System Galaxy Procedure

Active Directory- GCS AD Change Monitor (NEW)

How to import Active Directory Users into the System Galaxy database and synchronize cardholder data.

- Configuring Prerequisites in SG
- Sign-in & Connect to the AD Controller
- Configure the Field Mapping
- Configure Data Synchronization Settings
- Manage Change Cookies
- Configuring Cardholder/Card Options
- Configure AD Service Settings
- Fetching AD User Groups / User Filtering
- Performing an import or synchronization

SG 11.8.5 (or higher)

Published JAN 2024

Contents

OVERVIEW & REQUIREMENTS

The ***GCS Active Directory Change Monitor App*** (i.e. AD App; APP) supports importing individual **Active Directory Users** into the System Galaxy database as corresponding cardholder records. Likewise, the **GCS Active Directory Change Monitor** supports updating and disabling cardholder records in the System Galaxy database whenever the corresponding AD Users are modified or deleted from the AD Domain.

INITIAL SETUP IN SYSTEM GALAXY MUST BE COMPLETED

Before importing AD Users, the *System Administrator (master operator)* must create the necessary system entities. The Customer Name(s), SG Operator(s), Access Profile Name(s), and Badge Template(s) must be created in System Galaxy before they can be seen and used in the ***GCS Active Directory Change Monitor App.***

System Galaxy Registration

System Registration must be completed and must include the Badging System if idProducer is being used to create badges. The idProducer software/web client must be installed before the System Registration is done.

Customer Names

The *Customer Name(s)* must be created and assigned to the SG Operator(s), Access Profile(s), and Badge Template(s).

A customer can be assigned to more than one operator, access profile, or badge template. These items will be available in the *GCS Active Directory Change Monitor App* based on the Customer Name that is assigned to the SG Operator who is logged in.

Note: when the AD User is imported, the same *Customer Name* will be assigned to each cardholder that is assigned to the Operator.

SG Operators

When an SG Operator is created to run the ***GCS Active Directory Change Monitor App,*** you must assign the appropriate Customer Name and configure the correct editing privileges for the operator profile.

- Check 'No Filters' checkbox option will allow importing user data without restrictions.
- Uncheck 'Prevent Card Data & Access Privilege Editing' checkbox to allow importing without restrictions.
- Set Cardholders option to "Full Editing" to allow importing cardholders without restrictions.
- Ensure Access Privilege & Department are set Ignore Filters or set in such a way that they cannot affect your imports.
- Cardholder Options are not *hidden* or not *view only* and cardholder tabs are all available.

Access Profiles

If you are going to "always assign the default access profile from the System Galaxy, then the Access Profile Name(s) must be created in SG and assigned to the same customer name as the SG Operator before you configure Customer Settings in ***GCS Active Directory Change Monitor App.***

If you will be using the AD Primary Group as the Access Profile, then the spelling of the Access Profile name in System Galaxy must exactly match the spelling of the AD Primary Group.

HOW IS AD USER DATA IMPORTED/PUSHED

Importing new cardholders is accomplished by selecting the Org Unit and User Group(s) desired, then running the ***Get Users*** function to fetch the Users from chosen AD User Groups and then Push them into the SG Database. The initial import would be done manually, and the App would automatically continue syncing/updating the users through the GCS AD Service and saved customer settings.

HOW ARE CARD DATA, ACCESS PRIVILEGES, AND BADGE TEMPLATES IMPORTED/PUSHED

The SG Operator can also choose to add a card record and include card data, access privileges and badge settings along with the AD User import (push), based on saved *Customer Settings* that are preconfigured in the ***GCS AD Change Monitor App***. App and GCS AD Service refresh is required.

HOW IS AD USER DATA SYNCED/UPDATED

AD User Data is synchronized based on the field that is selected *Synchronization Column* in the ***GCS Active Directory Change Monitor App.*** The Sync Column is a column from the SG Database. In the Field Mapping, an AD Property must be mapped to the selected SG Column and that column must be chosen as the Sync Column. The field used to sync by must have unique data for every single user record. This data is part of the saved Customer Settings in the ***GCS Active Directory Change Monitor App.***

The synchronization will automatically occur when the Poll Interval elapses in the Customer Settings of the ***GCS Active Directory Change Monitor App,*** provided the GCS AD Service is running.

HOW ARE CARDHOLDERS HANDLED WHEN USERS ARE DELETED FROM ACTIVE DIRECTORY

When an AD User is deleted from the domain then a delete cookie (checkpoint) will be created. When the ***GCS Active Directory Change Monitor App*** detects the checkpoint, it will deactivate the corresponding cardholder in System Galaxy.

System Galaxy does not delete cardholders or cards because it will delete the card and cardholder activity. Instead, the system deactivates the cardholder and keeps the activity history intact.

HOW DATA IS IMPORTED & UPDATED

The SG Operator for a designated Customer will sign-in to the **GCS AD Change Monitor App** and configure the AD Field Mapping, Synchronization Settings, Default Card Settings, and GCS AD Service Settings as desired. The Operator will also designate which OU and User Groups to be fetched/synchronized.

Once the SG Operator is satisfied with the settings, the settings must be saved and then the AD App and GCS AD Service must be restarted to pick up the new settings.

After saving the Customer Settings, the Operator can fetch the desired User Group and run a manual push to import AD Users into the database for the specified customer. From there the App will periodically synch the AD Users. based the timing of the Poll Interval and the Synch Column and Customer designation.

The GCS Web API Service must be running for the Synchronization/updates to be done.

TERMS IN THIS GUIDE

AD	(acronym) Active Directory
AD App	(or GCS AD App) is the **GCS Active Directory Change Monitor App**
AD Domain Controller	The AD Domain Controller you must connect to in order to fetch and sync AD Users
AD User	The *user* or *user record* listed in Active Directory. AD Users are imported into SG database.
AD User Group (UG)	a User Group (UG) in active directory is a division of users within an Organizational Unit (OU).
AD Org Unit (OU)	The Organizational Unit (OU) in active directory, which contains multiple UGs.
AD Property	a column or field in the *Data Mapping* grid of the GCS Active Directory Change Monitor (AD App); a data field in Active
Checkpoints (cookies)	Checkpoints are *change cookies* or *delete cookies* that are created by AD when any modifications or deletions to User records occur in the AD Domain. GCS Active Directory Monitor will update SG Cardholders based on the information in the checkpoints (changes or deletions/deactivations).
Customer Name [SG]	In System Galaxy, the *Customer Name* is used to segment the data, such as the population of cardholders, badges, operators, access profiles, etc. The *customer name* that is assigned to the SG Operator will also be assigned to the new and updated cardholder records when AD Users are imported into the SG database.
Data Field [disambig.]	A data field is any column in System Galaxy database.
Data Field Mapping	In the *GCS Active Directory Change Monitor* (AD App), the SG Operator can map AD Properties to existing SG Cardholder Columns (fields).
Data_# Field (1 thru 5)	System Galaxy contains specific *Cardholder "Data Fields"* that can be designated/reserved for a specific purpose – i.e. to hold specific data that is mapped to an AD Property (field). Data_1 thru Data_5 can be mapped with an AD Property (if they are not already in use for another purpose).
Synchronization Column	the *GCS Active Directory Change Monitor* (AD App) uses a chosen field/column to uniquely identify and synchronize each/every AD User & SG Cardholder record during the Import/Update procedure.
SG	(acronym) System Galaxy software or feature or component.
SG Operator	An authorized user profile (login credentials) of the SG software or GCS Active Directory App.

