



Auditing User Security:

Leveraging Jobs and Visuals


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- 
1. Background
 2. Focusing on the Objective
 3. Reporting on User Security
 4. Reporting for Data Loss Prevention
 5. Bringing It All Together
 6. Future

Background

- Old SIS security review process
 - Antiquated
 - Relied more on human input than available technology
 - Left room for human errors
 - Time consuming
- Consequences
 - Proliferation of mismatched permissions
 - Security flaws
 - Noncompliance





Primary Goals

- Report on user security
- Audit information access

Secondary Goals

- Visualize the data
- Automate tasks

Compliance

- Achieve compliance with GLBA and NIST standards

Reporting on User Security



Mapping Links

Links

+ NEW seclass X Types From Mappings [Grid Icon] [Refresh Icon]

From ↑	To	Type	Name
Opers	Seclass	Native File	Seclass
Ut opers	Cf seclass	Native File	CF Class Link
Ut opers	Core seclass	Native File	CORE Class Link
Ut opers	Hr seclass	Native File	HR Class Link
Ut opers	St seclass	Native File	ST Class Link
Ut opers	Ut seclass	Native File	UT Class Link

Reporting on User Security



Start with base query:

- Colleague ID Number
- Username (actual name)
- User ID

Colleague ID	Username	@id
	ANON	JINDIA
0160377	ANON	JUNIFORM
0000514	ANON	SROME0
0000268	ANON	DTANGO
0140079	ANON	AECHO
0036405	ANON	JUNIFORM
0000747	ANON	LINDIA
0165291	ANON	FLIMA
0118800	ANON	TOSCAR
0132163	ANON	ALIMA
0113807	ANON	MALPHA
0037121	ANON	BHOTEL
0111166	ANON	SECHO
0164802	ANON	BKILO
0000685	ANON	KCHARLIE
0187484	ANON	DBRAVO
0000817	ANON	PYANKEE
0053244	ANON	KLIMA
0137756	ANON	AECHO
0152649	ANON	AINDIA
0122955	ANON	KOSCAR
	ANON	MALPHA

Reporting on User Security



Start with base query:

- Colleague ID Number
- Username (actual name)
- User ID

Add security information:

- Active status
- Security classes
- Mnemonic access granted per class

Colleague ID	Username	@id	Status	Classes	Do Only These
0000685	ANON	KCHARLIE	INACTIVE	UT.USR CO.DM.USR ST.AC.USR ST.AC.PRP ST.AM.USR ST.AM.PRP ST.AR.INQ ST.CU.USR ST.DA.USR ST.FA.INQ ST.FI.INQ ST.RG.USR ST.RG.PRP ST.RG.ADM	UT, LO, SU, SLCR, SLED, VBS, UTFE CORE, DM, NAE, BIO, ADR, PPIN, E ST, AC, STR, SPRO, ASPR, STAL, S ST, AC, STR, SCHD, STLA, STID, AD ST, AM, PRA, PRSP, ASUM, REFA, H ST, AM, INLA, BADM, ARAA, SRCR ST, AR, RGBS, ARI, ARSI, ARTI, ARI ST, CU, ACP, PROG, APRS, REQU, F ST, DA, PGEC, EVAL, EXOV, SACP, F ST, FA, NAM, FASI, NAI, SBM, BCH ST, FI, FCSI, FQXI, FAID, FAVR, FCL ST, RG, RGN, RGPE, STPE, RGCS, F ST, RG, SCHD, RGST, ADRR, RPCS, ST, RG, RGS, RGSD, UTSP, IWLF, CD
0187484	ANON	DBRAVO	ACTIVE	UT.USR CO.DM.INQ ST.AC.PRP ST.AC.INQ ST.AM.INQ ST.CU.INQ ST.FI.INQ ST.RG.PRP ST.RG.INQ	UT, LO, SU, SLCR, SLED, VBS, UTFE CORE, DM, NAE, BIO, ADSU, ADR, F ST, AC, STR, SCHD, STLA, STID, AD ST, AC, STR, SPRO, SASM, LOCM, I ST, AM, ECT, EXTI, TSUM, EXTS ST, CU, COU, CTRV, CSS, SINQ, SR ST, FI, FCSI, FQXI, FAID, FAVR, FCL ST, RG, SCHD, RGST, ADRR, RPCS, ST, RG, RSTR, STSC, RGAM, SRBD,
0000817	ANON	PYANKEE	INACTIVE	UT.USR CO.DM.INQ ST.AC.USR ST.AM.INQ ST.CU.INQ ST.FI.USR ST.RG.INQ	UT, LO, SU, SLCR, SLED, VBS, UTFE CORE, DM, NAE, BIO, ADSU, ADR, F ST, AC, STR, SPRO, ASPR, STAL, S ST, AM, ECT, EXTI, TSUM, EXTS ST, CU, COU, CTRV, CSS, SINQ, SR ST, FI, FCTY, COMT, FMBS, FCMD, ST, RG, RSTR, STSC, RGAM, SRBD,
0053244	ANON	KLIMA	INACTIVE	UT.USR CO.DM.INQ	UT, LO, SU, SLCR, SLED, VBS, UTFE CORE, DM, NAE, BIO, ADSU, ADR, F

