lucity™

TRAINING GUIDE

Lucity Geodatabase Configuration Tool

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Geodatabase Configuration Tool

In this session, we'll introduce you to the Lucity Geodatabase Configuration tool. We'll give you information about the synchronization setup, synchronization process and database connection.

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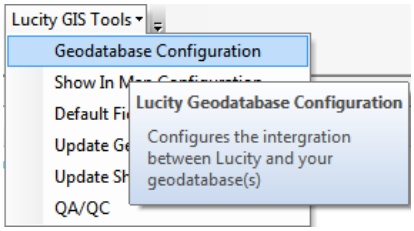
Geodatabase Configuration

Once you have created the geodatabase connections with the Lucity Administration tool you can use the Lucity Geodatabase Configuration tool in ArcCatalog to perform all other configurations.

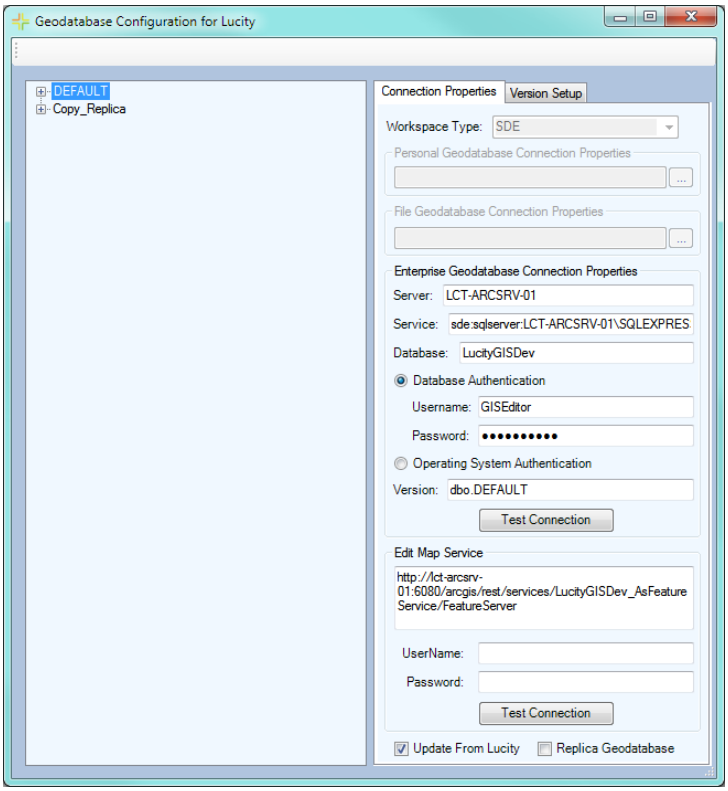
> *Note: Users must have the following Lucity Security permissions to use this tool*

- GIS > GIS System Configuration > Run
- GIS > GIS Admin Connection Strings > Edit

In ArcCatalog, Click on Lucity GIS Tools>>Geodatabase Configuration.

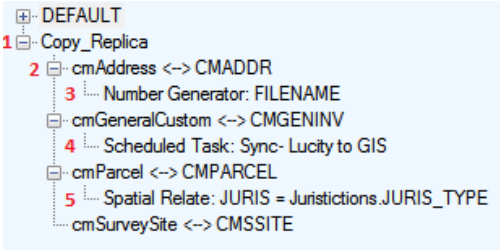


The following dialog will appear:



The left side of the form lists all the geodatabase connections that are currently configured with Lucity. Note: If there are no connections configured you will need to use the Lucity Administration Tool to create a new connection prior to using this tool.

Expanding the nodes on the left side of the form shows the various components of the geodatabase. The form will be updated to show data applicable to the selected node type. The nodes can represent 5 types of data:



1. **Geodatabase:** At a minimum you will have at least one geodatabase connection and it will be called DEFAULT. Selecting this type of node will let you modify the connection information and version setup for the geodatabase. You will also get the following context menu when the node is right-clicked.
2. **Feature Class:** This will be listed in the format of "feature class name <-> Lucity table name. For the image above, cmAddress is the feature class name and that feature class is mapped to the Lucity CMADDR table. Selecting this type of node will let you modify the properties for the feature class and its fields.
3. **Number Generator:** This will start with the word "Number Generator" and will then list the feature class field name that is configured. Select this node to modify the number generator properties.
4. **Scheduled Task:** This will start with the word "Scheduled Task" and will then list the type of GIS Scheduled Task. Select this node to modify the scheduled task properties.
5. **Spatial Relate:** This will start with the word "Spatial Relate" and will then list the feature class field name that is updated. Select this node to modify the spatial relationship properties.

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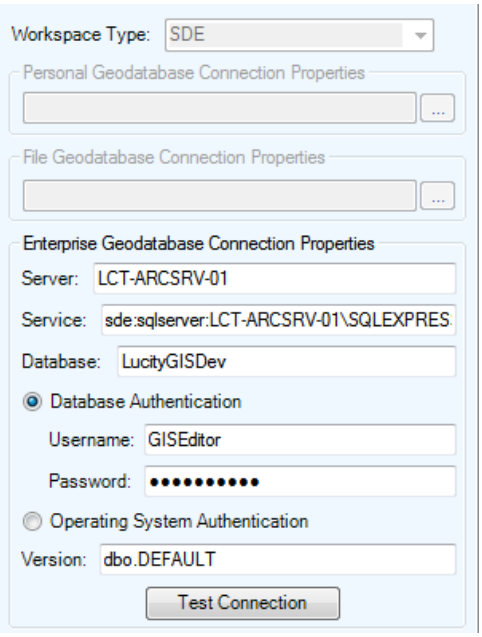
Connection Properties

The Connection Properties tab shows you the geodatabase connection information.

- To setup a Personal or File geodatabase browse to the database location.

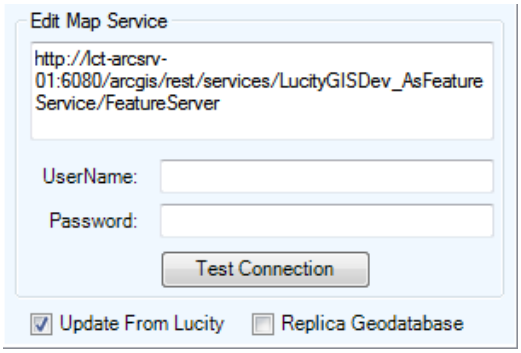
1. ArcSDE setup is as follows:

Enterprise Geodatabase Connection Properties



- **Server:** This must contain the name of the machine where ArcSDE is installed
- **Service:** The name of the instance for the SDE database. This supports either spatial or direct connections.
    - **Spatial Connect:** This field should contain the port where ArcSDE is installed. By default this is typically 5151. Do not include the /tcp identifier; enter only the number for the port.
    - **Direct Connect:** Enter the name of the direct connect driver and the name of the server instance.
        - **SQL Server Example:**"sde:sqlserver:GIS_SERVER\DATA."
        - **Oracle Example:** "sde:Oracle11g:GIS_SERVER\DATA."
- **Database:** This must contain the name of your SQL Server geodatabase. Instead, it is the geodatabase that contains the infrastructure data that you want to integrate with the desktop. **For Oracle geodatabases this must be blank.**
- **Authentication type:** Used by Lucity to connect to the geodatabase. If you specify DB you must also populate the UserName and Password fields.
    - **UserName:** If using DB authentication type you must specify a user. This user must have permission to ALL feature classes linked to Lucity.
    - **Password:** If using DB authentication type you must also specify a password for the user.
- **Version:** This information is always required; it designates the name of the ArcSDE version that Lucity will use when connecting to the geodatabase. For Oracle, the Version is case sensitive.

Edit Map Service

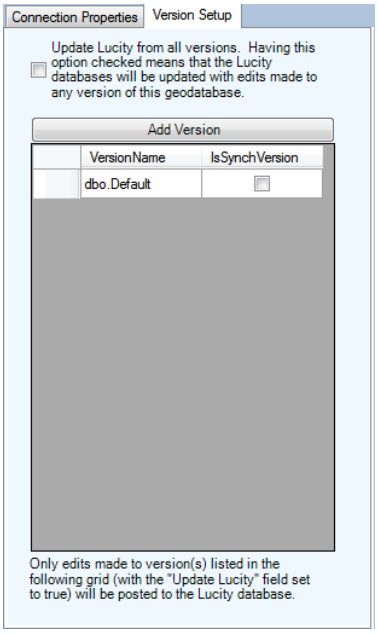


- **URL:** This is the URL for a map/feature service that contains this geodatabase's feature classes linked to Lucity.
- **Update From Lucity:** This indicates if the geodatabase should be updated with edits made in the Lucity desktop and web interfaces
- **Replica Geodatabase:** This indicates if the geodatabase is a replica geodatabase. If this is checked, functionality with the configuration tool will change preventing some actions (such as

deleting feature classes) and enable other actions (such as associating feature classes)

Version Setup

Clients using an enterprise geodatabase (ArcSDE) can indicate which versions of their geodatabase are "Lucity versions". This gives users the ability to selectively choose which versions should update the Lucity database when they are edited in ArcMap.



> *Note: If "Update Lucity from all Versions" is checked then the information listed in the grid is ignored as edits to ALL versions of the geodatabase will be posted to the Lucity database. If that option is not checked, then edits made to only those versions listed in the grid with the 'IsSyncVersion' option checked will update Lucity.*

Add/Delete a Version

To add a version:

1. Click on the Add Version button.
2. A new line will be added to the version grid. Fill in the version name and check "IsSyncVersion' if you want to update the version. Note: For Oracle geodatabases this information is case-sensitive.

To delete a version:

1. Right-click on the version you want to delete and choose Delete.
2. The version will be removed from the grid.

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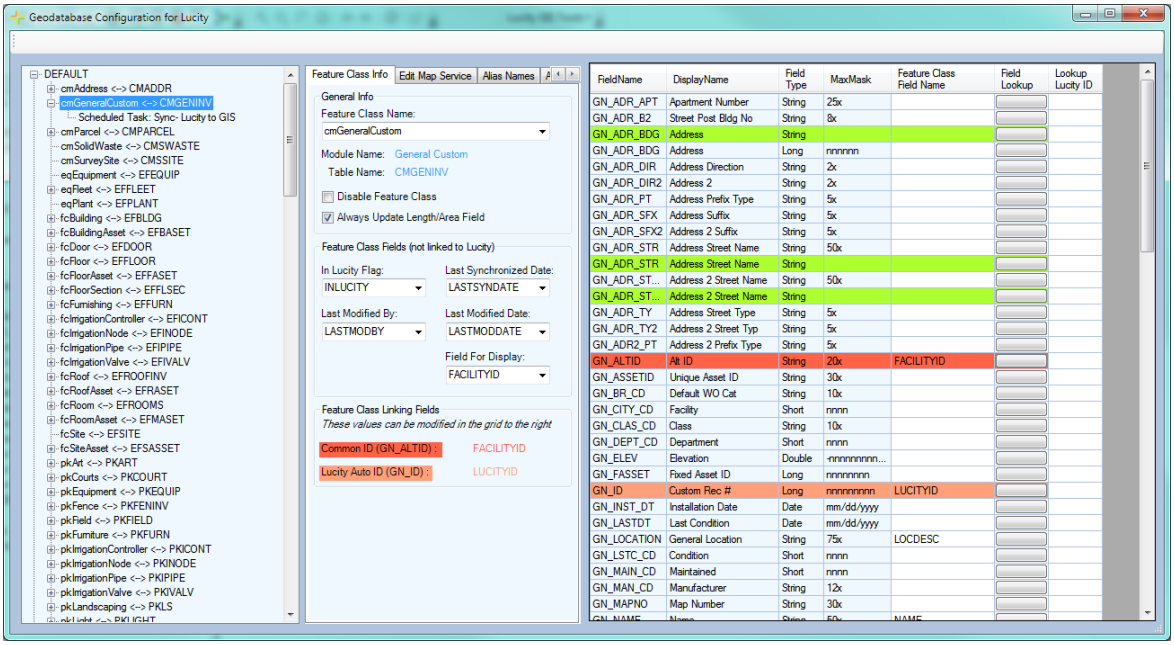
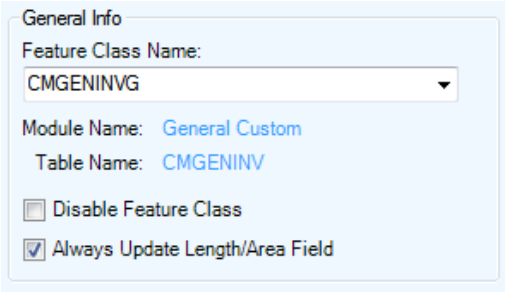
Feature Class Configuration

To view feature class configurations, expand the correct database node from the grid on the left. A list of all feature class mappings will be displayed. Select the feature class node to view its configuration.



Feature Class Information Tab

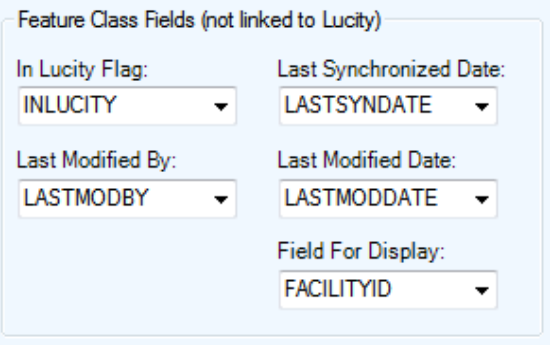
General Form Information



- **Feature Class Name**: This is the name of the feature class. This is NOT the alias name.
    - Note: If the owner of the feature class is not dbo, then you **must specify the owner** in the format of owner.featureClassName.
- **Module Name**: This field is read-only for existing items in the feature class list. This is the name of the *Lucity* module to which the geodatabase feature class is related.
- **Table Name**: This field is read-only and shows the Lucity table name that corresponds to the selected Lucity module.
- **Disable Feature Class**: This flag allows you to disable a feature class that you are not using, but do not want to delete from the setup.
- **Always Update Length/Area**: This flag indicates whether or not the Lucity GIS Extension should update the feature class field linked to the Lucity's length/area field when the shape of a feature has changed. If checked, the program will update the field in the feature class mapped to the *Lucity* length/area field. It updates the values in this field based on the shape.length and shape.area fields. If this option is left unchecked, the Length/Area fields will only be populated when the feature is first created.

