

LUCITY ADMINISTRATION TOOL

This manual covers the Lucity Administration Tool. It also covers general setup for Lucity Web and the Citizen Portal

Version: 2017



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WELCOME



Welcome to the *Lucity Administration Tool* 2017. This program enables administrators to:

- set up *Views* of the agency's *Lucity* data;
- design *Forms* for users and citizens to use to submit information;
- configure several *Lucity* mapping applications; and
- establish other settings for *Lucity Desktop* and *Web*.



*File may be large


Past Helpguide Versions

- **Version 2016r2** (see Lucity Admin - <http://help.lucity.com/webhelp/v165/admin>)
- **Version 2016** (see Lucity Admin - <http://help.lucity.com/webhelp/v160/admin>)
- **Version 2015r2** (see Lucity Admin - <http://help.lucity.com/webhelp/v155/admin>)
- **Version 2015** (see Lucity Admin - <http://help.lucity.com/webhelp/v150/admin>)
- **Version 2014r2** (see Lucity Admin - <http://help.lucity.com/webhelp/v145/admin>)
- **Version 2014** (<http://help.lucity.com/webhelp/v140/admin/>)
- **Version 7.60** (see Lucity Admin - <http://help.lucity.com/webhelp/v760/admin>)
- **Version 7.50** (see Lucity Admin - <http://help.lucity.com/webhelp/v750/admin>)
- **Version 7.40** (<http://help.lucity.com/webhelp/v740/admin>)

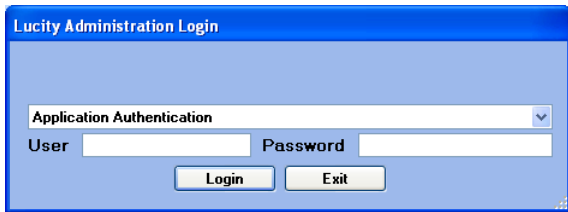


Help File Version 2017

LOGIN

- 1) Launch *Lucity Administration for Web Apps* .
 - This can be found under Start Menu > All Programs > Lucity.
 - C:\Program Files\Lucity\bin.
- 2) Select an authentication method from the drop-down menu.
 - **Application Authentication** requires a user name and password.
 - **Windows Authentication** disables the *User* and *Password* fields and allows users to bypass the *Login* screen. See the Users topics for information on setting up Windows authentication.
- 3) If using **application authentication**, enter your *Lucity User Name* and *Password* to log into the interface. These credentials are established in the **Lucity.Security.exe** program.

4) Click **Login** or press <Enter>.



OTHER LUCITY ADMINISTRATION TOOLS

The *Lucy Administration Tool* serves as the primary resource for controlling an agency's setup and options for *Lucy Web* and *Desktop*. However, other *Lucy* tools can also be helpful to an administrator. These tools are outlined below.

Note: The *Administration Tool* is automatically installed on every machine. Not all of the other tools are installed automatically.

Client Maintenance

Configures the *Lucy Server*, updates license files, maintains connections to the database, and performs database updates and linking. **Client Maintenance** is automatically run during the *Lucy Server* upgrade. Otherwise, it is usually only run when there are problems with Lucy connecting to the databases, when the databases are moved or restored from a backup, or when a new Licenses file is applied.

- **Requirements** - Installation of *Lucy Desktop*.
- **File Location** - In the *Lucy Desktop* installation, in the **bin** folder.
- **Shortcut Location** - **Windows Start Menu > All Programs > Lucy > Admin Tools > Client Maintenance**

Lucy Security

Allows administrators to add or remove users from the *Lucy* system and to control users' permissions within the program.

- **Requirements** - Installation of *Lucy Desktop*.
- **File Location** - In the *Lucy Desktop* installation, in the **bin** folder.
- **Shortcut Location** - **Windows Start Menu > All Programs > Lucy > Admin Tools > Lucy Security**

Data Quality Tool

Allows administrators to run preconfigured SQL queries to verify data quality.

- **Requirements** - Installation of *Lucity Desktop*.
- **File Location** - In the *Lucity Desktop* installation, in the **bin** folder.

Street Renaming Tool

Allows administrators to bulk update street names throughout the Lucity System

- **Requirements** - Installed with the Lucity Administration Tool
- **File Location** - In the Lucity Desktop installation, in the bin folder.

Lucity DSN Utility

Maintains the desktop computer's connection to the *Lucity Server* and databases. The utility updates the path to the *Lucity Server* **Config** folder and updates the DSNs based on that folder. This enables an administrator to point *Lucity Desktop* to a different instance of *Lucity Server* when the server location has changed, the database location has changed, or a new product/database has been added to Lucity. Administrators can run the utility manually, or silently, using a script or command line.

- **Requirements** - Installation of *Lucity Desktop*.
- **File Location** - In the *Lucity Desktop* installation, in the **bin** folder.
- **Shortcut Location** - **Windows Start Menu > All Programs > Lucity > Utilities > Lucity DSN Utility.**

TYPES OF LICENSING

Lucity provides a variety licensing options to accommodate client needs. The most common options are explained below.

Named-Product Licensing

Under a **Named-Product Licensing Agreement**, users purchase a number of licenses (or "seats") for each part of the *Lucity* suite. A license is considered to be in use when a user has a related module open; that license is released when the user closes the module.

For example, an agency owns **10** seats of the *Lucity* **Assets** program and **20** seats of the *Lucity* **Work** program. If a user has the *Water Hydrant* module open, the *Water Pipe* module open, and the *Work Order* module open, he is using just **1** seat of **Assets** (both *Water* modules fall within one **Asset** program) and **1** seat of **Work**.

In this situation, although the agency might have 100 users, only **10** of them could use an **Asset** module at the same time.

Agencies purchase **Named-Product** licenses for on-premise use and can use them as long as they'd like. Software support is not tied to the license purchase; instead, the agency pays for it separately.

On-Premise Use

The agency hosts all of the system resources required to run *Lucity*.

- **Support** - Purchased separately.
- **IT Maintenance** - Not included.
- **Services** - Purchased separately.

Named-User Licensing

Under a **Named-User Licensing Agreement**, agencies purchase the *Lucity* modules they want and a specific number of user licenses they want for the *Lucity* System. Each license is registered to a particular, individual user and is considered to be always in use. That is, if an agency has **20** user licenses, only 20 **registered** users can log into *Lucity*. If other users try to log in, they will be denied access because they do not have a license.

There are no restrictions on the number of users that can get into a given *Lucity* module; however, only those authorized (through a license) have the ability to access the *Lucity* system.

Implementation Options and License Expiration

Clients purchase named-user license/support packages annually for either on-premise use or software-as-a-service (SaaS) implementation. At the end of one year, the license agreement expires, and the software cannot be used until the licensing agreement is renewed.

Forty days before the license expires, *Lucity* begins to send daily renewal reminders via email to the agency's system administrator. (Administrators can designate who should receive the email and when notification should begin in **Lucity Web > Admin Portal > Settings > System Settings > General**.)

On-Premise Use

The agency hosts all of the system resources required to run *Lucity*.

- **Support** - Included.
- **IT Maintenance** - Not included.
- **Services** - Purchased separately.

SaaS Implementation

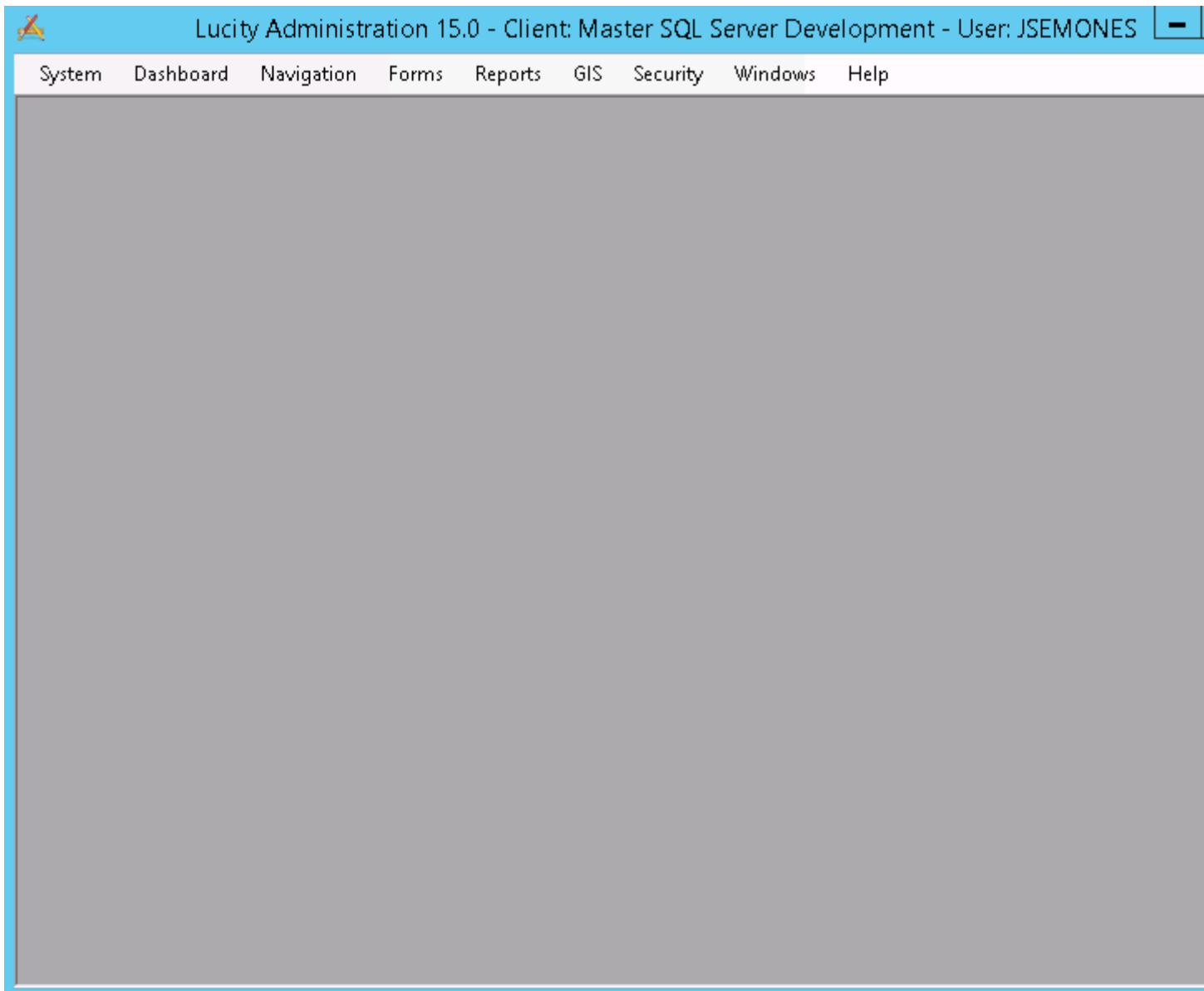
Lucity hosts the software, and the client accesses the software over the internet.

- **Support** - Included.

- **IT Maintenance** - Included (only for the *Lucity* system).
- **Services** - Purchased separately.

THE ADMINISTRATION TOOL

This section discusses all of the screens, tools, and options available in the *Administration Tool*. To learn how to perform any of the *Administration Tool* functions, click on the links below.



SYSTEM

The System menu option enables administrators to:

- set system settings,
- manage web and public web site caches,
- lock objects,
- manage user licenses,
- manage active users, or
- exit the program.

Note: Changes made here to the system settings are applied to all users. Follow the links below for additional information.

SYSTEM SETTINGS

The *System Settings* section allows administrators to control general system settings that affect *Lucity Web*, Citizen Portal, email services, GIS tools, etc.

| Setting Description | Setting Value |
|--|--|
| Application Tab Color | #F8981D |
| Content Frame's Alternate Header Color | #007EA8 |
| Content Frame's Background Color | #F0F0E1 |
| Content Frame's Header Color | #98C93C |
| Content Frame's Hyperlink Color | rgb(77, 116, 186) |
| Dashboard Tab Color | #98C93C |
| Default color of the background of content frames | 255,255,255,255 |
| Default color of the background of the application | 255,255,255,255 |
| Default color of the border of content frames | 255,235,231,40 |
| Default color of the border of navigation frames | 255,154,202,60 |
| Default color of the offset of content frames | 255,229,240,213 |
| Default color of the text of content frames | 255,51,51,51 |
| Default color of the text of navigation frames | 255,154,202,60 |
| Default color of the title of content frames | 255,248,152,46 |
| Default selection color of content frames | 200,248,152,46 |
| Default selection color of navigation frames | 255,235,231,40 |
| Add new addresses from Citizen Web App to Customers if the Work Option "Update Customers from Request Feedback" is Yes | FALSE |
| Allow advanced searches on Citizen Website | FALSE |
| Citizen checkbox label for copying requestors address | Use Requestor's Address |
| Citizen checkbox label for remembering requestors information | Remember Me |
| Citizen Email - Include link to request lookup | TRUE |
| Citizen Request Lookup Page | |
| Citizen Thank You page - Caption of button | Add Another |
| Citizen Thank You Page - Caption of Send Copy Email Label | Send an e-mail copy of this to the specified e-mail address |
| Citizen Thank You page - URL button redirects to | |
| Error to display if a file upload fails in the Citizen app | There was an error uploading the document |
| Instruction label for additional emails | Send this to these additional email addresses (Note: This is a required field) |
| Login ID used for Citizen Website | PublicWebUser |
| Request Feedback Question | Overall, how was the quality of response to your service? |

Settings Selection

Enables users to change the list of settings displayed in the *Settings* grid using the drop-down list in the top-left-corner.

Settings Grid

Displays a list of settings and their current state.

Edit

Enables an administrator to edit the setting selected in the grid.

APPEARANCE

The Appearance settings control the default colors of the Lucity Web dashboard; that is, the colors that users normally see when they log in to the application. These colors are set by an administrator within the User Settings. In that same location, each user can also customize the colors of his or her individual dashboard.

CITIZEN

Lucity's Citizen settings are used to configure the *Citizen Portal* application. This application provides a citizen facing form for entering Requests.

FIELD

FUNCTION



PERMISSIONS

Add new addresses from Citizen Web App to Customers if the Work Option "Update Customers from Requests?" is Yes

Adds new addresses entered through the *Citizen Portal* into the *Customer* module if the *Update Customer from Request* option is enabled in the *Work* module.

Searches the *Customer* module for *Contact* and *Address* data associated with the phone number the user entered. The information produced by the search is used to complete fields on the *Work Order Request* module's *Customer* tab. This feature helps speed data entry. If this function is disabled:

- The *Request*

| | | |
|--|--|-----------|
| <i>Allow advanced searches on Citizen Website</i> | Enables citizens to search for existing requests on the <i>Request List</i> page by email address, phone number, or Request Number. | App Admin |
| <i>Citizen Checkbox label for copying requesters address</i> | Specifies the caption to be displayed next to the <i>Use Requester's Address</i> checkbox on <i>Request</i> forms. | App Admin |
| <i>Citizen Checkbox label for remembering requesters information</i> | Specifies the caption to be displayed next to the <i>Remember Me</i> checkbox on <i>Request</i> forms. | App Admin |
| <i>Citizen Email - Include link to request lookup</i> | Provides a link to the TEXT version of the email that is sent to requesters after they enter a <i>Request</i> in <i>Citizen Portal</i> . | App Admin |
| <i>Citizen Request Lookup Page</i> | Indicates the filename of the page that displays information about a specific request to the citizen who submitted that request. The default value, RequestLookup.aspx , includes comments. Use the alternative value, RequestLookupNoComments.aspx , to exclude comments from the page. | App Admin |
| <i>Citizen Thank You page - Caption of button</i> | Specifies the caption to be displayed on the button on the Thank You page. The default value is " Add Another. " | App Admin |
| <i>Citizen Thank You Page - Caption of Send Copy Email Label</i> | Specifies the language to be used on the Thank You page to enable a user to request an email copy of their <i>Citizen Portal</i> request. | App Admin |
| <i>Citizen Thank You page - URL button redirects to</i> | Controls the behavior of the button on the Thank You page. This setting accepts three types of values: <ul style="list-style-type: none"> • If left empty, clicking the button will return the citizen to the Request Submittal page. • If a URL is provided (such as http://www.yoursite.com/), clicking the button will take the citizen to that web page. • If the word "CLOSE" is entered, clicking the button will close the browser window.* | App Admin |
| <i>Error to display if a file upload fails in the Citizen app</i> | Indicates the error message displayed when a document fails to upload. | App Admin |

| | | |
|---|---|-----------|
| <i>Instruction label for additional emails</i> | Controls the text that appears in the <i>Additional Emails</i> section of the <i>Citizen Portal</i> form. | App Admin |
| <i>Login ID used for Citizen Website</i> | Indicates the <i>Lucity Login ID</i> for the <i>Citizen Portal</i> site. This <i>Login ID</i> is created during the installation process. The default ID is " PublicWebUser ". The chosen citizen <i>Login ID</i> must belong to the PublicWebGroup in <i>Lucity Security</i> . This group has the following permissions to use the public forms: Run - Work, Run - Work Requests, General Add - Work Requests, and Run - General Modules. | App Admin |
| <i>Request Feedback Question</i> | What question to pose for users in the request feedback survey that is sent when a request is completed. | App Admin |
| <i>Request Feedback Responses</i> | Multiple choice answers for the <i>Request Feedback Question</i> question. | App Admin |
| <i>Show Customer Lookup and Request Lookup buttons on Request forms</i> | Controls whether the Customer and Request Lookup buttons appear on <i>Request</i> forms. | App Admin |

*If using the "**CLOSE**" option, citizens will likely receive a browser message stating, "The user is attempting to close the browser, do you want to let them continue?" Therefore, if the setting is set to "**CLOSE**," Lucity recommends an agency also use a bit of JavaScript to open the *Citizen Request* form in a separate window. For example, to open the submittal form, the URL might be:


```
<a href="http://localhost:2296/Default.aspx?FUI=CleanGraffiti" target="_blank"
onclick="window.open('http://localhost:2296/Default.aspx?FUI=CleanGraffiti','_blank','left=0,top=0,resizable=yes,scrollbars=yes,toolbar=no,
menubar=no,location=no,directories=no,status=yes'); return false;">Click here to submit a graffiti cleaning request.</a>
```

If the **window.open** JavaScript is used and the system setting is set to "CLOSE," the **Request Submittal** window closes and returns the user back to your site.

Note: In addition to customizing the text of the *Citizen Request* email, administrators can also **customize the format of the Citizen Request email** (see "**Customizing the Citizen Request Email**" on page 495).

CRYSTAL ENTERPRISE

Enables admins to configure using Crystal Reports Enterprise to run Crystal Reports for Lucity Web

| FIELD | FUNCTION |  PERMISSIONS |
|--|--|---|
| <i>Admin Port</i> | Port used for Administrative and API access to Crystal Enterprise. | IT Admin |
| <i>Display Port</i> | Port used to Display reports using the Open Document Method. | IT Admin |
| <i>Display Server</i> | DNS or Server name used for displaying reports using the Open Document Method. | IT Admin |
| <i>Failure - Failover notifications</i> | Switch to determine if an email notification should be sent if a report fails to run when configured as an enterprise report. | |
| <i>How reports are selected to run in Enterprise</i> | Option can be set to Auto,Manual, or Empty. Setting is used to determine if Lucity reports are manually configured for Crystal Enterprise or done automatically. Manual mode allows users to control each reports run from location, while the Auto mode assumes reports to be run from Enterprise regardless of the setting on the report. | IT Admin |
| <i>Is Crystal Reports Enterprise Integration Running</i> | Switch determines if installation is using Crystal Enterprise. Can be turned off and system uses native Lucity Reports. | IT Admin |
| <i>Logon Port</i> | Port for Login/Authentication on Crystal Enterprise. | IT Admin |
| <i>Open Document Path</i> | URL path defined by Crystal Enterprise to Open a document which can change between versions of Business Intelligence. Value is case sensitive. | IT Admin |
| <i>Report Folder ID</i> | Report Folder ID found in Crystal Enterprise that holds Lucity Reports for this client. | IT Admin |
| <i>Server</i> | Option contains the name of the server hosting Crystal Enterprise. Used for logging into Crystal Enterprise CMC. | IT Admin |
| <i>Server is TLS</i> | Crystal Enterprise Server configuration set to use TLS (Secure - https). | IT Admin |
| <i>Use Guest Account</i> | Switch determines if installation allows use of the Guest Account found on Crystal Enterprise. If false, Active Directory needs to be implemented on the Crystal Report Server, or users will be forced to login to see reports. The Guest account is also used to do dynamic lookups for CUID (Report IDs) in Business Intelligence when the CUID is NOT specified in Lucity. | IT Admin |

DESIGNER AUTOMATION

The **Designer Automation** settings let administrators change the default appearance of specific web form components. They can change the width, height and margins of forms. (All measurements are in pixels.)



All settings on this tab require the *App Admin* permission.

DOCUMENTS

The **Documents** settings are used to control how the document-upload feature works within *Lucity Web*, *Mobile*, and *Citizen Portal*.

| FIELD | FUNCTION | PERMISSIONS |
|--|---|-------------|
| <i>Always Delete file when document references are deleted if no other items reference file *</i> | This setting controls whether deleting a document from Lucity automatically removes the underlying file from the file share. This will happen regardless of whether the user has permission via Active Directory file permissions. Users without the Documents - Delete File permission will still be asked if they want to delete the file but the file will not be deleted. | IT Admin |
| Documents with file size greater than given size, are opened using file path. Default size is 500MB | Limits the size of documents pushed to the client using the <i>Lucity</i> document server. If a document is larger than the specified maximum, the system instead provides the path to the file, which the user can copy/paste into Windows Explorer. Limiting file size reduces the load on the server. | IT Admin |
| Enable External Document Integration | Integrates <i>Lucity</i> with external documentation programs. When this setting is enabled, a new button appears on every grid in <i>Lucity Web</i> . The button can be configured to link to an external document system. | App Admin |
| <i>List of document types that are allowed to be added to records (whitelist) **</i> | Specifies the file types that users may attach to records in the <i>Lucity Web</i> or <i>Mobile</i> programs. Enter a comma-delimited list of file extensions. | App Admin |
| <i>List of document types that are allowed to be uploaded by citizens *</i> | Specifies the file types that users may attach to records in the <i>Citizen Portal</i> program. Enter a comma-delimited list of file extensions. | App Admin |
| <i>List of document types that are not allowed to be added to records (blacklist) **</i> | Indicates which file types users should not be allowed to attach to records in the <i>Lucity Web</i> or <i>Mobile</i> programs. Enter a comma-delimited list of file extensions. Note: To allow users to upload videos, do not include mp4 in this list. Default List: exe, com, dll, ocx, bat, reg, tmp, dat, scr, bak, acl, acm, cpl, ax, php, ps1, cmd, inf, inx, isu, job, lnk, msp, pif, sct, vbs | App Admin |
| <i>Maximum size for uploaded document in mb (Citizen) *</i> | Limits the size of documents that can be attached to a <i>Citizen Portal</i> request. <ul style="list-style-type: none">Requires a restart of the affected applications to take effect. | IT Admin |

| | | |
|--|---|----------|
| <i>Maximum size for uploaded document in mb (Internal) **</i> | Limits the size of documents that can be attached to a record in <i>Lucity Web</i> or when using the REST API. ● Requires a restart of the affected applications to take effect. | IT Admin |
| <i>Path where uploaded documents are stored (Citizen)(Citizen Document Hive) *</i> | Establishes a network path for the location in which the uploaded documents from <i>Citizen Portal</i> will be stored. | IT Admin |
| <i>Path where uploaded documents are stored (Internal)(Document Hive) **</i> | Establishes a network path for the location in which the uploaded documents from <i>Lucity Web</i> and <i>Mobile</i> will be stored. | IT Admin |
| <i>Path where uploaded Sign Library images are stored **</i> | Establishes a network path for the location in which the uploaded pictures for the <i>Sign Library</i> are stored. | IT Admin |
| <i>URL to Document Server ***</i> | Designates the URL for the <i>Lucity Document Server</i> application, which is installed with the <i>Lucity Web</i> and <i>Citizen Portal</i> programs. | IT Admin |


* Applies to *Lucity Web*.

* Applies to *Lucity REST API, Lucity Mobile Server*.

* Applies to *Citizen Portal*.

EMAIL

The Email settings are used to configure the content, recipients and behavior of automatic messages generated by the Lucity system.

| FIELD | FUNCTION |  PERMISSIONS |
|--|--|--|
| <i>Button text for send email button</i> * | Controls the text that appears on the Send Email button on the <i>Citizen Portal</i> form. | App Admin |
| <i>Footer line in email</i> **** | Controls the footer that is included on all emails sent by the system. | App Admin |
| <i>From Email Address</i> | Sets the default email address that is listed as the sender on most email notifications. | App Admin |
| <i>Header line in email</i> **** | Controls the header that is included on all emails sent by the system. | App Admin |
| <i>Include a hyperlink to the web application in emails sent from the desktop software</i> * | Adds a hyperlink back to the related <i>Lucity Web Work Order/Request</i> to any email notifications generated by <i>Lucity Desktop</i> . | App Admin |
| <i>Include Client name on the subject of every email</i> | Adds the name of the <i>Lucity</i> client to the subject line of every email except those generated by the <i>Citizen Portal</i> . This feature enables administrators to easily determine whether a message originates from a test or production system. | App Admin |
| <i>List of email addresses for system health notifications</i> | Controls which email addresses receive various system-health emails, including: <ul style="list-style-type: none"> ● daily messages that indicate whether the nightly processes succeeded; ● the weekly email that identifies documents on the document server that are not attached to a <i>Lucity</i> record; ● alerts indicating that admin permissions (Lucity App Admin, Lucity IT Admin, or Security Admin) have been granted, revoked, or denied; and ● alerts indicating that parts reconciliations errors exist (which should be reported to <i>Lucity Support</i>). Enter a comma-delimited list of email addresses. | IT Admin |
| <i>Reprocess Email Timeout</i> Default 10 min | Time in minutes to reset emails pending emails to be processed again. This helps to capture and send emails that failed to send due to the services failing. | IT Admin |

| | | |
|--|--|-----------|
| <i>Request Generator allows replies to response email *</i> | Controls whether requesters can respond to the automatic message they receive in reply to their original <i>Request</i> . If this option is enabled, the responses are added to the original <i>Request</i> . If this option is disabled, responses generate new <i>Requests</i> . | App Admin |
| <i>Request Generator reply email body *</i> | Establishes the body of the email that is automatically sent to requesters when they update a <i>Request</i> by replying to the original email. | App Admin |
| <i>Request Generator reply email subject *</i> | Controls the subject of the email automatically sent to requesters when they update a <i>Request</i> by replying to the original email. | App Admin |
| <i>Request Generator reply to be sent when Request not found *</i> | Outlines the automatic response sent to customers who send an email in reference to a <i>Request</i> that doesn't exist. | App Admin |
| <i>Request Generator response email subject *</i> | Controls the subject of the email that is automatically sent to requesters when they send an email that generates a new <i>Request</i> . | App Admin |
| <i>Request Generator response email text *</i> | Establishes the body of the email automatically sent to requesters when they send an email that generates a new <i>Request</i> . | App Admin |
| <i>Send daily email when nightly services processes finish</i> | Sends an email when the nightly processes complete to all users identified in the <i>List of email addresses for system health notifications</i> setting. If these users do not receive an email, the processes most likely failed. | App Admin |
| <i>SMTP Server ***</i> | Identifies the agency's SMTP server. Use this field to configure the SMTP server if you are connecting through Port 25. If you are not connecting through that port, use the email configuration that is installed with the services (http://help.lucity.com/webhelp/v170/services/#33988.htm). | IT Admin |
| <i>Text to include above the hyperlink in the email *</i> | Specifies the text that should appear in the line above the hyperlink. (Tied to the "Include a hyperlink...." option.) | App Admin |
| <i>The first line of the body of the email sent to citizens *</i> | Adds a line of text to the beginning of all automated client emails. | App Admin |
| <i>The last line of the body of the email sent to citizens *</i> | Adds a line of text to the end of all automated client emails. | App Admin |

* Applies to *Lucity Desktop* and *Web*.

* Applies to *Lucity REST API, Lucity Mobile Server*.


* Applies to *Citizen Portal*.

* Applies to the *Email to Request Generator*.

Note: Changes made to *Lucity's* email settings do not require a server restart.

GENERAL

The *General* settings provide controls regarding data storage, default file locations and basic *Lucity* services.

| FIELD | FUNCTION |  PERMISSIONS |
|---|---|---|
| <i>Allow All Users Access to All Views</i> | Removes the requirement that users be in a group assigned to a view in order to access the view. This gives all users access to all views in any module they have security permission to. | App Admin |
| <i>Comma delimited list of user names that should not be tracked in AuditLogons Table</i> | Enter Lucity usernames here to bypass tracking the successful logon of those users in the AuditLogons table. <ul style="list-style-type: none"> Intended for applications developed by clients, particularly REST applications, that may log in frequently (several times per second). | IT Admin |
| <i>Date format for Notifications</i> Default: Short | Indicates which date format should be used when creating web notifications. <i>Example</i> <ul style="list-style-type: none"> Short = 01/01/2015 Long = Monday, January 1st, 2015 | App Admin |
| <i>Days to keep data in login auditing table (0 to maintain all history)</i> | Indicates the number of days of login history for the <i>Desktop</i> or <i>Web</i> application that the system should retain in the AUDITLOGONS table in the User database. | IT Admin |
| <i>Days to keep data in the event track table (0 to maintain all history)</i> | Controls how many days records are stored in the <i>Event Track</i> table. The <i>Event Track</i> table is used in third-party integrations to determine when records have been edited in specific <i>Work</i> modules. | App Admin |
| <i>ELA email to send expiration warning emails</i> | Specifies the email address that should receive warning emails when an ELA license is about to expire. | App Admin |
| <i>ELA number of days before expiration when warnings begin</i> | Indicates the number of days before an ELA license expires that the system should start sending out warning emails. | App Admin |
| <i>Enable Lucity Spatial</i> | When enabled, tells the <i>Lucity Spatial Updater Service</i> (part of the <i>Lucity Services</i>) to update the <i>Work Order</i> and <i>Request</i> tables with spatial information. | App Admin |


| | | |
|--|---|-----------|
| <i>Flags to Alter Application Behavior for Rare Cases. Lucy Support will let you know if any may apply for your installation</i> | Custom flags which direct Lucy code to apply a special behavior. Do not change the value in this setting except under direction from Lucy support or implementation. | IT Admin |
| <i>How Many Days of Records Should be Kept in Audit Log</i> | Controls how many days of records are left in the audit log. The audit log contains events such as record deletes, feature splits and merges, and other limited functions. | App Admin |
| Default: 365 | | |
| <i>Inactive User Licenses Expiration in Minutes (recommended value=60)</i> | The <i>Web</i> application limits the number of active users to the number of product licenses. This setting releases a user's licenses if the product has been idle for the time indicated. 60 minutes is the recommended time frame. | IT Admin |
| <i>Location of the Lucy Help files for this system</i> | Identifies the URL where the Lucy help files are stored. This option defaults to the Lucy help site but can be modified by agencies that cannot give users access to the Internet. These agencies can request a copy of the <i>Lucy Web</i> help files and host them over their local network. An administrator must then enter the location of the root folder storing the help files so that all of the help links continue to work. | IT Admin |
| <i>Max amount of days to process spatial history</i> | Tells the <i>Lucy Spatial Updater Service</i> how many days back from the current date that it should check for <i>Work Orders</i> and <i>Requests</i> that need spatial information. Note: The service can only update data back to Lucy version 7.40. | App Admin |
| <i>Maximum number of records which may be updated using global edit using the Business Rules option</i> | The most records during a global update query that can be updated at 1 time using the Business Rules option. If a child record is being updated the parent record is counted against this maximum. | App Admin |
| <i>Maximum number of records which may be updated using global edit using the Direct SQL option</i> | The most records during a global update query that can be updated at 1 time using the Direct SQL option. If a child record is being updated the parent record is counted against this maximum. | App Admin |

| | | |
|---|---|-----------|
| <i>Send an email to the system health email if a global update exceeds this row count</i> | If a user executes a global update and the update affects more than the number of rows specified, an email will be sent to the system health email address(es). | App Admin |
| <i>Send Data Statistics to Lucity</i> | Allows the Lucity system to automatically send monthly data statistics to Lucity. This provides us with information about how the software is being used. The statistics are sent on the first of each month. | IT Admin |
| <i>Send weekly emails of orphaned documents and report files</i> | Sends an email once a week to the users listed in the <i>List of email addresses for system health notifications</i> setting on the Email tab (see " Email " on page 25). | App Admin |
| <i>Should detailed audit logging write to the audit log table</i> | Should Lucity log events such as global updates, or record deletions that have been performed by a user to the AuditLog table? This table is not automatically truncated or cleaned up because most if not all of the data in this table is not truncated or cleaned up automatically. While this logging is not excessive, it can cause a large table which may need to be periodically managed. | App Admin |
| <i>System of Measure for calculations (Metric or U.S.)</i> | Specifies the measurement system to be used for several street pavement calculations like Area. The U.S. system will convert feet to Square Yards. The Metric system will convert meters to Square Meters. | App Admin |

GIS 3RD PARTY INTEGRATIONS

The *GIS 3rd Party Integrations* settings allow agencies to replace the default *Lucity Web Map* with their own web map.

Note: This option is available only in the *Lucity Web* application. It does not change any of the settings for the *Desktop* application.

| FIELD | FUNCTION |  PERMISSIONS |
|---|---|---|
| <i>Alternate URL for Show in Web Map for Asset List</i> | Designates the URL of the alternate web map product. (Details below.) | App Admin |
| <i>Use 3rd Party GIS Web Map</i> | Tells the program to use a product other than the <i>Lucity Web Map</i> . Note: This option must be set to TRUE to use a different map. | App Admin |

URL Details

The system performs a search-and-replace on the URL to replace the following variables:

- %%SHOWINMAPACTION%%
- %%SHOWINMAPPARAMS%%

The following are examples of how the URL might appear:

- `http://server/page?Action=%%SHOWINMAPACTION%%&Parameters=%%SHOWINMAPPARAMS%%`
- `http://myserver/mapstuff.mvc/%%SHOWINMAPACTION%%/%%SHOWINMAPPARAMS%%`

SHOWINMAPACTION**SHOWINMAPPARAMS**

ShowInMapAssetList

JSON (JavaScript Object Notation) list of asset inventory types and asset IDs:

[{catinv:2,id:123},{catinv:6,id:456}]**ShowInMapLocation**

JSON (JavaScript Object Notation) list of addresses and x/y coordinates:

[{building:"500",street1:"Main street",street2:"",zip:"",x:null,y:null}]**ShowInMapModuleList**


JSON (JavaScript Object Notation) list of module IDs and record IDs (not asset IDs):

[{moduleid:48,id:789}]

GIS DESKTOP

The *GIS Desktop* settings enable administrators to set options for *Lucity's Sewer, Storm, Street, and Water* editing tools in ArcMap.

Note: ArcMap must be restarted after making changes to these settings.


| FIELD | FUNCTION |  PERMISSIONS |
|--|---|---|
| <i>Add sewer service address to customer address module</i> | Set this option to true to have the <i>Sewer Service Address</i> added to the <i>Customer Address</i> module. | App Admin |
| <i>Add street name records to the Street Name List that don't exist</i> | Set this option to true to have the <i>Street Name Records</i> that do not exist added to the <i>Street Name List</i> . | App Admin |
| <i>Add water service address to customer address module</i> | Set this option to true to have the <i>Water Service Address</i> added to the <i>Customer Address</i> module. | App Admin |
| <i>Automatically insert a sewer structure for each new sewer pump station</i> | Set this option to true to have a <i>Sewer Structure</i> added for each new <i>Sewer Pump Station</i> . | App Admin |
| <i>Automatically insert a storm structure for each new storm detention basin</i> | Set this option to true to have a <i>Storm Structure</i> added for each new <i>Storm Detention Basin</i> . | App Admin |
| <i>Automatically insert storm structure for each new storm pump station</i> | Set this option to true to have a new <i>Storm Structure</i> added for each new <i>Storm Pump Station</i> . | App Admin |
| <i>Default location for map exports</i> | Enter a network path for the location to which map images should be saved when creating a new <i>Work Order, Request</i> , etc., with attached map. | IT Admin |
| <i>Format for map exports</i> | Select one file type to be used for the map exports and indicate the extension (PDF, EPS, AI, BMP, TIFF, SVG, PNG, GIF, EMF, or JPEG). | App Admin |
| <i>Log Lucity edit session to GBAComm.GBAELOG</i> | Set this option to true to save edit session logs to GBAComm,GBAELOG . | App Admin |

Number of days to keep items in Indicate the amount of time log entries should remain in the log.
GBAComm.GBAELOG

App Admin

GIS EDIT INTEGRATION


The *GIS Edit Integration* settings enable administrators to control various GIS options. To make changes to a setting, click in its *Value* field and begin typing. Click **Save** when finished.

| OPTION | FUNCTION |  PERMISSIONS |
|--|---|--|
| <i>GIS/Lucity Edit Integration - Allow unversioned geodatabase edits to enterprise geodatabase:</i> | Allows edits to be made to unversioned geodatabases. | App Admin |
| <i>GIS/Lucity Edit Integration - Disable all updates to the geodatabase from Lucity</i> | Prevents edits made in <i>Lucity Desktop</i> and <i>Web</i> from being saved to the geodatabase. | IT Admin |
| <i>GIS/Lucity Edit Integration - Make fields shared with the geodatabase always read only</i> | Makes any field shared with the geodatabase read-only in <i>Lucity Desktop</i> and <i>Web</i> . | App Admin |
| <i>GIS/Lucity Edit Integration - Make Lucity fields integrated with the geodatabase read only if the geodatabase cannot be updated</i> | Changes any field integrated with the geodatabase to read-only if the connection to the geodatabase fails when a form is loaded. | App Admin |
| <i>GIS/Lucity Edit Integration- Prevent saving Lucity record if GIS update fails *</i> | Prevents the system from saving edits to Lucity records when the geodatabase update fails. | App Admin |
| <i>List of emails for notifications regarding failures to update the GIS database</i> | Designates which Email addresses should receive emails when the <i>Lucity Data Update SOE</i> fails to update the geodatabase. Enter a comma delimited list of email addresses. | App Admin |
| <i>Send an email if no feature is found in GIS to update</i> | Sends an email message when the <i>Lucity Data Update SOE</i> cannot find a feature in the geodatabase to update. The alert is sent to the addresses identified in the <i>List of emails for notifications regarding failures...</i> setting. | App Admin |
| <i>Use Feature Service instead of Lucity SOE</i> | Tells the <i>Lucity GIS Integration</i> to use a feature service to push updates to the geodatabase. rather than a map service with the <i>Lucity SOE</i> . | App Admin |

* Affects only *Lucity Web* or is related to the *Web* application alone.

GIS WEB

The *GIS Web* settings control how the *Lucity Web Map* operates.


| OPTION | FUNCTION |  PERMISSIONS |
|--|--|--|
| <i>Automatically save redlining edits</i> | Automatically saves all changes made using the redlining tools. | App Admin |
| <i>Comma separated criteria to use for a where clause if parcel layer is to be queried. Keywords are {BUILDING},{STREETNAME},{STREETNAME2},{ZIP}</i> | Provides a template for the application to use when querying a parcel layer for information. This template should specify actual field names. Example: The following criteria indicate the building number is stored in the feature class in a field called ADDRESS and the street name is stored in a field called STRNAME. ADDRESS={BUILDING} AND STRNAME='{STREETNAME}' | App Admin |
| | There are four available keywords: | |
| | {BUILDING} | |
| | {STREETNAME} | |
| | {STREETNAME2} | |
| | {ZIP} | |

| | | |
|---|--|-----------|
| <i>Force the GIS Web Map to always open to the default extent</i> | <p>Controls how the webmap opens.</p> <p>If this option is TRUE:</p> <ul style="list-style-type: none"> ● If any services in the web map were flagged as the Default Extent (this is set on the Map Edit form)- the full extent of that service will be used. ● Unless the system default extent was set (this is set on the Map Setup form)- that extent will be used ● Otherwise the initial extent is the full extent of all layers in the map. <p>If this option is FALSE:</p> <ul style="list-style-type: none"> ● If there is an extent saved from the previous web map session it will use that. ● Otherwise the initial extent is the full extent of all layers in the map. | App Admin |
| <i>Operational Data Spatial Reference WKID</i> | Specifies the WKID (Well-Known Spatial ID) for the operational data layer in the <i>Web Map</i> . Lucity uses this spatial reference to record xy coordinates and any other spatial data. | App Admin |
| <i>Preload GIS caches to speed initial map load</i> | Pre-loads expensive queries such as the GIS Map Service metadata queries to speed up first load of the map for web and mobile. | IT Admin |
| <i>Separator to use for Geocoding Intersections</i> | Enables agencies to specify which character their geocoding service uses as a separator. By default, this field is set to the character. | App Admin |
| <i>Street Address Geocoding Field</i> | Indicates the field name on which the geocoder is based. | App Admin |
| <i>URL to address layer in map service</i> | <p>Specifies the URL for a parcel service used to find addresses. To switch between this and a geocoding service, check the setting "Use an address layer for ..."</p> <p>Note: REST/ must precede the word service in the URL.</p> <p>Note: If using a parcel service, be sure to enter the URL for the map service and add the layer number to the end. For example, if the parcel layer is the 10th layer in the service, the end of the URL would look something like: ...rest/services/baselayers/MapServer/10</p> | App Admin |

| | | |
|--|--|-----------|
| <i>Use an address layer for address queries instead of geocoding service</i> | Enables users to use a parcel layer instead of a geocoding layer. | App Admin |
| <i>Use GIS Viewer instead of GIS Web for Show in Map</i> | Forces the <i>Web Show in Map</i> tool to launch the <i>Lucity GIS Viewer</i> instead of the <i>Lucity Web Map</i> . | App Admin |

IDENTITY SERVER

The *Identity Server* settings affect how the server operates. The identity server gives users a token that helps to identify them wherever they are logged into the system.


| OPTION | FUNCTION |  |
|---|--|---|
| | | PERMISSIONS |
| Number of Minutes before re-validating a token against Identity Server | Specifies the number of minutes that a user's token is held in cache by the REST API. Caching the token improves system performance by reducing the number of times the token is verified against the identity server. | IT Admin |
| Number of Minutes until a token expires for Mobile Apps | Controls how long a <i>Lucity Mobile</i> user's login token can be used before it expires. The default setting is 600 minutes (10 hours). This is a safety feature that ensures that, if a token is stolen, it is good only for a limited amount of time. Increasing this number increases the risk that forged or stolen tokens can be used maliciously. Decreasing this number makes it more likely that a valid user will time out while they are working. | IT Admin |
| Number of Minutes until a token expires for the Internal Web App | Controls how long a <i>Lucity Web</i> user's login token can be used before it expires. The default setting is 600 minutes (10 hours). This is a safety feature that ensures that, if a token is stolen, it is good only for a limited amount of time. Increasing this number increases the risk that forged or stolen tokens can be used maliciously. Decreasing this number makes it more likely that a valid user will time out while they are working. | IT Admin |
| <i>Public URL to the Identity Server for the Internal Web App</i> | An alternate url which is accessible outside the Lucity Web server to be used for client applications such as the ArcGIS Pro addIn for authenticating to Lucity. Do not put data in this setting unless the Lucity Web server process must use a different url than consuming client processes. It is not necessary to match the scheme of this url with the "Use TLS for Internal Web App Security" setting. | IT Admin |
| <i>Public URL to the Identity Server or the Mobile Apps</i> | An alternate url which is accessible outside the Lucity Mobile server to be used for client applications such as the iOS and Android tablet applications for authenticating to Lucity. Do not put data in this setting unless the Lucity Mobile server process must use a different url than consuming client processes. It is not necessary to match the scheme of this url with the "Use TLS for Mobile Security" setting. | IT Admin |

| | | |
|---|---|----------|
| Secret value internal web apps need to authenticate users | Acts as a password salt to control whether a token can be used to access the <i>Lucity</i> REST API. Use a unique value. It should not be the same as the Secret value mobile apps need to authenticate users . | IT Admin |
| Secret value mobile apps need to authenticate users | Acts as a password salt to control whether a token can be used to access the <i>Lucity</i> REST API. Use a unique value. It should not be the same as the Secret value web apps need to authenticate users . | IT Admin |
| <i>The name of the certificate used for cookie protection on the internal Identity Server</i> | The <i>Lucity</i> installer will configure a certificate for protecting cookies used by <i>Lucity</i> Identity Server on the web server where the application is installed. The <i>Lucity</i> installer will write the name of this certificate automatically. | IT Admin |
| <i>The name of the certificate used for cookie protection on the mobile Identity Server</i> | The <i>Lucity</i> installer will configure a certificate for protecting cookies used by <i>Lucity</i> Identity Server on the mobile REST API where the application is installed. The <i>Lucity</i> installer will write the name of this certificate automatically. | IT Admin |
| The name of the certificate used for signing tokens on the internal Identity Server | See the <i>Installation Guide</i> (http://help.lucity.com/webhelp/v170/install/#37228.htm). | IT Admin |
| The name of the certificate used for signing tokens on the mobile Identity Server | See the <i>Installation Guide</i> (http://help.lucity.com/webhelp/v170/install/#37228.htm). | IT Admin |
| URL to the Identity Server for the Internal Web App | The URL to the Identity Server for the Internal Web App. The <i>Lucity</i> Web application must be able to resolve this url from the web server where <i>Lucity</i> Web is installed with no certificate errors. The <i>Lucity</i> installer writes this value. If <i>Lucity</i> Mobile and <i>Lucity</i> Web are installed on the same server, it may be necessary to manually configure this value. It is necessary to match the scheme of this url with the "Use TLS for Internal Web App Security" setting. | IT Admin |
| URL to the Identity Server for the Mobile Apps | The URL to the Identity Server for the Mobile App. The <i>Lucity</i> Mobile application must be able to resolve this url from the web server where mobile is installed with no certificate errors. If <i>Lucity</i> Mobile and <i>Lucity</i> Web are installed on the same server, it may be necessary to manually configure this value. It is necessary to match the scheme of this url with the "Use TLS for Mobile App Security" setting. | IT Admin |
| Use TLS for Internal Web App Security | Indicates that <i>Lucity Web</i> must run over transport layer security (TLS). If an agency exposes <i>Lucity Web</i> to the Internet, this option should be set to TRUE . | IT Admin |

Use TLS for Mobile App Security Indicates that *Lucity Mobile* must run over transport layer security (TLS). This option should always be set to **TRUE** unless an agency's mobile devices only communicate over a secure VPN. IT Admin

MOBILE

The *Mobile* settings provide controls for the *Lucity Mobile* application for Android devices.

| FIELD | FUNCTION |  PERMISSIONS |
|---|--|---|
| <i>Combine Composite Fields such as Street Name and Address in Mobile Grids</i> | Causes the street name fields and the address fields to be combined on mobile views. This may affect sorting and filtering capabilities. | App Admin |
| <i>Log Device latitude and longitude</i> | Instructs <i>Lucity Mobile</i> to keep a log of each device's location. This log is stored in the UDEVICELOC table. <ul style="list-style-type: none">This feature enables tracking for all users on all devices.Tracking can be disabled for a user on a device. This is done within the device's settings. | App Admin |
| <i>Max Columns Returned</i> | Specifies the number of columns of data to display in a <i>View</i> in <i>Lucity Mobile</i> . | App Admin |
| <i>Maximum number of days to store device location history</i> | Not currently used. | App Admin |
| <i>Maximum records to return per request for mobile</i> | Limits the number of records returned per request in <i>Lucity Mobile</i> to protect the server from being over-burdened by unusually large requests. | App Admin |
| <i>Update the offline Android cache nightly</i> | Directs the mobile server to generate offline caches for Android tablets every night. If set to FALSE, the cache will not generate. | App Admin |
| <i>Update the offline iOS cache nightly</i> | Directs the mobile server to generate offline caches for iOS tablets every night. If set to FALSE, the cache will not generate. | App Admin |
| <i>Url for the Lucity Mobile Server Virtual Directory</i> | Specifies the externally accessible URL for <i>Lucity Mobile Server</i> . This address is used to connect a tablet to <i>Lucity Mobile</i> when the device is connecting outside the network firewall. | IT Admin |


REPORTING

The *Reporting* settings let administrators control how reports are displayed and where they are stored within *Lucity Web*.

| | | |
|--|---|-----------|
| <i>Close reports immediately to avoid max processing limit errors (may slow report generation)</i> | Description: This setting causes report connections to be immediately closed after a report page has generated. Crystal Reports limits how many concurrent reports may be open and this will allow more reports open at once. However, it will cause higher CPU utilization and slightly slower report performance because the report must be regenerated for each page. By default, a user's report connections are closed when a user runs a new report and an older report has been open for more than 5 minutes or when the user's web session ends. Reports may also close when the user closes the window displaying the report but this may be unreliable. | IT Admin |
| <i>Create Bookmarks From Group Tree</i> | Enables bookmarks in Basic View reports. | IT Admin |
| <i>Get Custom Crystal Reports on Web App Startup</i> | Directs <i>Lucity Web</i> to get new copies of custom Crystal Reports from the document server whenever <i>Lucity Web</i> is restarted. | IT Admin |
| <i>Path where Reports are stored (Reports Hive) *</i> | Establishes a network path for the location in which uploaded reports are stored. | IT Admin |
| <i>Suppress Subtitles on Dashboard Reports</i> | Eliminates the prompt for subtitles on reports that have a subtitle parameter, causing the report to load faster. | App Admin |
| <i>Suppress Subtitles on View Reports</i> | Eliminates the prompt for subtitles on reports that have a subtitle parameter, causing the report to load faster. | App Admin |

REST API

The *REST API* settings let administrators configure the REST APIs.

| FIELD | FUNCTION |  PERMISSIONS |
|---|---|--|
| <i>Allow RequestNumber and Email queries to the Citizen Portal REST API without providing both parameters</i> | Controls how the <i>Citizen Portal</i> REST API works. Enable this option to allow the API to search for a <i>Request</i> using either the <i>Request Number</i> or <i>Email</i> address without having to have both parameters. | App Admin |
| <i>Automatically push invalid request addresses to the general location field</i> | Allows third-party application developers to instruct the REST API to automatically move an invalid address made on a citizen <i>Request</i> to the general location field (if empty). This feature is helpful when citizens can enter an address which may not validate. It only applies to the Citizen Portal REST API. | App Admin |
| <i>Default Public REST WKID</i> | Specifies the WKID (well-known ID) for the coordinate system used by the external GIS service, if: <ul style="list-style-type: none"> • the external GIS service's WKID is different than the <i>Operational Data Spatial Reference WKID</i> found on the <i>GIS Web tab</i> (see "GIS Web" on page 39); and <ul style="list-style-type: none"> • the external service is NOT using a Mercator projection. | App Admin |
| <i>Expose a service directory for Lucity Citizen Portal REST API</i> | Determines whether a help page (directory) is included for the Lucity Citizen Portal REST API opening page. It is recommended that this setting be turned off in production environments because it exposes unnecessary information about the endpoints and access points available. | IT Admin |
| <i>Expose a service directory for Lucity REST API</i> | Determines whether a help page (directory) is included for the Lucity REST API opening page. It is recommended that this setting be turned off in production environments because it exposes unnecessary information about the endpoints and access points available. | IT Admin |
| <i>Logon to use for anonymous REST API Access</i> | Allows anonymous users to gain access to <i>Lucity</i> . | App Admin |
| <i>Maximum records to return per request for rest api</i> | Limits the amount of records in a filtered set. The higher the number, the more likely it is that web server performance will be affected. | IT Admin |

| | | |
|---|--|-----------|
| <i>Send Stack Traces to Client Apps on Errors from REST APIs</i> | Provides detailed information through the REST API. WARNING: THIS OPTION SHOULD ONLY BE SET TO TRUE FOR DEBUGGING PURPOSES, AS IT MAY REVEAL INFORMATION THAT HACKERS COULD USE TO ATTACK THE SYSTEM. | IT Admin |
| <i>Url for Citizen Portal REST API (optional, rarely required)</i> | Used by clients that have the <i>Citizen Portal</i> REST API installed behind a load-balancer that uses transport layer security (TLS), while the services behind the balancer use HTTP. Alternately, this setting may also be used by clients whose URL differs from the standard http://servername.alias/LucityCitizenRestAPI . | IT Admin |
| <i>URL for Internal REST API (required for internal web app)</i> | The URL for the Internal REST API used by <i>Lucity Web</i> . This URL is required to run the application. | IT Admin |
| <i>Url for REST API (optional, rarely required)</i> | Used by clients that have the REST API installed behind a load-balancer that uses transport layer security (TLS), while the services behind the balancer use HTTP. Alternately, this setting could also be used by clients whose URL differs from the standard http://servername.alias/LucityRestAPI . | IT Admin |
| <i>Use an alternate coord system as the Default Coordinate System for Public REST calls</i> | When enabled and the <i>Default Public REST WKID</i> is blank, the system assumes the incoming geographic information is using a Mercator projection. If the <i>Default Public REST WKID</i> is filled out, the system uses the specified WKID's projection. If this option is set to FALSE , the system assumes that any incoming geographic information uses the <i>Operational Data Spatial Reference WKID</i> found on the <i>GIS Web</i> tab. | App Admin |
| <i>Use Extensionless URL's (only supported in IIS7+)</i> | Allows administrators to choose to omit the extension in the REST API URLs. <ul style="list-style-type: none"> • For example, if the URL is http://restapi.gbams.net/Public/Work/Requests.svc/57481, setting this option to TRUE would allow users to use the following URL instead: http://restapi.gbams.net/Public/Work/Requests/57481. Note that the second URL does not include the ".svc" extension. | IT Admin |

SAAS

The *SaaS* settings provide information about the program's configuration when it runs as "Software as a Service." None of these settings may be edited.

| FIELD | FUNCTION | PERMISSIONS |
|------------------------------|---|-------------|
| <i>Software as a Service</i> | Indicates whether the program is being run as <i>Software as a Service</i> . This setting is based on the <i>Lucy</i> License Codes. When this setting is <i>True</i> , several other settings are available (see below). | IT Admin |


The following settings appear only when the *Software as a Service* setting is marked **True**. Some of these settings are specific to this setting category (SaaS); others are carried over from other categories.

| FIELD | FUNCTION | SETTING MOVED FROM |
|--|--|--------------------|
| <i>Comma Delimited List of servers running WebCitizen</i> | Lists the URLs of servers running the <i>Lucy Citizen Portal</i> . This setting should include the URL to the <i>Citizen Portal</i> application (e.g., http://127.0.0.1:2295/gbamswebcitizen). If there is more than one web server for <i>Citizen Portal</i> , enter each URL, separated by commas. | Website |
| <i>Default Location for map exports</i> | Specifies the network path to the location in which <i>Map</i> images should be saved when creating a new <i>Work Order, Request</i> , etc., with an attached map. | GIS Desktop |
| <i>Enable S3 integration for document storage</i> | Allows the <i>Lucy Document Server</i> to store documents to the Amazon Cloud. | |
| <i>Favor configuration over performance for business rules</i> | Directs the system to push changes that users make to field properties in <i>Lucy Desktop</i> to <i>Lucy Web</i> when the web cache is cleared. Normally, when changes are made to field properties (such as mask, required, editable) in the <i>Desktop</i> , IIS must be reset in order for those changes to be pushed into <i>Lucy Web</i> . Enabling this rule allows these changes to be pushed into <i>Lucy Web</i> by clearing the web cache, despite the fact that this may cause a significant drop in performance (15-20%). | Web Performance |

| | | |
|---|--|----------------------|
| <i>GIS/Lucity Edit Integration - Disable all updates to the geodatabase from Lucity</i> | Prevents the geodatabase from being updated with edits made in <i>Lucity Desktop</i> and <i>Web</i> . | GIS Edit Integration |
| <i>Internal Website</i> | Specifies the path to <i>Lucity Web</i> . The paths for the internal web sites should almost never be changed. ONLY edit these fields if there are multiple web servers and one needs to be designated to support the <i>Lucity Administration for Web Apps Previews</i> . | Website |
| <i>Name of Bucket where S3 documents are stored</i> | Specifies the name of the Amazon Cloud S3 bucket that the <i>Lucity Document Server</i> should use if storing documents. | |
| <i>Path where uploaded documents are stored (Citizen)</i> | Indicates the network path for the location in which documents from <i>Citizen Portal</i> will be stored. (Applies to <i>Citizen Portal</i> .) | Documents |
| <i>Path where uploaded documents are stored (Internal)</i> | Indicates the network path for the location in which documents from <i>Lucity Web</i> and <i>Mobile</i> will be stored. (Applies to <i>Lucity Web</i> .) | Documents |
| <i>Region endpoint where S3 bucket resides</i> | Specifies the S3 endpoint that stores the bucket in which the <i>Lucity Document Server</i> will store documents. | |
| <i>URL for Lucity Custom Web Integrations</i> | Specifies the URL for a custom integration purchased to look up customers. This information is provided by <i>Lucity</i> during the implementation of the custom product. | Website |
| <i>Url for the Lucity Mobile Server Virtual directory (Externally accessible version)</i> | Specifies the externally accessible URL for <i>Lucity Mobile Server</i> , which is used to connect to <i>Lucity Mobile</i> from outside the network firewall. | Mobile |
| <i>Url for the Lucity Mobile Server Virtual Directory (Internally accessible version)</i> | Specifies the internally accessible URL for the <i>Lucity Mobile Server</i> , which is used to download data to users' tablets using local Wi-Fi before users go offline. | Mobile |
| <i>Windows Authentication Website</i> | Specifies a path to <i>Lucity Web</i> that first accesses a launcher page that attempts to log the person currently logged into the computer into <i>Lucity</i> . The paths for the internal websites should almost never be changed. | Website |

SECURITY

The *Security* settings control aspects of *Lucity* designed to protect an agency's data.

| FIELD | FUNCTION |  PERMISSIONS |
|--|---|---|
| <p><i>Add X-FRAME-OPTIONS to ALL Response Headers (recommended value is to leave this blank)</i></p> | <p>Adds x-frame-options to every HTTP response headers generated by the <i>Lucity</i> REST API and <i>Lucity Web</i> to avoid false-positive reports from penetration-testing tools.</p> <p>Background:</p> <p>Some penetration testing tools may flag any response from a web server as a clickjacking risk if the response does not contain the X-FRAME-OPTIONS header. However, clickjacking can only occur on web pages, not through image files and responses from REST API calls.</p> <p>If a penetration test reports that an agency's <i>Lucity</i> software is at risk because every response does not include X-FRAME-OPTIONS, change this setting to DENY.</p> <p><i>Lucity</i> will then add 'X-FRAME-OPTIONS=DENY' to every HTTP response in every <i>Lucity</i> REST API and <i>Lucity Web</i> site.</p> <p><i>Lucity</i> recommends that agencies leave this setting blank for better performance. Only web pages can be clickjacked, and other <i>Lucity</i> settings can be used to control real clickjacking risks. (See "How To Handle Frames for Internal Web Pages," below.)</p> | IT Admin |
| <p><i>Allows access to GIS web services with certificate errors</i></p> | <p>Directs <i>Lucity</i> to ignore certificate errors for transport layer security (TLS) connections. Agencies that use self-signed certificates with ArcGIS Server use this setting for testing purposes.</p> | IT Admin |
| <p><i>Block SQL for the Lucity Citizen Portal REST API</i></p> | <p>Reduces the risk of SQL-injection attacks from the <i>Citizen Portal</i> site by preventing third-party applications that use the <i>Lucity Citizen Portal</i> REST API from providing direct SQL for querying records. Before setting this option to TRUE, make sure third-party applications do not require querying capabilities.</p> | IT Admin |
| <p><i>Block SQL for the Lucity REST API</i></p> | <p>Reduces the risk of SQL-injection attacks through the REST API by preventing third-party applications that use the <i>Lucity</i> REST API from providing direct SQL for querying records. Before setting this option to TRUE, make sure third-party applications do not require querying capabilities.</p> | IT Admin |
| <p><i>Can Users Change Password from Mobile</i></p> | <p>Lets users change their password from the <i>Lucity Mobile</i> app for iOS and Android.</p> <p>Default value is FALSE.</p> | |

| | | |
|--|---|----------|
| <i>Disable DOS protection</i> | Turns off protection against denial-of-service attacks. | IT Admin |
| <i>Enable Aggressive Javascript Injection Detection</i> | Causes <i>Lucity</i> code to interrogate all data input for possible JavaScript-injection attempts. This setting should only be set to FALSE if the process causes problems with performance or if it falsely identifies normal inputs as possible hacking attempts. | |
| <i>Enable diag.html Server Information for debugging (set to FALSE if Internal Web App is exposed to Internet)</i> | Allows the <i>LucityWeb</i> diagnostic page to display information about the server. This setting should be set to FALSE if <i>Lucity Web</i> is installed on a server exposed to the internet. | IT Admin |
| <i>How to Handle Frames for Citizen Web Pages</i> | <p>Controls whether <i>Citizen Portal</i> pages can be displayed in a frame. When enabled (DENY), this setting helps protect against the relatively minor risk of clickjacking. This setting accepts three values:</p> <ul style="list-style-type: none"> ● Blank - Site pages can be displayed inside frames. Small risk of clickjacking exists. ● DENY - Site pages cannot be displayed inside frames. No risk of clickjacking. ● SAMEORIGIN - The website can be displayed in a frame, but only if the frame and the page that displays the frame come from the same source. | IT Admin |
| <i>How to Handle Frames for Internal Web Pages</i> | <p>Controls whether <i>Lucity Web</i> pages can be displayed in a frame. When enabled (DENY), this setting helps protect against the relatively minor risk of clickjacking. This setting accepts three values:</p> <ul style="list-style-type: none"> ● Blank - Site pages can be displayed inside frames. Small risk of clickjacking exists. ● DENY - Site pages cannot be displayed inside frames. No risk of clickjacking. ● SAMEORIGIN - The website can be displayed in a frame, but only if the frame and the page that displays the frame come from the same source. | IT Admin |

List of values that are not allowed in search filters to reduce risk of getting hacked

Reduces the risk of SQL-injection attacks through the REST API by blocking certain words in queries. IT Admin

When enabled, any queries from the REST APIs and *Lucity Web* that include a word that is listed in this field are blocked. Administrators are strongly encouraged to talk to *Lucity Support* before making changes to this setting.

- Default Value: (**insert | update | delete | truncate | reconfigure | union | sysobjects | waitfor | xp_cmdshell | ; | --**)


Regex for range of unicode characters allowed in SQL

Reduces the risk of SQL-injection attacks by prohibiting characters from other symbol sets and other languages. IT Admin

- Default Value: [**\u0000-\u007F**]

SECURITY - PASSWORDS

The *Security - Passwords* settings control what constitutes an acceptable *Lucity* password and when passwords expire.

| FIELD | FUNCTION |  PERMISSIONS |
|---|--|--|
| <i>Allow easily guessed passwords</i> | Prohibits users from using overly simple passwords. When enabled, this setting blocks passwords that: <ul style="list-style-type: none"> ○ consist of repeated values - 1111111, AAAAAA; ○ consist of a common sequence - 1234567, ABCDEFG; ○ supply user information - logon, first name, last name, email address; or ○ include one of these easily guessed passwords - password, qwerty, abc123, iloveyou, admin, letmein, qwertyio, football, baseball, welcome, 1qaz2wsx, dragon, master, monkey, login, princess, qwertyiop, passw0rd, p@ssword, p@ssw0rd, starwars, lucity, gba. | IT Admin |
| <i>Days before password expiration to warn user</i> | Indicates how many days before a user's password expires that he or she should receive an in-application warning. Does not affect users that login via Windows Authentication. | IT Admin |
| <i>Days before password expiration to warn user with Email.</i> | Indicates how many days before a user's password expires that he or she should receive an email warning. | App Admin |

| | | |
|--|--|-----------|
| <i>Enforce Password history</i> | <p>Enforce password history sets how frequently old passwords can be reused. This policy can be used to discourage users from changing back and forth between a set of common passwords. Lucity can store up to 24 passwords for each user in the password history.</p> <ul style="list-style-type: none"> ● 0 - Setting Disabled ● 1 - Stops them from reusing their last password. This password can be reused again next time they have to come up with a new password. ● 2 - Stops them from reusing their last 2 passwords. ● etc.. | IT Admin |
| <i>Maximum password age</i> | <p>Minimum password age determines how long users must keep a password before they can change it. This field can be set to prevent users from cheating the password system by entering a new password and then changing it right back to the old one.</p> | IT Admin |
| <i>Minimum Length For Passwords (Must be 1 or greater)</i> | <p>Establishes the minimum number of characters allowed for a <i>Lucity</i> password.</p> | IT Admin |
| <i>Minimum Password Age</i> | <p>Establishes the number of days that must pass before an old password can be reused.</p> | IT Admin |
| <i>Password must meet complexity requirements</i> | <p>Indicates whether a user's passwords must meet a set of requirements for complexity.</p> <p>If this setting is enabled, a user's <i>Lucity</i> password must contain three of these four elements:</p> <ul style="list-style-type: none"> Upper case letter Lower case letter Number Special character | IT Admin |
| <i>Send an email to the user when their password changes</i> | <p>Sends an email to the email address associated with a <i>Lucity</i> login when the password is changed.</p> | App Admin |

SETTINGS WITH CUSTOM INTERFACE

The *Settings with Custom Interface* feature is informational and read-only. It displays sometimes needed settings within the system that are set elsewhere, either by client maintenance or some setup process.


| FIELD | FUNCTION |
|---|--|
| <i>Alternate Zone - Field Name</i> | The name of the field that contains the alternate zone ID in the alternate zone layer. |
| <i>Alternate Zone - Layer Index or Alias Name</i> | The name used for the alternate zone in the map service. |
| <i>Alternate Zone - Service Name</i> | The name of the map service that contains the alternate zone layer. This must match the name defined in map services. |
| <i>Client Name</i> | Name of the client currently logged into. |
| <i>Client Number</i> | The above client's identification number. |
| <i>Configuration Directory</i> | The path to the Lucity Server config folder. |
| <i>Customer Identifier</i> | The name of the license being used by the client. |
| <i>Date of Last Data Collector Export</i> | Date of the last time the usage statistics were sent to Lucity. Used to prevent accidental excessive data transmissions. |
| <i>Default Basemap Name</i> | Specifies the name of the map service that should be used for the default base map. This name comes from the Name column of the GIS > Map Services screen. The map service referenced here must be marked as a base map. |
| <i>Default Geocoding Service Name</i> | Specifies the name of the geocoding service that should be used as the system default |
| <i>Default Map Extent:</i> | Indicates the default extent for the webmaps. Enter the desired extent using the following format: <ul style="list-style-type: none">• <i>xmin,ymin,xmax,ymax,wkid</i> Xmin, Ymin, Xmax, Ymax, wkid |
| <i>Default Map for Users</i> | The name of the web map that will open by default for users that don't have a group assigned default web map. |
| <i>Default Map for Users- Mobile</i> | The name of the mobile map that will open by default for users that don't have a group assigned default mobile map. |

| | |
|--|---|
| <i>Default Mobile Base Map Name</i> | Specifies the name of the map service that should be used for the default base map in Mobile. This name comes from the Name column of the GIS > Map Services screen. The map service referenced here must be marked as a mobile base map. |
| <i>Default Vehicle Start Address for Work Routing</i> | Indicates the address that the Routing tool should use as the start location. If no address is supplied, the first Work Order is used. |
| <i>License Code</i> | An encrypted copy of the license file. |
| <i>Location of the directory containing images for SignLibrary</i> | Sub-hive within the document server hive where custom sign library images are stored. |
| <i>Login ID used for background tasks.</i> | Lucity Login used to run scheduled tasks. |
| <i>Maintenance Zone- Field Name</i> | The name of the field that contains the alternate zone ID in the maintenance zone layer. |
| <i>Maintenance Zone- Layer Index or Alias Name</i> | The name used for the maintenance zone in the map service. |
| <i>Maintenance Zone- Service Name</i> | The name of the map service that contains the maintenance zone layer. This must match the name defined in map services. |
| <i>Name of bucket where S3 custom code is stored</i> | For use by Lucity for client using SaaS. |
| <i>Name of bucket where S3 documents are stored</i> | For use by Lucity for client using SaaS. |
| <i>Name of bucket where S3 temporary files are stored</i> | For use by Lucity for client using SaaS. |
| <i>Never overwrite maintenance or alternate zone</i> | When TRUE, prevents the system from overwriting the existing Maintenance Zone or Alternate Zone values when these fields are entered on a Request or Work Order. |
| <i>Region endpoint where S3 bucket resides</i> | For use by Lucity for client using SaaS. |

| | |
|---|---|
| <i>Request Generator POP3 Port</i> | The port that the Request Generator uses to access the mail server. |
| <i>Request Generator POP3 Server</i> | The name of the mail server the Request Generator accesses. |
| <i>Request Generator Use TLS</i> | Indicates whether the Request Generator uses TLS. |
| <i>SMTP Encrypted Password</i> | An encrypted copy of the password that Lucy uses to access the SMTP server. Configured using the Lucy Email Setup (http://help.lucity.com/webhelp/v170/services/#33990.htm). |
| <i>SMTP Mail Send over TLS</i> | Indicates whether Lucy is sending email information over TLS. Configured using the Lucy Email Setup (http://help.lucity.com/webhelp/v170/services/#33990.htm). |
| <i>SMTP Port</i> | The port through which Lucy connects to the SMTP server. Configured using the Lucy Email Setup (http://help.lucity.com/webhelp/v170/services/#33990.htm). |
| <i>SMTP User</i> | The user through whom Lucy accesses the SMTP server. Configured using the Lucy Email Setup (http://help.lucity.com/webhelp/v170/services/#33990.htm). |
| <i>The Customer Account the Installation is Associated with</i> | A Lucy assigned account identifier. This is written by Client Maintenance. |
| <i>The License Identifier the installation is associated with</i> | The license code to which the above client is linked. |
| <i>Type of Client License</i> | The kind of license the used by the client. |


WEB PERFORMANCE

The *Web Performance* feature allows users to adjust system settings for better web performance.

| FIELD | FUNCTION |  PERMISSIONS |
|---|---|---|
| <i>Allow Animations to run inside of the website</i> | When False , animations are disabled in Lucity Web. This may be helpful for some presentations or for users running apps through remote desktop or webex. | App Admin |
| <i>Exclude Desktop Records in Add Mode (When TRUE, queries will be slower)</i> | When enabled, <i>Lucity Web</i> runs special queries so that grids do not display records that are in the process of being added to <i>Lucity Desktop</i> . When disabled, such records appear in Web grids as blank records. Disabling this option improves performance. | App Admin |
| <i>Favor configuration over performance for business rules</i> | When an administrator changes field properties in the <i>Desktop</i> (such as masking fields, requiring fields, or making fields editable), the administrator must reset IIS to push the changes to <i>Lucity Web</i> . Enabling this setting allows an admin to push these changes to Lucity Web by simply clearing the web cache. Note, however, that this process may cause a [temporary, but] significant drop (15-20%) in performance. | IT Admin |
| <i>Max # of Pages on PDF Crystal Reports (to reduce performance impact on server)</i> | Controls the maximum number of pages a pdf web report will generate. The higher the more load is placed on the server. | IT Admin |
| <i>Persist changes to page size in ListView</i> | Allows users to save their current page size as a personal customization. This setting does not apply to the <i>WebCitizen</i> system. | App Admin |
| <i>The number of minutes until a dashboard report should be refreshed</i> | <p>Establishes the number of minutes between <i>Dashboard</i> report refreshes. (Default value = 240 minutes)</p> <p>Reports that appear on the dashboard are not updated every time the user refreshes the dashboard. Once a report file is generated the dashboard will continue to show the same file every time the dashboard is refreshed until the file is older than the number of minutes set in this setting. Once the time limit is reached the report file will be re-generated with new data. This limitation saves 5 to 10 seconds of response time.</p> <p>Note: Users can always use the option located below the Dashboard PDF reports to immediately refresh a report on demand.</p> | IT Admin |


WEBSITE

The *Website* settings are used to indicate the web pages to which the forms are routed and the login ID for the *Citizen Web* application.

| FIELD | FUNCTION |  | PERMISSIONS |
|--|---|---|-------------|
| <i>Allows SignallR to use the database to communicate between web farm instances</i> | | | IT Admin |
| <i>Internal Website</i> | Specifies the path to <i>Lucity Web</i> . This default path should almost never be changed. Edit this field ONLY if multiple web servers exist and one must be designated to support <i>Lucity Administration for Web Apps Previews</i> . | | IT Admin |
| <i>URL for Lucity Custom Web Integrations</i> | Used to integrate a custom customer-lookup product, if an agency has purchased one. In such cases, Lucity provides the URL when it implements the custom product. | | IT Admin |
| <i>Use a custom customer lookup for requests</i> | Indicates whether the <i>Customer Lookup</i> tools use the built-in <i>Lucity</i> functionality or a custom lookup tool. (Related to previous setting.) | | App Admin |
| <i>Windows Authentication Website</i> | Indicates the path to the launcher pages that tries to log the user into Lucity Web using windows authentication. This path should <i>almost never</i> be changed. | | IT Admin |

WORK

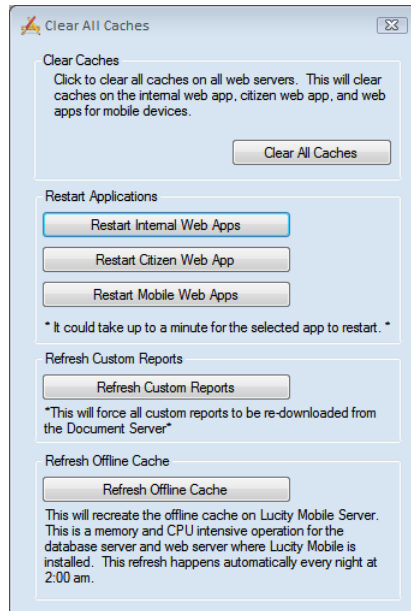
The *Work* settings control the functionality of *Lucity Web's Work* module.

| FIELD | FUNCTION |  PERMISSIONS |
|--|---|---|
| <i>Do Work Flow Popup Lists Filter using StartsWith or Contains</i> | <p>Controls how the filters function in fields used to select <i>Work Flow Setup</i> items. The filters match what the user types in the field to records in the list, based on whether the records' IDs start with OR contain what the user typed.</p> <p>Enter <i>StartsWith</i> or <i>Contains</i> in this field to dictate how the system filters.</p> | App Admin |
| <i>Name of the RPT file to use as the default timesheet report *</i> | <p>Specifies the last part of the path to and name of the RPT file used as the default timesheet report for all users. The system path will automatically look in the root of the <i>Lucity Web</i> install.</p> <p>Example: Reports\Work\TIMESHEETREPORT.rpt</p> | App Admin |
| <i>Send a nightly alert if parts counts are inaccurate</i> | <p>Sends an email message to specified users whenever the nightly processes identify a mismatch between <i>Part</i> counts. The message is sent to users named in the <i>List of email addresses for system health notifications</i> on the <i>Email</i> tab.</p> | App Admin |
| <i>Show Customer Lookup button for Work Order billing</i> | <p>Controls whether the Customer Lookup button appears for <i>Work Order Billing Info</i>.</p> | App Admin |
| <i>Show user a popup of choices to open Work Orders with</i> | <p>Lets users choose which <i>Work Order</i> view they would like to open in <i>Lucity Web</i>. The pop-up prompt appears when a user performs an action that opens a <i>Work Order</i> view and:</p> <ul style="list-style-type: none"> • This option is enabled. • The user has permission to open more than one <i>Work Order</i> view. <p>If this option is disabled, <i>Lucity Web</i> opens with the user's default view.</p> | App Admin |

Note: The System Settings dialog does not provide a way to upload reports. Reports must be posted to the web server in order to be available online. Usually, the files are stored within one of the subdirectories of the **Reports** folder (e.g., **\Equip** and **\Work**). The Timesheet report is usually placed in the **\Work** subdirectory.

CLEAR ALL CACHES

The *Clear all Caches* tool gives users a quick way to perform cache maintenance on all of their *Lucity Web* applications.



BUTTONS

| | |
|----------------------------------|---|
| Clear all Caches | Clears all web caches for all instances of <i>Lucity Web</i> , <i>Citizen Portal</i> , and <i>Mobile Server</i> on all web servers. Also clears the cache for connected Identity Servers. |
| Restart Internal Web Apps | Restart the respective <i>Lucity Web</i> applications on all servers. Also restarts connected Identity Servers. |
| Restart Citizen Web App | |
| Restart Mobile Web Apps | |
| Refresh Custom Reports | Forces the web server to re-download all custom reports from the <i>Document Server</i> . |
| Refresh Offline Cache | Recreates the offline cache for the <i>Lucity Mobile Server</i> . |

How To Clear Caches

Basic Cache Clearing: Most caches can be cleared using the following methods. Users are not kicked off of the *Lucity* system and will not lose work. Basic cache-clearing is necessary for some configuration changes.

- Open the *Tasks* screen and click the **Clear All Caches** button. (This clears all caches for all web-based applications.)
- Web App Reset:* The following actions clear every cache; however, they also kick all *Lucity* users out of the system, causing them to lose any unsaved work. A few caches are only cleared using a web application reset.
- Open the *Tasks* screen and click the appropriate **Restart** button.
 - Log onto the web server and, in IIS, manually restart the *Lucity Web* app pool.
 - Log onto the web server and restart IIS.

All caches also reset at 2 a.m. daily, when the web app automatically restarts.

Note: Clearing the caches may temporarily reduce performance until the caches are repopulated.

Note: These functions also clear the cache for the connected Identity Server.

Note: The application checks for pending user-triggered background tasks like this every 6 seconds.

When To Clear the Cache

The cache must be cleared whenever a change is made to the configuration of a web component. Typically, when an action requires a cache to be cleared before it takes effect, the system automatically clears the cache.

In most cases, clearing the cache is sufficient to affect the changes in *Lucity Web*. Note, however, that the following changes require further action beyond clearing the cache:

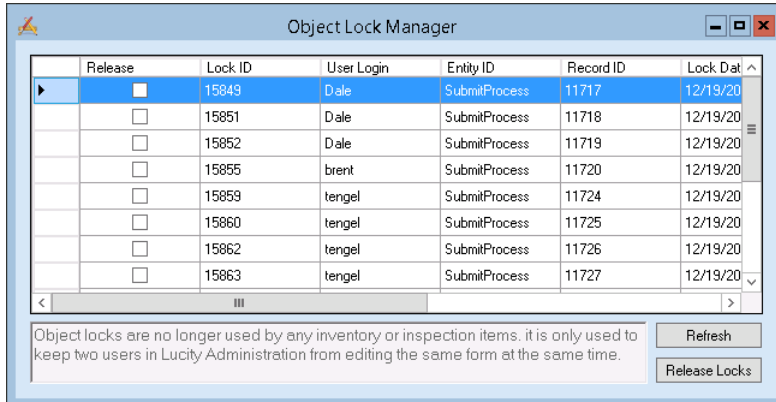
- *View/Grid/Form changes* - If a user is viewing any of these elements when the cache is cleared, the user must close the *Lucity* view/grid/form and reopen it to see the changes.
- *Code/Type Pick-list value changes* - If a user is viewing a *Lucity* form when a pick-list for field on that form is changed, the user must close and reopen the form to see such changes.
- *Permissions changes* - The user must log out and log back into the application.
- *Dashboard changes* - The user must log out and log back into the application.
- *Available Work Order Resource changes* - If changes have been made regarding which *Work Order Resources* can be used in a *Work Order*, users must log out and log back in to the application.
- *Lucity Web > Admin Portal > System Settings changes* - Users must log out and log back into the application.
- *Module Option changes* - Users must log out and log back into the application.
- *Field Properties*
 - Changing the **Global - Required** permission for a field requires a web app reset.

- Changing the **Mask** for a field requires a web app reset.
- Changing the **Min/Max** values for a field requires a web app reset.

OBJECT LOCK MANAGER

Object locks are used to prevent two *Lucy Administration* users from editing the same form at the same time.

If a user obtained a lock on an object and did not close the program correctly (due to a power outage, network problem, etc.), then the lock should clear on its own at the end of the expiration period defined in the **Object Locking Dialog**. Failing that, the administrator can clear object locks in the *Object Lock Manager*.