INTEGRATION REQUIREMENTS:

1. *System Galaxy* software (v11.8.5 or higher) must be completely installed (all 3 parts) on the Main SG Server.
2. The System Galaxy Database (Database SQL Server) must be online.
3. **Install Step-3 SG Software and Core GCS Services** will install to run automatically, including GCS Web API Service.
4. The **GCS Active Directory Service** must be running/automatic to perform the push synchronization.
5. If customer badging is being used, then the **SG IIS** must be installed from the **Galaxy Install Media** (USB/ISO).
6. idProducer Badging must be installed after SG IIS is installed **but before** the SG *System Registration* is performed.
7. SG **Customer Name(s)** must be created in System Galaxy and must be assigned to SG Operators. Customer name must also be assigned to Access Profiles and Badges if these are used.
8. **SG Operator Account** must be created, and the appropriate Customer Name should be assigned.
9. The SG Operator must be given the correct ***editing privileges*** to support editing or importing cardholder/card data.
10. IF you will be using the **GCS AD Change Monitor App** to insert Card Data along with the AD User data, then the following things must be created in System Galaxy before you perform the AD Sync.
    a) The appropriate **Badge Template(s)*** must be created in idProducer and imported into System Galaxy and the appropriate Customer Name must be assigned to the Badge before you configure the AD App.
    b) The **Access Profile Name(s)*** must be created with the appropriate Customer Name assigned – based on the behavior you want to use. See chart below …

Card Behavior Setting	Purpose and Result
"Do not assign any access profile"	**In this case, no *access profile name* will be assigned by the AD App, even if other Card data is included in the AD User import**. Use this behavior if you want to assign access privileges in SG after the AD Users are imported. (In this case, you can use Access Profiles, Access Groups, Personal doors or any combination of access privileges, which can be created at any time independent of the AD Sync.)
"Always assign Default Access Profile"	**In this case, the *Access Profile Name* must be created in SG and assigned to the appropriate Customer in SG *before* the AD App Customer Settings are saved**. You can create one or more Access Profile Names for the same customer. The *Access Profile Name(s)* will be available in the **Default Access Profile droplist** whenever this behavior is chosen in the AD App.
"Use AD Primary Group as Access Profile	**In this case, the *Access Profile Name* will come from the AD Primary Group name. However, the Primary Group Name can be added to SG as an Access Profile Name with the exact same spelling - and be assigned to the appropriate customer before the AD App Customer Settings are saved**. This behavior will push the value that is stored in the AD Primary Group property for each imported user.

* If there is more than one *Badge Template* or *Access Profile* assigned to the same Customer as the SG Operator, they will populate in their appropriate droplists in the Card Options group. These settings must be saved as the *Customer Settings* by clicking the [Save Customer Settings] button in the **GCS AD Change Monitor App** before you Sync data.

11. The **AD Domain Controller** connection parameters must be valid (IP Address, AD User Name and Password) to fetch users or perform any actions from the ACTIONS dropdown list in the **GCS AD Change Monitor App**.
12. The **AD Properties** (user data fields) must be populated appropriately with data that maps to SG Columns. SG Operator can map additional fields such a Cardholders.COMMON_ID or DATA_# (1 – 5).
13. The **AD Field Mapping** may need to be configured before you choose the Synch Column if nothing is mapped to the SG Column you want to Sync by.
14. Whenever you Save Customer Settings, you must restart the **GCS AD Service** to pick up the changes.
15. The **GCS AD Change Monitor App** can be launched from the System Galaxy Event Server.
    PATH: "**C:\GCS\System Galaxy\OptionalServices\ActiveDirectory\GCSActiveDirectoryChangeMonitor.exe**

SYSTEM GALAXY PREREQUISITE PROGRAMMING

Before you can use the GCS AD Change Monitor App, you must install and register System Galaxy and create the prerequisite system components that the *GCS AD Change Monitor* will need.

ABOUT INSTALLING SYSTEM GALAXY & INTEGRATED SOLUTIONS

1. Install all 3 Steps of the System Galaxy software as per normal.
   a. Install Step-1 Prerequisites on every Galaxy server and client,
   b. Install Step-2 New SG Database & MSSQL Server on the computer where the database will reside. *Install Step-2 Native ODBC Client components on any client PCs (depending on your system needs)*.
   c. Install Step-3 System Galaxy Software and Services on the computer that is the *main event server*. *Install SG client software only on your client computers (depending on your system needs).*

2. IF YOU WILL BE DOING BADGING …
   a. Install IIS from the Galaxy Install Media before installing idProducer Web Badging Solution.
   b. Install the idProducer Badging Solution if you will be creating ID Badges.

ABOUT REGISTERING SYSTEM GALAXY

1. Launch System Galaxy Software from the desktop shortcut on the main Event server.
   a. You will be prompted to create a master administrative operator name and password.
   b. You will be prompted to sign-in to the software the master operator you just created.
   NOTE: you must be signed in as a master operator to create the programming needed.

2. Open the System Registration screen from SG Menu: **Configure** > **Options** > **Registration** > **System**. (Registration must be performed by the qualified Galaxy Dealer.)
   a. Enter all the required Dealer information.
   b. Set the product level and remaining system options according to the purchase agreement.
   c. Be sure to choose the appropriate badging level and complete the registration code as required.
   NOTE: the idProducer Badging software must already be installed before you perform this registration so that the badging license is created correctly.

3. Close and restart your System Galaxy software.

ABOUT PROGRAMMING SYSTEM GALAXY PREREQUISITES

This section covers how to program *prerequisite components* that you will need when configuring and operating the ***GCS AD Change Monitor App***. Some of these components are mandatory and some are required depending on how you will configure customer settings in the AD Change Monitor app.

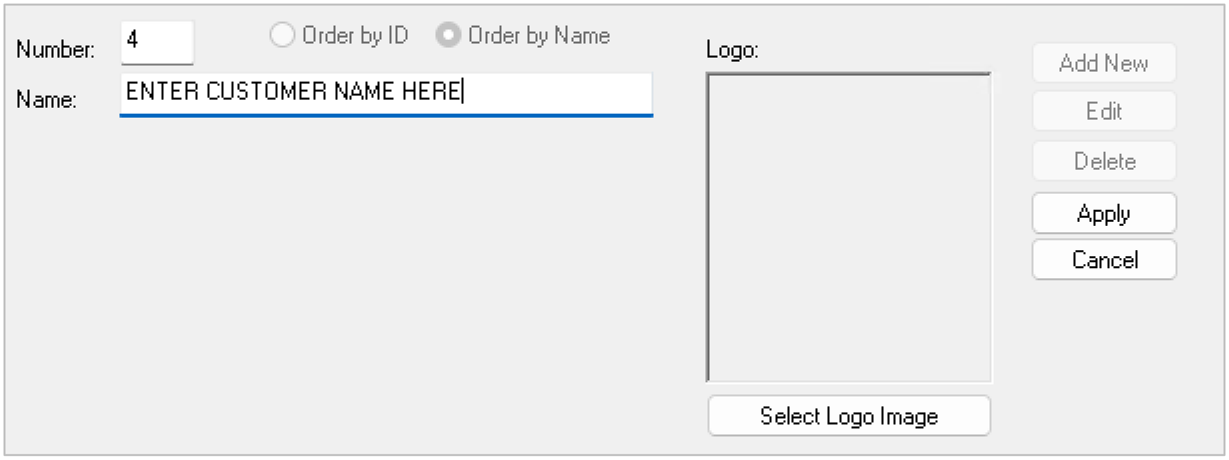
IMPORTANT: To create all the listed programming, you must be signed-in to System Galaxy using the master administrative credentials you created in the prior steps.

