

Related Tables in Collector

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Great River Energy

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- ▶ Relationships and Relationship Classes in ArcGIS
 - ▶ Using Relationship Classes in Collector
 - Demo
 - Collector vs Classic
 - ▶ Use case examples

What are relationships in ArcGIS?

- ▶ Relationships of various types are supported in ArcGIS
 - Geographic to Geographic – ex. Pole and OH device
 - Geographic to Non-Geographic – ex. Service Location to accounting table
 - Non-Geographic to Non-Geographic – ex. any 2 tables that you may need related to one another

What is a Relationship Class?

- ▶ A geodatabase feature that manages the associations between objects in two classes (feature class or tables)
- ▶ Support all cardinalities:
 - one-to-one, one-to-many, many-to-many
- ▶ Stored in the geodatabase, makes it accessible to anyone who uses geodatabase
 - Relates and Join, primarily used in mxds

Relationship Class con't

► Cardinalities:

■ One to One:

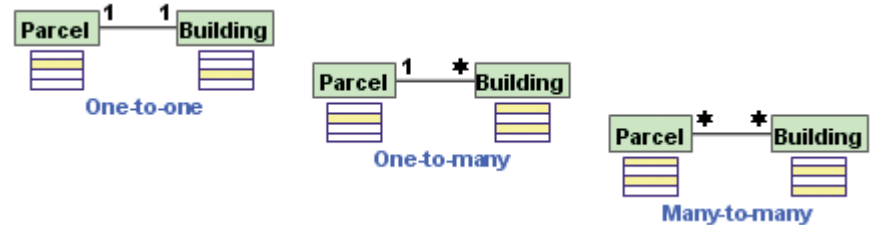
- One origin object can relate to only one destination object

■ One to Many:

- One origin object can relate to multiple destination objects

■ Many to Many:

- One origin object can relate to multiple destination objects and one destination objects can relate to multiple origin objects



Relationship Class con't

- ▶ They can be used to enforce referential integrity between related objects
 - When you modify an object, related objects automatically update.
 - Physically moving, deleting, or updating attribute
 - Can help save time from performing additional editing.
- ▶ Ability to query related features and records

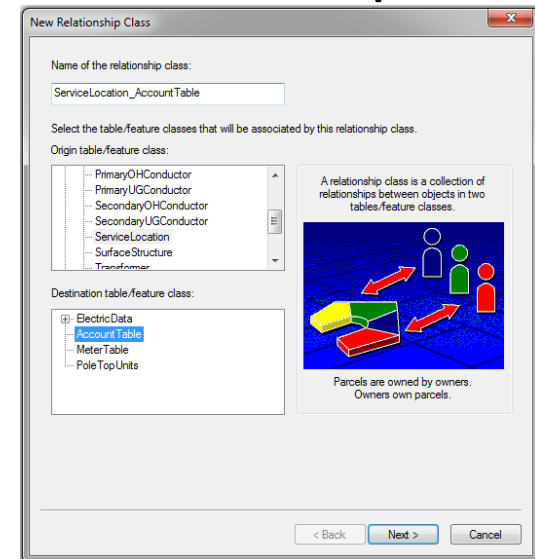
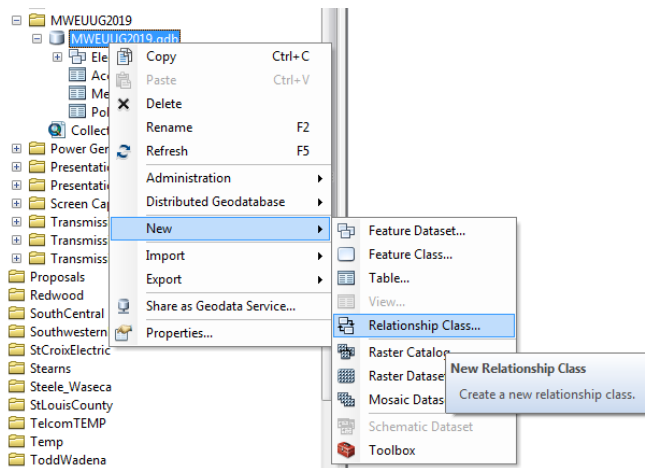
How does it all relate to Collector?

- ▶ Think of features and tables that have relationships between them
- ▶ Create Relationship Classes in database
- ▶ Create mxd with the features part of your relationship
- ▶ Create feature services with ArcGIS Server to be used in Portal or ArcGIS Online
- ▶ Use Collector to quickly and easily update your related information!