FIELDS

| | |
|-------------------|--|
| <i>Release</i> | Allows the administrator to select which locks to clear. |
| <i>Lock ID</i> | Specifies the unique ID assigned to the lock when it was obtained. |
| <i>User Login</i> | Identifies the <i>Lucity User Name</i> of the person who obtained the lock. |
| <i>Entity ID</i> | Identifies the <i>Type</i> of object locked by the user (e.g., Work Order, Submit Process, etc.). |
| <i>Record ID</i> | Indicates the system-generated, unique ID of the record. |
| <i>Lock Date</i> | Displays the date and time the lock was initially obtained. |
| <i>Expiration</i> | Displays the date and time the lock is scheduled to expire. |
| <i>Machine</i> | Identifies the name of the computer used to lock the object. |
| <i>Intention</i> | Describes the reason the lock was generated. If a record is being deleted, a <i>Delete</i> lock is obtained. If a record is being edited, an <i>Update</i> lock is obtained. |

BUTTONS

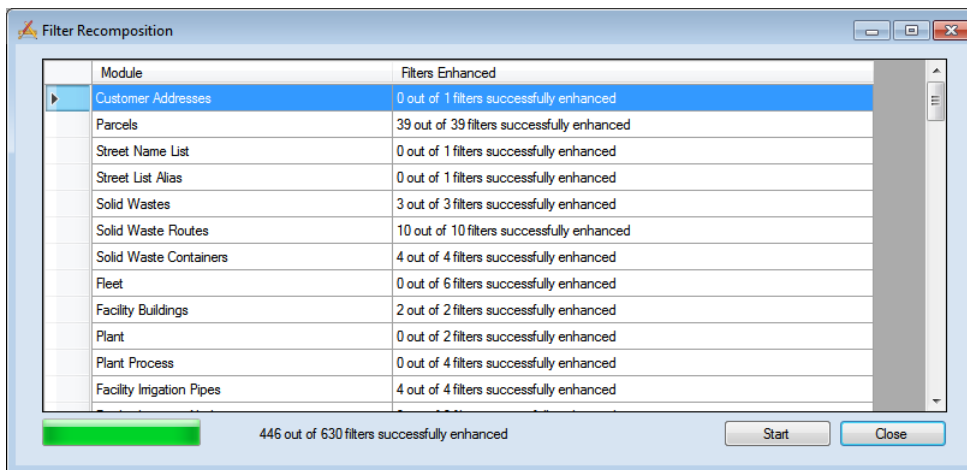
| | |
|----------------------|--|
| Refresh | Refreshes the data in the <i>Object Lock Manager</i> . A refresh is necessary to see any changes. |
| Release Locks | Releases any currently selected locks. Note: Locks that are shaded in gray cannot be cleared from this grid. Locks may be grayed-out for the following reasons: <ul style="list-style-type: none">• Delete locks are always grayed-out. They are cleared by the system when the scheduled nightly tasks run.• Locks that have been obtained within the last five minutes are grayed-out. They are assumed to be still in use. |

FILTER RECOMPOSITION

The *Filter Recomposition* tool converts certain filters saved in *Lucity* modules from Advanced Filters to Basic Filters.

To create a Basic Filter, users employ a Build-A-Filter function to generate a SQL script. Advanced filters, which are more complicated, are written directly in SQL.

The *Filter Recomposition* tool identifies Advanced Filters that could have been written using the Build-a-Filter function, but were not. Converting Advanced Filters back to Basic ones allows users to modify them with the Build-a-Filter function in the appropriate *Lucity* module.



How To Recompose Filters

- 1) In the *Lucity Administration* tool, select *System > Filter Recomposition*.
- 2) When the tool opens, click the **Start** button.

- 3) The tool scans all filters, enhancing those that fit the recomposition criteria. When the process is complete, the system notifies the user of the number of Advanced Filters it was able to convert back to Basic Filters for each module.

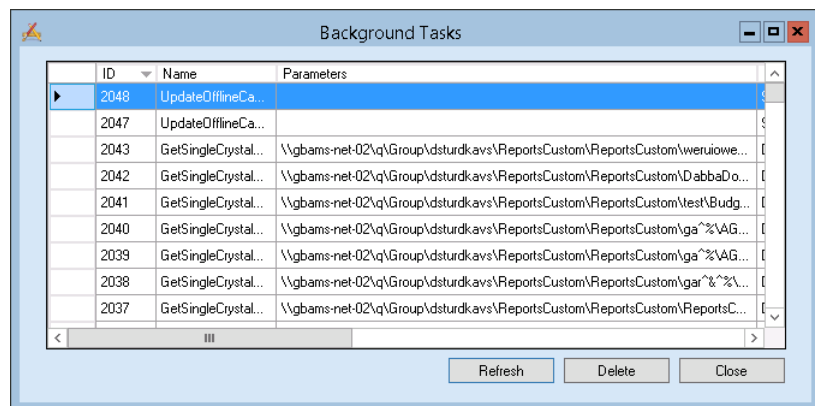
Example: The tool found two Advanced Filters in the Facility Buildings module and was able to convert both of them back to Basic Filters.

BACKGROUND TASKS

The Background Tasks Manager provides a list of all background tasks that users have initiated. These tasks are managed by the **Lucity Task Runner** (<http://help.lucity.com/webhelp/v170/services/index.htm#34443.htm>) and are generally tasks that require more processing power or may run on several machines simultaneously. Background tasks that need more processing power are offloaded from the Web server to the Services server.

Types of background tasks include:

- running a *Street* model,
- sending rolling logs,
- clearing all caches,
- restarting the *Lucity Web* application, and
- uploading custom Crystal Reports to the Web server.



FIELDS

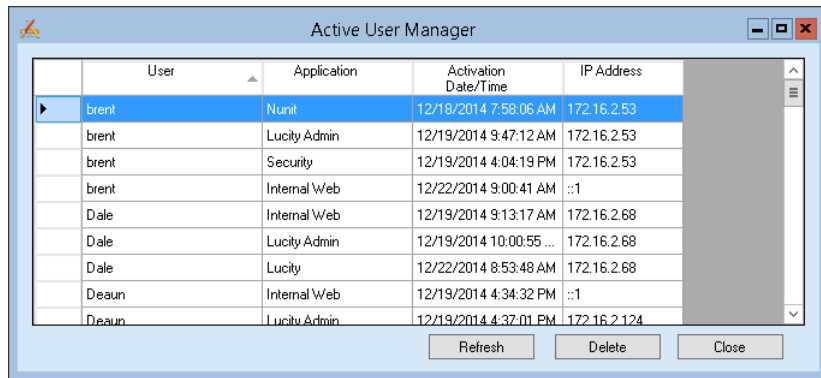
| | |
|----------------------|---|
| <i>ID</i> | Indicates the ID of the task. |
| <i>Name</i> | Identifies the task that the user initiated. |
| <i>Parameters</i> | States any parameters that the task needed to run. |
| <i>Created By</i> | Identifies the user who initiated the task. |
| <i>Creation Date</i> | Displays the date the task was initiated. |
| <i>Status</i> | Indicates the task's current status (Queued, Finished, or Failed). |
| <i>Status Date</i> | Shows the date that the status was last changed. |
| <i>Description</i> | Describes the nature of the task. |
| <i>Complete</i> | Indicates whether or not the task is complete. |
| <i>Email</i> | Identifies the email address that is alerted when the task is complete. |

BUTTONS

| | |
|----------------|--|
| Refresh | Refreshes data in the <i>User Invoked Tasks Manager</i> . A refresh is necessary to see any changes. |
| Delete | Deletes the record currently selected in the grid, which cancels an uncompleted task. |
| Close | Closes the window. |

ACTIVE USER MANAGER

The *Active User Manager* lets administrators identify which individuals are actively logged into *Lucity* and track them. The tool provides a list of active users (those who have engaged product licenses, as well as those who are merely viewing application components), as well as several key pieces of data.



The screenshot shows a window titled "Active User Manager" with a table of active users. The table has four columns: "User", "Application", "Activation Date/Time", and "IP Address". The first row is highlighted in blue. Below the table are three buttons: "Refresh", "Delete", and "Close".

| User | Application | Activation Date/Time | IP Address |
|-------|--------------|-------------------------|--------------|
| brent | Nunit | 12/18/2014 7:58:06 AM | 172.16.2.53 |
| brent | Lucity Admin | 12/19/2014 9:47:12 AM | 172.16.2.53 |
| brent | Security | 12/19/2014 4:04:19 PM | 172.16.2.53 |
| brent | Internal Web | 12/22/2014 9:00:41 AM | ::1 |
| Dale | Internal Web | 12/19/2014 9:13:17 AM | 172.16.2.68 |
| Dale | Lucity Admin | 12/19/2014 10:00:55 ... | 172.16.2.68 |
| Dale | Lucity | 12/22/2014 8:53:48 AM | 172.16.2.68 |
| Deaun | Internal Web | 12/19/2014 4:34:32 PM | ::1 |
| Deaun | Lucity Admin | 12/19/2014 4:37:01 PM | 172.16.2.124 |

FIELDS

| | |
|-----------------------------|--|
| <i>User</i> | Identifies the <i>Lucity Login</i> for the individual currently using a <i>Lucity</i> program. |
| <i>Application</i> | Specifies which <i>Lucity</i> application the user is accessing. |
| <i>Activation Date/Time</i> | Indicates when the user logged into the application. |
| <i>IP Address</i> | Displays the IP address through which the user is accessing the application. |

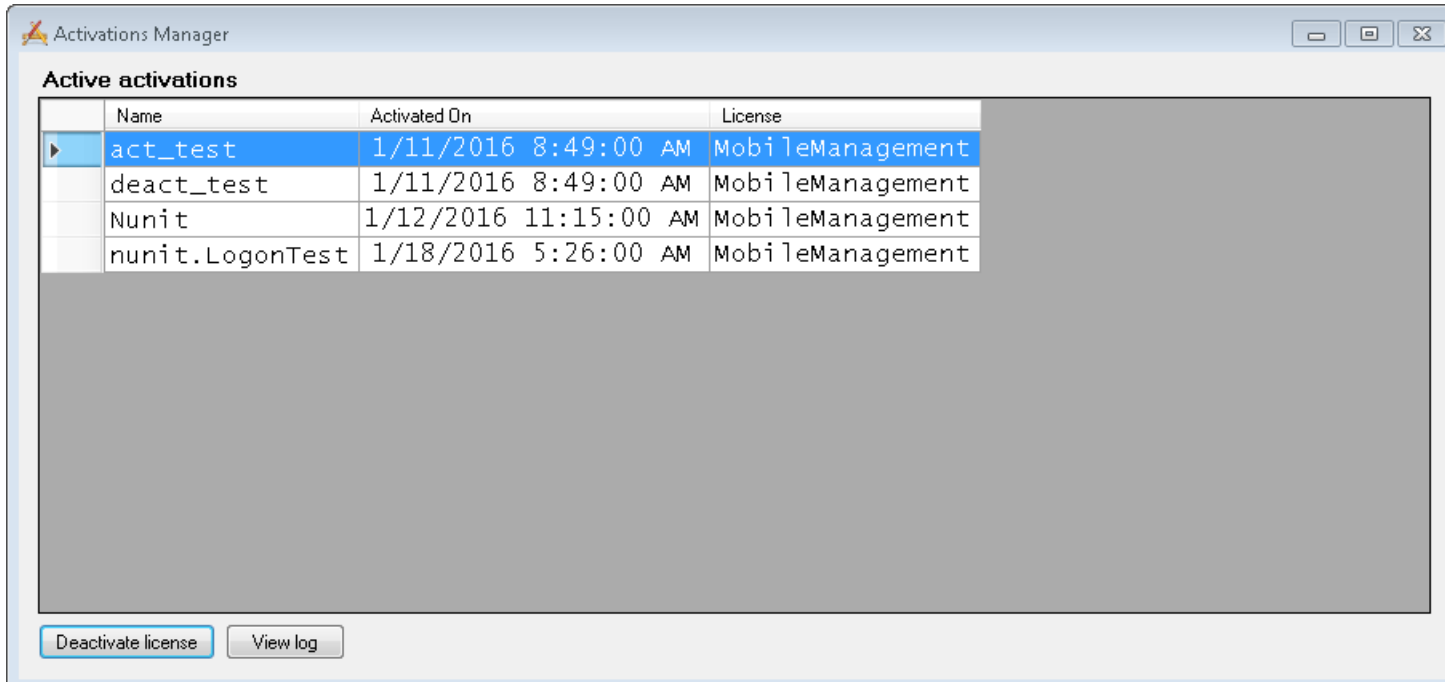
BUTTONS

| | |
|----------------|--|
| Refresh | Refreshes the data in the <i>Active User Manager</i> . A refresh is necessary to see any changes. |
| Delete | Deletes the currently selected record, as well as any licenses actively engaged by the user, from the corresponding User License Manager. Note: This function is used when someone is logged in and gets kicked out/ locked out of the system (e.g., during a power outage). |
| Close | Closes the window. |

ACTIVATIONS MANAGER

Lucity uses activations to track licensing for several programs, including the *Lucity Mobile* applications.

The *Activation Manager* lets administrators see information about current activations.



The screenshot shows a window titled "Activations Manager" with a table of active activations. The table has four columns: Name, Activated On, and License. The first row is selected, showing "act_test" activated on "1/11/2016 8:49:00 AM" with a "MobileManagement" license. Below the table are two buttons: "Deactivate license" and "View log".

| Name | Activated On | License |
|-----------------|-----------------------|------------------|
| act_test | 1/11/2016 8:49:00 AM | MobileManagement |
| deact_test | 1/11/2016 8:49:00 AM | MobileManagement |
| Nunit | 1/12/2016 11:15:00 AM | MobileManagement |
| nunit.LogonTest | 1/18/2016 5:26:00 AM | MobileManagement |

FIELDS

| | |
|---------------------|--|
| <i>Name</i> | Displays the device's name (i.e., the phone number). |
| <i>Activated On</i> | Identifies the date this device was last activated. |
| <i>License</i> | Indicates the type of license this device uses. |

BUTTONS

| | |
|---------------------------|---|
| Deactivate license | Deactivates the selected record and removes it from the Active list. |
| View Log | Shows each time the selected device has been activated or deactivated. |

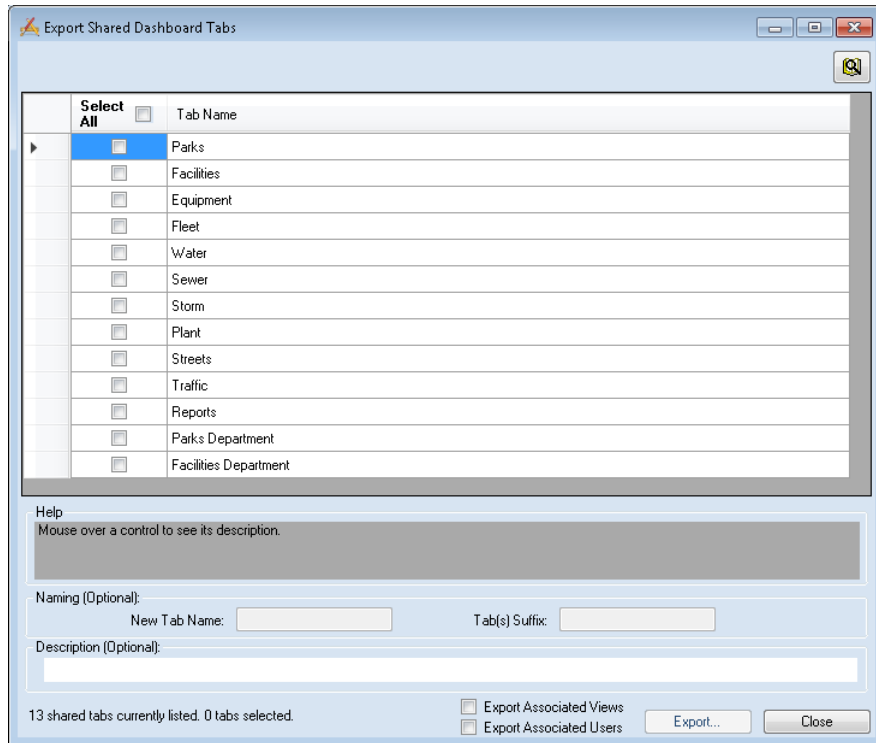
DASHBOARD EXPORT/IMPORT

The *Dashboard Export/Import* tools allow users to export *Dashboards*, *Shared Tabs*, and *Shared Tab Groups* from one Lucy environment and import them into another Lucy environment. The desired dashboard elements are exported as a .json file, which can then be loaded into another system.


Note: Both systems must use the same version of *Lucy*.

EXPORT SHARED TABS

The *Export Shared Tabs* tool enables an administrator to export one or more *Shared Tabs*.



SHARED TAB LIST

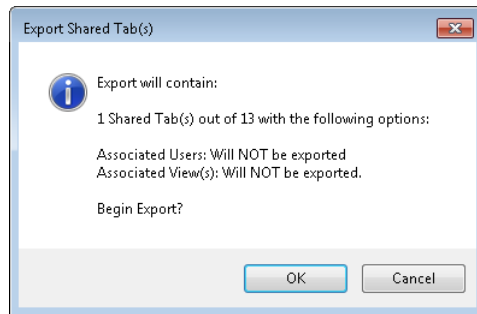
| | |
|---|---|
| <i>Select All</i> | Selects all of the <i>Shared Tabs</i> in the list. |
|  <i>Locate</i> | Enables the user to search for a specific <i>Shared Tab</i> . |

NAMING

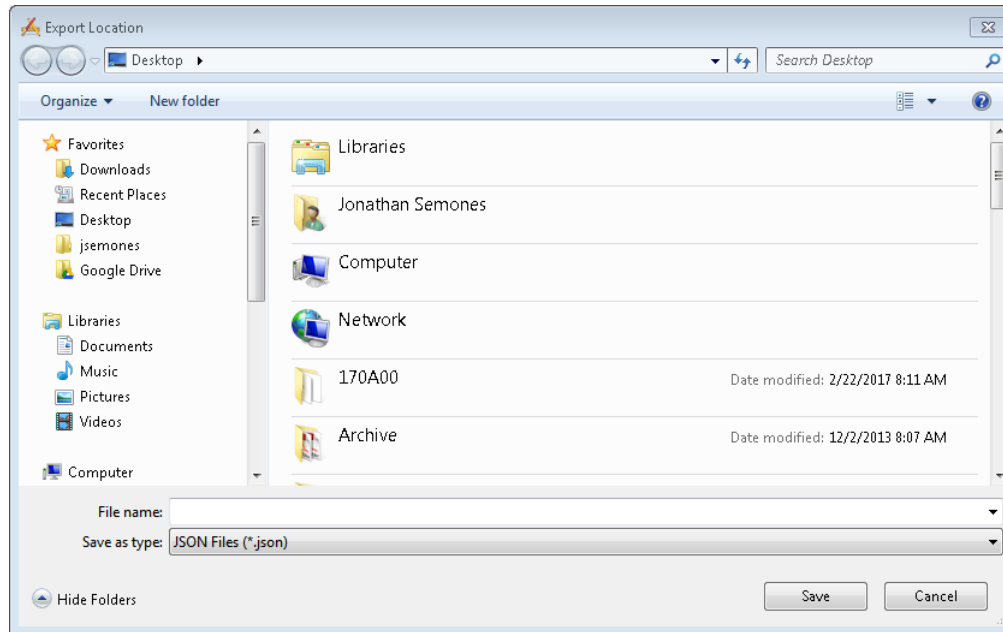
| | |
|--------------------------------|---|
| <i>New Tab Name</i> | Enables the user to change the name of the exported tab. (Available if only one tab is selected in the list.) Dashboard tabs must have unique names. This feature helps to avoid naming conflicts between exported tabs and tabs that already exist in the destination system. |
| <i>Tab Suffix</i> | Enables the user to avoid duplicate tab names by adding a prefix to the name of an exported tab. This feature is useful when exporting multiple tabs. Dashboard tabs must have unique names. This feature helps to avoid naming conflicts between exported tabs and tabs that already exist in the destination system. |
| <i>Description</i> | Enables users to enter an optional description of the import. This text will appear when the file is imported. |
| <i>Export Associated Views</i> | Exports module views that are explicitly linked to plug-ins on the selected <i>Dashboard Tab(s)</i> . |
| <i>Export Associated Users</i> | Exports the list of users associated with the selected shared dashboard tab(s). |
| <i>Export</i> | Exports the selected <i>Dashboard Tab(s)</i> . |

How to export Shared Tabs

- 1) Select **System > Dashboard Export/Import > Export Shared Tabs**. The *Shared Tab Export* windows appear.
- 2) Select the tabs you would like to export.
- 3) If desired, enter a new *Name*, *Suffix*, or *Description*.
- 4) Choose whether to *Export Associated Views* and/or *Export Associated Users*.
- 5) Click the **Export** button. The following pop-up appears, asking the user to confirm the export settings:



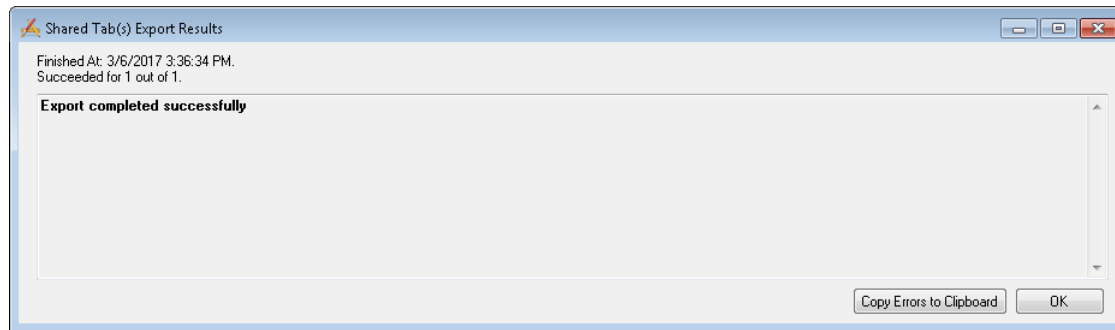
6) Click **OK**. The following pop-up appears:



7) Navigate to the location where you would like to save the Export file.

8) In the *File Name* field, provide a name for the Export file.

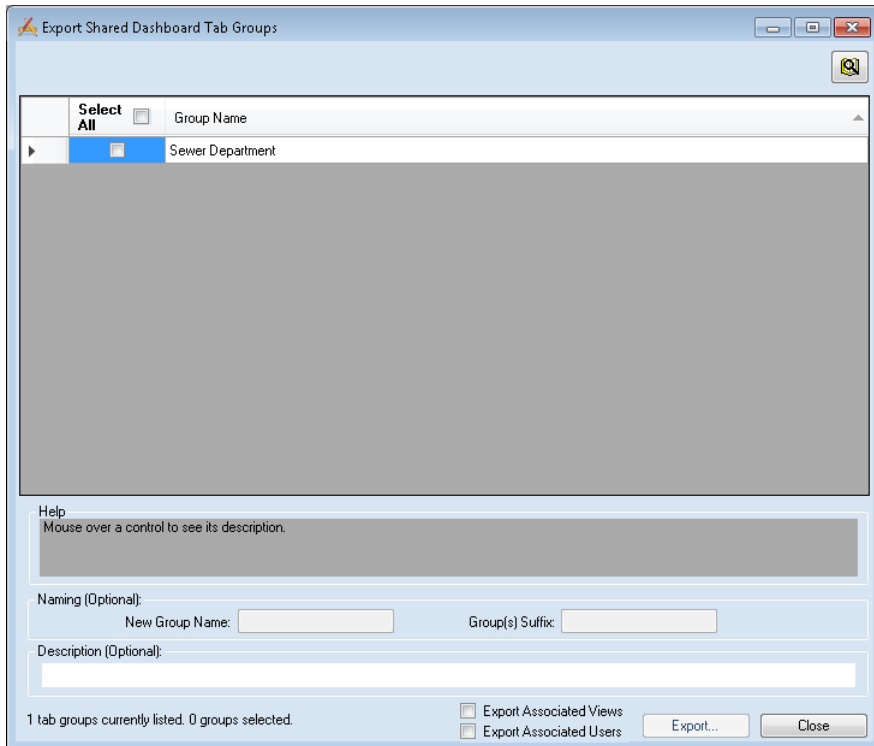
9) Click **Save**. A pop-up appears with the results of the process.




10) Click **OK** to close the pop-up.

EXPORT SHARED TAB GROUPS

The *Export Shared Tab Groups* tool enables administrators to export one or more *Shared Tab Groups*.



SHARED TAB GROUP LIST

- Select All* Selects all of the *Shared Tab Groups* in the list.
-  *Locate* Enables users to search for a specific *Shared Tab Group*.

NAMING

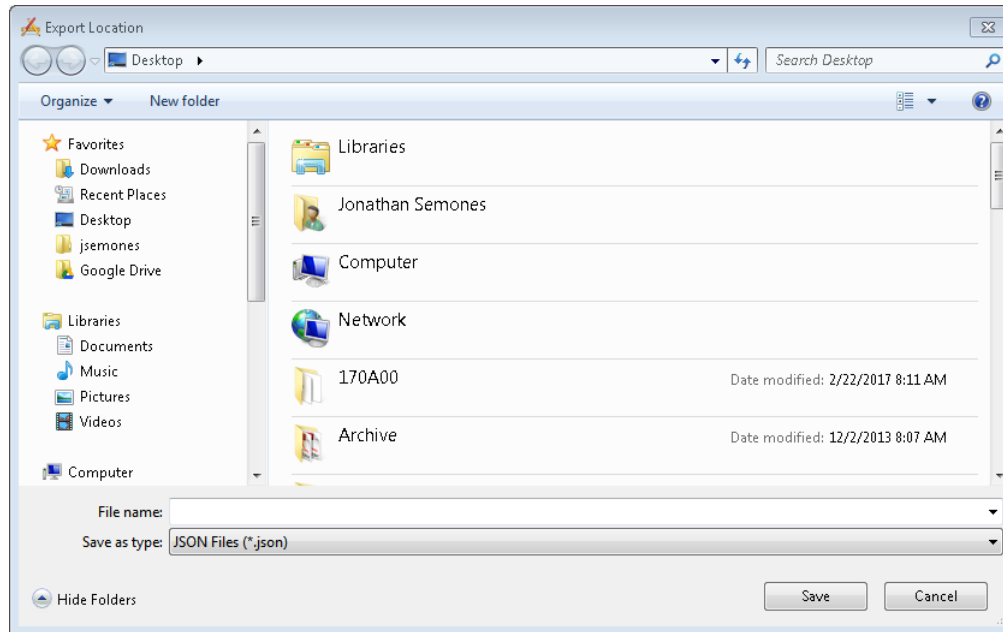
- New Group Name* Enables the user to change the name of the exported tab group. (Available if only one tab group is selected in the list.)
- Shared Tab Groups* must have unique names. This feature helps to avoid naming conflicts between exported tab groups and tab groups that already exist in the destination system.
- Group(s) Suffix* Enables the user to avoid duplicate tab group names by adding a prefix to the name(s) of an exported tab group(s). This feature is useful when exporting multiple tab groups.
- Shared Tab Groups* must have unique names. This feature helps to avoid naming conflicts between exported tabs and tabs that already exist in the destination system.
- Description* Enables users to enter an optional description of the import. This text will appear when the file is imported.
- Export Associated Views* Exports module views that are explicitly linked to plug-ins on the selected *Shared Tab Group(s)*.
- Export Associated Users* Exports the list of users associated with the *Shared Tabs* that are part of the selected *Shared Tab Group(s)*.
- Export* Exports the selected *Shared Tab Group(s)*.

How to export Shared Tab Groups

- 1) Select **System > Dashboard Export/Import > Export Shared Tab Groups**. The *Shared Tab Group Export* window appears.
- 2) Select the tab groups you would like to export.
- 3) If desired, enter a new *Name, Suffix, or Description*.
- 4) Choose whether to *Export Associated Views* and/or *Export Associated Users*.
- 5) Click the **Export** button. The following pop-up appears, asking you to confirm the export settings:



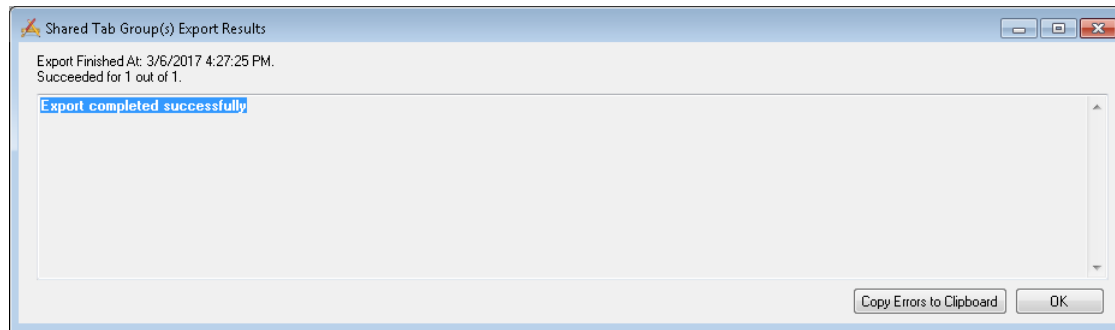
6) Click **OK**. The following pop-up appears:



7) Navigate to the location where you would like to save the Export file.

8) In the *File Name* field, provide a name for the Export file.

9) Click **Save**. A pop-up appears with the results of the process.



10) Click **OK** to close the pop-up.

EXPORT USER DASHBOARDS

The *Export User Dashboards* tool enables administrators to export specific users' dashboard tabs.

The screenshot shows the 'Export User Dashboards' application window. It features a table with columns for 'Select', 'Username', 'Last Name', 'First Name', 'Department', and 'Default Rules Group'. The 'Select' column has a 'Select All' checkbox. The table lists 18 users, with the first user 'madams' selected. Below the table is a 'Help' section with a description field and a 'Description (Optional):' label. At the bottom, there is a status bar showing '8 users available for export of 272 currently listed. 0 users selected.' and two checkboxes: 'Export Associated Views' and 'Export Associated Links'. There are also 'Export...' and 'Close' buttons.

| Select | Username | Last Name | First Name | Department | Default Rules Group |
|-------------------------------------|------------|------------|------------|--------------------|---------------------|
| <input checked="" type="checkbox"/> | madams | Adams | Michael | | Administrator |
| <input type="checkbox"/> | valessi | Alessi | Venetta | Fleet | |
| <input type="checkbox"/> | dallgood | Allgood | Dorris | Water Plant | |
| <input type="checkbox"/> | oallman | Allman | Olin | Facilities | |
| <input type="checkbox"/> | kappollis | Appollis | Kirby | Landfill | |
| <input type="checkbox"/> | sarends | Arends | Sam | FDG | |
| <input type="checkbox"/> | marmstrong | Armstrong | Melissa | | Administrator |
| <input type="checkbox"/> | rasmus | Asmus | Rae | Bridges | |
| <input type="checkbox"/> | abaisden | Baisden | Assunta | Fleet | |
| <input type="checkbox"/> | jbandy | Bandy | Jeannette | Bridges | |
| <input type="checkbox"/> | jebandy | Bandy | Jenine | NPDES | |
| <input type="checkbox"/> | mbarber | Barber | Matt | Streets | |
| <input type="checkbox"/> | ebart | Bart | Emily | Traffic | |
| <input type="checkbox"/> | cbarolomeo | Bartolomeo | Claire | Water Quality | |
| <input type="checkbox"/> | jbashaw | Bashaw | Jolynn | Bridges | |
| <input type="checkbox"/> | lbenz | Benz | Laura | Streets | |
| <input type="checkbox"/> | mboramever | Boramever | Marva | Sewer Pump Station | |

Help
Mouse over a control to see its description.

Description (Optional):

8 users available for export of 272 currently listed. 0 users selected.

Export Associated Views
 Export Associated Links

Export... Close

USER DASHBOARDS LIST

Select All Selects all of the user *Dashboards* in the list.

Note: Only configured *Dashboards* (marked in white) can be selected.



Locate

Enables users to search for a specific *Dashboard*.

NAMING

Description Enables users to enter an optional description of the import. This text will appear when the file is imported.

Export Associated Views Exports module views that are explicitly linked to plug-ins on the tabs that are included in the selected user *Dashboard(s)*.

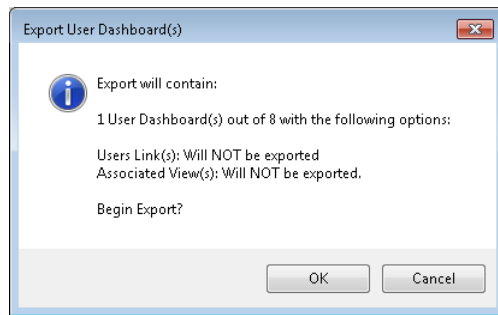
Export Associated Links Exports the links associated with the selected user *Dashboard(s)*.

Export Exports the selected user *Dashboard(s)*.

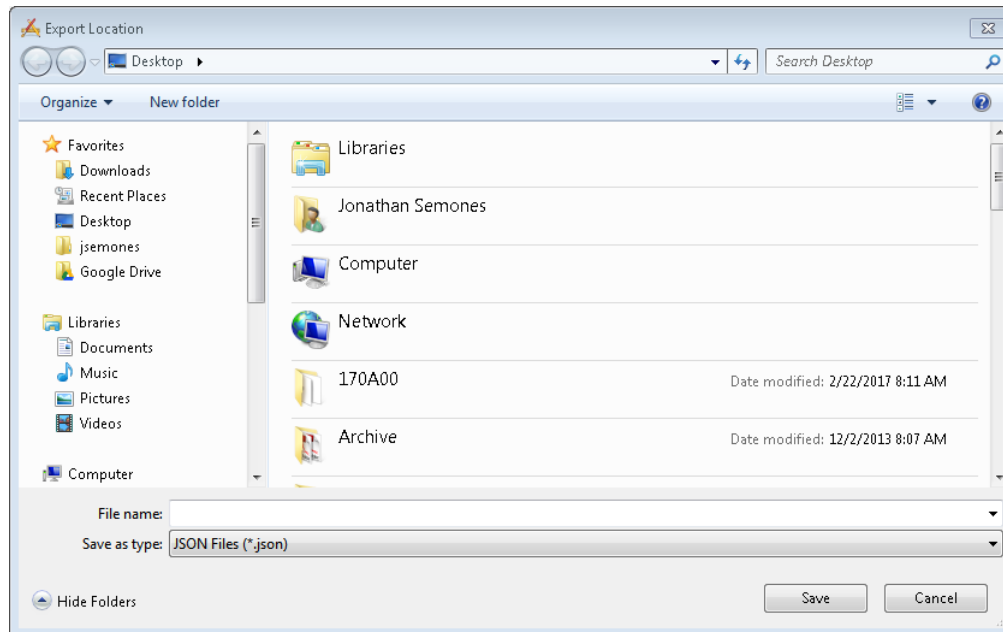
How to export User Dashboards

- 1) Select **System > Dashboard Export/Import > Export User Dashboards**. The *User Dashboard Export* window appears.
- 2) Select the *Dashboards* you would like to export.
 - You can only select *Dashboards* that have been configured, which appear in white.
 - *Dashboards* that have not been configured appear in gray.
- 3) If desired, enter a *Description* (optional).
- 4) Choose whether to *Export the Associated Views* and/or *Export the Associated Links*.

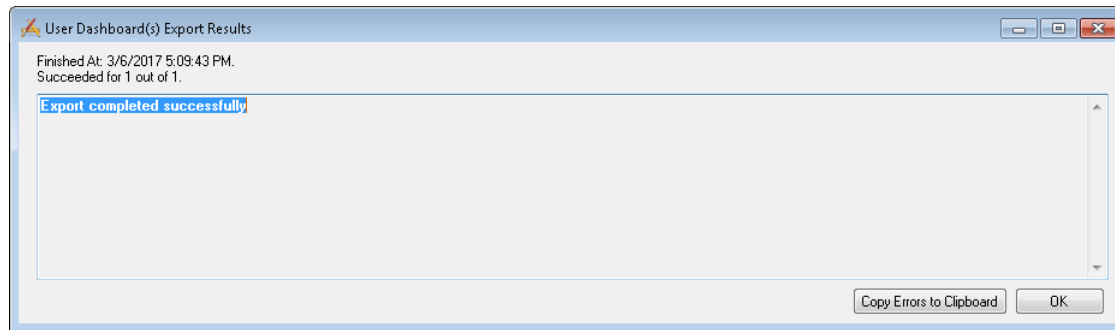
5) Click the **Export** button. The following pop-up appears, asking you to confirm the export settings:



6) Click **OK**. The following pop-up appears:



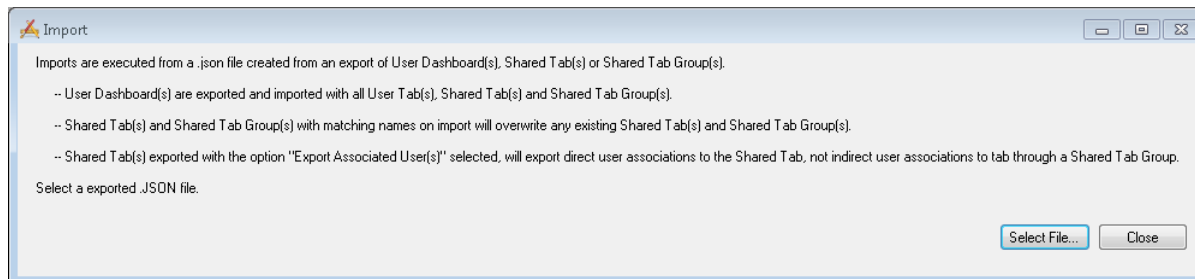
- 7) Navigate to the location where you would like to save the Export file.
- 8) Modify the name of the Export file if desired.
- 9) Click **Save**. A pop-up appears with the results of the process.



- 10) Click **OK** to close the pop-up.

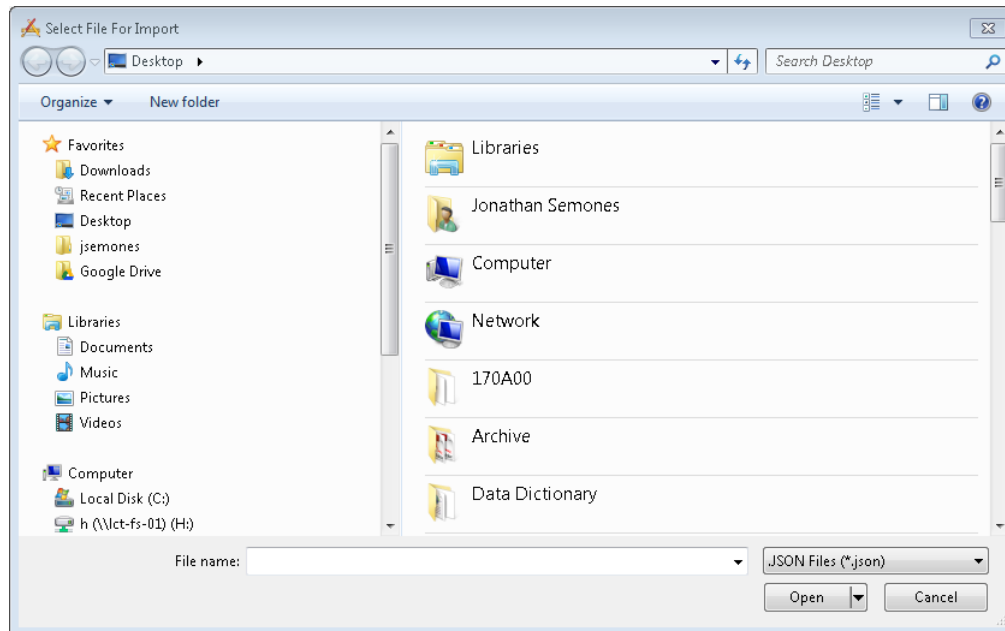
IMPORT

The *Import* tool enables administrators to import *Shared Dashboard Tabs*, *Shared Tab Groups*, and *User Dashboards* that have been exported from one *Lucity* system into another *Lucity* system.



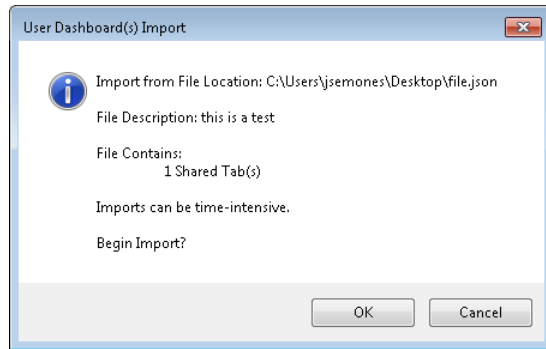
How to import a Dashboard element

- 1) Select **System > Dashboard Export/Import > Export User Dashboards**. The *Import* window appears.
- 2) Click the **Select File...** button. The following pop-up appears:

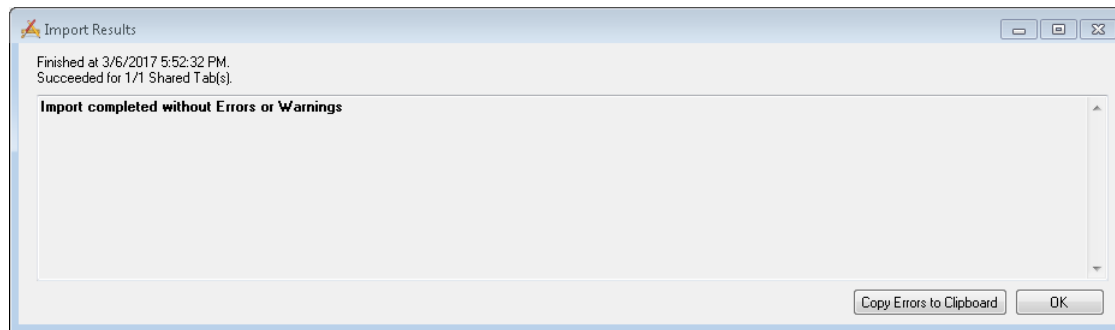


- 3) Select the .json file that you want to import.

4) Click the **Open** button. A pop-up describes the expected results of the import.



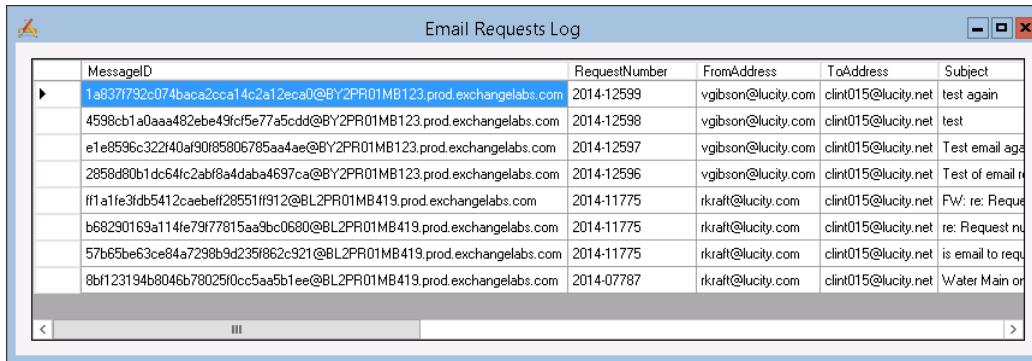
5) Click **OK** to begin the import process. A message will indicate whether the process was successful or produced errors. **[What if there are errors or warnings?]**



6) Click **OK** to close the window.

VIEW EMAIL REQUEST LOG

The *View Email Request Log* provides a list of emails that the system received and turned into *Requests*.



| MessageID | RequestNumber | FromAddress | ToAddress | Subject |
|---|---------------|--------------------|---------------------|------------------|
| 1a9371792c074baca2cca14c2a12eca0@BY2PR01MB123.prod.exchangelabs.com | 2014-12599 | vgibson@lucity.com | clint015@lucity.net | test again |
| 4598cb1a0aaa482ebe49f5e77a5cdd@BY2PR01MB123.prod.exchangelabs.com | 2014-12598 | vgibson@lucity.com | clint015@lucity.net | test |
| e1e8596c322f40af90f85806785aa4ae@BY2PR01MB123.prod.exchangelabs.com | 2014-12597 | vgibson@lucity.com | clint015@lucity.net | Test email age |
| 2858d80b1dc64fc2abf9a4daba4697ca@BY2PR01MB123.prod.exchangelabs.com | 2014-12596 | vgibson@lucity.com | clint015@lucity.net | Test of email r |
| ff1a1fe3fdb5412caebef128551f912@BL2PR01MB419.prod.exchangelabs.com | 2014-11775 | rkraft@lucity.com | clint015@lucity.net | FW: re: Reque |
| b68290169a114fe79f77815aa9bc0680@BL2PR01MB419.prod.exchangelabs.com | 2014-11775 | rkraft@lucity.com | clint015@lucity.net | re: Request nu |
| 57b65be63ce84a7298b9d235f862c921@BL2PR01MB419.prod.exchangelabs.com | 2014-11775 | rkraft@lucity.com | clint015@lucity.net | is email to requ |
| 8bf123194b8046b78025f0cc5aa5b1ee@BL2PR01MB419.prod.exchangelabs.com | 2014-07787 | rkraft@lucity.com | clint015@lucity.net | Water Main or |

FIELDS

| | |
|-----------------------|--|
| <i>MessageID</i> | The ID of the email. |
| <i>Request Number</i> | The Lucity-generated ID for the <i>Request</i> . |
| <i>From Address</i> | The address from which the email originated. |
| <i>To Address</i> | The address that received the email. |
| <i>Subject</i> | The text of the message's subject line. |
| <i>Body</i> | The text of the body of the message. |
| <i>Received Date</i> | The date the email was received. |
| <i>Processed Date</i> | The date the email was processed and the <i>Request</i> was created. |

CLIENT MAINTENANCE

Client Maintenance is an administrative tool used to manage database and client information related to the installation. It is an integral part of the installation and maintenance processes because it ensures proper connectivity and licensing.

The tool:

- Launches database processes to ensure that *Lucity* database(s) matches the current version of the software.
- Creates DSNs and DSN configuration files that provide connectivity with *Lucity Desktop* and other add-on tools.
- Creates/verifies login credentials on database servers (SQL Server and Oracle) to permit connections to *Lucity* applications.
- Manages product licensing to ensure that all purchased applications are available to the user.
- Manages connection information pertaining to the location of the *Lucity* database(s).

Before running Client Maintenance, SQL Server and Oracle users must have their *Lucity* databases installed for all clients they intend to activate. More information >>

Client Maintenance as a Stand-Alone Tool

Lucity automatically launches Client Maintenance during a server installation/upgrade; however, Client Maintenance is also accessible as a *Lucity* Admin tool for maintaining the current installation.

Administrators can launch the tool from the **Start** menu: **Programs > Lucity > Admin Tools > Client Maintenance**, or from the *Lucity Administration Tool*.

An administrator might run *Client Maintenance* outside of an install/upgrade for any of the following reasons:

- *License Updates* - If a user purchases or removes an existing product, *Lucity* gives the client a new license file. Running *Client Maintenance* is necessary to update the product information indicated in the license file.
- *Lucity Server or Database migration* - When databases are moved from their original location, an administrator must run *Client Maintenance*. (Additional actions may also be required in such cases.)

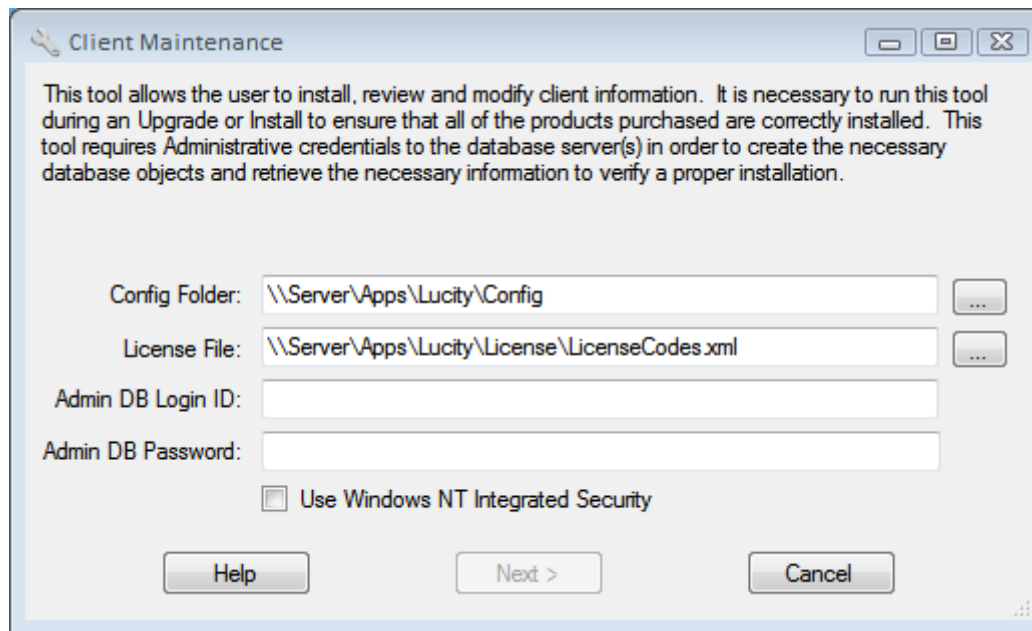
- *Change Database Login Credentials* - If a user wishes to change login credentials for the *Lucity* database, the credentials should be changed in *Client Maintenance*. The tool will then update the database platform (e.g., SQL Server Management) and the *Lucity* configuration at the same time.

LOGIN SCREEN

When launching *Client Maintenance*, users must provide credentials to show they have permission to make administrative changes to the database. On the login screen, the user must supply the locations of the *Lucity Config* folder and the agency's license file, as well as some database system administrator credentials.

How To Log into Client Maintenance

1) When the installer launches *Client Maintenance* or a user launches it as a stand-alone product, the following window appears:



The screenshot shows a Windows-style dialog box titled "Client Maintenance". The window contains the following elements:

- A title bar with the text "Client Maintenance" and standard window control buttons (minimize, maximize, close).
- A paragraph of text: "This tool allows the user to install, review and modify client information. It is necessary to run this tool during an Upgrade or Install to ensure that all of the products purchased are correctly installed. This tool requires Administrative credentials to the database server(s) in order to create the necessary database objects and retrieve the necessary information to verify a proper installation."
- Four input fields:
 - "Config Folder:" with the text "\\Server\Apps\Lucity\Config" and a browse button (...).
 - "License File:" with the text "\\Server\Apps\Lucity\License\LicenseCodes.xml" and a browse button (...).
 - "Admin DB Login ID:" with an empty text box.
 - "Admin DB Password:" with an empty text box.
- A checkbox labeled "Use Windows NT Integrated Security" which is currently unchecked.
- Three buttons at the bottom: "Help", "Next >", and "Cancel".

- 2) In the *Config Folder* field, specify the path to the **Lucity Config** folder.
- 3) In the *License File* field, specify the path to the provided license file.

- 4) Enter the the *Admin DB Login ID* and the *Admin DB Password*. If multiple SQL Server/Oracle installations exist, with different credentials for each, enter the credentials for **one** of the installations. The system will prompt for the others later.
- 5) Check the *Use Windows NT Integrated Security* checkbox if you wish to connect to the database servers via Windows Authentication and the database servers have already been properly configured.
- 6) Click **Next**. The utility begins updating the *Lucity* configuration information.

REMAP LICENSES TO CLIENTS

During multi-client installations, if the Client Maintenance tool is unable to determine which licenses are associated with which clients, the following screen will appear immediately after login:

The screenshot shows a window titled "Associate Client To License" with standard Windows window controls (minimize, maximize, close). The main text reads: "Existing installations have been found that are not currently associated with a license. The following client(s) need to be associated with a license. Please associate the client(s) with the appropriate license. Any clients not associated to a license will be removed from your installation and no longer be accessible." Below this text are three columns: "Client(s)" containing "ExampleClient1" and "ExampleClient2"; "License(s)" containing "LIC1PRD", "LIC2PRD", "LIC3PRD", and "LIC4PRD"; and "License Information:" which is an empty text area. An "Associate" button is positioned between the Client and License columns. At the bottom, there are "< Back" and "Next >" buttons. A small help icon is visible in the bottom right corner of the window.

This screen allows users to associate existing client installations to the appropriate license in the agency's **License** file.

How to Map Licenses to Clients

- 1) To determine which license should be associated with the currently installed client, highlight a *License* in the list in the middle of the screen. The *License Information* grid on the right will indicate which products will be enabled by the selected license.
- 2) To associate a client with a license, select a *Client* from the first list and a *License* from the second list.
- 3) Click the **Associate** button.

Note: Any clients not associated with a license will be removed from the configuration. (The associated database will not be removed; however but it will be inaccessible via *Lucity*.)

Note: Licenses are designated either as **Production (PRD)** or **Non-Production (NPR)**.

- 4) Once all installed clients have been associated with the appropriate licenses, click **Next >**.

INSTALLED LICENSES TAB

The *Installed Licenses* tab lists all of an agency's installed clients. Highlight a *Client* on the left to display the corresponding *License Information* on the right-hand side of the screen, along with tabs for each of that client's databases.

The screenshot displays the 'Client Configuration' application window. The 'Installed Licenses' tab is active, showing a list of installed clients on the left. 'ExampleClient1' is selected. The right pane shows 'License Information' for 'ExampleClient1', including details like 'Associated Client Name', 'Database Type', and 'Licensed Products'. A 'Default Client' dropdown is also visible, set to 'ExampleClient1'.

| License Information | |
|------------------------|-----------------|
| Associated Client | clint001 |
| Associated Client Name | ExampleClient1 |
| Database Type | SQL Server |
| License Identifier | LIC1PRD |
| License Type | Seat |
| Licensed Products | Number of Seats |
| Financials Integration | 5 |
| Lucity Assets | 5 |
| Lucity GIS Desktop | 5 |
| Lucity GIS Viewer | 5 |
| Lucity GIS Web | 5 |
| Lucity Mobile | 5 |
| Lucity Work | 5 |
| Web Citizen | 5 |
| Production License | True |

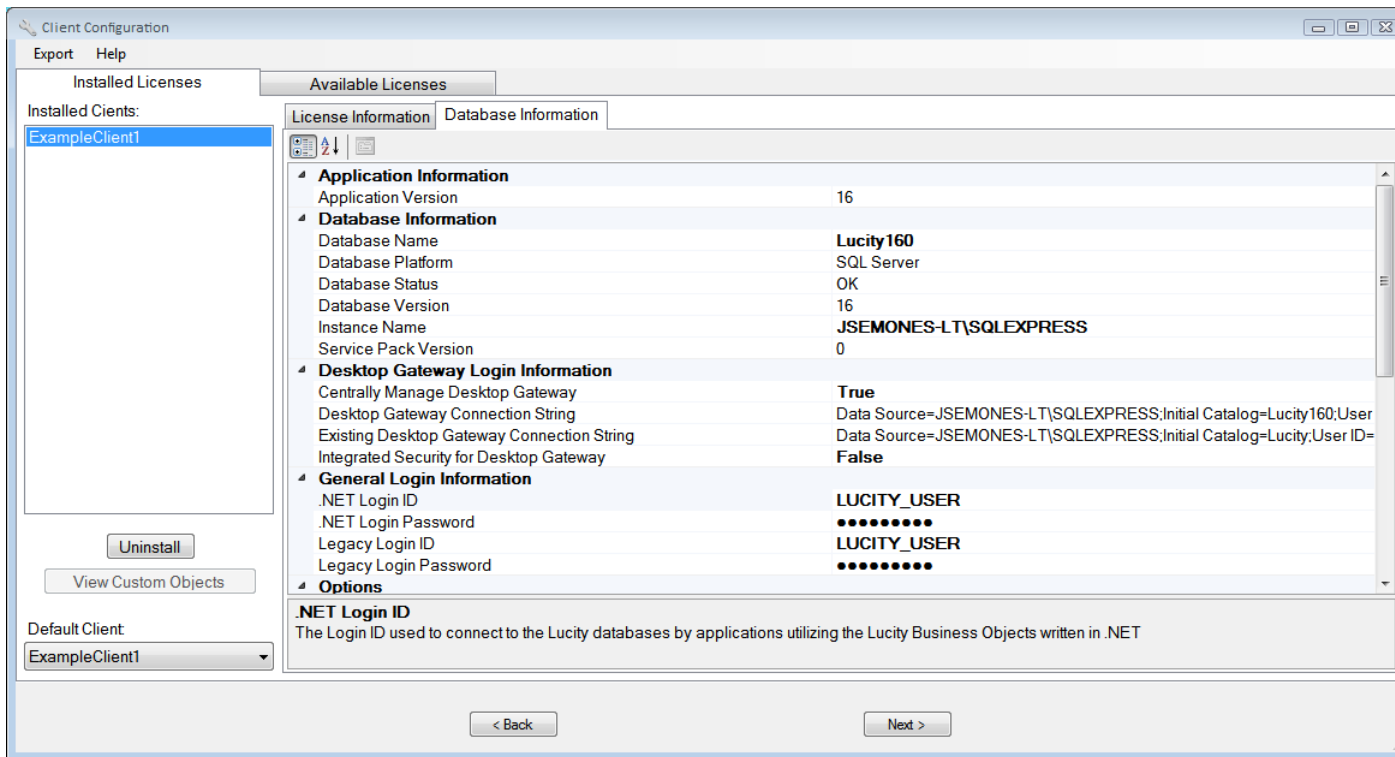
| | |
|--|---|
| <i>Installed Clients</i> | Lists all clients installed using a license from the license file. Select a client in this list to display related configuration information in the section on the right. |
| Uninstall | Removes the configuration for the selected client. The license that was used for that client reappears on the <i>Available Licenses</i> tab. |
| <i>Default Client</i> | Indicates which client various <i>Lucity</i> applications will open by default. |
| <i>License Information tab</i> | Displays details about the licenses tied to the selected client, including the number of seats available for each product contained within the license file. |
| <i>Database Information tab</i> (on page 109) | Provides configuration information about the database. The information on this tab must be filled out correctly to connect to the database. It will also vary depending on the type of database used. |
| < Back | Abandons configuration changes and returns the user to the <i>Login</i> screen. |
| Next > | Confirms the configuration and launches the <i>Database Update</i> process. |

Export Menu - This menu enables users to export the current configuration information, which can be useful when resolving an issue with Lucity Support. The user may: 1) export the information, 2) export it and email it to Lucity Support, or 3) export and email it to Support along with the *Client Maintenance* logs.

Note: The exported configuration information will not contain any password information.

DATABASE INFORMATION TAB

The *Database Information* tab, which contains configuration information about the Lucy database, is found on the *Installed Licenses* tab.



The following information must be filled out correctly on the *Database Information* tab in order to connect to the database. The information will vary depending on the type of database used.

| | |
|--|--|
| <i>Application Information</i> | Identifies the version of <i>Lucity</i> being installed. |
| <i>Database Information</i> | Specifies the location of the database. Only the items listed below can be modified. The other items are listed for convenience. |
| <i>Database Name</i> | Identifies the name of the database to which to connect. This will most likely be <i>Lucity</i> . |
| <i>Instance Name</i> * | Identifies the name of the SQL Server or Oracle Server instance. <i>Host Name</i> and <i>Port</i> are also required. These fields apply only to SQL Server or Oracle databases. |
| <i>Desktop Gateway Login Information</i> | Governs how sensitive configuration information is stored and sent across the network. Learn more >> (see " Database Connection Encryption Options " on page 124, http://help.lucity.com/webhelp/v170/install/index.htm#25355.htm) |
| <i>Active Directory Group for Gateway</i> ** | Specifies the active directory group to be used for the <i>Gateway</i> connection. If there is no login for this group on the database Instance, the system creates one and grants the necessary permissions. All <i>Lucity</i> users must log into Windows using a Windows account that is part of this group. (This field appears only when the <i>Integrated Security for Desktop Gateway</i> option is set to True .) |
| <i>Centrally Manage Desktop Gateway</i> ** | Indicates whether the unencrypted <i>Gateway</i> connection information should be stored in the Config folder of the <i>Lucity</i> share so that it can be accessed by all <i>Lucity Desktop</i> users. If this field is set to False , the <i>Gateway</i> information must be manually set up on either the workstation or in the Config folder to allow <i>Desktop</i> users to connect to the database. Note that this is a global setting that affects all clients installed in a multi-client environment. |

| | |
|---|--|
| <i>Integrated Security for Desktop Gateway</i> ** | <p>Indicates whether the <i>Gateway Login</i> should use integrated security (i.e., the Windows login of the current user). When enabled, the <i>Gateway</i> uses Windows security settings to encrypt the data that it sends to SQL Server. This field defaults to <i>True</i> for SQL Server databases and <i>False</i> for Oracle databases, because Oracle requires the user's IT department to perform additional steps to set up integrated security.</p> <p>If the <i>Centrally Manage Desktop Gateway</i> field is set to True, <i>Lucity</i> recommends using integrated security because the connection information is stored in an unencrypted file.</p> |
| <i>General Login Information</i> | Specifies the Login IDs/Passwords that various parts of the <i>Lucity</i> program should use to access the database. |
| <i>.NET Login ID</i> * | Indicates the <i>Login ID</i> to use when applications that were developed using Microsoft .NET attempt to connect to the database. This login information is retrieved via the <i>Gateway Login</i> account. |
| <i>.NET Login Password</i> * | Indicates the <i>Login Password</i> to use when applications that were developed using Microsoft .NET attempt to connect to the database. This login information is retrieved via the <i>Gateway Login</i> account. |
| <i>Legacy Login</i> | Indicates the Login ID to use when applications that were developed prior to Microsoft .NET attempt to connect to the database. |
| <i>Legacy Login Password</i> | Indicates the Login Password to use when applications that were developed prior to Microsoft .NET attempt to connect to the database. |
| <i>Options</i> | Control other settings that are specific to the client. |
| <i>Send Data Statistics to Lucity</i> | Indicates whether or not an agency wants its data statistics sent to <i>Lucity</i> . |

| | |
|---|---|
| <i>Technical Information</i> | Provides technical data about the state of the database. This information is read-only and provided for the the administrator's convenience. |
| <i>Technical Information - Custom Objects</i> | Lists the custom objects in each database; that is, those that are not part of <i>Lucity's</i> standard database. These items also appear in the <i>Custom Objects</i> report used to prepare for the Database Unification process. |
| <i>Web Gateway Login Information</i> | Specifies the login/password that <i>Lucity Web</i> uses to access the database. |
| <i>Gateway Login ID *</i> | Identifies the <i>Login ID</i> used to connect to the Lucity database. If the <i>Integrated Security for Desktop Gateway</i> option is set to False , both the <i>Lucity Web</i> and <i>Lucity Desktop</i> applications will use this account. |
| <i>Gateway Login Password *</i> | Indicates the <i>Login Password</i> to use to connect to the Lucity database. If the <i>Integrated Security for Desktop Gateway</i> option is set to False , both the <i>Lucity Web</i> and <i>Lucity Desktop</i> applications will use this account. |

* These fields only appear on the User tab.

* **More information about Desktop Gateway settings >>** (see "**Database Connection Encryption Options**" on page 124, <http://help.lucity.com/webhelp/v170/install/index.htm#25355.htm>)

AVAILABLE LICENSES TAB

The *Available Licenses* tab displays all unused licenses, allowing users to view license specifications and install licenses. Select a license on the left to view relevant details on the right. Licenses can also be installed from this screen.

How To Install a License

1) After *Client Maintenance* loads click the *Available Licenses* tab at the top of the screen.

Installed Licenses

Available Licenses

Available Licenses:

- LIC3PRD
- LIC4PRD

Install



License Information

| | |
|------------------------|-----------------|
| Associated Client | |
| Associated Client Name | |
| Database Type | SQL Server |
| License Identifier | LIC3PRD |
| License Type | Seat |
| Licensed Products | Number of Seats |
| Lucy Assets | 5 |
| Lucy Mobile | 5 |
| Lucy Work | 5 |
| Web Citizen | 1 |
| Production License | True |

Associated Client

The client associated to the Client Identifier

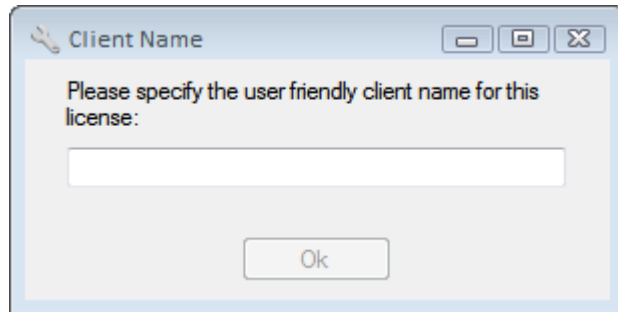
< Back

Next >

- 2) On the left is a list of licenses that are available (stored in **LicensesCodes.xml**), but not currently installed. Select a license on the left to view its properties in the window on the right.

Note: Licenses marked **PRD** are for Production use. Licenses marked **NPR** are meant to establish Test or Development environments.

- 3) To install a license, highlight it in the window on the left and click the **Install** button. The following window appears:



- 4) Provide a user-friendly name for the license and click **Ok**. (For example, you could use the name of the agency or department that will use this license).

Database Information

Please enter the information relevant to your installation.

| | |
|--|----------------|
| Database Information | |
| Database Name | Lucity |
| Database Platform | SQL Server |
| Instance Name | |
| Desktop Gateway Login Information | |
| Centrally Manage Desktop Gateway | True |
| Integrated Security for Desktop Gateway | False |
| General Login Information | |
| .NET Login ID | LUCITY_USER |
| .NET Login Password | |
| Legacy Login ID | LUCITY_USER |
| Legacy Login Password | |
| Options | |
| Send Data Statistics to Lucity | True |
| Web Gateway Login Information | |
| Gateway Login ID | LUCITY_GATEWAY |
| Gateway Login Password | |

Database Name
The name of the Lucity database.

Next >

- 5) In the form that appears, enter connection information for the database.
- **Database Information** - Specifies the location of the database(s).
 - *Database Name* - Enter the actual name of the database to connect to.
 - *Database Platform* - The system automatically completes this field based on the selected license file. If the platform is incorrect, contact *Lucity Support*.
 - *Instance Name* - Enter the name of the SQL Server or Oracle Server instance.
 - **Desktop Gateway Login Information.** Settings that control how login information is passed to the database. **More information about Desktop Gateway settings >>** (see "**Database Connection Encryption Options**" on page 124, <http://help.lucity.com/webhelp/v170/install/index.htm#25355.htm>)
 - **General Login Information** - Indicate the login credentials the Lucity programs should use to connect to the database.
 - *.NET Login ID* - Enter the *Login ID* that any Lucity application developed with Microsoft.NET should use to connect to the database. This login information is retrieved via the *Gateway Login* account.
 - *.NET Login Password* - Enter the *Login Password* that any Lucity application developed with Microsoft.NET should use to connect to the database. This login information is retrieved via the *Gateway Login* account.

Note: The .NET credentials are persisted to the Lucity database.

- *Legacy Login* - Enter the *Login ID* that any Lucity application not using .NET (older) should use to connect to the database.
- *Legacy Login Password* - Enter the *Login Password* that any Lucity application not using .NET (older) should use to connect to the database.

Note: The *Legacy* credentials are persisted to **GBALogin.mdb** in the central **CONFIG** directory.

- **Web Gateway Login Information** - Required for all clients, regardless of whether they use the Lucity Web applications. *Client Maintenance* uses the information provided to generate a new SQL Server or Oracle account and assign permissions for it. Changing the data in these fields (e.g., entering a new password) will update the information in SQL Server. Clients who use the any of Lucity web applications, however, must also go to each of their virtual directories and make such changes there (or re-install the *Web* apps).

- *Gateway Login ID* - Enter the *Login ID* required to connect to the GBAUser database to retrieve connection information for the *Lucity* databases. If the *Integrated Security for Desktop Gateway* option is set to *False*, both *Lucity Web* and *Lucity Desktop* applications will use this account.
- *Gateway Login Password* - Enter the *Login Password* required to connect to the GBAUser database to retrieve connection information for the *Lucity* databases. If the *Integrated Security for Desktop Gateway* option is set to *False*, both *Lucity Web* and *Lucity Desktop* applications will use this account.

Note: The *Gateway Login Password* should be at least 8 characters in length.

- 6) When all fields have been completed, click **Next >**.
- 7) Click the *Installed Licenses* tab at the top of the tool.
- 8) You should see your newly installed client in the list.

DATABASE UPDATE

The *Database Update* screen shows a list of all the databases that are configured to work with *Lucity* clients. Select a database in the list to view information about the database on the right.

The screenshot shows the 'Database Update' window. At the top, there is a title bar and a message: 'Client Maintenance is ready to update your Lucity databases. This is a crucial step in the Install/Upgrade process. Please review the information below and verify that it is correct before proceeding. If a database has a status of "CLEAN" please make sure the appropriate database is restored to the appropriate Instance/Server before continuing. If the information appears to be correct, please press "Update", otherwise press "Back" to return to the Client Configuration screen. Please note that if you continue without pressing "Update", some modifications to your setup information may not be made and may need to be re-entered on a subsequent run of Client Maintenance.'

| AssociatedClient | Database Name | Database Version | Service Pack Version | Database Status | Database Platform | Error Message |
|------------------|---------------|------------------|----------------------|-----------------|-------------------|---------------|
| clint001 | Lucity160 | 16 | 0 | OK | SQL Server | |

On the right side, there is a detailed view of the selected database:

- Database Status: **OK**
- Database Version: **16**
- DSN: **GBAUser001**
- DSN Connection Str: **DSN=GBAUser001;U**
- Instance Name: **JSEMONES-LT\SQLE**
- Root Database Nam: **GBAUser**
- Service Pack Versio: **0**
- Desktop Gateway Login Information**
 - Centrally Manage D: **True**
 - Desktop Gateway C: **Data Source=JSEMC**
 - Existing Desktop Ga: **Data Source=JSEMC**
 - Integrated Security f: **False**
- General Login Information**
 - .NET Login ID: **LUCITY_USER**
 - Legacy Login ID: **LUCITY_USER**
- .NET Login ID**

The Login ID used to connect to the Lucity databases by applications utilizing the Lucity Busin...

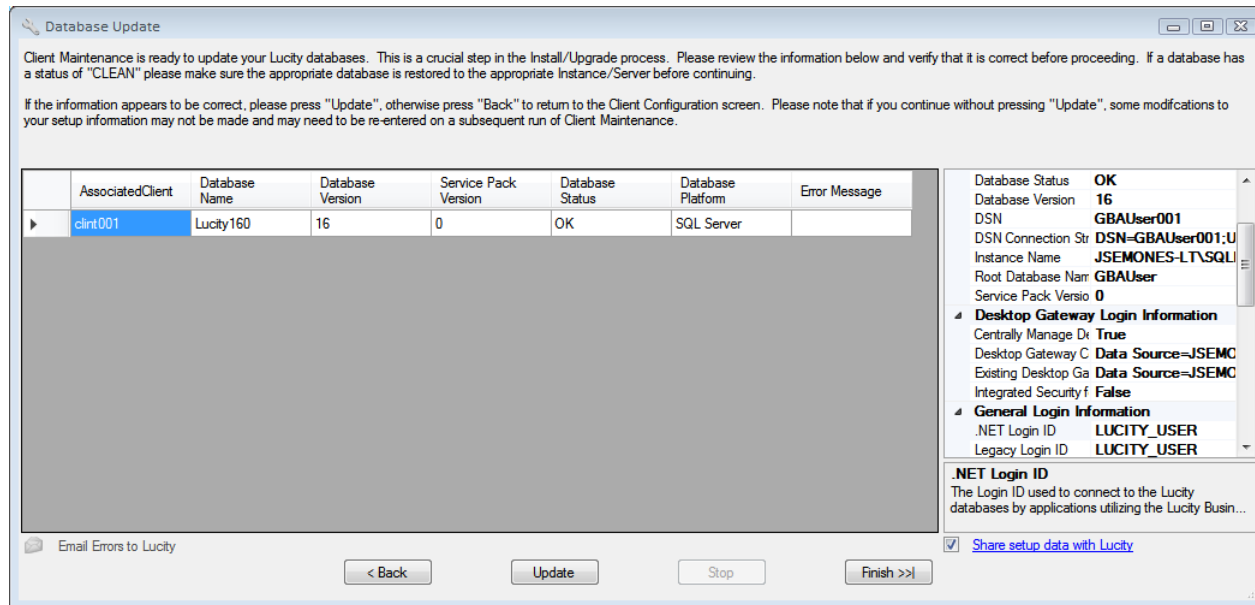
At the bottom, there is a checkbox for 'Email Errors to Lucity' and a checkbox for 'Share setup data with Lucity' (checked). Below these are buttons for '< Back', 'Update', 'Stop', and 'Finish >>|'.

| | |
|-------------------------------|---|
| < Back | Returns to the previous screen. |
| Update | Runs the <i>Database Update</i> , which examines each client's database to ensure that it is on the latest version and service pack. |
| Stop | Stops an update that is currently in progress. Note that this action does not stall the process on the current database; instead, it keeps the process from continuing to the next database. |
| Finish >> | Closes <i>Client Maintenance</i> and saves all configuration settings. |
| Email Errors to Lucity | Emails any error messages that occurred during a <i>Database Update</i> directly to <i>Lucity Support</i> . |

How to run a database update

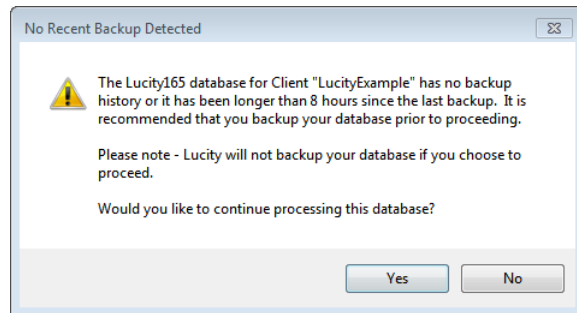
The *Database Update* process is used to evaluate each database and perform any updates necessary to ensure that the software is current.

Note: This process is critical. Please read the *Database Update* screen carefully.



- 1) Review the information displayed. As a database is selected in the table, related information is displayed in the box on the right.
- If the information appears to be correct, click **Update**, and the *Database Update* process will begin.
 - If the information is incorrect, click the **< Back** button. The program will return to the *Client Configuration* screen, where the user may modify the setup.

- 2) If your database has not been backed up within the last 8 hours you will receive the following prompt. If you have not backed up your database you should do so now.



- Click **Yes** when you are ready to proceed with the update.
- 3) As each database is processed, several status screens appear. You'll also notice that the navigation buttons are disabled, and the **Stop** button is enabled. Clicking **Stop** does not terminate processing of the current database; rather, it prevents any additional database processing after the current database is complete.

The **Database Status** changes to **OK** when a database is processed without error. If an error does occur:

- an error message dialog appears,
- the error is recorded in the **Error Message** column of the grid, and
- an error log file is generated.

When the *Database Update* process is complete, users can click the *Email Errors to Lucity* option to create an email message with the error and configuration information attached. Be assured that no password information is stored in the configuration information sent to *Lucity*.

- 4) Click the **Finish >>|** button when the entire *Update* process is complete to save the configuration information and exit *Client Maintenance*.

Note: If you click the **Finish >>|** button before clicking **Update**, the system will skip all database processing. **This is not recommended.**

- 5) The rest of the *Server/Database* installation will be completed.

DATABASE CONNECTION ENCRYPTION OPTIONS

When *Lucity* programs connect to a SQL Server or Oracle database, they have to send login credentials. Because these credentials are usually sent out over a network, there is a possibility they could be intercepted.

Lucity provides several different options for managing and securing configuration information.

Managing Database Connection Encryption

The connection encryption can be managed using:

- *A centrally managed desktop gateway* - Enables an administrator to make changes in a single location and automatically download those changes to each workstation. (This is the default setting.)
- *Manual configuration* - Requires an administrator to visit each machine to make changes to the database connection configuration. This option can be more secure than using a centrally managed desktop gateway.

Database Connection Encryption

Once an agency has decided how to manage encryption, it can choose one of three methods for encrypting the connection credentials:

- 1) *Integrated security* - Uses Windows authentication (through an active directory group) to encrypt and send connection credentials to the database.
- 2) *Unencrypted credentials* - Give users access to a very limited set of stored procedures, rather than the entire database.
- 3) *Encrypted credentials* - Requires an agency to set up encryption manually. (This is the most secure method.)

Management + Encryption Options

The following matrix outlines each of the database types and the options for managing the deployment of these configurations:

| | | |
|--|--------------------------|-----------------------------|
| | <i>Centrally Managed</i> | <i>Manual Configuration</i> |
|--|--------------------------|-----------------------------|

| | | |
|----------------------------------|---|---|
| <i>Integrated Security</i> | X | X |
| <i>Unencrypted Configuration</i> | X | X |
| <i>Encrypted Configuration</i> | | X |

Defaults

- **SQL Server** - Centrally Managed, Integrated Security
- **Oracle** - Centrally Managed, Unencrypted Configuration

How to set up centrally managed integrated security

- 1) While installing the client or reviewing the settings, look at the GBAUser database settings.

Database Information

Please enter the information relevant to your installation.

| | |
|---------------------------|-------------|
| Database Information | |
| Database Name | GBAComm |
| Database Platform | SQL Server |
| General Login Information | |
| Legacy Login ID | LUCITY_USER |
| Legacy Login Password | ●●●●●●●● |

Database Name
The name of the Lucity database.

Next >

- 2) Make sure the *Centrally Managed Desktop Gateway* setting is set to *True*.
- 3) Make sure the *Integrated Security for Desktop Gateway* setting is set to *True*.
- 4) In the *Active Directory Group for Gateway* setting, enter an Active Directory group or click ... for a list of groups.
- 5) Provide the Web Gateway login credentials in the *Gateway Login ID* and *Gateway Login Password* fields. (This is used to generate the Gateway account; it is NOT saved in the **Config** folder.)

How to set up centrally managed unencrypted security

- 1) While Installing the client or reviewing the settings, look at the GBAUser database settings.

Database Information

Please enter the information relevant to your installation.

| | |
|----------------------------------|-------------|
| Database Information | |
| Database Name | GBAComm |
| Database Platform | SQL Server |
| General Login Information | |
| Legacy Login ID | LUCITY_USER |
| Legacy Login Password | ●●●●●●●● |

Database Name
The name of the Lucity database.

Next >

- 2) Make sure the *Centrally Managed Desktop Gateway* setting is set to *True*.
- 3) Make sure the *Integrated Security for Desktop Gateway* setting is set to *False*.
- 4) Enter the Web Gateway login credentials in the *Gateway Login ID* and *Gateway Login Password* fields. (This information is used to generate the Gateway account, which is then saved (unencrypted) in the **Config** folder.)

How to set up manually encrypted security

- 1) While Installing the client or reviewing the settings, look at the GBAUser database settings.

Database Information

Please enter the information relevant to your installation.

| | |
|---------------------------|-------------|
| Database Information | |
| Database Name | GBAComm |
| Database Platform | SQL Server |
| General Login Information | |
| Legacy Login ID | LUCITY_USER |
| Legacy Login Password | ●●●●●●●● |

Database Name
The name of the Lucity database.

Next >

- 2) Make sure the *Centrally Managed Desktop Gateway* setting is set to *False*.
- 3) Make sure the *Integrated Security for Desktop Gateway* setting is set to *False*.
- 4) Enter the Web Gateway login credentials in the *Gateway Login ID* and *Gateway Login Password* fields. (This information is used to generate the Gateway account; it is NOT saved to the **Config** folder.)
- 5) Configure each desktop manually using the *Encryption* tool provided. **Learn more >>** (see "**Encryption Tool**" on page 134)

ENCRYPTION TOOL

The *Encryption* tool is installed in the **bin** directory (**\\Lucity\bin\Lucity.EncryptConfigurations.exe**) of any machine on which the *Admin Tools* were installed during the *Lucity Desktop* installation. The *Encryption* tool is not deployed to all workstations by default. To use the tool on other machines, Lucity recommends that an administrator:

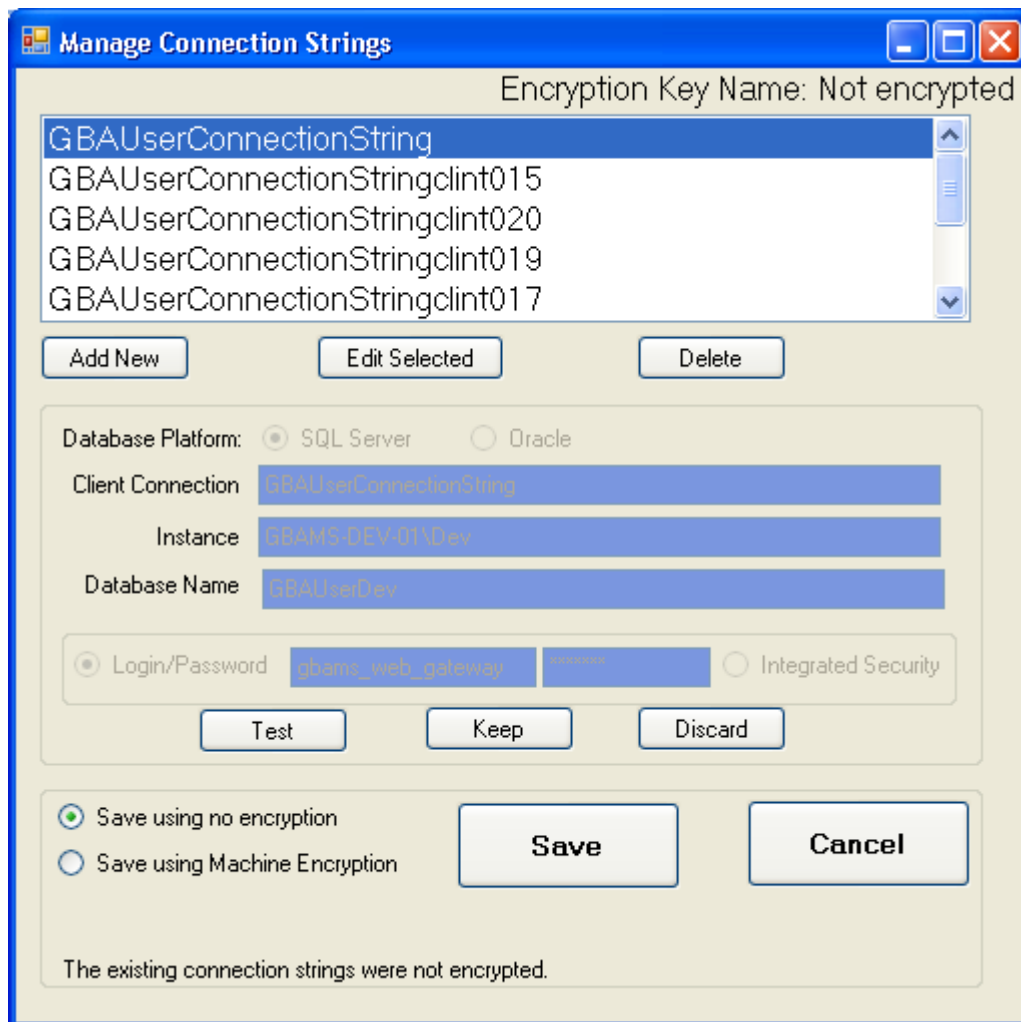
- copy the executable file locally to each workstation's **bin** folder;
- use the program to configure and encrypt the connection strings; and
- delete the program from the workstation when you are done using it.

