GIS Scheduled Tasks

In this session, we'll cover Lucity's GIS Scheduled Tasks. Scheduled Tasks provide the ability to automatically sync data between your GIS and Lucity products.

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Requirements

A few requirements must be met before implementing GIS Scheduled Tasks:

- Each Lucity linked feature class must be assigned to a default map service
- The map service for the feature class must:
    - Contain the feature class
    - The feature class alias as listed in the service must be configured with Lucity
    - The Lucity To GIS synchronization task also requires:
        - Enabled Feature Access capabilities (with Create, Delete, Query, and Update)
- Enable Esri's Editor Tracking on feature classes
    - At a minimum have a last_edited_date field
    - Record Dates in **UTC** not Database Time!
- Enable Lucity's Last Sync DateTime field on feature classes
- The Lucity Scheduler Service must be installed and running (if relying on automatic updates)

Limitations

- Merges, Splits, Renumbers, and Deletes are not supported with Lucity GIS Scheduled Tasks.
    - These types of edits must be done in either of the following environments:
        - In an ArcMap edit session with the Lucity extension enabled
        - In ArcGIS Pro using the Lucity add-in tools
    - This is required in order for the related Lucity inspections, construction, and work history to be properly updated.
- Features must meet the Lucity module requirements in order for them to be synchronized.
    - For example, required fields such as the Lucity commonID must be populated with a unique value (unless implementing a number generator).

One-way synchronization

Starting with 18r2 GIS Scheduled Task's fully support a one-way synchronization configuration. This would be the situation in which clients have disable Lucity to GIS updates and wish to run a GIS to Lucity import GIS Scheduled Task against a map service instead of a feature service. To support this configuration the following validation now occurs before the import task runs:

- Checks if the service has "Update" capabilities
- If service doesn't have Update capabilities then the import will **not** proceed if any of the following are true:
    - Service contains Lucity AutoID field
    - Service contains Lucity Last Sync field
    - Service contains Lucity Last Mod By field
    - Service contains Lucity Last Mod Date field

    - Service contains InLucity field
    - Service has Always Update Length/Area option enabled
    - Service has Number Generator configured
    - Service has Spatial Relate configured
- If allowed to proceed then any process during the import that attempts to update the GIS will be skipped.

Setup

The following are the list of steps needed to configure a GIS Scheduled Task.

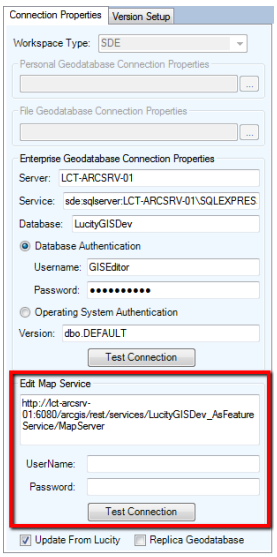
1. Create a service containing the feature class(es) linked to Lucity
2. Add the service to GIS Services in the Lucity Administration Tool
3. Associate the service to the feature class and/or geodatabase in the Lucity Geodatabase Configuration tool
4. Create the GIS Scheduled Task for each desired feature class in the Lucity Geodatabase Configuration tool
5. Validate the Scheduled Task
6. Verify the Lucity GIS Task Runner Service is running (required for automatic processing of GIS Scheduled Tasks)

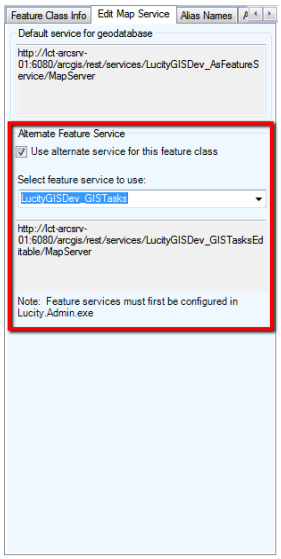
Assign default feature services

Lucity's GIS Scheduled Tasks interact with feature services in order to synchronize the data between GIS and Lucity. The following process determines the feature service used with the GIS Scheduled Task:

1. If a map service is defined at the feature class level then that one will be used.
2. If a map service isn't defined at the feature class level then the one defined at the geodatabase level will be used.

- The geodatabase edit map service is defined in the Geodatabase Configuration Tool in ArcCatalog. It is listed under the Connection Properties tab when you have a geodatabase node selected.
- A service defined at the feature class level will be listed under the Edit Map Service tab when you have the feature class node selected.



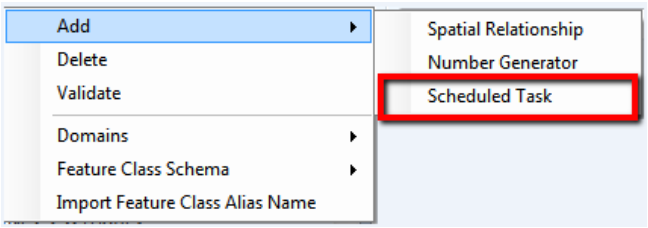


- More information on setting up and configuring services in Lucity can be found in the following section of this document titled: **Defining Feature Services in Lucity**

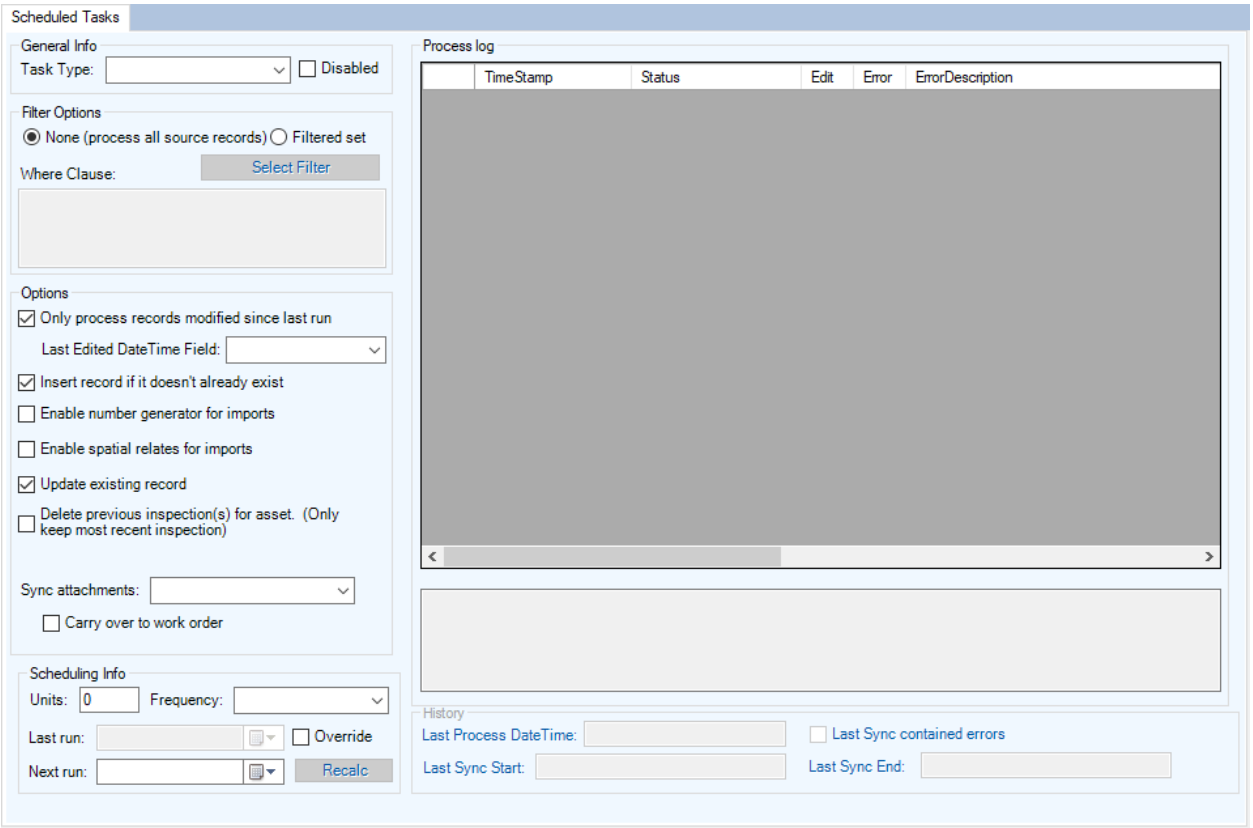
Creating a new Scheduled Task

To setup a new Scheduled Task for a feature class:

1. In the Lucity Geodatabase Configuration tool in ArcCatalog, right-click on the feature class node and click Add>>Scheduled Task.



