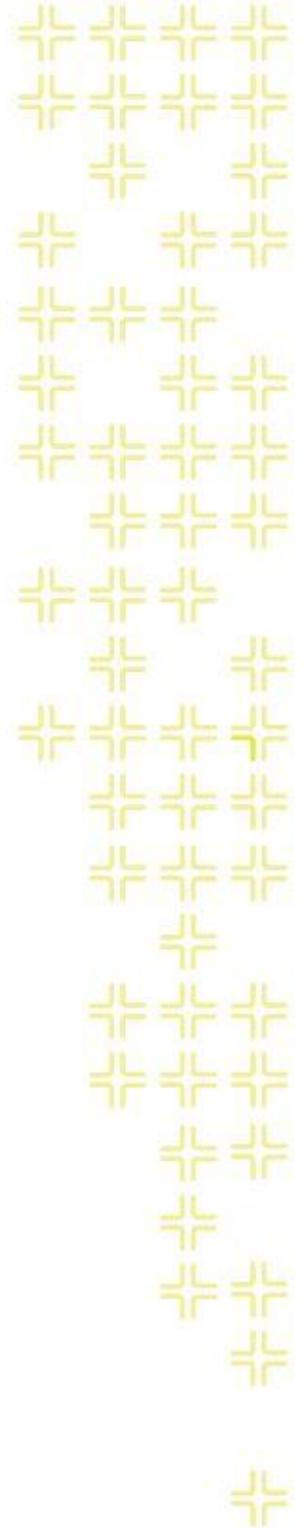




TRAINING GUIDE

Tablet Cradle to Mobile Configuration



Tablet Cradle to Mobile

The Lucy Android Tablet and Lucy iOS applications have been designed to work under the same framework as the Lucy Web application. Configuration for Lucy Web carries forward to these mobile devices automatically.

These mobile applications have 3 core components.

- Dashboard
- Views/Forms
- GIS

The goal of this session is show how to get a tablet working out in the field for online and/or offline use, assuming you have at least a little bit of preparation already done for the Lucy Web application interface.

Contents

Installation and Setup	2
License.....	2
Permissions	2
Installing Mobile Server.....	3
System Settings required for Lucy Mobile	4
Configuration Information.....	5
Downloading from App store or Google play store	5
Configuring the application for first time use.....	6
For Android:	7
For iOS:	7
First Login and Activation.....	8
Logging in	11
Logging out	11
Troubleshooting login.....	11
Warning Prompts.....	11
Local Tablet Log	12
Server Log.....	15

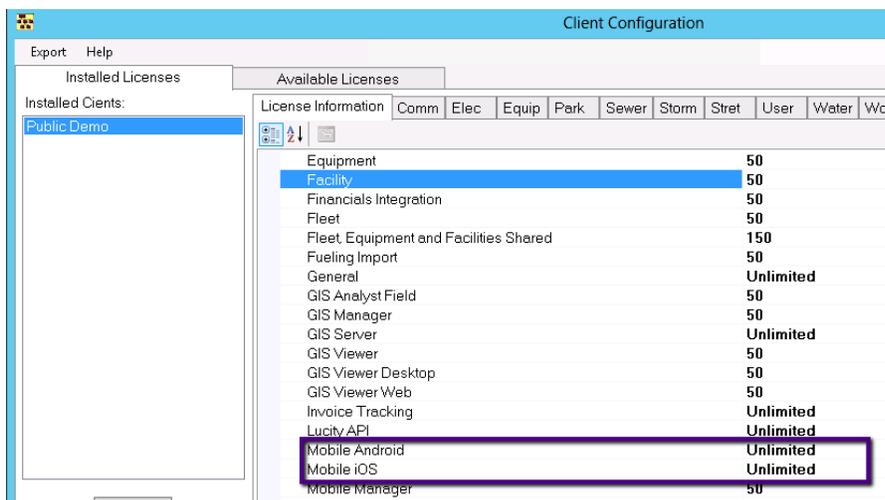
Installation and Setup

License

Lucy Mobile for iOS and Lucy Mobile for Android require a license. The licenses are not interchangeable between the 2 devices, to access Lucy Mobile on both an Android device and an iOS device, both the Lucy iOS and Lucy Android licenses are required.

Licenses are per device. Once a device is licensed, additional users logging in on that device (or activating on that device) will not consume any more licenses but each user must activate to the device and will have a separate activation code.

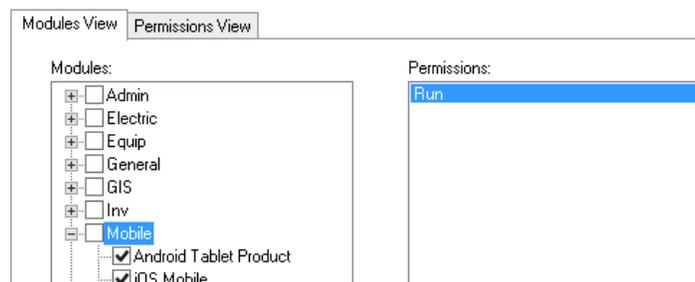
Once you have a new license file from support, install the license using Client Maintenance. Client Maintenance is in your start menu under Lucy>>Admin Tools>>Client Maintenance if you have the Lucy Admin tools option selected when you install the desktop software.



When you open client maintenance with the new license file you will immediately see your updated licenses, however they licenses will not install to your system until you click Next and follow through the Client Maintenance process. Client maintenance will close when it is done.

