
User Manual

logSheet™ 2

Document Analysis and Print Accounting Solution

Rev 15

X2 Studios, Ltd.

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Welcome to logSheet 2

What Is logSheet 2?

logSheet 2 is a cross-platform, client-based print accounting system that will help you analyze printing costs by tracking and storing all required print job information for later analysis. logSheet 2 is intended to be used as a tool to assist users in assigning Billing IDs to print jobs.

How Can I Use logSheet 2?

You can use logSheet 2 in standalone or sync it with the logSheet Server [included]. If used alone it will track printing on the local system and store the logs locally. If synced with logSheet Server logs will be transferred to the server on a regular interval.

Is logSheet Server a print server?

No, logSheet Server is a logSheet server. It has nothing to do with your printer's connectivity. You do not need to change your printer configuration, just keep using local and network printers.

Feature Highlights

logSheet 2 introduces several new productivity-enhancing features, such as Intelligent Job Batching, customizable Smart Lists, and one-click syncing with logSheet 2 Server using Apple's Bonjour.

logSheet 2 also features an enhanced print job tracking engine, including support for Fiery RIP's, Tioga printer drivers, as well as printer media types and duplex tracking.

The new logSheet Manager allows for instant report generation using built-in and user-created Smart Lists. Drag-and-Drop importing of Billing IDs, and exporting of Job Logs to any application is also supported.

The new logSheet 2 Server can serve as a central job log synchronization point. Using Apple's Bonjour, setup and management of each client has never been easier.

Support Services

The X2 Studios website provides up-to-date information on logSheet 2, checkBox, and other X2 Studios Software products, including FAQs, product updates and other support and informational materials.

<https://www.x2printaccounting.com/>

For support help and information, follow the links to the Support area, where you'll find a wide range of information including:

- Frequently Asked Questions (FAQ) — Information and answers for commonly asked questions and issues. We strongly recommend you read the logSheet 2 FAQ before resorting to other means of inquiry.
- Product Updates — The latest maintenance versions of our products will always be available for download.
- Technical Support — If you have a registered version of logSheet 2 or any other X2 Studios product, and you can't find the information you need on our website, send an email to [<support@x2studios.com>](mailto:support@x2studios.com)

Installing logSheet 2

This chapter tells you how to install logSheet on your Macintosh. It also describes the files logSheet creates, where it puts them, and how to install or remove optional components of logSheet.

Basic Installation

logSheet is supplied as an installer-based application. Specific system requirements and installation instructions are described below, and the organization of logSheet's supporting files is described in subsequent sections.

System Requirements

IMPORTANT: logSheet 2 requires Mac OS X 10.6 or later. The software will not run on Mac OS 9, or any earlier versions of Mac OS X.

Supported Devices

logSheet 2 should work with any printer or MFC. If you find one that doesn't work let us know so we can fix it.

IMPORTANT: Network printers use local queues and are supported. Printers shared from another Client version of Mac OS X are supported by logSheet v2.7.11 and higher only.

Installing logSheet

Depending on how you obtained logSheet, you will receive either a disk image (a ".dmg" file) or a ZIP archive (.zip). To install logSheet, mount the image file or expand the archive. Open the resulting disk or directory and double-click "logSheet 2.pkg"

Un-installing logSheet

Depending on how you obtained logSheet, you will receive either a disk image (a ".dmg" file) or a ZIP archive (.zip). To install logSheet, mount the image file or expand the archive. Open the resulting disk or directory and double-click "uninstall logSheet 2.pkg"

IMPORTANT: Make sure you are connected to the internet if you are not planning on continuing to run logSheet on the system you are uninstalling from, otherwise you will not free up the activation that was used when you entered your serial number in the logSheet preferences pane. If you were using a trial serial, don't worry about this part.

Updating an Existing Copy

IMPORTANT: logSheet may require a restart when upgrading from previous versions. If you are upgrading from v2.6 or before it is recommended that you un-install first with the uninstall that came with your original installer.

