

# SIF Management

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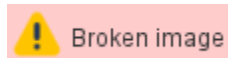
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## Connection Connection



[Preferences > SIS Integration > SIF > SIF Settings > Connection](#)



COMPanion will be discontinuing SIF support as of version Alex 22.1 in Summer 2022. [Contact our Sales Team](#) to learn more about GG4L!

Any changes made to settings in the Connection tab will not be implemented until Alexandria has been restarted.

Connection

Message Handling

Message Viewer

Message Mapping

☐ Enable SIF Communications

Communication Method

Using Pull Mode will request data from the ZIS throughout the day. Push mode will wait for a message to be sent from the ZIS.

☒ Use Pull Mode
 ☐ Use Push Mode

Connection Information

The Agent Name is your unique identifier that your ZIS will use to send your SIF messages. The Port Number is only required in Push Mode.

Agent Name

AlexandriaSIFAgent

Push Mode Port

0

ZIS Address

https://0.0.0.0:443

☒ Allow Non-Secure Connections

Registered Version

This is the SIF version that is used to originate messages.

Version 2.3

SSL Certificates

The location of the public and private certificates has been moved to the Alexandria administrator

## SIF Management

Check this box to enable SIF Agent services. It is required to enable communications with the ZIS system resources (e.g. the agent, port, etc).

Last Updated: `$action.dateFormatter.formatDateTime($content.getLastModificationDate())`

### Communication Method

#### Use Pull Mode

Alexandria will request data from the ZIS at throughout the day.

#### Use Push Mode

Data will be sent to the SIF Agent as soon as the ZIS receives it.

### Connection Information

#### Agent Name

This is the case sensitive name that the Alexandria SIF Agent is known by to all other SIF agents and to the ZIS (Zone Integration Server). For those with multiple sites in the same SIF Zone, the Agent Name should be unique for each library; otherwise, there is no need to change it from the default: AlexandriaSIFAgent.

#### Push Mode Port

This is the TCP/IP port that Alexandria uses to communicate with the ZIS and to initiate messages in Push Mode. If using Push Mode, this port must be open to outside connections through firewalls or software used to block unsolicited connections. Under Macintosh OSX, the default port requires that the user has administrative privileges on the computer (usually requires logging in as root). Setting this field is only required if Use Push Mode is selected.

#### ZIS Address

This is the internet address where the ZIS is located. This can be either an IP or resolvable address and can include a SIF Zone/Subzone. COMPANION recommends that a SIF Subzone be used for filtering incoming messages. If a subzone is specified and messages for Alexandria SIF Agents are only being sent to that subzone, then filtering messages is vastly simplified. The protocol header should be left out. Refer to your ZIS installation notes for this address. This address may include a subzone that only this installation uses. If that is the case, then it may not be necessary to use "other methods" to limit the Student and Staff events that are accepted by this agent. These "other methods" include settings that ignore messages from other schools or requiring a SchoolRefId; both of these are configured in the Message Handling tab.

### Allow Non-Secure Connections

This option is mostly used for testing by COMPANION and can usually be left alone.

### Registered Version

Select the version (1.5r1, 2.0r1, or 2.3) of SIF that you would like to use to register SIF; this is the version used to originate messages. This selection will also dynamically change the default values in the fields of the Message Mapping tab.

### SSL Certificates

The location of the public and private certificates can be found in Alexandria's Web Administration settings.

## Actions Menu

#### Restart the SIF Agent

Each SIF Agent sends a SIF\_Register message to become part of the SIF Zone. The ZIS then sends an acknowledgement (i.e. SIF\_Ack) message to confirm the registration. This selection forces the registration message to be sent to the ZIS.

#### SIF Ping the ZIS

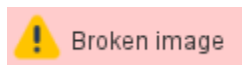
Sends a request to the ZIS and awaits an answer to make sure that it is on-line and available. A message window will appear when there is a response from the ZIS. An agent can "ping" the ZIS to check that it's online and "awake" by sending a SIF\_Ping message to the ZIS. If the agent receives a successful acknowledgement, the ZIS is awake; however, the ZIS may also reply that it is asleep.

#### TCP/IP Ping the ZIS

Sends a request to the ZIS via TCP/IP and awaits an answer to make sure that it is on-line and available. A message window will appear if there is a response from the ZIS.

