

# Import

# Linking to External Databases using OLE DB

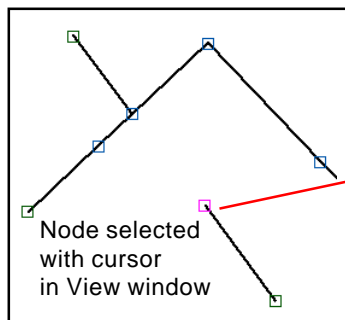
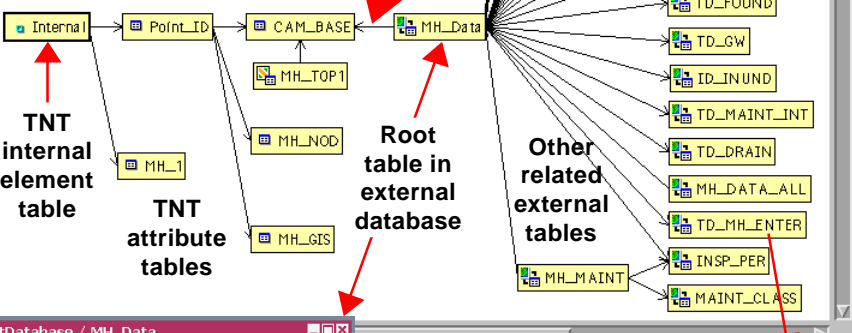
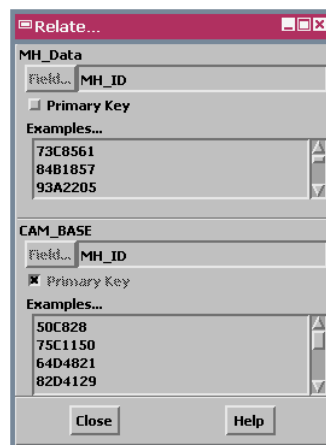
Although the spatial objects in your TNT Project Files can store complex attribute information in relational databases embedded with the objects, you can also maintain attributes in an external database that can be accessed and edited by other applications. The Import process in the TNT products allows you to link to (or fully import) external attribute data stored in Microsoft Access, SQL Server, or Excel files on any Windows platform using Microsoft's OLE DB technology. All relationships set up in the Access or SQL Server database are maintained automatically during the import.

OLE DB offers considerable advantages over the older ODBC database linking method. OLE DB is more efficient, stable, and several times faster than an ODBC connection. In addition, OLE DB allows random access and relational linking to external database structures that lack a primary key field. For this reason you can use OLE DB to relate a linked Excel spreadsheet to TNT tables and geometric object elements, an option that is not available using ODBC.

Any linked tables that include spatial coordinate fields can be pinmapped directly in a TNT View, but more commonly you will be using an external database with attributes pertaining to elements in a TNT geometric object. In this case you will need to make at least one keyfield relationship between a table in the external database relational structure and a TNT table with records directly or indirectly related to the geometric elements. Once you have identified the matching key fields in this pair of tables, you can set up the required relational link using the Database Editor or the table's Properties window.

Once the external database has been linked, its attribute values can be viewed, queried, and used as the basis for element styling in TNT. These attribute values can be updated and records can be added to these tables using the parent program of the data source, although the structure of a table (number of fields, field types, and so on) should not be changed after linking. Attribute values can be changed and saved in SQL Server, Access, or Excel while the linked table is being used or viewed in the TNT products (with some exceptions). An open TNT tabular view of the table can be updated manually to show these saved changes using the Refresh button, or its Preferences can be set to automatically refresh at a selected time interval. Otherwise such changes automatically appear in your linked tables the next time the relevant objects are used in the TNT products.

After setting up an OLE DB link to an external database with point/node information, a single relational link ties all of the inter-related external tables to a TNT attribute table and thus to the nodes and points in this vector object.



MH_ID	MH_LOC	MH_CART	MH_STR	MH_MAP	DATE
102B3209	1	12	448	210	9/16/2003
102B3211	1	12	448	210	9/16/2003
102B3213	1	12	448	210	9/16/2003
102B3215	1	12	448	210	9/16/2003
102B3217	1	12	279	210	9/17/2003
102B3219	1	12	279	210	9/17/2003

10418 of 10418 records shown - 1 related to selected elements

ID	Enter_rom	Ent_eng	Enter_deut
3	fara	none	keine
4	gaura ptr.use	doorway, press	Druckt're
5	SCARA DB	ladder	Leiter
6	trepte sapate	step hollow	Trittnische

8 of 8 records shown - 1 related to selected elements

Associated records selected in OLE DB-linked external database tables. Use the Refresh button to update a TNT tabular view to show changes made concurrently in the table's parent program.