XPressEntry / DSX PACS Synchronization

Revision 08/28/2021

For use with the
XPressEntry Mobile Access Control System

By

TELAERIS, Inc.

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Purpose

This document is intended to instruct users on how to synchronize an XPressEntry system with DSX system.

Setting Up DSX to Synchronize with XPressEntry

It is assumed DSX System is installed on a server. Please contact your DSX dealer to receive the installer and license file.

Requirements for DSX PACS

- OS: Windows 7/8/8.1/10 or Server type equivalent.
- Win DSX SQL, Version: 6.0.31 and above.
- DSX license.

Order of Operations

1) Applying the Certificate
2) Configuring DSX PACS

Applying the Certificate

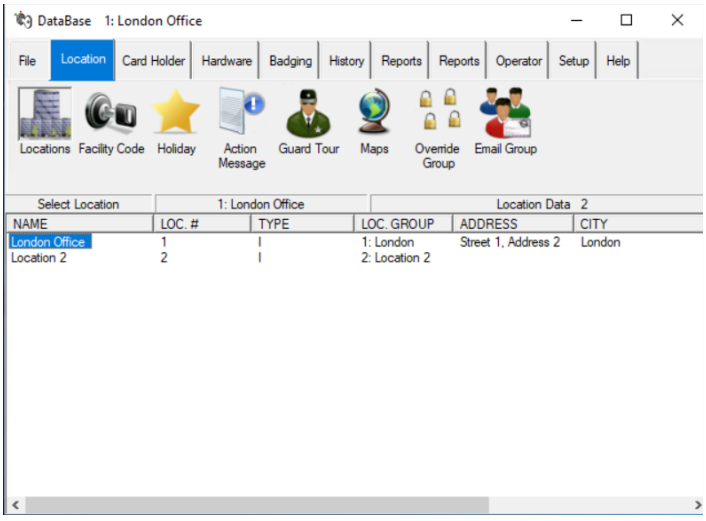
TODO : Update Apply certificate notes here

Configuring DSX System

TODO: Update Configure DSX note here

Setup DSX PACS Data and Settings

Figure 1 – Win DSX SQL Software



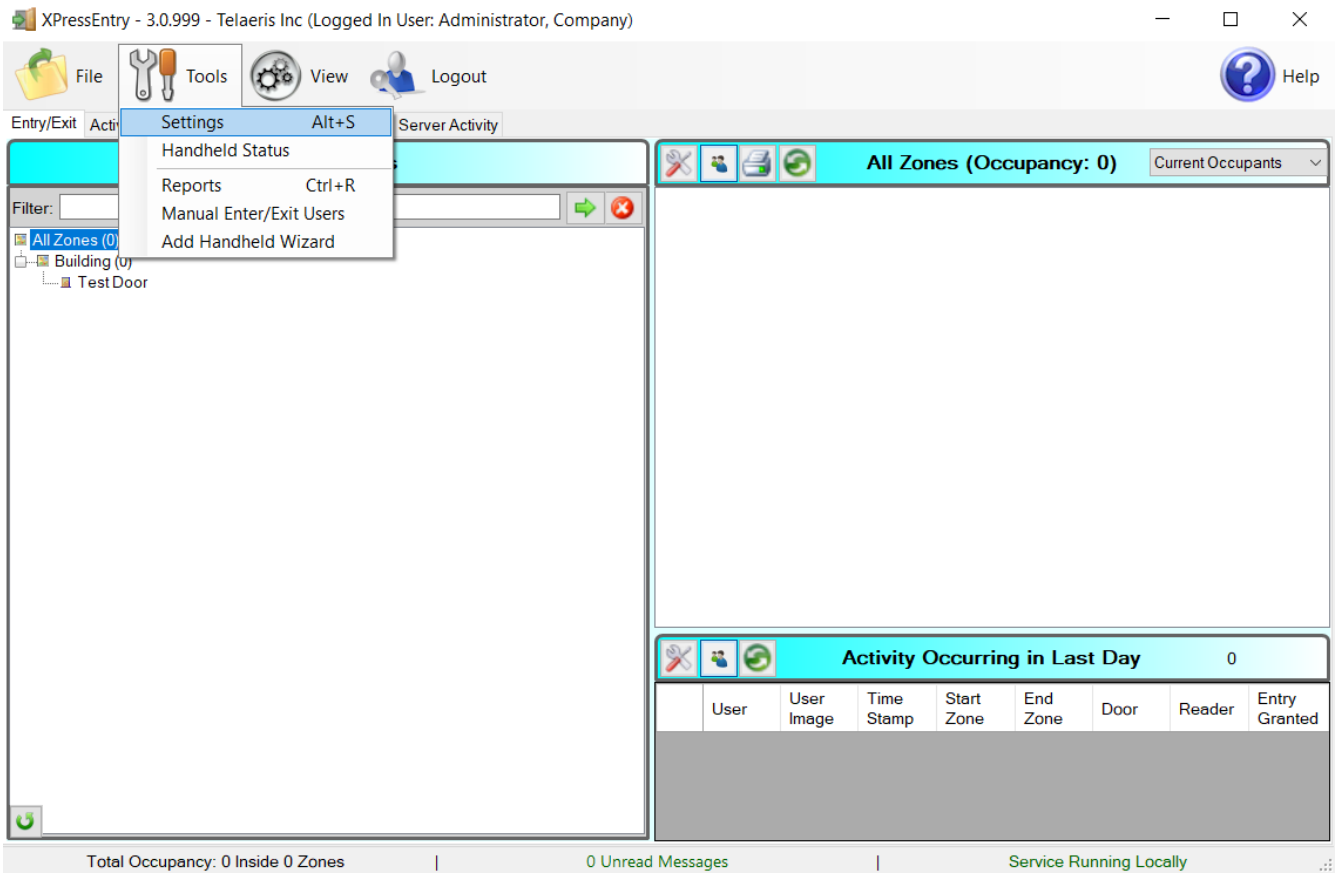
Handhelds

For every physical XPressEntry handheld reader, you should have two logical readers in the DSX System. They should be distinguished with the words “Entry/Exit” or “IN/OUT” at the end of them. These readers are only theoretical and represent the location in which an XPressEntry Mobile Reader will be used.

Enable Synchronization

XPressEntry uses a module called “Data Manager” to synchronize all data with DSX PACS. From the main page of XPressEntry, Go to XPressEntry / Settings (ALT+S or Tools>Settings)

