Operation Manual

Object Tasks Scheduler

03.50.30

30.03.2020

Contents

This document is for system administrators.

Familiarity with the following documents is recommended before working with this document:

- DB Manager Manual
- "Running Processes in Parallel".
- "Administering WAY4 Health Monitoring Gen2".

The following notation is used in the document:

- Field labels in screen forms are shown in *italics.*
- Key combinations are shown in angular brackets, for example, <Ctrl>+<F3>.
- Names of screen form buttons and tabs are shown in square brackets, for example, [Approve].
- Sequences for selecting user menu items or context menu items are shown using arrows as follows: "Issuing → Contracts Input & Update".
- Sequences for selecting system menu items are shown using arrows as follows: Database => Change password.
- Variables that differ for each local instance, such as directory and file names, as well as file paths are shown in angular brackets, as in <OWS_HOME>.

Warnings and information are marked as follows:

⚠️ Warnings about potentially hazardous situations or actions.

ⓘ Messages with information about important features, additional options, or the best use of certain system functions.

1.　Overview

To reduce the load in WAY4™, a mechanism for deferred execution of tasks has been implemented. To reduce the load on WAY4™, a mechanism for deferred execution of tasks has been implemented. This mechanism is used in processing certain task types (for example, when approving contracts in a multilevel hierarchy, logging changes to calculated classifier values, etc.), when tasks are executed asynchronously in the background. The tasks for processing are saved in the SY_OBJECT_TASK table and further executed asynchronously using the "Object Task Scheduler" process.

2. Managing the "Object Task Scheduler" process

> ⚠ The use "Object Task Scheduler" technology must be approved by OpenWay.

If this technology is implemented, the "Object Task Scheduler" background process must always be running. Only brief stops of this process are possible for maintenance work, for example, system upgrade or installation of patches.

2.1 Starting and stopping the process

To start the "Object Task Scheduler" process, use the menu item "Full → DB Administrator Utilities → Object Tasks → Start Object Tasks Scheduler". A job is created when the process is started. The queue of deferred tasks is checked with an interval of one minute.

To stop the "Object Task Scheduler" process, use the menu item "Full → DB Administrator Utilities → Object Tasks → Stop Object Tasks Scheduler".

Process parameters are configured in the "Process Parameters" form, menu item "Full → Configuration Setup → Main Tables → Process Parameters". For more information about setup and parameters that are used, see the document "Running WAY4™ Processes in Parallel".

2.2 Task types

Task types using the object task scheduler mechanism (value of the SY_OBJECT_TASK.ACTION_CODE field):

- "RESET_HIERARCHY" – approve contracts in a multilevel hierarchy.
- "OPT_ACQ_PREPARE_STMT" – process merchant payments.
- "CALC_DECISION" –log calculated classifiers.
- "APPLY_AUTH" – deferred processing of authorization documents (Deferred Apply) in WAY4 High Availability solutions for issuing.
- "APPLY__ACQ_ AUTH" – deferred processing of authorization documents (Deferred Apply) in WAY4 High Availability solutions for acquiring.
- "kernel_sign_on" – refresh information about a user session when establishing a connection (tasks are created if the "Object Task Scheduler" process is running).
- "RESET_ROUTING" – map contracts in the WAY4™ Distributed Processing product.

> In general, the mechanism for deferred execution of tasks for the corresponding task type is enabled using a global parameter. For more information, see the documentation for the corresponding functionality. The module is supplied according to an additional agreement with OpenWay.