## Message Handling

### Message Handling



Preferences > SIS Integration > SIF > SIF Settings  
> Message Handling

Patron information cannot be imported into Alexandria until the Chosen Sites list has been populated. The SchoolRefId is used to ensure that only patrons from the **Chosen Sites** are imported into Alexandria via the SIF agent.

Connection

Message Handling

Message Viewer

Message Mapping

☒ Include Students

This will allow student imports from the selected sites to the right

Request Students With an Entry Date Through:

Allow a future cut off date for student imports during synchronization. Any student entered prior to this date will be imported immediately by the SIF agent, even if the TimeFrame is Future.

☐ Include Staff

Allow staff from the selected sites to the right. Staff within the range of the school year 2019 through 2021 will be imported from the selected schools. This year (2020) is taken from the Patron/Grade Table/Last Day of School specified in your Alexandria Preferences. This date range affects all staff imported with SIF, even outside of synchronization.

Policy Defaults

When a new Staff or Student record is received through your SIF agent, it will default to the following policies.

Default Student Policy

Default Staff Policy

This list of schools is used to filter requests and events during normal operation. During synchronization, only the selected school will be synchronized.

Chosen Sites

Site List Sync Selected Sites

### Include Students

If this box is checked, students will be imported from schools in the Chosen Sites list. You must be requesting StudentSchoolEnrollment and StudentPersonal objects from the ZIS.

#### Request Students With an Entry Date Through

When a valid date is specified, the SIF agent will include StudentSchoolEnrollment messages with the TimeFrame attribute of Future and the EntryDate element less than (or equal to) the date specified. Without a date, only StudentSchoolEnrollment objects with the Timeframe of Current will be requested from the ZIS.

### Include Staff

If this box is checked, staff for the entire school year will be requested from schools in the Chosen Sites list; the school year is determined using information found in the Advance Grade After field of the Grade Table preferences. Agents set to use SIF version 1.5r1 and greater may use the StaffAssignment object to request staff for schools in the Chosen Sites list.

### Policy Defaults

Default Student Policy

Select the policy that new patrons are assigned when added via SIF. This affects how StudentPersonal events and requests are handled.

#### Default Staff Policy

Select the policy that new operators are assigned when added via SIF. This affects how StaffPersonal events and requests are handled.

## Chosen Sites

The schools contained in the Chosen Sites list are selected using the Site List. During synchronization, only the schools selected for the Chosen Sites list will be processed. The Chosen Sites list is also used to filter events and requests that occur during normal operation.

#### Site List

This opens the Add Site List roll-down containing a list of all the schools available to Alexandria after requesting SchoolInfo objects from the ZIS. Clicking the Refresh ("") button re-sends the request to refresh the Site List. However, due to the nature of SIF, this may take a few minutes (or a few days). If you don't manually refresh the Site List, an automatic attempt is made once each day. The Add Site List roll-down shows the last time that the Site List was updated (i.e. the last time a SchoolInfo message was received from the ZIS to fulfill a refresh request). It may take an indeterminate amount of time depending on the number of messages in the queue and the asynchronous nature of SIF communications. To add a site to the Chosen Sites list of schools to be processed by Alexandria, select (highlight) the one you desire and click Add.

#### Sync Selected Sites

This starts the synchronization process for schools in the Chosen Sites list. This process can take an indeterminate amount of time. When the Sync Selected Sites roll-down appears, clicking Continue will send the synchronization request to the *SIF Agent*; clicking Cancel will close the Sync Selected Sites roll-down and will *not* send a synchronize request—keep in mind that this does *not* cancel any requests that have already been sent.

## Actions Menu

? Unknown Attachment

#### Remove Selected Site

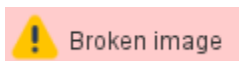
This option removes a user-selected (highlighted) site from the Chosen Sites list.

