Syniti Solutions
psaPerformanceBench

Installation, Configuration & User Guide

BackOffice Associates, LLC, d/b/a Syniti
www.syniti.com
info@syniti.com

Contents

Overview

psaPerformanceBench will process automate building BULK processing rules in Transform for the automated mapping actions. The mapping actions of (COPY, DEFAULT, RULE, XREF, CONSTRUCT) can be combined into a single SQL Update command to decrease runtime. The application does not delete any SQL objects already generated or remove any Transform registrations. The process sets rules from ACTIVE to BULKUPD so the rules do not process in Transform. The application also has a DELTA process for collect to download large tables by year to reduce download times and\or a process for perpetual data loads.

Key Features:

- Ability to Bulk Process Source Rules on select st table
- Ability to Bulk Process Target Rules on the tt table
- Quick Automation process to change tables from single process to Bulk Process and back
- Processing History for all Bulk Rule process for up to date processing logic
- Ability to turn Bulk processing off unavailable at the wave-process area level.
- Collect Delta Table download process for transaction data by year or other categories
- Collect Delta Table download for ongoing perpetual downloads
- Monitoring Reports on CPU and Memory usage
- Monitoring Reports on Disk Read & Write latency and speed
- Monitoring Reports on Session Data to display SQL that is processing
- Monitoring Reports on Temp Database to display SQL taking up too much space

Install psaPerformanceBench

The application can be installed on Syniti Solutions DSP versions 7.0.6 and above

Download the Application & License

The psaPerformanceBench application and/or license are obtained by opening a support ticket at support.syniti.com.

Perform the following steps to retrieve the necessary information for a license request:

1. On the DSP application server, locate the Hardware Identifier program (called **"HardwareIdentifier.exe"**) included in a zip file along with the DSP installation software and documentation previously downloaded from Syniti.
2. Open the program.

3. Click **Generate**.
4. Copy the automatically generated ID and collect the following additional information. All information below pertains to the application server running DSP; no information is needed regarding the database server:
    a. Hardware ID (as mentioned above)
    b. Windows computer name
    c. Number of processor cores (as shown in the Task Manager CPU tab)
    d. Usage of the DSP instance, as in, DEV, TEST (or QA) or PROD
5. Syniti Licensing will deliver the license file via the support ticket.

Install the License

Perform the following steps to install the license:

1. Log in to the DSP site as an Administrator.
2. Select **Admin > Configuration > Product Licenses** in the Navigation pane.
3. Click the Upload a file icon in the **FILE NAME** column next to the Upload a New Product License link.
4. Locate the license file that was provided by Syniti Licensing.
5. Click **Open**.
6. Verify the license is uploaded.
    a. **NOTE**: If the Navigation pane does not display all the licensed components as expected, use the browser refresh button or the F5 key to refresh the screen. At this point the full vertical menu will appear.

Install the Application

Perform the following steps to install the application:

1) Right click on **psaPerformanceBenchs.zip** and go to **Properties**. Ensure to unblock the file if it is blocked.
2) Unzip the file
3) Navigate to the DSP Installation folder (e.g. D:\BOA\DSP or C:\Program Files (x86)\BOA\DSP)
4) Back up the DSP Install\BOA\DSP folder to a compressed zip file
5) Back up all Syniti-supplied SQL Server databases or verify that a complete recent backup already exists
    a) Supplied databases: AutoGen, cMap, cMap_Data, cMass, cMass_Data, Console, CranPort, CranSoft, DataConstructionServer, DataDialysis, DataGarage, DBMoto_Client, DGE, DGE_Data, dgReports, dgSAP, dspAddOn, DSPCommon,

dspMonitor_AccPak, dspMonitorConfig, DSW, IGC, Integrate, IntegrateStaging, InterfaceServer, MC, & RADToolkit

6) Stop IIS

   This process disconnects all active DSP users, so it is highly recommended to perform the install when no users are on the system. This process stops IIS on the web server.

   a) Open Windows *Start* Menu.
   b) Open the **Command Prompt** (run as an administrator).
   c) Type: **IISReset –stop**.
   d) Press the **Enter** key.
   e) Leave the Command Prompt window open for later use.

7) Stop all services that start with "Cransoft Service …"

   This process stops all DSP background jobs, so it is highly recommended to perform the install when no scheduled operations are running on the system.

   a) Open Windows *Start* Menu.
   b) Select **Administrative Tools**.
   c) Run **Services**.
   d) Right-click the DSP service.
   e) Select **Stop**.
   f) Repeat the previous two steps for any additional DSP services.

8) Copy the **Web** folder from the zip file to your existing DSP install\Web folder. If prompted, replace the files in the destination.

9) Copy the **Databases** folder from the zip file to your existing DSP install\Databases folder. If prompted, replace the files in the destination.

10) Navigate to DSP install\Databases\Install and execute file **psaPerformanceBench_Install.bat** (run as an administrator)

11) Start all services that start with "Cransoft Service …"

   a) Open Windows *Start* Menu.
   b) Select **Administrative Tools**.
   c) Run **Services**.
   d) Locate the DSP service(s).
   e) Right-click the DSP service.
   f) Select **Start**.
   g) Repeat the previous two steps for any additional DSP services.

12) Start IIS

a) Open Windows *Start* Menu.

b) Open the **Command Prompt** (run as an administrator).

c) Type: **IISReset –start**.

d) Press the **Enter** key.

Configure psaPerformanceBench

psaPerformanceBench comes pre-configured with a testing wave for reviewing the application.

Run this stored procedure after the installation.

EXECUTE [psaPerformanceBench] .[dbo].[webLoadDefaultIns]

If the Navigation pane in DSP doesn't show psaPerformanceBench, then try these steps:

1. Log in to the DSP site as an Administrator.
2. Select **Admin > Configuration > Product License** in the Navigation pane.
    a. Ensure that psaPerformanceBench appears here.
3. Select **Admin > Configuration > Site Menu** in the Navigation pane.
    a. Ensure that psaPerformanceBench appears here. If not, then:
        i. Click **Add**.
        ii. Enter a priority in the **PRIORITY** field.
        iii. Enter **psaPerformanceBench** as the label for the site menu option in the **LABEL** field.
        iv. Select the **psaPerformanceBench : psaPerformanceBench** page from the **LINK TO PAGE ID** list box.
4. Select **Admin > Configuration > Parameters** in the Navigation pane.
    a. Click **Clear Cache**.
    b. Reload the browser tab.

If you still can't reach the psaPerformanceBench application, then review the "Define Security Roles" article in the DSP Online Help to ensure that your DSP user has access to psaPerformanceBench. The DSP Online Help is accessible from the question mark icon in the top-right corner of all DSP pages. You can also open a ticket at support.syniti.com for assistance.

Quick Checklist to Bulk Process

1) Open Web Page Object Targets in psaPerformanceBench
2) Find Target on the child Page Bulk Target and Click the Activate Toolbar
3) Click Source on the Bulk Target Page
4) Click Activate on the Target Source (only 1 Source can have Truncate Target checked)
5) Click Build Rules to build update on selected at source or target in Transform
6) Click the Transform Toolbar to go to the Target in Transform
7) Click on the Source Rules or Target Rules to see the new registrations
8) Click Process Target in Transform to see Bulk Rules process
9) Click on Processing History in psaPerformanceBench to see the SQL being process
10) Click Remove Rules to delete Bulk Rules on selected at source or target

Quick Checklist to Collect Delta

1) In SQL SERVER, Create Delta Database in SQL SERVER
2) In DSPCOMMON, Register Target Data Source for Delta
3) In Collect, Add Target registration pointing to SQL SERVER database
4) In Collect, Add Source registration pointing to Collect Target Delta
5) In Collect, Add Table for the using the where clause series
6) In psaPerformanceBench Collect Delta Table, Register the Delta Target, Source, Table and the Merge Target for the data
7) In psaPerformanceBench Collect Delta Table Where, Add the Where clauses for each table
8) In psaPerformanceBench Collect Delta Table Where, Activate the Where clauses and set the processing order
9) In psaPerformanceBench Collect Delta Table, Click Start to update the where clause and create the post load stored procedure.
10) In psaPerformanceBench Collect Delta Table, Click Refresh or In Collect click Refresh to start the perpetual download.

Object Launch\Bulk Targets Page

Object Launch will have all Waves, Process Areas and Object listed on this first page. The Wave Exclude page will limit the results on the launch page. Click the Activate on the Bulk Targets to start the Build Process and the click on Sources. The History will display all SQL processed against this target.

The Data Block size will be defaulted from the parameter table to the vertical view of this page.

The best performance for data chunking is between 250,000 to 500,000 records in a single Update/Commit. Tables with a lot of columns should have a smaller data chunk size. This process will keep the logs from growing to be too large.

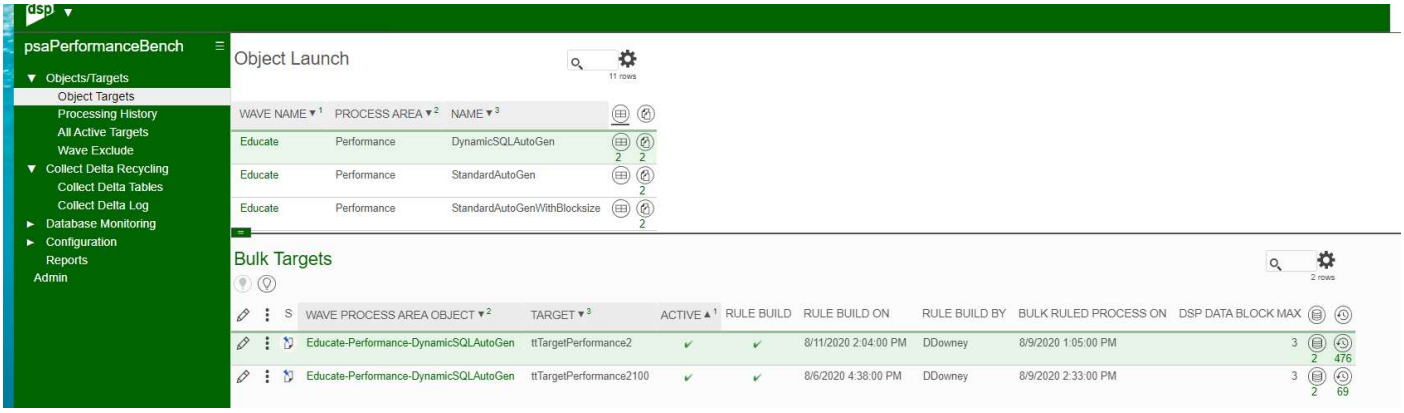
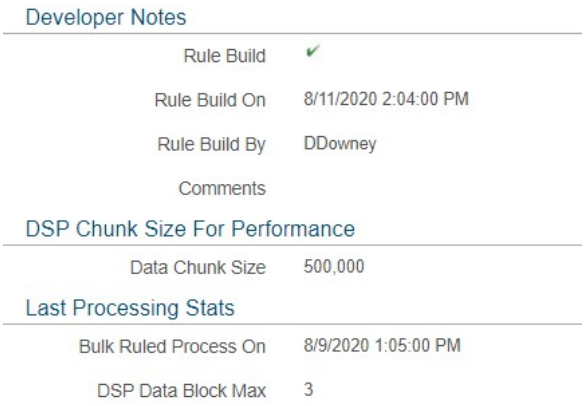


Image	Description of the process
	Click Toolbar to activate a Target
	Click Toolbar to deactivate a Target. (Not all Bulk Processing rules should be removed first)
	Click to Open the Target Source Page for this Target. Target Source page is where all the Build Bulk processing and where Target Fields are marked as active or inactive.
	Target SQL processing history will be displayed from this link. It will be retained for 180 days of processing. This is helpful for understanding and validating the bulk rule processing

The Vertical view will store the Data chunk size for block updates. The value is defaulted from the parameter setting. The comments field is for a developer to leave any custom notes for other developers to read.