Feature Class Fields (Not linked to Lucity)

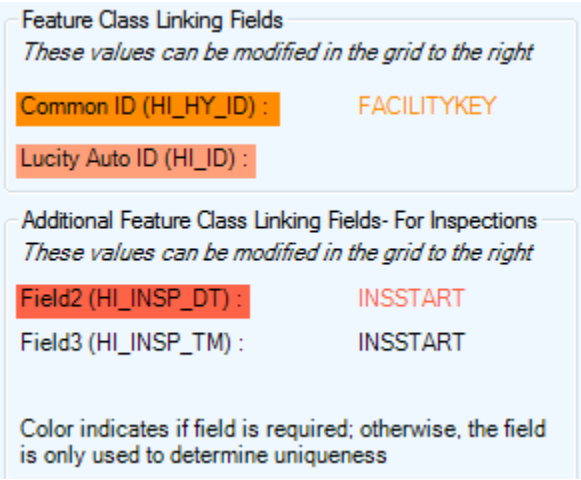
- **In Lucity Flag Field**- This field is controlled by *Lucity* to indicate to users whether or not each record in the feature class has been synchronized with *Lucity*. This should be a short integer field and should be assigned a domain that classifies 0=No or False and 1= Yes or true. This domain will make it easier for end users to understand the values that will be stored in the field.



- **Last Modified By** - This field is controlled by *Lucity* to indicate which user last modified the record from an edit session in the map.
- **Last Modified Date** - This field is controlled by *Lucity* to indicate what date the record was last modified from an edit session in the map.
- **Last Synchronized Date** - This field is controlled by *Lucity* to indicate the date when the record was last synchronized with *Lucity*.
- **Field for Display** - This is the field name that will be displayed with the various Lucity GIS tools. By default, this field will be set to the common ID of the feature class.

Feature Class Linking Fields

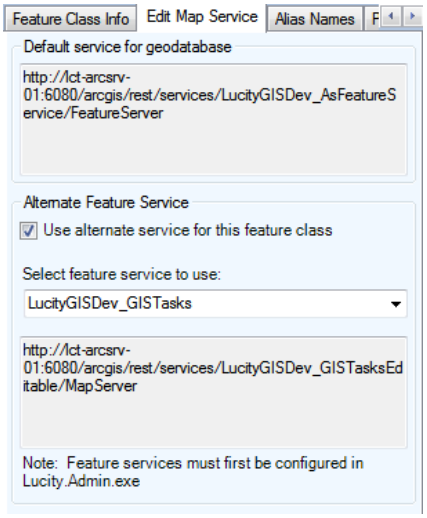
- **Common ID**- (Required) The unique identifier assigned by the user for this asset. The value for this field cannot be directly modified; it is automatically populated based on the field mappings from the grid at the right of the page. Every module has one field that defines the asset as unique. These fields are highlighted in the grid to the right. To enter a value in this field, find the corresponding highlighted field and type the field name into the Feature Class Field Name column.
- **Lucity AutoID**- (Strongly Recommended) This field is used by *Lucity* to store an indexed long integer link between the records in the feature class and the records in the *Lucity* inventory table. This field must be long integer. The value for this field name is not editable; to update this value, use the grid to the right to find the corresponding highlighted field. Not having this field will impact the performance of some of the Lucity GIS tools as additional resources will be used to determine the AutoID value based upon the common ID.



- **Additional Linking Fields For Inspections-** These are additional fields that are used for inspection modules. The color indicates if the field is required. The value for this field name is not editable; to update this value, use the grid to the right to find the corresponding highlighted field.

Edit Map Service Tab

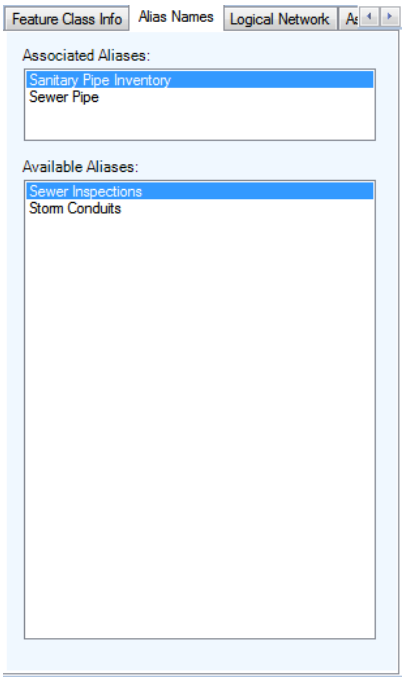
Some Lucity tools (Lucity Spatial Updater, Lucity GIS Updates via Feature Service, GIS Scheduled Tasks) interact with Lucity linked feature classes via feature services. The Edit Map Service tab can be used to define a feature service for an individual feature class. Note: By default, if a feature service hasn't been defined at the feature class level, Lucity will use the edit map service defined at the geodatabase level.



- **Default Service for geodatabase**- This is read-only. This indicates the service that is defined at the geodatabase level. This is defined on the geodatabase connection info tab or in UI Admin in the Connection Strings module.
- **Alternate Feature Service-** Allows an admin to select a specific feature service to use for this feature class.
    - The dropdown contains a list of feature services as defined in the Lucity Admin Map Services module.
    - Only services that have been defined as having feature access capabilities are shown.

Alias Names Tab

Aliases are alternate names for feature classes that provide a unique identity. They are used by the Lucity Webmap, Lucity Viewer, Lucity Mobile for Android, and any other Lucity application that interacts with map/feature services to identify which feature classes are linked to Lucity. These Lucity mapping applications check the feature classes loaded into them and check the display names of those feature classes against the aliases names listed in the Geodatabase Configuration.



The Alias Names tab has two grids. The Associated Aliases grid is a list of all the aliases assigned to the feature class.

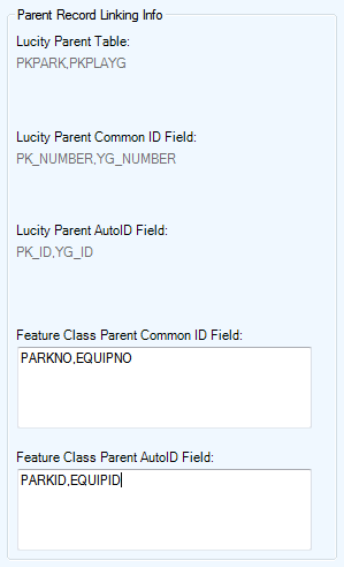
- Right-click on an existing record to get a menu with options to Add, Edit, Delete, or Disassociate.
- Disassociating a record in this grid will detach it from the selected feature class and move it to the Available Aliases grid.
- Whenever a feature class appears in the Lucity Viewer, Webmap, or Mobile for Android with a name from this list, Lucity will connect it to the associated module.

The Available Aliases grid is a list of aliases already added but aren't associated to any feature class.

- Right-click on an existing record to get a menu with options to Add, Edit, Delete, or Associate.
- Associating a record in this grid will attach it to the selected feature class, remove it from this grid, and add it to the Associated Aliases grid for the selected feature class.

Parent Record Linking Tab

Some feature classes have parent relationships. Some relationships are required where others are not. For example, A Park Furniture feature can be associated to a Park feature but it isn't a requirement. On the other hand, a Facility Site Asset feature must be associated to a Facility Site asset. These associations are maintained via a linking field in the child table. This field is typically a long integer field that stores the parent record's autoID (the ID assigned by the database). In order for Lucity to acknowledge this relationship this field must be included in the feature class mappings.



The Parent Linking tab will assist you in populating the GIS field linked to the parent's autoID. If using this functionality, a user would just need to populate the parent's common ID field and the Lucity GIS extension will handle the rest.

- *Lucity* Parent Tables: This is a read only field. This lists the table(s) that can have a relationship to the current feature class.
- *Lucity* Parent Common ID Field: This is a read only field. These are the field(s) in the parent table(s). This is typically the same field that is used as the Common ID for the parent Table.
- *Lucity* Parent Auto ID Field: This is a read only field. These are the auto ID field(s) in the parent table(s).
- Feature Class Parent Common ID Field: This is a field in the feature class that contains the string unique identifier that links the feature to the parent feature class or table. For example, if a Park Furniture feature class is being set up, this field will be the Park Number field. Separate multiple fields by commas. This field should correspond with the fields in the *Lucity* Parent Common ID field. Include the comma even if no field is to be used.
- Feature Class Parent Auto ID Field: This is a field in the feature class that contains the auto ID of the parent feature class or table. For example, if a Park Furniture feature class is being set up, this field will be the Park AutoID field. Separate multiple fields by commas. This field should correspond with the fields in the *Lucity* Parent AutoID field. Include the comma even if no field is to be used.

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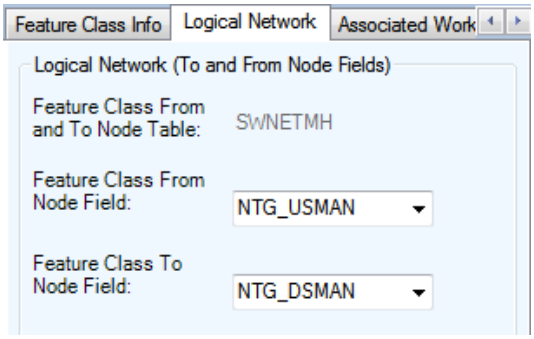
Logical Network Tab

- **Feature Class From and To Node Table**: This is read only. It shows which table the to and from nodes will be stored. The feature class(es) that contains the to and from node point features should be configured to synch to this *Lucity* table
- **Feature Class From Node Field**: This field stores the name of the string field that will store the upstream or from node identifier.
    - For street segments, this is the from intersection and is optional, unless the *Accident* module is being used, in which case it is required.
    - This field should be a text or character field.



- **Feature Class To Node Field**: This field stores the name of the string field that will store the downstream or to node identifier.
    - For street segments, this is the to intersection and is optional*, unless the Accident* module *i*s being used, in which case it is required.
    - This field should be a text or character field.

Associated Workspaces Tab

A feature class configuration can be associated between multiple geodatabase connections. For example, a client has a feature class named SewerPipe that exists in both a parent and replica geodatabase. Instead of having to create a feature class mapping for both geodatabases, the feature class mapping only has to be created against the parent geodatabase connection, and then the feature class mapping can be associated to the replica geodatabase connection.

- The Associated Workspaces grid shows all the geodatabases that this feature class is associated to. This grid is read-only. To associate/disassociate a feature class there is a right-click context menu when you select the replica geodatabase node that gives you these options.
- Default Workspace- Each feature class is required to have a default workspace connection. The default workspace for a feature class is the workspace it is associated to that isn't marked as a replica workspace. Note: A feature class is not able to be associated to more than one non-replica geodatabase.

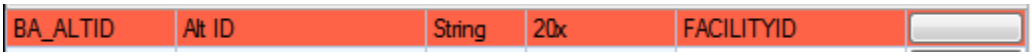
Feature Class Fields Grid

The feature class fields grid allows you to manage the feature class fields are mapped to Lucity fields. A mapping between the two enables the Lucity application to update the feature class when the data is updated in the Lucity desktop or web application. A mapping also enables the Lucity extension in ArcMap to update the Lucity database when the data is updated in the feature class during an ArcMap edit session.

FieldName	DisplayName	Field Type	MaxMask	Feature Class Field Name	Field Lookup	Lookup Lucity ID
PA_ADR_STR	Street Name	String		ADDRESS		
PA_ADR_TY	Street Type	String	4x			
PA_AREA	Area	Double	-nnnnnnnnn...			
PA_BR_CD	Default WO Cat	String	10x			
PA_CITY_CD	City	Short	nnnn			
PA_COUN_CD	County	Short	nnnn			
PA_DIST_CD	District	Short	nnnn			
PA_GPS	GPS Flag	Boolean				
PA_ID	Plant Rec #	Long	nnnnnnnn	LUCITYID		
PA_LOCATION	Location	String	100x			
PA_MLOCAT	Map Location	String	30x			
PA_NAME	Plant Name	String	40x	NAME		
PA_NOWORK	No WO/PM/Req	Boolean				
PA_NUMBER	Plant ID	String	20x	FACILITYID		
PA_OPENDT	Date Opened	Date	mm/dd/yyyy			
PA_OWN_CD	Owner	Short	nnnn			
PA_POSTAL	Zip	String	15x			
PA_PROPTAG	Property ID Tag	String	52x			

- **FieldName**- The field name in the Lucity table.
- **DisplayName**- The field caption in Lucity.
- **Field Type**- The type of data stored in the field
- **MaxMask**- The data format. A numeric value followed by an "x" indicates the number of characters allowed.
- **Feature Class Field Name**- This is the name of the field in the feature class. This is NOT the alias field name. If you are unsure of the field name use the Field Lookup button.
- **Field Lookup**- This button column displays a list of the feature class fields. Note: If a connection to the geodatabase was unsuccessful then no fields will be listed.
- **Lookup Lucity ID**- This column only works for feature classes linked to Lucity inspection modules and only for fields linked to a parent record #.
    - The feature class must contain an ID for the Lucity asset the inspection is for. Lucity expects this field to contain the parent record #. If the ID stored in the feature class is the asset's common ID instead of the parent record #, check the Lookup Lucity ID field. This is necessary because Lucity needs the parent record # and this will cause the sync process to look up the parent record # based upon the common ID of the parent.

