SOL005 - NS Performance Management Interface

Overview

SOL005 - NS Performance Management Interface IMPORTANT: Please note that this file might be not aligned to the current version of the ETSI Group Specification it refers to and has not been approved by the ETSI NFV ISG. In case of discrepancies the published ETSI Group Specification takes precedence. Please report bugs to https://forge.etsi.org/bugzilla/buglist.cgi?component=Nfv-Openapis

Version information

Version : 2.0.0-impl:etsi.org:ETSI_NFV_OpenAPI:1

Contact information

Contact: NFV-SOL WG

License information

License: ETSI Forge copyright notice

License URL: https://forge.etsi.org/etsi-forge-copyright-notice.txt

Terms of service: null

URI scheme

BasePath: /nspm/v2 Schemes: HTTP, HTTPS

Consumes

• application/json

Produces

• application/json

External Docs

Description: ETSI GS NFV-SOL 005 V2.7.1

URL: https://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/005/02.07.01_60/gs_NFV-

Paths

Retrieve API version information

GET /api-versions

Description

The GET method reads API version information. This method shall follow the provisions specified in table 4.6.3.3.3.2-1 for request and response data structures, and response codes. URI query parameters are not supported.

Parameters

Туре	Name	Description	Schema
Header	Version optional	Version of the API requested to use when responding to this request.	string

HTTP Code	Description	Schema
200	API version information was read successfully. The response body shall contain 4.4 API version information, as defined in clause 4.4.1.13. Headers: Content-Type (string): The MIME type of the body of the response. Version (string): The used API version.	Response 200

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 404
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
413	413 PAYLOAD TOO LARGE If the payload body of a request is larger than the amount of data the API producer is willing or able to process, it shall respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for closing the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 413
414	414 URI TOO LONG If the request URI of a request is longer than the API producer is willing or able to process, it shall respond with this response code. This condition can e.g. be caused by passing long queries in the request URI of a GET request. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 414
416	416 RANGE NOT SATISFIABLE Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 416

HTTP Code	Description	Schema
422	422 UNPROCESSABLE ENTITY If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. This error response code is only applicable for methods that have a request body. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 422
429	429 TOO MANY REQUESTS If the API consumer has sent too many requests in a defined period of time and the API producer is able to detect that condition ("rate limiting"), the API producer shall respond with this response code, following the provisions in IETF RFC 6585 [17] for the use of the "Retry-After" HTTP header. The "ProblemDetails" structure shall be provided and shall include in the "detail" attribute more information about the source of the problem. The period of time and allowed number of requests are configured within the API producer by means outside the scope of the present document. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 429

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503
504	504 GATEWAY TIMEOUT If the API producer encounters a timeout while waiting for a response from an upstream server (i.e. a server that the API producer communicates with when fulfilling a request), it should respond with this response code. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 504

Name	Description	Schema
apiVersions required	Version(s) supported for the API signalled by the uriPrefix attribute.	< apiVersions > array
uriPrefix required	Specifies the URI prefix for the API, in the following form {apiRoot}/{apiName}/{apiMajorVersion}/.	string

apiVersions

Name	Description	Schema
isDeprecated optional	The Boolean is a data type having two values (TRUE and FALSE).	boolean
version required	Identifies a supported version. The value of the version attribute shall be a version identifier as specified in clause 4.6.1.	string

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
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Name	Description	Schema
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status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
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Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
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instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if string (URI) dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	J

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

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detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Create a PM job.

POST /pm_jobs

Description

The POST method creates a PM job. This method shall follow the provisions specified in the Tables 7.4.2.3.1-1 and 7.4.2.3.1-2 for URI query parameters, request and response data structures, and response codes. As the result of successfully executing this method, a new "Individual PM job" resource exist as defined in clause 7.4.3 shall have been created.