The primary purpose of the *Encryption* tool is to enable administrators to change the encrypted passwords in the configuration files of the Lucity web applications. To use it there, copy the *Lucity.EncryptConfigurations.exe* and *Lucity.EncryptConfigurations.exe.Config* files to the root of the web application folder (the same folder that holds the *connections.config* file). Then run the tool from that folder.

When running *Lucity.EncryptConfigurations.exe* for a Lucity web application, the contents of the **Lucity.EncryptConfigurations.exe.config** file should be:

```
<?xml version="1.0"?>
<configuration >
<connectionStrings configSource="connections.config" />
</configuration>
```

How To Use the Tool



1) Click **Add New** to add a connection string for a new client. (Each client will have only one connection string.)

- Indicate the *Database Platform* (SQL Server or Oracle), the *Connection String*, *Instance*, and *Database Name*.
- Choose whether to use *Login/Password* or *Integrated Security*.
- 2) Click **Edit Selected** to edit a *Connection String* for an existing client.
 - The *Instance* and *Database Name* are now editable.
 - Choose whether to use *Login/Password* or *Integrated Security*.
- 3) Click **Delete** to remove a *Connection String* from an existing client.
- 4) Click **Test** to validate the selected *Connection String*.
- 5) Save any changes, electing to *Save using no encryption* or to *Save using Machine Encryption*.

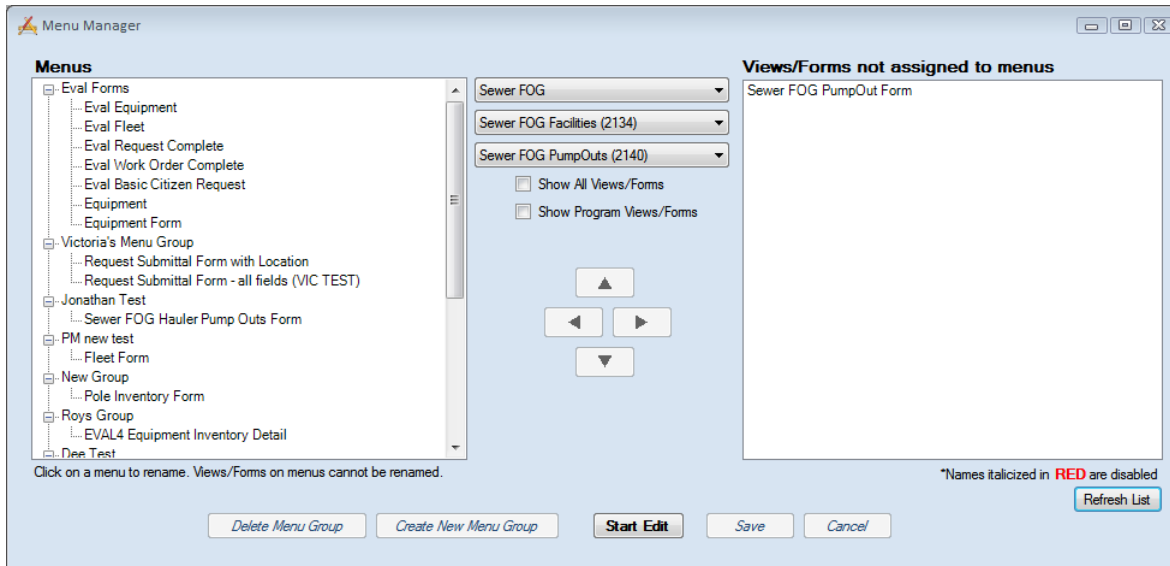
NAVIGATION

The *Navigation* section of the *Lucity Administration* tool enables administrators to create a set of menus in the *Web* application, giving users quick access to the *Views* and *Forms* they use regularly.



Menus consist of *Menu Groups* that contain *Views* or *Forms*. They appear under the *Menu* tab in *Lucity Web*.

Note: Users are only able to see particular menu items if they are ***in a group to which the View or Form is assigned*** (see "***Assign Groups to Views/Forms***" on page 317).

Note: Only *Forms* that have the *Allow on Menu/Favorites Form Option* (see "*Form Options*" on page 207) enabled can be added to a *Menu*.



TOOLS

| | |
|---|--|
| <i>Menus</i> | Displays all <i>Menus</i> currently established within <i>Lucity Web</i> . |
| Module Selection Drop-downs | Enables the user to select a <i>Program</i> , a <i>Module</i> , and one of its <i>Components</i> to control which <i>Views/Forms</i> are displayed in the grid. |
| Show All Views/Forms | Overrides the module selection drop-downs and displays all unassigned <i>Views</i> and <i>Forms</i> for all modules. |
| Show Program Views/Forms | Displays all the View/Forms for all <i>Modules</i> and <i>Components</i> below the selected <i>Program</i> in the first drop-down. |
| <i>Views/Forms not assigned to menus</i> | <p>Lists any <i>Views</i> and <i>Forms</i> that are not currently assigned to a <i>Menu</i>.</p> <p>Note: This list only shows <i>Forms</i> that have the <i>Allow on Menu/Favorites form option</i> (see "<i>Form Options</i>" on page 207) enabled.</p> |
| Refresh List | Refreshes the <i>Views/Forms not assigned to menus</i> grid. |
|  | Allows the user to move a <i>View/Form</i> back and forth between the <i>Menus</i> and <i>Views/Forms not assigned to menus</i> grids. |
|  | Allows the user to move a <i>View/Form</i> up and down in the <i>Menus</i> grid. |
| Delete Menu Group | Deletes the selected <i>Menu Group</i> from the <i>Menus</i> grid. |
| Create New Menu Group | Creates a new <i>Menu Group</i> in the <i>Menus</i> grid. After creating the <i>Menu</i> , click on it in the grid to rename it. |
| Start Edit | Enables users to modify the <i>Menu</i> . |
| Save | Saves all edits to the <i>Menus</i> and exits Edit mode. |
| Cancel | Cancels any edits and exits Edit mode. |

How to add a new Menu Group

- 1) At the bottom of the *Menu Manger* screen, click the **Start Edit** button (center).
- 2) Click the **Create New Menu Group** button at the bottom of the screen. A "New Group" listing appears in the left-hand grid.
- 3) Right-click on the "New Group" listing and type a new name. This is the name that will appear in *Lucity Web's Menus* grid.
- 4) Use the up or down arrows to rearrange the *Menu* groups, if necessary. The system moves any *Views/Forms* contained within those menu groups along with them.
- 5) Click *Save* when finished.

Note: To delete a menu group, click the *Start Edit* button. Then, highlight a group listing and select the *Delete Menu Group* button. All *Views/Forms* within that menu group are removed from the menu and added to the *Views/Forms not assigned to menus* grid.

How to add Views/Forms to a Menu

The *Forms* appear on the right-hand side of the *Menu Manager* dialog.

- 1) Click the **Start Edit** button.
- 2) To add a *View* or *Form* to the *Menu*, highlight a menu group in the left-hand *Menus* grid.
- 3) Then, highlight the *View/Form* to add to the *Menu* in the right-hand *Views/Forms not assigned to menus* grid.
 - Names in red are disabled. These items can be assigned to *Menus*, but they will not appear on the web site until they have been enabled using **Form Options** (on page 207).
 - If a *Form* name does not appear in the list of available forms, it may need to be "allowed" on the menu. This option must be turned on for *Forms* using the **Form Options** (on page 207).
- 4) Use the left-arrow button to move the *View/Form* to the *Menus* grid.

- 5) To rearrange the *Forms* in the *Menu*, use the **up or down arrows**.
- 6) To remove a form from a menu listing, use the **right arrow** button.
- 7) Click *Save* when changes are complete.

Note: *Templates* cannot be added to *Menus*. All *Templates* must be copied before they can be used. For additional information on working with *Templates*, see the *Form Templates* topics.

SAMPLE MENU

Below is a sample of a menu as it would appear on *Lucity Web*. The *Menu* appears on the Open a View screen when you click the **+** button on.

Open a View

| Favorites | Menu | Modules |
|---|--|--|
| Illicit Discharge Work Orders Requests | <ul style="list-style-type: none">+ Eval Forms+ Victoria's Menu Group+ Jonathan Test+ PM new test+ New Group+ Roys Group+ Dee Test+ Matt's Menu+ Another New Group | <ul style="list-style-type: none">+ General+ Environmental+ Sewer+ Storm+ Environmental Compliance+ Transportation+ Water+ Electric+ Tree/Park+ Fleet+ Plant/Equipment+ Facility+ Refuse/Recycle+ Work+ Warehouse Inventory+ System Configuration |
| Recent Work Options (61) Work Requests (50) Work Orders (48) Storm Illicit Discharges (508) Electric Stations (1003) Street ITS Camera Locations (2712) Street ITS Automated Gates (2710) | | |

Cancel

FORMS

The *Lucity Web* system allows administrators to create custom *Views* and *Forms* to be used online. All *Web* modules are made up of three main components: *Views*, *Grids*, and *Forms*. These components are described briefly below.

View

Record

Grid

Grid

Form

Equipment ID | Equipment ID Text | Operating Status Text | Equipment Type Text | Assigned To | Assigned To Email | Department Text

| | | | | | | | |
|---|------------|----------------------------|-------------|---------------|--|--|-------------------|
| + | MB-ACD1004 | AIR COND. AFD1004 CABINET | Operational | AIR CONDITION | | | Middle Basin HVAC |
| + | MB-ACD1005 | AIR COND. AFD1005 CABINET | Operational | AIR CONDITION | | | Middle Basin HVAC |
| + | MB-ACD3001 | AIR CONDITION UNIT | Operational | AIR CONDITION | | | Middle Basin HVAC |
| + | MB-ACD4001 | AIR CONDITION UNIT | Operational | AIR CONDITION | | | Middle Basin HVAC |
| + | MB-ACD6001 | AIR CONDITION UNIT MBWACK1 | Operational | AIR CONDITION | | | Middle Basin HVAC |
| - | MB-ACD7001 | AIR CONDITIONER | Operational | AIR CONDITION | | | Middle Basin HVAC |

Costs (0) | Insurance Costs (0) | Fluids (0) | Hour Rollbacks (0) | Other Meter Rollbacks (0) | Parent (0) | Parts (0) | Dependents (0) | Status (0) | Components (0) | Tasks (0) | Email Tracking (0)

Thresholds (0) | Location History (0) | Comments (0) | PMWork Templates (2)

| | | | | | |
|---------------------|--|----------|------------------------|-----------|-------------------------------------|
| PM/Template | PM/Template Text | Category | Category Text | Main Task | Main Task Text |
| MB-ACD7001-*030 DAY | AIR CONDITIONER - 30 DAY / 500 TO 1000 HOUR SERVICE | USP5 | Middle Basin Equipment | SWPT85 | 30 DAY / 500 TO 1000 HOUR SERVICE ^ |
| MB-ACD7001-*365 DAY | AIR CONDITIONER - 365 DAY / 6001 TO 10000 HOUR SERVICE | USP5 | Middle Basin Equipment | SWPT91 | 365 DAY / 6001 TO 10000 HOUR SERV |

Equipment_Inventory Form

Equipment ID* MB-ACD7001 | Equipment ID Text AIR CONDITIONER | Equip Rec # 12462 | Plant

Operating Status 1 | Operational | Equipment Type ACD | AIR CONDITION | Facility | Fleet

General

Assigned To: _____ | Priority: _____

Assigned To Email: _____

Work Employee: _____ | Make: _____

Manufacturer: 1980 | MARVAIR AIRCEL INC | Division: 1 | WWTP

Model: AVP42ACD09NU-1000G5 | Account: _____

Serial Number: FT-F000108131-000-001 | PM Account #: _____

Year: _____ | Asset Number: _____

Department: 104 | Middle Basin HVAC | Plant ID: MB | Middle Basin

Group: 1 | Wastewater | Process: MB-05

Plate: _____ | Fleet ID: _____

Area: _____

Location Desc: _____

91 - 100 of 2798 items

View Views control how data is structured or displayed on screen. A *View* can either show all of the records in a single module or a limited set of records for a module, based on a preset filter. Views can be launched from the *Modules* tab, the *Menu* tab, or from a *Dashboard* plugin.

Each *View* contains one or more grids.

Forms may be attached to *Views* to allow users to open individual records for more detailed information.

Grids display a list of records from the module for which the view has been built. Each record displays a set of general information (customized by system administrators). If a record contains child records, the record can be expanded to display the grid of related child records. Attached to each grid is a toolbar that enables users to perform different operations.

Example: A parent *Work Order* grid may contain child *Resources*, *Tasks*, and *Tracking* grids.

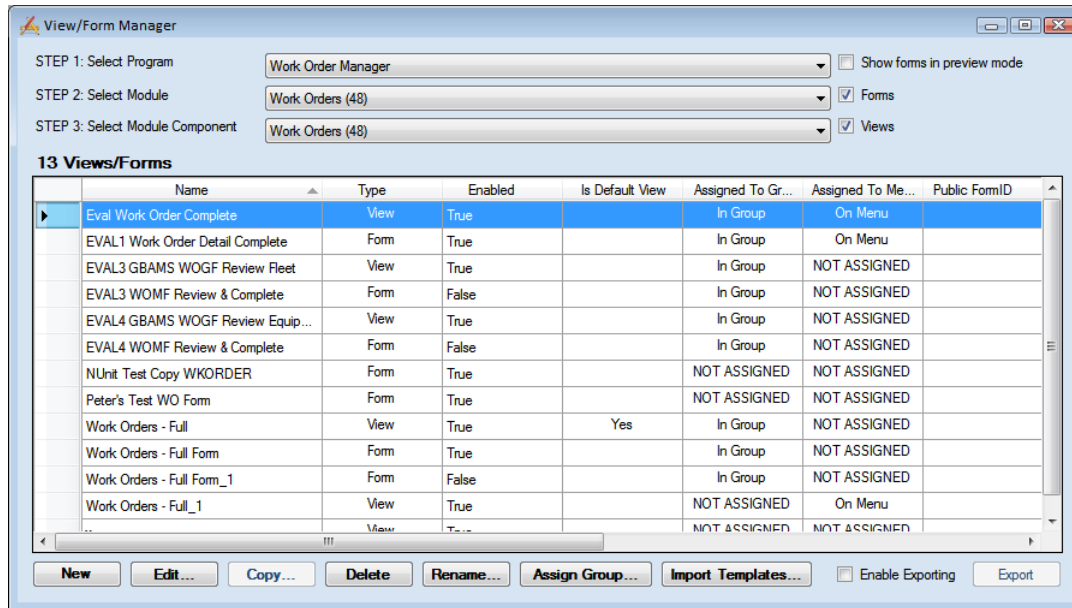
Forms display individual records and can be customized (by system administrators) to let users see record details or to edit a record. *Forms* can be launched from a grid or a menu, depending on system settings. *Forms* are always launched in a separate pop-up window.

The following sections display how to import new *Views*, *Grids*, and *Forms*, how to modify them, and how set them up for use.

Remember: Each component can be fully customized; the screenshots included in this help guide are only examples.

VIEW/FORM MANAGER

The Form Manager allows administrators to create, edit, and delete views (see "View Builder" on page 161) and **forms** (see "**Form Editor**" on page 168), as well as perform certain other functions.



DISPLAY CONTROLS

Module Selection Drop-downs

Enables the user to select a *Program*, a *Module*, and one of its *Components*. Used to control which *Views/Forms* are displayed in the grid. List of available Modules

Show forms in preview mode checkbox

Displays *Forms* that are currently in *Preview Mode*, allowing an administrator to delete any duplicates.

While a form is being edited, the system saves it in *Preview Mode*. Occasionally, duplicate forms are created if the program closes unexpectedly while a user is editing. In these instances, administrators can clear the duplicate forms by:

- Checking the *Show forms in preview mode* box.
- After confirming that no other user is working on the duplicate form, selecting it and clicking **Delete**.

Forms checkbox

Displays *Forms* in the grid.

Views checkbox

Displays *Views* in the grid.

FIELDS

Name

The name of the *View* or *Form*.

Type

Indicates whether the item is a *View* or *Form*.

Enabled

Indicates that the *Form* has been **enabled** (see "**Form Options**" on page 207). Only forms that have been enabled can be assigned to menus.

Is Default View

Indicates which *View* serves as the default or preferred *View*. (There is only one default per module.)

Assigned to Group

Indicates that the *View* or *Form* has been **assigned to a Group** (see "**Assign Groups to Views/Forms**" on page 317).

| | |
|--|---|
| <i>Assigned to Menu</i> | Indicates that the <i>View</i> or <i>Form</i> has been assigned to a Menu (see " <i>Navigation</i> " on page 137). |
| <i>Public Form ID</i> | Shows the ID assigned when a <i>Form</i> is used as a <i>Citizen Portal</i> form. |
| <i>Alt. Menu Name</i> | Indicates the alternate name that is displayed when the <i>View</i> or <i>Form</i> is used on a <i>Menu</i> . |
| <i>Modified By, Last Modified Date</i> | Identifies the last user to modify a <i>View/Form</i> and the date on which it was modified. |
| <i>Is Preview</i> | States whether the <i>Form</i> is currently saved in Preview Mode. |
| <i>Lucity Version</i> | Identifies the version of Lucity for which the <i>View/Form</i> was created. |

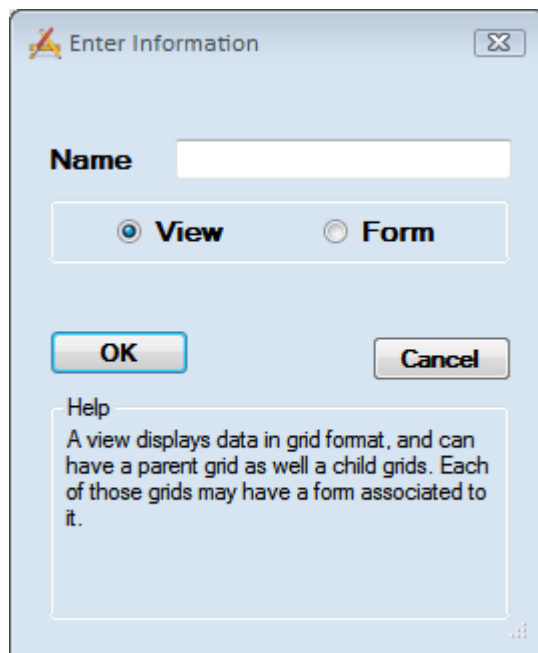
TOOLS

| | |
|----------------------------|--|
| New | Creates a new <i>View</i> or <i>Form</i> record. |
| Edit | Opens the selected record in Edit Mode. |
| Copy | Duplicates the selected record. |
| Delete | Erases the selected record. |
| Rename | Allows the user to provide a new name for the selected record. |
| Assign Group | Opens up the Assigns Groups to Forms (see " Assign Groups to Views/Forms " on page 317) window. |
| Import Templates... | Enables users to import Template Views and Forms (see " Import Template Views/Forms " on page 239). Users can also import templates from the <i>Form</i> menu. |
| <i>Enable Exporting</i> | Disables all of the previous tools (except for Assign Group) and enables the Export button. |
| Export | Exports (see " Exporting Views/Forms " on page 157) the currently selected record as an xml file, which can then be imported. |

Note: Lucity provides *pre-built forms that agencies can import* (see "*Import Template Views/Forms*" on page 239).

How To Add a View

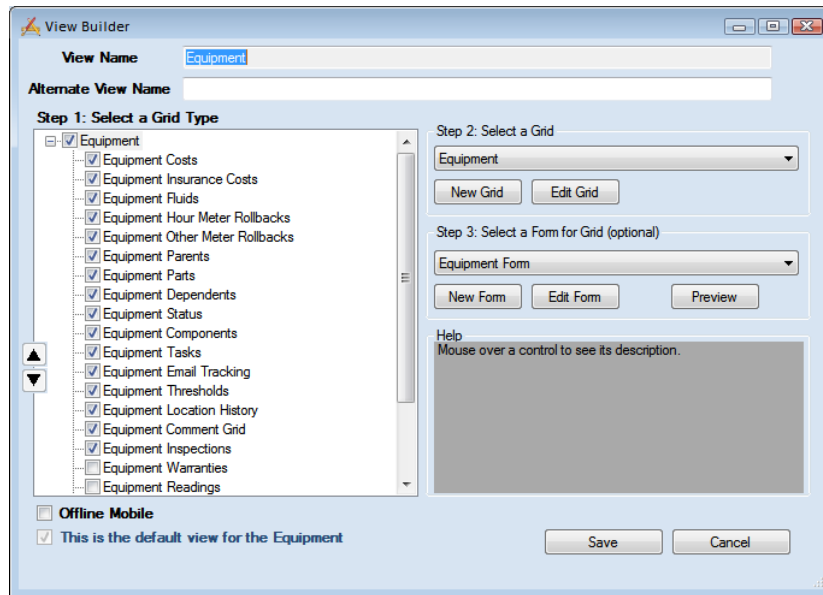
- 1) Use the **Module Selection** drop-downs at the top of the *View/Form Manager* to locate the module to which to add the *View*.
- 2) Click the **New** button. The following dialog appears:



The screenshot shows a dialog box titled "Enter Information" with a close button in the top right corner. It contains a text input field labeled "Name". Below the input field are two radio buttons: "View" (which is selected) and "Form". At the bottom of the dialog are "OK" and "Cancel" buttons. A "Help" section at the bottom contains the following text: "A view displays data in grid format, and can have a parent grid as well a child grids. Each of those grids may have a form associated to it."

- 3) Select **View**.

4) Enter a *Name* for the view and click **OK**. The **View Builder** (on page 161) opens:

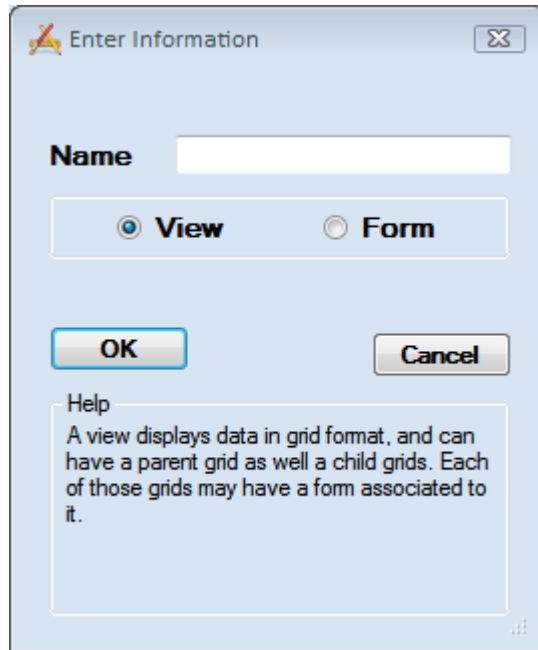


5) Modify the *View* as desired and **Save**.

How To Add a Form

1) Use the **Module Selection** drop-downs at the top of the *View/Form Manager* to find the module to which to add the *Form*.

2) Click the **New** button. The following dialog appears:



The dialog box is titled "Enter Information" and features a close button in the top right corner. It contains a text input field labeled "Name". Below the input field are two radio buttons: "View" (which is selected) and "Form". At the bottom of the dialog are "OK" and "Cancel" buttons. A "Help" section at the bottom provides the following text: "A view displays data in grid format, and can have a parent grid as well a child grids. Each of those grids may have a form associated to it."

3) Select **Form**.

- 4) Enter a *Name* for the *Form* and click **OK**. The **Form Editor** (on page 168) opens:

The screenshot shows the 'Form Editor - Enter & Complete Form' window. The interface is divided into several sections:

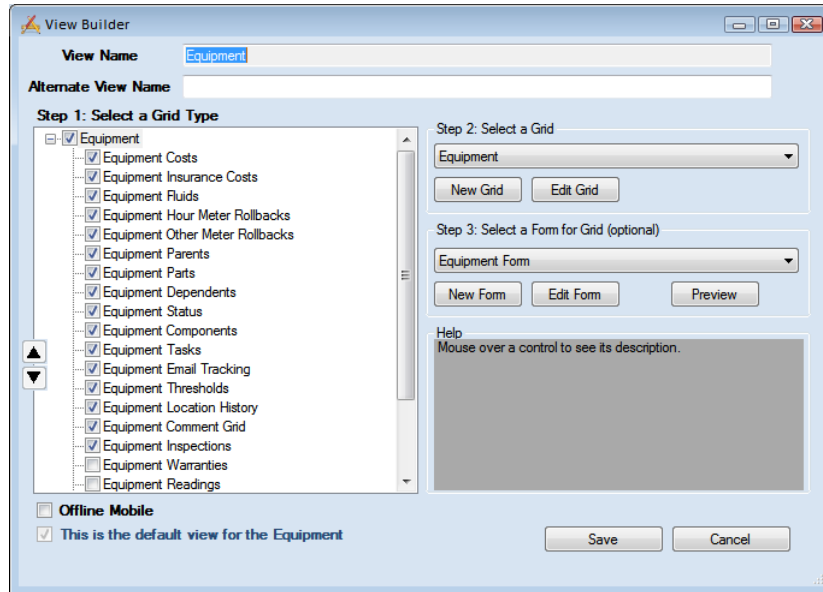
- Form Toolbar:** Located at the top, it includes icons for grid, save, add, text input, search, and refresh.
- Form Details:** A list of fields on the left side, including Category, Problem, Main Task, Assigned Crew, Lead Worker, Reason, Status, and Work Order #.
- Component Properties:** A table showing details for the selected 'Category' field:

| | |
|----------------|--------------|
| Component Type | Category |
| FieldName | WO_CAT_CD |
| Fields TableID | 25 |
| PropertyName | CategoryCode |
| TableName | WKORDER |
- Data:** A section showing 'CarryOver' set to 'True'.
- CarryOver:** A note stating 'If True, show Carry Over button.'
- Form Preview:** A visual representation of the form with fields for Category*, Problem, Main Task, Assigned Crew, Lead Worker, Reason, Status, and Work Order #. The 'Status' field contains the value '2 New Work Order'. A 'Submit' button and a help icon are visible at the bottom right of the preview area.

- 5) Modify the *Form* as desired and **Save**.

How To Edit a View

- 1) Use the **Module Selection** drop-downs at the top of the *View/Form Manager* to find the module with the *View* in need of editing.
- 2) Select a *View* and click **Edit**. The **View Builder** (on page 161) opens:



- 3) Modify the *View* as desired and **Save**.

How To Edit a Form

- 1) Use the **Module Selection** drop-downs at the top of the *View/Form Manager* to find the module with the *Form* in need of editing.

2) Select a *form* record and click **Edit**. The **Form Editor** (on page 168) opens:

The screenshot displays the 'Form Editor - Enter & Complete Form' window. It features a 'Form Toolbar' at the top with various icons for editing and viewing. On the left, the 'Form Details' sidebar lists fields: Category, Problem, Main Task, Assigned Crew, Lead Worker, Reason, Status, and Work Order #. Below this, a 'Component' table is shown:

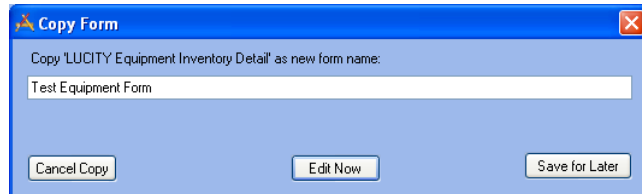
| Component | |
|----------------|--------------|
| Component Type | Category |
| FieldName | WO_CAT_CD |
| Fields TableID | 25 |
| PropertyName | CategoryCode |
| TableName | WKORDER |

Below the table, a 'Data' section shows 'CarryOver' set to 'True'. A 'CarryOver' section explains: 'If True, show Carry Over button.' A 'Limit List' button is at the bottom of the sidebar. The main 'Form Preview' area shows a form with fields for Category*, Problem, Main Task, Assigned Crew, Lead Worker, Reason, Status, and Work Order #. The 'Status' field contains '2 New Work Order'. A 'Submit' button and a help icon are at the bottom right.

3) Modify the *Form* as desired and click **Save**.

How To Copy a Form

- 1) Use the **Module Selection** drop-downs at the top of the *View/Form Manager* to find the module with the *Form* you would like to copy.
- 2) Select a form and click **Copy**. The following pop-up appears:



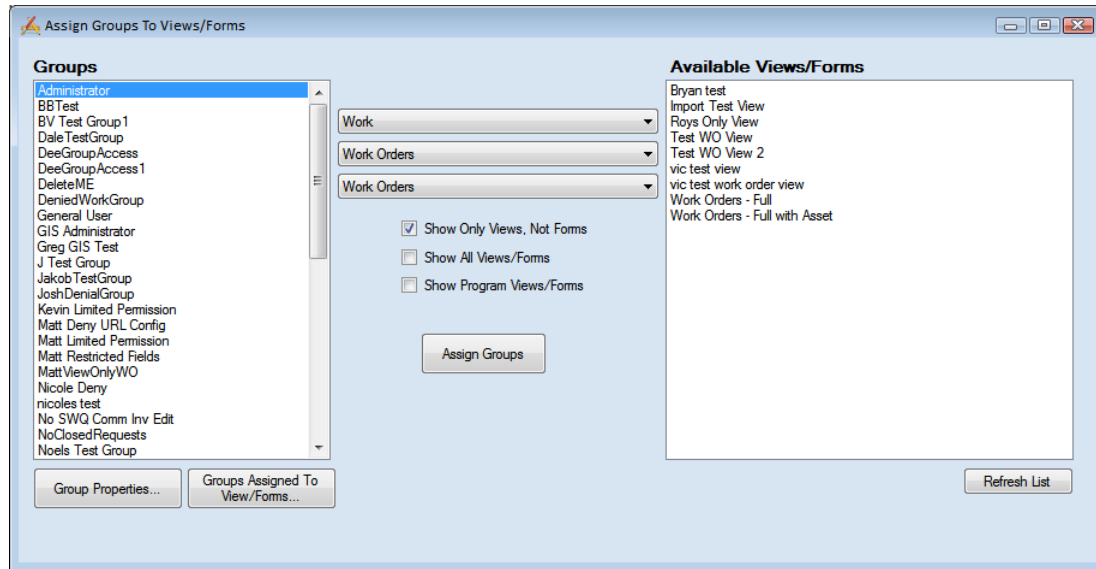
- 3) Enter a name for the copied *Form* in the field provided.
 - Click **Cancel Copy** to cancel.
 - Click **Edit Now** to open the copy in the **Form Editor** (on page 168).
 - Click **Save for Later** to save the copy without editing it.

How To Rename a View or Form

How To Assign a Group

- 1) Select a record in the grid in the *View/Form Manager*.
- 2) Click **Assign Group**.

3) The *Assign Groups to Views/Forms* window opens with the *View* or *Form* selected.



4) Select a *Group* on the left and click **Assign Groups**.

5) Close the *Assign Groups for Views/Forms* window.

UNSUPPORTED MODULES

The following modules are not yet supported by *Lucity Web* and must be accessed using *Lucity Desktop*. Any module not listed here is supported in *Lucity Web*.

Work

- *Work Asset Setup*

Sewer

- *Sewer Rehab*
 - *Rehab Projects*
 - *Model*
 - *Pipe Analysis Details*
 - *Rehab Work Tasks and Costs*
 - *Default Rehab Work Tasks*
 - *Material Types*
 - *Surface Types*
 - *Accessibility*

EXPORTING VIEWS/FORMS

Often users want to create *Views* and *Forms* in their test environment and then load them into their production environment. At the bottom-right of the *View/Form Manager* there is an *Enable Exporting* checkbox and an **Export** button. These functions let users export *Views* and *Forms* created in one *Lucity* client and import them to another.

View/Form Manager

STEP 1: Select Program: Accident Manager

STEP 2: Select Module: Accident Data Management

STEP 3: Select Module Component: Accident Data Management

Show forms in preview mode

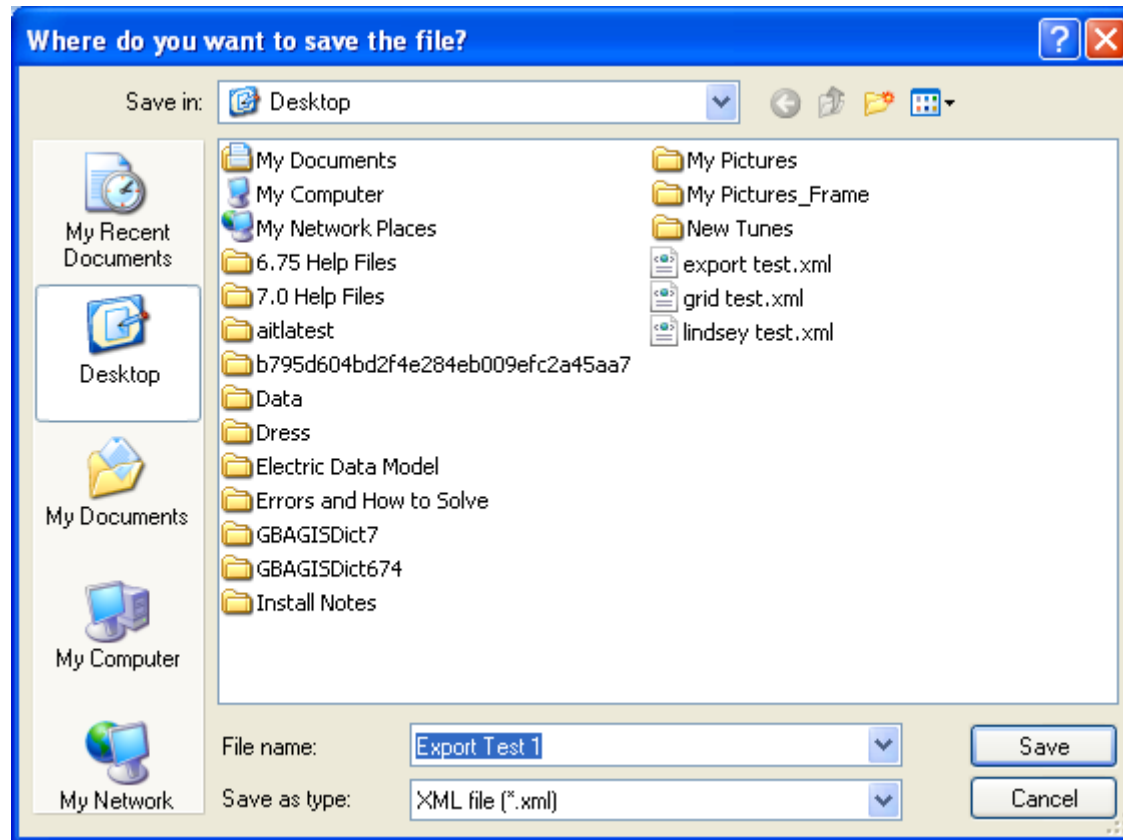
2 Views/Forms

| | Name | Type | Enabled | Custom/Template | Assigned To Gr... | Assigned To Me... | Public FormID |
|---|--------------------------|------|---------|-----------------|-------------------|-------------------|---------------|
| ▶ | Accident Data Management | View | True | Custom | In Group | NOT ASSIGNED | |
| | r4 | View | True | Custom | In Group | NOT ASSIGNED | |

Enable Exporting

How To Export Views/Forms

- 1) Check the *Enable Exporting* box at the bottom right-hand corner of the screen. Doing so will disable most other buttons.
- 2) Choose one or more *Views/Forms* to export and select **Export**. The following window appears:



- 3) Browse to the location to which to save the export.

- 4) Name the export file, and select **Save**. One **.xml** file will be saved at that location. That file will contain all of the *Views/Forms* that were selected in the *View/Form Manager*.

Note: See the *Import from XML* (see "*Import Template Views/Forms*" on page 239) topic to learn how to import a *Grid* or *View*.

Note: If another *View* is attached to the *View* being exported, only the **name** of the attached *View* will be carried over when the original *View* is imported. To include everything that is attached to the *View* you are exporting, export the attached *Views* first, then export the original *View*. When the attached *Views* are imported, they will be linked to the original export because of their shared name.

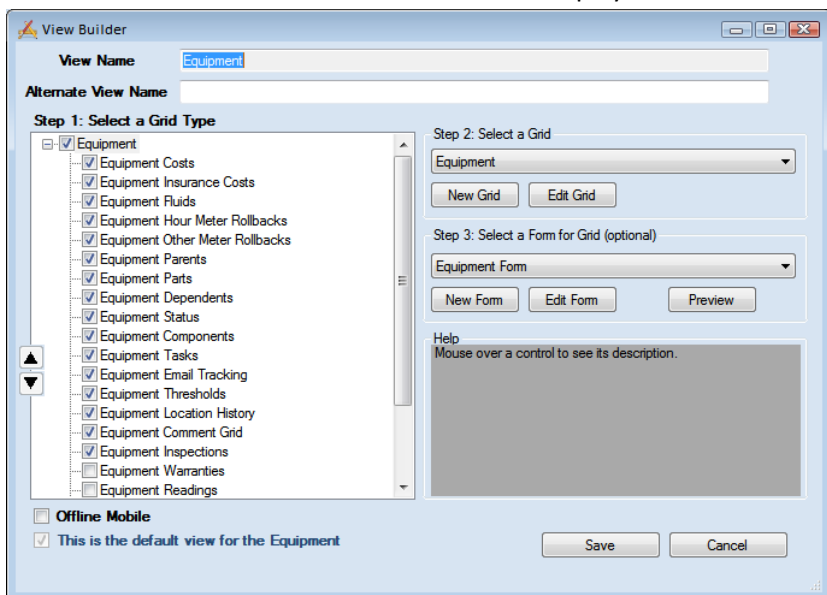
VIEW BUILDER

Views are used to create the structure for modules within *Lucity Web*. A *View* controls which records are displayed for a module and then displays them in the module's related grid.

When a record in a grid has child records, the children are displayed in child grids. Because *Views* control what data are displayed, they also control which child grids are displayed.

The *View Builder* is used to:

- set up a *View*,
- assign which levels of data are displayed, and
- determine which *Grid* or *Form* is used to display each level of data.



| | |
|---|--|
| <i>View name</i> | Describes the data that the <i>View</i> displays or its purpose. <i>Lucity Web</i> displays this name unless an <i>Alternate View Name</i> is provided. |
| <i>Alternate View Name</i> | Serves as an alias for the view. When a name is provided in this field, it is displayed as the <i>View</i> name in <i>Lucity Web</i> . |
| <i>Step 1: Select a Grid Type</i> | Enables administrators to choose which child grid types are displayed in the <i>View</i> and the order in which they should appear. Check a box to make that grid type appear in the <i>View</i> . Select a grid type to change the related grid and <i>Form</i> . |
| <i>Step 2: Select a Grid</i> | Enables the user to choose a <i>Grid</i> from the <i>Grid Manager</i> to use for the <i>Grid Type</i> selected on the left. |
| New Grid | Creates a <i>Grid</i> in the <i>Grid Builder</i> (on page 229). |
| Edit Grid | Opens related grid in the <i>Grid Builder</i> (on page 229) for editing. |
| <i>Step 3: Select a Form to Grid (optional)</i> | Enables the user to choose a <i>Form</i> from the <i>View/Form Manager</i> to use for the <i>Grid Type</i> selected on the left. |
| New Form | Opens the <i>New Form</i> dialog. |
| Edit Form | Opens the <i>Form</i> in the <i>Form Editor</i> . |
| Preview | Displays the selected form as it will appear online. |

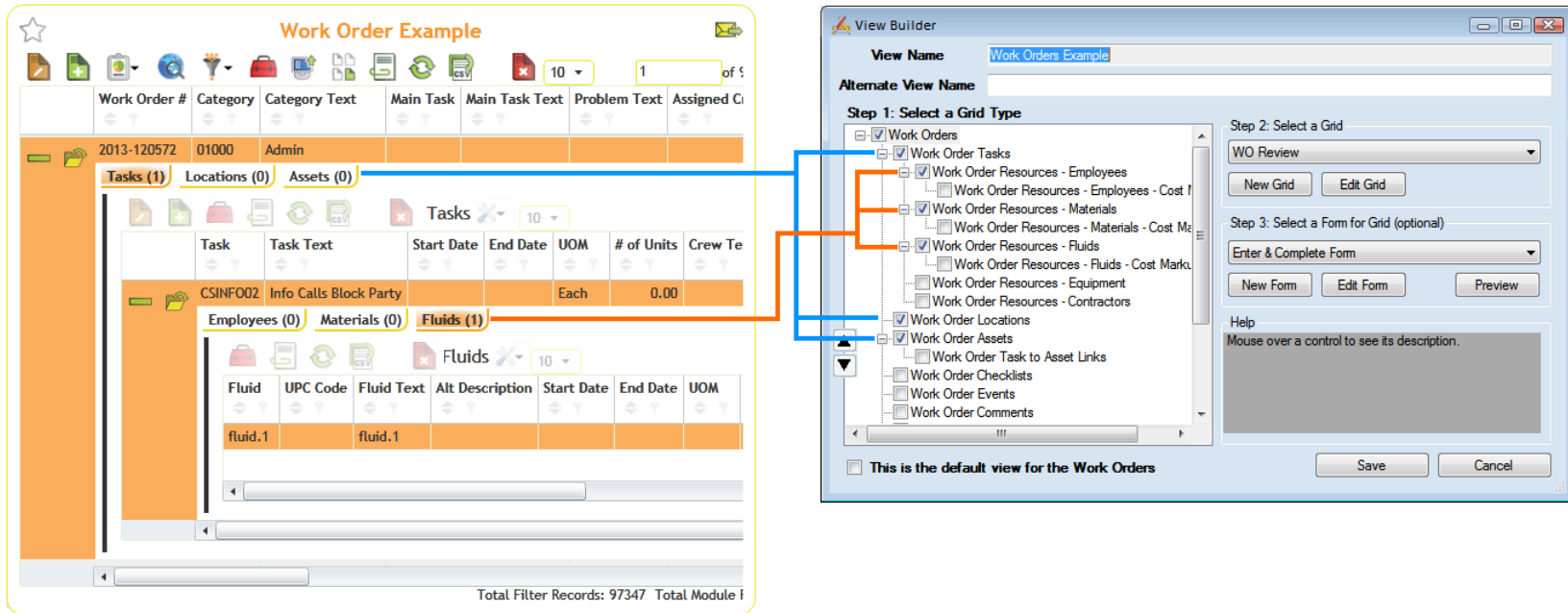
| | |
|--|---|
| <i>Offline Mobile</i> | Indicates that this <i>View</i> should be available to mobile users when they are offline. <ul style="list-style-type: none"> ○ Views will automatically be considered offline if they are linked to a dashboard plugin that is in a dashboard frame marked as offline. |
| <i>This is the default view for</i> | Indicates that the current view should serve as the default view for the module. Any time a tool within <i>Lucity Web</i> accesses a module, it opens that module using the default <i>View</i> (unless otherwise specified). <p>Note: There can only be one <i>Default View</i> for a module, and every module must have a <i>Default View</i>.</p> |
| Save | Saves all changes made to the <i>View</i> . |
| Cancel | Cancels edits to the <i>View</i> . |

SELECTING GRID TYPES TO DISPLAY

The first step in creating a *View* is to select which child record grids will appear as part of the view. These child records will determine what grids and forms need to be created.

- 1) Under *Step 1: Select a Grid Type*, review the tree of child record grids available for the current module. This list is determined by the type of *View* selected in the **View/Form Manager** (on page 145).
- 2) Mark the checkboxes for each child record grid you wish to add to the *View*. These selected grid types establish the overall structure of the *Web View*.

Example: The example below shows a *Work Order Entry Form*. It includes the main parent grid for the *Work Order* module, as well as child grids for *Work Order Locations*, *Work Order Tasks*, and *Work Order Assets*. The *Task* grid has children, as well: *Employees*, *Materials*, and *Fluids*.



- To change the order in which the child record grid types appear, select a child record grid type and then use the up and down arrows on the left side of the screen to change its position in the list.

Note: The *View* cannot be saved until *Step 2: Select a Grid* is completed for each *Grid Type* checked.

SELECTING GRIDS

The second step in creating a *View* is to decide which *Grid* each *Grid Type* will display.

1) Before a *View* can be saved, the user must select a *Grid* for each *Grid Type* selected in *Step 1: Select a Grid Type*.

The screenshot shows the 'View Builder' dialog box. At the top, the 'View Name' is 'Test' and the 'Alternate View Name' is empty. The 'Step 1: Select a Grid Type' section contains a list of grid types with checkboxes. The 'Equipment Inventory' checkbox is checked, and 'Equipment OtherMeter Rollback' is highlighted. The 'Step 2: Select a Grid' section has a dropdown menu with the text 'Please select a Grid' and a list of options: 'Equipment OtherMeter Rollback', 'EVAL4 Equipment OtherMeter Rollback', and 'RR3 Equipment OtherMeter Rollback'. Below this is another dropdown menu with the text 'Please select a Form' and three buttons: 'New Form', 'Edit Form', and 'Preview'. A 'Help' section at the bottom right contains the text 'Grids that are available for the selected grid type.' At the bottom of the dialog are 'Save' and 'Cancel' buttons, and a checkbox labeled 'This is the default view for the Equipment Inventory'.

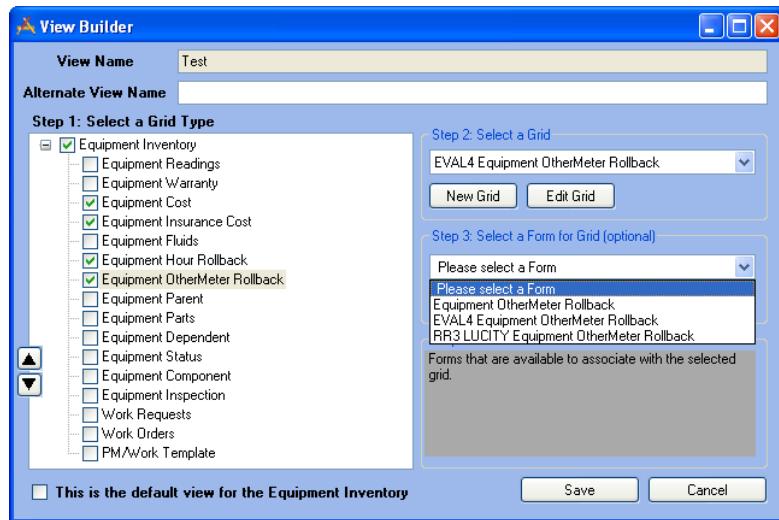
- 2) Highlight a selected *Grid Type* on the left (under *Step 1: Select a Grid Type*).
- 3) Under *Step 2: Select a Grid*, use the drop-down box to select an existing *Grid* from the *Grid Manager*.
OR
- 4) Click the **New Grid** button to create a new *Grid*. **More Information about creating new Grids** (see "*Grid Manager*" on page 220)
- 5) Repeat steps 2 and 3 above for every *Grid Type* checked on the left.
- 6) **Save** the *View*.

ADDING FORMS TO GRIDS

The final (optional) step in creating a *View* is to decide whether to associate a *Form* with the *Grid*. A *Form* enables users to see more detailed information about the records in the *View* or to edit the records in the *View*.

Again, this is an optional step. However, if it is not completed, users cannot open individual records.

- 1) Highlight a *Grid Type* on the left (under *Step 1: Select a Grid Type*).



- 2) Under *Step 3: Select a Form for Grid (optional)* use the drop-down box to select an existing *Form* from the *View/Form Manager*.
OR
- 3) Click the **New Form** button to create a new *Form*. **More Information about creating Forms** (see "*Form Editor*" on page 168)
- 4) **Save** the *View*.

FORM EDITOR

The *Form Editor* lets administrators control exactly which fields appear on a *Form*, where those fields are placed, and how those fields act. This is a WYSIWYG (What You See Is What You Get) editor; that is, the preview displayed here shows how the form will be displayed when viewed through *Lucy Web*.

Form Editor - Enter & Complete Form

Form Edit View **Form Toolbar**

Form Preview

Form Details

- Category
- Problem
- Main Task
- Assigned Crew
- Lead Worker
- Reason
- Status
- Work Order #

| Component | |
|---------------|--------------|
| ComponentType | Category |
| FieldName | WO_CAT_CD |
| FieldsTableID | 25 |
| PropertyName | CategoryCode |
| TableName | WKORDER |

Data

| | |
|-----------|------|
| CarryOver | True |
|-----------|------|

CarryOver
If True, show Carry Over button.

Limit List

Form Preview

Category*

Problem

Main Task

Assigned Crew

Lead Worker

Reason

Status

Work Order #


2 New Work Order


Submit ?

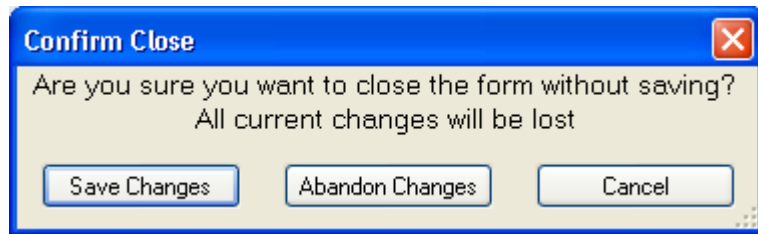
| | |
|---------------------|---|
| <i>Toolbar</i> | Contains tools for adding different <i>Form</i> components and for controlling certain aspects of the <i>Form's</i> behavior. |
| <i>Form Details</i> | Lists all <i>Form</i> components. Also controls the properties of <i>Form</i> fields (e.g., read-only, editable). |
| <i>Form Preview</i> | Shows how the <i>Form</i> will appear in <i>Lucity Web</i> and enables users to move around <i>Form</i> components. |

How to change the View

How to save a Form

- Select **Form > Save** to save all modifications to the *Form* and continue working.
OR
- Select **Form > Save and Close** to save all modifications to the form and close the *Detailed Form Editor*.
OR
- Click the  button on the toolbar.
OR

- Click the  in the corner of the *Form Editor*. The following pop-up appears:



- Click **Save Changes**. This action will save all modifications to the *Form* and close the *Editor*.

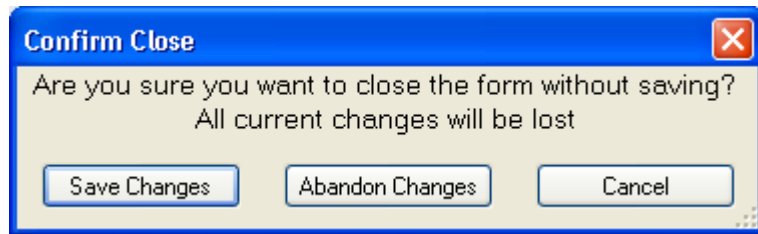
Note: Once the *Form* is saved using one of the options above, it appears in the **Form Manager** (see "**View/Form Manager**" on page 145). The *Form* can then be edited as needed.

Important: Saving a form clears the web cache. This ensures that any changes made to existing forms will be immediately available to end users; however, if a form is actively in use when it is saved, users will receive an error message and the changes they are making will be lost. Users will need to close their browsers and restart Lucity Web in order to access the newly saved form. We recommend that existing forms not be changed at a time when they may be in use.

How to abandon changes and close

- Select **Form > Close** from the *Detailed Form Editor* menu,
OR

- Click the  in the corner of the *Form Editor*. The following dialog appears:














- Select **Abandon Changes**, and the *Form* will close without being saved.

FORM EDITOR TOOLBAR



The *Form Editor Toolbar* provides all of the tools necessary to customize a *Form*.

More information on how to use these tools (see "**How To**" on page 210)

| BUTTO N | NAME | DESCRIPTION |
|---|-------------------------------|--|
|  | <i>Show/Hide Form Details</i> | Displays/hides the list of fields and components currently on the <i>Form</i> as well as the properties for the selected field or component. |
|  | <i>Save</i> | Saves the <i>Form</i> . |
|  | <i>Add Fields</i> | Displays a list of fields to choose from, then adds the selected field to the <i>Form</i> . Fields display attribute data from the module. |
|  | <i>Insert Label</i> | Adds a <i>Label</i> component to the form, which provides a means for directly adding text or notes to the <i>Form</i> . <i>Labels</i> also give users the ability to embed hyperlinks into the <i>Form</i> . |
|  | <i>Add Divider</i> | Adds a horizontal line that visually divides the <i>Form</i> . |
|  | <i>Insert Frame</i> | Adds a a boxed section to the <i>Form</i> . <i>Frames</i> are used to group similar fields. When a frame is moved, all of its components move with it. |
|  | <i>Insert Behavior</i> | Adds a <i>Behavior</i> component to the form, which can be used to add a <i>Remember Me</i> or <i>Use Requestor's Address</i> checkbox. Note: This option is only available on <i>Request</i> submittal forms. |
|  | <i>Tab Order</i> | Changes the order in which <i>Form</i> fields are selected when users press the keyboard's Tab button. |
|  | <i>File Upload</i> | Lets the <i>Form</i> designer upload dialog boxes to a <i>Citizen Request Form</i> . Dialog boxes allow citizens to attach a file to the record and upload it to the server. |
|  | <i>Remove</i> | Removes the selected component from the <i>Form</i> . |
|  | <i>Refresh</i> | Refreshes the form display, applying any changes made since the last |



Carry Over

refresh. If the *AutoRefresh* feature is turned on (found under the *View* menu), the *Form* refreshes automatically each time a change is made.

Toggles the **Carry Over** buttons on in the *Form Editor*. This function simply shows where they are so that the *Form* designer can adjust the fields accordingly.

FORM DETAILS

The *Form Details* window has two parts: The top lists all components (fields, etc.) currently employed on the *Form*; the bottom displays the properties of the the selected components and allows users to edit them.

The screenshot shows the 'Form Details' window. The top pane displays a tree view of components under 'Frame - Customer Info'. The bottom pane shows the properties for the selected 'Label' component.

Tree View Components:

- Frame - Customer Info
 - Name
 - Name (2)
 - Work Phone #
 - Email
 - Label or Instructions
 - Problem
 - Comment from Customers
 - Asset Rec #
 - Break
 - File Upload

Properties Panel:

| | |
|----------------|----------------------|
| Hidden | False |
| HiddenTY | False |
| LimitList | False |
| Mask | 10x |
| ReadOnly | False |
| Required | False |
| Design | |
| ComponentWidth | 80 |
| ComponentWidth | 350 |
| ControlType | Dual Textbox control |
| Label | Problem |
| Misc | |
| Location | 32, 189 |

Label
Text Header for field as it appears on the screen.

Limit List

Top Pane

The top half of the *Details* window lists all fields and components currently included on the form in the order in which they appear.

- As the location of components change in the *Form Preview* the list order changes automatically.
- Selecting a component in the list also selects it in the *Form Preview*. Likewise, when a user selects an item in the *Preview*, the same item is selected in the list.
- Selected components are highlighted in bright green (in the *Preview*).

Bottom Pane

As components are selected, the *Properties* grid at the bottom of the screen displays the current component's properties. Within this grid, users can make fields read-only or required, insert a default value, re-label components, set sizes, etc. (**Definitions are provided for all available properties** (see "**Component Property Definitions**" on page 177).)

Consider the following when making changes:

- *Default Values* - If a default value is designated in the *Desktop* application, it will **NOT** appear in the properties dialog; however, if no default value is entered here, the default value from the *Desktop* application appears on the web form when it is run. Any default values entered here do not affect the *Desktop* application.
- *Required Fields* - If a field is required on a *Web* form, it does not affect the *Desktop* application; however, if a field is required in the *Desktop* application, the *Lucity Administration for Web Apps* tool will add it to the *Web* form as a required field. Required fields are identified with an asterisk (*) and a different background color. An error message appears if users attempt to submit a form without data in a required field.
- *Pick Lists* - When a pick-list field is included on the *Form*, administrators must use the *Control Type* property to indicate the type of data the field will accept. These include a Dropdown, Dual Dropdown, or Code field that can be typed in with a lookup button.

Note: Changes made to each component's properties appear automatically in the *Form Preview*.

COMPONENT PROPERTY DEFINITIONS

When you click on each component's property, a description of that property appears below the grid as a quick reference. The table below describes the various field properties available.

| COMPONENT PROPERTY | DEFINITION |
|--------------------------|---|
| <i>Behavior Item</i> | <p>Establishes the default behavior for the component, which is limited to two options:</p> <ul style="list-style-type: none">● Save Requestor Cookie - Adds a <i>Remember Me</i> checkbox to the form, which, when enabled, saves the requester's name, address, and contact information for future use.● Use Requestor Address - Adds a <i>Use Requester Address</i> checkbox to the form, which, when enabled, carries the requester address over to the <i>Location Address</i> fields on the form. <p>Note: The <i>Behavior</i> feature is only available on <i>Request Submittal</i> forms.</p> |
| <i>Caption for Asset</i> | <p>Identifies the descriptive text that appears above the field when the <i>Asset</i> is selected on-screen.</p> |
| <i>Caption for Type</i> | <p>Identifies the the descriptive text that appears above the field when the <i>Asset Type</i> is selected on the screen.</p> |
| <i>Component Height</i> | <p>Controls the height of the field (in pixels) as it appears on the screen.</p> |
| <i>Component Type</i> | <p>Indicates the type of component in the field (for informational purposes only).</p> |
| <i>Component Width</i> | <p>Controls the width of the field (in pixels) as it appears on the screen.</p> |

| | |
|----------------------|---|
| <i>Control Type</i> | <p>Defines how code-description fields are displayed on-screen. Components can be displayed as one of the following:</p> <ul style="list-style-type: none"> ● Combo box - A series of boxes used to select <i>Assets</i>. Sewer pipes and storm conduits have dual combo boxes. ● Drop-Down List - Lets users select text in the description field. ● Dual Drop-Down List - Lets users select the code or description field. ● Dual Textbox - Lets users manually enter a code or select the code/type from a pop-up list. ● Textbox Control - Lets users manually enter data, which the system then validates when the user exits the field. <p>Note: The type of component in the field determines which <i>Control Types</i> are available; however, for almost every type of component, at least one option displays both the codes and types field information so that the user can select a specific item when the type information is the same for two different codes. The single drop-down items are intended for use if you do not have duplicate items in your list. If you do have duplicate items, such as two problems with the same type but different codes, then you should select the control type that will display both the code and the type.</p> |
| <i>Carry Over</i> | <p>Enables/disables the green Carry Over button for the selected field. To prevent users from seeing Carry Over buttons throughout the entire form, the grid the form is attached to must be edited to hide the Display Carry Over Buttons button. <i>More details</i> (see "<i>Managing Buttons</i>" on page 234)</p> <p>Note: Fields marked as read-only never display the Carry Over button in <i>Lucity Web</i>, even if this option is enabled.</p> |
| <i>Default Asset</i> | <p>Determines which <i>Asset</i> will automatically appear in this field when a new record is created. Unless the field is marked as read-only, the user can overwrite the default before submitting the form.</p> |

| | |
|---------------------------------|---|
| <i>Default or Default Value</i> | Determines what value will automatically appear in this field when a new record is created. Unless the field is marked as read-only, the user can overwrite the default before submitting the form. |
| <i>Default Date Time</i> | Establishes a date or time to be used when a new record is created. Unless the field is marked as read-only, the user can overwrite the default before submitting the form. |
| <i>Default Now</i> | When enabled, uses the current date or time as the default when a new record is created. Unless the field is marked as read-only, the user can overwrite the default before submitting the form. |
| <i>Default Location</i> | Identifies the initial placement of the frame (for reference only). |
| <i>Default Type</i> | Indicates which <i>Asset Type</i> automatically appears when a new record is created. Unless the field is marked as read-only, the user can overwrite the default before submitting the form. |
| <i>Facility Option</i> | <p>Determines how a control that selects asset records from various modules displays <i>Facility Asset Types</i> on-screen:</p> <ul style="list-style-type: none"> ● Standard List: Makes no change to what Facility assets the user can select. <ul style="list-style-type: none"> ○ After the user has selected the type of asset they are given a list of all assets of that type. ● Building-Driven List: Controls what Facility assets the user can select filtered down by Building. <ul style="list-style-type: none"> ○ If the user selects Roof, Room, Furnishing, Floor, or Door as the <i>Asset Type</i>, then the user is required to select a <i>Building</i>. ○ The user is then given a list of assets of the selected type that are related to the selected building. ● Site-Driven List: Controls what Facility assets the user can select filtered down by Site and Building. |

- If the user selects **Building** as the *Asset Type*, then the user is required to select a *Site* and then select an associated *Building*.
- If the user selects **Roof, Room, Furnishing, Floor, or Door** as the *Asset Type*, then the user is required to select a *Site*, then select a *Building*.
- The user is then given a list of assets of the selected type that are related to the selected building and/or site.

| | |
|--------------------------|--|
| <i>Fields Table ID</i> | Displays the <i>Field ID</i> from the *FIELDS table (for informational purposes only). |
| <i>Force Association</i> | <p><i>Work Flow</i> pop-ups, such as those used to identify the <i>Problem</i> and <i>Cause</i>, are "force-associated" with Categories. Therefore, only the <i>Problems</i> (or <i>Causes</i>, etc.) that are associated with the <i>Category</i> may be selected by the user. However, if a Show All function is available, users can choose <i>Problems</i> or <i>Causes</i> that are not associated with the <i>Category</i>.</p> <ul style="list-style-type: none"> • If <i>Force Association</i> is set to True, the Show All option will not be available; only the forced association categories will appear. • If <i>Force Association</i> is set to False, the Show All option will be available only to users with the "Show All Enabled" permission in Security.exe. <p>Note: The Show All option is available only if the <i>ControlType</i> is set to "Dual Textbox."</p> <p>Caution: If a <i>Category</i> does not have <i>Problems</i>, <i>Causes</i>, etc. associated with it, or, if a <i>Problem</i> identifies a default <i>Supervisor</i> who is not also associated with the <i>Category</i>, users without "Show Enabled" permissions will be unable to complete the web form if the <i>Problem</i>, <i>Cause</i>, or <i>Supervisor</i> field is required.</p> <p>These associations and defaults are established in the <i>Lucity Desktop</i> application, under <i>Work Flow Setup</i>. We recommend thoroughly testing all forms before implementing their use.</p> |
| <i>Hidden</i> | Indicates whether the field is hidden. |
| <i>Hidden Asset</i> | Hides the drop-down list for selecting specific <i>Assets</i> . |
| <i>Hidden Type</i> | Hides the drop-down list for a <i>Code Type</i> field. |
| <i>Label</i> | Specifies the text that appears above a field (other than <i>Asset</i> or <i>Asset Type</i> fields). |
| <i>Label for Asset</i> | Specifies the text that appears above the field used to select an <i>Asset</i> . |
| <i>Label for Type</i> | Specifies the text that appears above the field used to select an <i>Asset Type</i> . |

| | |
|----------------------|--|
| <i>Limit List</i> | Limits a pick list to the items specified. When set to True , a button appears on the form, allowing you to select the items to make available to users. More information on using the Limit List (see "Using the Limit List" on page 191) |
| <i>Limit Type</i> | Allows only certain asset types to be entered on the form. |
| <i>Location</i> | Indicates the location of the component on the screen. This value is automatically updated as the user drags and drops components in the WYSIWYG editor. |
| <i>Max Value</i> | Sets a limit for the largest value a user may enter in this field. Leave this field blank to provide for no upper limit. |
| <i>Min Value</i> | Sets a limit for the smallest value a user may enter in this field. Leave this field blank to provide for no lower limit. |
| <i>Park Option</i> | Determines how a control that selects asset records from various modules displays <i>Park Asset Types</i> on-screen: <ul style="list-style-type: none"> ● Standard List: Makes no change to what Park assets the user can select. <ul style="list-style-type: none"> ○ After the user has selected the type of asset they are given a list of all assets of that type. ● Park Driven List: Controls what Park assets the user can select filtered down by Park. <ul style="list-style-type: none"> ○ If the user selects Park Furniture, Court, Field, Structure, Playground Equipment, Parking Lot, Path, Landscape Area, Irrigation Controller, or Irrigation Valve as the Asset Type, then the user is required to select a <i>Park</i>. ○ The user is then given a list of assets of the selected type that are related to the selected park. |
| <i>Property Name</i> | Identifies the property associated with this field. This relationship helps third-party developers correlate form data with the properties available in the |

back-end.

Read Only

Designates the field as read-only, which prevents the user from entering data.

Required

Forces the user to enter information in this field in order to submit the form.

Note: The *Required* property for the *Category* field is "**True**" by default. For all other fields, the *Required* property is "**False**" by default.

Shaded

Indicates whether a frame appears shaded on-screen.

PICK-LIST FIELDS

Pick-lists allow users to select a value from a predefined list. *Lucity* pick-lists often consist of two fields: One contains a *Code* and the other a *Description* or *Type*. Sometimes the available values are carried over from another module (e.g., assets lists, resource options, locations, etc.).

Example



Codes

- **Numeric** - These pick-lists only allow a number in the *Code* field.
- **Alphanumeric** - These pick-lists allow a mix of numbers and letters in the *Code* field.

Selectable Values

The values users can select in pick-lists come from one of two sources:

- **User-defined pick-list** - These pick-lists often track an attribute. The values available in these pick-lists are established by the agency using *Lucity*.
- **Module-defined pick-list** - These pick-lists are used to select a record from another module in the *Lucity* system. The values available in these pick-lists are automatically populated using data from the related module.

Pick-list Appearance

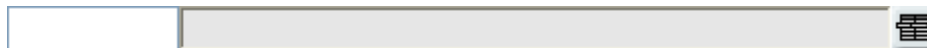
- *Single drop-down boxes* - A single box that shows both the *Code* and *Description* together.

A single horizontal drop-down menu with a light blue border. The text inside is "- Select an Item -" in a dark blue font. A small blue downward-pointing arrow is located on the right side of the box.

- *Dual drop-down boxes* - Separate boxes for the *Code* and *Description*. When the user makes a selection in one field, the system automatically completes the other field.

Two horizontal drop-down menus side-by-side. The first is smaller and contains "- Select a" with a blue downward arrow. The second is larger and contains "- Select an Item -" with a blue downward arrow.


- *Text control boxes* - An empty text box for the *Code* and a **pick-list** button for the *Description*. Enter the *Code* and exit the field to automatically populate the *Description* field, or, click the pop-up button.

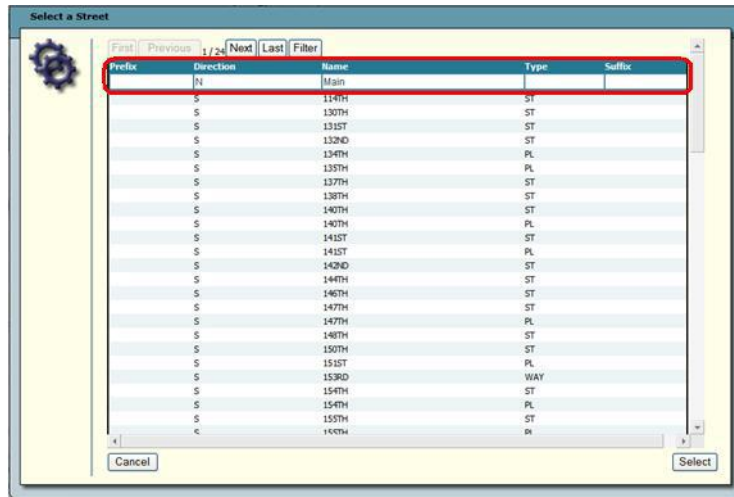
A horizontal layout consisting of an empty text input field on the left, followed by a grey rectangular area containing a small icon of a document with lines, representing a pick-list button.

If a user enters invalid data into a pick-list field, an error message appears.

How to use a pop-up pick-list

| | |
|---------|-------------|
| Address | Street Name |
| 1125 | S 141ST ST |

1) Click on the **Pick List** button  to the right of the field. The following pop-up appears:



- 2) To filter for specific data in the pick lists, type the filter criteria in the blank fields at the top of the screen, then click the **Filter** button. The system narrows down the available selections by the criteria entered.
 - The filter searches for data that either **starts with** or **contains** the value entered (depending on system settings). For example, if the user enters "Main" in the *Street Name* column, the filter finds the first *Street* record that starts with "Main."
 - Enter "%[criteria]" to search a field for that criteria anywhere in the field.
- 3) Click on the **First**, **Previous**, **Next** or **Last** buttons to move through multiple pages of options.

- 4) Highlight a *Street* listing and click **Select**. The highlighted street is added to the pick list field on the form.

How to edit a pick-list

Click in a picklist field.

- 1) Press **Shift + F9**.
 - If the picklist can be edited, a message appears in the bottom-left-hand corner of the screen.
- 2) The following dialog box appears:

| Code | Type |
|------|--------------------|
| 1 | Operational |
| 951 | Out of Service |
| 5 | Out for Maitenance |

- 3) Sort the columns by clicking on the *Code* or *Type* headings.
- 4) Click in either the *Code* or *Type* field and enter the desired value.

Note: Picklist options listed in gray are hard-coded and cannot be edited.

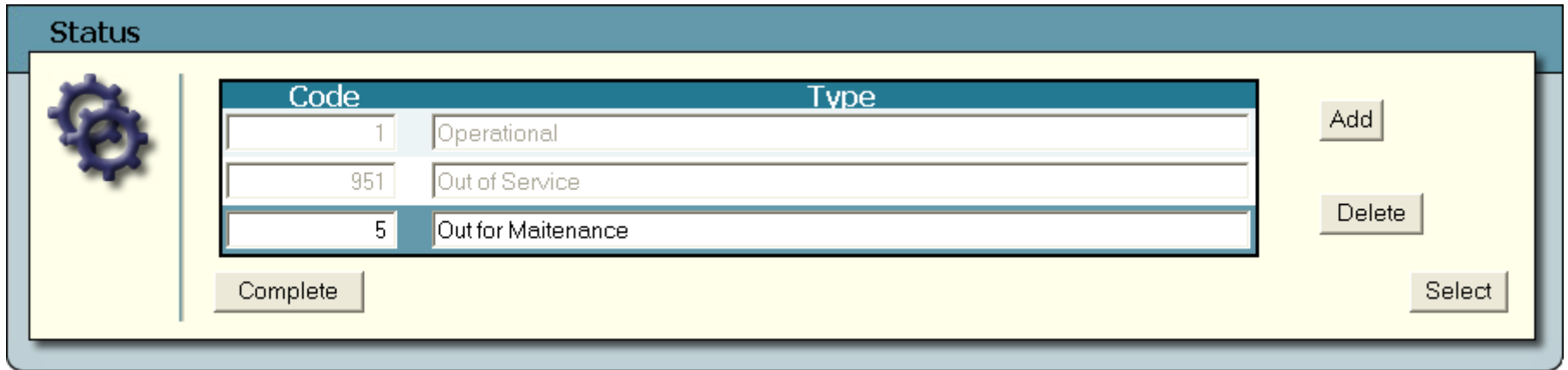
Note: Codes have to be unique; Types do not.

5) Click **Complete** to leave the dialog or **Select** to use the selected option to fill out the form field and leave the dialog.

 Requires the **Popup Lists - Edit** permission for the related module.

How to add a pick-list item

- 1) Click in a pick list field.
- 2) Press **Shift + F9**. The following dialog appears:
 - o If the pick list can be edited, a message will appear in the bottom-left-hand corner of the screen.



| Code | Type |
|------|--------------------|
| 1 | Operational |
| 951 | Out of Service |
| 5 | Out for Maitenance |

Complete

Add

Delete

Select

3) Click the **Add** button. The following pop-up appears:

Add: Status ✕

Code: Numeric

Type:

Keep add dialog open

Ok Cancel

4) Enter the desired value.

Note: *Codes* must be unique; *Types* do not.

5) Mark the *Keep add dialog open* box to continue to add pick list options.

6) Click **Ok** to close the **Add** dialog.

7) Click **Complete** to leave the **Add** pick list dialog or **Select** to use the selected option to fill out the form field and leave the dialog.

 Requires the **Popup Lists - Edit** and **Popup Lists - Add** permissions for the related module.

How to delete a pick-list item

1) Click in a pick list field.

- 2) Press **Shift + F9**. The following dialog appears:
- If the pick list can be edited, a message appears in the bottom-left-hand corner of the screen.

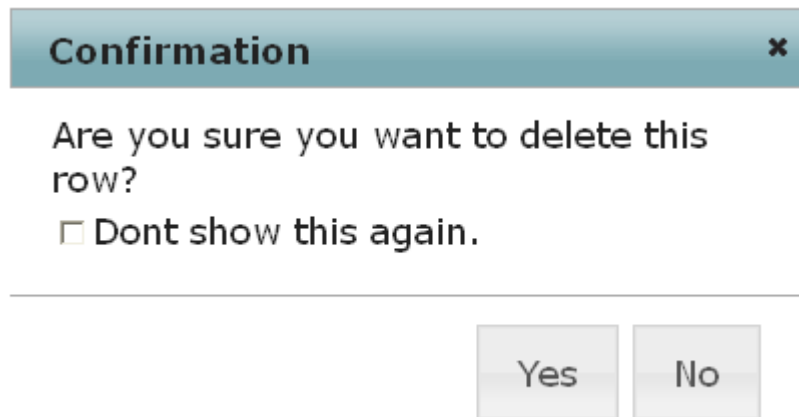
3)

The screenshot shows a dialog box titled "Status". On the left side, there is a gear icon. The main area contains a table with two columns: "Code" and "Type". The table has three rows of data. Below the table, there is a "Complete" button. To the right of the table, there are three buttons: "Add", "Delete", and "Select".

| Code | Type |
|------|--------------------|
| 1 | Operational |
| 951 | Out of Service |
| 5 | Out for Maitenance |

- 4) Click on the words *Code* or *Type* to sort the columns.
- 5) Select a pick list item.

- 6) Click the **Delete** button. The following pop-up appears:



- 7) Mark the *Dont show this again* box to hide this prompt for future deletions. Marking this box will hide this prompt for all pick lists on the form.
- 8) Click **Yes** to complete the deletion.
- Note:** Picklist options listed in gray are hard-coded and cannot be deleted.
- 9) Click **Complete** to leave the dialog or **Select** to use the selected option to fill out the form field and leave the dialog.



Requires the **Popup Lists - Edit** and **Popup Lists - Delete** permissions for the related module.

USING THE LIMIT LIST

The *Limit List* feature allows users to limit the options available in a pick list on a specific *Form*. This list is limited to certain items.

Within *Lucy*, there are two types of pick lists: the **standard pick list**, which is based on a set list of options; and the **asset-selection pick list**, which requires the user to first select a *Module* from which to display *Assets*.

The process of creating *Limit Lists* for each type of pick list differs slightly:

How to limit a standard pick list

1) Add a field that can be limited to the *Form*. This includes *Problem*, *Category*, *Affected Asset*, etc.

- 2) In the *Properties* grid, click on the *LimitList* property and select **True**. The **Limit List** button is now enabled.

The screenshot shows a software interface with a Properties grid. The grid is organized into sections: Component, Data, and Design. The **LimitList** property in the Data section is highlighted with a red box and set to **True**. Below the grid, a description for **LimitList** states: "When true, the code selected must be from the list defined for this form." At the bottom of the interface, a button labeled "Limit List" is also highlighted with a red box.

| Component | |
|------------------|-----------------|
| ComponentType | Code/TypeField |
| FieldsTableID | 305 |
| Data | |
| DefaultValue | |
| LimitList | True |
| ReadOnly | False |
| Required | False |
| Design | |
| ComponentWidth | 120 |
| ComponentWidth | 120 |
| ControlType | Dual Textbox co |
| Label | Billing Freq |

LimitList
When true, the code selected must be from the list defined for this form.

Limit List

- 3) Click on the **Limit List** button to access the *Limit List Form*. The *Limit List Collection* grid displays the code and description for each item available.

- 4) Highlight one or more selections in the left-hand grid and add them to the right-hand grid. The items in the *Limit List* will be the only ones accessible to users of the *Web Form*.

| Code | Type |
|------|----------------------|
| 1 | Operational |
| 951 | Out of Service |
| 952 | Parent Out of Ser... |

- 5) After making selections, click **Save**.

How to limit an asset-selection pick list

Asset selection pick-lists only appear on the *Work Order Assets* form. Therefore, this type of *Limit List* is useful to create a *Form* in which only one type of *Asset* can be selected.

- 1) Add the *Asset Rec #* field to the *Form*.
- 2) In the *Properties* grid, click in the *Default Type* property and choose the *Module* from which users will be able to select *Assets*.
- 3) Then, click on the *LimitAsset* property and select **True**. The **Limit List** button is enabled.

| | |
|---|-----------------|
| PropertyName | AssetLinkingID |
| Table Name | WKWOASSET |
| Data | |
| CamOver | True |
| Default Type | Sewer Structure |
| Hidden | False |
| HiddenTY | True |
| LimitAsset | True |
| LimitList | False |
| Mask | -nnnnnnnn |
| ReadOnly | False |
| Required | True |
| Design | |
| LimitAsset When TRUE, you can create limit list of specific assets for the AssetType set in the Default Type... | |
| Limit List | |

- 4) Click on the **Limit List** button to access the *Limit List* form. The *Limit List Collection* grid displays the code for each *Asset* in the selected *Module*.

- 5) Highlight one or more selections from the left-hand grid and add them to the right-hand grid. The items added to the *Limit List* will be the only ones accessible to users of the *Web Form*.

| AssetCommonID1 |
|----------------|
| 127423 |
| 127424 |
| 127425 |
| 127430 |
| 127431 |
| 127432 |
| 127433 |
| 127434 |
| 127435 |
| 127436 |
| 127437 |

| Added Limit List |
|------------------|
| 127423 |
| 127424 |
| 127425 |

- 6) After making selections, click **Save**.

FORM PREVIEW

The *Form Preview* is where most *Form* editing takes place. Within this window, users can select components to edit properties, move components, change labels, and test field functionality (in a limited manner).

Form Preview

Customer Info

Name * **Name (2) ***

Work Phone # **Email ***


* Required

Problem

Comment from Customers

Asset Rec #

Select File



Frame

Field

Special Function button

Label

Component Handle

Selected Field

Carry Over button

Divider

File Upload

FORM COMPONENTS

| | |
|-------------------------------|---|
| <i>Fields</i> | Displays the list of available fields to choose from, then adds the selected field to the form. Fields display attribute data from the module. |
| <i>Label</i> | Adds a label component to the form. Labels are a way to add text or notes within the form itself. |
| <i>Divider</i> | Adds a horizontal line that visually breaks up the form. |
| <i>Frame</i> | Adds a boxed section to the form. Frames are used to group similar fields. When a designer moves a frame, its components move with it. |
| <i>Behavior</i> | Adds a behavior component to the form. A "Remember Me" checkbox or a "Use Requestor's Address" checkbox are examples of behavior components. Note: This option is available only on Request submittal forms. |
| <i>File Upload</i> | Allows the designer to include upload dialog boxes in the form. Upload boxes let users attach a file to the record and upload it to the server. |
| <i>Special Function Field</i> | Indicates that special functions are available for a field. These buttons are automatically added. Click on the button to see the functionality available. Examples of special functions (see " Special Field functions " on page 199) |

EDITING TOOLS


| | |
|-------------------------|--|
| <i>Component Handle</i> | Enables users to control the position of a component in the <i>Form Preview</i> . Appear as solid dark circles at the corner of the component. Click the control and drag it to move the field, label, etc. to the desired location. |
| <i>Selected Field</i> | Indicates that a field or other component is selected. The field appears highlighted in bright green. |

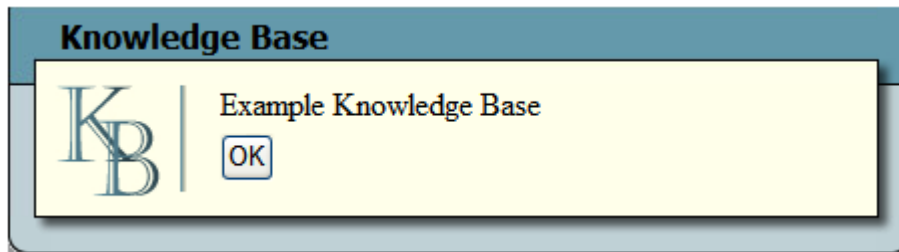
SPECIAL FIELD FUNCTIONS

Task Dates


If the *Enforce Task Start Date = End Date* option is enabled in the Work module, only one *Date* field will appear on the *Task* forms.