Color Coding



BA_ALTID	Alt ID	String	20x	FACILITYID	

- Red- **Required Field**. This is the Common ID (FacilityID) field for the asset inventory module.
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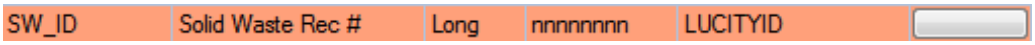

SW_ID	Solid Waste Rec #	Long	nnnnnnnn	LUCITYID	

Pink- **Recommended Field**. Typically this is the Lucity auto ID field. Although, technically this field isn't required it is strongly recommended that the feature class contain a field that stores the Lucity autoID. Not having this field will impact the performance of some of the Lucity GIS tools as additional resources will be used to determine the AutoID value based upon the common ID.

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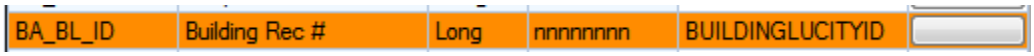
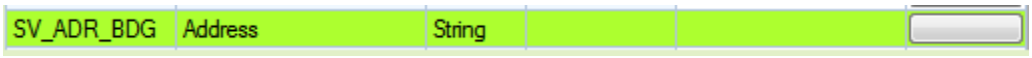


BA_BL_ID	Building Rec #	Long	nnnnnnnn	BUILDINGLUCITYID	

Orange- **Required Field**. Stores the required ID number of related features (the parent record number)

TR_PG_ID	Parking Lot Rec #	Long	nnnnnnnn		

Yellow- These are considered parent linking fields. They typically store the ID of the related feature.



SV_ADR_BDG	Address	String			

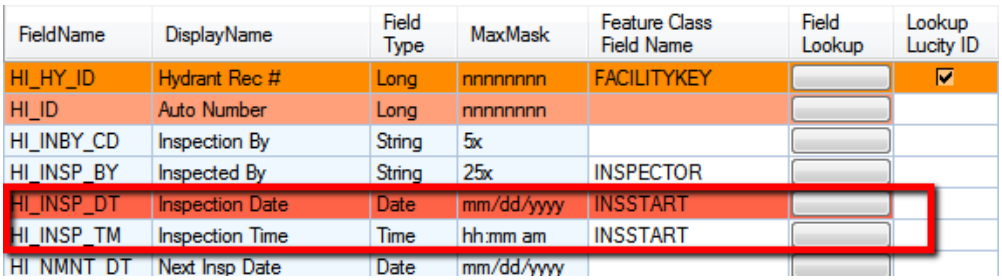
- Green- Building and Address composite fields.

Lucity Code/Type fields

Only the Lucity code fields are displayed in the Feature Class Fields grid. The Domain Configuration tool can be used to further define the mapping between a GIS field to a Lucity picklist field. Lucity supports mapping a text GIS domain to Lucity numeric picklist and vice versa.

Composite Date fields

Lucity Date and Time fields can link to a GIS composite DateTime field. The difference between the two is that Lucity stores the Date in one field and the Time in another. A typical Esri Date field can store both the Date and Time component all in one field. To link a GIS composite DateTime field to Lucity, link the GIS field to both the Lucity Date field and the Lucity Time field.



FieldName	DisplayName	Field Type	MaxMask	Feature Class Field Name	Field Lookup	Lookup Lucity ID
HI_HY_ID	Hydrant Rec #	Long	nnnnnnnn	FACILITYKEY		☑
HI_ID	Auto Number	Long	nnnnnnnn			
HI_INBY_CD	Inspection By	String	5x			
HI_INSP_BY	Inspected By	String	25x	INSPECTOR		
HI_INSP_DT	Inspection Date	Date	mm/dd/yyyy	INSSTART		
HI_INSP_TM	Inspection Time	Time	hh:mm am	INSSTART		
HI_NMNT_DT	Next Insp Date	Date	mm/dd/yyyy			

X/Y fields

Lucity X-coordinate and Y-coordinate fields can be manually linked to a GIS field. However, if they are not mapped to a GIS field, then Lucity will automatically populate these Lucity fields based upon the feature's x/y coordinate information during the ArcMap sync process.

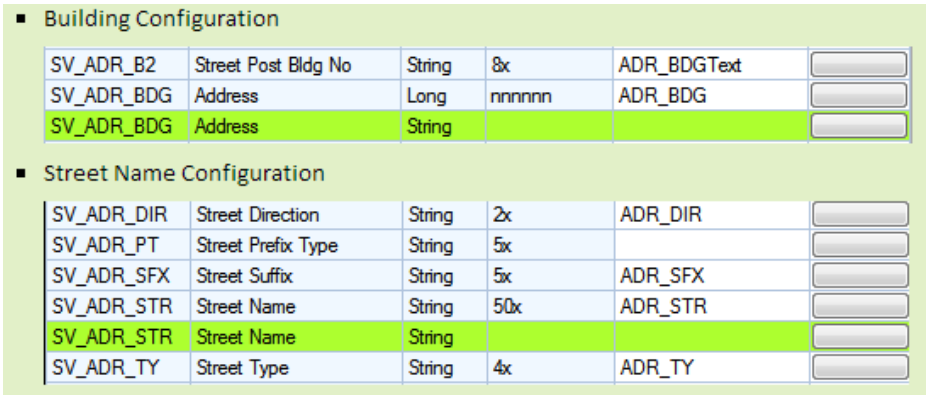
Composite Address fields

Lucity breaks out street address information into the following fields:

- Building number
- Building suffix
- Street direction
- Street prefix
- Street name
- Street type
- Street suffix

Each of these fields that you use in Lucity need to have a matching field in the feature class. Alternatively you can use the composite address fields in the feature class fields grid to map a field in your feature class that contains the entire building number or the entire street name. Note: If you map to a composite field you should NOT map to the individual building or street component fields.

Multiple field configuration



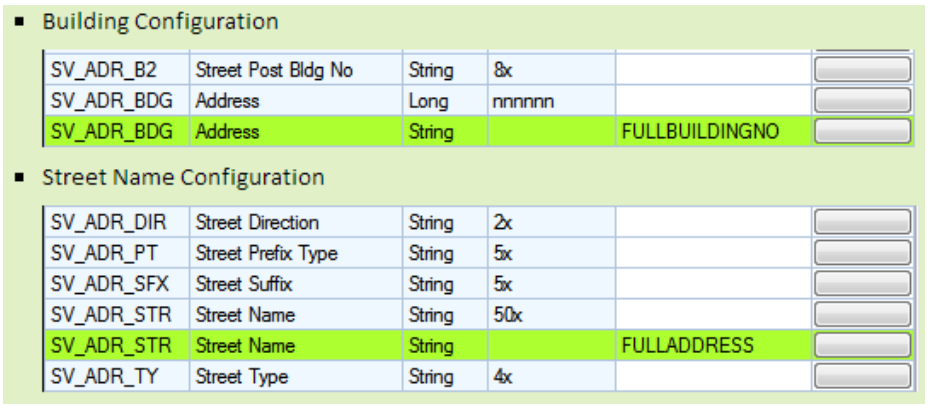
▪ Building Configuration

SV_ADR_B2	Street Post Bldg No	String	8x	ADR_BDGText
SV_ADR_BDG	Address	Long	nnnnnn	ADR_BDG
SV_ADR_BDG	Address	String		

▪ Street Name Configuration

SV_ADR_DIR	Street Direction	String	2x	ADR_DIR
SV_ADR_PT	Street Prefix Type	String	5x	
SV_ADR_SFX	Street Suffix	String	5x	ADR_SFX
SV_ADR_STR	Street Name	String	50x	ADR_STR
SV_ADR_STR	Street Name	String		
SV_ADR_TY	Street Type	String	4x	ADR_TY

Single field configuration (Composite)



▪ Building Configuration

SV_ADR_B2	Street Post Bldg No	String	8x	
SV_ADR_BDG	Address	Long	nnnnnn	
SV_ADR_BDG	Address	String		FULLBUILDINGNO

▪ Street Name Configuration

SV_ADR_DIR	Street Direction	String	2x	
SV_ADR_PT	Street Prefix Type	String	5x	
SV_ADR_SFX	Street Suffix	String	5x	
SV_ADR_STR	Street Name	String	50x	
SV_ADR_STR	Street Name	String		FULLADDRESS
SV_ADR_TY	Street Type	String	4x	

Spatial Relationships

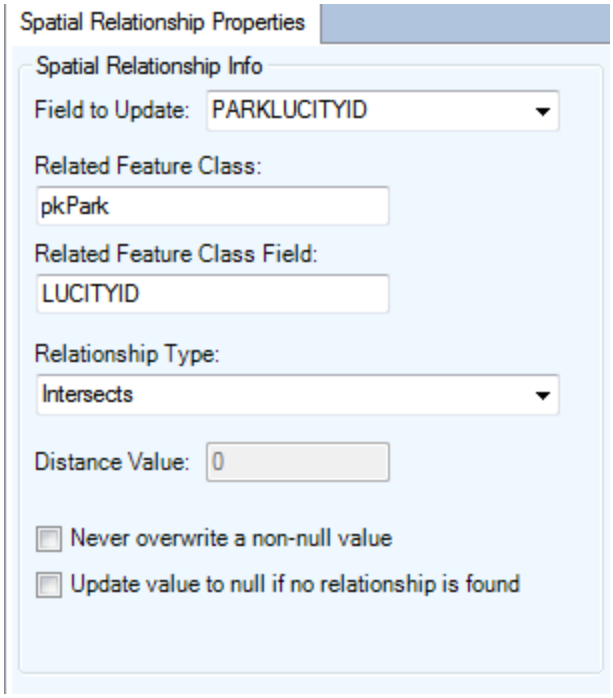
Spatial relationships automatically update features based on their location relative to other features to help aid general editing and maintaining these relationships in ArcMap.

There are three ways in which spatial relationships are triggered:

1. Within an ArcMap edit session, when a feature is created or when an existing feature's shape is changed.
2. Within an ArcMap edit session using the "Update Spatial Relationships" tool on the Lucity GIS Edit toolbar. This tool is typically used if the data was imported using a non-Lucity import tool or was added during a non-Lucity edit session.
3. When the Lucity Data Loader is used.

Note: There are some spatial relationships that are hard-coded and updated automatically by the Lucity GIS extension during the ArcMap synchronization process. The following are the hard-coded relationships which you should not create relationships for:

- To/From node information for: Sewer Pipe, Storm Conduit, Water Pipe, Recycled Water Pipe, Raw Water Pipe, Street Mainline Cabling, Park Irrigation Pipe, and Facility Irrigation Pipe.



- **Field to Update**- The field name in the selected feature class that will be updated.
- **Related Feature Class**- The name of the feature class that is being related to the selected feature class.
    - **Note**: The related feature class must be stored in the same geodatabase as the selected feature class.
- **Related Feature Class Field**- The field name in the related feature class that contains the value that will be used to populate the **Field to Update** field.
- **Relationship Type**- The type of relationship. See the following section for a description of the relationship types.
- **Distance Value**- Distance used with the relationship. This field only applies if using the "Is Within Distance Of" relationship type.
- **Never overwrite a non-null value**- Check this box to ensure that data populated in the **Field To Update** is never overwritten if a value already exists.
- **Update value to null if no relationship is found**- Check this box to allow the Field to Update to be set to null if no relationship is found.

- **Relationship Types**
    - From Intersect: Finds any features in the Related Feature Class that intersect the from point of the feature in the selected feature class. This relationship only works for polyline, edge, or complex edge features.
    - To Intersect: Finds any features in the Related Feature Class that intersect the To Point of the feature in the selected feature class. This relationship only works for polyline, edge, or complex edge features.
    - Is Contained by: Finds any features in the selected feature class that are contained by features in the related feature class. The related feature class must be a polygon feature class.
    - Intersects: Finds the first feature in the related feature class that intersects the feature in the selected feature class.
    - US Intersect Distance: Finds the first feature in the related feature class that intersects the feature in the selected feature class and then calculates the distance along the line that the intersection occurs (from the to point). The selected feature class must be a polyline, edge, or complex edge feature class.
    - Midpoint Intersect: Finds any feature in the related feature class that intersects the midpoint of the feature in the selected feature class. This relationship is designed for polyline, edge, or complex edge features as the selected feature class, and a polygon feature for the related feature class.
    - Force Related Feature to Self-Update: This relationship finds any features that intersect the feature in the selected feature class and adds them to the edit cache so that they are synched to the desktop even if the records have not changed. This is used primarily for the street segment feature class (as selected feature class) and the street intersection feature class (as related feature class). This forces the intersections to automatically recalculate the intersection configurations for the diagram in the desktop Intersection module when street segments are changed.
    - Is Within Distance of: Finds all features in the related feature class that are with a specified distance of the feature in the selected feature class.

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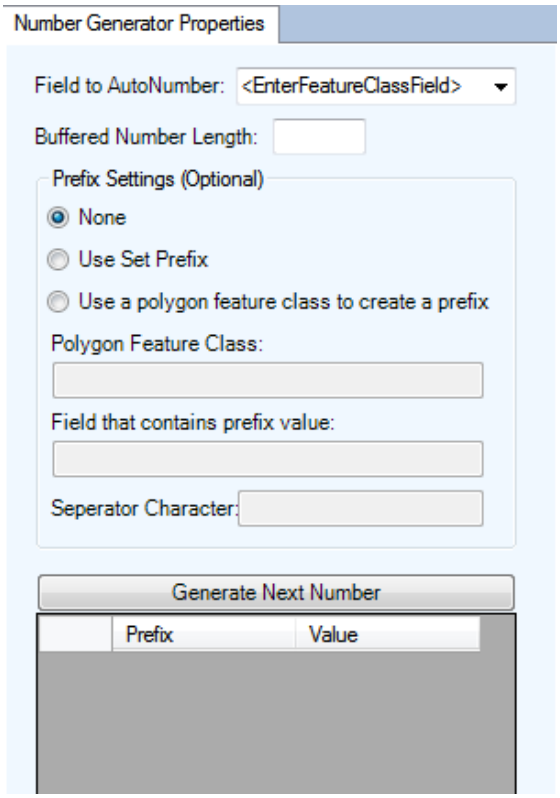
Number Generator

Number Generators are designed to assist the user in populating a feature class field with a unique value. Fields in a feature class can be setup so that the Lucity GIS extension will populate the field with a unique value. When features are created or modified in an ArcMap edit session, if the field configured with the number generator doesn't contain a value the Lucity GIS extension will populate this field with the next incremental value.