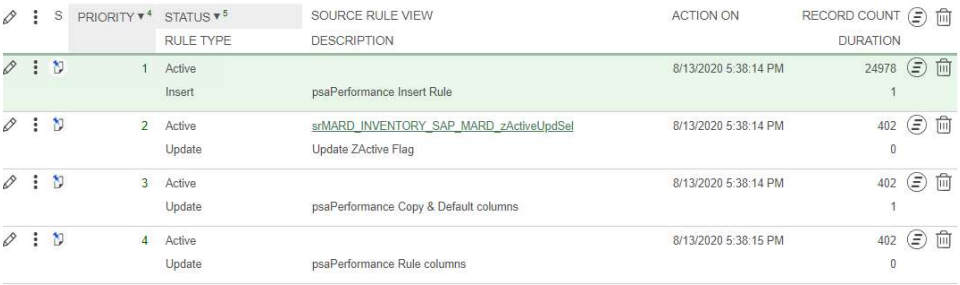
Target Sources - Mappings

Target Source is the only page for creating and removing the Bulk Rules. The Target source must be activated first. This will load the mapping with default Bulk Ready flags turned on for Default, Copy, Construct, Rule and XREF actions. Click the Build Rules toolbar to build the rules in Transform and click the Remove Rules to remove them from Transform.
If mappings have changed since the original build, click load mappings and then click Remove Rules and Build Rules again to get all the registrations correct in Transform.

Assembly Where Clause override will be used in the filtering of the source table load.

Bulk Rule Where clause is the active field applied to the source bulk processing rules and the target load rule. This requires a MANUAL rule to be created to set as relevancy data. It should be set as the second rule after the insert rules has processed.

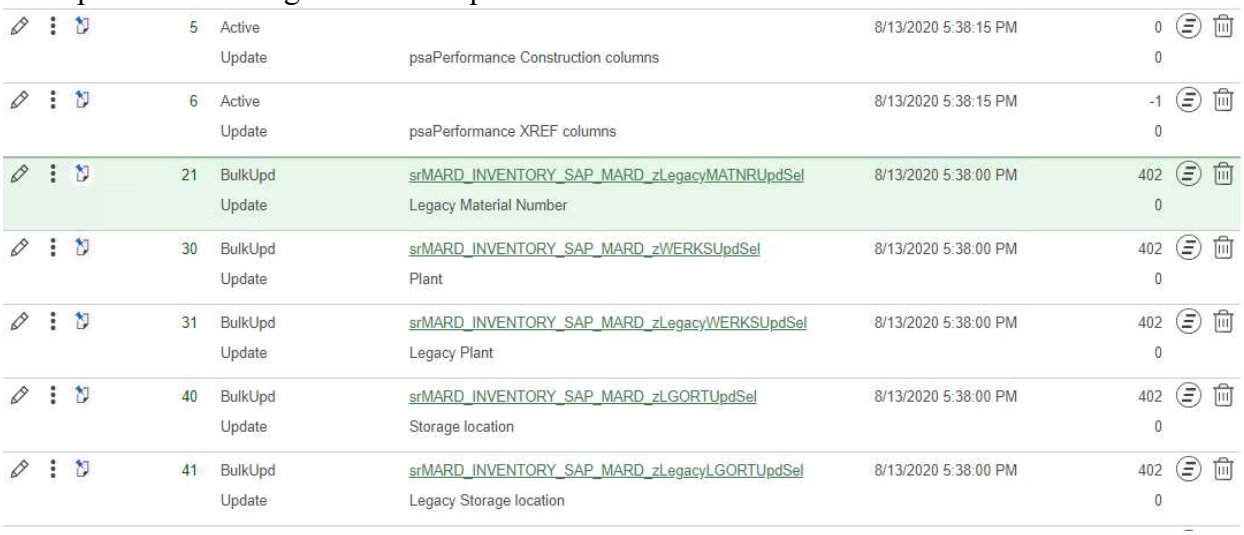
Example:



Developers do not have to do any coding to enable the process.
This process does not DELETE any SQL objects or Transform registrations.
The Target Source registered with the source table cranport package will be updated to manual load so the bulk loading insert process will run.

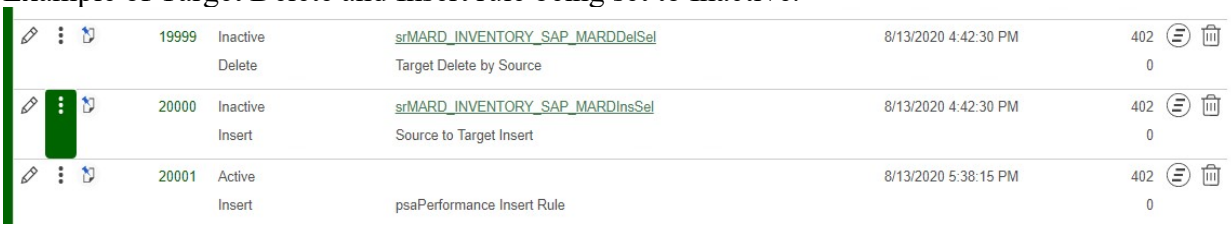
Bulk rule builds will Autogen all of the SQL Procedures for them.
Bulk rule remove resets the Transform target back to the initial state.
It will only set the status of the rules to BulkUpd or Inactive.

Example of rules being set to BulkUpd



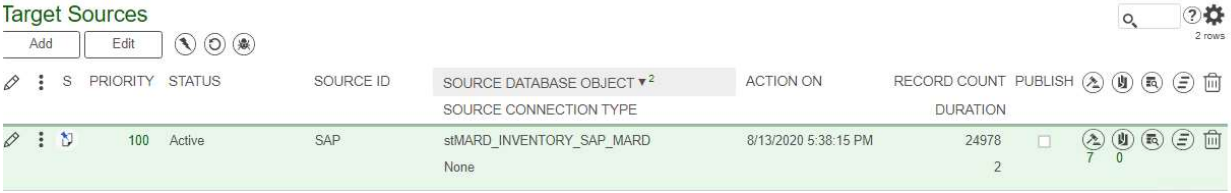
5	Active			8/13/2020 5:38:15 PM	0
	Update	psaPerformance Construction columns			0
6	Active			8/13/2020 5:38:15 PM	-1
	Update	psaPerformance XREF columns			0
21	BulkUpd	srMARD_INVENTORY_SAP_MARD_zLegacyMATNRUpdSel		8/13/2020 5:38:00 PM	402
	Update	Legacy Material Number			0
30	BulkUpd	srMARD_INVENTORY_SAP_MARD_zWERKSUpdSel		8/13/2020 5:38:00 PM	402
	Update	Plant			0
31	BulkUpd	srMARD_INVENTORY_SAP_MARD_zLegacyWERKSUpdSel		8/13/2020 5:38:00 PM	402
	Update	Legacy Plant			0
40	BulkUpd	srMARD_INVENTORY_SAP_MARD_zLGORTUpdSel		8/13/2020 5:38:00 PM	402
	Update	Storage location			0
41	BulkUpd	srMARD_INVENTORY_SAP_MARD_zLegacyLGORTUpdSel		8/13/2020 5:38:00 PM	402
	Update	Legacy Storage location			0

Example of Target Delete and Insert rule being set to Inactive.



19999	Inactive	srMARD_INVENTORY_SAP_MARDDelSel		8/13/2020 4:42:30 PM	402
	Delete	Target Delete by Source			0
20000	Inactive	srMARD_INVENTORY_SAP_MARDInsSel		8/13/2020 4:42:30 PM	402
	Insert	Source to Target Insert			0
20001	Active			8/13/2020 5:38:15 PM	402
	Insert	psaPerformance Insert Rule			0

Example of cranport being remove from the Target Source.



Target Sources

Add Edit

2 rows

S	PRIORITY	STATUS	SOURCE ID	SOURCE DATABASE OBJECT / SOURCE CONNECTION TYPE	ACTION ON	RECORD COUNT / DURATION	PUBLISH
	100	Active	SAP	stMARD_INVENTORY_SAP_MARD None	8/13/2020 5:38:15 PM	24978 2	7 0

To Enable:

1) Click Activate and it will load mappings
2) Build Rules

To Disable:

1) Click Remove Rules
2) Click Inactivate to stop processing for this source or table

To Load New Mappings:

1) Click Load Mappings
2) Click Remove Rules
3) Click Build Rules

To Add Filter on Source Rules:

1) Click the AddFilter toolbar that will read the Active Field from Map
2) Or Manual enter a where clause in BULK RULE WHERE field that will be applied to the source bulk processing rules.

To Truncate Table before running all sources

1) Check Truncate Target **FOR ONLY 1 SOURCE**
2) All other sources should not be checked and have a higher priority than the first one checked

To Source Thread 100 million source tables or larger

1) Enter a source segment column to break up the large insert process.
   Example: RIGHT(BELNR,1) will break the BSEG table into 10 load chunks
   Example: RIGHT(BELNR,2) will break the BSEG table into 100 load chunks
2) Leaving this field blank will make the insert in a single SQL Command. Using SQL Command Locking, will allow 100 million record inserts quickly. Source data tables larger than 100 million should be threaded to reduce data loaded in a single process.

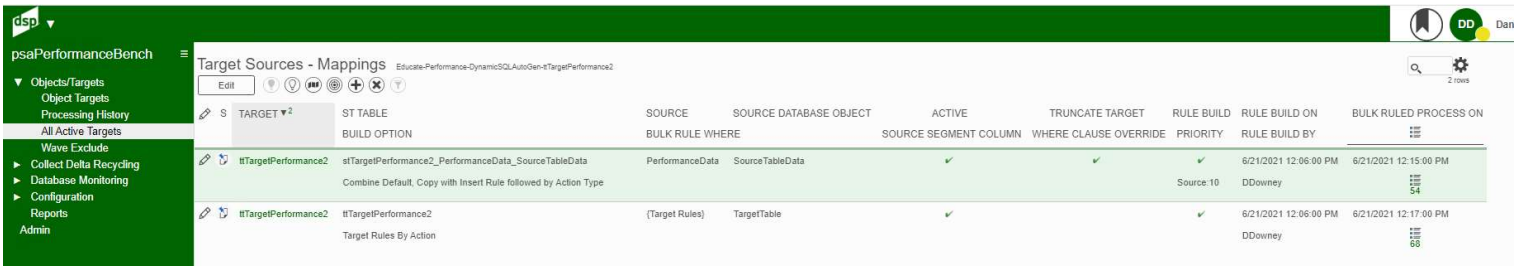


Image	Description of the process
	Click Toolbar to activate a Target Source and load the mappings into Field Mapping Bulk Build Table.
	Click Toolbar to deactivate a Target Source. (Bulk Rules will be removed when this clicked)
	Load mapping from MAP. Activate will do the initial load of mapping. If more mappings are created, this process will always load the current settings. Removed Rules and Build Rules should always be executed when mappings are changed to get the registration correct in Transform.
	Click Toolbar to go to the Target in Transform.
	Click Toolbar to build Bulk Rules
	Click Toolbar to remove Bulk Rules
	Click on Toolbar to add Active Field from Map to the Source Bulk Rules to limit the number of active records.
	Image to show the Field Mapping Bulk Build page. (IMPORTANT NOTE: This page does not update anything in cMap.) It will only load the mapping fields into this application and display information stored in cMAP. If there is a field with an incorrect setting, IT MUST BE FIXED IN MAP.

Field Mappings – Bulk Build

Field can be set to be included or excluded from the Bulk Processing. Rules actions that call functions which take large amounts of memory, may be excluded from the Bulk processing cycles.

Click the Inactive button to remove the rule from processing. Manual Rules and Manual Construction can not be activated on this page.

Any Rule Activite or Inactivate will require the Remove Rules followed by Build Rules.

This will ensure the Registrations in Tranform will match these settings.

