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# Security and SAP Fiori: Tips and Tricks as You Move from Transaction Codes to Applications

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# About the Speaker

## **Greg Capps**

- Business Systems Consultant, Georgia-Pacific
- 15+ years managing security access, risk, governance and architecture

# Key Outcomes/Objectives

1. The Way it Was (And still is for some)
2. Fiori Moved My Cheese
3. Lessons Learned

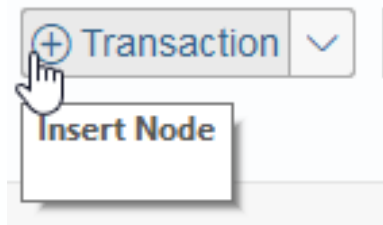
# Why would a hacker seek SAP vulnerabilities?

- SAP products are used in 190 countries, by around 300,000 businesses.
- 80% of businesses who use SAP products are in the SME category.
- 98% of the most valued brands are SAP customers
- 87% of the Forbes Global 2000
- 78% of the food in the world is produced by companies big and small who use SAP
- Estimated that 74% of the transaction revenue in the world touches a SAP system.

# Agenda

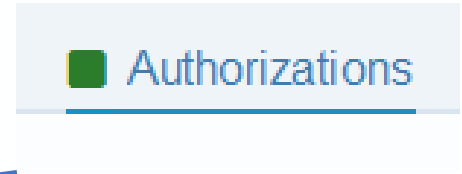
- Classic SAP Transactional Security
- Fiori Security (S4 and Gateway)
- Troubleshooting Fiori Security

# Classic SAP Security - Build



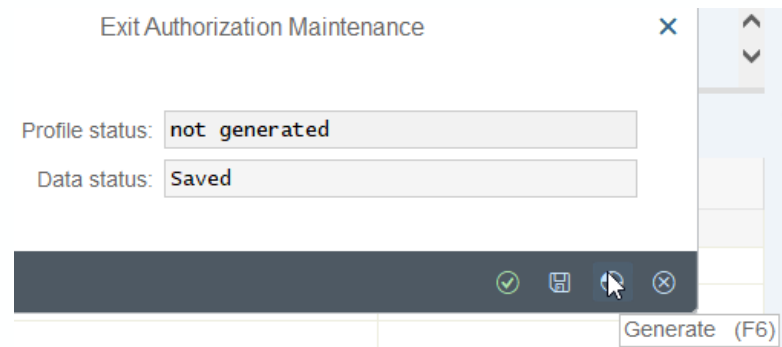
Role Menu

SU01 - User Maintenance



Role ASUG\_DEMO  
Maint. 0 unmaint. org. levels, 0 open fields  
Status: Unchanged

	Group/Object/Authorization/Field	Maintenan...
<input type="checkbox"/>	Object class AAAB	Standard
<input type="checkbox"/>	> Authorization Object S_TCODE	Standard
<input type="checkbox"/>	Object class BC_A	Maintained
<input type="checkbox"/>	> Authorization Object S_SECPOL	Standard
<input type="checkbox"/>	> Authorization Object S_USER_AGR	Standard
<input type="checkbox"/>	> Authorization Object S_USER_AUT	Standard
<input type="checkbox"/>	> Authorization Object S_USER_GRP	Maintained
<input type="checkbox"/>	> Authorization Object S_USER_PRO	Maintained
<input type="checkbox"/>	> Authorization Object S_USER_SAS	Standard
<input type="checkbox"/>	> Authorization Object S_USER_SYS	Standard
<input type="checkbox"/>	Object class HR	Standard
<input type="checkbox"/>	> Authorization Object PLOG	Standard



# Classic SAP - Error

The screenshot shows the SAP Classic 'Maintain Users' interface. At the top, the SAP logo and 'Maintain Users' title are visible. Below the title bar, there are navigation buttons: a dropdown menu, 'Check', 'More', and 'Exit'. The main area contains user details: 'User: ASUG\_MCO' with an information icon and the text 'User with Classic Address'. Below this, 'Changed By:' is followed by two empty input fields and a time field '00:00:00'. The 'Status:' field shows 'Not saved'. A horizontal menu below includes 'Documentation', 'Address', 'Logon Data', 'DBMS', 'SNC', 'Defaults', 'Parameters', 'Roles' (highlighted), 'Profiles', 'Groups', 'Personalization', and 'License'. A 'Reference User:' field with an add icon is present. The 'Role Assignments' section features a toolbar with various icons and a 'User master record' checkbox. Below the toolbar is a table with columns: 'Status', 'Role', 'Ty...', 'Start Date', 'End Date', 'Short Role Description', and 'Indir...'. The table contains one row with 'ASUG\_DEMO' in the 'Role' column and a checked checkbox in the 'Status' column. At the bottom, a message bar shows a red error icon and the text 'You are not authorized to assign user group to role ASUG\_DEMO' highlighted in yellow. The bottom right corner of the message bar has an 'LTxt' field and a help icon.

# Failed Authorizations – SU53

Description				Authorization values
User Name	ASUGUSER	Failed checks since	04/17/2019 22:58:52	
System	S4D	Client	100	
Date	04/18/2019	Time	01:58:52	
Instnce	gplvaps4d3_S4D_00	Profile Parameter auth/new buffering	4	
-----				
<span>⚠</span> Authorization check failed				
<span>⌵</span> Date 04/18/2019 Time 01:51:29 Transaction SU01				
<span>⌵</span> Authorization Obj. S_USER_SAS User Master Maintenance: System-Specific Assignments				
Authorization Field	ACTVT	Activity		22
Authorization Field	ACT_GROUP	Role Name		ASUG_DEMO
Authorization Field	CLASS	User group in user master maintenance		<Dummy>
Authorization Field	PROFILE	Auth. profile in user master maintenance		<Dummy>
Authorization Field	SUBSYSTEM	Receiving system for central user administration		' '
<span>⌵</span> Date 04/18/2019 Time 01:51:29 Transaction SU01				
<span>⌵</span> Authorization Obj. S_USER_SAS User Master Maintenance: System-Specific Assignments				
Authorization Field	ACTVT	Activity		22
Authorization Field	ACT_GROUP	Role Name		ASUG_DEMO
Authorization Field	CLASS	User group in user master maintenance		<Dummy>
Authorization Field	PROFILE	Auth. profile in user master maintenance		<Dummy>
Authorization Field	SUBSYSTEM	Receiving system for central user administration		S4DCLNT100



# Failed Authorizations Trace

SAP System Trace for Authorization Checks

Refresh Display Call Positions in ABAP Programs Display Authorization Object Authorization Object Documentation More

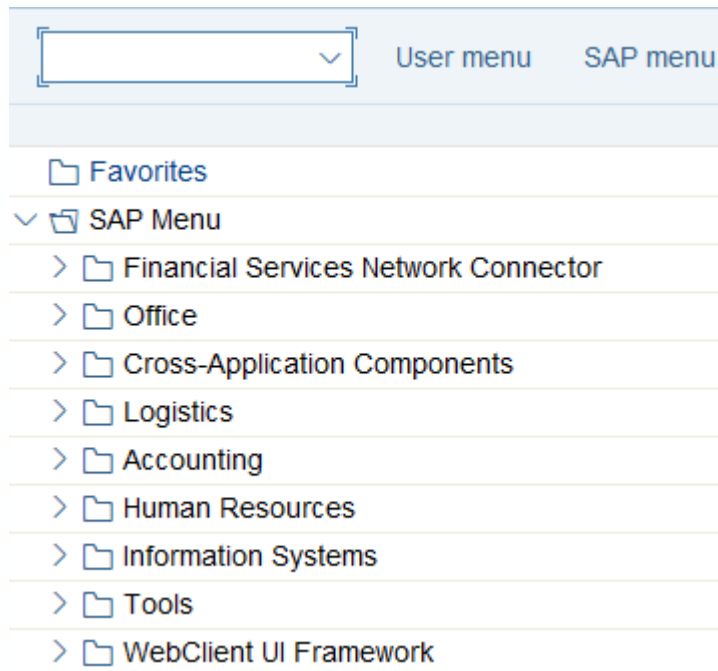
Date	Date/Time	User Name	Type	Applicatio	Program Name	Check Result	Result of Authorization Check	Addit.Info	Access Filtering	Entity	Object
04/18/2019	01:49:53:842	ASUGUSER	Transaction	SU01	SAPLSUSE	0	Authorization check successful				S_TCODE
04/18/2019	01:49:53:844	ASUGUSER	Transaction	SU01	SAPLSUSE	0	Authorization check successful				S_USER_GRP
04/18/2019	01:49:53:899	ASUGUSER	Transaction	SU01	/PERSONAS/CL_AUTH_UTILS=====CP	12	No authorization in user master record				P_RUNTIME
04/18/2019	01:49:53:899	ASUGUSER	Transaction	SU01	/PERSONAS/CL_AUTH_UTILS=====CP	12	No authorization in user master record				P_RUNTIME
04/18/2019	01:50:27:723	ASUGUSER	Transaction	SU01	CL_SUID_TOOLS=====CP	0	Authorization check successful				S_USER_GRP
04/18/2019	01:50:57:024	ASUGUSER	Transaction	SU01	CL_ALV_HELPER_INTERNAL=====CP	12	No authorization in user master record				S_ALV_LAYO
04/18/2019	01:50:57:025	ASUGUSER	Transaction	SU01	CL_ALV_HELPER_INTERNAL=====CP	12	No authorization in user master record				S_ALV_LAYR
04/18/2019	01:50:57:031	ASUGUSER	Transaction	SU01	CL_GUI_ALV_GRID=====CP	12	No authorization in user master record				S_GUI
04/18/2019	01:50:57:031	ASUGUSER	Transaction	SU01	CL_GUI_ALV_GRID=====CP	12	No authorization in user master record				S_GUI
04/18/2019	01:50:57:341	ASUGUSER	Transaction	SU01	CL_GUI_ALV_GRID=====CP	12	No authorization in user master record				S_GUI
04/18/2019	01:50:57:341	ASUGUSER	Transaction	SU01	CL_GUI_ALV_GRID=====CP	12	No authorization in user master record				S_GUI
04/18/2019	01:51:29:151	ASUGUSER	Transaction	SU01	CL_SUID_TOOLS=====CP	12	No authorization in user master record				S_USER_SAS
04/18/2019	01:51:29:151	ASUGUSER	Transaction	SU01	CL_SUID_TOOLS=====CP	12	No authorization in user master record				S_USER_SAS

SU53 has improvements but an authorization trace provides a better picture of potential authorization object values

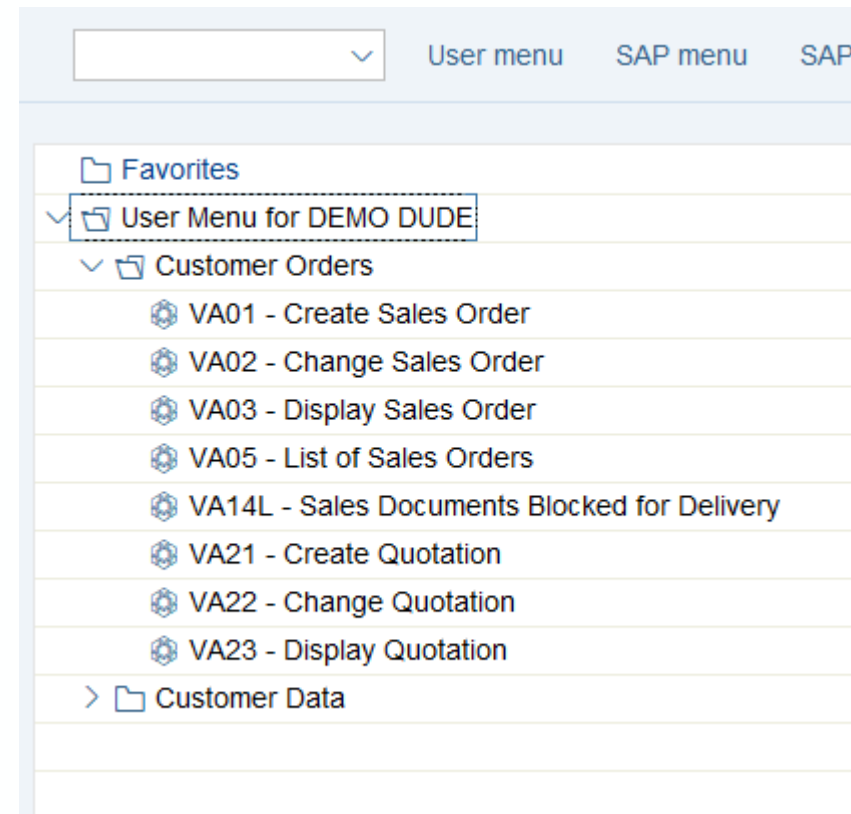
Object	Field 1	Value 1	Field 2	Value 2	Field 3	Value 3	Field 4	Value 4	Field 5	Value 5
S_TCODE	TCD	SU01								
S_USER_GRP	CLASS		ACTVT							
P_RUNTIME	P_APP_ID	SU01	P_ACTVT_RT	01	P_ACTVT_FW	01				
P_RUNTIME	P_APP_ID		P_ACTVT_RT	01	P_ACTVT_FW					
S_USER_GRP	CLASS		ACTVT	01						
S_ALV_LAYO	ACTVT	23								
S_ALV_LAYR	ACTVT	23	REPORT	SAPLSUID_MAINTENANCE	HANDLE	ROLE	LOG_GROUP			
S_GUI	ACTVT	61								
S_GUI	ACTVT	02								
S_GUI	ACTVT	61								
S_GUI	ACTVT	02								
S_USER_SAS	ACTVT	22	CLASS		SUBSYSTEM	S4DCLNT100	ACT_GROUP	ASUG_DEMO	PROFILE	
S_USER_SAS	ACTVT	22	CLASS		SUBSYSTEM	'	ACT_GROUP	ASUG_DEMO	PROFILE	

# SAP GUI Security

SAP Menu is not linked to user security role assignments.



USER Menu only includes applications or links specifically assigned to the role.



# Standard ABAP System Security

- Security roles needed in a single system
- Transactions are added to the role menu
- Authorization Errors limited to a single system
- Reviewing an SU53 you may need to be on the users application server
- Authorization traces show all failures but not all failures are required

# Basics of Fiori Security & Troubleshooting

- FIORI Security Overview
- Building roles in the SAP Gateway (Frontend)
- Building roles in an SAP ABAP system (Backend)
- Troubleshooting Issues

# Why FIORI?

- Single Point of Entry to Multiple Systems
- Runs on many devices
- Documented User Productivity Gains
- May be designed as a Dashboard or Cockpit
- Intuitive - May reduce training costs
- SAP Delivered Business Content

# FIORI Security Overview

- FIORI Authorization roles contain tile catalogs and tile groups
- FIORI Applications require backend security roles
- Catalog – Set of apps you want to make available within a role
- Group – Subset of a catalog that shows visible apps from a catalog

# Sample Catalog with Assigned Apps

The screenshot displays the SAP GRC - Transactional Apps interface. The top navigation bar includes 'Catalogs' and 'Groups' menus, the title 'SAP: GRC - Transactional Apps', and 'Client: 100'. The main content area shows a catalog collection with the ID 'X-SAP-UI2-CATALOGPAGE:SAP\_GRC\_TC\_T'. A search bar is located in the top right. Below the search bar are three icons: 'Tiles' (9), 'Tiles' (9), and 'Target Map...' (12). The main area contains several app tiles:

- Check Request Status**: Includes a refresh icon.
- Request Access**: Includes a plus icon.
- My Access Approvals**: Shows '1,234' and 'Waiting for Approval'.
- Favorites**: Shows '1,234' and 'Show Your Favorites'.
- Heatmap**: Shows 'Show Risk Portfolio' and a heatmap icon.
- Map**: Shows 'Show World Map' and a globe icon.
- Risks**: Shows '1,234' and 'New risks'.
- Request Access for Others**: Includes a plus icon.
- Compliance Approver**: Shows '1,234' and 'Waiting for Approval'.

The left sidebar, titled 'Catalog Collection', lists various catalogs with their counts:

Catalog Name	Count
GRC	2
Password Reset (ZC_GRC_PASS_RESET)	2
Role Owner (Z_BC_GRC_ROLE_OWNER)	8
SAP: GRC - Fact Sheets (SAP_GRC_TC_F)	4
SAP: GRC - Transactional... (SAP_GRC_TC_T)	21
Senior Executive (GRC) - Co... (SAP_GRC_BC_SeniorExecutive_T)	5

# Sample Catalog Target Mappings

SAP: GRC - Transactional Apps Client: 100

ID : X-SAP-UI2-CATALOGPAGE:SAP\_GRC\_TC\_T

Search

Drag to add

Tiles 9 Tiles 9 Target Map... 12

Configure Columns

Semantic Object	Action	Navigation Type	Information	Desktop	Tablet	Phone	Outdated	Re
AccessRequest	create	SAP Fiori App using LPD_CUST		✓	✓	✓		
AccessRequest	track	SAP Fiori App using LPD_CUST		✓	✓	✓		
AccessControlRole	analyzeRisk	SAP Fiori App using LPD_CUST	Analyze Risks for Role	✓	✗	✗		
AccessControlRole	maintainRole	SAP Fiori App using LPD_CUST	Maintain Role	✓	✗	✗		
AccessUser	analyzeRisks	SAP Fiori App using LPD_CUST	Analyze Risks	✓	✗	✗		
AccessRisk	analyzeRoles	SAP Fiori App using LPD_CUST	Analyze Roles	✓	✗	✗		
AccessRisk	analyzeUsers	SAP Fiori App using LPD_CUST	Analyze Users	✓	✗	✗		
AccessControlRole	accessRequest	SAP Fiori App using LPD_CUST		✓	✓	✓		
AccessRequest	approve	SAP Fiori App using LPD_CUST		✓	✓	✓		
Risk	displayReport	SAP Fiori App using LPD_CUST	Board Risk Report	✓	✓	✓		

+ Show similar target mappings
 📄\* Create Target Mapping
 ⚙️ Configure
 🔗 Create Reference
 🗑️ Delete
 📍 Where Used
 🔄 Original



# Sample Group with Available Tiles

Catalogs **Groups** Senior Executive (GRC) Client: 100

SAP\_GRC

Access Administrator (GRC) 1  
SAP\_GRC\_BCG\_RequestAdmin

Compliance Approver (GRC) 1  
SAP\_GRC\_BCG\_ComplianceApprover

Employee (GRC) 2  
SAP\_GRC\_BCG\_Employee

Manager (GRC) 1  
SAP\_GRC\_BCG\_Manager

**Senior Executive (GRC) 4**  
SAP\_GRC\_BCG\_SeniorExecutive\_T

ID : SAP\_GRC\_BCG\_SeniorExecutive\_T

Show as Tiles

**Favorites** Show Your Favorites  
 **1,234**

**Risks** Show Risks  
 **1,234**  
New risks

**Heatmap** Show Risk Portfolio

**Map** Show World Map

Show as Links

# Build Frontend Gateway Role

The screenshot displays the SAP Role Builder interface for configuring a role. The role name is 'SAMPLE\_DEMO' and its description is 'SAMPLE\_DEMO\_GATEWAY'. The 'Target System' is set to 'No destination'. The interface includes a navigation bar with tabs for Description, Menu, Workflow, Authorizations, User, MiniApps, and Personalization. The 'Menu' tab is active. Below the navigation bar, there is a toolbar with various icons and a dropdown menu showing 'FLP\_APP\_PROVIDER'. The main area is divided into two panes: 'Hierarchy' and 'Node Details'. The 'Hierarchy' pane shows a tree structure with 'Role Menu' expanded, containing 'SAP Fiori Launchpad' and 'ACCESSREQUEST CREATE'. The 'Node Details' pane shows the following information:

Node Details	
Type	FLP_APP_PROVIDER
Object	#ACCESSREQUEST-CREATE
Text	ACCESSREQUEST CREATE

- Insert FIORI Catalogs and Groups
- Insert Transactions
- Insert Services (Tiles added to the Catalog will require Services in the PFCG role)

# Build Backend Role (S4, GRC, BW, etc.)

Change Roles

Other role Inheritance

Role

Role: SAMPLE\_DEMO  Obsolete

Description: SAMPLE\_DEMO

Target System:   No destination

Description Menu Workflow Authorizations User MiniApps Personalization

Authorization Default From Menus Additional Activities Other Node Details Menu Options

Hierarchy

- Role Menu
  - Service
    - Authorization Default: TADIR Service
    - Program ID: R3TR
    - Obj. Type: IWSV SAP Gateway Business Suite Enablement -
    - TADIR Service
    - \*ACCESS\*

Node Details

Type

Object Name 7 Entries

PgID	Obj.	Object Name	
<input type="checkbox"/>	R3TR	IWSV	CB_ACCESS_CONTROL_ROLE_SRV 0001
<input type="checkbox"/>	R3TR	IWSV	CB_ACCESS_RISK_SRV 0001
<input type="checkbox"/>	R3TR	IWSV	CB_ACCESS_USER_SRV 0001
<input type="checkbox"/>	R3TR	IWSV	GRC_ACCESSREQUEST_APPROVE 0001
<input checked="" type="checkbox"/>	R3TR	IWSV	GRC_ACCESSREQUEST_CREATE 0001
<input checked="" type="checkbox"/>	R3TR	IWSV	GRC_ACCESSREQUEST_TRACK 0001
<input type="checkbox"/>	R3TR	IWSV	GRC_ACCESSREQ_COMPLIANCE_APPROVE 0001

# Authorizations from SU24 Inserted

The screenshot displays the SAP Authorizations interface for role **SAMPLE\_DEMO**. The interface includes a menu bar (Authorizations, Edit, Goto, Utilities, Environment, System, Help), a toolbar with various icons, and a main content area showing a tree structure of authorization objects. The status bar indicates "Maint." and "Status: Changed".

**Change Role: Authorizations**

Maint. 0 unmaint. org. levels, 0 open fields, Status: Changed

Object Name	Object Type	Object Description	Object ID
OO Standard	Standard	Cross-application Authorization Objects	AAAB
OO Standard	Standard	Check at Start of External Services	S_SERVICE
OO Standard	Standard	Basis: Administration	BC_A
OO Standard	Standard	User Master Maintenance: User Groups	S_USER_GRP
OO Standard	Standard	Authorization objects for Access Control	GRAC
OO Standard	Standard	Authorization Object for CUP Employee	GRAC_EMPLOY
OO Standard	Standard	Authorization object for CUP access request	GRAC_REQ
OO Standard	Standard	Access Control Role Design	GRAC_ROLED
OO Standard	Standard	Access Control Role Provisioning	GRAC_ROLEP
OO Standard	Standard	Authorization object for SOD System	GRAC_SYS
OO Standard	Standard	System level access for Access Control	GRAC_SYSTEM
OO Standard	Standard	Authorization object for SOD User Object	GRAC_USER

# After Failure Validate Frontend

System Trace for Authorization Checks

Evaluate Activate Trace Deactivate Trace System-Wide Trace

Trace Information

Trace Status	Authorization trace is switched on
Last Changed	MTUNKARA 04/30/2019 14:50:49
Server	gp1vdbgwd_GWD_00

Trace Options

Trace for user only

Trace for errors only

Restrictions for the Evaluation

User DEMOUSER to

From 05/05/2019 15:30:57

To 05/05/2019 16:30:57

Type of Application

Application Name  to

Authorization Object  to

Result  to

Maximum Number of Records 10,000

System Trace for Authorization Checks

Date	Date/Time	User Name	Type of Application	Application Name	Program Name	Check	Result	Result of Authorization Check	Addit.Info
05/05/2019	16:30:21:749	DEMOUSER	SAP Gateway: Service Groups Metadata	ZPAGE_BUILDER_PERS_0001	CL_START_AUTH_CHECK=====CP		12	No authorization in user master record	
05/05/2019	16:30:23:894	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP		12	No authorization in user master record	
05/05/2019	16:30:23:904	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP		12	No authorization in user master record	

## Evaluate Missing:

- Authorizations
- Services
- Applications

# Update with missing services

Change Roles

Other role Inheritance

Role: SAMPLE\_DEMO

Description: SAMPLE\_DEMO\_GATEWAY

Target System:

Description Menu Workflow

Authorization Default

Hierarchy

- Role Menu
  - SAP Fiori Launchpad
  - ACCESSREQUEST CREATE
  - SAP: GRC - Transactional Apps
  - Senior Executive (GRC) - Content
  - Senior Executive (GRC)

Service

Authorization Default: TADIR Service

Program ID: R3TR

Obj. Type: IWSG SAP Gateway: Service Groups Metadata

TADIR Service	Text
ZINTEROP_0001	R3TR IWSG ZINTEROP_0001
ZPAGE_BUILDER_PERS_0001	R3TR IWSG ZPAGE_BUILDER_PERS_0001

# Test, Validate, Repeat

System Trace for Authorization Checks

User Buffer CDS Access Control

Date	Date/Time	User Name	Type of Application	Application Name	Program Name	Check Result	Result of Authorization Check	Add
05/05/2019	16:39:41:457	DEMOUSER	SAP Gateway: Service Groups Metadata	ZPAGE_BUILDER_PERS_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:39:41:465	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/PAGE_BUILDER_PERS 0001	CL_START_AUTH_CHECK=====CP	4	Authorization check not successful	
05/05/2019	16:39:42:008	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:39:42:014	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	4	Authorization check not successful	
05/05/2019	16:39:42:188	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:39:42:194	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	4	Authorization check not successful	
05/05/2019	16:40:58:273	DEMOUSER	SAP Gateway: Service Groups Metadata	ZPAGE_BUILDER_PERS_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:40:58:282	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/PAGE_BUILDER_PERS 0001	CL_START_AUTH_CHECK=====CP	4	Authorization check not successful	
05/05/2019	16:40:58:593	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:40:58:598	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	4	Authorization check not successful	
05/05/2019	16:40:58:593	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:40:58:598	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	4	Authorization check not successful	
05/05/2019	16:44:03:442	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:03:447	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:03:161	DEMOUSER	SAP Gateway: Service Groups Metadata	ZPAGE_BUILDER_PERS_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:03:170	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/PAGE_BUILDER_PERS 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:03:422	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/PAGE_BUILDER_PERS 0001	/UI2/CL_CHIP_PROVIDER=====CP	0	Authorization check successful	
05/05/2019	16:44:03:422	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/PAGE_BUILDER_PERS 0001	/UI2/CL_CHIP_PROVIDER=====CP	0	Authorization check successful	
05/05/2019	16:44:03:568	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:03:573	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:05:665	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:05:669	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:05:801	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:05:805	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:05:929	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:05:938	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:06:061	DEMOUSER	SAP Gateway: Service Groups Metadata	ZINTEROP_0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	
05/05/2019	16:44:06:060	DEMOUSER	SAP Gateway Business Suite Enablement - Service	/UI2/INTEROP 0001	CL_START_AUTH_CHECK=====CP	0	Authorization check successful	

# Troubleshooting is a process

SAP Gateway: Error Log

Re-Select

Error Context Active Source Download to PC Upload from PC Summarize Logs

Overview

Line	Entry	Date	Time	User	T100 Error ID	T100	Error C...	ICF No...	HTT...	B	Error Text
11	1	05/05/2019	16:53:22	DEMOUSER	/IWFND/MED170	7	2				No service found for namespace "", name 'GRC_SMTRPT_COMMON_SRV', version '0001'
10	1			DEMOUSER	/IWFND/MED170	7	2				No service found for namespace "", name 'GRC_SMTRPT_RISK_SRV', version '0001'
9	1		16:40:58	DEMOUSER	/IWBEP/CM_MGW_RT000	7	2	odata	500	✓	User does not have the sufficient authorizations
8	1			DEMOUSER	/IWBEP/CM_MGW_RT000	7	2	odata	500	✓	User does not have the sufficient authorizations
7	1			DEMOUSER	/IWBEP/CM_MGW_RT000	7	2	odata	500	✓	User does not have the sufficient authorizations
6	1		16:30:23	DEMOUSER	/IWFND/CM_CONSUMER101	7	1	odata	403		No authorization to access Service 'ZINTEROP_0001'
5	1			DEMOUSER	/IWFND/CM_CONSUMER101	7	1	odata	403		No authorization to access Service 'ZINTEROP_0001'

Error Context

Exp. Name	Value
..ERROR_CONTEXT	
..ERROR_INFO	No service found for namespace "", name 'GRC_SMTRPT_COMMON_SRV', version '0001'
..ERROR_RESOLUTION	
...SAP_NOTE	See SAP Note 1797736 for error analysis
...LINK_TO_SAP_NOTE	<a href="https://service.sap.com/sap/support/notes/1797736">https://service.sap.com/sap/support/notes/1797736</a>
..Exceptions	
.../IWFND/CX_MED_MDL_ACCESS	
....Text	No service found for namespace "", name 'GRC_SMTRPT_COMMON_SRV', version '0001'
....Attributes	
.....SERVICE_GROUP	GRC_SMTRPT_COMMON_SRV
.....SERVICE_GROUP_VERSION	0001
....Source	
.....Program	SAPMHTTP

## Security Audit Log

	Long Text	Proc.	WP	Variable Message Data
		D	010	F
= /UIF/LREP_LOAD_CONS_CHECK)		D	010	/UIF/LREP_LOAD_CONS_CH
		D	013	F
= /UIF/LREP_LOAD_CONS_CHECK)		D	013	/UIF/LREP_LOAD_CONS_CH
wd1 05/05/2019 21:40:57 100 DEMOUSER 1	SAPMSSY1 RFC/CPIC logon successful (type=F, method=R )	D	010	F
wd1 05/05/2019 21:40:57 100 DEMOUSER 1	SAPMSSY1 Successful RFC call /UIF/LREP_LOAD_CK_PING (function group = /UIF/LREP_LOAD_CONS_CHECK)	D	010	/UIF/LREP_LOAD_CONS_CH
wd1 05/05/2019 21:44:02 100 DEMOUSER 1	SAPMSSY1 RFC/CPIC logon successful (type=F, method=R )	D	011	F
wd1 05/05/2019 21:44:02 100 DEMOUSER 1	SAPMSSY1 Successful RFC call /UIF/LREP_LOAD_CK_PING (function group = /UIF/LREP_LOAD_CONS_CHECK)	D	011	/UIF/LREP_LOAD_CONS_CH
wd1 05/05/2019 21:53:21 100 DEMOUSER 1	SAPMSSY1 RFC/CPIC logon successful (type=F, method=R )	D	003	F
wd1 05/05/2019 21:53:21 100 DEMOUSER 1	SAPMSSY1 Successful RFC call /UIF/LREP_LOAD_CK_PING (function group = /UIF/LREP_LOAD_CONS_CHECK)	D	003	/UIF/LREP_LOAD_CONS_CH



# Identifying the root cause is complex



- Missing Services
- Missing Tiles
- Missing Groups
- Inactive Services
- Missing Authorization Objects

## Tools

- ST01
- STAUTHTRACE
- /IWFND/ERROR\_LOG
- SM20
- SLG1
- HTTP Trace

# Lessons Learned

- Unlike Standard SAP – FIORI security may take multiple rounds of analysis
- No single tool has all of the missing values
- Remember that the user must exist with the same ID in both the frontend and backend system
- Not all failed authorizations or missing tiles are role related – may be catalog, group or service

# Lessons Learned Continued

- Default Authorizations Values May Be Incomplete
- Services and Missing Authorizations maybe documented on the FIORI App Catalog
- Need to identify where the failure is occurring since multiple systems are involved

# Useful Links

- <https://www.sap.com/products/fiori.html>
- <https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/>
- [https://help.sap.com/saphelp\\_nw74/helpdata/en/1f/b206d06c074c068edf1418cf301899/content.htm?no\\_cache=true](https://help.sap.com/saphelp_nw74/helpdata/en/1f/b206d06c074c068edf1418cf301899/content.htm?no_cache=true)
- <https://service.sap.com/bp-s4h-ux>
- <https://blogs.sap.com/2018/04/20/fiori-for-s4hana-top-10-myths-misconceptions-to-avoid/>

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# Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

<http://info.asug.com/2019-ac-slides>

# Q&A

For questions after this session, contact me at [greg.capps@gapac.com](mailto:greg.capps@gapac.com).

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