Permissions

Access to the mobile apps is controlled through a permission in Lucy. In the permissions form in Lucy Security, these permissions are located under "Mobile".



Users must have the Run permission to the mobile application they will be using.

The best way to do this is to assign the permission to a group and put all users that need access to the mobile product in that group instead of assigning the permission individually to all of your mobile users.

Another important setting in the Lucy Security application is the user email address. This is where all activation emails will be sent:

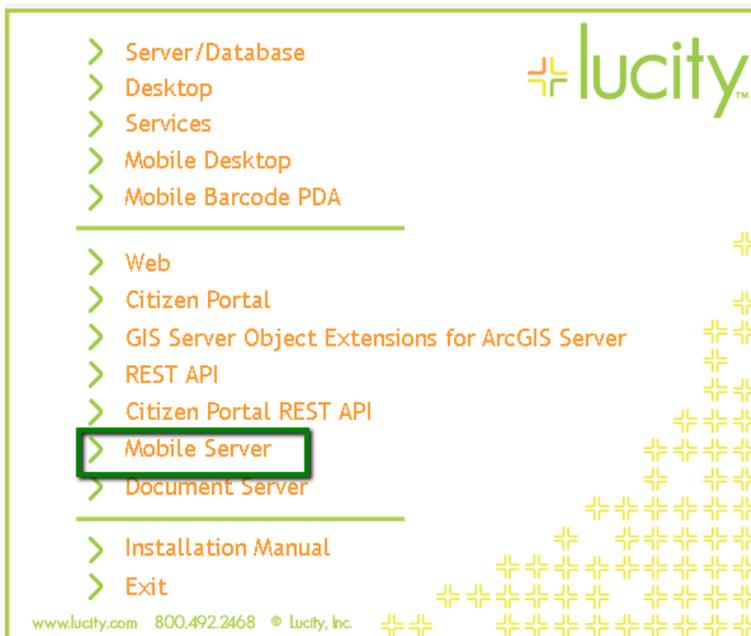
The screenshot shows a 'User Information' dialog box with the following fields and options:

- User: Nicole
- First Name: Nicole
- Last Name: Schmidt
- Email: nschmidt@lucity.com (highlighted)
- Default Rules Group: Administrator
- Enabled
- Change Password button
- Associated Windows Accounts: (empty list)
- Allow Application Authentication
- Last Login: 8/15/2014 11:04:52 AM
- Buttons: Ok, Cancel

If your users do not have an email address, you can still get the activation codes another way. This is discussed later. Ideally this should be an email they can open from the tablet so that they can copy and paste the activation code.

Installing Mobile Server

Mobile Server is available on the Lucy installation media.



It should be installed to a web server (Windows Server 2008+). If the tablets will be using VPN or local Wi-Fi connections, this can be an internal web server. If no, this application must be placed in the DMZ so that it is available to the tablets.

Choosing to install with SSL (https) is recommended. This is the default. If a secure VPN is in place this is not important. If the Mobile product will be in the DMZ this is very important to product access to your data. This will require a security certificate for the server. Unsigned certificates are not supported.

In addition to the Lucy Mobile product, if you want users to be able to upload and download documents, you will also need to install the Lucy Document Server. The Document Server does not typically get installed in the DMZ, it gets installed on an internal web server which can access the network locations which contain the files to be uploaded and downloaded. The Lucy Document Server is an application used for multiple applications within Lucy including Lucy Web, Lucy Citizen Portal, Lucy Mobile Server, Lucy Citizen Portal REST API, and the Lucy REST API.

Ensure that firewall settings are configured to allow Lucy Mobile Server to make unsolicited requests to the Lucy Document Server on the port that is used for the Lucy Document Server (port 80) if the Lucy Document Server is installed on a different server.

The Lucy Android and iOS tablets will not access the Lucy Document Server directly. All requests for documents (download and upload) are proxied through the Lucy Mobile Server.

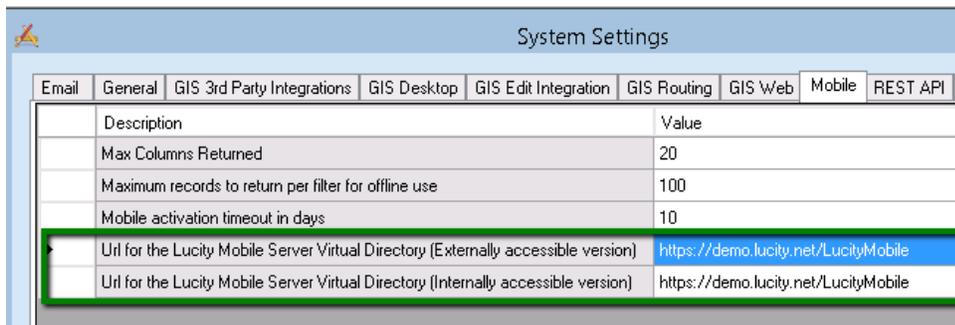
Starting with Lucy 2014r2, the Lucy Services server must have access to make unsolicited requests to the Lucy Mobile server application using the http (TCP) on the port the Lucy Mobile Server was installed to (typically 443 or 80). Each night around 2a, the Lucy Services will be making a request to the server to tell the server to cache data for offline use by Android tablet users. By default the Lucy Mobile Server is configured to recycle the app pool at 2a. If the default configuration for the services and the app recycling is kept, the request to begin caching data will occur immediately after that recycle. The offline cache takes approximately 10 to 40 minutes to complete.