To Update Mappings:

1) Click Activate\Inactivate on the Mappings
2) Click Remove Rules
3) Click Build Rules

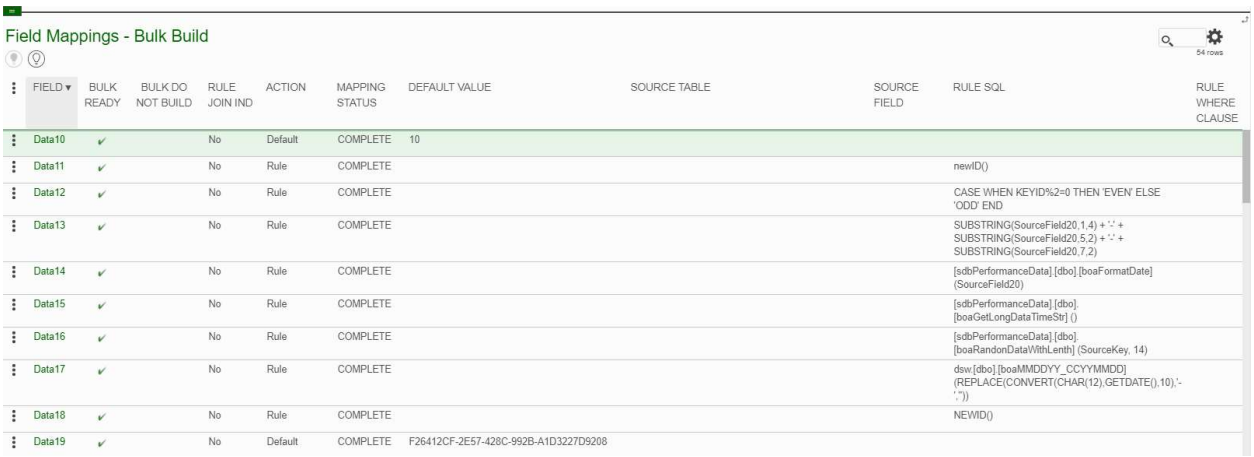


Image	Description of the process
	Click Toolbar to activate a Bulk Rule
	Click Toolbar to deactivate Bulk Rule

Vertical view of the mapping will display all the information from Map any automation setting the Bulk Process will use. **No Updates can be made to Map from this application.**

Field Mappings - Bulk Build

General | Rule Fields | Join Table

Wave Process Area Object	Educate-Performance-DynamicSQLAutoGen
Target	ttTargetPerformance2
Field	Data24
Process Rule Name	srTargetPerformance2_PerformanceData_SourceTableData_zData24UpdSel
Action	Construction
Mapping Status	COMPLETE
Rule Status	COMPLETE

Field Mappings - Bulk Build

General | Rule Fields | Join Table

Default Value	
Source Table	dcsTargetPerformance2_PerformanceData_Educate
Source Field	Data24
Rule SQL	
Instruction	**Data Construction: Data24** will require data to be built in Construct. **Field Group:** ALL
Rules Comment	
Rule Where Clause	

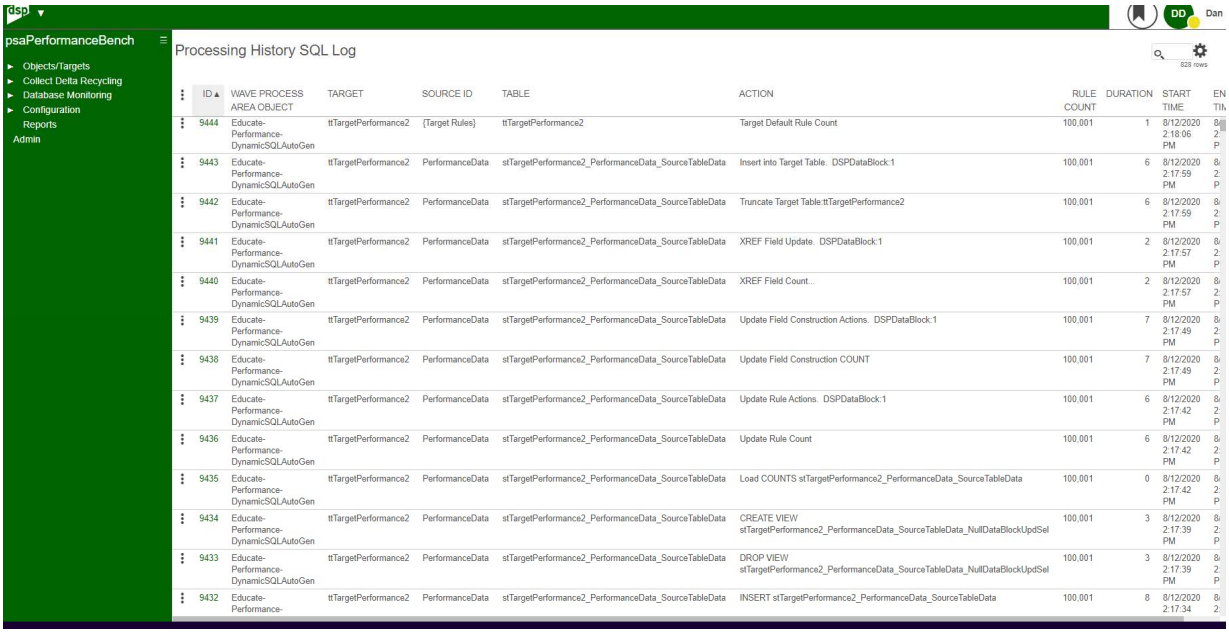
Field Mappings - Bulk Build

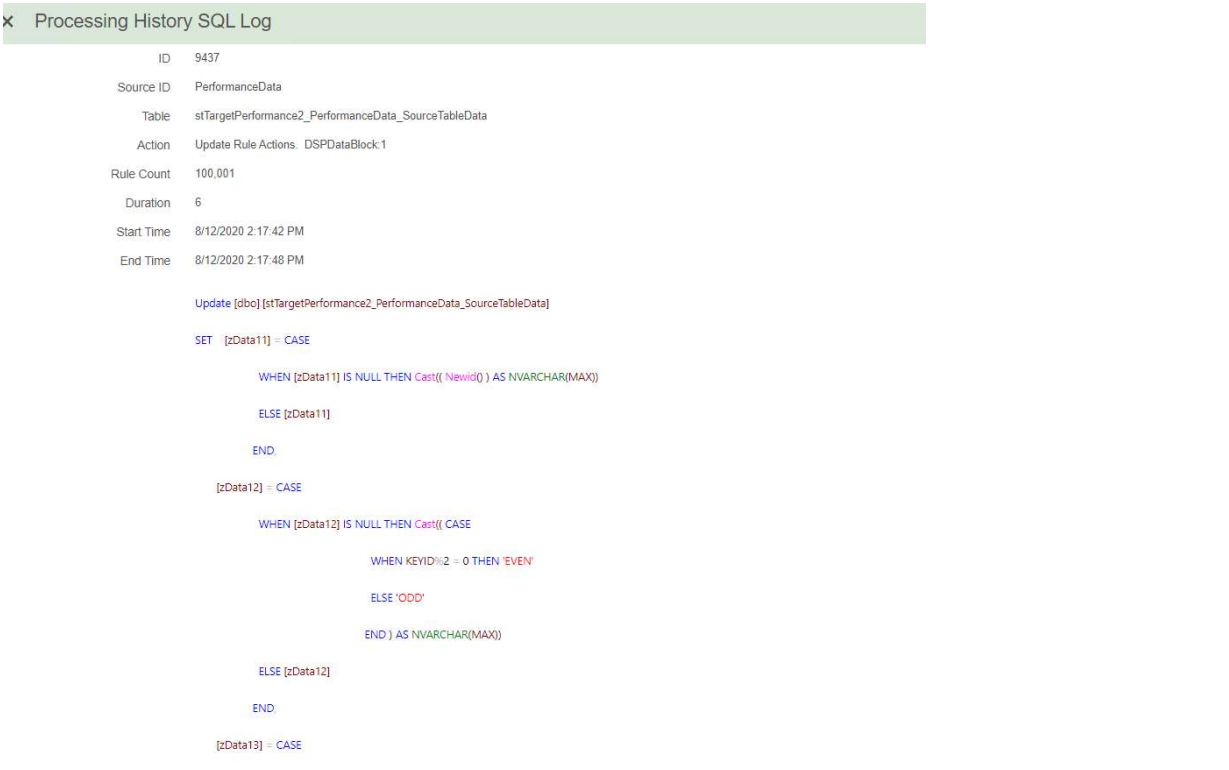
General | Rule Fields | Join Table

Rule Source Table	stdcsTargetPerformance2_PerformanceData_Educate
Name	TargetPerformance2_PerformanceData_SourceTableData_Jointo_dcsTargetPerformance2_PerformanceData_Educate
Where Clause	
Join SQL	INNER JOIN [stdcsTargetPerformance2_PerformanceData_Educate] ON [stTargetPerformance2_PerformanceData_SourceTableData].[zLegacyKey1] = [stdcsTargetPerformance2_PerformanceData_Educate].[zLegacyKey1]

Processing History SQL Log

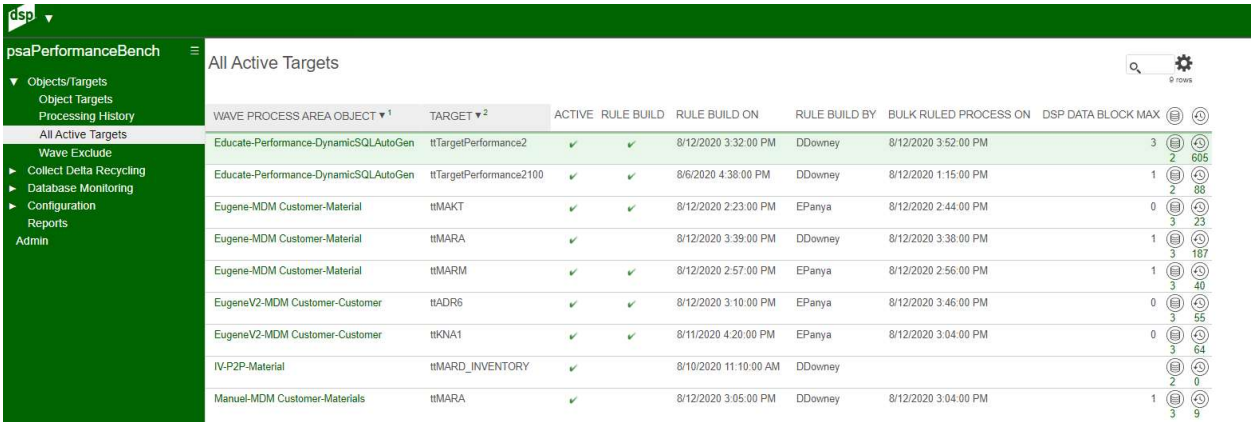
Processing Log will display all Bulk Processing SQL history. The one on the top is the last one processing. Click vertical view to see the SQL running.





All Active Targets

All Bulk Targets across waves configured for Bulk Rule Processing. Process will display who built the rules and when they were last executed. The Source image will take a user to the Target Source Page for setting bulk changes. The history will go to the Processing History SQL Log.



There are no updates on this page.

Image	Description of the process
	Click to Open the Target Source Page for this Target. Target Source page is where all the Build Bulk processing and where Target Fields are marked as active or inactive.
	Target SQL processing history will be displayed from this link. It will be retained for 180 days of processing. This is helpful for understanding and validating the bulk rule processing

Wave Exclude

Wave exclude will make the Wave not display on the Object Launch page so a Target cannot be made active. The Plus toolbar will add the wave process area and the Subtract toolbar will remove it from the select web page. Active targets will not be impacted with this change.

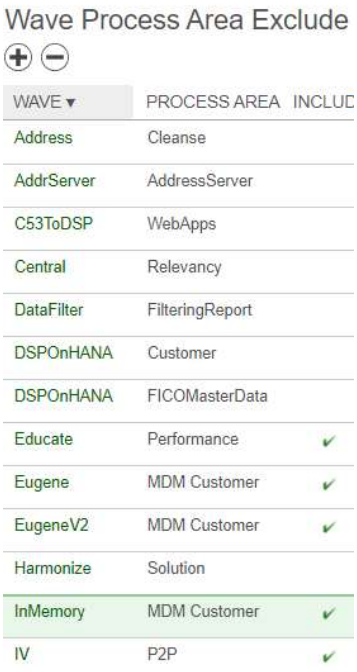


Image	Description of the process
	Add Wave Process area to the display select on Object Launch
	Remove Wave Process area to the display select on Object Launch. Targets in bulk processing mode will not be impacted with this selection.

Collect Delta Table

Collect downloads can use where clauses in the packages to reduce timeouts and session limits from the source system. General ledger transaction tables often have to be downloaded by year or a sequence to successfully get all the data. There are two types of downloads on the Delta Process.

The Where Clause series will run a bunch of downloads. As one completes, it will mark the entry as inactive, and then start processing the next active where clause. Once all the where clauses have been processed, the download will be marked as inactive. The Perpetual downloads are designed to run daily and will download the latest records, and then merge them into the Merge Target Database.

Downloads must have the START process clicked so the post load stored procedures will be created and registered into the Delta Target Database. The END process will remove the registered stored procedure and stop the ongoing process. The REFRESH image will update the where clause in collect for that table and start the cycle of downloading.