- Customer Names (mandatory)
- SG Operator Names (mandatory)
- Access Profile Names (mandatory if used)
- Badge Template Names (mandatory if used)

CREATING A CUSTOMER

You must create the Customer Names first because you will need this for all the rest of the programming.

1. Open the Customer programming screen from SG Menu: **Configure** > **System** > **Customer.**
2. In the Customer screen, click ADD NEW.
3. Enter a Customer Name (and select a logo and complete any other programming as appropriate).



Number: 4

Name: ENTER CUSTOMER NAME HERE

○ Order by ID ● Order by Name

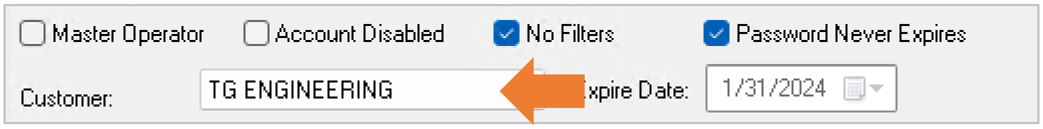
System Galaxy > Customer Programming screen (cropped)

4. Click APPLY to save your programming.

CREATING AN SG OPERATOR

You must create at an SG System Operator for each Customer.

1. Open the Operator programming screen from SG Menu: **Configure** > **System** > **System Operator.**
2. In the Operator screen, click **Add New**.
3. Select the appropriate ***Customer Name*** for this Operator.
4. Enter an **Operator Name** and enter the *password* and *confirmation password*.
5. By default, the **NO FILTERS** option is checked (which means SG will ignore any filtering or limited privileges you set for editing or viewing data. If you uncheck this, the system will use the privileges and filtering rules that are configured on the tabs below.



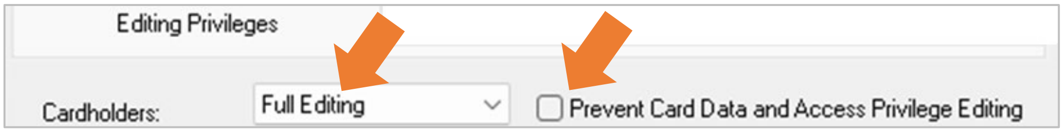
☐ Master Operator ☐ Account Disabled ☑ No Filters ☑ Password Never Expires

Customer: TG ENGINEERING

xpire Date: 1/31/2024

SG Operator programming screen (cropped)

6. Select the **Editing Privileges** tab …
   a. Set "Full Editing" for the Cardholders option in the.
   b. Disable (uncheck) the "Prevent Card Data and Access Privileges Editing" option.



Editing Privileges

Cardholders: Full Editing

☐ Prevent Card Data and Access Privilege Editing

SG Operator programming screen (cropped)

7. Be sure you do not configure any limitations or filters that prevent data from being imported by the operator on the remaining tabs.

8. Click APPLY to save your programming.

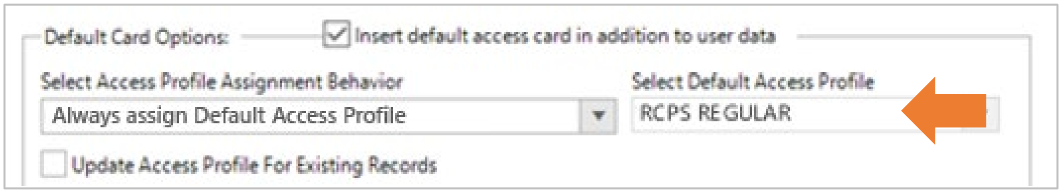
CREATING AN ACCESS PROFILE

Skip this section only if you will not be using *GCS AD Change Monitor App* to set the Access Profile.

You need to create an Access Profile Name(s) for each *Customer* only if you are using the *GCS AD Change Monitor App* to insert the Access Profile Name (below).

DEFAULT CARD OPTIONS …

- "Do not assign Access Profile" ← Don't create Access Profile – skip to next section.
- "Always assign Default Access Profile" ← Must create Access Profile Name(s) for each Customer.
- "Use the Active Directory Primary Group …" ← the Access Profile Name spelling must match AD exactly.



Default Card Options: ☑ Insert default access card in addition to user data

Select Access Profile Assignment Behavior: Always assign Default Access Profile

Select Default Access Profile: RCPS REGULAR

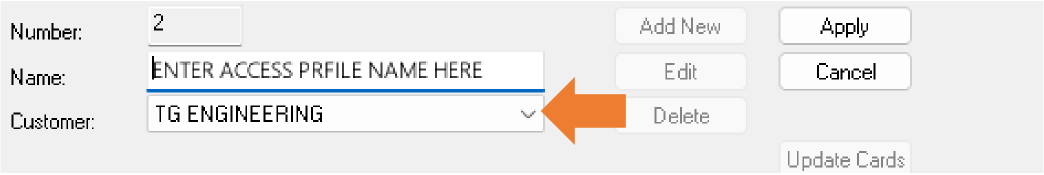
□ Update Access Profile For Existing Records

GCS AD Change Monitor App (cropped)

REQUIREMENTS

- The Access Profile Name must have the Customer Name assigned.
- The Galaxy *Time Schedules* and *Access Groups/authorized doors* must also be created and assigned to the Access Profile before the cardholder will have working access privileges.
- A *Customer* can have more than one Access Profile. The Access Profiles will be listed in the droplist of the *GCS AD Change Monitor* App.

1. Open the Access Profile programming screen from SG Menu: **Configure** > **Cards** > **Access Profile.**
2. In the Customer screen, click **Add New**.
3. Enter an *Access Profile Name* and select the Customer Name.



Number: 2

Name: ENTER ACCESS PRFILE NAME HERE

Customer: TG ENGINEERING

SG Access Profile programming screen (cropped)

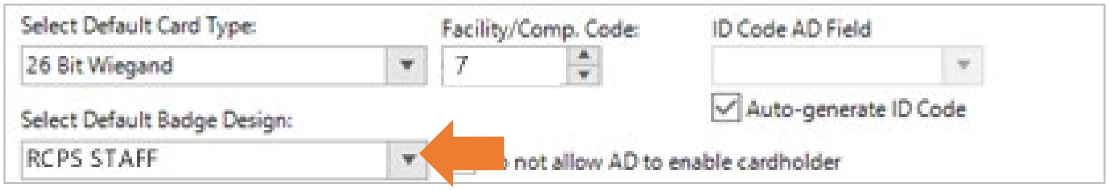
4. Complete the *Access Group* assignment in the programming screen as desired.
   (If you need instructions on creating *Schedule* and *Access Groups* see the SG User Guide for details.)
5. Click APPLY to save your programming.

CREATING AN BADGE TEMPLATE

Skip this section only if you will not be using *GCS AD Change Monitor App* to set the Badge Template.

You need to create and import a Badge Template(s) for each *Customer* only if you are using the *GCS AD Change Monitor App* to insert the Badge Template Name (below).