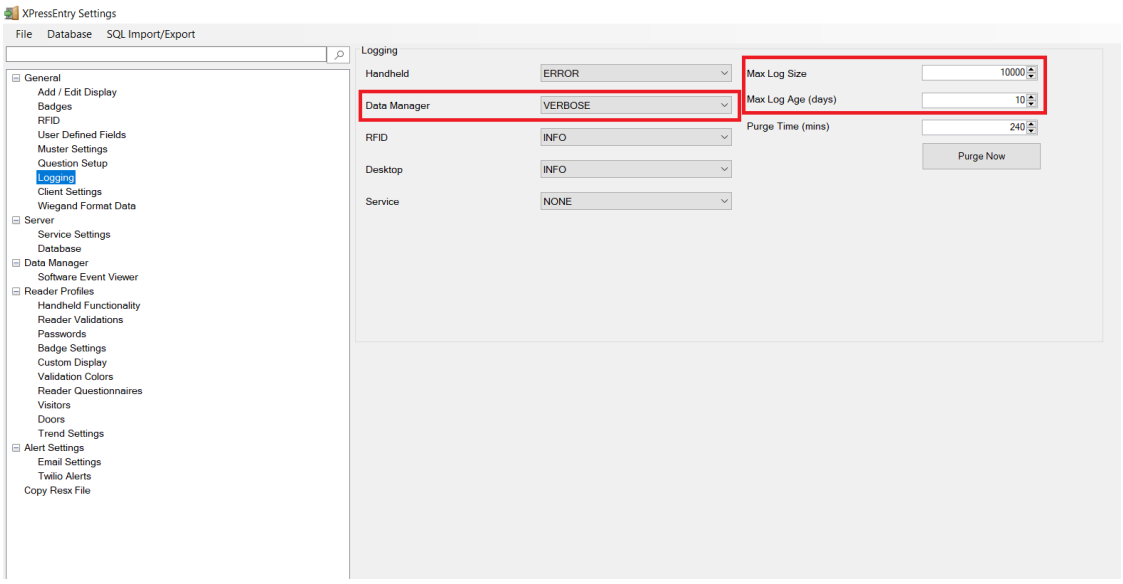
Figure 2 - XPressEntry



General tab

From the Settings page, select the General Tab, Select Logging

Figure 3 - Logging Settings



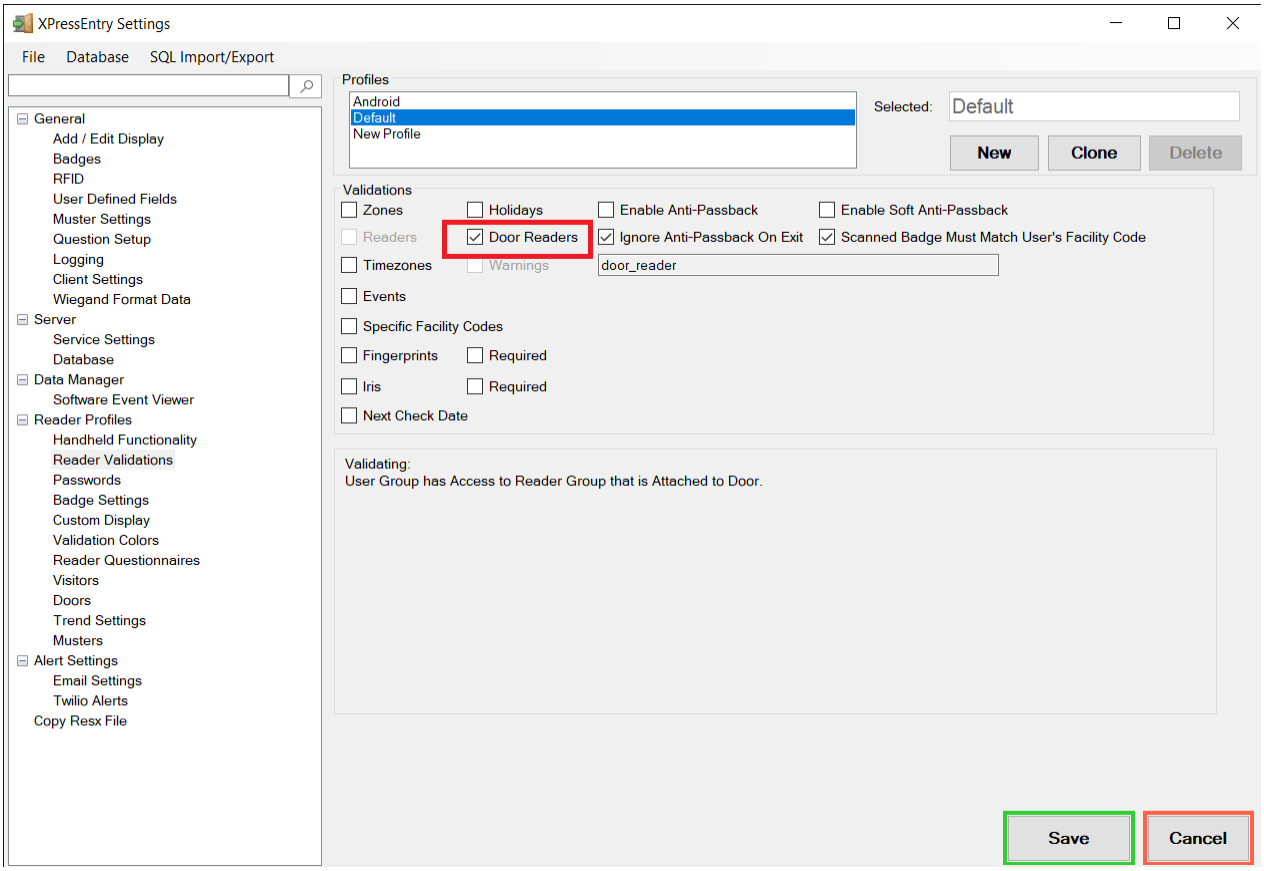
Set the Data Manager Log level to DEBUG or VERBOSE - this will allow you to view log entries during the sync process
Max log size- 5000 or higher
Max log Age- 1 Day or higher

Once the integration is complete, set the log level to ERROR, so only error messages will be tracked.

Reader Profile Tab

In the Reader Profile Tab is where you configure the handhelds click the Reader Validation Tab

Figure 4 - Reader Validations



The only important change to make on this tab is to make sure “Door Readers” is the only mode that is checked under “Validations”. Select “Save” at the bottom right when finished.

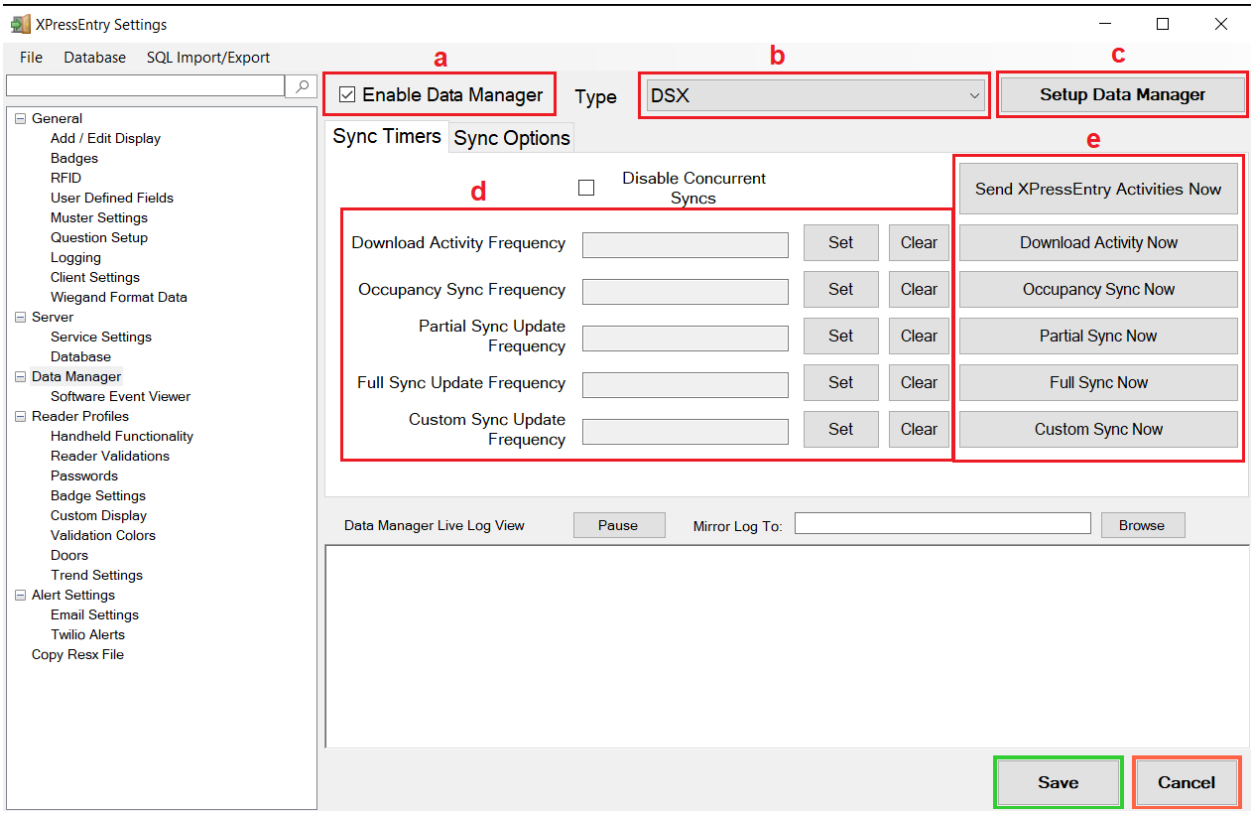
Data Manager Tab

From the Settings page select the Data Manager Tab.

The data Manager Tab has 2 Tabs.

1. Sync Timers

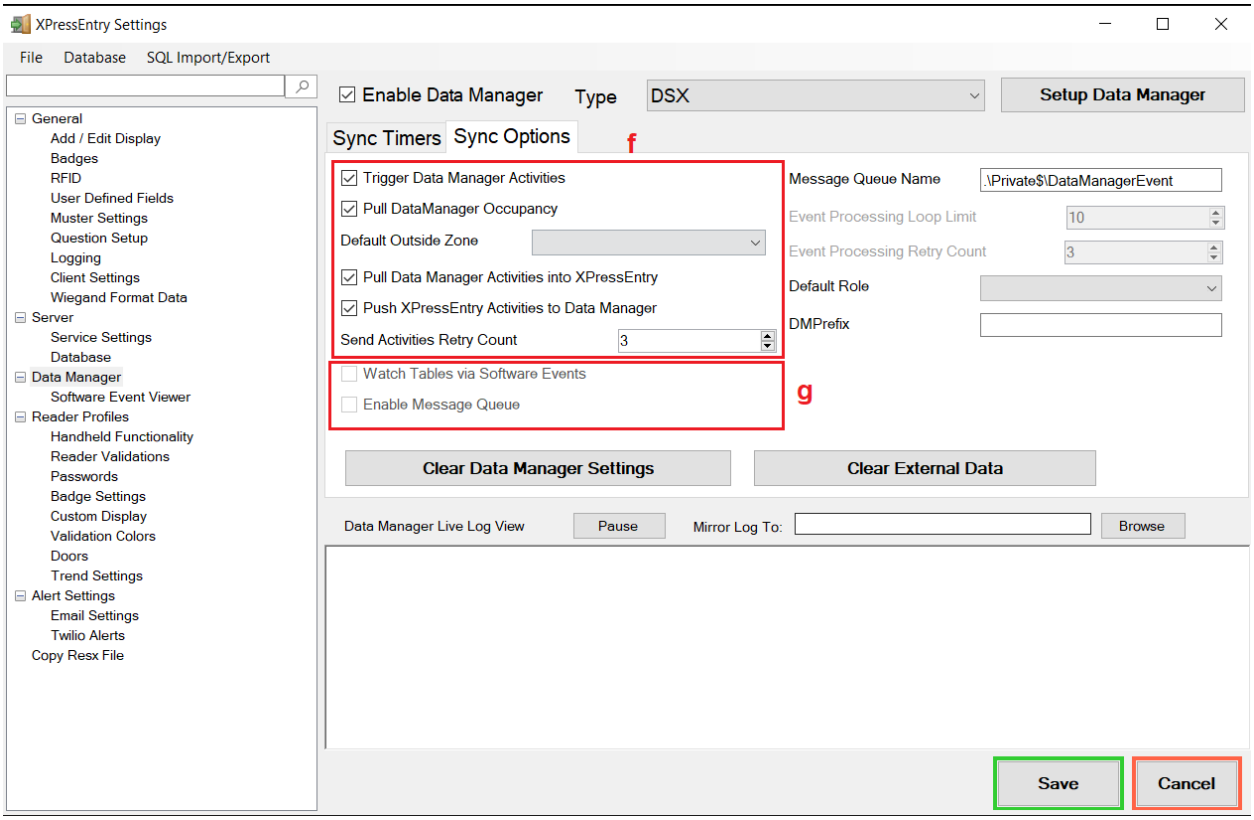
Figure 5 - Data Manager Sync Timers



a. **Enable Data Manager** – To Enable the Data Manger operations
b. **Type** - This is the integration type. Select DSX.
c. **Setup Data Manager**- Sends you to the setup form for DSX data manager.
d. **Update Frequency options** - Sets and clears the intervals in which the data manager updates XPressEntry.
e. **Immediate sync functions** - Runs an immediate update.

2. Sync Options

Figure 6 - Data Manager Sync Options


XPressEntry Settings
File
Database
SQL Import/Export
General
Add / Edit Display
Badges
RFID
User Defined Fields
Muster Settings
Question Setup
Logging
Client Settings
Wiegand Format Data
Server
Service Settings
Database
Data Manager
Software Event Viewer
Reader Profiles
Handheld Functionality
Reader Validations
Passwords
Badge Settings
Custom Display
Validation Colors
Doors
Trend Settings
Alert Settings
Email Settings
Twilio Alerts
Copy Resx File
Enable Data Manager
Type
DSX
Setup Data Manager
Sync Timers
Sync Options
f
Trigger Data Manager Activities
Pull DataManager Occupancy
Default Outside Zone
Pull Data Manager Activities into XPressEntry
Push XPressEntry Activities to Data Manager
Send Activities Retry Count
3
Watch Tables via Software Events
Enable Message Queue
g
Message Queue Name
.\Private$\DataManagerEvent
Event Processing Loop Limit
10
Event Processing Retry Count
3
Default Role
DMPrefix
Clear Data Manager Settings
Clear External Data
Data Manager Live Log View
Pause
Mirror Log To:
Browse
Save
Cancel

f. **Activity Synchronization options** - Used to send XPressEntry handheld activities to DSX PACS.
g. **Live Event Settings** - To Enable message queue and watch live events. It will be grayed out and not selectable if this feature is not implemented in DSX integration.