Merge Target Database is where the data will be loaded once the delta process has been completed.

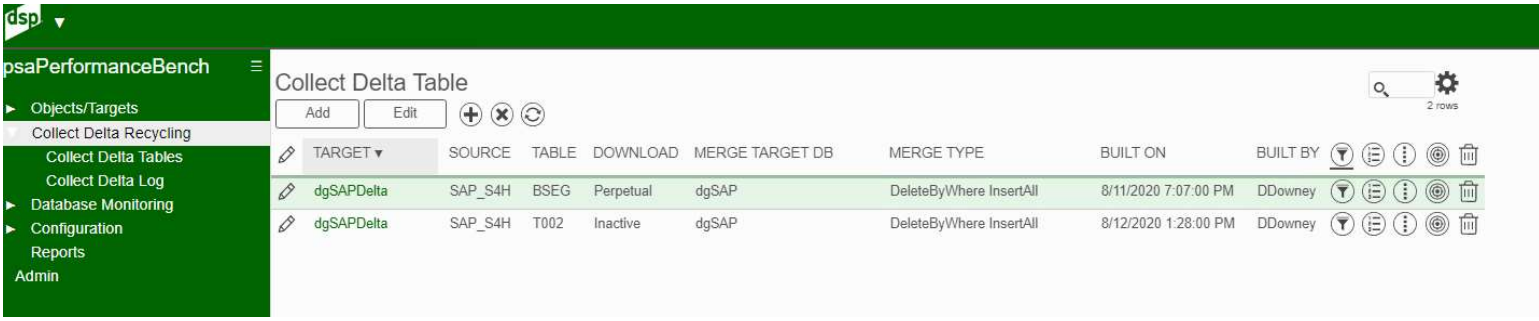


Image	Description of the process
	Start will create all the post load stored procedures for the delta processing. Collect will run the downloads like any other table but this table will control the cycle processing order and retain the logs.
	Remove Wave Process area to the display select on Object Launch. Targets in bulk processing mode will not be impacted with this selection.
	Refresh will update the WHERE clause field in collect. This will submit a job to build the package and start a refresh of the table. This cycle will repeat for all active where clauses set to active.

Collect Delta Table Where

Databases used in dspMigrate waves. Details of the objects can be accessed by clicking on the images.

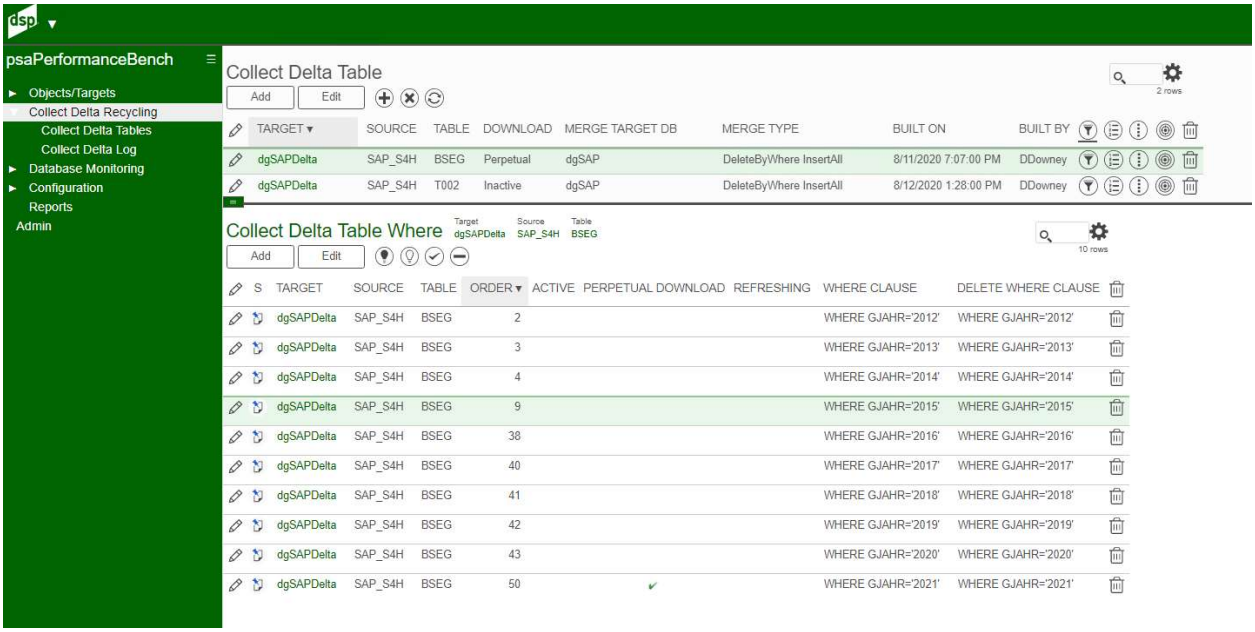
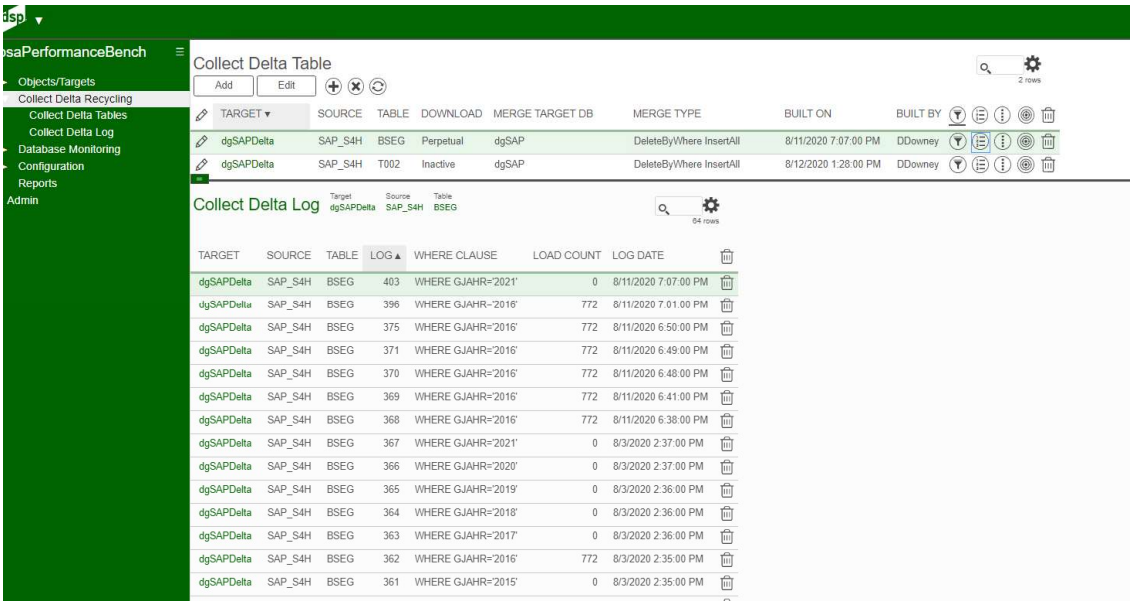


Image	Description of the process
	Add Wave Process area to the display select on Object Launch
	Remove Wave Process area to the display select on Object Launch. Targets in bulk processing mode will not be impacted with this selection.

Collect Delta Table Log

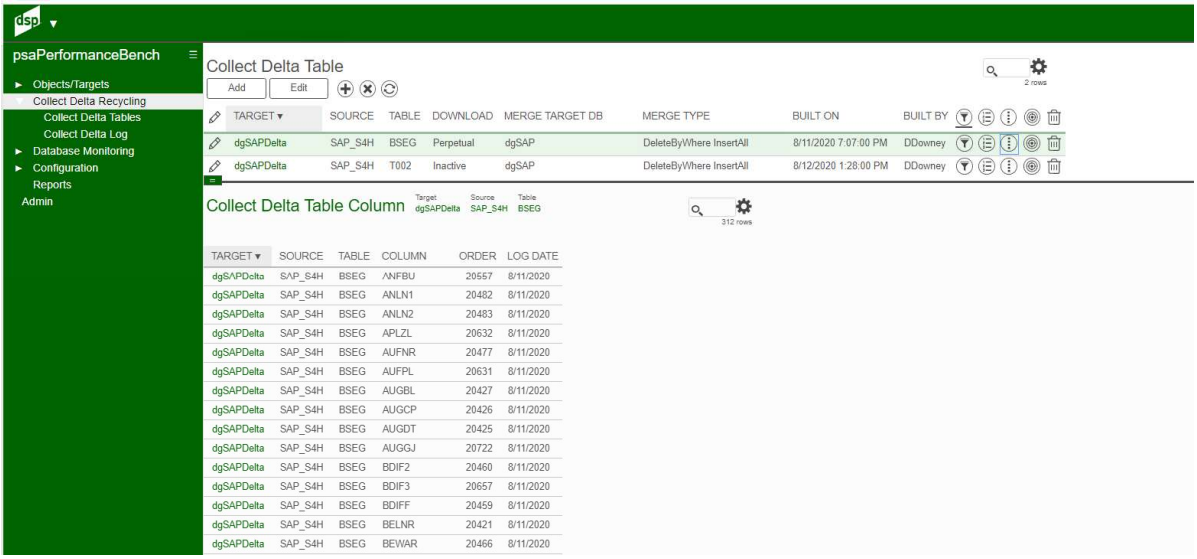
Delete Table Log shows the timestamp and order in which the where clauses were processed.

The count shows how many records were download and merged into the Target table.



Collect Delta Table Column

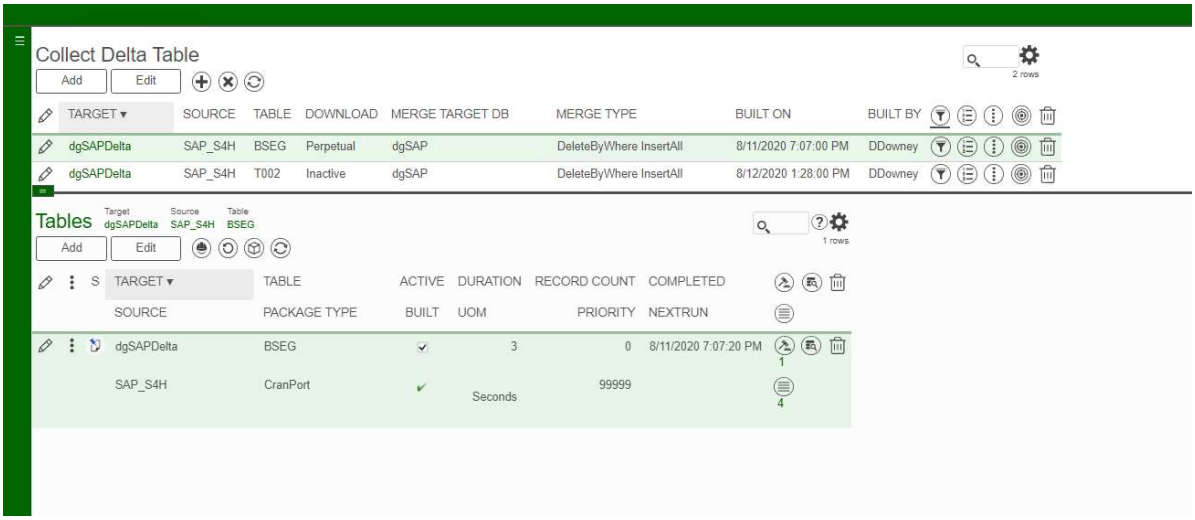
Merge Target database process will read columns in the source and target tables. Then create the insert SQL commands to load the records. There is no coding required for any developers. This table just shows the columns being used for this process.



Collect Target Source Table

The last image will take a user to the Collect Target Source Table. This will enable them to see which table where clause is being updated and view the post load rule is in place.

The user must have access to Collect to get to this page.



Delta Target tables must have a stored procedure registered to do the merge.