DEFAULT CARD OPTIONS …



Select Default Card Type: 26 Bit Wiegand

Facility/Comp. Code: 7

ID Code AD Field:

☑ Auto-generate ID Code

Select Default Badge Design: RCPS STAFF

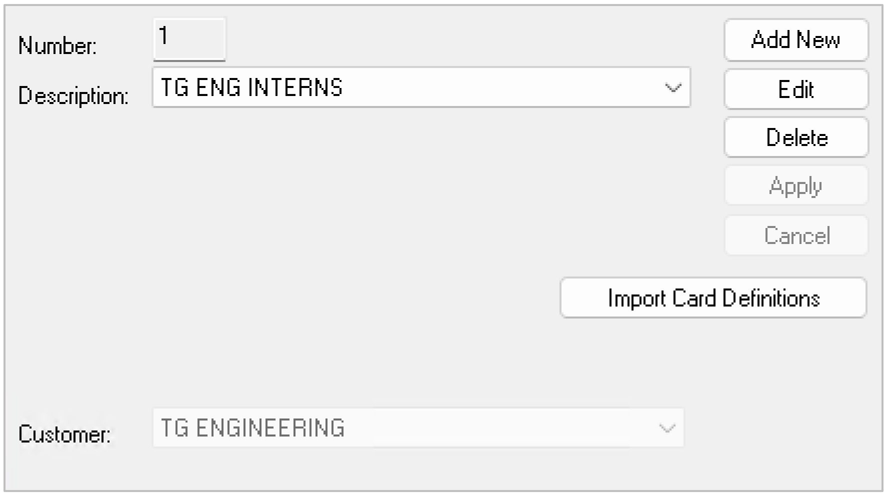
not allow AD to enable cardholder

GCS AD Change Monitor App (cropped)

REQUIREMENTS

- The Badge Template Name must have the Customer Name assigned.
- The Badge Template must have been created and imported into SG in order to appear in the Badge Layout screen. The badge import should happen automatically when the SG Operator signs-in to System Galaxy after saving the badge in the idProducer Client.
- A *Customer* can have more than one Badge Template.
- Badge Templates will be listed in the Default Badge Design droplist of the *GCS AD Change Monitor* App.

1. Open the Badging screen from SG Menu: **Configure** > **Cards** > **Badge Layouts/Designs.**
2. You should be able to see and select the Badge Name and see the the Customer Name is assigned to the Badge Template as desired**.**
3. If you do not see your Badge Template(s) here, then check the idProducer Client to ensure that the templates are created and saved for the appropriate Customer. Restart System Galaxy as needed to pick up the changes from the idProducer software. Refer to the idProducer Guide for more information.



Number: 1

Description: TG ENG INTERNS

Customer: TG ENGINEERING

SG Badge Layout screen – already populated with Customer Badge Template

4. Close the screen without making any changes.

CONFIGURING THE GCS AD CHANGE MONITOR APP

The GCS AD Change Monitor App is installed during Part-3 of the System Galaxy Software installation.

IMPORTANT

- The **GCS AD Change Monitor App** can be launched from the System Galaxy Event Server.
  PATH: "**C:\GCS\System Galaxy\OptionalServices\ActiveDirectory\GCSActiveDirectoryChangeMonitor.exe**
- The AD Domain must be online, and the ***GCS Active Directory service*** must be running.
- The **AD Domain connection parameters** must be valid (IP Address, AD Username, and Password). And AD Domain credentials must have the appropriate permissions.
- All the Integration Requirements must be met (see Requirements section in this guide).
- The *Customer Settings* in the GCS AD App must be saved and the GCS AD Service refreshed before the AD Users can be properly imported.

SIGNING-IN TO THE GCS AD CHANGE MONITOR APP

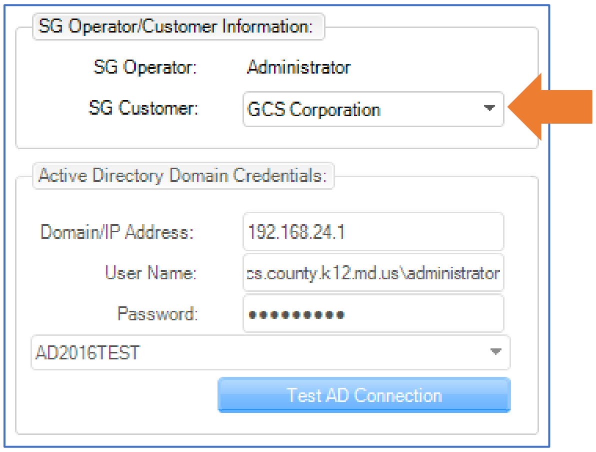
The SG Operator will sign into the ***GCS AD Change Monitor App*** using the appropriate SG Operator credentials. Then the operator must provide valid login credentials for the AD Domain Controller.

IMPORTANT

- The ***SG Operator*** must be valid and active in System Galaxy and must have the correct editing privileges and Customer Assignment.
- The *Customer Name* that is assigned to the SG Operator will be assigned to all the imported AD Users (cardholders) when the Cardholder Synchronization (import/update) happens.

1. Ensure the ***GCS Active Directory service*** is running.
2. Navigate to the Galaxy **Active Directory folder** and launch the ***GCS AD Change Monitor App***
   PATH: "C:\GCS\System Galaxy\OptionalServices\ActiveDirectory\GCSActiveDirectoryChangeMonitor.exe"
3. Enter valid **SG Operator credentials** in the Sign-in screen to log into the ***AD Change Monitor App***.
4. The **Customer Name** should auto-fill (based on the assigned customer in System Galaxy Operator programming).

NOTE: Cardholder Synchronization (User import/update) will happen automatically at the designated Poll Interval after the customer settings are saved and the GCS AD Service is refreshed. Otherwise the App can manually push an import/update when the SG Operator clicks the [Push AD Users] button.



SG Operator/Customer Information:

SG Operator: Administrator

SG Customer: GCS Corporation

Active Directory Domain Credentials:

Domain/IP Address: 192.168.24.1

User Name: cs.county.k12.md.us\administrator

Password: ●●●●●●●●●

AD2016TEST

CONNECTING TO AD DOMAIN CONTROLLER

You must provide valid AD credentials and click the *Test AD Connection* button to connect to Active Directory.

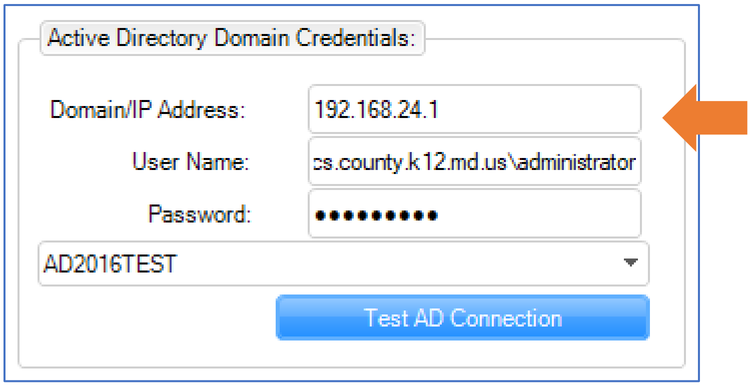
IMPORTANT

- The AD Credentials must have the appropriate permissions on the domain to support fetching User Data in this tool.

STEPS

1. Enter the AD **Domain IP Address.**
2. Enter the AD **Username** with domain name (i.e., domain-name\user-name).
3. Enter the AD **Password.**
4. Click the **[Test AD Connection]** button: this makes a connection attempt to the AD Domain Controller using the credentials you provided.

   RESULT: Immediately the App populates the *Select Groups List* with available Org Units & AD User Groups.



