Data Wave
User Guide
8.7
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**Introduction**

In Gold Client 8.7.1, Data Wave has been redesigned for better management and execution of Client Construct and Data Echo data copies for client refresh. Data Wave uses existing Gold Client functionality, organized in a new way, to build new and refresh existing clients with little manual intervention.

A Data Wave Export ID may contain all or a selection of master data and a transactional data slice. It may be scheduled on a periodic basis or as a one-time task.

There is no extra configuration required for Data Wave. It leverages the data types already configured in the Data Framework so no further customization is needed.

Other Gold Client functionality such as Data Transformation and Subset Sync are also available as part of the Data Wave process. Import Options can be used to automatically execute data imports in the target system upon export completion so no manual intervention is needed. In addition, Post Processing utilities can be configured as the final step in the import process to fully automate it.
Data Wave Screens

Data Wave can be executed using the Data Wave button on the main Gold Client screen (Fig 1.0).

Figure 1.0
The main Data Wave screen (Fig. 1.1) contains the following functions.

- **Schedule Jobs** - This button allows you to schedule the Data Wave process.

- **Export Dashboard** - The Export Dashboard provides information about Gold Client exports including ones exported using Data Wave. It displays helpful information for monitoring like Job Name, Status, Start Date and Time, and Duration.

- **Refresh** - Updates the status of Data Wave Exports.

- **Sort Ascending** – Sorts the Data Wave Export ID in ascending order for the columns selected.

- **Sort Descending** – Sorts the Data Wave Export ID in descending order for the columns selected.

- **Change** – Places the screen in Change mode to edit Owner and Data Wave Description fields.

- **Create** – Creates a new Data Wave Export ID. Enter a description and click Continue to create and save the new Data Wave Export ID. Clicking on the Data Wave ID will show the Data Wave detail screen including data types, containers, and scenarios that are part of that chosen Export ID.

- **Delete** – Deletes selected Data Wave Export ID.

- **Show All/Show My** – Show All displays all Data Wave Export IDs regardless of owner. Show My displays only the Data Wave Export IDs owned by the current user.

- **Import Options** – Set data import options for selected Data Wave Export IDs.

- **Data Transform** – Review and select Transformation Rules for each data type included in the Data Wave Export ID.

- **Data Exclusions** - Allows specific areas of data to be excluded from the export at runtime. This can help with large data volumes.

- **Subset Sync** - Review and select Subset Sync configuration for connected data types that are included in the Data Wave Export ID.

- **Adjust Date Utility** – This utility modifies the date range in the scenario’s date field selection criteria for the selected Export ID. It can be executed manually prior to the job scheduling using this button. It can be executed as part of the job scheduling.

- **Job Monitor** – Launches a new SAP window with transaction SM37, filtering on Gold Client jobs for the past 7 days.
Data Wave Details

To see what is contained in a Data Wave Export ID, click on the Export ID number (Fig. 1.2).

The top of the screen will display information about the Data Wave Export ID, and the Data Wave toolbar is found below it (Fig. 1.3).

The Data Wave toolbar includes some standard Gold Client functionality as well as existing functionality repurposed for Data Wave use.

- **Refresh** – The Refresh button updates the status of the screen.

- **Add Data Type** – Scenarios can be added to the Data Wave ID with three different methods:
  - **Client Construct** – It is a selection of Client Construct master data types as configured in the Client Construct framework. This is found under ZGOLD – Configuration – Data Framework – Client Construct. Master data types allowed for Data Wave selection are set to active (Fig. 1.4). This is customizable in the Client Construct framework to allow or disallow data types for this process.
- **Intelligent Slice** – It is a group of Data Echo data types as configured in the Data Echo framework for use with Intelligent Slice. This is found under ZGOLD – Configuration – Data Framework – Data Echo. Data types available for Intelligent Slice selection are designated as Primary (Fig. 1.5). This is configurable: allow or disallow data types for use with Intelligent Slice. By default, when displaying the Data Echo framework, it is filtered by Primary Data Type. It is also available as a filter on the main toolbar (Fig. 1.6).