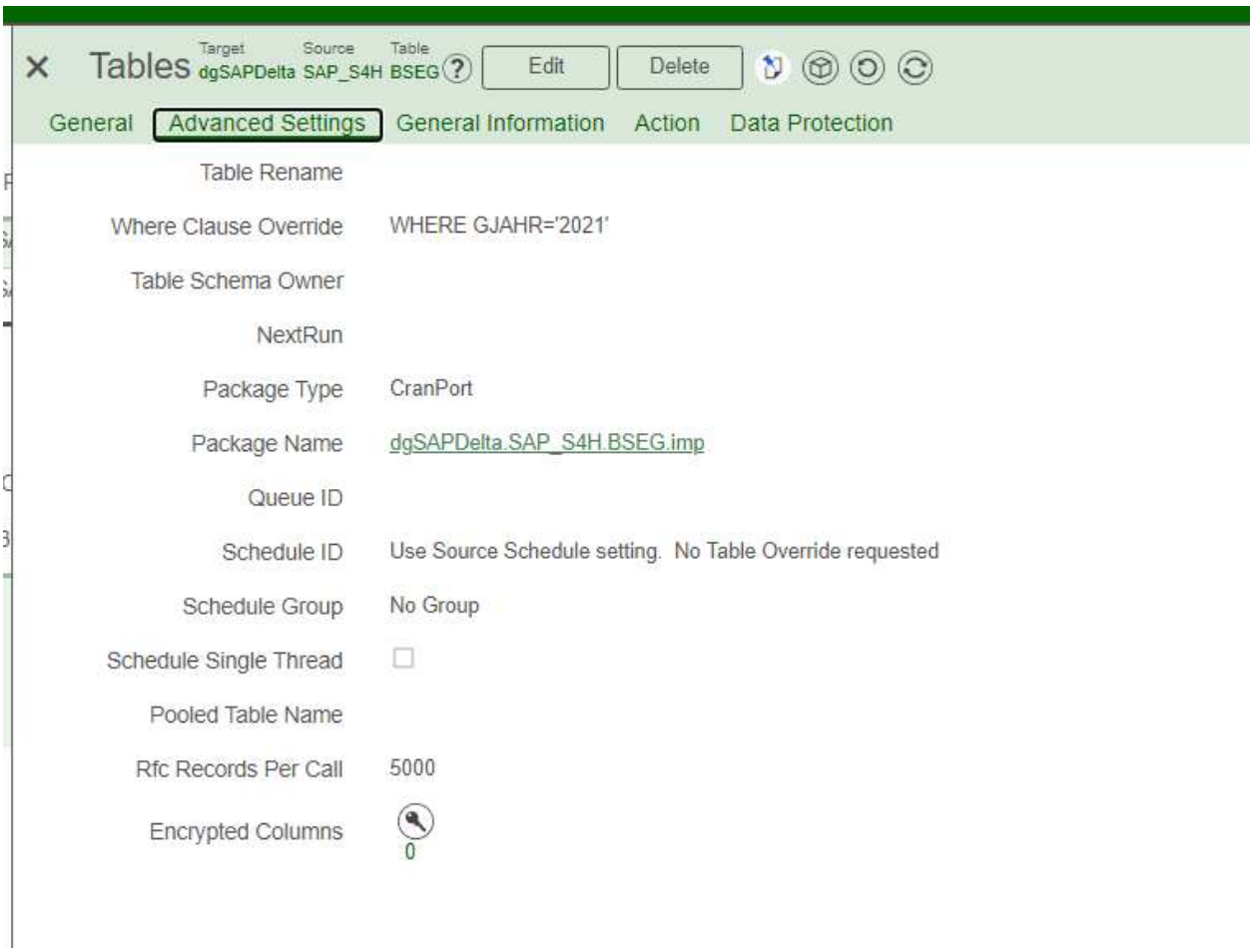
CREATE PROCEDURE [dbo].[irdgSAPDelta_Recycle_BSEGUpd] AS
BEGIN

EXECUTE [psaPerformanceBench].dbo.webTargetSourceTableDeltaDownloadRecycleUpd 'dgSAPDelta','SAP_S4H','BSEG'

END

Delta Target tables then use the regular collect table download options.

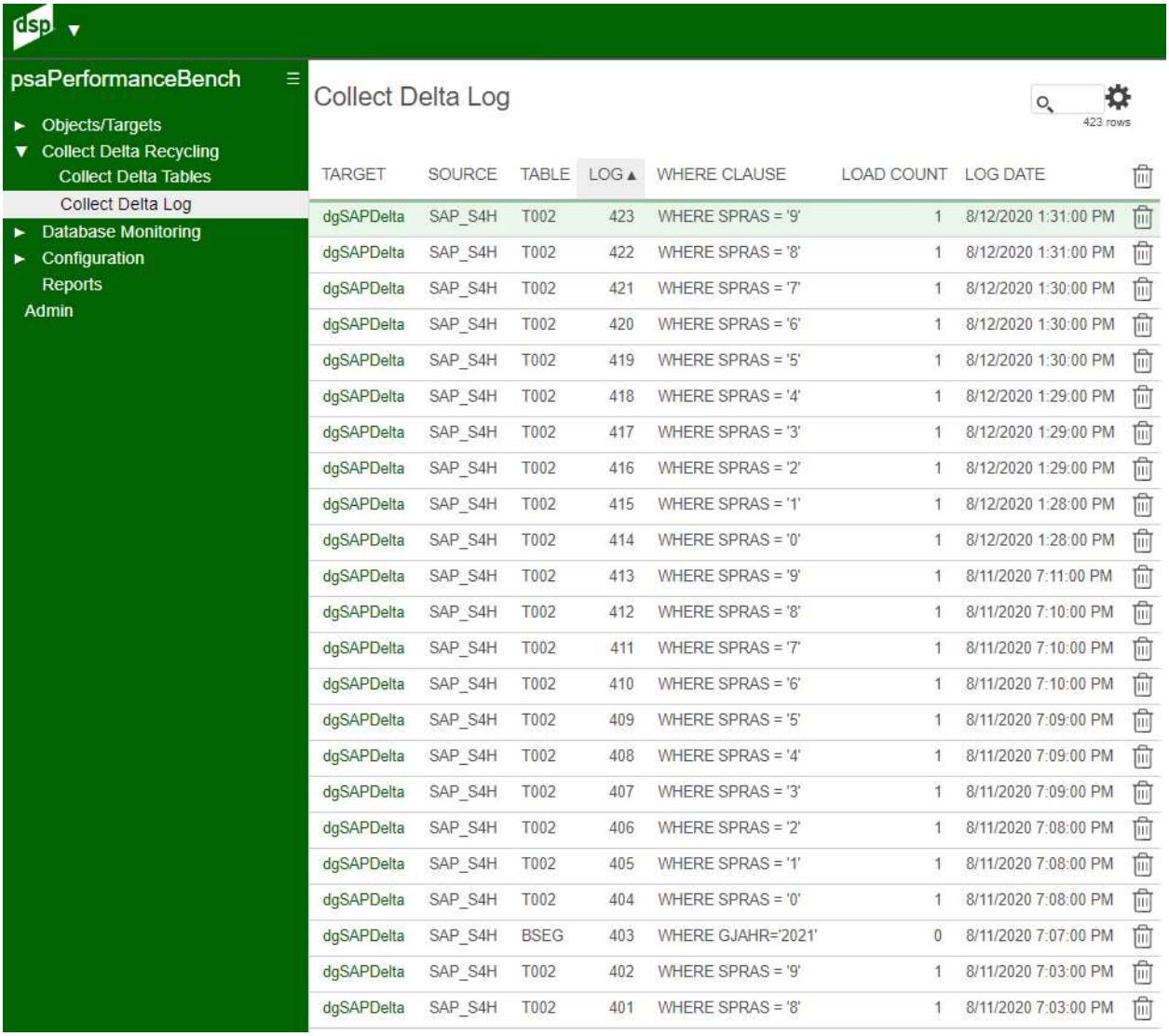
This process should work for any package type. SSIS, CranPort, DataServices and RFC.



Collect Delta Log

Delete Table Log shows the timestamp and order in which the where clauses were processed.

This will display the log for all tables and will be retained for 180 days.



TARGET	SOURCE	TABLE	LOG ▲	WHERE CLAUSE	LOAD COUNT	LOG DATE
dgSAPDelta	SAP_S4H	T002	423	WHERE SPRAS = '9'	1	8/12/2020 1:31:00 PM
dgSAPDelta	SAP_S4H	T002	422	WHERE SPRAS = '8'	1	8/12/2020 1:31:00 PM
dgSAPDelta	SAP_S4H	T002	421	WHERE SPRAS = '7'	1	8/12/2020 1:30:00 PM
dgSAPDelta	SAP_S4H	T002	420	WHERE SPRAS = '6'	1	8/12/2020 1:30:00 PM
dgSAPDelta	SAP_S4H	T002	419	WHERE SPRAS = '5'	1	8/12/2020 1:30:00 PM
dgSAPDelta	SAP_S4H	T002	418	WHERE SPRAS = '4'	1	8/12/2020 1:29:00 PM
dgSAPDelta	SAP_S4H	T002	417	WHERE SPRAS = '3'	1	8/12/2020 1:29:00 PM
dgSAPDelta	SAP_S4H	T002	416	WHERE SPRAS = '2'	1	8/12/2020 1:29:00 PM
dgSAPDelta	SAP_S4H	T002	415	WHERE SPRAS = '1'	1	8/12/2020 1:28:00 PM
dgSAPDelta	SAP_S4H	T002	414	WHERE SPRAS = '0'	1	8/12/2020 1:28:00 PM
dgSAPDelta	SAP_S4H	T002	413	WHERE SPRAS = '9'	1	8/11/2020 7:11:00 PM
dgSAPDelta	SAP_S4H	T002	412	WHERE SPRAS = '8'	1	8/11/2020 7:10:00 PM
dgSAPDelta	SAP_S4H	T002	411	WHERE SPRAS = '7'	1	8/11/2020 7:10:00 PM
dgSAPDelta	SAP_S4H	T002	410	WHERE SPRAS = '6'	1	8/11/2020 7:10:00 PM
dgSAPDelta	SAP_S4H	T002	409	WHERE SPRAS = '5'	1	8/11/2020 7:09:00 PM
dgSAPDelta	SAP_S4H	T002	408	WHERE SPRAS = '4'	1	8/11/2020 7:09:00 PM
dgSAPDelta	SAP_S4H	T002	407	WHERE SPRAS = '3'	1	8/11/2020 7:09:00 PM
dgSAPDelta	SAP_S4H	T002	406	WHERE SPRAS = '2'	1	8/11/2020 7:08:00 PM
dgSAPDelta	SAP_S4H	T002	405	WHERE SPRAS = '1'	1	8/11/2020 7:08:00 PM
dgSAPDelta	SAP_S4H	T002	404	WHERE SPRAS = '0'	1	8/11/2020 7:08:00 PM
dgSAPDelta	SAP_S4H	BSEG	403	WHERE GJAHR='2021'	0	8/11/2020 7:07:00 PM
dgSAPDelta	SAP_S4H	T002	402	WHERE SPRAS = '9'	1	8/11/2020 7:03:00 PM
dgSAPDelta	SAP_S4H	T002	401	WHERE SPRAS = '8'	1	8/11/2020 7:03:00 PM

Collect Copy Tables

Collect Copy Tables will help reduce time in setting up the delta process. It will copy the table list and scheduling if checked to the delta target. The Only Active checkbox will copy only the active tables in the from source to the delta source. The copied tables count will show what was copied.