Steps to complete

► ArcCatalog

- Database > right click and create new Relationship Class
- Follow the dialog box to create relationship class



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- ▶ Consider what type of relationship these two features share:
 - Simple (peer to peer)
 - Relationships between 2 or more items that can exist independent of each other
 - Composite
 - Relationships where the lifetime of objects in the destination table/feature class are controlled by the lifetime of their related object in the origin table/feature class

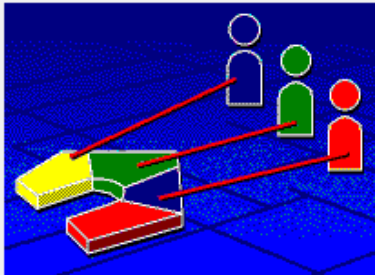
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- ▶ Choosing the field to relate from the origin to destination
 - Recommended to utilize the Global ID field
 - Never changes within the database
 - Location Number from billing/maintenance tables
 - Global ID may not be desired to maintain in other business systems
 - Find a common link between other business systems and your GIS information

Cardinality

In a 1-1 (one to one) relationship, each object of the origin table/feature class can be related to zero or one object of the destination table/feature class.

Parcels
Table/Feature
Class

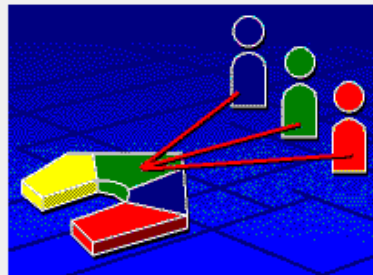
Owners
Table/Feature
Class



In a 1-M (one to many) relationship, each object in the origin table/feature class can be related to multiple objects in the destination table/feature class.

Parcels
Table/Feature
Class

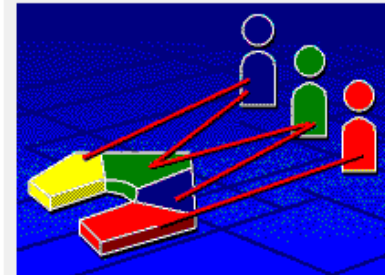
Owners
Table/Feature
Class



In a M-N (many to many) relationship, multiple objects of the origin table/feature class can be related to multiple objects of the destination table/feature class.

Parcels
Table/Feature
Class

Owners
Table/Feature
Class



ArcMap

- Go into your mxd and make sure to add the related information into you mxd before sharing as a service

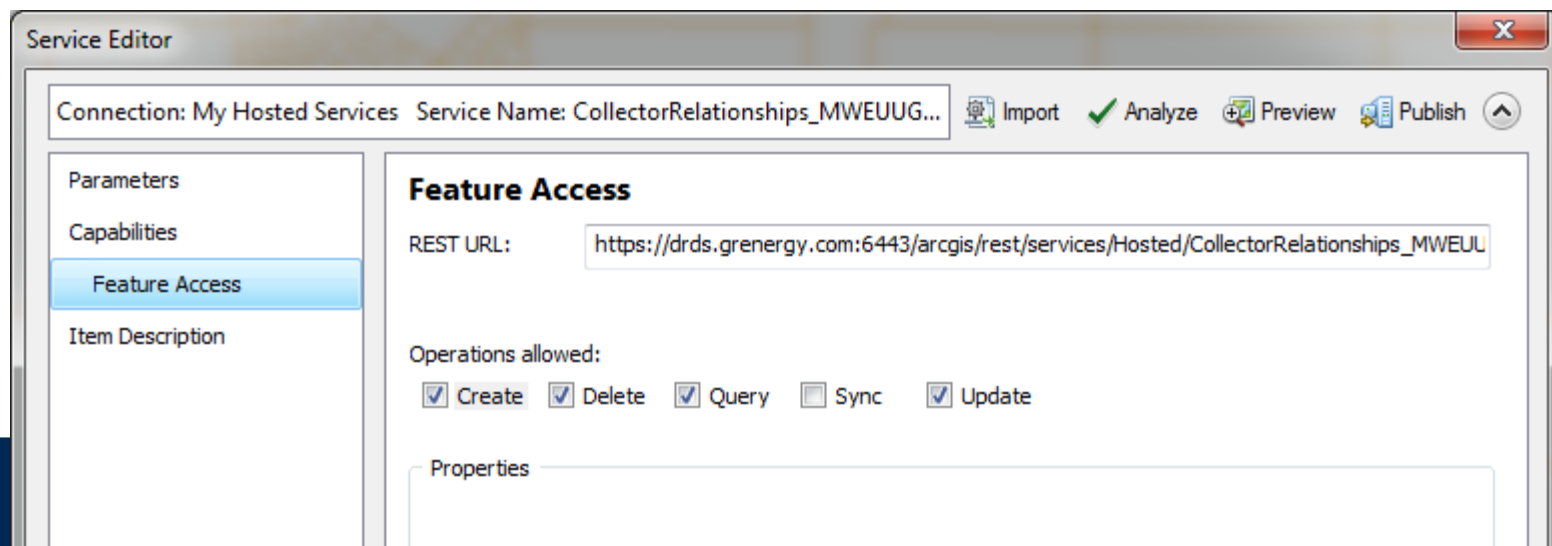
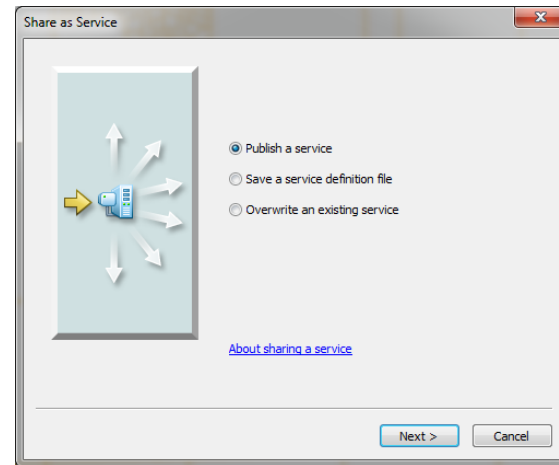
Note: Related Tables