#### Remove All Sites

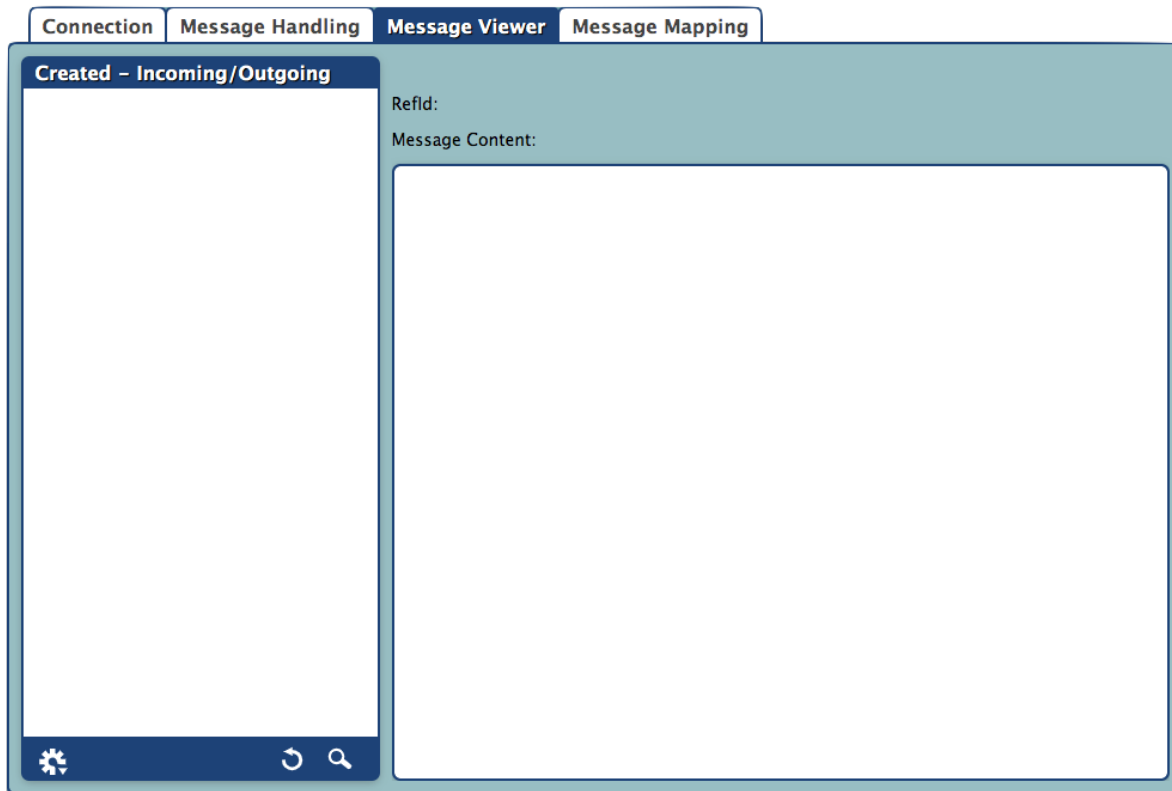
This option removes all sites from the Chosen Sites list of schools that are handled by Alexandria.

## Message Viewer

### Message Viewer



Preferences > SIS Integration > SIF > SIF Settings  
> Message Viewer



When the SIF Agent is started, the database is checked to see if there are any messages that need to be handled. Any incoming or outgoing messages are added to the message queue; additionally, any outgoing messages not yet sent are added to the outgoing message queue. After incoming messages are handled, they are removed from the queue; after outgoing messages are received by the ZIS, they are either removed from the queue or, in some circumstances, saved in the SIF database.

Some messages are saved until a particular date is reached (such as future StudentSchoolEnrollment events); SIF\_Request messages are saved until a response is received from the ZIS. Most messages, however, are never saved.

Messages are removed if they are invalid due to missing required elements. Obsolete StudentSchoolEnrollment messages are removed; these would be messages from any version of SIF not equal to v1.5r1 (since Alexandria no longer supports SIF v1.1). SIF version 2.x (or higher) re-broadcast messages with Future timeframes, so these are not saved. All other messages are removed if they are older than 30 days—except for the StudentSchoolEnrollment messages. When future StudentSchoolEnrollment messages have reached their specified entry date, they are added to the incoming message queue.

The Message Viewer tab contains a list of all the incoming and outgoing SIF\_Request and SIF\_Response messages currently “in-process” (i.e. incomplete or unresponsive) in the message queue. Additionally, the message queue contains messages that are being cached for future processing.