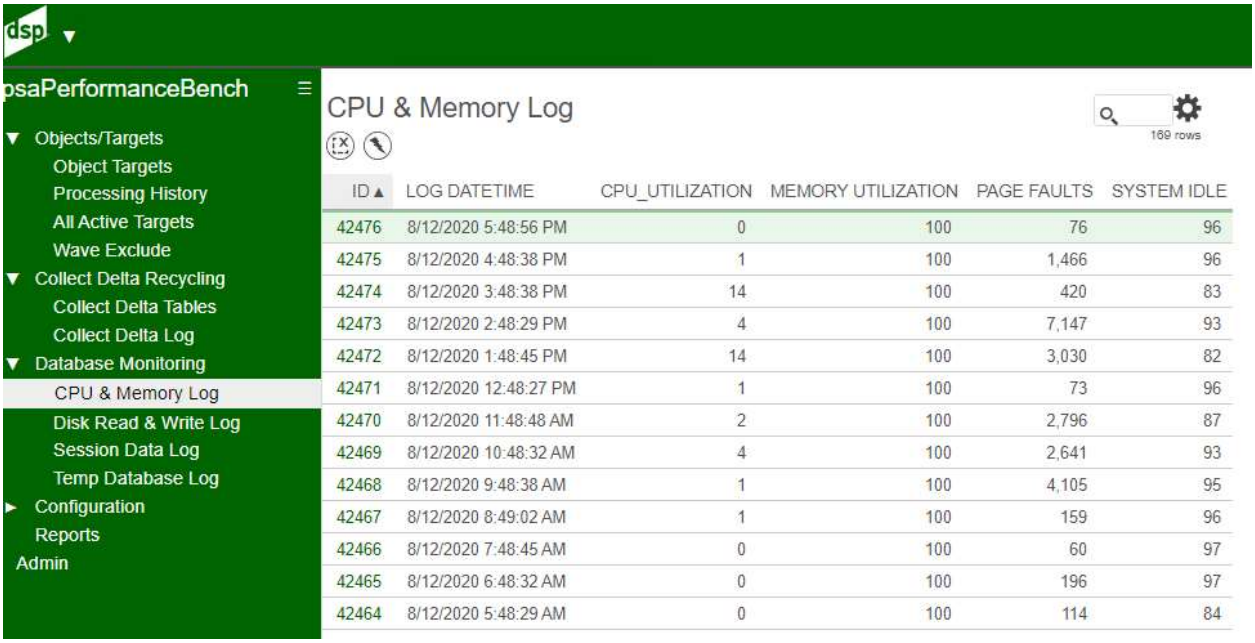
Image	Description of the process
	Copy table configuration from Target and Source into Target and Source Copy tables. Set to manual downloads, those table packages must be rebuilt in Assembly, SSIS or Data Services manually.

CPU & Memory Log

CPU & Memory log displays the amount if CPU SQL SERVER is using on the server. The memory is the amount of allocated memory it is using. If SQL SERVER has a maximum of 28GB out of 32 GB, 100% means it is using all the 28GB. SQL SERVER historically does not release memory back to zero unless the SQL SERVER Database is restarted. It will grow back to 100% over a period of time.

Service Page TempDB Snap Shot will get the current values and is scheduled to run once per hour.

Click on the Process Toolbar image to the latest values immediately.



ID	LOG DATETIME	CPU_UTILIZATION	MEMORY UTILIZATION	PAGE FAULTS	SYSTEM IDLE
42476	8/12/2020 5:48:56 PM	0	100	76	96
42475	8/12/2020 4:48:38 PM	1	100	1,466	96
42474	8/12/2020 3:48:38 PM	14	100	420	83
42473	8/12/2020 2:48:29 PM	4	100	7,147	93
42472	8/12/2020 1:48:45 PM	14	100	3,030	82
42471	8/12/2020 12:48:27 PM	1	100	73	96
42470	8/12/2020 11:48:48 AM	2	100	2,796	87
42469	8/12/2020 10:48:32 AM	4	100	2,641	93
42468	8/12/2020 9:48:38 AM	1	100	4,105	95
42467	8/12/2020 8:49:02 AM	1	100	159	96
42466	8/12/2020 7:48:45 AM	0	100	60	97
42465	8/12/2020 6:48:32 AM	0	100	196	97
42464	8/12/2020 5:48:29 AM	0	100	114	84

Image	Description of the process
	Delete all history for the CPU & Memory Log and load the current value.
	Process to capture the latest CPU & Memory log values.

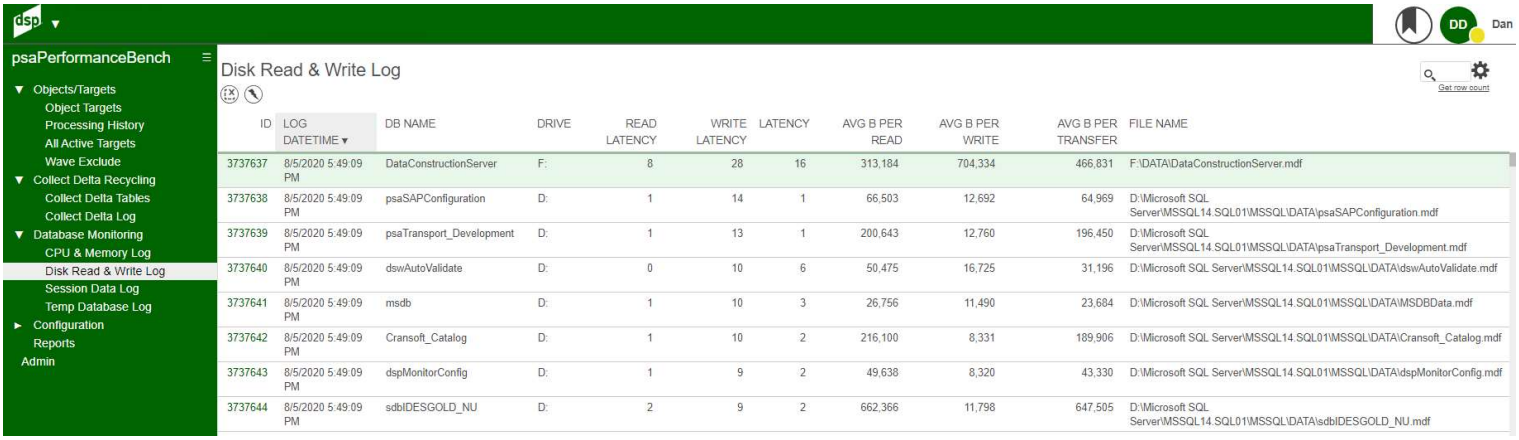
Disk Read & Write Log

Disk read and write log displays latency time values and disk throughput available.

The Log displays Database File name being read or updated. If there is a file being accessed with high latency and throughput, it may be a good idea to split into multiple data files and or disks (controllers)

Service Page TempDB Snap Shot will get the current values and is scheduled to run once per hour.

Click on the Process Toolbar image to the latest values immediately.



ID	LOG DATETIME	DB NAME	DRIVE	READ LATENCY	WRITE LATENCY	LATENCY	AVG B PER READ	AVG B PER WRITE	AVG B PER TRANSFER	FILE NAME
3737637	8/5/2020 5:49:09 PM	DataConstructionServer	F:	8	28	16	313,184	704,334	466,831	F:\DATA\DataConstructionServer.mdf
3737638	8/5/2020 5:49:09 PM	psaSAPConfiguration	D:	1	14	1	66,503	12,692	64,969	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\psaSAPConfiguration.mdf
3737639	8/5/2020 5:49:09 PM	psaTransport_Development	D:	1	13	1	200,643	12,760	196,450	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\psaTransport_Development.mdf
3737640	8/5/2020 5:49:09 PM	dswAutoValidate	D:	0	10	6	50,475	16,725	31,196	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\dswAutoValidate.mdf
3737641	8/5/2020 5:49:09 PM	msdb	D:	1	10	3	26,756	11,490	23,684	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\MSDBData.mdf
3737642	8/5/2020 5:49:09 PM	Cransoft_Catalog	D:	1	10	2	216,100	8,331	189,906	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\Cransoft_Catalog.mdf
3737643	8/5/2020 5:49:09 PM	dspMonitorConfig	D:	1	9	2	49,638	8,320	43,330	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\dspMonitorConfig.mdf
3737644	8/5/2020 5:49:09 PM	sdbIDESGOLD_NU	D:	2	9	2	662,366	11,798	647,505	D:\Microsoft SQL Server\MSSQL14.SQL01\MSSQL\DATA\sdbIDESGOLD_NU.mdf

Image	Description of the process
	Delete all history for the Disk Read & Write Log and load the current value.
	Process to capture the latest Disk Read & Write log values.

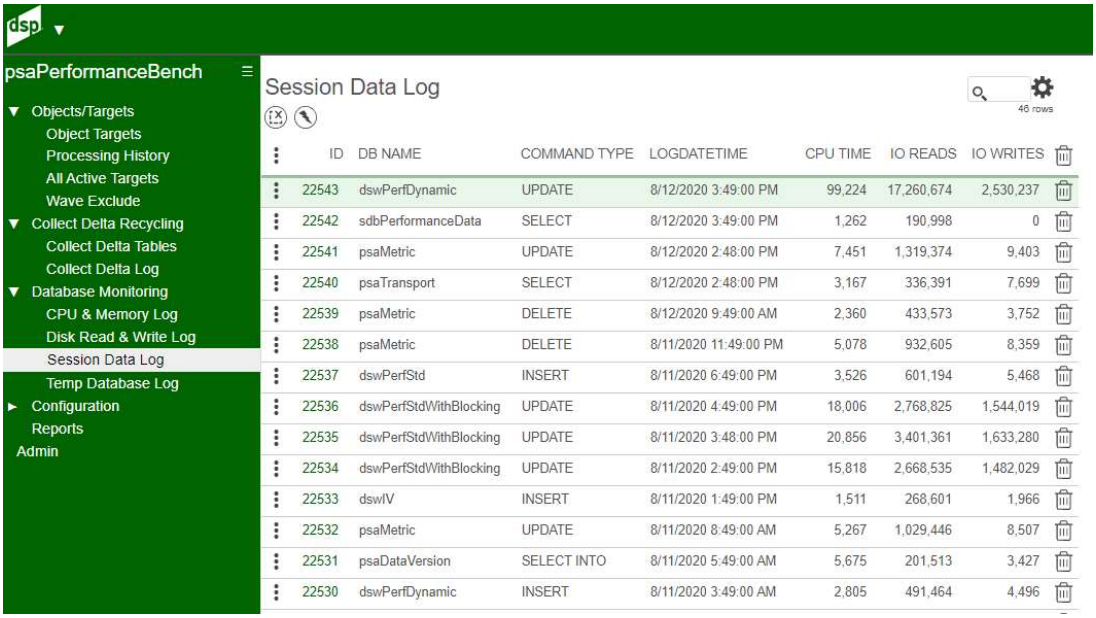
Session Log

Session data capture once per hour displays who is active at that give time. Long running processes will display the entry over time and should be investigated for performance reasons.

The vertical view will show extended SQL information about the process.

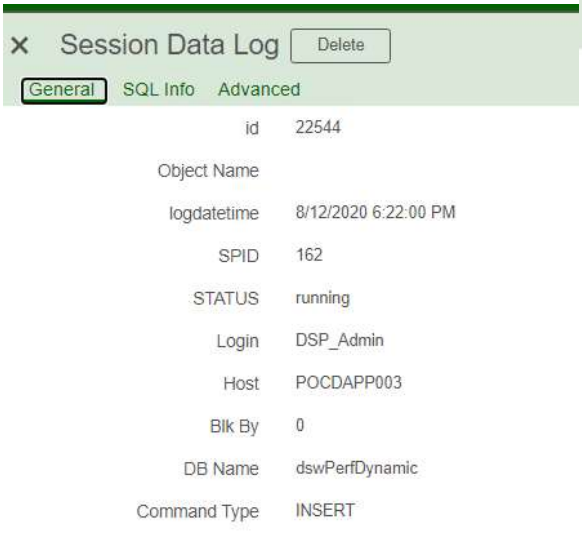
Service Page TempDB Snap Shot will get the current values and is scheduled to run once per hour.

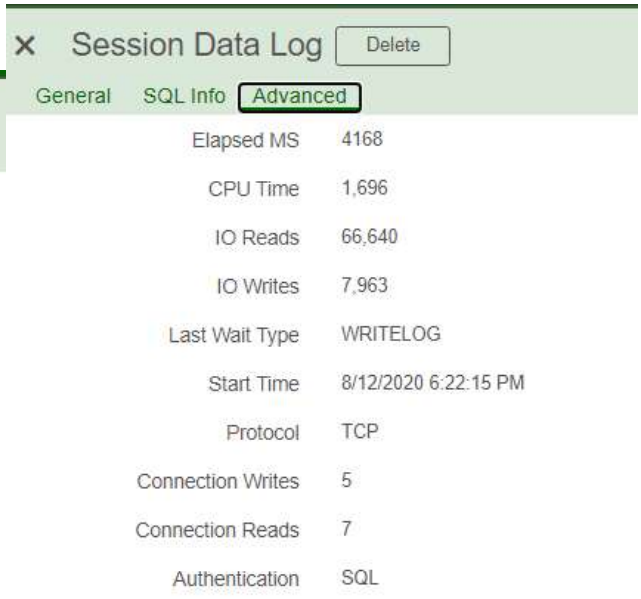
Click on the Process Toolbar image to the latest values immediately.



