IBM Enterprise Content Management System Monitor

Tasks Guide

IBM Enterprise Content Management System Monitor
Version 5.8.0

Tasks Guide

SC27-9244-09

Table of Contents

This document describes the configuration and usage of all tasks of the IBM Enterprise Content Management System Monitor. The target audience for this guide are the users of the ESM.

Preface

About this document

This document is written as plain text document and provided as html / pdf. The newest ESM related documents can be found in the help section of the console.

Who should read this guide?

The target audience for this guide are those who install or maintain ESM environments.

Every effort has been made to provide you with complete installation instructions. If information becomes available after the creation of the installation media from which you accessed this guide, we will provide an updated version of the guide on the IBM Customer Service and Support web site (https://www.ibm.com/support). As a general rule, you should refer to the IBM web site to obtain the current version of this guide.

This guide provides instructions for installing and/or upgrading IBM Enterprise Content Management System Monitor, and identifies the IBM/FileNet and 3rd Party products that are certified for the current release. Be aware that each release of IBM Enterprise Content Management System Monitor may have multiple Interim Fixes, or Fix Packs available for installation, each with potentially different dependencies and installation requirements. Therefore, before you attempt to install or upgrade IBM Enterprise Content Management System Monitor, review the list of releases and their associated dependencies on the IBM Support web site (https://www.ibm.com/support).

Before you start

Users of the guide should have knowledge about Unix and/or Microsoft Windows® operating system, web servers, database systems and middleware platforms. The configuration of managed systems (clients) requires advanced knowledge of all IBM ECM systems that should be monitored.

You should read the Upgrade Notes section below!

If you lack the requisite skill sets it is strongly recommended to have IBM Lab Services or a certified ValueNet Partner in order to install this product.

TIP

For tips and tricks regarding the configuration and maintenance of IBM Enterprise Content Management System Monitor please check the CENIT Field Guides at IBM ESM Field Guides.

The PDFs of the eGA documentation can be found on the IBM support pages. In the installed product you will always find the newest documentation.

Feedback on documentation

Send your comments by e-mail to comments@us.ibm.com. Be sure to include the name of the product, the version number of the product, and the name and part number of the book (if applicable). If you are commenting on specific text, include the location of the text (for example, a chapter and section title, a table number, a page number, or a help topic title)

Working with tasks

This guide describes how to work with tasks. From the main window select "Configuration" and choose the "Task Configuration" icon from the sidebar. In the upper part of the sidebar actions, such as "Create a new Task", "Duplicate the selected Task," "Modify the selected Task" and "Remove the selected Task", can be triggered. As default the listed task types are available:

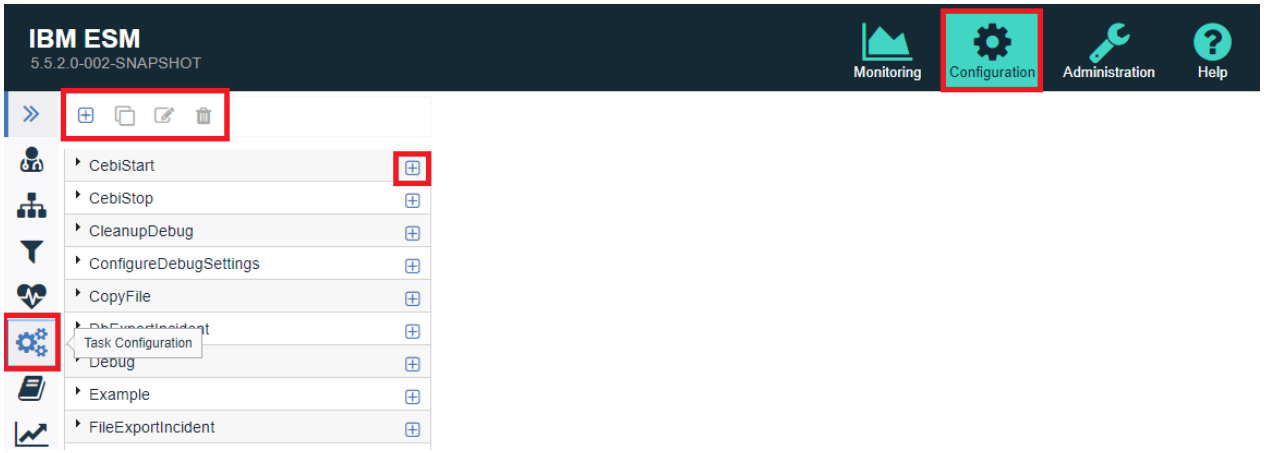


Image of Configuration Task Port List, role="related thumb right"

Create a new Task

Select "Create a new Task" from the upper part of the sidebar or click on same icon next to the task. On the right side of the console the editor for the configuration will open. The editor is devided in two parts left (red) and right (green). The left part is needed for the configuration of the task. The right part defines the agent on which the task should be triggered and the schedule.

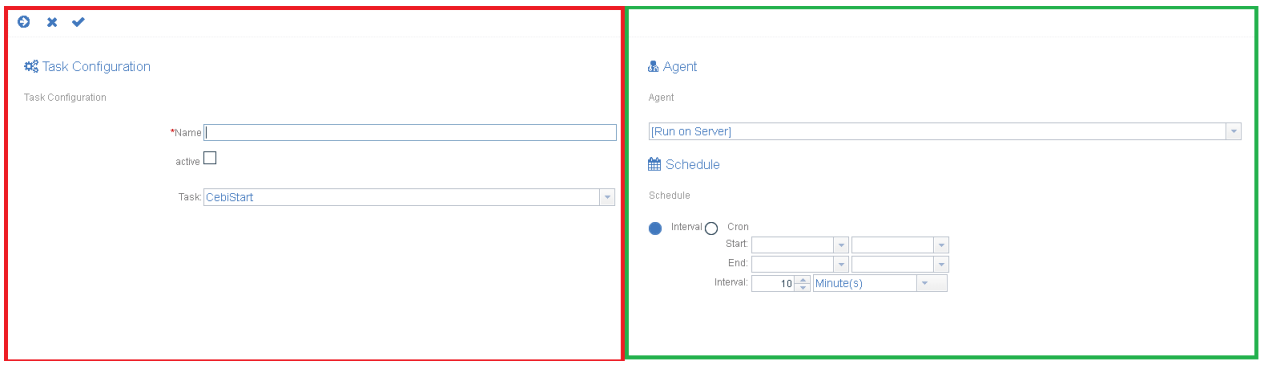


Image of Configuration Task Editor

Task configuration

Specify a "Name" you want to give for the task once it gets stored.
Define if the task scheduling should be set active.
Select from the available task types the task you want to configure. Depending on your selection additional parameters might be shown. If you originally clicked on the add icon next to a task type, this task type is already pre selected.

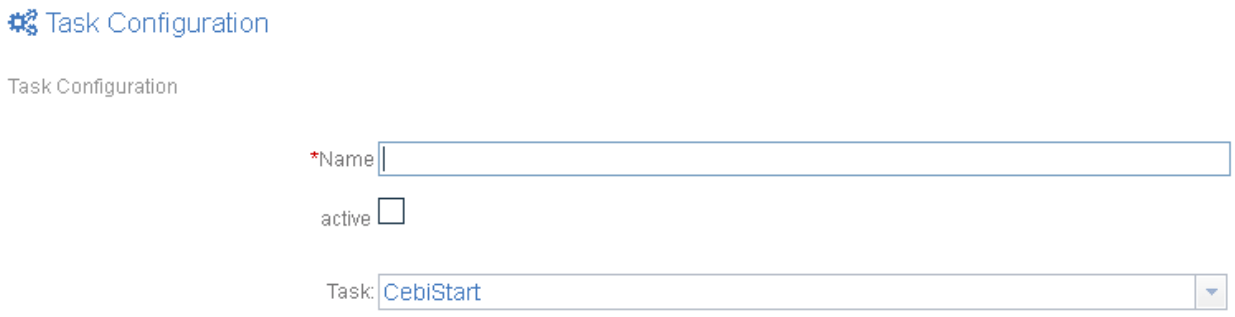


Image of Configuration Task Configuration

Agent

Specify the agent on which the task should be executed. Therefore select one of the available agents from the drop down. [Run on Server] means the task will be executed on the ESM Server.

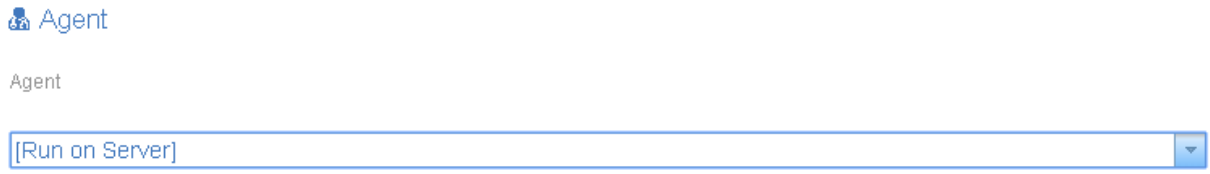


Image of Configuration Task Agent Configuration

Schedule

You have the possibility to either schedule the execution as an "Interval" or a "Cron" job.

Interval

Optional select a "Start" and "End" date and time. You can do this from the drop down. In "Every" specify your execution period. You can choose between "Second(s)", "Minute(s)", "Hour(s)",

"Day(s)" "Week(s)", "Month(s)" and "Year(s)".

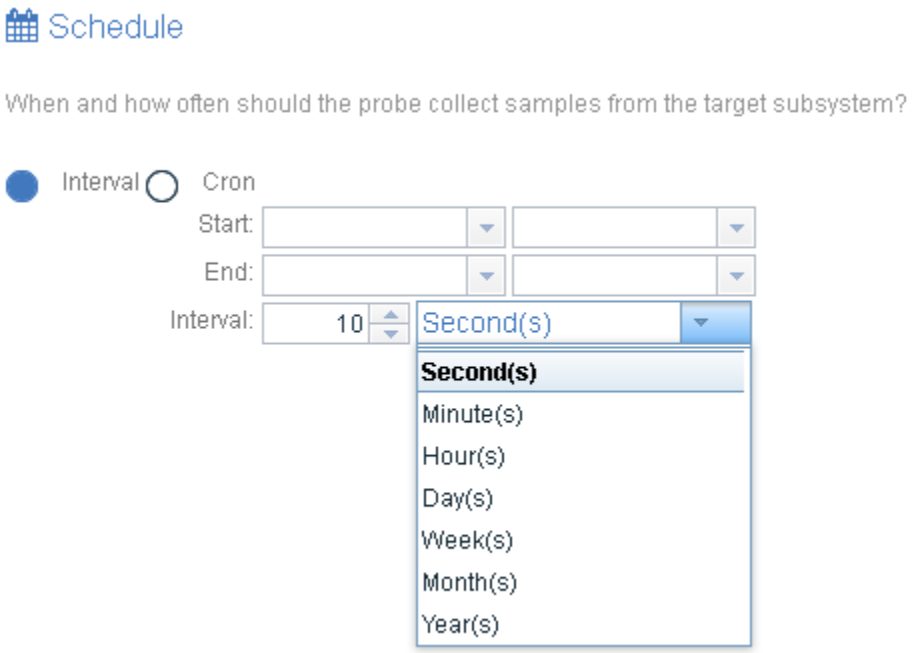


Image of Configuration Task Interval Schedule Configuration

Cron

This scheduler option works like a normal cron scheduler. ESM uses "Quartz" for cron. By default "Minutes", "Hours", "Days of Months" and "Months" are filled with "*" and "Days of Week" is filled with "?".
"*" is equal to all
"?" is equal to any

Because of this circumstances "Days of Month" and "Days of Week" can be defined.