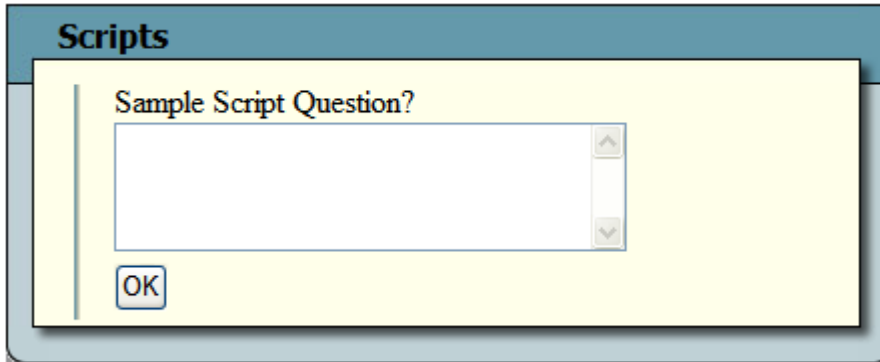
Knowledge Base button

Depending on an agency's *Work Flow Setup* in *Lucity Desktop*, some *Problems* found on *Request* submittal forms may be associated with *Knowledge Base* entries. When a user selects one of these *Problems* on the form, the *Knowledge Base* window appears. Click *OK* to close the *Knowledge Base* dialog. To view this information again, simply click the  button on the form.



Scripts button

Depending on an agency's *Work Flow Setup* in *Lucity Desktop*, some *Problems* found on *Request* submittal forms may have an associated *Script*. When users select one of these *Problems* on the form, the *Scripts* window appears. This window allows users to enter a response to each *Script* in a large text box. Click *OK* to close the *Scripts* dialog. To view this information again, simply click the  button on the form.



Parts Integration

Depending on an agency's *Lucity Desktop* settings, the *Warehouse Parts Inventory* module can be integrated with the *Work module* to provide optimal inventory management. This integration enables an agency to disperse parts from warehouse locations for use on *Work Orders*. To use this feature, an agency must complete the *Parts Inventory Integration Setup* in the *Desktop* application.

The basic steps are listed briefly below. Please see the *Lucity Help guide* for complete details on the *Parts Integration Options* and dispersal process.

- 1) Include a *Work Material* or *Fluid* code for each inventory *Part* to be used on *Work Orders* (in the *Desktop's Parts Inventory* module).
- 2) Set the "**Integrate Work and Parts Inventory**" *Parts Integration Option* to **Yes** (in the desktop, **Administration>>Work Options** module). Set the other integration options relating to mobile warehouses and default locations as desired.

- 3) In *Lucity Administration for Web Apps*, clear the web cache. Doing so will apply the changes made in the *Integration Setup* to the web forms.
- 4) On the *Web Work Order* forms, select a *Part* from inventory.
- 5) Indicate the number of units to be used on the *Work Order*.
- 6) Save the *Web Work Order* form. If a mobile warehouse is attached to the work order, the parts will be dispersed from that location. Alternatively, if no mobile warehouse exists, but a default warehouse location has been assigned in the *Parts Inventory*, the parts will be dispersed from the default warehouse. If there is neither an attached mobile warehouse nor a default warehouse location, the dialog box below will appear. This screen allows the user to select where the inventory items are pulled from.

| Quantity Selected | Quantity Available | Location Name | Warehouse Name |
|----------------------|--------------------|---------------|----------------|
| <input type="text"/> | 22 | WH1.L2 | WH1_Test |
| <input type="text"/> | 3 | WH1.L1 | WH1_Test |
| <input type="text"/> | -5 | WH1.L3 | WH1_Test |

- 7) The dialog indicates the number of units needed to complete the *Work Order*. Enter the part quantity selected from each available warehouse. The total quantity selected will appear in the *Supplied* field. The value in the *Supplied* field must match that in the *Needed* field before the **OK** button will be enabled.
- 8) Click **OK**. The parts will automatically be dispersed from inventory.

Partial Defaulting Example

Using the *Financial Integration* options available in *Lucy Desktop*, an agency can enable partial defaulting for *Account Numbers* and *Project Numbers* on *Lucy Web* forms.

The basic steps are listed briefly below. Please see the the *Lucy Help guide* for complete details on *Partial Defaulting* and *Work Flow Setup*.

- 1) In *Lucy Desktop's Administration>>Work Options* module, turn on the options for **Use Partial Defaulting for Accounts** and *Use Partial Defaulting for Project Numbers*.

Note: These options can be used with or without Eden Financial integration.

- 2) In the Desktop's *Work Flow Setup* modules for *Categories* and *Tasks*, enter the applicable *Account Numbers* and/or *Project Number - Account*.
- 3) In the *Lucy Administration for Web Apps*, clear the web cache. Doing so will apply the changes made in the *Work Options* to the web forms.

Then, when the *Category* or *Task* is selected on the *Web* form, the system will automatically carry over the corresponding numbers with no other input from the user (example below).


| | | | |
|------------------------|------------------------|------------------------|------------------------|
| Task* | | Task Start Date | Task Start Time |
| WO.TEST-EP1 | WO.TEST-EP1 | | |
| Task Supervisor | | Task End Date | Task End Time |
| | | | |
| Task Crew | | | |
| | | | |
| Account # | Proj No - Acct | | |
| 11-3211-5111 | aa000-1m1000-0000 | | |
| # of Units | Unit of Measure | Unit Cost | Total Cost |
| 0.00 | 1 Hours | 0.000 | 0.00 |

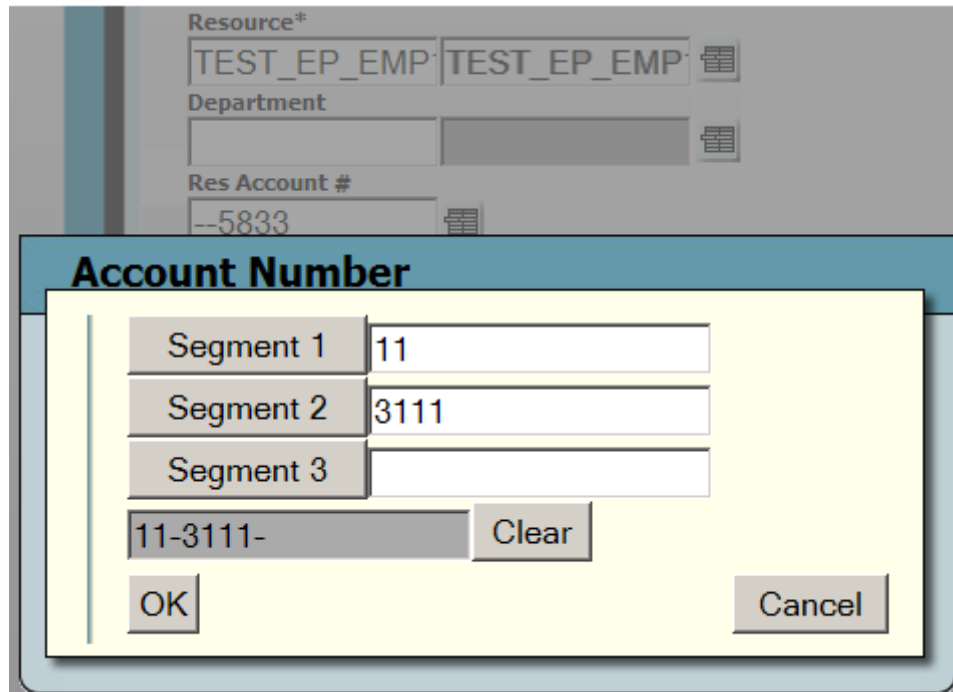
Financial Integration Example

If your *Lucity Desktop* application is integrated with Eden Financial systems, you can select Eden account numbers on the *Work Order* forms.




The basic steps required in the *Lucity Administration for Web Apps* are listed briefly below. Complete instructions for applying the Eden InForum Gold Integration to the Desktop application are found in the *Lucity Help Guide*. The web cache must be cleared before any changes to the integration setup will take effect in the *Web* forms.

1) In *Lucity Administration for Web Apps*, add the *Account Number* and *Project Number* component types to the *Work Order* forms.

- 2) Eden account and project numbers are comprised of multiple levels or segments. *Lucity Web* users will be able to click the button  beside the fields to access the *Segment* selection dialogs.



The screenshot shows a web form with the following fields:

- Resource*: TEST_EP_EMP TEST_EP_EMP 
- Department: 
- Res Account #: --5833 

The 'Account Number' dialog box contains:

- Segment 1:
- Segment 2:
- Segment 3:
- 11-3111-
-

- 3) Users can then click on the **Segment 1**, **Segment 2**, and **Segment 3** buttons to select from lists of pre-existing *Account* and *Project Numbers*.

Work Order Location Fields

The *Work Order* form has a special set of location fields (*Address*, *Street Name*, *Street Name 2*). These fields let users add location data to a *Work Order* without going to the *Location* grid to add a *Location* record. When the user fills these fields and saves the record, the system creates a record in the *Location* grid using these values. If the *Work Order* form is edited and these location fields are changed, the original location is retained, and the new address is added as another record in the *Work Order Location* grid.

Location

This address is the First Location on the Work Order. If you change the values, it will add a new location when you Save, then it will continue showing the first location.

| | | |
|------------------------------------|---|----------------------|
| Address | Street Name | Street Name 2 |
| <input type="text" value="13642"/> | <input type="text" value="S 156TH PL"/> | <input type="text"/> |

Note: The location fields always display information for the first location listed on the *Work Order*, even if the user added several locations.

File Uploads

When the *File Upload* control is added to a *Citizen Request* form, citizens can click the **Choose File** button (example below) to browse to a file of their choice.

Select File

No file chosen

Sign Images

A *Picture File* field can be added to *Sign Inventory* and *Sign Library* forms to display images of a sign on the form.


Note: Before this field will work the sign images must be copied from the ...**Pict\SignLib** folder that is installed during the Lucity Server install(in the Lucity share) to the web server in the **inetpub/wwwroot/LucityWeb\images\signlib** folder.

Intersection Images

A *Diagram* field can be added to the *Intersection Inventory* form to show what the intersection looks like.

FORM OPTIONS

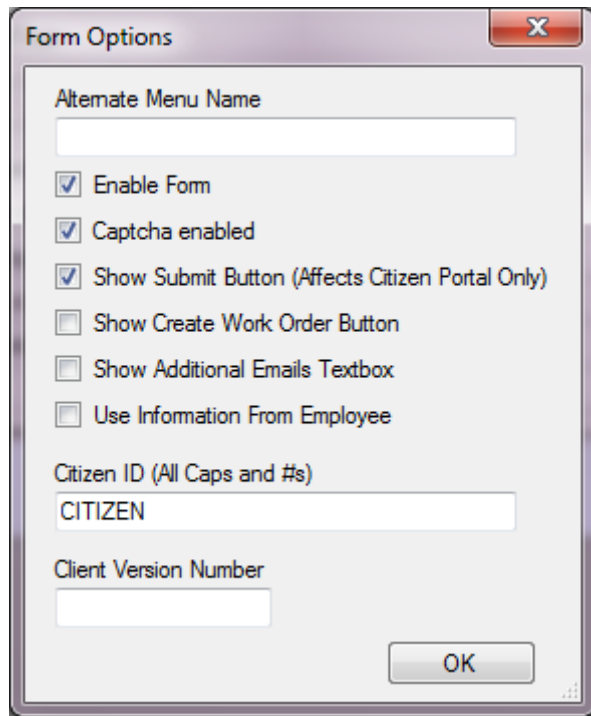
The *Form Options* dialog provides administrators with some general form controls. Each of the available form options are defined in the table below.

| OPTION | USE/PURPOSE |
|---------------------------------------|--|
| <i>Alternate Menu Name</i> | Indicates that an alternate name or alias should be used as the Form's title at the top of the form, in the menu and on the <i>Web</i> site. |
| <i>Enable Form</i> | Makes the <i>Form</i> accessible to users in the <i>Lucity Web</i> application. Note: All forms, whether they are associated with parent or child records, must be enabled to be used on the <i>Web</i> application. |
| <i>Captcha enabled</i> | Adds a Captcha code similar to the one below to the <i>Request</i> web form. Users must type the code as it appears to submit their request.  <p>Using Captcha codes can reduce some of the spam requests that might otherwise be submitted through a <i>Web</i> form.</p> |
| <i>Show Submit Button</i> | Controls whether the Submit button appears on a <i>Citizen Portal</i> form. This option should be enabled in most cases. |
| <i>Show Create Work Order Button</i> | Adds a Create Work Order button to internal <i>Request</i> forms, which enables users to quickly enter a <i>Request</i> , save it, and create a related <i>Work Order</i> . |
| <i>Show Additional Emails Textbox</i> | Adds extra <i>Email Address</i> fields to <i>Citizen Portal</i> forms so that a requester can send the <i>Create Request</i> Email to more than one address. |

| | |
|--------------------------------------|--|
| <i>Use Information From Employee</i> | Uses information from the employee's <i>Lucity Employee</i> record (Work > Work Flow Setup > Employees) to populate fields when the employee is completing an internal <i>Request</i> .. |
| <i>Citizen ID</i> | <p>Makes a form accessible to the <i>Citizen Portal</i> product. This field is used to link an external site to a form.</p> <p>This feature can also be implemented on intranet site to accommodate agency users that do not have a <i>Lucity</i> login ID.</p> <ul style="list-style-type: none"> • Enter a unique, alphanumeric ID using uppercase letters and numbers only (e.g., XYZ123, CITIZEN1). Do not use any symbols (*, #, %, etc.). This ID is used as part of the URL for the Citizen Portal form. More information on setting up Citizen Portal (see "Create Request Forms" on page 478). <p>Note: In order for citizens to use public web forms, several security permissions must be enabled. See the Group Assignment topic for additional information.</p> <p>Note: To make public web forms available to internal users, mark the Allow on Menu checkbox. Administrators can then add the form to menus and assign groups (see "Assign Groups to Views/Forms" on page 317) to it. To make a form only accessible to public citizens, do not check Allow to Menu.</p> |
| <i>Client Version Number</i> | Indicates the version number that the client is currently using. |

How To Access and Use the Form Options

1) In a *Form*, select **Form > Options** from the menu at the top of the *Form Editor*. The following dialog box appears:



The image shows a 'Form Options' dialog box with a close button (X) in the top right corner. It contains the following fields and options:

- Alternate Menu Name: [Empty text box]
- Enable Form
- Captcha enabled
- Show Submit Button (Affects Citizen Portal Only)
- Show Create Work Order Button
- Show Additional Emails Textbox
- Use Information From Employee
- Citizen ID (All Caps and #s): [CITIZEN]
- Client Version Number: [Empty text box]
- OK button

- 2) Enable/disable options as desired.
- 3) Click **OK** to save the changes.


HOW TO

This section explains how to accomplish common tasks when editing a form.

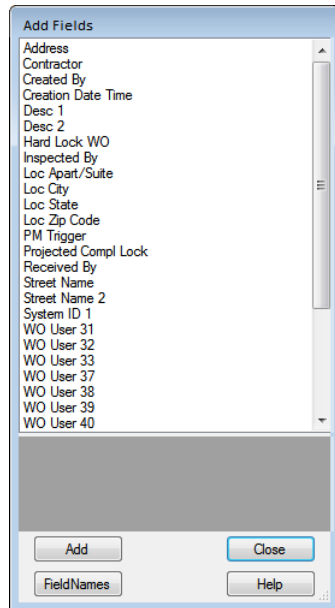
How to show/hide the Form Details

- To toggle between showing and hiding the *Form Details*, click the  button on the toolbar.

How to add a field

- 1) Click the  button on the toolbar. The list of available fields appears.
 - The fields available depend on which program, module, and component was selected in the **Form Manager**.
 - If the default field names have been changed in the *Desktop*, the custom names appear in this list.
- 2) Select one or more fields in the list.
 - Each field can be added to a form only once; any field already added to the form will not appear in this list.
 - When a field is highlighted, a brief description appears at the bottom of the dialog. The description displays the field *Name*, *Component Type*, and default *Lucity Caption*.
 - **Note:** Click the **FieldNames** or **Captions** button to toggle how fields are identified in the list.

3) Click the **OK** button to close the list of fields and add the selected fields to the *Form Preview*.



The system places the fields on the form in the order in which they were selected.

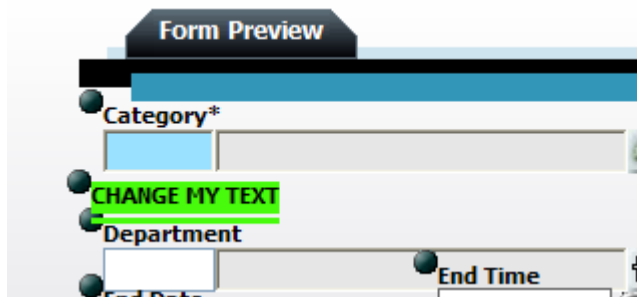
Note: If secured fields have been added to a form (e.g., Employee's hourly rates), only users with rights to view secured fields will see them. These rights are granted in the Security.exe.

Note: Fields that are required in the *Desktop* application (such as *Category* on *Work Orders*) will be forced onto the *Web* form by the *Lucy Administration for Web Apps*. Such fields cannot be removed; however, they can be hidden using the **Component Property** (see "**Component Property Definitions**" on page 177) settings.

Several types of fields have additional special functions (knowledge base, scripts, etc.). These fields are described in the following topics.

How to insert a label/hyperlink

- 1) Click the **Abc** button. A component called *Change My Text* appears in the *Form Preview*.



- 2) Double-click on *Change My Text* to access a text box.

Note: There are no limitations on the number of labels that can be added to a *Form*.

- 3) Add the desired text and click outside the box to add the text to the form?

Hyperlinked Labels

To make the label a hyperlink, use the following syntax as the text:


```
<a href="website url" target="_blank">Your Label</a>
```

- The part marked as **Your Label** will be displayed on the form, and the address used as the **website url** will open when the user clicks the label.

Example

```
<a href="http://blog.lucity.com" target="_blank">Lucity Blog</a>
```

How to add a divider

- 1) Click the  button. A dividing line appears at the bottom of the *Form Preview*.


The image shows a screenshot of a web form interface. At the top, there is a text input field labeled "Problem" with a blue sphere anchor at its top-left corner. Below it is a larger text area labeled "Comment from Customers" with a blue sphere anchor at its top-left corner. To the right of the comment area is a text input field labeled "Asset Rec #" with a blue sphere anchor at its top-left corner. A thick, solid red horizontal line is positioned below the "Comment from Customers" field. Below the red line is a "Select File" label, a text input field, and a "Browse..." button. At the bottom center, there is a "Submit" button and a blue sphere anchor with a question mark icon.

- 2) Use the component anchor (the blue sphere at its top left corner) to move the divider to its desired location.

Note: The length of the line cannot be changed.


Note: There are no limitations to the number of divider lines that can be added to the form.

How to insert a frame


Click the frame button . An empty, rectangular frame is added to bottom of the the *Form Preview*.

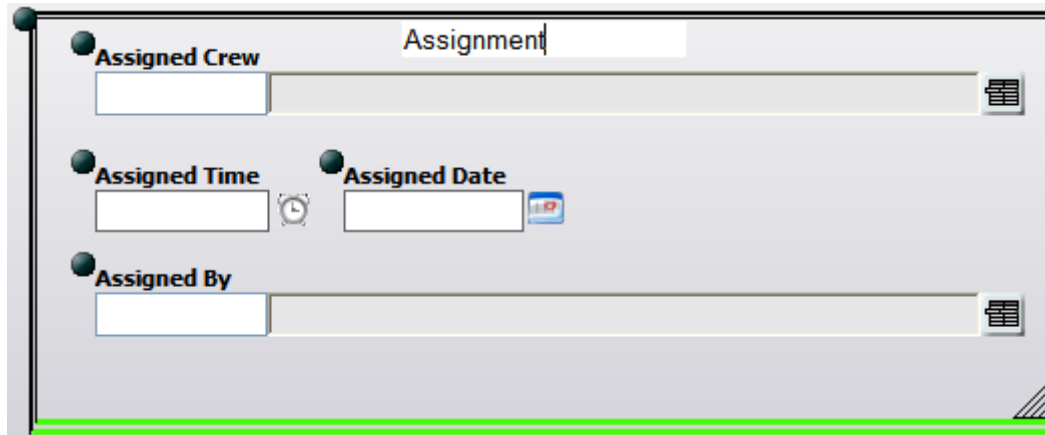


Changing the Frame Size


- Click and drag the triangle  at the lower-right corner of the frame to resize it.

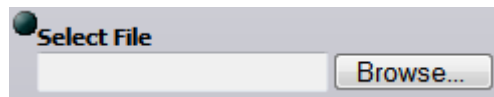
Grouping Fields with a Frame

- Place fields inside the frame by using a field's handle  to drag and drop it inside the frame's borders.
- The fields will be attached to the frame that surrounds them. Therefore, when the frame is moved, all attached fields will move with it.



How to add a file upload


- 1) Click the  button on the toolbar.
- 2) A *File Upload* field appears at the bottom of the *Form Preview*.



Note: More than one upload field can be added to a *Form*.

More information about setting up a File Upload

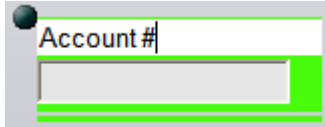
How to move components

- Place the mouse pointer over the handle  at the component's top left corner. Click, drag, and drop the component to a new location.
OR
- Select the component and change the values in its *Location* properties.

Note: Fields can be placed anywhere on the form; the form size automatically adjusts to accommodate field placement.

How to rename components


- To change the text of a field's *Label*, simply click on the label. A text box appears, allowing you to type directly in the *Form Preview*.

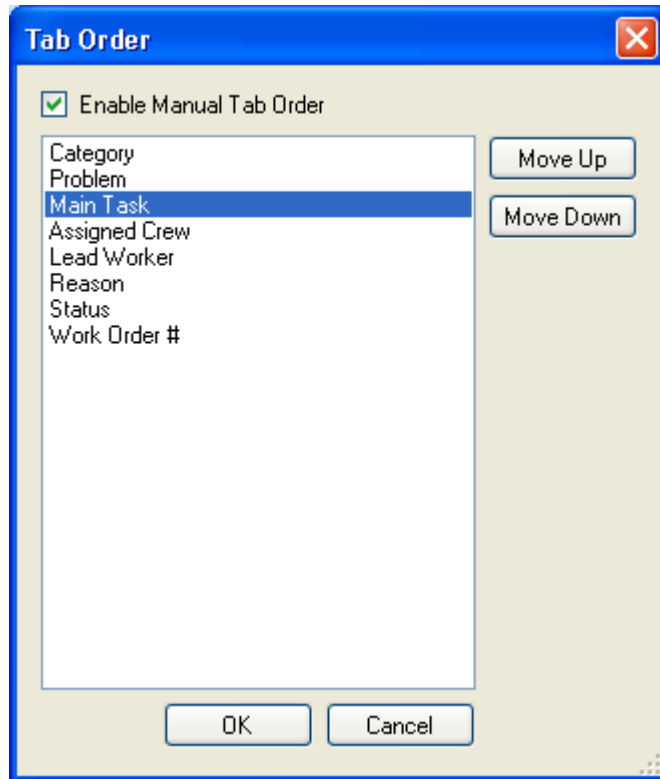


OR

- Select the field and change the value in the *Label* property.

How to edit tab order

- 1) Click the  button on the toolbar. The following dialog box appears, listing all fields currently included on the *Form*.




- 2) Select the *Enable Manual Tab Order* checkbox.
- 3) Highlight individual fields in the list and click the **Move Up** or **Move Down** to change the tab order.

- 4) Click **OK** when the changes are complete.

Note: The default tab order for fields in *Forms* is assigned by the system in a left-to-right, top-to-bottom manner. The system takes into consideration the placement of fields within frames, meaning that users can tab through all of the fields in one frame before the tab order shifts to a second frame.

How to remove the selected item

- 1) Select the item to remove. The currently selected item appears highlighted in bright green.
- 2) Click the  button to remove it. [Can the action be undone?]

Note: Fields that are required in the *Desktop* application cannot be removed. The *Remove* button is disabled when such a field is selected. However, such a field can be hidden.

How to hide Lookup buttons

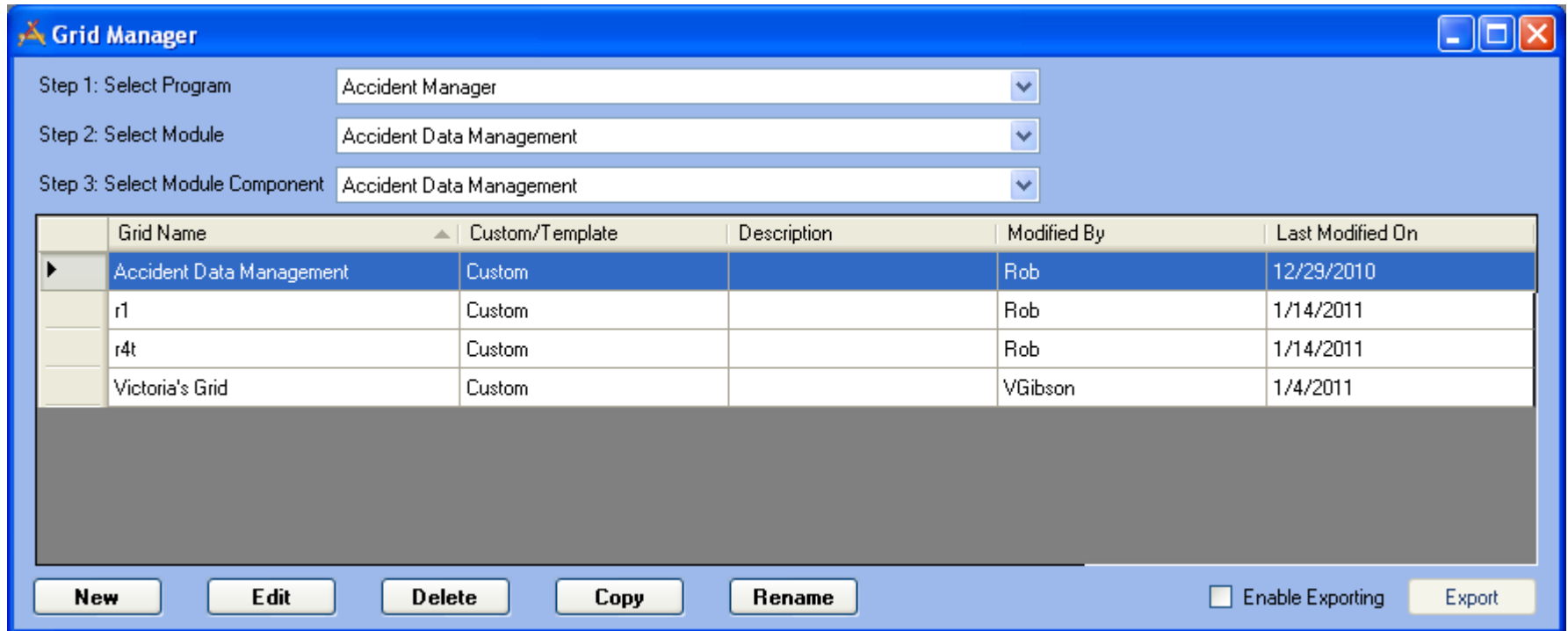
There are several special lookup buttons found on *Work Orders* and *Request* forms.

To hide the lookup buttons:

- 1) Go to **System > Settings > Work tab**.
- 2) Disable the *Show Customer Lookup and Request Lookup buttons on Request forms* and the *Show Customer Lookup button for Work Order Billing* options.

GRID MANAGER

The *Grid Manager* enables administrators to create, edit, and delete grids, among other actions.



DISPLAY CONTROLS

Module Selection Drop-downs Enables the user to select a *program*, a *module*, and one of its *components* to control which *Views/Forms* are displayed in the grid. List of available modules

FIELDS

Grid Name Specifies the title of the grid.

Description Provides the user-defined description of the grid's purpose.

Modified By, Last Modified On Indicates the last user to modify a grid and the date the grid was last modified.

TOOLS

New Creates a new *Grid* record.

Edit Opens the selected record in the *Grid Builder*.

Delete Deletes the selected record.

Copy Copies the selected record.

Rename Renames the selected record

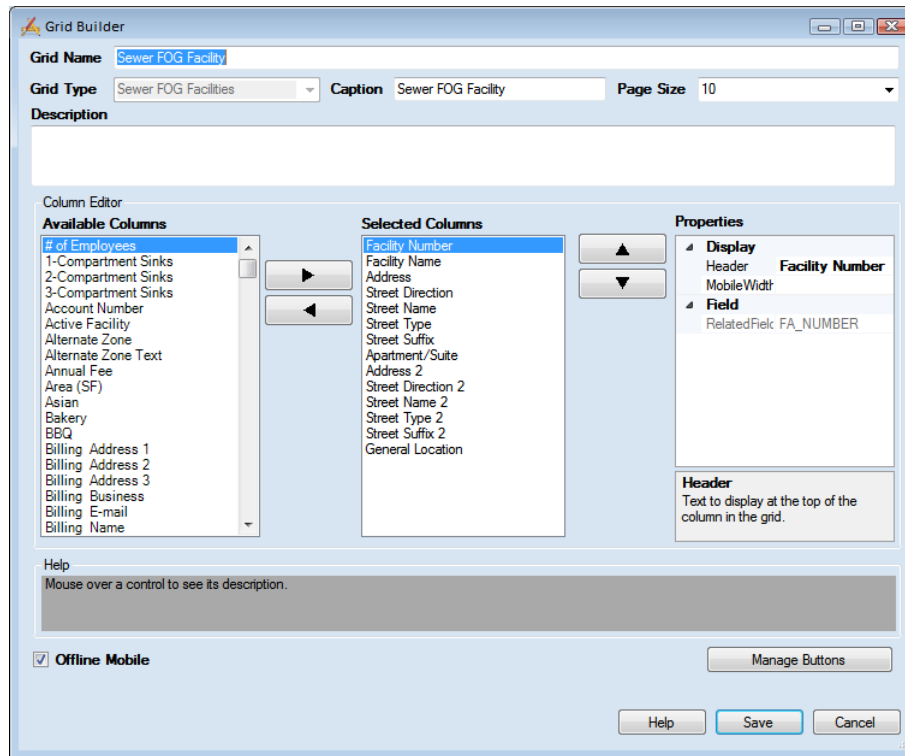
Enable Exporting Disables all of the previous tools and enables the **Export** button.

Export **Exports** (see "**Exporting Views/Forms**" on page 157) the currently selected record as an xml file, which can then be imported.

Note: Lucity provides **pre-built grids that can be imported** (see "**Import Template Views/Forms**" on page 239).

How to add a Grid

- 1) Use the **Module Selection Drop-downs** at the top of the *Grid Manager* to find the correct module.
- 2) Click the **New** button. The *Grid Builder* (on page 229) appears:

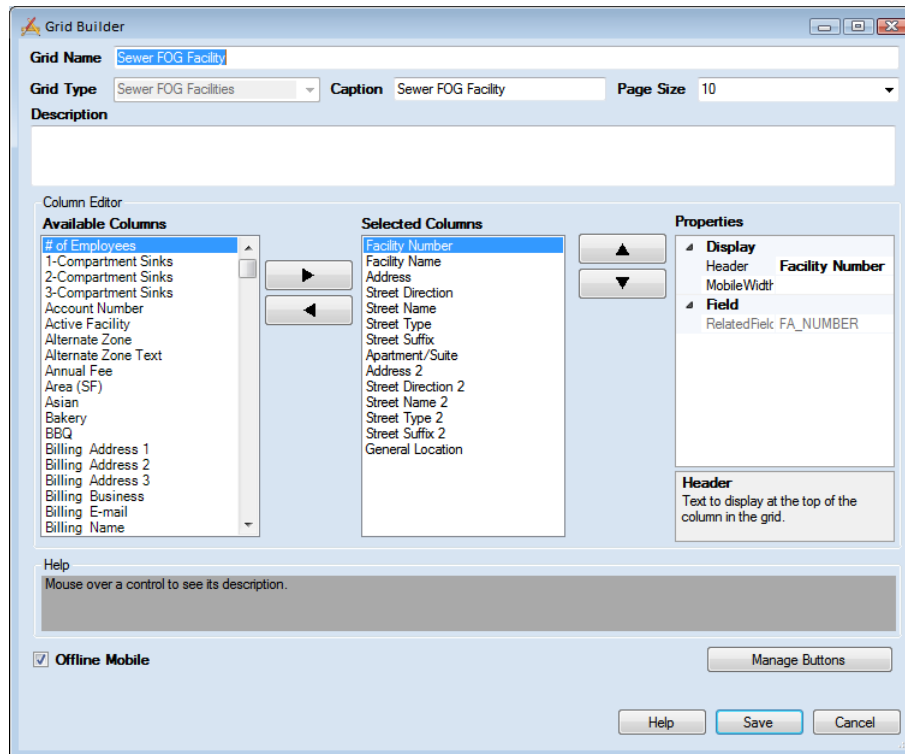


- 3) Enter a *Grid Name*.
- 4) Modify and **Save** the grid.

How to edit a Grid

- 1) Use the **Module Selection Drop-downs** at the top of the *Grid Manager* to find the correct module.

2) Select the desired *Grid* and click **Edit**. The *Grid Builder* (on page 229) appears:

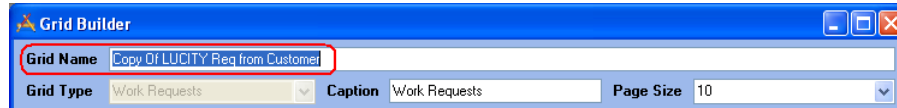


3) Modify and **Save** the grid.

How to copy a Grid

- 1) Select a *Grid* record.
- 2) Click the **Copy** button.

- The *Grid Builder* opens a copy of the *Grid* with a *Grid Name* that begins: "Copy of..."
- The copy contains all columns and properties found in the original grid. Any changes made to the new grid will not affect the original grid.



- 3) Modify the *Name* and any other fields, as desired.
- 4) **Save** the *Grid*.

How to rename a Grid

UNSUPPORTED MODULES

The following modules are not yet supported by *Lucity Web* and must be accessed using *Lucity Desktop*. Any module not listed here is supported in *Lucity Web*.

Work

- *Work Asset Setup*

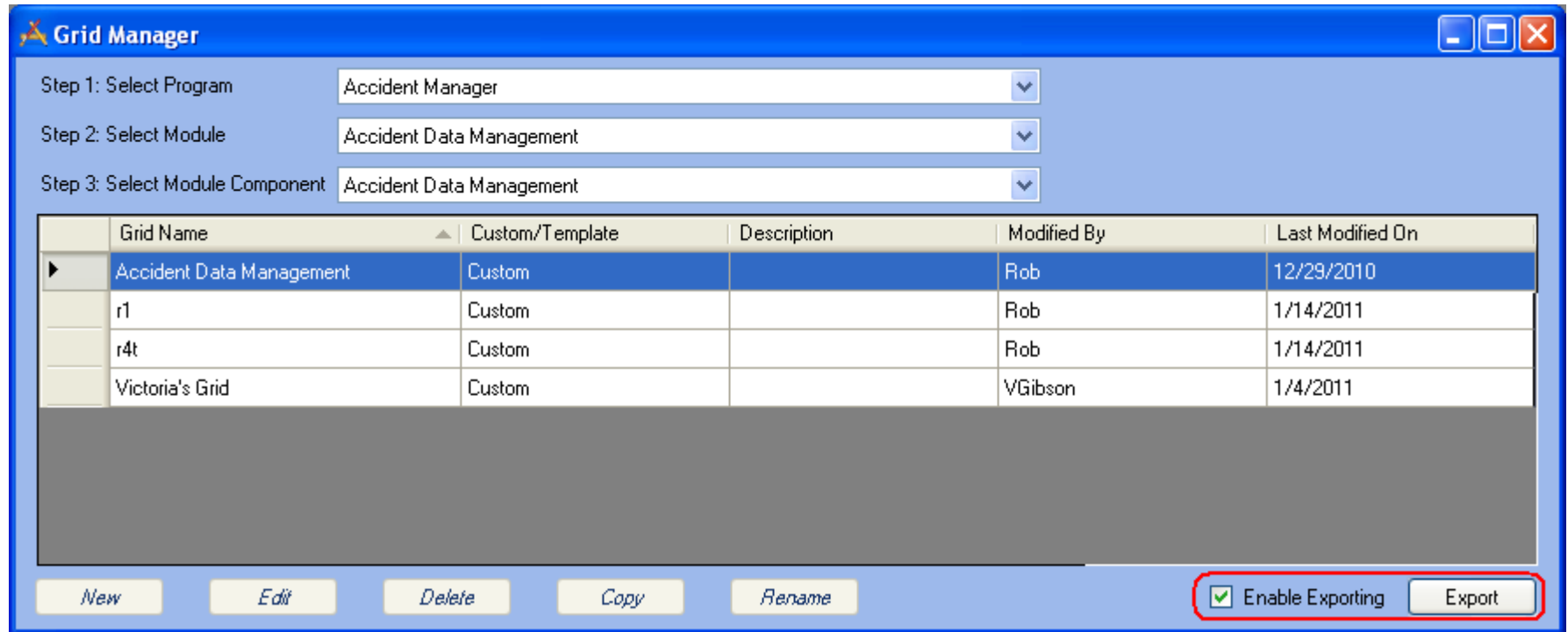
Sewer

- *Sewer Rehab*
 - *Rehab Projects*
 - *Model*
 - *Pipe Analysis Details*

- *Rehab Work Tasks and Costs*
- *Default Rehab Work Tasks*
- *Material Types*
- *Surface Types*
- *Accessibility*

EXPORTING GRIDS

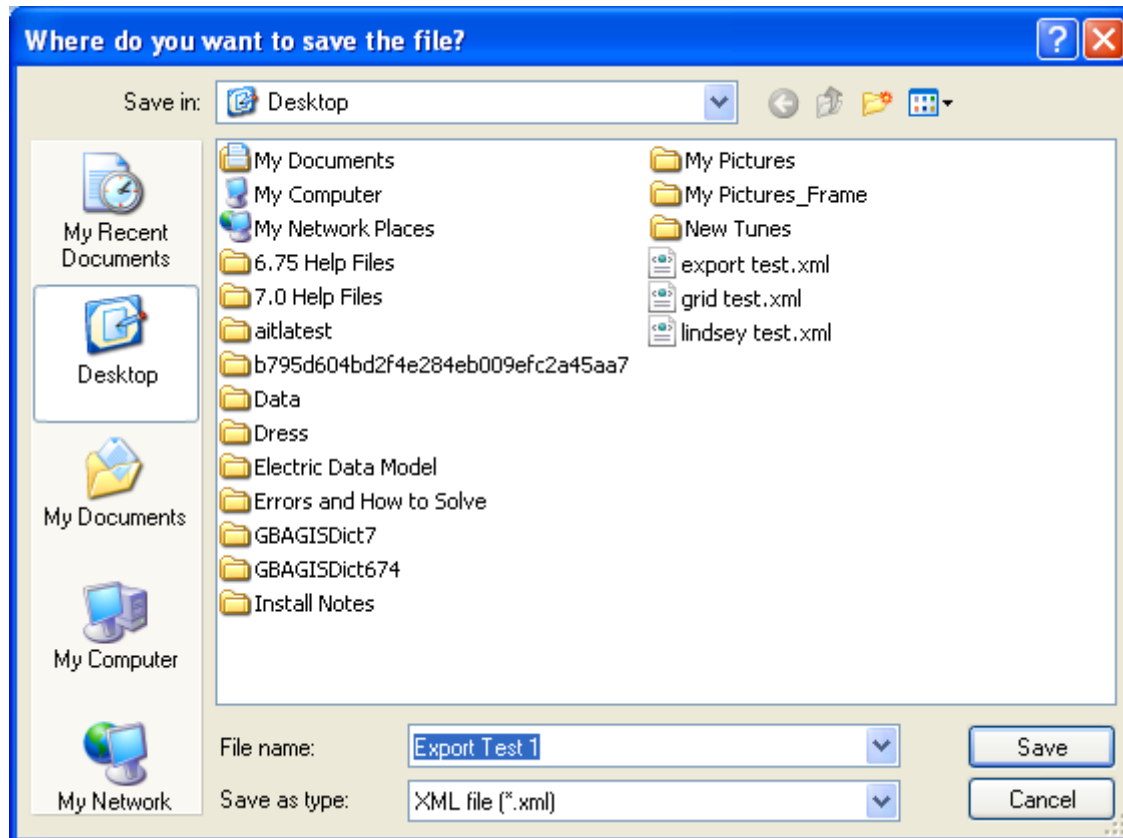
Often users want to set up grids in a test environment before loading them into production. In the bottom-right corner of the *Grid Manager*, there is an *Enable Exporting* checkbox and an **Export** button. These tools allow users to export grids they have created in one Lucity client and import them into another.



How To Export Grids

- 1) Check the *Enable Exporting* box at the bottom-right corner of the screen. This action will disable most other buttons.

2) Choose one or more grids to export and select **Export**. The following window appears:



3) Browse to the location you wish to save the export.

4) Give the export a name.

5) Select **Save**. One .xml file will be saved at that location. The file will contain all of the grids that were selected in the Grid Manager.

Note: See the *Import from XML* (see "*Import Template Views/Forms*" on page 239) topic for instructions for importing a grid.

GRID BUILDER

Grids display records within a *View*. They are designed to:

- show key information from multiple records in a module, and
- provide easy access to a detailed *Form* view of a single record.





Administrators can use the *Grid Builder* to control which fields are displayed in a grid, the order in which those fields are displayed, what the grid is called, and which tools appear in the its toolbar.

The screenshot shows the 'Grid Builder' application window. At the top, the 'Grid Name' is 'Sewer FOG Facility', 'Grid Type' is 'Sewer FOG Facilities', 'Caption' is 'Sewer FOG Facility', and 'Page Size' is '10'. Below this is a 'Description' text area. The main area is divided into three sections: 'Available Columns', 'Selected Columns', and 'Properties'. The 'Available Columns' list includes fields like '# of Employees', '1-Compartment Sinks', '2-Compartment Sinks', '3-Compartment Sinks', 'Account Number', 'Active Facility', 'Alternate Zone', 'Alternate Zone Text', 'Annual Fee', 'Area (SF)', 'Asian', 'Bakery', 'BBQ', 'Billing Address 1', 'Billing Address 2', 'Billing Address 3', 'Billing Business', 'Billing E-mail', and 'Billing Name'. The 'Selected Columns' list includes 'Facility Number', 'Address', 'Street Direction', 'Street Name', 'Street Type', 'Street Suffix', 'Apartment/Suite', 'Address 2', 'Street Direction 2', 'Street Name 2', 'Street Type 2', 'Street Suffix 2', and 'General Location'. The 'Properties' section has a 'Display' section with 'Header' set to 'Facility Number' and 'MobileWidth' set to 'Facility Number', and a 'Field' section with 'RelatedField' set to 'FA_NUMBER'. There is also a 'Header' section with the text 'Text to display at the top of the column in the grid.' At the bottom, there is a 'Help' section with the text 'Mouse over a control to see its description.', a 'Manage Buttons' button, and a 'Help' checkbox which is checked. At the very bottom are 'Help', 'Save', and 'Cancel' buttons.

HEADER INFORMATION

| | |
|--------------------|---|
| <i>Grid Name</i> | Provides a unique title for the grid. |
| <i>Grid Type</i> | Indicates which module is associated with the grid. This field is read-only and is based on the program, module and component selected in the <i>Grid Manager</i> . |
| <i>Caption</i> | Displays the text that will appear at the top of the grid in Lucity Web. |
| <i>Page Size</i> | Indicates the number of records that will appear on a page of the grid by default. |
| <i>Description</i> | Explains the purpose of the grid. |

COLUMN EDITOR

| | |
|---|---|
| <i>Available Columns</i> | Lists all columns in the module that can be added to the grid. |
|   | Used to move columns back and forth between the Available Columns list and the Selected Columns list. |
| <i>Selected Columns</i> | Lists the columns that are included in the grid. |
|   | Used to move a column up and down within the Selected Columns list. Columns, as listed top to bottom, appear left to right in the grid. |
| <i>Properties</i> | Lists the display properties of the selected column. More information about column properties (see " Column Properties " on page 232) |

FOOTER

| | |
|-----------------------|--|
| <i>Offline Mode</i> | Makes the grid available to mobile users when they are offline. |
| Manage Buttons | Opens the <i>Manage Buttons</i> pop-up, which lets administrators choose which buttons appear on the grid's toolbar. |
| Save | Saves all edits and closes the <i>Grid Builder</i> . |

Cancel

Closes the *Grid Builder* without saving edits.

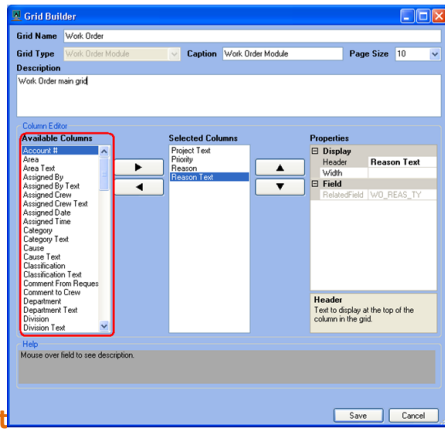
How to add columns

To Add a Column

- 1) In the *Available Columns* list (on the left), select a column to add to the grid.
- 2) Click the > button to move the selected column name to the *Selected Columns* list.

To Remove a Column

- 1) In the *Selected Columns* list (in the middle), select a column to remove from the grid.
- 2) Click the < button to move the selected column name to the *Available Columns* list.



Not: When creating or editing *Work Order* grids, a *System ID 1* and a set of address fields appear in the Available Columns list. These fields are automatically populated with the first *asset ID number* in the *Asset* grid, and first *Address* from the *Location* grid. By including these fields, administrators have a way to add some asset and address information directly into the *Work Order* grid so users don't have to drill down on every record to see the location of the *Work Order*.

How to change column order

- 1) Select a column name in the *Selected Columns* grid.
- 2) Click the up and down arrows to move the selected column up or down in the list. The order of the columns, as listed top to bottom, indicates how they will appear in the grid from left to right.

COLUMN PROPERTIES

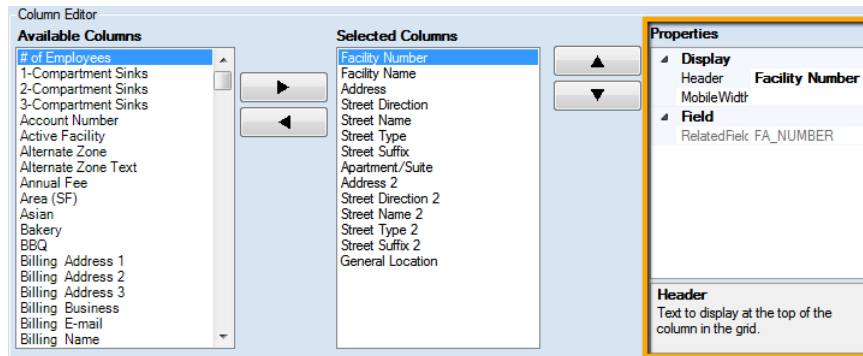
When a column name is highlighted in the *Selected Columns* list, its properties appear on the right in the *Grid Builder*.

- *Header* - The text that will be displayed above the column in the grid.
- *Mobile Width* - The width of the column in the iOS Mobile app. If left blank the column is sized based on field type.

- Boolean - 75
- Datetime - 100
- Numeric - Max length of the number.
- Text - Max length of the text.
 - *Related Field* - The database field to which the column is mapped (read-only).

How To Change a Column Property

- 1) Select a column name in the *Selected Columns* list.
- 2) Click on a property in the Properties list to the right. The property name will be highlighted. The following properties are available:



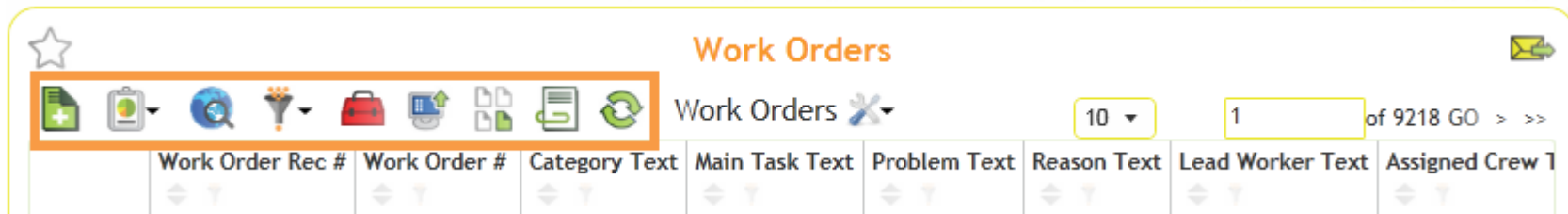
- 3) Click in the field to the right of the property name and change the value.
- 4) Save changes.

MANAGING BUTTONS

In *Lucity Web*, a toolbar appears at the top of every grid.

By default, all toolbar buttons are enabled; however, an administrator can choose to hide a button(s) from all users using the **Manage Buttons** button in the *Grid Edit* screen.

User permissions determine whether certain toolbar buttons are enabled for a particular user. For example, if a user does not have the permission to add a record in a module, the *Add* button will not appear.



The screenshot shows the 'Work Orders' grid interface. At the top, there is a toolbar with several icons: a star, a green plus sign (Add), a clipboard (Edit), a magnifying glass (Search), a funnel (Filter), a red briefcase (Print), a computer monitor (Refresh), a document with a green arrow (Recycle), and a green circular arrow (Refresh). The toolbar is highlighted with an orange box. Below the toolbar, the grid header is visible, showing columns: 'Work Order Rec #', 'Work Order #', 'Category Text', 'Main Task Text', 'Problem Text', 'Reason Text', 'Lead Worker Text', and 'Assigned Crew 1'. The grid content is currently empty.

How To Turn Toolbar Buttons On or Off

- 1) Click the **Edit** button in the toolbar for the desired grid.

2) Click the **Manage Buttons** button in the bottom right corner. The following screen appears:

Button Rules Form

Buttons selected are included over the grid.

Note: Some features are unavailable in child grids, and won't appear regardless of the option selected here.

Open In Desktop Button Report Button Open In Another View

Create New WorkOrder Button Tools Button Show In Map Button

Create New Request Button Delete Button Filter Button

Add New Record Button Subset Button Documents Button

Carry Over Button Export Data Button Edit Resources Button

Create New PM/Template Button

OK Cancel

3) Check or uncheck the desired buttons. Buttons that are checked will appear in *Lucity Web*.

4) Click **OK** to save and close.

Note: Users must leave the module and reopen it to see an administrator's toolbar changes.

Note: The **Carry Over** button is a *Form* button; disabling it on this screen disables it on the *Form* attached to this grid.

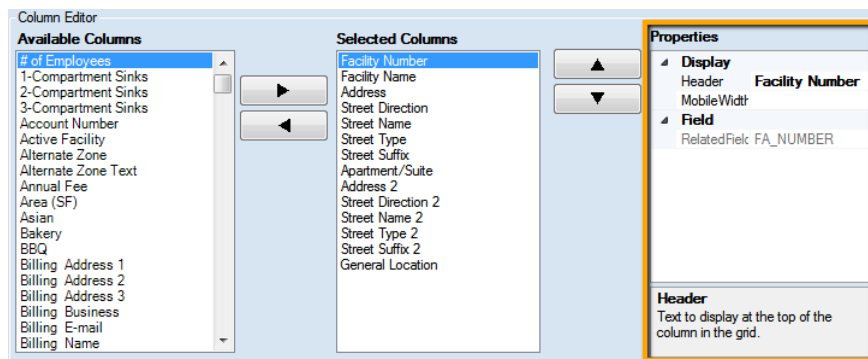
COLUMN PROPERTIES

When a column name is highlighted in the *Selected Columns* list, its properties appear on the right in the *Grid Builder*.

- *Header* - The text that will be displayed above the column in the grid.
- *Mobile Width* - The width of the column in the iOS Mobile app. If left blank the column is sized based on field type.
- Boolean - 75
- Datetime - 100
- Numeric - Max length of the number.
- Text - Max length of the text.
- *Related Field* - The database field to which the column is mapped (read-only).

How To Change a Column Property

- 1) Select a column name in the *Selected Columns* list.
- 2) Click on a property in the Properties list to the right. The property name will be highlighted. The following properties are available:



- 3) Click in the field to the right of the property name and change the value.

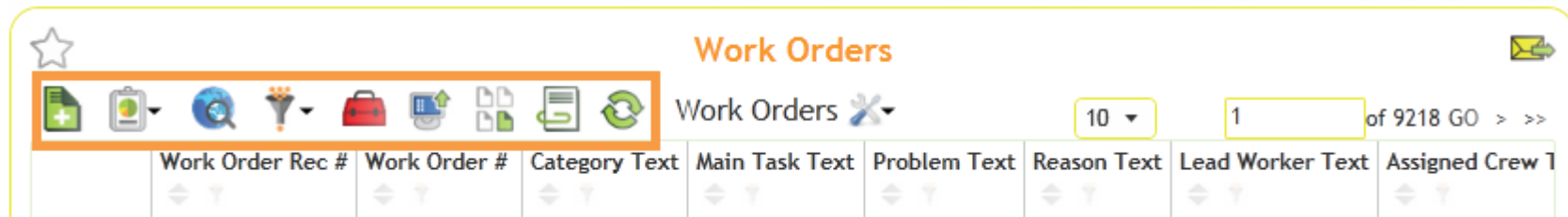
4) Save changes.

MANAGING BUTTONS

In *Lucity Web*, a toolbar appears at the top of every grid.

By default, all toolbar buttons are enabled; however, an administrator can choose to hide a button(s) from all users using the **Manage Buttons** button in the *Grid Edit* screen.

User permissions determine whether certain toolbar buttons are enabled for a particular user. For example, if a user does not have the permission to add a record in a module, the *Add* button will not appear.



How To Turn Toolbar Buttons On or Off

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Note: Some features are unavailable in child grids, and won't appear regardless of the option selected here.

Open In Desktop Button Report Button Open In Another View

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Create New Request Button Delete Button Filter Button

Add New Record Button Subset Button Documents Button

Carry Over Button Export Data Button Edit Resources Button

Create New PM/Template Button

OK Cancel

3) Check or uncheck the desired buttons. Buttons that are checked will appear in *Lucity Web*.

4) Click **OK** to save and close.

Note: Users must leave the module and reopen it to see an administrator's toolbar changes.

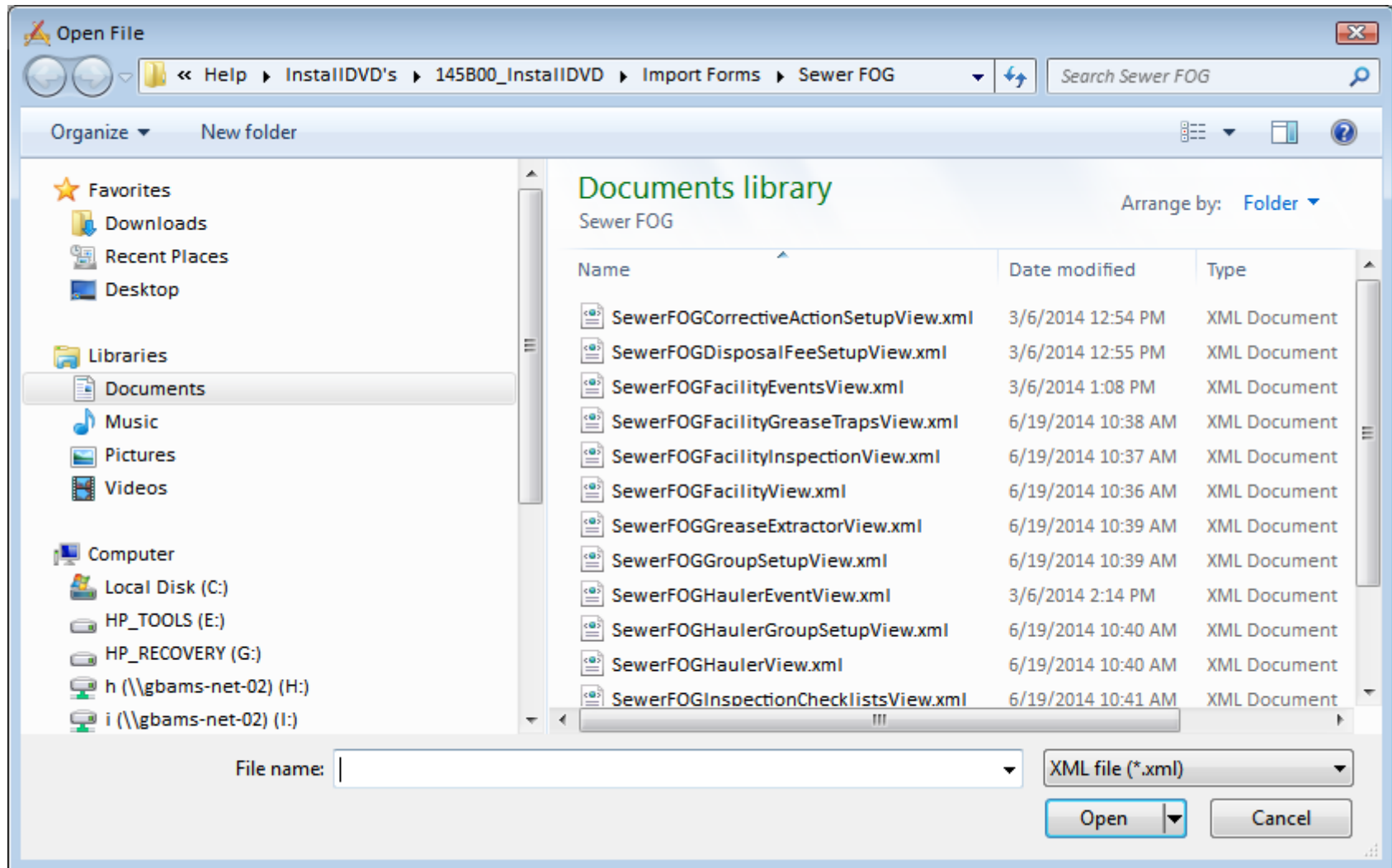
Note: The **Carry Over** button is a *Form* button; disabling it on this screen disables it on the *Form* attached to this grid.

IMPORT TEMPLATE VIEWS/FORMS

Forms, views, and grids can be exported and imported.

How To Import a Form, View or Grid

1) Select **Import from XML** on the *Forms* menu. The following window appears:



2) Choose one or more xml files and select **Open**. A confirmation message appears to indicate that the import was successful.

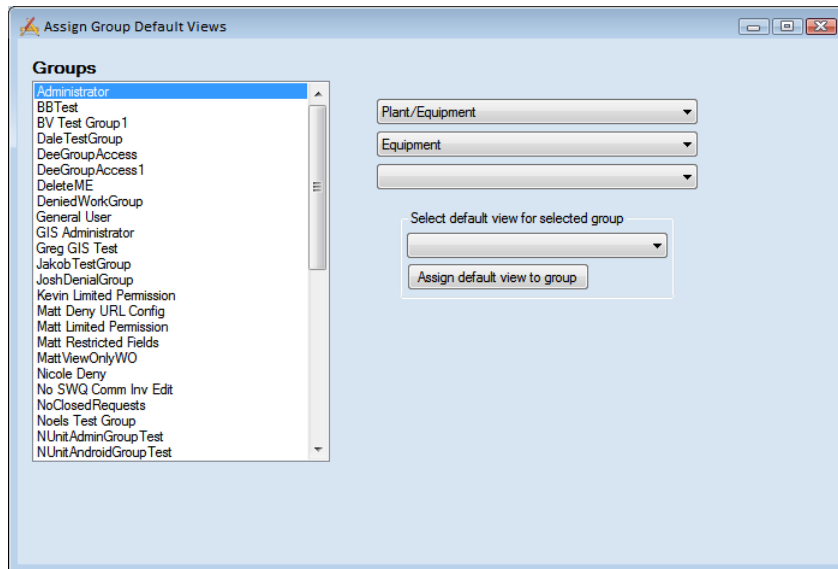
ASSIGN DEFAULT GROUP VIEWS

The *Assign Default Group Views* feature lets administrators assign different default views for a module to different user groups. This allows each user group to open a module to the view it prefers. This is only available for the following modules.

Supported Modules

- *Equipment Inventory*
- *Facility > Building Inventory*
- *Work > PM/Templates*
- *Work > Requests*
- *Work > Work Orders*

The tool is accessed through the *Administration Tool* at **Forms > Assign Default Group Views**.



| | |
|---|--|
| <i>Groups</i> | Displays a list of user groups from the <i>Security</i> module. |
| <i>Module Selection Drop-downs</i> | Enables the administrator to control which <i>Views/Forms</i> are displayed in the <i>Available Views/Forms</i> grid by selecting a program , a module , and one of its components . |
| Select default view for selected group | Enables an administrator to select a view for the selected module. |
| Assign default view to group | Assigns the selected view as the default view for the selected group. This function will only work for a user if the selected <i>Group</i> is set as the user's <i>Default Rules Group</i> in the <i>Security</i> program. |

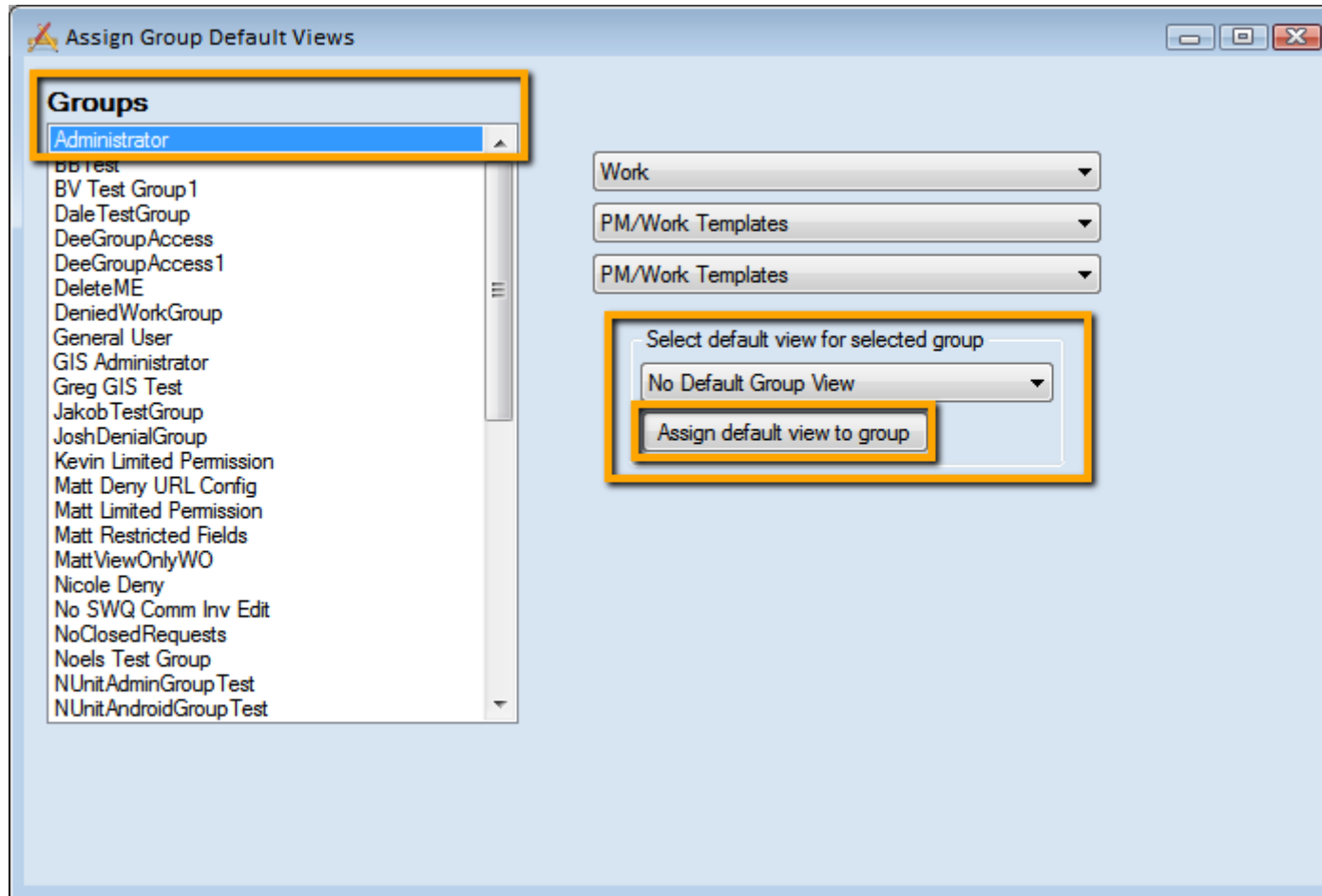
How to assign a default View for a Group

Administrators have the ability to assign a default *View* for each *Lucity* module. In the *Web* application, all users who navigate to a module using the *Modules* menu will see this *View* by default. However, for a select number of modules, an administrator may set a different default *View* for different *Groups*.

Note: For users to see the *View* assigned as the default, they must have the associated *Group* assigned as their *Default Rules Group* in the *Security* program.

- 1) Select one group in the *Groups* list.
- 2) Use the **Module Selection** drop-downs to find the module you want to set a default for.
- 3) Using the drop-down list, select a view in the *Select default view for selected group* section.

4) Click the **Assign default view to group** button.

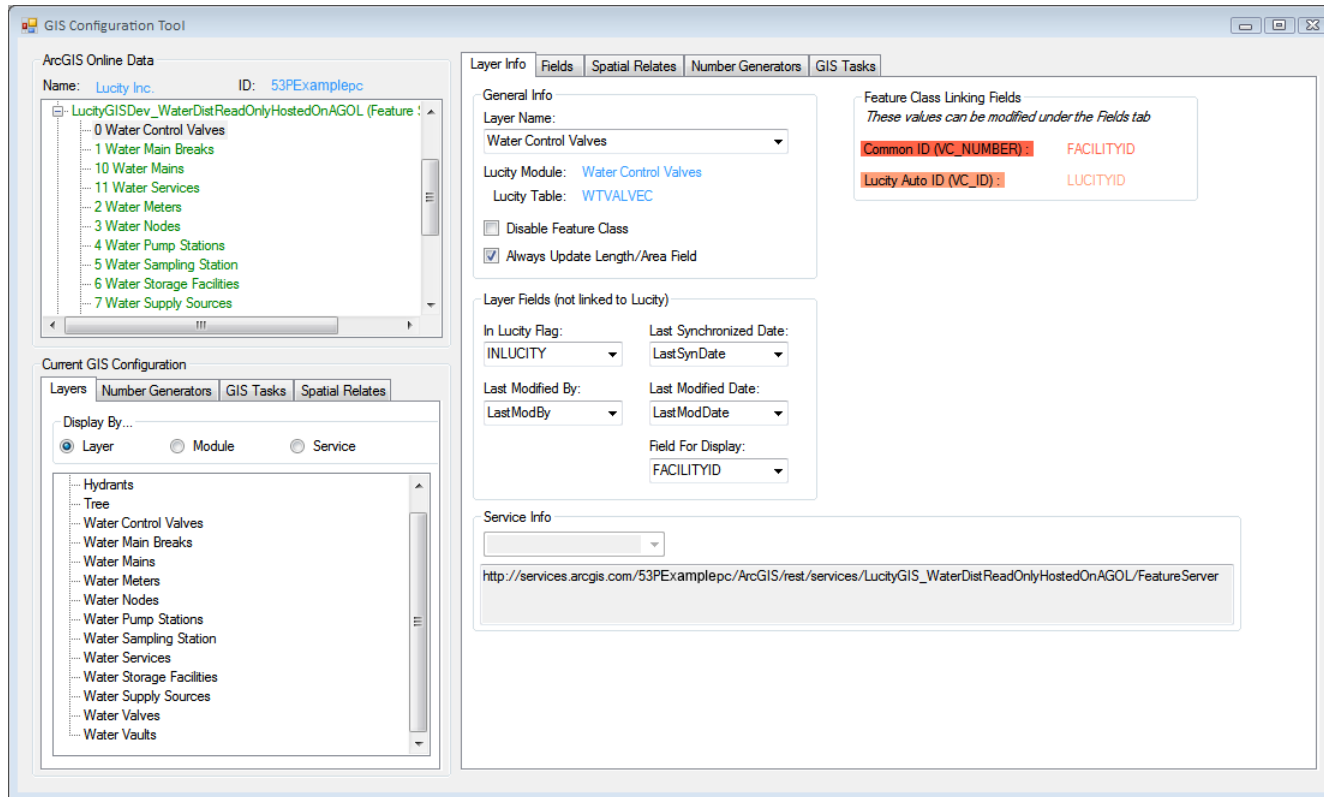


GIS

The *GIS* menu option allows administrators to control which maps users have access to within the *Web* application and set various connection strings for the GIS Server tasks. Note that changes made to the system settings here will be applied to all users. Follow the links below for additional information.

GIS CONFIG

The *GIS Config* tool allows an agency to configure *Lucity* with the GIS data it stores in ArcGIS Online.



The tool is divided into three sections:

ArcGIS Online Data (on page 249) Displays information about an agency's ArcGIS Online account.

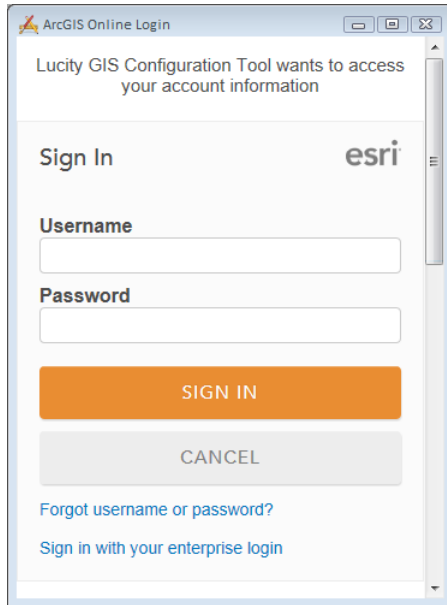
Current GIS Configuration (on page 255) Provides an overview of the entire configuration.

Feature Class Configuration (on page 257) Shows configuration information for the layer selected in the *ArcGIS Online Data* section or the *Current GIS Configuration* section.

How to log into the GIS Config tool

1) In the *Administration Tool*, select **GIS > GIS Config**. The *ArcGIS Online Login* window appears.

2) Enter your ArcGIS Online *Username* and *Password* and click **Sign In**.

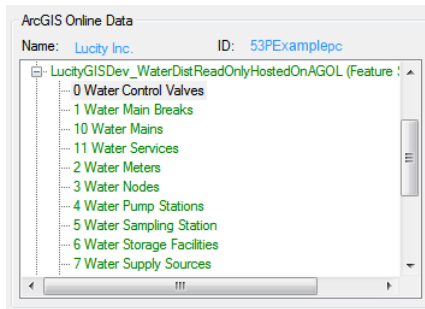
The image shows a screenshot of a web browser window titled "ArcGIS Online Login". The window contains a message from "Lucy GIS Configuration Tool" asking for access to account information. Below this is the "Sign In" section with the Esri logo. It features two input fields: "Username" and "Password". There are two buttons: a prominent orange "SIGN IN" button and a grey "CANCEL" button. At the bottom, there are two links: "Forgot username or password?" and "Sign in with your enterprise login".

The tool connects to your ArcGIS Online account and displays a list of the services available to you.

Note: Your login must be associated with your agency inside ArcGIS Online.

ARCGIS ONLINE DATA

The *ArcGIS Online* section of the *Lucity Admin Tool* displays information about an agency's ArcGIS Online account.



Name Identifies the ArcGIS Online organization that is logged in.
ID Specifies the ArcGIS Online ID for the organization that is logged in.

Grid

The grid, illustrated above, displays a list of feature services that the organization's hosts on its ArcGIS Online account. Expand a service to view the available feature class layers. Services listed in *black* do not have any feature class layers linked to *Lucity*. Services listed in **green** currently have feature class layers linked to *Lucity*.

Click on a **green** feature class layer to review the configuration between the layer and *Lucity*.

Right-click on a feature class to view available tools. The tools that appear here are dictated by whether or not the layer is linked to *Lucity*.

TOOL LIST

| | |
|--|--|
| Link Layer to Lucity (on page 250) | Associates the feature class layer to a module in <i>Lucity</i> and allows the user to configure the link. |
| Remove Link to Lucity (on page 251) | Unlinks the layer from <i>Lucity</i> . |
| Validate (on page 252) | Checks the configuration for errors. |

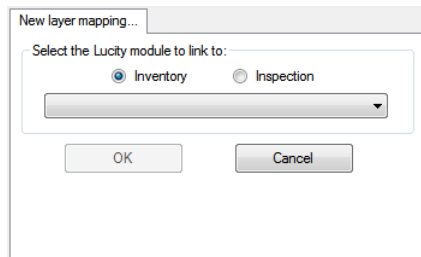
LINK LAYER TO LUCITY

The *Link Layer to Lucity* tool associates an ArcGIS feature class layer with a *Lucity* module and allows the user to configure the link.

How To Link an ArcGIS Feature Class Layer to Lucity

1) Select a feature class layer listed in **black**.

2) Right-click on the layer and select **Link Layer to Lucity**. The following fields are displayed on the right side of the tool:



- 3) Select whether the feature class layer should link to an *Inventory* or *Inspection* module.
- 4) In the drop-down box, select the *Lucity* module to which the layer should link.
- 5) Click **OK**.
 - The ArcGIS Online Services folder is added as a new **GIS Connection String** (see "**GIS Connection Strings**" on page 284, <http://help.lucity.com/webhelp/v170/admin/index.htm#26705.htm>) if it hadn't been added previously.
 - The ArcGIS Online feature service that contains the layer is added to the **GIS Map Services** (on page 292) list if it hadn't been added previously.
 - The configuration is created for the layer and feature class.
- 6) Select the layer in the *ArcGIS Online Data* (on page 249) section or the *Current GIS Configuration* (on page 255) section to display the *Feature Class Configuration* (on page 257) section.

REMOVE LINK TO LUCITY

The *Remove Link to Lucity* tool breaks an existing link between an ArcGIS Online feature class layer and a *Lucity* module.

How To Break a Link between a Feature Class and a Lucity Module

- 1) Select a feature class layer listed in **green** in the *ArcGIS Online Data* section of the tool.

2) Right-click on the layer and select **Remove Link to Lucity**. The association no longer exists.

VALIDATE

Once an ArcGIS feature class layer is configured, administrators should use the *Validate* tool to confirm that there are no errors in the link between the layer and the module.

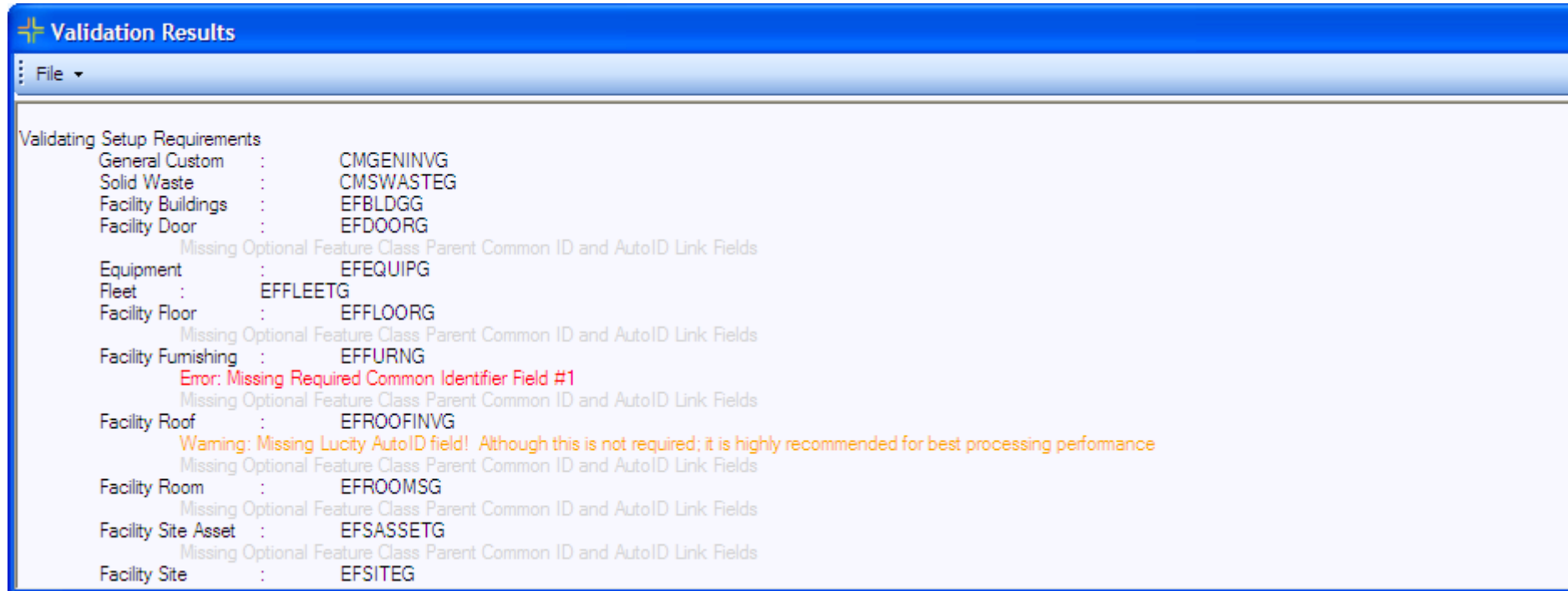
There are three steps in the validation process is to verify that the geodatabase meets Lucity requirements. If the *Validate* tool encounters no critical errors during a step in the process, it moves to the next step in the validation process.

- **Validate Lucity Configuration** - Checks the Lucity configuration to make sure all require information is filled out etc.....
- **Validate against Geodatabase** - Checks the geodatabase to make sure all features and fields referenced in the configuration actually exists.
- **Validate against Services** - Checks the related feature services to make sure the related feature classes exist.

How To Run a Validation Check

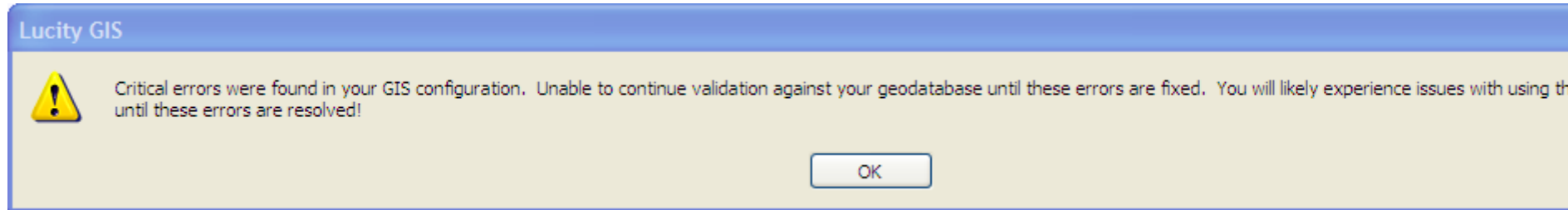
1) Select a feature class layer listed in **green** in the *ArcGIS Online Data* section of the tool.

2) Right-click on the layer and select **Validate**. The tool begins its three-part validation process, displaying results as it runs:

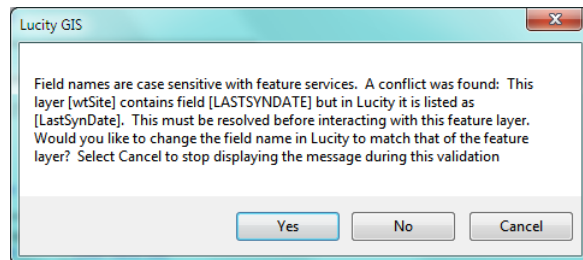


a. *Lucity* verifies the geodatabase setup against *Lucity* requirements to check that the *Required* and *Optional* linking fields are completed.

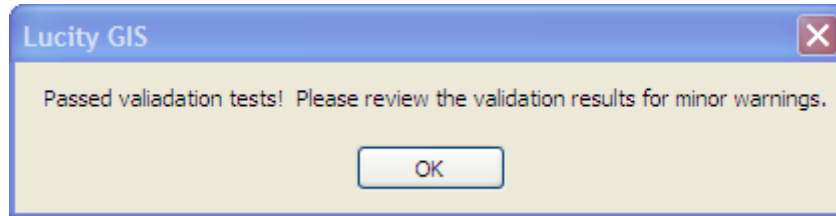
- As the tool checks the setup, it displays results under the *Lucity Module name : Feature Class Name* headings. **Suggestions** appear in light gray, **warnings** in orange and **errors** in red.
- If the system detects an error, the validation process stalls and the system alerts the user:



- b. If the tool confirms that the geodatabase is set up properly, it immediately begins the second part of the validation process.
- Results appear in the same validation window.
- c. The third part of the validation process verifies that the configuration can connect to the feature service that the module is configured to connect to.
- The system checks whether the feature class layer is in the service.
- Then, it confirms that all of the linked fields are in the service.
- If it can't find a field, the system verifies that the field name entered in the geodatabase configuration has the same case as the actual field name. If it finds a discrepancy, the following prompt appears:



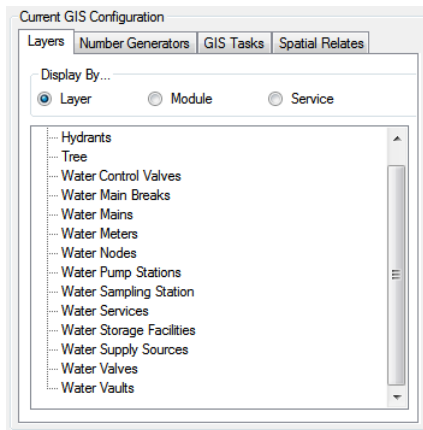
- Click **Yes** to update the geodatabase configuration with the case-matching field name. The system repeats this step for any problem fields.
- 3) If the link between the feature service and the module is validated, the system displays the following message:



- 4) After the validation process is complete, the user can review it. Users can select and copy the results to word-processing software or use the **File** menu to **Print**, **Save**, or **Email the Results to Lucy Support**.

