

Object Tasks Scheduler

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Introduction

This document is intended for system administrators.

Prior to working with this document, familiarity with the following documents is recommended:

- "DB Manager Administrator Manual".
- "Running WAY4™ 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*.
- Labels for screen form buttons are shown in square brackets, such as [Approve].
- Sequences for selecting items in a user menu are shown using arrows, as follows: "Issuing → Contracts Input & Update".
- Variable values like directory and file names, and file paths that vary for each local computer are displayed in angular brackets, like <OWS_HOME>.
- Warnings about potentially hazardous situations or actions are marked with the  sign.
- Messages marked with the  sign contain information about important features, additional facilities or the optimal use of certain system functions.

Глава 1. Overview

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.

Глава 2. Managing the "Object Task Scheduler" Process

 Use of the "Object Task Scheduler" technology must be approved by the WAY4 vendor.

If this technology is implemented, the "Object Task Scheduler" background process must always be running. This process can only be stopped for a short-term period to perform maintenance work, for example, system upgrade or installation of patches.

Starting and Stopping the Process

To start the "Object Task Scheduler" process, the menu item "Full → DB Administrator Utilities → Object Tasks → Start Object Tasks Scheduler" is used. 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, the menu item "Full → DB Administrator Utilities → Object Tasks → Stop Object Tasks Scheduler" is used.

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

Task Types

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

- "RESET_HIERARHY" – approving contracts in a multilevel hierarchy.
- "OPT_ACQ_PREPARE_STMT" – processing merchant payments.
- "CALC_DECISION" – logging calculated classifiers.
- "APPLY_AUTH" – deferred processing of authorisation documents (Deferred Apply) in WAY4 High availability solutions.
- "kernel_sign_on" – updating information about a user session when establishing a connection (tasks are created if the "Object Task Scheduler" process is running).
- "RESET_ROUTING" – mapping 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 detailed information, see the documentation for the corresponding functionality. Documentation is provided under a separate agreement with the WAY4 vendor.

Глава 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.

To monitor the "Object Task Scheduler" background process, use:

- 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" forms in DB Manager.
- WAY4 Health Monitoring Gen2 product.

"All Tasks" Form

To monitor tasks and to restore execution of tasks in the "Suspended" or "Waiting" status, use the "All Tasks" form, the menu item "Full → DB Administrator Utilities → Object Tasks → All Tasks" (see Fig. 1). To reject or retry execution of tasks in the "Suspended" status, select a task and click on the [Actions] button, and select the "Reject" or "Retry" action in the context menu. To restore execution of tasks in the "Waiting" status, select a task and click on 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	4000		APPLY_AUTH	DOC	80021	Waiting	3
21/03/18 16:49:46	21/03/18 16:49:46	TD_AUTH_SCH	4000		APPLY_AUTH	DOC	79991	Waiting	3
21/03/18 15:20:59	21/03/18 15:20:59	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79671	Waiting	3
21/03/18 15:21:04	21/03/18 15:21:04	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79701	Waiting	3
21/03/18 15:23:36	21/03/18 15:23:36	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79741	Waiting	3
21/03/18 15:23:36	21/03/18 15:23:36	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79751	Waiting	3
21/03/18 15:23:55	21/03/18 15:23:55	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79771	Waiting	3
21/03/18 15:15:17	21/03/18 15:15:17	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79601	Waiting	3
21/03/18 15:15:17	21/03/18 15:15:17	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79611	Waiting	3
21/03/18 15:15:26	21/03/18 15:15:26	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79631	Waiting	3
21/03/18 15:28:17	21/03/18 15:28:17	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79811	Waiting	3
21/03/18 15:43:52	21/03/18 15:43:52	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79851	Waiting	3
21/03/18 15:43:52	21/03/18 15:43:52	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79861	Waiting	3
21/03/18 15:43:59	21/03/18 15:43:59	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79881	Waiting	3
21/03/18 16:35:03	21/03/18 16:35:03	TD_AUTH_SCH	31300		APPLY_AUTH	DOC	79921	Waiting	3

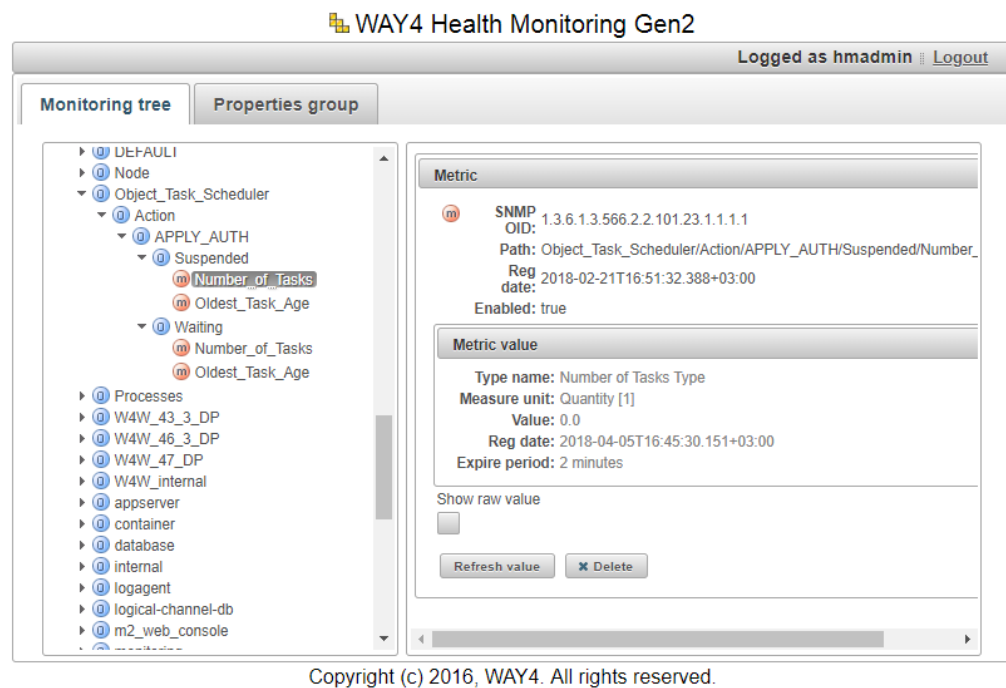
Fig. 1. "All Tasks" Form

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. Information is gathered by calling WAY4 Cards DB stored procedures.

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

Fig. 2 shows an example of a monitoring objects tree fragment for the WAY4 High Availability solution in the "monitoring_ui" web application of the WAY4 Health Monitoring Gen2 product.



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Fig. 2. "Object Task Scheduler" Monitoring Objects Tree

"Object Task Scheduler" process parameters are gathered for the task types (SY_OBJECT_TASK.ACTION_CODE values) set in the OBJTSK_MON_ACTION_LIST global parameter (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 authorisation documents (Deferred Apply). Parameters are gathered separately for the "Suspended" and "Waiting" statuses. Table 1 shows "Object Task Scheduler" process monitoring parameters.

Table 1. "Object Task Scheduler" process monitoring parameters

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