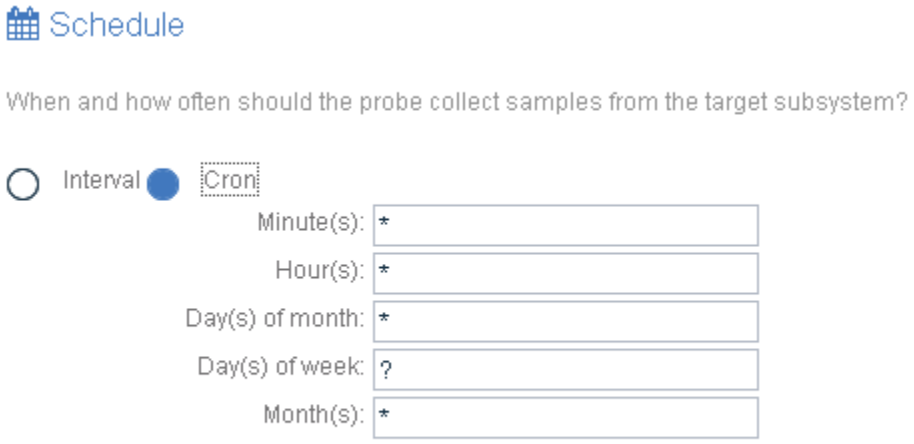


Image of Configuration Task Cron Schedule Configuration

Once you click into one of the fields, a wizard opens that let you choose from the possibilities. Your selection will automatically reflect in correct syntax in the field.

The following screenshot shows the wizard for

Minutes:

Image of Configuration Task Cron Minutes Schedule Configuration

Hours:

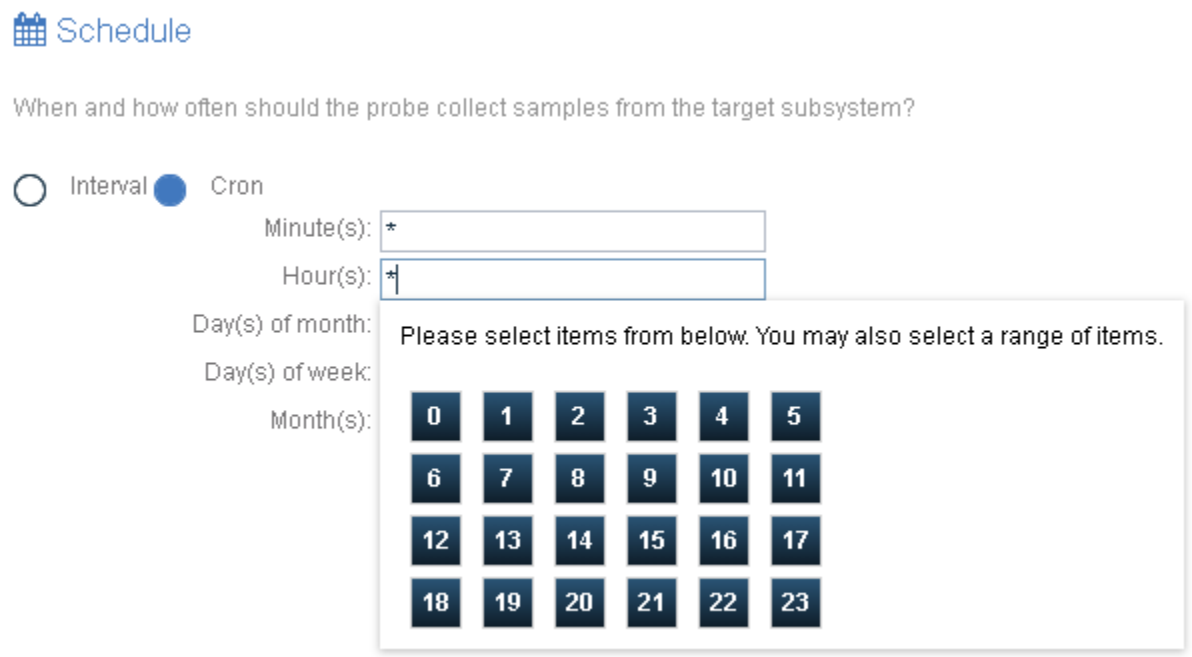


Image of Configuration Task Cron Hours Schedule Configuration

Days of Month:

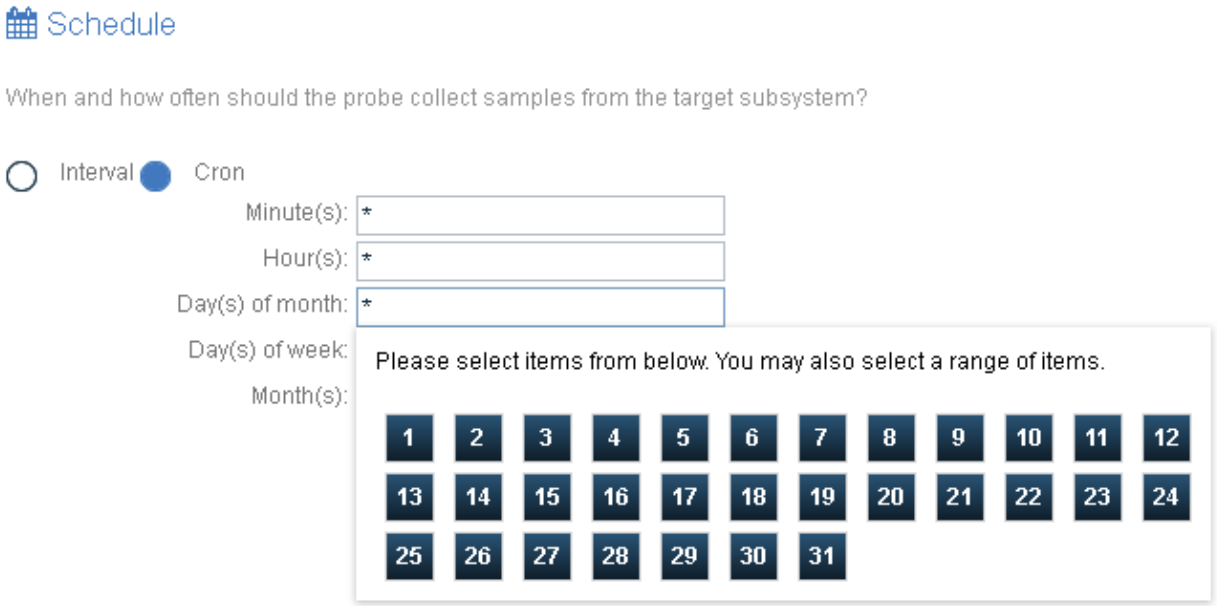


Image of Configuration Task Cron Days of Month Schedule Configuration

Days of Week:

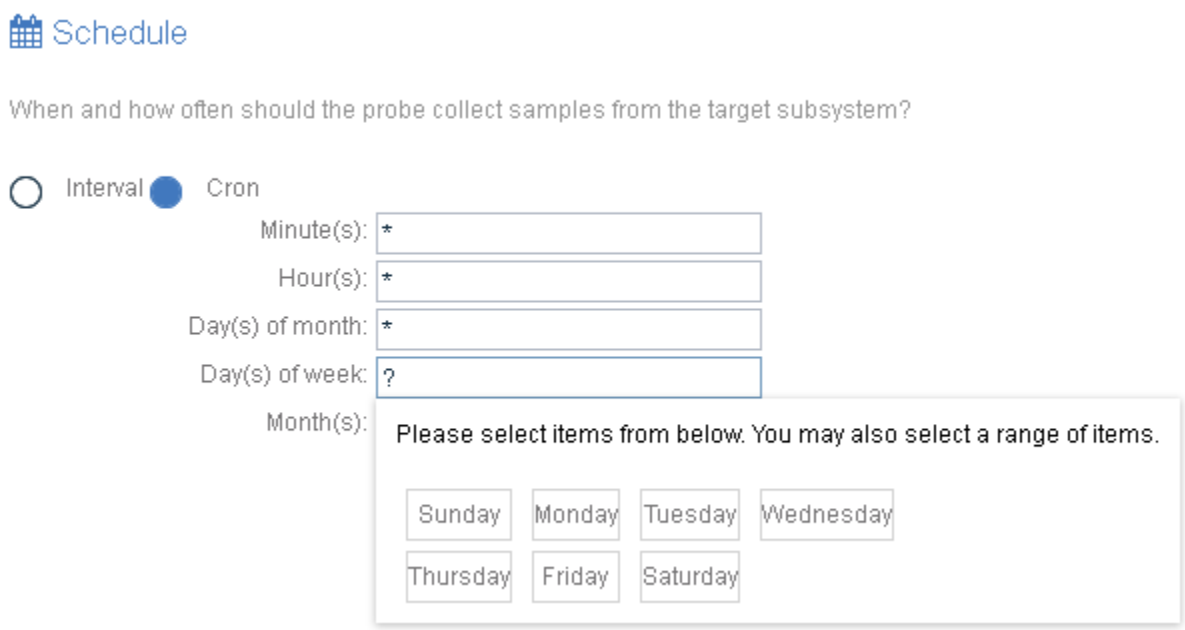


Image of Configuration Task Cron Days of Week Schedule Configuration

Months:

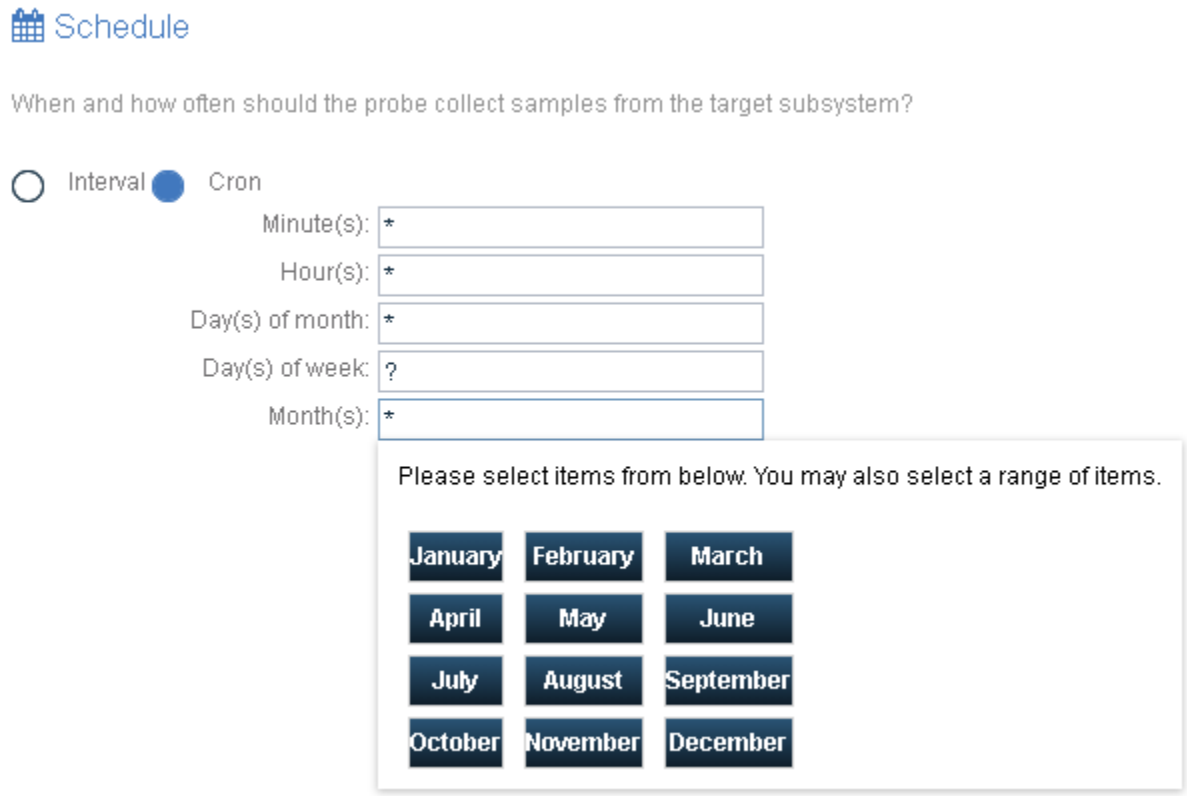


Image of Configuration Task Cron Months Schedule Configuration

After you have finished the configuration, you can save the task by clicking on the √ icon at the top of the wizard.