2. The following form will appear:

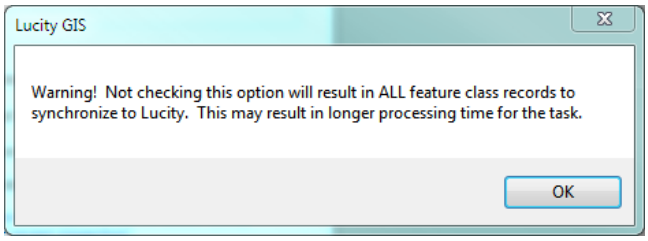


3. Under General Info- select the desired Task Type from the drop down menu. The options are: “Sync- Lucity to GIS” and “Sync- GIS to Lucity”.
    a. Note: The Disabled checkbox will prevent the Scheduled Task from being processed by the GIS Task Runner service.
4. Filter Options: Select whether the task will process all records (default) or process a filtered set.
    a. If using a Filtered Set- the Select Filter button will only be enabled for task types of “Sync- Lucity to GIS”.
    b. If manually entering the Where Clause, it must pass validation of the underlying data source.
5. Options: Adjust any additional settings as needed:

a. **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.

   i. 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.

   ii. Not checking this option will result in the following prompt. Click OK to proceed.



b. **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".

c. **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.

d. **Enable number generators for imports** – Will process the number generators configured for this feature class during the import.

e. **Enable spatial relates for imports** – Will process the spatial relates configured for this feature class during the import. Note: With 2015r2 Reverse Geocode spatial relates are not supported during the GIS Task import process.

f. **Update existing record**- Allows updates to existing records in the GIS feature class or Lucity module depending on the task type.

g. **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.

h. **Sync Attachments**- This option will import all child attachments for the given GIS feature as a Lucity document for the corresponding Lucity record.

   i. **The following are the attachment options**:

      1. **No Attachment sync**: Attachments will be ignored by the GIS sync task.
      2. **Attachment Reference**: A link to the Esri attachment will be added to the Lucity record.
      3. **Attachment Copy**: The Esri attachment will be physically uploaded ot Lucity and then associated to the Lucity record.

   ii. **Carry over to work order**- This option will copy the synced attachments to a work order when the associated asset is added to the work order.

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

a. **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.

b. **Frequency**- Select the desired frequency from the drop down. The options are Minute, Hours, Days, or Months.

c. **Last Run**- This is disabled by default, showing the last time the scheduled task ran. For new scheduled tasks this will be blank.

d. **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.

e. **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.

f. **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.

7. 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.

8. 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.

    a. **TimeStamp**- The time the entry was inserted

    b. **Status**- Various descriptions to indicate the processing status

    c. **Edit**- 1=Inserts, 2=Edits, 3=Deletes

    d. **Error**-1=TransactionalDetails, 2=ValidationFailed, 3=ProcessFailed, 4=ServiceIssue, 5=BusinessObjectIssue, 6=MissingData

    e. **ErrorDescription**- Further details regarding the edit or error

    f. **ErrorException**- Further details regarding error

    g. **GUID**- The processing batch GUID

    h. **ModID**- The Lucity Module ID

    i. **LucityID**- The Lucity Record ID

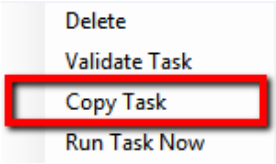
    j. **GISID**- The GIS feature's ObjectID

    k. **Syntax**- The syntax used for either retrieving, updating, inserting or deleting

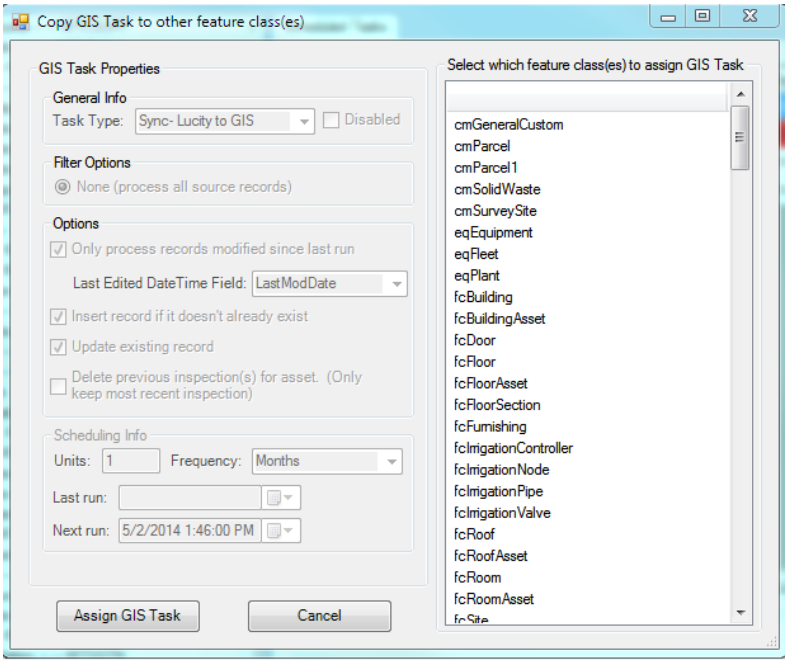
Copying a Scheduled Task

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.

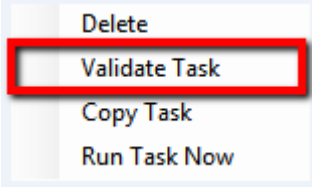
Validate a Scheduled Task

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.

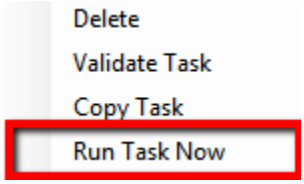


2. The validation will start, once complete you will receive a prompt indicating if the validation passed with our without errors. Any errors or tests that failed validation should be reported in the process log results.

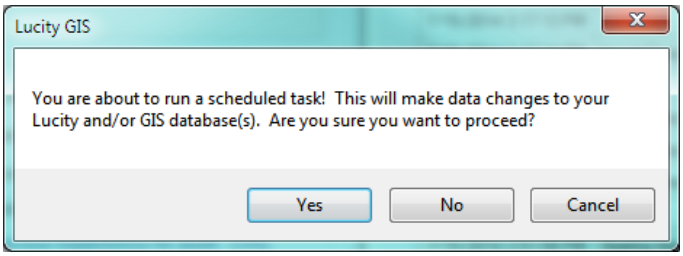
Manually Run a Scheduled Task

With v2014r2 we released a Lucity GIS Task Runner service that, by default, kicks off every min determining 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.