Active Directory Domain Credentials:

Domain/IP Address: 192.168.24.1

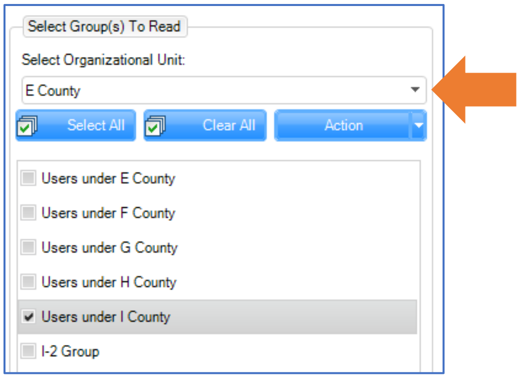
User Name: cs.county.k12.md.us\administrator

Password: ●●●●●●●●●

AD2016TEST

GCS AD Change Monitor App (cropped) >AD Domain Login

5. Click OK to close the ***Connection Successful*** message box to continue.
6. In the *Select Groups List* choose the desired Org Unit to filter the User Groups
7. Then place a *checkmark* in the checkbox of the User Group(s) you want to fetch records from.
   - Use the [Select All] and [Clear All] buttons to select/clear all the User Group checkboxes in the List.
   - Use the [Action] droplist to fetch User Groups



Select Group(s) To Read

Select Organizational Unit: E County

☐ Users under E County
☐ Users under F County
☐ Users under G County
☐ Users under H County
☑ Users under I County
☐ I-2 Group

GCS AD Change Monitor App (cropped) > AD OU & User Group Selection

CONFIGURE FIELD MAPPING

The AD Change Monitor App comes with the basic AD Field Mapping already configured. If you are satisfied with the default mapping, skip this section, and go to Setting Synch Settings (next section). Otherwise configure any additional AD Properties as appropriate.

PREREQUISTES

- Before you configure the *Sync Column* and other settings, you might need to edit your field mapping to configure any remaining fields you will need to use – such as SG Cardholders.Data# fields.
- Make sure your Data fields are not already in use for another purpose or by another process that is integrated with System Galaxy before you map AD Properties to an SG Data field.

IMPORTANT NOTICE

- Be sure the SG Column that you plan to use as your 'Synch Column', is mapped to the appropriate AD Property
- Ensure that the mapped AD Property will always have unique data for every individual cardholder. The accuracy of the import and update of AD Users depends on the integrity of the unique data in the Sync Column.

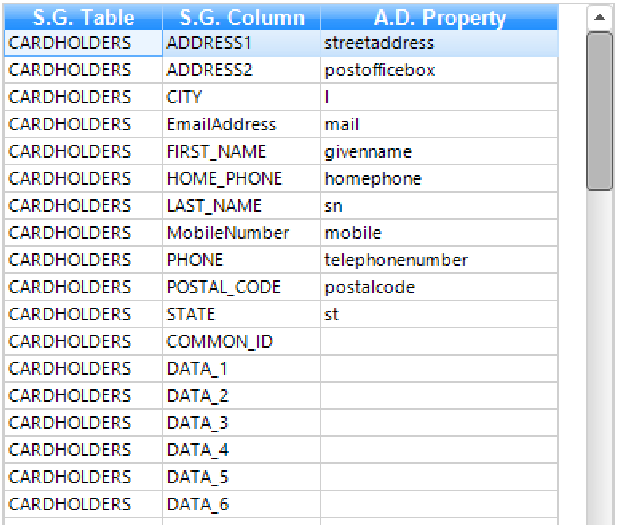
STEPS

To change an existing mapped field or to add a newly mapped field, you must click on the field in the ***AD Property*** column.

1. In the *Field Mapping Table*, find the **SG Column** you wish to map – such as COMMON_ID, DATA_# (1 – 5), etc.
2. Click in the **AD Property field** that is adjacent to (same row) the SG Column you want to map.
3. Click a second time in the same **AD Property field** to display the list of available AD fields > then select the AD Property you want to map.

   RESULT: The AD Property field will be chosen as the mapped field. Click away to exit the field as needed.

   ABOUT MAPPING THE SYNCH COLUMN: It is possible to choose DATA_1 as the synch column. However, in the case of the picture shown below, the postal code is already mapped, and it will not provide a unique value for every user. Therefore, you would either (a) choose a different field in the *Sync Column droplist*; or (b) you would change which AD Property that is mapped to the Data_1 column … an AD Property that will always have unique data.



S.G. Table	S.G. Column	A.D. Property
CARDHOLDERS	ADDRESS1	streetaddress
CARDHOLDERS	ADDRESS2	postofficebox
CARDHOLDERS	CITY	l
CARDHOLDERS	EmailAddress	mail
CARDHOLDERS	FIRST_NAME	givenname
CARDHOLDERS	HOME_PHONE	homephone
CARDHOLDERS	LAST_NAME	sn
CARDHOLDERS	MobileNumber	mobile
CARDHOLDERS	PHONE	telephonenumber
CARDHOLDERS	POSTAL_CODE	postalcode
CARDHOLDERS	STATE	st
CARDHOLDERS	COMMON_ID	
CARDHOLDERS	DATA_1	
CARDHOLDERS	DATA_2	
CARDHOLDERS	DATA_3	
CARDHOLDERS	DATA_4	
CARDHOLDERS	DATA_5	
CARDHOLDERS	DATA_6	

GCS AD Change Monitor App (cropped) > Field Mapping between SG Columns & AD Properties

4. Click the [**Save Settings for Customer**] button.
5. Restart the AD Synch App and the GCS AD Synch service to initialize changes.

CONFIGURE CARDHOLDER SYNCRONIZATION SETTINGS

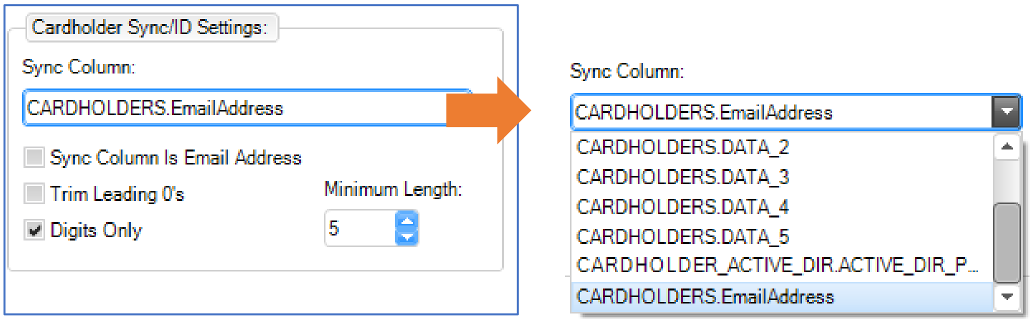
This group of fields controls how the user /cardholder record is identified and how the record is synchronized when changes or deletions occur on the Active Directory domain.

IMPORTANT: The Sync Column must be mapped to the appropriate AD Property that will always contain unique data in that field for every individual AD User in the Active Directory User population. *See previous section for instructions on mapping*.

STEPS

1. **Choose the appropriate SG Cardholder Column** in the 'Sync Column' droplist.

   Example below shows the Sync Column set to EmailAddress and the expanded droplist options.



Cardholder Sync/ID Settings:

Sync Column: CARDHOLDERS.EmailAddress

☐ Sync Column Is Email Address

☐ Trim Leading 0's

☑ Digits Only

Minimum Length: 5

Sync Column: CARDHOLDERS.EmailAddress

CARDHOLDERS.DATA_2
CARDHOLDERS.DATA_3
CARDHOLDERS.DATA_4
CARDHOLDERS.DATA_5
CARDHOLDER_ACTIVE_DIR.ACTIVE_DIR_P...
CARDHOLDERS.EmailAddress

Available Columns	Behavior
CARDHOLDERS.COMMON_ID	This ID value must be unique for every individual cardholder/user
CARDHOLDERS.DATA_# (1 thru 5)	The value in this field must be unique for every individual cardholder
CARDHOLDERS ACTIVE_DIR.ACTIVE_DIR_PATH	Uses the active directory record for comparison in the sync.
CARDHOLDERS.EmailAddress	Email Address must be present in the AD User data. The Email Address from the AD User will be pushed to the Galaxy Cardholders.EmailAddress field for each user record and become the unique sync value.