Task types and their parameters

ApacheAccessLogAnalyzer

Description of the Task

This task analyzes the Apache Access log file. For the analyzation client IPs and Http codes can be specified. The count of connections for the given IPs and Http codes combinations are returned. The task will run a maximum of 5 minutes and will analyze as much entriese as possible of the log, starting from the beginning of the logfile. If the max 5 minutes are reached, the task status will be returned as canceled. As output the task will return the amount of combinations from IPs and HTTP Codes and the amount of lines that have been analyzed.

Parameters

Client IPs

A regexp to define IPs to be searched for in the Apache Access log file can be given here. If no regexp is set, all IPs in the log are considered by the probe.

More than one regexp for several "ranges" of IPs separated by commas can be specified.

Example 1. Regexp for Client IPs

```
192\.168\.112\.[123],127\.0\.0\.1,10\.0\.[56]1\.123
```

Http Codes

A pattern to define the HTTP return states to be looked for per matching IP can be given. The pattern can look like 1xx, 2xx, or you can also use regex, e.g. `1..` or `2.*,3.*`. The string will be split at the comma before the resulting regex(es) are analyzed.

The default setting is `1XX,2XX,3XX` and covers all "good" HTTP codes.

If no pattern is set, all HTTP status codes are considered by the probe.

Log Format

Specify the logfile format here. This describes the information on how the log is created and usually can be found somewhere in the logger defintion.

The http status code part is usually specifed with %s and %>s. If both are used for the log, the probe will use %>s for the analyzation.

The IP address is usually given with %a and %{X-Forwarded-For} for the client name/ip. If both are used, %{Forwarded-For} is used by the probe. A modifier like "i" for %{X-Forwarded-For} is fine, but has no relevance for the probe.

Example 2. Logfile Format

```
%h %l %u %t "%r" %>s %b "%{Referer}i" "%{X-Forwarded-For}i" "%{User-Agent}i" **%T/%D**
```

Subsystem

Select the Logfile Subsystem in which the Apache access log is specified.

AutodiscoverCpeSettings

Description of the Task

This task logic can be used to automatically discover CPE settings in an OpenShift cluster. The detected settings include the CPE itself, the GCD and Objectstores with their databases. The detected settings will be saved as subsystems directly in the ESM database. It is checked if a subsystem for a cloud system with it's UUID already exists. In that case the subsystem overwrites the already existing one.

NOTE This task can only be executed on an agent and not the server. If executed on the server the task will fail with an exception.

NOTE This task was tested with the IBM CloudPak 21.0.3.

NOTE If the CPE is using a secure (HTTPS-based) connection, you must import the certificate of the CPE into the cacerts file of the agent JRE.
Make sure to provide the necessary P8 API Jars on the agent as described in Chapter 3 "Background information for agents before setting up probes" in the Probes and Situations Guide.

Parameters

NOTE If the agent's account has a working kube configuration, the data from that configuration is automatically used by the probe. In that case it is not neccessary to enter the parameters here again.

OpenShift Master Url

Enter the URL of the OpenShift cluster.

User

Enter the user for the connection to the OpenShift cluster.

Password

Enter the password for the connection to the OpenShift cluster.

Use External Cpe Url

Check this option to use the external CPE URL (Router URL) to connect to the CPE. Use this option if you are running the task on an agent that is running outside of the OpenShift cluster.
If the option is left unchecked, the internal CPE URL (Service URL) is used to connect to the CPE. Use this option if you are running the task on an agent that is deployed inside the OpenShift cluster.

Possible error conditions

- P8 API bundle missing or incomplete
  - One or more of the required P8 API jars is missing. Provide the required files as described in Chapter 3 "Background information for agents before setting up probes" in the Probes and Situations Guide
- Error connecting to OpenShift
  - The connection to the OpenShift cluster cannot be established. See error field for details.
- IBM CloudPak not installed, because there is no custom resource. Aborting CPE autodiscovery.
  - There is no Custom Resource Definition with the label `icp4aclusters.icp4a.ibm.com`.
- Required CRD item not present. Aborting CPE autodiscovery.
  - The Custom Resource Definition does not contain the required item to find the CPE settings. In most cases this is caused by a project in the cluster that does not host a CPE and can safely be ignored.
- Ecm_configuration secrets not present. Aborting CPE autodiscovery.
  - Secrets could not be read from the ecm_configuration entry.
- Problems with the connection to filenet. Objectstore information can not be read
  - The connection to the CPE could not be established. In most cases, this is related to a missing certificate for a secure (HTTPS-based) CPE connection.

AutodiscoveryIcnSettings

Description of the Task

This task logic can be used to automatically discover ICN settings in an OpenShift cluster. The detected settings will be saved as subsystems directly in the ESM database. It is checked if a subsystem for a cloud system with itś UUID already exists. In that case the subsystem overwrites the already existing one.

NOTE This task was tested with the IBM CloudPak 21.0.3.

NOTE If the ICN is using a secure (HTTPS-based) connection, you must import the certificate of the ICN into the cacerts file of the agent JRE.

Parameters

NOTE If the agent's account has a working kube configuration, the data from that configuration is automatically used by the probe. In that case it is not neccessary to enter the parameters here again.

OpenShift Master Url

Enter the URL of the OpenShift cluster.

User

Enter the user for the connection to the OpenShift cluster.

Password

Enter the password for the connection to the OpenShift cluster.

Use External Icn Url

Check this option to use the external ICN URL (Router URL) to connect to the ICN. Use this option if you are running the task on an agent that is running outside of the OpenShift cluster.
If the option is left unchecked, the internal ICN URL (Service URL) is used to connect to the ICN. Use this option if you are running the task on an agent that is deployed inside the OpenShift cluster.

Project Name

If possible please specify the OpenShift project name in which the ICN container(s) can be found. The search that the task performs is much faster in that case. Otherwise it can take up to several minutes.

Possible error conditions

- Error connecting to OpenShift
  - The connection to the OpenShift cluster cannot be established. See error field for details.
- IBM CloudPak not installed, because there is no custom resource. Aborting ICN autodiscovery.
  - There is no Custom Resource Definition with the label `icp4aclusters.icp4a.ibm.com`.
- Required CRD item not present. Aborting ICN autodiscovery.
  - The Custom Resource Definition does not contain the required item to find the ICN settings. In most cases this is caused by a project in the cluster that does not host a ICN and can safely be ignored.

- Ecm_configuration secrets not present. Aborting ICN autodiscovery.
  - Secrets could not be read from the ecm_configuration entry.
- Problems with the connection to filenet. Objectstore information can not be read
  - The connection to the ICN could not be established. In most cases, this is related to a missing certificate for a secure (HTTPS-based) ICN connection.

BawDeletePerformanceDataWarehouse

Description of the Task

This task logic can be used to delete old data from the "Performance Data Warehouse Database" of BAW. The operation can only be performed, if the user specified in the Url subsystem of the BAWWorkflowServer is a member of the administrator group.

IMPORTANT This task must not be scheduled or triggered by an incident. It only has to be executed manually as adhoc execution.

Parameters

Age

Age in days. All data older than the given value is deleted.

Subsystem

Select one of the already configured BawWorkflowServer subsystem for which you want to execute the task.

BawDeleteProcessInstances

Description of the Task

This task logic can be used to delete all instances with predefined criteria (based on state and time) for all process models that’s available inside all or specific process application container.

Parameters

ProcessInstancesState

Choose from one of the following from the drop-down: Did_Not_START, Finished/Completed, Running/Active, Stopped/Failed, Suspended or Terminated.

ProcessApplicationAcronym

Before Now

Offset in (Parameter Time Units) when the state for the snapshot was set before it gets deleted. If 0 is specified all snapshots will be deleted that match the state.

Time Unit

Choose from one of the following from the drop-down: Days, Hours or Minutes.

Ended

Choose from one of the following from the drop-down: Before or After. Before or after, work with 'Before Now' and 'Time Unit' task attributes to specific the exact time for which either before or after the given process instance must have ended so that it will be deleted.

Subsystem

Select the BawWorkflowServer Subsystem for which the task should be executed.

BawWorkflowCenterDeleteSnapshots

Description of the Task

This task can be used to delete unnamed and archived snapshots for both containers (process app/toolkit) on Workflow Center.

To enable deleting snapshots there should be at least one snapshot in the process app/toolkit container. The system prevents the deletion of the last archived and the last unnamed snapshot. In case of the unnamed snapshots, it is possible the last two are not deletable.

Deleting snapshots is an asynchronous operation. In order to get the number of the deleted snapshots, number of the existing snapshots with predefined criteria will be counted before and after the deletion with waiting time 1.5 second before the second count request. So obviously, in case deletion operation needs more than 1.5 second this will lead to produce task result message with incorrect number of deleted snapshots. So to get actual number of remaining snapshots after deletion the BawContainerSnapshotCount probe can be used.

NOTE The last named snapshot for the application or toolkit will not be deleted

IMPORTANT The task has the same requirements as the command "*BPMSnapshotCleanup*". Check the IBM Knowledge Center for all prerequisites.

Parameters

Container Type

Choose between ProcessApp and Toolkit from the drop-down.

Container Acronym

Short/acronym of container that should be used for the search. E.g. App01 for ProcessApp or TK01 for Toolkit

NOTE One of either Branch Name, Versions or Keep Snapshots must be set otherwise an error will be returned.

Branch Name

Optional - Default is Main.

Versions

Optional - Specify the versions acronym here. If this is specified kept-number, created-before,created-after and created_before_version parameters will be ignored. A comma separated list can be used to delete archived snapshots on Process Center.

Keep Snapshots

Optional - Check to keep snapshots.