Creating scenarios with this method is the same as using the Intelligent Slice button from the main Gold Client screen except it is used as part of the Data Wave Export ID instead of the standard Export Control Export ID.

- **Data Snap** – Select any data type from the Data Echo Framework for inclusion in the Data Wave Export ID. This is executed in the same way as Data Snap. After selection criteria is entered for a given data type, use Save as Scenario to save the Data Snap selection criteria to a scenario. It will also add the new scenario to the Data Wave Export ID. If the Data Snap criteria needs to be updated, select the data type and click the Data Type Manager button and edit as with standard Gold Client configuration. **Please Note:** Any Data Snap configuration changes made within this context will update the configuration globally.
• **Post Processing** – Post processing activities (Fig. 1.7) can be executed automatically in the target system after the data import is completed. These are activities typically executed manually after data import. For Data Wave, the intent is to reduce the manual effort for a refresh. The ability to include the Post Processing as part of the Data Wave data export scheduling allows the client rebuild/refresh process to be efficient with little manual intervention. The Post Processing options are all available as part of standard Gold Client.

![Figure 1.7](image)

**Please Note:** The functionality of the buttons below may differ slightly by SAP GUI theme. For some, you may see a checkbox to select and others an icon that looks like a sheet of paper that must be clicked on to highlight the whole row.

- **Delete** – Using Delete removes the selected container from the Data Wave Export ID. It does not remove the scenario from Gold Client but only the container from the given Data Wave Export ID. It will still be available as a scenario for the data type, and if the same scenario is used in multiple Export IDs, the others will not be affected.

- **Data Type Manager** – Data Type Manager is used to display the Gold Client configuration for the selected Data Echo data type. It works in the same way as it does on the standard Data Snap screen. The advantage to having it available in Data Wave is that if the user wants to add a Data Snap scenario to the selected Export ID, the data type’s configuration can be easily updated within the Data Wave screen if desired.

- **Data Type Hierarchy** – The Data Type Hierarchy report is a standard Gold Client report. It shows recipient data types for the selected data type. It can be executed for all recipient data types or only for those that are active. It shows only the top-level recipient data types and can be expanded to drill down further into each data type.
**Data Wave Process**

Execute transaction ZGOLD and click on the Data Wave button (Fig. 2.0).

![Data Wave](image)

Click the Create button (Fig. 2.1).

![Create](image)

Enter Data Wave Description for the new Export ID and click the Continue button (Fig. 2.2).

![DataWave Description](image)

Click on the Data Wave ID number for the new Export ID (Fig. 2.3).

![DataWave Exports](image)

This shows the contents of the Data Wave Export ID which is empty at this point (Fig. 2.4).

![DataWave Exports](image)
**Add Data Type**

To create scenarios and add containers for Client Construct, Intelligent Slice, or Data Snap, click Add Data Type.

**Add Data Type – Client Construct**

To export all master data with full table copies, select Client Construct. A selection of Client Construct master data types will display (Fig. 2.5). This list is customizable in the Client Construct Framework, as referenced on page 7. Select the needed master data types using either the Select All button or by selecting them one at a time. When finished, click the OK button.

*Figure 2.5*
The Client Construct data types will be returned to the Export ID screen (Fig. 2.6).

Add Data Type – Intelligent Slice

To export a slice of master or transactional data, under Add Data Type, select Intelligent Slice. It will display a selection screen (Fig. 2.7) where export criteria can be entered. The selection criteria entered on this screen will be used across all data types. Most often, the first field, Date Range, is used to export a time slice of data.
Once the selection criteria is entered, click Execute. The example below is exporting a time slice from July 1, 2013 – December 31, 2013 (Fig. 2.8).