There are three ways in which spatial relationships are triggered:

1. Within an ArcMap edit session, when a feature is created or edited.
2. Within an ArcMap edit session using the "Force Sync" tool on the Lucity GIS Edit toolbar. This tool is typically used if the data was imported using a non-Lucity import tool or was added during a non-Lucity edit session.
3. When the Lucity Data Loader is used.



- **Field to AutoNumber**- The field that will be auto-numbered.
    - This should be a text field, large enough to support the numbers that will be generated based on the settings on this form.
- **Buffered Number Length**- Use this field to indicate a fixed min length. This causes the number to contain buffered zeroes.
    - For example: If a buffered length of 5 is entered, and the next number generated is 985, the resulting auto number that will be populated is 00985.
    - This is optional and allows for easier number sorting.
- **Prefix Settings (Optional)**:
    - **None**- This is marked by default. If this remains checked, there will be no prefix used in the auto-number values.
    - **Use Set Prefix**- This allows specifying a prefix in the next number grid and a separator character.
    - **Use a polygon feature class to create a prefix**- Uses a polygon feature class field to generate a prefix based on a feature's spatial relation to the polygon feature class.
        - **Polygon Feature Class**- The name of the polygon feature class that the autonumber prefix is based on.
            - **Note**: This feature class does not have to be linked to Lucity, but it does have to reside in the same geodatabase as the Lucity Features.
        - **Field that contains prefix value**- The field that contains the value that will be used for the prefix.

    - **Separator Character-** Character used between the prefix and next number values. This field is only enabled if a prefix option was enabled.

- **Generate Next Number**- Click this button to generate a new row in the grid. You can generate multiple rows only if using the **Use a polygon feature class to create a prefix** option is checked. Otherwise, you will only be able to generate one record in the grid.
- **Next Number Grid**- This grid is used to show what the next number(s) will be.
    - The Prefix column will be disabled if not using a prefix
    - The Value column will be the next number value used with a feature
    - If **Use a polygon feature class to create a prefix** option is being used-multiple rows can be used in this grid. Each row should have a unique prefix value. For example, if setting up a number generator based upon a quarter-section polygon feature class, you would want to create a record for each possible quarter-section since a feature in each quarter section may have a different next number (A-12, B-005, C-12, D-01, etc).
    - Note: When a new feature is created in the selected feature class if no Next Number is set the number generator will set the new feature to 1 and set the next number to 2, and continue from there. The same is true if the use polygon feature class option is being used.

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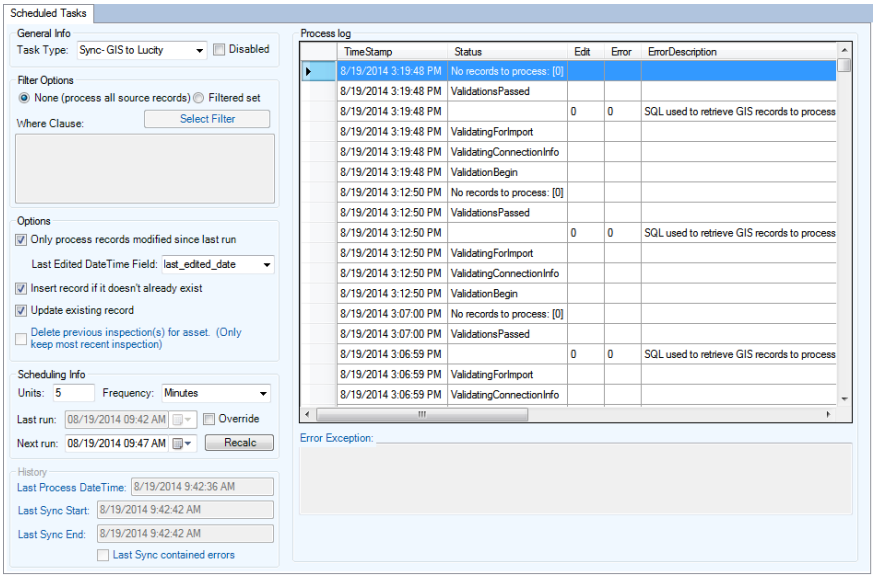
Scheduled Tasks

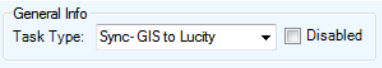
Scheduled Tasks are designed to push data back and forth between Lucity and the geodatabase. There are two types of synchronizations the tasks can be configured to perform:

1. **Lucity to GIS**- Currently this is only available for inspection feature classes
2. **GIS to Lucity**- This is supported for all GIS enabled modules (inventory and inspection).

- Scheduled Tasks can be configured to run automatically. The GIS Task Runner will process any Scheduled Task that is due based upon the user defined frequency and other criteria. This functionality greatly expands the Lucity and GIS integration capabilities with use of feature services. Edits to the feature service, regardless of who did it and what environment they did it in, can be picked up by Lucity. Some potential examples:
  - Collector for ArcGIS (iOS & Android)- including disconnected editing
  - Lucity Web Map
  - ArcGIS.com map viewer
  - Any other 3rd party apps that support feature service editing- http://resources.arcgis.com/en/help/main/10.2/index.html#/Using_feature_services_in_a_client_application/0154000005sq000000/
- **Notes:**
- **Merges, Splits, Renumbers, and Deletes must still be done in an ArcMap editing environment with the Lucity extension enabled in order for the Lucity inspection, construction, and work history to be properly updated.**
- Number generators, spatial relationships, and any other Lucity GIS extension functionality (as found with the ArcMap editing environment) is **not** performed when Scheduled Tasks synchronize features with Lucity.
- Features must meet the Lucity module requirements in order for them to be synchronized. For example, required fields such as the Lucity common ID must be populated with a unique value.
- Scheduled Tasks interact with the feature class via map and/or feature services. Before setting up a Scheduled Task you should make sure there is a map service defined at either the feature class or geodatabase level.



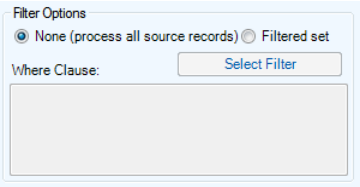
General Info



- **Task Type**- The type of synchronization that will be performed by this GIS Task.
    a. For 2014r2, the options are: "Sync- Lucity to GIS" and "Sync- GIS to Lucity".
- **Disabled**- Check this box if this task should be disabled. This will prevent the Scheduled Task from being processed by the GIS Task Runner service.

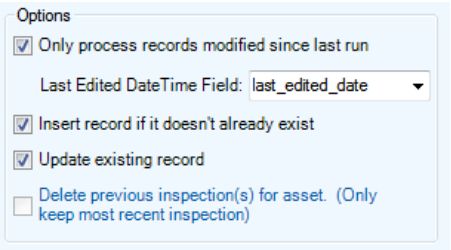
Filter Options

Select whether the task will process all records (default) or process a filtered set.

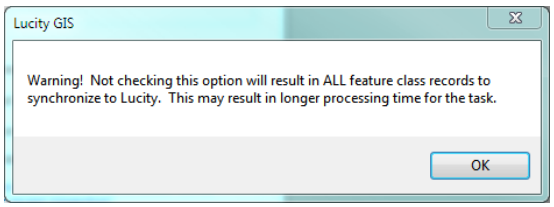


- If using a Filtered Set- the Select Filter button will only be enabled for task types of "Sync- Lucity to GIS".
- If manually entering the Where Clause, it must pass validation of the underlying data source.

Options



- **Only process records modified since last run**- This option checks through the records that were selected for processing and only processes those records that were edited since the last time the scheduled task processed.
    a. Note: If this option is checked and the Task Type is "Sync- GIS to Lucity" then you must also provide the Last Edited DateTime Field. If the Task Type is "Sync-Lucity to GIS", then the Lucity Last Mod Date and Time fields will be used.
    b. Not checking this option will result in the following prompt. Click OK to proceed.

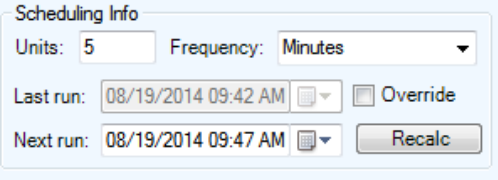


- **Last Edited Date Time Field**- This option is only enabled if the "Only Process records modified since last run" is checked and the task type is "Sync- GIS to Lucity".

- **Insert record if it doesn't already exist**- Allows for new records to be inserted into the GIS feature class or Lucity module depending on the task type.
- **Update existing record**- Allows updates to existing records in the GIS feature class or Lucity module depending on the task type.
- **Delete previous inspection(s) for asset**- This option is only enabled if the task type is "Sync-Lucity to GIS". This option causes the task to delete any inspection in the feature class that isn't the most recent inspection for an asset. The purpose of enabling this option is if you want the feature class to only contain the most recent inspection for each feature.

Scheduling Info

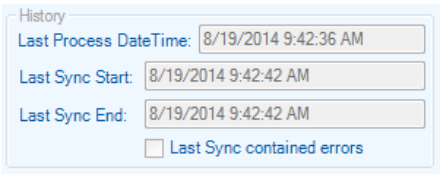
This section can be configured so the task is processed by the GIS Task Runner service.



- **Units**- Enter a numeric value that indicates how often the process should run. This value is used in conjunction with the Frequency. For example, if Units = 3 and Frequency = Hours then the Scheduled Task would run every 3 hours.
- **Frequency**- Select the desired frequency from the drop down. The options are Minute, Hours, Days, or Months.
- **Last Run**- This is disabled by default, showing the last time the scheduled task ran. For new scheduled tasks this will be blank.
- **Override**-. For new scheduled tasks, or you wish to reset the last run date to trigger the scheduled task to get processed again, then you can check the Override checkbox which will enable the Last Run text box.
- **Next Run**- This indicates the next time the scheduled task should be processed. The GIS Task Runner service uses this value to determine which scheduled tasks to process.
- **Recalc**- If the Units, Frequency, or Last Run information was updated then the Recalc button will update the next run date field based upon the new settings.

History

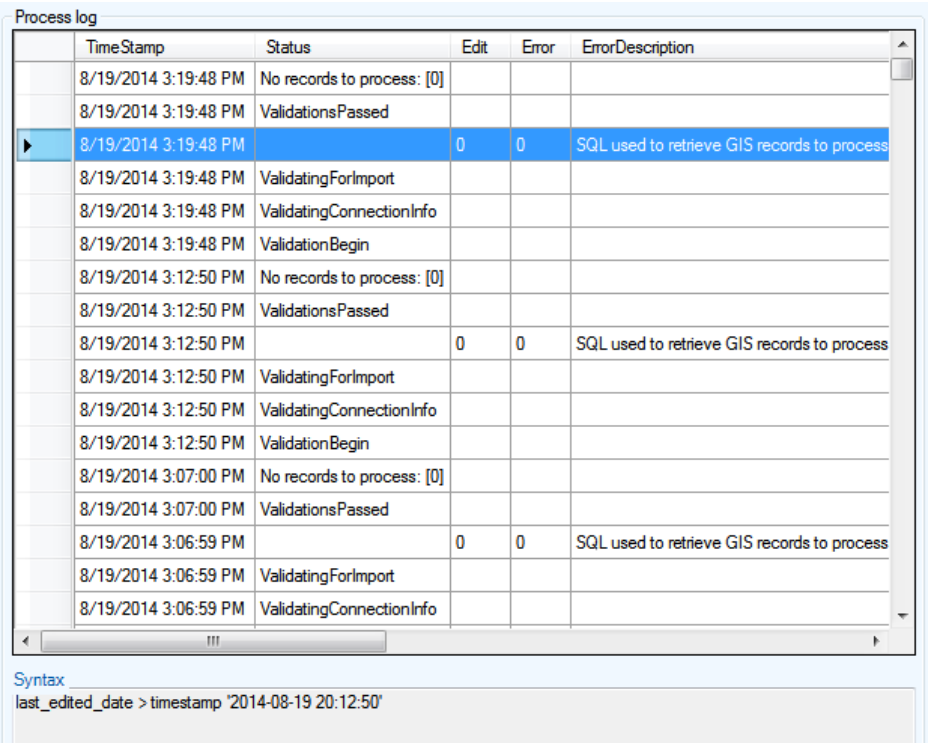
This section is read-only and shows when the Scheduled Task was last picked up, when the sync process started and when it last finished.



- **Last Process DateTime**- The last time the GIS Task Runner processed this scheduled task.
- **Last Sync Start**- The last time this scheduled task started a synchronization process.
- **Last Sync End**- The last time this scheduled task ended a synchronization process.

Process log

This section is also read-only and shows all logging related to the previous processing of the scheduled tasks. When a scheduled task is processed either manually or via the GIS Task Runner service, logging entries are recorded in GBAComm.CMGISTASKLOG. Entries are removed after 30 days.