Kept Number

Identifies the number of unnamed snapshots to keep when a snapshot cleanup is run. The tip snapshot is not counted in kept_number. If kept_number is greater than or equal to the total number of unnamed snapshots, no snapshots are deleted. If kept_number equals 0, all the unnamed snapshots will be deleted except the last one or two snapshots. If this specified -→ created-before and created-after parameters will be ignored.

Before Now

Offset in (Parameter Time Units) when the state for the snapshot was set before it gets deleted. If 0 is specified all snapshots will be deleted that match the state.

Time Unit

Choose from one of the following from the drop-down: Days, Hours or Minutes.

Created

Choose from one of the following from the drop-down: Before or After. Before or after, work with 'Before Now' and 'Time Unit' task attributes to specify the exact time for which either before or after the given un-named snapshots (or archived snapshots) will be deleted.

Created Before Version

Optional Specify the version acronym to delete snapshots before specified snapshot.

Subsystem

Select the BawWorkflowServer Subsystem for which the task should be executed.

BawWorkflowServerDeleteSnapshots

Description of the Task

This task logic will delete the installed snapshots on the Workflow Server, it can delete snapshots of process applications or toolkit depending on the container acronym name.

NOTE The last named snapshot for the application or toolkit will not be deleted

IMPORTANT The task has the same requirements as the command "*BPMDeleteSnapshot*". Check the IBM Knowledge Center for all prerequisites.

Parameters

Container Acronym

Short/acronym of container that should be used for the search. E.g. App01 for ProcessApp or TK01 for Toolkit

Versions

Optional - Specify the versions acronym here. A comma separated list can be used to delete archived snapshots on Workflow Server.

Subsystem

Select the BawWorkflowServer Subsystem for which the task should be executed.

CebiStart

Description of the Task

This task starts the selected CE Bulk Import Tool.

For details see https://www.ibm.com/docs/en/filenet-p8-platform/5.5.x?topic=tool-starting-bulk-import

Parameters

Subsystem

Select the Subsystem for which the task should be executed.

CebiStop

Description of the Task

This task stops a CE Bulk Import Tool.

For details see https://www.ibm.com/docs/en/filenet-p8-platform/5.5.x?topic=tool-stopping-bulk-import

Parameters

Subsystem

Select the Subsystem for which the task should be executed.

CollectListenerPaths

Description of the Task

This task collects the Listener paths that have been cached on the agents into a downloadable ZIP file.

NOTE At least one active probe per Listener subsystem is required on an agent to start caching paths locally.

Executing the task

The task must be started on the server. It requests the locally cached Listener paths from all connected agents. If an agent does not have active Listener probes, it will be ignored.

Downloading the resulting ZIP file

The result is stored in a ZIP file on the server. It can be downloaded by adding `/downloads/listenerpaths.<timestamp>.zip` to the default URL of the ESM server.

Example 3. Format of Download URL

```
http://YourESMServer/downloads/listenerpaths.1644583591775.zip
```

The name of the ZIP file is shown in the task result. The file will be available for download for 24 hours.

NOTE When navigating to the link, a log-in prompt will open. You need to log in with a user that has the `admin` or `operator` role to download the file even if you are already logged in to the ESM console.

Additional task output

In addition to the name of the ZIP file, the task output lists the following information:

- any agent where the request for Listener paths timed out; for these agents, partial results may be available in the ZIP file
- the number of paths per agent for all agents that returned data
- the number of agents that did not return any data (e.g. because no Listener probe is configured or because the monitored application(s) did not send any data yet)

ZIP file content

The ZIP file contains one text file per agent with at least one active Listener probe. The file content is grouped by Listener subsystem, application name, version and instance.

The full-qualified paths (e.g. `/RPC/ExecuteSearch/Requests/count`) can be copied directly into the configuration of the Listener Path Percentage and Listener probes.

The following data is available for each Listener counter type:

Event

- count - references the count received over the Listener interval
- rate - references to the rate per second over the Listener interval
- total count - references the total count since the Listener application was started

Accumulator

- average - references the average value over the Listener interval
- min - references the lowest value received in the Listener interval

- max - references the lowest value received in the Listener interval
- standard deviation - references the standard deviation over the Listener interval

Meter

- value - references the last value received for this counter
- min - references the lowest value received in the Listener interval
- max - references the highest value received in the Listener interval

For more information about different Listener counter types see https://www.ibm.com/docs/en/filenet-p8-platform/5.7.0?topic=p8-counter-interpretation.

Parameters

None.

Possible error conditions

- Error creating zip file
  - The ZIP file could not be created or an entry could not be written. The error message contains the full stack trace with further information.
- Task cancelled due to timeout
  - The execution of the task took too long. In this case, all results that have already been received from the agents will be available in the ZIP file.

ConfigurationBackup

Description of the Task

Per default there is one Instance of the Task available which is named "Configuration Backup Task". Although this instance can be deleted, it will be recreated automatically at Server restart.

Once a configuration change was saved, this task is automatically triggered after a settle time with no further change (the default is 5 min - it can be configured in the server settings).

Additional instances of the task can be created to e.g. automatically save a backup every Saturday at a certain time.

The configuration will be stored in the folder specified. Additionally it can be forwarded by mail.

Parameters

Trigger After Configuration Change

Default: checked
Check this parameter to trigger the task automatically after a configuration change.

Config Backup Max Count

Default: 5
The process uses a rolling mechanism to overwrite the oldest file. Set the value to 0 if you don´t want to store the configuration on disk and only forward it by mail

Export Folder

Default: ../config The folder is relative to <Server-Install-Dir>/karaf. Also it can be specified as "C:/your/folder/structure" or "/your/folder/structure".

File Name Prefix

Default: configuration Specify how you want to name the file here, a timestamp and version suffix is added automatically.

Email Recipients

Optional: Specify one or more recipients. The list should be comma (,) separated with no blanks.

Example 4. EMail List

```
your_email@your_company.com,your_colleague@your_company.com,your_unit_mailbox@your_company.com,…
```

Mail Server Name

Select the mail server that should be used for sending the mails from the dropdown.

IMPORTANT As Agent select [Run on Server] which is the default.

CopyFile

Description of the Task

This task can be used to either copy a file from the server to an agent or vice versa. Specify the agent as the Agent in the where the task shall be executed.

Parameters

Source

Specify AGENT to copy a file from an agent to the server, specify SERVER to copy a file from the server to an agent.

From File

Specify the file that should be copied with full qualified path.

Into File

Specify the file full qualified where it should put on the destination.

DBExportIncident

IMPORTANT The task does not prevent the execution of other valid SQL-statements than insert-statements. The SQL-statement is executed with the user defined in the associated database subsystem.

Description of the Task

This task is used for forwarding incident information to an external DB. The task should not be set to active and as Agent "[Run on Server]" should be selected. This means the task runs on the ESM server. The task can be triggered if a certain incident for a probe exists. See probe and situation guide. The forwarded information can be used for indepth reporting with specified reporting tools like IBM Cognos software.

Parameters

Template

Default: INSERT INTO <tablename> (timestamp, severity, value, message, error) VALUES('$Timestamp', '$Severity', '$Value', '$Message','$Error')
<tablname> must be replace with a valid tablename. For each field a column in table must exist. Other than that you can set your own structure using record internal fields. Record internal fields are used with the following notation: $EntityType.FieldInCamelCase. They can be seen when double clicking on an incident. The field must be defined in CamelCase, meaning each word starts with a capital letter. E.g. SituationCfgId. Some of the fields e.g. Incident.Id might not be available at task execution since the entry is created when added to the DB.
The following EntityTypes are available:

- Incident (default - used if nothing but FieldInCamelCase is specified)
- Situation
- Sample
- ProbeConfig
- Agent
- Subsystem

NOTE

If needed, the following fields should be stored as the following types in the DB:

- All TimeStamp → String UTC format
- Sample.ID → Long
- All Value → Double
- All other fields → String

Example 5. Example Template for INSERT string DB2

```
INSERT INTO ESMIncident (timestamp, probe, agent, sampleclass, sitname, severity, value,
message, error, agentid) VALUES('$Incident.Timestamp', '$ProbeConfig.Name', '$Agent.Label',
'$Sample.Classification', '$Situation.Name', '$Severity', $Value, '$Incident.Message',
'$Error', '$Agent.Id')
```

Example 6. Example Template for INSERT string Oracle

```
INSERT INTO ESMIncident (id, timestamp, probe, agent, sampleclass, sitname, severity, value,
message, error, agentid) VALUES(incidentNew2_seq.nextval, '$Incident.Timestamp',
'$ProbeConfig.Name', '$Agent.Label', '$Sample.Classification', '$Situation.Name',
'$Severity', $Value, '$Incident.Message', '$Error', '$Agent.Id')
```

Example 7. Example Template for INSERT string MSSQL

```
INSERT INTO ESMIncident (timestamp, probe, agent, sampleclass, sitname, severity, value,
message, error, agentid) VALUES('$Incident.Timestamp', '$ProbeConfig.Name', '$Agent.Label',
'$Sample.Classification', '$Situation.Name', '$Severity', $Value, '$Incident.Message',
'$Error', '$Agent.Id')
```

Regular Expression within Export Tasks

The task output template can handle regular expression. This can be used to extract information so it can be forwarded in various DB columns. E.g. a sample from a "Listener Probe" contains information about the object in the message.

Description of the usage of regular expression within the template

The regular expression has to start and end with a /. The expression follows the standards of regular expressions. After the expression a comma is needed. The number after the comma is the Index of the findings. E.g. 1 is the first finding, 2 the second one etc. If you want to use a reverse lookup, -1 is the last finding, -2 the second last etc. The whole string is set between { and }.

Example 8. Example for Input, Template and Outcome

```
Original Message: /USER/BASEOS/Database/select/total count+ Template Excerpt: LastPart:
$Message{//,-1} + Outcome: LastPart: total count
```

If the regular expression does not deliver a result or the index is not valid, "N/A" will be set.

IMPORTANT The DB and Table must be setup manually.

Matching Create statements for DB Table for the templates above:

Example 9. Example for CREATE string DB2

```
create table ESMIncident ( id integer not null GENERATED ALWAYS AS IDENTITY (START WITH 1
INCREMENT BY 1), TIMESTAMP varchar(128), probe VARCHAR(128), agent VARCHAR(128), sampleclass
VARCHAR(128), sitname VARCHAR(128), SEVERITY VARCHAR(128), VALUE double, MESSAGE
VARCHAR(1064), ERROR VARCHAR(1064), AGENTID VARCHAR(1064), PRIMARY KEY (id) );
```

Example 10. Example for CREATE string Oracle

```
create table ESMIncident ( id number(10) NOT NULL, TIMESTAMP VARCHAR2(128), probe
VARCHAR2(128), agent VARCHAR2(128), sampleclass VARCHAR2(128), sitname VARCHAR2(128),
SEVERITY VARCHAR2(128), VALUE NUMBER(10, 2), MESSAGE VARCHAR2(1064), ERROR VARCHAR2(1064),
AGENTID VARCHAR2(128), CONSTRAINT id_pk PRIMARY KEY (id) ); CREATE SEQUENCE incidentNew2_seq
START WITH 1 increment by 1 nomaxvalue;
```

Example 11. Example for CREATE string MSSQL

```
create table ESMIncident ( id smallint IDENTITY(1,1)PRIMARY KEY CLUSTERED, TIMESTAMP
VARCHAR(128), probe VARCHAR(128), agent VARCHAR(128), sampleclass VARCHAR(128), sitname
VARCHAR(128), SEVERITY VARCHAR(128), VALUE DECIMAL (18, 2), MESSAGE VARCHAR(1064), ERROR
VARCHAR(1064), AGENTID VARCHAR(128), )
```

Subsystem

Create the corresponding DB Subsystem and select it here.

