

TAUBER REST-API

Client for BMC Helix Operations Manager

User Guide

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Version History

IMPORTANT

V1.0.00

- Initial Version

V2.0.00

- Adding multiple new functions to bhrpic
- Adding multiple new wrappers

V2.0.03

- Bugfixes

Introduction

This document describes in a fast and simple way the installation, configuration and use of the **TAUBER** REST-API Client for BMC Helix Operations Manager (=BHRAPIC).

The product is used to gather and set data using the REST-API build into the BMCs Helix Operations Manager. BHRAPIC can be used to automate processes within Helix Operations Manager like exporting and importing Policies for backup or migration reasons.

For more information about BMC Helix Operations Management and BMC Helix Monitor please use www.bmchelix.com or contact your local BMC Helix office or reseller.

Introduction

Supported OS platforms

This Table shows all supported OS platforms for TRAPIC II.

Operating System	Supported?	Runnig?
Windows 7 (32 & 64 Bit)	Yes	Yes
Windows 10 (32 & 64 Bit)	Yes	Yes
Windows 2008 (32 & 64 Bit)	Yes	Yes
Windows 2012 (32 & 64 Bit)	Yes	Yes
Windows 2016 (32 & 64 Bit)	Yes	Yes
Windows 2019 (32 & 64 Bit)	Yes	Yes
RedHat Server 9.5 and higher	Yes	Yes
SUSE Sles 15 and higher	Yes	Yes

Supported BMC Helix Monitor versions

The following table shows the supported BMC Helix Monitor versions:

BMC Helix Monitor Versions	Supported?	Running?
< 25.2.02	No	Yes
>= 25.2.02	Yes	Yes

BHRAPIC Wrappers
bhexportmonitorpolicies & bhimportmonitorpolicies
bhexportalarmpolicies & bhimportalarmpolicies
bhexportblackoutpolicies & bhimportblackoutpolicies
bhexporteventpolicies & bhimporteventpolicies
bhexportgroups & bhimportgroups
bhexportmonitorpolicies & bhimportmonitorpolicies
bhexportauthprofiles & bhimportauthprofiles
bhshowblackoutpolicies & bhcreateblackoutpolicies
bhdeletealarmpolicies & bhdeleteauthprofiles
bhdeleteblackoutpolicies & bhdeleteeventpolicies
bhdeletegroups & bhdeletemonitorpolicies

NOTE:

BHRAPIC wrappers are additional command line tools that use bhrapic function calls to implement more complex processes using BMC Helix Operations Manager REST-API like adding a Policy.

All BHRAPIC wrappers are commercial tools and need a valid license!

To use the functions marked as commercial contact support@tabuso.com and make sure that you place the license.txt into the same directory all bhrapic files are located in.

To use BHRAPIC you need a copy of the command line tool curl. The latest release of BHRAPIC contains a working copy of curl which is by default used. It is in the BHRAPIC subdirectory called "curl"!

Installation

To install BHRAPIC download the product installation package from the TAUBER Business Solutions Ug Website and unzip it on your Windows or Linux system. Make sure you have execute privileges in this directory.

Next to this you need to be able to connect to the HTTPS port of your BMC Helix Operations Manager which by default is 443.

Execute bhrapic(.exe) without any arguments to check your license.

```
D:\bhrapic>bhrapic.exe
(B)MC (H)elix (R)EST (API) (C)lient V1.6.33
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
No license.txt found ... using trial version!
```

Pic. 1: bhrapic without license!

If you have no valid license BHRAPIC tells you by showing “No license ...”. If you have no license, you can use the free functions.

Additional steps on Linux

On a Linux System you must grant execute permissions to three executables using “chmod 755”

- Go to bhrapic directory
- Execute “chmod 755 bh*”
- Go to curl directory
- Execute “chmod 755 curl”

IMPORTANT

- Execute the REST Client using “./bhrapic” on Linux
If you get an error like “.. missing libnsl.so.1 ...”.
- Manually install the libraries using
“dnf install libnsl*”.

Applying a license

If you receive a commercial license, you get a text file called license.txt. Copy the file to the same directory you have bhrpic in and execute “bhrpic(.exe)”. BHRAPIC will tell you the license details if it accepts the license.

```
[patrol@ptf-rel95-gra01 bhrpic]$ ./bhrpic
(B)MC (H)elix (R)EST (API) (C)lient V1.6.33
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: BITMARCK / Max # session: none!
Expiration date 09.09.2099!
```

Pic. 2: BHRAPIC with valid license!

Using BHRAPIC

Introduction

The BHRAPIC command line tool arguments consist of five different areas some mandatory and some optional based on the connection type and target system (see examples below the list):

Authentication

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.

Connection data

- ss [Filename] Store connection data in file
- cs [Filename] Connect to system stored in file

Function

- f [function]

Output

- kof This will keep the output file instead of deleting it after the execution. The filename is called bhrapic...
- csv This will generate a comma separated list output
- tbl This will generate an output in table format
- exed Directory and Filename of the Excel Report

Debug

- debug Activate the debug output

This is an example to generate a list of devices from BHOM:

Example 1

```
./bhrapic -kn "TIMOS-KEY" -ak "URHI1K7I7QY5" -ask "jXBPvYMgGEptSJr" -bs "demosystem.tabuso.com:443" -f getagentlist -tbl
```

Output

```
(B)MC (H)elix (R)EST (API) (C)lient V2.0.00
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: BITMARCK / Max # session: none!
Expiration date 09.09.2099!
```

```
# 1 / Agent Id = [ae54613c-fbee-4d0f-afca-96eea2a07997] / Agent name = [sudzfgsdf.acb-sdifuh.net] / Agent Port = [3181] / Agent version = [V24.2.00i] / Agent connection state = [Connected] / Agent IP Address = [192.168.50.15] / Agent OS = [Linux] / Deployment Status = [Install completed] / Agent tags = []
# 2 / Agent Id = [7a7c8d80-52e3-49d3-94ac-86ef45ad862e] / Agent name = [sdf-aus-sdfsf] / Agent Port = [3181] / Agent version = [V23.3.00i] / Agent connection state = [Connected] / Agent IP Address = [10.17.131.187] / Agent OS = [Windows Server 2012 R2 Standard] / Deployment Status = [Install completed] / Agent tags = []
# 3 / Agent Id = [4ca00b15-b367-4306-a1da-75061692da27] / Agent name = [sf-aus-sf.sf.com] / Agent Port = [3181] / Agent version = [V25.2.00i] / Agent connection state = [Connected] / Agent IP Address = [127.0.1.1] / Agent OS = [Linux] / Deployment Status = [Install completed] / Agent tags = [ENSONO]
# 4 / Agent Id = [5a86e8db-105d-4283-8d65-2e24db036bd0] / Agent name = [sfd-aus-sdf.sd.com] / Agent Port = [3181] / Agent version = [V12.0.00i] / Agent connection state = [Disconnected] / Agent IP Address = [127.0.1.1] / Agent OS = [Linux] / Deployment Status = [Unknown] / Agent tags = []
```

Example 2

Connect to BHOM and get the list of Devices.

```
./bhrpic -kn "TIMOS-KEY" -ak "URHI1K7I7QY5" -ask "jXBpVYMgGEptSjr" -bs "demosystem.tabuso.com:443" -f getdevicelist -tbl
```