Lastly you must configure your network to allow necessary access to your GIS Server. There are several ways this can be done and goes beyond the scope of this session. Regardless of whether you are hitting the primary ArcGIS instance or you are using an ArcGIS web adapter, the following requirements must be met:

- The mobile devices must be able to connect to the ArcGIS web services. GIS web service access is not proxied through Lucy Mobile Server
- The Lucy Mobile Server host must be able to connect to the ArcGIS web services. Lucy Mobile Server connects to these servers to get metadata about the layers (what layer is the sewer pipe layer, what layer is the water hydrant layer, etc). If Lucy Mobile Server cannot access to the web services, the maps will show up on the tablets but any attempts to do Show in Map, create work orders or inspections or other Lucy specific functions in the map will fail. This is discussed more in the GIS setup later in this session

System Settings required for Lucy Mobile

Once the application is installed, the following system settings must be set (these are relevant for Lucy 2014r2 and later versions)



System Settings									
Email	General	GIS 3rd Party Integrations	GIS Desktop	GIS Edit Integration	GIS Routing	GIS Web	Mobile	REST API	S
Description	Value								
Max Columns Returned	20								
Maximum records to return per filter for offline use	100								
Mobile activation timeout in days	10								
Url for the Lucy Mobile Server Virtual Directory (Externally accessible version)	https://demo.lucity.net/LucityMobile								
Url for the Lucy Mobile Server Virtual Directory (Internally accessible version)	https://demo.lucity.net/LucityMobile								

The installer will not automatically set these values.

Configuration Information

Once installed, tablet users (or whoever will be configuring the tablets) will need the following information:

- The host name you want the tablets to use to connect to the server. This must be resolvable from the tablets. IP addresses will generally work, as will public DNS names. Internal server names will only work on VPN configurations.
- The name of the virtual directory used during the install. If the default was left, this is Lucy Mobile Server.
- The port used for the installation. The default port is 443. If SSL was not chosen as an option during the Lucy Mobile Server installation, the default port is 80.
- Whether or not SSL was used. You cannot use a mix of SSL and non SSL. If SSL was chosen at the time of the install, users must connect using SSL.

Downloading from App store or Google play store

The Lucy Mobile application can be downloaded from the Google Play store or from the Apple App store. For Android devices we can also provide the APK separately if required. We recommend using the Google Play version because you are more likely to be on the latest release. The only notification we provide of new releases on Android or iOS are on our blog. Users that have downloaded the app from the App stores can configure the application to automatically update.

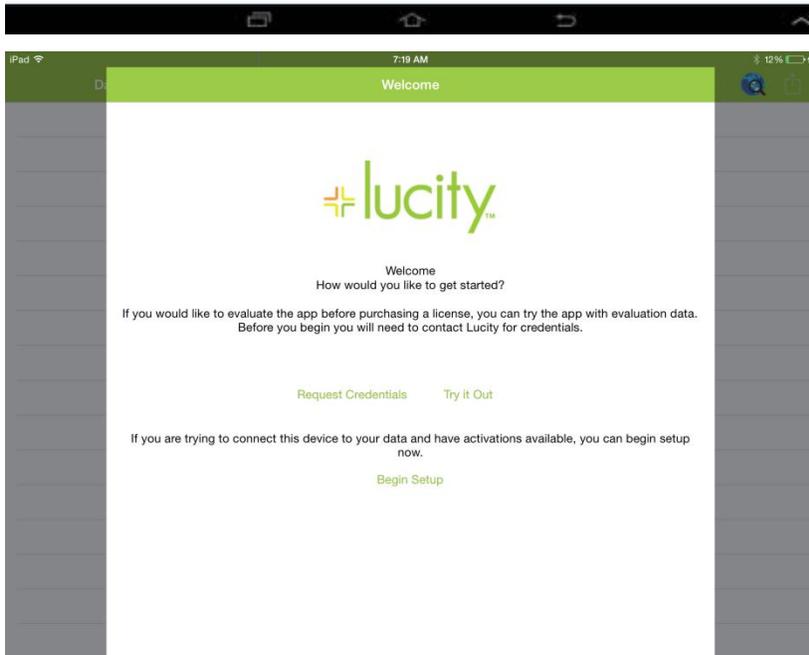
We recommend always staying on the most recent version of the mobile application. The Mobile application versions are not tied to Lucy Mobile Server versions. If you are still on an older Lucy Mobile version, you can still update to the latest device version. Some features, however, may be disabled (such as offline mobile, parts inventory integration, etc) if the server version you are on does not support them.

Searching for Lucy Mobile on both of the device stores will generally find our application as the first or second search result. Alternately we generally include links to our client versions from the Lucy blog every time we release a new version of the client application.