Debug

Description of the Task

This task collects all available files needed for debugging. This includes logfiles, debugs of probes (if existing) etc. Furthermore the task can send the files via smtp to any recipient if an smtp server has been configured. Otherwise the collected files can be download via a URL to the local desktop. The task output will show the name of the created file e.g. /debuginfo.zip. If you want to download it, just add that name including the / to the default URL of your ESM Server.

Example 12. Example for download URL of the debug

```
http://YourESMServer:8181/debuginfo.zip
```

Parameters

Mail Server Name

Select the mail server that should be used for sending the mails from the dropdown.

Recipients

Specify one or more recipients. The list should be comma (,) separated with no blanks.

Addhoc Execution

If the task is executed ad hoc and no reciepients and or mail server is specified, you will get an result that looks like this:

Example 13. Result of Debug Task

```
ESM Debug information 2018-12-07T06:06:41.333Z

Build info: 5.5.0.0-004-SNAPSHOT|3522|2018-12-06, Client Id: Server, Agent Id: 9aa1b039-3489-3d71-b4a6-60af4204f2a9, Version: 5.5.0.0-004-SNAPSHOT, Hostname: buildsrv03-sm01, IP: 10.0.8.236, Path: /home/jenkins/workspace/Phoenix_testinstallation, DB Size: 48.94140625MB, Time UTC: 2018-12-07T06:06:41.355Z,

Incidents: 14741

Agent Info:

Build info: 5.5.0.0-004-SNAPSHOT|3522|2018-12-06, Client Id: Agent, Agent Id: 7446050b-848d-339f-a984-7073ff94cfd6, Version: 5.5.0.0-004-SNAPSHOT, Hostname: buildsrv03-sm01, IP: 10.0.8.236, Path: /home/jenkins/workspace/Phoenix_agent_testinstallation, DB Size: 0.2109375MB, Time UTC: 2018-12-07T06:06:40.976Z,

Created /debuginfo.zip
```

Copy the created filenames and add it to your ESM base URL to download the file to your local desktop. E.g.: http://YourESMServer:8181/debuginfo.zip

If you have specified a mail server and recipient(s) the files are sent automatically.

FileExportIncident

Description of the Task

This task is used for exporting incident information in a logfile. The task should not be set to active and as Agent "[Runs on Server]" should be selected. This means the task runs on the ESM server. The task can be triggered if a certain incident for a probe exists. See probe and situation guide.

The file is stored on the ESM Server in <Installation-Root>/karaf/data/logs/incidents.log

Parameters

Template

Default: $Timestamp: $Severity: $Value | $Message | $Error
Other than that you can set your own structure using record internal fields. Record internal fields are used with the following notation: $EntityType.FieldInCamelCase. They can be seen when double clicking on an incident. The field must be defined in CamelCase, meaning each word starts with a capital letter. E.g. SituationCfgId. Some of the fields e.g. Incident.ID might not be available at task execution since the entry is created when added to the DB.+ The following EntityTypes are available:

- Incident (default - used if nothing but FieldInCamelCase is specified)
- Situation
- Sample
- ProbeConfig
- Agent
- Subsystem

Example 14. Template

```
Probe: $ProbeConfig.Name || Severity: $Incident.Severity || Value: $Incident.Value ||
Message: $Incident.Message || Host: $Agent.Hostname || …
```

Regular Expression within Export Tasks

The task output template can handle regular expression. This can be used to extract information so it can be forwarded in various DB columns. E.g. a sample from a "Listener Probe" contains information about the object in the message.

Description of the usage of regular expression within the template

The regular expression has to start and end with a /. The expression follows the standards of regular expressions. After the expression a comma is needed. The number after the comma is the Index of the findings. E.g. 1 is the first finding, 2 the second one etc. If you want to use a reverse lookup, -1 is the last finding, -2 the second last etc. The whole string is set between { and }.

Example 15. Example for Input, Template and Outcome

```
Original Message: /USER/BASEOS/Database/select/total count+ Template Excerpt: LastPart:
$Message{//,-1} + Outcome: LastPart: total count
```

If the regular expression does not deliver a result or the index is not valid, "N/A" will be set.

InstanaExportIncident

Description of the Task

This task is used for sending incident information to Instana. The task should not be set to active and as Agent "the Agent where the Incident is created" should be selected. The task can be triggered if a certain incident for a probe exists. See probe and situation guide.

Parameters

Endpoint URL

Insert the Instana URL here. The default is: http://localhost:42699/com.instana.plugin.generic.event Replace the URL with your Webhook URL and also change the port if required. Localhost is used as the Agent (Server System) where the task is exeuted on should be the endpoint agent (Server System) of Instana, so Instana can create the environment relationship.

Tls Version

Required. Select the TLS version to use for the connection.

TLS v1.2 and 1.3

The connection will negotiate the TLS version with the server.

TLS v1.2

Enforce TLS v1.2. Connections to a server that supports TLS v1.3 only will fail.

TLS v1.3

Enforce TLS v1.3. Connections to a server that supports TLS v1.2 only will fail.

NOTE The task automatically handles severity mapping between ESM and Instana. Also relevant information is forwarded automatically.

MailExportIncident

Description of the Task

This task is used for sending incident information via mail. The task should not be set to active and as Agent "[Run on Server]" should be selected. This means the task runs on the ESM server. The task can be triggered if a certain incident for a probe exists. See probe and situation guide.

Parameters

Template

Default: $Timestamp: $Severity: $Value | $Message | $Error
Other than that you can set your own structure using record internal fields. Record internal fields are used with the following notation: $EntityType.FieldInCamelCase. They can be seen when double clicking on an incident. The field must be defined in CamelCase, meaning each word starts with a capital letter. E.g. SituationCfgId. Some of the fields e.g. Incident.ID might not be available at task execution since the entry is created when added to the DB.
The following EntityTypes are available:

- Incident (default - used if nothing but FieldInCamelCase is specified)
- Situation
- Sample
- ProbeConfig
- Agent
- Subsystem

Example 16. Template

```
Probe: $ProbeConfig.Name || Severity: $Incident.Severity || Value: $Incident.Value ||
Message: $Incident.Message || Host: $Agent.Hostname || …
```

Regular Expression within Export Tasks

The task output template can handle regular expression. This can be used to extract information so it can be forwarded in various DB columns. E.g. a sample from a "Listener Probe" contains information about the object in the message.

Description of the usage of regular expression within the template

The regular expression has to start and end with a /. The expression follows the standards of regular expressions. After the expression a comma is needed. The number after the comma is the Index of the findings. E.g. 1 is the first finding, 2 the second one etc. If you want to use a reverse lookup, -1 is the last finding, -2 the second last etc. The whole string is set between { and }.

Example 17. Example for Input, Template and Outcome

```
Original Message: /USER/BASEOS/Database/select/total count+ Template Excerpt: LastPart:
$Message{//,-1} + Outcome: LastPart: total count
```

If the regular expression does not deliver a result or the index is not valid, "N/A" will be set.

Mail Server Name

Select the mail server that should be used for sending the mails from the dropdown.

NOTE The mail server has to be configured in the administration dashboard before it can be used.

Recipients

Specify one or more recipients. The list should be comma (,) separated with no blanks.

Example 18. EMail List

```
your_email@your_company.com,your_colleague@your_company.com,your_unit_mailbox@your_company.c
om,…
```

Integration of WatsonAIOps

WatsonAIOps can be configured for incoming integrations from a wide range of cloud sources. For detailed information, please read the 'Configuring incoming integrations' section in the 'Configuring event management' chapter of the WatsonAIOps documentation. Follow the instructions to allow incoming integrations.

The integration via email uses Netcool Operations Insight to forward incidents into WatsonAIOps.

For that, please follow the instructions below 'Creating custom event sources with email' in the 'Other incoming integrations' section in the 'Configuring incoming integrations' chapter.

Then configure this task to forward the data you want to forward into WatsonAIOps.

MonitoringConfigTemplate

Description of the Task

This task is used for deploying monitoring templates (Situation and Probe definitions).

IMPORTANT All situations are inactive after executing the task. Some of the situations need addtitional adjustments.

NOTE Run the Task on the Server - Select "Run on Server" from Agent

Parameters

Agent Name

Select the agent from the drop down on which the templates should be deployed. Chose the matching agent for the subsystems.

Subsystem

Select the subsystem for which the templates should be deployed. Currently the following subsystems types are available:

- ContentPlatformEngine
- ContentNavigator
- Host
- OnDemand
- LibraryServer (CM8)
- ResourceManager (CM8)

Overwrite

Enable to overwrite already existing situations on each run.

Current Probe Templates

The following situations and probe configuration will be created:

Table 1. ContentPlatformEngine

Probe	Situation Name	Parameter	Period	Evaluation for Value
CEEngineStatus	$Probe @ $Subsystem		2 min	value == 0 CRTICAL value == 1 HARMLESS
CEHealthPageStatus	$Probe @ $Subsystem	Check /P8CE/Health which must be checked - Default all	2 min	value == 0 CRTICAL value == 1 HARMLESS
CEWebServicesStatus	$Probe @ $Subsystem		2 min	value == 0 CRTICAL value == 1 HARMLESS
ContentSearchServicesIndexingErrors	$Probe @ $OSName	OSName: Name of OS	3 min	value >= 10 CRITICAL value >= 5 WARNING value >= 0 HARMLESS
ContentSearchServicesIndexRequests	$Probe @ $OSName	OSName: Name of OS Calculation Type: MAX	3 min	value >= 0 HARMLESS
ObjectsNotStoredFinally	$Probe @ $OSName	OSName: Name of OS Calculation Type: MAX NumberOFProcessAttempts: 5	5 min	value >= 10 CRITICAL value >= 5 WARNING value >= 0 HARMLESS
ObjectstoreCustomQuery	Amount of Documents @ $OSName	OSName: Name of OS Custom CE URL: Custom SQL: select \[ID\] from \[DOCUMENT\]	15 min	value >= 0 HARMLESS
ObjectsLoadDocumentPerformance	$Probe @ $OSName	OSName: Name of OS Document ID: please enter valid document ID here Load Type: Cache	10 min	value >= 10 CRITICAL value >= 5 WARNING value >= 0 HARMLESS
ObjectStoreNewObjects	$Probe $Type @ $OSName	OSName: Name of OS Custom CE URL: Object Type: Document Custom Type:	15 min	value >= 0 HARMLESS
ObjectStorePerformance	$Probe @ $OSName	OSName: Name of OS Storage Area Name: Object Types: Document Measurement Type: COMPLETE Custom SQL Query: Custom CE URL:	3 min	value >= 2000 CRITICAL value >= 1000 WARNING value >= 0 HARMLESS
PELockedQueueWorkObjects	$Probe @ $Connection Point	Connection Point: Queue Name: Time Frame: 15	20 min	value >= 10 CRITICAL value >= 5 WARNING value >= 0 HARMLESS
PEPingPageStatus	$Probe @ $Subsystem	Custom CE URL:	2 min	value == 0 CRTICAL value == 1 HARMLESS
PEQueueCount	$Probe @ $Connection Point	Connection Point: List of Queues :	3 min	value >= 0 HARMLESS