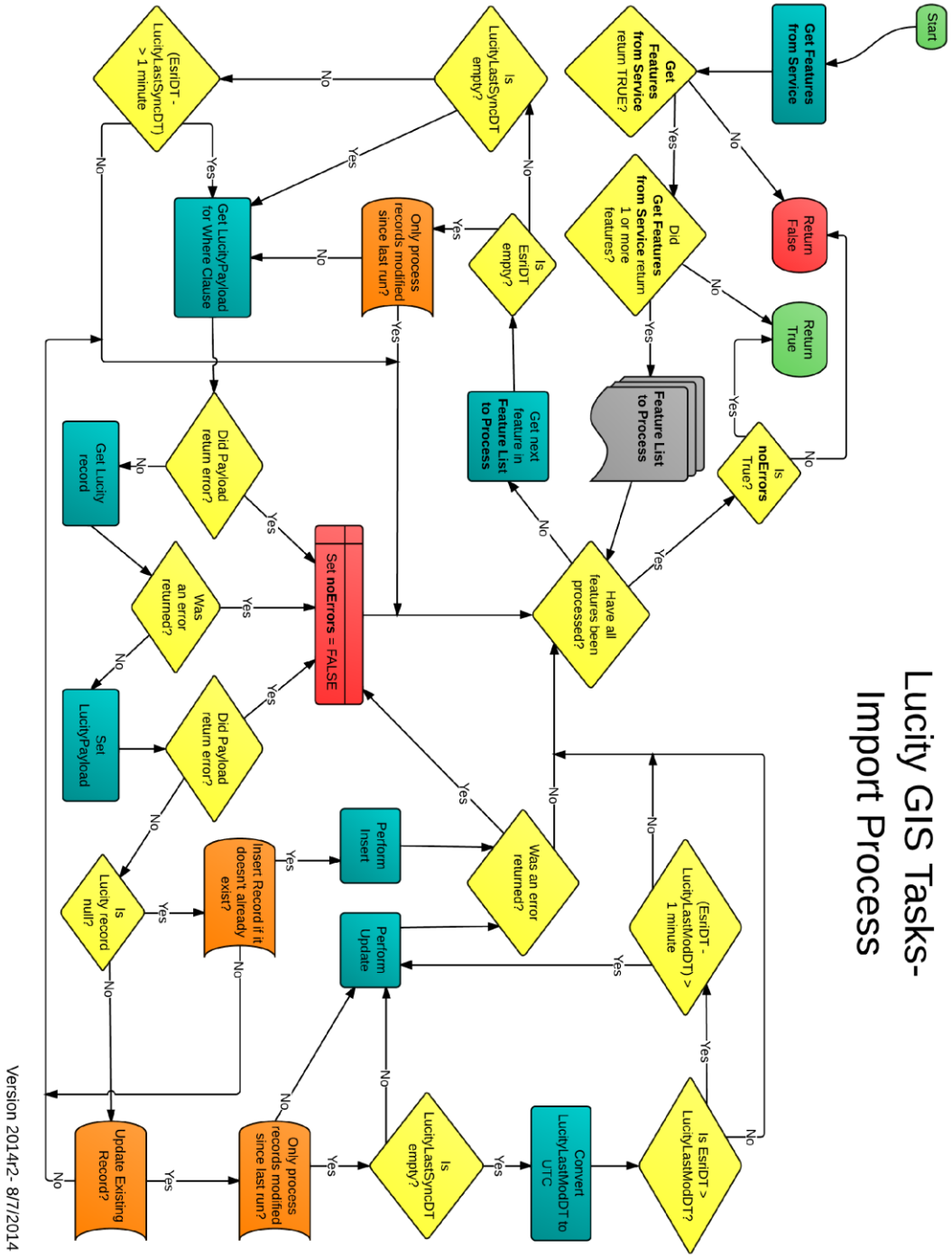
2. The following confirmation prompt will appear. Click Yes if you want to proceed with the process.



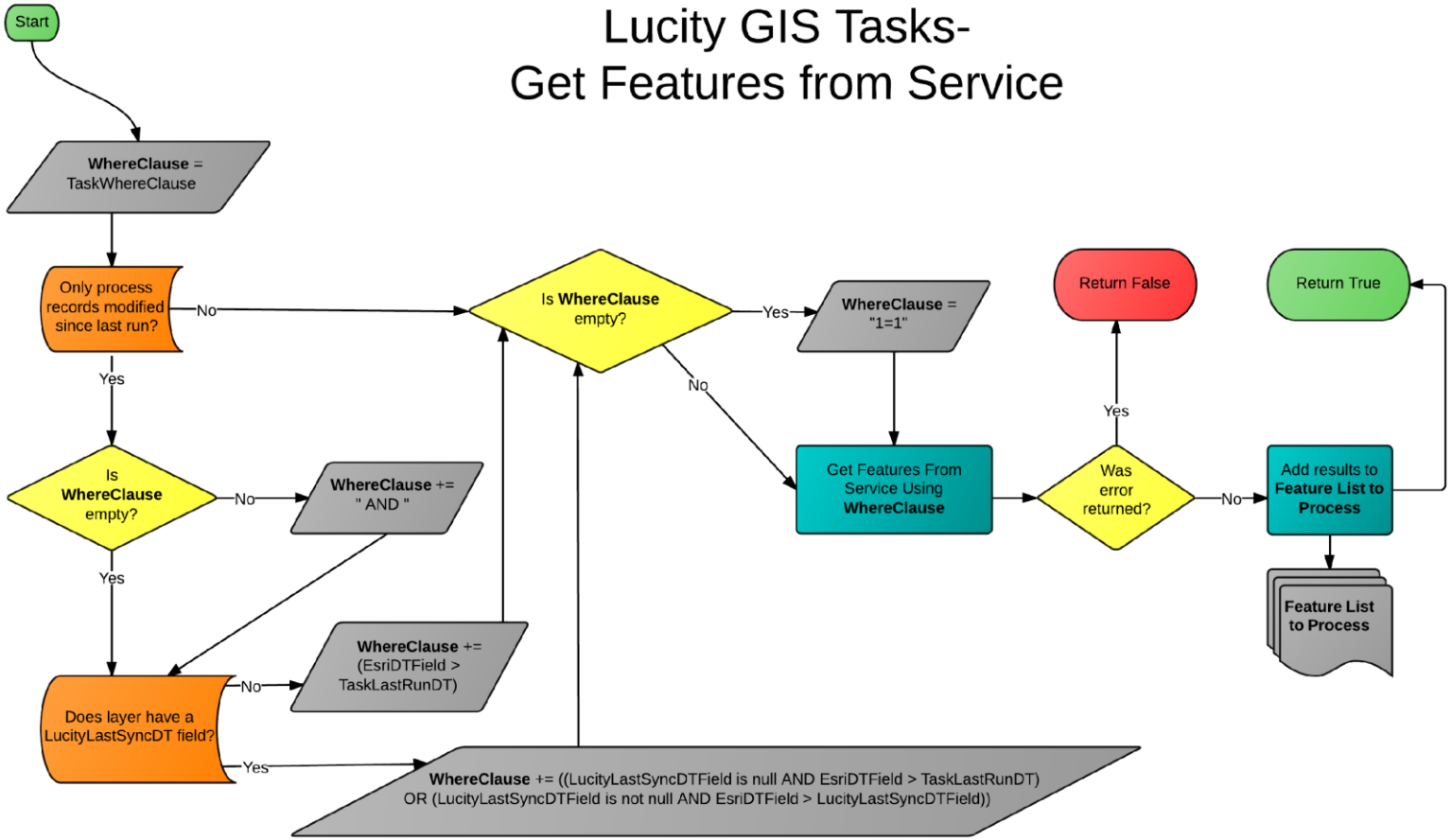
3. Once complete you will receive a prompt indicating if the task completed with our without errors. Any errors or other processing details will be reported in the process log results.

How it works

On the Lucity Services machine, as part of the Lucity Scheduler Service there is an executable, GISTaskRunner.exe, that runs every minute and will process any GIS Scheduled Tasks are due to be processed. Results including errors are recorded in the CMGISTASKSLOG.



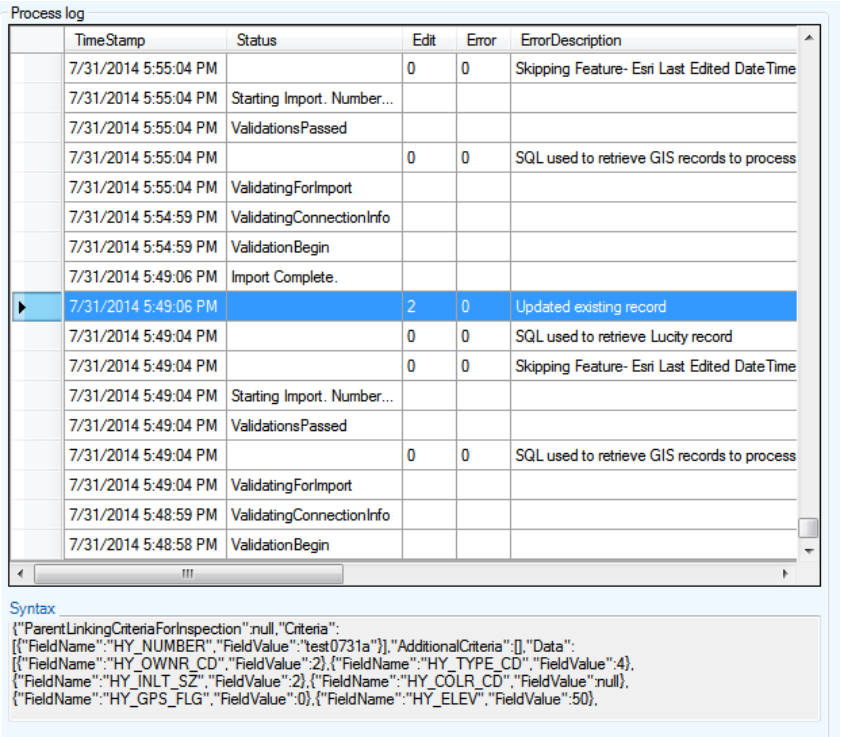
Lucity GIS Tasks-
Get Features from Service