2. **(optional) Set the checkbox [Sync Column is Email Address] as appropriate …**

   - When "unchecked" the data formatting will not be verified for an email format. Use this setting if you are not setting the Email as the sync column.
   - When "checked", the App will check for mistakes in the email address; -- such as checking that the data does not contain spaces or other invalid characters, that it contains an @ symbol and includes .com or similar valid ending. This option does not verify if the email address is active. It only checks for mistakes in the address spelling.

3. **Set the checkbox "Trim Leading Zeros" (optional):** When *checked*, the App will trim leading zeros on the AD User Data. Use this only when synching on a numeric value that has a long number that is padded with leading zeros.

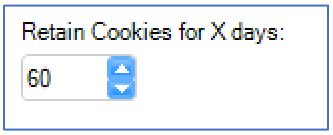
4. **Set the checkbox "Digits Only":** When *checked* the App will ensure the data is "numeric" format, i.e. not alpha-numeric or other non-numeric characters.

5. **Enter the Min Length**: (0 means it can be an empty field) – This sets the minimum character length required for the data in the synch column. The character length of data in the synch field must meet the minimum character length to be valid for synchronization.

CONFIGURE COOKIE RETENTION SETTING

The fetches are dependent of the presence of AD Cookies (Delete cookies or Change cookies). Cookies will automatically be created every time a change is picked up from the Active Directory domain. When the ***Poll Interval Value*** elapses, the App will look for new cookies – see the GCS Service settings for more information.

1. Enter the **number of days** you want to retain cookies. (default value = 60 Days / 0 = 23hrs;)



Retain Cookies for X days:
60

CONFIGURE DEFAULT CARD OPTIONS

The *Default Card Settings* control whether a new card record is added and card data is included when the AD Sync occurs.

1. Set the checkbox **[Insert Default Access Card in addition to User Data]** as desired:

   - If *checked*, a new card record is inserted with these card access settings whenever AD User Data is synced.
   - If *unchecked* the App will not create a new card record and card data will not be pushed.

2. Select the [**Access Profile Assignment Behavior]:** this determines how the AD Sync will set the access profile**.**

	Behavior Setting	Result
1	**Do not assign any access profile**	No access profile will not be assigned during import process.
2	**Always assign Default Access Profile**	The *access profile* that is chosen in the **Default Access Profile droplist** will always be pushed with every AD User that is synced/imported.
3	**Use AD Primary Group as Access Profile**	This option will push the value that is in the AD Property for the primary group as the Access Profile for each user. You should preconfigure the matching Access Profile Name in SG. See earlier section in this guide for instructions.

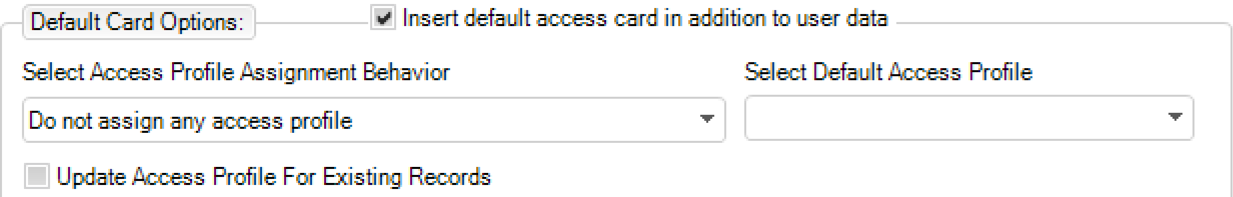
3. Select **Default Access Profile**: this field is only available if you chose option-2 "Always assign Default Access Profile".

   NOTE: the *Access Profile Name* must already exist in System Galaxy and must already be assigned to the same customer that the SG Operator is assigned to.

4. Set the checkbox [**Update Access Profile for Existing Records]** as needed:

   - When *checked* the App will also update the *Access Profile* for the preexisting cardholder records in System Galaxy. (This will overwrite the access profile field for existing cardholders if checked.).

   - When *uncheck* the App will not update the access profile for existing cardholder records.



Default Card Options:
☑ Insert default access card in addition to user data
Select Access Profile Assignment Behavior
Do not assign any access profile
Select Default Access Profile
□ Update Access Profile For Existing Records

GCS AD Change Monitor App > Default Card Options (cropped)

Continue programming the Default Card Options on the next page …

5. Select the **Default Card Type** (card technology): this field identifies the *card type* or card technology to use for all new SG Cardholders.

6. Set the **Facility / Company Code:** (optional) as appropriate for your card type.

7. Set the **AD Field** that will hold the ID Code (optional).

    - Leave this field unset/blank if you are going to auto-generate the card codes or manually enroll them later in System Galaxy.

    - If chosen, the AD Field must contain valid card numbers based on the selected card type. And card numbers in the AD Field must be unique for each individual AD User. Duplicate card codes are not allowed in System Galaxy.

8. Set the checkbox "**Auto-Generate ID Code**":

    - When *checked* the App will automatically generate the ID Code (card code).

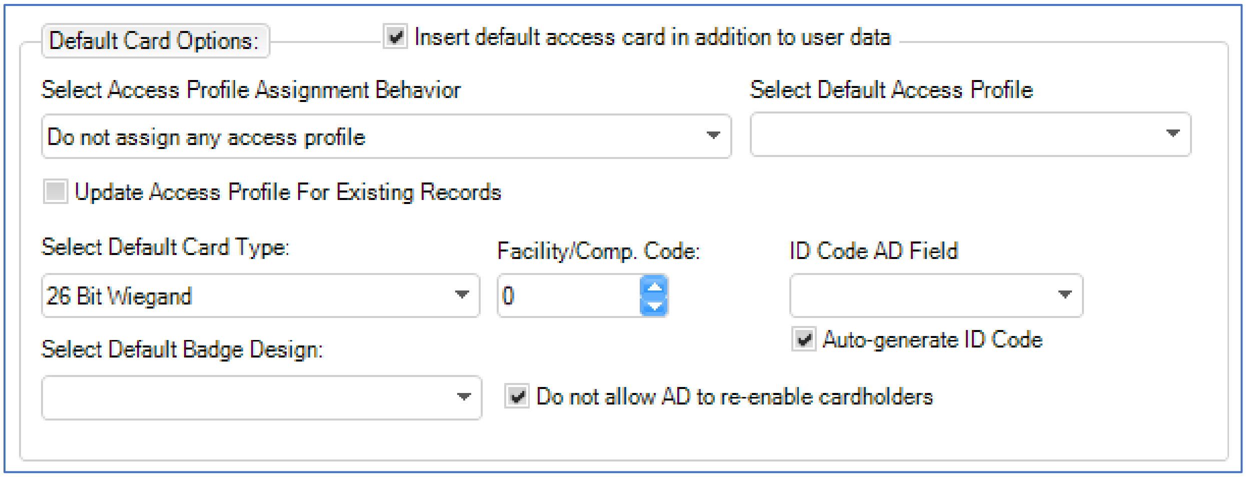
    - When *unchecked*, the APP will not generate an ID Code and you can enroll/add the card code later in the System Galaxy Cardholder screen after the AD Sync/Import is performed.

9. Choose the **Default Badge Design**: (optional) The Badge Design must exist in System Galaxy and must be assigned to the same customer as the SG Operator who is running the APP. The badge name will auto-fill. If there is more than one badge for the same customer, the Operator should be able to select it from this droplist.

10. Set the checkbox "**Do not allow AD to re-enable a Cardholder**":

- When *checked* the AD App will not re-enable the *Cardholder Active* checkbox in System Galaxy Cardholder screen. This applies to cases where the cardholder previously deactivated based on the prior AD change/deletion.