Set the Update Frequency to as often as you want the system to update. Note that only one update can run at a time and if this value is very low the system will constantly try to update (this is not always a problem).

1. Full Sync Update- This sync will grab all relevant records from DSX and update them in XPressEntry. If there are many users in DSX, this sync option can take some time.

2. Partial Sync Update- This sync will grab records from all tables but will limit the number of Users that are retrieved from DSX. It will only grab the last x number of users that were added to the system. This is valuable when you do not want to wait for a long sync but want to add a new user into the XPressEntry system.

    a. Do use this sync to quickly update any table in XPressEntry.
    b. Do use this sync to quickly add a new user into XPressEntry from DSX.
    c. Do NOT use this sync to delete a user from XPressEntry who was deleted in DSX.
    d. Do NOT use this sync to update a user from XPressEntry who was changed in DSX.

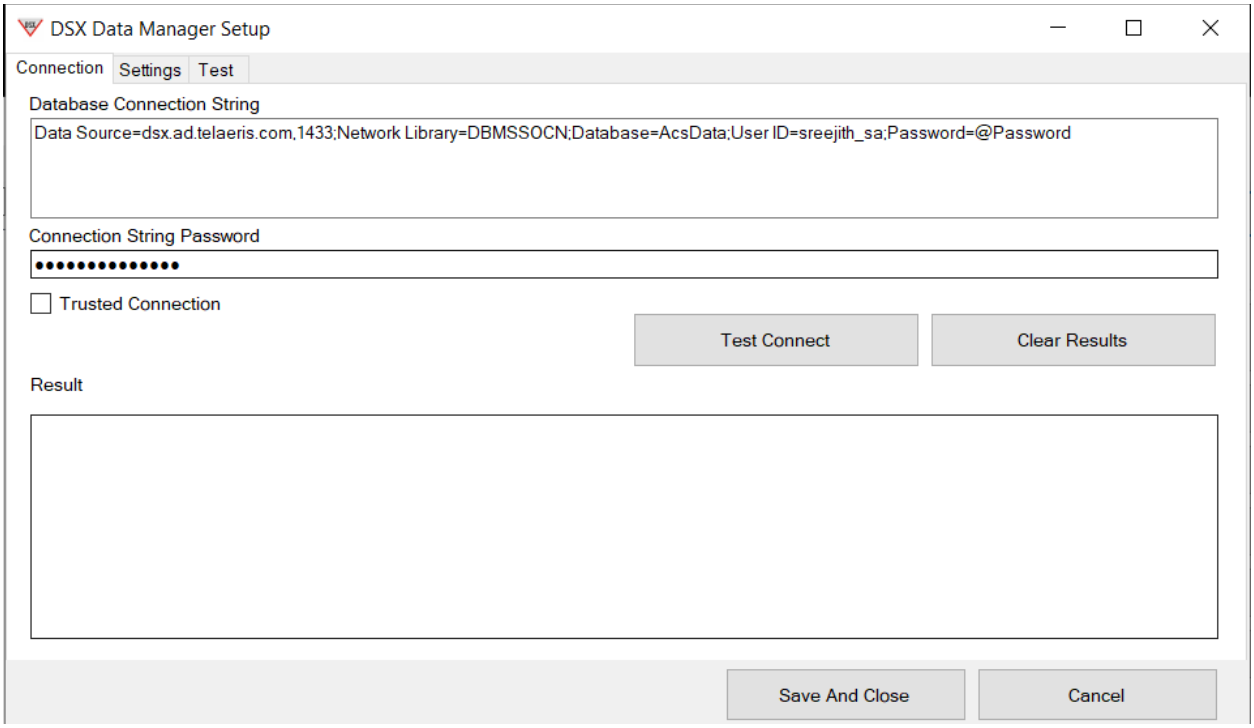
3. Activity Sync Update- Use this sync to send XPressEntry Events to DSX PACS. These events will show up in DSX Workstations. The "Activity Synchronizing" section contains two options.
    a. Pull Data Manager Activities into XPressEntry – This option allows you to pull activities from DSX. This will change the location of the user within XPressEntry
    b. Push XPressEntry Activities to Data Manager – Will push XPressEntry handheld activities to DSX.

All these options can be changed at any time. Changing any option will immediately take effect. When all settings are done Click **Save** button to save all settings from the Syn Timers Sync options Tab.

DSX PACS Setup Page

Press the “Setup Data Manager” button to get the DSX specific setup screen.

Figure 7 – DSX PACS Setup - Connection Page



The DSX Data Manager Setup page has 3 main tabs.

1. Connection

Configure the connection string to point to the DSX Database. It is recommended that your connection string uses Windows Authentication (Trusted_Connection=Yes or equivalent Integrated Security).

You can also check the Trusted connection check box. Using this this will hide the connection string password and will not use it.

If you do not use Windows Authentication, you may hide the password in the connection string by placing it in the Connection String Password box. In the connection string, add “@Password” as a placeholder for your password (as shown in the connection string above).

Note- This password is not secure. Using this feature in a production environment can result in a security breach.

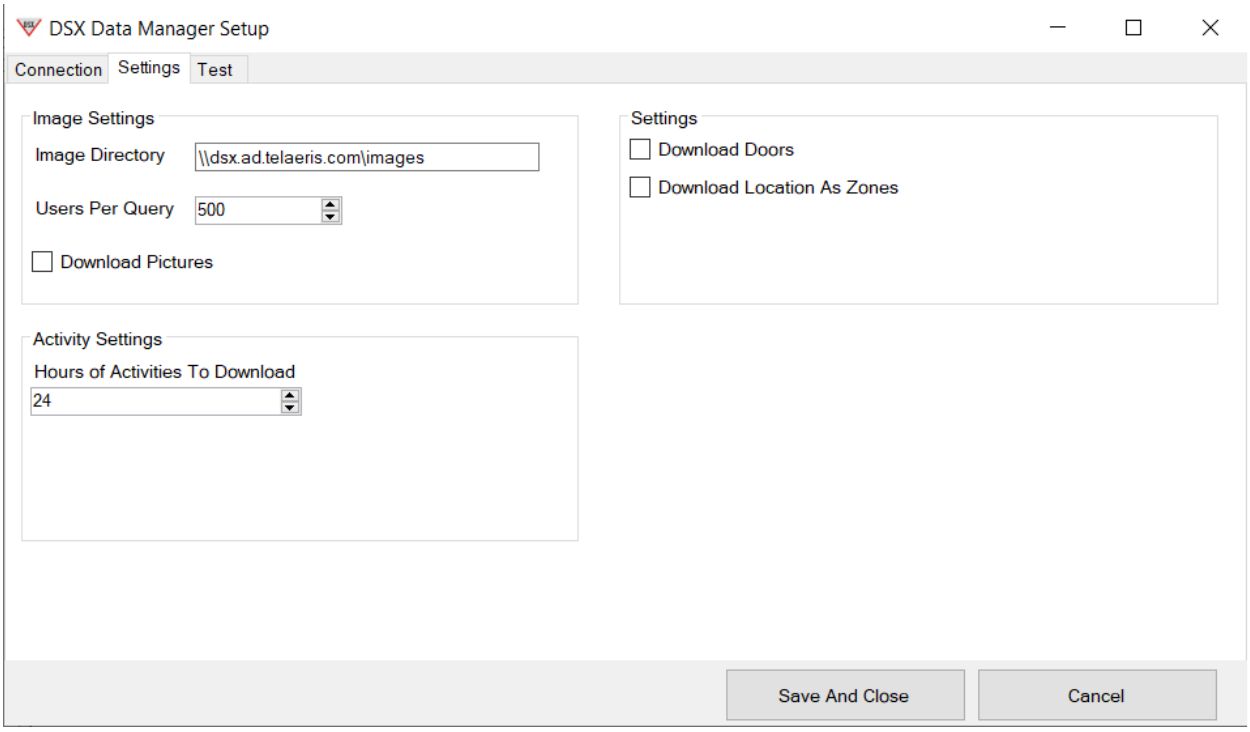
Select “Test Connect”. If configured correctly, the result will display “Successfully Connected to the DSX Data Manager!”

Exit out of this form. On the Data Manager tab of the Settings form, select “Save and Apply Settings”. It is now time to begin syncing data.

Select “Full Sync Now” to pull all data from Symmetry. Once the sync has finished, all relevant Symmetry records should now display in XPressEntry.

2. Settings

Figure 8 – DSX PACS Setup - Settings Page



This page is for the custom settings when data is pulled from DSX.

Image Directory – The directory path on the system where the user images need to be stored after pulling from DSX database.

Users Per Query – Count of users need to fetch in a single query from DSX database.

Download Pictures – by default the user image is not pulled from the DSX. To pull the user images need to check this option.