Version 2014r2- 8/7/2014

Troubleshooting

GIS Tasks are stored in the GBAComm database in CMGISTASKS. As a GIS Task is being processed any errors and/or process updates are recorded in CMGISTASKSLOG. Entries in this table are currently set to be deleted after 30 days. The results of a GIS Task can be found in the Geodatabase Configuration tool under the GIS Task's process log. The following give a description of what each item represents:


Process log

TimeStamp	Status	Edit	Error	ErrorDescription
7/31/2014 5:55:04 PM		0	0	Skipping Feature- Esri Last Edited DateTime
7/31/2014 5:55:04 PM	Starting Import. Number...			
7/31/2014 5:55:04 PM	ValidationsPassed			
7/31/2014 5:55:04 PM		0	0	SQL used to retrieve GIS records to process
7/31/2014 5:55:04 PM	ValidatingForImport			
7/31/2014 5:54:59 PM	ValidatingConnectionInfo			
7/31/2014 5:54:59 PM	ValidationBegin			
7/31/2014 5:49:06 PM	Import Complete.			
7/31/2014 5:49:06 PM		2	0	Updated existing record
7/31/2014 5:49:04 PM		0	0	SQL used to retrieve Lucity record
7/31/2014 5:49:04 PM		0	0	Skipping Feature- Esri Last Edited DateTime
7/31/2014 5:49:04 PM	Starting Import. Number...			
7/31/2014 5:49:04 PM	ValidationsPassed			
7/31/2014 5:49:04 PM		0	0	SQL used to retrieve GIS records to process
7/31/2014 5:49:04 PM	ValidatingForImport			
7/31/2014 5:48:59 PM	ValidatingConnectionInfo			
7/31/2014 5:48:58 PM	ValidationBegin			

Syntax

{"ParentLinkingCriteriaForInspection":null,"Criteria":
[{"FieldName":"HY_NUMBER","FieldValue":"test0731a"}],"AdditionalCriteria":[],"Data":
[{"FieldName":"HY_OWNR_CD","FieldValue":2},{"FieldName":"HY_TYPE_CD","FieldValue":4},
{"FieldName":"HY_INLT_SZ","FieldValue":2},{"FieldName":"HY_COLR_CD","FieldValue":null},
{"FieldName":"HY_GPS_FLG","FieldValue":0},{"FieldName":"HY_ELEV","FieldValue":50},

- TimeStamp: This is the time the record was inserted into CMGISTASKSLOG (it will be listed in database time).
- Status: This is a description of what the current process status is. It typically indicates processing events such as starting validations, or results of import/export processes.
- Edit: The type of edit being performed. 0 = N/A, 1 = Insert, 2 = Update, 3 = Delete.
- Error: The type of error encountered or if it is 0 then details regarding the transaction. 0 = Transactional Details, 2= Validation Failed, 3 = Process Failed, 4 = Service Issue, 5 = Business Object Issue, 6 = Missing Data
- Error Description- Further details regarding the edit or error.
- Error Exception- The error exception if one was encountered during the process.
- GUID- The GUID associated to the processing batch
- ModID- The Lucity Module ID. This is the ID associated to the module that the GIS Task is performed against.
- LucityID. The Lucity Record ID. This would be prvoided for Updates and Deletes.
- GISID- This is the ObjectID for the GIS feature.
- Syntax- The syntax used for querying, updating, inserting, or deleting

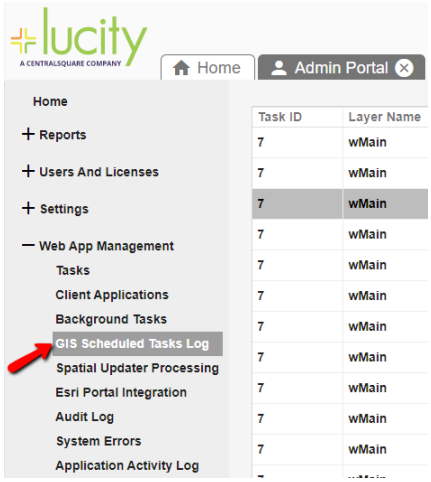
Admin Portal Tool

The Lucity Web Admin Portal contains a section to show the details of the GIS Scheduled Task Results. This is another way to view the contents of the CMGISTASKSLOG without going through the GDB Config, GIS Config, or accessing it directly via the database.

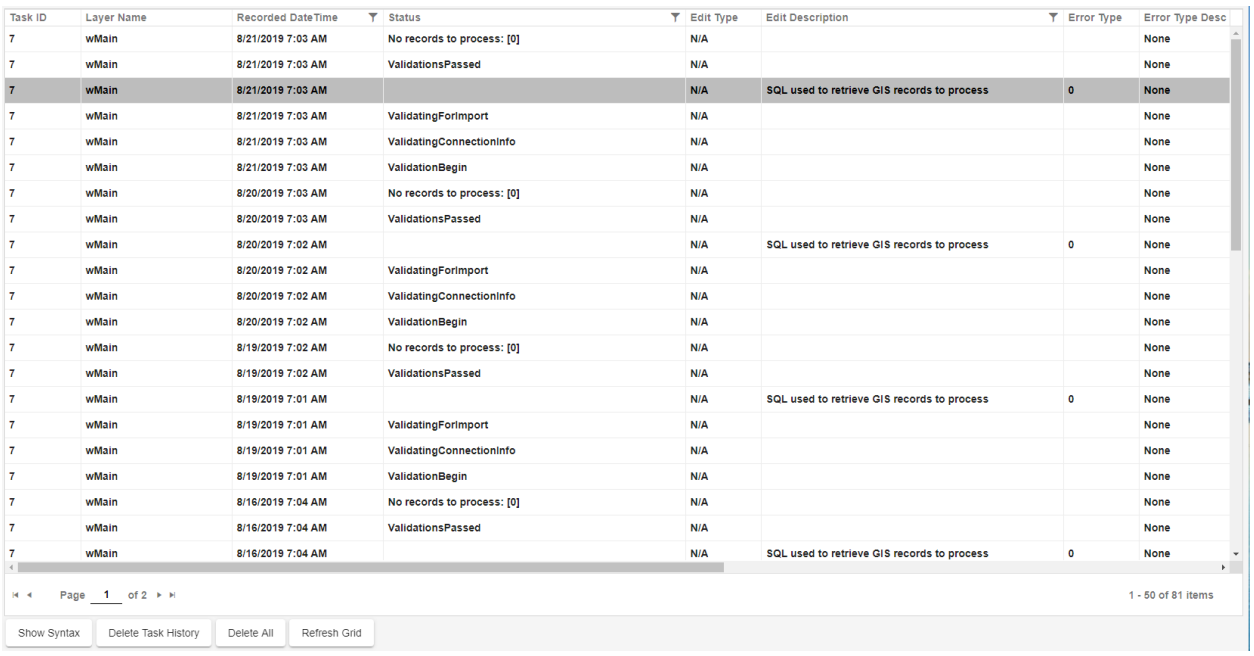
To view the GIS Scheduled Tasks results:

1. Click the Open Admin Portal tool in the Application toolbar:

2. This will open a new tab, titled Admin Portal, expand the Web App Management section, and select the GIS Scheduled Tasks Log option.