- When *unchecked*, the AD App will re-enable the Cardholder via the Cardholder Activate checkbox in the SG Cardholder screen**.**


Default Card Options: ☑ Insert default access card in addition to user data

Select Access Profile Assignment Behavior: Do not assign any access profile

Select Default Access Profile:

□ Update Access Profile For Existing Records

Select Default Card Type: 26 Bit Wiegand

Facility/Comp. Code: 0

ID Code AD Field:

☑ Auto-generate ID Code

Select Default Badge Design:

☑ Do not allow AD to re-enable cardholders

GCS AD Change Monitor App > Default Card Options (cropped)

CONFIGURE GCS ACTIVE DIRECTORY SERVICE

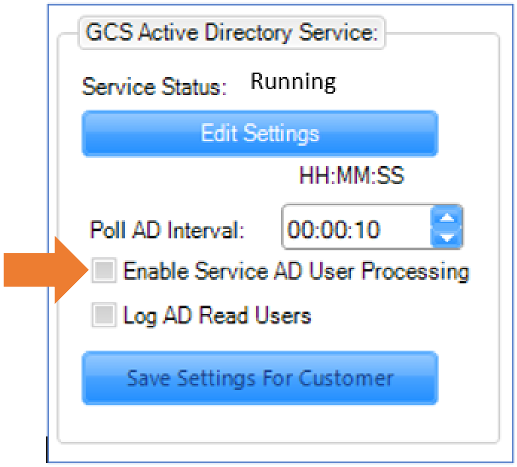
These settings control the behavior of the GCS Active Directory Service. Active Directory creates the checkpoints (cookies) whenever a change or deletion is detected from the AD Domain. These checkpoints are transmitted to the GCS AD App.

1. **Service Status:** this field is a courtesy status indicator that shows the current status of the GCS AD Service
    - **Running:** the service is actively running
    - **Unknown:** the service may not be running
    - **Stop:** the service is not running

2. Click the **Edit Settings** button to see or edit the log file path.

3. Set the **Poll AD Interval (HH:MM:SS):** this value determines the time interval that the GCS AD Service will poll Active Directory Domain Server to create new checkpoints (i.e., change and delete cookies).
    - Default setting is 10 seconds (00:00:10). You can set this value to poll every few minutes or hours.
    - Checkpoints (cookies) will be retained for the number of days configured in the Sync settings.

4. Set the checkbox "**Enable Service AD User Processing**" as desired: When *checked,* the App will process the AD Changes provided the GCS AD Service is already running**.** When unchecked, the App will not process AD Changes even if the service is running.



Service Status: Running

Poll AD Interval: 00:00:10

□ Enable Service AD User Processing

□ Log AD Read Users

GCS AD Change Monitor App > GCS AD Service options (cropped)

Notice: check the AD User Processing option to import users & changes.

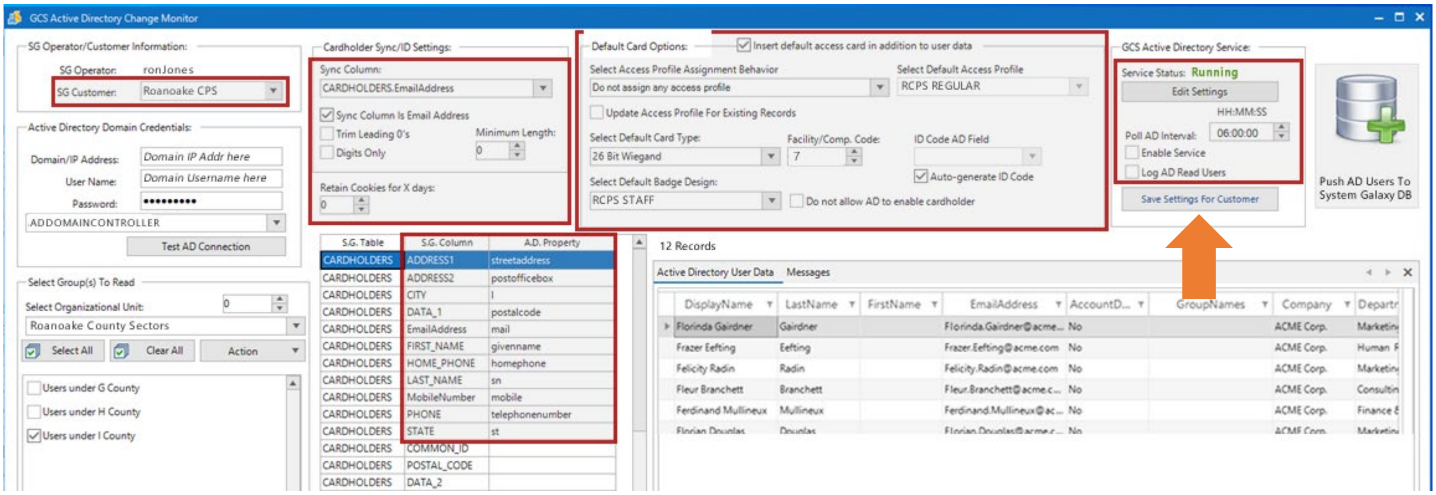
5. Set the **Log AD Read Users**: when *checked* the App will create a log of the users read.

SAVING CUSTOMER SETTINGS

The Customer Settings will take effect when the SG Operator saves the customer settings and refreshes the AD service.

IMPORTANT: If the SG Operator has made any changes to any of the configurable settings, they must Save Settings for Customer and restart/refresh the GCS AD Service for the recent changes to take effect in the AD Sync/import process.

1. Click the **[Save Settings for Customer] button:** this will save all the configuration in the shaded areas.



GCS Active Directory Change Monitor

SG Operator/Customer Information:
SG Operator: ronJones
SG Customer: Roanoake CPS

Active Directory Domain Credentials:
Domain/IP Address: Domain IP Addr here
User Name: Domain Username here
Password: ••••••••••
ADDOMAINCONTROLLER

Select Group(s) To Read
Select Organizational Unit: 0
Roanoake County Sectors

□ Users under G County
□ Users under H County
☑ Users under I County

Cardholder Sync/ID Settings:
Sync Column: CARDHOLDERS.EmailAddress
☑ Sync Column Is Email Address
□ Trim Leading 0's
□ Digits Only
Minimum Length: 0
Retain Cookies for X days: 0

S.G. Table	S.G. Column	A.D. Property
CARDHOLDERS	ADDRESS1	streetaddress
CARDHOLDERS	ADDRESS2	postofficebox
CARDHOLDERS	CITY	l
CARDHOLDERS	DATA_1	postalcode
CARDHOLDERS	EmailAddress	mail
CARDHOLDERS	FIRST_NAME	givenname
CARDHOLDERS	HOME_PHONE	homephone
CARDHOLDERS	LAST_NAME	sn
CARDHOLDERS	MobileNumber	mobile
CARDHOLDERS	PHONE	telephonenumber
CARDHOLDERS	STATE	st
CARDHOLDERS	COMMON_ID	
CARDHOLDERS	POSTAL_CODE	
CARDHOLDERS	DATA_2	

Default Card Options: ☑ Insert default access card in addition to user data
Select Access Profile Assignment Behavior: Do not assign any access profile
Select Default Access Profile: RCPS REGULAR
□ Update Access Profile For Existing Records
Select Default Card Type: 26 Bit Wiegand
Facility/Comp. Code: 7
ID Code AD Field
☑ Auto-generate ID Code
Select Default Badge Design: RCPS STAFF
□ Do not allow AD to enable cardholder