The screenshot shows the ArcMap Layers panel with the following structure:

- Layers
 - I:\AmFm\Presentations\MWEUUG2019\I
 - ElectricData
 - ServiceLocation
 - Transformer
 - <all other values>
 - Over_Under
 - Fuse Bank
 - Dynamic Protective Device Bank
 - Surface Structure
 - <all other values>
 - SubtypeCode
 - Junction Box
 - Secondary Pedestal
 - Pole
 - PhotoPoint
 - Primary OH Conductor
 - Primary UG Conductor
 - Secondary OH Conductor
 - Secondary UG Conductor
 - LeaderLine
 - Parcels
 - PoleTopUnits
 - MeterTable
 - AccountTable
 - PoleInspection
 - PhotoPoint_ATTACH

A red arrow points from the text 'Note: Related Tables' to the 'PoleTopUnits' layer in the list.

- Share as a Service and consider what capabilities you want to give the user in the field



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- ▶ Create you web map in ArcGIS Online or Portal
 - Share appropriately for others to see
 - ▶ Open map in Collector and begin collecting with your related data!

Use case examples

- ▶ One to One relationships
 - Service Locations to any tables that may be imported from billing
 - Simple type of relationship – service location can still exist even if related information from the account or meter table is updated
 - Pole to Pole top units table

Use case examples

► One to Many relationships

■ Pole to Pole Inspection table

- Composite relationship – if pole is removed or changed out, all related records on the inspection table can be removed

■ Transformer to Service Locations

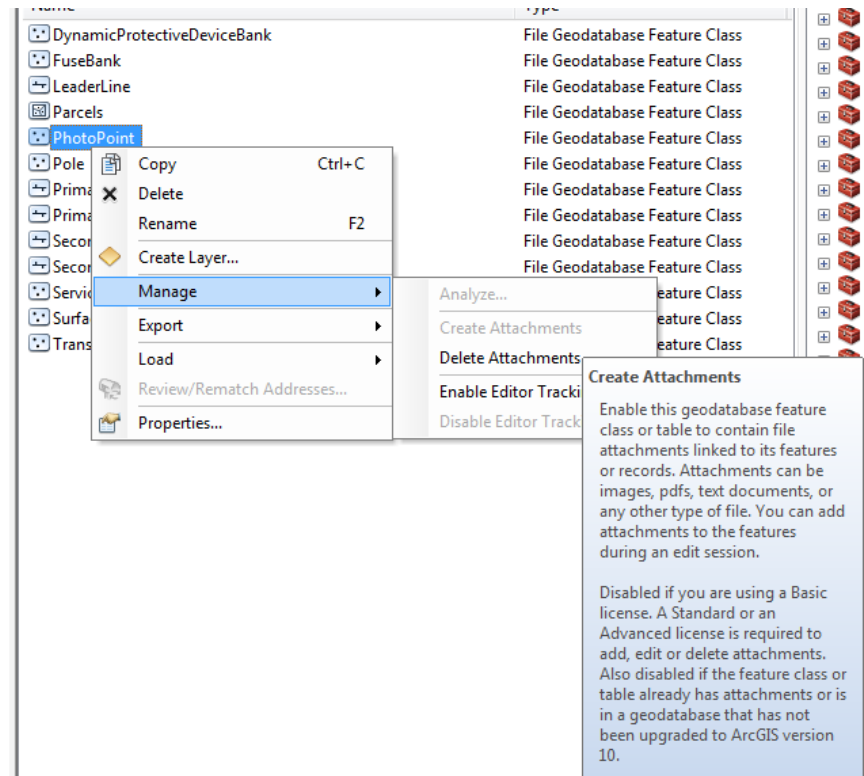
- Simple relationship – but should maintenance be needed on the transformer, fuse or other protective device, you can notify all affected customers

Use case examples

► One to Many relationships

■ Photo points

- Adding photo attachments as a way to collect additional information out in the field is another way you can use relationship classes within Collector



Questions?