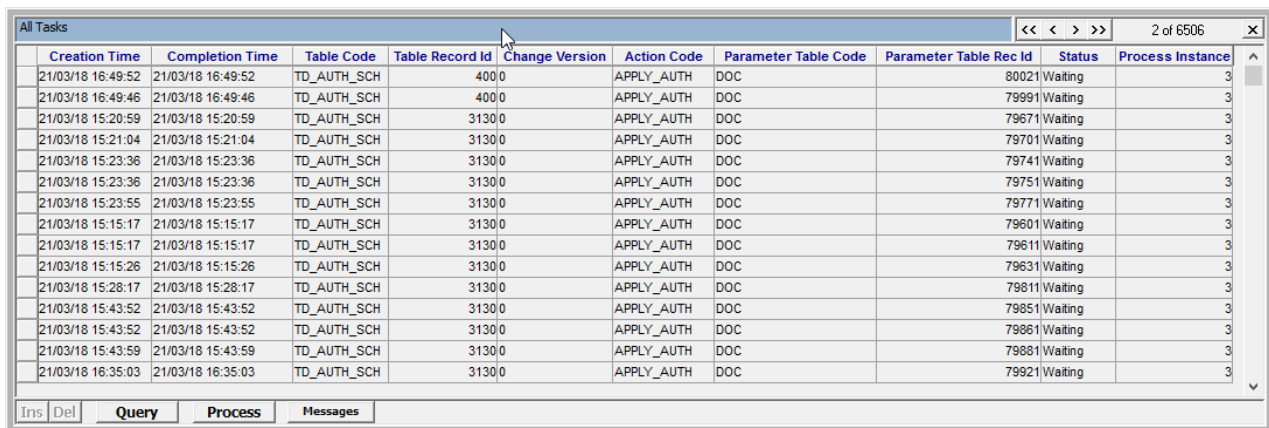# 3. Monitoring the "Object Task Scheduler" process

The "Object Task Scheduler" background process must be monitored constantly. If the process stops, it must be restarted manually using the appropriate menu item.

The "Object Task Scheduler" background process can be monitored using the following:

- Process log (user menu group "Full → Process Log"). For more information about the process log, see the section "DB Manager Processes" of the document "DB Manager Administrator Manual".
- "All Tasks" form in DB Manager.
- WAY4 Health Monitoring Gen2 product.

3.1 "All Tasks" Form

To monitor tasks and to restore execution of tasks in the "Suspended" or "Waiting" status, use the "All Tasks" form, menu item "Full → DB Administrator Utilities → Object Tasks → All Tasks". To reject or retry execution of a task in the "Suspended" status, click the [Actions] button and select "Reject" or "Retry" from the context menu. To resume execution of a task in the "Waiting" status, select it and click the [Process] button.

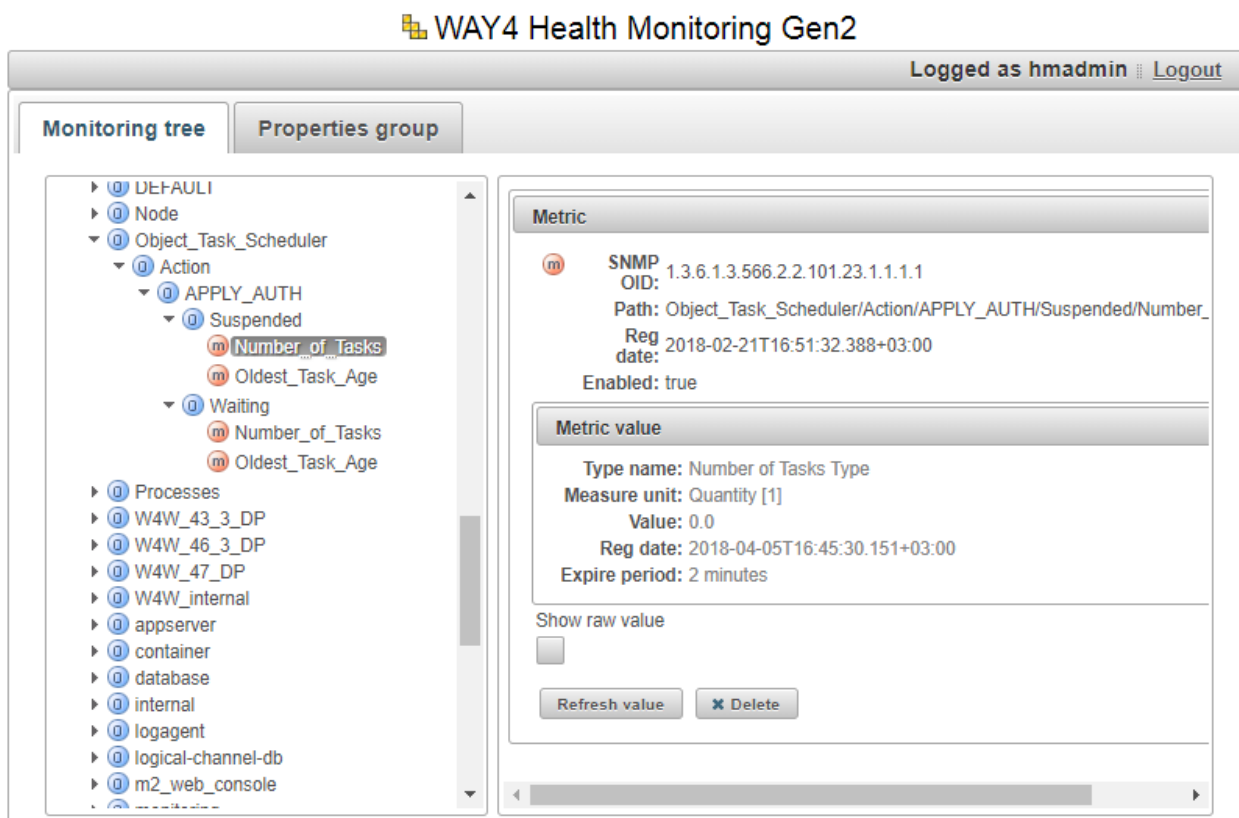| Creation Time	Completion Time	Table Code	Table Record Id	Change Version	Action Code	Parameter Table Code	Parameter Table Rec Id	Status	Process Instance
21/03/18 16:49:52	21/03/18 16:49:52	TD_AUTH_SCH	400	0	APPLY_AUTH	DOC	80021	Waiting	3
21/03/18 16:49:46	21/03/18 16:49:46	TD_AUTH_SCH	400	0	APPLY_AUTH	DOC	79991	Waiting	3
21/03/18 15:20:59	21/03/18 15:20:59	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79671	Waiting	3
21/03/18 15:21:04	21/03/18 15:21:04	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79701	Waiting	3
21/03/18 15:23:36	21/03/18 15:23:36	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79741	Waiting	3
21/03/18 15:23:36	21/03/18 15:23:36	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79751	Waiting	3
21/03/18 15:23:55	21/03/18 15:23:55	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79771	Waiting	3
21/03/18 15:15:17	21/03/18 15:15:17	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79601	Waiting	3
21/03/18 15:15:17	21/03/18 15:15:17	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79611	Waiting	3
21/03/18 15:15:26	21/03/18 15:15:26	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79631	Waiting	3
21/03/18 15:28:17	21/03/18 15:28:17	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79811	Waiting	3
21/03/18 15:43:52	21/03/18 15:43:52	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79851	Waiting	3
21/03/18 15:43:52	21/03/18 15:43:52	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79861	Waiting	3
21/03/18 15:43:59	21/03/18 15:43:59	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79881	Waiting	3
21/03/18 16:35:03	21/03/18 16:35:03	TD_AUTH_SCH	3130	0	APPLY_AUTH	DOC	79921	Waiting	3