ID	DB NAME	COMMAND TYPE	LOGDATETIME	CPU TIME	IO READS	IO WRITES
22543	dswPerfDynamic	UPDATE	8/12/2020 3:49:00 PM	99,224	17,260,674	2,530,237
22542	sdbPerformanceData	SELECT	8/12/2020 3:49:00 PM	1,262	190,998	0
22541	psaMetric	UPDATE	8/12/2020 2:48:00 PM	7,451	1,319,374	9,403
22540	psaTransport	SELECT	8/12/2020 2:48:00 PM	3,167	336,391	7,699
22539	psaMetric	DELETE	8/12/2020 9:49:00 AM	2,360	433,573	3,752
22538	psaMetric	DELETE	8/11/2020 11:49:00 PM	5,078	932,605	8,359
22537	dswPerfStd	INSERT	8/11/2020 6:49:00 PM	3,526	601,194	5,468
22536	dswPerfStdWithBlocking	UPDATE	8/11/2020 4:49:00 PM	18,006	2,768,825	1,544,019
22535	dswPerfStdWithBlocking	UPDATE	8/11/2020 3:48:00 PM	20,856	3,401,361	1,633,280
22534	dswPerfStdWithBlocking	UPDATE	8/11/2020 2:49:00 PM	15,818	2,668,535	1,482,029
22533	dswIV	INSERT	8/11/2020 1:49:00 PM	1,511	268,601	1,966
22532	psaMetric	UPDATE	8/11/2020 8:49:00 AM	5,267	1,029,446	8,507
22531	psaDataVersion	SELECT INTO	8/11/2020 5:49:00 AM	5,675	201,513	3,427
22530	dswPerfDynamic	INSERT	8/11/2020 3:49:00 AM	2,805	491,464	4,496

Image	Description of the process
	Delete all history for the Session Data Log and load the current value.
	Process to capture the latest Session Data log values.





Temp Database Log

Temp database log shows active running SQL command using Temp database space. SQL that runs for over 1 hours should be reviewed for performance reasons. The vertical view will provide more details about the SQL processing.

Service Page TempDB Snap Shot will get the current values and is scheduled to run once per hour.

Click on the Process Toolbar image to the latest values immediately.

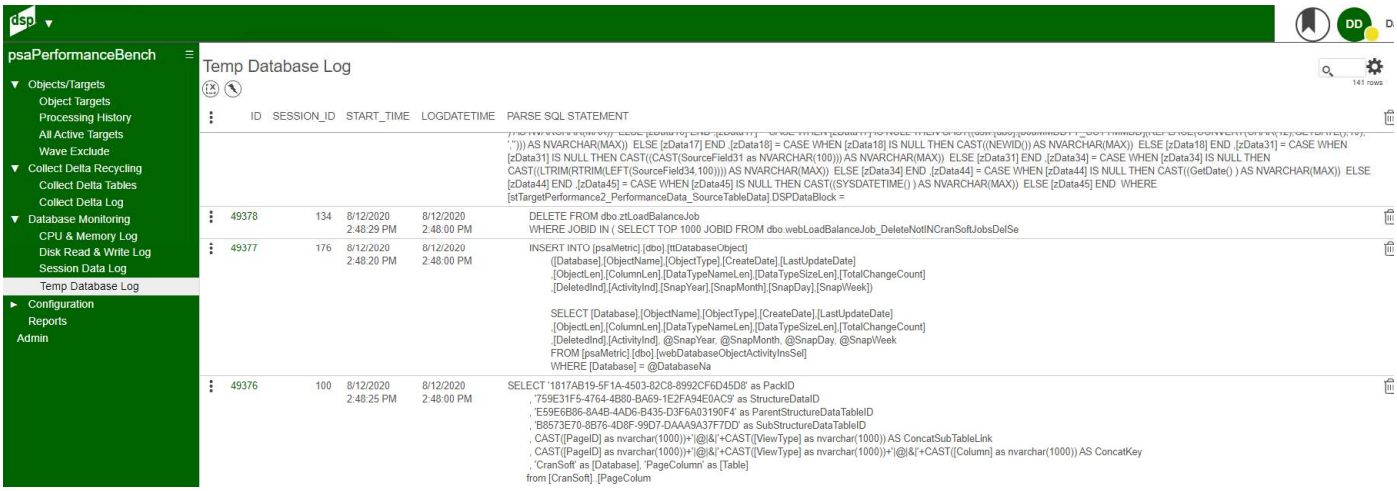


Image	Description of the process
	Delete all history for the Disk Read & Write Log and load the current value.
	Process to capture the latest Disk Read & Write log values.

Database Details

Database details will show the file size for each database and the amount of free space available.

User cannot shrink or alter database settings from this page. It is just a helpful tool to monitor which databases are growing the fastest and if there is space to be released.

The process toolbar will get the latest information but the service page will update daily.

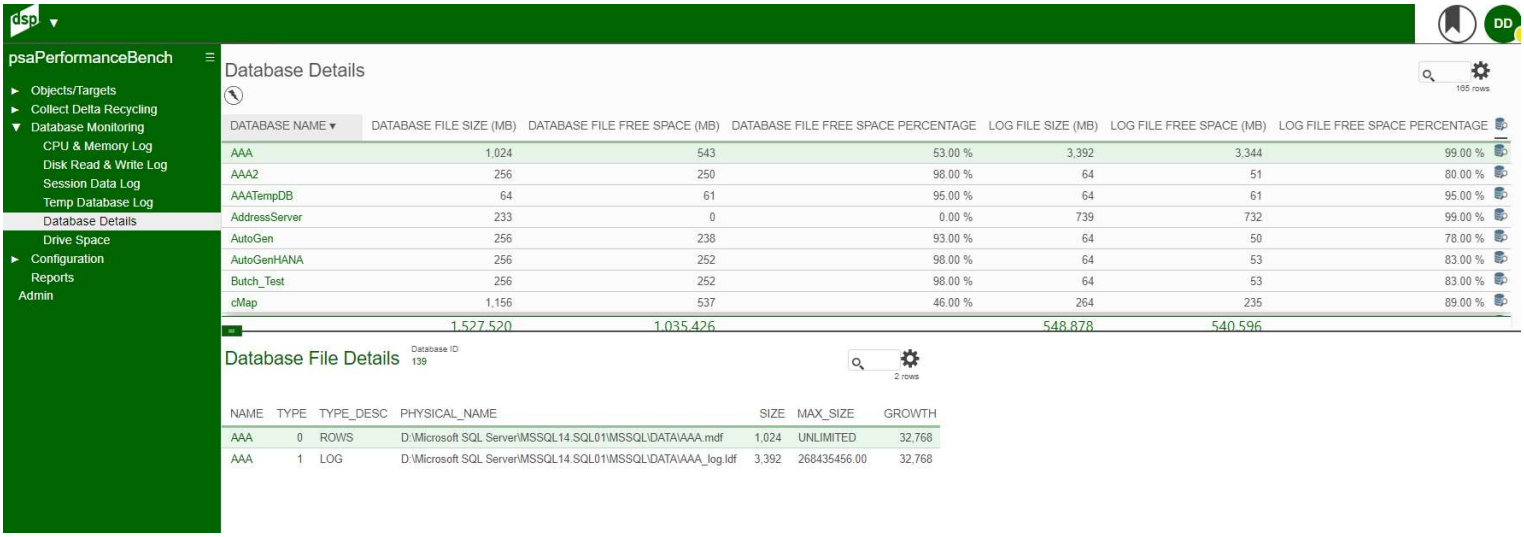


Image	Description of the process
	Process to capture the latest Database details.

Drive Space

Drive Space is a monitor tool for the user to see if a drive is almost out of space.

When a drive goes to 100% full, DSP processing will start failing for database on the drive trying to be updated. This page is a READ ONLY page so it cannot move database files or add space to any drive. You must contract the DBA or Basis to handle server issues.

The process toolbar will get the latest information but the service page will update daily.

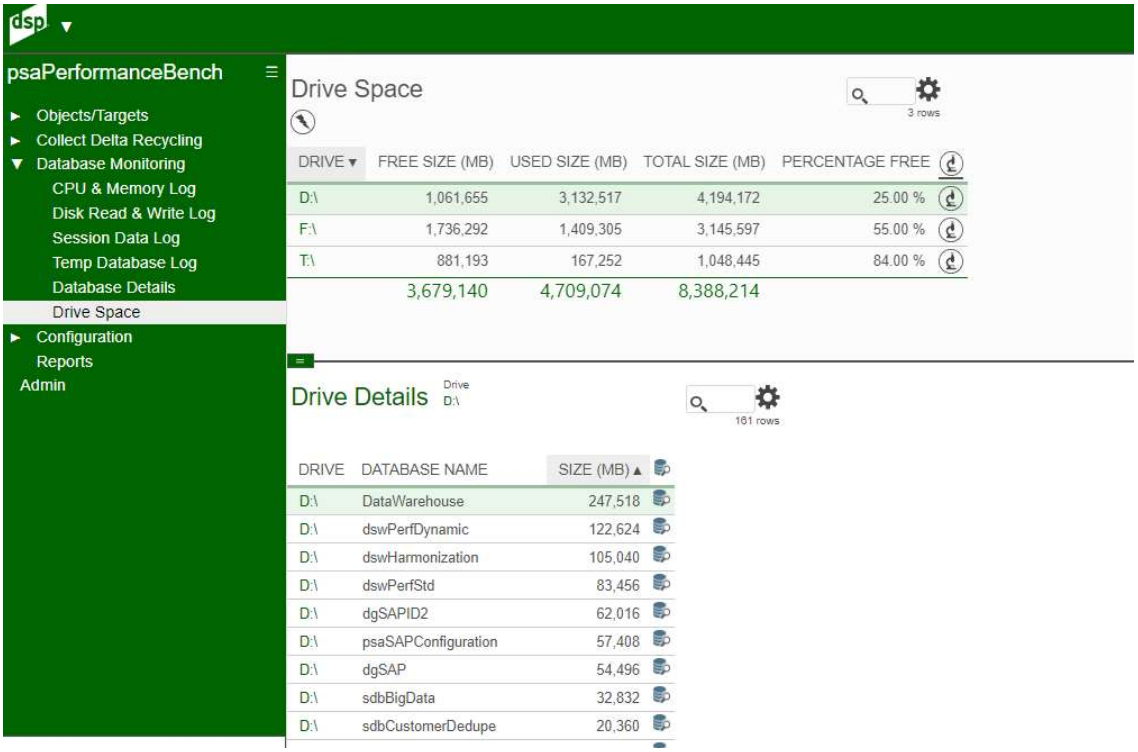


Image	Description of the process
	Process to capture the latest Database details.

Parameters

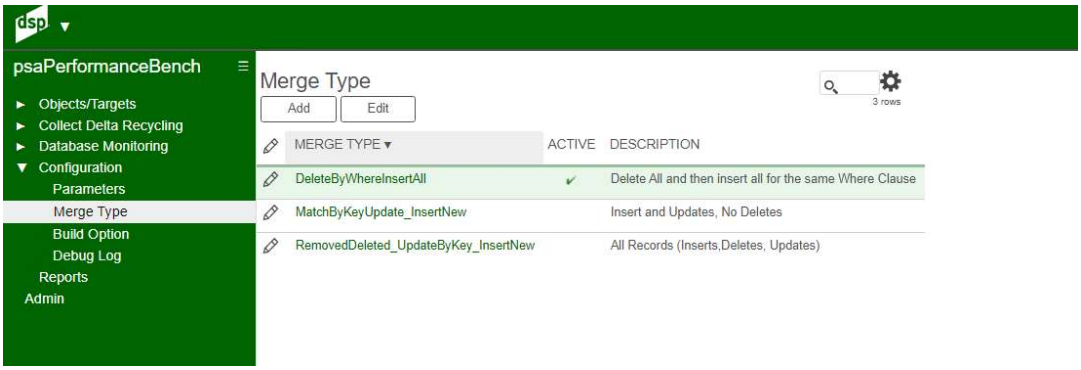
Parameters pages store a couple of basic settings. The Default Block size will be set for each new Target in the Bulk processing. The Drop Template could be turned off at client sites since no development should be done for Bulk processing. The New Data Test Size is the amount of data to run via the Educate-Performance target for comparisons of standard Autogen rules versus bulk processing Autogen rules.