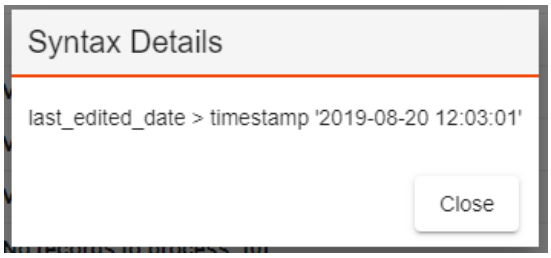
3. This will open the GIS Scheduled Tasks log:



Task ID	Layer Name	Recorded DateTime	Status	Edit Type	Edit Description	Error Type	Error Type Desc
7	wMain	8/21/2019 7:03 AM	No records to process: [0]	N/A			None
7	wMain	8/21/2019 7:03 AM	ValidationsPassed	N/A			None
7	wMain	8/21/2019 7:03 AM		N/A	SQL used to retrieve GIS records to process	0	None
7	wMain	8/21/2019 7:03 AM	ValidatingForImport	N/A			None
7	wMain	8/21/2019 7:03 AM	ValidatingConnectionInfo	N/A			None
7	wMain	8/21/2019 7:03 AM	ValidationBegin	N/A			None
7	wMain	8/20/2019 7:03 AM	No records to process: [0]	N/A			None
7	wMain	8/20/2019 7:03 AM	ValidationsPassed	N/A			None
7	wMain	8/20/2019 7:02 AM		N/A	SQL used to retrieve GIS records to process	0	None
7	wMain	8/20/2019 7:02 AM	ValidatingForImport	N/A			None
7	wMain	8/20/2019 7:02 AM	ValidatingConnectionInfo	N/A			None
7	wMain	8/20/2019 7:02 AM	ValidationBegin	N/A			None
7	wMain	8/19/2019 7:02 AM	No records to process: [0]	N/A			None
7	wMain	8/19/2019 7:02 AM	ValidationsPassed	N/A			None
7	wMain	8/19/2019 7:01 AM		N/A	SQL used to retrieve GIS records to process	0	None
7	wMain	8/19/2019 7:01 AM	ValidatingForImport	N/A			None
7	wMain	8/19/2019 7:01 AM	ValidatingConnectionInfo	N/A			None
7	wMain	8/19/2019 7:01 AM	ValidationBegin	N/A			None
7	wMain	8/16/2019 7:04 AM	No records to process: [0]	N/A			None
7	wMain	8/16/2019 7:04 AM	ValidationsPassed	N/A			None
7	wMain	8/16/2019 7:04 AM		N/A	SQL used to retrieve GIS records to process	0	None

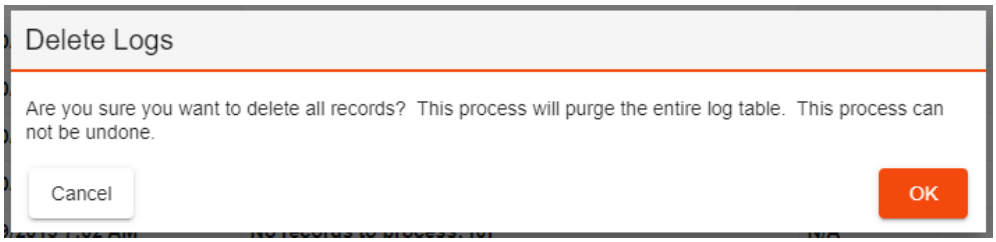
4. You can review the information as needed. Refer to the previous section of this document for what information is provided in each field. The following describes what each of the buttons do:

    a. **Show Syntax:** This is only enabled when a record is selected that has a syntax populated. If selected, a dialog similar to the following will appear showing the syntax



    b. **Delete Task History:** This is a convient way to delete the history for the selected task.

    c. **Delete All:** This will purge the entire log. All history for all tasks will be deleted. A message similar to the following will appear asking for confirmation to proceed:

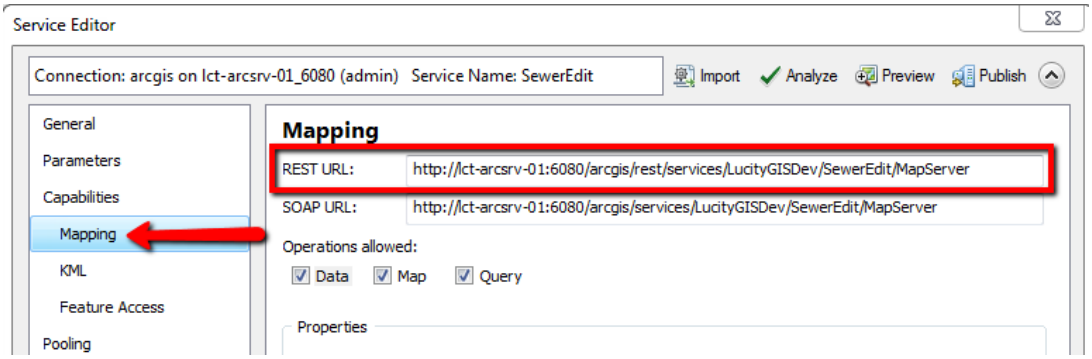


    d. **Refresh Grid:** This will cause the grid to fetch the latest data.

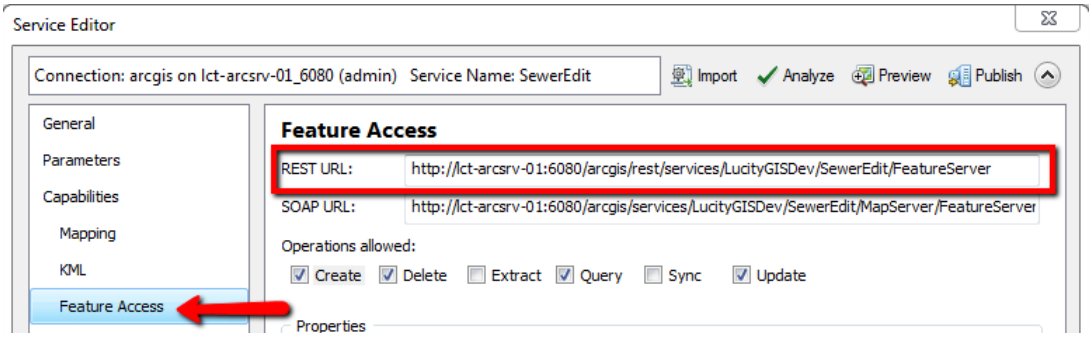
Defining Feature Services in Lucity

You will need to provide Lucity with the url to the map service and in some cases the corresponding feature service. When you create an ArcGIS Server feature service, two services are actually created: a map service (url ending in \MapServer) and a feature service (url ending in \FeatureServer). Some capabilities are only available in a map service and some only in a feature service. If the service is to be used with the Lucity legacy webmap or a Lucity mobile map (iOS or Android) then you should provide Lucity with the url to the MapServer.

Map Server Url

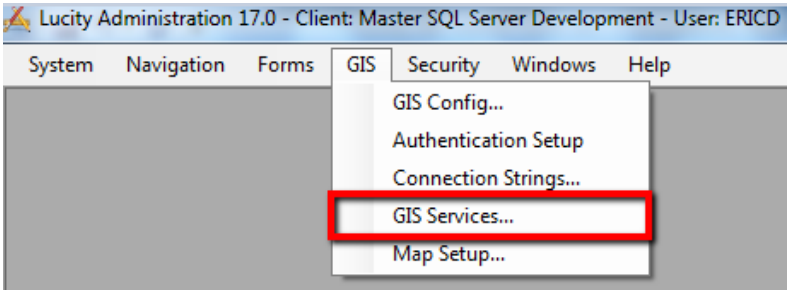


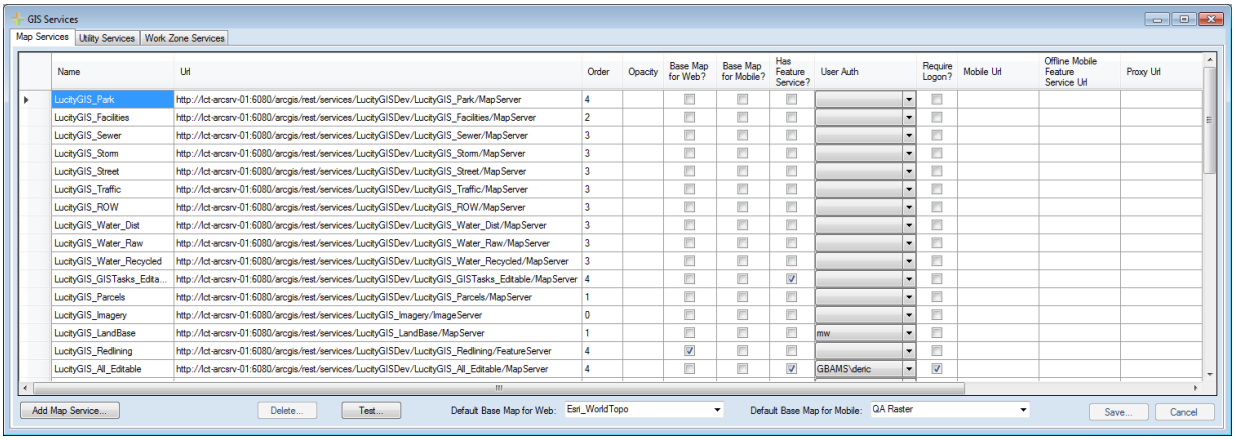
Feature Server Url



Lucity Administration Tool: GIS Services

All service information is stored in a centralized location with the GIS Services module in the Lucity Administration Tool.