Notes: _____

Configuring the application for first time use

Once the application is downloaded and opened, the default setup screen will be displayed:



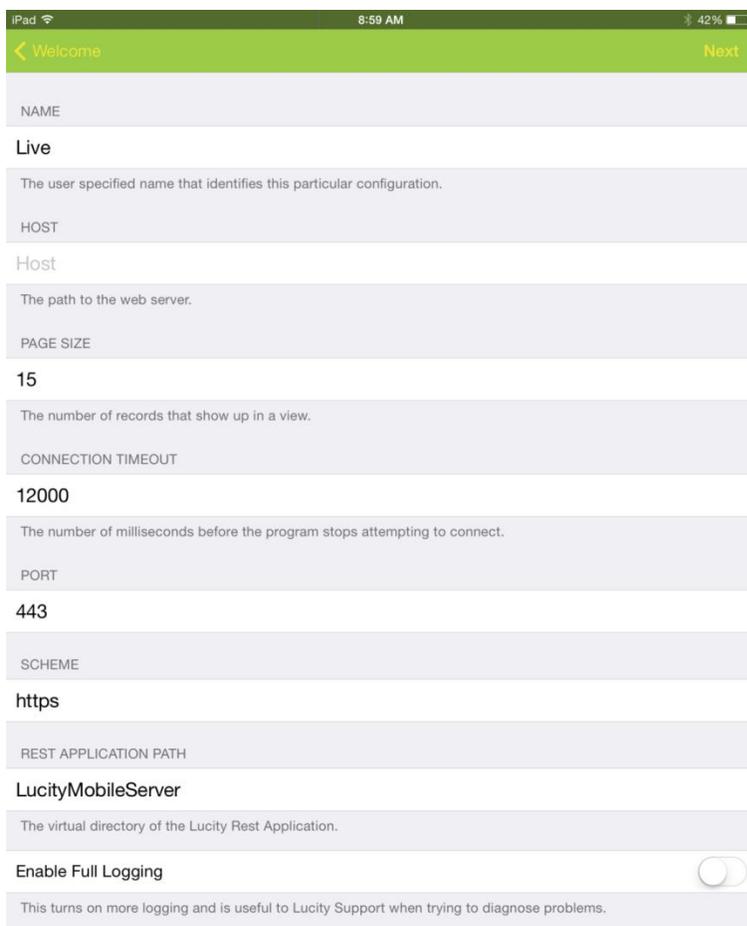
Choose Begin Setup. This will take you to the Settings Screen.

Notes: _____

For Android:



For iOS:



Name is a user friendly name for the dataset you are logging into. We commonly call this the client. If you have a training/test and a production environment, your tablet can point to both environments. You can use the Name to help distinguish between these environments.

The Host is the name of the server where the Lucity Mobile Server product is installed. This may be a server name, it may be an IP address, or it may be an alias. For example, your server might be called JARVIS but your alias might be "mobile.cityOfLucity.KS.gov", or if you do not have an alias or public DNS, your server name may be the externally routable IP address of the server.

For Android the hostname also needs to include a port (for non-default ports only). If the port is 80 or 443 this is not necessary. If you installed Lucy Mobile Server to port 8081 on a server called CityOfLucyServer, the host would be “CityOfLucyServer:8081”. If the IP address is used instead, the host name might look like this: “10.10.10.100:8081”.

The scheme identifies whether http or https are being used. These are the only 2 schemes supported.

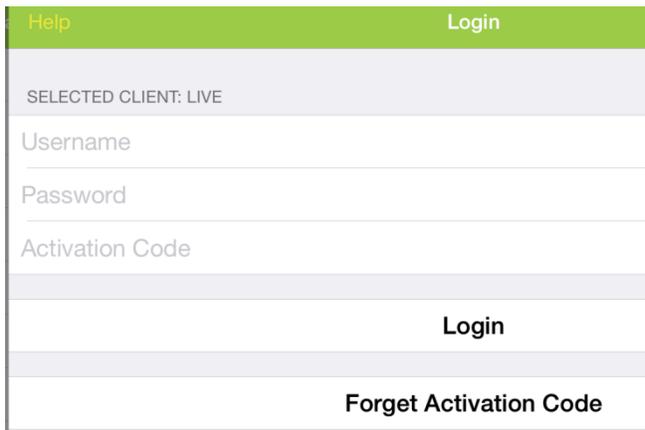
For iOS, there is a separate port field. The default value, 443, is for https installations on the default SSL port. If you choose to use a non-SSL install (plain http), the port must be changed to 80 or whatever port you want to use. If you use a non-default SSL port, you must also adjust the port number.

The REST application path is the name of the virtual directory used when installing the software. By default this is LucyMobileServer.

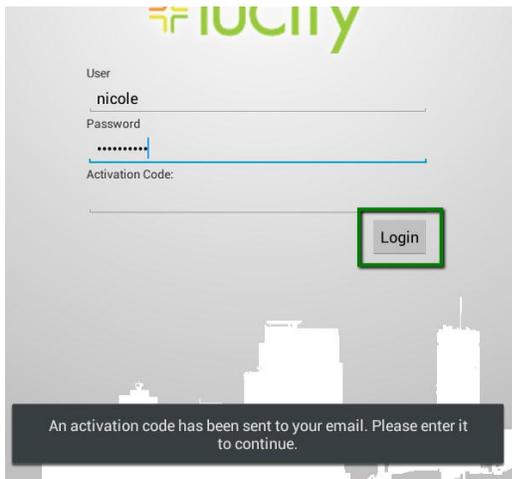
Once the host, scheme, application path, and possibly port are set, click the save  in Android or the **Next** in iOS.