Image	Description of the process
	Process to reload the source database for Performance testing. Users should update the new data test size before clicking the toolbar. 5 million is a good setting for testing large amounts of data.

Merge Type

Merge Type will only support one type of method for the Collect Delta Recycling. This will download from Source system using a where clause. The second step will delete using the where clause from the Target Database Table and then insert all the downloaded records into the target table.

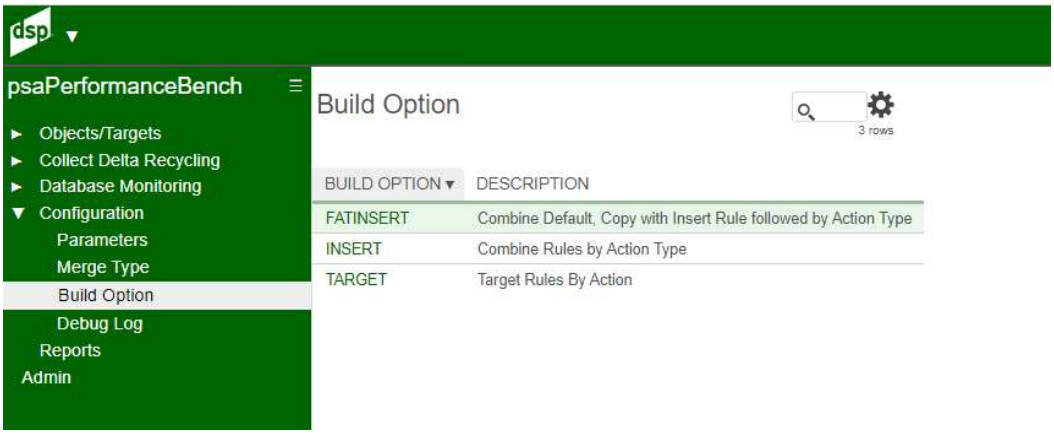
The next two options are in development. Please contact SMT if there is a need to get the latest option for the Collect Delta process.



Build Option

Source Rules have two options. FATINSERT that will combine the Copy and Default rules into the INSERT command used to load the ST Table. The INSERT option will make Copy and Default rule run as a separate SQL command. FATINSERT will save one read & write for the entire table. Rule rules, XREF rules and Construct rules will run in their own register rule for fastest processing and tracking value purposes.

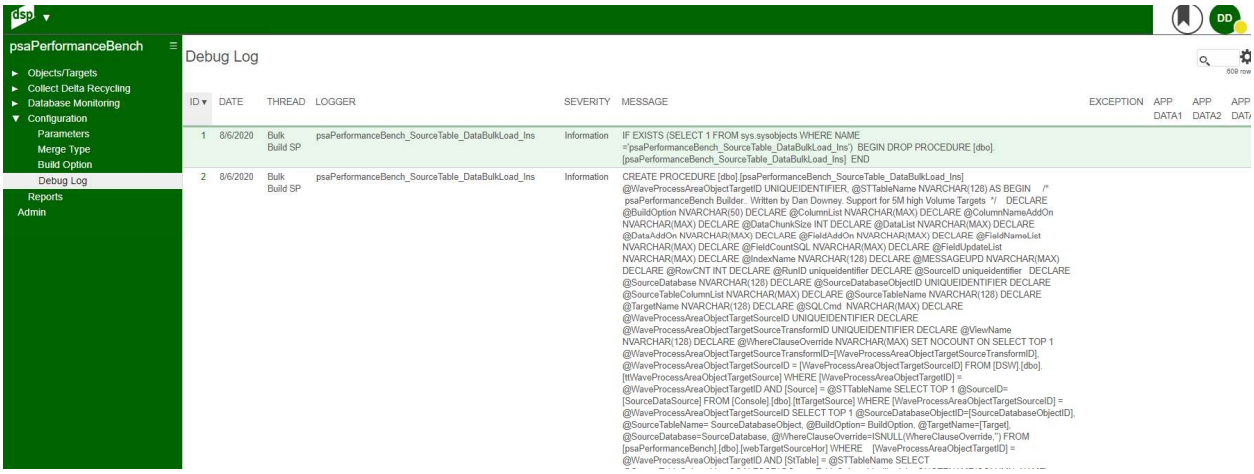
Target rules only have one option to do processing. The Default Rules, Copy Rules and Rule Rules will all run as its own SQL command.



Build Option	Description of the process
FatInsert – 5 rules created	Fat insert will load all source fields as well as **Copy** mapping from source and **Default** values. **Rules** mapping will run as register bulk rule. **Construct** mapping will run as register bulk role. **XREF** and **RuleXREF** mapping will run as register bulk rule. **Target insert** rule created as the end of the source processing.
Insert – 6 rules created	Insert will load all source fields into ST Table. **Copy and Default** mapping will run as register bulk rule. **Rules** mapping will run as register bulk rule. **Construct** mapping will run as register bulk role. XREF and RuleXREF mapping will run as register bulk rule. **Target insert** rule created as the end of the source processing.
Target – 3 rules created	Target rules will only run on the target table. **Copy** mappings will run on the target as a rule since it often copies data from other tables. **Default** mappings will run on the target. **Rules** mappings will run on the target as a rule.

Debug Log

Debug log for dynamic SQL building of objects for psaPerformanceBench.

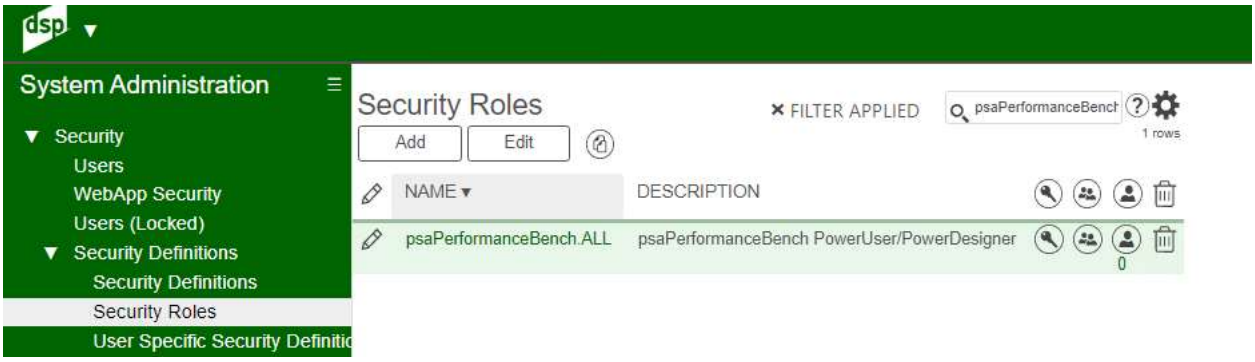


Security Role

psaPerformanceBench will be delivered with one security role.

The application is designed for developers to optimize target execution times.

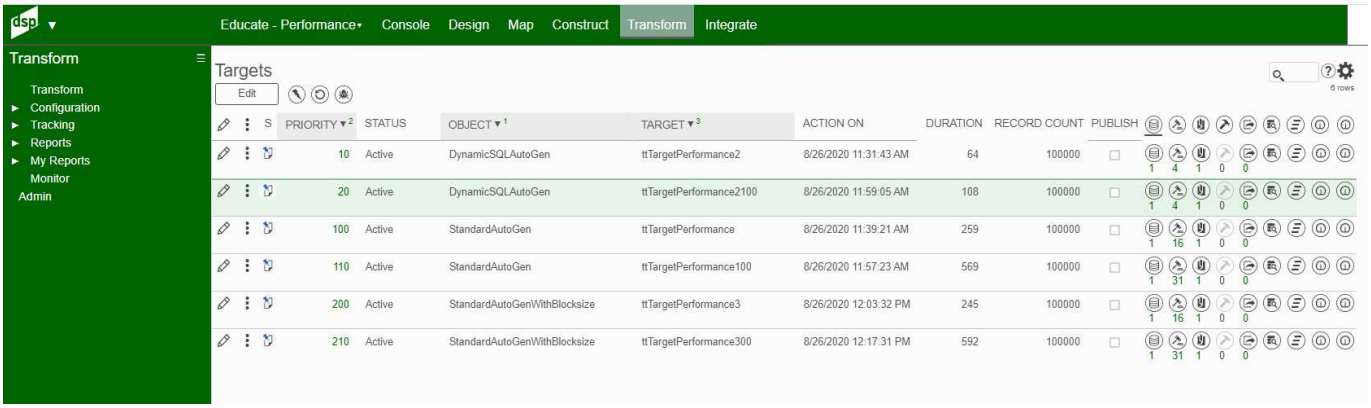
If there is a need for additional security roles needed, they will have to be built at the client sites.



Test Wave Install for application evaluation and server performance testing

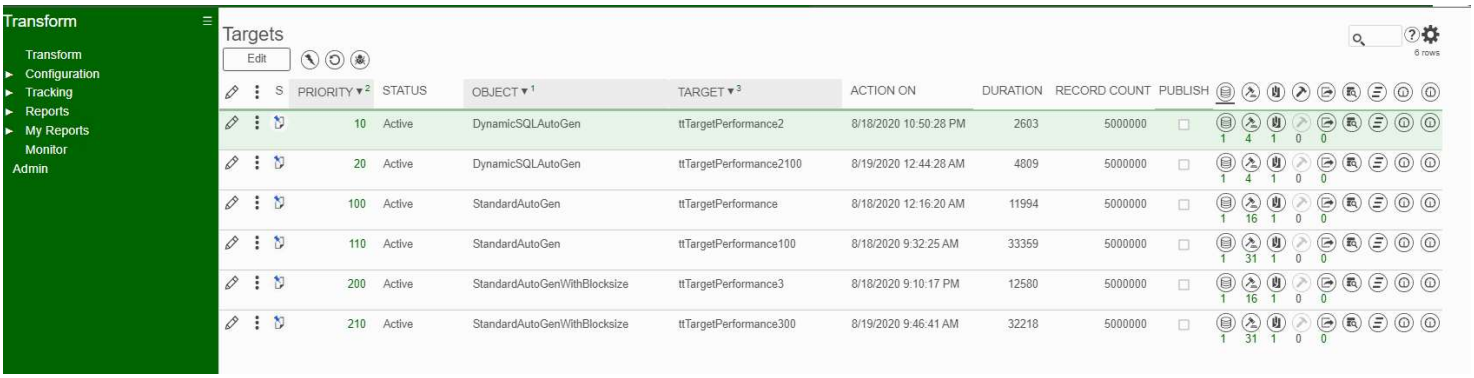
psaPerformanceBench will be one wave (Educate-Performance) with six Targets loaded for processing bulk rules versus standard generation rules. A User can adjust the test data size in the parameter page for testing larger amounts of data. The concept is the same regardless if there is 100K or 5 million records in the test cycle. There are 3 dsw databases installed with the application so all the views and rules are ready to be processed.

The Wave is a process for a developer to understand the Bulk feature and measure the performance of the server when processing 5 million records. All of these actions are mappings that Bulk performance processing can merge together. (Copy, Default, Construct, Rule, XREF and RuleXREF).



Target	Description of the process
TargetPerformance	Standard AutoGen Source table and Target table. There are 50 source rules and 15 Target rules.
TargetPerformance100	Standard AutoGen Source table and Target table. There are 100 source rules and 30 Target rules.
TargetPerformance2	Bulk Processing target when the mappings (rules) match the Target performance. 50 Source Rules and 15 Target Rules processed into a total 4 source rules and 3 target rules.
TargetPerformance2100	Bulk Processing target when the mappings (rules) match the TargetPerformance100. 100 source rules and 30 target rules processed into a 4 source rules and 3 target rules.
TargetPerformance3	Standard AutoGen Source table and Target table. There are 50 source rules and 15 Target rules. This is a manual enhancement to run data in BLOCKS of 500K. This is an example of how a developer may manually build the same process.
TargetPerformance3100	Standard AutoGen Source table and Target table. There are 100 source rules and 30 Target rules. This is a manual enhancement to run data in BLOCKS of 500K.

psaPerformanceBench running a test cycle of 5,000,000 records.
There are no manual rules in this test example.



Document Control

Issue	Date	Maintainer / Owner	Description
1.0	8/31/2020	Dan Downey	Version Release to all project

Contact Information

Contact Name	Title	Phone Number	E-Mail
Dan Downey	Solution Architect	678-361-7573	Daniel.Downey@syniti.com