Reporting on User Security



Start with base query:

- Colleague ID Number
- Username (actual name)
- User ID

Add security information:

- Active status
- Security classes
- Mnemonic access granted per class

Link with HR files:

- Division
- Department
- Position Title

Colleague ID	Username	@id	Status	Division	Department	Position Title	Classes	Do Only These
							ST.FI.USR ST.FI.PRP ST.RG.USR ST.RG.PRP	ST, FI, FCTY, COMT, FMBS, FO ST, FI, FAID, FAVR, FCLB, ADA ST, RG, RGN, RGPE, STPE, RG ST, RG, SCHD, RGST, ADRR, R
	ANON	AMIKE	INACTIVE				UT.LO	LO
0055099	ANON	JSIERRA	ACTIVE	AS	Middle College	Coordinator, Equity, Diversi	UT.USR CO.DM.INQ ST.AC.USR ST.AC.PRP ST.AM.USR ST.AM.PRP ST.AR.INQ ST.AR.PRP ST.CU.USR ST.DA.USR ST.FA.INQ ST.FI.USR ST.RG.ADM ST.RG.PRP ST.RG.USR	UT, LO, SU, SLCR, SLED, VBS, CORE, DM, NAE, BIO, ADSU, A ST, AC, STR, SPRO, ASPR, ST ST, AC, STR, SCHD, STLA, ST ST, AM, PRA, PRSP, ASUM, R ST, AM, INLA, BADM, ARAA, S ST, AR, RGBS, ARI, ARSI, ART ST, AR, ARI, INV, RGST, ARBY ST, CU, ACP, PROG, APRS, RE ST, DA, PGEC, EVAL, EXOV, S ST, FA, NAM, FASI, NAI, SBM, ST, FI, FCTY, COMT, FMBS, FO ST, RG, RGS, RGSD, UTSP, IW ST, RG, SCHD, RGST, ADRR, R ST, RG, RGN, RGPE, STPE, RG
0000683	ANON	CSIERRA	ACTIVE	NS	Nursing	Nursing Skill Instr - P/T	UT.USR CO.DM.INQ ST.AC.INQ ST.AM.INQ ST.CU.INQ ST.FI.INQ ST.RG.INQ ST.AC.PRP ST.RG.PRP	UT, LO, SU, SLCR, SLED, VBS, CORE, DM, NAE, BIO, ADSU, A ST, AC, STR, SPRO, SASM, LO ST, AM, ECT, EXTI, TSUM, EX ST, CU, COU, CTRV, CSS, SINC ST, FI, FCSI, FQXI, FAID, FAVR ST, RG, RSTR, STSC, RGAM, S ST, AC, STR, SCHD, STLA, ST ST, RG, SCHD, RGST, ADRR, R
0048244	ANON	DHOTEL	ACTIVE	TECH	Manufacturing	Professor, Mechatronics	UT.USR CO.DM.INQ ST.AC.INQ	UT, LO, SU, SLCR, SLED, VBS, CORE, DM, NAE, BIO, ADSU, A ST, AC, STR, SPRO, SASM, LO

Reporting on User Security



Criteria or Filters?

Criteria:

- Allows us to narrow the scope of the data, but restricts the records to only those within the scope.

Filters:

- Allows us to selectively restrict which records we're seeing without running the query again.

Exclude criteria to get the full view.

Use filters to selectively reduce records.

Reporting on User Security



Filtering Logic

1. Filter on employees with a status of "ACTIVE".

The screenshot shows a user interface for filtering data. At the top, a filter is applied: "Status is ACTIVE" with a close button (X) and the word "Filter". Below this, the "Status" filter configuration is shown. It includes options for "Include" and "Distinct values", a "Show selected items only" checkbox, and a search bar. Two filter options are listed: "ACTIVE" (checked, 223 records) and "INACTIVE" (unchecked, 761 records). Below the filter configuration is an "ADD FILTER" button. At the bottom left, there is a toggle switch set to "On" and a "CLOSE" button. The main data table is titled "Add Group" and has columns for "Colleague ID", "Username", "@id", and "Status". The table contains the following records:

Colleague ID	Username	@id	Status
0165291	ANON	FLIMA	ACTIVE
0187484	ANON	DBRAVO	ACTIVE
0001010	ANON	RLIMA	ACTIVE
0124238	ANON	SMIKE	ACTIVE
0134660	ANON	TBRAVO	ACTIVE

At the bottom right of the interface, it says "As of: Aug 6, 2025 at 1:41 PM Records: 223 / 984".

Reporting on User Security



Filtering Logic

1. Filter on employees with a status of "ACTIVE".
2. Filter on employees without an active position.

The screenshot shows a user security reporting interface. At the top, a filter is applied: "Status is ACTIVE, and Active Position is empty". The filter is set to "Match All". The filter logic is defined as:

- Status: ACTIVE
- Active Position: Include is empty

The table below shows the filtered results:

Colleague ID	Username	@id	Status	Position Title
0184832	ANON	DELTA	ACTIVE	
0036546	ANON	BOSCAR	ACTIVE	
	ANON	WBRAVO	ACTIVE	
0179557	ANON	KSIERRA	ACTIVE	

The interface also includes a "CLOSE" button and a timestamp: "As of: Aug 6, 2025 at 1:41 PM Records: 45 / 984".