CURRENT GIS CONFIGURATION

The *Current GIS Configuration* section provides an overview of the entire configuration.



Layers Tab

The *Layers* tab lists feature class layers that are configured to work with a *Lucity* module. Users have three options for displaying these items:

| | |
|----------------|--|
| <i>Layer</i> | Lists all ArcGIS Online layers that are linked to a <i>Lucity</i> module. |
| <i>Module</i> | Lists all ArcGIS Online layers that are linked to a <i>Lucity</i> module, arranging them by Lucity program and module. |
| <i>Service</i> | Lists all ArcGIS Online layers that are linked to a <i>Lucity</i> module according to which ArcGIS Online service the layer is in. |

Click on a feature class layer to display the configuration between the layer and *Lucity*.

Other Tabs

The *Number Generators* tab, *GIS Tasks* tab, and *Spatial Relates* tab are included in the software; however these tools are currently not active.

FEATURE CLASS CONFIGURATION

The *Feature Class Configuration* section displays configuration information about the layer selected in either the *ArcGIS Online Data* section or the *Current GIS Configuration* section.

The screenshot shows the 'Feature Class Configuration' interface with the following sections:

- Layer Info** (selected tab):
 - General Info**:
 - Layer Name: Water Control Valves
 - Lucity Module: Water Control Valves
 - Lucity Table: WTVALVEC
 - Disable Feature Class
 - Always Update Length/Area Field
 - Layer Fields (not linked to Lucity)**:
 - In Lucity Flag: INLUCITY
 - Last Synchronized Date: LastSynDate
 - Last Modified By: LastModBy
 - Last Modified Date: LastModDate
 - Field For Display: FACILITYID
 - Service Info**:
 - Service URL: http://services.arcgis.com/53PEexamplepc/ArcGIS/rest/services/LucityGIS_WaterDistReadOnlyHostedOnAGOL/FeatureServer
- Feature Class Linking Fields**:
 - Common ID (VC_NUMBER): FACILITYID
 - Lucity Auto ID (VC_ID): LUCITYID

The *Feature Class Configuration* section contains tabs that provide settings and information related to the configuration.

| | |
|------------------------------|--|
| <i>Layer Info</i> | Displays basic information about the feature class, as well as its linking fields and certain diagnostic fields. |
| <i>Fields</i> | Displays the feature class fields grid, which is used to link feature class layer fields to <i>Lucity</i> module fields. |
| <i>Spatial Relationships</i> | Lists the spatial relationships that are configured to update this feature class. |
| <i>Number Generators</i> | Lists the number generators that are configured to update this feature class. |
| <i>GIS Tasks</i> | Lists the GIS tasks that are configured to push edits between the layer and the <i>Lucity</i> module. |

LAYER INFO

This *Layer Info* tab displays basic information about the feature class, as well as its linking fields and certain diagnostic fields.

General Information

General Info

Layer Name:

Lucity Module: [Water Control Valves](#)

Lucity Table: [WTVALVEC](#)

Disable Feature Class

Always Update Length/Area Field

Layer Name: Identifies this particular feature class layer in the feature service.

Lucity Module: Indicates the *Lucity* module with which the layer is associated. (This field is read-only.)

Lucity Table: Identifies the *Lucity* database table that stores information for the selected *Lucity* module. (This field is read-only.)

Disable Feature Class: This flag disables a feature class layer that is not in use, but needs to remain in the setup. It is recommended to disable any feature class layers that are not being used; it will speed up processing time.

Always Update Length/Area: When enabled, directs the *Lucity GIS Extension* to update the field in the feature class that is mapped to the *Lucity Length/Area* field when the shape of a feature changes.
If disabled, the *Length/Area* fields are populated only when the feature is first created.

Layer Fields (Not linked to Lucity)

This section contains optional fields used to keep track of changes in Lucity. The only exception is the Field for Display.

Layer Fields (not linked to Lucity)

| | |
|--------------------------------|--|
| In Lucity Flag: INLUCITY | Last Synchronized Date: LastSynDate |
| Last Modified By: LastModBy | Last Modified Date: LastModDate |
| | Field For Display: FACILITYID |

- In Lucity Flag Field* This field is updated by Lucity to indicate whether or not a record in the feature class has been synchronized with Lucity.
- This should be a short integer field
 - should be assigned a domain that classifies 0=No or False and 1= Yes or true.
- Last Modified By* This field is controlled by Lucity to indicate the last user to modify the record in the map.
- This should be a Text Field
- Last Modified Date* This field is controlled by Lucity to indicate the last date the record was modified in the map.
- This should be a Date field
- Last Synchronized Date* This field is controlled by Lucity to indicate the last date the record was synchronized with Lucity.
- This should be a Date field
- Field for Display*
- This is the field that is displayed by various Lucity GIS tools. By default this is set to the Facility ID/Common ID of the feature class.

Feature Class Linking Fields

This section is a quick reference to show which fields in the feature class layer form the basis of the link between the layer and the Lucity module.

| Feature Class Linking Fields | |
|--|------------|
| <i>These values can be modified under the Fields tab</i> | |
| Common ID (VC_NUMBER) | FACILITYID |
| Lucity Auto ID (VC_ID) | LUCITYID |

Common ID Field:*

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 on the *Fields* tab. Every module has at least one field that defines the asset as unique. These fields are highlighted in red on the *Fields* tab. To enter a value in this field go to the *Fields* tab, find the corresponding red highlighted field, and type the field name into the *Feature Class Field Name* column.

Note: This field should be a string field in the geodatabase, not a numeric field.

Lucity AutoID Link:

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 on the *Fields* tab.

Note: While this field is not required it is still strongly recommended to have it. 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 Facility ID/Common ID.

* Required

Service Info

This section displays the URL for the Feature Service that contains the Layer.

Service Info

http://services.arcgis.com/53PEexamplepc/ArcGIS/rest/services/LucityGIS_WaterDistReadOnlyHostedOnAGOL/FeatureServer

This path is just for information. It is read-only.

FIELDS

The *Fields* tab contains a grid that allows administrators to link fields in the *Lucity* module to feature class layer fields.

Note: GIS fields that link to a *Lucity* pick-list field can only link to the *Code* portion of the *Lucity* field.

Note: Never link ESRI's Shape.Length field to the *Lucity* length field. These fields are read only and will cause the integration to fail.

Fields

The following images display the types of fields that can be linked.

| FieldName | DisplayName | Field Type | MaxMask | Feature Class Field Name | Field Lookup | Lookup Lucity ID |
|--------------|--------------------|------------|--------------|--------------------------|----------------------|------------------|
| BK_ADR_STR | Street Name | String | | | <input type="text"/> | |
| BK_ADR_TY | Street Type | String | 5x | | <input type="text"/> | |
| BK_AZONE_... | Alternate Zone | String | 10x | | <input type="text"/> | |
| BK_BR_CD | Default WO Cat | String | 10x | | <input type="text"/> | |
| BK_CITY_CD | Facility | Short | nnnn | | <input type="text"/> | |
| BK_COVR_CD | Surface Type | Short | nnnn | | <input type="text"/> | |
| BK_CRW_CD | Repair Crew | Short | nnnn | | <input type="text"/> | |
| BK_DESC_CD | Break Type | Short | nnnn | BREAKTYPE | <input type="text"/> | |
| BK_ID | Mainbreak Rec # | Long | nnnnnnnn | LUCITYID | <input type="text"/> | |
| BK_INCN_CD | Interior Condition | Short | nnnn | | <input type="text"/> | |
| BK_LOC | General Location | String | 100x | | <input type="text"/> | |
| BK_MAP_NO | Map Number | String | 15x | | <input type="text"/> | |
| BK_MAP1_NO | Alt Map Number | String | 15x | | <input type="text"/> | |
| BK_MZONE_... | Maintenance Zone | String | 10x | | <input type="text"/> | |
| BK_NOWORK | No WO/PM/Req | Boolean | | | <input type="text"/> | |
| BK_NUMBER | Break Number | String | 20x | FACILITYID | <input type="text"/> | |
| BK_OTCN_CD | Exterior Condition | Short | nnnn | | <input type="text"/> | |
| BK_PIP_DPT | Pipe Depth (ft) | Double | -nnnnnnnn... | | <input type="text"/> | |
| BK_PIPE_DI | Diameter (in) | Double | -nnnnnnnn... | | <input type="text"/> | |
| BK_PMAT_CD | Material | Short | nnnn | | <input type="text"/> | |
| BK_PP_ID | Pipe Rec # | Long | nnnnnnnn | | <input type="text"/> | |

| FieldName | DisplayName | Field Type | MaxMask | Feature Class Field Name | Field Lookup | Lookup Lucity ID |
|------------|------------------|------------|--------------|--------------------------|----------------------|-------------------------------------|
| HI_HY_ID | Hydrant Rec # | Long | nnnnnnnn | FACILITYKEY | <input type="text"/> | <input checked="" type="checkbox"/> |
| HI_ID | Auto Number | Long | nnnnnnnn | | <input type="text"/> | |
| HI_INBY_CD | Inspection By | String | 5x | | <input type="text"/> | |
| HI_INSP_BY | Inspected By | String | 25x | INSPECTOR | <input type="text"/> | |
| HI_INSP_DT | Inspection Date | Date | mm/dd/yyyy | INSSTART | <input type="text"/> | |
| HI_INSP_TM | Inspection Time | Time | hh:mm am | | <input type="text"/> | |
| HI_NEEDREP | Needs Repair | Boolean | | MTCERQRD | <input type="text"/> | |
| HI_NMNT_DT | Next Insp Date | Date | mm/dd/yyyy | | <input type="text"/> | |
| HI_NOZL_CD | Nozzle Condition | Short | nnnn | | <input type="text"/> | |
| HI_NOZLGRD | Grade to Nozzle | Double | -nnnnnnnn... | | <input type="text"/> | |

COLUMN PURPOSES

| | |
|----------------------------------|---|
| <i>FieldName:</i> | Identifies the field in the <i>Lucity</i> table. |
| <i>DisplayName:</i> | Indicates the field caption for the field as it appears in <i>Lucity</i> . |
| <i>Field Type:</i> | Indicates the type of data stored in the field. |
| <i>MaxMask:</i> | Indicates the data format for the field. A numeric value followed by an "x" indicates the number of characters allowed. An "n" indicates a numerical digit. |
| <i>Feature Class Field Name:</i> | Identifies the corresponding field in the feature class. (This is NOT the alias field name.) |
| <i>Field Lookup:</i> | Provides a button administrators can click to display a list of the feature class fields. Note: If <i>Lucity</i> is unable to connect to the geodatabase, no fields will be listed. |
| <i>Lookup Lucity ID</i> | <p>Directs the <i>Lucity/GIS</i> integration to look up the <i>Rec #</i> for the asset based on the <i>Common ID</i> provided. This lookup field appears when a feature class layer links to an asset <i>ID</i> in a <i>Lucity</i> Inspection module.</p> <ul style="list-style-type: none">• If the ID stored in the feature class is the asset's <i>Rec #</i>, link that field to the <i>Rec #</i> field and leave this box unchecked.• If the ID stored in the feature class is the the asset's <i>Common ID</i>, then link the field to the <i>Common ID</i> and check the <i>Lookup Lucity ID</i> field next to the <i>Rec #</i>. |

Color Coding

Indicates that the field has special requirements.

- *Red* - Required field.
- *Orange* - ID number required for related feature.
- *Yellow* - ID number optional for related feature.
- *Green* - Composite *Address* field.
- *Pink* - Strongly recommended field. (Typically, the *Lucity* autoID field is coded pink. Although, technically, this field isn't required, *Lucity* strongly recommends that the feature class contain a field that stores the *Lucity* autoID. Without it, the system expends resources to identify the record [asset?], which can impact performance of certain *Lucity* GIS tools.

How to Link a Feature Class Field to a *Lucity* Field

- 1) Decide which field should be linked.
- 2) Look at the field in *Lucity*. Copy the field display name or CTRL + Right -click to find the field name in the field properties.
- 3) In the *GIS Config* tool, select the feature class linked to the correct module.
- 4) Search through the grid on the right for the *Lucity* field using its field name or display name.
- 5) Enter the name of the feature class layer in the *Feature Class Field Name* field OR push the *Field Lookup* button for a list of fields from the associated feature class.

DATE FIELDS

Users can link *Lucity's Date and Time* fields to *GIS Composite Date/Time* fields. Note, however, that *Lucity* stores the *Date* in one field, and the *Time* in another; the *GIS Composite* fields, on the other hand, store this information in a single field. To link a composite *Date/Time* field to *Lucity*, link that field to *Lucity's Date* field AND to its *Time* field.

| FieldName | DisplayName | Field Type | MaxMask | Feature Class Field Name | Field Lookup | Lookup Lucity ID |
|------------|-----------------|------------|------------|--------------------------|----------------------|-------------------------------------|
| HI_HY_ID | Hydrant Rec # | Long | nnnnnnnn | FACILITYKEY | <input type="text"/> | <input checked="" type="checkbox"/> |
| HI_ID | Auto Number | Long | nnnnnnnn | | <input type="text"/> | |
| HI_INBY_CD | Inspection By | String | 5x | | <input type="text"/> | |
| HI_INSP_BY | Inspected By | String | 25x | INSPECTOR | <input type="text"/> | |
| HI_INSP_DT | Inspection Date | Date | mm/dd/yyyy | INSSTART | <input type="text"/> | |
| HI_INSP_TM | Inspection Time | Time | hh:mm am | INSSTART | <input type="text"/> | |
| HI_NMNT_DT | Next Insp Date | Date | mm/dd/yyyy | | <input type="text"/> | |

ADDRESS FIELDS

Address fields are made up of multiple components and can be linked using 2 different configurations

Components

Lucity breaks out street address information into the following fields.

- Building Number - The address
- Building Number 2 - Extended information about the address (1/2, A, etc...)
- Street Direction
- Street Prefix
- Street Name
- Street Suffix
- Street Type

Multiple field configuration

In this configuration the feature class has all of the different building number and street name fields broken out. This is configured by linking each field in the feature class to each field in Lucity

- Building Configuration

| | | | | | |
|------------|---------------------|--------|--------|-------------|----------------------|
| SV_ADR_B2 | Street Post Bldg No | String | &x | ADR_BDGText | <input type="text"/> |
| SV_ADR_BDG | Address | Long | nnnnnn | ADR_BDG | <input type="text"/> |
| SV_ADR_BDG | Address | String | | | <input type="text"/> |

- Street Name Configuration

| | | | | | |
|------------|--------------------|--------|-----|---------|----------------------|
| SV_ADR_DIR | Street Direction | String | 2x | ADR_DIR | <input type="text"/> |
| SV_ADR_PT | Street Prefix Type | String | 5x | | <input type="text"/> |
| SV_ADR_SFX | Street Suffix | String | 5x | ADR_SFX | <input type="text"/> |
| SV_ADR_STR | Street Name | String | 50x | ADR_STR | <input type="text"/> |
| SV_ADR_STR | Street Name | String | | | <input type="text"/> |
| SV_ADR_TY | Street Type | String | 4x | ADR_TY | <input type="text"/> |

Single Field configuration

In this configuration the feature class has the building number fields combined and the street name fields combined. This is configured by linking the field in the feature class to the special composite field in the geodatabase configuration

- Building Configuration

| | | | | | |
|------------|---------------------|--------|--------|----------------|----------------------|
| SV_ADR_B2 | Street Post Bldg No | String | 8x | | <input type="text"/> |
| SV_ADR_BDG | Address | Long | nnnnnn | | <input type="text"/> |
| SV_ADR_BDG | Address | String | | FULLBUILDINGNO | <input type="text"/> |

- Street Name Configuration

| | | | | | |
|------------|--------------------|--------|-----|-------------|----------------------|
| SV_ADR_DIR | Street Direction | String | 2x | | <input type="text"/> |
| SV_ADR_PT | Street Prefix Type | String | 5x | | <input type="text"/> |
| SV_ADR_SFX | Street Suffix | String | 5x | | <input type="text"/> |
| SV_ADR_STR | Street Name | String | 50x | | <input type="text"/> |
| SV_ADR_STR | Street Name | String | | FULLADDRESS | <input type="text"/> |
| SV_ADR_TY | Street Type | String | 4x | | <input type="text"/> |

Combined Configurations

These configurations can be used together but both configurations for the same component cannot be used together.

- Examples that work
 - Single Field Building Configuration + Single Field Street Name Configuration
 - Single Field Building Configuration + Multiple Field Street Name Configuration
 - Multiple Field Building Configuration + Single Field Street Name Configuration
 - Multiple Field Building Configuration + Multiple Field Street Name Configuration
- Examples that don't work
 - Multiple Field Street Name Configuration + Single Field Street Name Configuration
 - Single Field Building Configuration + Multiple Field Building Configuration

SPATIAL RELATES

Spatial relationships, also called *Spatial Relates*, streamline the process of adding new features by automatically updating specified fields based on a feature's relative location to another feature.

The most common use of *Spatial Relates* is to update a child record with a parent record's ID number. For example, an agency could use a *Spatial Relate* to automatically add the proper *Park ID* to a record for a piece of playground equipment within a park. A spatial relate can update any feature fields, whether or not those fields are linked to *Lucity*. They can also use non-*Lucity* feature classes to update *Lucity* feature classes.

Triggering a Spatial Relationship update

The *GIS Task* that synchronizes the GIS data in an agency's feature service into *Lucity* includes an option to **Update spatial relationship**.

Considerations

When creating a *Spatial Relate*, consider:

- Which features require data from other features?
- Which features would benefit from having data pulled over from other features?
- What is the relationship between these features?

How to add a new Spatial Relate

1) Click the **Add New Spatial Relate** button. A new record appears in the *Spatial Relates* grid.

2) Select the new spatial relate record in the grid and complete the *Spatial Relationship Info* section that appears at the bottom of the grid.

The screenshot shows a form titled "Spatial Relationship Info" with the following fields and options:

- Field to Update:** A dropdown menu.
- Service that contains related layer (Only necessary if related layer is not in the same service):** A dropdown menu with a greyed-out text input field to its right.
- Related Layer Name:** A dropdown menu.
- Related Layer Field:** A dropdown menu.
- Relationship Type:** A dropdown menu.
- Distance Value:** A text input field containing the number "0".
- Never overwrite a non-null value
- Update value to null if no relationship is found

- 3) *Field to Update:* Enter the name of the field in the selected feature class layer that you want the system to automatically update. (Required.)
- 4) *Service that contains related layer:* Enter the name of the feature service that contains the layer you wish to relate to the selected feature class layer. (This information is required if the related layer is not in the same service.)
- 5) *Related Layer Name:* Enter the name of the feature class layer that you wish to relate to the selected feature class layer. (Required.)
- 6) *Related Layer Field :* Enter the name of the field in the *Related Layer* with the value that the system should use to update the field you designated in **Step 3** above. (Required.)
- 7) *Relationship Type:* Use the drop-down box to select from a list of predefined relationships. (Required.)
 - **From Intersect:** Finds any features in the *Related Layer* that intersect the *From Point* of the feature in the selected feature class layer. This relationship only works for *Polyline, Edge* or *Complex Edge* features.
 - **To Intersect:** Finds any features in the *Related Layer* that intersect the *To Point* of the feature in the selected feature class layer. This relationship only works for *Polyline, Edge* or *Complex Edge* features.
 - **Is Contained by:** Finds any features in the selected feature class layer that are contained by features in the *Related Layer*. The *Related Layer* must be a *Polygon* feature class layer.
 - **Intersects:** Finds the first feature in the *Related Layer* that intersects the feature in the selected feature class.

- **To Intersect Distance:** Finds the first feature in the *Related Layer* (which must be a *Polyline* geometry type) that intersects the feature in the selected feature class layer. The system then calculates the distance along the related feature between the intersection location and the *To Point*. (If the selected feature class layer is of a *Polyline* geometry type, the *To Point* of the selected feature must intersect the related feature.)
 - **From Intersect Distance:** Finds the first feature in the related feature class layer (which must be a *Polyline* geometry type) that intersects the feature in the selected feature class layer. The system then calculates the distance along the related feature between the intersection location and the *From Point*. (If the selected feature class layer is of a *Polyline* geometry type, the *To Point* of the selected feature must intersect the related feature.)
 - **Midpoint Intersect:** Finds any feature in the *Related Layer* that intersects the *Midpoint* of the feature in the selected feature class layer. This relationship requires the selected feature class layer to be of **Polyline**, *Edge* or *Complex Edge* geometry, and the *Related Layer* to be a *Polygon* feature.
 - **Force Feature to Self-Update:** Finds any features that intersect the feature in the selected feature class layer and adds them to the edit cache so that they are synced to *Lucity* (even if the records have not changed). This relationship is used primarily for the *Street Segment* feature class, with the *Street Intersection* feature class as the *Related Layer*. The *Spatial Relate* forces the system 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 Layer* that are within a specified distance of the feature in the selected feature class.
- 8) Enter the *Distance Value*. (Required only for the **Is Within Distance Of Relationship Type**.)
- 9) Choose whether to enable the *Never Overwrite a Non-Null Value* option, which prevents the data in the *Field to Update* from being overwritten if a value already exists.
- 10) Choose whether to enable the *Update Value to Null if No Relationship is Found* option, which sets the *Field to Update* value to null if no relationship is found.
- 11) To save the *Spatial Relate*, select another node or close the form.

Note: *Spatial Relationships* can be edited any time after they have been saved.

How to delete a Spatial Relate

- 1) Select a *Spatial Relationship* record in the grid.
- 2) Click the **Delete** button. The record will be deleted from the grid.

NUMBER GENERATORS

Number Generators streamline the process of creating a unique value for a feature class field.

Triggering a Number Generator

The GIS Task that synchronizes the GIS data in your feature service into *Lucity* also automatically triggers any existing *Number Generators*.

Considerations

When creating a *Number Generator*, consider:

- Do I want this number to have a prefix?
- If so, is the prefix set, or does it change depending on location?
- What would the next number in the feature class be?

How to add a Number Generator

- 1) Click the **Add New Number Generator** button. A new record appears in the grid.

2) Open the record and complete the *Number Generator Info* section at the bottom.

Number Generator Info

Field to AutoNumber: Buffered Number Length:

Generate Next Number

Prefix Settings (Optional)

None

Use Set Prefix

Use a polygon layer to create a prefix

Separator Character:

Service that contains related layer (Only necessary if related layer is not in the same service):

Polygon layer

Field that contains prefix value

| ID | NumberGeneratorInfo |
|----|---------------------|
| * | |

3) In the *Field to AutoNumber*, enter the name of the field to which you want to apply a number generator. (Required.)

- This field should be a text field that is large enough to support the numbers the system will generate based on the settings on this form.

4) Enter the number of digits desired for the *Buffered Number Length*. This option adds buffered zeros to the beginning of the generated number, which can be helpful in sorting data.

- Example, if a user chooses a *Buffered Number Length* of **5**, and the auto-number generated is **985**, system expands the figure to five digits, or **00985**.

5) Choose *Prefix Settings*, if desired.

- *None*: Marked by default. Indicates that the user does not want a *Prefix* for this field.
- *Use Set Prefix*: Allows the user to specify a prefix in the *Generate Next Number* grid, along with a separator character.
- *Use a polygon feature class to create a prefix*: Generates a prefix based on a feature's spatial relationship to a *Polygon* feature class.

- *Service that contains related layer*: Enter the name of the feature service that contains the *Polygon* layer the number generator should use. (Only necessary if the related layer is not in the same service.)
 - *Polygon Layer*: Enter the name of the *Polygon* feature class layer on which the system should base the prefix.
 - *Field that Contains prefix value*: Enter the name of the field in the *Polygon* feature class that contains the value to be used as a prefix.
- 6) In the *Separator Character* field, enter the character(s) you wish to appear between the *Prefix* and the generated number.
 - 7) Click the **Generate Next Number** button to set the correct start number.
 - If the *Prefix Settings* are set to *None* or *Use Set Prefix*, only one *Next Number* record may be generated.
 - If the *Prefix Settings* are set to *Use a Polygon Feature Class*, you can set multiple *Next Numbers*, one for each polygon in the feature class.

Note: If no *Next Number* is set, when a new feature is created in the selected feature class, the number generator sets the new feature to **1**, and the new *Next Number* to **2**, and so on. The same is true if a *Polygon* feature class is used.
 - 8) The Number Generator preferences are saved when you click on a different feature class.

Note: A *Number Generator* can be edited any time after it is saved.

How to delete a Number Generator

- 1) Select a *Number Generator* record in the grid.
- 2) Click the **Delete** button. The record will be deleted from the grid.

GIS TASKS

GIS Tasks, also called *Scheduled Tasks*, are designed to push data back and forth between the feature class layer and the *Lucity* database. There are two types of tasks:

- 1) *Lucity to GIS*- Currently only available for *Inspection* feature classes.

2) *GIS to Lucity*- Supported for all GIS-enabled modules (*Inventory* and *Inspection*).

For example, a task can push *Inventory* data from the feature class layer to *Lucity* or push *Inspection* data from *Lucity* to the feature class layer. *GIS Tasks* can be configured to run automatically. The *GIS Task Runner* processes **Scheduled Tasks** based upon the frequency rate (and other criteria) established by the user.

The *GIS Task* function greatly expands the ability to integrate *Lucity* and GIS through feature services. *Lucity* can pick up edits to the feature service, regardless of who made them or the environment in which they were made.

For example, a *Task* can detect edits made in:

- **Collector for ArcGIS** (iOS & Android)- including disconnected editing,
- **Lucity Web Map**,
- **ArcGIS.com map viewer**, or
- **any other third-party applications 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:

- Record merges, splits, rennumbers, and deletes must still be performed in an ArcMap editing environment with the *Lucity* extension enabled in order for the related *Lucity Inspection*, *Construction*, and *Work* history to be properly updated.
- Features must meet the *Lucity* module requirements in order for the synchronization to be successful. For example, required fields, such as the *Lucity Common ID*, must contain a unique value.
- *GIS Tasks* interact with the feature class through the feature services. Before setting up a *GIS Task*, make sure there is a feature service defined at either the feature class or geodatabase level.

Primary Uses

GIS Tasks are especially useful in:

- importing *Inspection* records that were created in an inspection feature class layer into *Lucity*;
- updating *Lucity* with edits made to feature classes layers in the *Lucity Web Map*; and

- updating *Lucity* with edits made to *Lucity*-linked feature class layers using editing environments that aren't integrated with *Lucity*.

Prerequisites

In order for the GIS Task to run properly the feature classes in the feature service must contain the all of the fields that are linked to *Lucity*.

Considerations

When creating a *GIS Task*, consider:

- Which *Inspections* should appear in the feature class?
- Should old records be updated with new changes?

How to add a GIS Task

- 1) Click the **Add New GIS Task** button. A new record appears in the grid.
- 2) Select the record in the grid and complete the *GIS Task Info* section at the bottom.

The screenshot shows the 'GIS Task Info' configuration interface. It includes the following sections and controls:

- General Info:** Task Type (dropdown), Disabled (checkbox).
- Filter Options:** None (process all source records) (selected radio button), Filtered set (radio button), Where Clause (text area), Select Filter (button).
- Scheduling Info:** Units (0), Frequency (dropdown), Last run (text box), Next run (text box), Override (checkbox), Recalc (button).
- Options:** Only process records modified since last run (checkbox), Last Edited DateTime Field (dropdown), Insert record if it doesn't already exist (checkbox), Enable number generator for imports (checkbox), Update existing record (checkbox), Delete previous inspection(s) for asset. (Only keep most recent inspection) (checkbox).
- History:** Last Process DateTime (text box), Last Sync Start (text box), Last Sync End (text box), Last Sync contained errors (checkbox).

- 3) Under *General Info*, select the desired *Task Type*:
 - **Sync - Lucity to GIS** - Pushes Inspection data from *Lucity* to an *Inspection* feature class layer.
 - **Sync - GIS to Lucity** - Pushes any data from the feature class layer to *Lucity*.
- 4) Under **Filter Options**, select which records the *Task* will process when it runs:
 - *None* - Directs the *Task* to consider all records when syncing.
 - *Filter Set* - Directs the *Task* to consider only records that meet the criteria of a particular filter.
 - **Select Filter** - Choose an existing *Lucity* filter from the related module.
- 5) Under *Scheduling Info*, indicate how often the *Task* should run.
 - *Units* - Indicate the number of minutes, hours, days, or months that will pass between runs.
 - *Frequency* - Select whether the units represent minutes, hours, days, or months.
 - *Last Run* - Displays the date on which the *Task* was last run. (The system automatically completes this field.)
 - *Override* - Allows the user to manually modify the *Last Run* date.
 - *Next Run* - Displays the next date/time the *Task* will run. (The system automatically calculates this field based on the *Last Run*, *Units*, and *Frequency* fields.)
- 6) Click the **Recalc** button to calculate the *Next Run* date using the *Units*, *Frequency* and today's date.
- 7) Under *Options*, set how the *GIS Task* should behave when populating the feature class:
 - *Only process records modified since last run* - Directs the *Task* to check the records' *Last Modified* dates. Only records (in the filter set) that were modified since the *Last Run* date are synced.
 - *Last Edited DateTime Field* - Directs the *Task* to store the date/time that the record was last edited (typically the **ESRI Editor Tracking** field). This option is only enabled when the *Only Process records modified since last run* option is checked and the *Task Type* is **Sync-GIS to Lucity**.
 - *Insert record if it doesn't already exist* - Tells the *Task* to add any new records to the destination.

- *Enable number generator for imports* - Directs the *Task* to assign numbers to assets using a *Lucity GIS Number Generator* related to the feature class.
- *Update existing record* - Tells the *Task* to update existing records with new attribute data.
- *Delete previous inspection(s) for asset. (Only keep most recent inspections)* - Directs the *Task* to delete any *Inspection* in the feature class that is not the most recent *Inspection* for an asset. The option is helpful if an agency wants the feature class to contain only the most recent *Inspection* for each feature. (Enabled only when the *Task Type* is **Sync- Lucity to GIS.**)

8) Click on a different part of the tool to save changes.

Note: *History section* - This section contains information about the last time the *GIS Task* ran.

How to delete a GIS Task

- 1) Select a *GIS Task* record in the grid.
- 2) Click the **Delete** button. The record is deleted from the grid.

PROCESS LOG

The *Process Log* tab displays a history of previous GIS Task runs. These log entries are automatically deleted after 30 days.

| | |
|-------------------------|--|
| <i>TimeStamp</i> | Specifies when the entry was made in the log. |
| <i>Status</i> | Indicates the processing status of the task. |
| <i>Edit</i> | 1 = Inserts 2 = Edits 3 = Deletes |
| <i>Error</i> | 1 = Transactional Details 2 = Validation Failed 3 = Process Failed 4 = Service Issue 5 = Business Object Issue 6 = Missing Data |
| <i>ErrorDescription</i> | Provides further detail regarding the edit or error. |
| <i>ErrorException</i> | Provides further detail regarding the error. |
| <i>GUID</i> | Denotes the processing batch GUID. |
| <i>ModID</i> | Indicates which <i>Lucity</i> module was affected. |
| <i>LucityID</i> | Indicates which <i>Lucity</i> record was affected. |
| <i>GISID</i> | Specifies the ObjectID of the GIS feature. |
| <i>Syntax</i> | The syntax used for either retrieving, updating, inserting or deleting. |

AUTHENTICATION SETUP

The *Authentication Setup* tool allows administrators to store credentials for web services.

User Authentication Grid

The *User Authentication* grid displays the credentials for accessing ArcGIS for Server.

| | |
|----------------------|---|
| <i>Name/Desc</i> ** | Specifies the name of this stored credential. This term will be used when selecting the credentials for use in other GIS configuration tools. |
| <i>Username</i> * | Specifies the user's login ID for accessing ArcGIS for Server. |
| <i>Has Password?</i> | Indicates whether the password has been set for this login. |
| Set Password | Allows the administrator to set the password for the login. |
| Add User | Adds a new user. |
| Delete User | Deletes the selected user. |

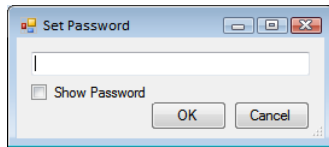
* Required.

* Must be unique.

How to add a User Authentication

- 1) Click **Add User**. A new record will be added to the bottom of the grid.
- 2) Enter a *Name/Desc*. (Must be unique.)
- 3) Enter the *Username*.
- 4) Click somewhere else in the tool to save changes.

5) If this login is secured, return to the record and click the **Set Password** button. The following pop-up appears:



6) Enter the password and click **OK**. The *Has Password?* box is now checked for that user.

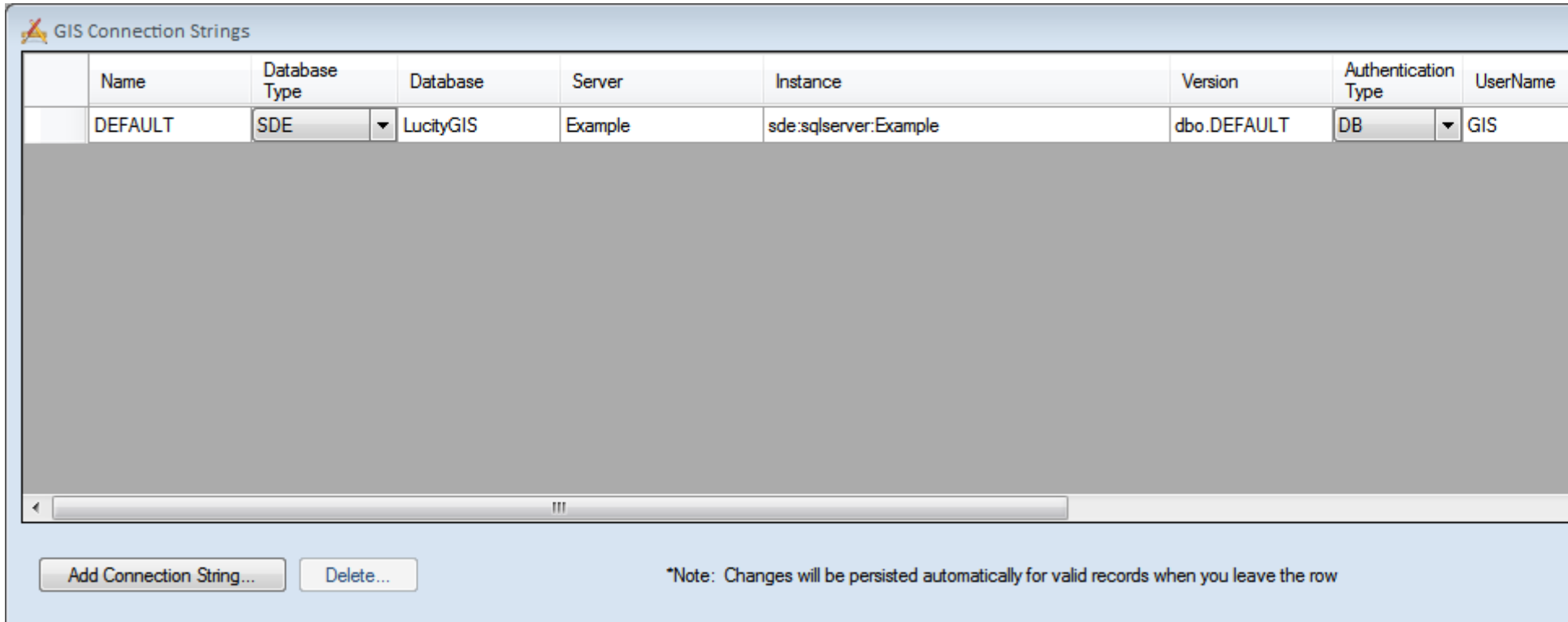
Note: ArcGIS Online layers require users to login every time they connect even if you have saved credentials.

GIS CONNECTION STRINGS

The *GIS Connection Strings* window is used to connect *Lucity* to ArcGIS geodatabases. Connection strings have two purposes:

- 1) They allow *Lucity* to connect to a geodatabase to update the attributes of feature class records that are linked to *Lucity*.
- 2) They help the *Lucity GIS* tools in **ArcMap** to identify feature classes linked to *Lucity*.

To access the *GIS Connection Strings* window, in the *Lucity Administration* tool, go to **GIS > Connection Strings**. The following window appears:



The screenshot shows a window titled "GIS Connection Strings" with a table containing one row of data. The table has the following columns: Name, Database Type, Database, Server, Instance, Version, Authentication Type, and UserName. Below the table are two buttons: "Add Connection String..." and "Delete...". A note at the bottom right states: "*Note: Changes will be persisted automatically for valid records when you leave the row".

| Name | Database Type | Database | Server | Instance | Version | Authentication Type | UserName |
|---------|---------------|-----------|---------|-----------------------|-------------|---------------------|----------|
| DEFAULT | SDE | LucityGIS | Example | sde:sqlserver:Example | dbo.DEFAULT | DB | GIS |

*Note: Changes will be persisted automatically for valid records when you leave the row

| | |
|----------------------|---|
| <i>Name</i> | States the user-defined name of the connection string. The first string MUST be called <i>DEFAULT</i> and should point to the geodatabase that contains the feature classes linked to <i>Lucity</i> . |
| <i>Database Type</i> | Indicates the type of geodatabase, <i>SDE</i> , <i>File</i> , <i>Personal</i> and <i>ArcGISOnline</i> , being connected to. |
| <i>Database</i> | <p><i>SDE</i> - Specifies the name of the SQL Server geodatabase. The database listed here is not the SDE repository database. Instead, it is the geodatabase that contains the infrastructure data that you want to integrate with the <i>Desktop</i>. For Oracle geodatabases, this field must be left blank.</p> <p><i>Personal or File</i> - the path to the geodatabase, including the geodatabase. (Example - R:/GIS/Lucity/LucityGIS.gdb)</p> |
| <i>Server</i> | <p><i>SDE</i> - Specifies the name of the server that stores the SDE database.</p> <p><i>Personal or File</i> - Leave blank.</p> |
| <i>Instance</i> | <p><i>SDE</i> - Indicates the name of the instance for the SDE database. Supports either spatial or direct connections.</p> <ul style="list-style-type: none"> ● Spatial Connection: Enter the port where ArcSDE is installed. By default, this is typically 5151. Do not include the /tcp identifier; enter only the port number. ● Direct Connection: Enter the name of the direct-connect driver and the name of the server instance. <ul style="list-style-type: none"> ○ SQL Server example: "sde:sqlserver:GIS_SERVER\DATA" ○ Oracle example: "sde:Oracle11g:GIS_SERVER\DATA" <p><i>Personal or File</i> - Leave blank.</p> |
| <i>Version</i> | <p><i>SDE</i> - Designates the name of the ArcSDE version that Lucity will use when connecting to the geodatabase (required). For Oracle, the field is case sensitive.</p> <p><i>Personal or File</i> - Leave blank.</p> |

| | |
|-----------------------------|---|
| <i>Authentication Type</i> | <p><i>SDE</i> - Determines how Lucity will connect to the database.</p> <ul style="list-style-type: none"> • DB (Database Authentication) - Complete the <i>UserName</i> and <i>Password</i> fields. • OSA (Operating System Authentication) - Uses the credentials from the user currently logged into Windows. <p><i>Personal or File</i> - Leave blank.</p> |
| <i>UserName</i> | <p><i>SDE</i> - Provides the database login that Lucity will use to connect to the geodatabase. The specified user must have permission to ALL feature classes linked to <i>Lucity</i>. Only enter a value if the <i>Authentication Type</i> is set to <i>DB</i>.</p> <p><i>Personal or File</i> - Leave blank.</p> |
| <i>Password</i> | <p><i>SDE</i> - Provides the password that Lucity will use to connect to the geodatabase. Enter a value only if the <i>Authentication Type</i> is set to <i>DB</i>.</p> <p><i>Personal or File</i> - Leave blank.</p> |
| <i>Edit Map Service URL</i> | <p>The feature service that is used to update the geodatabase with edits made in Lucity. This service must be entered into the GIS Map Services dialog. Once it is entered there it can be selected in this dialog.</p> <p><i>SDE</i></p> <ul style="list-style-type: none"> • Stores the URL for a default map service that will be used to push <i>Lucity</i> updates to the geodatabase and vice versa. This map service will pass updates for all feature classes that do not have an <i>Alternate Feature Service</i> specified on their Edit Map Service tab. <p>More information on SDE Updates using ArcServer</p> <p><i>ArcGISOnline</i></p> <ul style="list-style-type: none"> • Stores the URL that points to the ArcGISOnline directory that lists your ArcGIS Online services. • Example: <a href="http://services.arcgis.com/<code>/ArcGIS/rest/services">http://services.arcgis.com/<code>/ArcGIS/rest/services. |

| | |
|-------------------------------------|---|
| <i>Map Service User</i> | Indicates the <i>User ID</i> required to access the <i>Edit Map</i> service if it is a secured service. |
| <i>Map Service Password</i> | Specifies the password for the <i>Map Service User</i> . |
| <i>Last Modified By</i> | Specifies the last user to modify the connection string. |
| <i>Last Modified Date</i> | Indicates the last date the connection string was modified. |
| <i>Last Modified Time</i> | Indicates the last time the connection string was modified. |
| <i>Update GDB?</i> | Indicates that the selected geodatabase should be updated with edits made in the <i>Lucity Desktop</i> , <i>Web</i> , and <i>Mobile</i> interfaces. |
| <i>Replica GDB?</i> | Indicates that the selected geodatabase is a replica of your default geodatabase. |
| Add Connection String button | Adds a new connection string. |
| Delete Button | Deletes the selected connection string. |

Note: An exclamation point in the left-hand margin indicates a bad connection.

COLLECTING SDE CONNECTION STRING INFORMATION

The *Connection String* setup in the *Lucity Administration* tool must match the connection strings that ArcMap users use.

Connection String Values

- *Database* - The name of the geodatabase.
- *Server* - The server that stores the database.
- *Instance* - The connection instance for the geodatabase.
- *Version* - The version of the database that *Lucity* will update.
- *Username/Password* - A login and password that has access to the database/version. This field should be completed only when the *Authentication Type* is set to **DB**.
- *Authentication Type* - The type of authentication used to connect to the database.
- *Database Type* - The type of database being connected to *Lucity*.

ArcCatalog/Map Connection String

Database Connection

Database Platform: SQL Server

Instance: sde:sqlserver:Example

Authentication Type: Database authentication

User name: GIS

Password:

Save user name and password

Database: LucyGIS

[About Database Connections](#)

OK Cancel

Lucy Connection String

| Name | Database Type | Database | Server | Instance | Version | Authentication Type | UserName | Password | Edit Map Service Url |
|---------|---------------|----------|---------|-----------------------|-------------|---------------------|----------|----------|------------------------------|
| DEFAULT | SDE | LucyGIS | Example | sde.sqlserver:Example | dbo.DEFAULT | DB | GIS | | http://example.lucity.com:60 |

Add Connection String... Delete...

*Note: Changes will be persisted automatically for valid records when you leave the row

The following values are not covered in the example above:

- *Server* - This entry is the same as the last section of the *Instance*.
- *Version* - This field must be provided by the GIS Administrator.
- *Database Type* - For this kind of connection, the *Database Type* should be set to **SDE**.

How To Find the Connection String Information in ArcCatalog

- 1) Open ArcCatalog.
- 2) In the *Table of Contents*, expand *Database Connections*.
- 3) Find a database connection that is used to add *Lucity* GIS data to ArcMap.
- 4) Right-click on the connection and select **Connection Properties**.

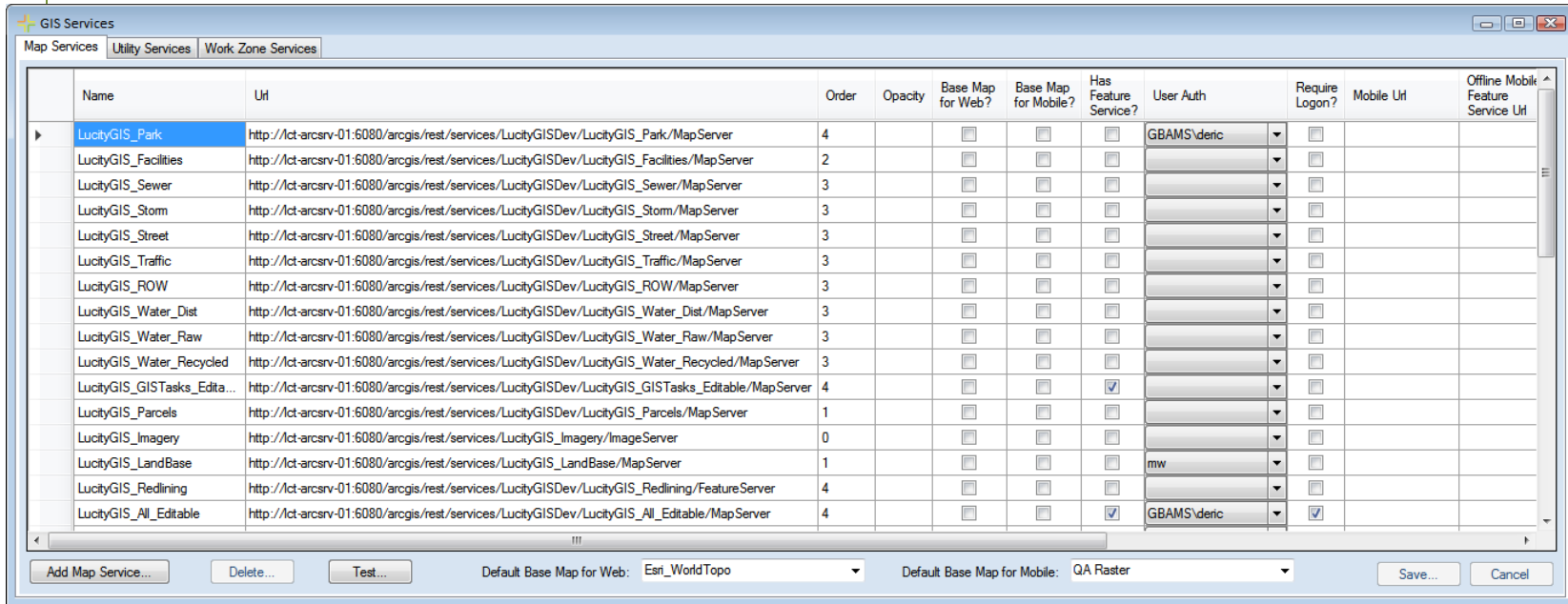
How To Find the Connection String Information in Lucity

- 1) Open the *Lucity Administration* tool.
- 2) Go to **GIS > Connection strings**.

GIS MAP SERVICES

The *GIS Map Services* window enables administrators to connect *Lucity* to map services available on the Internet or that they have set up in Arc Server. Defining map services in this dialog defines them as an available service to add to a web or viewer map.

Note: Map services must be added to this setup screen before they can be added to the *GIS Map Setup* (on page 301) dialog.



MAP SERVICES TAB

The *Map Services* tab lists the map services used in the *Lucity Web Map* and the *Lucity GIS* configuration.

Map Services Grid

FIELDS

| | |
|----------------|--|
| <i>Name</i> | Uniquely identifies the map service during setup. |
| <i>URL</i> | <p>Specifies the URL of the map service or the path of a local map package. A map service URL usually looks something like this: http://<server name>/ArcGIS/rest/services/<service name>/MapServer. This must include /rest after ArcGIS.</p> <p>Note: In Arc 10.x, the <service name> is case-sensitive.</p> <p>More information about Bing services (see "Bing Services" on page 382)</p> |
| <i>Order</i> | Specifies the order in which the map service will appear when implemented with other map services. Lower-numbered services appear beneath higher-numbered services. Basemap services always appear on the bottom. |
| <i>Opacity</i> | Controls the opacity of this service. |

Base Map for Web?

Indicates whether a layer should be used as a basemap in the *Lucity Web Map*. All layers marked as a basemap will be available to all users in the *Basemap Selection* tool in the *Web Map*.

- **Note:** Basemaps must be either a **tiled map** service, an **image service**, or a **Bing Map**.
- **Note:** Basemaps can have a different spatial reference than other layers. However, when the basemap is loaded in the *Web Map*, the map will zoom to its full extent and abandon the user's current location.
- **Note:** This functionality [the basemap?] is not available in the *Lucity GIS Viewer*.

Base Map for Mobile?

Indicates whether a layer should be used as a basemap in the *Lucity Mobile Map*. All layers marked as a basemap will be available to all users in the *Basemap Selection* tool in the *Mobile Map*.

- **Note:** Basemaps must be either a **tiled map** service, an **image service**, or a **Bing Map**.
- **Note:** Basemaps can have a different spatial reference than other layers. However, when the basemap is loaded in the *Web Map*, the map will zoom to its full extent and abandon the user's current location.

Has Feature Service?

Indicates whether the map service has an associated feature service. If a feature service is available, editing is enabled for related layers in the *Lucity Web Map* and the *Lucity Mobile Map*.

User Auth

Enables administrators to select which authentication to use for a secured service. The authentication options that appear here are configured in the **GIS > Authentication Setup** (see "**Authentication Setup**" on page 283) tool.

Note: If the service is secured and no *User Name/Password* is provided, users are required to log in.

| | |
|---|--|
| <i>Require Logon</i> | Provides an added layer of security by forcing users to enter their own login credentials when a map service is a secured service. <ul style="list-style-type: none"> All AGOL services require login credentials and must have this box checked.. |
| <i>Mobile URL</i> | Specifies an alternative, external URL for the service if it will be accessed by <i>Lucity Mobile</i> . |
| <i>Offline Mobile Feature Service URL</i> | Specifies a URL for an alternate map service in cases in which a map is likely to be used in <i>Lucity Mobile's</i> offline mode. <p>Map services that are taken offline have several ESRI-imposed restrictions. This setting allows an agency to use an unrestricted map service in its <i>Web Map/Mobile Map</i>, then automatically switch to an alternative service (designed to be in line with ESRI's offline restrictions) when users take the map offline.</p> |
| <i>Proxy URL</i> | Identifies the proxy address for clients using one. |
| <i>Last Modified By</i> | Identifies the last user to modify the connection string. |
| <i>Last Modified Date</i> | Indicates the date the connection string was last modified. |
| <i>Last Modified Time</i> | Indicates the time the connection string was last modified. |

Note: Multiple tiled services can be used in the map ONLY if the services have the same spatial reference. If a tiled service is set up as the basemap, and another service with a different spatial reference is used as a normal map layer, the *Web Map* will fail to render.

Grid Tools

BUTTONS

| | |
|------------------------|---|
| Add Map Service | Adds a new row in which to enter map service information. |
| Delete | Deletes the selected map service. |

| | |
|------------------------------------|---|
| Test | Displays a pop-up that shows the map service URL and a list of layers that the system recognizes as connected to <i>Lucity</i> . |
| <i>Default Base Map for Web</i> | Specifies the name of the map service that should be used as the default basemap for the <i>Lucity Web Map</i> . Only map services marked as a base map appear in this list. |
| <i>Default Base Map for Mobile</i> | Specifies the name of the map service that should be used as the default basemap for the <i>Lucity Mobile Map</i> . Only map services marked as a base map appear in this list. |
| Save | Saves edits made in the grid. |
| Cancel | Closes the window without saving. |

UTILITY SERVICES

The *Utility Services* tab stores information about services that perform various functions within the *Lucity Web* and *Lucity Mobile Maps*.



The **Admin > App Admin** permissions are required to change *Utility Services* settings.

Geocoding Services Grid

| | |
|---------------------------|---|
| <i>Name</i> | Uniquely identifies the geocoding service; used during setup. |
| <i>URL</i> | Specifies the URL for the geocoding or parcel services used to find addresses. To switch between the two types of services, check the setting " <i>Use an address layer for ...</i> ". Note: REST/ must precede the word service in the URL. Note: If using a parcel service, enter the URL for the map service and add the layer number to the end. For example, if the parcel layer is the 10th layer in the service, the end of the URL would look something like: ...rest/services/baselayers/MapServer/10 |
| <i>Service is secure?</i> | Indicates that the service requires a login and password. The program will retrieve the credentials from the first record in the Map Service grid (see " Map Services Tab " on page 293). |
| <i>Proxy URL</i> | Identifies the proxy address for clients using one. |
| <i>Last Modified By</i> | Identifies the last user to modify the connection string. |
| <i>Last Modified Date</i> | Indicates the date the connection string was last modified. |
| <i>Last Modified Time</i> | Indicates the time the connection string was last modified. |

Grid tools

Add Geocoding Service... Adds a new row in which to enter geocoding service information.

| | |
|----------------------------------|--|
| Delete... | Deletes the selected geocoding service. |
| <i>Default Geocoding Service</i> | Specifies the name of the geocoding service that should be used by default for the <i>Lucity Web</i> and <i>Lucity Mobile Map</i> . Only map services marked as a base map appear in the list. |
| Save... | Saves edits made in the grid. |
| Cancel | Closes the window without saving. |

Geometry Service Grid

| | |
|---------------------------|---|
| <i>URL</i> | Specifies the URL for the ArcGIS Geometry service, which facilitates geometry operations in the map, such as buffering and reprojecting coordinates. This field is required for the <i>Web Map</i> . |
| <i>Service is secure?</i> | Indicates that the service requires a login and password. The program will retrieve the credentials from the first record in the Map Service grid (see " Map Services Tab " on page 293). |
| <i>Proxy URL</i> | Identifies the proxy address for clients using one. |
| <i>Last Modified By</i> | Identifies the last user to modify the connection string. |
| <i>Last Modified Date</i> | Indicates the date the connection string was last modified. |
| <i>Last Modified Time</i> | Indicates the time the connection string was last modified. |

Grid tools

| | |
|----------------|-----------------------------------|
| Save... | Saves edits made in the grid. |
| Cancel | Closes the window without saving. |

Routing Service Grid

| | |
|---------------------------|---|
| <i>URL</i> | Designates the URL to be used for a network analysis service. |
| <i>Service is secure?</i> | Indicates that the service requires a login and password. The program will retrieve the credentials from the first record in the Map Service grid (see " Map Services Tab " on page 293). |
| <i>Proxy URL</i> | Identifies the proxy address for clients using one. |
| <i>Last Modified By</i> | Identifies the last user to modify the connection string. |
| <i>Last Modified Date</i> | Indicates the date the connection string was last modified. |
| <i>Last Modified Time</i> | Indicates the time the connection string was last modified. |

Grid tools

| | |
|---|--|
| Save... | Saves edits made in the grid. |
| Cancel | Closes the window without saving. |
| <i>Default Vehicle Start Address for Work Routing</i> | Indicates the address that the <i>Routing</i> tool should use as the start location. If no address is supplied, the first <i>Work Order</i> is used. |

WORK ZONE SERVICES

The *Work Zone Services* tab contains grids that store information services used to identify work zones.



The **Admin > App Admin** permissions are required to change the *Work Zone Services* settings.

Never overwrite maintenance or alternate zone When enabled, prevents the system from overwriting the existing *Maintenance Zone* or *Alternate Zone* values when these fields are entered on a *Request* or *Work Order*.

Maintenance Zone Info

Maintenance Zone- Field Name The name of the field that contains the maintenance zone ID in the maintenance zone layer.

Maintenance Zone- Layer Index or Alias Name The name of the maintenance zone layer in the map service.

Maintenance Zone- Service Name The name of the map service that contains the maintenance zone layer. Found under *GIS > GIS Services > Map Services tab* (on page 293).

Alternate Zone Info

Alternate Zone- Field Name The name of the field that contains the alternate zone ID in the alternate zone layer.

Alternate Zone- Layer Index or Alias Name The name used for the alternate zone in the map service.

Alternate Zone- Service Name The name of the map service that contains the alternate zone layer. Found under *GIS > GIS Services > Map Services tab* (on page 293).

Note: You can also use the **Service Lookup** buttons to complete these fields. When using this method, complete the fields in the following order: *Service Name, Layer Index or Alias Name, Field Name*.

GIS MAP SETUP

After map services are configured with *Lucity*, an agency must create a map in the *Lucity Administration Tool* by layering map services.

The *Map Setup* tool enables administrators to define maps and assign them to different groups of users. The process is used to create maps for the *Lucity Web Map*, *Lucity GIS Viewer*, and for *Lucity Mobile - Map Mode*.

The screenshot shows the 'Map Setup' dialog box. On the left, there are three lists of maps: 'Shared' (including GISDev, Eval - Draft, Matt Test Map, ago, ago with redline, ago mixed, AGOL+Local, LakelandTest, GIS Dev), 'Web Only' (including TestWebOnly, Test Web Only, Delete Map Web Only), 'Mobile Only' (including QA Mobile Test Map, QA Mobile World, QA Mobile Editable, Test Mobile Only), and 'GIS Viewer' (empty). Below these lists are buttons for 'Add Map Setup', 'Edit Map Setup', and 'Delete Map'. At the bottom left are 'Save...', 'Cancel', and 'Help' buttons. The right side of the dialog is for group assignment. It has a list of 'Available Groups' (Administrator, AdminRoles-Dee, Asset General User, Asset Power User, Dashboard Users, Dee LowPerms, Dee TS Full Admin, EquipmentReadOnly, GIS Administrator) and an empty 'Groups assigned to this map' list. Between them are 'Assign Group(s) to Map >>' and 'Un-Assign Group to Map <<' buttons. Below are fields for 'Default web map for group []' and 'Default mobile map for group []', each with a 'Set this map as [web/mobile] default for group' button. The bottom section is 'System Default Extent', with a 'Current extent' field and 'Clear extent' button, and an 'Enter url to service or layer to calculate an extent:' field with a 'Calculate Extent' button. There is also a 'Manually Enter' checkbox and a 'Save as new extent' button.

Considerations

- Which map services should be in this map?
- For which mapping product is this map intended?

Maps

This section allows agencies to manage their maps.

| | |
|-----------------------|---|
| <i>Shared</i> | Lists maps that are available for both the <i>Lucity Web</i> and <i>Lucity Mobile</i> applications. |
| <i>Web Only</i> | Lists maps that are only available for the <i>Web</i> application. |
| <i>Mobile Only</i> | Lists maps that are only available for the <i>Mobile</i> applications. |
| <i>GIS Viewer</i> | Lists maps that are available for the <i>GIS Viewer</i> application. |
| Add Map Setup | Adds a new map. |
| Edit Map Setup | Edits the map selected in one of the grids. |
| Delete Map | Deletes the map selected in one of the grids. |

Group Assignment for [...]

This section allows agencies to manage which groups are assigned to the map selected on the left.

| | |
|--|--|
| <i>Available Groups</i> | Lists user groups that could be assigned a default map. This list is populated with the security groups that are assigned as a Default Rules group in the <i>Lucity Security Program</i> . |
| Assign Map to Groups >> | Assigns the selected map as the default map for the group(s) selected in the <i>Available Groups</i> grid. |
| Un-Assign Group to Map << | Removes the association between the selected map and the group(s) selected in the <i>Assigned Groups</i> grid. |

| | |
|---|---|
| <i>Groups assigned to this map</i> | Lists groups assigned to the selected map. |
| <i>Default web map for group [...]</i> | Indicates the map currently set as the default web map for the group selected in the <i>Available Groups</i> grid. |
| <i>Default mobile map for group [...]</i> | Indicates the mobile map currently set as the default mobile map for the group selected in the <i>Available Groups</i> grid. |
| Set this map as web default for group [...] | Sets the currently selected web map as the default web map for the group selected in the <i>Groups assigned to this map</i> grid. |
| Set this map as mobile default for group [...] | Sets the currently selected mobile map as the default mobile map for the group selected in the <i>Groups assigned to this map</i> grid. |

System Default Extent

This section allows admins to set the default extent of the webmap. This can:

- Dictate the location the map is opened to. To force the map to open to this extent every time you must set the *Admin Portal > Settings > System Settings > GIS Web > Force the GIS Web Map to always open to the default extent* setting.

Current Extent Displays the extent that is currently selected. The extent can be modified using some of the fields below.

Clear Extent Clears out the *Current Extent* field.

Enter url to service or layer to calculate an extent Indicates the web address for the map service or layer (within a service) used to calculate the *Current Extent* field. The program will use the URL to copy the service's or layer's Full Extent/Extent and set the *Current Extent* field.

Calculate Extent When enabled, calculates the *Current Extent* from the *Enter url to service or layer to calculate an extent* field.

Manually Enter Extent Unlocks the *Manual Entry* field.

Manual Entry Field Indicates that the extent should be determined by the parameters provided. Enter the desired extent using the following format:

Xmin, Ymin, Xmax, Ymax, wkid

Save as new extent Saves the manually entered extent as the *Current Extent*.

Help Launches the *Help* guide.

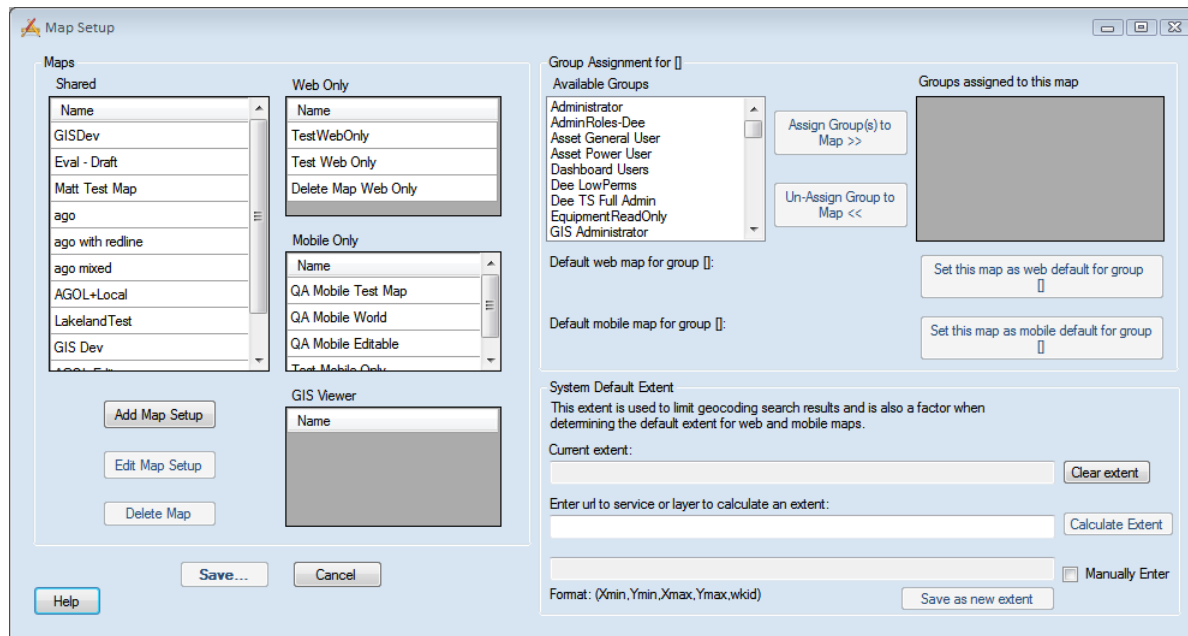
Save... Saves any changes made to the map setup.

Cancel Cancels any changes made on this screen.

How to set up a Web Map

How To Add or Edit a Map

1) In the *Lucy Administration Tool*, select **GIS > Map Setup** from the main menu. The map setup appears:



- 2) The left side of the dialog displays all available maps. Click the **Add Map Setup** or select a map and click **Edit Map Setup** buttons to open the *GIS Map Edit* screen.
- 3) The **Map Editing tool** (see "**Map Editor**" on page 312) opens.
 - a. Enter a unique name in the *Name* field.
 - b. Under *Lucity applications that can use this map*, select **Web & Mobile** or **Web only**.
 - c. Check the *Use as Default Map* box to make this the default map.
 - d. Set the *Geocoding Url*. Enter a URL or path here if the geocoding service used for this map will be different than the one entered in the *Default Geocoding Url* field. The *Default Url* is set in the *Lucity Administration Tool*, under **System > Settings** on the *GIS Web* tab.
 - e. Select the service that contains your *Redline* layers.

- f. Use the map services listed in the *Available Web Services* and the *Available Editable Services* to populate the *Services to Display in Map* grid.
- g. Modify the service settings in the *Services to Display in Map* grid.

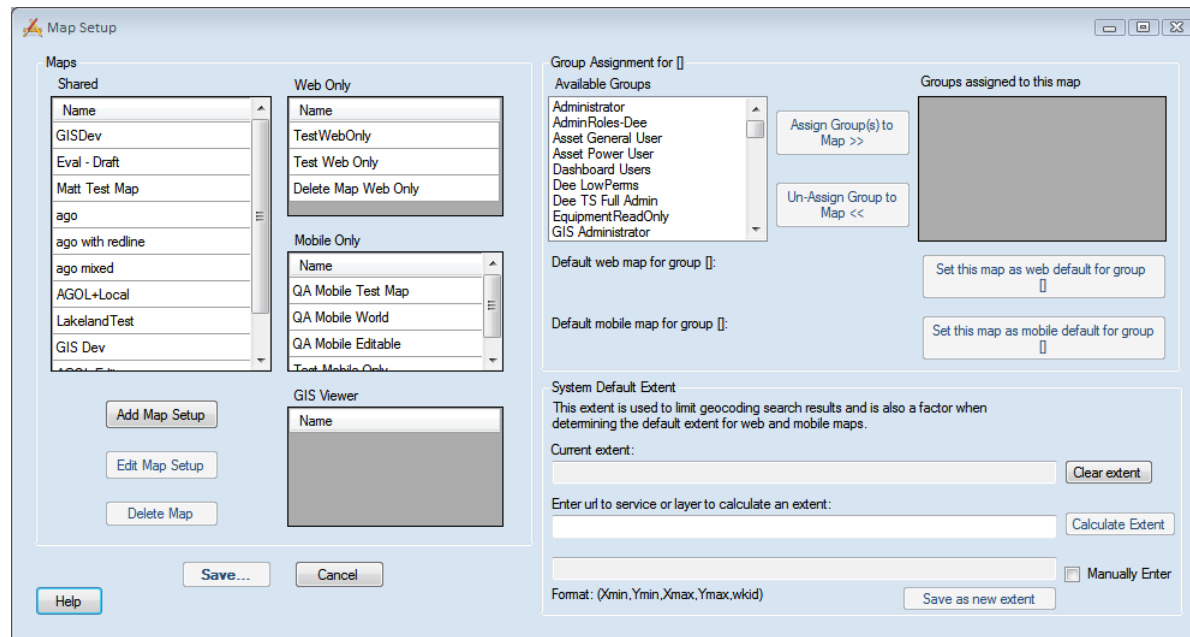
Note: The *Web Map* and *Mobile Map* tools will recognize *Lucity* data in all layers as long as the aliases are set up correctly.

- 4) Click **Close** to return to the *Map Setup* screen.
- 5) Once the maps have been defined, click **Save** on the *Map Setup* screen.
- 6) **Assign the map to the desired user groups** (see "*GIS Map Setup*" on page 301).

How to set up a Mobile Map

How To Add or Edit a Map

1) In the *Lucity Administration Tool*, select **GIS > Map Setup** from the main menu. The *Map Setup* appears:



- 2) The left side of the dialog displays all available maps. Click the **Add Map Setup** button or select a map and click the **Edit Map Setup** button to open the *GIS Map Edit* screen.
- 3) The **Map Editing tool** (see "**Map Editor**" on page 312) opens.

- a. Enter a unique name in the *Name* field.
- b. Under *Lucity applications that can use this map*, select **Web & Mobile**, or **Mobile only**.
- c. Set the *Geocoding Url*. Enter a URL or path here if the geocoding service used for this map will be different than the one entered in the *Default Geocoding Url* field. The *Default Url* is set in *Lucity Administration* under **System > Settings** on the *GIS Web* tab.
- d. Select the *Redlining* layers if you use redlining in your map.
- e. Use the map services listed in the *Available Web Services* and the *Available Editable Services* to populate the *Services to Display in Map* grid.
- f. Modify the service settings in the *Services to Display in Map* grid.

Note: The *Mobile Map* tools will recognize *Lucity* data in all layers as long as the aliases are set up correctly.

- 4) Click **Close** to return to the **Map Setup** screen.
 - a. Select the map in one of the grids in the *Maps* section.
 - b. Select one or more groups you want to access the map in the *Available Groups* grid.
 - c. Click the **Assign Groups to Map >>** button. The groups will move to the *Groups assigned to this map* grid and are now able to access to that map.
 - d. If the map should be a default map for a group, select the map in the *Maps* section.
 - e. Select the group in the *Available Groups* grid.
 - f. Click the one of the **Set the map as...** buttons.
- 5) Once the maps have been defined, click **Save** on the *Map Setup* screen.
- 6) Assign the map to the desired user groups.

How to set up Viewer Map

How To Add or Edit a Viewer Map

1) In the *Lucity Administration Tool*, select **GIS > Map Setup** from the main menu. The map setup appears:

The screenshot shows the 'Map Setup' dialog box. On the left, under 'Maps', there are four categories: 'Shared', 'Web Only', 'Mobile Only', and 'GIS Viewer'. Each category has a list of map names and a 'Name' field. Below these lists are buttons for 'Add Map Setup', 'Edit Map Setup', and 'Delete Map'. At the bottom left are 'Save...', 'Cancel', and 'Help' buttons. The right side of the dialog is for 'Group Assignment for []', featuring a list of 'Available Groups', buttons for 'Assign Group(s) to Map >>' and 'Un-Assign Group to Map <<', and fields for 'Default web map for group []' and 'Default mobile map for group []'. Below that is the 'System Default Extent' section, which includes a text area for 'Current extent', a 'Clear extent' button, a text field for 'Enter url to service or layer to calculate an extent', a 'Calculate Extent' button, a 'Manually Enter' checkbox, and a 'Save as new extent' button. A format string '(Xmin,Ymin,Xmax,Ymax,wkid)' is shown at the bottom.

2) The left side of the dialog displays all available maps. Click the **Add Map Setup** or **Edit Map Setup** buttons to open the *GIS Map Edit* screen.

3) The **Map Editing tool** (see "**Map Editor**" on page 312) opens.

a. Enter a unique name in the *Name* field.

- b. Under *Lucity applications that can use this map*, select **GIS Viewer**.
- c. Check the *Use as Default Map* box to make this the default map.
- d. There can only be one default map. If more than one map exists, the *Viewer* will ask which one to use. The default map will appear at the top of the list.
- e. Set the *Geocoding Url*. Enter a URL or path here if the geocoding service used for this map will be different than the one entered in the *Default Geocoding Url* field. The *Default Url* is set in *Lucity Administration Tool*, under **System > Settings** on the *GIS Web* tab.
- f. The *Geocoding Url* can be either a URL for a geocoding service OR the path to a geocoding package (.gcpk).
- g. Use the map services listed in the *Available Web Services* and the *Available Local Services* to populate the *Services to Display in Map* grid.
- h. Modify the service settings in the *Services to Display in Map* grid.

Note: The *Lucity GIS Viewer* will recognize *Lucity* data in all layers, as long as the aliases are set up correctly.

- 4) Click **Close** to return to the **Map Setup** screen.
- 5) Assign the map to the desired user groups.

Note: All maps that are marked as **GIS Viewer** will be visible to all *Lucity GIS Viewer* users.

How to assign maps to groups

To assign maps to user groups:

- a) Select a map in one of the map grids list on the left side of the dialog box.
- b) Highlight one or more groups in the *Available Groups* list on the right side of the dialog box.
- c) Click the **Assign Group(s) to Map >>** button.
- d) The groups will appear in the *Groups assigned to this map* grid.

e) When a user logs into the web map or mobile map they will be able to look at any map that is assigned to a group that they are a part of.

Note: Groups and Users are created and associated in the Lucity Security program.

How to set default maps for groups

- 1) Select the map that you want to set as a Default map for a group.
- 2) Review the groups in the *Groups assigned to this map* grid.
 - If the group you want to assign the map to as a default is not in this grid you need to select the group in the *Available Groups* grid and click the **Assign Group(s) to Map >>** button.
- 3) Select the group in the Groups assigned to this map grid.
 - To set the map as the group's default web map click the Set this map as web default for group [...] button.
 - To set the map as the group's default mobile map click the Set this map as mobile default for group [...] button.

Note: These buttons are grayed out if an incompatible map is selected.

- 4) When the user opens the web map it will default to the map listed under *Default web map for Group [...]*.
- 5) When the user opens the mobile map it will default to the map listed under *Default mobile map for Group [...]*.

Note: Because each group can have a default map, and each user can have multiple groups the web and mobile maps will use the default map assigned to the user's *Default Rules Group*. Each user can only have one Default Rules Group, which is assigned in the Lucity Security program.

More information about adding and editing web maps>> (see "**Map Editor**" on page 312)

MAP EDITOR

The *Map Editor* screen allows administrators to design a map using the map services they have configured.

The screenshot shows the 'GIS Map Edit' window with the following configuration details:

- Name:** GISDev
- Lucity application(s) that can use this map:** Web & Mobile
- Geocoding:**
 - Default Geocoding Url: <http://geocode.arcgis.com/arcgis/rest/services/World/GeocodeServer>
 - Geocoding Uri (if different than default):
- Redlining:**
 - Select the feature service that contains the redlining layers: LucityGISDev_MarkupSecure
 - Enter the feature layer index for the three redlining layers:
 - Point index: 0
 - Polyline index: 1
 - Polygon index: 2
- Available Web Services:**
 - LucityGISDev_ImageService
 - LucityGISDev_Zones
 - LucityGISDev_Parcel
 - LucityGISDev_Park
 - LucityGISDev_SewerStreetStom
 - LucityGISDev_WaterReadOnlyShared
 - QA Mobile Raster
 - QA Mobile Parcels
 - QA Mobile World
- Available Editable Services:**
 - LucityGISDev_RecycledWaterEdit
 - LucityGISDev_RawWaterEditableS
 - LucityGISDev_GISTasksEditable
 - LucityGISDev_WaterDietReadOnly
 - LucityGISDev_WaterDietEditableH
 - QA Mobile Sewer
- Available Local Services:** (Empty list)
- Services to Display in Map:**

| Name | Uri | Order | Order Override | Disable Identify | Disable Edits | Disable Visibility | Default Extent |
|-----------------------------|---|-------|----------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| LucityGISDev_ImageService | http://ExampISrvr:6080/arcgis/rest/services/LucityGISDev_ImageService... | 0 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucityGISDev_Parcel | http://ExampISrvr:6080/arcgis/rest/services/LucityGISDev_Parcel/MapS... | 1 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucityGISDev_SewerStreet... | http://ExampISrvr:6080/arcgis/rest/services/LucityGISDev_SewerStreetS... | 2 | 3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucityGISDev_Park | http://ExampISrvr:6080/arcgis/rest/services/LucityGISDev_Park/MapSer... | 2 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucityGISDev_GISTasksEd... | http://ExampISrvr:6080/arcgis/rest/services/LucityGISDev_GISTasksEdit... | 4 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | |
|--|--|
| <i>Name</i> | Specifies a unique name for the map. |
| <i>Lucity application(s) that can use this map</i> | Indicates which Lucity mapping program this map is designed for. This interface is used to create maps for <i>Lucity Web</i> , <i>Lucity Mobile</i> , and the <i>GIS Viewer</i> . <ul style="list-style-type: none"> • Web & Mobile, Web Only, Mobile Only, GIS Viewer |

Geocoding

Specifies which geocoder the map will use.

| | |
|--|---|
| <i>Default Geocoding URL</i> | This is the default geocoder that the map will use if you don't select another one. This is set in the <i>URL for Geocoding Service ...</i> setting under <i>System > Settings > GIS Web tab</i> (http://help.lucity.com/webhelpv170/web/index.htm#38257.htm). |
| <i>Geocoding URL (if different than default)</i> | Enter a URL here if the geocoding service used for this map will be different than the URL in the <i>Default Geocoding Url</i> box. |

Redlining

Controls which redlining layers appear in the map.

| | |
|--|---|
| <i>Select the feature service that contains the redlining layers</i> | Select the <i>Redlining</i> map service from the drop-down if users need to use the redlining tool in the map. (This list only displays the feature services configured in the <i>Map Services</i> (see " <i>GIS Map Services</i> " on page 292) tool.) |
| <i>Point Index</i> | Indicates the number for the redlining point layer in the redlining map service. |
| <i>Polyline Index</i> | Specifies the number for the redlining line layer in the redlining map service. |
| <i>Polygon Index</i> | Indicates the number for the redlining polygon layer in the redlining map service. |

Available Services

| | |
|-------------------------------|--|
| <i>Available Web Services</i> | Lists all web map services (those services entered into the <i>Map Services tool</i> that are not map packages and do not have the <i>Has Feature Service</i> box checked). |
|-------------------------------|--|

- Add >>** Adds the map services selected in the *Available Web Services* list to the map. The services will appear in the *Services to Display in Map* list.
- Available Editable Services* Lists all editable web map services (those services entered into the *Map Services tool* that are not map packages and have the *Has Feature Service* box checked).
- Add >>** Adds the editable map services selected in the *Available Editable Services* list to the map. The services will appear in the *Services to Display in Map* list.
- Available Local Services* Lists all map packages [those services entered into the *Map Services tool* that are map packages (paths to .mpk files)].
- Add >>** Adds the local services selected in the *Available Local Services* list to the map. The services will appear in the *Services to Display in Map* list.

Services to Display in Map

Lists all of the map services that are in the map.

- Name* Displays the name of the map service.
- URL* Displays the URL/path to the map service
- Order* Displays the default sequence of the layers, based on the Order entered in the *Map Services* (see "*GIS Map Services*" on page 292) tool.
- Order Override* Allows the user to adjust the sequence of layers for this map by ordering the items in this column. 0 is the lowest layer in the map.
- Disable Identify* Prevents users from identifying or selecting features in a map service.
- Disable Edits* Prevents users from editing a specific map service in this map.
- Disable Visibility* Hides the selected map service. Services with visibility disabled are turned off when the map is initially accessed; however, users can turn them back on. Disabling visibility of map services makes the map load faster.

Default Extent

Marks a single layer as the default extent. That is, the service's extent will be the default extent for the entire map when it is loaded.

This function requires the *Force the GIS Web Map to always open to the default extent* setting to be enabled under *System > Settings > GIS Web tab* (<http://help.lucity.com/webhelpv170/web/index.htm#38257.htm>).

<< Remove

Removes the service selected in the *Services to Display in Map* list.

Close

Closes the *Map Editor*.

SECURITY

The **Security** menu gives access to the *Security* program as well as the ability to grant groups access to views and forms. This feature is used concurrently with the group management function available in the **Security** program.

Note: For additional information on the *Security* program, see the Security Help Guide included with Lucy Desktop: **Program Files > Lucy > Admin Tools > Lucy Security Help.**

MENU OPTIONS

Security Launches the *Security* program from *Lucy Administration for Web Apps*
(<http://help.lucity.com/webhelp/v750/security>)
y)

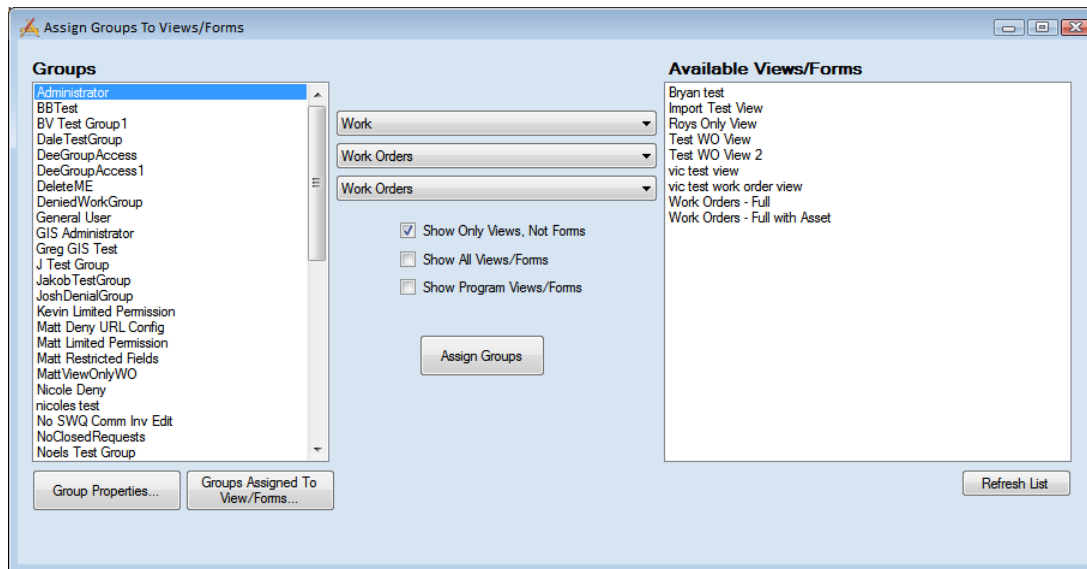
Assign Groups to Views/Forms (on page 317) Allows administrators to grant groups access to views and forms, as well as set a default *Work Order* form for a Default Rules Group.