Upgrading from a Previous Major Version

IMPORTANT: If you were running logSheet version 1.x your data will not be migrated, however, it will not be removed. logSheet 2 does not store data in a flat file and it is not formatted in the same manner as logSheet v1.x data.

Activating the Trial

While running in trial mode, logSheet will operate with full functionality for a limited period of time. Upon expiration of this trial period, you must purchase the product and receive a serial number in order to continue using it. The trial is automatically activated after installation. You can see how much time is left in your trial license by opening the logSheet preferences pane; located in 'System Preferences' and clicking on 'Register'.

Entering your serial number

The Register tab in the logSheet preferences pane also enables you to enter the unique product serial number that you received at the time of purchase (either with your email order invoice or on the X2 License Centre <http://license.x2studios.com>) to activate logSheet. Once you enter the serial number, your copy of logSheet 2 will be activated, and all trial restrictions will be removed. If you have not yet purchased the product and thus do not have a serial number, leave this space blank. logSheet 2 will operate as a fully functional demo for a limited trial period, after which you must purchase a license and enter a valid serial number in order to continue using it.

If logSheet 2 has already been activated, the tab will display the associated serial number and expiry date [if applicable]. You may continue using this serial number, or enter a different serial number if you wish to change the active license.

It is important to note that you have a limited number of activations. Running the uninstall logSheet 2.pkg while connected to the internet when removing logSheet 2 from a system is imperative. Only by doing a proper uninstall will the license system grant you another activation.

logSheet's Application Support Folders

logSheet 2 makes use of an application support folder to store and organize a variety of support items.

Such items are kept in subfolders according to their purpose (described below).

logSheet's application support folder must be present in either or both of the following locations:

- Global (logSheet server items): /Library/Application Support/logSheet/
- Local (user-specific items): ~/Library/Application Support/logSheet/

NOTE: In the above path to the local application support folder, ~ is the customary Unix shorthand to indicate the user's home directory. If written out as a full path, this would normally be "/Users/<username>/Library/Application Support/logSheet/".

Application Support Folder Contents

logSheet's application support folders contain database files, each of which holds a specific type of information.

Editing the Global Application Support Folder Item

You should not need to edit the core.db file in this directory. However, if the need does arise the core.db file is an SQLite DB and may be edited with SQLite 3.3 or above.

You may also add an image file that will be included in the manager summary window. The image must be named summaryLogo.gif, summaryLogo.png, summaryLogo.jpg or summaryLogo.jpeg. If you need to customize the summary view even more you can include a custom HTML file named summaryReport.html.

Editing a Local Application Support Folder Item

You should not need to edit any files in this directory. However, if the need does arise the core.db file is a SQLite DB and may be edited with SQLite 3.3 or above.

Startup Items

logSheet 2 uses the StartupItems system to launch its helper application 'logSheet Helper.' In addition, logSheet Server is launched using a StartupItem. You should not need to edit these items.

Preference Files and Folders

When you start up logSheet, it may create the files and folders noted in this section.

logSheet Preferences File

All of logSheet's basic preference settings are stored in the file "~/Library/Preferences/com.x2studios.printAccounting.logSheet.plist", which is created and maintained using standard OS services. This change brings several benefits, including improved durability of the preferences file, better performance when accessing remote storage (e.g. with a network home folder), and the ability to modify preference settings outside of logSheet by using appropriate "defaults write" commands (see "Optional settings via 'defaults write'").

Upgrading to logSheet 2 will disregard preference settings from previous versions of logSheet.

The Preference Pane

This chapter discusses how to use the logSheet preferences pane to customize your logSheet install.

Accessing the Preference Pane

To access the logSheet preference pane, select 'System Preferences' from the Dock; if System Preferences has been removed from the Dock select it under the Apple Menu; then under the 'Other' row click on 'logSheet.'

General

By default, all devices recognized by the printing subsystem in Mac OS X are automatically tracked. If a user does not wish to track a specific device they can uncheck the check box that appears in the 'Track' in the row of the device they do not wish to track. This is a per-system setting and is not server distributable.