Probe	Situation Name	Parameter	Period	Evaluation for Value
PERosterCount	$Probe @ $Connection Point	Connection Point: List of Rosters :	4 min	value >= 0 HARMLESS
SubscriptionRetryErrors	$Probe @ $OSName	OSName: Name of OS Calculation Type: MAX	10 min	value >= 10 CRITICAL value >= 5 WARNING value >= 0 HARMLESS

Table 2. ContentNavigator

Probe	Situation Name	Parameter	Period	Evaluation
ContentNavigator ActiveStatus	$Probe @ $Subsystem		2 min	value == 0 CRTICAL value == 1 HARMLESS
ContentNavigator PingPageStatus	$Probe @ $Subsystem		2 min	value == 0 CRTICAL value == 1 HARMLESS
SyncServerPingPageStatus	$Probe @ $Subsystem		2 min	value == 0 CRITICAL value == 1 HARMLESS

Table 3. Host

Probe	Situation Name	Parameter	Period	Evaluation
CPU	$Probe @ $Subsystem	Request Count: 5	30 sec	value >= 80 CRITICAL value >= 50 WARNING value >= 0 HARMLESS
Diskspace	$Probe @ $Subsystem	Unit: % View By: Filesystem Name	15 min	value <= 5 CRITICAL value <= 10 WARNING value >= 10 HARMLESS
Memory	$Probe @ $Subsystem	Unit: % Perspective: Free	2 min	value <= 5 FATAL value <= 20 CRITICAL value <= 30 WARNING value >= 30 HARMLESS

Table 4. ContentManagerV8.x

Probe	Situation Name	Parameter	Period	Evaluation
ResourceManagerServices	$Probe @ $Subsystem	Check Migrator: Active Check Replicator: Active Check Purger: Active Check Stager: Active	3 min	value >= 1 CRTICAL value == 0 HARMLESS
ResourceManagerVolumeSpace	$Probe @ $Subsystem	Volume Types:	10 min	value == 0 HARMLESS value >= 1 CRITICAL
ResourceManagerHeartbeat	$Probe @ $Subsystem	Resource Manager Names:	1 min	value == 0 HARMLESS value >= 1 CRITICAL
ResourceManagerWebStatus	$Probe @ $Subsystem	Resource Manager Names: Use Resource Manager Name Instead of Library Server Name:	10 min	value == 0 CRTICAL value == 1 HARMLESS

Table 5. OnDemand

Probe	Situation Name	Parameter	Period	Evaluation
FullTextSearchServerStatus	$Probe @ $Subsystem		3 min	value == 0 CRITICAL value == 1 HAMLESS
OnDemandApiLogonPerf	$Probe @ $Subsystem		5 min	value >= 500 CRITICAL value >= 300 WARNING value >= 0 HARMLESS
OnDemandDocumentRetrievalTime	$Probe @ $Subsystem	Application Group: Calulation Time: AVG	2 min	value >= 500 CRITICAL value >= 300 WARNING value >= 0 HARMLESS
OnDemandGroupAddCount	$Probe @ $Subsystem	Application Group: Calulation Time: AVG	15 min	value >= 0 HARMLESS
OnDemandGroupAddSize	$Probe @ $Subsystem	Application Group: Calulation Time: SUM	15 min	value >= 0 HARMLESS
OnDemandGroupQueryStatus	$Probe @ $Subsystem	Application Group: Threshold: 100	5 min	value == 0 CRITICAL value == 1 HARMLESS
OnDemandGroupQueryTime	$Probe @ $Subsystem	Application Group: Calulation Time: AVG	2 min	value >= 500 CRITICAL value >= 300 WARNING value >= 0 HARMLESS
OnDemandLogonStatus	$Probe @ $Subsystem		5 min	value == 0 CRITICAL value == 1 HARMLESS
OnDemandPingStatus	$Probe @ $Subsystem	Servers:	2 min	value == 0 CRITICAL value == 1 HARMLESS

Probe	Situation Name	Parameter	Period	Evaluation
OnDemandPingTime	$Probe @ $Subsystem	Servers: Calculation Type: MAX Status List: Okay	2 min	value >= 1 CRITICAL value >= 0 HARMLESS
OnDemandReportLoadedStatus	$Probe @ $Subsystem	Application Group: Threshold: 100	5 min	value == 0 CRITICAL value == 1 HARMLESS
OnDemandReportLoadedTime	$Probe @ $Subsystem	Application Group: Calulation Time: AVG	2 min	value >= 500 CRITICAL value >= 300 WARNING value >= 0 HARMLESS
OnDemandResource Retrival	$Probe @ $Subsystem	Application Group: Calulation Time: AVG	5 min	value >= 500 CRITICAL value >= 300 WARNING value >= 0 HARMLESS
OnDemandServiceStatus	$Probe @ $Subsystem	Check Scheduler Service: Active Check Manual Services: Active Check Report Distribution Service: Active	1 min	value == 0 CRITICAL value == 1 HARMLESS
OnDemandSyslogErrors	$Probe @ $Subsystem	Error Or All Messages: ERROR Message Number:	10 min	value == 0 HAMRLESS value >= 1 CRITICAL
OnDemandSystemLog	$Probe @ $Subsystem	logonOnly:	10 min	value == 10 HARMLESS value == 20 WARNING value == 30 CRITICAL value == 40 FATAL

Table 6. Database

Probe	Situation Name	Parameter	Period	Evaluation
DatabaseConnectionStatus	$Probe @ $Subsystem		2 min	value == 0 CRITICAL value == 1 HARMLESS

OnDemand Start Library Server

Description

This task starts the processes and services for CM On Demand.

On Windows, the following services will be started:

- OnDemand LibSrvr
- OnDemand Load Data

- OnDemand MVSD Server
- OnDemand Scheduler
- OnDemand Distribution Facility

On Linux / AIX, the given command is executed.

Parameters

Start Scheduler Service

Optional. Check this box if you want to start the OnDemand Scheduler Service in addition to other CM On Demand services.

Start Distribution Facility Service

Optional. Check this box if you want to start the OnDemand Distribution Facility Service in addition to other CM On Demand services.

Start Manual Services

Optional. Check this box if you want to start all CM On Demand-related services that are configured for manual start.

Unix Start Command

Required for Linux / AIX agents.
If a relative path is given, it will be resolved using the `bin` subdirectory of the OnDemand installation directory specified in the subsystem. The database library path will be added to the `LIBPATH` automatically.
It is possible to use placeholders to reference fields from the selected OnDemand subsystem. Placeholders are case-sensitive and must be prefixed with `$`. The following placeholders are supported:

- archiveName
- installationPath
- odwekUser
- odwekPassword
- ftsPath
- serverName
- odwekPort
- sslKeyringFile
- sslKeyringStash

Subsystem

Select the Subsystem for which the task should be executed.

OnDemand Start Object Server

Description

This task starts the processes and services for CM On Demand.

On Windows, the following services will be started:

- OnDemand ObjSrvr
- OnDemand Load Data
- OnDemand MVSD Server
- OnDemand Scheduler
- OnDemand Distribution Facility

On Linux / AIX, the given command is executed.

Parameters

Start Scheduler Service

Optional. Check this box if you want to start the OnDemand Scheduler Service in addition to other CM On Demand services.

Start Distribution Facility Service

Optional. Check this box if you want to start the OnDemand Distribution Facility Service in addition to other CM On Demand services.

Start Manual Services

Optional. Check this box if you want to start all CM On Demand-related services that are configured for manual start.

Unix Start Command

Required for Linux / AIX agents.
If a relative path is given, it will be resolved using the `bin` subdirectory of the OnDemand installation directory specified in the subsystem. The database library path will be added to the `LIBPATH` automatically.
It is possible to use placeholders to reference fields from the selected OnDemand subsystem. Placeholders are case-sensitive and must be prefixed with `$`. The following placeholders are supported:

- archiveName
- installationPath
- odwekUser
- odwekPassword
- ftsPath
- serverName
- odwekPort
- sslKeyringFile
- sslKeyringStash

Subsystem

Select the Subsystem for which the task should be executed.

OnDemand Stop Library Server

Description

This task stops the processes and services for CM On Demand.

On Windows, the following services will be stopped:

- OnDemand LibSrvr
- OnDemand Load Data
- OnDemand MVSD Server
- OnDemand Scheduler
- OnDemand Distribution Facility

On Linux / AIX, the given command is executed.

Parameters

Stop Scheduler Service

Optional. Check this box if you want to stop the OnDemand Scheduler Service in addition to other CM On Demand services.

Stop Distribution Facility Service

Optional. Check this box if you want to stop the OnDemand Distribution Facility Service in addition to other CM On Demand services.

Stop Manual Services

Optional. Check this box if you want to stop all CM On Demand-related services that are configured for manual startup.

Unix Stop Command

Required for Linux / AIX agents.
If a relative path is given, it will be resolved using the `bin` subdirectory of the OnDemand installation directory specified in the subsystem. The database library path will be added to the `LIBPATH` automatically.
It is possible to use placeholders to reference fields from the selected OnDemand subsystem. Placeholders are case-sensitive and must be prefixed with `$`. The following placeholders are supported:

- archiveName
- installationPath
- odwekUser
- odwekPassword

- ftsPath
- serverName
- odwekPort
- sslKeyringFile
- sslKeyringStash

Subsystem

Select the Subsystem for which the task should be executed.

OnDemand Stop Object Server

Description

This task stops the processes and services for CM On Demand.

On Windows, the following services will be stopped:

- OnDemand ObjSrvr
- OnDemand Load Data
- OnDemand MVSD Server
- OnDemand Scheduler
- OnDemand Distribution Facility

On Linux / AIX, the given command is executed.

Parameters

Stop Scheduler Service

Optional. Check this box if you want to stop the OnDemand Scheduler Service in addition to other CM On Demand services.

Stop Distribution Facility Service

Optional. Check this box if you want to stop the OnDemand Distribution Facility Service in addition to other CM On Demand services.

Stop Manual Services

Optional. Check this box if you want to stop all CM On Demand-related services that are configured for manual startup.

Unix Stop Command

Required for Linux / AIX agents.
If a relative path is given, it will be resolved using the `bin` subdirectory of the OnDemand installation directory specified in the subsystem. The database library path will be added to the `LIBPATH` automatically.
It is possible to use placeholders to reference fields from the selected OnDemand subsystem. Placeholders are case-sensitive and must be prefixed with `$`. The following placeholders are

supported:

- archiveName
- installationPath
- odwekUser
- odwekPassword
- ftsPath
- serverName
- odwekPort
- sslKeyringFile
- sslKeyringStash

Subsystem

Select the Subsystem for which the task should be executed.

ProcessExecution

Description of the Task:

This task can be used to execute any command or script on the selected agent.

IMPORTANT The task does no security checks and does not prohibit the execution of potentially harmful commands. The task is executed with the permissions of the account the server or agent process is running under.

Parameters and explanation:

Command

Specify the command or script that should be executed. Give full path. For Windows CMD based scripts start the parameter with cmd /c.