ASSIGN GROUPS TO VIEWS/FORMS

The *Assign Groups to Views/Forms* feature enables administrators to assign different user groups to defined *Views* and *Forms*. They can also assign default *Forms* to a group.

Note: This section is disabled if the **System > Settings > Website tab > Allow All Users Access to All Views** setting is enabled.

This module may be accessed through the *Administration Tool* at: **Security > Assign Groups to Forms**.



LEFT COLUMN

| | |
|---------------------------------------|--|
| <i>Groups</i> | Displays a list of groups from the <i>Security</i> module. |
| Group Properties | Displays a list of <i>Views/Forms</i> assigned to the selected group. |
| Groups Assigned to Views/Forms | Displays a list of groups that are assigned to each <i>View/Form</i> . |

CENTER COLUMN

| | |
|------------------------------------|--|
| <i>Module Selection Drop-downs</i> | Selects a program , a module , and one of its components . This controls which <i>Views/Forms</i> are displayed in the <i>Available Views/Forms</i> grid. |
| <i>Show Only Views, Not Forms</i> | Hides all <i>Forms</i> in the <i>Available Views/Forms</i> grid. |
| <i>Show All Views/Forms</i> | Overrides the module selection drop-downs and displays all <i>Views</i> and <i>Forms</i> for every module. |
| <i>Show Program Views/Forms</i> | Displays all the <i>View/Forms</i> for all modules and components underneath the selected program in the first drop-down. |
| <i>Show only Timesheet Forms</i> | Overrides the module selection drop-downs to only display the Timesheet <i>Forms</i> . |
| Assign Groups | Assigns the <i>Views/Forms</i> selected on the right to the groups selected on the left. |

RIGHT COLUMN

| | |
|------------------------------|---|
| <i>Available Views/Forms</i> | Lists <i>Views</i> and <i>Forms</i> that can be assigned to groups. |
| Refresh List | Refreshes the <i>Available Views/Forms</i> grid. |

How to assign Groups to Views and Forms

- 1) Select one or multiple groups from the *Groups* box on the left side of the screen.
- 2) In the center of the screen, select the *Program, Module, and Section* of the module. (For example, to see the *Forms* for a *Work Order*, select *Work Order Manager, Work Orders, Work Orders*.
 - This filters down the *Available Views/Forms* column down to forms just for that section of the module.
 - To show all forms at once, check the *Show all Views/Forms* box.
- 3) Select one or multiple forms from the *Available Views/Forms* box on the right side of the screen.
- 4) Click the **Assign Groups** button. All selected *Groups* will be associated with all selected *Forms*.

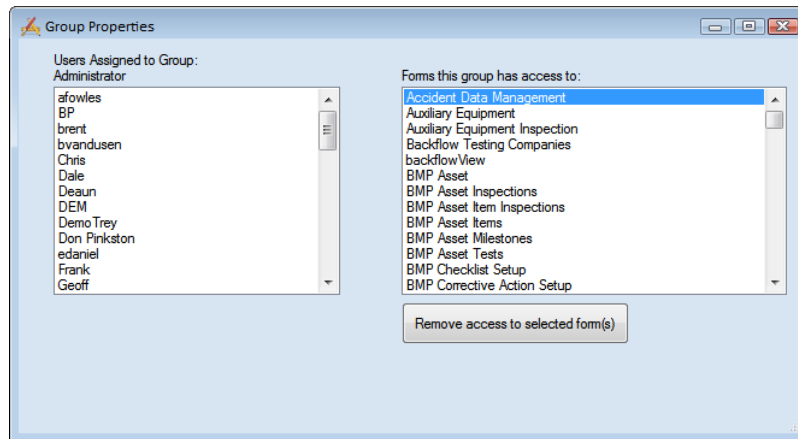
Note: If a *Form* will be accessed by the public, the group assigned must contain the *Lucity* login account that is used with the public application. Refer to the **System > Settings > Citizen section** for the public *Login ID*.

Note: This step is not necessary if the **System > Settings > Website tab > Allow All Users Access to All Views** setting is enabled.

How to view Group properties

- 1) Select a group in the *Groups* column.
- 2) Click the **Group Properties** button in the bottom-left corner.

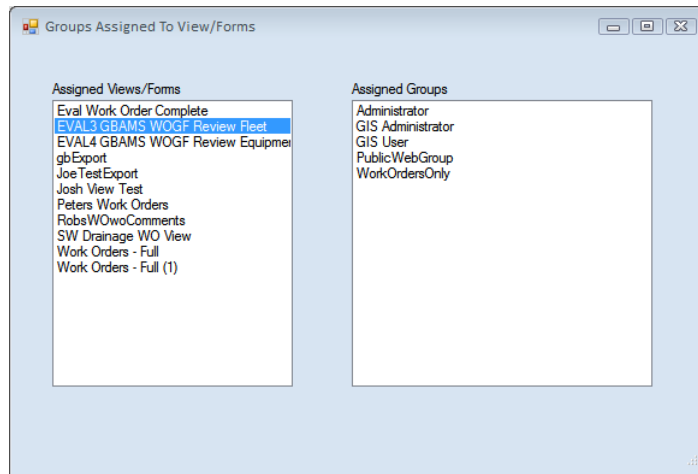
3) The *Group Properties* window appears, displaying the users in the group and the *Forms* to which the group is assigned.



How to view Groups assigned to Views/Forms

- 1) In the center of the screen, select the *Program*, *Module*, and *Section* of the module. For example, to see the *Views/Forms* for a work order, select *Work Order Manager*, *Work Orders*, *Work Orders*.
 - This filters the **Available Views/Forms** column to display only *Forms* for that section of the module.

2) Click the **Groups Assigned To Views/Forms** button. The following pop-up appears:



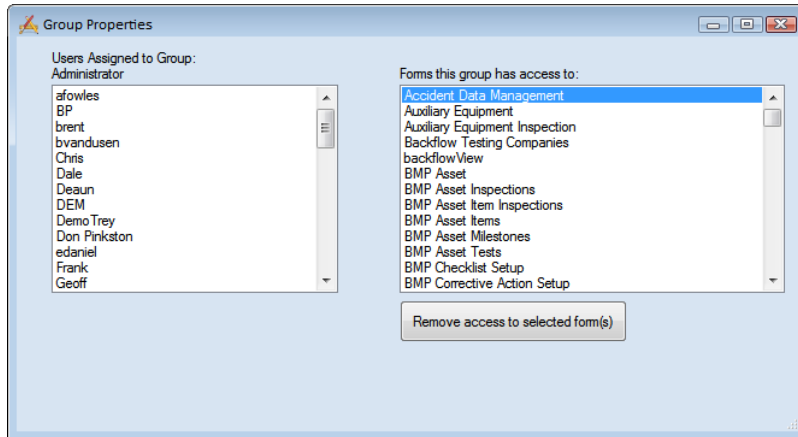
3) Select a *View* or *Form* on the left to see a list of groups assigned to it on the right.

4) Close the window when finished.

How to remove access to a Form

1) In the *Assign Groups for Views/Forms* window, select the *Group* and click the **Group Properties** button.

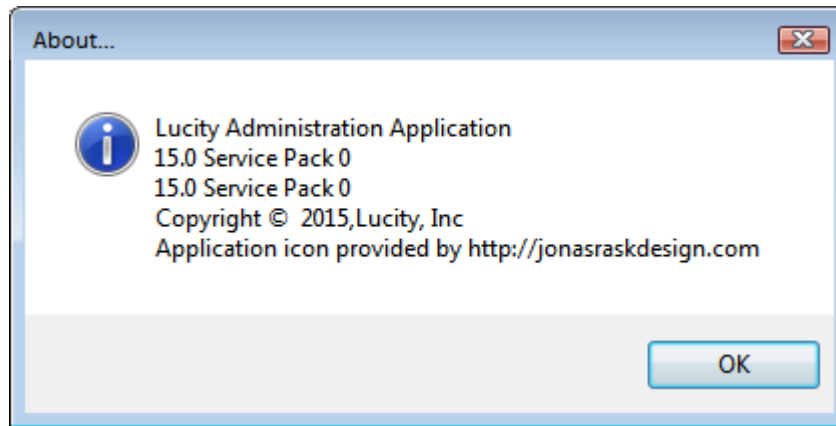
2) In the *Group Properties* window, select the *Form* and click **Remove access to selected form(s)**. The *Form* will be removed from the list.



HELP

The *Security Help* menu provides links to Help documentation and resources, as well as general product information.

- Click on *Help Topics* or hit **F1** to launch the *Lucity Administration for Web Apps Help File*.
- Click **Lucity Help Portal and Search** to launch the *Lucity Help* portal to view/search all Help Guides.
- Select *About...* to view the product version information.

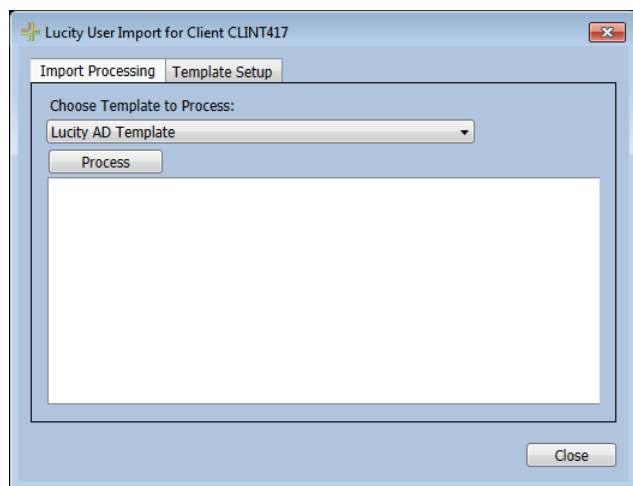


LUCITY USER IMPORT TOOL

The *Active Directory Import* tool enables organizations to integrate *Lucity Security* with their Windows Active Directory. This integration streamlines user administration by allowing *Lucity Security* to be partially managed via Active Directory.

Success of the import relies on having Active Directory groups and *Lucity* groups with identical names. When an administrator runs the import, *Lucity* checks the Active Directory groups to determine which users are present and performs the following actions:

- If a user is in one of the Active Directory groups that corresponds to a *Lucity* group but is not in the *Lucity Security* program, the user is added to *Lucity*.
- If a user is in an Active Directory group but is not in the corresponding *Lucity Security* group, the user is added to the the *Lucity* group.
- If a user is in not in an Active Directory group but is in the corresponding *Lucity Security* group, the user is removed from the *Lucity* group.
- Optionally, if a user is no longer in Active Directory but is found within *Lucity*, the user remains in *Lucity*, but the account is disabled.



To run this tool, a user must have the *Lucity App Admin* or *Lucity IT Admin* permission.

TEMPLATE SETUP TAB

The *User Import* tool's *Template Setup* tab lets administrators create, edit, and delete Active Directory Import templates.

The screenshot shows a dialog box titled "Lucity User Import for Client CLINT417" with a close button in the top right corner. The dialog has two tabs: "Import Processing" and "Template Setup", with "Template Setup" being the active tab. The form contains the following fields and controls:

- Select Template to Edit:** A dropdown menu.
- Path:** A text input field.
- Provider:** Radio buttons for "Active Directory" (selected) and "LDAP".
- Lucity Logon:** A dropdown menu.
- First Name:** A dropdown menu.
- Last Name:** A dropdown menu.
- Email:** A dropdown menu.
- Windows Logon:** A dropdown menu.
- Windows Domain:** A text input field.
- Template Name:** A text input field.
- Enable Application Authentication**
- Disable User Is Allowed**
- Delete Template** button
- Create Template** button
- Save** button
- Close** button (located at the bottom center of the dialog)

TEMPLATE SETUP

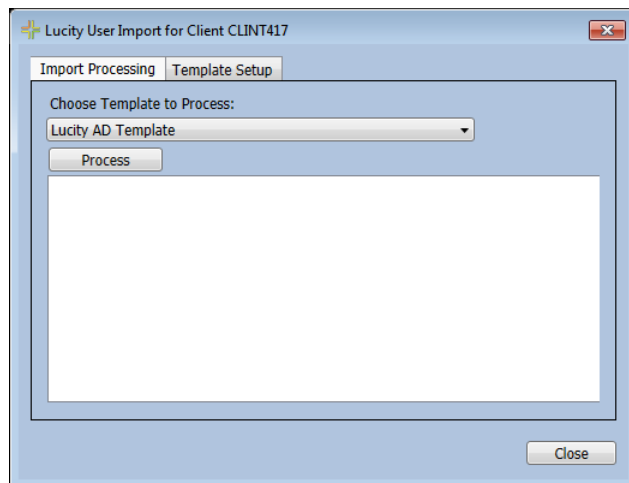
| | |
|--|---|
| <i>Select Template to Edit</i> | Displays a list of <i>User Import</i> templates that have been created and saved in an agency's system. |
| <i>Path</i> | Indicates the path to an agency's Active Directory or LDAP. |
| <i>Provider</i> | Indicates whether users should be imported from Active Directory or LDAP. |
| <i>Lucity Logon</i> | Sets the field from AD/LDAP that will be used as the <i>Lucity</i> login. |
| <i>First Name</i> | Sets the field from AD/LDAP that contains the users' first names. |
| <i>Last Name</i> | Sets the field from AD/LDAP that contains the users' last names. |
| <i>Email</i> | Sets the field from AD/LDAP that contains the users' email addresses. |
| <i>Windows Login*</i> | Sets the field from AD/LDAP that contains the users' Windows logins. |
| <i>Windows Domain*</i> | Identifies the domain under which users are running. |
| <i>Template Name</i> | Provides the name of the template if it is new. |
| <i>Enable Application Authentication</i> | Allow imported <i>Lucity</i> users to log into <i>Lucity</i> using a <i>Lucity</i> login and password. |
| <i>Disable User is Allowed</i> | <p>Directs the import to disable users in <i>Lucity</i> who are no longer found in a corresponding AD/LDAP group.</p> <p>Permits the import to remove users from <i>Lucity</i> security groups if the users are no longer in the corresponding AD/LDAP group.</p> <p>Note: The user is not removed from <i>Lucity</i>. They are just disassociated from the <i>Lucity</i> security groups.</p> |
| Delete Template | Deletes the template currently selected in the <i>Select Template to Edit</i> field. |
| Create Template | Creates a new template. |

Save Saves edits to the current template.

* When both of these fields are completed, users are not required to enter a login and password when logging into *Lucity* applications. With the exception of *Lucity Mobile*, all *Lucity* applications will automatically match the user logged into Windows to the correct *Lucity* user.

IMPORT PROCESSING TAB

The *User Import* tool's *Import Processing* tab allows administrators to select an *Active Directory Import Template* and process it. The tab also displays a log of the import results.



IMPORT PROCESSING

Choose Template to Process

Provides a drop-down list of available *Active Directory Import Templates*. These templates are created on the *Template Setup* tab.

Process

Runs the import using the selected template.

HOW TO

The following sections discuss how to set up the *Lucity User Import*.

SECURITY STRUCTURE

How to set up Lucity Security

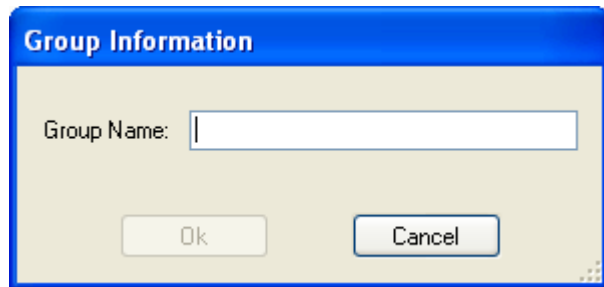
1) Plan out your security groups.

- Identify which groups you should create and what permissions each group requires.
- Consider **Lucity's Suggested Security Group Setup** (<http://help.lucity.com/webhelp/v170/security/index.htm#39729.htm>).

Note: You may want to add a 'Lucity_' prefix to all of the security groups. That way, all matching groups in Active Directory/LDAP are grouped together.

2) Add your Lucity Security groups.

- 3) Click **New Group** (under the *Groups* grid). The following window appears:

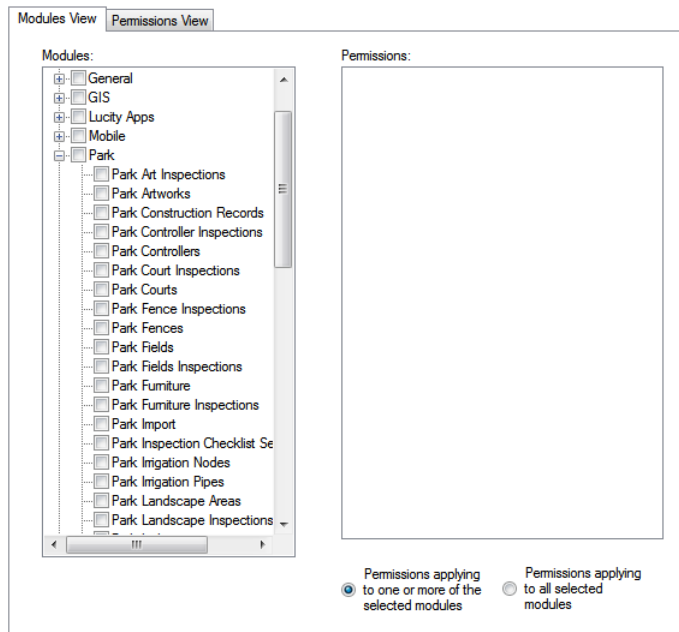
A screenshot of a 'Group Information' dialog box. The dialog has a blue title bar with the text 'Group Information'. Below the title bar, there is a text label 'Group Name:' followed by an empty text input field. At the bottom of the dialog, there are two buttons: 'Ok' on the left and 'Cancel' on the right. The dialog box has a light beige background and a blue border.

- 4) Enter a *Group Name* and click **Ok**.
5) Assign the desired permissions to the Lucity Security groups.

Modules View Method

- 1) In the *Groups* grid, select one or more groups to which to grant a permission.

- 2) In the *Modules View* tab, under *Permission Controls*, expand the module suite for which the permissions will be granted.



- 3) Check the box next to the desired modules within the suite.

Note: To grant a group all of the permissions in the *Park* suite, check the box next to **Park**. The system will check all modules underneath the root.

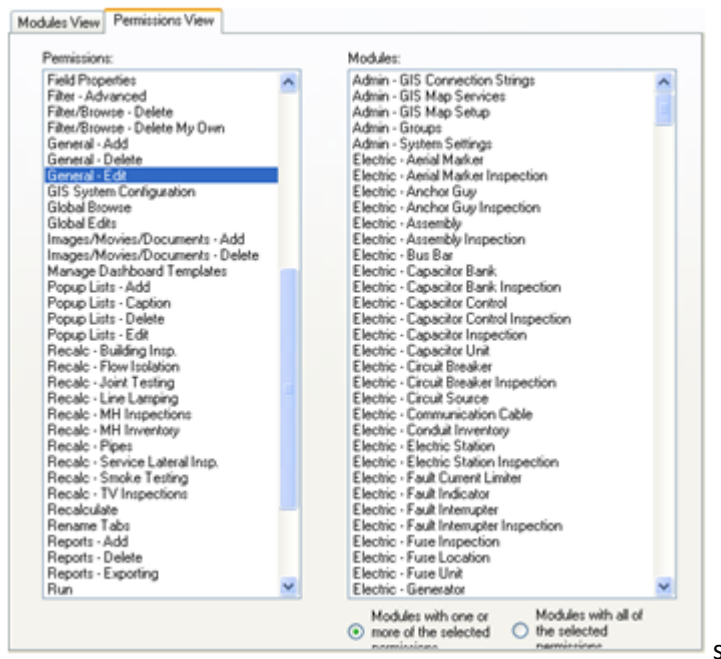
- 4) Select one or more permissions in the *Permissions* grid.

Note: Hold down the **Shift** or **Ctrl** keys while clicking to select multiple items.

- 5) When all desired permissions are selected, click the **<< Grant** button. The system grants the selected permissions to the selected group(s).

Permissions View Method

- 1) To grant a particular permission—like the **General-Edit permission**—for multiple modules in the *Lucity* program, select a group(s) in the *Groups* grid.
- 2) Open the *Permissions View* tab.
- 3) Select the desired Permission from the grid on the left.



- 4) Select the *Modules* to which to apply the permission and click the **<< Grant** button. The system grants the permission(s) to the selected group(s).

Note: Hold down the **Shift** or **Ctrl** keys while clicking to select multiple items.

How to set up AD/LDAP

- 1) Set up Active Directory groups using the same names as the *Lucity Security* groups. [Add the note about adding *Lucity__* in front of each name?]
- 2) Add the *Lucity* users' Windows accounts to the appropriate Active Directory groups.

Is this topic complete? It was still in the Blue "Notes" release state...

USER IMPORT SETUP

How to set up an Import Template

- 1) Open the *Lucity User Import*.
- 2) Click on the *Template Setup* tab.
- 3) Click the **Create Template** button.
- 4) Enter the *Path* to the Active Directory or LDAP.
 - The first time an administrator runs the import, it will attempt to set the path based on the domain it is running under.
 - When setting up a second template or modifying the original *Path*, you must click **Save** and **Close** and reopen the *Lucity User Import*. Doing so allows the *User Import* to query the data source and return the data required for the next step.
- 5) Select the *Provider*.
- 6) Identify the fields from the source data that will supply the users':
 - *Lucity Logon* (Typically, the same as the Windows login.)
 - *First Name*

- *Last Name*
 - *Email*
 - *Windows Logon*
- 7) Enter the *Windows Domain*.
 - 8) Choose whether to *Enable Application Authentication* for the imported users.
 - 9) Choose whether to enable the *Disable Users Is Allowed* option, which directs the import to disable *Lucity* users that are no longer in the corresponding Active Directory/LDAP groups.
 - 10) Click **Save**.

RUNNING THE IMPORT

The *User Import* can be run manually on a one-time basis, or it can be run on a schedule using a Windows Scheduled Task or the *Lucity Services*.

How to run the Import manually

- 1) Find the **Lucity.ImportUsers.exe**. This file is installed automatically with *Lucity Desktop* and with the *Lucity Services*.
 - **C:\Program Files (x86)\LucityServices\Lucity.ImportUsers.exe**
 - **C:\Program Files (x86)\Lucity\bin\Lucity.ImportUsers.exe**
- 2) On the *Import Processing* tab, select the *Import Template* that you would like to use.
- 3) Click the **Process** button. The application will run using the template and log the results at the end of the process.

How to run the Import as part of a script

The *Lucity User Import* can be run as part of a script, or as part of a Windows scheduled task.

Use the following syntax to run the import as part of a script.

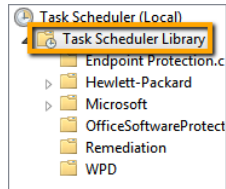
```
C:\Program Files (x86)\LucityServices\Lucity.ImportUsers.exe CLINT001 "AD Template"
```

- **CLINT001** - The client identifier. Will be like CLINT001, CLINT002, etc...
- **AD Template** - The name assigned to the of the import configuration.

How to run the Import as part of a windows scheduled task

- 1) After configuring your import use the following steps to schedule the import.
- 2) Access the server that is running the Lucity Services.
- 3) Login as a windows users with administrative privileges.
- 4) Locate and run the Lucity.ImportUsers.exe. This is typically located in the **C:\Programs Files (x86)\Lucity Services** directory.
- 5) Login using a lucity login and password or windows authentication. These credentials must be for a user that has permission to access the security program.
- 6) Go to the computer's *Control Panel* and open *Administrative Tools*.
- 7) Open the *Task Scheduler*.

- On the left side select *Task Scheduler Library*.



- Right-click on it and select *New Folder*.
- Name the new folder *Lucity*.

8) Right-click on the *Lucity* folder and select **Create Task...**

9) On the *General tab...*

- Enter the *Name* of the task. It is suggested to name it the same as the Import User Configuration that the task will run.
- Enter a *Description* of the task.
- Select the *Run whether user is logged on or not* button.
- Check the *Run with highest privileges* box.

10) Select the *Triggers tab*.

- Click the **New...** button.
- On the new trigger pop-up enter the schedule that you want the task to follow.
- Click **OK**.

11) Select the *Actions tab*.

- Click the **New...** button.
- In the *Program/script* field browse to the *Lucity.ImportUsers.exe*.
- Enter the parameters in the *Add arguments* field. These are listed in the previous How To.

- d. In the *Start In* field enter the path to the *Lucity Services* folder. **C:/Program Files (x86)/Lucity Services**
 - e. Click **OK**.
- 12) Click **OK**.
- 13) The task will ask for windows credentials. Use the credentials for a windows user that has permission to run the .exe and has a non-expiring password.

ADD EMPLOYEES

The *User Import* tool automatically adds users into the *Lucity* system; however it does **not** automatically create matching *Employee* records in the **Lucity > Work Flow Setup > Employee Setup** module. To create *Employee* records, an administrator must use *Lucity's Import and Update* program.

How to automatically add employees to Lucity from Active Directory

- 1) In the Import and Update program, create a new *Import* configuration.
- 2) Enable the *Allow adding new records* option.
- 3) Set the *Work > Work Employee Setup* module as the destination for the import data.
- 4) Indicate that Active Directory will be the source of the import data.
- 5) Map your employee data to the appropriate *Lucity* fields, making sure to load *Lucity* login IDs into the *Login ID* field.
- 6) Run the *Import and Update* manually or as part of a schedule.

More information about configuring and running the Import and Update (<http://help.lucity.com/webhelp/v170/import/#34616.htm>)

DATA QUALITY TOOL

The *Data Quality Tool* enables administrators to check the quality of their data using preconfigured SQL statements. The *Data Quality* tool can uncover issues ranging from an incomplete field to incorrect calculations.

To launch the *Data Quality* tool, go to a machine that has Lucy Desktop installed and run the **C:\Program Files (x86)\Lucy\bin\Lucy.DataQuality.exe** program.



Requires the *Lucy App Admin* permission.



Overview Video

Query Selection Tools

The *Query Selection* tools, which appear at the top of the program, let users choose which *Data Quality* query(ies) they wish to run.

| | |
|-----------------------------|--|
| <i>Select a Database</i> | Provides a list of <i>Lucity</i> programs. Select the program that contains the module you would like to run a <i>Data Quality</i> query against. |
| <i>Query List</i> | Lists all available queries. |
| <i>Group</i> | Indicates whether the query belongs to a query group. Queries are organized into groups based on how critical potential data errors might be. Groups of queries can be run together. |
| <i>Count</i> | Indicates how many records the query identified. The Count displays "-1" until the user runs the query. |
| <i>Test Name</i> | Lists the name of the test. |
| <i>Module</i> | Indicates the module the query applies to. If the query does not apply to a specific module, the word 'None' appears. |
| <i>Description tab</i> | Provides more detailed information about the query. Sometimes, a stored query is not designed to be run by the Data Quality tool (e.g., queries that are designed to delete bad records). In such cases, this field displays the query that a DBA can run against the database. |
| <i>SQL tab</i> | Displays the SQL statement that is being run for the selected query. |
| Run Selected Query | Runs the query selected in the <i>Query List</i> . Any queries that produce results will open a tab in the <i>Results</i> grid. |
| <i>Number of Open Tabs</i> | Provides a count of the tabs that have produced results. |
| Open Lucity Web | Opens <i>Lucity Web</i> and displays the records that appeared in the selected tab of the <i>Results</i> grid. |
| <i>Select Group Queries</i> | Enables the user to select a group of queries to run. |

- Run Group Query** Runs all the queries in the selected group. Any queries that produce results will open a tab in the *Results* grid.
- Fix It** This button appears for queries that require a simple fix. Click this button to resolve issues discovered by the selected query.
- Reprocess Selected** This button appears for the Spatial records query. It clears errors on failed records which allows the Spatial Indexer to reprocess them.

Results Grid

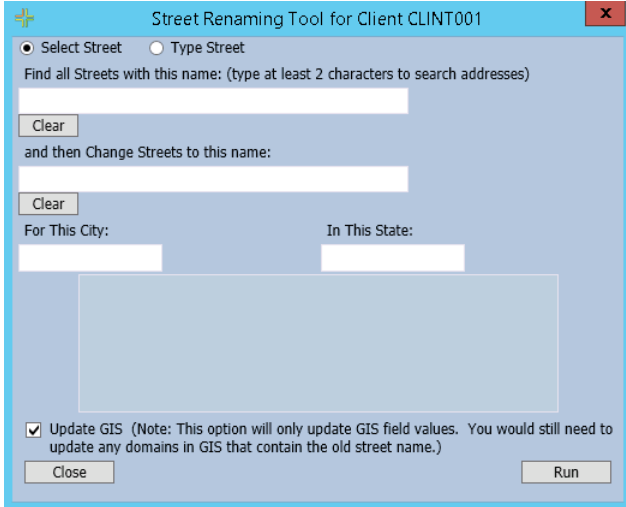
Displays the results of the query(ies) as tabs. Located at the bottom of the screen.

STREET RENAMING TOOL

The *Street Renaming Tool* provides a way to quickly update a *Street Name* on every record in which it appears throughout the *Lucity* system. This feature is helpful when an agency needs to correct a misspelling or to update a street whose name has changed.

To launch the *Street Renaming Tool*, go to a machine that has *Lucity Desktop* installed on it and run the **C:\Program Files (x86)\Lucity\bin\Lucity.StreetRenamingTool.exe** program.

 Requires the *Lucity App Admin* permission.



Street Renaming Tool for Client CLINT001

Select Street Type Street

Find all Streets with this name: (type at least 2 characters to search addresses)

Clear

and then Change Streets to this name:

Clear

For This City: In This State:

Update GIS (Note: This option will only update GIS field values. You would still need to update any domains in GIS that contain the old street name.)

Close Run

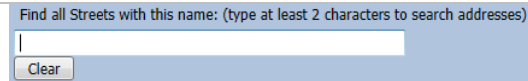
OLD STREET NAME

Select Street Allows the administrator to **select** the *Street Name* that needs to be changed from the *Street Name List*. Type in the field to begin searching for a *Street Name*.

Type Street Allows the administrator to **type in** the *Street Name* that needs to be changed.

Select Street To change This section changes depending on whether the user chose to **Select Street** or **Type Street**.

Select Street



Find all Streets with this name: (type at least 2 characters to search addresses)

Type Street

| Prefix | Direction | Street Name | Type | Suffix |
|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

NEW STREET NAME

Change Street to this name Allows you to select the street name from the street name list that you want to change the street to. Type in the field to search for a street name.

FILTERING OPTIONS

For This City Identifies the city in which the *Street* is located. If records are filtered by *City*, the system only changes the *Street Name* on *Address* records with the specified *City*.

In This State Identifies the state in which the *Street* is located. If records are filtered by *State*, the system only changes the *Street Name* on *Address* records with the specified *State*.

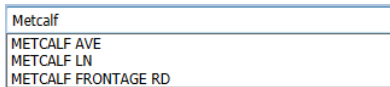
BUTTONS

| | |
|-------------------|---|
| <i>Update GIS</i> | Directs the system to update street address fields in the geodatabase that are linked to street address fields in <i>Lucity</i> . |
| Close | Closes the tool. |
| Run | Runs the tool with the current selection. |

How to change a Street Name

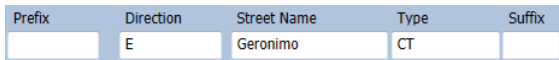
1) Choose whether to select a street name from the *Street Name List* or to type in a street name.

- **Select Street** - Begin to type in the street name. The tool displays a list of matching *Street Names*. Select one.



A screenshot of a dropdown menu. The top item is "Metcalf". Below it are three items: "METCALF AVE", "METCALF LN", and "METCALF FRONTAGE RD".

- **Type Street** - Type in the complete *Street Name*. The tool will only update records that match this information exactly.



A screenshot of a table with five columns: Prefix, Direction, Street Name, Type, and Suffix. The "Direction" column contains the value "E" and the "Street Name" column contains "Geronimo". The "Type" column contains "CT".

| Prefix | Direction | Street Name | Type | Suffix |
|--------|-----------|-------------|------|--------|
| | E | Geronimo | CT | |

2) Select a *Street Name* to replace the one identified in Step 1. Begin to type in the street name. The tool will display a list of matching street names. Choose one.

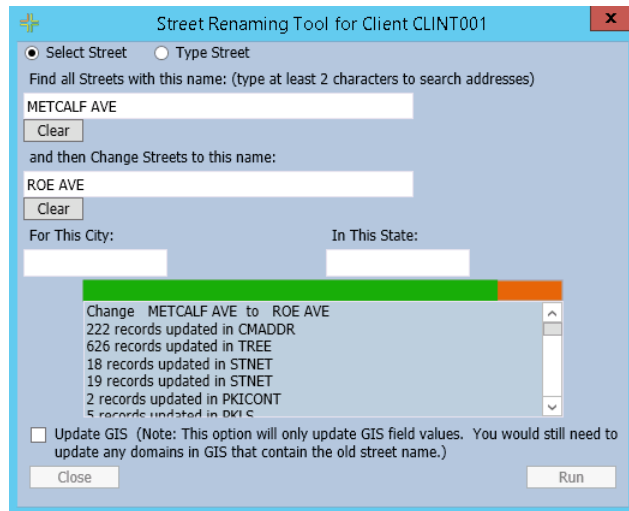


A screenshot of a text input field containing the text "METCALF AVE". Below the input field is a "Clear" button.

3) Enter the *City* and *State*, if desired. If the user provides this information, the system filters the street records to only update those with matching *City* or *State* values.

4) Mark whether to update the Street Name in the *GIS*, as well.

5) Click **Run**. The program indicates the number of records that were updated in each table.



6) Click **Close** when complete.

The application logs events or error messages to certain rolling log files, which may be found in the following locations:

ERROR AND EVENT LOGS

| PROGRAM | LOG | LOCATION | PURPOSE |
|---------|-----|----------|---------|
|---------|-----|----------|---------|

| | | | |
|-----------------------------------|-------------|--|--|
| <i>Lucity Desktop</i> | rolling.log | %APPDATA%\Lucity\Logs on the workstation machine for the current user | Records the use of the <i>Lucity Desktop</i> and <i>Lucity Administration Tool</i> programs by the current Windows user on this machine. |
| | gslog.htm | %APPDATA%\Lucity on the workstation machine for the current user | Tracks <i>Lucity Desktop</i> 's attempts to communicate with and update the geodatabase. |
| <i>Lucity Administration Tool</i> | rolling.log | %APPDATA%\Lucity\Logs on the workstation machine for the current user | Records the use of the <i>Lucity Desktop</i> and <i>Lucity Administration Tool</i> programs by the current Windows user on this machine. |
| <i>Lucity.User.Import.exe</i> | rolling.log | %APPDATA%\Lucity\Logs On the workstation or services server for user running the .exe. | Records the use and import process for the <i>Lucity.User.Import.exe</i> . |

Server Logs

| | | | |
|------------------------|-------------|---|---|
| <i>Lucity Web</i> | rolling.log | inetpub\wwwroot\[Virtual Directory]\logs | Logs the activities of the <i>Lucity Web</i> program for all users connected to it. |
| <i>Lucity Services</i> | rolling.log | %APPDATA%\Lucity\Logs On the server, under the user set to run the services | Logs the activities of the <i>Lucity PM</i> service. |

Upgrade Logs

| | | | |
|---------------------------|----------------------------|--|--|
| <i>Client Maintenance</i> | ClientMaintenanceError.log | %APPDATA%\Lucity on the workstation machine for the current user | Records any errors that occur in client maintenance during configuration and the database upgrade. Errors are logged as part of the server/database upgrade, or when run manually from the desktop computer. |
|---------------------------|----------------------------|--|--|

Note: Error logging is enabled by default, but additional logging options can be turned on in the corresponding logging.config.

Note: It is possible to configure the logs to write to the *Event Viewer* or to other places, such as a SQL database, a text file, or emails. Using alternate logging destinations requires additional coding by the end-user.

HOW TO: SET UP LUCITY WEB

Lucity Web applications and tools configured in Lucity Web

The following Lucity Web applications and tools are configured in Lucity Web. ***Please review the full setup instructions.*** (<http://help.lucity.com/webhelp/v170/web/#35014.htm>)

- Dashboard
- Documents
- Links
- Reports
- Timesheets
- Work Scheduler

Lucity Web applications and tools configured in the Lucity Administration tool

The following sections explain how to set up standard components of *Lucity Web* from start to finish.

- ***Views, Grids, and Forms*** (see "***View/Form Manager***" on page 145)
- ***Map Setup*** (see "***Lucity Web Map Setup***" on page 349)
- ***Web attribute updates to the Geodatabase*** (<http://help.lucity.com/webhelp/v170/gis/index.htm#34240.htm>)

MAP SETUP

The *Lucity* mapping applications enable agencies to provide mapping information to their employees that use *Lucity Web*. These sections explain how to set up a map for both the *Lucity Web Map* and the *Lucity GIS Viewer*. The *Lucity Mobile* application uses a similar set-up process.

Note: Before configuring maps, an agency must configure the geodatabase with Lucity.



Lucity Web map (see "*Lucity Web Map Setup*" on page 349)



Lucity GIS Viewer (see "*Setup Lucity GIS Viewer*" on page 426)



Lucity Mobile

(<http://help.lucity.com/webhelp/mobile/android/mobile/v101/full/index.htm#27139.htm>)

LUCITY WEB MAP SETUP

The *Lucity Web Map* gives users tools to interact with *Lucity* data.

To create the *Web Map*, administrators combine map services published to the web. These services can come from Microsoft Bing Maps, free online web services, or an agency's own published map services. Administrators can also create custom maps for different parts of the organization.

This section provides links to step-by-step instructions for configuring the *Web Map*.

Lucity Map - Google Chrome
 lct-w2008r2-01/lucityweb76/Map.aspx?

Selection

Water Hydrants Water Valves Water Nodes Water Mains

| OBJECTID | Pipe Number | Diameter (in) | Material | Length (ft) | Pressure Zone | Owner | Pres |
|----------|-------------|---------------|----------------------|-------------|-----------------|-------|------|
| 437 | 13851 | 12 | Prestressed Concrete | 217.6 | Pressure Zone 2 | City | PVC |
| 438 | 13852 | 6 | Prestressed Concrete | 13 | Pressure Zone 2 | City | PVC |

Note: The geodatabase configuration and alias configuration must be completed before performing these steps.

Requirements

- Lucity Web installed
- Lucity Web Map license

Configuration Steps

- 1) **Web Server/ArcGIS server configuration** (see "**Web Server/Arc Server Configuration**" on page 352)
- 2) **Configure users and permissions** (see "**Configuring Users**" on page 356)
- 3) **Building map services** (on page 363)
 - **Alias configuration** (on page 365)
- 4) **Map service configuration** (see "**Map Services Configuration**" on page 376)
 - Bing maps
- 5) Base maps
- 6) **Red-lining** (see "**Red-Line Configuration**" on page 384)
- 7) **Map setup** (see "**Map Setup for Web Map**" on page 425)

WEB SERVER/ARC SERVER CONFIGURATION

When deploying the *Lucity Web Map*, the web server that hosts *Lucity Web* must be able to talk to the web server that hosts ArcGIS Server. If both of these applications are on the same server, no further setup is required. However, when *Lucity Web* and Arc Server are hosted on separate servers (which is common), administrators must create either a **ClientAccessPolicy.xml** or a **CrossDomainPolicy.xml**. Silverlight will always first attempt to check for and download a **ClientAccessPolicy.xml** file. If it cannot find a client access policy, Silverlight will look for a **CrossDomain.xml** file.

Automatic Configuration

ArcGIS Server 10.1 and higher can configure this relationship automatically using the *ArcGIS Web Adapter* (<http://resources.arcgis.com/en/help/main/10.1/index.html#//0154000005m8000000>).

Manual Configuration

One or both of these XML files MUST be placed on the ArcGIS Server in the root folder in which ArcGIS is installed.

For example:

- ArcGIS Server is installed to **C:\inetpub\wwwroot\ArcGIS\Manager** - Place these files in **C:\inetpub\wwwroot**.
- ArcGIS Server is installed to **C:\inetpub\gisroot\ArcGIS\Manager** - Place these files in **C:\inetpub\gisroot**.

The presence of the **ClientAccessPolicy.xml** and **CrossDomainPolicy.xml** files opens a hole in the ArcGIS Server machine's security that allows Silverlight applications on other servers to communicate with ArcGIS Server. The type of policy an agency applies dictates which types of machines allowed to communicate with ArcGIS Server.

Policy examples are provided below. Feel free to copy, paste, and modify these examples.

ClientAccessPolicy.xml

Allows traffic from any domain/site

EXAMPLE

```
<?xml version="1.0" encoding="utf-8"?>
<access-policy>
  <cross-domain-access>
    <policy>
      <allow-from http-request-headers="*">
        <domain uri="*" />
      </allow-from>
      <grant-to>
        <resource path="/" include-subpaths="true" />
      </grant-to>
    </policy>
  </cross-domain-access>
</access-policy>
```

COPYABLE CODE

```
<?xml version="1.0" encoding="utf-8"?>
<access-policy>
  <cross-domain-access>
    <policy>
      <allow-from http-request-headers="*">
        <domain uri="*" />
      </allow-from>
      <grant-to>
        <resource path="/"
include-subpaths="true" />
      </grant-to>
    </policy>
  </cross-domain-access>
</access-policy>
```

Allows traffic from a specific site (<http://www.mysite.com>)

EXAMPLE

```
<?xml version="1.0" encoding="utf-8"?>
<access-policy>
  <cross-domain-access>
    <policy>
      <allow-from http-request-headers="*">
        <domain uri="http://www.mysite.com"/>
      </allow-from>
      <grant-to>
        <resource path="/" include-subpaths="true"/>
      </grant-to>
    </policy>
  </cross-domain-access>
</access-policy>
```

Allows traffic from an intranet web server (Norway)

COPYABLE CODE

```
<?xml version="1.0" encoding="utf-8"?>
<access-policy>
  <cross-domain-access>
    <policy>
      <allow-from http-request-headers="*">
        <domain uri="http://www.mysite.com"/>
      </allow-from>
      <grant-to>
        <resource path="/" include-subpaths="true"/>
      </grant-to>
    </policy>
  </cross-domain-access>
</access-policy>
```

EXAMPLE

```
<?xml version="1.0" encoding="utf-8"?>
<access-policy>
  <cross-domain-access>
    <policy>
      <allow-from http-request-headers="*">
        <domain uri="http://NORWAY"/>
      </allow-from>
      <grant-to>
        <resource path="/" include-subpaths="true"/>
      </grant-to>
    </policy>
  </cross-domain-access>
</access-policy>
```

COPYABLE CODE

```
<?xml version="1.0" encoding="utf-8"?>
<access-policy>
  <cross-domain-access>
    <policy>
      <allow-from http-request-headers="*">
        <domain uri="http://NORWAY"/>
      </allow-from>
      <grant-to>
        <resource path="/" include-subpaths="true"/>
      </grant-to>
    </policy>
  </cross-domain-access>
</access-policy>
```

CrossDomainPolicy.xml

Allows Adobe or Silverlight traffic from any web site (or web server) to access resources on the web site

EXAMPLE

```
<?xml version="1.0"?>
<!DOCTYPE cross-domain-policy SYSTEM "http://www.macromedia.com/xml/dtds/cross-domain-policy.dtd">
<cross-domain-policy>
  <allow-http-request-headers-from domain="*" headers="*" />
</cross-domain-policy>
```

COPYABLE CODE

```
<?xml version="1.0"?>
<!DOCTYPE cross-domain-policy SYSTEM
<cross-domain-policy>
  <allow-http-request-headers-from
</cross-domain-policy>
```

CONFIGURING USERS

Two items must be configured in the *Lucity Security* program in order for a user to access the *Lucity Web Map*:

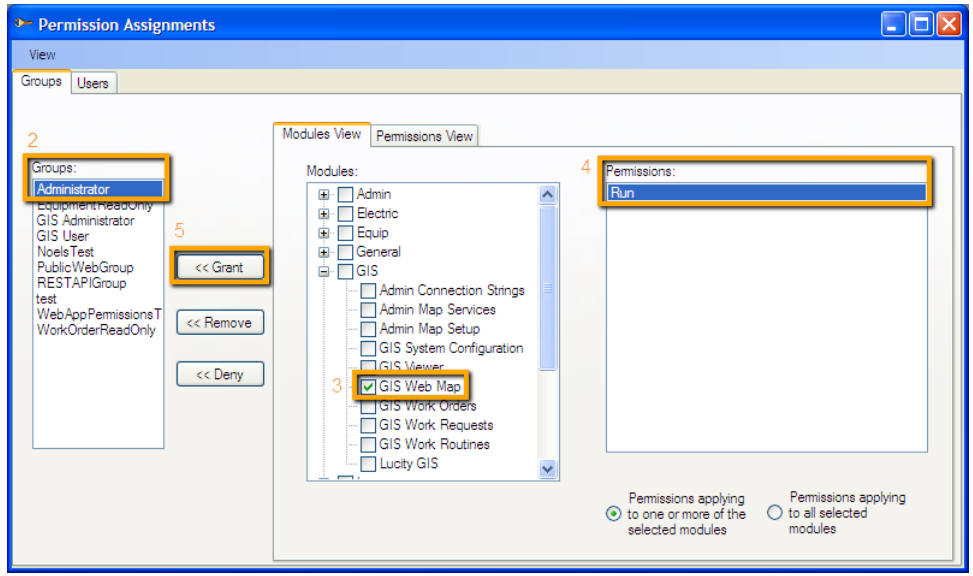
- 1) The user needs **permission** to access the *Web Map*.
- 2) The user must be assigned to a *Default Rules Group*. The *Default Rules Group* controls which *Web Map* that user sees. This setting is also used elsewhere in the *Web Map* setup.

Considerations

- Which users should have access to the *Web Map*?
- Which group's *Web Map* should each user see?

How to give users permissions to view the Web Map

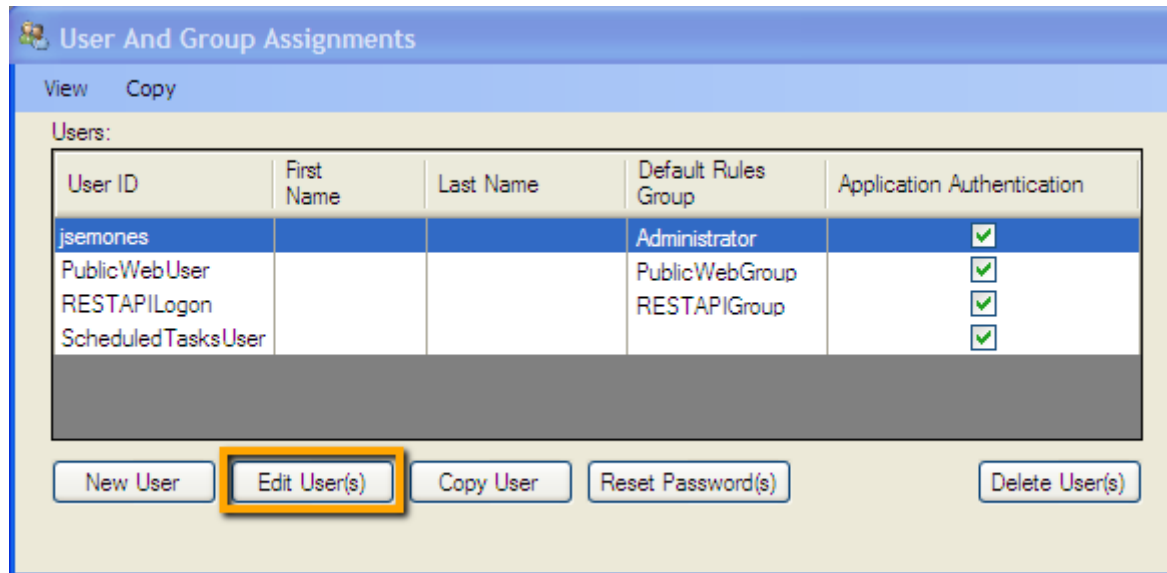
- 1) In the Lucity Security program go to **Security > Permission Setup**
- 2) On the left select the group(s) or user(s) that should have access to the Lucity Mobile app
- 3) On the right in the *Modules View* expand the **GIS** node and check the **GIS Web Map** box.
- 4) In the Permissions list select the **Run** permission
- 5) Click the **Grant** Button



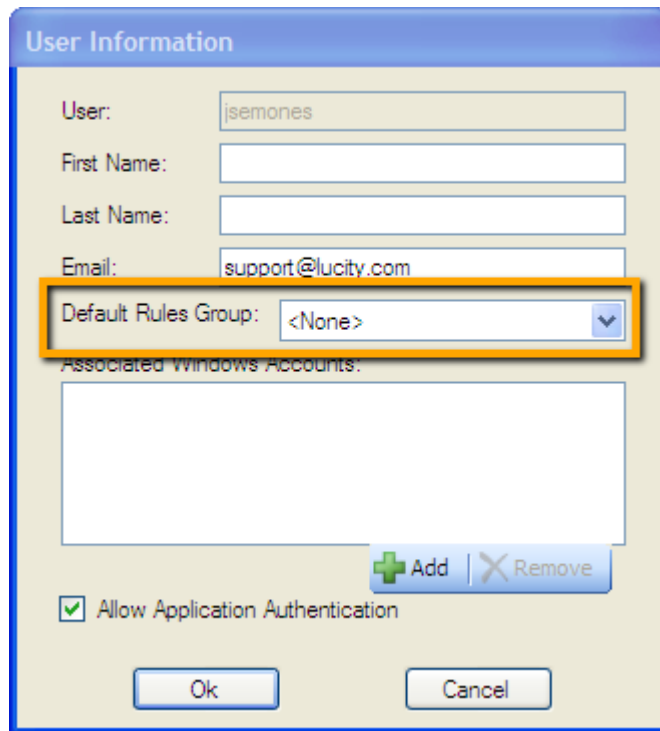
Note: The Permissions Screen may look different depending on settings under the **View** menu.

How to assign a user to a default Group

1) In the Lucity Security program go to **Security > User/Group Setup**. The following screen will appear.



2) Select a user from the list and click **Edit User(s)**.



The image shows a 'User Information' dialog box with the following fields and controls:

- User: jsemones
- First Name: (empty)
- Last Name: (empty)
- Email: support@lucity.com
- Default Rules Group: <None> (highlighted with an orange box)
- Associated Windows Accounts: (empty list)
- + Add | X Remove (buttons)
- Allow Application Authentication
- Ok | Cancel (buttons)

3) Select a group out of the *Default Rules Group* and click **OK**

-OR-

l) In the *Lucity Security* program go to **Security > User/Group Setup**. The following screen will appear.

The screenshot displays the 'User And Group Assignments' window. At the top, there is a title bar with a small icon and the text 'User And Group Assignments'. Below the title bar, there are 'View' and 'Copy' options. The main area is labeled 'Users:' and contains a table with the following data:

| User ID | First Name | Last Name | Default Rules Group | Application Authentication |
|--------------------|----------------------------|-----------|---------------------|-------------------------------------|
| GBA | George Butler Assoc., Inc. | | Administrator | <input checked="" type="checkbox"/> |
| PublicWebUser | | | PublicWebGroup | <input checked="" type="checkbox"/> |
| RESTAPILogon | | | RESTAPIGroup | <input checked="" type="checkbox"/> |
| ScheduledTasksUser | | | | <input checked="" type="checkbox"/> |

Below the table, there is a large grey rectangular area. At the bottom of the window, there are five buttons: 'New User', 'Edit User(s)', 'Copy User', 'Reset Password(s)', and 'Delete User(s)'.

- 2) Select the record or records in the grid to assign one default group to. Click in the **Default Rules Group** field and select the group to apply to those users.

The screenshot shows a window titled "User And Group Assignments" with a blue header. Below the header is a toolbar with "View" and "Copy" options. The main area is labeled "Users:" and contains a table with the following columns: "User ID", "First Name", "Last Name", "Default Rules Group", and "Application Authentication". The table lists four users: "jsemones", "PublicWebUser", "RESTAPILogon", and "ScheduledTasksUser". The "Default Rules Group" column for "jsemones" is currently set to "Administrator". A dropdown menu is open over this field, showing a list of groups: "Administrator", "GIS Administrator", "GIS User", "GIS Work Order", "PublicWebGroup", "RESTAPIGroup", "Sewer Data Mar", and "Sewer Field". The "Administrator" group is highlighted in the dropdown. Below the table is a row of buttons: "New User", "Edit User(s)", "Copy User", "Reset Password(s)", and "Delete User(s)".

| User ID | First Name | Last Name | Default Rules Group | Application Authentication |
|--------------------|------------|-----------|---------------------|-------------------------------------|
| jsemones | | | Administrator | <input checked="" type="checkbox"/> |
| PublicWebUser | | | Administrator | <input checked="" type="checkbox"/> |
| RESTAPILogon | | | Administrator | <input checked="" type="checkbox"/> |
| ScheduledTasksUser | | | Administrator | <input checked="" type="checkbox"/> |

BUILDING MAP SERVICES

In order for *Lucity Maps* to interact with *Lucity* data, GIS administrators must create maps containing *Lucity* features in ArcMap and publish them to ArcGIS Server.

Consider these factors when publishing map services:

Requirements

Each feature class in a map that links to *Lucity* must have the following fields visible when the service is published:

- *Lucity Common ID* - The field that links to the related *Lucity* module's user-defined ID for the asset.
- *Shape* - The Esri field that controls geometry. This field should also be the last field in the list of fields.

Optimization

- *Include the Lucity Auto ID field.* This field links to the related *Lucity* module's system-defined ID for the asset. While this field is not required by the *Web Map*, some functions will perform better with the *Auto ID* present.
- *Use scale-dependent rendering wherever possible.* Scale-dependent rendering speeds up the map display and reduces server load, which makes for a better end-user experience.
- *Use MSD-based map services.* MSD (map service definition) services are optimized for faster rendering and provide other advantages, as well.
- *Take advantage of ArcGIS's Analyze Map tool.* The Analyze Map tool verifies the integrity of the map and suggests methods for optimizing it for web use. See the ESRI documentation on the tools, available in ArcMap under **Customize > Toolbars > Map Service Publishing**, for more information.
- *Cache certain services to save download and server time.* *Lucity* recommends caching map services for base-layer data that does not change; however, caching is a time- and server-intensive process. **It's important to fully understand the implications of the caching process before establishing one.** Map-caching is documented in the ArcGIS Server help documentation installed with the ArcGIS Server product.

Secured Map Services

- The Webmap supports secured map services.
- An authorized login and password can be included in the setup for the configuration or users can be required to enter a username and password when they launch the webmap.
- When secured services are loaded in the *Web Map*, the data will not appear until a authorized username and password have been entered.
- Lucity currently only supports securing services using ArcGIS Token Authentication. We do NOT support Web Tier Authentication.

Multiple-Layer Caches

- The Webmap does not support multi-layer caches.

Notes

- The background color for dynamic services is always transparent.
- Map services must be deployed as pooled services. ESRI's Silverlight components do not support services that are not pooled.

Resetting the REST Cache

Caching with ESRI's REST API improves performance and reduces server load. Any time services are added, removed, updated, or upgraded to a new version, the REST cache may need to be reset. See the **ESRI help article** (<http://resources.esri.com/help/9.3/arcgisserver/apis/rest/index.html>) for instructions.

ALIAS CONFIGURATION

An **alias** is an alternate name for a feature class that gives the feature class a unique identity. The *Lucity* mapping applications (*Web Map*, *GIS Viewer*, and *Mobile*) check the feature classes that are loaded into them and their display names against the aliases listed in the geodatabase configuration to determine which feature class links to which module.

Note: The geodatabase configuration must be complete before an administrator can configure *Lucity* to recognize aliases.

Note: An administrator must establish and import aliases to the geodatabase configuration in order for the *Lucity* mapping applications to work.

Setting an Alias

An administrator can either set an alias for a feature class within ArcCatalog or set aliases on a per-map basis in ArcMap. Feature class aliases are tied to the feature class in ArcCatalog. Per-map aliases are set in ArcMap and are only saved for that .mxd, or for any map services or map packages generated from that .mxd.

Note: Aliases must be completely unique throughout the geodatabase configuration. For example, a *Sewer Pipe* feature class and a *Water Pipe* feature class cannot both have a "Pipes" alias.

Note: Aliases should not start with a number.

How to set a feature class alias in ArcCatalog

- 1) In ArcCatalog, navigate to the desired feature class.
- 2) Right click on it and select **Properties...**
- 3) On the *General Tab* there are *Name* and *Alias* fields. Set the *Alias* to the desired value. Do NOT change the name.

Note: By default, the *Alias* is the same as the *Name*.

Feature Class Properties

Indexes Subtypes Relationships Representations

General XY Coordinate System Tolerance Resolution Domain Fields

Name: PKLSG

Alias: Park Landscaping

Type

Type of features stored in this feature class:

Polygon Features

Geometry Properties

Coordinates include M values. Used to store route data.

Coordinates include Z values. Used to store 3D data.

Data Storage: High Precision

Attachments

Feature class does not contain attachments.

OK Cancel Apply

4) Click **OK**. The alias is now set for the feature class.

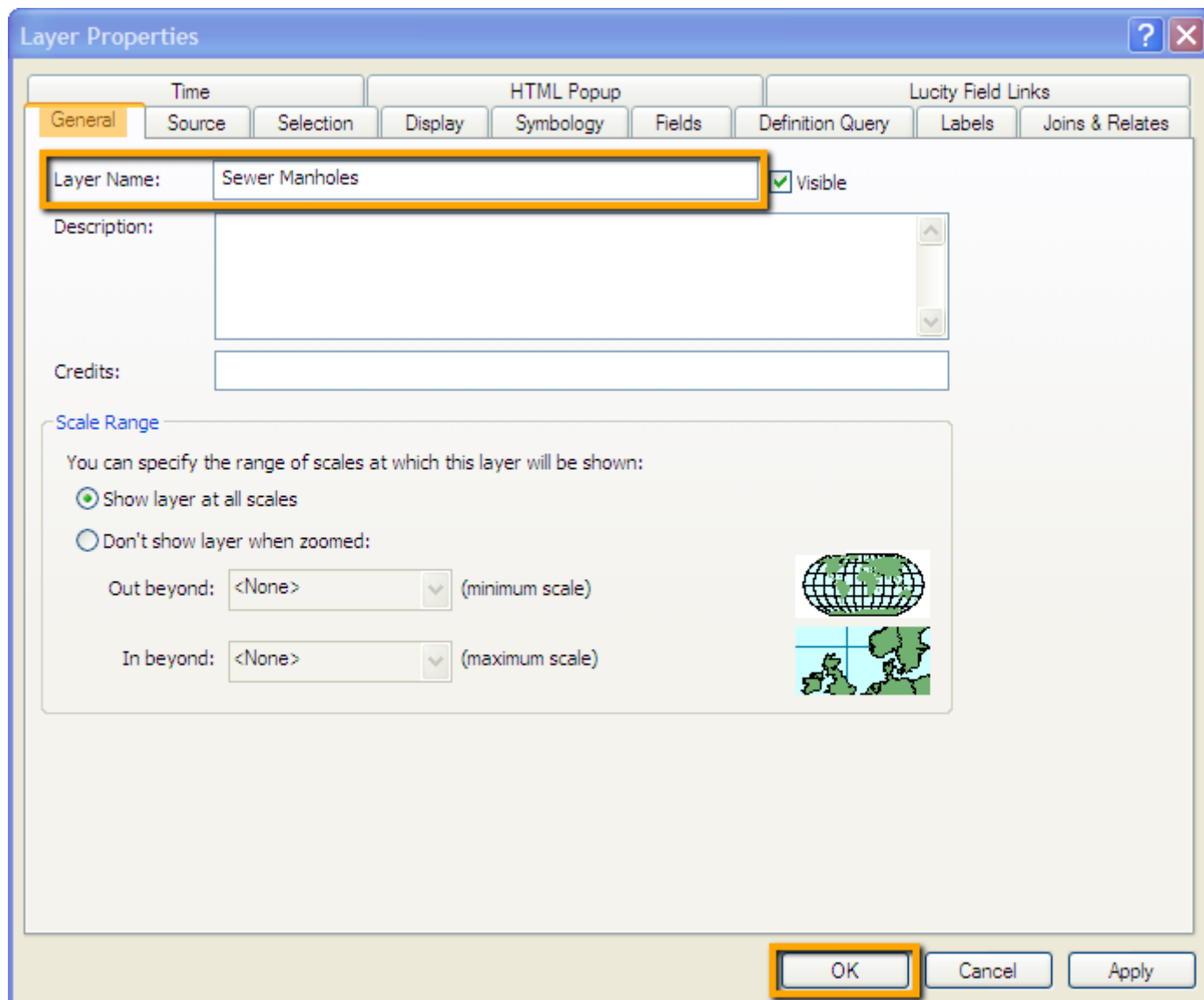
How to set a map-specific alias in ArcMap

1) In ArcMap, click on a feature class in the table of contents and rename it.

OR

Right-click on the feature class and select **Properties**.

2) On the *General Tab*, change the name in the *Layer Name* field.



- 3) Click **OK**. The new alias is now set for that feature class.
- 4) Repeat for other desired feature classes.

Import Aliases

Aliases can be imported into the *Lucity* geodatabase configuration in two ways: 1) by importing the feature class alias or 2) by importing the per-map aliases.

How to import the feature class alias(es) in ArcCatalog

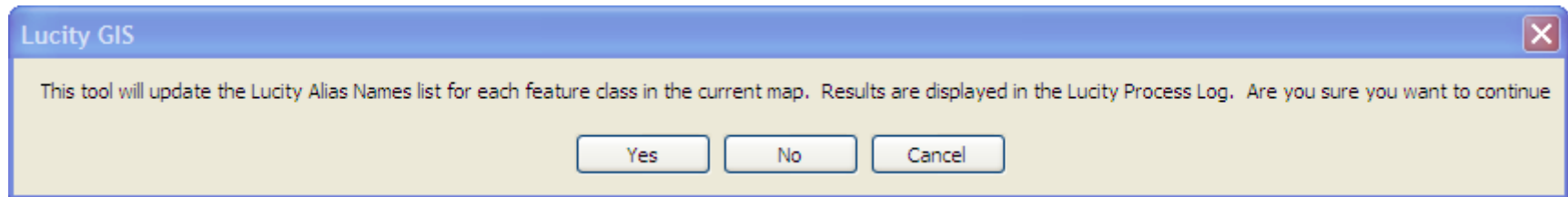
- 1) In the *Geodatabase Configuration* tool, select the geodatabase connection or the feature class for which you wish to import an alias.
- 2) Right-click on the selected geodatabase or feature class and select the *Import* tool.
 - If it is a geodatabase, the tool is **Import Feature Class Alias Names**.
 - If it is a feature class, the tool is **Import Feature Class Alias Name**.

The system immediately begins importing aliases from the feature class aliases set in ArcCatalog. A log screen appears to provide information about the import.

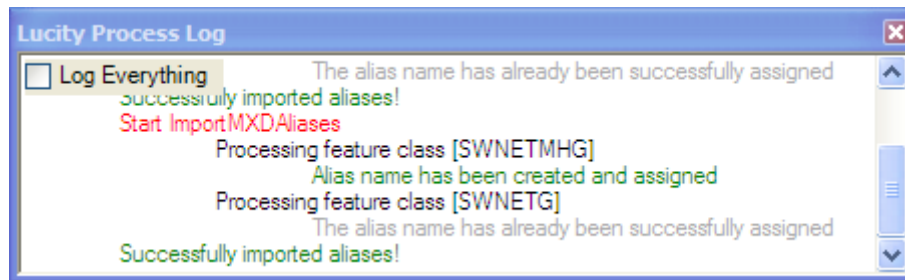
- 3) Review and close the log screen when the process is complete.

How to import per-map aliases in ArcMap

- 1) On the *Lucity Edit* toolbar, click the **Alias Import** button. The following message appears:



- 2) Click **Yes** to continue. The process log displays the results:



Importing aliases using this method directly links them to the feature classes' *Alias Names* tab in the geodatabase configuration.

Note: This import enables users to load their feature classes into a map. Change the names of the layers, and then quickly import them before publishing the .mxd as a map service or map package.

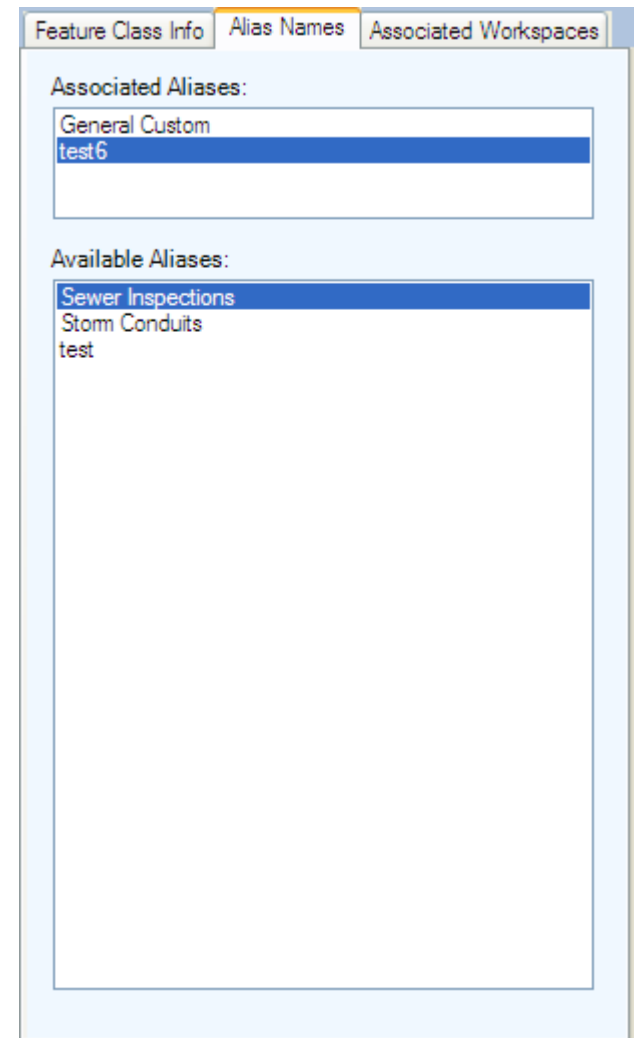
Manage Aliases

Aliases can be added manually for each feature class and managed in the *Geodatabase Configuration* tool.

How to manage aliases

- 1) In the *Geodatabase Configuration* tool, select a feature class. A window with several tabs appears in the center of the screen.
- 2) Select the *Alias Names* tab. This tab has two grids:

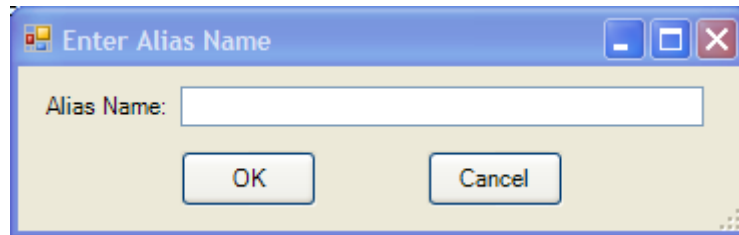
- The *Associated Aliases* grid lists all aliases assigned to the feature class.
 - Right-click on an existing record for options to **Add**, **Edit**, **Delete**, or **Disassociate**.
 - Disassociating a record in this grid detaches it from the selected feature class and moves it to the *Available Aliases* grid.
 - Whenever a feature class with a name from this list appears in the *Lucity Viewer*, the *Web Map*, or the *Mobile Map Mode*, Lucity connects the feature class to the associated module.



- The *Available Aliases* grid lists aliases set up by the user that aren't associated with any feature classes. The grid is shared among all feature classes. Aliases in the grid can later be associated with or re-associated with any feature class. 3)
 - Right-click on an existing record for options to **Add**, **Edit**, **Delete**, or **Associate**.
 - Associating a record in this grid attaches it to the selected feature class, removes it from the *Available Aliases* grid, and adds it to the *Associated Aliases* grid for the selected feature class.

How To Add an Alias in a Grid

- 1) Right-click in the desired grid and select **Add**. The following pop-up appears:



- 2) Enter the *Alias Name* and click **OK**.

Note: Aliases apply to the feature class and any replica feature classes.

MAP SERVICES CONFIGURATION

Once feature class aliases are established and imported into the geodatabase configuration, an agency must publish the maps it wishes to use. The *Lucity Web Map* and the *Lucity Mobile* application support both **.mxd**, and **.msp** map services. After the services are published, an administrator must configure *Lucity* to use the services.

How To Configure a Map Service

- 1) Collect map service information.

For Arc 10.x







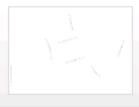

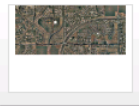

- a. Log into *Arc Server Manager* and click on **Services > Manage Services**.

ArcGIS Server Manager Services Site Security Logs

Manage Services OGC Services KML Network Links

Folders Services Publish Service

- Site (root)
 - System
 - Utilities

| | | |
|---|---|---|
|  | GeoLocate (Geocode Service) Locator for Gilbert Demo Area Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 |  |
|  | gis_edit (Map Service) GIS Edit Service Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 |  |
|  | operational (Map Service) Lucy Operational Data Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 |  |
|  | Parcels (Map Service) Parcels Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 |  |
|  | RasterTiled (Map Service) Tiled Raster Service Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 |  |

◀ 1 ▶

b. Locate the service you wish to use and click on it to view its properties.

c. Click the **Capabilities** button.

d. Copy down the REST URL, which should have a path similar to:

- Map Service: **http://<server name>/ArcGIS/rest/services/<service name>/MapServer**
- Feature Service: **http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer**
- Geocoding Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeocodeServer**
- Geometry Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeometryServer**
- Routing Service: **http://<server name>/ArcGIS/rest/services/<service name>/RoutingServer**

e. If collecting information for the map service that contains your operational data, click on the REST URL. A page containing the properties of the map service appears.

f. Scroll down and copy down the *Spatial Reference Number*. (Do this only for the layer that contains *Lucity* data.)

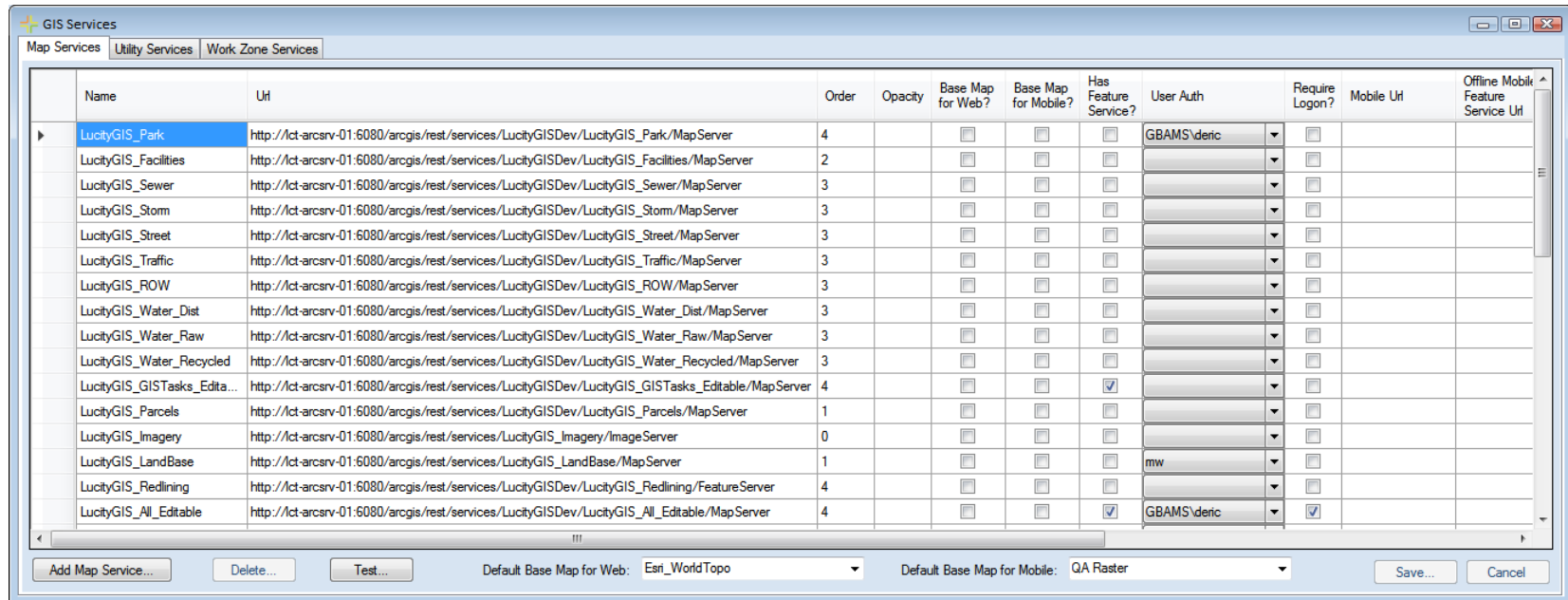
Note: If text appears in the *Spatial Reference* field, rather than numerals, use the closest matching *Spatial Reference Number* from the following lists: **Projected Coordinate Systems** (<http://help.arcgis.com/EN/ARCGISSERVER/10.0/APIS/REST/GCS.HTML>) **Geographic Coordinate Systems** (<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>)

2) Open the *Lucity Administration Tool*.

3) If the map services are secured, go to **GIS > Authentication Setup**.

- Add the required *Username/Login* combinations.

4) Navigate to **GIS > GIS Services**.



- On the *Map Services* tab, click **Add Map Service...**
 - Enter the *Name* of the map service. This name is used to identify the service when it is added to a *Lucity* map or viewed in one of the *Lucity* mapping products.
 - In the *URL* field, enter the REST URL for the map service.
- **More information about using Bing Maps** (see "**Bing Services**" on page 382)
- In the *Order* field, enter a value to indicate the order in which the service should appear in relation to other layers. (Map services are layered based on this field. A lower number represents a lower layer. Zero is the bottom layer.)

Note: *Lucity Mobile* and *Mobile Work Maps* only query data out of the top-most layer. Therefore, make sure that the layer that contains *Lucity* assets has the highest number in the *Order* field.

- e. Check the *Base Map for Web?* box if this layer is used as a basemap.
- **More information about configuring basemaps** (see "**Base Map Configuration**" on page 384)
 - f. If the service is secured, use the *User Auth* drop-down box to select one of the authentications you created in Step 3.
 - g. Complete other fields as desired.
 - h. Click **Save**.
 - i. Click **Test** if the map service contains *Lucity* features. The system displays a list of all feature classes that the map recognizes as being connected to *Lucity*.
- 5) After Steps 1 - 4 have been completed for all map services, go to **Lucity Web**, and navigate to **Admin Portal > Settings > System Settings > GIS Web** section.
 - a. In the *Operational Data Spatial Reference WKID* field, enter the *Spatial Reference* number. [This topic was covered in Step 1.g.]
 - The WKID that is used here must be the the WKID that the operational data is referenced against. *Lucity* uses this spatial reference to record x-y coordinates and any other spatial data.

BING SERVICES

The *Lucity Web Map* supports the use of Bing map services as basemaps.

Note: To use Bing services for FREE, the *Lucity Web* application must have a public URL.

Bing maps are subject to a license agreement with Microsoft and require a key that is available to clients on ArcGIS 10 with a support and maintenance contract. Review ESRI documentation to determine whether your agency qualifies to use Bing services. *Lucity* does not provide a Bing authorization key.

How To Setup a Bing Map

- 1) Get a Bing key. **How to obtain a Bing authorization key**
(http://help.arcgis.com/en/arcgisserver/10.0/help/arcgis_server_dotnet_help/index.html#/00930000008m000000.htm)
- 2) In the *Lucity Administration Tool*, go to **GIS > GIS Services**.
- 3) On the *Map Services* tab, click **Add Map Service...**
- 4) Enter the *Name* of the map service. This name is used to identify the service when it is added to a *Lucity* map or viewed in one of the *Lucity* mapping products.
- 5) Enter the *URL*, which is broken down into three parts:

Bing Key

Bing:Key=<Bing Key from step 1>

Layer Style - The options are **AerialWithLabels**, **Aerial**, and **Road**. If no layer style is set, the style defaults to *Road*. (These options are case-sensitive.)

&LayerStyle=AerialWithLabels

Extent - Optional. This value defines the default opening extent for the map.

&Extent=1,3,2,3

The resulting URL looks something like this:

Bing:Key=INeFTNEsdIDINDdldisDINi2DInin9IDNin&LayerStyle=AerialWithLabels&Extent=1,3,2,3

- 6) Check the *Base Map for Web?* box.
- 7) Save changes and close the window.

BASE MAP CONFIGURATION

The *Lucity Web* map allows administrators set up multiple basemaps that users can then switch between. The map services that are used as basemaps are specified in the *Administration Tool* under **GIS > GIS services**, by checking the *Base Map for Web?* box.

Note: Basemaps must be either a tiled-map service, an image service, or a Bing map.

A **Base Map** button is available on the *Web Map* toolbar. Click this button, and a drop-down list of all available basemaps appears, with a thumbnail of each.

Thumbnails are automatically provided when using Bing maps. If an agency is using locally created map services, the thumbnails must be set up by the administrator.

How To Add a Thumbnail

- 1) Create a thumbnail.
 - The recommended size is 200 (width) by 133 (height).
 - Save the image as a PNG file.
- 2) Name the file using the same name used for the map service (defined in **GIS > Map Services**, in the *Name* column).
- 3) Place the image in the *inetpub\wwwroot\LucityWeb\ClientBin\GIS\BaseMapThumbnails* folder and ensure the file can be accessed to READ by the relevant IIS process (I_IUSRS or IIS_WPG, depending on OS).

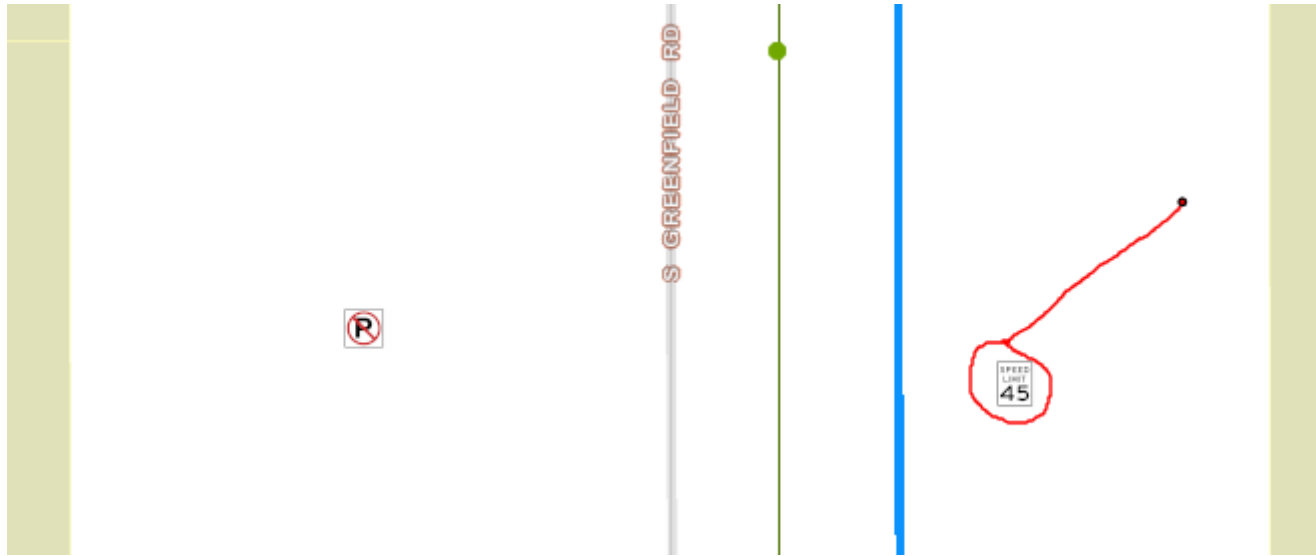
RED-LINE CONFIGURATION

The *Red-lining* tool lets users draw reference information directly on the map and add notes. For example:

- A supervisor could create a *Work Order* and then use the *Red-lining* tool to indicate an area where he would like his workers to check for potholes.

OR

- A worker could use the *Red-lining* tool to notify a supervisor that a street sign has been installed in the wrong location.



Creating Red-Line feature classes

Using the *Red-line* tool requires administrators to create feature classes in which to store the red-line data.

- Feature classes.
 - The tool supports *Points*, *Lines* and *Polygons*.
 - There is no requirement that each of these types has to exist.
 - While there is no limit to the number of red-line feature classes an administrator can create, only one of each type can be added to a map.

For example, an administrator could create a set of red-line layers for each department.

- Fields
 - There are no required fields.
 - It's a good idea to include a text field with a large mask so that users can add comments.