1. Click the *Add Map Service* button to create a new record.
2. At a minimum fill out the following:
    a. **Name**: Provide a unique name for the service. This is used to identify the service during setup.
    b. **URL**: The REST URL for the feature service.
        i. NOTE: If you want your feature service to be used in the Lucity webmap or mobile map then you will need to provide the URL to the map service component as described in the previous section and then check the Has Feature Service option described below.
    c. **Has Feature Service?**: This setting indicates if the service has a corresponding feature service.
        i. This option is only enabled if the URL specified in the previous step refers to a map service (ends in \MapServer). If the URL specified in the previous step ends in \FeatureServer then Lucity already knows
        ii. Basically for feature services you have two options:
            1. Provide the url to the feature service in the URL field, and DO NOT check the Has Feature Service option.
            2. Provide the url to the map service in the URL field, and DO check the Has Feature Service option.

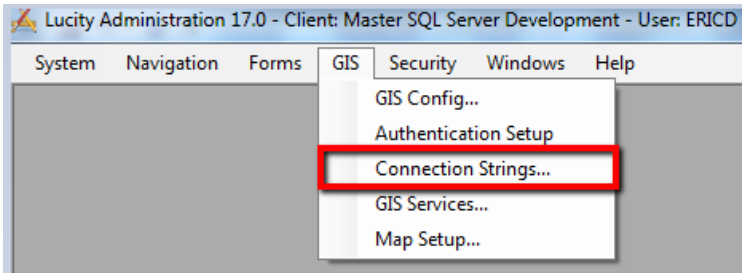
d. **User Auth**: If the service is secure, select a user authentication that has permission to access it.

3. Once you have completed filling out the information, click the Save button on the bottom right of the GIS Service form. The service is now in the system and can be associated to the geodatabase(s), feature class(es), and map setups configured with Lucity.

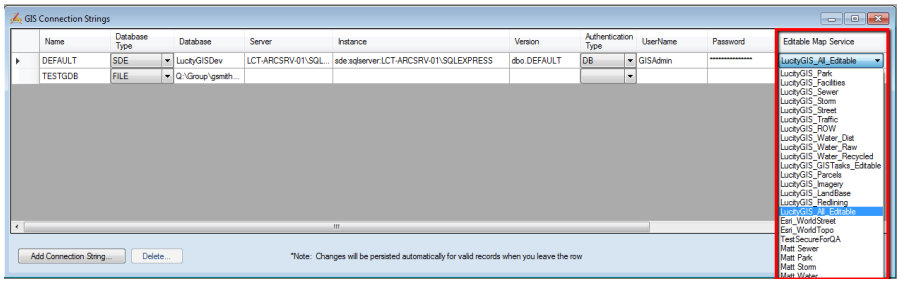
Lucity Administration Tool: GIS Connection Strings

Each geodatabase configured with Lucity can be assigned to a default service. This default service is used by many of the Lucity GIS tools. Some tools require this service to have feature access capabilities enabled (feature server) such as pushing attribute edits from Lucity to GIS.

Note: Associating a service to a geodatabase can also be done via the Lucity Geodatabase Configuration Tool in ArcCatalog.



- On the GIS Connection Strings form, each geodatabse connection can be associated to its own Editable Map Service. Simply, select a service from the drop down. Once your selection is made the change is saved automatically.

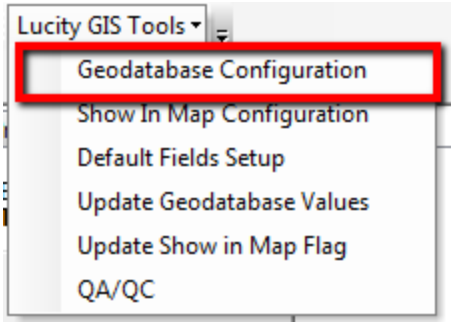


GDB Config: Edit Map Service (Geodatabase level)

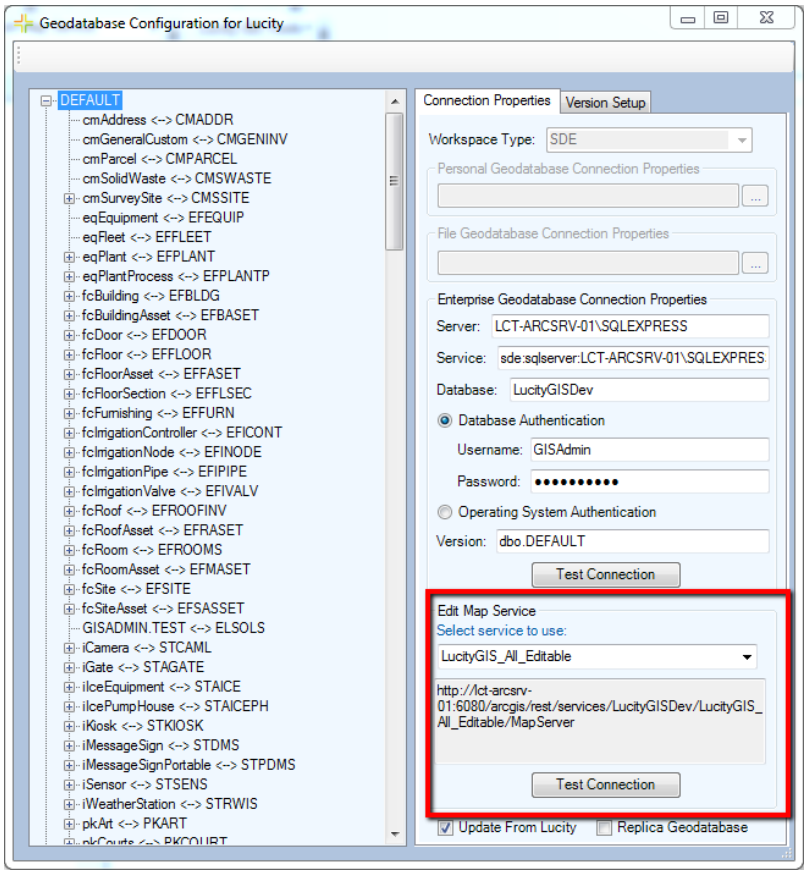
Each geodatabase configured with Lucity can be assigned to a default service. This default service is used by many of the Lucity GIS tools. Some tools require this service to have feature access capabilities enabled (feature server) such as pushing attribute edits from Lucity to GIS.

Note: Associating a service to a geodatabase can also be done via the GIS Connection Strings module in the Lucity Administration Tool.

1. In ArcCatalog, click the Geodatabase Configuration menu item on the Lucity GIS Toolbar.



2. The Geodatabase Configuration form will appear. Select the desired geodatabase node, and on the Connection Properties tab, there is an Edit Map Sevice section that allows you to specify a service from the drop down. Once your selection is made the change is saved automatically.

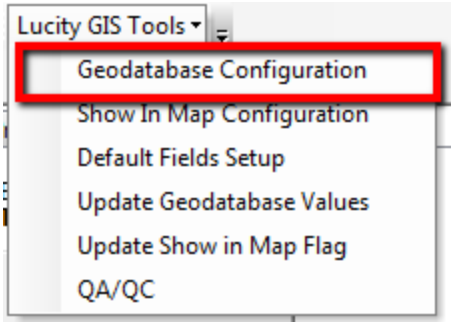


GDB Config: Edit Map Service (Feature Class level)

Each feature class configured with Lucity can be assigned to a service. If a service is not defined at the feature class level, then the service defined with the associated geodatabase will be used. This default service is used by many of the Lucity GIS tools. Some tools require this service to have feature access capabilities enabled (feature server) such as pushing attribute edits from Lucity to GIS.