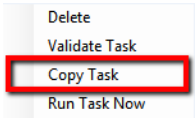
- **TimeStamp**- The time the entry was inserted
- **Status**- Various descriptions to indicate the processing status
- **Edit**- 1=Inserts, 2=Edits, 3=Deletes
- **Error**-1=TransactionalDetails, 2=ValidationFailed, 3=ProcessFailed, 4=ServiceIssue, 5=BusinessObjectIssue, 6=MissingData
- **ErrorDescription**- Further details regarding the edit or error
- **ErrorException**- Further details regarding error
- **GUID**- The processing batch GUID
- **ModID**- The Lucity Module ID
- **LucityID**- The Lucity Record ID
- **GISID**- The GIS feature's ObjectID
- **Syntax**- The syntax used for either retrieving, updating, inserting or deleting

Spatial relationships automatically update features based on their location relative to other features to help aid general editing and maintaining these relationships in ArcMap.

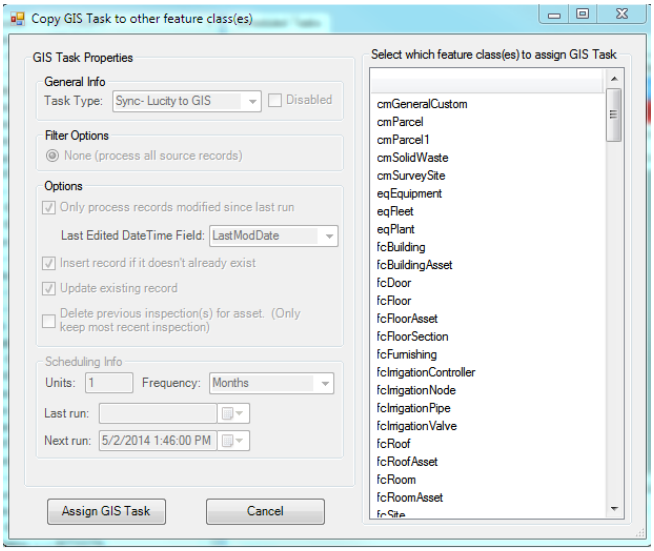
Copying a Scheduled Task

To facilitate the process of setting up scheduled tasks for multiple feature classes, you can use the Copy GIS Task tool to create a new scheduled task for multiple feature classes:

1. In the Lucity Geodatabase Configuration tool, right-click on the existing Scheduled Task and click Copy Task.



2. The following form will appear:



   a. Note: GIS Task Properties are all read-only. Any item needs to be altered can be done on an individual basis after the Copy GIS Task is complete.

3. On the form select the feature class(es) you wish to create a new Scheduled Task for using the existing scheduled task properties. Once the feature classes have been selected click the Assign GIS Task to complete the process.

Validate a Scheduled Task

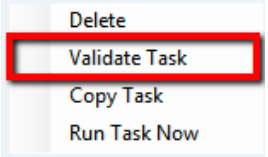
A validation tool is available for scheduled tasks that will run the following checks. Note: these same checks are also performed when running the scheduled tasks:

- Verifies at least one option has been set: insert, update, delete.
- Verifies there are feature classes linked to parent module (for inspections only)
- Validates Lucity to GIS field mappings
- Validates list of fields used to determine record uniqueness
- Tests connection to map service for feature class
- Validates feature class exists in the service
- Export Validations
    - Confirms feature class is an inspection feature class

- Tests connection to parent feature class service(s)
- If Use Last Sync Date option is true- verifies the Lucity module contains a Last Mod Dt field
- If Delete option is true- verifies that the Lucity module has a Most Recent Inspection flag
- Tests the SQL syntax used to obtain the list of Lucity records

- Import Validations
  - If Use Last Sync Date option is true- confirms that a GIS Date Time Field is defined and exists in the layer in service
  - Confirms that the Scheduled Task's Last Sync Date Time is populated
  - If feature class configuration contains the Lucity Last Sync Date field- confirm it exists in layer in service
  - Confirms that the Lucity module contains a Last Mod Dt field
  - Tests the SQL syntax used to obtain the list of GIS records from service

1. To run the validations, in the Lucity Geodatabase Configuration tool, right-click on the existing Scheduled Task and click Validate Task.

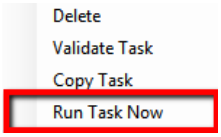


2. The validation will start, once complete you will receive a prompt indicating if the validation passed with our without errors. Any errors or tests that failed validation should be reported in the process log results.

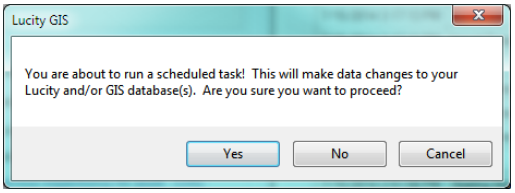
Manually Run a Scheduled Task

The Lucity GIS Task Runner service kicks off every min and determines if any Scheduled Task is due to run. There may be different situations in which the Scheduled Task needs to be run manually.

1. In the Lucity Geodatabase Configuration tool, right-click on the existing Scheduled Task and click Run Task Now.



2. The following confirmation prompt will appear. Click Yes if you want to proceed with the process.



3. Once complete you will receive a prompt indicating if the task completed with our without errors. Any errors or other processing details will be reported in the process log results.

Tools

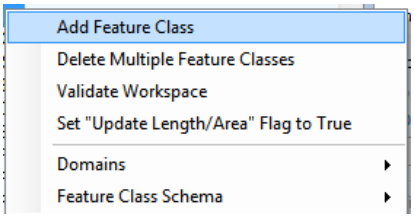
The following are various tools available within the Lucity Geodatabase Configuration program.

Geodatabase Context Menu Tools

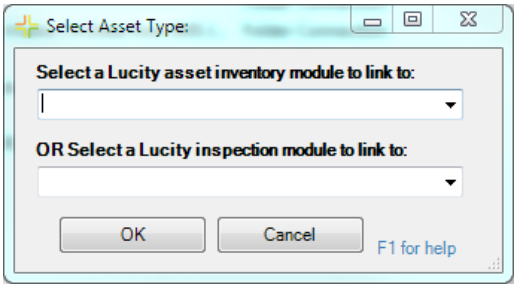
There are various tools available that can be applied on individual feature classes or all feature classes in a geodatabase connection that alter the feature class schema. To use any of these tools you will be prompted to enter geodatabase credentials that will have the necessary permissions to make schema changes and you must be able to acquire an exclusive lock on the feature class.

Add a Feature Class Configuration

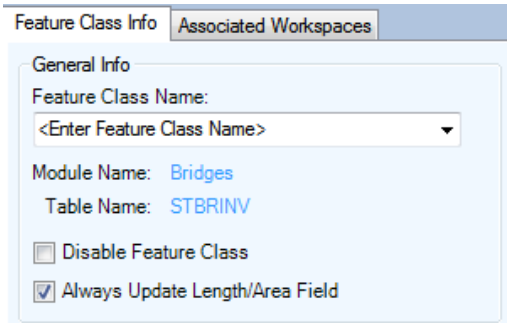
1. To add a new feature class configuration, in the tree on the left of the Geodatabase Configuration Form, right-click on the geodatabase node to which the feature class resides and select Add Feature Class. Note: This option is not available for replica geodatabases; instead refer to the Associate Feature Class(es) tool.



2. The following dialog will appear. Select the asset or inspection type for which this new feature class will be linked to.



3. The Geodatabase Configuration Form will be updated to indicate the new feature type. You must enter the name of the feature class before this new feature class configuration will be saved. Either enter the feature class name directly, or select it from the drop down list:



4. Fill out the remainder of the feature class and field mapping configuration. To save, simply exit the tool, or click on another node.

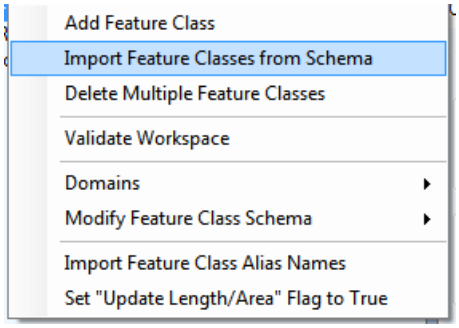
Import Feature Classes from Schema

The Import Feature Classes from Schema tool provides a quick way to configure Lucity to work with specific pre-configured geodatabases. This tool has stored configurations based on linking Lucity to the Esri Local Government Information Model and Lucity geodatabase schemas.

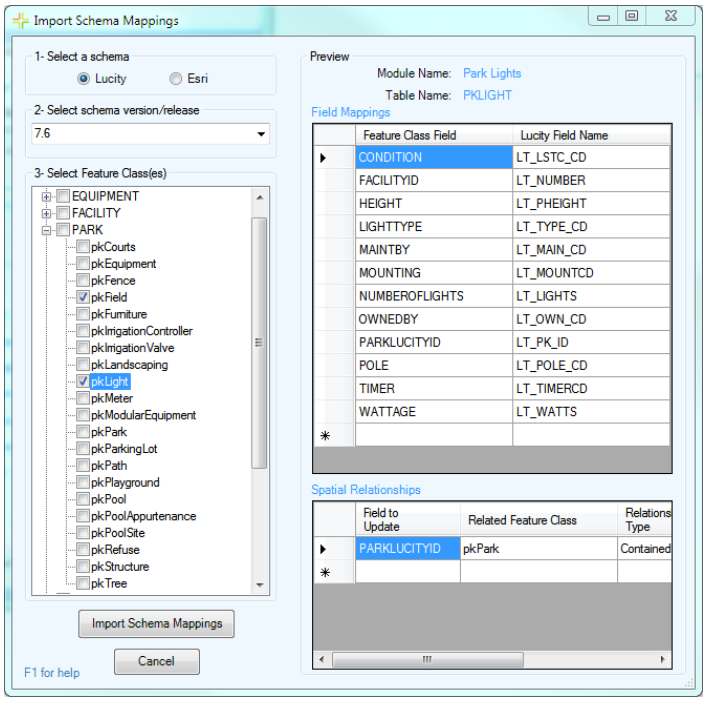
- This tool does not create the feature classes in the geodatabase. It simply creates configuration records in the Lucity geodatabase configuration to recognize feature classes and fields based on one of these standardized schemas.
- This tool does not create or update any Domains. This must be done after the import using the Domain Configuration tool.

To import feature class configurations from a default schema:

1. Right-click on the geodatabase connection node that contains the feature classes you wish to load the mappings for and click “Import Feature Classes from Schema”.



2. The following form will appear:



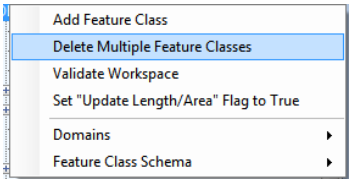
3. Select a schema.
    - You can either select a Lucity geodatabase schema or an Esri’s Local Government Information Model schema.

4. Select the schema version/release.
    - For Lucity, this will be the Lucity version number (7.4, 7.5, 7.6, etc.)
    - For Esri, this will be the version followed by the release date. For example, there have been two releases of the 10.1 Local Government Information Model, one on 7/12/12 and 11/5/12, these will be listed as 10.1_071212 and 10.1_110512.
5. Select the feature class(es) you would like to load the schema mappings for.
6. Preview by selecting a specific feature class on the left side.
    - The Field Mappings grid will show which fields in the feature class will be mapped to which fields in Lucity
    - The Spatial Relationships grid will show the default spatial relationships for the feature class
    - Note: You are unable to modify the defaults at this time. However, once you import the schema, you can then modify the feature class configuration just like any other feature class.
7. Click the Import Schema Mappings button once you are ready to import the settings
8. The Validation results window will appear and provide feedback on the import process.

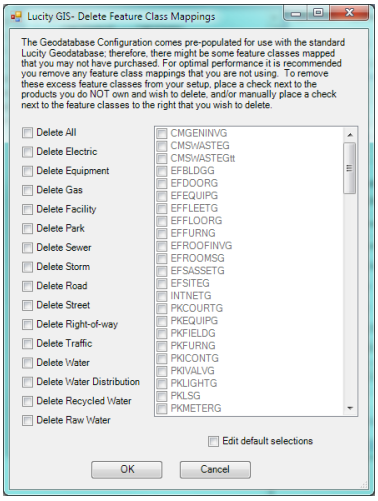
Delete Multiple Feature Classes

Lucity versions prior to 7.5 were populated with the Lucity geodatabase schema. You may find that you are not using the Lucity default geodatabase schema or you may only be implementing a few of the feature classes. Instead of deleting these feature classes one by one, you can use the Delete Multiple Feature Classes tool to perform a mass delete.

1. From the tree on the left of the Geodatabase Configuration Form, right-click on the geodatabase node that contain the feature class mappings you wish to delete and select Delete Multiple Feature Classes.



2. The following dialog will appear. Check all products you wish to delete the feature classes for.



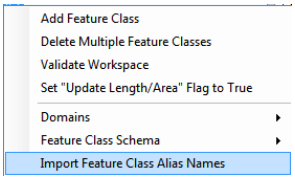
3. In the grid on the right, the program automatically checks all feature classes that are associated to the selected product type. If you wish to over-ride the default selections check the Edit default selection checkbox.
4. Click OK to delete the marked feature class configurations.

Import Feature Class Alias Names

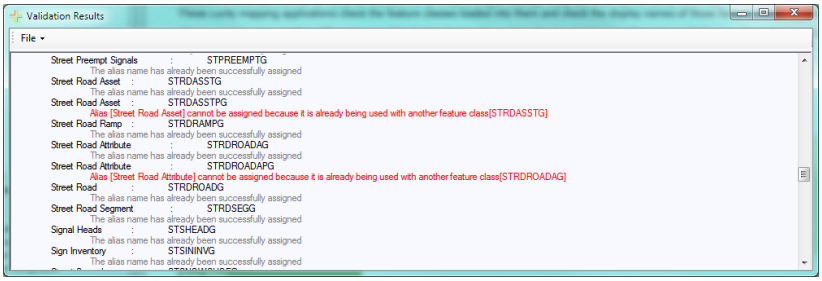
Aliases are alternate names for feature classes that provide a unique identity. They are used by the Lucity Webmap, Lucity Viewer, Lucity Mobile for Android, and any other Lucity GIS application that interacts with map/feature services to identify which feature classes are linked to Lucity. These Lucity mapping applications check the feature classes loaded into them and check the display names of those feature classes against the aliases names listed in the Geodatabase Configuration.