First Login and Activation

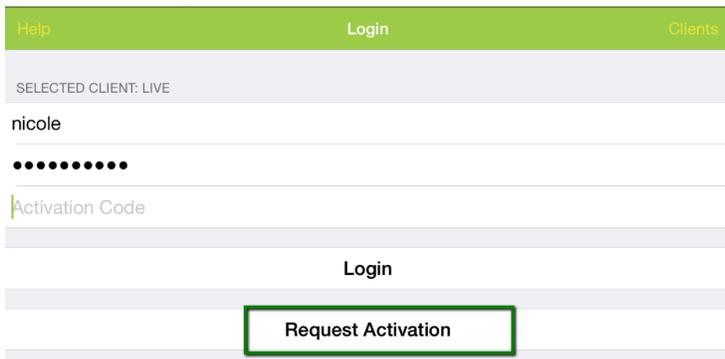
This is what the logon screen looks like on Android and iOS the first time someone tries to logon after adding the first client.



The first time a user logs into a device, they will need to activate the device. On Android this is done by entering the username and password and clicking Login.



On iOS this is done by entering a user name and password and clicking “Request Activation”.



The request for activation checks the user’s password, checks the user’s permissions, and checks licenses. If all three are successful, the system will generate a random code and will email the code to the email address configured for the user.

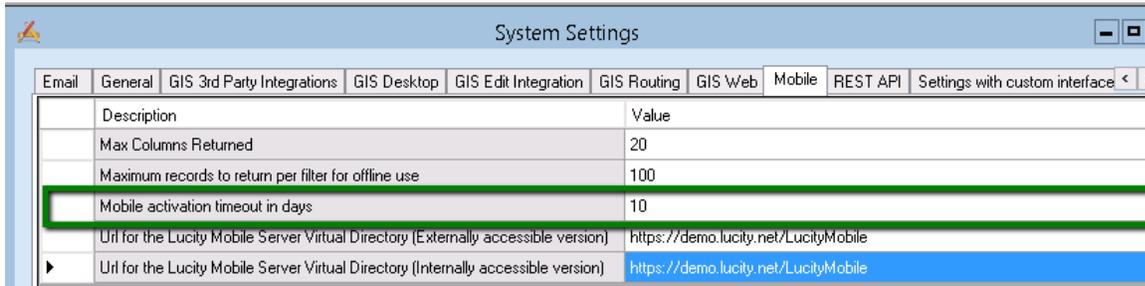
If you do not want to use email to get the activation code, you can alternatively retrieve the user’s activation code from LucyCity.Admin.exe under System>>Activations Manager.

Activations Manager				
Active activations				
Secret	User Name	Last Activated On	License	
4BF9-475F-A481-7C525BC886EB	EYMBG8HP	mweh	5/1/2014 8:59:57 AM	MobileiOS
	RX4OL3WI	mwtest	8/1/2014 11:06:51 AM	MobileAndroid
1	g0qqxrvroy	Nicole	5/6/2014 1:00:13 PM	WorkOrdersAndroid
8C21-47B9-9754-D723C923E9C4	XD6FA8WB	Nicole	5/19/2014 12:00:17 PM	MobileiOS
92D9-4E4D-888B-1B6E87F380A6	lijvwrJQ7P	Nicole	8/19/2013 9:25:51 AM	WorkOrdersAndroid
	temp	Nicole	8/15/2014 12:36:00 PM	MobileAndroid
4A867E	BfazDQ2as5	Nicole	9/11/2013 4:26:34 PM	MobileAndroid
2FDB-43D8-BBF9-87A2FDB2C9AD	NwFsekmarq	Nicole	2/5/2014 1:21:12 PM	MobileiOS
88D9-4431-8c72-9A2D5967CB2F	ykdkw8ycZU	Nicole	4/28/2014 4:19:26 PM	MobileiOS
A7	jhVTaEzPhy	Nicole	11/27/2012 5:48:19 PM	GISESRIRuntime
7627cf	jaeyGIVGgd	Nicole	8/29/2013 6:54:04 PM	WorkOrdersAndroid
7627cf	jaeyGIVGgd	Nicole	3/19/2014 11:36:27 AM	MobileAndroid
7Dd5-4348-9B60-94D733E0CF45	gyBFTzPlCj	Nicole	2/3/2014 10:47:16 AM	MobileiOS
4	AchKw6cExq	Nicole	10/25/2012 4:37:53 PM	WorkOrdersAndroid
0945-48B8-883B-6420CF0C4D32	cLenwvmMwr	Nicole	2/3/2014 12:13:26 PM	MobileiOS
d4a121	RMMJRZRZ	permtest	4/9/2014 2:17:59 PM	MobileAndroid
4C62-4C3C-886E-70B382193A13	6F3Z2CnXnc	pmonsh	2/6/2014 3:08:43 PM	MobileiOS

Activation codes are case sensitive. Recent versions of Lucity mobile activation codes are 6 characters and are all lower case letters and numbers.

If you replace or decommission a device, you can delete activations to free up available licenses. Select the item from the grid and click “deactivate license”. You will need to deactivate all licenses for the “Name” that is being deactivated to free up the license.

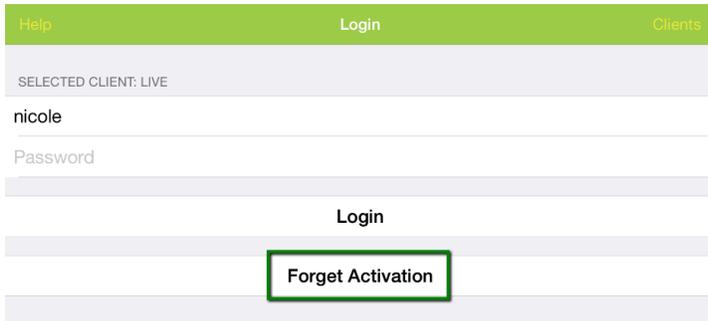
Alternatively, Lucity Mobile can automatically re-appropriate device licenses which have not recently been used. This is controlled by a system setting in Lucity Administration Tools.