Fig. "All Tasks" form

3.2 Monitoring with WAY4 Health Monitoring Gen2

The "Object Task Scheduler" process can provide information about its operation using the SNMP protocol with the WAY4 Health Monitoring Gen2 product: This information is gathered by calling WAY4 Cards DB stored procedures.

A separate license for the Health Monitoring Gen2 component is required for monitoring the "Object Task Scheduler" process.

The figure shows a sample fragment of the tree for monitoring objects in a WAY4 High Availability solution in the "monitoring_ui" web application of the WAY4 Health Monitoring Gen2 product.

Fig. Object Task Scheduler" monitoring objects tree

"Object Task Scheduler" parameters are gathered for the task types (SY_OBJECT_TASK.ACTION_CODE values) set in the global parameter OBJTSK_MON_ACTION_LIST (see "Task types"). Semicolons are used to separate ACTION_CODE values. By default, parameters are gathered for the "APPLY_AUTH" task type – deferred processing of authorization documents (Deferred Apply). Parameters are gathered separately for the "Suspended" and "Waiting" statuses. The table shows "Object Task Scheduler" monitoring parameters.

Table. "Object Task Scheduler" process monitoring parameters

Parameter	Parameter type	Description
Suspended/Number_of_Tasks	Metric	Number of records with the "Suspended" status in the SY_OBJECT_TASK table.

Parameter	Parameter type	Description
Suspended/Oldest_Task_Age	Metric	Time in seconds passed from the time when the earliest task with the "Suspended" status was inserted in the SY_OBJECT_TASK table.
Waiting/Number_of_Tasks	Metric	Number of records with the "Waiting" status in the SY_OBJECT_TASK table.
Waiting/Oldest_Task_Age	Metric	Time in seconds passed from the time when the earliest task with the "Waiting" status was inserted in the SY_OBJECT_TASK table.