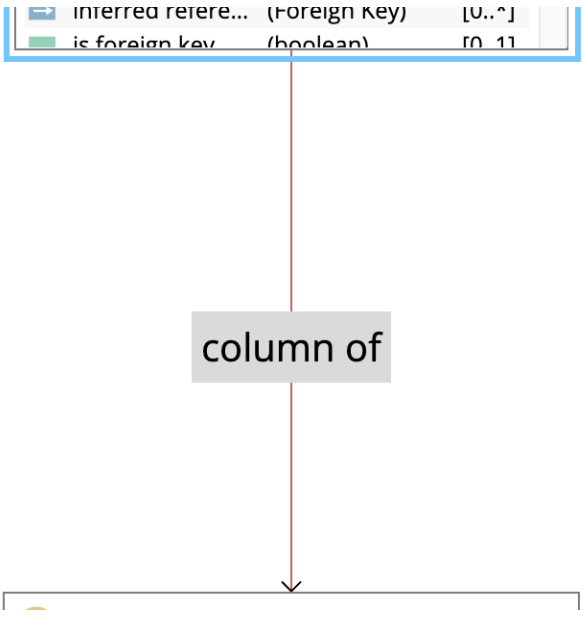


Edge Customizations

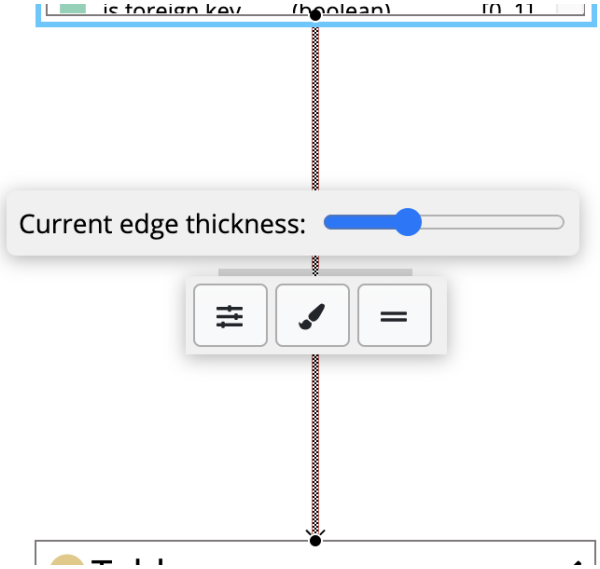
When an edge is selected a context menu will be presented. This context menu provides the ability to customize edges. Edges can be customized a few ways, color, size, line style, edge type (polyline, bezier, arc).

Color:

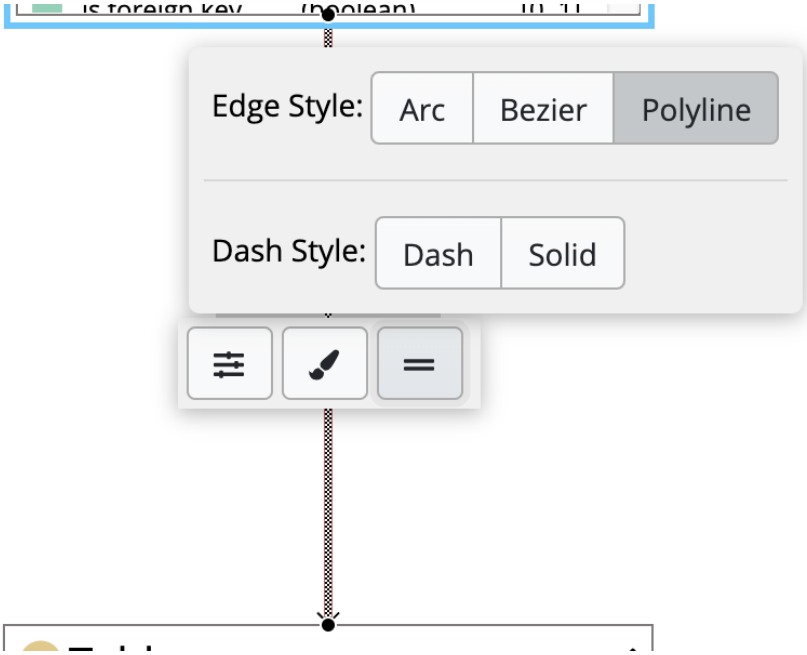

Current edge color:
Table
derived from
maps to class
record count
0
0
0
R
G
B

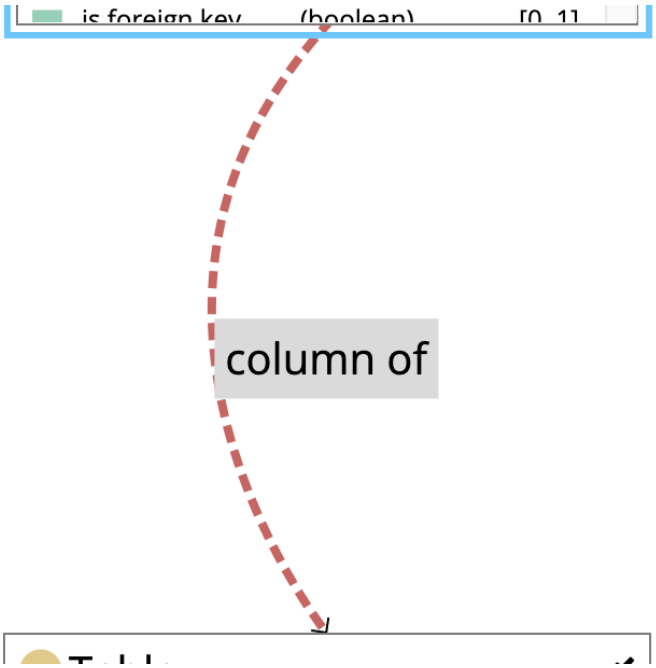

column of

Edge Thickness:



Edge Style:



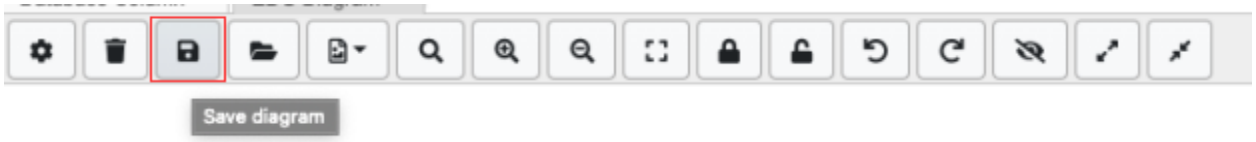


Removing Nodes

While not obvious nodes can be removed from the diagram. This is done by selecting the nodes and clicking the delete or backspace button. The nodes and connected edges will be removed.

Saving and Sharing

Diagrams can be saved to asset collections. This allows users to save their work, create snapshots at intervals and also share diagrams with other users. Diagrams can be marked as public or private, all public diagrams are discoverable by other users, but only the owner can make modifications.



After a diagram has been created, to share the link, select the ‘open diagram’ browse the available diagrams, click the ‘link’ to copy the link to the clipboard. Keep in mind that diagrams can only be viewed by EDG users.