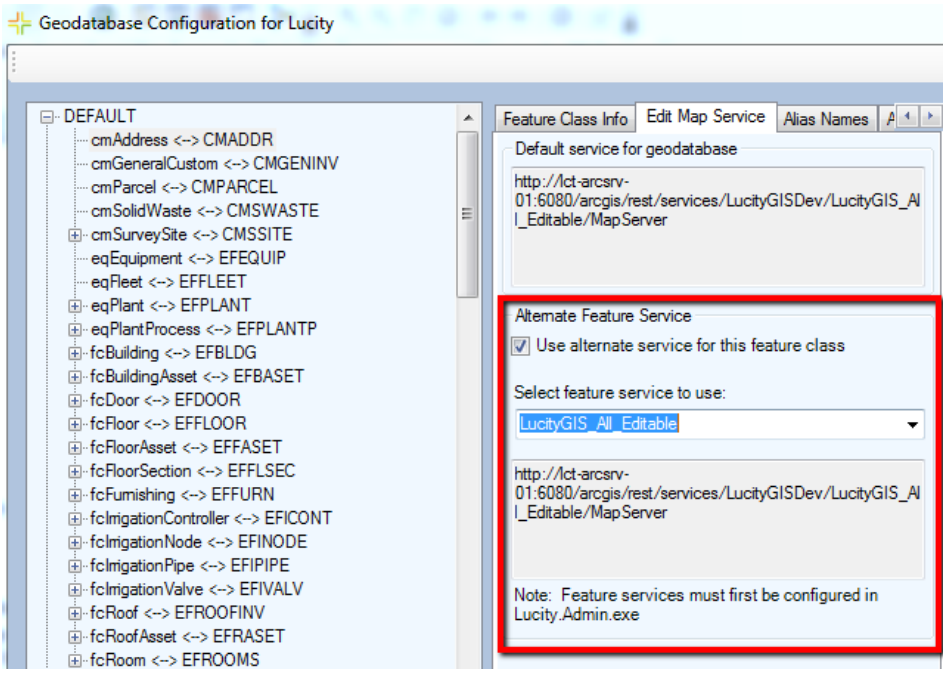
Note: Associating a service to a feature class can also be accomplished via the Update Feature Class Services tool in the Geodatabase Config tool.

1. In ArcCatalog, click the Geodatabase Configuration menu item on the Lucity GIS Toolbar.



2. The Geodatabase Configuration form will appear. Select the desired feature class node, and on the Edit Map Service tab, there is an Alternate Feature Sevice section that allows you to specify a service from the drop down. Once your selection is made the change is saved automatically.

    a. This setting is optional. If an alternate feature service isn't defined, then Lucity GIS tools needing access to the feature class via a service will attempt to use the service defined at the geodatabase level.

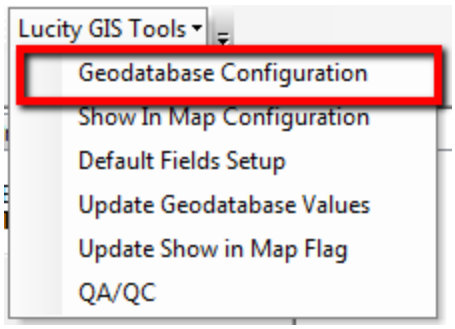


GDB Config: Update Feature Class Services

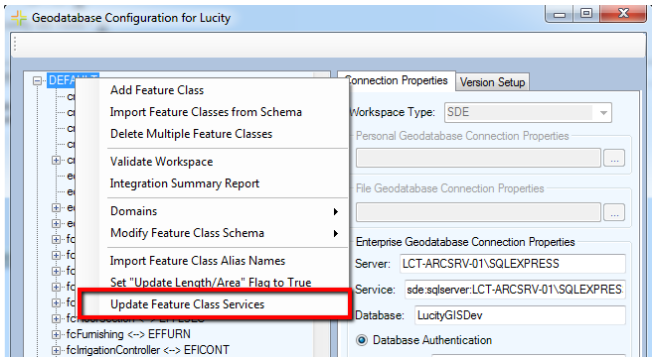
Each feature class configured with Lucity can be assigned to a service. If a service is not defined at the feature class level, then the service defined with the associated geodatabase will be used. This default service is used by many of the Lucity GIS tools. Some tools require this service to have feature access capabilities enabled (feature server) such as pushing attribute edits from Lucity to GIS. The Update Feature Class Services tool easily allows you to associate multiple feature classes to a single service.

Note: Associating a service to a feature class can also be accomplished via the Edit Map Service tab on an individual feature class in the Geodatabase Config tool.

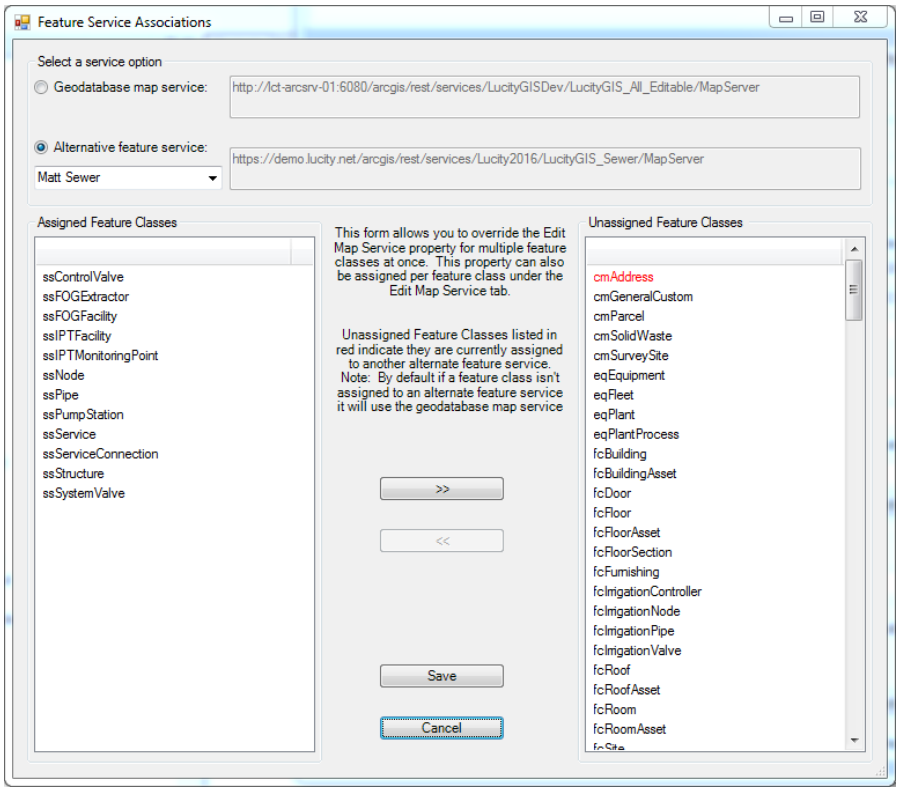
1. In ArcCatalog, click the Geodatabase Configuration menu item on the Lucity GIS Toolbar.



2. The Geodatabase Configuration form will appear. Right-click on the desired geodatabase node, and click the *Update Feature Class Services* menu item.



3. The Feature Service Associations form will appear.



4. Select the desired service (either choose the Geodatabase map service or select the alternate service you wish to associate/disassociate feature classes).

5. Once the service is selcted, the *Assigned Feature Classes* listbox will display all the feature classes currently assigned to the selected service. Likewise, the *Unassigned Feature Classes* listbox will list those that do not have the selected service listed as their default.
6. Use the >> and << buttons to associate and disassociate the feature classes to the selected service.
7. Once you have completed with the changes, click the Save button.

GIS Updates via Feature Services

Lucity offers the ability to push edits from Lucity to GIS directly via a feature service. This is done automatically when a user edits a field of a Lucity asset inventory record that is linked to your GIS. This is also part of the import process of the GIS Scheduled Tasks. When GIS Scheduled Tasks create or update existing Lucity records, a save is called on the Lucity record which will trigger the Lucity to GIS Update process.

Requirements

A few requirements must be met before implementing the GIS Updates via Feature Service option:

- Each Lucity linked feature class must be assigned to a default map service
- The default map service for the feature class must:
    - Contain the feature class
    - The feature class alias as listed in the service must be configured with Lucity
    - Enabled Feature Access capabilities
        - At a minimum, the Query and Update operations should be allowed
- System Settings in UI Admin must be configured

Setup

Create Feature Service

If you haven't already created a map service with Feature Access capabilities enabled, then you will need to do that first.