Parameters

Type	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	Authorization optional	The authorization token for the request. Reference: IETF RFC 7235	string
Header	Content-Type required	The MIME type of the body of the request. Reference: IETF RFC 7231	string
Header	Version required	Version of the API requested to use when responding to this request.	string
Body	CreatePmJobR equest required		CreatePmJobRequest

CreatePmJobRequest

Name	Description	Schema
authenticatio n optional		authentication
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents collection criteria for PM jobs. It shall comply with the provisions defined in Table 7.5.3.3-1.	criteria
objectInstanc eIds required	Identifiers of the NS instances for which performance information is requested to be collected.	< string > array

Name	Description	Schema
objectType required	A string as defined in IETF RFC 8259.	string
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance for which performance information is requested to be collected. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type. If this attribute is present, the cardinality of the "objectInstanceIds" attribute shall be 1. If this attribute is absent and a sub-object is defined in clause 6.2 of ETSI GS NFV IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsOauth2Client Credentials

paramsBasic

Name	Description	Schema
password optional	Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string
userName optional	Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

params O auth 2 Client Credentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string (uri)

criteria

Name	Description	Schema
collectionPeri od required	Specifies the periodicity at which the producer will collect performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer
performance Metric optional	This defines the types of performance metrics for the specified object instances. Valid values are specified as "Measurement Name" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	< string > array
performance MetricGroup optional	Group of performance metrics. A metric group is a predefined list of metrics, known to the producer that it can decompose to individual metrics. Valid values are specified as "Measurement Group" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	< string > array
reportingPeri od required	Specifies the periodicity at which the producer will report to the consumer. about performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer

HTTP Code	Description	Schema
201	201 CREATED Shall be returned when the "Individual PM job" has been created successfully. The response body shall contain a representation of the created PM job resource, as defined in clause 7.5.2.7. The HTTP response shall include a "Location" HTTP header that points to the created "Individual PM job" resource. Headers: Content-Type (string): The MIME type of the body of the response. This header field shall be present if the response has a non-empty message body. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 201

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 404
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents collection criteria for PM jobs. It shall comply with the provisions defined in Table 7.5.3.3-1.	criteria
id required	An identifier with the intention of being globally unique.	string
objectInstanc eIds required	Identifiers of the NS instances for which performance information is collected.	< string > array

Name	Description	Schema
objectType required	A string as defined in IETF RFC 8259.	string
reports optional	Information about available reports collected by this PM job.	reports
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance for which performance information is requested to be collected. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type. If this attribute is present, the cardinality of the "objectInstanceIds" attribute shall be 1. If this attribute is absent and a sub-object is defined in clause 6.2 of ETSI GS NFV IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

criteria

Name	Description	Schema
collectionPeri od required	Specifies the periodicity at which the producer will collect performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer
performance Metric optional	This defines the types of performance metrics for the specified object instances. Valid values are specified as "Measurement Name" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	< string > array

Name	Description	Schema
performance MetricGroup optional	Group of performance metrics. A metric group is a predefined list of metrics, known to the producer that it can decompose to individual metrics. Valid values are specified as "Measurement Group" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	
reportingPeri od required	Specifies the periodicity at which the producer will report to the consumer. about performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer

reports

Name	Description	Schema
_links required	Links for this resource.	_links
fileSize optional	The size of the report file in bytes, if known.	integer
href required	String formatted according to IETF RFC 3986.	string (uri)

_links

Name	Description	Schema
objects optional	Links to resources representing the measured object instances for which performance information is collected. Shall be present if the measured object instance information is accessible as a resource.	
self required	This type represents a link to a resource.	self

objects

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

self

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Query PM jobs.