This tab also contains the preferences for how billing ids are tracked. If 'Require billing ID to be entered' is checked then billing ids must be at least one character in length. If 'Only allow pre-entered billing IDs' is checked only ids that match those that were entered using the logSheet Manager application [or synched via the logSheet server] may be used.

- **Show Status Menu:** This button will only appear if you have hidden the logSheet status menu. If you click this button the menu will reappear in the menu bar on the right-hand side.

logSheet 2 includes the logSheet server. The server gives customers the ability to sync billing ids from the server to the clients and to collect the job logs from the clients to a central location. To view the logSheet Server data you would use the logSheet Manager application. If the manager is not set to use the server db: set the logSheet manager to use the database located in /Library/Application Support/logSheet/ on the system running the server.

- **Selecting a server:** logSheet server advertises itself using Bonjour. Servers that are available in your .local domain will automatically show up in the 'Keep logSheet synced with:' pulldown. To begin syncing with a server simply select the server you wish to sync with from the pulldown.

NOTE: Although a sync delay is used. A sync will only be attempted if the server is found. If the server is not found on the local domain then syncing will be paused until it comes back 'into view.' When the server is re-discovered a connection will immediately be made and a sync attempted. This is great for notebook users!

- **Manually adding a server:** To manually add a logSheet Server to synch hold down the option key when selecting the synch with pulldown and select 'Other...'

NOTE: You will need to use an FQDN, IPv4 or IPv6 address and port number. For example:

Host: example.com

Port: 10452

Important: When manually adding a server you should set your logSheet Server to run on a fixed port, see "Firewall and network" under "logSheet Server" for more details.

Batch

logSheet 2 includes the ability to automatically log the job without user interaction. Batches in logSheet 2 have both a scope, what applications the batch should be active on, and a billing id. More than one batch may be active at once, however, only one batch per scope may be used.

- **Create a new batch:** Click on 'New Batch' a new row will appear in the table view. Select a scope for the batch from the popup menu. Then either double-click in the blank area of the row in the billing id column to type in the billing id to be used for the scope you just selected or click on the arrows in the right of the column to choose from a pre-set val-

ue.

- Remove a batch: Select the row you wish to remove by clicking on it, so that it becomes highlighted. Click the 'Remove Batch' button.

Batches may also be created using the pop-up window. Batches created in this manner are temporary and expire after 10 minutes or 10 jobs. They will appear with a disabled check box control in the 'Temp' column. These batches may be edited or removed but will never become permanent batches.

Register

The registration tab is where you would enter a valid serial number purchased from the X2 Studios License Centre at <https://license.x2studios.com>. You can also find information about the version of logSheet 2 installed on your system in this tab.

- Entering a valid serial number: Delete anything that is in the 'Serial Number' text field and paste or carefully type in the server number that you have purchased and press the return key on your keyboard. If you have entered a valid license it will either show 'valid license' or an expiry date directly below the text field; otherwise, you will receive an error dialogue.

The Pop Up

Shortly after you have printed a document from an application a pop-up window will appear above all other windows. It will show the print job details and present you with a text combo box that allows you to attach a billing id to the job logs. Once you have entered the billing id and clicked print the job will continue normally. You may also choose to cancel the job.

- Details: If clicked a table with two columns, the first being the name of the data presented in the second column, is shown.

NOTE: The page height and width are in postscript points.

- Billing ID: This is a combo box. You can type directly in the box or you can use the pull-down menu to select from the pre-entered values. If you type in the box it will auto-complete if it can match a value that was pre-entered.
- Apply to all: This is a quick way to create a temporary batch. This batch lasts for 10 minutes or 10 jobs before showing you the pop-up with the batch values pre-filled out again. When checked you will be presented with the scope for the batch; choose the current application or 'Any Application' for a global batch.
- Print: Allows the job to continue. At this stage, the billing id that has been entered will be evaluated against the settings from the preferences pane.
- Cancel: This will cancel the job.

The Manager Application

The logSheet Manager application will allow you to view logs and pre-enter billing id values. If you use the server variant of the manager you can use it to distribute billing ids and collect logs from a network of logSheet-enabled systems.