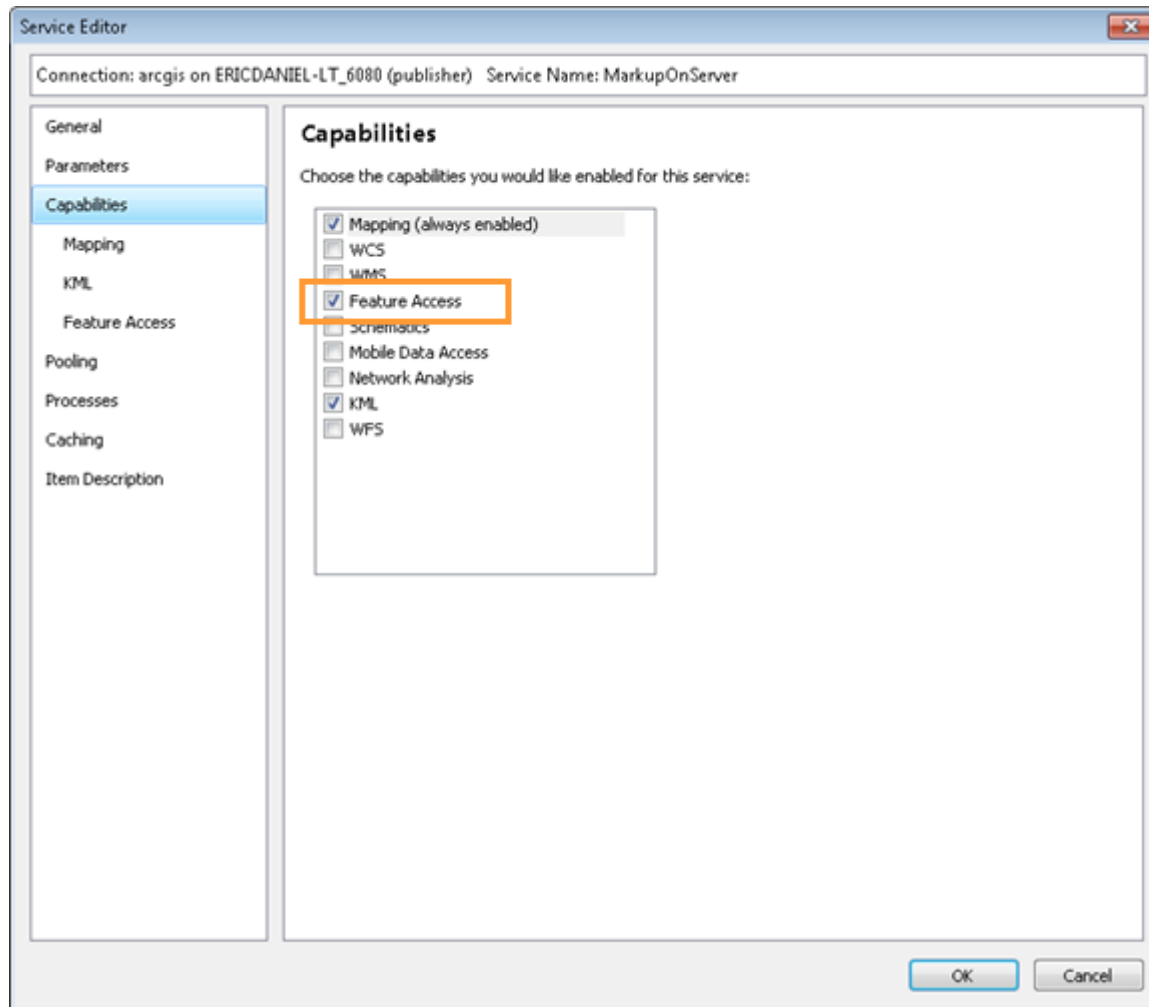
How to build the Red-Line map service

- 1) Create a map in ArcMap.
- 2) Add the red-line feature classes you created.
 - This map should **ONLY** contain the red-line feature classes. Do not add operational data to the map.
 - This map can contain more than one set of red-line data. However, only one layer of each type (point, line, polygon) can be added to each *Web Map*.
- 3) Set the symbology as desired. The default editing template for the feature class will be used in the *Web Map*.
- 4) Save the map in preparation for publishing.

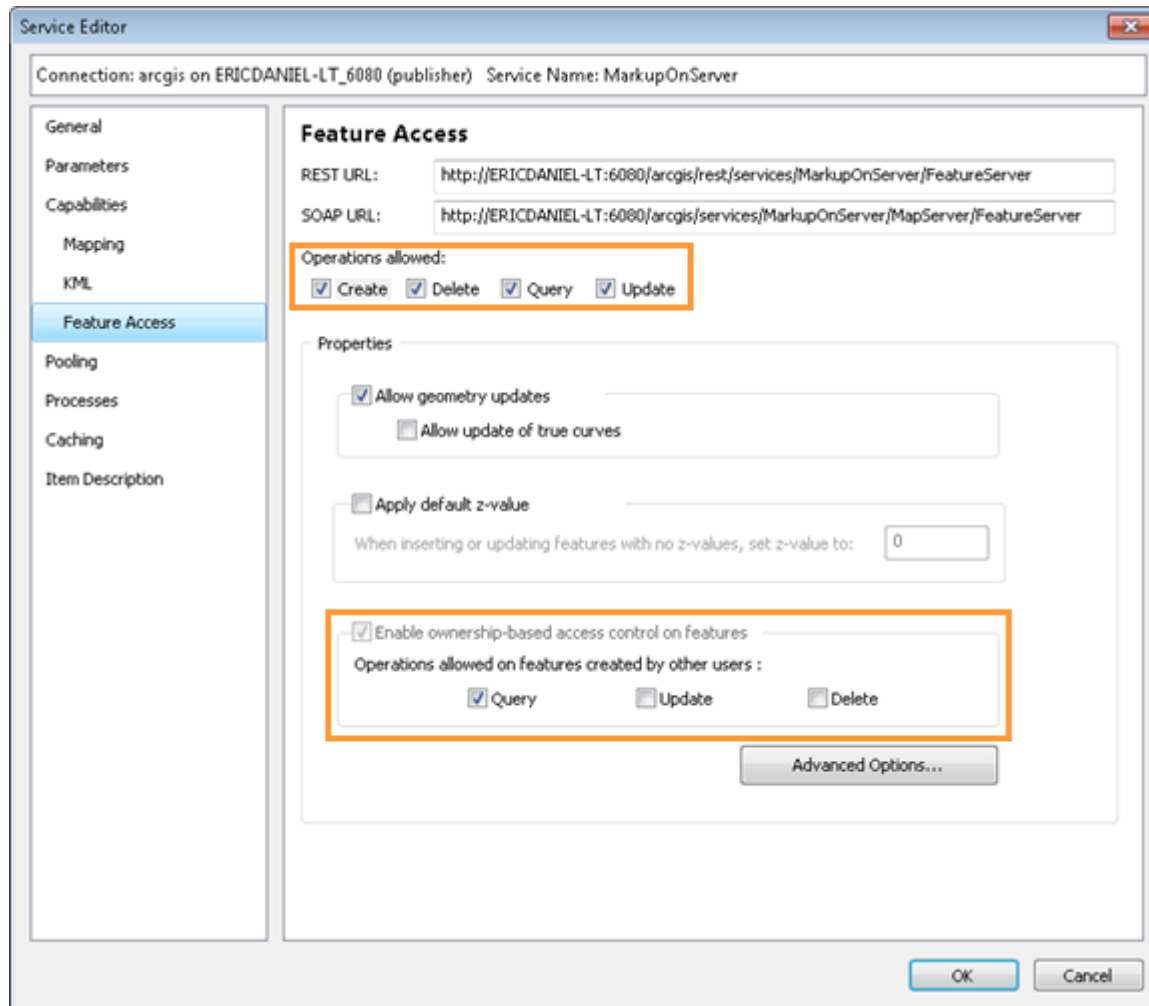
How to publish the service

When publishing the map to a map service, several special options must be enabled:

- 1) On the *Capabilities* tab, check the *Feature Access* option.



- 2) Then, open the *Feature Access* tab. Under *Operations allowed*, check all of the boxes. **Note:** the *Create* option is required. The other options are not required, but some of the red-line tools will not work if the options are not enabled.



3) The *Red-line* tool also enables administrators to control how users interact with the red-lines that other users add. Check the *Enable ownership-based access control on features* option and choose whether to allow users to *Query*, *Update* or *Delete* others' red-lines.

- The feature is only available in Arc 10.x.

More information from ESRI about this option (<http://resources.arcgis.com/en/help/main/10.1/index.html#//0154000004n9000000>)

How to configure Red-Line map services

1) Collect the URL for the feature service and the number for each layer.

For Arc 10.x

a. Log into *Arc Server Manager* and click on **Services > Manage Services**.

ArcGIS Server Manager

Services | Site | Security | Logs

Manage Services | OGC Services | KML Network Links

Folders | **Services** | Publish Service

- Site (root)
- System
- Utilities

| Service Name | Type | Status | Instances Running | Instances in Use | Maximum Instances |
|------------------------------------|-------------------------------|---------|-------------------|------------------|-------------------|
| GeoLocate (Geocode Service) | Locator for Gilbert Demo Area | Started | 1 | 0 | 2 |
| gis_edit (Map Service) | GIS Edit Service | Started | 1 | 0 | 2 |
| operational (Map Service) | Lucy Operational Data | Started | 1 | 0 | 2 |
| Parcels (Map Service) | Parcels | Started | 1 | 0 | 2 |
| RasterTiled (Map Service) | Tiled Raster Service | Started | 1 | 0 | 2 |

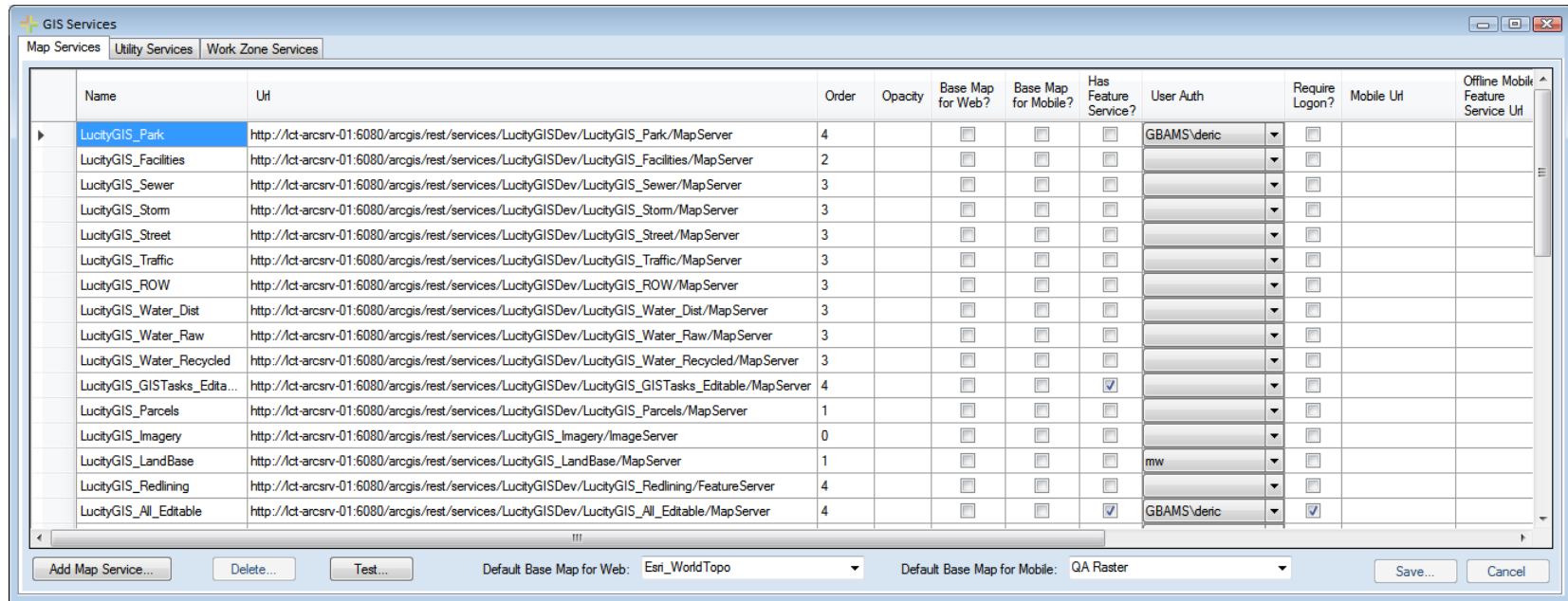
◀ 1 ▶

- b. Locate the map service you wish to use.
- c. Click on the map service to see its properties.
- d. Click the **Capabilities** button.
- e. Copy down the REST URL, which should have a path similar to this: **<http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer>**.
- f. Click on the REST URL. A page listing the properties of the map service appears.
- g. The *Layers* section lists all the service's layers. The number behind the layer name is the layer order number.

Layers:

- [General Markup \(Point\)](#) (0)
 - [General Markup \(Line\)](#) (1)
 - [General Markup \(Polygon\)](#) (2)
- h. Collect both the URL for the feature service and the number for each layer.

2) Launch the **Lucity Administration Tool** and select **GIS > GIS Services**.

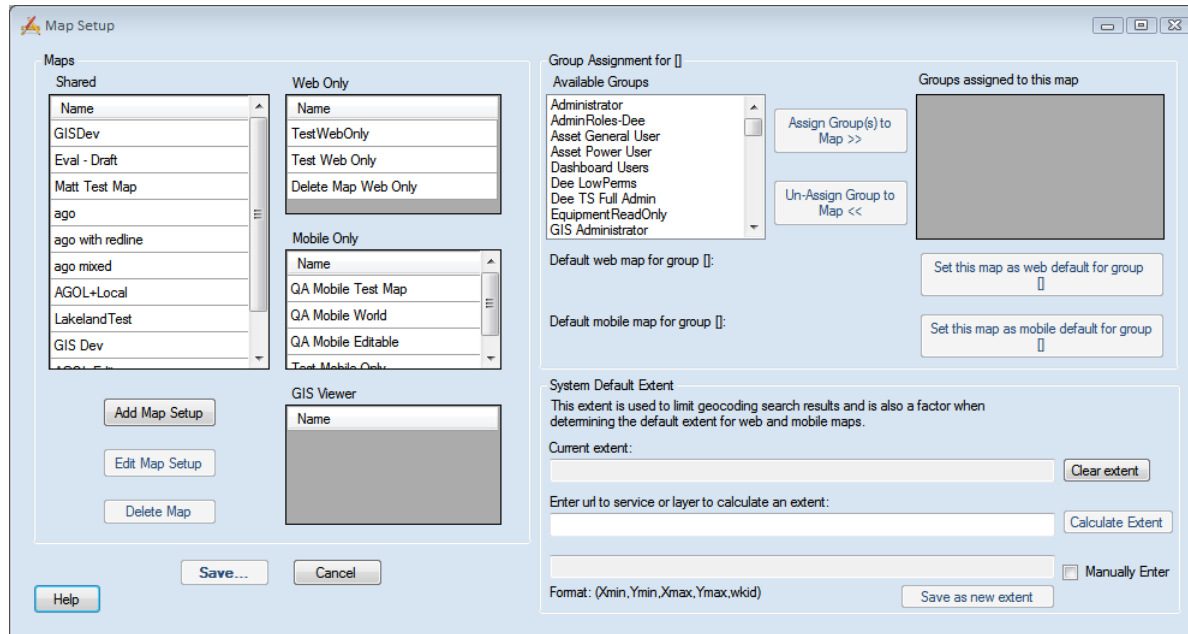


3) On the *Map Services* tab, click **Add Map Service...**

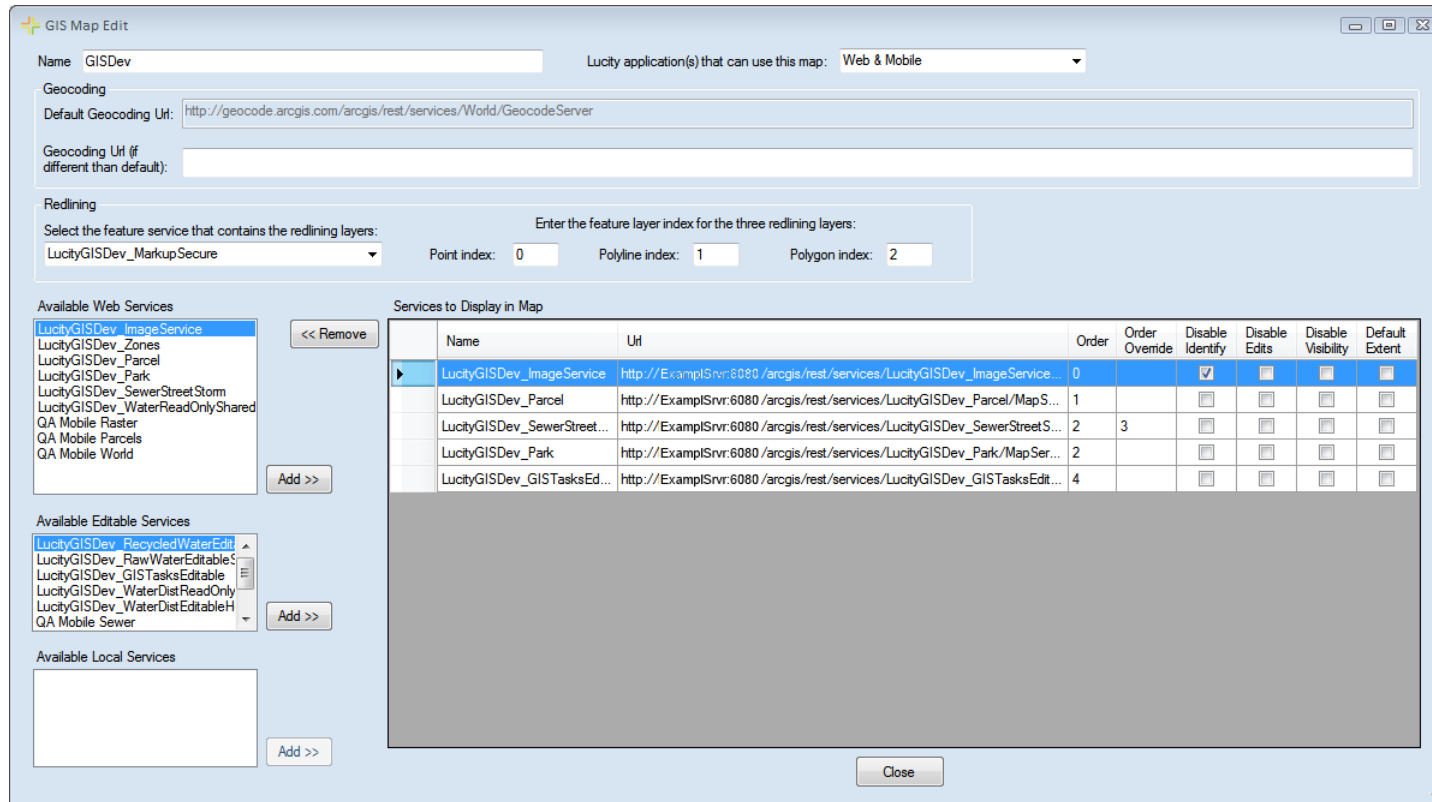
4) Enter the REST *URL* for the feature. This will end in **/FeatureServer**.

5) Click **Save...**

6) Go to GIS > Map Setup.



7) In the *Available Maps* grid, select the map to add the red-line service to and click **Edit Map Setup**.



8) In the *Redlining* section, select the red-lining map from the drop-down. This list displays only the feature services configured in the *Map Services* (see "GIS Map Services" on page 292) tool.

9) Also in that section, enter the layer number within the feature service that corresponds to each type of redlining layer: *Point*, *Polyline*, and *Polygon*.

10) **Close** the window and click **Save** on the *Map Setup* window. These layers now appear in the map.

EDITING SERVICE CONFIGURATION

The *Editing* tools allow users to add new features to the map, edit existing features, and delete features. These tools use feature services to push the edits back to the geodatabase.

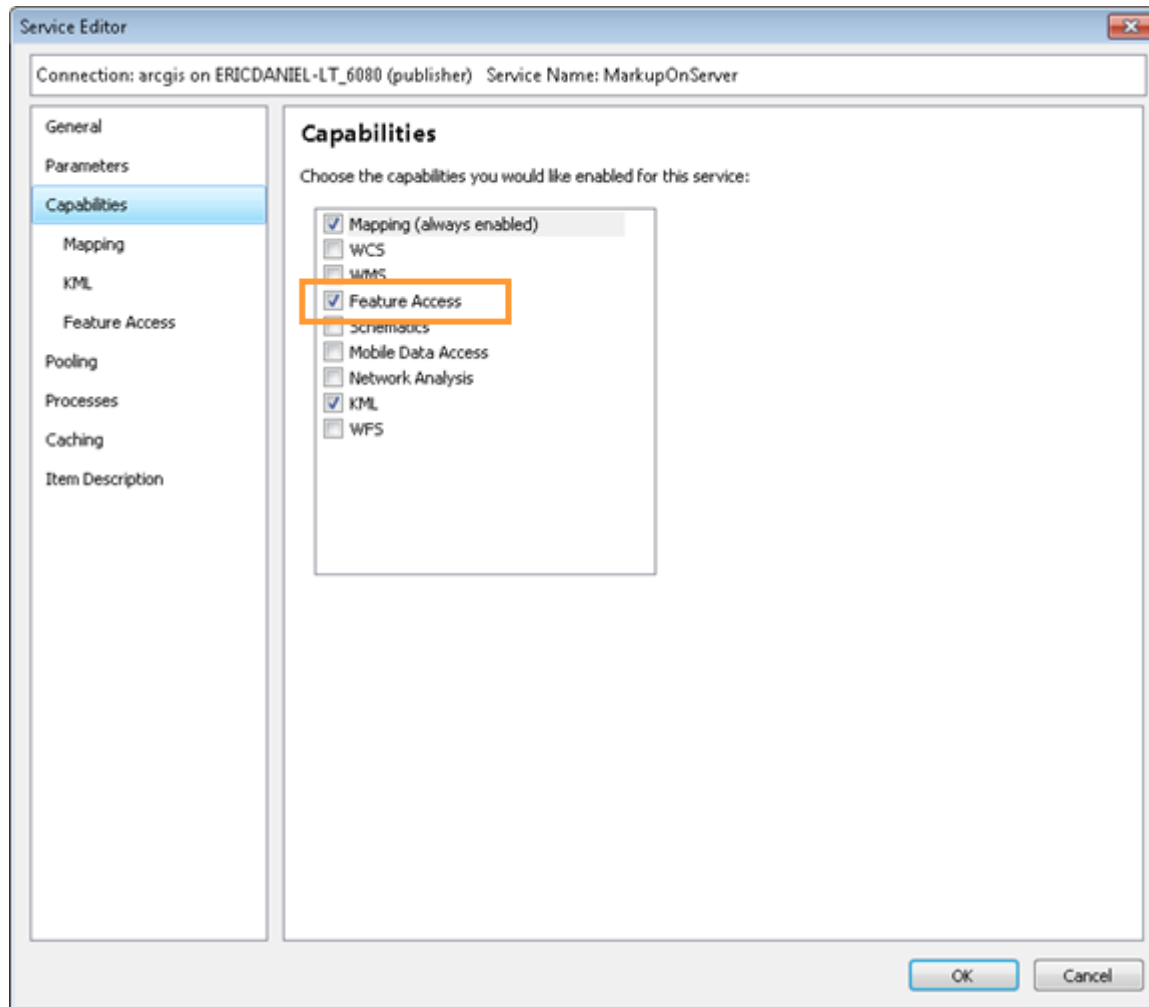
How to build an editable map service

- 1) In ArcMap, create a map.
 - You could also edit a map currently published as a map service.
- 2) Add the feature classes you would like to edit.
- 3) Set the symbology as desired. The editing templates designed for the feature class will be used in the *Web Map*.
- 4) Save the map in preparation for publishing.

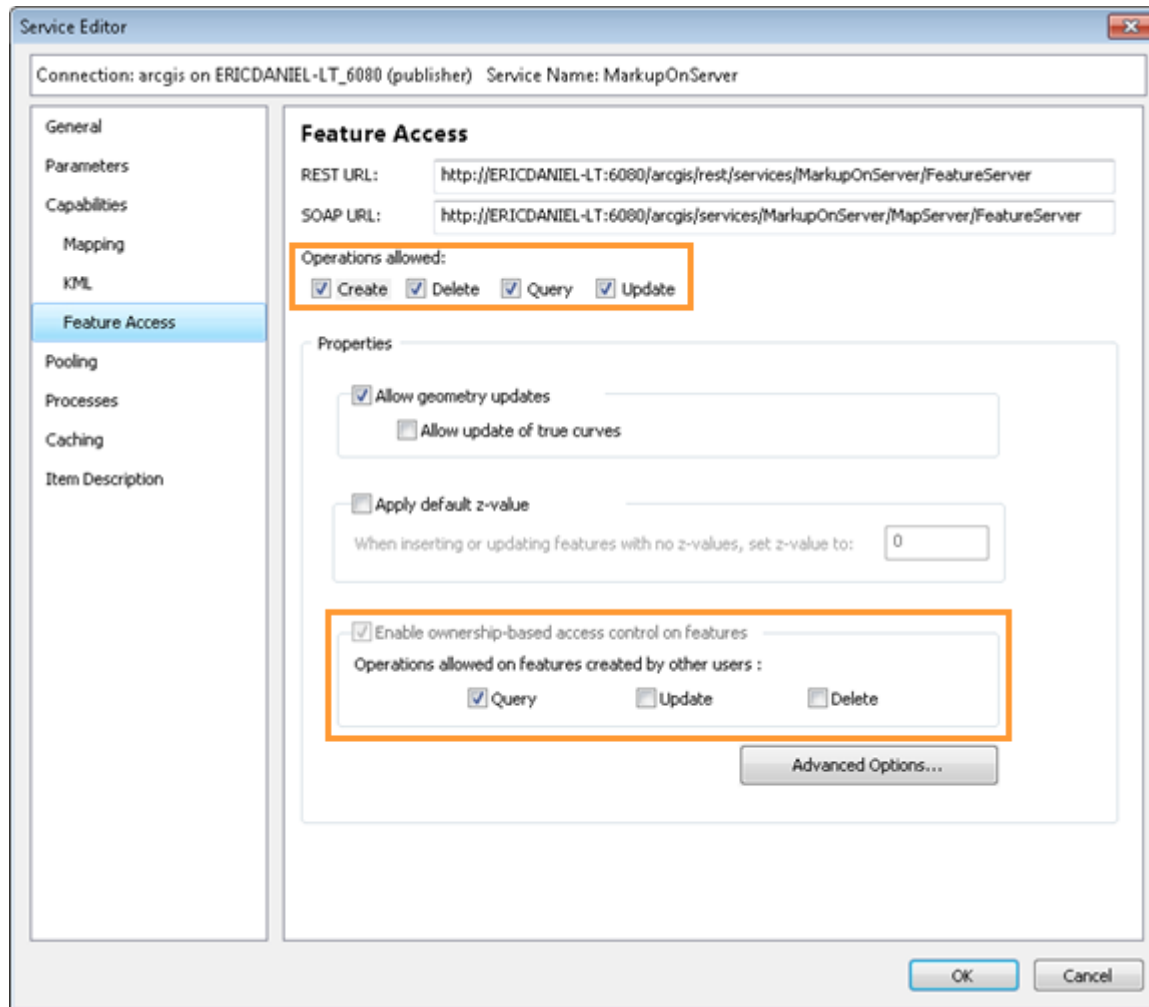
How to publish an editable map service

When publishing the map to a map service, several special options must be enabled:

- 1) On the *Capabilities* tab, check the *Feature Access* option.



- 2) Then, open the *Feature Access* tab. Under *Operations allowed*, check all of the boxes.
Note: the *Create* option is required. The other options are not required, but some of the editing tools will not work if the options are not enabled.



- 3) The *Editing* tools also let administrators control how users interact with the features that other users add. Check the *Enable ownership-based access control on features* option and choose whether to allow users to *Query*, *Update* or *Delete* others' features.

This option allows users to create features without disturbing other features. However, they may not be able to update existing features.

- The feature is only available in Arc 10.x.

More information from ESRI about this option (<http://resources.arcgis.com/en/help/main/10.1/index.html#//0154000004n9000000>)

How to add an editable map service to the map

- 1) Collect the REST URL for the map service.

For Arc 10.x

- a. Log into *Arc Server Manager* and click on **Services > Manage Services**.




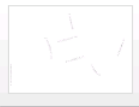

[esri.com](#) | [Resource Center](#) | [Sign Out](#) | [Help](#)

ArcGIS Server Manager
Services
Site
Security
Logs

Manage Services
OGC Services
KML Network Links

Folders
Services
Publish Service

Site (root)
System
Utilities

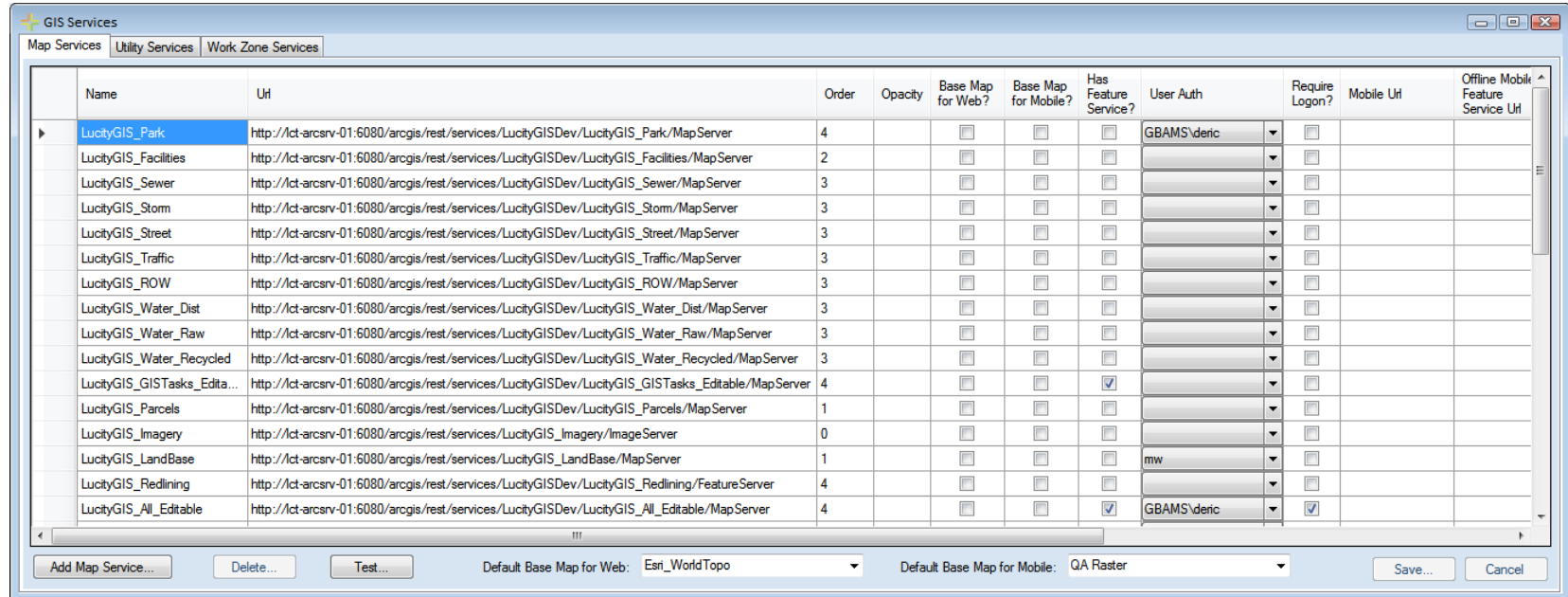
| Thumbnail | Service Name | Type | Status | Instances Running | Instances in Use | Maximum Instances | Actions |
|---|--------------------|-------------------|---------|-------------------|------------------|-------------------|-----------|
|  | GeoLocate | (Geocode Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | gis_edit | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | operational | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | Parcels | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | RasterTiled | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |

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- b. Locate the service you wish to use and click on it to view its properties.
- c. Click the **Capabilities** button.
- d. Copy down the REST URL, which should have a path similar to:
 - Map Service: **http://<server name>/ArcGIS/rest/services/<service name>/MapServer**
 - Feature Service: **http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer**
 - Geocoding Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeocodeServer**
 - Geometry Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeometryServer**
 - Routing Service: **http://<server name>/ArcGIS/rest/services/<service name>/RoutingServer**
- e. If collecting information for the map service that contains your operational data, click on the REST URL. A page containing the properties of the map service appears.
- f. Scroll down and copy down the *Spatial Reference Number*. (Do this only for the layer that contains *Lucity* data.)

Note: If text appears in the *Spatial Reference* field, rather than numerals, use the closest matching *Spatial Reference Number* from the following lists: **Projected Coordinate Systems** (<http://help.arcgis.com/EN/ARCGISSERVER/10.0/APIS/REST/GCS.HTML>) **Geographic Coordinate Systems** (<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>)

2) Launch the **Lucity Administration Tool** and select **GIS > GIS Services** (see "GIS Map Services" on page 292).



a. On the **Map Services** tab, click the **Add Map Service** button.

b. Enter a *Name* and the REST *URL* of the map service.

Note: This URL should end in **/MapServer**.

c. Check the *Has Feature Service?* box. This tells the map that the layer has an attached feature service.

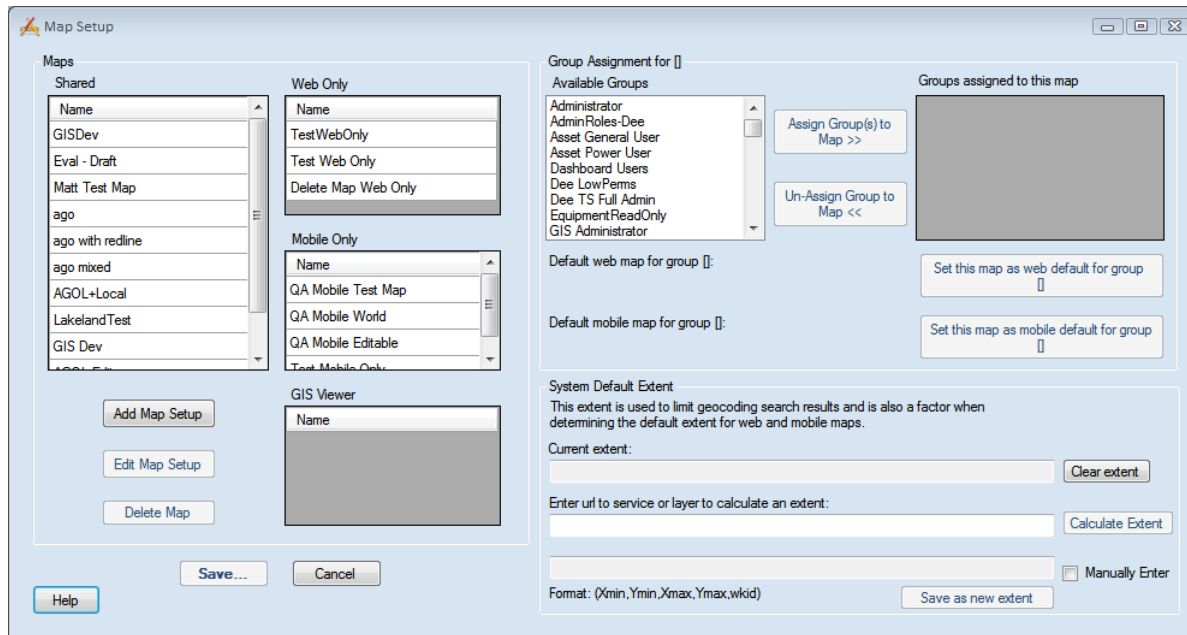
d. Complete other fields as desired.

e. Click the **Save** button.

Note: If you are modifying an existing map service to include editing capabilities, simply mark *Has Feature Service?* box for the existing record in the *Map Service* setup.

f. Close the *GIS Services* tool.

3) Open the **GIS > Map Setup**.



- a. In the *Available Maps* grid, select the map to which to add the editable service and click **Edit Map Setup**.

GIS Map Edit

Name: GISDev Lucy application(s) that can use this map: Web & Mobile

Geocoding
 Default Geocoding Url:
 Geocoding Url (if different than default):

Redlining
 Select the feature service that contains the redlining layers: Enter the feature layer index for the three redlining layers:
 Point index: Polyline index: Polygon index:

Available Web Services

- LucyGISDev_ImageService
- LucyGISDev_Zones
- LucyGISDev_Parcel
- LucyGISDev_Park
- LucyGISDev_SewerStreetStorm
- LucyGISDev_WaterReadOnlyShared
- QA Mobile Raster
- QA Mobile Parcels
- QA Mobile World

Available Editable Services

- LucyGISDev_RecycledWaterEdit
- LucyGISDev_RawWaterEditable
- LucyGISDev_GISTasksEditable
- LucyGISDev_WaterDistReadOnly
- LucyGISDev_WaterDistEditableH
- QA Mobile Sewer

Available Local Services

Services to Display in Map

| Name | Url | Order | Order Override | Disable Identify | Disable Edits | Disable Visibility | Default Extent |
|---------------------------|--|-------|----------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| LucyGISDev_ImageService | http://ExampISrvr:6080/arcgis/rest/services/LucyGISDev_ImageService... | 0 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucyGISDev_Parcel | http://ExampISrvr:6080/arcgis/rest/services/LucyGISDev_Parcel/MapS... | 1 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucyGISDev_SewerStreet... | http://ExampISrvr:6080/arcgis/rest/services/LucyGISDev_SewerStreetS... | 2 | 3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucyGISDev_Park | http://ExampISrvr:6080/arcgis/rest/services/LucyGISDev_Park/MapSer... | 2 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LucyGISDev_GISTasksEd... | http://ExampISrvr:6080/arcgis/rest/services/LucyGISDev_GISTasksEdit... | 4 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Close

- b. If the *Map Service* record is not in the *Services to Display in Map* grid, locate it in the *Available Editable Services* grid.
- c. Select the map service in the *Available Editable Services* grid and click the corresponding **Add >>** button.

Note: All editable layers that are added to the map are used to display features in the map and then edit features when the edit tools are enabled. To add an editable layer to a map for display purposes only and disable users' ability to edit it, simply add the service to the *Services to Display in Map* grid. Then, check the *Disable Edits* box next to the layer in the grid. This option allows you to reuse the same services in different maps while preventing everyone from editing them.

- 4) **Close** the window and click **Save** on the *Map Setup* window. The layers now appear in the map.

ROUTING CONFIGURATION

The *Work Order Routing* tool allows users to select a group of *Work Orders* and identify the most efficient route between the *Locations* and *Assets* in those *Work Orders*.

The tool requires a routing service in order to work. The routing service can be either a third-party service (like ESRI's) or a routing service the agency owns and maintains.

How To Configure the Map To Use a Routing Service

- I) Collect the REST URL for the routing service

For Arc 10.x

- a. Log into *Arc Server Manager* and click on **Services > Manage Services**.




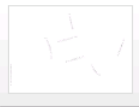

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| Thumbnail | Service Name | Type | Status | Instances Running | Instances in Use | Maximum Instances | Actions |
|---|--------------------|-------------------|---------|-------------------|------------------|-------------------|-----------|
|  | GeoLocate | (Geocode Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | gis_edit | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | operational | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | Parcels | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | RasterTiled | (Map Service) | Started | 1 | 0 | 2 | 🔒 ▶ ■ 🔄 ✕ |

◀ 1 ▶

b. Locate the service you wish to use and click on it to view its properties.

c. Click the **Capabilities** button.

d. Copy down the REST URL, which should have a path similar to:

- Map Service: **http://<server name>/ArcGIS/rest/services/<service name>/MapServer**
- Feature Service: **http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer**
- Geocoding Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeocodeServer**
- Geometry Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeometryServer**
- Routing Service: **http://<server name>/ArcGIS/rest/services/<service name>/RoutingServer**

e. If collecting information for the map service that contains your operational data, click on the REST URL. A page containing the properties of the map service appears.

f. Scroll down and copy down the *Spatial Reference Number*. (Do this only for the layer that contains *Lucity* data.)

Note: If text appears in the *Spatial Reference* field, rather than numerals, use the closest matching *Spatial Reference Number* from the following lists: **Projected Coordinate Systems** (<http://help.arcgis.com/EN/ARCGISSERVER/10.0/APIS/REST/GCS.HTML>) **Geographic Coordinate Systems** (<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>)

2) In the *Lucity Administration Tool*, go to **GIS > GIS Services**.

3) Go to the **Utility Services** tab. In the *Routing Service* grid, select the existing record. (Only one service is needed.)

4) Provide the REST *URL* for the routing service.

5) Complete the other fields as desired.

6) If you prefer that the route always starts at a specific address, enter that address into the *Default Vehicle Start Address for Work Routing*.

7) Click the **Save...** button below the grid.

GEOCODING CONFIGURATION

The *Lucity Web Map* can locate addresses two ways: 1) using a geocoding service, and 2) using a parcel layer.

Locating Addresses Using a Geocoding Service

Geocoding services can be used to locate and identify addresses in the map. An agency may use its own geocoding service or one provided by ESRI.

How To Configure the Map To Use a Geocoding Service

1) Collect the REST URL for the geocoding service.

For Arc 10.x

- a. Log into *Arc Server Manager* and click on **Services > Manage Services**.




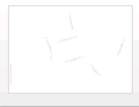

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| Thumbnail | Service Name | Type | Status | Instances Running | Instances in Use | Maximum Instances | Actions |
|---|--------------------|-------------------|---------|-------------------|------------------|-------------------|--|
|  | GeoLocate | (Geocode Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | gis_edit | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | operational | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | Parcels | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | RasterTiled | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |

◀ 1 ▶

b. Locate the service you wish to use and click on it to view its properties.

c. Click the **Capabilities** button.

d. Copy down the REST URL, which should have a path similar to:

- Map Service: **http://<server name>/ArcGIS/rest/services/<service name>/MapServer**
- Feature Service: **http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer**
- Geocoding Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeocodeServer**
- Geometry Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeometryServer**
- Routing Service: **http://<server name>/ArcGIS/rest/services/<service name>/RoutingServer**

e. If collecting information for the map service that contains your operational data, click on the REST URL. A page containing the properties of the map service appears.

f. Scroll down and copy down the *Spatial Reference Number*. (Do this only for the layer that contains *Lucity* data.)

Note: If text appears in the *Spatial Reference* field, rather than numerals, use the closest matching *Spatial Reference Number* from the following lists: **Projected Coordinate Systems** (<http://help.arcgis.com/EN/ARCGISSERVER/10.0/APIS/REST/GCS.HTML>) **Geographic Coordinate Systems** (<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>)

2) In the *Lucity Administration Tool*, go to **GIS > GIS Services** and select the **Utility Services** tab .

3) In the *Geocoding Services* grid, click **Add Geocoding Service...** A new record appears in the grid.

4) Enter a unique *Name* for the geocoding service.

5) Provide the REST *URL* for the geocoding service.

6) Complete other fields as desired.

7) In the *Default Geocoding Service* drop-down box below the grid, select which service the *Lucity Web* and *Lucity Mobile* maps should use by default.

Note: You can select a different default service for every map during the map setup.

- 8) Click the **Save...** button below the grid.

Locating Addresses Using a Parcel Layer

Parcel services store the address in the layer, and the map identifies which parcel intersects with a given location.

How To Configure the Map To Use a Parcel Layer

- 1) Tell the *Web Map* that it going to use a parcel service, rather than a geocoding service.
 - a. In *Lucity Web*, go to the **Admin Portal > Settings > System Settings > GIS Web tab** (<http://help.lucity.com/webhelpv170/web/index.htm#38257.htm>).
 - b. Set the *Use an address layer for address queries instead of geocoding service* option to **TRUE**.
- 2) Specify a *Parcel Layer*.
 - a. Collect the rest url for the service that contains the parcel layer.
For Arc 10.x

b. Log into *Arc Server Manager* and click on **Services > Manage Services**.




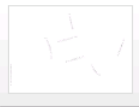

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| Thumbnail | Service Name | Type | Status | Instances Running | Instances in Use | Maximum Instances | Actions |
|---|--------------------|-------------------|---------|-------------------|------------------|-------------------|--|
|  | GeoLocate | (Geocode Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | gis_edit | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | operational | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | Parcels | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |
|  | RasterTiled | (Map Service) | Started | 1 | 0 | 2 | [Lock] [Play] [Stop] [Refresh] [Close] |

◀ 1 ▶

- c. Locate the service you wish to use and click on it to view its properties.
 - d. Click the **Capabilities** button.
 - e. Copy down the REST URL, which should have a path similar to:
 - Map Service: **http://<server name>/ArcGIS/rest/services/<service name>/MapServer**
 - Feature Service: **http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer**
 - Geocoding Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeocodeServer**
 - Geometry Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeometryServer**
 - Routing Service: **http://<server name>/ArcGIS/rest/services/<service name>/RoutingServer**
 - f. If collecting information for the map service that contains your operational data, click on the REST URL. A page containing the properties of the map service appears.
 - g. Scroll down and copy down the *Spatial Reference Number*. (Do this only for the layer that contains *Lucity* data.)

Note: If text appears in the *Spatial Reference* field, rather than numerals, use the closest matching *Spatial Reference Number* from the following lists: **Projected Coordinate Systems** (<http://help.arcgis.com/EN/ARCGISSERVER/10.0/APIS/REST/GCS.HTML>) **Geographic Coordinate Systems** (<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>)
 - h. Open the service and copy the *Layer Index Number* for the parcel layer.
 - i. In the *Lucity Administration Tool*, go to **GIS > GIS Services** and select the **Utility Services** tab.
 - j. In the *Geocoding Services* grid, click **Add Geocoding Service...** A new record appears in the grid.
 - k. Enter a unique *Name* for the map service.
 - l. Provide the REST *URL* for the map service.
 - m. Add the layer index number to the end of the map service URL. It should look something like this:
...rest/services/baselayers/MapServer/10.
- 3) Specify a query template for the application to use when querying:

- a. In *Lucity Web*, go to the **Admin Portal > Settings > System Settings > GIS Web tab**.
- b. See the Help Guide entry for the *Comma separated criteria to use for... field* (<http://help.lucity.com/webhelpv170/web/index.htm#38257.htm>).

GEOMETRY SERVICE SETUP

Lucity uses geometry services to perform geospatial calculations when rendering the *Lucity Web Map*. Although a geometry service is not required, *Lucity* strongly suggests that agencies use one.

How To Configure a Geometry Service

- 1) Collect REST URL for the geometry service.
For Arc 10.x

- a. Log into *Arc Server Manager* and click on **Services > Manage Services**.




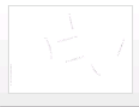

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| Thumbnail | Service Name & Details | Actions |
|---|---|------------------------|
|  | GeoLocate (Geocode Service) Locator for Gilbert Demo Area Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | gis_edit (Map Service) GIS Edit Service Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | operational (Map Service) Lucy Operational Data Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | Parcels (Map Service) Parcels Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 | 🔒 ▶ ■ 🔄 ✕ |
|  | RasterTiled (Map Service) ⚙️ Tiled Raster Service Status: Started Instances Running: 1 Instances in Use: 0 Maximum Instances: 2 | 🔒 ▶ ■ 🔄 ✕ |

◀ 1 ▶

b. Locate the service you wish to use and click on it to view its properties.

c. Click the **Capabilities** button.

d. Copy down the REST URL, which should have a path similar to:

- Map Service: **http://<server name>/ArcGIS/rest/services/<service name>/MapServer**
- Feature Service: **http://<server name>/ArcGIS/rest/services/<service name>/FeatureServer**
- Geocoding Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeocodeServer**
- Geometry Service: **http://<server name>/ArcGIS/rest/services/<service name>/GeometryServer**
- Routing Service: **http://<server name>/ArcGIS/rest/services/<service name>/RoutingServer**

e. If collecting information for the map service that contains your operational data, click on the REST URL. A page containing the properties of the map service appears.

f. Scroll down and copy down the *Spatial Reference Number*. (Do this only for the layer that contains *Lucity* data.)

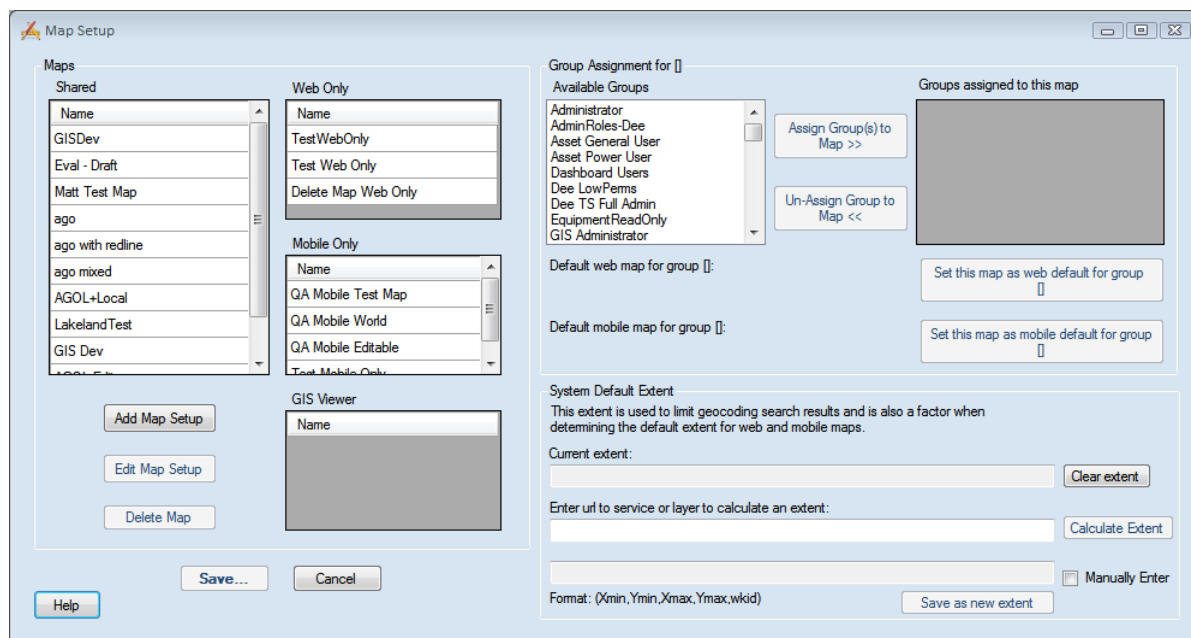
Note: If text appears in the *Spatial Reference* field, rather than numerals, use the closest matching *Spatial Reference Number* from the following lists: **Projected Coordinate Systems** (<http://help.arcgis.com/EN/ARCGISSERVER/10.0/APIS/REST/GCS.HTML>) **Geographic Coordinate Systems** (<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>)

- 2) In the *Lucity Administration Tool*, go to **GIS > GIS Services** and click the **Utility Services** tab.
- 3) In the *Geometry Service* grid, select the existing record. (Only one service is needed.)
- 4) Provide the REST *URL* for the geometry service.
- 5) Complete other fields as desired.
- 6) Click the **Save...** button below the grid.

MAP SETUP FOR WEB MAP

How To Add or Edit a Map

1) In the *Lucity Administration Tool*, select **GIS > Map Setup** from the main menu. The map setup appears:



- 2) The left side of the dialog displays all available maps. Click the **Add Map Setup** or select a map and click **Edit Map Setup** buttons to open the *GIS Map Edit* screen.
- 3) The **Map Editing tool** (see "**Map Editor**" on page 312) opens.
 - a. Enter a unique name in the *Name* field.
 - b. Under *Lucity applications that can use this map*, select **Web & Mobile** or **Web only**.

- c. Check the *Use as Default Map* box to make this the default map.
- d. Set the *Geocoding Url*. Enter a URL or path here if the geocoding service used for this map will be different than the one entered in the *Default Geocoding Url* field. The *Default Url* is set in the *Lucity Administration Tool*, under **System > Settings** on the *GIS Web* tab.
- e. Select the service that contains your *Redline* layers.
- f. Use the map services listed in the *Available Web Services* and the *Available Editable Services* to populate the *Services to Display in Map* grid.
- g. Modify the service settings in the *Services to Display in Map* grid.

Note: The *Web Map* and *Mobile Map* tools will recognize *Lucity* data in all layers as long as the aliases are set up correctly.

- 4) Click **Close** to return to the *Map Setup* screen.
- 5) Once the maps have been defined, click **Save** on the *Map Setup* screen.
- 6) **Assign the map to the desired user groups** (see "**GIS Map Setup**" on page 301).

SETUP LUCITY GIS VIEWER

The *Lucity GIS Viewer* enables agencies to give their employees a desktop GIS viewer that works with *Lucity*, without giving them access to ArcMap. The viewer can use both map services published over the web and map packages created through ArcMap.

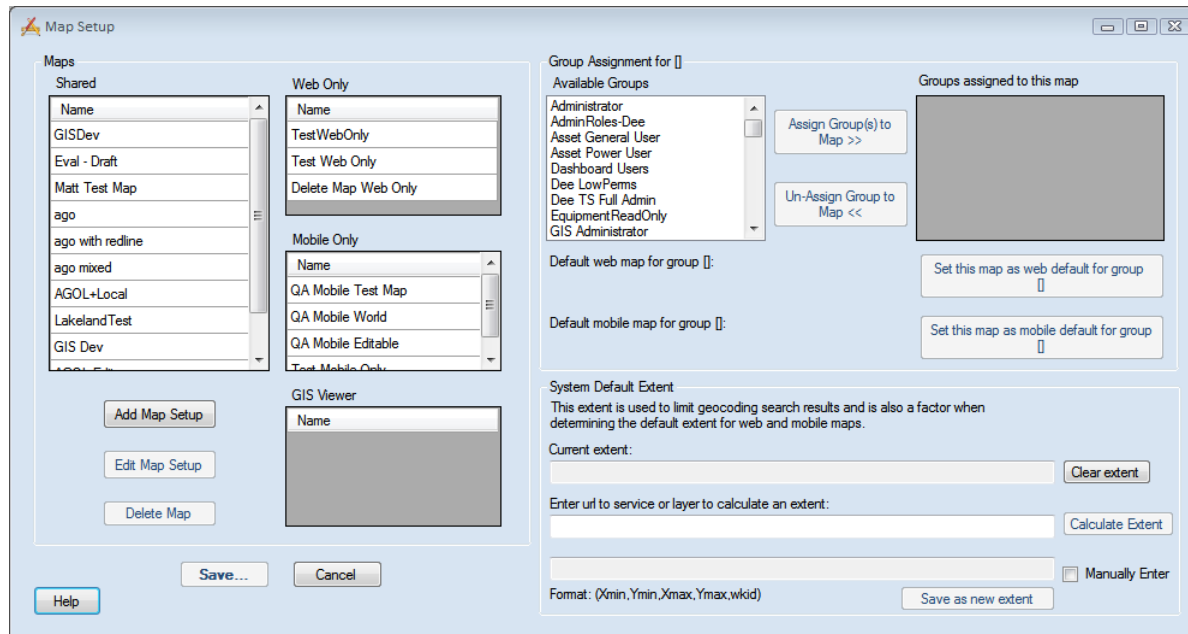
Setup Steps

- 1) **Security Setup** (on page 429)
- 2) **Creating Map Services or Packages** (see "**Creating Map Packages**" on page 433)
 - **Alias Configuration** (on page 365)
- 3) **Map Service/Package Configuration** (see "**Map Service Configuration**" on page 444)

4) Map Setup

How To Add or Edit a Viewer Map

1) In the *Lucity Administration Tool*, select **GIS > Map Setup** from the main menu. The map setup appears:



2) The left side of the dialog displays all available maps. Click the **Add Map Setup** or **Edit Map Setup** buttons to open the *GIS Map Edit* screen.

3) The **Map Editing tool** (see "**Map Editor**" on page 312) opens.

- a. Enter a unique name in the *Name* field.
- b. Under *Lucity applications that can use this map*, select **GIS Viewer**.
- c. Check the *Use as Default Map* box to make this the default map.

- d. There can only be one default map. If more than one map exists, the *Viewer* will ask which one to use. The default map will appear at the top of the list.
- e. Set the *Geocoding Url*. Enter a URL or path here if the geocoding service used for this map will be different than the one entered in the *Default Geocoding Url* field. The *Default Url* is set in *Lucity Administration Tool*, under **System > Settings** on the *GIS Web* tab.
- f. The *Geocoding Url* can be either a URL for a geocoding service OR the path to a geocoding package (.gcpk).
- g. Use the map services listed in the *Available Web Services* and the *Available Local Services* to populate the *Services to Display in Map* grid.
- h. Modify the service settings in the *Services to Display in Map* grid.

Note: The *Lucity GIS Viewer* will recognize *Lucity* data in all layers, as long as the aliases are set up correctly.

- 4) Click **Close** to return to the **Map Setup** screen.
- 5) Assign the map to the desired user groups.

Note: All maps that are marked as **GIS Viewer** will be visible to all *Lucity GIS Viewer* users.

- 1) ***Install the Viewer*** (see "***Installing the Viewer***" on page 459)
- 2) ***Activating the Viewer and Managing Activations*** (see "***Activation and Activation Management***" on page 462)
- 3) ***Using the Lucity GIS Viewer*** (<http://help.lucity.com/webhelp/v170/gis/#24116.htm>)

Requirements

- *Lucity GIS Viewer*
- ArcMap 10.x or above*

* ArcMap is only required for the single machine used to create map packages for setup. If map packages are created by an outside source, ArcMap is not required.

SECURITY SETUP

Two actions must be performed within the *Security* program before using the *Lucity GIS Viewer*: 1) Establishing user permissions for the *Viewer*, and 2) establishing administrator permissions for those who will manage activations.

Note: All desktop permissions apply to the *Lucity GIS Viewer*. If a user cannot create a *Work Order* in *Lucity Desktop*, he or she will not be able to create one in the *Viewer*.

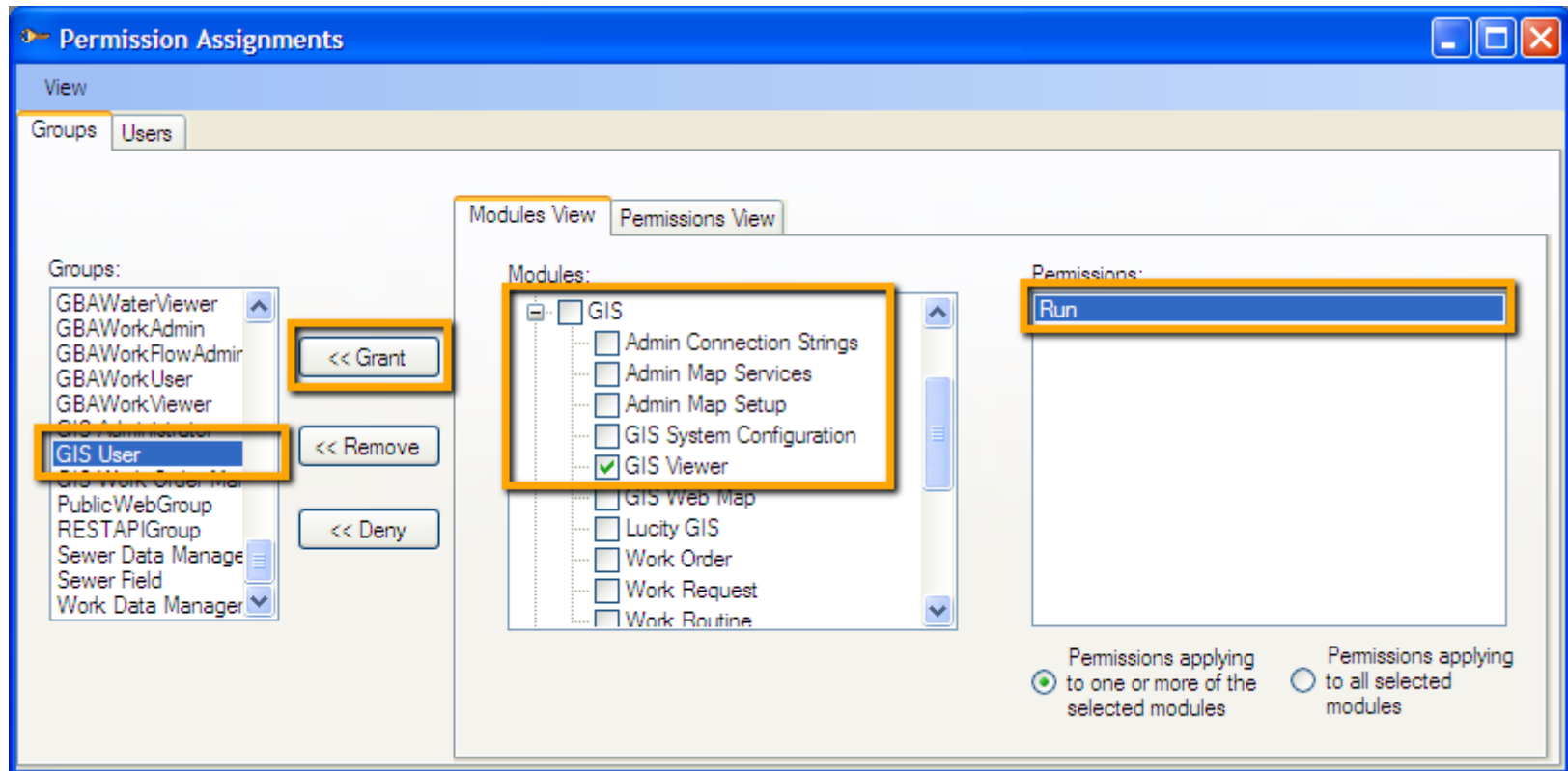
Considerations

- Which users should have access to use the *Lucity GIS Viewer*?
- Which users should be able to manage viewer activations?

How to give users permission to use the *Lucity GIS Viewer*

- 1) In the *Lucity Security* program, go to **Security > Permission Setup**.
- 2) On the left, select the *Group(s)* or *User(s)* who should have access to the *Lucity GIS Viewer*.

- 3) In the middle, in the *Modules* tree, expand the **GIS** node and check the **GIS Viewer** box.
- 4) In the Permissions list on the right, select the **Run** permission.



- 5) Click the **Grant** button.

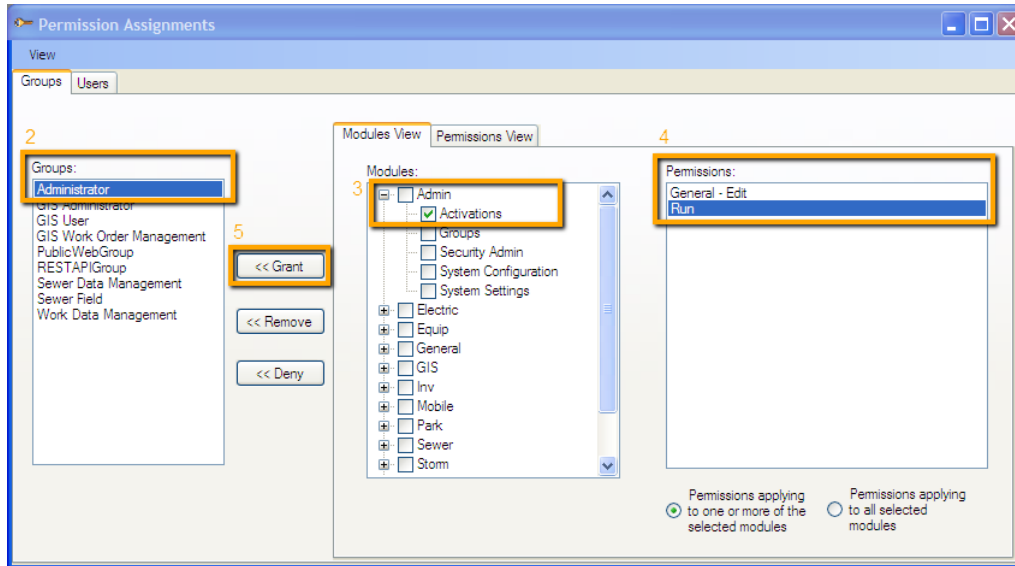
Note: An agency's *Permissions* screen may look different, depending on settings made in the **View** menu.

How to give admins permission to manage viewer activations

- 1) In the *Lucity Security* program, go to **Security > Permission Setup**.
- 2) On the left, select the *Group(s)* or *User(s)* who should be able to manage activation codes.
- 3) In the middle, in the *Modules* tree, expand the **Admin** node and check the **Activations** box.
- 4) In the *Permissions* list on the right, select the desired permission(s):
 - The **Run** permission allows users to view activations and activation codes in the *Lucity Admin* tool.
 - The **General - Edit** permission allow users to delete or modify activation records in the *Lucity Admin* tool.

Note: Users do NOT need the **Activations > Run** permission to activate a product. Only admins need this permission to view activation codes.

5) Click the **Grant** button.



Note: An agency's *Permissions* screen may look different, depending on settings made in the **View** menu.

CREATING MAP PACKAGES

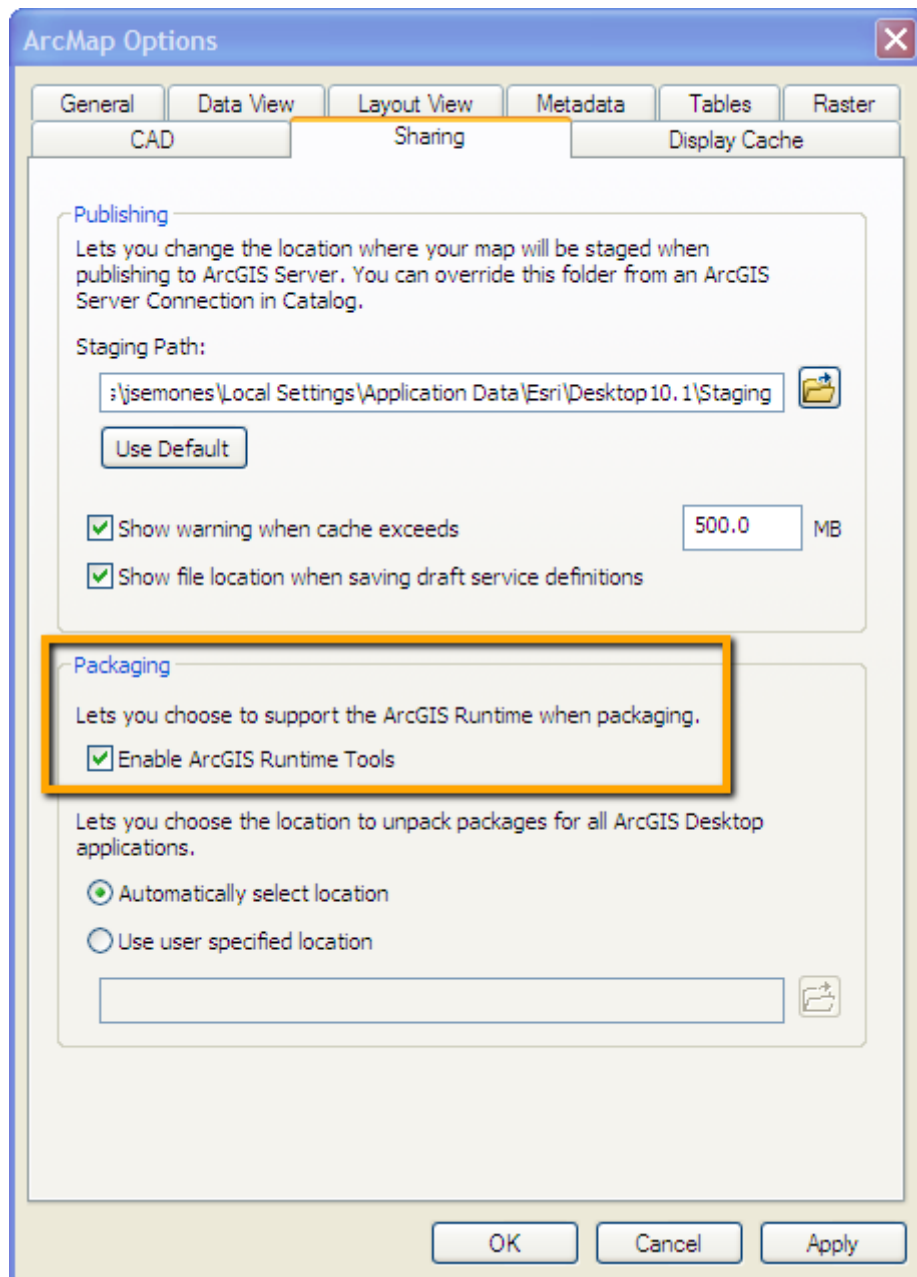
The *Lucity GIS Viewer* supports either map packages, online services, or ArcGIS Server services. Most agencies likely use local map packages with the GIS Viewer. This section explains how to create a local map package.

How To Enable ArcGIS Runtime Tools

One ArcMap option must be changed before you can create a map package that will work with the *Viewer*.

1) In ArcMap, go to **Customize > ArcMap Options**.

2) On the *Sharing* tab, check the *Enable ArcGIS Runtime Tools* box.



3) Click **OK**.

Publish a Map Package

1) In ArcMap, create a map that has the features desired for the map package.

Note: The data in this map must come from your geodatabase.

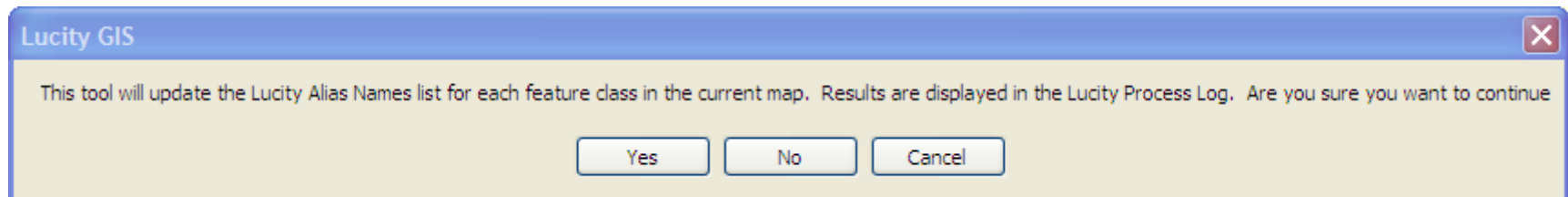
2) Adjust symbology and labeling as desired. (These features will carry over into the map package and be displayed in the *Viewer*.)

- If a layer can't be selected in the map, when the map package is created the layer won't be selectable by default in the *Viewer*. However, users do have control over layer selectability in the *Viewer*.

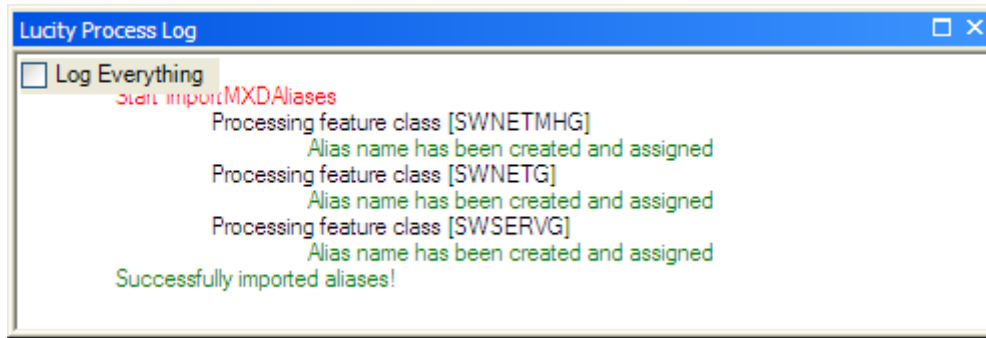
3) Import the feature class aliases, especially if any of them were changed in the map.

- a. On the *Lucity Editor* toolbar, click the **Alias Import** button to update *Lucity* with any name changes made to the feature classes. The following message appears:

Note: This step does not require ArcMap to be in an edit session.



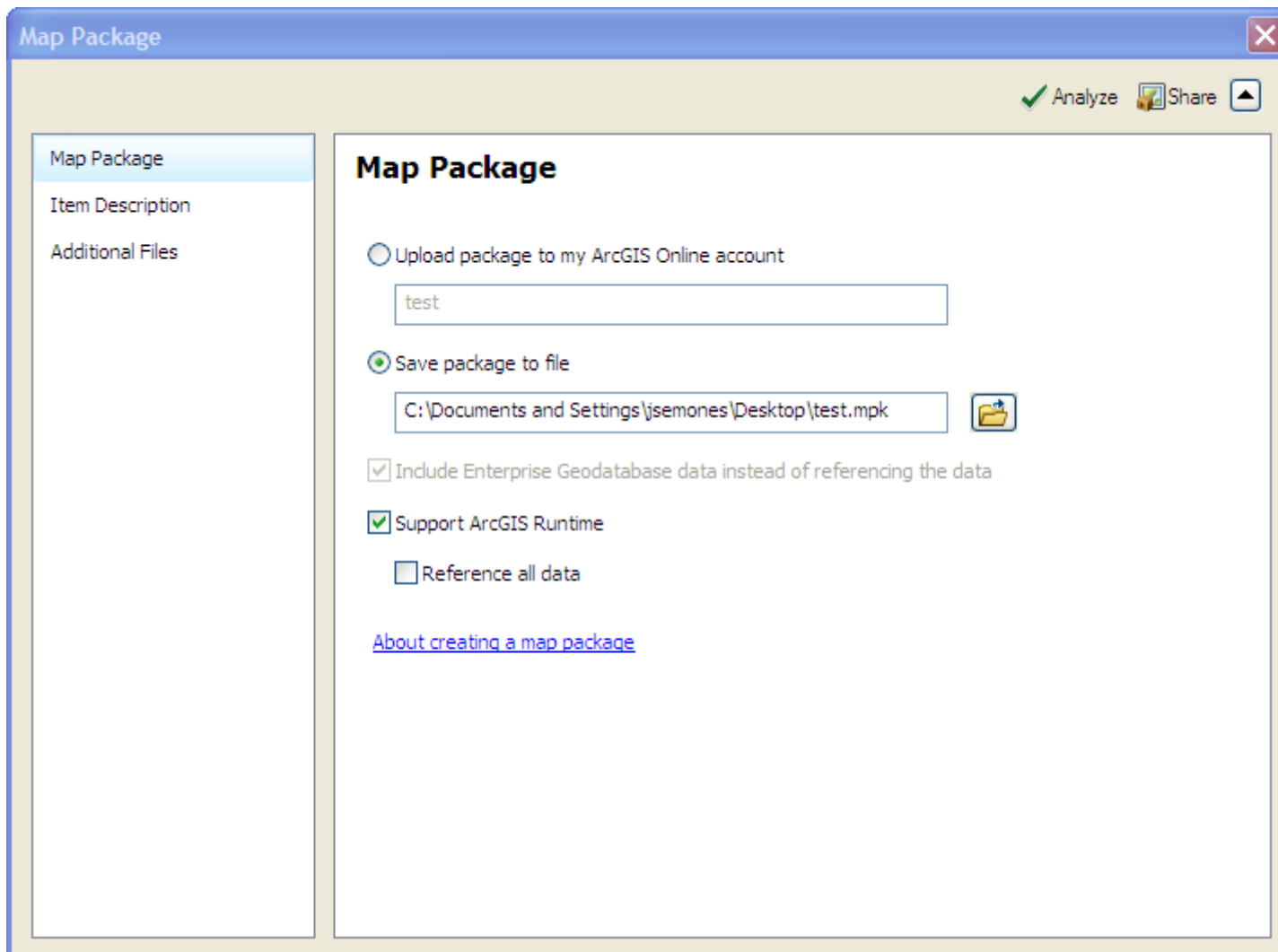
b. Click **Yes**. The process log appears. Review the results to make sure that all the *Aliases* were imported properly.



More information on configuring/importing aliases (see "*Alias Configuration*" on page 365)

4) To create the map package, click **File > Share as > Map Package**. The following window appears:

Note: If this package is supposed to be a tiled image or layer, choose **File > Share as > Tiled Package**.



- 5) On the *Map Package* page, choose the location in which the map package will be saved. The best location is on a local network that all *GIS Viewer* users can access.
- 6) Check the *Support ArcGIS Runtime* box.
- 7) Choose how the map package will handle the data by checking the *Reference all data* box or leaving it blank. Normally, the package includes a copy of all of the data from the geodatabase. Marking the *Reference all data* box causes the map package to point to the geodatabase and read the data from there, instead. If you choose to check this box, the geodatabase must be accessible over the network.
- 8) On the *Item Description* page, enter the *Summary*, *Tags*, and *Description* fields.



- Map Package
- Item Description**
- Additional Files

Item Description

Summary (required):

Lucityville Sewer Data

Tags (required):

Manhole, Sewer Pipe

Description:

This is a package of all the Sewer Data

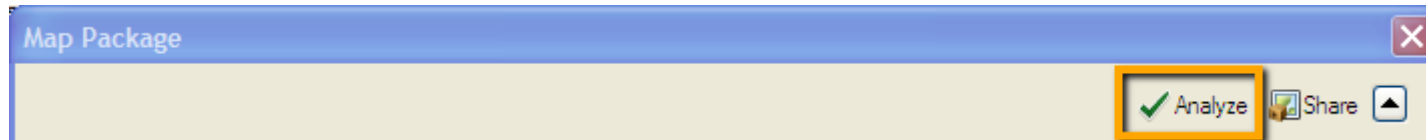
Access and Use Constraints:

Credits:

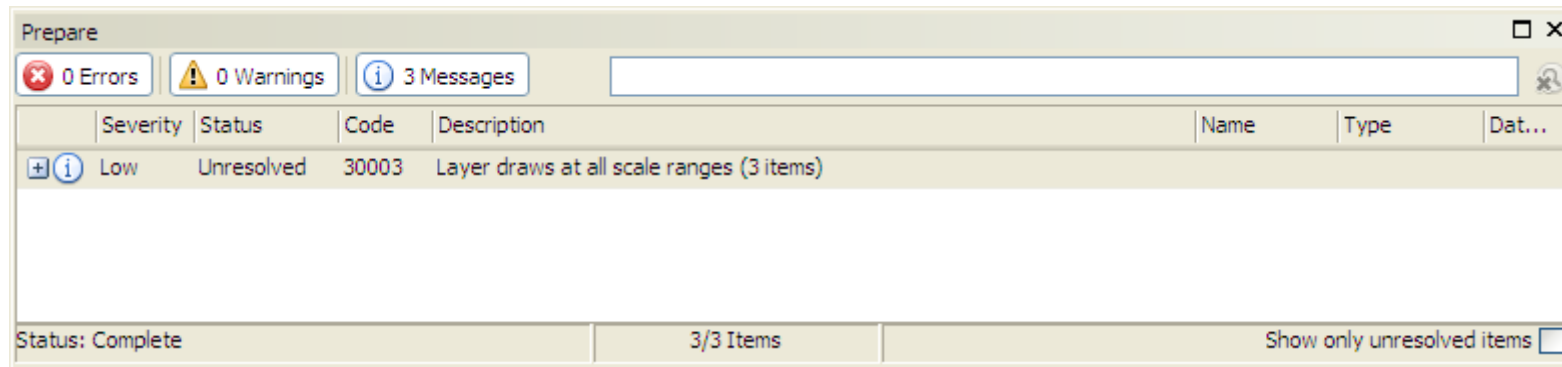
Update missing metadata in document based on item description.

f

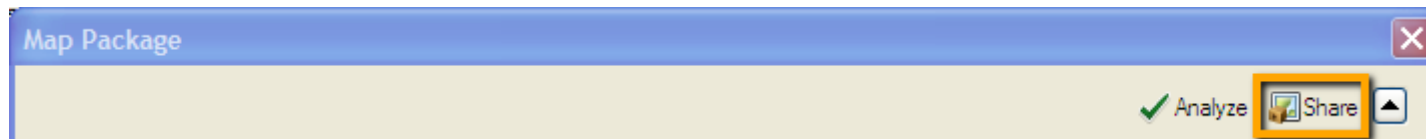
9) At the top-right of the window, click the **Analyze** button.



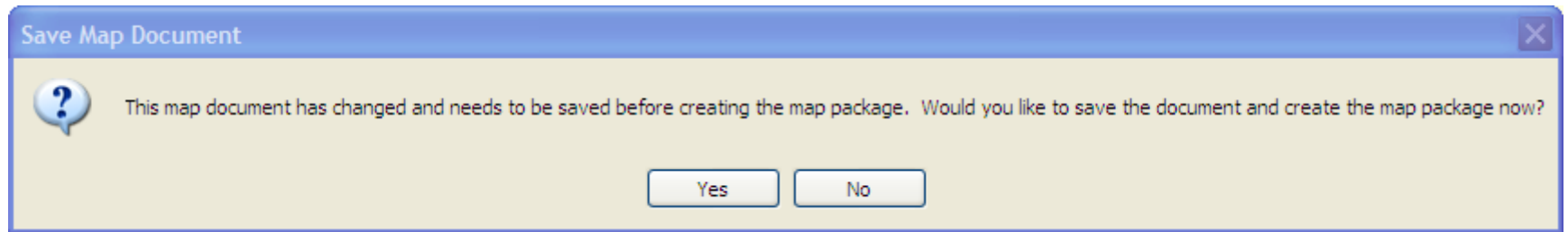
10) The *Prepare* window appears. It lists any errors or warnings related to the map package you are about to publish.