Aliases can be setup in a few different ways. This tool is designed to update the geodatabase configuration with the default alias names for the geodatabase connection as listed in ArcCatalog.

1. Select the geodatabase connection or the feature class node
2. Right click on the selected node and select the Import Feature Class Alias Name(s) tool



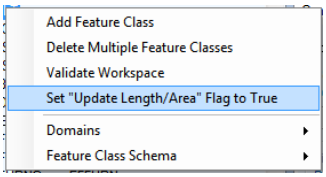
3. The import will start immediately and a log screen will appear that provides additional information including import errors.



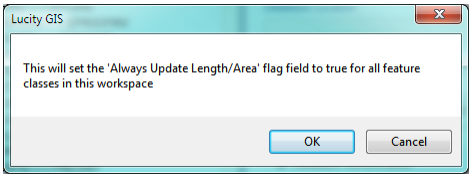
Set "Update Length/Area" Flag to True

By default, when you add a new feature class the Update Length/Area flag is set to false. This property determines if the feature class's field linked to the Lucity length/area field should be updated with the Esri shape length/area if the geometry is modified in the map. You may wish to ensure that all feature class configurations have this property set to true. Instead of inspecting each feature class configuration individually to check this value, you can run this tool to set the value to true for all feature classes.

1. From the tree on the left of the Geodatabase Configuration Form, right-click on the geodatabase node that contain the feature class configurations you wish to update and select the Set Update Length/Area Flag to True. Note: This option is not available for replica geodatabases



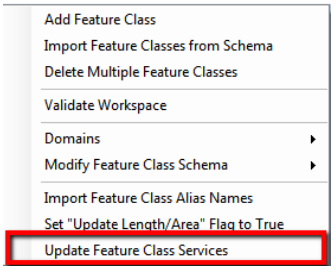
2. The following dialog will appear for confirmation:



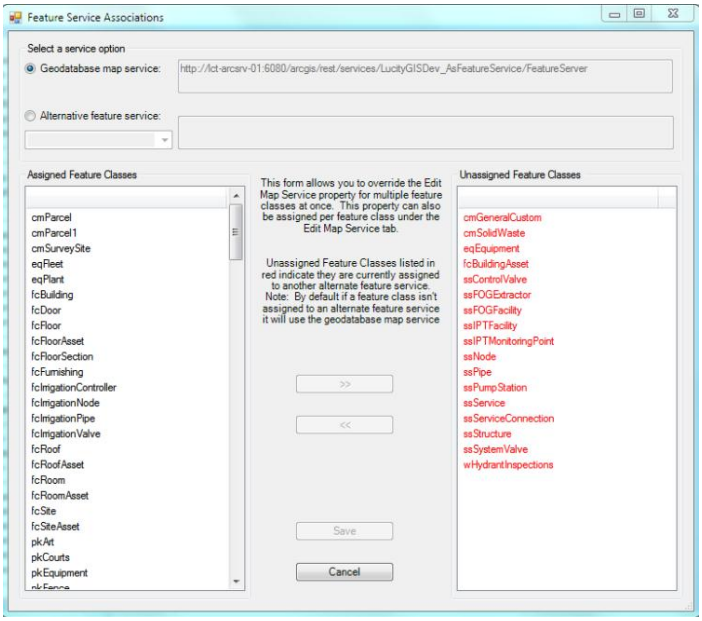
Update Feature Class Services

Use this tool to facilitate the process of defining feature class level services for multiple feature classes:

1. In the Lucity Geodatabase Configuration tool, right-click on the geodatabase node that contains the feature classes in which you want to associate to a service and select Update Feature Class Services.



2. The following dialog will appear.

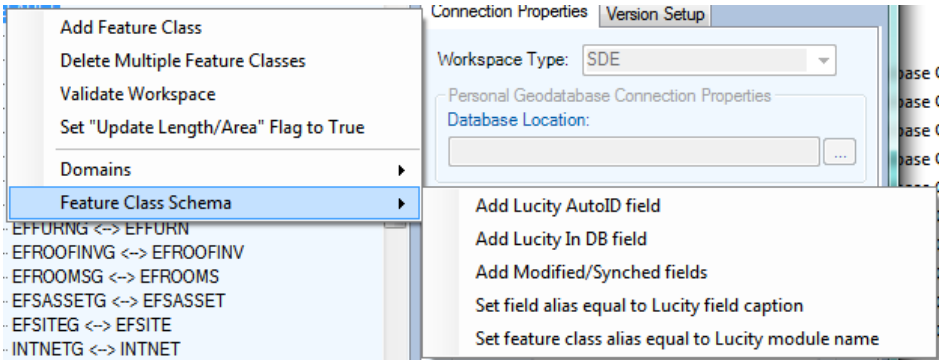


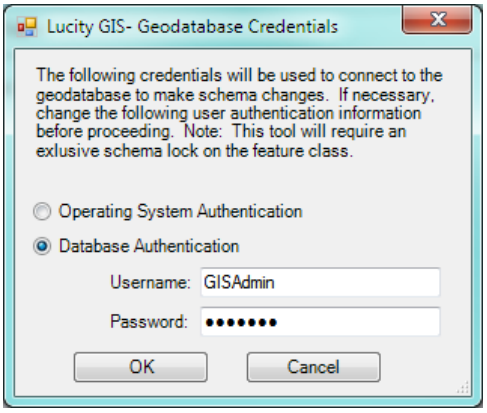
3. Select either the Geodatabase map service or an Alternative feature service.
    a. Note: the Alternative feature service drop down will only contain services defined as editable in UI Admin Map Services module.
    b. The Assigned Feature Classes list will show the feature classes currently assigned to the selected service.
    c. The Unassigned Feature Classes list will show the feature classes currently not assigned to the selected service. Items in red indicate the feature class has another service defined at the feature class level.

4. Select the feature class(es) from the Unassigned Feature Classes list that you would like to associate to the selected service.
    a. Alternatively, you could select feature class(es) from the Assigned Feature Classes list to disassociate them from the selected service.
5. Use the << and >> to associate and disassociate the selected feature classes. Once done, click the Save button.

Feature Class Schema Tools

There are various tools available that can be applied on individual feature classes or all feature classes in a geodatabase connection that alter the feature class schema. To use any of these tools you will be prompted to enter geodatabase credentials that will have the necessary permissions to make schema changes and you must be able to acquire an exclusive lock on the feature class.





Add Lucity AutoID Field

Starting with version 7.1, this field is no longer required; however, for best performance it is strongly recommend this field exists in each feature class. Once the field is added and mapped to Lucity, the Lucity extension will maintain it. It requires no data input from the user. Use this tool to create this field in your feature class(es) and map it to Lucity.

Add Lucity 'In DB' Field

Starting with version 7.1, this field is no longer required. It is a simple Boolean field that indicates if there is an associated feature in the Lucity database. Once the field is added and mapped to Lucity,

the Lucity extension will maintain it. It requires no data input from the user. Use this tool to create this field in your feature class(es) and map it to Lucity.

Add Modified/Synched Fields

This tool can be used to create 3 fields in your feature class(es): Last Modified Date, Last Modified By, and Last Synch Date. Once these fields are added and mapped to Lucity, the Lucity extension will maintain them. It requires no data input from the user.

Set Field Alias Equal to Lucity Field Captions

This tool can be used to update the alias name for the feature class fields linked to Lucity. The alias names will be updated to match the Lucity field captions.

Set Feature Class Alias Equal to Lucity Module Name

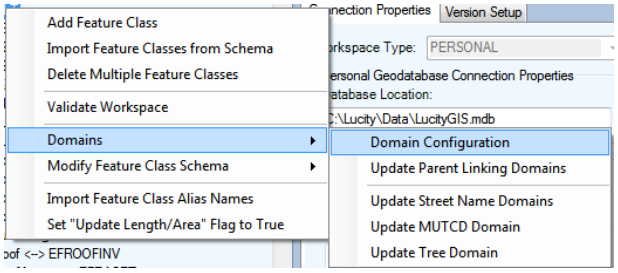
This tool can be used to update the alias name for the feature class linked to Lucity. The alias names will be updated to match the Lucity module name. For example, a feature class linked to the Sanitary Structure Inventory module will have its alias updated to "Sanitary Structure".

Domain Tools

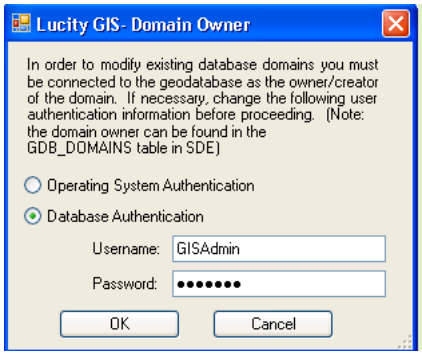
Domain Configuration

Fields in the geodatabase that are linked to a Lucity Code/Type field (pick list) should contain a geodatabase domain. A domain provides the same functions in ArcMap that a picklist provides inside of Lucity. Domains ensure data integrity and help with data population during an edit session. To ensure data integrity between Lucity and the Geodatabase the picklist values should match up to the domain values. The Domain Configuration Tool in the Geodatabase configuration allows users to quickly compare domains to picklists and fix and differences between the two.

1. To access the Domain Configuration screen, right-click on either a geodatabase or feature class node in the tree located on the left-hand side of the Geodatabase Configuration browser.

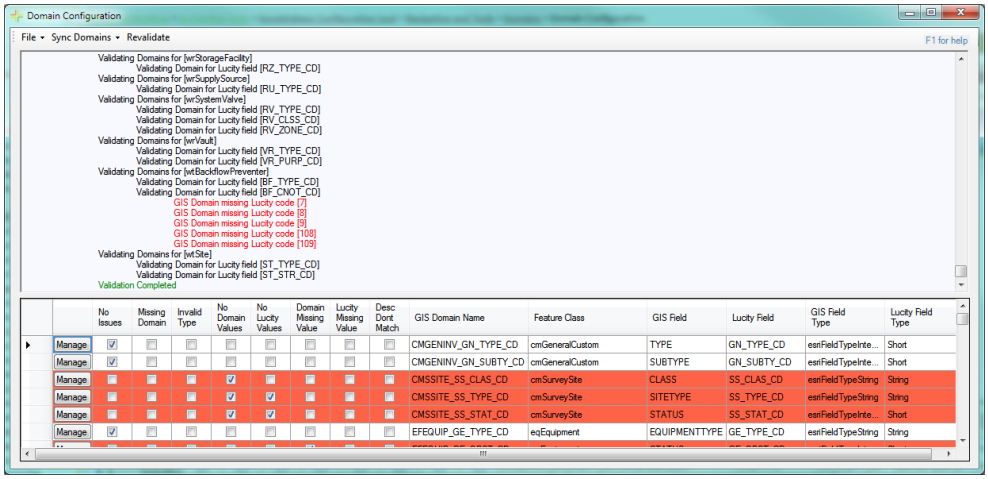


2. If you are integrated with an enterprise geodatabase you will be prompted with the following:



This screen is asking the user to login as the Domain Owner. Domains within a geodatabase can only be edited by the original creator (domain owner). Often, not even system admin accounts can edit a domain if they weren't used to create it. Make an authentication choice and enter if username and password if needed. Click OK.

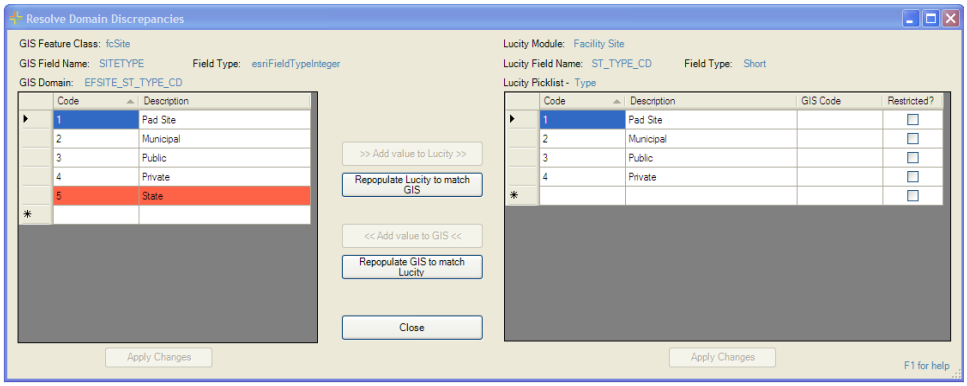
3. When this tool is run it validates the Lucity picklists and GIS domains for all fields mapped between the two systems. The validation process is tracked and displayed in the resulting dialog:



4. The top section shows the validation progress and can be reviewed by using the scroll on the right. The bottom section provides the results in a tabular format allowing you to easily review and resolve any conflicts.
5. Click the Manage button to assist with the resolution of any conflicts.

Resolve Domain Discrepancies

1. After clicking the Manage button on the Domain Configuration grid results the following form will appear:



   - The grid on the left shows the GIS domain values. The grid on the right shows the Lucity picklist values. Discrepancies are shown in red.
   - Within this window you can: add/edit/delete GIS domain values, add/edit/delete Lucity picklist values, repopulate the GIS domain values to match Lucity, and repopulate the Lucity picklist values to match the GIS domain.