A list of data types designated for Intelligent Slice use will display (Fig. 2.9). This list is customizable in the Data Echo Framework, as referenced on page 8.
Select the desired data types using either the Select All button or by selecting them one at a time (Fig. 2.10). When finished, click the OK button. **Please Note:** If moving all master data with Client Construct, it is not necessary to select any master data types for Intelligent Slice.

![Figure 2.10](image)

Two informational messages appear. The first gives a job name that can be monitored in transaction SM37 (Fig. 2.11). This job does a calculation on the number of records found for each scenario created. The second (Fig. 2.12) gives the Export ID number and number of containers created.

![Figure 2.11](image)
Example job log showing the record calculation for each scenario (Fig. 2.13).

Clicking Enter through both informational messages will come back to the Data Wave Export ID where the new Data Echo containers have been added after the Client Construct ones (Fig. 2.14). When the scenario count job is finished, if records are found for the selection criteria entered, the Status column will show a green light and the Record Count column will give the number of records. If no records are found, the Status column will show a yellow light and the Record Count column will show 0. **Please Note:** This count is for the header table only for the given data type.
Add Data Type – Data Snap

To export additional data, under Add Data Type, select Data Snap. This can be used for other scenarios that fall outside of the Intelligent Slice data export criteria. It is good for single Data Echo selections. Use the Data Type Search features to find the Data Echo data type needed to create the additional Data Snap scenario (Fig. 2.15).
An example of this is for text data. If the text for all materials is desired, a Data Snap scenario could be added since this would not be included as an Intelligent Slice data type or scenario. The data type can be searched for using any of those three search tab options (Fig. 2.16). It will give a response to the search (Fig. 2.17). Double-click to accept the proposed data type or highlight it and click Enter.

![Figure 2.16](image1.png)

The Data Snap selection screen will display (Fig. 2.18). By default, it shows the Data Snap fields currently configured for the data type.

![Figure 2.17](image2.png)

![Figure 2.18](image3.png)
• **Show Count** - Once data selection criteria is entered, use Show Count to calculate the number of header records that will be retrieved by the scenario when exported (Fig. 2.19). Click Online to run the record count in the foreground or click Background to launch a background job to complete the record count. In most cases, using Online is acceptable.

![Figure 2.19](image)

• **Save as Scenario** - Enter the selection criteria for the new Data Snap scenario and click Save as Scenario (Fig. 2.20).

![Figure 2.20](image)

It will prompt to save the scenario (Fig. 2.21). Click Online to run the record count and save in the foreground or click Background to launch a background job to complete the record count. In most cases, using Online is acceptable.

![Figure 2.21](image)

In addition to saving the scenario, it returns a count for the number of header records in the data type. In this example, it is for header table STXL (Fig. 2.22). It also returns a maximum record count, but it is not relevant for Data Wave processing because it will export all records for the scenario. Click Enter.
It will confirm the scenario is saved and give a scenario number (Fig. 2.23). **Please Note:** When a scenario is created, it can be shared across Gold Client processes. This scenario can be used in Export Control for standard Gold Client use.

The new scenario will be added to the bottom of the container list (Fig. 2.24). It will show a 0 record count until it is refreshed (Fig. 2.25).

- **Data Type Manager** - If additional fields are needed or if the required field selection must be changed, click Data Type Manager. The Data Snap configuration can be updated in the same way as standard Gold Client. Open the data type, double-click on Data Snap, and adjust the configuration as needed (Fig. 2.26).

- **Data Type Hierarchy Report** - Another option from the Data Snap scenario screen is the Data Type Hierarchy Report. The Data Type Hierarchy report is a standard Gold Client report. It shows recipient data types for the selected data type if any exist. For this example, there are no recipient data types for CA – TEXT.
After the containers are added, some columns will update. Using Refresh will give a record count for the header table for any Data Echo containers. The Status column is yellow until the Data Wave Export ID is executed for the first time. The lightbulb will turn yellow in the Transformation and Subset Sync columns if they are applicable to the data type.