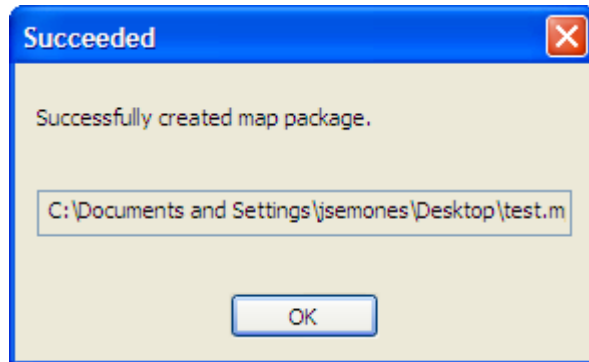
11) After correcting any errors and addressing any warnings or messages, return to the *Map Package* window and click the **Share** button.



12) If the following pop-up appears, click **Yes**.



13) When the process is complete, the following message appears:



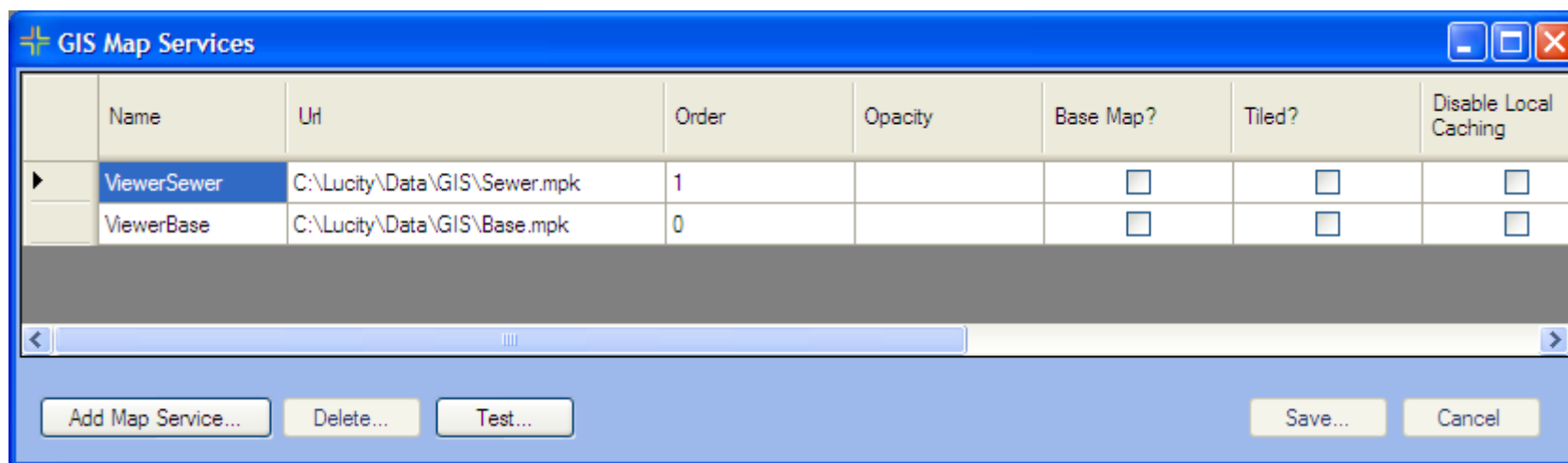
MAP SERVICE CONFIGURATION

After an administrator has created map packages (or online services), *Lucity* must be configured to recognize them. This section explains how to add a local map package to the *GIS Map Services* form.

More detailed instructions for adding an online service (see "**Map Services Configuration**" on page 376)

How To Configure a Map Package

1) Open the *Lucity Administration* tool and go to **GIS > Map Services**.



- Click **Add Map Service...**
- Fill in the *Name* field. This name will identify the map service when it is added to a *Lucity* map, or viewed in one of the *Lucity* mapping products.
- In the *URL* field, enter the path to the map package.

- The map package should be stored on a network that users of the *Viewer* have access to.
 - The map packages have file names ending in .mpk or .tpk.
 - d. Enter a value in the *Order* field. (Map services are layered based on this field. A lower number represents a lower layer. 0 is the bottom layer.)
 - e. Ignore the *Base Map* field. The *Viewer* does not use it.
 - f. If the file is a tiled map package (.tpk), check the *Tiled?* box to indicate the layer is a tiled service.
 - g. Click **Save**.
- 2) After all map packages have been added, go to the **System > Settings > GIS Web** tab in the *Lucity Administration* tool.
- a. In the *URL for Geocoding Service...* field, enter the path to a geocoding package (.gcpk) or the URL to a geocoding service. This will be the default geocoding service for all of the *Lucity* mapping applications.
 - b. Click **Save**.

ALIAS CONFIGURATION

An **alias** is an alternate name for a feature class that gives the feature class a unique identity. The *Lucity* mapping applications (*Web Map*, *GIS Viewer*, and *Mobile*) check the feature classes that are loaded into them and their display names against the aliases listed in the geodatabase configuration to determine which feature class links to which module.

Note: The geodatabase configuration must be complete before an administrator can configure *Lucity* to recognize aliases.

Note: An administrator must establish and import aliases to the geodatabase configuration in order for the *Lucity* mapping applications to work.

Setting an Alias

An administrator can either set an alias for a feature class within ArcCatalog or set aliases on a per-map basis in ArcMap. Feature class aliases are tied to the feature class in ArcCatalog. Per-map aliases are set in ArcMap and are only saved for that .mxd, or for any map services or map packages generated from that .mxd.

Note: Aliases must be completely unique throughout the geodatabase configuration. For example, a *Sewer Pipe* feature class and a *Water Pipe* feature class cannot both have a "Pipes" alias.

Note: Aliases should not start with a number.

How to set a feature class alias in ArcCatalog

- 1) In ArcCatalog, navigate to the desired feature class.
- 2) Right click on it and select **Properties...**
- 3) On the *General Tab* there are *Name* and *Alias* fields. Set the *Alias* to the desired value. Do NOT change the name.

Note: By default, the *Alias* is the same as the *Name*.

Feature Class Properties

Indexes Subtypes Relationships Representations

General XY Coordinate System Tolerance Resolution Domain Fields

Name: PKLSG

Alias: Park Landscaping

Type

Type of features stored in this feature class:

Polygon Features

Geometry Properties

Coordinates include M values. Used to store route data.

Coordinates include Z values. Used to store 3D data.

Data Storage: High Precision

Attachments

Feature class does not contain attachments.

OK Cancel Apply

4) Click **OK**. The alias is now set for the feature class.

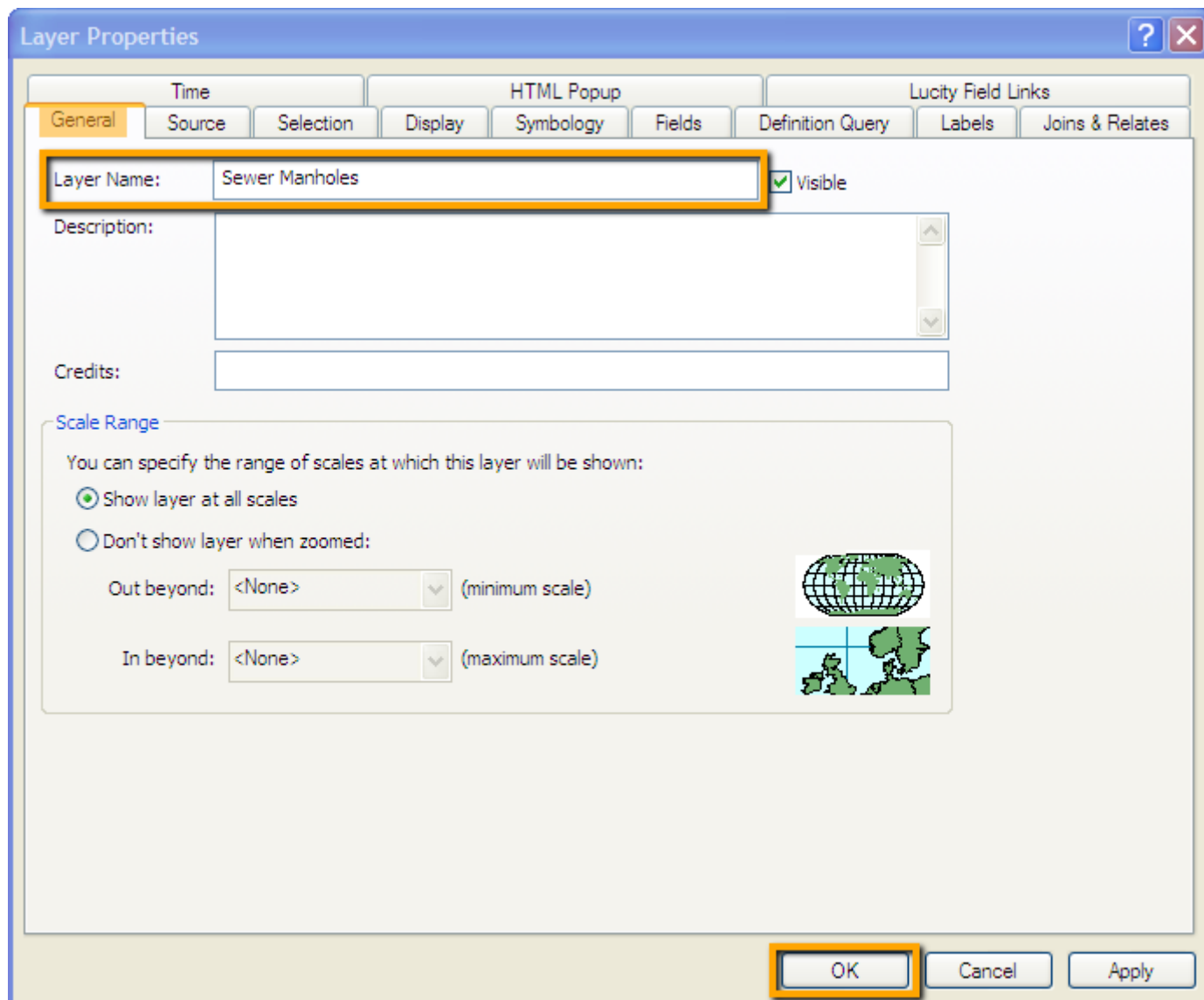
How to set a map-specific alias in ArcMap

1) In ArcMap, click on a feature class in the table of contents and rename it.

OR

Right-click on the feature class and select **Properties**.

2) On the *General Tab*, change the name in the *Layer Name* field.



- 3) Click **OK**. The new alias is now set for that feature class.
- 4) Repeat for other desired feature classes.

Import Aliases

Aliases can be imported into the *Lucity* geodatabase configuration in two ways: 1) by importing the feature class alias or 2) by importing the per-map aliases.

How to import the feature class alias(es) in ArcCatalog

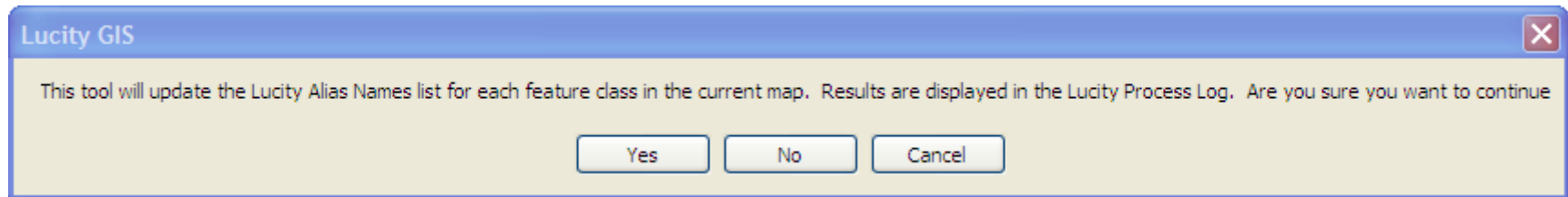
- 1) In the *Geodatabase Configuration* tool, select the geodatabase connection or the feature class for which you wish to import an alias.
- 2) Right-click on the selected geodatabase or feature class and select the *Import* tool.
 - If it is a geodatabase, the tool is **Import Feature Class Alias Names**.
 - If it is a feature class, the tool is **Import Feature Class Alias Name**.

The system immediately begins importing aliases from the feature class aliases set in ArcCatalog. A log screen appears to provide information about the import.

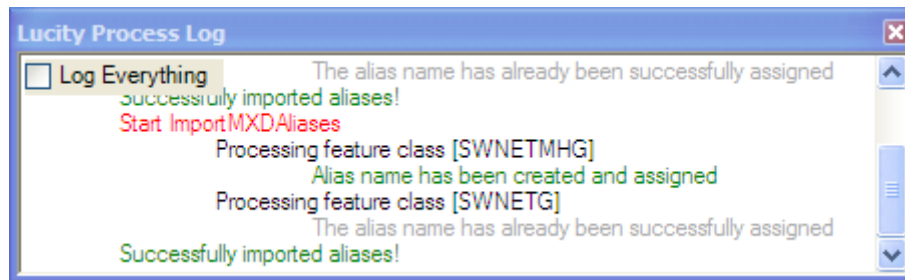
- 3) Review and close the log screen when the process is complete.

How to import per-map aliases in ArcMap

- 1) On the *Lucity Edit* toolbar, click the **Alias Import** button. The following message appears:



- 2) Click **Yes** to continue. The process log displays the results:



Importing aliases using this method directly links them to the feature classes' *Alias Names* tab in the geodatabase configuration.

Note: This import enables users to load their feature classes into a map. Change the names of the layers, and then quickly import them before publishing the .mxd as a map service or map package.

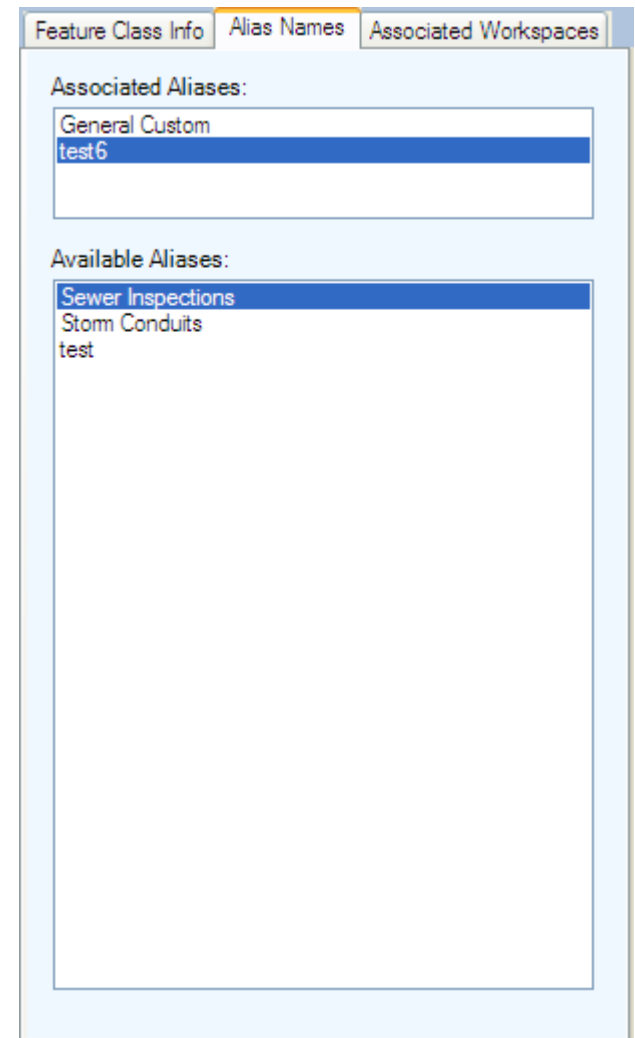
Manage Aliases

Aliases can be added manually for each feature class and managed in the *Geodatabase Configuration* tool.

How to manage aliases

- 1) In the *Geodatabase Configuration* tool, select a feature class. A window with several tabs appears in the center of the screen.
- 2) Select the *Alias Names* tab. This tab has two grids:

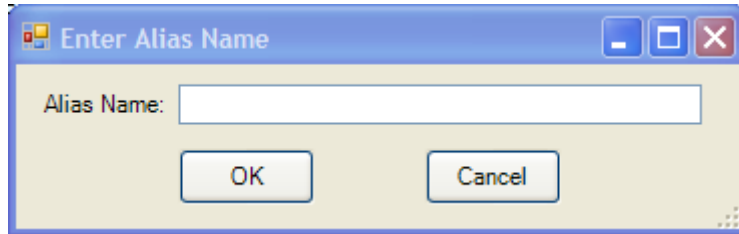
- The *Associated Aliases* grid lists all aliases assigned to the feature class.
 - Right-click on an existing record for options to **Add**, **Edit**, **Delete**, or **Disassociate**.
 - Disassociating a record in this grid detaches it from the selected feature class and moves it to the *Available Aliases* grid.
 - Whenever a feature class with a name from this list appears in the *Lucity Viewer*, the *Web Map*, or the *Mobile Map Mode*, Lucity connects the feature class to the associated module.



- The *Available Aliases* grid lists aliases set up by the user that aren't associated with any feature classes. The grid is shared among all feature classes. Aliases in the grid can later be associated with or re-associated with any feature class. 3)
 - Right-click on an existing record for options to **Add**, **Edit**, **Delete**, or **Associate**.
 - Associating a record in this grid attaches it to the selected feature class, removes it from the *Available Aliases* grid, and adds it to the *Associated Aliases* grid for the selected feature class.

How To Add an Alias in a Grid

- 1) Right-click in the desired grid and select **Add**. The following pop-up appears:



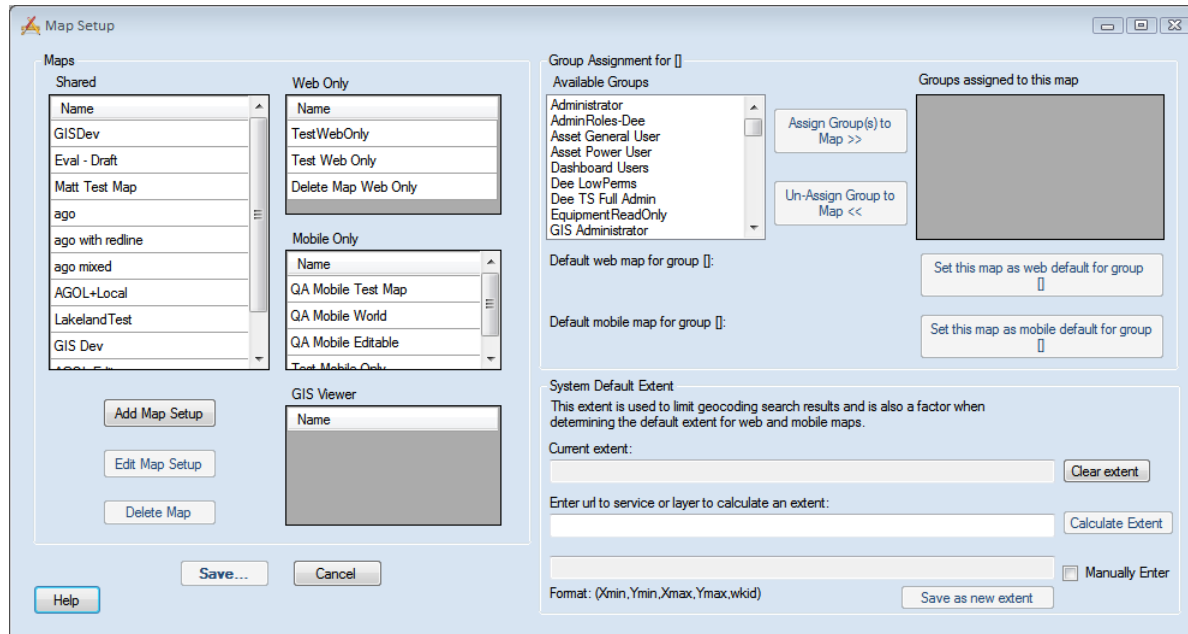
- 2) Enter the *Alias Name* and click **OK**.

Note: Aliases apply to the feature class and any replica feature classes.

MAP SETUP FOR A VIEWER MAP

How To Add or Edit a Viewer Map

1) In the *Lucity Administration Tool*, select **GIS > Map Setup** from the main menu. The map setup appears:



- 2) The left side of the dialog displays all available maps. Click the **Add Map Setup** or **Edit Map Setup** buttons to open the *GIS Map Edit* screen.
- 3) The **Map Editing tool** (see "**Map Editor**" on page 312) opens.
 - a. Enter a unique name in the *Name* field.
 - b. Under *Lucity applications that can use this map*, select **GIS Viewer**.

- c. Check the *Use as Default Map* box to make this the default map.
- d. There can only be one default map. If more than one map exists, the *Viewer* will ask which one to use. The default map will appear at the top of the list.
- e. Set the *Geocoding Url*. Enter a URL or path here if the geocoding service used for this map will be different than the one entered in the *Default Geocoding Url* field. The *Default Url* is set in *Lucity Administration Tool*, under **System > Settings** on the *GIS Web* tab.
- f. The *Geocoding Url* can be either a URL for a geocoding service OR the path to a geocoding package (.gcpk).
- g. Use the map services listed in the *Available Web Services* and the *Available Local Services* to populate the *Services to Display in Map* grid.
- h. Modify the service settings in the *Services to Display in Map* grid.

Note: The *Lucity GIS Viewer* will recognize *Lucity* data in all layers, as long as the aliases are set up correctly.

- 4) Click **Close** to return to the **Map Setup** screen.
- 5) Assign the map to the desired user groups.

Note: All maps that are marked as **GIS Viewer** will be visible to all *Lucity GIS Viewer* users.

INSTALLING THE VIEWER

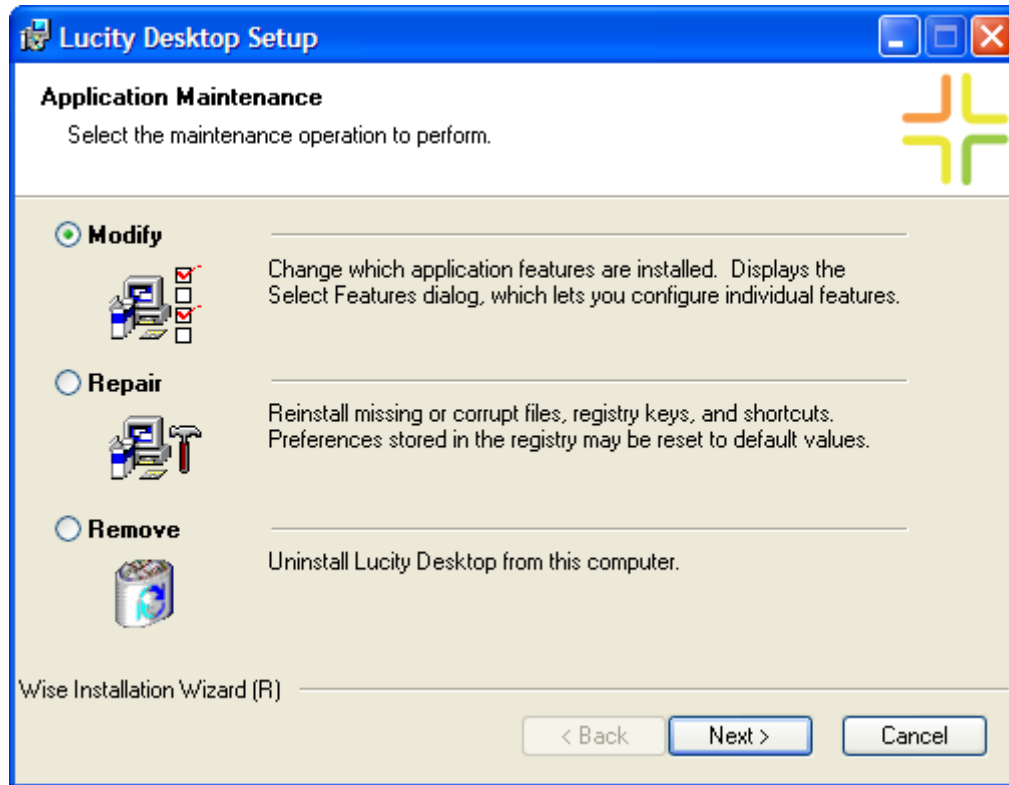
The *Lucity GIS Viewer* must be installed on the machine on which it will be used before the user can access it. The *GIS Viewer* is part of the *Lucity Desktop* install; however, it is not installed automatically. The *Viewer* can either be installed during *Lucity Desktop* installation or by modifying the *Lucity Desktop* installation.

Note: If installing the *Viewer* during the normal *Lucity Desktop* installation, choose the *Custom install* option. Then proceed to Step 6 below.

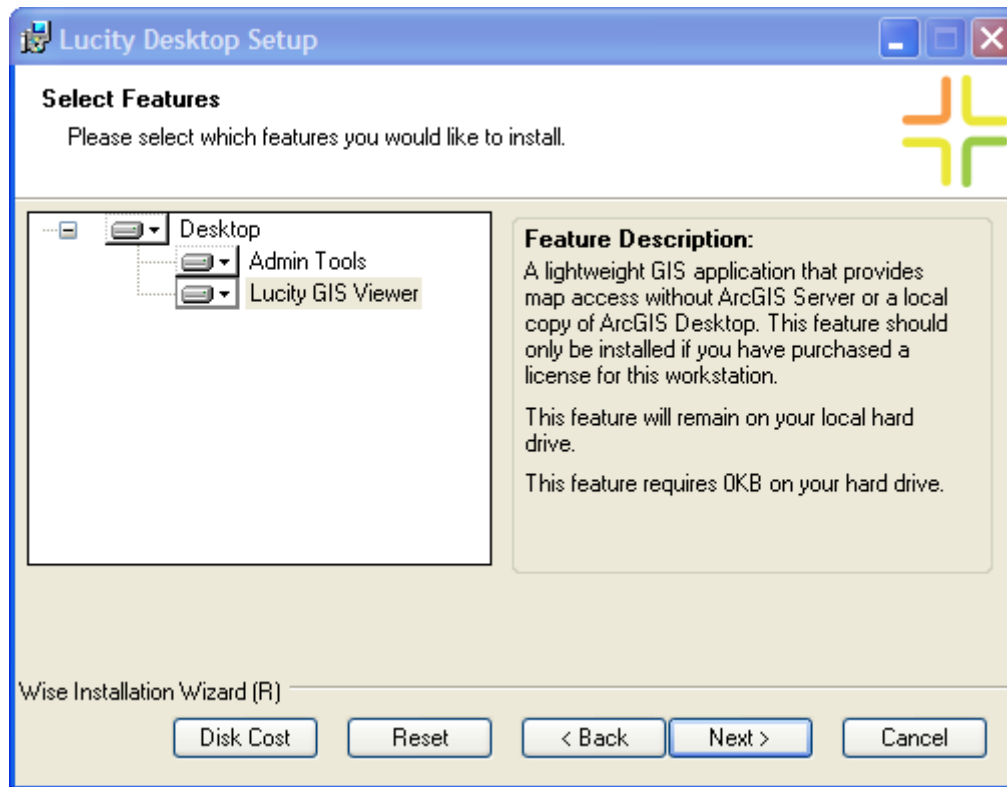
How To Modify the Desktop Installation

- 1) On the machine, open the Control Panel.
- 2) Run *Add or Remove Programs*, or *Programs and Features*.
- 3) Find and select *Lucity Desktop*.

4) Click **Change**. A screen similar to the one below appears:



- 5) Select *Modify*, and click **Next >**. The next screen displays components that the user has the option to install.



- 6) Click the *Lucity GIS Viewer* drop-down and select *Will be installed on local hard drive*.
- 7) Click **Next >**.
- 8) Once the program has completed the installation, click **Finish**.

ACTIVATION AND ACTIVATION MANAGEMENT

Although the *Lucity GIS Viewer* may be installed on a machine, the feature cannot be used until it is activated. Activation codes are unique for each computer. Permissions established in the *Lucity Security TOOL* control which users can use the *Viewer* and which users can activate it.

FAQ

What is the relationship between activation codes, users, and available licenses?

Lucity GIS Viewer activation codes are each tied to a separate license and machine. Therefore, when the *Viewer* is activated on a machine, a license is used. That license is now tied to the machine that is activated and cannot be used by any other user, even if that machine isn't actively using the *Viewer*.

The only way to release that license for use by another user would be to deactivate the machine.

How does a user get the activation code?

Unlike the activation process for *Lucity Mobile* products, users of the *GIS Viewer* do not receive, or even see, the *Activation Code*. Instead, the code is applied automatically when the user tells the program to activate.

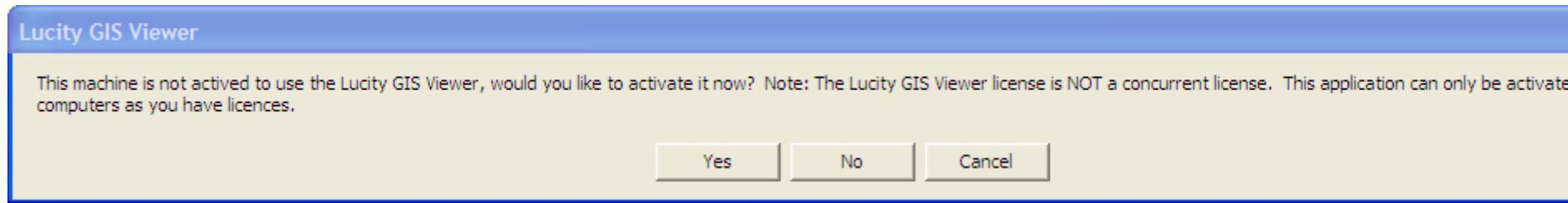
How do you deactivate the *Lucity GIS Viewer* on a machine?

If the *Lucity GIS Viewer* needs to be deactivated on a machine, an administrator must:

- 1) Launch the *Lucity Administration Tool* and go to **System > Activations Manager**.
- 2) Select the user's activation record on that machine.
- 3) Click the **Deactivate license** button.

How To Activate the Viewer

- 1) The first time a user runs the *Lucity GIS Viewer*, the following prompt will appear if there are licenses available to activate their copy of the viewer:



- 2) Click **Yes**. The program is immediately activated and assigned a license.

Note: You will receive an alert if there are no available licenses.

How To Limit How Long a Device Activation Remains Valid (when not in use)

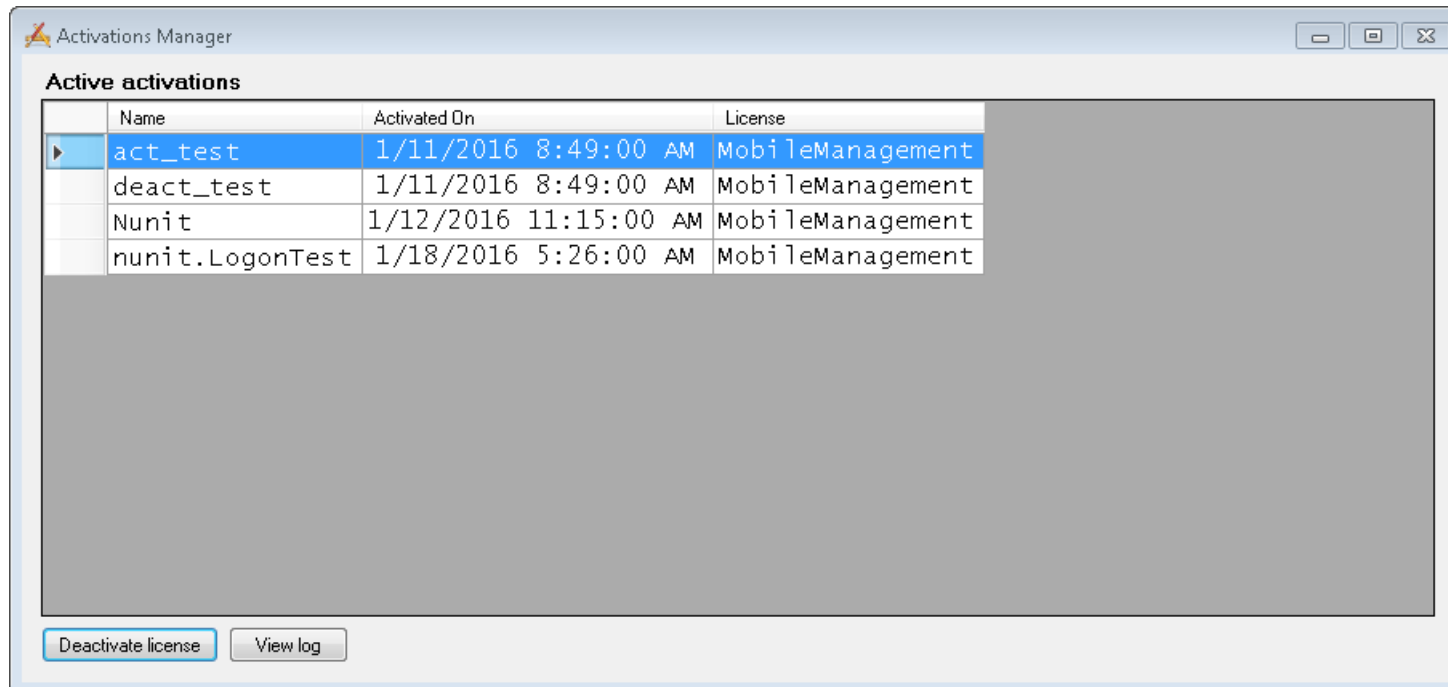
- 1) In the *Lucity Administration Tool*, go to **System > Settings > Mobile tab**.
- 2) Enter a number in the *Mobile activation timeout in days* field.

If someone tries to activate another device and the system is out of licenses, the *Activation Manager* will review current activations for any "inactive" devices. If a user hasn't used a device for the specified number of days, the *Activation Manager* will drop that activation and activate the next device.

How To Use the Activations Manager

- In the *Lucy Administration Tool*, go to **System > Activations Manager**. The following screen appears.
 - **Fields**
 - **Name** - The device's name (i.e., the phone number).
 - **Secret** - The *Activation Code* for this device/user record.
 - **User Name** - The user's *Lucy* login.
 - **Last Activated on** - The date on which this device was last activated.
 - **License** - The type of license this device is using.
 - **Buttons**

- **Deactivate license** - Deactivates the selected activation record and removes it from the *Active* list.
- **View Log** - Displays each time the selected activation record has been activated or deactivated.
- **Send Email With Code** - This function is not used for *Lucy GIS Viewer* activations because the activation occurs automatically, without entering the code.



Note: The *Activations Manager* is used for the *Lucity GIS Viewer* and *Lucity Mobile* applications.

How to get permissions to use the Activations Manager (see "Security setup" on page 429)

ADVANCED

The following sections discuss advanced operations related to *Lucity Web*:

| | |
|---|---|
| <i>Linking To Lucity Web</i> | How to create a URL link that opens Lucity Web to a specific record. |
| <i>Linking to the Lucity Web Map</i> | How to create a URL link that opens the Lucity Web Map to view a specific record. |
| <i>Customizing the Dashboard Background</i> | How to change the background image for the Lucity Dashboard. |
| <i>Disabling HTML Reports</i> | How to remove the ability to run HTML reports for browsers that don't support this functionality. |

LINKING TO LUCITY WEB

At times, an agency might find it useful to create a URL that links directly to *Lucity Web* to view a particular asset, without navigating through the *Lucity Web* interface. For example, an agency may want to embed such a URL into a Crystal report.

Use the following URL as a template for jumping directly into the *Lucity Web* to view an *Asset*:

`http://[myserver]/[virtualdirectory]/Public/Routing.aspx?RouteTarget=Internal&RouteSubTarget=Views&RouteAction=OpenDefault&RouteParam1=[moduleid]&RouteParam2=[viewname]&RouteParam3=[Filter[tablename]+WHERE+[autoNumberField]=[autoNumber]]`

Six parts of the template must be specified:

- | | |
|---------------------------|---|
| [myserver] | The name of the server hosting <i>Lucity Web</i> . |
| [virtualdirectory] | The virtual directory in which <i>Lucity Web</i> is installed. By default: LucityWeb . |
| [moduleid] | The identifying number for the module you wish to open. To zoom to a specific <i>Sewer Pipe</i> record, use the module ID for the Sewer Pipes module. To zoom to a specific <i>Work Order</i> , insert the ID for the <i>Work Order</i> module. All module IDs are stored as <i>KeyIDs</i> in the <i>GBAUser.dbo.Modules</i> table. |
| [viewname] | The name you wish to appear at the top of the <i>View</i> when it is loaded. <ul style="list-style-type: none">• Use + or %20 to represent spaces. |

[Filter.....]

The remaining parameters fall within this section of the URL. These parameters are provided as an example; however, the intent is to enter a filter that starts with the table found in the From clause of a SQL statement in order to filter the records that are displayed in the *View*.

- Use **%3D** to replace an = sign.

[tablename]

The name of the table in which the feature or record is stored.

[autoNumberField]

The name of the field in which the autonumber is stored.

[autoNumber]

The database record number that the program assigned to identify the desired feature. For the *GBASewer.dbo.SWNET* table, the [autoNumber] would be *NT_ID*.

Examples

The following URL will open *Lucity Web* and display the *Work Order* with *WO_ID* = 33945:

http://ExampleServer/LucityWeb/Public/Routing.aspx?RouteTarget=Internal&RouteSubTarget=Views&RouteAction=OpenDefault&RouteParam1=48&RouteParam2=WO%20%2312-2343&RouteParam3=WKORDER+WHERE+WO_ID+%3D+33945

LINKING TO LUCITY WEBMAP

An agency may have a need to create a URL that directly launches the *Lucity Web Map* to display an asset, without having to navigate through the Lucity Web interface. For example, a Sewer department supervisor might want to embed a link to a mapped sewer line into a *Crystal* report.

Use the following URL as a template for jumping directly into the *Lucity Web Map* to view a feature:

```
http://[myserver]/LucityWeb/Public/Routing.aspx?RouteTarget=Internal&RouteSubTarget=MapWindows&RouteAction=ShowInMap&RouteParam1=[moduleid]&RouteParam2=0&RouteParam3=[{id:autoNumber}]
```

Three parts of the template must be specified:

- | | |
|--------------------------|--|
| [myserver] | The name of the server that hosts <i>Lucity Web</i> . |
| [moduleid] | The identifying number of the <i>Module</i> in which the <i>Asset</i> is stored. To zoom to a specific <i>Sewer Pipe</i> , the module ID should be that of the <i>Sewer Pipes</i> module. To zoom to a <i>Work Order</i> , this value should be the module ID for the <i>Work Order</i> module. All module IDs are stored in the <i>GBAUser.dbo.Modules</i> table as <i>KeyIDs</i> . The module ID is used in the <i>WKWOASSET</i> table to specify which <i>Module</i> the <i>Asset</i> comes from. |
| [{id:autoNumber}] | This is a json list of feature IDs to select in the <i>Web Map</i> . This ID represents the module's database record number. For the <i>GBASewer.dbo.SWNET</i> table, the ID would be <i>NT_ID</i> . <ul style="list-style-type: none">• To specify more than one map feature, use the following syntax: [{id:autoNumber},{id:autoNumber},{id:autoNumber}] |

Examples

The following URL will open the *Web Map* and select the sewer pipe with the ID 33293.

<http://EXAMPLESERVER/LucityWeb/Public/Routing.aspx?RouteTarget=Internal&RouteSubTarget=MapWindows&RouteAction=ShowInMap&RouteParam1=2&RouteParam2=0&RouteParam3={{id:33293}}>

This URL will open the *Web Map* without selecting a feature:

[http://EXAMPLESERVER/LucityWeb/Public/Routing.aspx?RouteTarget=Internal&RouteSubTarget=MapWindows&RouteAction=ShowInMap&RouteParam1=0&RouteParam2=0&RouteParam3=\[\]](http://EXAMPLESERVER/LucityWeb/Public/Routing.aspx?RouteTarget=Internal&RouteSubTarget=MapWindows&RouteAction=ShowInMap&RouteParam1=0&RouteParam2=0&RouteParam3=[])

CUSTOMIZING THE DASHBOARD BACKGROUND IMAGE

You can change the background image in Lucity Web to match your agency's style or color scheme.

How To Change the Background

- 1) Create a .png file and name it **Background.png**.
- 2) Copy your background to the **LucityWeb\ClientBin\images** folder and overwrite the existing **Background.png**.
- 3) It will be applied per *Web* application installation, not per user.

ADMINISTRATIVE FAQ

The following responses to frequently asked questions (FAQs) are geared toward system administrators.

Installation

Q: How do I configure the Lucy Web application to use TLS?

A: During the Lucy Web install, there is a screen that asks if the application should be installed normally or under TLS.

Q: What if I have already installed Lucy Web and want to switch to using TLS?

A: To make the switch, you must uninstall Lucy Web and reinstall it using the TLS option. Don't worry! You won't lose any *Dashboard* settings or configurations that you have made.

DOS Attacks

Question: Do you have any techniques for stopping denial-of-service (DOS) attacks from the Internet?

Answer: A DOS attack occurs when someone attempts to crash a web site by bombarding it with multiple requests. *Lucy* has implemented one technique for stopping DOS attacks in the *Citizen Portal* application.

By default, if the *Citizen* application receives more than 1000 requests within 10 minutes from a single IP address, it will stop accepting requests from that IP address for the duration of the 10 minutes. The maximum number of requests and the time period values can be configured by an administrator. The default values are hard-coded in the program; they are not found in the appsettings file. However, adding entries in appsettings.config file can override the defaults.

- You can change the denial-of-service configuration by entering the following code strings in the appsettings.config file:

`<add key="DOSREQUESTS" value="1000" />` (The value represents the number of hits allowed to occur within the period before blocking the IP address.)

`<add key="DOSPERIOD" value="10" />` (This value represents the number of minutes in a single period.)

- 1000 attempts within 10 minutes is the default setting. Lucy tracks the time of the first attempt from each IP address; if more than 1000 requests occur within the next 10 minutes, the system blocks requests from that IP address for the remainder of the 10 minute period.

Note: This technique only works for short periods and only against a single IP address. It is intended to protect against localized DOS attacks. Mitigation of large-scale, distributed denial of service attacks (DDOS) should be handled by routers and networks.

WEB DIAGNOSTICS

Lucy Web contains a special page that provides information about *Lucy Web* and its interaction with the web browser. This page is not accessible from within the Lucy Web interface and must be opened manually by typing in the following URL:

http://<servername>/LucyWeb/Public/Diag.html

The web diagnostics this page provides are primarily used in trouble-shooting.

Note: Server information will be displayed as part of this page unless the *Enable diag.html Server Information for debugging* setting is set to FALSE.

HOW TO: SETUP CITIZEN PORTAL

The *Citizen Portal* portal gives an agency's clients a way to fill out requests for work and submit them over the Internet. This section serves as a step-by-step guide for setting up *Citizen Portal*.

Installation

- For information about installing the *Citizen Portal* application, read the *Citizen Portal* section of the **Install.chm** help file that is included with the Lucy installation media.

Security (on page 474)

- User and groups
- Permissions
- Assigning the user to the *Citizen Portal*

Create Request Forms (on page 478)

- *Citizen Request Form*
- Form code
- Assigning a group to the *Form*

Form Display and application settings

- In **Lucy Web > Admin Portal > Settings > System Settings > Web Site**, there are several options that affect how the *Citizen Portal* application runs and how the *Form* displays. Follow the link for more information about these settings.

Updating the Customer Database from Requests (see "*Updating Customer Database from Requests*" on page 487)

Advanced Configurations

Customizing the Lucity Citizen Portal page (on page 490)

Customizing the Citizen Request email (on page 495)

SECURITY

Before a agency can launch the *Citizen Portal* application, an administrator must designate a user through whom the *Citizen Portal* application will access the *Lucity* databases. That user must also have permissions to create *Work Requests*. These steps are performed within the *Security* program.

Default Setup

Several *Groups* and *Users* are pre-established when *Lucity* is installed. One of these default groups is the **PublicWebGroup**. That group, by default, includes a user called **PublicWebUser**.

The **PublicWebUser** is automatically designated as the login that the Citizen Portal application will use to log into *Lucity*.

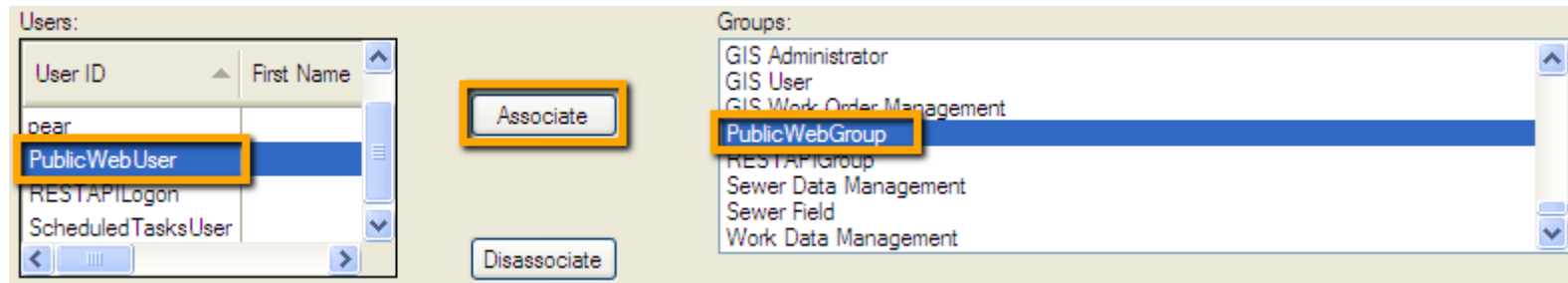
- If this *Group* and *User* have not been altered in the *Lucity Security* program, and both still have permissions, then the rest of these instructions are unnecessary. Proceed by creating the *Request* form.
- If the *User* or *Group* has been deleted, follow the instructions in the links below.

Note: Technically, another group and username could be used. However, it is highly suggested that you use the default group and username.

How to add a user for Citizen Portal

- 1) In the *Lucity Security* program, go to **Security > User/Groups Setup**.

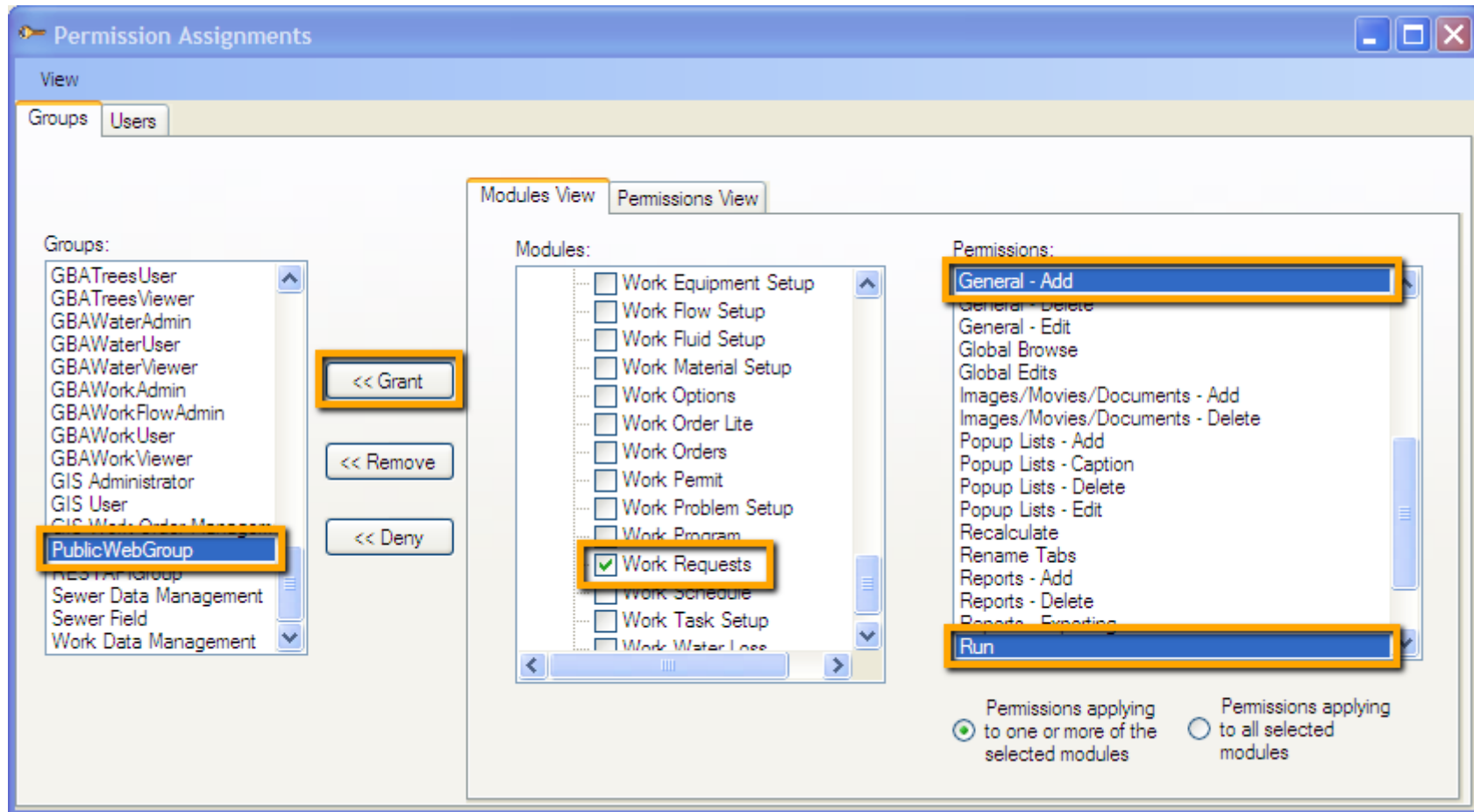
- 2) On the left side, under *Users*, check for the **PublicWebUser**.
- 3) If this user does not exist, click **New User**.
- 4) In the *User:* field, enter **PublicWebUser** and click **OK**.
- 5) On the right side, under *Groups*, check for the **PublicWebGroup**.
- 6) If this group does not exist, click **New Group**.
- 7) Enter **PublicWebGroup** as the *Group Name* and click **OK**.
- 8) Select the **PublicWebUser** on the left and the **PublicWebGroup** on the right and click **Associate**.



How to give permissions to create Work Requests

- 1) In the *Lucity Security* program, go to **Security > Permission Setup**.
- 2) On the left, under *Groups*, select the **PublicWebGroup**.
- 3) On the right, in the *Modules* tree, expand the *Work* node and check the *Work Requests* box.

4) In the Permissions list, select the **General - Add** and **Run** permissions.



5) Click the **Grant** button.

Note: The *Permissions* screen may look different, depending on settings under the **View** menu.

How to assigning the user to the Citizen Portal

After installing *Web Citizen* and setting up the **PublicWebUser**, the **PublicWebUser** login must be associated with the *Lucity Web Citizen* application. This tells *Web Citizen* to use this user login to access *Lucity* to create *Requests*.

This relationship should already be established by default; however, an administrator can verify the link through the following steps:

- 1) In the *Lucity Administration* tool, go to **Lucity Web > Admin Portal > Settings > System Settings > Citizen**.
- 2) In the *Login ID use for Citizen Website* field, verify or enter **PublicWebUser**.
- 3) Click **Save**.

CREATE REQUEST FORMS

Once the *Citizen Portal* application is configured, an agency must create a *Request Form* that citizens will use to enter their *Requests*. The form must then be assigned an ID that will identify it within the *Citizen Portal* application. Finally, the form must be assigned to the *Group* that includes the *Citizen Portal* user.

Note: These steps can be followed multiple times to create several *Citizen Portal Forms*.

How to create a Request Form

1) In the *Lucity Admin* tool, go to **Forms > View/Forms Manager**.

View/Form Manager

STEP 1: Select Program: Request Manager

STEP 2: Select Module: Work Requests (50)

STEP 3: Select Module Component: Work Requests (50)

Show forms in preview mode

Custom Views

Templates Forms

25 Views/Forms

| Name | Type | Enabled | Custom/Template | Assigned To Gr... | Assigned To Me... | Public FormID |
|--------------------------------|------|---------|-----------------|-------------------|-------------------|---------------|
| Eval Basic Citizen Request | Form | True | Custom | In Group | On Menu | |
| Eval Request Complete | View | True | Custom | In Group | On Menu | |
| EVAL2 Request Detail Complete | Form | True | Custom | NOT ASSIGNED | NOT ASSIGNED | |
| EVAL3 Fleet Req | Form | True | Custom | NOT ASSIGNED | NOT ASSIGNED | |
| EVAL3 GBAMS Fleet Request | View | True | Custom | In Group | NOT ASSIGNED | |
| EVAL4 GBAMS Equipment Requests | View | True | Custom | In Group | NOT ASSIGNED | |
| LUCITY Building Requests | View | True | Template | NOT ASSIGNED | NOT ASSIGNED | |
| LUCITY Equipment Requests | View | True | Template | NOT ASSIGNED | NOT ASSIGNED | |
| LUCITY Fleet Req | Form | False | Template | NOT ASSIGNED | NOT ASSIGNED | |
| LUCITY Fleet Request | View | True | Template | NOT ASSIGNED | NOT ASSIGNED | |
| LUCITY Req from Customer | Form | False | Template | NOT ASSIGNED | NOT ASSIGNED | |
| LUCITY Req from Employee | Form | False | Template | NOT ASSIGNED | NOT ASSIGNED | |
| LUCITY Request Detail Complete | Form | True | Template | NOT ASSIGNED | NOT ASSIGNED | |

Buttons: New, Edit..., Copy..., Delete, Rename..., Assign Group..., Enable Exporting, Export

2) Select **Request Manager** for *STEP 1: Select Program*.

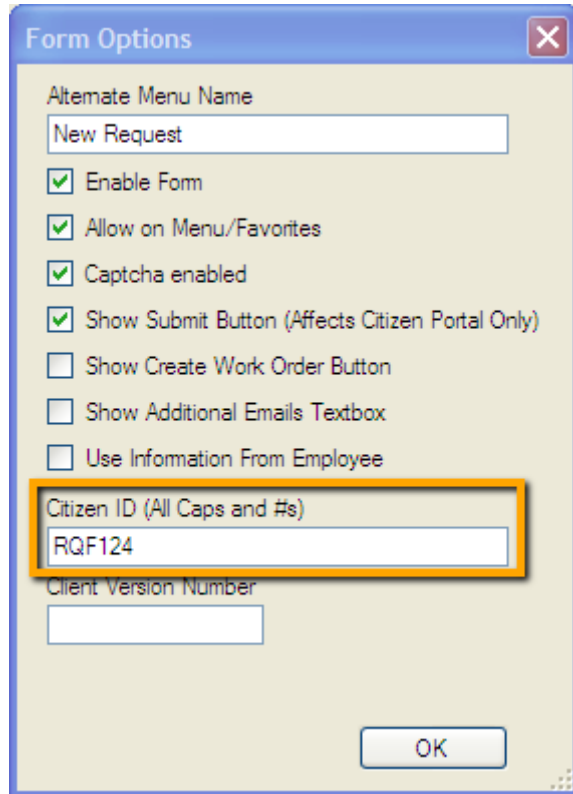
- 3) Select **Work Requests** for *STEP 2: Select Module*.
- 4) Select **Work Requests** for *STEP 3: Select Module Component*.

More information about creating a new Form, or editing an existing Form (see "**Form Editor**" on page 168)

More information about adding a File Upload field to a Form

How to assign a Citizen ID

1) In the *Form Editor*, go to **Form > Options**.



The screenshot shows a dialog box titled "Form Options" with a close button (X) in the top right corner. The dialog contains several settings:

- Alternate Menu Name: New Request
- Enable Form
- Allow on Menu/Favorites
- Captcha enabled
- Show Submit Button (Affects Citizen Portal Only)
- Show Create Work Order Button
- Show Additional Emails Textbox
- Use Information From Employee
- Citizen ID (All Caps and #s):** RQF124 (This field is highlighted with an orange border)
- Client Version Number: (empty field)

An "OK" button is located at the bottom right of the dialog.

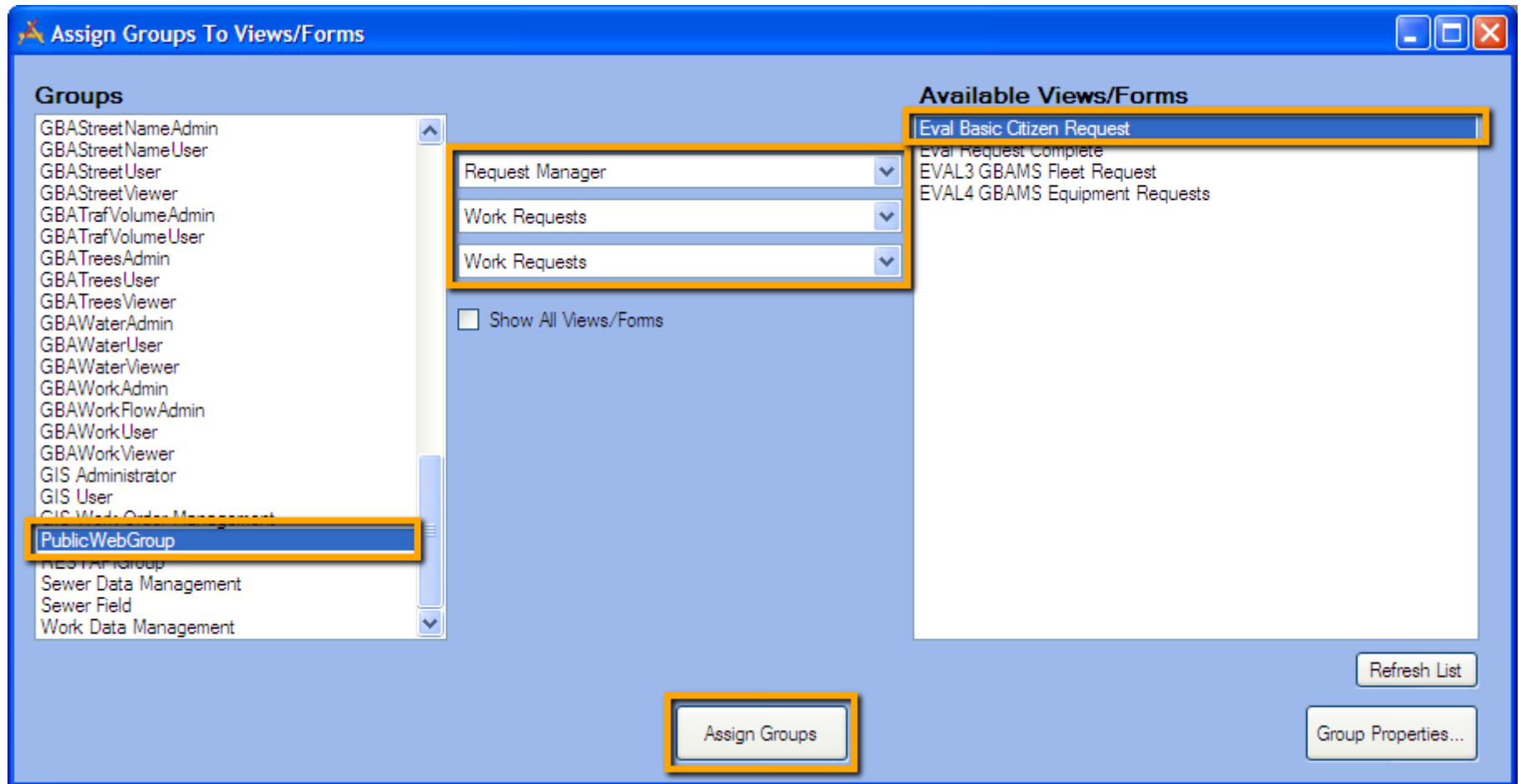
2) In the *Citizen ID* field, enter a unique ID for this *Form*. This ID must be **all capital letters and numbers**. (ex. RQF124)

3) Click **OK**.

Note: The *Form* options also give an agency the ability to hide the **Submit** button on the *Form* by unchecking the *Show Submit Button* box. This feature is helpful if a *Form* is designed to provide information, rather than serve as a means for submitting *Requests*.

How to assign the Request Form to a group

- 1) In the *Lucy Admin* tool, go to **Security > Assign Groups to Forms**.



- 2) On the left, under *Groups*, select the **PublicWebGroup**.
- 3) In the middle, select *Request Manager*, *Work Requests*, and *Work Requests* in the three drop-down boxes.
- 4) On the right, under *Available Views/Forms*, select any *Request* forms that have a *Citizen ID* set.

- 5) Click **Assign Groups**.

MAKING THE FORMS ACCESSIBLE

After the initial setup is complete, and the *Request Forms* have been created, the forms must be made accessible to citizens or internal users. If a *Form* will be used with external clients, a link to it must be added to the agency's web site. If a *Form* will be used internally, it can be added to a menu within *Lucity Web*.

How to provide the Forms to citizens

- 1) In **Lucity Web** tool, go to **Admin Portal > Settings > System Settings > Web Site** section.
- 2) Copy down the URL in the *Comma delimited list of servers running WebCitizen* field. It will look something like this:

<http://www.example.com/lucitycitizenportal>

- 3) Add the following to the end of the URL:

[/default.aspx?fui=](#)

It will look similar to this:

<http://www.example.com/lucitycitizenportal/default.aspx?fui=>

This is the URL that should be used to access any *Web Citizen Form*.

- 4) To specify a particular *Form*, add its **Citizen ID** (see "**Create Request Forms**" on page 478) to the end of the URL. The URL will look similar to this:

<http://www.example.com/lucitycitizenportal/default.aspx?fui=RQF124>

- 5) Provide a link to that URL in an appropriate place on the agency's web site. Clicking the link will open the *Form*.

How to provide the Forms internally

1) In the *Lucity Administration* tool, go to **Navigation > Menus**.

Menu Manager

Menus

- Eval Forms
- Eval Equipment

Views/Forms not assigned to menus

- Request Manager
- Work Requests (50)
- Work Requests (50)
- Eval Basic Citizen Request
- EVAL3 GBAMS Fleet Request
- EVAL4 GBAMS Equipment Requests
- Eval Fleet
- Eval Request Complete
- Eval Work Order Complete

Show All Views/Forms
 Show only Timesheet forms

Click on a menu to rename. Views/Forms on menus cannot be renamed.

*Names italicized in **RED** are disabled

Buttons: Delete Menu Group, Create New Menu Group, **Start Edit**, Save, Cancel, Refresh L

- 2) At the bottom, click **Start Edit**.
- 3) On the left, under *Menus*, choose a menu.
- 4) In the middle, choose **Request Manager, Work Requests, Work Requests** from the drop-down boxes.
- 5) On the right side, under *Views/Forms not assigned to menus*, choose the *Citizen* form .
- 6) Click the left-arrow button to assign the selected *Form* to the selected menu.

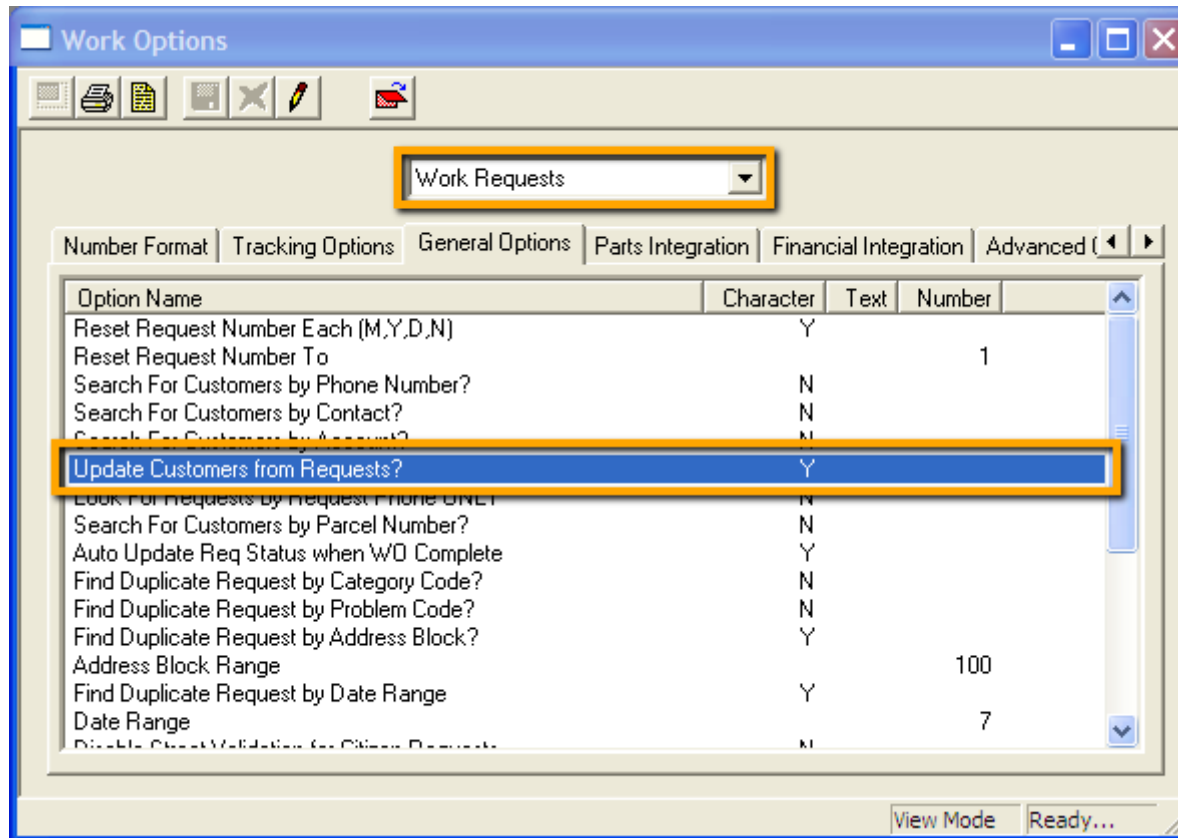
UPDATING CUSTOMER DATABASE FROM REQUESTS

Citizen Portal can add information to the *Lucity Customer* module when a new customer enters a *Request*. If *Citizen Portal* is properly configured, the following functions will occur behind the scenes:

- 1) If the customer location in the *Request* includes a *Street Name*, the system searches for a matching record in the *Customer Address* module. If a match is not found, the system creates a new *Customer Address* record.
 - If the customer location already exists in the *Customer* database, and the *Request* includes a *Sewer Pipe, Street Segment, or Water Pipe*, the system will check whether the *Asset IDs* in the *Request* match those in the *Customer Address* record. If they don't match, the *Customer Address* record will be updated with the IDs from the *Request*.
- 2) If the *Request* includes a customer's *Name* and *Street* in the requester's address, the system will try to find a matching record in the *Customer Address* module. If no matching record is found, a new *Customer Address* record will be created.
 - If a matching record is found, the *Address 2, Business Name, and Building Type* fields in the *Customer Address* record will be updated with information from the *Request*.
- 3) If there is a matching *Customer Address* record, the system will look for an associated *Customer Contact* record. If one is found, the *Contact* data will be updated with any new information. If a *Contact* record is not found, the system will create a new *Customer Contact* record.

How To Enable This Function

- 1) In *Lucity Desktop*, go to **Work > Administration > Work Options**.



- 2) At the top, switch the drop-down to **Work Request Number**.

- 3) On the *General Options* tab, make sure the *Update Customers from Requests?* option is set to **Y**.
- 4) Open the *Lucity Web*.
- 5) Open the **Admin Portal > Settings > System Settings > Website**, make sure the *Add new addresses from Citizen Web App to Customers if the Work Option "Update Customers from Requests?" is Yes* option is set to **TRUE**.

DOCUMENT UPLOAD SETUP

The *Document Upload* feature in *Lucity Web*, *Citizen Portal*, and *Lucity Mobile* lets users upload documents to the *Lucity Web Server* and attach them to a *Lucity* record. This topic explains how to configure the *Document Upload* feature for different parts of the *Lucity* application.

Document Processing and Storage

Uploaded documents are added to and processed by the *Lucity Document Server*. The files are loaded to the locations specified on the **Admin Portal > Settings > System Settings > Documents** (see "**Documents**" on page 23) section.

- The documents then are then stored in the following file structure,
 [Set Web Server Location]\[Program Name (i.e. work)]\[Module (i.e. work orders)]\[Record Number]

which looks something like this:

```
[\\YourWebServer\LucityDocuments]\[work]\[workorders]\[356]  
\\YourWebServer\LucityDocuments\work\workorders\356
```

- Therefore, all documents uploaded for Work Order 356 are stored in this folder.

How To Configure Citizen Portal for Document Upload

- 1) Install the **Document Server** (<http://help.lucity.com/webhelp/v170/install/29056.htm>).
- 2) In the **Admin Portal > Settings > System Settings > Documents** (see "**Documents**" on page 23) section, complete the following fields:
 - *Error to Display if a file upload fails in the Citizen app*

- *List of document types that are allowed to be uploaded by citizens*
 - *Maximum size for uploaded document in mb (Citizen)*
 - *Path where uploaded documents are stored (Citizen)*
- 3) Locate and edit a *Citizen Request Form* and use the **File Upload tool** (see "**Form Editor Toolbar**" on page 172) to add the **File Upload** button.

CUSTOMIZING THE LUCITY CITIZEN PORTAL PAGE

This page explains some advanced steps to customizing the look of the *Citizen Portal* page.

How To Customize the Citizen Portal Page

- 1) Create your own master file using Notepad or another text-editing program. You'll use this file to customize the fonts and colors of the citizen app.
 - Start with one of the examples provided by Lucity. We've created examples for both the Master File (StateOfNE.master) and CS File (StateOfNE.master.cs).

```
using System;
```

```
public partial class MasterPage : System.Web.UI.MasterPage
```

```
{  
}
```

```
<%@ Master Language="C#" AutoEventWireup="true" CodeFile="StateOfNE.master.cs" Inherits="MasterPage" %>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
    <title>State of Nebraska</title>
```

```
    <meta http-equiv="X-UA-Compatible" content="IE=EmulateIE7" />
```

```
    <link href="..\StyleSheet.css" rel="stylesheet" type="text/css" />
```

```
    <asp:ContentPlaceHolder ID="HeadContentPlaceHolder" runat="server" />
```

```
</head>
```

```
<body bgcolor="#3BBDC2" text="#0B251F">
```

```
    <form id="form1" runat="server">
```

```
        <div>
```

```
            <asp:ContentPlaceHolder id="phContent" runat="server" >
```

```
</asp:ContentPlaceholder>
</div>
</form>
</body>
</html>
```

- Please note that the reference to the stylesheet.css file in the master file is necessary for the *Citizen Portal* code to function. You can copy the stylesheet distributed with our application or create your own (such as StateOfNE.css). Then, reference the customized stylesheet in the master file and place it in the root folder:

```
<link href="..\StateOfNE.css" rel="stylesheet" type="text/css" />
```

- The cascading style sheet gives an agency much more control over the appearance of the web page. One property in particular that you may wish to manipulate is "ProcessInputLabel". This is the class that controls the appearance of the labels on most of the controls.

l) Update the **appsettings.config** file to use the master file:

```
<appSettings>
  <add key="MasterPage" value="SampleMasters/StateofNE.master"/>
</appSettings>
```

Sample Master File

```
<%@ Master Language="C#" AutoEventWireup="true" CodeFile="StateOfNE.master.cs" Inherits="MasterPage" %>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
    <title>State of Nebraska</title>
```

```
    <meta http-equiv="X-UA-Compatible" content="IE=EmulateIE7" />
```

```
    <link href="..\StyleSheet.css" rel="stylesheet" type="text/css" />
```

```
    <asp:ContentPlaceHolder ID="HeadContentPlaceHolder" runat="server" />
```

```
</head>
```

```
<body bgcolor="#3BBDC2" text="#0B251F">
```

```
    <form id="form1" runat="server">
```

```
        <div>
```

```
            <asp:ContentPlaceHolder id="phContent" runat="server" >
```

```
            </asp:ContentPlaceHolder>
```

```
        </div>
```

```
    </form>
```

```
</body>
```

```
</html>
```

```
Sample CS File
```

```
using System;
```

```
public partial class MasterPage : System.Web.UI.MasterPage
```

```
{
```

```
}
```

CUSTOMIZING THE CITIZEN THANK YOU PAGE

After a user submits a *Request* through *Citizen Portal*, a screen appears to thank the customer and provide a summary of the submission. This screen also includes a **Send Email** button that, when clicked, sends the summary to the user via email. The feature can even send the email summary to multiple addresses.

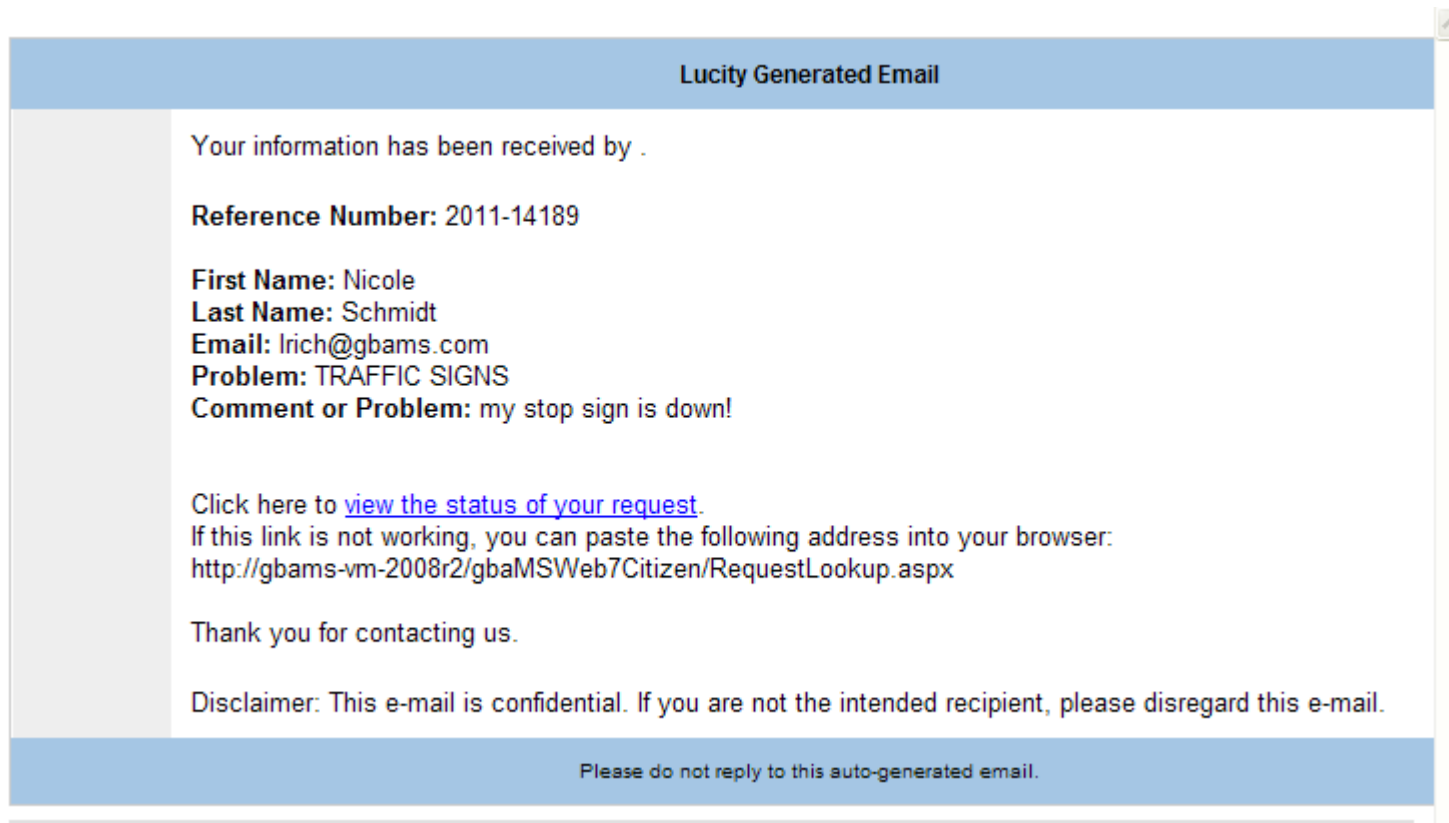
The captions for the **Send Email** button and the *Additional Emails* section can be customized through **Lucity Web > Admin Portal > Settings > System Settings > Citizen section**.

CUSTOMIZING THE CITIZEN REQUEST EMAIL

Citizen Portal automatically sends a preformatted email to users to thank them for their *Request*. The message summarizes the content of the request, thanks the customer for their submission, and provides a link that allows the customer to view the current status of the request.

Lucy provides the file (**citizenmail.html**) that serves as the template for this message. It can be customized if desired.

The default **citizenmail.html** file renders as:



How To Alter the citizenmail.html

1) To alter this HTML file, type the following four phrases, exactly as they appear below. (The locations of these phrases are identified in red in the image below.)

%CitizenRequestEmailHeader%

%number%

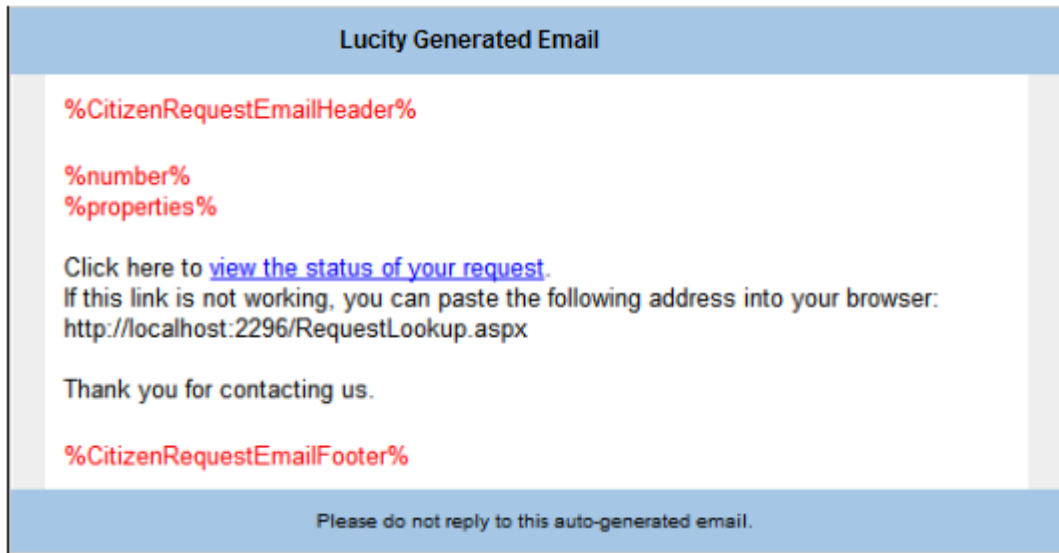
%properties%

%CitizenRequestEmailFooter%

2) Place these four phrases in any order, at any location in the HTML file. The *Lucity* code will then substitute those phrases as it generates the email with the following data:

- For the **%CitizenRequestEmailHeader%**, it uses the data from the **System Settings> Email** (<http://help.lucity.com/webhelp/v170/admin/index.htm#26025.htm>) **tab** (the first line of the email body sent to citizens).
- For the **%number%**, it uses the automatically generated *Lucity Request* number.
- For the **%properties%**, it supplies the fields included on the *Request Submittal Form*. These fields are customized when creating the *Form*.

- For the %CitizenRequestEmailFooter%, it uses the data from the **System Settings> Email** (<http://help.lucity.com/webhelp/v170/admin/index.htm#26025.htm>) **tab** (the last line of the email body sent to citizens).



Note: *Lucity* also sends a text version of the email that is not as customizable. The only way that it can be customized is to remove the link to 'view the status of your request.' This is controlled by an option in the *Lucity Web > Settings > System Settings > Citizen: Citizen Email - Include link to request lookup option*.

DOS ATTACKS

Question: Do you have any techniques for stopping denial-of-service (DOS) attacks from the Internet?

Answer: A DOS attack occurs when someone attempts to crash a web site by bombarding it with multiple requests. *Lucy* has implemented one technique for stopping DOS attacks in the *Citizen Portal* application.

By default, if the *Citizen* application receives more than 1000 requests within 10 minutes from a single IP address, it will stop accepting requests from that IP address for the duration of the 10 minutes. The maximum number of requests and the time period values can be configured by an administrator. The default values are hard-coded in the program; they are not found in the appsettings file. However, adding entries in appsettings.config file can override the defaults.

- You can change the denial-of-service configuration by entering the following code strings in the appsettings.config file:
`<add key="DOSREQUESTS" value="1000" />` (The value represents the number of hits allowed to occur within the period before blocking the IP address.)
`<add key="DOSPERIOD" value="10" />` (This value represents the number of minutes in a single period.)
- 1000 attempts within 10 minutes is the default setting. *Lucy* tracks the time of the first attempt from each IP address; if more than 1000 requests occur within the next 10 minutes, the system blocks requests from that IP address for the remainder of the 10 minute period.
Note: This technique only works for short periods and only against a single IP address. It is intended to protect against localized DOS attacks. Mitigation of large-scale, distributed denial of service attacks (DDOS) should be handled by routers and networks.

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