- The GIS Code field is used to link a Lucity Value to a Domain value with a different code. This is used when neither the picklist nor domain values can be changed. It can also be used to link together number picklists/domains to alpha-numeric ones.

2. After making changes you must click “Apply Changes” button at the bottom of the grid for the changes to save.
3. Click Close when you are finished. You will be returned to the Domain Configuration results form.

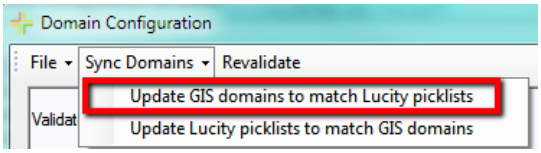
> *Note: The domain you just modified will still be listed as having a discrepancy. You must click the Revalidate button on the top menu if you wish to have the form refreshed.*

Update GIS Domains to match Lucity picklists

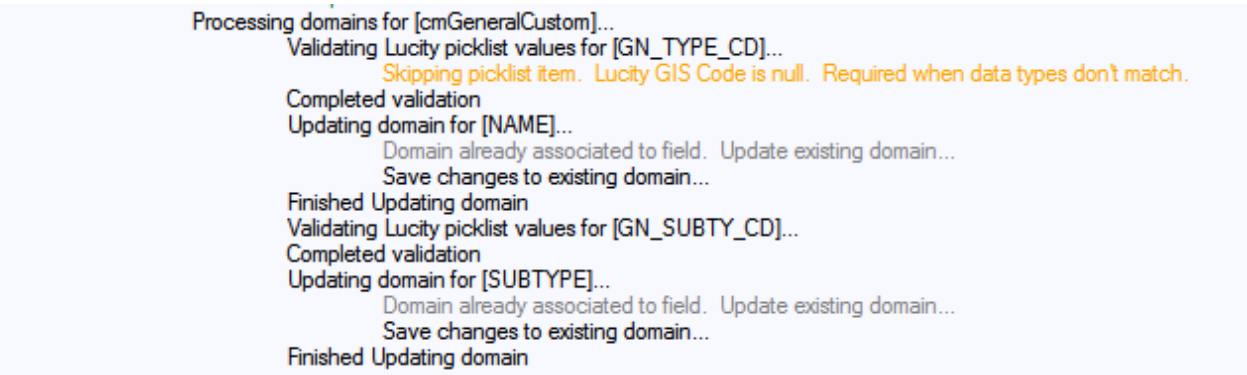
You can perform a mass update that will overwrite all the GIS domains with values from the related Lucity picklists.

- If a domain doesn’t exist for a field, it is created in the geodatabase and linked to the feature class field. By default the domain name is given the Lucity table name and Lucity field name. For example, if a GIS field is mapped to sewer pipe’s material field the assigned domain name will be SWNET_NT_MAT_CD.
- If multiple feature classes are mapped to the same field and there isn’t already a GIS domain assigned to these fields this tool will only create one domain and assign it to all GIS fields linked to the Lucity field.
- If the GIS field type doesn’t match the Lucity field type (GIS field is text, Lucity is numeric or vice versa), the Lucity GIS Code is required before the GIS domain can be updated.

1. From the Domain Configuration Results form, click Sync Domains>>Update GIS domains to match Lucity picklists.



2. The tool will start processing the GIS domains, results are shown in the upper section of the Domain Configuration window. Please refer to the results for any issues.

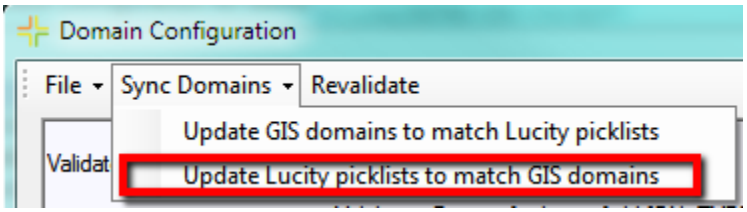


Update Lucity picklists to match GIS Domains

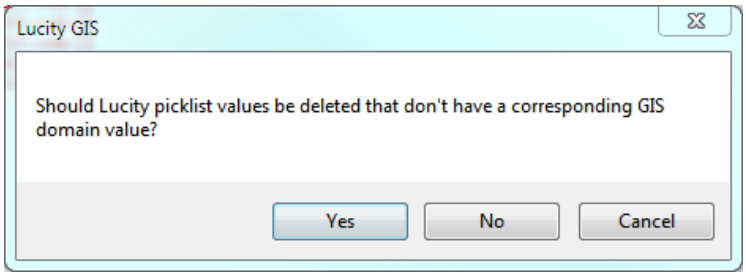
You can perform a mass update that will overwrite all the Lucity picklists with values from the related GIS domains.

- If a Lucity picklist value is hardcoded (unable to be altered) the tool will attempt to find the equivalent GIS domain code using the description. If it finds the matching GIS domain value it uses the Lucity GIS code field to store the corresponding GIS domain code.
- If the GIS field type doesn't match the Lucity field type (GIS field is text, Lucity is numeric or vice versa), the Lucity GIS Code will be used to store the corresponding GIS domain code. The Lucity picklist code will be automatically assigned a sequential number.

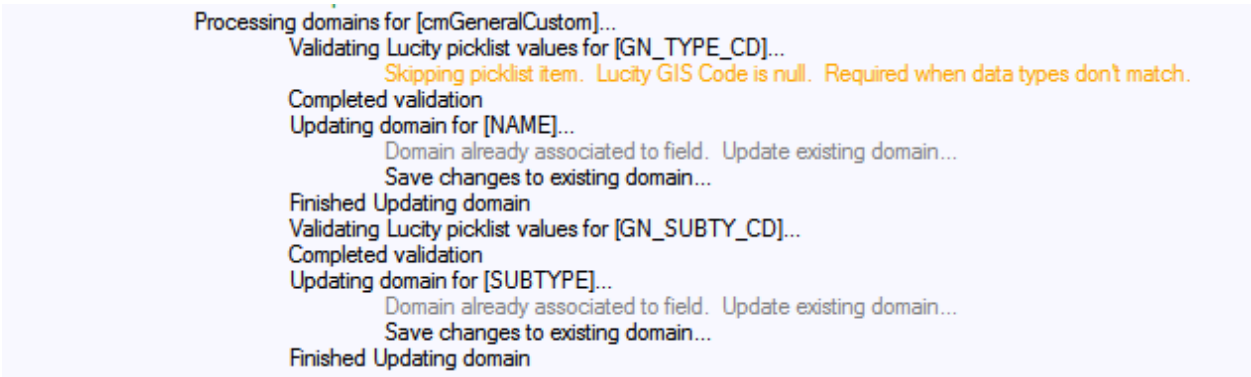
1. From the Domain Configuration Results form, click Sync Domains>>Update Lucity picklists to match GIS domains



2. The following prompt will appear. Select Yes, if you want to delete Lucity picklist values that aren't in the GIS domain.



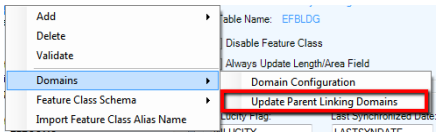
3. The tool will start processing the Lucity picklists, results are shown in the upper section of the Domain Configuration window. Please refer to the results for any issues.



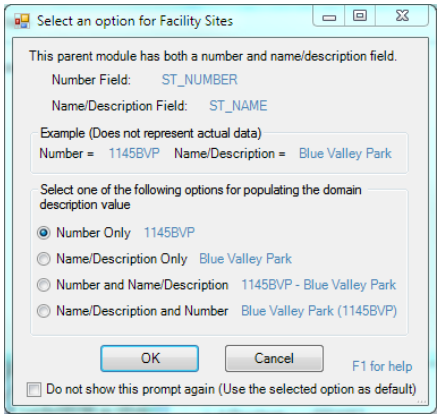
Update Parent Linking Domains

In many feature classes there will be fields that link a feature to a related feature in another feature class. It does this by storing the related feature's LucityID. For example, a park bench might store the ID of the Park that it is in. This provides important connection information for Lucity, but is less useful to users because it just displays a number. The Update Parent Linking Domains tool creates user-friendly domains for these fields. While the field will still store the linking ID, the domain could display parent records: Facility ID number, Name/Description, Facility ID and Name/Description, or Name/Description and Facility ID.

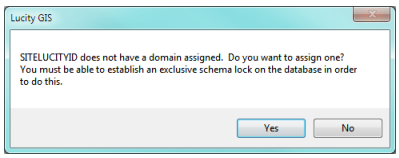
1. To update parent linking domains, right-click on either a geodatabase or feature class node in the tree located on the left-hand side of the Geodatabase Configuration browser and select “Update Parent Linking Domains”



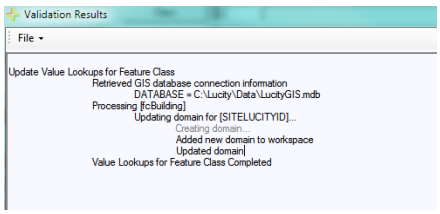
2. A prompt following prompt will appear.



3. Select the description option and click OK.
    a. Note: When the “Do not show this prompt again…” option is checked any additional parent linking domains that are configured at this time will use the same option.
4. If there currently is not a domain assigned to the GIS field the following prompt will appear. Click Yes.



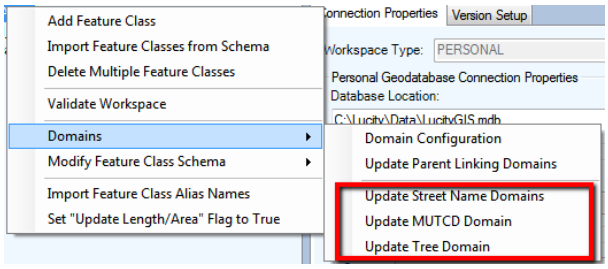
5. The domain will be created and/or updated. The process will be updated in the Validation Results window.



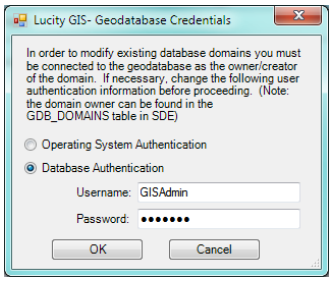
Update Street Name Domains

Lucity breaks out street address information into the following fields: Building number, building suffix, street direction, street prefix, street name, street type, and street suffix. These fields in Lucity are associated to a "library" which requires them to be handled a little differently than a typical Lucity picklist. To ensure data integrity it is highly recommended that you configure a GIS domain for these fields that match the corresponding Lucity picklist.

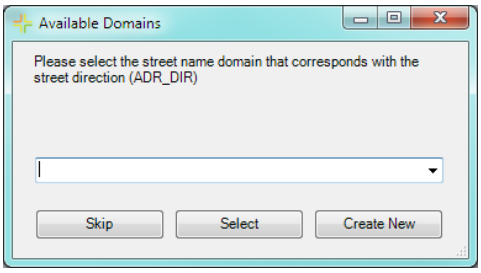
1. Right click on your geodatabase node in the tree located on the left-hand side of the Geodatabase Configuration browser and select Domains>>Update Street Name Domains (or MUTCD or Tree)



2. After you click Update Street Name Domains, you will be prompted to choose the domain owner.



3. Chose a domain option and click *OK*. A series of messages similar to the following will appear:



4. Click Skip, Select, or Create New to navigate through each dialog.
    - If the domain doesn't already exist, you can choose the Create New option for the tool to create the domain
5. When you click Select on the last dialog, the validation results will be generated.

Notes:_____

_____

_____

_____

_____

All street name domains are created using the values as they are defined in the Lucity Street Name List. The following shows an example of what is created for each domain:

- Street Direction (Lucity.StreetNameDirection)
    - Note: this domain will automatically get associated to all fields linked to a Lucity street direction field (typically *_ADR_DIR)

Coded Values:

Code	Description
E	E
N	N
NE	NE
NW	NW
S	S

- Street Prefix Type (Lucity.StreetNamePrefixType)
    - Note: this domain will automatically get associated to all fields linked to a Lucity street prefix direction field (typically *_ADR_PT)

Coded Values:

Code	Description
Ave	Ave
Calle	Calle
East	East

- Street Name (Lucity.StreetNameName)
    - Note: this domain will automatically get associated to all fields linked to a Lucity street name field (typically *_ADR_STR)

Coded Values:

Code	Description
114TH	114TH
130TH	130TH
131ST	131ST
132ND	132ND
134TH	134TH

- Street Type (Lucity.StreetNameType)
    - Note: this domain will automatically get associated to all fields linked to a Lucity street type field (typically *_ADR_TY)

Coded Values:

Code	Description
ALWY	ALWY
ALY	ALY
ARC	ARC
AVCT	AVCT
AVD	AVD

- Street Suffix (Lucity.StreetNameSuffix)
    - Note: this domain will automatically get associated to all fields linked to a Lucity street suffix field (typically *_ADR_SFX)

Coded Values:

Code	Description
E	E
N	N
NB	NB
NE	NE
NW	NW

- Street Name Composite (Lucity.StreetNameComposite)
    - Note: this domain will automatically get associated to all GIS composite street name fields. These are GIS fields that have been mapped to Lucity using the composite option (green line shown below)

SV_ADR_DIR	Street Direction	String	2x	
SV_ADR_PT	Street Prefix Type	String	5x	
SV_ADR_SFX	Street Suffix	String	5x	
SV_ADR_STR	Street Name	String	50x	
SV_ADR_STR	Street Name	String		FULLADDRESS
SV_ADR_TY	Street Type	String	4x	

Coded Values:

Code	Description
S 114TH ST	S 114TH ST
S 130TH ST	S 130TH ST
S 131ST ST	S 131ST ST
S 132ND ST	S 132ND ST
S 134TH PL	S 134TH PL

- Street Name List (Lucity.StreetNameList)
    - Note: this domain will automatically get associated to all fields linked to a Lucity street list field (typically *_ADR_ID)

Coded Values:

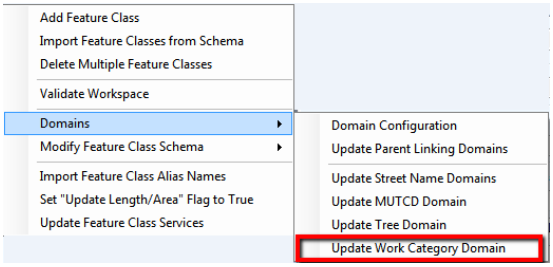
Code	Description
1135	S 114TH ST
1136	S 130TH ST
1137	S 131ST ST
1138	S 132ND ST
1139	S 134TH PL

Update Work Category Domain

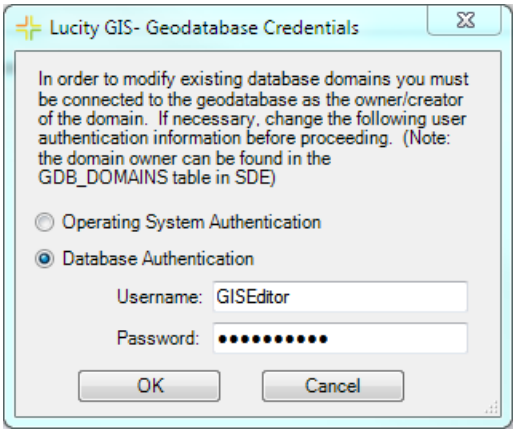
A new domain tool has been added for creating a domain for GIS fields linked to the Lucity default work category field (*_BR_CD). This field is used to assign a default work order category, so when a work order/request is created against the asset it will automatically be assigned to that category of work. Since this field is not a typical code/type picklist the standard Domain configuration tool will not work for this field and requires the use of this new Update Work Category Domain tool.

