

Multi-Level Security Demo

September 2019



SmartData Fabric® security-centric distributed virtual data, master data and graph data management, and analytics

Multi-level security

Customer Challenge

Securely access and integrate multiple data sources, each either (a) containing data with different security classification-levels or (b) 100% classified as one security-level

Apply access security to data sources and data within, based on user security-level, role and compartmentation to rows and columns within data sources and/or entire data sources

Integrate the security rules with third-party applications enabling security to be applied regardless of an application's or data source's support for these

SmartData Fabric[®] (SDF) Solution

Discover, profile, develop and test data transforms, build and maintain indexes on multiple data sources, configure indexed and nonindexed/conventional adapters and federate across them

Obtain from AD/LDAP user credentials, securitylevel, RBAC and ABAC/RLS, and apply on and across data sources - cross/multi-domain options and SSO available

Apply security rules to application access to multiple data sources with results dependent on user security-level

Multi-level security

- Single and multidomain AD/LDAP-based IAM, SSO, RBAC, ABAC/RLS and CLS
- Can use a combination of roles (RBAC), user-level (ABAC/RLS) and CLS to only query on permissible classifications, sub-classifications and compartmented categories
- If a single data source is security-level-specific and as adapters and indexes are data source-specific, they can also be security-level-specific
- If a single data source has multiple security-level classifications, can either:
 (a) Rely on the different classifications in one set of indexes, or
 (b) Have separate adapters and sets of indexes for each classification



Multi-level security demo configuration





Multi-level security demo preparation

- Classified each data attribute/column and row (table on right)
- Four users created one for each security-level (table below)
- Created SDF roles for each security-level
- Defined security policy on each VDS to restrict the roles based on security-level

User	Security-level
John Unclassified	Unclassified
John Confidential	Confidential
John Secret	Secret
John Top Secret	Top Secret

Attribute	Classification
Record ID	Unclassified
State	Unclassified
Classification	Unclassified
Clearance-level	Unclassified
Date of Incidence	Confidential
Family Name	Secret
First Name	Secret
DOB	Top Secret

SmartData Fabric[®] security-centric distributed virtual data, master data and graph data management, and analytics



T1: PERSON

PER_ID

PERSON:

PER LNAME

: PER_FNAME

T1: PERSON

PER_ID

PERSON:

: PER_LNAME

PER FNAME



Revision 1.6

LICENSE

LIC_ID

Class

PER ID

ADD_ID

VEHICLE

VEH ID

VIN

Year

Model

Color



Multi-level security demo scenario

Hierarchical access to data based on security-level, role/group membership:

- Demo report contains multiple worksheets one for each security-level
- Row-level and column-level security imposed
- When reports are invoked by various users:
 - Users with the highest security-level see data in all worksheets
 - Users with lower security-level only see data in worksheets equal to, or lower than, the user security-level
 - In addition to classification, users only see data for which they have access privileges, e.g., TS/SCI classification



Multi-Level Security Demo Screenshots



Standard Data View mapping - POLICE

Schema Name	Table Name	Column Name	Native Data Type	EIQ Data Type	Metadata Column	Attribute			
D# MDM	PERSON	MDM CITY		CHAR	MPI CITY	DERIVED			
D# MDM	PERSON	MDM CITY TSTP		TIMESTAMP		DERIVED			
D# MDM	PERSON	MDM CITY URN		BYTE		DERIVED			
D# MDM	PERSON	MDM DOB		TIMESTAMP	MPI DOB	DERIVED			
D# MDM	PERSON	MDM_DOB_TSTP		TIMESTAMP		DERIVED			
D# MDM	PERSON	MDM DOB UBN		BYTE		DEBIVED			
D# MDM	PERSON	MDM FAMILY NAME		CHAR	MPLIAST NAME	DERIVED			
D# MDM	PERSON			CHAR		DERIVED			
D# MDM	PERSON			TIMEGTAMD		DERIVED			
D# MDM	PERSON			DVTE		DERIVED			
D# MDM	PERSON	MDM_FAMILT_NAME_ONN		CUAR	MDI EIDET NAME	DERIVED			
	PERSON	MDM_FIRST_NAME_MT		CHAR	MFI_FINST_NAME	DERIVED			
	PERSON					DERIVED			
	PERSON			DVTE		DERIVED			
	PERSON	MDM_FIRST_NAME_URN		BTIE					
	PERSON			BIGINI		PKTRID_PRIMA			
	PERSON	MDM_STATE		CHAR	MPI_STATE	DERIVED			
D#_MDM	PERSON	MDM_STATE_ISTP		TIMESTAMP		DERIVED			
D#_MDM	PERSON	MDM_STATE_URN		BYIE		DERIVED			
D#_MDM	PERSON	MDM_STREET		CHAR	MPI_STREET	DERIVED			
D#_MDM	PERSON	MDM_STREET_TSTP		TIMESTAMP		DERIVED			
D#_MDM	PERSON	MDM_STREET_URN		BYTE		DERIVED			
dbo	CITATION	VEHICLEID	int	INT	VEHICLE_ID	PK RID_PRIMA			
dbo	CITATION	VEHICLELICENSENUM	varchar	VARCHAR(8)	VEHICLE_LICENSE_NUMBER				
dbo	CITATION	VEHICLELICENSESTATE	varchar	VARCHAR(25)	VEHICLE_LICENSE_STATE				
dbo	CITATION	VEHICLEMAKECODE	varchar	VARCHAR(6)	VEHICLE_CODE				
dbo	CITATION	VIN	varchar	VARCHAR(20)	VEHICLE_VIN				
dbo	CITATION	VIOLATION_VEHICLE_LIC_NUMBER	varchar	VARCHAR(8)	VIOLATION_LICENSE_NUMBER				
dbo	CITATION	VIOLATION_VEHICLE_LIC_STATE	varchar	VARCHAR(25)	VIOLATION_LICENSE_STATE				
dbo	CITATION	VIOLATION_VEHICLE_LIC_YEAR	varchar	VARCHAR(2)	VIOLATION_LICENSE_YEAR				
dbo	CITATION	VIOLATION_VEHICLE_MAKE	varchar	VARCHAR(6)	VIOLATION_MAKE				
dbo	CITATION	VIOLATION VEHICLE MODEL	varchar	VARCHAR(6)	VIOLATION MODEL				
dbo	CITATION	VIOLATION VEHICLE STYLE	varchar	VARCHAR(6)	VIOLATION STYLE				
dbo	CITATION	VIOLATION VEHICLE YEAR	varchar	VARCHAR(2)	VIOLATION YEAR				
dbo	CITATION LINK	PERSON ID	int	INT	-	FKI RID PRIMARY			
dbo	CITATION LINK	VEHICLEID	int	INT		FK RID_SECON			
dbo	INCIDENT	DATEOFINCIDENCE	datetime	TIMESTAMP	DATE OF INCIDENCE				
dbo	INCIDENT	INCIDENT ID	int	INT	INCIDENT ID	PKI RID PRIMA			
dbo	INCIDENT	INCIDENT TYPE	varchar	VARCHAR(25)	INCIDENT TYPE				
dbo	INCIDENT	LOCATION APTNUM	varchar	VARCHAR(10)	INCIDENT APTNUM				
dbo	INCIDENT	LOCATION CITY	varchar	VARCHAR(30)	INCIDENT CITY				
dbo	INCIDENT	LOCATION STATE	varchar	VARCHAR(25)	INCIDENT STATE				
dbo	INCIDENT	LOCATION STREET	varchar	VARCHAR	INCIDENT STREET	TSF			
dbo	INCIDENT	LOCATION ZIP	varchar	VARCHAR(5)	INCIDENT ZIP	101			
dbo	INCIDENT	NOTE	varchar	VARCHAR	INCIDENT NOTE	TSE			
dbo	LOPERSON	ADDRESS CITY	varchar	VARCHAR(30)	CITY				
dbo	LOPERSON	ADDRESS STATE	varchar	VARCHAR(30)	STATE				
dbo	LOPERSON	ADDRESS STREET	varchar	VARCHAR	STREET	TSF			
dbo	LOPERSON	ADDRESS ZIP	varchar	VARCHAR(6)	ZIP	101			
dbo		AceGeneralization	Valuia	VANCHAR(0)	20	DERIVED			
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	LOPERSON	DOD DOD	varchar		DESCRIPTION	100			
	LOPERSON		uatetime	TIMESTAMP		TOF			
I dbo	LOPERSON		varchar	VARCHAR		1 DF			
I DO	LOPERSON	FAMILTNAME	varchar	VARCHAR(30)	FAMILT_NAME				
dbo	LOPERSON	FIRSTNAME	varchar	VARCHAR(50)	FIRST_NAME	DEDIVED			
dbo	LOPERSON	MaskedDate				DERIVED			
dbo	LOPERSON	MaskedDate2		DIGINIT		DERIVED			
lqpo	LOPERSON	MDM_ID_PERSON		BIGINT	MDM_ID	FKIDERIVED			
						Build Link Index Edit	Entity Data Edit Metadata Dictiona	Topology	Edit Save Now F



Standard Data View mapping - FBI

Schema Name	Table Name	Column Name	Native Data Type	EIQ Data Type	Metadata Column	Attribute	
D# MDM	PERSON	MDM CITY		CHAR	MPI CITY	DERIVED	
D# MDM	PERSON	MDM CITY TSTP		TIMESTAMP		DERIVED	
	PERSON	MDM_CITY_UBN		BYTE		DERIVED	
D# MDM	PERSON	MDM_COT_COURT		TIMECTAMP	MPL DOP		
	PERSON	MDM_DOD_TCTD		TIMESTAMP	MFI_DOB		
D#_MDM	PERSON	MDM_DOB_ISTP		TIMESTAMP		DERIVED	
D#_MDM	PERSON	MDM_DOB_URN		BYTE		DERIVED	
D#_MDM	PERSON	MDM_FAMILY_NAME		CHAR	MPI_LAST_NAME	DERIVED	
D#_MDM	PERSON	MDM_FAMILY_NAME_MT		CHAR		DERIVED	
D#_MDM	PERSON	MDM_FAMILY_NAME_TSTP		TIMESTAMP		DERIVED	
D# MDM	PERSON	MDM FAMILY NAME URN		BYTE		DERIVED	
D# MDM	PERSON	MDM_FIRST_NAME		CHAR	MPL FIRST NAME	DERIVED	
D# MDM	PERSON	MDM FIRST NAME MT		CHAR		DERIVED	
D# MDM	DEDSON	MDM EIDST NAME TOTO		TIMECTAMD		DEDIVED	
	PERSON			DVTE		DERIVED	
	PERSON			DITE			
H_MDM	PERSON	MDM_ID		BIGINT	MPI_MDM_ID	PKTRID_PRIMA	
)#_MDM	PERSON	MDM_STATE		CHAR	MPI_STATE	DERIVED	
)#_MDM	PERSON	MDM_STATE_TSTP		TIMESTAMP		DERIVED	
#_MDM	PERSON	MDM_STATE_URN		BYTE		DERIVED	
# MDM	PERSON	MDM STREET		CHAR	MPI STREET	DERIVED	
# MDM	PERSON	MDM_STREET_TSTP		TIMESTAMP		DERIVED	
MDM	PERSON	MDM STREET LIDN		DYTE			
ha ha	ADDESS		ohar	CHAR(20)	CITY	DENNED	
	ADDRESS	ADD_CITT	criaf	CHAR(30)	CITI		
DO	ADDRESS	ADD_COUNTRY	char	CHAR(30)	COUNTRY		
bo	ADDRESS	ADD_DATEFROM	smalldatetime	TIMESTAMP	ADDRESS_DATEFROM		
bo	ADDRESS	ADD_DATETO	smalldatetime	TIMESTAMP	ADDRESS_DATETO		
00	ADDRESS	ADD_STATE	char	CHAR(50)	STATE		
bo	ADDRESS	ADD STREET	char	CHAR(30)	STREET		
bo	ADDRESS	PERID	char	INT	ac	FK	
bo	ADDRESS	TBROWID	int	INT		PKI RID PRIMA	
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200		Ch.		CHAR(30)			
	INDEXVIEW	ury		CHAR(30)	FER_UKG_ASS_CITT		
DRO	INDEXVIEW	Freq		INT			
)BO	INDEXVIEW	OrganizationCount					
)BO	INDEXVIEW	OrganizationName		VARCHAR(50)	PER_ORG_NAME		
BO	INDEXVIEW	PERSON_ORG_ASS		INT	PER ORG ASSOCIATION COU.		
bo	ORGANIZATION	OrgHeadQuarters	varchar	VARCHAR(25)	ORG HEADQUARTERS		
bo	ORGANIZATION	OralD	int	INT		PKIRID PRIMA	
bo	OBGANIZATION	OrnName	varchar	VARCHAR(50)	ORG NAME		
ha	ORGANIZATION LINK	OrgiD	int	INT			
50 L-			an a share	INT			
DO	ORGANIZATION_LINK	Per_ID	char	IN I		FK[FK]RID_SE	
bo	PERSON	ALERILEVEL	char	CHAR(2)	ALERI_LEVEL		
bo	PERSON	DATEENTERED	smalldatetime	TIMESTAMP	DATE_ENTERED		
bo	PERSON	MDM_ID_PERSON		BIGINT	MDM_ID	FK DERIVED	
bo	PERSON	PER_CITIZENOF	char	CHAR(50)	CITIZEN_OF		
00	PERSON	PER DOB	smalldatetime	TIMESTAMP	DOB		
bo	PERSON	PER FamilyName	char	CHAR(30)	FAMILY NAME		
ho	PERSON	PER FiretName	char	CHAR(50)	FIRST NAME		
	DEDSON			INT	Paman ID		
00	FERSON		criaf	IN I CLUAD (20)		FK KIU_PKIMA	
00	PERSON	PER_PASSPORTNUM	char	CHAR(30)	PASSPORT_NUMBER		
00	PERSON	TBROWID	int	INT		FK	
00	VEHICLE	VEHICLEID	int	INT	VEHICLE_ID	PK RID_PRIMA	
00	VEHICLE	VEHICLELICENSENUM	varchar	VARCHAR(8)	VEHICLE_LICENSE_NUMBER	-	
00	VEHICLE	VEHICI ELICENSESTATE	varchar	VARCHAR(25)	VEHICLE LICENSE STATE		
ho	VEHICLE	VEHICLEMAKECODE	varchar	VARCHAR(6)	VEHICLE CODE		
	VEHICLE	VIN	varoliar				
	VERICLE	VIIN	varchar	VARCHAR(20)	VEHICLE_VIN		
	NELLIOL E		umobile per	VARCHAR/91	VIDLATION LICENSE NUMBER		
bo	VEHICLE	VIOLATION_VEHICLE_LIC_NUMBER	Valchar	VANCHAN(0)	VIOLATION_LICENSE_NOMBER		
bo bo	VEHICLE	VIOLATION_VEHICLE_LIC_NUMBER VIOLATION_VEHICLE_LIC_STATE	varchar	VARCHAR(25)	VIOLATION_LICENSE_STATE		
ibo ibo ibo	VEHICLE VEHICLE VEHICLE	VIOLATION_VEHICLE_LIC_NUMBER VIOLATION_VEHICLE_LIC_STATE VIOLATION_VEHICLE_LIC_YEAR	varchar varchar	VARCHAR(25) VARCHAR(2)	VIOLATION_LICENSE_NONDELT VIOLATION_LICENSE_YEAR		
dbo dbo dbo dbo	VEHICLE VEHICLE VEHICLE VEHICLE	VIOLATION_VEHICLE_LIC_NUMBER VIOLATION_VEHICLE_LIC_STATE VIOLATION_VEHICLE_LIC_YEAR VIOLATION_VEHICLE_MAKE	varchar varchar varchar	VARCHAR(25) VARCHAR(2) VARCHAR(2)	VIOLATION_LICENSE_STATE VIOLATION_LICENSE_YEAR VIOLATION_MAKE		



All records classification

RowID	Record Clearance Level	DATE_OF_INCIDENCE	DOB	FAMILY_NAME	FIRST_NAME	NOTES
0	Top Secret	1991-09-15 00:00:00.000	1965-11-28 00:00:00.000	Gast	Blake	Do Not Travel
1	Confidential	1957-01-08 00:00:00.000	1935-07-19 00:00:00.000	Shrimpton	Xavier	Exercise Increased Caution
2	Unclassified	1986-06-15 00:00:00.000	1958-04-17 00:00:00.000	Gladstanes	Eric	Exercise Normal Precautions
3	Secret	1953-09-03 00:00:00.000	1932-06-05 00:00:00.000	al-Qays	Hamdan	Reconsider Travel
4	Unclassified	1978-03-22 00:00:00.000	1950-03-14 00:00:00.000	Warfusee	Thomas	1 speeding
5	Top Secret	1965-06-08 00:00:00.000	1937-05-20 00:00:00.000	Langlois	Anna	12 bombing
6	Top Secret	1962-03-17 00:00:00.000	1938-03-28 00:00:00.000	Karsbach	Jared	13 terrorist activity
7	Confidential	1954-08-02 00:00:00.000	1935-09-27 00:00:00.000	Aba	Miranda	6 obscenity
8	Secret	1991-06-13 00:00:00.000	1937-03-04 00:00:00.000	Fox	Samuel	9 robbery
9	Top Secret	1987-01-02 00:00:00.000	1977-10-25 00:00:00.000	OCHOA	Mateo	Diplomat or foreign govt official
10	Secret	1965-07-01 00:00:00.000	1938-04-26 00:00:00.000	CUELLAR	Nerón	Emp of designated international org
11	Secret	2000-02-27 00:00:00.000	1990-01-21 00:00:00.000	al-Khadim	Abdul-Baari	Employee of NATO
12	Confidential	1958-10-02 00:00:00.000	1944-07-02 00:00:00.000	PAEZ	Desiderio	Spouse of a U.S. Citizen
13	Unclassified	1967-12-01 00:00:00.000	1949-09-22 00:00:00.000	CASÁREZ	Gaspar	Transiting the United States

Multi-level security DEMO RESULTS (1 OF 5)

John Top Secret

- Can view all reports
- Can view all records
- Can view all attributes
- Can view all rows in all the reports

ogin User John					Top Socra	tandk					
Login osei .som	n Top Secre	t			Top Secre	L anu L					
Decord Clearance Level	Pecord ID	State	Notes		Login Use	r: Johr	n Top Secret				
Confidential	1007	NY	6 obscenity	1	Record_ID	State	Notes	Family Name	Date Of Incidence	DOB	
	10014	ME	Evercise Increased Caution	1	1000	NY	1 speeding	Warfusee	3/22/1978 12:00:00 AM	3/14/1950 12:00:00 AM	
	00122502204	DD	Spouse of a LLS Citizen	1	1007	NY	6 obscenity	Aba	8/2/1954 12:00:00 AM	9/27/1935 12:00:00 AM	
	00123555304	PR	Spouse of a 0.5. Citizen	1	1017	NH	12 bombing	Langlois	6/8/1965 12:00:00 AM	5/20/1937 12:00:00 AM	
becret	1033	MA	9 robbery	1	1029	MA	13 terrorist activity	Karsbach	3/17/1962 12:00:00 AM	3/28/1938 12:00:00 AM	
	10001	NY	Reconsider Travel	1	1033	MA	9 robbery	Fox	6/13/1991 12:00:00 AM	3/4/1937 12:00:00 AM	
	00137862161	MA	Employee of NATO	1	10001	NY	Reconsider Travel	al-Qays	9/3/1953 12:00:00 AM	6/5/1932 12:00:00 AM	
	00185080415	NJ	Emp of designated intern	1	10010	MA	Exercise Normal Precauti	Gladstanes	6/15/1986 12:00:00 AM	4/17/1958 12:00:00 AM	
Top Secret	1017	NH	12 bombing	1	10014	ME	Exercise Increased Caution	Shrimpton	1/8/1957 12:00:00 AM	7/19/1935 12:00:00 AM	
	1029	MA	13 terrorist activity	1	10028	NY	Do Not Travel	Gast	9/15/1991 12:00:00 AM	11/28/1965 12:00:00 AM	
	10028	NY	Do Not Travel	1	00123593384	PR	Spouse of a U.S. Citizen	PAEZ	10/2/1958 12:00:00 AM	7/2/1944 12:00:00 AM	
	00365538297	NY	Diplomat or foreign govt	- 1	00137862161	MA	Employee of NATO	al-Khadim	2/27/2000 12:00:00 AM	1/21/1990 12:00:00 AM	
Inclassified	1000	NY	1 speeding	1	00185080415	NJ	Emp of designated intern	CUELLAR	7/1/1965 12:00:00 AM	4/26/1938 12:00:00 AM	
onclassifica	10010	MAA	Eversise Normal Presauti	1	00219414770	NY	Transiting the United Stat	CASÁREZ	12/1/1967 12:00:00 AM	9/22/1949 12:00:00 AM	
	10010	NIX	Exercise Normal Precauti	1	00365538297	NY	Diplomat or foreign govt	OCHOA	1/2/1987 12:00:00 AM	10/25/1977 12:00:00 AM	
	00219414770	INY	Transiting the United Stat	1	Grand Total						

Multi-level security DEMO RESULTS (2 OF 5)

John Secret

- Can view all records except Top Secret
- Can view all attributes except DOB (Top Secret)

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Level

the

· Fails if user attempts to execute the Top Secret report

columns <"DBO"."PERSON"."PER_DOB">

Error Preparing statement prepare.xml DataServiceFailure Data Source Error

Unable to connect to the data source. Try connecting again. If the problem persists, disconnect from the data source and contact the data source owner.

Try Again

Datasource <REIQ_FBI_DEMO>: Datasource <FBI_DEMO>: User does not have sufficient privileges to access the

Datasource <REIQ_POLICE_DEMO>: Datasource <POLICE_DEMO>: User does not have sufficient privileges to access

Top Secret and below Confidential and below Unclassified All Records by Clearance Level

Secret and below

Login User: John Secret

Record_ID	State	Notes	Family Name	First Name	Date Of Incidence	
L000	NY	1 speeding	Warfusee	Thomas	3/22/1978 12:00:00 AM	1
L007	NY	6 obscenity	Aba	Miranda	8/2/1954 12:00:00 AM	1
L033	MA	9 robbery	Fox	Samuel	6/13/1991 12:00:00 AM	1
L0001	NY	Reconsider Travel	al-Qays	Hamdan	9/3/1953 12:00:00 AM	1
10010	MA	Exercise Normal Precauti	Gladstanes	Eric	6/15/1986 12:00:00 AM	1
10014	ME	Exercise Increased Caution	Shrimpton	Xavier	1/8/1957 12:00:00 AM	1
0123593384	PR	Spouse of a U.S. Citizen	PAEZ	Desiderio	10/2/1958 12:00:00 AM	1
0137862161	MA	Employee of NATO	al-Khadim	Abdul-Baari	2/27/2000 12:00:00 AM	1
0185080415	NJ	Emp of designated intern	CUELLAR	Nerón	7/1/1965 12:00:00 AM	1
0219414770	NY	Transiting the United Stat	CASÁREZ	Gaspar	12/1/1967 12:00:00 AM	1
Grand Total						10

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Level

All Records by Clearance Level Login User:John Secret

Record Clearance Level	Record_ID	State	Notes	
Confidential	1007	NY	6 obscenity	1
	10014	ME	Exercise Increased Caution	1
	00123593384	PR	Spouse of a U.S. Citizen	1
Secret	1033	MA	9 robbery	1
	10001	NY	Reconsider Travel	1
	00137862161	MA	Employee of NATO	1
	00185080415	NJ	Emp of designated intern	1
Unclassified	1000	NY	1 speeding	1
	10010	MA	Exercise Normal Precauti	1
	00219414770	NY	Transiting the United Stat	1
Grand Total				10

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Multi-level security DEMO RESULTS (3 OF 5)

John Confidential

- User is restricted to confidential and unclassified records only (row-level)
- User can only view reports with the appropriate privileges
- Reports fail if user attempts to execute more privileged reports

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Level

Confidential and below Login User: John Confidential

Record_ID	State	Notes	Date Of Incidence	
1000	NY	1 speeding	3/22/1978 12:00:00 AM	1
1007	NY	6 obscenity	8/2/1954 12:00:00 AM	1
10010	MA	Exercise Normal Precauti	6/15/1986 12:00:00 AM	1
10014	ME	Exercise Increased Caution	1/8/1957 12:00:00 AM	1
00123593384	PR	Spouse of a U.S. Citizen	10/2/1958 12:00:00 AM	1
00219414770	NY	Transiting the United Stat	12/1/1967 12:00:00 AM	1
Grand Total				6

Top Secret and below	Secret and be	elow C	onfidential and below Uno	classified	All Records by Clearance Level	Top Secret and below	Secret and below	Confidential and below	Unclassified	All Records by Clearance	Level			
All Records by (Clearance L	.evel					Data Source Error							
Login User:John Confidential														
Record Clearance Level	Record_ID	State	Notes											
Confidential	1007	NY	6 obscenity	1										
	10014	ME	Exercise Increased Caution	1			Unable to	o connect to t	ne data	source.				
	00123593384	PR	Spouse of a U.S. Citizen	1		Try conne	ecting again. If the	problem persists, disco	nnect from th	e data source and contac	:t			
Unclassified	1000	NY	1 speeding	1				the data source o	wner.					
	10010	MA	Exercise Normal Precauti	1										
	00219414770	NY	Transiting the United Stat	1				Try Again						
Grand Total				6										
						Datasource < columns <"Dl Datasource < Error Prepari prepare.xml DataServiceF	REIQ_FBI_DEMO>: Data BO"."PERSON"."PER_FA REIQ_POLICE_DEMO>: ng statement ailure	isource <fbi_demo>: User doe MILYNAME", "DBO"."PERSON" Datasource <police_demo>:</police_demo></fbi_demo>	s not have sufficie ."PER_FIRSTNAM User does not ha	nt privileges to access the E*>				

Multi-level security DEMO RESULTS (4 OF 5)

John Unclassified

- User is restricted to unclassified records only (row-level)
- User can only view reports with the appropriate privileges
- Reports fail if user attempts to execute more privileged reports

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Level

Unclassified

Login User:John Unclassified

Record_ID	State	Notes	
1000	NY	1 speeding	1
10010	MA	Exercise Normal Precauti	1
00219414770	NY	Transiting the United Stat	1
Grand Total			3

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Le	vel	Top Secret and below	Secret and be	low C	Confidential and below	Unclassified	All Records by Clearance Level			
Data Source Error	^	All Records by Clearance Level								
		Login User:Johr								
	_	Record Clearance Level	Record_ID	State	Notes					
Unable to connect to the data source	_	Unclassified	1000	NY	1 speeding	-	L			
	_		10010	MA	Exercise Normal Precau	ti :	L			
Try connecting again. If the problem persists, disconnect from the data source and contact	_		00219414770	NY	Transiting the United St	tat	L			
the data source owner.		Grand Total				3	3			
Try Again Datasource <reiq_fbi_demo>: Datasource <fbi_demo>: User does not have sufficient privileges to access the columns <"DBO"."PERSON"."DATEENTERED"> Datasource <reiq_police_demo>: Datasource <police_demo>: User does not have sufficient privileges to access Error Preparing statement prepare.xml DataServiceFailure</police_demo></reiq_police_demo></fbi_demo></reiq_fbi_demo>										

Multi-level security DEMO RESULTS SUMMARY (5 OF 5)

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Level

Top Secret and below

Login User: John Top Secret

Record_ID	State	Notes	Family Name	Date Of Incidence	DOB	
1000	NY	1 speeding	Warfusee	3/22/1978 12:00:00 AM	3/14/1950 12:00:00 AM	1
1007	NY	6 obscenity	Aba	8/2/1954 12:00:00 AM	9/27/1935 12:00:00 AM	1
1017	NH	12 bombing	Langlois	6/8/1965 12:00:00 AM	5/20/1937 12:00:00 AM	1
1029	MA	13 terrorist activity	Karsbach	3/17/1962 12:00:00 AM	3/28/1938 12:00:00 AM	1
1033	MA	9 robbery	Fox	6/13/1991 12:00:00 AM	3/4/1937 12:00:00 AM	1
10001	NY	Reconsider Travel	al-Qays	9/3/1953 12:00:00 AM	6/5/1932 12:00:00 AM	1
10010	MA	Exercise Normal Precauti	Gladstanes	6/15/1986 12:00:00 AM	4/17/1958 12:00:00 AM	1
10014	ME	Exercise Increased Caution	Shrimpton	1/8/1957 12:00:00 AM	7/19/1935 12:00:00 AM	1
10028	NY	Do Not Travel	Gast	9/15/1991 12:00:00 AM	11/28/1965 12:00:00 AM	1
00123593384	PR	Spouse of a U.S. Citizen	PAEZ	10/2/1958 12:00:00 AM	7/2/1944 12:00:00 AM	1
00137862161	MA	Employee of NATO	al-Khadim	2/27/2000 12:00:00 AM	1/21/1990 12:00:00 AM	1
00185080415	NJ	Emp of designated intern	CUELLAR	7/1/1965 12:00:00 AM	4/26/1938 12:00:00 AM	1
00219414770	NY	Transiting the United Stat	CASÁREZ	12/1/1967 12:00:00 AM	9/22/1949 12:00:00 AM	1
00365538297	NY	Diplomat or foreign govt	OCHOA	1/2/1987 12:00:00 AM	10/25/1977 12:00:00 AM	1
Grand Total						14

Top Secret and below Secret and below Confidential and below Unclassified All Records by Clearance Level

Confidential and below

Login User: John Confidential

Record_ID	State	Notes	Date Of Incidence	
1000	NY	1 speeding	3/22/1978 12:00:00 AM	1
1007	NY	6 obscenity	8/2/1954 12:00:00 AM	1
10010	MA	Exercise Normal Precauti	6/15/1986 12:00:00 AM	1
10014	ME	Exercise Increased Caution	1/8/1957 12:00:00 AM	1
00123593384	PR	Spouse of a U.S. Citizen	10/2/1958 12:00:00 AM	1
00219414770	NY	Transiting the United Stat	12/1/1967 12:00:00 AM	1
Grand Total				6

Top Secret and below	Secret and below	Confidential and below	Unclassified	All Records by Clearance Level	

Secret and below Login User: John Secret

Record_ID	State	Notes	Family Name	First Name	Date Of Incidence	
1000	NY	1 speeding	Warfusee	Thomas	3/22/1978 12:00:00 AM	1
1007	NY	6 obscenity	Aba	Miranda	8/2/1954 12:00:00 AM	1
1033	MA	9 robbery	Fox	Samuel	6/13/1991 12:00:00 AM	1
10001	NY	Reconsider Travel	al-Qays	Hamdan	9/3/1953 12:00:00 AM	1
10010	MA	Exercise Normal Precauti	Gladstanes	Eric	6/15/1986 12:00:00 AM	1
10014	ME	Exercise Increased Caution	Shrimpton	Xavier	1/8/1957 12:00:00 AM	1
00123593384	PR	Spouse of a U.S. Citizen	PAEZ	Desiderio	10/2/1958 12:00:00 AM	1
00137862161	MA	Employee of NATO	al-Khadim	Abdul-Baari	2/27/2000 12:00:00 AM	1
00185080415	NJ	Emp of designated intern	CUELLAR	Nerón	7/1/1965 12:00:00 AM	1
00219414770	NY	Transiting the United Stat.	CASÁREZ	Gaspar	12/1/1967 12:00:00 AM	1
Grand Total						10

Top Secret and below	Secret and below	Confidential and below	Unclassified	All Records by Clearance Level
Unclassified				

Login User: John Unclassified

Record_ID	State	Notes	
1000	NY	1 speeding	1
10010	MA	Exercise Normal Precauti	1
00219414770	NY	Transiting the United Stat	1
Grand Total			3



The End