GET /pm_jobs

Description

The API consumer can use this method to retrieve information about PM jobs.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	Authorization optional	The authorization token for the request. Reference: IETF RFC 7235	string
Header	Content-Type required	The MIME type of the body of the request. Reference: IETF RFC 7231	string
Header	Version required	Version of the API requested to use when responding to this request.	string
Query	all_fields optional	Include all complex attributes in the response. See clause 5.3 of ETSI GS NFV-SOL 013 for details. The NFVO shall support this parameter.	string

Туре	Name	Description	Schema
Query	exclude_defau lt optional	Indicates to exclude the following complex attributes from the response. See clause 5.3 of ETSI GS NFV-SOL 013 for details. The NFVO shall support this parameter. The following attributes shall be excluded from the PmJob structure in the response body if this parameter is provided, or none of the parameters "all_fields," "fields", "exclude_fields", "exclude_default" are provided: reports.	string
Query	exclude_fields optional	Complex attributes to be excluded from the response. See clause 5.3 of ETSI GS NFV-SOL 013 for details. The NFVO should support this parameter.	string
Query	fields optional	Complex attributes to be included into the response. See clause 5.3 of ETSI GS NFV-SOL 013 for details. The NFVO should support this parameter.	string
Query	filter optional	Attribute-based filtering expression according to clause 5.2 of ETSI GS NFV-SOL 013. The NFVO shall support receiving this parameter as part of the URI query string. The OSS/BSS may supply this parameter. All attribute names that appear in the PmJob and in data types referenced from it shall be supported by the NFVO in the filter expression.	string
Query	nextpage_opa que_marker optional	Marker to obtain the next page of a paged response. Shall be supported by the NFVO if the NFVO supports alternative 2 (paging) according to clause 5.4.2.1 of ETSI GS NFV-SOL 013 for this resource.	string

HTTP Code	Description	Schema	
200	200 OK Shall be returned when information about zero or more PM jobs has been queried successfully. The response body shall contain in an array the representations of zero or more PM jobs, as defined in clause 7.5.2.7. If the "filter" URI parameter or one of the "all_fields", "fields", "include_fields", "exclude_fields" or "exclude_default" URI parameters was supplied in the request and is supported, the data in the response body shall have been transformed according to the rules specified in clauses 5.2.2 and 5.3.2 of ETSI GS NFV SOL 013, respectively. If the NFVO supports alternative 2 (paging) according to clause 5.4.2.1 of ETSI GS NFV SOL 013 for this resource, inclusion of the Link HTTP header in this response shall follow the provisions in clause 5.4.2.3 of ETSI GS NFV SOL 013. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response. Link (string): Reference to other resources. Used for paging in the present document, see clause 4.7.2.1.	_	00 >

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents collection criteria for PM jobs. It shall comply with the provisions defined in Table 7.5.3.3-1.	criteria
id required	An identifier with the intention of being globally unique.	string
objectInstanc eIds required	Identifiers of the NS instances for which performance information is collected.	< string > array

Name	Description	Schema
objectType required	A string as defined in IETF RFC 8259.	string
reports optional	Information about available reports collected by this PM job.	reports
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance for which performance information is requested to be collected. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type. If this attribute is present, the cardinality of the "objectInstanceIds" attribute shall be 1. If this attribute is absent and a sub-object is defined in clause 6.2 of ETSI GS NFV IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

criteria

Name	Description	Schema
collectionPeri od required	Specifies the periodicity at which the producer will collect performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	
performance Metric optional	This defines the types of performance metrics for the specified object instances. Valid values are specified as "Measurement Name" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	< string > array

Name	Description	Schema
performance MetricGroup optional	Group of performance metrics. A metric group is a predefined list of metrics, known to the producer that it can decompose to individual metrics. Valid values are specified as "Measurement Group" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	< string > array
reportingPeri od required	Specifies the periodicity at which the producer will report to the consumer. about performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer

reports

Name	Description	Schema
_links required	Links for this resource.	_links
fileSize optional	The size of the report file in bytes, if known.	integer
href required	String formatted according to IETF RFC 3986.	string (uri)

_links

Name	Description	Schema
objects optional	Links to resources representing the measured object instances for which performance information is collected. Shall be present if the measured object instance information is accessible as a resource.	
self required	This type represents a link to a resource.	self

objects

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

self

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Read a single PM job.