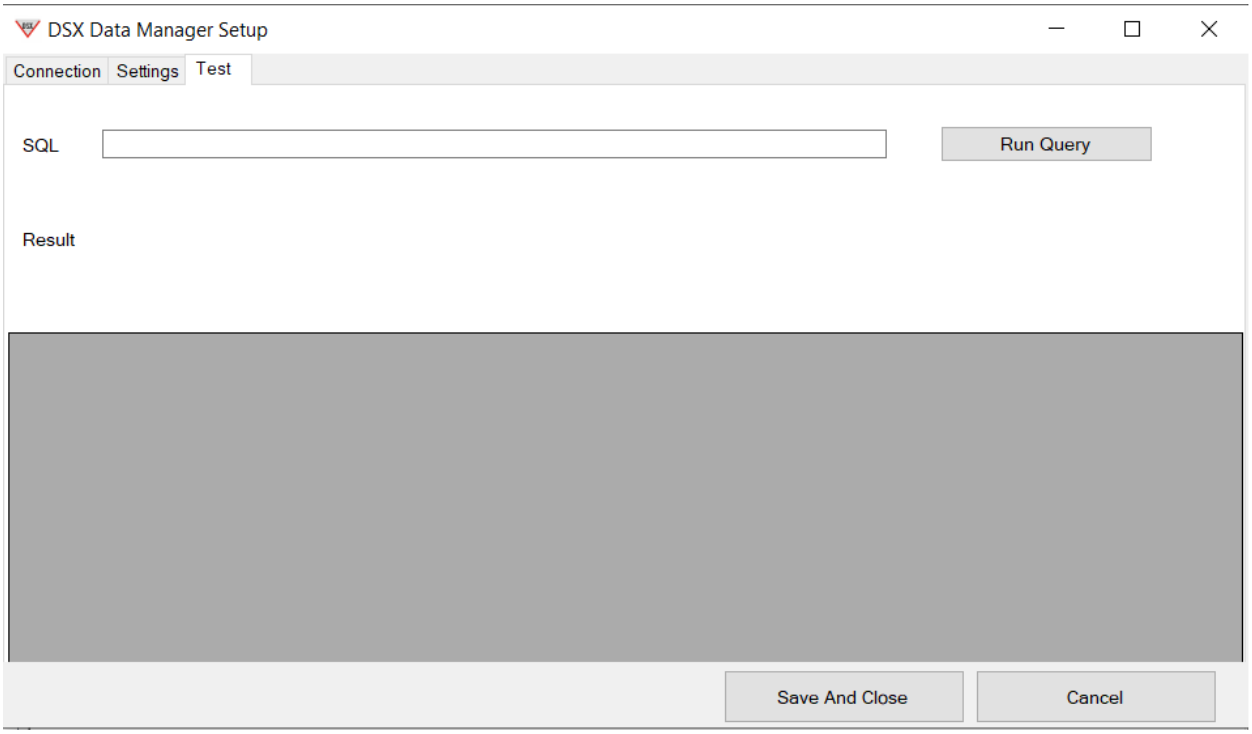
Hours of Activates to Download – This sis used in activity/event sync. The events are pulled based ion the hours given in the selection box. If 24 hours is given, then last 24 hours of activity is pulled form DSX database.

Download Doors – Since there is no door in DSX. Initially no doors data is mapped in to XPressEntry. When you enable this option, a door is created form each Readers (Devices) which is pulled form DSX. And the readers will be external reader for the corresponding door.

Download Location as Zones - To pull locations for DSX as zones in XpressEntry.

3. Test

Figure 9 – DSX PACS Setup - Test Page



This section is used to test the Database quires with then DSX database.

DSX Sync Check

The purpose of this section is to help the operator understand exactly what data XPressEntry is pulling from DSX PACS. For a quick setup, please navigate to the next section, “Configuring XPressEntry using DSX Data”.

The mapping of each Data pulled from DSX is shown below.

Table 1 – Mapping Data

DSX	XPressEntry
Device	Reader
Card Holder	Users
Cards	Badges
Access Level	Groups
Location	Zones
Time Zones	Time Zones
Holiday	Holidays
Company	Company

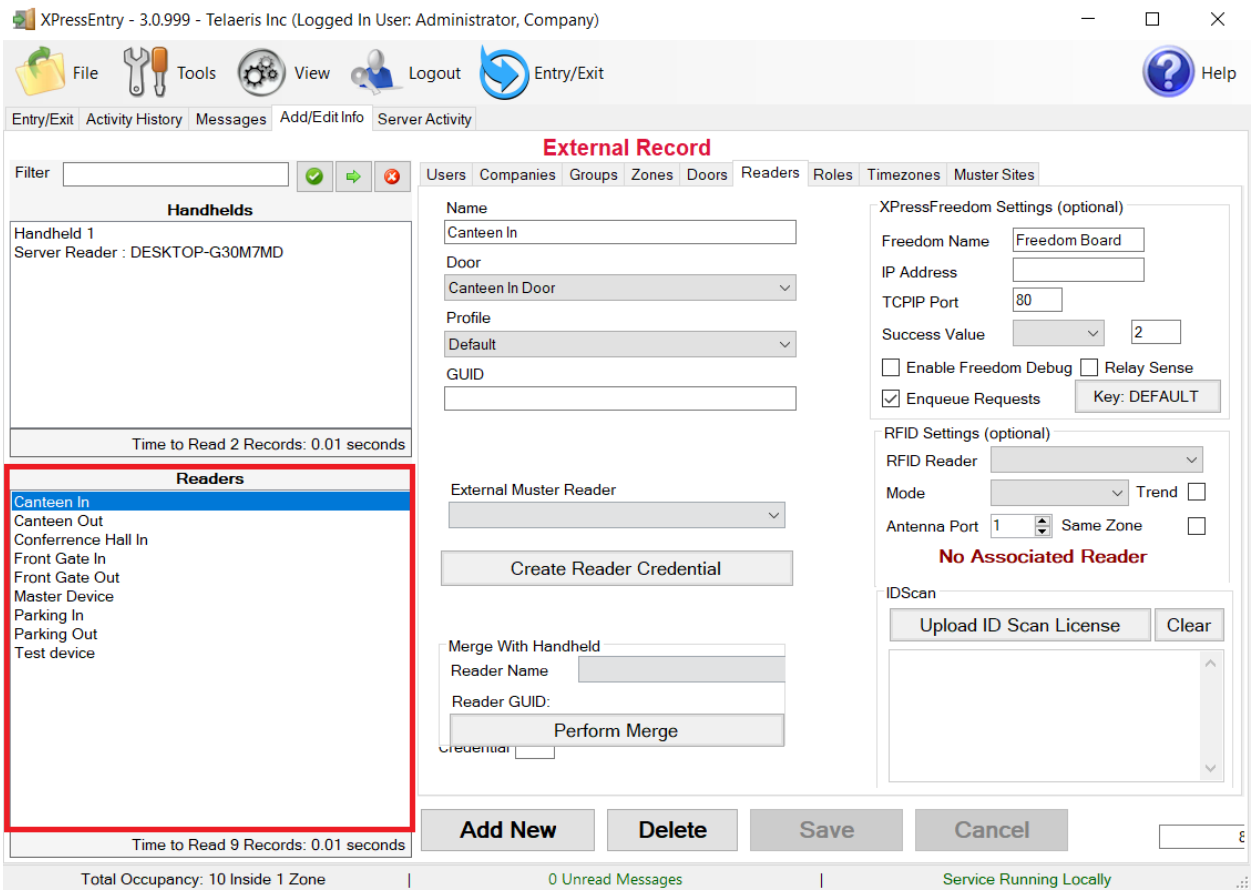
All External Records (From DSX PACS) will display in red as an “External Record” at the top of the form. This label will not display for any records that were created from within XPressEntry.

Below are the Mapping details of each Data pulled from DSX

Readers

All Readers should be available to view in the Readers tab under Add/Edit Info.
Here is a sample of a properly synchronized readers:

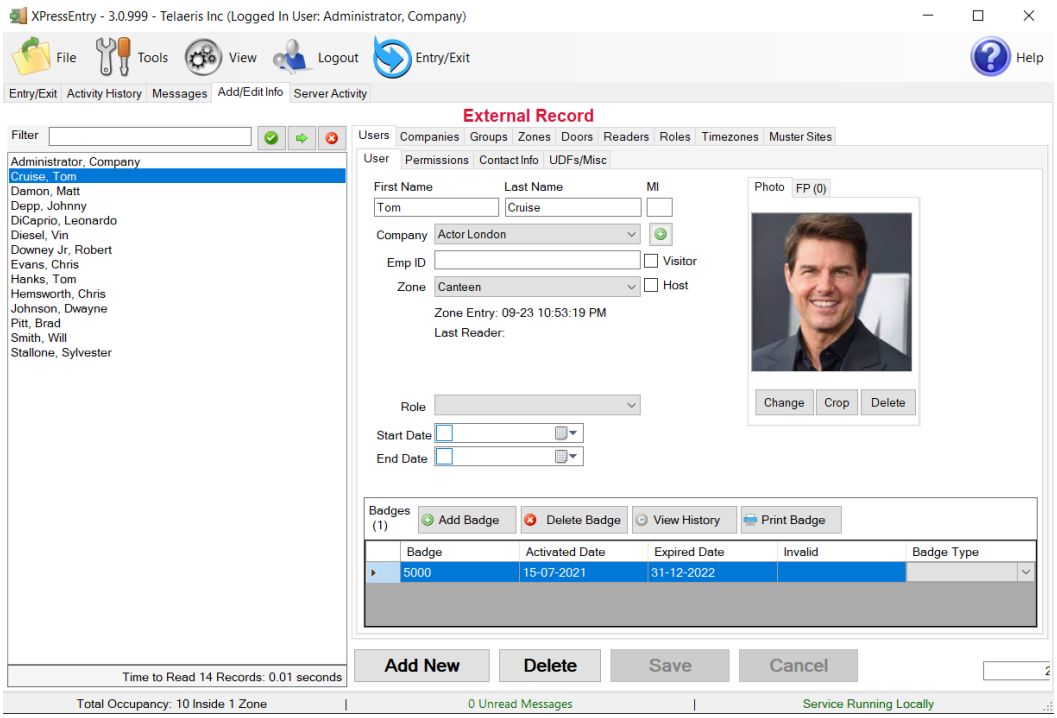
Figure 10 – Readers



Users

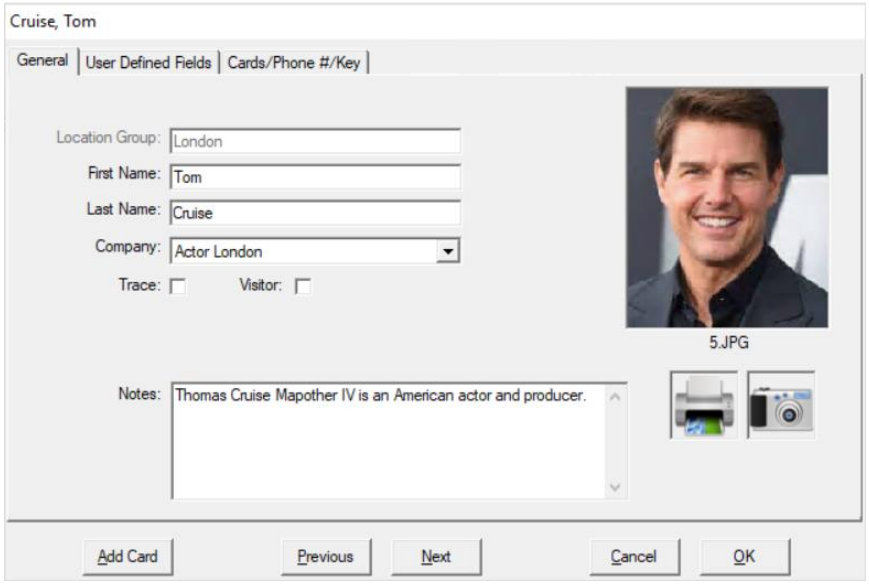
Here is a sample of a properly synchronized user:

Figure 11 – Users



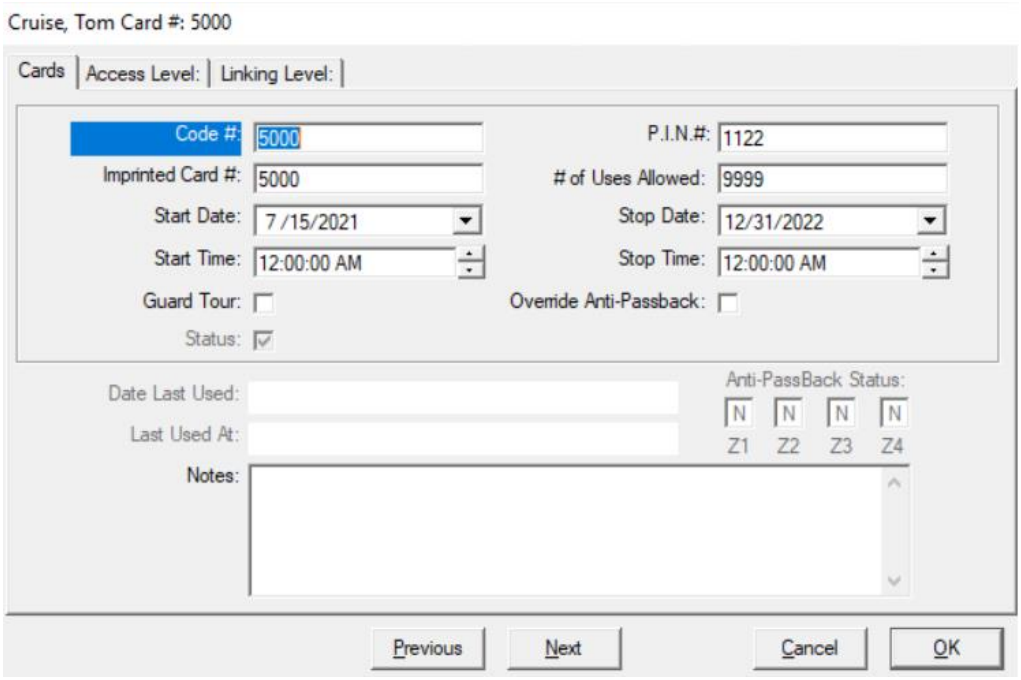
XPressEntry will pull the user's image (If enabled in settings) and badge number from DSX. The badge number can be seen at the bottom of the screen.

Figure 12 – DSX Cardholder



These users are seen in the Card Holder tab in DSX PACS. The below image shows the cards which is assigned to the user.

Figure 13 – DSX Cardholder's Card

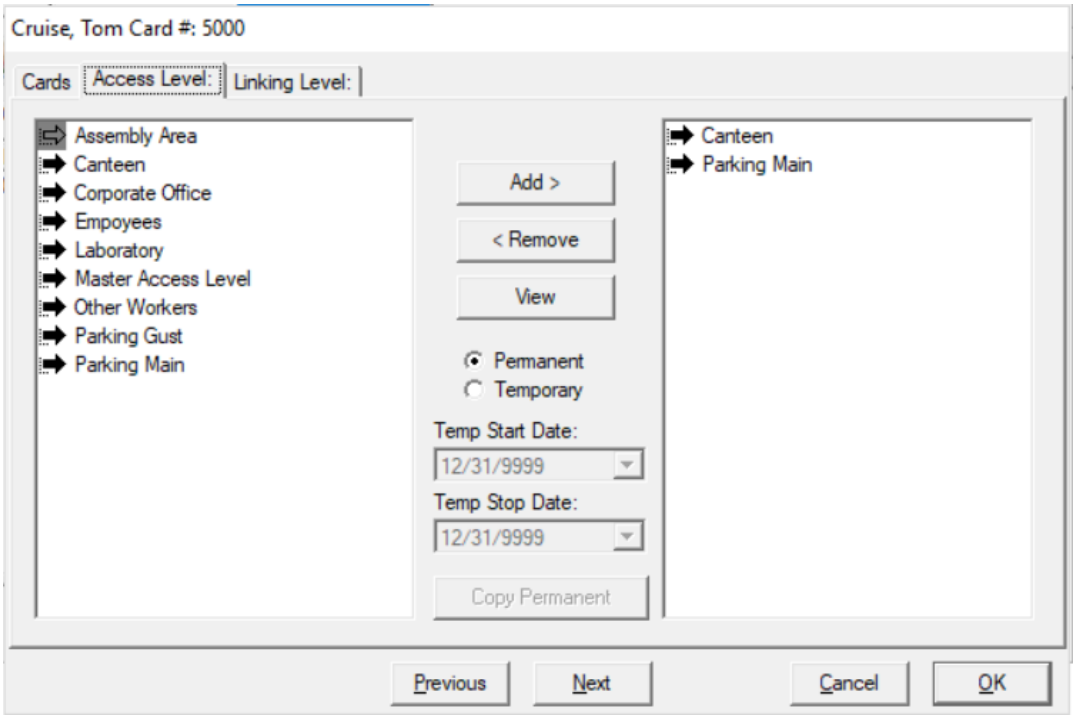


User Permissions

Users in XPressEntry have the same permissions to each reader as they do in DSX PACS. This is regardless of whether the user is assigned an Access Code, Reader Group, or direct access to a Reader. However, the way in which the data is displayed is a little different.

The following is an example of the permissions a user has in DSX vs. how the data is displayed in XPressEntry.

Figure 14 - DSX PACS Permissions

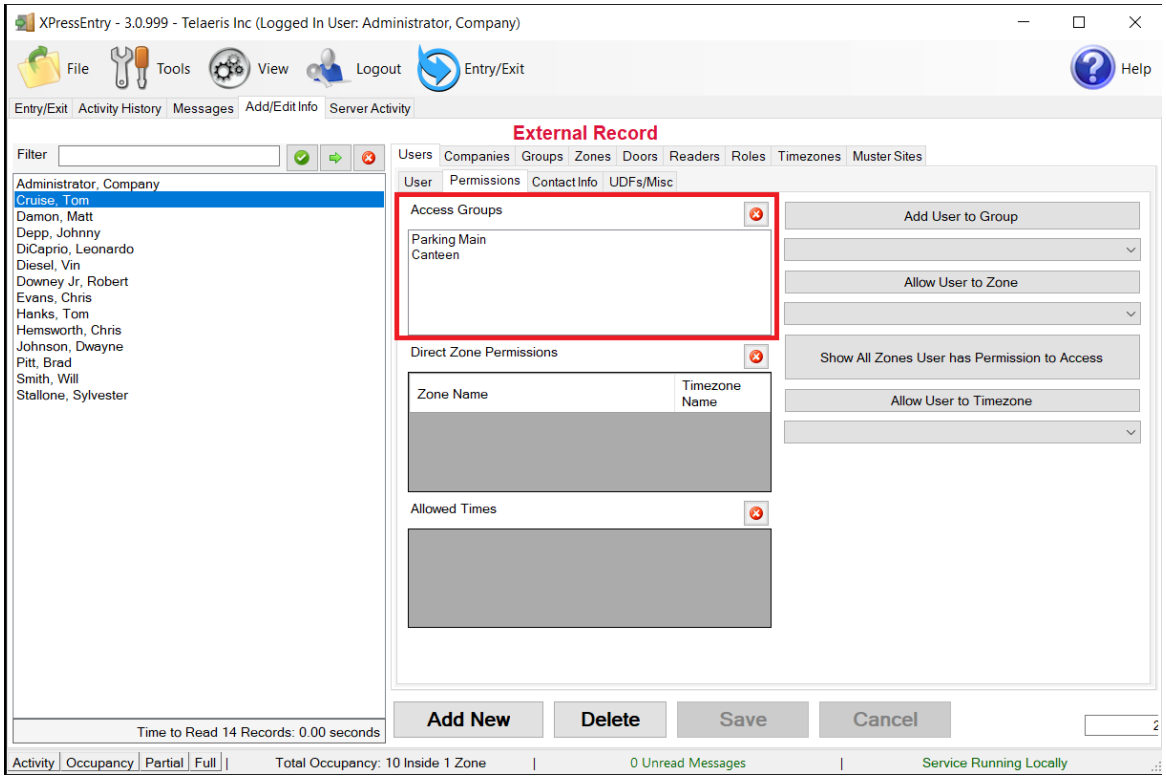


The permission settings can be opened in DSX by double clicking the users – Select Card/Phone #Key Tab – Then double click the card which is assigned to the user – Select Access Level Tab.

Here “Canteen and Parking Main” Access levels are assigned to the selected user’s cards in the Access Level settings in the DSX PACS System Configuration as seen in the above image.