Example 19. Examples for Windows Batch or CMD scripts

```
cmd /c D:\YourFolder\YourBatchFile.bat
or
cmd /c D:\YourFolder\YourCMDFile.cmd
```

StatusMail

Description of the Task

This task notifies the recipients via e-mail about internal (ESM specific) issues. The task should not be set to active. For the Agent "[Run on Server]" should be selected. This means the task runs on the ESM server. The reason that triggers the task can be set in the task configuration.

Parameters

Subject

Default: $reason
$reason will be replaced depending on the trigger reason. Any additional (plain) text can be used as well

Example 20. Replacement of $reason

```
Subject for agent timed-out: "Agent <agent name> timed-out at <timestamp>".
Subject for task failed: "Task <task name> of type <task type> returned with status
<status>".
```

Body

Specify any message body text in here. Plain text can be used.

Mail Server Name

Select the mail server that should be used for sending the mails from the dropdown.

NOTE The mail server has to be configured in the administration dashboard before it can be used.

Recipients

Specify one or more recipients. The list should be comma (,) separated with no blanks.

Example 21. EMail List

```
your_email@your_company.com,your_colleague@your_company.com,your_unit_mailbox@your_company.c
om,…
```

Trigger Reason

Set the reason in here for which the task should be triggered. Possilbe selection are:

- Any (Any of the below)
- CANCELED_OR_FAILED_TASKS (tasks were canceled or failed)
- CANCELED_TASKS (tasks were canceled)
- FAILED_TASKS (tasks were failed during execution)
- TIMED_OUT_AGENTS (agents are recognized as timed out)

NOTE Currently no multi select is possible

SystemHostnames

Description of the Task

The task collect the host names used in the ESM configuration. This is specifically useful for license relevant information.

Parameters

None

NOTE As Agent select [Run on Server] to collect the information from the entire ESM configuration. Select a specific Agent to only collect the data that is configured in combination with this agent.

WebHookExportIncident

Description of the Task

This task is used for sending incident information to any webhooks e.g. like slack. The task should not be set to active and as Agent "[Run on Server]" should be selected. This means the task runs on the ESM server. The task can be triggered if a certain incident for a probe exists. See probe and situation guide.

NOTE The content type of the post request is always "application/json"

Parameters

Template

Default: `$Timestamp: $Severity: $Value | $Message | {"text" : "$Timestamp: $Severity: $Value | $Message | $Error "}`
Other than that you can set your own structure using record internal fields. Record internal fields are used with the following notation: $EntityType.FieldInCamelCase. They can be seen when double clicking on an incident. The field must be defined in CamelCase, meaning each word starts with a capital letter. E.g. SituationCfgId. Some of the fields e.g. Incident.ID might not be available at task execution since the entry is created when added to the DB.
The following EntityTypes are available:

- Incident (default - used if nothing but FieldInCamelCase is specified)
- Situation
- Sample
- ProbeConfig
- Agent
- Subsystem

Regular Expression within Export Tasks

The task output template can handle regular expression. This can be used to extract information so it can be forwarded in various DB columns. E.g. a sample from a "Listener Probe" contains information about the object in the message.

Description of the usage of regular expression within the template

The regular expression has to start and end with a /. The expression follows the standards of regular expressions. After the expression a comma is needed. The number after the comma is the Index of the findings. E.g. 1 is the first finding, 2 the second one etc. If you want to use a reverse lookup, -1 is the last finding, -2 the second last etc. The whole string is set between { and }.

Example 22. Example for Input, Template and Outcome

```
Original Message: /USER/BASEOS/Database/select/total count+ Template Excerpt: LastPart:
$Message{//,-1} + Outcome: LastPart: total count
```

If the regular expression does not deliver a result or the index is not valid, "N/A" will be set.

Webhook URL

Insert the Webhook URL here. The default is: https://hooks.slack.com/services/<T>/<B>/<X> Replace the URL with your Webhook URL. An example for the Webhook creation for slack can be found here: https://api.slack.com/incoming-webhooks

Authorization Header

Optional, empty out the information if not needed. Enter the Authorization Header if the connection does need it, e.g. apiToken.

Tls Version

Required. Select the TLS version to use for the connection.

TLS v1.2 and 1.3

The connection will negotiate the TLS version with the server.

TLS v1.2

Enforce TLS v1.2. Connections to a server that supports TLS v1.3 only will fail.

TLS v1.3

Enforce TLS v1.3. Connections to a server that supports TLS v1.2 only will fail.

Examples

ServiceNow

Integrating ESM in ServiceNow as an example using the WebHookExportIncident Task.

Requirements

- The Service Management tool must offer a REST API that allows JSON object to be posted. For example *ServiceNow* offers this option as a Web Service API.
- The ESM Server must be able to access the URL to the REST API.

Step by Step setup

1. Find the description of the REST API and create the message template accordingly

   Check for the description of the API on the vendor pages. E.g. this is the URL of the Web Service API from *ServiceNow*: https://docs.servicenow.com/bundle/quebec-it-operations-management/page/product/event-management/task/send-events-via-web-service.html

   On the *ServiceNow* page you can find this example for the JSON object with one record at a time:

```
{ "records": [{
    "source":"SCOM",
    "event_class":"SCOM 2007 on scom.server.com",
    "resource":"C:",
    "node":"name.of.node.com",
    "metric_name":"Percentage Logical Disk Free Space",
    "type":"Disk space",
    "severity":"4",
    "description":"The disk C: on computer V-W2K8-dfg.dfg.com is running out of
disk space. The value that exceeded the threshold is 41% free space.",
    "additional_info": {
        'scom-severity':'Medium',
        'metric-value':'41',
        'os_type':'Windows.Server.2008'
        }
    }]
}
```

The default template in the *WebHookExportIncident* task looks like this:

```
$Timestamp: $Severity: $Value | $Message | \{"text" : "$Timestamp: $Severity:
$Value | $Message | $Error "} +
```

Incident internal fields are used with the following notation: `$EntityType.FieldInCamelCase`. They can be seen when double clicking on an incident. The field must be defined in CamelCase, meaning each word starts with a capital letter. E.g. `SituationCfgId`. Some of the fields e.g. `Incident.ID` might not be available at task execution since the entry is created when added to the DB.

The following EntityTypes are available:

- Incident (default - used if nothing but FieldInCamelCase is specified)
- Situation
- Sample
- ProbeConfig
- Agent
- Subsystem

The information must be combined with the needed JSON object to the actual template. This is just an example and may not fit in your environment. Some JSON object variables have been removed as they are not needed:

```
{ "records": [{
    "source":"$Source",
    "event_class":"$Classification",
    "node":"$Agent.HostName",
    "metric_name":"$Probe.Name",
    "severity":"4",
    "description":"$Message",
    "additional_info": {
        "This alert pertains to XYZ System - $Timestamp | $Error"
        }
    }]
}
```

The template is completed, make sure to put it in a one line format after you have created it. We recommend to do that in an editor like notepad++ or vim.

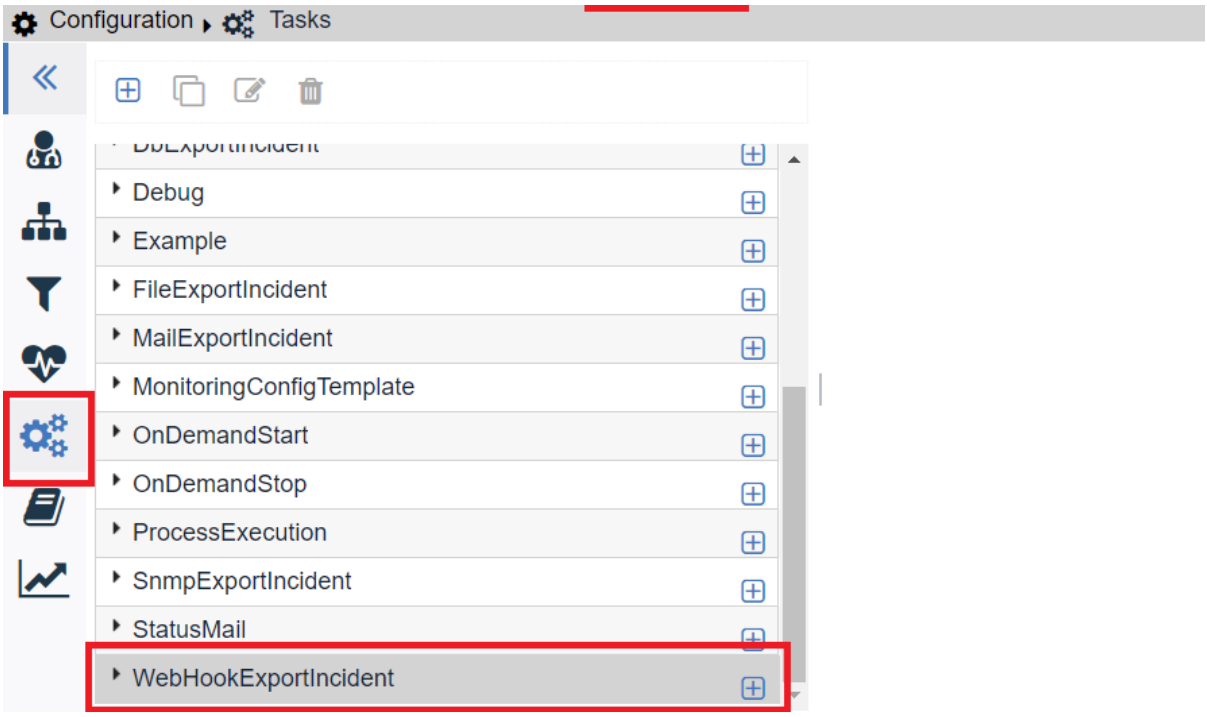
```
{"records": [{"source":"$Source", "event_class":"$Classification",
"node":"$Agent.HostName", "metric_name":"$Probe.Name", "severity":"4",
"description":"$Message", "additional_info":\{ "This alert pertains to XYZ
System - $Timestamp | $Error" } } ] }
```

The severity could not be replaced in this case by using the `$Severity` info from the incident, as the information would be something like `HARMLESS` or `CRITICAL`. The object needs a number in this case. So depending on how many different severities for objects are needed in the Service Management Tool, you might end up using several ESM tasks (one for each severity).

2. Setup of the actual task

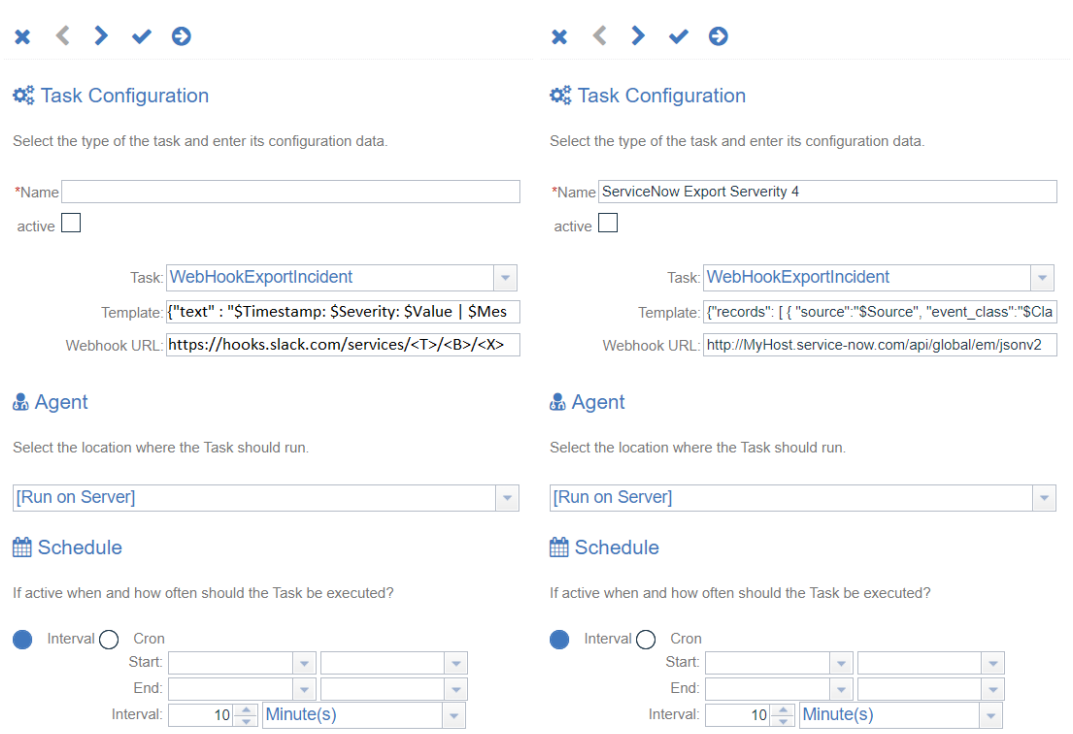
   Once the template is created, the URL where the JSON object will be sent to, is needed. In case of *ServiceNow* an example is given on the above specified web page again. As you can see there are various URLs for single or multiple records that are provided in the JSON object. Because the task will be triggered by one incident only, the JSON object will only contain one record. Therefore the URL is specified with this default look like on the web page:

   The actual task setup is done in the ESM console. Browse to the configuration and on the left to the tasks. There you will find the *WebHookExportIncident* task.



Click on the + on the right of the *WebHookExportIncident* task to open the task editor.

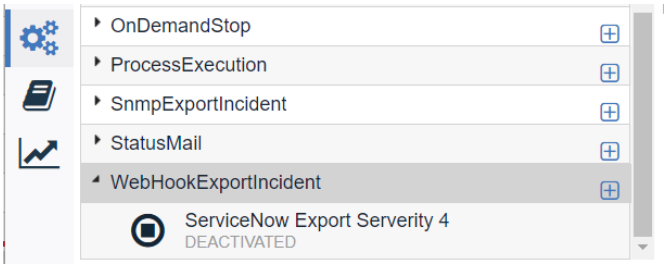
The editor looks like this:



- Specify a name for the task, e.g. *ServiceNow Export Severity 4*.
- Do not check the active button as the task will be triggered by an incident.

- Copy the template that has been created in the template section.
- Copy the matching URL in the Webhook URL.
- As Agent use *[Run On Server]*. The task will be executed on the actual ESM Server which is what we want.
- Because the task is triggered, the schedule part will not be used at all.
- Save the task by clicking on the hook button above the *Task Configuration*.

You should now see the saved task specified as “DEACTIVATED” below the *WebHookExportIncident* entry in the task list.

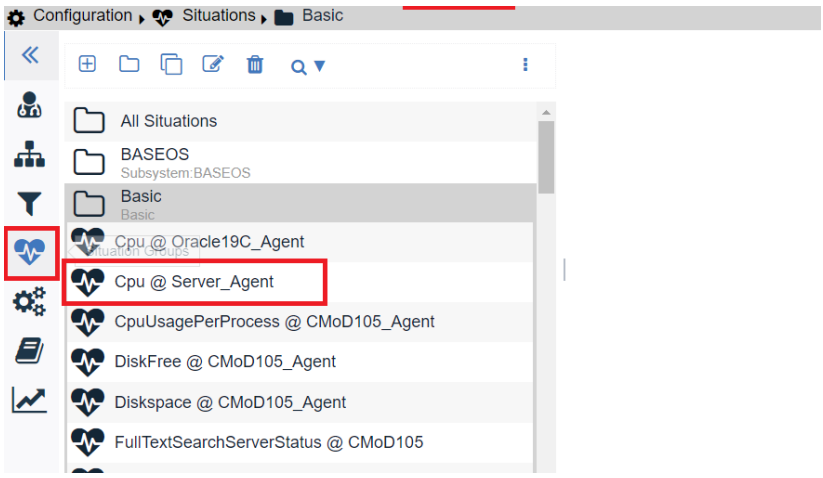


Repeat this step for tasks that use other severities, e.g. three more tasks for severities 1-3.

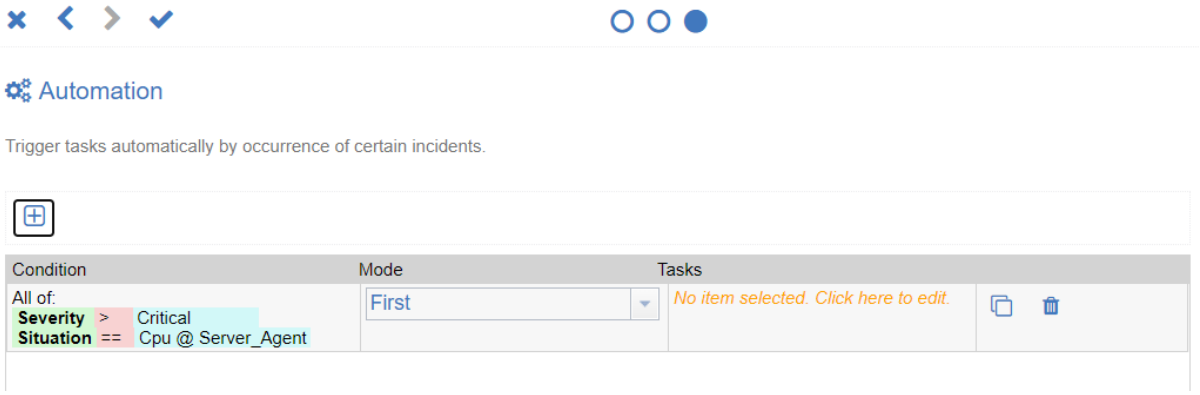
3. Trigger the task (forwarding to *ServiceNow*) once the incident is created

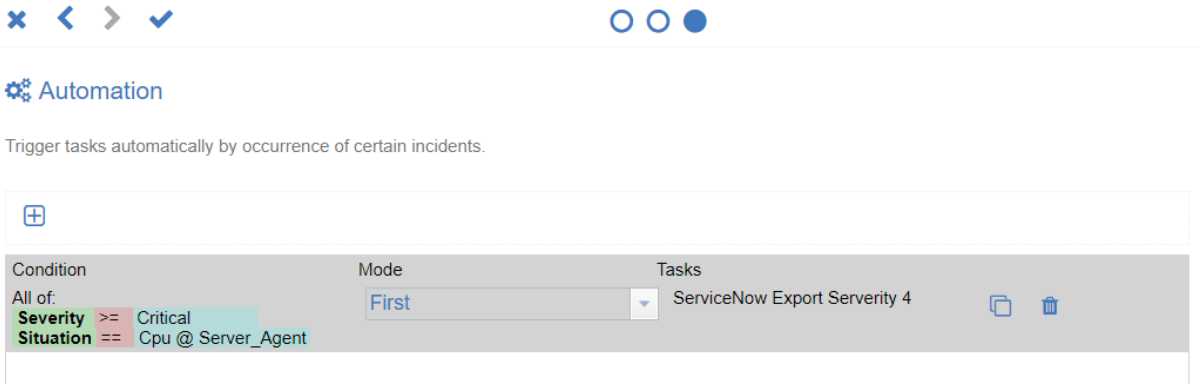
   For forwarding the incident to the Service Management tool a task trigger must be defined. This is done in the situation editor. For each incident to be forwarded this must be done in the corresponding situation setup. As a simple example this is done with the *CPU @ Server_Agent* situation here.

   Select the configuration dashboard and switch to the *Situation Groups* on the left. Open the situation editor by double clicking on the situation for which you want to add the trigger.



The editor will open. Switch to page 3 (*Automation*) of the editor. Per default no entry is given there. Click on the *[+]* to add a new setup.





Condition:

You should adjust the condition to your needs, but you should keep the entry `Situation == XYZ` at this point. Otherwise the condition will match all situations and the task is trigged from each incident that matches the condition.

Mode:

Select from the drop down between *First* or *Always*.

- *First*: will trigger the task only once – once the condition changes to a first match – so if the incident is currently having this condition already, nothing will be triggered.
- *Always*: Each time the condition matches the currently created incident, the task will be triggered.

Tasks:

Select the task you want to trigger once the condition matches from the drop down.

Save the situation setup by clicking on the hook button above the *Automation*. Repeat this for all incidents that must be forwarded. The integration is now complete.

WatsonAIOps

Integrating ESM in WatsonAIOps as an example using the WebHookExportIncident Task.

WatsonAIOps can be configured for incoming integrations from a wide range of cloud sources. For detailed information, please read the 'Configuring incoming integrations' section in the 'Configuring event management' chapter of the WatsonAIOps documentation. Follow the instructions to allow incoming integrations.

The integration via Webhooks uses Netcool Operations Insight to forward incidents into WatsonAIOps.

Follow the instructions from the 'Webhook' section in the 'Configuring incoming integrations' chapter below 'Cloud and hybrid systems' of the 'Netcool Operations Insight' documentation.

NOTE

In case webhooks are not a viable option in your area to forward incidents into WatsonAIOps, then you can use emails as a custom event source instead.

For that, please follow the instructions below 'Creating custom event sources with email' in the 'Other incoming integrations' section in the 'Configuring incoming integrations' chapter. Then use the MailExportIncident task of ESM described in this guide to acomplish this task.

Template setting for Microsoft Teams message card

Requirements

You need a teams channel that accepts a webhook.

Step by Step setup

NOTE

In some circumstances it is possible that the value information is filled with content that would get recognized as markdown information, therefore markdown for a message card in teams should always be set to false.

Check for the description of the message cards on the Microsoft pages. This is the URL of the cards overview from *Microsoft*: https://learn.microsoft.com/en-us/microsoftteams/platform/task-modules-and-cards/what-are-cards

Here is an example card we are using:

```
{
  "@type": "MessageCard",
  "@context": "http://schema.org/extensions",
  "title": "ESM - Incident created",
  "themeColor": "0076D7",
  "summary": "ESM Webhook Test",
  "sections": [{
    "title": "$Situation.name - $Severity",
    "facts": [{
      "name": "Timestamp", "value": "$Sample.Timestamp" }, {
      "name": "Message", "value": "$Message" }, {
      "name": "Error:", "value": "$Error" }, {
      "name": "Value:", "value": "$Value" }],
    "startGroup": true, "markdown": false }],
  "potentialAction": [{
    "@type": "OpenUri", "name": "Connect to ESM Server", "targets": [{
      "os": "default", "uri":
"https://<Your.ESM.server>/ui/#/subsystems?incident=$Id"
    }]
  }]
}
```

NOTE Insert your ESM Server Name and Port (optional) where it says `<Your.ESM.Server>` in the example.

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IBM Enterprise Content Management System Monitor

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