Working with databases

By default, the manager application will open, in the following order, the previous database that was opened, the server database, then the client database. You can verify the path of the database that is open by Command-Clicking on the core.db file representation in the main windows title bar.

Default paths

If you have opened a database and now wish to use a default database again, you can do so by opening the database using the 'File->Open DB' command. There are two default paths, one for the client (standalone) and the other for the server.

The server db path is: /Library/Application Support/logSheet/core.db
The client db path is: ~/Library/Application Support/logSheet/core.db

Logs

The logSheet Manager application log view allows you to easily sort and view printing logs. Rather than having to do a new search every time you want to find logs to use for billing, you can create smart lists, which basically save queries.

NOTE: page_count and copy_count must be multiplied to get the total number of pages for a job.

Basic view

Logs are presented in a table view with each job taking up a row in the table. Columns may be moved and clicking on a column header will change the sort priority. Multiple clicks in the same column will change the sort from ascending to descending. When the logs item or a smart list is selected at the bottom right of the manager application window a page total will be displayed.

NOTE: The page height and width are in postscript points.

Summary view

Data can be summarized in an easy-to-read summary that is great for invoicing. Data is broken down into Billing IDs by Media, Media Type, Mono and Color Pages. General summary info is also presented at the end of the summary.

Custom HTML and image files may be used with logSheet Manager. The files must be located in /Library/Application Support/logSheet and be named summaryReport.html and summaryLogo.png/gif/jpg/jpeg/bmp/html respectively. The files will be loaded if present, otherwise, the default HTML (in the App package) is used [there is no default graphical logo].

The HTML file can use key strings to have data dynamically inserted, they are:

- [summaryLogo] - will insert image tag, or HTML (so you could use a file with "<h1>SUMMARY LOGO</h1>" instead of an image)
- [smartListName] - inserts the name of the smart list without formatting
- [summaryDataTableRows] - insert the rows of data into a table. Note that the table and headers must already be present
- [summaryGeneralTableRows] - Summary of pages, documents and jobs as rows with matching spacing to data rows.
- [querySummary] - Inserts a label and an unnumbered list of the query that was run on the data
- [date] - The date and time
- [username] - full name of the user

- [hostname] - the bonjour name of the host [eg. your_computer.local]

A good starting point for your own HTML file is to copy the default html from the App package. Right-click the application and navigate to Contents/Resources there you will find the default summaryReport.html file. Copy this file and modify it to suit your needs.

Smart Lists

If you click the expose box next to the logs row in the outline view you will see your smart lists. These lists are essentially saved queries. Some samples are included by default, they show you how to do basic date range queries. You, however, can sort using any of the fields tracked by logSheet.

Job time Stamp selections where you select a past calculation are always performed in blocks. So, for example, if you did a past 2 hours you would get all jobs with a time stamp that is within the current and previous hour blocks of time; The minutes and seconds would start at 00 in the previous hour and end at 59 the current hour.

Drag and Drop

You can drag single and multiple rows from the logs table view to the desktop or finder window to export a CSV (comma-separated values) or the TSV (tab separates values) file to the drag location. The format is CSV by default but can be changed by using the save as dialogue (it will remember your last selection when using drag and drop). You can also drag the logs item or any of the smart lists to export a CSV file.

Billing IDs

You can use the billing ids view to create a list of billing ids that will auto-complete in the popup window.

Adding IDs

To add in id either select 'New Billing ID' from the file menu or click the 'New' item in the toolbar. A new row will appear in the table view and will be in edit mode. Type the billing id into the select row and then either press enter or click outside of the row to finish editing.

Removing IDs

To remove in id select the row(s) and either press the delete key or click the deleted item in the toolbar..

Importing and Exporting IDs

logSheet will import ids from text files and will export them also. The format for the id import is relatively simple. Each id must be on a new line, but other than that there is no format requirement. To import a compatible file choose 'Import Billing IDs' from the file menu. To export billing ids click on billing ids and select 'Save' from the file menu.

Drag and Drop

Another way to Import and Export ids is using drag and drop. Ids may be exported by dragging selected row(s) from the table or dragging the billing ids item from the outline view to the desktop or a finder window. You can import values by dragging a compatible file to the billing ids table view.