Output

```
(B)MC (H)elix (R)EST (API) (C)lient V2.0.00
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: BITMARCK / Max # session: none!
Expiration date 09.09.2099!
```

```
# 1 / Device name = [1testdevice] / Device Type Id = [10] / Device type = [Server] / Device total events = [0] / Device total agents = [0] / Device disconnected Agents = [0] / Device MFD = [false] / Device Id = [47c894b-bd41-4a63-9650-950fa92f8eb3] / Server Id = [1414537179]
# 2 / Device name = [nothertestdevice.com] / Device Type Id = [10] / Device type = [Server] / Device total events = [1] / Device total agents = [0] / Device disconnected Agents = [0] / Device MFD = [false] / Device Id = [dfaf93f57-20d4-437f-a270-abd9593068b4] / Server Id = [1414537179]
# 3 / Device name = [3a23c8c2ea61] / Device Type Id = [10] / Device type = [Server] / Device total events = [0] / Device total agents = [0] / Device disconnected Agents = [0] / Device MFD = [false] / Device Id = [8012cf4c-79d3-4e4e-88c1-1c8e0c587bd3] / Server Id = [1414537179]
```

Connection data

You can store and reuse the connection data (Access Key, Access Secret Key, BHOM Server & Port, Keyname). The Access Key and the Access Secret Key are encrypted in a simple and proprietary way! The file itself is a text file with "[Property]=[Value]" format. Despite the encrypted Keys you can change all other values directly in the file.

To store the connection data, execute the command as always to get some data from your BHOM and add the "-ss" (= store system config) option with a folder + file combination, e.g.

```
./bhrpic -kn "TIMOS-KEY" -ak "siuidfgzsgdfzu" -ask "jEptSjr" -bs "demosystem.tabuso.com:443" -ss "configs/TEST-System.cfg" -f getdevicelist -tbl
```

This will store the connection data in the folder "configs" and the file TEST-System.cfg! To use it with your next command use

```
bhrpic.exe -cs "configs\TEST-System.cfg" -f getagentlist
```

Connection file handling options:

-ss [Filename] Stores the connection data in file.

-cs [Filename] Uses the connection data from a file.

Functions in detail

This chapter will explain all available Functions you can use with bhraptic, the Arguments and Example Commands and Output.

getconnectionstatus

Arguments:

none

The `getconnectionstatus` function shows the status of the BHOM connection.

Example Command:

```
./bhraptic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getconnectionstatus
```

Example Output:

```
Connection to BHOM is OK!
```

getdevicelist

Arguments: none

The `getdevicelist` function requests all devices from BHOM and shows you

- Device name
- Device Type Id
- Device Type
- Device Total Events
- Device Total Agents
- Device Disconnected Agents
- Device MFD
- Device Id
- Server Id

Example Command:

```
./bhraptic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getdevicelist
```

Example Output:

```
# 182 / Device name = [walinuxagent_-_py_egg] / Device Type Id = [10] / Device type = [Server] / Device total events = [0] / Device total agents = [0] / Device disconnected Agents = [0] / Device MFD = [false] / Device Id = [d12475d3-a315-4b11-b10e-d7b2f94d57bd] / Server Id = [1414537179]
```

...

```
# 183 / Device name = [webhook] / Device Type Id = [10] / Device type = [Server] / Device total events = [0] / Device total agents = [0] / Device disconnected Agents = [0] / Device MFD = [false] / Device Id = [dctf81e5d-a511-4778-8350-ecb269771d68] / Server Id = [1414537179]
```

getmontypes

Arguments:

-did [Device ID]	Required	Required	Device Id to get Monitor Types from.
-sid [Service Id]	Required	Required	Server Id.

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TAUBER Rest-API Client for
BMC Helix Operations Manager

The `getmontypes` function shows you all monitor types for a given Device and Server Id and for each the following information

- The Monitor name
- The Monitor Unique Id
- The Monitor Type
- The Monitor Type Id
- The Monitor Id
- The Server Id

Example Command:

```
bhrrpic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getmontypes -did "740d8e23-4174-4a35-851c-1e83a9da0621" -sid "1414537179"
```

Example Output:

```
# 14 / Monitor name = [_Total] / Monitor Unique Id = [4f71318f-2db8-4760-a906-2f5e9ddf1671] / Monitor Type = [Processor] / Monitor Type Id = [NT_CPU] / Server Id = [1414537179] / Monitor Id = [7a7c8d80-52e3-49d3-94ac-86ef45ad862e:NT_CPU:CPU__Total]
# 15 / Monitor name = [0] / Monitor Unique Id = [3a18aac8-a928-4ec5-99f0-bf4f073e6585] / Monitor Type = [Processor] / Monitor Type Id = [NT_CPU] / Server Id = [1414537179] / Monitor Id = [7a7c8d80-52e3-49d3-94ac-86ef45ad862e:NT_CPU:CPU_0]
# 16 / Monitor name = [1] / Monitor Unique Id = [a75452e6-e9d8-45db-ab4e-bd2e591c0fac] / Monitor Type = [Processor] / Monitor Type Id = [NT_CPU] / Server Id = [1414537179] / Monitor Id = [7a7c8d80-52e3-49d3-94ac-86ef45ad862e:NT_CPU:CPU_1]
```

getattributelist

Arguments:

- | | | |
|-----------------------------|----------|--|
| -mtid [Monitor Type Id] | Required | Monitor Type Id to get Attributes for. |
| - mid [Monitor Instance Id] | Required | Monitor Instance Id to get Attributes for. |
| -sid [Server Id] | Required | Server Id. |

The `getattributelist` function requests all attributes for a Monitor Type Id, Monitor Instance Id and Server Id combination. To get these Ids use the `getmonitortypelist` function!

The function shows:

- The Display name
- The Unique name
- The Monitor Type Unique name
- The Monitor Type Id
- KPI?
- The Attribute Id

Example Command:

```
bhrrpic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getattributelist -mtid "NT_CPU" -mid "7a7c8d80-52e3-49d3-94ac-86ef45ad862e:NT_CPU:CPU__Total" -sid "1414537179"
```

Example Output:

```
# 1 / Display name = [Processor time] / Unique name = [CPUprcrProcessorTimePercent] / Monitor Type Unique name = [NT_CPU] / Monitor Type Id = [NT_CPU] / KPI? = [true] / Attribute Id = [CPUprcrProcessorTimePercent]
# 2 / Display name = [User time] / Unique name = [CPUprcrUserTimePercent] / Monitor Type Unique name = [NT_CPU] / Monitor Type Id = [NT_CPU] / KPI? = [true] / Attribute Id = [CPUprcrUserTimePercent]
# 3 / Display name = [Idle time] / Unique name = [CPUprcrIdleTimePercent] / Monitor Type Unique name = [NT_CPU] / Monitor Type Id = [NT_CPU] / KPI? = [false] / Attribute Id = [CPUprcrIdleTimePercent]
# 4 / Display name = [Interrupts] / Unique name = [CPUprcrInterruptsPerSec] / Monitor Type Unique name = [NT_CPU] / Monitor Type Id = [NT_CPU] / KPI? = [false] / Attribute Id = [CPUprcrInterruptsPerSec]
# 5 / Display name = [Limit] / Unique name = [CPUprcrVMLimit] / Monitor Type Unique name = [NT_CPU] / Monitor Type Id = [NT_CPU] / KPI? = [false] / Attribute Id = [CPUprcrVMLimit]
```

getperfdata2

Arguments:

- at	Required	The Attribute Id.
-mt	Required	The Monitor Type Id.
-mi	Required	The Monitor Instance Id.
-sid	Required	The Server Id.
-time	Optional	The time from current in Minutes to get the data for.
-st	Optional	Start time in Epoch to get the data for.
-et	Optional	End time in Epoch to get the data for.