This setting is only relevant if someone tries to activate a tablet and there are no remaining licenses available. The system will check to see if any devices are inactive. If they are, it will deactivate them so that the new device can be activated.

Once you have the activation code, enter it or paste it into the Activation Code field and click Login.

If the activation code field is not visible on iOS, click “Forget Activation”. This will force the activation field to show.



The activation code only needs to be entered once. The device will remember the activation for further logins. Entering an activation code again may be required if the license is deactivated on the server or if the software is uninstalled and reinstalled on the device.

Activation codes are unique per user. If Ed logs in to the device he will need to enter his activation code, if Sally later logs in she will get a separate activation code. Once both Ed and Sally enter activation codes on the device, they will only need their user name and password for time forward logins.

Notes: _____

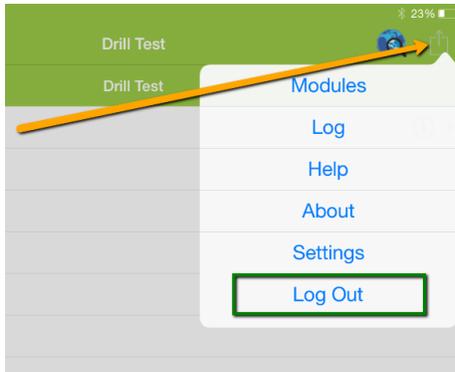
Logging in

Once the activation code is entered, the user can log in. On Android, once the user logs in they are kept logged in until they explicitly log out again. On iOS users must log in each time they open the app after powering on the device or after the app was closed.

Subsequent logins do not require an activation code but the user must enter their correct password.

Logging out

To log out of the device, select “Log Out” from the menu. Logging out will prevent unauthorized users from getting access to modify the data in the Lucity Mobile application.



Troubleshooting login

Typically the initial hurdle in a tablet implementation is getting the devices logged in. It can be challenging to know what to put in the setup when configuring it, users may not have the password right, or may have the username or activation wrong potentially. You also may have problems with the network or firewall or VPN (if applicable) not being configured properly.

There are 3 sources to use when troubleshooting the devices.

Warning Prompts

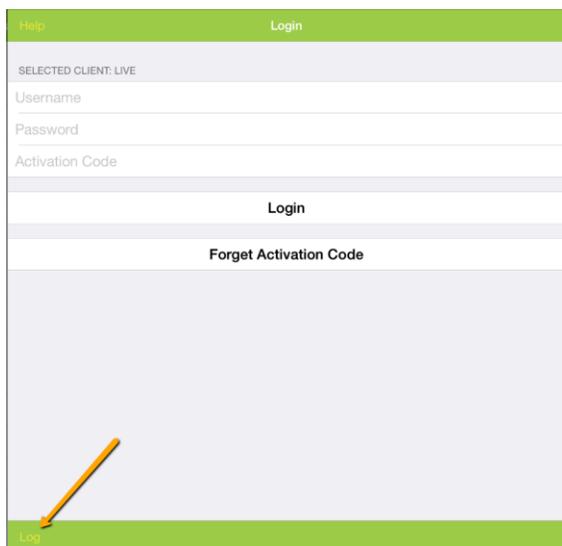
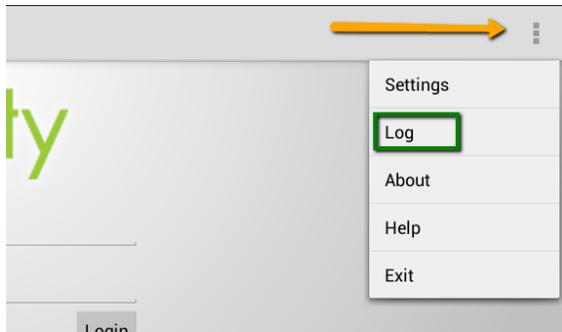
If there is a problem with the username and password, the user will be notified that the credentials are wrong “Invalid username or password”.

If there is a problem with the activation code, the system will prompt and tell the user that the activation code is invalid.