Once the Data Wave Export ID contains the desired data types and scenarios, the user may choose to back out to the main Data Wave screen to initiate the export process. However, there is an optional set of post processing utilities that can be configured to execute after the data import completes in the target system. This further enhances the export/import automation, and the post processing utilities do not need to be manually executed in the target system. **Please Note:** There are four utilities offered but not all may be required in your target system.

**Post Processing**

The Post Processing options detailed below are all available as part of standard Gold Client. For Data Wave, they can be configured for each Export ID to execute as part of the import process. This should be executed in conjunction with the Import Options functionality where the import process is automated. The goal of this is to execute any needed import post processing utilities without manual intervention.

- **Number Range Utility** (Fig. 2.27) - This utility artificially inflates the number range statuses (current numbers) in the target system. The table updated with this utility is NRIV. It creates a buffer between the new data natively created in the target system and the data imported from a source system using Gold Client. This avoids a duplicate record error when additional data is imported from the source system and allows for more flexibility to copy more data after the initial refresh.

  Enter the percentage by which to inflate the number range status (current number) for number ranges in the target system. The number range statuses, found on table NRIV, are updated by the percentage increase requested in the utility. By default, all number ranges are updated, but under Selection Criteria, this can be customized.

*Figure 2.27*
- Update Change Document Client (Fig. 2.28) - If a change document object ID contains the MANDT (client) value in the record, a conversion from the source client number to target client number should be executed. This is needed so it is viewable in the target client. Tables updated with this utility are CDHDR and CDPOS. Please Note: This is required only for certain change document objects (Ex: object class BELEG). If the source system and target system have the same client number, this is not required.

This utility will update field Object Value (CDHDR-OBJECTID) so the data can be viewed in the target system. Enter the “old” client value of the source system used for the data export and the “new” client value of the target system where the data will be imported. The Change Document Object Class (CDHDR-OBJECTCLAS) should also be entered. For Max Records to Process, enter a value greater than what is expected to need converting. Only particular types of change documents need to be converted so it is not necessary to run this for all change document types.

- Client Text Object Updater (Fig. 2.29) - If a text name contains the MANDT (client) value in the record, a conversion from the source client number to target client number should be executed. This is needed so it is viewable in the target client. Tables updated with this utility are STXH, STXL, and STXB. Please Note: This is required only for certain text objects (Ex: text object AUFK). If the source system and target system have the same client number, this is not required.

This utility will update field Text Name (STXL-TDNAME) so the data can be viewed in the target system. Enter the “old” client value of the source system used for the data export and the “new” client value of the target system where the data will be imported. The Text Object (STXL-TDOBJECT) should also be entered. Text ID (STXL-TDID) can be entered if desired. For Max Records to Process, enter a value greater than what is expected to need converting. Only particular text objects need to be converted so it is not necessary to run this for all text data.
Person Where-Used Address (Fig. 2.30) - If an address application key contains the MANDT (client) value in the record, a conversion from the source client number to target client number should be executed. This is needed so it is viewable in the target client. The table updated with this utility is ADRVP. **Please Note:** This is required only for certain objects (Ex: SOUD). If the source system and target system have the same client number, this is not required.

This utility will update field application table key (ADRVP-APPL_KEY) so the data can be viewed in the target system. Enter the “old” client value of the source system used for the data export and the “new” client value of the target system where the data will be imported. Application table name (ADRVP-APPL_TABLE) should also be entered. Application table field name (ADRVP-APPL_FIELD) can be entered if desired. For Max Records to Process, enter a value greater than what is expected to need converting.

Once the scenarios are ready and any desired parameters are set inside the Data Wave Export ID, return to main Data Wave screen. To begin the job scheduling process, select at least one checkbox on the Data Wave Export ID row. Before scheduling the job, there are other optional settings that can be used as part of the export/import process.
**Import Options** - There are automated data import options that can be set for the selected Data Wave Export IDs (Fig. 2.31). This is the same process as in standard Gold Client. To fully automate the process for the export and import of data, the Import Options must be utilized.