The `getperfdata2` function shows the History data for the requested timeframe.

Example Command:

```
bhrrpic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getperfdata2 -at "CPUprcrProcessorTimePercent" -mt "NT_CPU" -mi "7a7c8d80-52e3-49d3-94ac-86ef45ad862e:NT_CPU:CPU__Total" -sid "1414537179" -time 60
```

Example Output:

```
# 1 / Data point date & time = [Sat 06 Sep 2025 07:42:09 PM CEST] / Data point timestamp (epoch) = [1757180529] / Data point value = [9.987]
# 2 / Data point date & time = [Sat 06 Sep 2025 07:43:09 PM CEST] / Data point timestamp (epoch) = [1757180589] / Data point value = [2.631]
# 3 / Data point date & time = [Sat 06 Sep 2025 07:44:09 PM CEST] / Data point timestamp (epoch) = [1757180649] / Data point value = [9.076]
# 4 / Data point date & time = [Sat 06 Sep 2025 07:45:09 PM CEST] / Data point timestamp (epoch) = [1757180709] / Data point value = [2.686]
# 5 / Data point date & time = [Sat 06 Sep 2025 07:46:09 PM CEST] / Data point timestamp (epoch) = [1757180769] / Data point value = [8.732]
# 6 / Data point date & time = [Sat 06 Sep 2025 07:47:09 PM CEST] / Data point timestamp (epoch) = [1757180829] / Data point value = [3.999]
# 7 / Data point date & time = [Sat 06 Sep 2025 07:48:09 PM CEST] / Data point timestamp (epoch) = [1757180889] / Data point value = [9.186]
# 8 / Data point date & time = [Sat 06 Sep 2025 07:49:09 PM CEST] / Data point timestamp (epoch) = [1757180949] / Data point value = [3.692]
```

geteventlist

Arguments:

- did	Required	The Device Id.
-evsvf	Required	The Event Severity Filter.
-evstf	Required	The Event Status Filter.

The `geteventlist` function shows all Events that match the Severity and Status filter for this Device and therefore the following information:

- The Creation time
- The Agent name
- The Status
- The Object
- The Object Class
- The Metric name
- The Metric unit
- The Metric Value
- The Event class
- The Event severity
- The Message
- The Source Hostname

Example Command:

```
bhraphic -cs configs/BMC-BHOM-SAS-Dev.cfg -f geteventlist -did "740d8e23-4174-4a35-851c-1e83a9da0621" -evsvf "CRITICAL" -evstf "OPEN"
```

Example Output:

```
# 1 / Creation time = [2025-08-12 14:30:59] / Agent name = [clm-aus-022329] / Status = [OPEN] / Object = [applications@BMC_DOCS@BMC_Docs@customtimers@HomePage] / Object class = [STM_CUSTOM_TIMER] / Metric name = [ResponseTime] / Metric unit = [ms] / Metric value = [52940.483] / Event class = [ALARM] / Event severity = [CRITICAL] / Message = [applications@BMC_DOCS@BMC_Docs@customtimers@HomePage Response Time > 2000 ms for 0 min.] / Source hostname = [clm-aus-022329]
# 2 / Creation time = [2025-08-05 00:04:16] / Agent name = [clm-aus-022329] / Status = [OPEN] / Object = [applications@BMC_DOCS@BMC_Docs@customtimers@HomePage] / Object class = [STM_CUSTOM_TIMER] / Metric name = [ResponseTime] / Metric unit = [ms] / Metric value = [9509.739] / Event class = [ALARM] / Event severity = [CRITICAL] / Message = [applications@BMC_DOCS@BMC_Docs@customtimers@HomePage Response Time > 2000 ms for 0 min.] / Source hostname = [clm-aus-022329]
# 3 / Creation time = [2025-07-27 00:00:14] / Agent name = [clm-aus-022329] / Status = [OPEN] / Object = [applications@BMC_DOCS@BMC_Docs] / Object class = [STM_SCRIPT_EP] / Metric name = [ExecutionError] / Metric unit = [#] / Metric value = [1.0] / Event class = [ALARM] / Event severity = [CRITICAL] / Message = [applications@BMC_DOCS@BMC_Docs Execution Error > 0 # for 0 min.] / Source hostname = [clm-aus-022329]
```

getauthprofilelist

Arguments: none

The getauthprofilelist function shows all Authorization Profiles defined in BHOM and therefore the following information:

- The Authprofile name
- The Authprofile owner
- The Authprofile tenant

Example Command:

```
bhraphic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getauthprofilelist
```

Example Output:

```
# 1 / Authprofile name = [Administrator] / Authprofile Id = [cdd12013-ce08-4460-98ac-f0f5f0b20c] / Authprofile owner = [1414537179] / Authprofile tenant = [1414537179]
# 2 / Authprofile name = [Operator] / Authprofile Id = [579fca2-84f1-4c20-bb42-9cf8035c9c15] / Authprofile owner = [] / Authprofile tenant = [1414537179]
# 3 / Authprofile name = [TIMOS-TEST-2] / Authprofile Id = [907a1030-003a-4a43-893c-84690f5f2f75] / Authprofile owner = [] / Authprofile tenant = [1414537179]
# 4 / Authprofile name = [viewevents] / Authprofile Id = [fe5d6be9-faef-40c7-8494-0aa8ef6edf21] / Authprofile owner = [] / Authprofile tenant = [1414537179]
```

gethelixapplicationlist

Arguments: none

The gethelixapplicationlist function shows all Applications in your Helix Platform and therefore the following data:

- The Application Name
- The Application Version
- The Application Description

Example Command:

```
bhraphic -cs configs/BMC-BHOM-SAS-Dev.cfg -f gethelixapplicationlist
```

Example Output:

```
# 1 / Application Name = [ADE Audit Service] / Application Version = [25.2.02] / Application Description = [Common Auditing Service for BMC Helix Applications]
# 2 / Application Name = [ADE Notification Service] / Application Version = [25.2.02] / Application Description = [Common Notification Service for BMC Helix Applications]
# 3 / Application Name = [BMC Helix Discovery] / Application Version = [25.2.02] / Application Description = [Discover and visualize all IT asset]
# 4 / Application Name = [Business Workflows Service] / Application Version = [22.1.05] / Application Description = [Business Workflows Service]
# 5 / Application Name = [DWP Service] / Application Version = [22.1.05] / Application Description = [DWP Service]
```

getagentlist

Arguments: none

The getagentlist function shows all Agents connect to BHOM and therefore the following information:

- The Agent Id
- The Agent Name
- The Agent Port
- The Agent Version
- The Agent connection state
- The Agent IP Address
- The Agent OS
- The Deployment state
- The Agent Tague

Example Command:

```
bhraphic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getagentlist
```