Reporting on User Security



Filtering Logic


1. Filter on employees with a status of "ACTIVE".
2. Filter on employees without an active position.
3. Create Saved List > Export to Colleague.

Colleague Security Report

Export Saved List 

Note: Exporting data may result in the creation of additional temporary files on your computer. Please contact your system administrator with any questions regarding the proper safeguarding of sensitive information.

Apply Filter

Saved List Name
INACTIVEOPERS 

Target Datasource *
Production ▼

Field *
@id ▼

Dates and Times will export in America/Chicago (CDT) **CANCEL** **EXPORT**

Reporting on User Security



Filtering Logic

1. Filter on employees with a status of "ACTIVE".
2. Filter on employees without an active position.
3. Create Saved List > Export to Colleague.
4. Colleague > CONF: Convert "ACTIVE" to "INACTIVE".

CONF - Convert Fields ☆ Save Save All Cancel Cancel All

1 of 1 Fields to Convert Adding Value 2

Caution: By running this screen you will change the content of the fields identified on the records selected. If a Savedlist is present, only those records from the Savedlist will be converted. If no Savedlist is used, then all records in the file will be converted.

File Name:

Saved List Name:

Conversion Type:

Value to be Replaced:

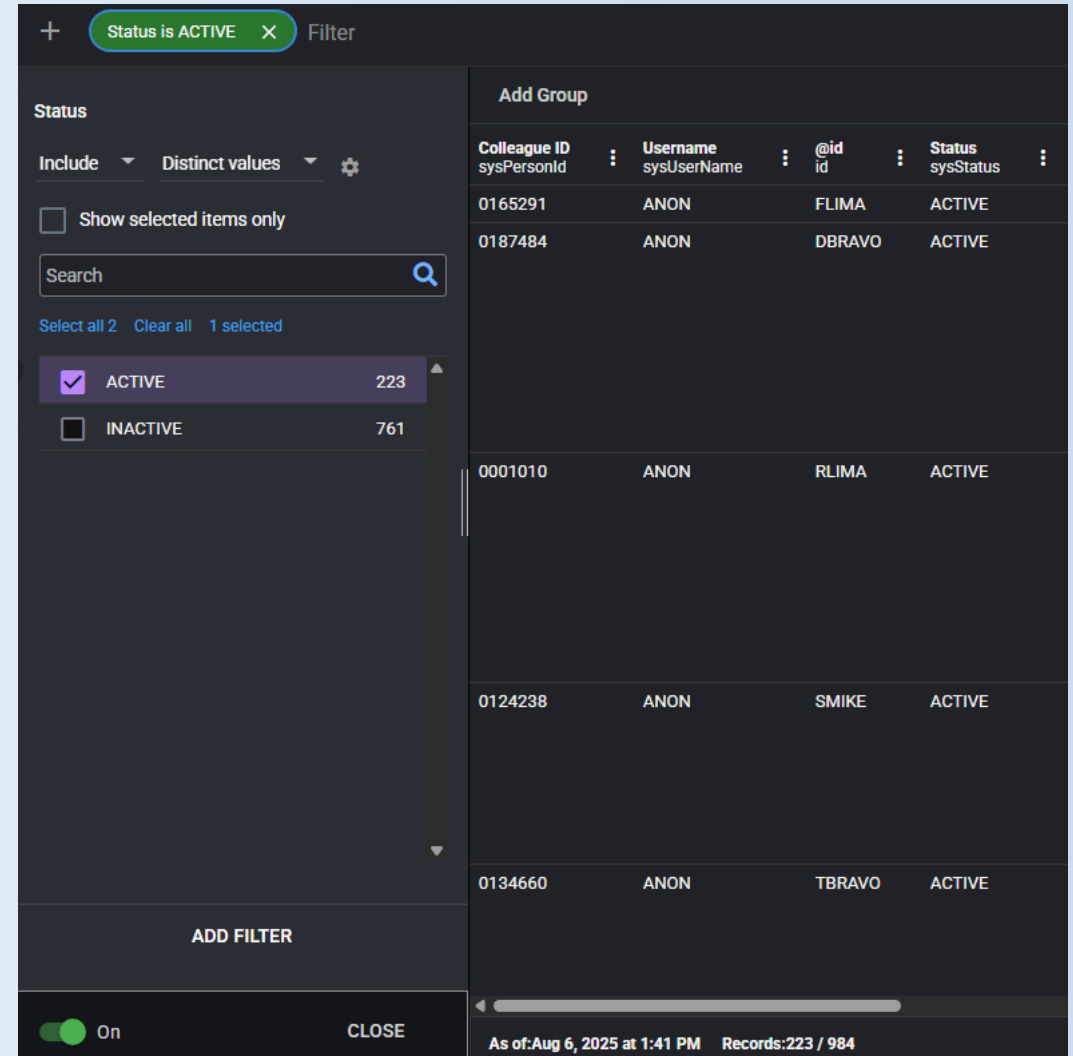
Value to Replace With:

	Fields to Convert	Location	Conversion	Type
1	<input type="text" value="SYS.STATUS"/>	56	<input type="text"/>	D
2	<input type="text" value="..."/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text" value="..."/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text" value="..."/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text" value="..."/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6	<input type="text" value="..."/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	<input type="text" value="..."/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Reporting on User Security

Filtering Logic

1. Filter on employees with a status of “ACTIVE”.
2. Filter on employees without an active position.
3. Create Saved List > Export to Colleague.
4. Colleague > CONF: Convert “ACTIVE” to “INACTIVE”.
5. Rerun query. Only filter for “ACTIVE”.



The screenshot shows a data filtering interface. At the top, a filter is applied: "Status is ACTIVE". Below this, a "Status" filter panel is visible, showing "ACTIVE" selected with 223 records and "INACTIVE" with 761 records. The main table displays the following data:

Colleague ID sysPersonId	Username sysUserName	@id id	Status sysStatus
0165291	ANON	FLIMA	ACTIVE
0187484	ANON	DBRAVO	ACTIVE
0001010	ANON	RLIMA	ACTIVE
0124238	ANON	SMIKE	ACTIVE
0134660	ANON	TBRAVO	ACTIVE

At the bottom of the interface, it shows "As of: Aug 6, 2025 at 1:41 PM" and "Records: 223 / 984".

Reporting on User Security



Filtering Logic

- List of all active employees, classes assigned to them, mnemonics they have access to.
- Review monthly.

@id	Status	Classes	Do Only These	Never Do These	Inquiry Only	Privileged
FLIMA	ACTIVE					
DBRAVO	ACTIVE	UT.USR CO.DM.INQ ST.AC.PRP ST.AC.INQ ST.AM.INQ ST.CU.INQ ST.FI.INQ ST.RG.PRP ST.RG.INQ	UT, LO, SU, SLCR, SLED, VBS, UTFB, UTBE, PDFR, UTS148, GTDT, ERDI, UTER CORE, DM, NAE, BIO, ADSU, ADR, PPIN, EMPL, REL, IASU, ORCS, EMER, DADD, L ST, AC, STR, SCHED, STLA, STID, ADAS, ACDR, CHGA, SFDR, DMRS, APTS, ASTC, ST, AC, STR, SPRO, SASM, LOCM, LOCR, GRD, SCRS, RSTR, ATR, STAT, SRBD, TR ST, AM, ECT, EXTI, TSUM, EXTS ST, CU, COU, CTRV, CSS, SINQ, SRSI, SMIN, SCBV, COFV, SECB, SECT, TXBR, FAS ST, FI, FCSI, FQXI, FAID, FAVR, FCLB, ADAS, QFXR, DDRF, APFI, FAD, FWKL ST, RG, SCHED, RGST, ADDR, RPCS, RQMM, ENST, RGAA, DREG, SRGP, RGVE, BCC ST, RG, RSTR, STSC, RGAM, SRBD, BRG, SCBV, COFV, CTRV, STWM, CWLI, SWLI,		NAE, BIO, ADSU, ADR SASM, LOCM, LOCR, EXTI, TSUM, EXTS CTRV, SINQ, SRSI, SM FCSI, FQXI, FAID, FAV	UTFB
RLIMA	ACTIVE	UT.USR CO.DM.INQ ST.AC.INQ ST.AM.INQ ST.CU.INQ ST.FI.INQ ST.RG.INQ ST.AC.PRP ST.RG.PRP	UT, LO, SU, SLCR, SLED, VBS, UTFB, UTBE, PDFR, UTS148, GTDT, ERDI, UTER CORE, DM, NAE, BIO, ADSU, ADR, PPIN, EMPL, REL, IASU, ORCS, EMER, DADD, L ST, AC, STR, SPRO, SASM, LOCM, LOCR, GRD, SCRS, RSTR, ATR, STAT, SRBD, TR ST, AM, ECT, EXTI, TSUM, EXTS ST, CU, COU, CTRV, CSS, SINQ, SRSI, SMIN, SCBV, COFV, SECB, SECT, TXBR, FAS ST, FI, FCSI, FQXI, FAID, FAVR, FCLB, ADAS, QFXR, DDRF, APFI, FAD, FWKL ST, RG, RSTR, STSC, RGAM, SRBD, BRG, SCBV, COFV, CTRV, STWM, CWLI, SWLI, ST, AC, STR, SCHED, STLA, STID, ADAS, ACDR, CHGA, SFDR, DMRS, APTS, ASTC, ST, RG, SCHED, RGST, ADDR, RPCS, RQMM, ENST, RGAA, DREG, SRGP, RGVE, BCC		NAE, BIO, ADSU, ADR SASM, LOCM, LOCR, EXTI, TSUM, EXTS CTRV, SINQ, SRSI, SM FCSI, FQXI, FAID, FAV RSTR, STSC, RGAM, :	UTFB
SMIKE	ACTIVE	UT.USR CO.DM.INQ ST.AC.USR ST.AM.INQ ST.CU.INQ ST.FI.USR ST.RG.INQ	UT, LO, SU, SLCR, SLED, VBS, UTFB, UTBE, PDFR, UTS148, GTDT, ERDI, UTER CORE, DM, NAE, BIO, ADSU, ADR, PPIN, EMPL, REL, IASU, ORCS, EMER, DADD, L ST, AC, STR, SPRO, ASPR, STAL, SACP, PERC, STAD, CNSL, SASM, LOCM, LOCR, ST, AM, ECT, EXTI, TSUM, EXTS ST, CU, COU, CTRV, CSS, SINQ, SRSI, SMIN, SCBV, COFV, SECB, SECT, TXBR, FAS ST, FI, FCTY, COMT, FMBS, FCMD, STPE, FAOA, DMIF, FCSI, FQXI, FAD, FAOH, FQ ST, RG, RSTR, STSC, RGAM, SRBD, BRG, SCBV, COFV, CTRV, STWM, CWLI, SWLI,		NAE, BIO, ADSU, ADR EXTI, TSUM, EXTS CTRV, SINQ, SRSI, SM	UTFB
TBRAVO	ACTIVE	UT.USR ADMIN.1 ADMIN.2 AP.ADMIN BUDADMIN CO.CC.ADM	UT, LO, SU, SLCR, SLED, VBS, UTFB, UTBE, PDFR, UTS148, GTDT, ERDI, UTER CORE, CC, CCS, CMC, CRAD, CRRD, DFS, DOC, DPAR, DTYS, TRC, SV, SVM, FO, FI		QBE, UTLG, JUSR, SF EDRC APDE, CDSC, APPE BRSP, BCID, BCDB,	UTFB UTFB, UTFA, UTRA, EDRC APDE, CDSC, APPE BRSP, BCID, BCDB,