By default, the list will contain the fifty most recent SIF\_Requests and SIF\_Responses, sorted by date (that the message was placed in the queue), and whether the message is incoming or outgoing.

You are allowed to select (highlight) a message to view its contents, including the <SIF\_MsgId> (i.e. message IDs) taken from the header sent by the ZIS.

## SIF Message Types

### SIF\_Register

A SIF Agent must register with the ZIS to participate in a Zone. To do so, it sends a SIF\_Register message. An agent may re-register at any time by sending another SIF\_Register message. The ZIS updates the agent's registered settings accordingly.

### SIF\_Ack (Push Mode)

Push Mode agents end Selective Message Blocking (SMB) by sending a final SIF\_Ack to the ZIS.

### SIF\_Ack (Pull Mode)

Pull Mode agents acknowledge messages received in response to SIF\_GetMessage and remove them from their queue by sending a SIF\_Ack message to the ZIS. SIF\_Ack is also sent by Pull Mode agents to invoke and end Selective Message Blocking (SMB).

## SIF\_Event

When an application adds, changes or deletes data represented in one or more zones, its agent should publish the corresponding Add, Change, or Delete SIF\_Event to the Zone. Upon successful delivery of a SIF\_Event to the ZIS, the ZIS places the event in the queue for any agents subscribed to events for the object, including the Alexandria SIF Agent if it's a subscriber.

## SIF\_Request

An agent can request data from another agent at any time by sending a SIF\_Request message.

## SIF\_Response

A ZIS places a SIF\_Response in your agent's queue when a responder sends a response packet to your agent per a SIF\_Request previously sent by your agent. It is delivered when it is the next message available for delivery to your agent.

## Message Viewer Settings

### Refresh

Clicking this button will cause the message queue to be refreshed; the processing of incoming and outgoing messages can change the configuration of the queue rather quickly.

### Search

Clicking this button will allow you to search for specific messages by Message ID, Date (range) Added to Database, and Message Type (e.g. SIF\_Request and SIF\_Response).

### Actions Menu

Message saved in the database are most frequently SIF\_Requests of some type that are awaiting responses.

#### Remove Selected Messages

This option removes selected (highlighted) messages from the SIF Message queue.

#### Remove All Messages

This option removes incoming and/or outgoing SIF\_Request messages of all types.

#### Remove All Requests with Packets Received

This option will remove partially received SIF\_Request messages (i.e. messages that have received some response, albeit incomplete).

#### Remove All Requests with No Packets Received

This option will remove all the SIF\_Request messages that have had no response whatsoever.

#### Remove All Cached Messages

Some SIF\_Requests are cached and saved in the database, assigned to be processed at a future date; this happens when StudentSchoolEnrollment objects are assigned a TimeFrame value of Future. Therefore, this option will remove all of the cached StudentSchoolEnrollment messages saved in the database; only valid for SIF v1.5r1 implementations.

#### Clear All Patron Reflds

This option clears all StudentPersonal and StaffPersonal Reflds; object types will also be cleared as well as the dates that patron records were last updated via SIF. All incoming and outgoing messages in the queue will be deleted and the SIF Agent will be restarted. Under normal circumstances, this option should never be used; however, there are times it's necessary to perform before synchronization at the beginning of the school year.

#### Clear All Patron SIF Dates

This option clears the date that patron records were last changed or updated via SIF. During and after synchronization, you can run the Patron SIF Updates synchronization report to see how many patrons have been imported since the date was last cleared.

#### Export SIF Settings

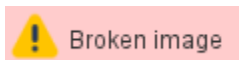
This option exports a downloadable .txt file that lists all of your SIF settings, including Message Mapping Preferences.

#### Show SIF Agent Status

Selecting this option calls forth a roll-down presenting all the most recent SIF Agent status messages received from the ZIS. This roll-down includes the time of the last ping and will refresh itself every second; it is also automatically opened when SIF Ping the ZIS is selected from the Actions menu in the SIF Connection tab.

## Message Mapping

## Message Mapping



Preferences > SIS Integration > SIF > SIF Settings  
> Message Mapping

Connection

Message Handling

Message Viewer

Message Mapping

Patron - 1

Patron - 2

Staff - 1

Staff - 2

Other

This window will allow you to specify the location of each field Alexandria can receive from your ZIS. Most fields have a default value that can be modified to tailor the import to your exact specifications.