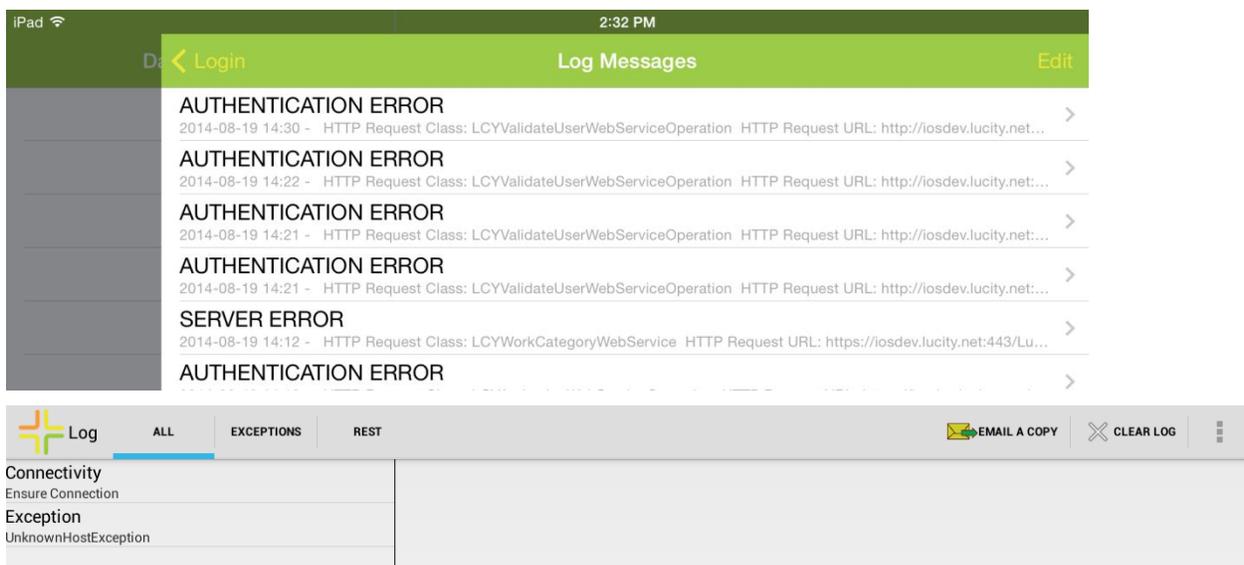
Notes: _____

Local Tablet Log

There is a local log on the tablet which will log errors. If logon fails, you can refer to this log for more details on the failure. The log is accessed from the login screen.



The log shows the most recent entries at the top of the list



Select an entry summary to view the extended details in the log.

← Log Messages 2014-08-19 14:30 - AUTHENTICATION ERROR ↑

HTTP Request Class:
LCYValidateUserWebServiceOperation

HTTP Request URL:
http://iosdev.lucity.net:80/LucityMobileServer/Users.svc/Validate?format=json&Take=15

HTTP Request Method:
POST

HTTP Request Headers:
{
 Accept = "application/json";
 "Cache-Control" = "no-transform";
 "Content-Type" = "application/json";
 LucityMobileAuthorization = "DEVICE 800DEE4B-6C21-47B9-9754-D723C923E9C4 KEY PhElrsGiUy LICENSE
MobileiOS USERID nicole";
 LucitySF = "0,1";
 LucityIOSVersionNumber = "1.3 7.1.2 iPad 3 WiFi";
}

HTTP Request Body:
{ "Initials": "nicole", "Password": "*****" }

Data Received:
(null)

Web Service Response Error:
Error Domain=NSURLErrorDomain Code=-1003 "A server with the specified hostname could not be found."
UserInfo=0x18bb3f70 {NSErrorFailingURLStringKey=http://iosdev.lucity.net:80/LucityMobileServer/Users.svc/
Validate?format=json&Take=15, NSErrorFailingURLKey=http://iosdev.lucity.net:80/LucityMobileServer/Users.svc/
Validate?format=json&Take=15, NSLocalizedDescription=A server with the specified hostname could not be found.,
NSUnderlyingError=0x18bd1180 "A server with the specified hostname could not be found."}

Log ALL AUTHENTICATION EXCEPTIONS REST EMAIL A COPY CLEAR LOG ≡

Connectivity	Connectivity
Ensure Connection	Summary: Ensure Connection
Exception	When: 08/19/2014 2:35:35:154 PM
UnknownHostException	User: nicole
Login Successful	Client: Live
nicole	Details:
Login Delayed	java.lang.RuntimeException
Activation	java.net.UnknownHostException: Unable to resolve host "iosdev.lucity.net2": No address associated with hostname
Validation Failed	Stack Trace:
Unauthorized	java.lang.RuntimeException: java.net.UnknownHostException: Unable to resolve host "iosdev.lucity.net2": No address associated with hostname
HttpPost - 401: Unauthorized	
http://iosdev.lucity.net/LucityMobileServer/Users.svc/?Func...	

Frequently a failure will be logged in more than one log entry depending on the cause of the failure. Sometimes the log is helpful, other times you may need to resort to additional troubleshooting measures.

If you are working with support or want an email of the log, you can email one entry or an entire log. In Android, to email log entries select the entry, then click "Email a Copy". It will ask you whether you want to email just one entry or all entries.

Choose Number of Entries

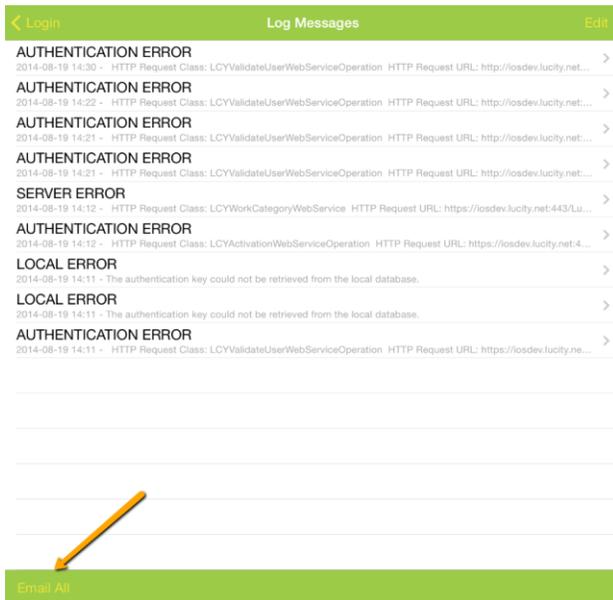
Do you want to get the selected entry or all entries?