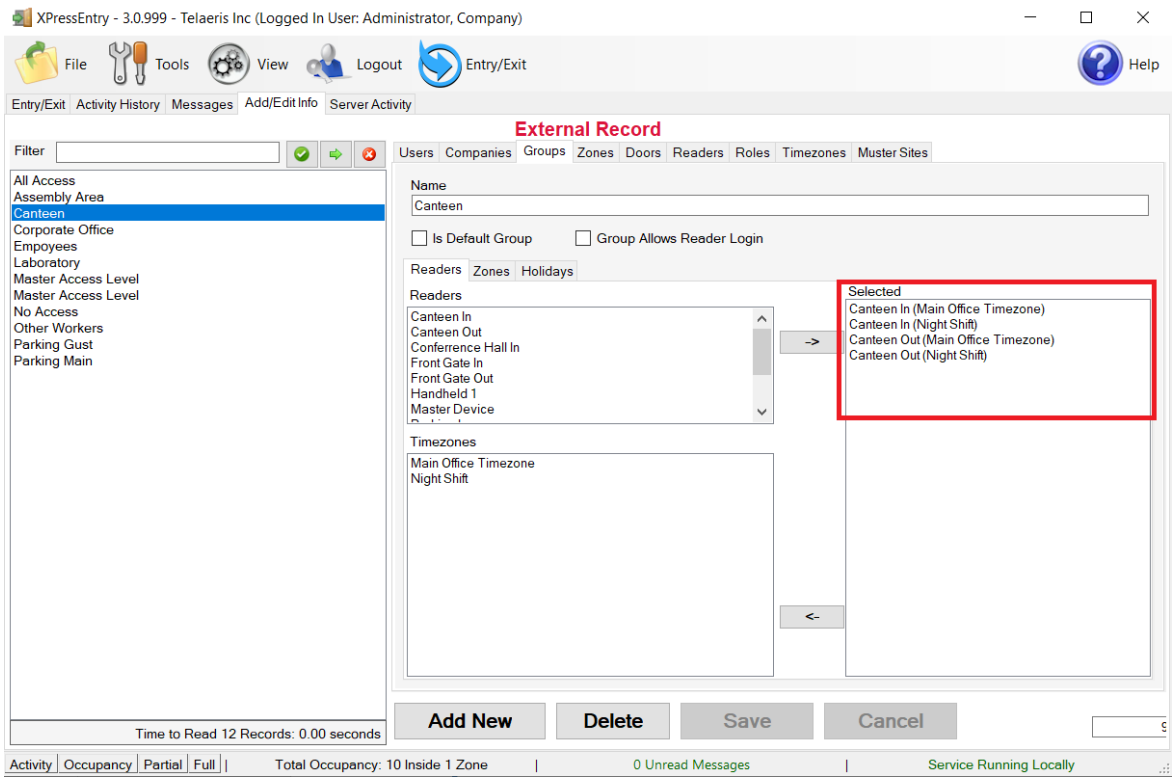
The below image shows how these Access Levels are mapped in the XPressEntry.

Figure 15 - XPressEntry Permissions


XPressEntry - 3.0.999 - Telaeris Inc (Logged In User: Administrator, Company)
File
Tools
View
Logout
Entry/Exit
Help
Entry/Exit
Activity History
Messages
Add/Edit Info
Server Activity
External Record
Filter
Administrator, Company
Cruise, Tom
Damon, Matt
Depp, Johnny
DiCaprio, Leonardo
Diesel, Vin
Downey Jr, Robert
Evans, Chris
Hanks, Tom
Hemsworth, Chris
Johnson, Dwayne
Pitt, Brad
Smith, Will
Stallone, Sylvester
Time to Read 14 Records: 0.00 seconds
Users
Companies
Groups
Zones
Doors
Readers
Roles
Timezones
Muster Sites
User
Permissions
Contact Info
UDFs/Misc
Access Groups
Parking Main
Canteen
Add User to Group
Allow User to Zone
Direct Zone Permissions
Zone Name
Timezone Name
Show All Zones User has Permission to Access
Allow User to Timezone
Allowed Times
Add New
Delete
Save
Cancel
Activity
Occupancy
Partial
Full
Total Occupancy: 10 Inside 1 Zone
0 Unread Messages
Service Running Locally

In order to see the readers user “Cruise Tom” has access to, navigate to the “Groups” tab. Select “Canteen or Parking Main” from the list on the left.

Figure 16 - XPressEntry Permissions Readers



Each user with assigned permissions in DSX PACS will have the same permissions in XPressEntry.

Groups

DSX PACS Access Level are mapped to Groups in XPressEntry.

Figure 17 - DSX PACS Access Levels

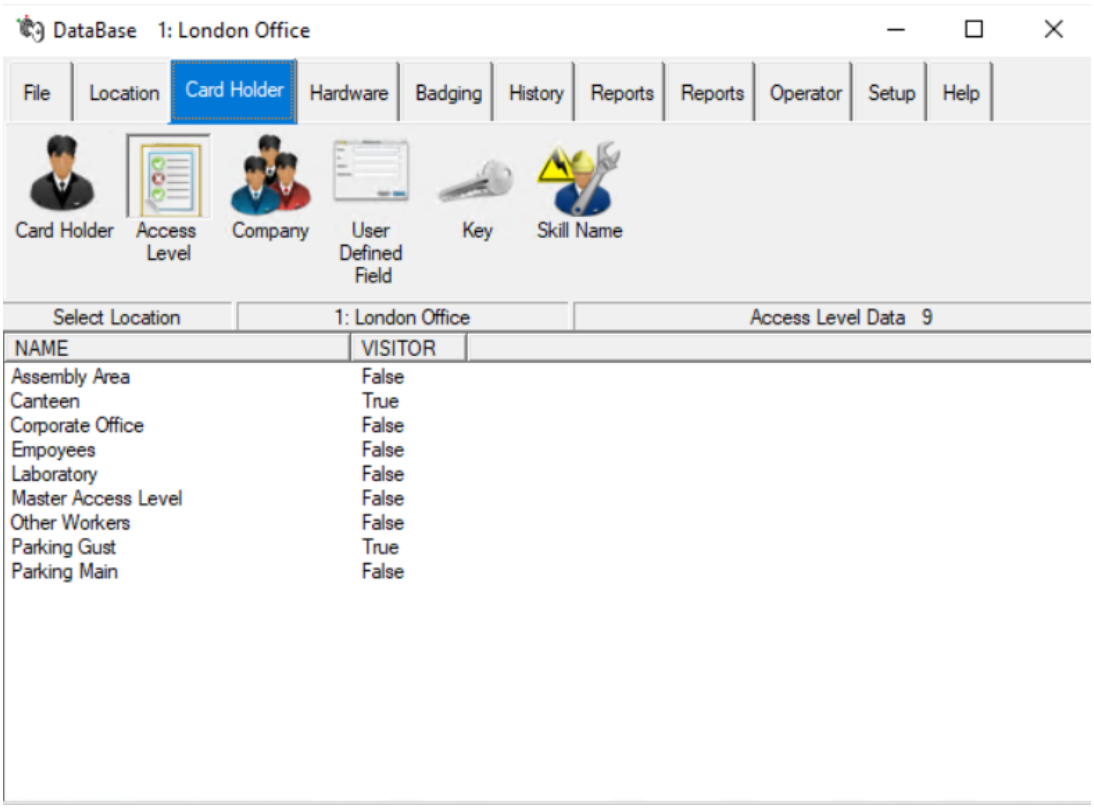
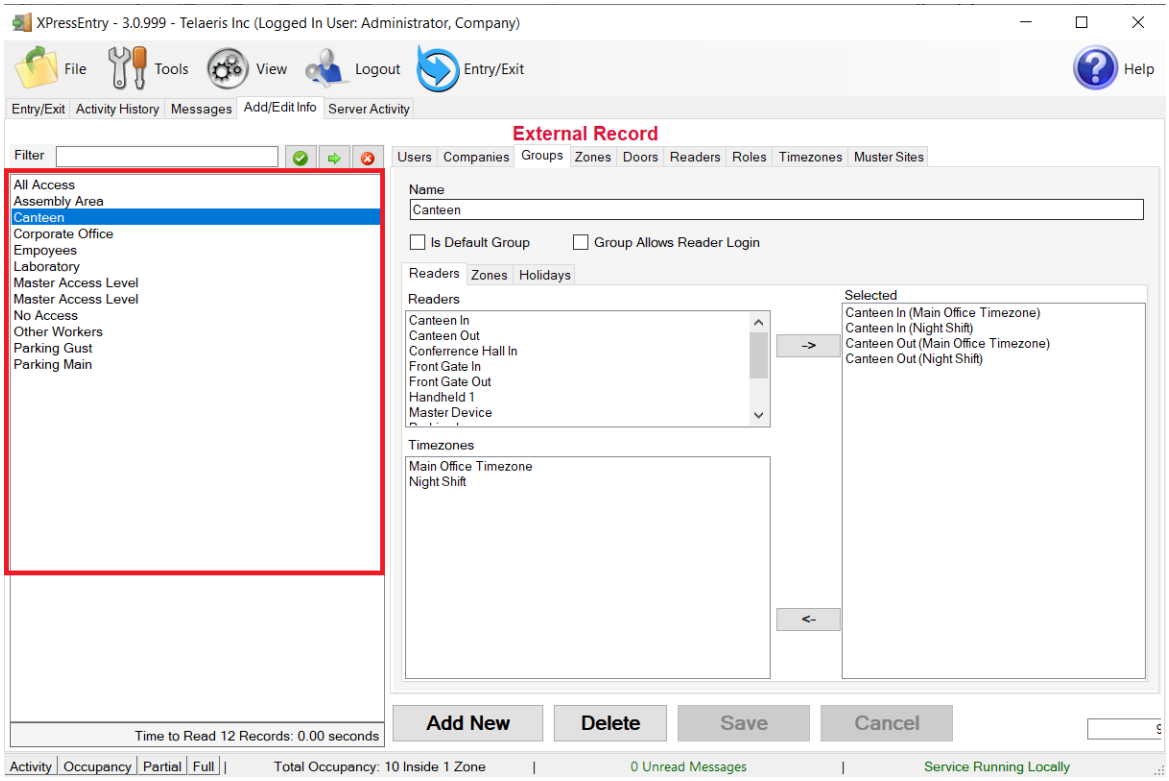

DataBase 1: London Office
File
Location
Card Holder
Hardware
Badging
History
Reports
Reports
Operator
Setup
Help
Card Holder
Access Level
Company
User Defined Field
Key
Skill Name
Select Location
1: London Office
Access Level Data 9
NAME
VISITOR
Assembly Area False
Canteen True
Corporate Office False
Empoyees False
Laboratory False
Master Access Level False
Other Workers False
Parking Gust True
Parking Main False