GCS Active Directory Service:
Service Status: Running
HH:MM:SS
Poll AD Interval: 06:00:00
□ Enable Service
□ Log AD Read Users

12 Records

	DisplayName	LastName	FirstName	EmailAddress	AccountD...	GroupNames	Company	Departr
▸	Florinda Gairdner	Gairdner		Florinda.Gairdner@acme...	No		ACME Corp.	Marketin
	Frazer Eefting	Eefting		Frazer.Eefting@acme.com	No		ACME Corp.	Human F
	Felicity Radin	Radin		Felicity.Radin@acme.com	No		ACME Corp.	Marketin
	Fleur Branchett	Branchett		Fleur.Branchett@acme.c...	No		ACME Corp.	Consultin
	Ferdinand Mullineux	Mullineux		Ferdinand.Mullineux@ac...	No		ACME Corp.	Finance &
	Florian Douglas	Douglas		Florian.Douglas@acme.c...	No		ACME Corp.	Marketin

Test AD Connection
Select All
Clear All
Action
Edit Settings
Save Settings For Customer
Push AD Users To System Galaxy DB
Active Directory User Data
Messages

GCS AD Change Monitor App > Saving Customer Settings

2. Close the GCS AD Change Monitor App.

3. Stop and restart the GCS AD Service from the Services window.

4. Then you can sign-into the GCS AD Change Monitor App again and fetch and push your AD Users as needed.

MANAGING CHECKPOINTS

Contact your Technical Support to get assistance in managing checkpoints.

Manually Importing AD Users into System Galaxy Database

FETCHING USERS

After the operator selects the desired Org Unit, the associated User Groups will populate the User Group list. The SG Operator can filter which User Groups to be fetched (retrieved).

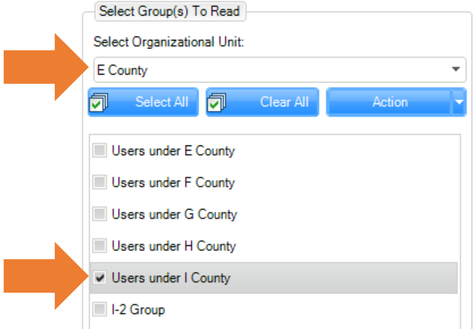
STEPS

1. Choose the **Organizational Unit** (OU) from the [Select OU] droplist.

   RESULT: The associated AD User Groups will populate/fill the list, based on the selected OU.

2. To choose a **User Group**, place a “checkmark” in the checkboxes beside the Group Name that you want. *You can choose multiple User groups as needed*.

   - When “checked”, the AD App will perform the chosen Action for the selected User Groups.
   - The AD App will not fetch users from unchecked groups.
   - The **Select All** and **Clear All** buttons will add or remove checkmarks for all the User Groups in the list.

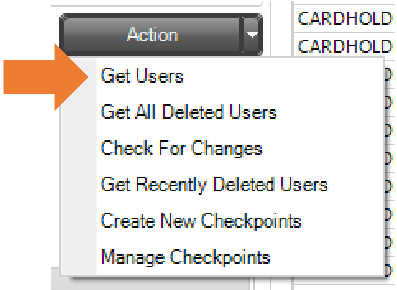


Select Group(s) To Read

Select Organizational Unit: E County

☐ Users under E County
☐ Users under F County
☐ Users under G County
☐ Users under H County
☑ Users under I County
☐ I-2 Group

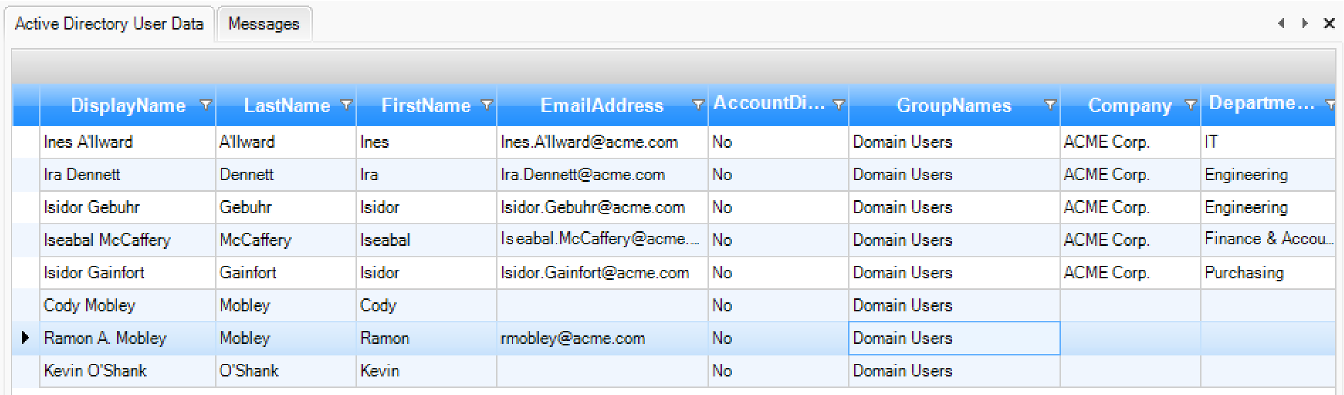
3. From the [**Action**] droplist, choose the action to run on the selected User Groups, (Get Users).



RESULT: The App will immediately fetch the qualifying users that match the chosen action.

Actions	Behavior
Get Users	**Fetches users from the chosen User Group(s)**
Get All Deleted Users	Fetches all the Delete Users from the entire domain (domain-wide fetch), based on the AD Domain Controller’s record of deleted users.
Check for Changes	Uses the *Change Cookie* to determine which users to fetch from the chosen User Group(s).
Recently Deleted Users	Uses the *Delete Cookie* to fetch all deleted users domain-wide based on the last delete cookie.
Create New Checkpoints	Manually creates a *Change Checkpoint* to *Delete Checkpoint irrespective of changes or deletions.*
Manage Checkpoints	Contact Technical Support for assistance managing checkpoints.

4. The ***User Data tab*** shows the AD Users that were fetched and will be sent to System Galaxy database.



	DisplayName	LastName	FirstName	EmailAddress	AccountDi...	GroupNames	Company	Departme...
	Ines A'llward	A'llward	Ines	Ines.A'llward@acme.com	No	Domain Users	ACME Corp.	IT
	Ira Dennett	Dennett	Ira	Ira.Dennett@acme.com	No	Domain Users	ACME Corp.	Engineering
	Isidor Gebuhr	Gebuhr	Isidor	Isidor.Gebuhr@acme.com	No	Domain Users	ACME Corp.	Engineering
	Iseabal McCaffery	McCaffery	Iseabal	Iseabal.McCaffery@acme....	No	Domain Users	ACME Corp.	Finance & Accou...
	Isidor Gainfort	Gainfort	Isidor	Isidor.Gainfort@acme.com	No	Domain Users	ACME Corp.	Purchasing
	Cody Mobley	Mobley	Cody		No	Domain Users		
▶	Ramon A. Mobley	Mobley	Ramon	rmobley@acme.com	No	Domain Users		
	Kevin O'Shank	O'Shank	Kevin		No	Domain Users		

5. When you have retrieved your AD User Groups and are satisfied with the Customer settings, click the button to [**Push AD Users to System Galaxy DB**].

   RESULTS: A progress bar will appear. The fetched AD User data will be imported (inserted or updated) into the SG database, along with any applicable *Default Card Settings* that are saved at the time of the push.

6. NOTICE: The ***Messages tab*** shows any pertinent messages the operator may encounter with the Data or other functions including database messages when pushing user data to the SG database.