Example Output:

```
# 1 / Agent Id = [ae54613c-fbee-4d0f-afca-96eea2a07997] / Agent name = [barbatos.acb-cloud.net] / Agent Port = [3181] / Agent version = [V24.2.00] / Agent connection state = [Connected] / Agent IP Address = [192.168.50.15] / Agent OS = [Linux] / Deployment Status = [Install completed] / Agent tags = []
# 2 / Agent Id = [7a7c8d80-52e3-49d3-94ac-86ef45ad862e] / Agent name = [clm-aus-022329] / Agent Port = [3181] / Agent version = [V23.3.00] / Agent connection state = [Connected] / Agent IP Address = [10.17.131.187] / Agent OS = [Windows Server 2012 R2 Standard] / Deployment Status = [Install completed] / Agent tags = []
# 3 / Agent Id = [4ca00b15-b367-4306-a1da-75061692da27] / Agent name = [clm-aus-soqbku.bmc.com] / Agent Port = [3181] / Agent version = [V25.2.00] / Agent connection state = [Connected] / Agent IP Address = [127.0.1.1] / Agent OS = [Linux] / Deployment Status = [Install completed] / Agent tags = [ENSONO]
# 4 / Agent Id = [5a86e8db-105d-4283-8d65-2e24db036bd0] / Agent name = [clm-aus-ts9g2i.bmc.com] / Agent Port = [3181] / Agent version = [V12.0.00] / Agent connection state = [Disconnected] / Agent IP Address = [127.0.1.1] / Agent OS = [Linux] / Deployment Status = [Unknown] / Agent tags = []
```

getmonitorpolicylist

Arguments: none

The getmonitorpolicylist function shows the list of Monitor Policies and for each the following information:

- The Monitor Policy Name
- The Monitor Policy Id
- The Monitor Policy Description
- Is it enabled?
- Is it shared

Example Command:

```
bhrrpic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getmonitorpolicylist
```

Example Output:

```
# 1 / Policy name [NT_WINDOWS_SVC_RESTART_V_4_9_00] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 2 / Policy name [AGT_GRP_TEST_1] / Policy precedence = [900] / Policy owner = [admin] / Policy enabled? = [true]
# 3 / Policy name [NT_KEYNOTE_KM_V0_9_12] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 4 / Policy name [LX_NUK_KM_REMOTE_1_2_00_01] / Policy precedence = [702] / Policy owner = [admin] / Policy enabled? = [false]
```

getalarmpolicylist

Arguments: none

The getalarmpolicylist list function shows the list of Alarm Policies and for each the following information:

- The Alarm Policy Name
- The Alarm Policy Id
- The Alarm Policy owner
- Is it enabled?

Example Command:

```
bhrrpic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getalarmpolicylist
```

Example Output:

```
# 1 / Policy name [NT_WINDOWS_SVC_RESTART_V_4_9_00] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 2 / Policy name [AGT_GRP_TEST_1] / Policy precedence = [900] / Policy owner = [admin] / Policy enabled? = [true]
# 3 / Policy name [NT_KEYNOTE_KM_V0_9_12] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 4 / Policy name [LX_NUK_KM_REMOTE_1_2_00_01] / Policy precedence = [702] / Policy owner = [admin] / Policy enabled? = [false]
```

geteventpolicylist

Arguments: none

The `geteventpolicylist` function shows the list of Event Policies and for each the following information:

- The Event Policy Name
- The Event Policy Id
- The Event Policy owner
- Is it enabled?

Example Command:

```
bhrapic -cs configs/BMC-BHOM-SAS-Dev.cfg -f geteventpolicylist
```

Example Output:

```
# 1 / Policy name [NT_WINDOWS_SVC_RESTART_V_4_9_00] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 2 / Policy name [AGT_GRP_TEST_1] / Policy precedence = [900] / Policy owner = [admin] / Policy enabled? = [true]
# 3 / Policy name [NT_KEYNOTE_KM_V0_9_12] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 4 / Policy name [LX_NUK_KM_REMOTE_1_2_00_01] / Policy precedence = [702] / Policy owner = [admin] / Policy enabled? = [false]
```

getblackoutpolicylist

Arguments: none

The `getblackoutpolicylist` function shows the list of Blackout Policies and for each the following information:

- The Blackout Policy Name
- The Blackout Policy Id
- The Blackout Policy owner
- Is it enabled?

Example Command:

```
bhrapic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getblackoutpolicylist
```

Example Output:

```
# 1 / Policy name [NT_WINDOWS_SVC_RESTART_V_4_9_00] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 2 / Policy name [AGT_GRP_TEST_1] / Policy precedence = [900] / Policy owner = [admin] / Policy enabled? = [true]
# 3 / Policy name [NT_KEYNOTE_KM_V0_9_12] / Policy precedence = [700] / Policy owner = [admin] / Policy enabled? = [true]
# 4 / Policy name [LX_NUK_KM_REMOTE_1_2_00_01] / Policy precedence = [702] / Policy owner = [admin] / Policy enabled? = [false]
```

getgrouplist

Arguments: none

The `getgrouplist` function shows the list of Groups and for each the following information:

- The Group Name
- The Group Id
- The Group Description

Example Command:

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```
bhrapic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getgroupolist
```

Example Output:

```
# 1 / Group Name = [DockerContainer_HOSTS] / Group Id = [28f066c7-2007-4e53-9e04-dae46750648f] / Description = []
# 2 / Group Name = [ENSONO] / Group Id = [2c9ef0e5-259e-4041-b609-2c2428abf765] / Description = []
# 3 / Group Name = [Forrester AWS Group Challenge 4] / Group Id = [506cd198-6c0c-4b01-9145-f61f4adb08ed] / Description = []
# 4 / Group Name = [Linux Servers] / Group Id = [8a8a160b-305c-4504-9a02-5c75ec0a5be5] / Description = [another group for publish testing]
# 5 / Group Name = [LOB1] / Group Id = [8a4e5048-39ad-47ac-8013-63f4f32b8be8] / Description = [LOB1]
# 6 / Group Name = [Multi-Policy-Demo] / Group Id = [b1e3f7d4-ab80-457d-873c-74a7fc711223] / Description = []
# 7 / Group Name = [OracleServiceTest] / Group Id = [f900d69f-ac9d-40ef-b092-d457fc3b98a1] / Description = []
```

getauthprofilelist

Arguments: none

The getauthprofilelist function shows the list of Authprofiles and for each the following information:

- The Authprofile Name
- The Authprofile Id
- The Authprofile Owner
- The Authprofile tenant

Example Command:

```
bhrapic -cs configs/BMC-BHOM-SAS-Dev.cfg -f getauthprofilelist
```

Example Output:

```
# 1 / Authprofile name = [Administrator] / Authprofile Id = [cdd12013-ce08-4460-98ac-f0f5f0f0b20c] / Authprofile owner = [] / Athprofile tenant = [1414537179]
# 2 / Authprofile name = [Operator] / Authprofile Id = [579fca2d-84f1-4c20-bb42-9cf8035c9c15] / Authprofile owner = [] / Athprofile tenant = [1414537179]
# 3 / Authprofile name = [TIMOS-TEST-2] / Authprofile Id = [907a1030-003a-4a43-893c-84690f5f2f75] / Authprofile owner = [] / Athprofile tenant = [1414537179]
# 4 / Authprofile name = [viewevents] / Authprofile Id = [fe5d6be9-faef-40c7-8494-0aa8ef6edf21] / Authprofile owner = [] / Athprofile tenant = [1414537179]
# 5 / Authprofile name = [limitedAuthProfile] / Authprofile Id = [2982d4a3-0a27-4f29-abe2-0a6ff992aac2] / Authprofile owner = [] / Athprofile tenant = [1414537179]
# 6 / Authprofile name = [TIMOS-TEST] / Authprofile Id = [0a53e46c-318e-47bd-af56-6d867e76090f] / Authprofile owner = [] / Athprofile tenant = [1414537179]
# 7 / Authprofile name = [ToddsTest] / Authprofile Id = [57169979-1014-4465-b380-1982de2030a2] / Authprofile owner = [] / Athprofile tenant = [1414537179]
```

Using BHRAPIC wrapper

Introduction

bhrapic wrappers are small scripts that utilize BHRAPIC to simplify a more complex process or function including multiple REST-Calls. All of them have the same connection arguments as BHRAPIC itself has and can handle connection data files.

IMPORTANT: Please make sure that you test the tools against a representing test or development system before running the tool in your production environment!

bhcreateblackoutpolicy

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output.
-bpn	Name of the Blackout Policy to create.
-bpde	Description of the Blackout Policy.
-bpe	[true false] to enable / disable the Blackout Policy.
-bppr	Precedence of the Blackout Policy.
-bpst	Start time of the Policy using 24 hours notation, e.g. 14:00.
-bpsd	Start date of the Blackout Policy e.g. 01112025 for 01.11.2025.
-bpet	End time of the Policy using 24 hours notation, e.g. 14:00.
-bped	End date of the Blackout Policy e.g. 01112025 for 01.11.2025.
-bpeon	[true false] to set if Blackout Policy will end never if it's a reapping Policy.
-bpeoo	Number of time Blackout Policy was triggered till Blackout Policy ends.

-bpre	Recurrence of the Blackout Policy e.g., "daily", "weekly" or "monthly".
-bpdly	"all" or "excludeWeekends" for "daily" Blackouts.
-bprdw	Days of the week for "weekly" Blackouts to be active with Monday = 1, e.g. "2,3,4" meaning Monday, Tuesday and Wednesday.
-bprd	Days of the Month the Blackout should be active for "monthly" Blackouts e.g., "1-10,20,21".
-bpesc	Event Selection Criteria e.g., "(_identifier equals 'Timo')".
-bprsobe	[true false] Reset Status of blacked out Events after Blackout.
-bpbee	[true false] Blackout existing Events?
-bpti	Timezone of the Blackout e.g., "Europe/Copenhagen".
-bpto	Timezone offset of the Blackout e.g., "+02:00".
-cnin	Policy will be deleted and created new if necessary.
-log	Log to the default location log/bhcreateblackoutpolicies.log or ... [Path] + default name (=bhcreateblackoutpolicies.log) if only a path is provided ... [Path] + [Filename] if a path and a filename is provided. Use [Timestamp] if you want the current timestamp in the path or filename! NOTE: Make sure to also use "-debug" to get log data!

bhcreateblackoutpolicy creates a Blackout Policy based on the data passed with the various input Arguments. The Arguments will NOT be verified so finally you have to make sure that the data is valid (see “How to use bhrapic / Creating Blackout Policies” chapter for details). In case data is invalid the creation will fail with a general error. To know which data you must use please create a Blackout Policy using the BHOM GUI. Then use bhshowblackoutpolicies to Display the data and the bhcreateblackoutpolicy.

Example Command:

```
./bhcreateblackoutpolicies -cs configs/SAS-Dev.cfg -bpn "TIMOS-LINUX-TEST" -bpr "9990" -bpe "false" -bpt "10:11" -bpsd "21082025" -bpet "10:11" -bped "28082025" -bpre "oneTime" -bpti "Atlantic/Azores" -bpto "Z" -bpbee "true" -bprsobe "false" -bpesc "( _identifier equals 'Timo' )"
```

Example Output:

```
...
DEBUG (10.09.2025 / 09:45:17): Time to refresh token request = [0] seconds
DEBUG (10.09.2025 / 09:45:17): Java Web Token received so using it!
DEBUG (10.09.2025 / 09:45:17): Storing token in status directory.
DEBUG (10.09.2025 / 09:45:17): Start to create Blackout Policies.
DEBUG (10.09.2025 / 09:45:17): Required arguments found.
DEBUG (10.09.2025 / 09:45:17): Checking if Blackout Policy = [TIMOS-LINUX-TEST] already exists.
DEBUG (10.09.2025 / 09:45:18): Blackout Policy = [TIMOS-LINUX-TEST] already exists.
DEBUG (10.09.2025 / 09:45:18): Try to delete Blackout Policy = [TIMOS-LINUX-TEST].
DEBUG (10.09.2025 / 09:45:19): Successfully deleted Blackout Policy = [TIMOS-LINUX-TEST].
DEBUG (10.09.2025 / 09:45:20): Successfully created Blackout Policy = [TIMOS-LINUX-TEST]
```

bhshowblackoutpolicies

Arguments:

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output.
- bpn Blackout Policy Name.

bhshowblackoutpolicies shows you all information of a Blackout Policy and the Command line to create a similar Blackout Policy with the bhcreateblackoutpolicy command.

Example Command:

```
./bhshowblackoutpolicies -cs configs/SAS-Dev.cfg -bpn "TIMOS-LINUX-TEST"
```

Example Output:

```
Blackout Policy Description (-bpde)                                 :
Blackout Policy Precedence (-bppr)                                 : 9990
Blackout Policy enabled (-bpe)                                     : false
Blackout Policy Blackout Start time (-bpst)                       : 10:11
Blackout Policy Blackout Start date (-bpsd)                       : 21082025
Blackout Policy Blackout End time (-bpet)                         : 10:11
Blackout Policy Blackout End date (-bped)                         : 28082025
Blackout Policy Blackout Ends on never (-bpeon)                   :
Blackout Policy Blackout Ends on occurrences (-bpeoo)             :
Blackout Policy Blackout Days (-bpd)                              :
Blackout Policy Blackout Recurrence (-bpere)                     : onetime
Blackout Policy Blackout Recurrence Dates (-bprd)                 :
Blackout Policy Blackout Recurrence Days of Week (-bprdw)         :
Blackout Policy Blackout Timezone Id (-bpti)                      : Atlantic/Azores
Blackout Policy Blackout Timezone Offset (-bpto)                  : Z
Blackout Policy Blackout Existing Events (-bpbee)                 : true
Blackout Policy Reset Status on Blackout End (-bprsobe)           : false
Blackout Policy Event Selection Criteria (-bpesc)                 : ( _identifier equals 'Timo' )
```

```
Command line for bhcreateblackoutevent = [./bhcreateblackoutpolicies -cs configs/BMC-BHOM-SAS-Dev.cfg -bpn "[PolicyName]" -bpr "9990" -bpe "false" -bpst "10:11" -bpsd "21082025" -bpet "10:11" -bped "28082025" -bpere "onetime" -bprd "" -bpti "Atlantic/Azores" -bpto "Z" -bpbee "true" -bprsobe "false" -bpesc "( _identifier equals 'Timo' )"]
```

bhdeleteblackoutpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output.
- cfDel [Yes] = Confirm the deleting of Blackout Policies.

IMPORTANT / WARNING: If you use this option the Tool will not again ask you to delete Blackout Policies!!! Please make sure that you took a Backup of all Blackout Policies with bhexportblackoutpolicies!

- bpn The Name of the Blackout Policy or "ALL" for all Policies

bhdeleteblackoutpolicies can be used to delete one or all Blackout Policies. By default, the Tool will ask you if it should finally should delete the Blackout Policy. If you want to use bhdeleteblackoutpolicies in other Script and you are sure to delete the Policies use "cfDel Yes". The Default mode of the Tool shows a Progress Indicator.

Example Command:

```
./bhdeleteblackoutpolicies -cs configs/SAS-Dev.cfg -bpn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Delete Blackout Policies)
(c) TAUBER Business Solutions UG
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUS0 / Max # session: none!
Expiration date 09.09.2099!

[##                               ] 5% / #1 of 18
Are you sure you want to delete Blackout Policy = [Blackout Windows - Copy (1698162742786)]? (Yes/No = Default):
```

bhexportblackoutpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output
- nopi This Option will deactivate the Progress Indicator.
- expd The Path to the directory where the Blackout Policy files will be written to. Make sure that the directory already exists.
- fpf The Path to the directory where the Blackout Policy files will be written to. Make sure that the directory already exists.
- bpn The Name of the Blackout Policy or "ALL" for all Policies.

bhexportblackoutpolicies will export one or all Blackout Policies to a given directory. The JSON files will be written with the Name of the Policy and a Prefix when defined. By default, the Tool will run in Progress Indicator Mode (see below). You can use "-nopi" or "-debug" to change this for Scripting purposes.

Example Command:

```
./bhexportblackoutpolicies -cs configs/-SAS-Dev.cfg -bpn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Export Blackout Policies)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: _____ / Max # session: none!
Expiration date 09.09.2099!

[##### ] 94% / #16 of 17
```

bhimportblackoutpolicies

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-cnin	“Create new if necessary” = Override!
-bpf	The Path + Filename of an exported Blackout Policy to import just one Blackout Policy or the Path to a directory to import ALL Blackout Policies in this Directory.

bhimportblackoutpolicies will import a single Policy if you give the Path + Filename or a whole bunch of Blackout Policies from a Directory.

IMPORTANT: By Default, the Tool will only try to update existing Policies. If it fails for any reason use the “-cnin” Option!

Example Command:

```
./bhimportblackoutpolicies -cs configs/SAS-Dev.cfg -bpf "export/blackoutPolicies/TIMOS-LINUX-TEST.json" -cnin -debug
```

Example Output:

```
DEBUG (10.09.2025 / 11:07:13): Start processing command ...
DEBUG (10.09.2025 / 11:07:13): Checking config file configs/BMC-BHOM-SAS-Dev.cfg for connection data!
DEBUG (10.09.2025 / 11:07:13): Trying to read credentials from config file configs/BMC-BHOM-SAS-Dev.cfg!
DEBUG (10.09.2025 / 11:07:13): Try to reuse stored authtoken
DEBUG (10.09.2025 / 11:07:13): Time to refresh token request = [0] seconds
DEBUG (10.09.2025 / 11:07:13): Java Web Token received so using it!
DEBUG (10.09.2025 / 11:07:13): Storing token in status directory.
DEBUG (10.09.2025 / 11:07:13): Start to process import Blackout Policies.
DEBUG (10.09.2025 / 11:07:13): Required arguments found.
DEBUG (10.09.2025 / 11:07:13): Importing Blackout Policy from File = [export/blackoutPolicies/TIMOS-LINUX-TEST.json]
DEBUG (10.09.2025 / 11:07:13): Importing Blackout Policy with override option!
successfully imported Blackout Policy from File = [export/blackoutPolicies/TIMOS-LINUX-TEST.json]
```

bhdeletealarmpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output.
- cfDel [Yes] = Confirm the deleting of Alarm Policies.

IMPORTANT / WARNING: If you use this option the Tool will not again ask you to delete Alarm Policies!!! Please make sure that you took a Backup of all Alarm Policies with bhexportalarmpolicies!

- apn The Name of the Alarm Policy or "ALL" for all Policies

Example Command:

```
./bhdeletealarmpolicies -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Delete Alarm Policies)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUS0 / Max # session: none!
Expiration date 09.09.2099!

[                               ] 0% / #1 of 101

Are you sure you want to delete Alarm Policy = [001_ResMed_Memory]? (Yes/No = Default):
```

bhexportalarmpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output
- nopi This Option will deactivate the Progress Indicator.
- expd The Path to the directory where the Alarm Policy files will be written to. Make sure that the directory already exists.
- fpf The Prefix will be added to all Files written. Go to show "BHOM_Dev_" for example.
- apn The Name of the Alarm Policy or "ALL" for all Policies.

bhexportalarmpolicies will export one or all Alarm Policies to a given directory. The JSON files will be written with the Name of the Policy and a Prefix when defined. By default, the Tool will run in Progress Indicator Mode (see below). You can use "-nopi" or "-debug" to change this for Scripting purposes.

Example Command:

```
./bhexportalarmpolicies -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Export Alarm Policies)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUSO / Max # session: none!
Expiration date 09.09.2099!

[### ] 7% / #8 of 101
```

bhimportalarmpolicies

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-cnin	“Create new if necessary” = Override!
-apf	The Path + Filename of an exported Alarm Policy to import just one Alarm Policy or the Path to a directory to import ALL Blackout Policies in this Directory.

bhimportalarmpolicies will import a single Policy if you give the Path + Filename or a whole bunch of Alarm Policies from a Directory.

IMPORTANT: By Default, the Tool will only try to update existing Policies. If it fails for any reason use the “-cnin” Option!

Example Command:

```
./bhimportalarmpolicies -cs configs/BMC-BHOM-SAS-Dev.cfg -apf "export/alarmPolicies/TIMO_TEST_2.json" -debug
```

Example Output:

```
DEBUG (11.09.2025 / 11:50:36): Start processing command ...
DEBUG (11.09.2025 / 11:50:36): Checking config file configs/BMC-BHOM-SAS-Dev.cfg for connection data!
DEBUG (11.09.2025 / 11:50:36): Trying to read credentials from config file configs/BMC-BHOM-SAS-Dev.cfg!
DEBUG (11.09.2025 / 11:50:36): Try to reuse stored authtoken
DEBUG (11.09.2025 / 11:50:37): Time to refresh token request = [1] seconds
DEBUG (11.09.2025 / 11:50:37): Java Web Token received so using it!
DEBUG (11.09.2025 / 11:50:37): Storing token in status directory.
DEBUG (11.09.2025 / 11:50:37): Start to process import Alarm Policies.
DEBUG (11.09.2025 / 11:50:37): Required arguments found.
DEBUG (11.09.2025 / 11:50:37): Importing Alarm Policy from File = [export/alarmPolicies/TIMO_TEST_2.json]
DEBUG (11.09.2025 / 11:50:37): Importing Alarm Policy WITHOUT override option!
Successfully imported Alarm Policy from File = [export/alarmPolicies/TIMO_TEST_2.json]
```

bhdeleteauthprofiles

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
 - ak [AccessKey] The Access Key generated in BHOM.
 - aks [AccessKeySecret] The Access Key Secret generated in BHOM.
 - bs [Server]:[Port] The Servername and Port of your BHOM System.
 - ss [Filename] Store connection data in file.
 - cs [Filename] Connect to system stored in file.
 - debug Activate the debug output.
 - cfDel [Yes] = Confirm the deleting of Authprofiles .
- IMPORTANT / WARNING: If you use this option the Tool will not again ask you to delete Authprofiles!!! Please make sure that you took a Backup of all Authprofiles with bhexportauthprofiles!**
- apn The Name of the Authprofile or "ALL" for all Policies

Example Command:

```
./bhdeleteauthprofiles -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Delete Authprofile)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUS0 / Max # session: none!
Expiration date 09.09.2099!

[##### ] 75% / #9 of 12

Are you sure you want to delete Authprofile = [TIMOS-TEST]? (Yes/No = Default):
```

bhexportauthprofiles

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-expd	The Path to the directory where the Authprofiles files will be written to. Make sure that the directory already exists.
-fpf	The Prefix will be added to all Files written. Go to show "BHOM_Dev_" for example.
-apn	The Name of the Authprofile or "ALL" for all Policies.

bhexportauthprofile will export one or all Authprofiles to a given directory. The JSON files will be written with the Name of the Authprofile and a Prefix when defined. By default, the Tool will run in Progress Indicator Mode (see below). You can use "-nopi" or "-debug" to change this for Scripting purposes.

Example Command:

```
./bhexportauthprofiles -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
[patrol@ptf-rel95-gra01 bhrpic]$ ./bhexportauthprofiles -cs configs/BMC-BHOM-SAS
(B)MC (H)elix (R)EST (API) (C)lient V1.4.03 / Wrapper (Export Authprofiles)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUSO / Max # session: none!
Expiration date 09.09.2099!

[#####] 16% / #2 of 12
```

bhimportauthprofiles

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-cnin	“Create new if necessary” = Override!
-apf	The Path + Filename of an exported Authprofile to import just one Authprofile or the Path to a directory to import ALL Authprofiles in this Directory.

bhimportauthprofiles will import a single Profile if you give the Path + Filename or a whole bunch of Profiles from a Directory.

IMPORTANT: By Default, the Tool will only try to update existing Profiles. If it fails for any reason use the “-cnin” Option!

Example Command:

```
./bhimportauthprofiles -cs configs/SAS-Dev.cfg -apf "export/authProfiles/TIMOS-TEST.json" -cnin -debug
```

Example Output:

```
DEBUG (11.09.2025 / 16:13:32): Start processing command ...
DEBUG (11.09.2025 / 16:13:32): Checking config file configs/BMC-BHOM-SAS-Dev.cfg for connection data!
DEBUG (11.09.2025 / 16:13:32): Trying to read credentials from config file configs/BMC-BHOM-SAS-Dev.cfg!
DEBUG (11.09.2025 / 16:13:32): Try to reuse stored authtoken
DEBUG (11.09.2025 / 16:13:32): Time to refresh token request = [0] seconds
DEBUG (11.09.2025 / 16:13:32): Java Web Token received so using it!
DEBUG (11.09.2025 / 16:13:32): Storing token in status directory.
DEBUG (11.09.2025 / 16:13:32): Start to process import Authprofiles.
DEBUG (11.09.2025 / 16:13:32): Required arguments found.
DEBUG (11.09.2025 / 16:13:32): Importing Authprofile from File = [export/authProfiles/TIMOS-TEST.json]
DEBUG (11.09.2025 / 16:13:32): Importing Authprofile with override option!
Successfully imported Authorization profile from File = [export/authProfiles/TIMOS-TEST.json]
```


bhexporteventpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output
- nopi This Option will deactivate the Progress Indicator.
- expd The Path to the directory where the Event Policy files will be written to. Make sure that the directory already exists.
- fpf The Prefix will be added to all Files written. Go to show "BHOM_Dev_" for example.
- epn The Name of the Event Policy or "ALL" for all Policies.

bhexporteventpolicies will export one or all Event Policies to a given directory. The JSON files will be written with the Name of the Policy and a Prefix when defined. By default, the Tool will run in Progress Indicator Mode (see below). You can use "-nopi" or "-debug" to change this for Scripting purposes.

Example Command:

```
./bhexporteventpolicies -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.04 / Wrapper (Export Event Policies)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUS0 / Max # session: none!
Expiration date 09.09.2099!

[#####] 21% / #10 of 46
```

bhimporteventpolicies

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-cnin	“Create new if necessary” = Override!
-epf	The Path + Filename of an exported Event Policy to import just one Alarm Policy or the Path to a directory to import ALL Event Policies in this Directory.

bhimporteventpolicies will import a single Policy if you give the Path + Filename or a whole bunch of Event Policies from a Directory.

IMPORTANT: By Default, the Tool will only try to update existing Policies. If it fails for any reason use the “-cnin” Option!

Example Command:

```
./bhimporteventpolicies -cs configs/SAS-Dev.cfg -epf "export/eventPolicies/TIMOS_TEST_3.json" -cnin -debug
```

Example Output:

```
DEBUG (11.09.2025 / 17:09:33): Start processing command ...
DEBUG (11.09.2025 / 17:09:33): Checking config file configs/BMC-BHOM-SAS-Dev.cfg for connection data!
DEBUG (11.09.2025 / 17:09:33): Trying to read credentials from config file configs/BMC-BHOM-SAS-Dev.cfg!
DEBUG (11.09.2025 / 17:09:33): Try to reuse stored authtoken
DEBUG (11.09.2025 / 17:09:33): Time to refresh token request = [0] seconds
DEBUG (11.09.2025 / 17:09:33): Java Web Token received so using it!
DEBUG (11.09.2025 / 17:09:33): Storing token in status directory.
DEBUG (11.09.2025 / 17:09:33): Start to process import Event Policies.
DEBUG (11.09.2025 / 17:09:33): Required arguments found.
DEBUG (11.09.2025 / 17:09:33): Importing Event Policy from File = [export/eventPolicies/TIMOS_TEST_3.json]
DEBUG (11.09.2025 / 17:09:33): Importing Event Policy with override option!
Successfully imported Event Policy from File = [export/eventPolicies/TIMOS_TEST_3.json]
```

bhdeletegroups

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output.
- cfDel [Yes] = Confirm the deleting of Groups.

IMPORTANT / WARNING: If you use this option the Tool will not again ask you to delete Groups!!! Please make sure that you took a Backup of all Groups with bhexportgroups!

- gn The Name of the Group or "ALL" for all Policies

Example Command:

```
./bhdeletegroups -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Delete Groups)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUSO / Max # session: none!
Expiration date 09.09.2099!

[##### ] 35% / #5 of 14

Are you sure you want to delete Group = [LOB1]? (Yes/No = Default): █
```

bhexportgroups

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output
- nopi This Option will deactivate the Progress Indicator.
- expd The Path to the directory where the Group files will be written to. Make sure that the directory already exists.
- fpf The Prefix will be added to all Files written. Go to show "BHOM_Dev_" for example.
- gn The Name of the Group or "ALL" for all Groups.

bhexportgroups will export one or all Groups to a given directory. The JSON files will be written with the Name of the Policy and a Prefix when defined. By default, the Tool will run in Progress Indicator Mode (see below). You can use "-nopi" or "-debug" to change this for Scripting purposes.

Example Command:

```
./bhexportgroups -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Export Group)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUSO / Max # session: none!
Expiration date 09.09.2099!

[#####] 71% / #10 of 14
```

bhimportgroups

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-cnin	“Create new if necessary” = Override!
-epf	The Path + Filename of an exported Group to import just one Group or the Path to a directory to import ALL Groups in this Directory.

bhimportgroups will import a single Group if you give the Path + Filename or a whole bunch of Groups from a Directory.

IMPORTANT: By Default, the Tool will only try to update existing Group. If it fails for any reason use the “-cnin” Option!

Example Command:

```
./bhimportgroups -cs configs/BMC-BHOM-SAS-Dev.cfg -gf "export/groups/TIMOS-TEST-GROUP.json" -debug
```

Example Output:

```
DEBUG (11.09.2025 / 17:20:28): Start processing command ...
DEBUG (11.09.2025 / 17:20:28): Checking config file configs/BMC-BHOM-SAS-Dev.cfg for connection data!
DEBUG (11.09.2025 / 17:20:28): Trying to read creadetials from config file configs/BMC-BHOM-SAS-Dev.cfg!
DEBUG (11.09.2025 / 17:20:28): Try to reuse stored authtoken
DEBUG (11.09.2025 / 17:20:28): Time to refresh token request = [0] seconds
DEBUG (11.09.2025 / 17:20:28): Java Web Token received so using it!
DEBUG (11.09.2025 / 17:20:28): Storing token in status directory.
DEBUG (11.09.2025 / 17:20:28): Start to process import Groups.
DEBUG (11.09.2025 / 17:20:28): Required arguments found.
DEBUG (11.09.2025 / 17:20:28): Importing Groups from File = [export/groups/TIMOS-TEST-GROUP.json]
DEBUG (11.09.2025 / 17:20:28): Importing Group WITHOUT override option!
Successfully imported Group from File = [export/groups/TIMOS-TEST-GROUP.json]
```

bhdeletemonitorpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output.
- cfDel [Yes] = Confirm the deleting of Monitor Policies.

IMPORTANT / WARNING: If you use this option the Tool will not again ask you to delete Monitor Policies!!! Please make sure that you took a Backup of all Monitor Policies with bhexportmonitorpolicies!

- gn The Name of the Monitor Policy or "ALL" for all Policies

Example Command:

```
./bhdeletemonitorpolicies -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Export Monitor Policies)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUS0 / Max # session: none!
Expiration date 09.09.2099!

[##### ] 11% / #8 of 72
```

bhexportmonitorpolicies

Arguments:

- kn [Keyname] The name of the key you currently use. You can choose this!
- ak [AccessKey] The Access Key generated in BHOM.
- aks [AccessKeySecret] The Access Key Secret generated in BHOM.
- bs [Server]:[Port] The Servername and Port of your BHOM System.
- ss [Filename] Store connection data in file.
- cs [Filename] Connect to system stored in file.
- debug Activate the debug output
- nopi This Option will deactivate the Progress Indicator.
- expd The Path to the directory where the Monitor Policy files will be written to. Make sure that the directory already exists.
- fpf The Prefix will be added to all Files written. Go to show "BHOM_Dev_" for example.
- mpn The Name of the Monitor Policy or "ALL" for all Groups.

IMPORTANT: Exporting Policies does NOT export Passwords configured in you Monitor Policy! In this version of the Tool bhimportmonitorpolicies will reset the password to "" and you must set the Passwords in the Policy manually to make it work!

bhexportmonitorpolicies will export one or all Monitor Policies to a given directory. The JSON files will be written with the Name of the Policy and a Prefix when defined. By default, the Tool will run in Progress Indicator Mode (see below). You can use "-nopi" or "-debug" to change this for Scripting purposes.

Example Command:

```
./bhexportmonitorpolicies -cs configs/SAS-Dev.cfg -apn "ALL"
```

Example Output:

```
(B)MC (H)elix (R)EST (API) (C)lient V1.0.03 / Wrapper (Export Group)
(c) TAUBER Business Solutions Ug
written by Timo Schmidt / http://www.tabuso.com/
Customer name: TABUSO / Max # session: none!
Expiration date 09.09.2099!

[#####] 71% / #10 of 14
```

bhimportmonitorpolicies

Arguments:

-kn [Keyname]	The name of the key you currently use. You can choose this!
-ak [AccessKey]	The Access Key generated in BHOM.
-aks [AccessKeySecret]	The Access Key Secret generated in BHOM.
-bs [Server]:[Port]	The Servername and Port of your BHOM System.
-ss [Filename]	Store connection data in file.
-cs [Filename]	Connect to system stored in file.
-debug	Activate the debug output
-nopi	This Option will deactivate the Progress Indicator.
-cnin	“Create new if necessary” = Override!
-epf	The Path + Filename of an exported Monitor Policy to import just one Policy or the Path to a directory to import ALL Monitor Policies in this Directory.

bhimportmonitorpolicies will import a single Monitor Policy if you give the Path + Filename or a whole bunch of Policies from a Directory.

IMPORTANT: By Default, the Tool will only try to update existing Monitor Policies. If it fails for any reason use the “-cnin” Option!

**Exporting Policies does NOT export Passwords configured in you Monitor Policy!
In this version of the Tool bhimportmonitorpolicies will reset the password to “” and you must set the Passwords in the Policy manually to make it work!**

Example Command:

```
./bhimportgroups -cs configs/BMC-BHOM-SAS-Dev.cfg -gf "export/groups/TIMOS-TEST-GROUP.json" -debug
```

Example Output:

```
DEBUG (11.09.2025 / 17:20:28): Start processing command ...
DEBUG (11.09.2025 / 17:20:28): Checking config file configs/BMC-BHOM-SAS-Dev.cfg for connection data!
DEBUG (11.09.2025 / 17:20:28): Trying to read creadetials from config file configs/BMC-BHOM-SAS-Dev.cfg!
DEBUG (11.09.2025 / 17:20:28): Try to reuse stored authtoken
DEBUG (11.09.2025 / 17:20:28): Time to refresh token request = [0] seconds
DEBUG (11.09.2025 / 17:20:28): Java Web Token received so using it!
DEBUG (11.09.2025 / 17:20:28): Storing token in status directory.
DEBUG (11.09.2025 / 17:20:28): Start to process import Groups.
DEBUG (11.09.2025 / 17:20:28): Required arguments found.
DEBUG (11.09.2025 / 17:20:28): Importing Groups from File = [export/groups/TIMOS-TEST-GROUP.json]
DEBUG (11.09.2025 / 17:20:28): Importing Group WITHOUT override option!
Successfully imported Group from File = [export/groups/TIMOS-TEST-GROUP.json]
```

Trouble shooting

If a command creates no or wired output

1.) Add the the “-debug” option

Check if the connection can be established or not or search the debug for error messages!

2.) Add the “-kof” option

This will keep the output of the REST-API request in the “bh-rest-client.” file located in the data subdirectory.

3.) Contact support@tabuso.com

To trouble shoot problems please add the “-debug” option and if you have a support contract please send the following information to support@tabuso.com:

- Problemdescription
- BHOM SAAS or OnPrem + version
- BHRAPIC Platform (Windows or Linux)
- Debugoutput from BHRAPIC

Known problems

No problems known yet!

ID	Status	Description
0000001	Open	Double index # in getmontypes
0000002	Open	trdevicecompare.exe shows monitor instances containing “()” as missing on both devices!