Figure 18 - XPressEntry Groups



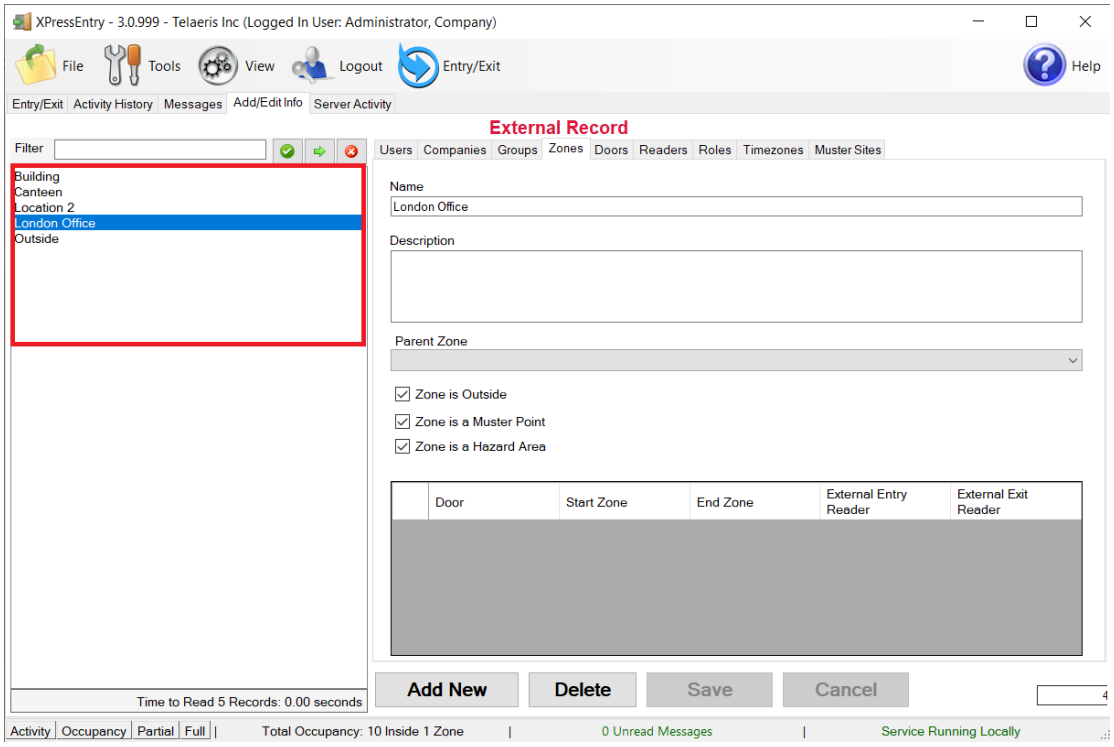
Zones

Zones are not pulled by default, to pull zones from DSX PACS you should enable the option “Download Location as Zones in DSX Data manger Settings”.

The Locations in DSX PACS should be available to view in the “Zone” tab under Add/Edit Info.

Here is a sample of a properly synchronized Zones:

Figure 19 – XPressEntry Zones


XPressEntry - 3.0.999 - Telaeris Inc (Logged In User: Administrator, Company)
File
Tools
View
Logout
Entry/Exit
Help
Entry/Exit
Activity History
Messages
Add/Edit Info
Server Activity
External Record
Filter
Building
Canteen
Location 2
London Office
Outside
Time to Read 5 Records: 0.00 seconds
Users
Companies
Groups
Zones
Doors
Readers
Roles
Timezones
Muster Sites
Name
London Office
Description
Parent Zone
Zone is Outside
Zone is a Muster Point
Zone is a Hazard Area
Door
Start Zone
End Zone
External Entry Reader
External Exit Reader
Add New
Delete
Save
Cancel
Activity
Occupancy
Partial
Full
Total Occupancy: 10 Inside 1 Zone
0 Unread Messages
Service Running Locally

Time Zones

Time zones are pulled from DSX PACS Time zone Intervals in XPressEntry. Time zones should be available to view in the “Timezones” tab under Add/Edit Info. If a single Time Zone has multiple standard time ranges for different days of the week, XPressEntry will create additional intervals to support this. Also, XPressEntry will ignore the time zone intervals with same start and end time.

Figure 20 – DSX PACS Time Zones

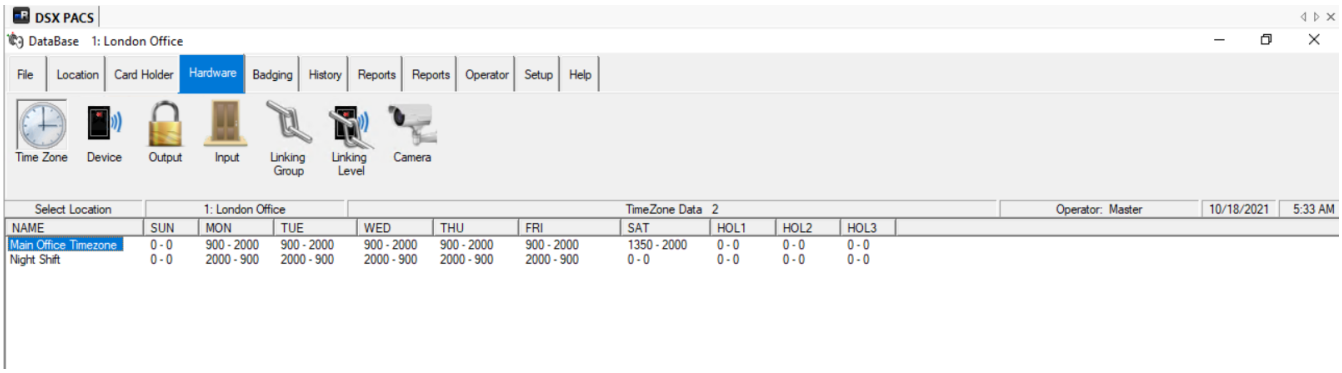
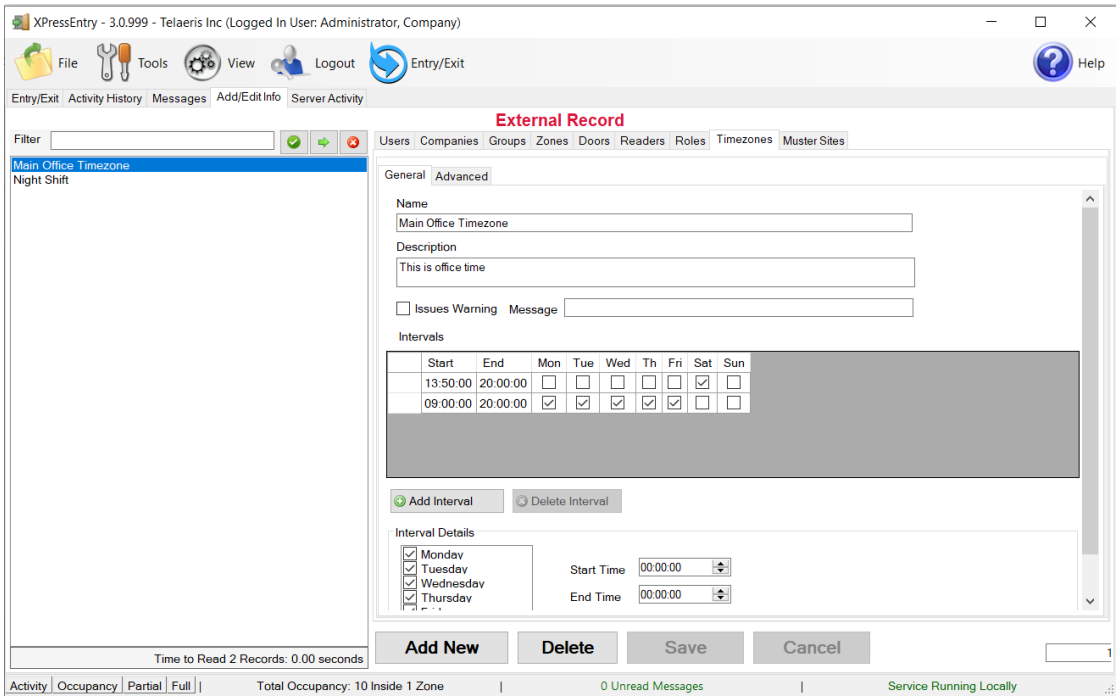


Figure 21 - XPressEntry Time zones



Holidays

Holidays are the simplest tables to pull from DSX PACS. All the “Holidays” should be available to view in the “Holidays” tab.

Figure 22 – DSX PACS Holidays

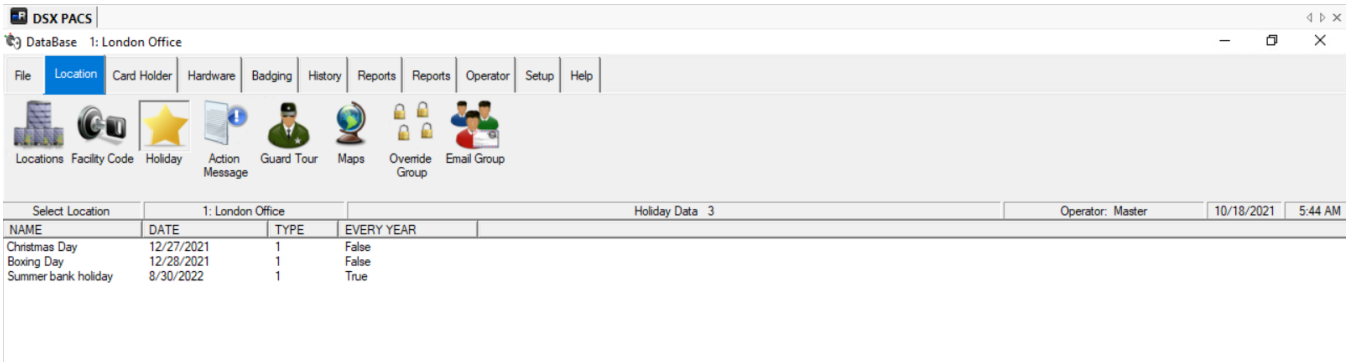
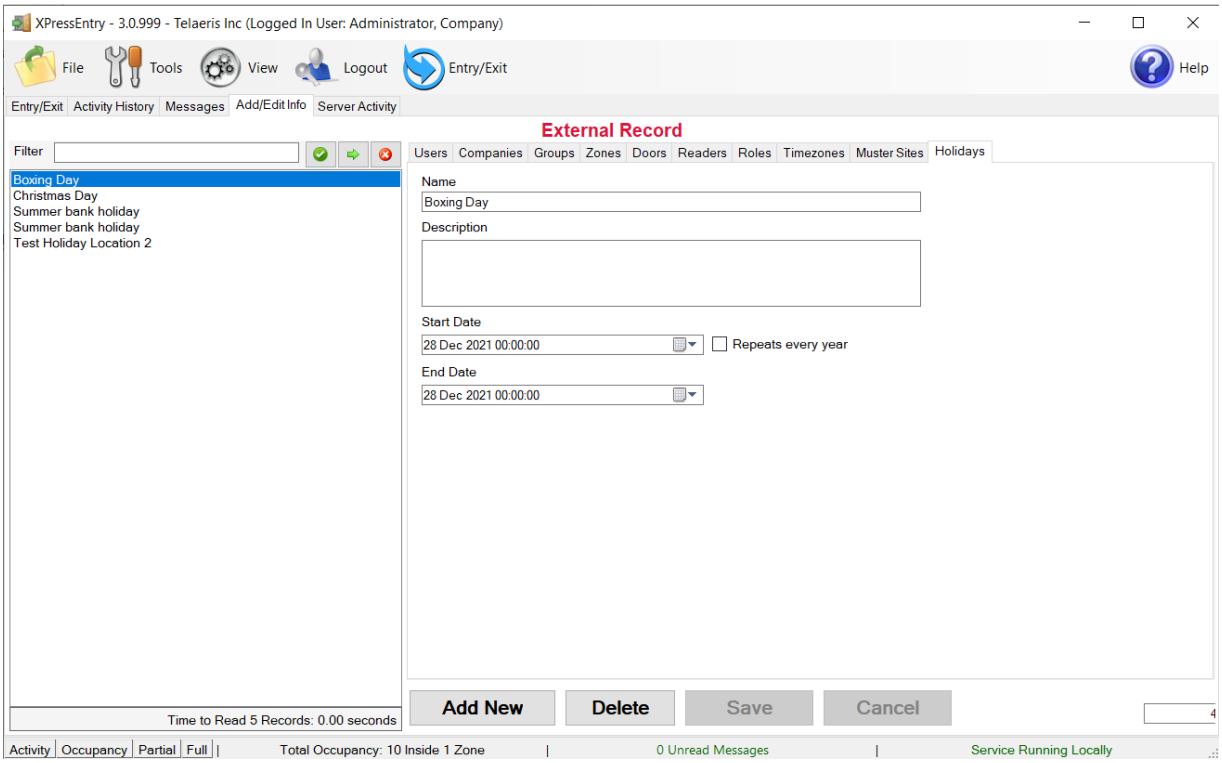