To update work category domains:

1. In the Lucity Geodatabase Configuration tool, right-click on the geodatabase node and select Domains>>Update Work Category Domain.

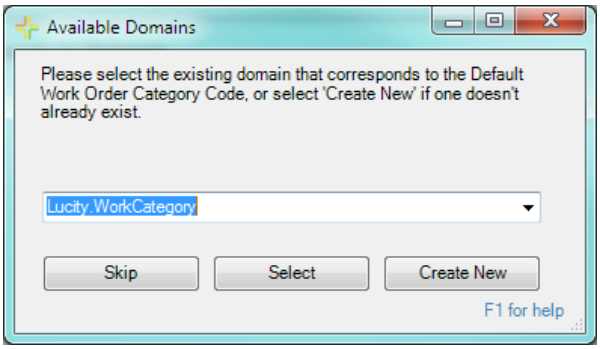


2. The following dialog will appear:

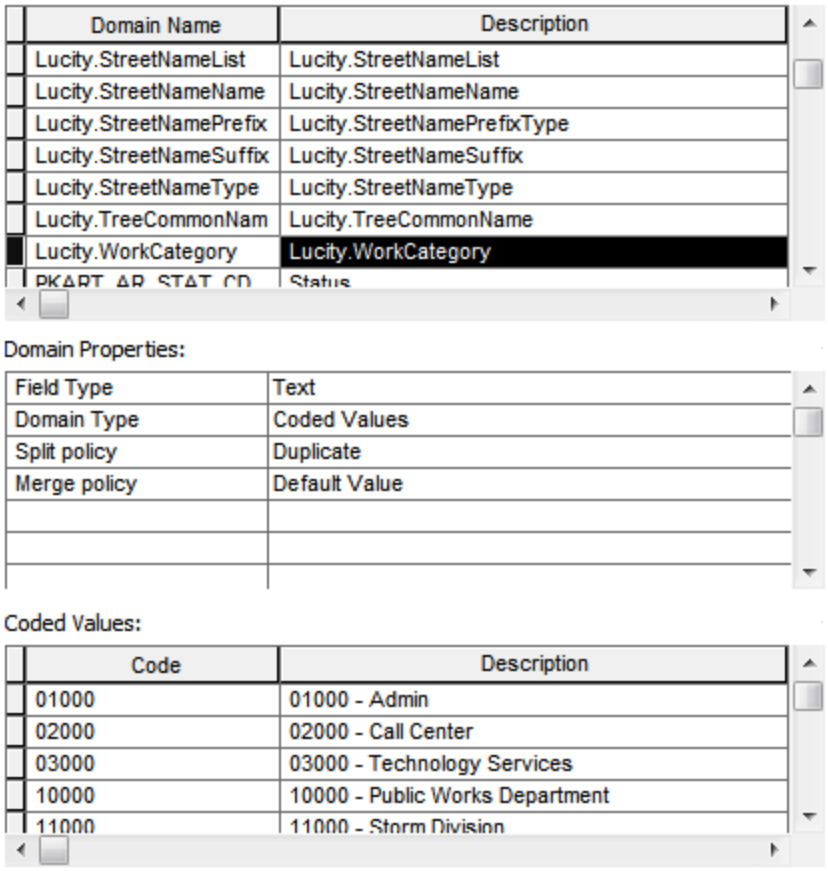


3. The dialog is prompting for domain owner credentials. Domains within a geodatabase can only be edited by the original creator (domain owner). Enter the proper credentials and click OK

4. The following message will appear asking for the domain that corresponds to the default work order category code. If this is the first time the tool has been ran and you currently don't have a domain created, click the Create New button; otherwise select the existing domain and click Select.



5. Once complete a prompt will appear and you can view details regarding the process in the results window. The following shows an example a Lucity.WorkCategory domain created by the tool:



Domain Name	Description
Lucity.StreetNameList	Lucity.StreetNameList
Lucity.StreetNameName	Lucity.StreetNameName
Lucity.StreetNamePrefix	Lucity.StreetNamePrefixType
Lucity.StreetNameSuffix	Lucity.StreetNameSuffix
Lucity.StreetNameType	Lucity.StreetNameType
Lucity.TreeCommonNam	Lucity.TreeCommonName
Lucity.WorkCategory	Lucity.WorkCategory
PKART_AR_STAT_CD	Status

Domain Properties:

Field Type	Text
Domain Type	Coded Values
Split policy	Duplicate
Merge policy	Default Value

Coded Values:

Code	Description
01000	01000 - Admin
02000	02000 - Call Center
03000	03000 - Technology Services
10000	10000 - Public Works Department
11000	11000 - Storm Division

Notes:_____

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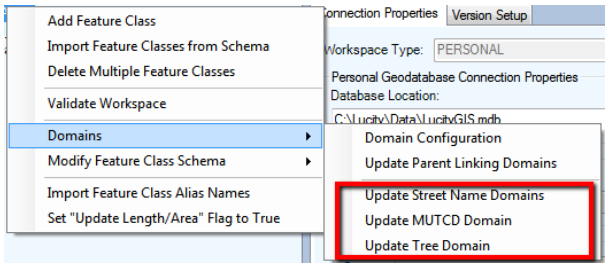
Update MUTCD and Tree Category Domains

Fields in the geodatabase that are linked to Lucity fields storing the following information should have a special domain assigned:

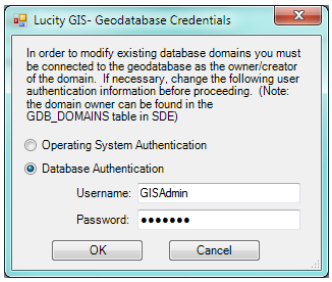
- Street sign codes (MUTCD)
- Tree codes

These fields in Lucity are associated to a "library" which requires them to be handled a little differently than a typical Lucity picklist. To ensure data integrity it is highly recommended that you configure a GIS domain for these fields that match the corresponding Lucity picklist.

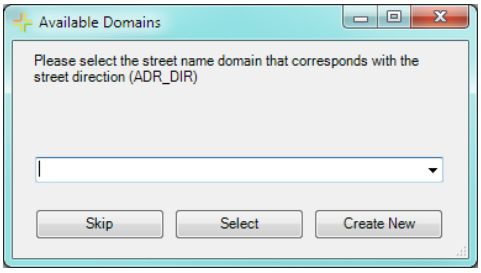
1. Right click on your geodatabase node in the tree located on the left-hand side of the Geodatabase Configuration browser and select Domains>>Update Street Name Domains (or MUTCD or Tree)



2. After you click Update Domains, you will be prompted to choose the domain owner.



3. Chose a domain option and click *OK*. A series of messages similar to the following will appear:

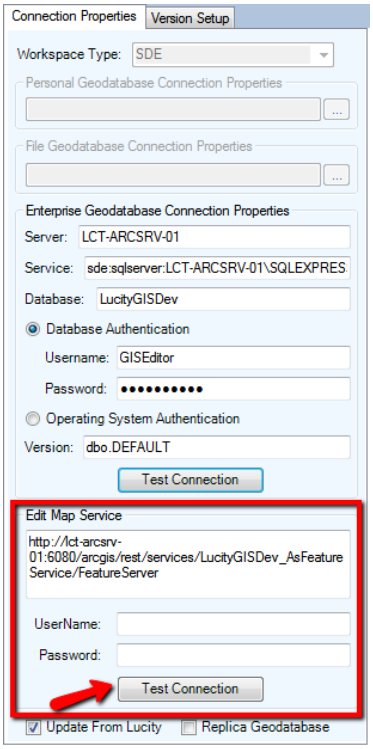


4. Click Skip, Select, or Create New to navigate through each dialog.
    - If the domain doesn't already exist, you can choose the Create New option for the tool to create the domain
5. When you click Select on the last dialog, the validation results will be generated.

Validation Tools

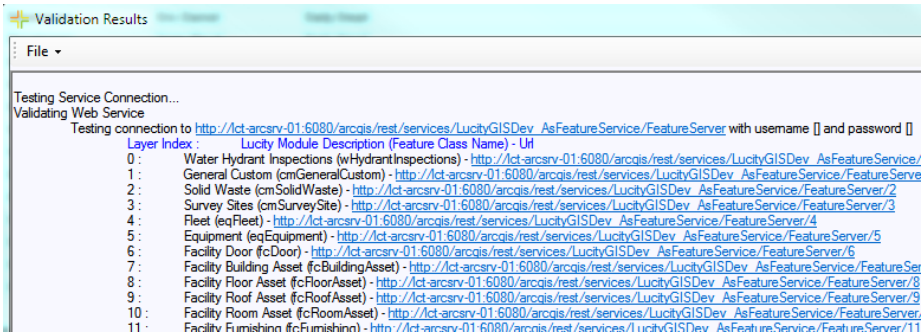
Once a geodatabase is configured it is good idea to check to make sure that there are no problems with links between Lucity and the geodatabase. This helps insure that all the expected data will be transferred. To run a check there is a Validate tool within the geodatabase configuration. This tool can either be run against the entire geodatabase or an individual feature class.

Validations in the Lucity Geodatabase Configuration tool now include checks against map and feature services.

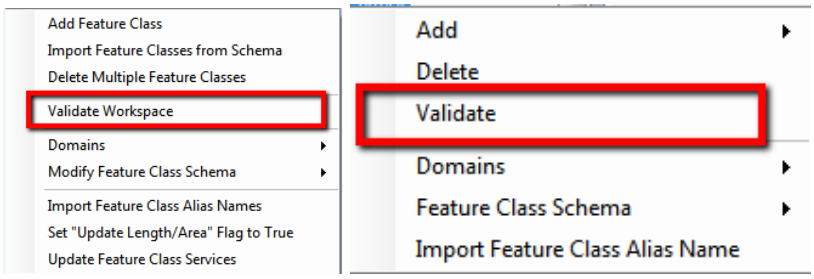


One way to validate a service is to run the Test Connections button found in the Edit Map Service section of the Connection Properties tab for the geodatabase. This test will:

- Validate a connection can be made to the service with the URL and credentials provided
- Analize each layer wihin the service to determine if it has a conneciton to Lucity.
- Results including any errors are reported in the validation results form. An example of the results are shown below.



The other map and feature service tests occur as part of the Validation tools that are available in the geodatabase and feature class menus.

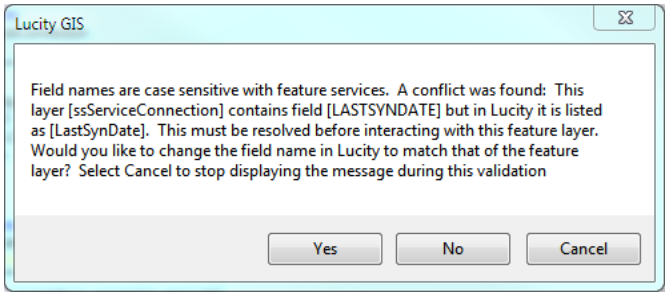


There are three parts of this validation:

1. Validates setup in Lucity. This part checks to make sure required fields are populated, and Lucity fields are valid.

2. Validates setup in geodatabase. This includes testing the connection to the geodatabase. Validates that the feature class exists, fields exist, data types are compatible, etc.
3. Validates setup in map service. **This test is skipped if both the "Use Feature Service For Updates" and "Enable Lucity Spatial" system settings are FALSE.** This section will validate the following:
    a. A connection can be made to the service.
    b. The feature class exists in the service
    c. The feature class fields exist in the service and validates a sample payload

Part of the service validation is to verify the service layer fields exist. The Lucity tools interact with services using the Esri REST API, which field names are case sensitive. If a conflict in case is found during the validation a prompt similar to the following will appear:



- Yes- will update the case in Lucity.
- No- no changes will be made. Note- this may cause failure when attempting to read or update that field via the map service.
- Cancel- no changes will be made and further case conflicts will be ignored for this validation run.

Once the validation process is complete you will receive a prompt indicating if the validation passed or not. Refer to the validation results window for specifics. The following is an example of the validation results: