Troubleshooting Data Problems in the ODS and EDW



Presented by:

Seema Metikurke John Tong The University of Georgia



About the University of Georgia

Chartered in 1785, America's first state chartered university and birthplace of the American system of public higher education

Georgia's oldest, most comprehensive, and most diversified institution of higher education

Fall 2014 enrollment totaled 35,197, which included 26,882 undergraduates, 8,315 graduate students

Work Force: 9,874 faculty, administration, professionals, technical and clerical







About Athens

- Athens is one of the top best college towns in the nation, per U.S. News and World Report: http://www.usnews.com/education/slides hows/10-great-college-towns/4
- Athens is well known for its music scene, especially the hometown of R.E.M., the B-52s, the Georgia Theatre and the 40 Watt Club. (American Idol recently held auditions here)
- Athens is also a great town for foodies. Chef Hugh Acheson, owner of several Athens restaurants, is a TV personality on "Top Chef": http://www.bravotv.com/people/hugh-acheson.
- And, of course, football game days. It's Saturday in Athens: http://photo.alumni.uga.edu/photo/detail/429006





the B-52s









Seema Metikurke

Application Analyst Specialist

- Works with functional areas to provide data systems support
- Primary Administrator of the ODS/EDW, Argos, FormFusion, ePrint and security
- Employee at UGA for 6 years
- 13 years of development experience
- MS CS Georgia State University





John Tong

Application Analyst Principal

- Responsible for reporting and improving data quality and service with functional areas
- 20 years of Banner/Higher Education experience
- Former director of Professional Services at Evisions





Topics To be Covered

- Architecture
- Common Problems
 - Data Missing from ODS Reporting Views
 - 2. Data Exists but not current
 - 3. Don't know what this is or where it comes from
 - 4. Data REALLY wrong
- Resources





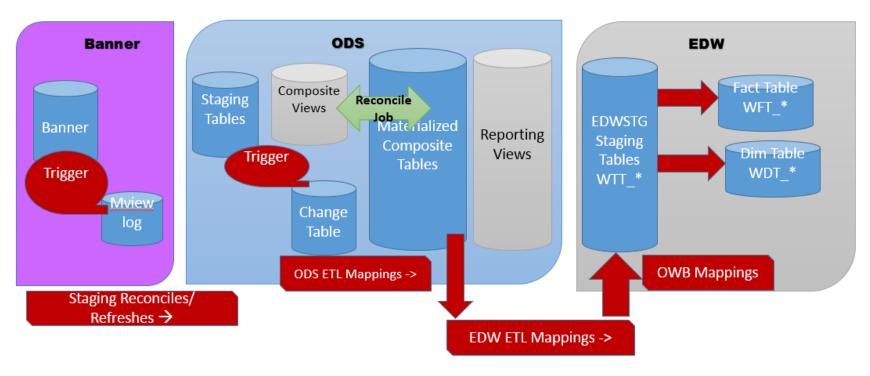
Architecture







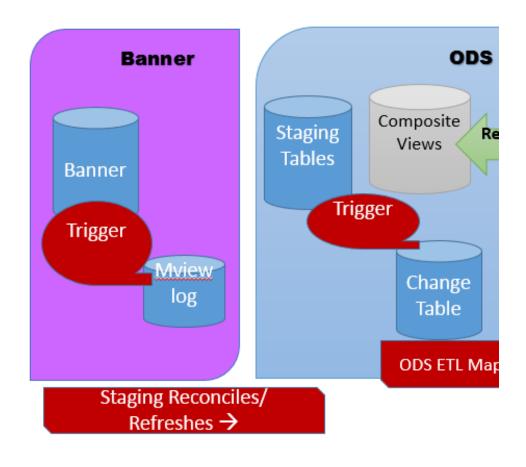
Architecture: High Level Overview







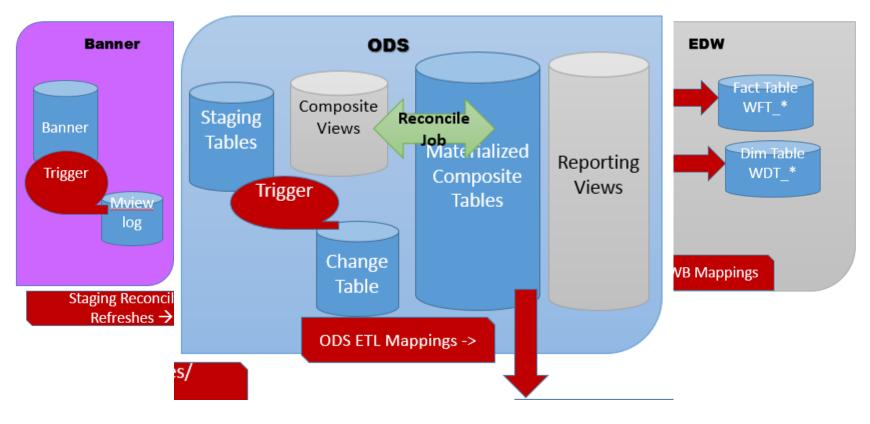
Architecture: Banner







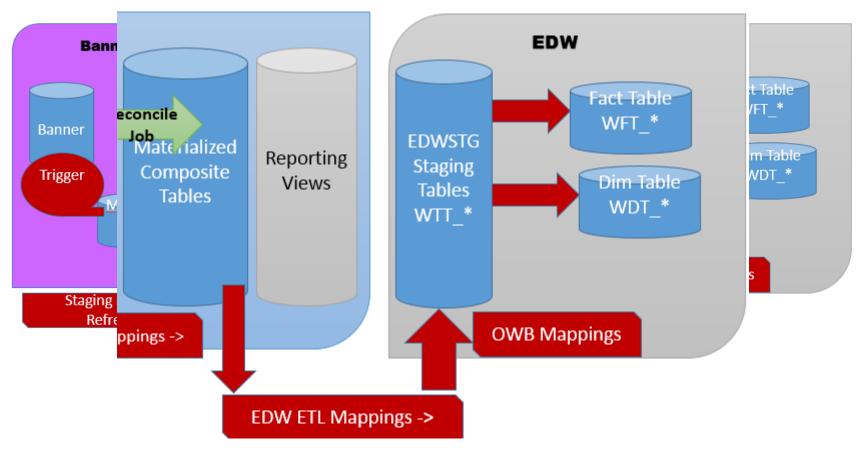
Architecture: ODS







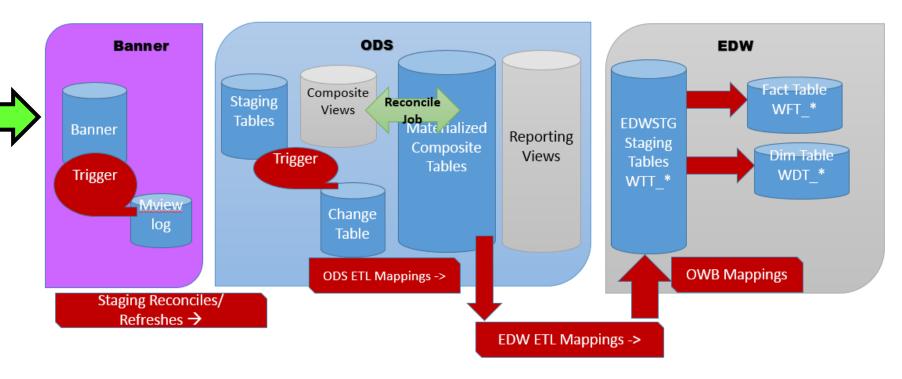
Architecture: EDW







Architecture: Highlights/Review





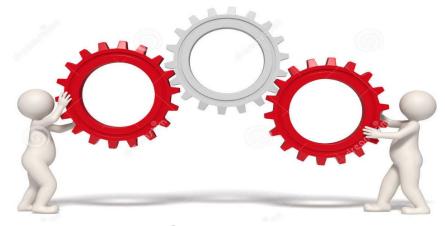


Most Common Problems

- 1.Data Inconsistent
- 2.Data 'old'
- 3.I don't know where this comes from, but it's WRONG.
- 4. What if it's STILL wrong?







Built in Tools

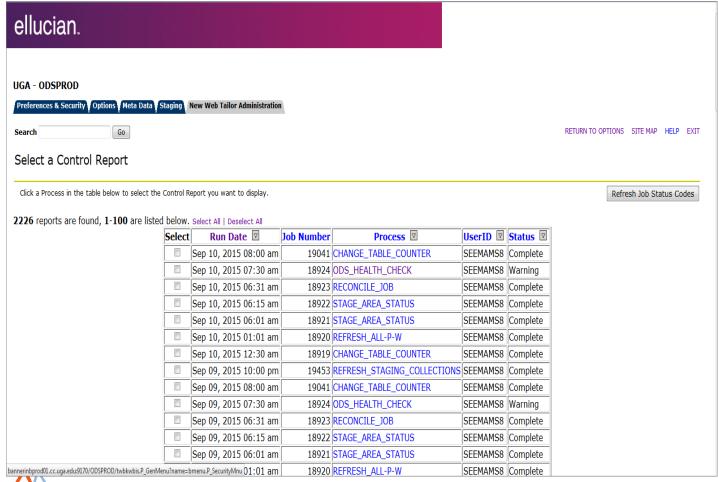
- Control Reports
- Health Check
- Reconcile Job
- Stage Area Status





Control Reports

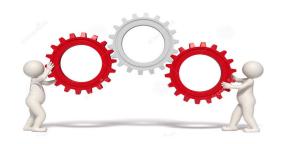








ODS Health Check Report



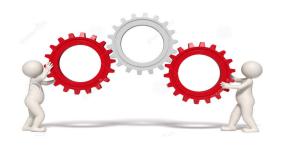
Preferences & Security Options Meta Data Staging New Web Tailo Search Go	or Administration	
Options	Preferences & Security Options Meta Data Staging New Search Go	v Web Tailor Administration
Set Up Parameters Define internal parameters used by various automated processes to ma Schedule a Process	Select a Process	
Schedule jobs that load, update, or freeze data in the Banner ODS. View Control Reports View reports that highlight job status of recently executed processes.	Select a process to schedule.	Preferences & Security Options Meta Data Staging New Web Tailor Administration Search Go
View and/or Remove Scheduled Processes View and/or remove jobs that are scheduled in the Freeze Data Maintenance Define lists of related Banner ODS tables or views to freeze at the same	Schedule Banner ODS Mappings Banner ODS Utilities Schedule Banner FDW Schedule Banner David	Select a Subprocess
Set Up and Maintain Cleansing Processes Set Up and Maintain Cleansing Process Rules, Elements, Values, and De List Events for a Banner EDW Star	Schedule Banner EDW Snapshot Mappings - Para Schedule Multiple Banner EDW Snapshots Schedule Banner EDW Operational Mappings - Pa	Select a subprocess to schedule. Banner ODS Utilities
View a list of which events have been loaded for one of the Banner ED RELEASE: BANNERODS 8.5.0 / BANNEREDW 8.4.4	Banner EDW Utilities Freeze Multiple Banner ODS Tables/	Report Source Change Table Counts Add Comments To Reporting Views Add Comments to a SINGLE Reporting View
	Freeze a Single Banner ODS Table/V Publish Meta Data Reports	Banner ODS Checks and Balances Reconcile a Single Table Transfer Banner Fine-Grained Access
		Cleanup Reconcile Tables Reconcile a Group of Tables
A A		Reconcile Multiple Tables Create Materialized Views

Maintain Materialized Views





Reconcile Job Report



	Preferences & Security Options Meta Data Staging New Web Tails Search Go	or Administration	
	Options	Preferences & Security Options Meta Data Staging New	v Web Tailor Administration
	Set Up Parameters Define internal parameters used by various automated processes to ma	Select a Process	
	Schedule jobs that load, update, or freeze data in the Banner ODS. View Control Reports View reports that highlight job status of recently executed processes.	Select a process to schedule.	Preferences & Security Options Meta Data Staging New Web Tailor Administration Search Go
	View and/or Remove Scheduled Processes View and/or remove jobs that are scheduled in the Freeze Data Maintenance	Schedule Banner ODS Mappings Banner ODS Utilities	Select a Subprocess
	Define lists of related Banner ODS tables or views to freeze at the sam	Schedule Banner EDW Snapshot Mappings - Para	Select a subprocess to schedule.
	Set Up and Maintain Cleansing Processes Set Up and Maintain Cleansing Process Rules, Elements, Values, and De List Events for a Banner EDW Star View a list of which events have been loaded for one of the Banner ED RELEASE: BANNERODS 8.5.0 / BANNEREDW 8.4.4	Schedule Multiple Banner EDW Snapshots Schedule Banner EDW Operational Mappings - Pa Banner EDW Utilities	Banner ODS Utilities Report Source Change Table Counts Add Comments To Reporting Views
Į	RELEASE DAMEROUS VISIO / DAMEREST VITA	Freeze Multiple Banner ODS Tables/Views Freeze a Single Banner ODS Table/View Publish Meta Data Reports	Add Comments to a SINGLE Reporting View Banner ODS Checks and Balances Reconcile a Single Table Transfer Banner Fine-Grained Access
	A A		Cleanup Reconcile Tables Reconcile a Group of Tables Reconcile Multiple Tables Create Materialized Views

Maintain Materialized Views





Stage Area Status Report



Preferences & Security Options Meta Data Staging New Web Tailor Administration	
Search Go	
Options	
Set Up Parameters Define internal parameters used by various automated processes to maintain the Banner ODS.	
Schedule a Process Schedule jobs that load, update, or freeze data in the Banner ODS.	Preferences & Security Options Meta Data Staging New Web Tailor Administration
View Control Reports View reports that highlight job status of recently executed processes.	Search Go
View and/or Remove Scheduled Processes View and/or remove jobs that are scheduled in the job queue but not yet run.	Staging
Freeze Data Maintenance Define lists of related Banner ODS tables or views to freeze at the same time.	
Set Up and Maintain Cleansing Processes Set Up and Maintain Cleansing Process Rules, Elements, Values,	Maintain Stage Tables Add or remove tables from the Banner ODS staging area.
List Events for a Banner EDW Star View a list of which events have been loaded for one of the Ban	Report Staging Area Status View a list of staged tables, the status of processes, and the details of any staging errors or issues.
RELEASE: BANNERODS 8.5.0 / BANNEREDW 8.4.4	Refresh Staging Collections Refresh a list of staging collections.
	Refresh Staging Tables Refresh a list of staging tables.
	Reconcile Stage Tables Reconcile Stage tables by schema or table name.
	RELEASE: BANNERODS 8.5.0 / BANNEREDW 8.4.4





1: Discrepancies

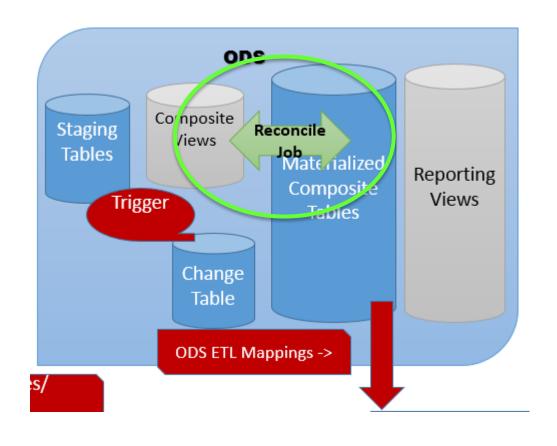
Problem: Numbers reported as 'incorrect' from users. Discrepancies listed in Reconcile Job.

Degree Works	Discrepancy: LOAD_MDT_PLAN_TEMPLATE_CRSE has 219 discrepancies (only the first 25 displayed).
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B00030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B02030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B08030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B0E030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B0F030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B7C030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B7D030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3B82030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3BFF030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C77030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C83030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C87030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C88030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C8A030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C8D030DE0531E8D11ACAF06.
Degree Works	>ODS has 0 rows while Source has 1 rows. Key values are: TEMPLATE_SEQUENCE_NUMBER=0 TEMPLATE_COURSE_KEY=1E50B14F3C90030DE0531E8D11ACAF06.





1:Reconcile Job







1: Reconcile Job (Continued)

Note: Reconcile only works on 1:1 Mappings

Student	Note: LOAD_MST_GENRL_STDNT_STEP_1 ignored based on RECONCILE LOGIC parameter entry.
Student	Note: LOAD_MST_GENRL_STDNT_STEP_2 ignored based on RECONCILE LOGIC parameter entry.







1: Causes and Solutions

Caused by active changes going on in the Database DURING the Fast Refresh. Scheduled jobs/processes making large number of updates.

- Try to identify the processing that is happening and shift those times.
- These will clear themselves the NEXT refresh.
 Provided the processing isn't actively happening during refresh again.





2: Data 'old'

AKA Banner Says X while ODS shows Y



PROBLEM

Data in Banner doesn't match Data in the ODS/EDW. Data might have JUST been entered, or may be over a day old.





2: Data 'old'

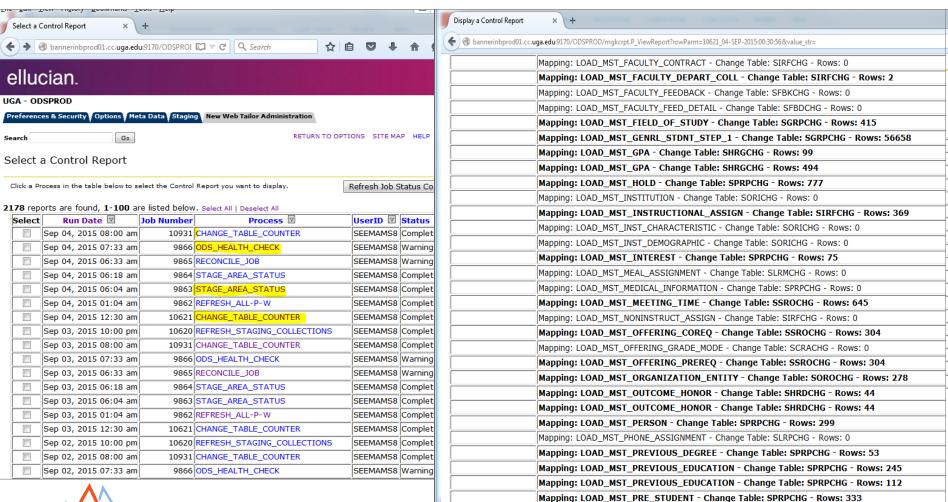
"What time is your refresh?"





georgia <mark>summ</mark>

2: Data 'old'



RELEASE: BANNERODS 8.5.0 /BANNEREDW 8.4.4



Problem 2B: How to fix

Problem with refresh last night

ODS Health Check Control Report: Missing Trigger

	Running: MGKJLIB.P_CHECKTRIGGERS
CHECK_TRIGGERS	WARNING: Trigger ST_SFBETRM_INSERT_ODS_CHANGE is missing on table SATURN.SFBETRM
	Process completed with warnings at 13-DEC-2014 07:30:35
	End of Report

ODS Health Check Control Report: Invalid Trigger

	Running: MGKJLIB.P_CHECKTRIGGERS
CHECK_TRIGGERS	WARNING: Trigger DT_DRESCLS_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.DAP_RESCLASS_DTL
CHECK_TRIGGERS	WARNING: Trigger DT_SPLNCLS_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.SEP_PLAN_CLASS
CHECK_TRIGGERS	WARNING: Trigger DT_SPLNGRP_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.SEP_PLAN_GROUP
CHECK_TRIGGERS	WARNING: Trigger DT_SPLNTRM_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.SEP_PLAN_TERM
CHECK_TRIGGERS	WARNING: Trigger DT_STPLCLS_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.SEP_TMPL_CLASS
CHECK_TRIGGERS	WARNING: Trigger DT_STPLGRP_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.SEP_TMPL_GROUP
CHECK_TRIGGERS	WARNING: Trigger DT_STPLMST_INSERT_ODS_CHANGE is INVALID on table DWSCHEMA.SEP_TMPL_MST

ODS Health Check Control Report: Invalid Package

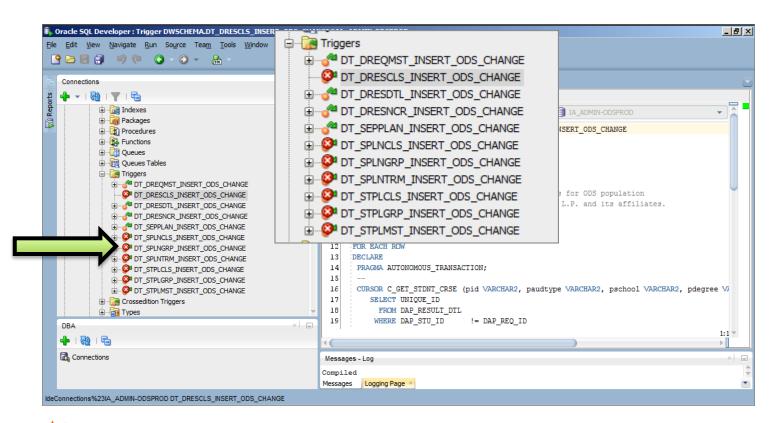
CHECK_MAPS_ODS	Error: LOAD_MRT_APPLICANT_NEED is INVALID in the database. (Next error)
CHECK_MAPS_ODS	Error: LOAD_MRT_APPLICANT_NEED is INVALID in the database. (Next error)
CHECK_MAPS_ODS	Error: LOAD_MRT_APPLICANT_NEED is INVALID in the database. (Next error)
CHECK_MAPS_ODS	Error: LOAD_MRT_APPLICANT_NEED is INVALID in the database. (Next error)





Problem 2B: How to fix

Invalid Trigger as seen in SQL Developer







Problem 2B: How to fix

REFRESH_ALL-P-W process Error Message

	Running ETL Package: MGKMAP.P_REFRESHSTAGINGMVIEWS
MGKMAP.P_REFRESHSTAGINGMVIEWS	Running: MGKMAP.P_REFRESHSTAGINGMVIEWS('REFRESH_DEGREEWORKS')
MGKMAP.P_REFRESHSTAGINGMVIEWS	Refreshing Staging Refresh Group ODS_REFGROUP_DWSCHEMA at: 24-AUG-2015 01:53:53
MGKMAP.P_REFRESHSTAGINGMVIEWS	Refreshing Staging Refresh Group (1/1) ODS_REFGROUP_DWSCHEMA at: 24-AUG-2015 01:53:53
	ERROR Refreshing Stage Group: ODS_REFGROUP_DWSCHEMA (Next error)
	ORA-12048: error encountered while refreshing materialized view "DWSCHEMA". "SEP_PLAN_CLASS" ORA-12034: materialized view log on "DWSCHEMA". "SEP_PLAN_CLASS" younger than last refresh (Next error)
	ORA-06512: at "SYS.DBMS_SNAPSHOT", line 2563 ORA-06512: at "SYS.DBMS_SNAPSHOT", line 2776 ORA-06512: at "SYS.DBMS_IREFRESH", line 685 ORA-06512: at "SYS.DBMS_REFRESH", line 195 ORA-06512: at "SYS.D
	"ODSSTG.MGKSTGU", line 1811
	Stage Group NOT Refreshed: ODS_REFGROUP_DWSCHEMA
	Refreshed 1 Staging Refresh Groups in 1 minutes.
	ETL Package completed at: 24-AUG-2015 01:55:13

RECONCILE_STAGE_TABLE control report

P_RECONCILE_STAGE	Running Parallel job (P_STAGE_SEP_PLAN_CLASS) in CR:9673308
(P)> P_STAGE_SEP_PLAN_CLASS	Start of Process at 24-AUG-2015 09:44:58
(P)> P_STAGE_MVIEW	Staging source tables as materialized views at 24-AUG-2015 09:44:58
(P)> P_STAGE_MVIEW	Finding tables to stage
(P)> P_STAGE_MVIEW	Saving table triggers
(P)> P_STAGE_MVIEW	Saving table grants
(P)> P_STAGE_MVIEW	Dropping materialized view logs
(P)> P_STAGE_MVIEW	Dropping materialized views
(P)> P_STAGE_MVIEW	Creating materialized view logs at 24-AUG-2015 09:45:03
(P)> P_STAGE_MVIEW	Creating materialized view logs completed at 24-AUG-2015 09:45:03
(P)> P_STAGE_MVIEW	Creating materialized views at 24-AUG-2015 09:45:03
(P)> P_STAGE_MVIEW	Creating materialized view DWSCHEMA.SEP_PLAN_CLASS at 24-AUG-2015 09:45:03
(P)> P_STAGE_MVIEW	MView: DWSCHEMA.SEP_PLAN_CLASS added to Refresh Group: ODS_REFGROUP_DWSCHEMA
(P)> P_STAGE_MVIEW	Creating materialized views completed at 24-AUG-2015 09:45:08
(P)> P_STAGE_MVIEW	Restoring table triggers
(P)> P_STAGE_MVIEW	Creating synonyms
(P)> P_STAGE_MVIEW	Source tables successfully staged.
(P)> P_STAGE_MVIEW	Process completed successfully at 24-AUG-2015 09:45:08

RECONCILE_STAGE_TABLE control report guiding to run sub-process

he following mappings are now included in a new job that can be scheduled:
OAD_MDT_AUDIT_STUDENT_CRSE
OAD_MDT_AUDIT_STUDENT_BLOCK
OAD_MDT_AUDIT_STDN_NON_CRSE
OAD_MDT_REGISTRATION_PLAN
OAD_MDT_REGIST_PLAN_CRSE
OAD_MDT_PLAN_TEMPLATE_CRSE
REFRESH_VALIDATION
lew job "Load for Recently Restaged Tables" created under the menu "Schedule a Process -> Schedule Banner ODS Mappings", this job will execute 7 mappings
rocess completed successfully at 24-AUG-2015 09:55:19





Problem 2: Summary

- What time is your refresh?
 - Wait for it!
 - Refresh now (Warning)
- Errors

CHECK THE:







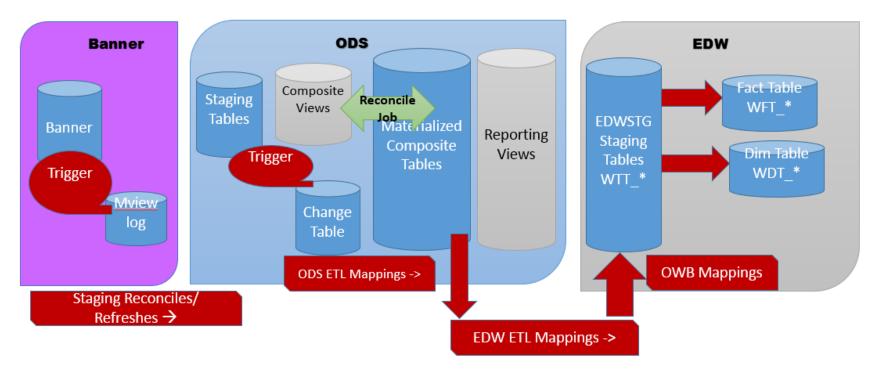
3: 'I don't know where this comes from.'







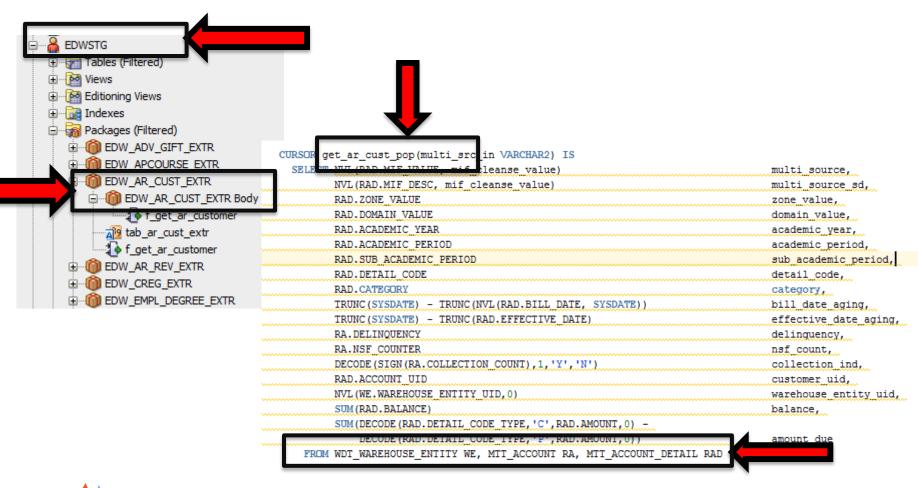
Problem 3: ODS/EDW







Problem 3: EDW

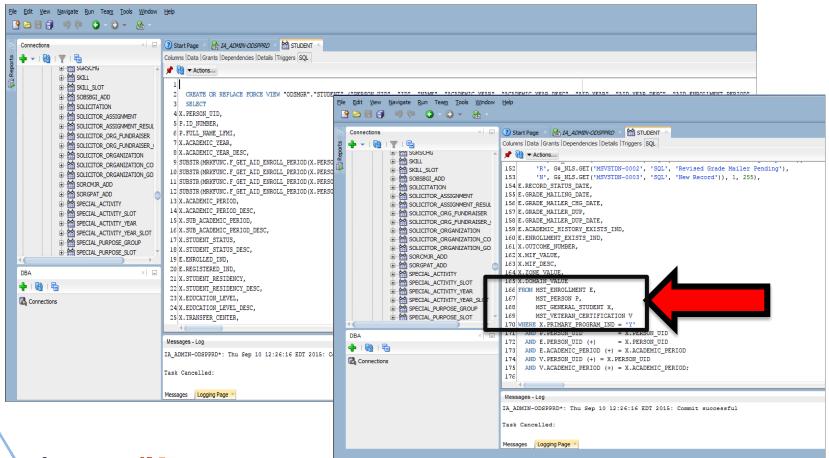






Problem 3: ODS

ODSMGR Student Reporting View – SQL View Creation Script



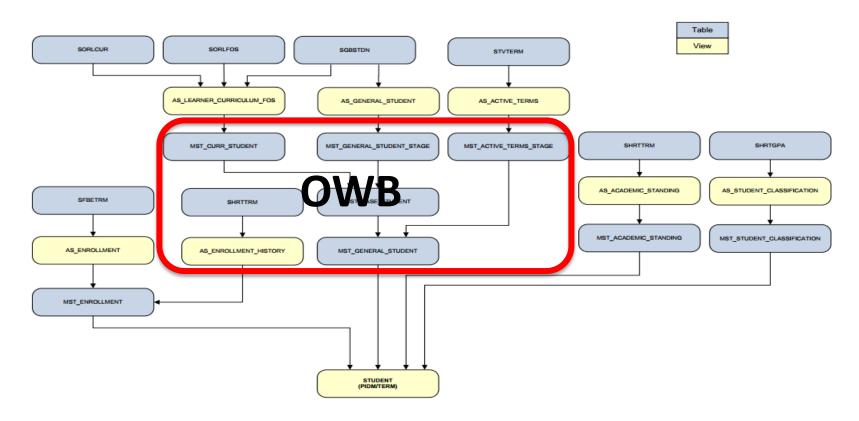




Problem 3: ODS

Banner ODS 8.5 Administration Guide page 108

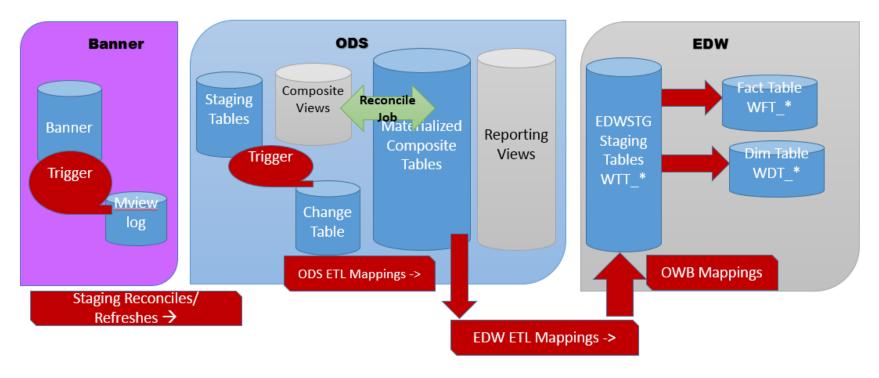
Student reporting view flow







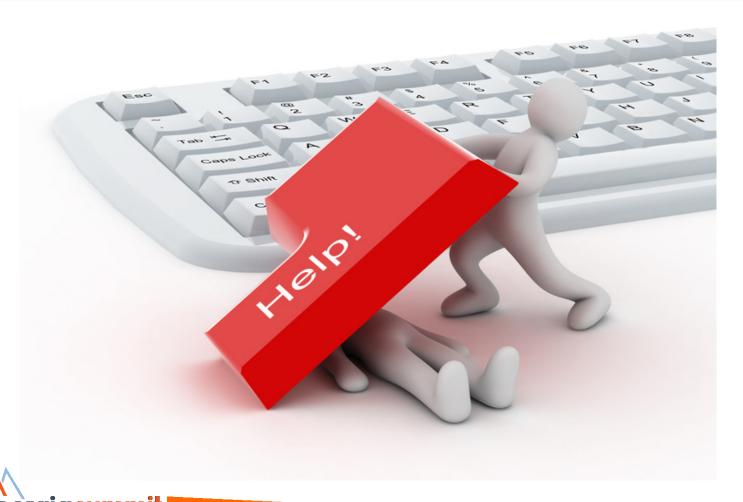
Problem 3: Summary





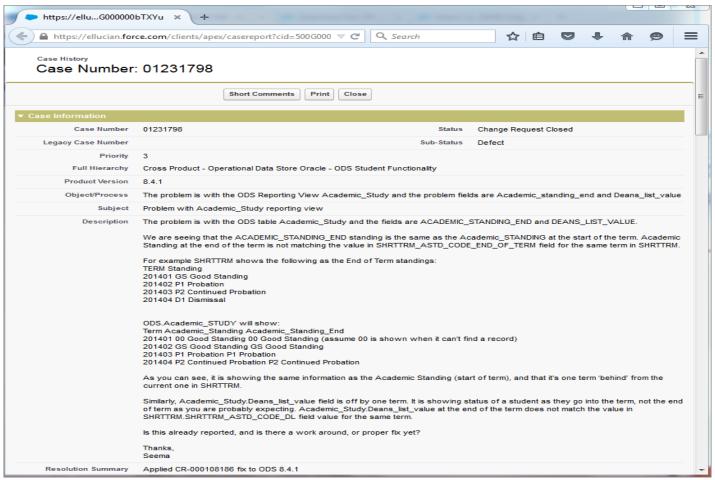


4: Still Wrong?





4: Still Wrong?







Resources

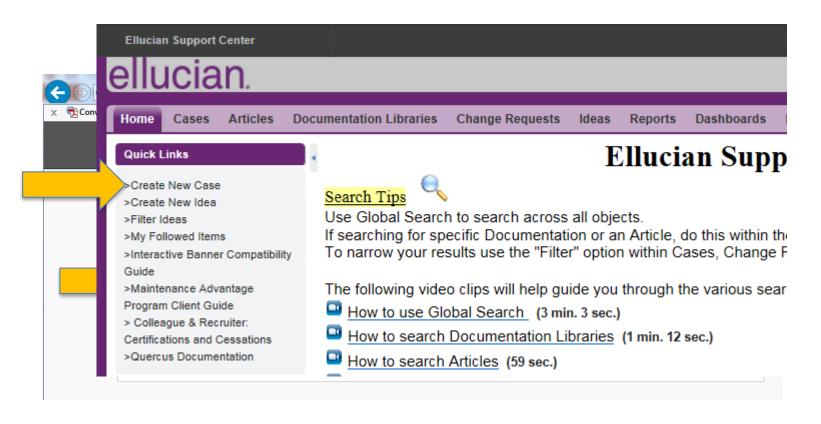






Resources: Support

https://ellucian.okta.com

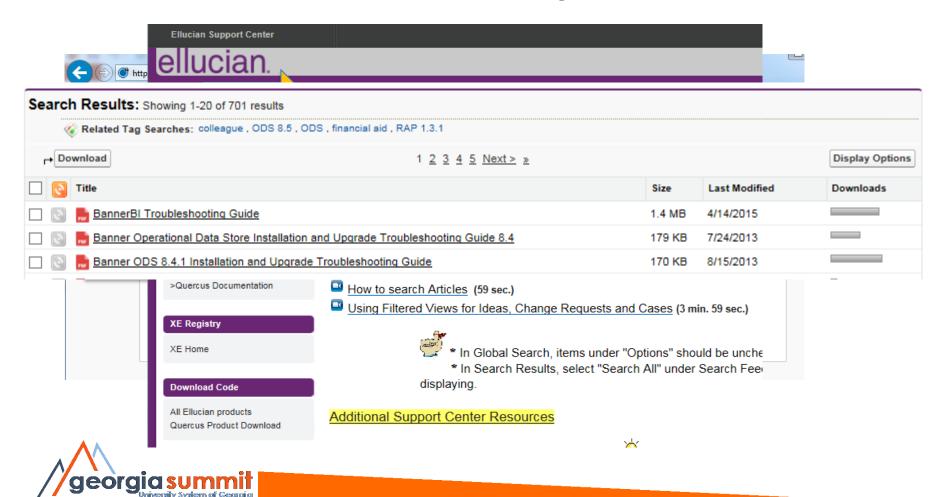






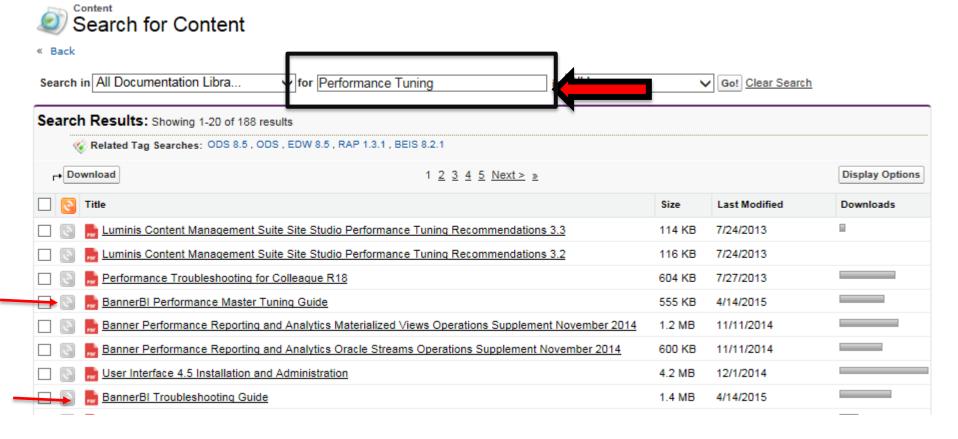
Resources: Ellucian

Search for "Troubleshooting Guide"





Resources: Ellucian

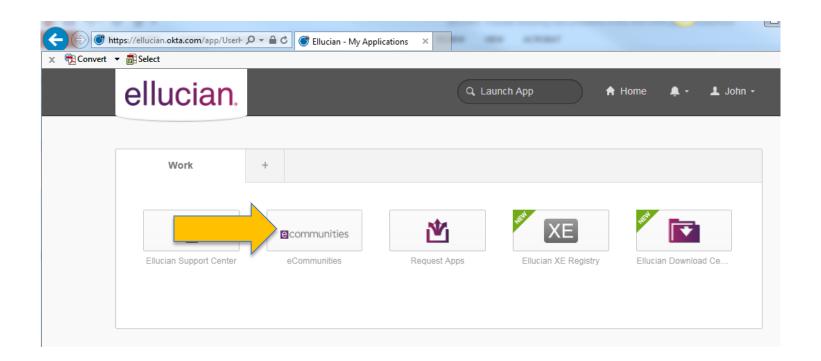






Resources: Ellucian

eCommunities







Resources: Other





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Banner 1098T OLAP EDW

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Q/A and Forum Discussion







Thank You!

Trouble shooting Data Problems in the ODS and EDW

Presentation: XXXX



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