As of: Aug 6, 2025 at 1:41 PM Records: 223 / 984

Reporting for Data Loss Prevention



DLP – Data Loss Prevention: How we monitor and track data leaving our SIS environment.

Two ways:

1. Server level logging
 - Requires verbose logging.
 - Gives you EVERYTHING, but hinders system performance. Not sustainable long-term.
2. Colleague's built-in "User Activity Logging" module
 - Can log all file browse/export activity.
 - Not dynamic, but Informer can enhance functionality.
 - Can be enabled on UALP

UALP - User Activity Logging Parameters

Record File Exports

Record Session login/logout

Record 'No Change' Grade Import Attempts

Record 'Updated' Grade Import Attempts

Reporting for Data Loss Prevention



- Query the USER.ACTIVITY file
- Criteria: ACTIVITY.ADD.DATE on or after TODAY-1M

Event ID	Translation	Named Values Name	Operator ID ↓	Colleague ID	Log Date	Log Time
670700	Log In	PID UIV IP	WYANKEE	0099163	7/7/2025	8:50 AM
670819	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET	WYANKEE	0099163	7/7/2025	10:35 AM
670823	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET	WYANKEE	0099163	7/7/2025	10:37 AM
670842	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET	WYANKEE	0099163	7/7/2025	10:50 AM
670851	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET	WYANKEE	0099163	7/7/2025	10:58 AM
670854	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET	WYANKEE	0099163	7/7/2025	10:59 AM
670925	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET	WYANKEE	0099163	7/7/2025	12:54 PM

As of: Aug 6, 2025 at 4:27 PM Records: 14,014

Reporting for Data Loss Prevention

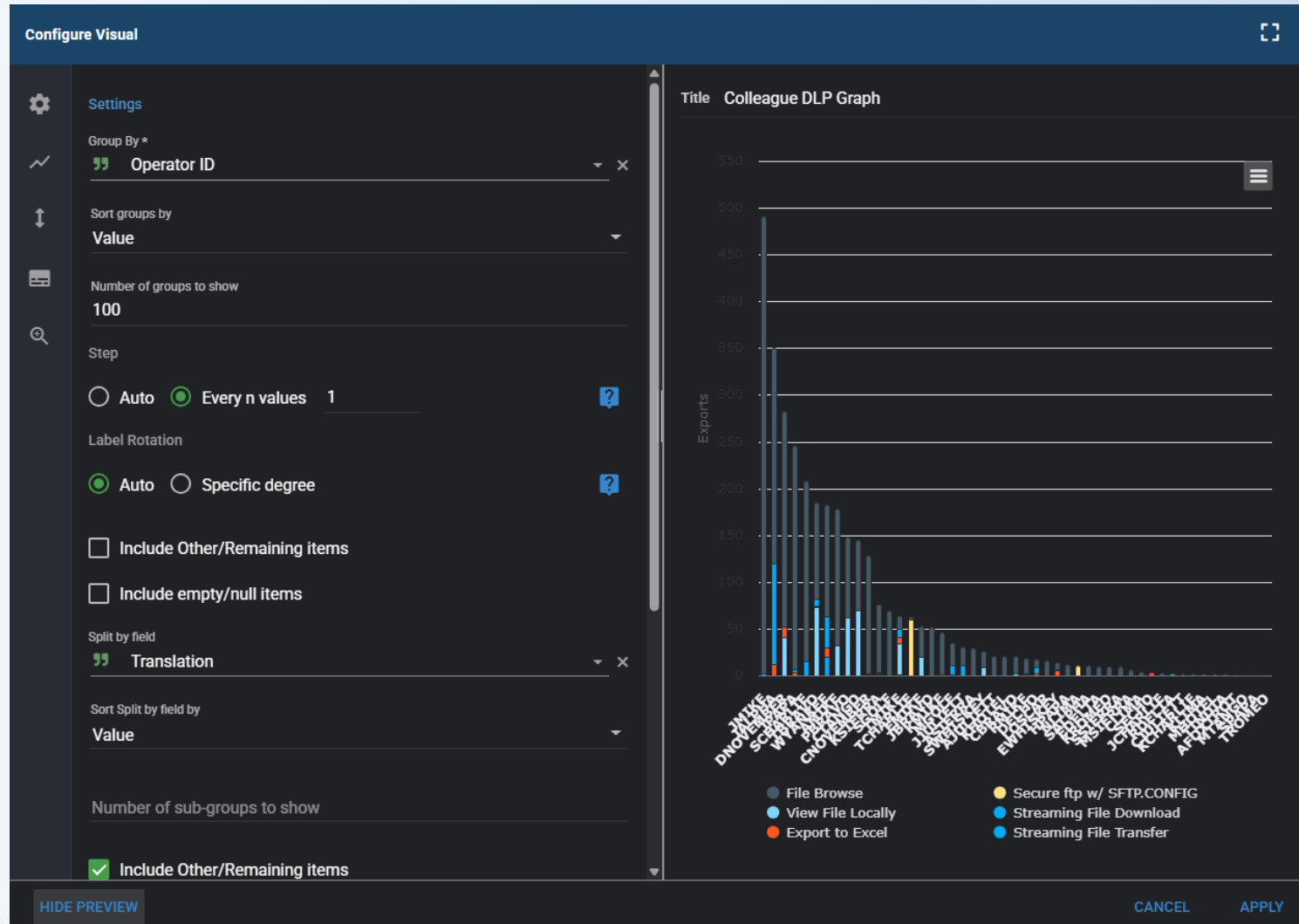


- Make the data meaningful
- Add a Visual

The screenshot shows the Informer application interface. The top navigation bar includes a hamburger menu, the Informer logo, and the title "Colleague DLP Log". A sidebar on the left contains various menu items: Data, Pivot, Snapshots, Discover, Visuals, Fields, Filters, Access, Jobs, Comments, and Settings. A blue arrow points to the "Visuals" menu item. The main content area displays a table with columns for Event ID, Translation, and Named Value. The table contains several rows of data, including "Log In" and "File Browse" events.

Event ID	Translation	Named Value
670700	Log In	PID UIV IP
670819	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET
670823	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET
670842	File Browse	FORM XFR_TYPE DESCR SOURCE TARGET
670851	File Browse	FORM XFR_TYPE DESCR

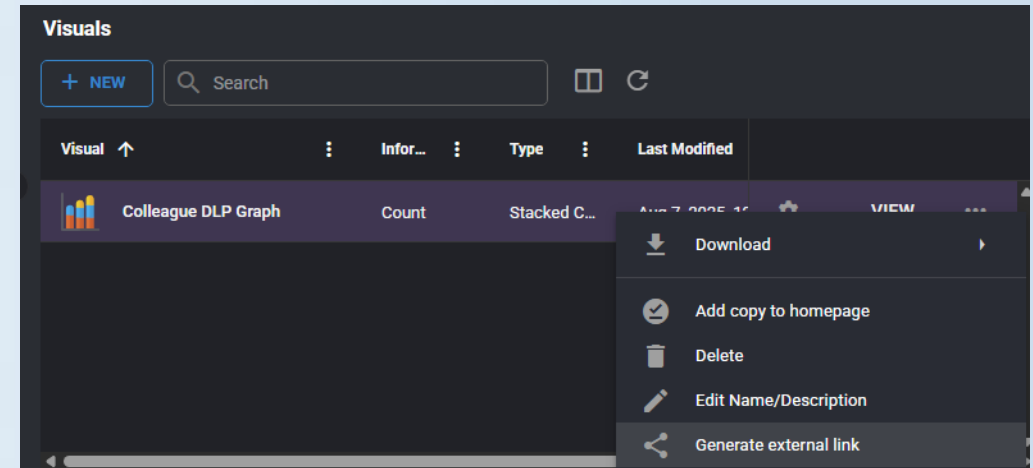
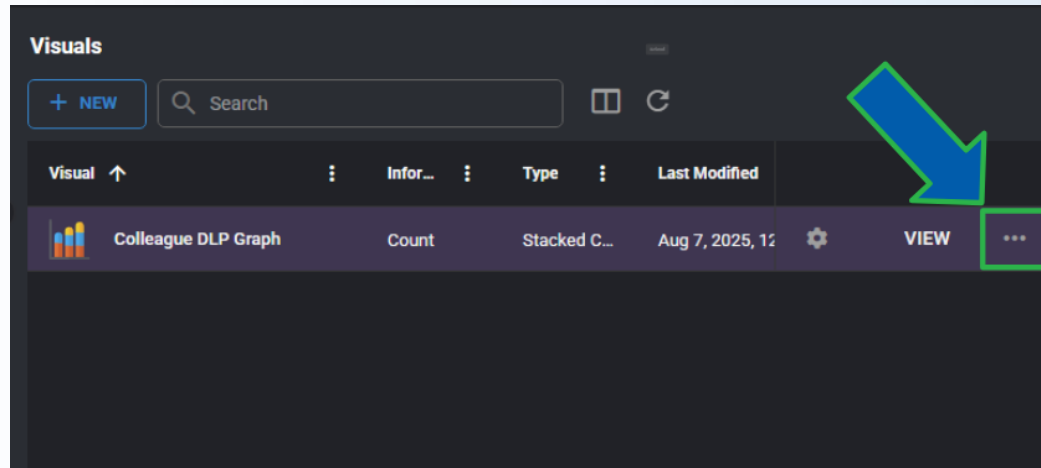
Reporting for Data Loss Prevention



Reporting for Data Loss Prevention



Generate an external link:



Bringing It All Together: Automation



- Create a job to refresh both datasets
- Run monthly
- Email reports

The screenshot displays the configuration for an automation job. It is divided into three main sections: Job, Data, and Actions.

- Job:**
 - Refresh Colleague DLP Log:** Refresh logs monthly and send report and visual to cloud admin via email.
 - Schedule:** Automatically run the Job on a recurring schedule. A green toggle switch is turned on.
 - When:** Day 1 of every 1 month at 09:30 AM CDT. Next run time is Mon, September 1, 2025 at 09:30 AM CDT.
 - Time zone:** America/Chicago. This time zone will affect formatting, filters, and aggregations of Dates in the output generated by this Job.
- Data:**
 - Colleague DLP Log:** colleagueDlpLog. Exclude Sys Accs and Logins. A play button is visible on the right.
 - Colleague Security Report:** colleagueSecurityReport. Sys Status is ACTIVE, Hrper Position Pos Short Title is empty. A play button is visible on the right.
- Actions:**
 - Send an email:** To: t.cavenaile@dacc.edu. Attachments: Colleague_DLP_Log.xlsx, colleagueSecurityReport.csv.

Bringing It All Together: Automation



Colleague Monthly DLP Log 📄 Inbox x



noreply@dacc.edu

to me ▾

See attached.

[Click here for link to DLP visual.](#)

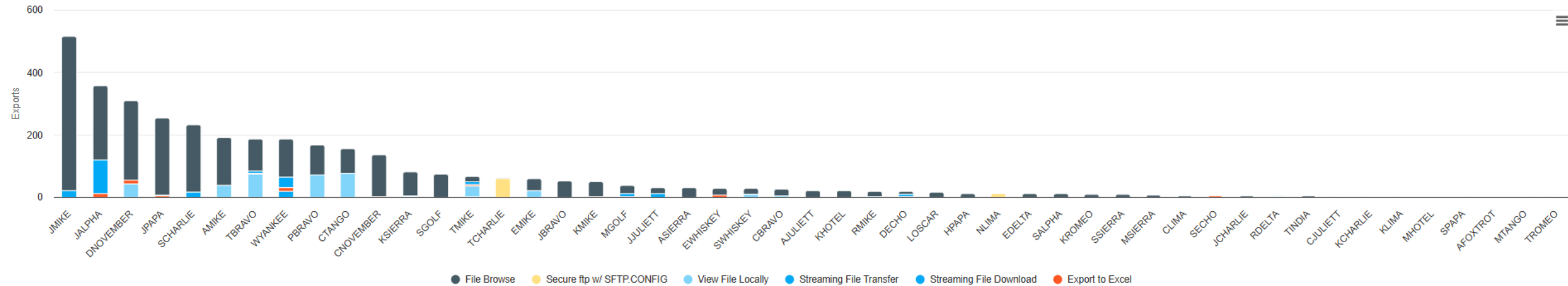
**If already logged into Informer, open the above link in Incognito Mode to prevent being logged out from Informer.*

2 Attachments • Scanned by Gmail ⓘ

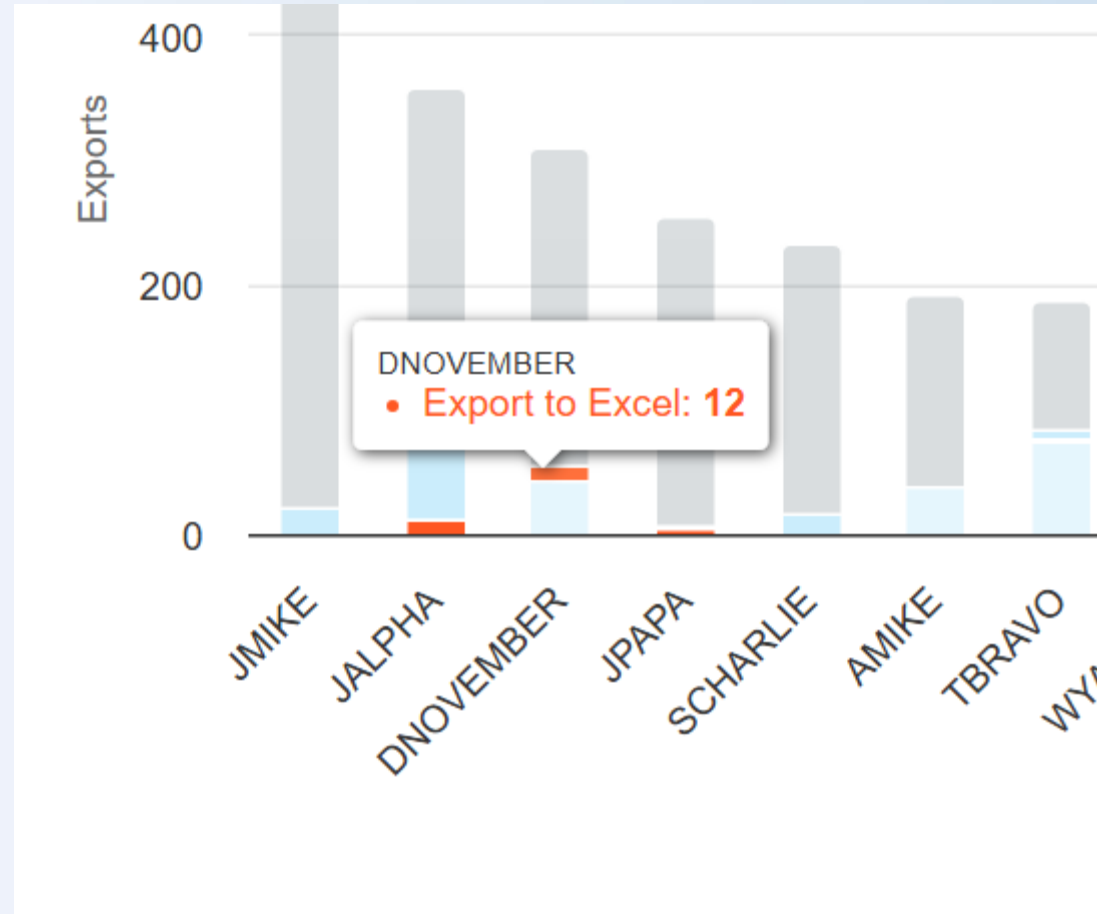
A	B	C	D	E	F	G	H
1	Colleague ID	Username	@	Status	Division	Department	Position Title
2	180201	INER	FUMAS	ACTIVE			
3	180201	INER	INER	ACTIVE			
4	180201	INER	INER	ACTIVE			
5	180201	INER	INER	ACTIVE			
6	180201	INER	INER	ACTIVE			
7	180201	INER	INER	ACTIVE			
8	180201	INER	INER	ACTIVE			
9	180201	INER	INER	ACTIVE			
10	180201	INER	INER	ACTIVE			
11	180201	INER	INER	ACTIVE			
12	180201	INER	INER	ACTIVE			
13	180201	INER	INER	ACTIVE			
14	180201	INER	INER	ACTIVE			
15	180201	INER	INER	ACTIVE			
16	180201	INER	INER	ACTIVE			
17	180201	INER	INER	ACTIVE			
18	180201	INER	INER	ACTIVE			
19	180201	INER	INER	ACTIVE			
20	180201	INER	INER	ACTIVE			

A	B	C	D	E	F	G	H
1	Colleague ID	Username	@	Status	Division	Department	Position Title
2	180201	INER	FUMAS	ACTIVE			
3	180201	INER	INER	ACTIVE			
4	180201	INER	INER	ACTIVE			
5	180201	INER	INER	ACTIVE			
6	180201	INER	INER	ACTIVE			
7	180201	INER	INER	ACTIVE			
8	180201	INER	INER	ACTIVE			
9	180201	INER	INER	ACTIVE			
10	180201	INER	INER	ACTIVE			
11	180201	INER	INER	ACTIVE			
12	180201	INER	INER	ACTIVE			
13	180201	INER	INER	ACTIVE			
14	180201	INER	INER	ACTIVE			
15	180201	INER	INER	ACTIVE			
16	180201	INER	INER	ACTIVE			
17	180201	INER	INER	ACTIVE			
18	180201	INER	INER	ACTIVE			
19	180201	INER	INER	ACTIVE			
20	180201	INER	INER	ACTIVE			

Bringing It All Together: Automation



Bringing It All Together: Automation



Future

- **Additional platforms:**
 - Event/building management
 - Canvas LMS
 - Informer



Thank you!

Questions/Comments:

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