- **RFC Destination** – Select target system(s) for automatic import. **Please Note:** The allowed values are configured under ZGOLD – Configuration - Administration - Configure Auto Import RFC.

- **Parallel Processing on Import** – When active, uses multiple background processes during import. **Please Note:** The target system’s allowed application servers and number of jobs are configured under ZGOLD – Configuration - Administration - Parallel Processing.

- **Replace Conflicting Data** – Overwrites existing records during import.

- **Skip Conflicting Data** – Imports only new records into the target system and skips those which already exist in the database.

- **Delete Table Data Before Import** – Relevant for Client Construct imports only, this setting removes all records from the exported master data tables before importing. When no existing data should be retained, this setting allows a clean master data import.

- **Target System ID** and **Target Client ID** - Restricts data import at the target system and client level. If values are specified, data cannot be imported into other systems/clients.

**Data Transform** - Review and select transformation rules for each data type included in the Data Wave Export ID (Fig. 2.32). Client Construct and Data Echo data types can be configured to execute by default with a particular transformation rule selected. To keep this configuration in place, no action is needed because the data types will automatically export with that rule.
applied. At runtime, if the transformation is not needed, the rule can be deselected to allow
the data to export with no data transformation.

See ZGOLD – Transformation Rules for more information on rule setup and default data types
for each.

**Data Exclusions** - Allows specific areas of data to be excluded from the export at runtime.
This can help with large data volumes. The data exclusions are not activated by default and
must be selected at runtime. To run the export with selected data excluded, select any of the
data areas listed (Fig. 2.33).

See ZGOLD - Configuration - Data Framework - Additional Tools - Maintain Data Exclusions for
the configuration of data types and data areas permitted for exclusion.
**Subset Sync** - Review and select Subset Sync configuration for connected data types that are included in the Data Wave Export ID (Fig. 2.34). Data types can be configured to execute by default with Subset Sync configured. To keep this configuration in place, no action is needed because the data types will automatically export with that Subset Sync logic applied.

See ZGOLD – Configuration – Data Framework – Data Echo for the configuration of Subset Sync for data types.

At runtime, if the Subset Sync job is not needed in the companion system, the checkbox can be deselected to allow the data to export with no Subset Sync execution. Conversely, if Subset Sync is configured but not active by default, it can be selected if it should execute with the Data Wave job stream.

Subset Sync is configured as part of the Data Echo configuration. See ZGOLD – Configuration – Data Framework – Data Echo for a data type’s specific configuration details.

**Adjust Date Utility** - This utility (Fig. 2.35) modifies the date range in the Data Echo scenario’s date field selection criteria for the selected Export ID. If a scenario does not have a date field populated, no action is taken.

It can be executed manually prior to the job scheduling using this button. It can also be executed as part of the job scheduling to automate the export process further.
• **Processing Options** - Summary Report is selected by default. It can be executed this way as a test to see what the results would be. Update Database will update the dates in the scenarios using the selected criteria when executed.

• **Selection Criteria** - The Export ID is populated with any Data Echo Export IDs selected on the main Data Wave screen at runtime. It can be updated with additional Export IDs if needed.

• **Action to Date Range** - This area dictates how the scenario dates will be updated. Start Date will automatically populate with the current system date, but it can be modified. The options for updating the scenario’s date range are Last 7 Days, Last 30 Days, Last 90 Days, and Last nn days (where nn can be set to 999 or less).

• **Calculated Date Range** - This shows how the date range will be updated with the given parameters. Figure 2.35 above shows the calculated date range to be April 29, 2021 – May 6, 2021, when choosing to update for the last 7 days with a starting date of May 6, 2021.

**Job Monitor** – Launches a new SAP window with transaction SM37, filtering on Gold Client jobs for the past 7 days for the current user.

Once the scenarios are ready and any optional settings are selected, the job can be scheduled. Be certain at least one checkbox on the Data Wave Export ID row is chosen and select Schedule Jobs.
**Schedule Jobs** - This button (Fig. 2.36) allows you to schedule the Data Wave process.