Alert Notes:	StudentPersonal::AlertMsg	↺
Barcode:	StudentPersonal::ElectronicId@Type=Barcode	↺
Birth Date:	StudentPersonal::Demographics/BirthDate	↺
Patron #:	StudentPersonal::OtherId@Type=05	↺
Email:	StudentPersonal::Email@Type=Primary	↺
Gender:	StudentPersonal::Demographics/Gender	↺
SSN:	StudentPersonal::OtherId@Type=10	↺
Graduation Year:	StudentPersonal::GradYear@Type=Projected	↺
Telephone:	StudentPersonal::PhoneNumber@Type=06	↺
Mobile:	StudentPersonal::PhoneNumber@Type=01	↺
Parent/Guardian:	StudentContact::Name@Type=04	↺
Site ID Code:	StudentSchoolEnrollment::@=SchoolInfoRefId	↺
Username:		↺
Password:		↺

These settings allow you to specify the location (i.e. XML locations in SIF Messages) of every field that is supported by Alexandria's SIF Agent. Most of the Message Mapping fields have a default value that can be modified to customize the import to your exact specifications; the default values in these fields change dynamically if your Registered Version of SIF is adjusted in the Connection tab.

When **Restore From Defaults** appears to the right of a field, it signifies that information in a particular message mapping field has deviated from our default values. Click this button to restore the field to its original, default value. If you delete everything in a specific field, it will remain blank and data will not be imported. For example, if Grade Level is intentionally left blank, patron Grades will not be imported. However, blank fields can be restored to their default values by clicking the Restore From Defaults button.

## Required & Optional Objects

The following objects must be provided by a SIF Agent and Zone Administrator; Alexandria must be authorized by your zone settings to request and receive them.

### Required Objects

- SchoolInfo
- StaffAssignment
- StudentSchoolEnrollment
- StudentPersonal
- StaffPersonal

### Optional Objects

When optional objects are added or removed, the SIF Agent will automatically restart so the changes may take effect.



- **StudentContact** is only required if used in the Parent/Guardian, Email, Telephone, Mobile, or Address Parent mapping fields in the Student subtab.
- **StudentPicture** is only required if used in the Homeroom Link mapping field in the Student subtab.
- **RoomInfo** is only required if used in the Picture mapping field in the Student subtab.

## SIF\_ExtendedElements

Alexandria supports the mapping of extended elements; these elements are supported at the end of all SIF objects to extend existing SIF objects with locally-defined elements. Extended elements should not be used to duplicate data that can be obtained from other, standard SIF objects. Here's an example of how an extended element can be used for mapping Email addresses:

```
StudentPersonal::SIF_ExtendedElements/SIF_ExtendedElement@Name=Parent_Guardian_Email
```

## Non-Standard Mapping Using OtherID

The OtherID element often occurs in StudentPersonal and StaffPersonal objects and is an identifier for elements that either don't exist or haven't yet been included in the SIF specification. Once new elements are created to replace those using OtherId, you should always update to the new SIF-standard. Currently, OtherIds can be used to support pre-v6.22.2 message mappings, but this usage has been deprecated, specifically for Barcode, Homeroom, and Grade Level; since a standard now exists, we don't recommend using OtherId in those fields.

There are currently several ways to retrieve StudentPersonal or StaffPersonal elements from providing SIF Agent messages using the OtherId element.

- Using barcode as an example, if an OtherID of type ZB (OtherId@Type=ZB) is specified in the StudentPersonal or StaffPersonal object(s), the value stored in that location (e.g. 1001) is seen as the patron barcode. However, you would more commonly retrieve information from a standard element such as LocalId or ElectronicId.
- In v1.5r1 specifications, since both Homeroom and Grade Level could be specified from an OtherId of type ZZ, you were required to include an identifying prefix after the @Type indicator (e.g. HOMEROOM or GRADELEVEL). For example:

```
StudentPersonal::OtherID or OtherIdList@Type=ZZ:HOMEROOM
```

```
StudentPersonal::OtherID or OtherIdList@Type=ZZ:GRADELEVEL
```