Cancel	All	Selected
--------	-----	----------

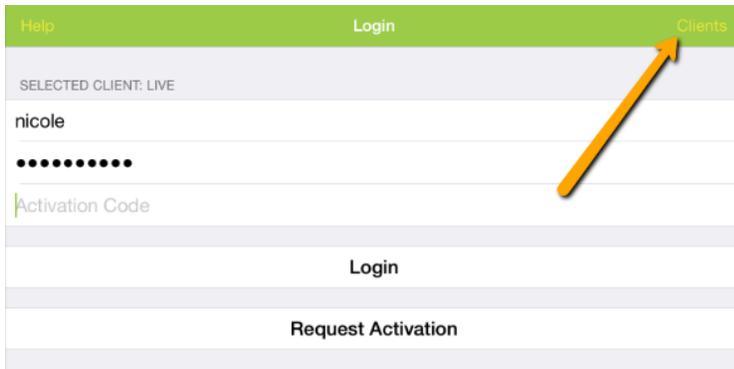
In iOS to send one log entry, click the menu and select Email.



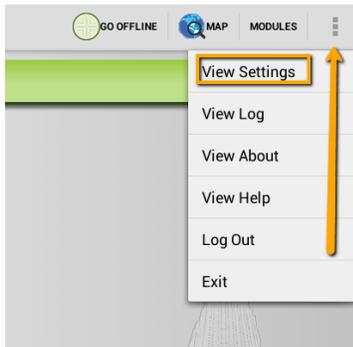
To email an entire log in iOS, navigate back to “Log Messages” and Click Email All at the bottom of the screen



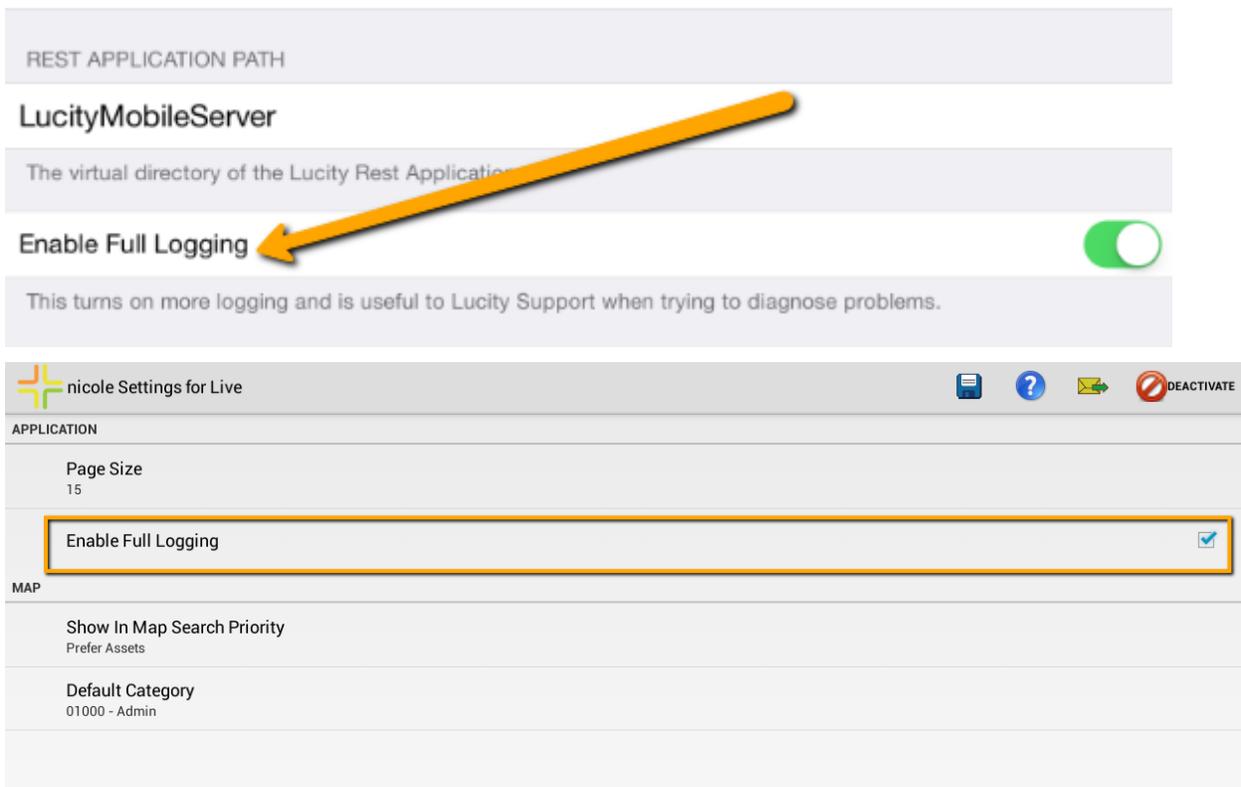
If error logging is not providing enough information, logging can be increased. This is done in settings. From the login screen, settings is reached by clicking on “Clients” in iOS.



In Android, full logging can only be enabled after logging in. It is reached by clicking the menu and selecting “View Settings” from Android.



In this dialog, toggle Enable Full Logging On



Full logging is a time forward setting.

Server Log

In addition to the tablet log, it may be helpful to view server logs. Server logs may provide more information about why a tablet will not activate. The two recommended server logs to review are the rolling log located in the installation directory of Lucy Mobile Server (under a folder called Logs) and the Application Event Viewer logs on the web server.

Server logs are where you would find out if licenses are not available, a user is not configured properly, or if something else was misconfigured on the server.