Optional settings via ‘defaults write’

You can use the defaults write to change some of the behaviour of logSheet. These changes are not straightforward forward so they are not otherwise accessible. The domain is /Library/Preferences/com.x2studios.printAccounting.logSheet. For help with defaults command line tool type man defaults into the terminal.

You will have to run the default terminal command using sudo to alter Global keys.

Before making changes stop logSheet:

Terminal Command:

```
launchctl unload /Library/LaunchAgents/com.x2studios.logSheet.plist
```

After making changes start logSheet:

Terminal Command:

```
launchctl load /Library/LaunchAgents/com.x2studios.logSheet.plist
```

invertNonTrackedDevices

Global key. If this key is present and set to (BOOL) YES, logSheet will operate in white list mode. Making the default track behaviour of new devices to be untracked unless specifically set to track.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet invertNonTrackedDevices -bool yes

hideBatchControls

Global key. If this key is present and set to (BOOL) YES, logSheet will hide all batch-related controls.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet hideBatchControls -bool yes

silentBatch

Global key. If this key is present and set to (BOOL) YES, logSheet will batch without visual indication.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet silentBatch -bool yes

billingIDAsPin

Global key. If this key is present and set to (BOOL) YES, logSheet will not list billing ids in the pop-up and a secure text field will be used in place of the combo box. This would usually be used with hideBatchControls, or as your situation dictates.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet billingIDAsPin -bool yes

syncDelay

Global Key. The number of seconds between sync attempts with the server. This is a float value.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet syncDelay -float 120.00

browseDomain

Global Key. The dns-sd domain to browse. The default is “local.” (note the trailing ‘.’). To browse all configured domains use an empty string “”.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet browseDomain ""

distSerialNumber

Global Key. Must be set using sudo. The string value of the serial number. If present and a valid license is not found (no license data in the plist file) logsheet will fetch a new license for the entered serial number.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheet distSerialNumber -string ABC-123-DEF-123-HJK-456-ABC-123

NOTE: logSheet must re-loaded for optional settings to take effect. Any setting applied to the global domain requires all logged in users to reload logSheet. Settings to the logged in users copy only require that user to re-load logSheet.

Distributing settings

If you are doing a deployment to a large office you may want to distribute settings before you install logSheet 2. This way everything is set up and ready to go.

The best way to do this follows:

1. Install logSheet on a single system and configure it how you want every system to run.
2. Copy /Library/Preferences/com.x2studios.printAccounting.logSheet.plist to the desktop.
3. Edit the preferences file you just copied and replace:
<key>license</key>
<data>...</data>

With:

```
<key>distSerialNumber</key>  
<string>MY-SERIAL-NUMBER-GOES-HERE</string>
```

4. Using a tool such as Apple Remote Desktop* to push the file out to /Library/Preferences on the target computers.
5. Using a tool such as Apple Remote Desktop* install the 'Install logSheet2.mpkg' on the target computers.

If you follow these steps: the target systems will start with the settings you have created. They will also, automatically, fetch a valid license using the distSerialNumber string.

* Apple Remote Desktop is a network desktop management tool available from Apple Inc. See <http://www.apple.com/remotedesktop/> for details

logSheet Server

logSheet Server is a free application that allows you to collect logs and distribute billing ids over the network. logSheet Server uses Bonjour technology and is easy to configure.

Managing the Server

The logSheet Manager manages the server as well as the client databases. If you have the server installed on the same system as the manager it will automatically manage the server database. If you want to manage a different database you can choose it by selecting 'open db' from the file menu.

If you have opened another db or have previously used logSheet Manager on a standalone installation then you will need to select the server DB. Menu File->Open and then select /Library/Application Support/logSheet/core.db

NOTE: In Mac OS X Lion (10.7) and above the Library folders are hidden, in the file open dialogue press Command-Shift-G (holding command and shift then hitting G) and you will get a "Go to the folder:" prompt. Type /Library/Application Support/logSheet/ in the box and click go, then select core.db.