Figure 23 - XPressEntry Holidays



Configuring XPressEntry Using DSX Data

Now that XPressEntry has DSX database, it needs to be configured to use this information. The tabs that need to be configured are the Doors, Readers, and Zones.

Doors

Entry/Exit permissions in XPressEntry are set by doors. Doors contain two readers, an exit and an entry reader. Door access is determined by the User's access to the door's reader. For entry, permission is based on the user's access to the door's external entry reader. For exit, permission is based on the user's access to the door's external exit reader.

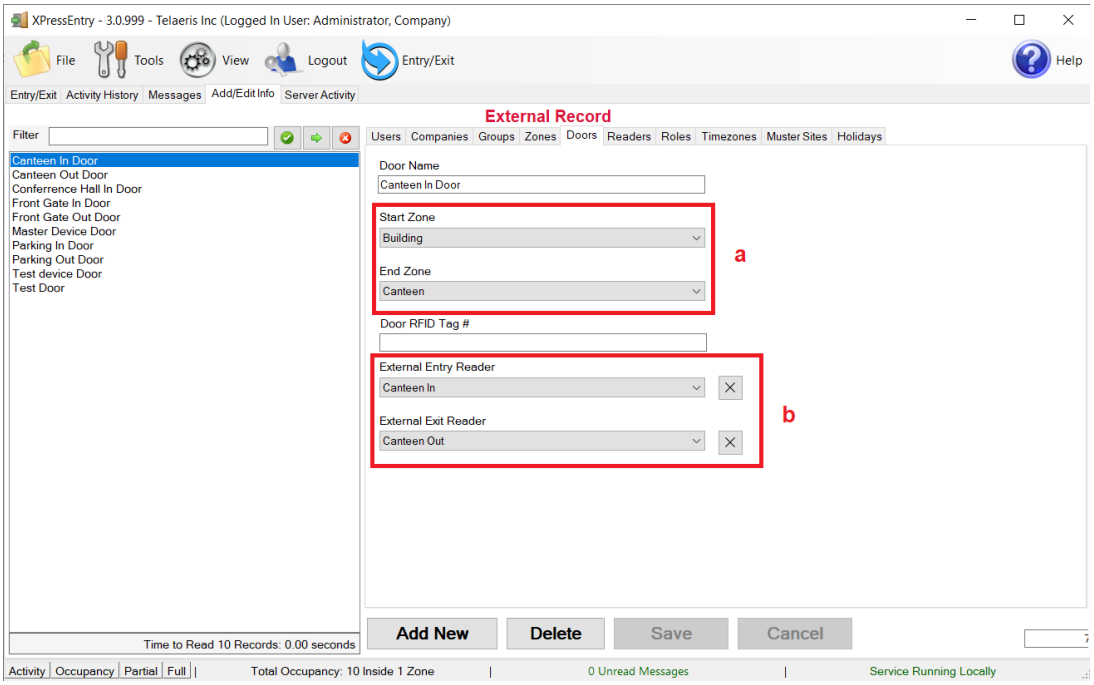
Doors should be set by the user for each Handheld Reader in XPressEntry.

The XPressEntry Integration with DSX PACS does not require additional start and end zones. However, XPressEntry can help keep track of what "zones" people are in if configured correctly.

If enabled in settings, while pulling readers from DSX PACS a door is created in XpressEntry with respect to each reader as shown in the below image.

Or else we can create door manually for each reader as required.

Figure 24 – XPressEntry Doors



a. Zones - For each door, set the start zone and end zone. This will "enter" a user in the specified zone when they enter or exit (or scan at DSX PACS readers).

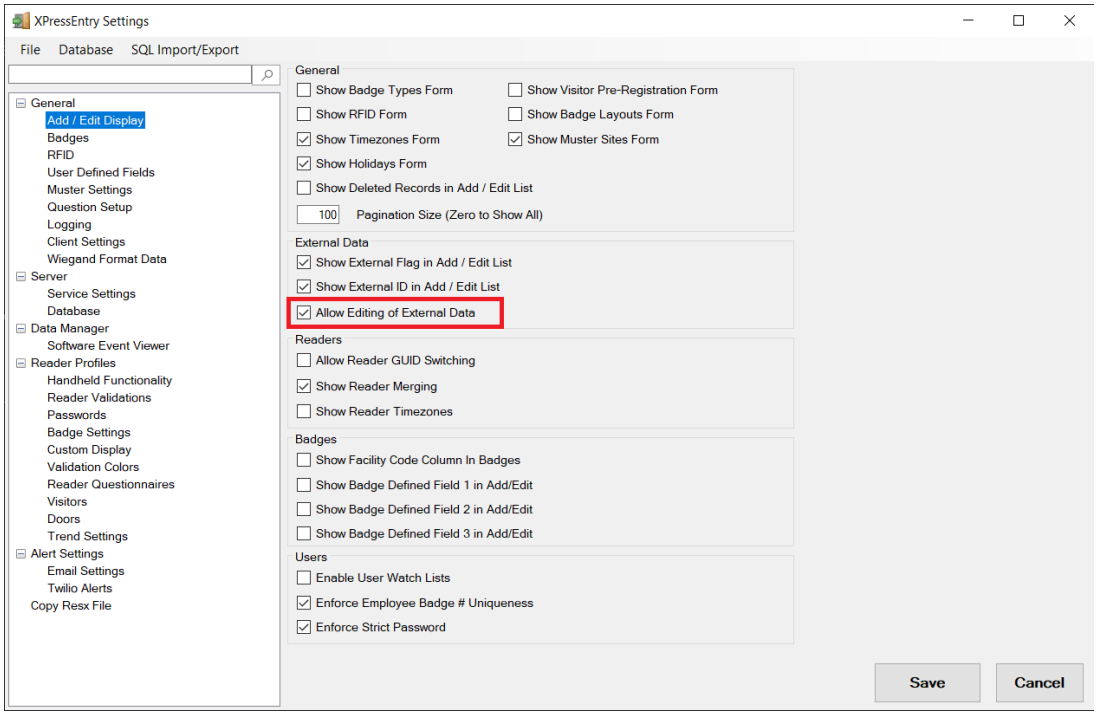
b. External Readers - Attach the logical entry and exit readers that you created in DSX PACS.

XPressEntry requires that you manually set up the doors in the system. There should be a door in XPressEntry for each physical station that an employee will have a handheld. To create a door, select "Add New" at the bottom of the form. Enter a name that clearly describes what this door represents. Select "Outside" for Start Zone and "Building" for End Zone. Since each door is created based on a reader, The "External Entry Reader" will be always the Selected Reader. "External Exit Reader" is one of the Exit readers you created in DSX PACS.

Doors can also be added for each of the physical door readers. If XPressEntry is set up to pull activities, it will move people in the system based on the reader they were scanned at, and the zones attached to the door.

In the XpressEntry system Editing of any external data is disabled by default. To enable the settings, you need to go to the XPressEntry Settings, General Tab, Select Add/Edit Display then check the option "Allow Editing of External Data" in the External Data Section.

Figure 25 – External Data Settings



Readers

In XPressEntry's DSX integration, it is not necessary to associate any reader in the system with a handheld. This association can be done on the handheld when it comes time to scan.

A handheld unit can logically represent any reader in the building. When the handheld is issued to an employee at a specific door, the employee must first set the door on the handheld. The XPressEntry Reader that the handheld represents is based on whether the handheld is in entry mode or exit mode.

For example, let us say that you have handheld A stationed at door A. Door A has two readers associated with it: Reader A-Entry and Reader A-Exit. The employee holding the handheld sets the handheld's door to Reader A. When the employee sees a cardholder walking towards the building, he sets the handheld to Entry mode and scans the cardholder's badge. The handheld in entry mode identifies itself as reader A-Entry and sends an activity to the server.

Later, there is heavy volume exiting Door B. Door B has two readers associated with it: Reader B-Entry and Reader B-Exit. The employee from door A is called to help and brings handheld A. He sets the door on his handheld to Door B and the mode to Exit. When he begins scanning people walking out of the door, the handheld identifies itself as Reader B-Exit and sends each scan as an activity to the server.

Activities

XPressEntry will synchronize activities to DSX PACS if that option has been set by Data Manager.

If XPressEntry is configured to "pull" activities, the occupancy of the system will change each time a person scans at a reader that is mapped to a door in XPressEntry.

You may want to pull activities if…

1. You want to use XPressEntry to manage Emergency Evacuations.
    a. XPressEntry uses DSX PACS activities to determine who is on and who is off campus.
    b. In the case of a mustering event, XPressEntry will have an up-to-date list of who is on site on this day.
    c. Using this list, XPressEntry can be utilized to "muster" or mark people as safe to create a list of people who are still on site.

2. You want to use XPressEntry's features to determine who is on site, and what areas people are in.

For more information about the functionality of XPressEntry, please look at the XPressEntry manual.