![Schedule Jobs](image)

- **Job Name** – Enter the name for the new Data Wave job. This is the only required field on this screen.

- **Start Options**
  
  o Select when the Data Wave job will execute. It can be run immediately, run once for a particular date/time in the future, or scheduled for a particular frequency. For any option other than Immediate, consider both the date and time fields, especially for jobs that will run as part of a repeatable process for a given time interval.

  o Parallel Processing – Enabled by default, this setting uses multiple background processes during export. **Please Note:** The allowed application servers and number of jobs in the source system are configured under ZGOLD – Configuration - Administration - Parallel Processing.

  o Start Date and Start Time - Define the start date and start time for the job. For jobs that will be executed daily, weekly, or monthly, the date will increment in the job schedule accordingly, and the selected time for execution will remain. If this needs to be updated for future runs, the job can be modified with transaction SM37.
- **Date Utility** - This date utility is optional and is executed with the below parameters. It modifies the date range in the scenario’s date field selection criteria for the selected Export ID. This can be used for automated jobs that will execute as part of a repeatable process. If selected to run, it will execute as the first step of the job stream.
  - Run Date Utility - Set to active to execute the Adjust Date Range utility for this scheduled job.
  - Start Date - This is the date from which the utility will begin its update. If left blank, the current system date is used at runtime.
  - Last Days - Select the number of days for the scenario date calculation. It will use the Start Date field as its starting point. The options for updating the scenario’s date range are Last 7 Days, Last 30 Days, Last 90 Days, and Last nn days (where nn can be set to 999 or less).

**Export Dashboard**

Once the Data Wave jobs are executing, the Export Dashboard (Fig. 2.37) provides information about Gold Client exports including ones exported using Data Wave. Its content can be filtered by Start Date, User Name, and Job Name. The dashboard displays helpful information for monitoring like Job Name, Status, Start Date and Time, and Duration.

It also includes other useful details like whether the export included data transformation and/or Subset Sync functionality. The Export Progress report can be launched from the dashboard also. If there are any failed export jobs, they can be rescheduled from this screen.
Once the export is complete, the Data Wave screen will update. The main screen shows the Job Name is populated with the last run job name (Fig. 2.38).

Inside the Data Wave Export ID, fields Date and Job Name are updated with the last run information (Fig. 2.39). The record counts for Client Construct data types are also populated.

Please Note: The standard SAP Change Layout button can be used to customize the columns seen in the Data Wave Export ID.

Target System

On the import side, if you used the Import Options to automate the process, you can use SM37 to monitor the import jobs in the target system. The export job that finishes last will give the import job name at the end of the job log. Please Note: The import job initiated by Import Options uses the configured RFC. This means the import jobs will be owned by the RFC user and not the user’s own ID.

If the Import Options was not used or if you want more information about the export, go to the Client Importer and Import Control. They can be used in the same manner as standard Gold Client to import the data or run reports on it for the respective Client Construct and Data Echo exports.
Support Information

Qlik Analytics (ISR) Ltd. can be contacted either by telephone or via email. Any support related issue regarding problems with or use of the Gold Client software and process can be reported for resolution.

If our offices are closed, or staff is unable to directly respond to a support request, we will respond within 24 hours of the initial call. Problems related to the export or import processing may require code enhancements. If a code enhancement or fix is required, resolution time may vary.

As per the maintenance agreement, any repairs or enhancements to the Gold Client software will immediately be deployed to all customers up-to-date with their maintenance contract. It is the choice of the customer as to if and when such enhancements are implemented. In addition, customers may request a planning session with Qlik to review changes in the software and how the changes might impact their environment.

We can also be contacted to discuss application or feasibility of using the Gold Client process to resolve a current challenge the project team faces. When this is required, a planning session can be scheduled in advance to ensure proper participation by both Qlik and the client.

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