Users may wish to use logSheet Manager on a different system from that of the server. The Manager application needs file system access to the core.db file. You can allow this by using the built-in file sharing in Mac OS X or Mac OS X Server. The file you need to share is /Library/Application Support/logSheet/core.db.

Firewall and network

logSheet Server will automatically select a port to run the server on. This isn't an issue if you are using the default service discovery method. However, if you have a firewall that blocks traffic on your local network (LAN), or are using a fixed connection method, you should set a fixed port for the server to run on by changing the serverPort setting.

logSheet Server will use the local. dns-sd registration domain by default. If you use wide-area dns-sd or unicast dns-sd you should change the registrationDomain setting. Use an empty string to register will all domains.

Security and Certificates

logSheet Server supports upgrading its sessions to use TLS with a valid SecIdentity. You can create a SecIdentity by importing a password-protected PKCS12 keystore containing your signed chain certificate (and certificate chain if applicable) and private key using logsheetserver command line options.

To stop logsheetserver use the terminal command:

```
sudo launchctl unload /Library/LaunchDaemons/com.x2studios.logSheetServer.plist
```

To add an identity stop logsheetserver and use the terminal command:

```
sudo /Library/X2PrintAccounting/logsheetserver --import-sec-identity pkcs12_file password
```

To delete the installed identity stop logsheetserver and use the terminal command:

```
sudo /Library/X2PrintAccounting/logsheetserver --delete-sec-identity
```

Note: It is advised not to manage private keys and certificates for logSheet Server in the Keychain Access.app.

To start logsheetserver use the terminal command:

```
sudo launchctl load /Library/LaunchDaemons/com.x2studios.logSheetServer.plist
```

Using OpenSSL to create a PKCS12 Keystore

Note: For security reasons, you should always use a trusted root Certificate Authority (CA) and include the CA certificate in the keystore. To create a keystore for logSheet Server run the following terminal command:

```
openssl pkcs12 -export -out example.com.p12 -inkey example.com.key -in example.com.crt -certfile fullchain.crt -name 'example.com'
```

or if you have a fullchain.crt

```
openssl pkcs12 -export -out example.com.p12 -inkey example.com.key -in fullchain.crt -name 'example.com'
```

Using OpenSSL to create a self-signed certificate and PKCS12 keystore

Note: Although we highly recommend using a certificate signed by a trusted CA; logSheet Server and logSheet can communicate using a self-signed certificate. In the following example set the DNS name as the common name when prompted and change 'server' to your FQDN or hostname. To create a self-signed certificate (the example commands make a cert that expires in 365 days) and keystore run the following terminal commands:

```
openssl genrsa -des3 -passout pass:x -out server.pass.key 2048
openssl rsa -passin pass:x -in server.pass.key -out server.key
rm server.pass.key
openssl req -new -key server.key -out server.csr
openssl x509 -req -sha256 -days 365 -in server.csr -signkey server.key -out server.crt
openssl pkcs12 -export -out server.p12 -inkey server.key -in server.crt -name 'server'
```

Optional settings via 'defaults write'

You can use the defaults write to change some of the behaviour of logSheet Server. The domain is /Library/Preferences/com.x2studios.printAccounting.logSheetServer. For help with defaults command line tool type man defaults into the terminal. Since logSheet Server reads settings for AnyUser you will have to run the defaults command using sudo.

Before making changes stop logSheet Server:

Terminal Command:

```
sudo launchctl unload /Library/LaunchDaemons/com.x2studios.logSheetServer.plist
```

After making changes start logSheet Server:

Terminal Command:

```
sudo launchctl load /Library/LaunchDaemons/com.x2studios.logSheetServer.plist
```

serverPort

Global key. If this key is present and set to (int) [number], logSheet Server will use the specified port.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheetServer.plist serverPort -int 10452

registrationDomain

Global key. If this key is present and set to (String) "". logSheet Server will register with all registration domains. If present and set to (String) "example.com." logSheet Server will register with example.com.

Example: sudo defaults write /Library/Preferences/com.x2studios.printAccounting.logSheetServer registrationDomain ""