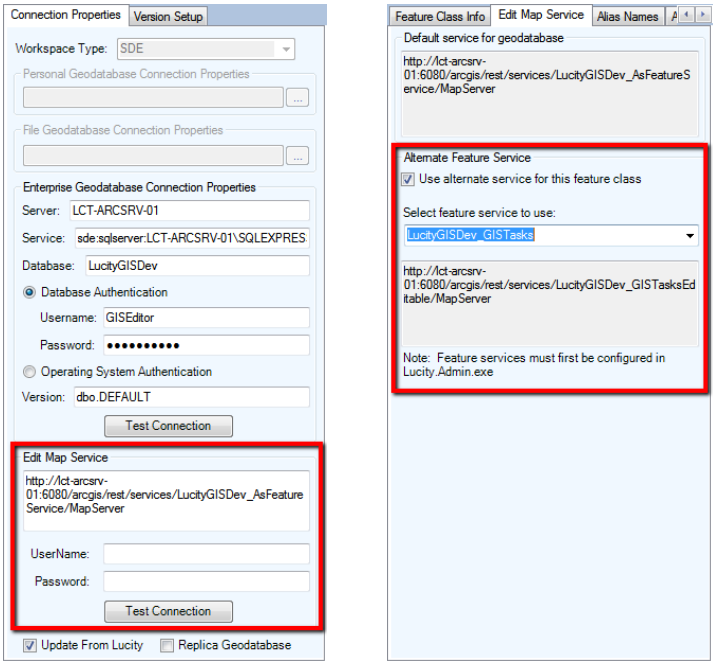
Assign default map services

The GIS Updates via Feature Service interacts with map services in order to push edits made to Lucity to their corresponding feature in GIS. To push edits to the GIS the following process is followed:

1. Determine the list of feature classes linked to the Lucity asset type being edited.
2. Do the following for each feature class until the asset is found:
    a. Determine the map service
        i. If a map service is defined at the feature class level then that one will be used.
        ii. If a map service isn't defined at the feature class level then the one defined at the geodatabase level will be used.
    b. Query the map service for the asset
        i. If it exists, update all asset fields that are linked to Lucity.
        ii. If it doesn't exist, move to the next feature class

- The geodatabase edit map service is defined in the Geodatabase Configuration Tool in ArcCatalog. It is listed under the Connection Properties tab when you have a geodatabase node selected.

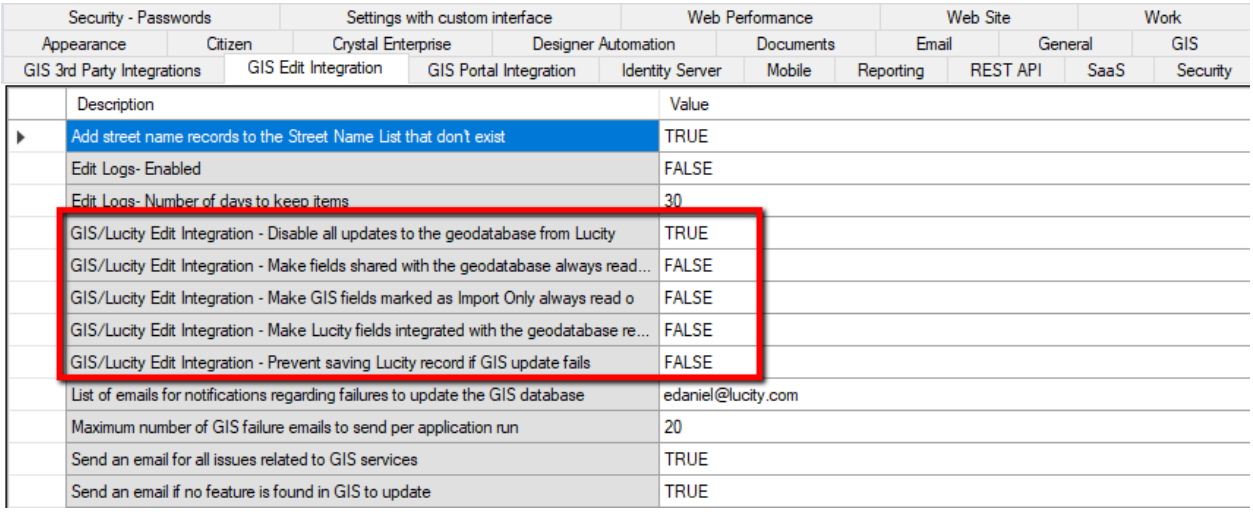
- A service defined at the feature class level will be listed under the Edit Map Service tab when you have the feature class node selected.



Configure System Settings

In UI Admin, system settings the following must be configured:

1. On the GIS Edit Integration tab, adjust the following system settings:



   - **Disable all updates to the geodatabase from Lucity:** This prevents the geodatabase from being updated with edits made in Lucity desktop and web.
   - **Make fields shared with the geodatabase always read only:** Any field that is shared with the geodatabase will be set as read-only in Lucity desktop and web.

- **Make fields marked as Import Only always read only:** Any field that is shared with the geodatabase that has been marked as Import Only will be set as read-only in Lucity desktop and web.
- **Make Lucity fields integrated with the geodatabase read only if the geodatabase cannot be updated:** If a connection to the geodatabase fails when loading a form, all fields integrated with the geodatabase will be read-only.
- **Prevent saving Lucity record if GIS update fails:** (Web Only) If a modification is made to a record in Lucity and the geodatabase fails to get updated this will prevent the record in Lucity from being saved.
- **List of emails for notifications regarding failures to update the GIS database:** Enter a comma delimited list of email addresses. This list will receive emails when the GIS update fails to update the geodatabase.
- **Send an email for all issues related to GIS Services:** Sends an email when there is any issue connecting to the map or feature service. This is sent to the list specified in the "list of emails for notifications regarding failures…" setting.
- **Send an email if no feature is found in GIS to update:** Sends an email when the GIS Update cannot find a feature in the geodatabase to update. This is sent to the list specified in the "list of emails for notifications regarding failures…" setting.

ArcGIS Pro Force Sync

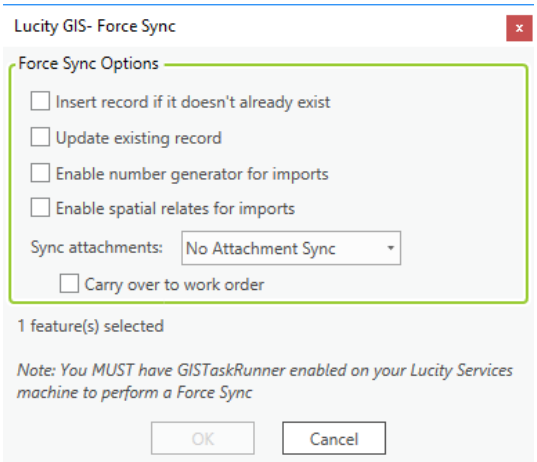
This tool updates the Lucity system with data from the features selected in the map. The tool works by kicking off a temporary GIS Scheduled Task on the fly, based on what features are selected in the map. The tool can be ran against multiple Lucity-linked layers at a time.

Requirements:

- Lucity Services must be running and GISTaskRunner must be enabled on the Lucity Services machine.
- The map layers to run Force Sync against must be feature service layers, since the GIS tasks require feature services to run.

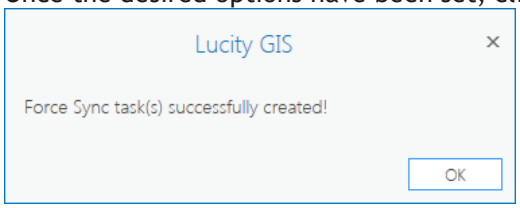
To use the Force Sync tool:

1. Select the features in the map that you would like to sync with Lucity and click the Force Sync button. The following dialog will appear:



   - **Insert record if it doesn't already exist:** Allows new records to be inserted into Lucity.
   - **Update existing record:** Allows existing records to be updated in Lucity.
   - **Enable number generator for imports:** Number generators will be utilized to assign Common IDs for new records.
   - **Enable spatial relates for imports:** Spatial relationships will be processed during the sync.
   - **Sync Attachments**- This option will import all child attachments for the given GIS feature as a Lucity document for the corresponding Lucity record.
     - **The following are the attachment options**:
       1. **No Attachment sync**: Attachments will be ignored by the GIS sync task.
       2. **Attachment Reference**: A link to the Esri attachment will be added to the Lucity record.
       3. **Attachment Copy**: The Esri attachment will be physically uploaded ot Lucity and then associated to the Lucity record.
     - **Carry over to work order**- This option will copy the synced attachments to a work order when the associated asset is added to the work order.

2. Once the desired options have been set, click OK. The following prompt will appear:



3. A GIS task for the selected records for each layer will be queued up in Lucity and will process automatically the next time the GIS Task runner kicks off (every 1min).
    - Note: You can find the results of the task in the GIS Scheduled Tasks Log of the Lucity Admin Portal.