GET /pm_jobs/{pmJobId}

Description

The API consumer can use this method for reading an individual PM job.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231.	string
Header	Authorization required	The authorization token for the request. Reference: IETF RFC 7235.	string
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	pmJobId required	Identifier of the PM job. This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new PM job resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string

HTTP Code	Description	Schema
200	200 OK Shall be returned when information about an individual PM job has been queried successfully. The response body shall contain a representation of the "Individual PM job resource", as defined in clause 7.5.2.7. Headers: Content-Type (string): The MIME type of the body of the response. This header field shall be present if the response has a non-empty message body. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 200

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents collection criteria for PM jobs. It shall comply with the provisions defined in Table 7.5.3.3-1.	criteria
id required	An identifier with the intention of being globally unique.	string
objectInstanc eIds required	Identifiers of the NS instances for which performance information is collected.	< string > array

Name	Description	Schema
objectType required	A string as defined in IETF RFC 8259.	string
reports optional	Information about available reports collected by this PM job.	reports
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance for which performance information is requested to be collected. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type. If this attribute is present, the cardinality of the "objectInstanceIds" attribute shall be 1. If this attribute is absent and a sub-object is defined in clause 6.2 of ETSI GS NFV IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

criteria

Name	Description	Schema
collectionPeri od required	Specifies the periodicity at which the producer will collect performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer
performance Metric optional	This defines the types of performance metrics for the specified object instances. Valid values are specified as "Measurement Name" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	< string > array

Name	Description	Schema
performance MetricGroup optional	Group of performance metrics. A metric group is a predefined list of metrics, known to the producer that it can decompose to individual metrics. Valid values are specified as "Measurement Group" values in clause 7.3 of ETSI GS NFV-IFA 027. At least one of the two attributes (performance metric or group) shall be present.	
reportingPeri od required	Specifies the periodicity at which the producer will report to the consumer. about performance information. The unit shall be seconds. At the end of each reportingPeriod, the producer will inform the consumer about availability of the performance data collected for each completed collection period during this reportingPeriod. The reportingPeriod should be equal to or a multiple of the collectionPeriod. In the latter case, the performance data for the collection periods within one reporting period are reported together. In particular when choosing short collection and reporting periods, the number of PM jobs that can be supported depends on the capability of the producing entity. Minimum value: 0	integer

reports

Name	Description	Schema
_links required	Links for this resource.	_links
fileSize optional	The size of the report file in bytes, if known.	integer
href required	String formatted according to IETF RFC 3986.	string (uri)

_links

Name	Description	Schema
objects optional	Links to resources representing the measured object instances for which performance information is collected. Shall be present if the measured object instance information is accessible as a resource.	
self required	This type represents a link to a resource.	self

objects

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

self

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Delete a PM job.

DELETE /pm_jobs/{pmJobId}

Description

This method terminates an individual PM job. This method shall follow the provisions specified in the Tables 7.4.3.3.5-1 and 7.4.3.3.5-2 for URI query parameters, request and response data structures, and response codes. As the result of successfully executing this method, the "Individual PM job" resource shall not exist any longer.

Parameters

Type	Name	Description	Schema
Header	Authorization required	The authorization token for the request. Reference: IETF RFC 7235.	string
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	pmJobId required	Identifier of the PM job. This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new PM job resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string

HTTP Code	Description	Schema
204	204 NO CONTENT Shall be returned when the PM job has been deleted successfully. The response body shall be empty. Headers: WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	No Content

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Modify a PM job.

PATCH /pm_jobs/{pmJobId}

Description

This method allows to modify an "individual PM job" resource. This method shall follow the provisions specified in the Tables 7.4.3.3.4-1 and 7.4.3.3.4-2 for URI query parameters, request and response data structures, and response codes.

Parameters

Type	Name	Description				Schema	
Header	Authorization required	The authorization Reference: IETF RFC		for	the	request.	string

Type	Name	Description	Schema
Header	Content-type required	The Content-Type header shall be set to "application/merge-patch+json" according to IETF RFC 7396.	enum (application/merge- patch+json)
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	pmJobId required	Identifier of the PM job. This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new PM job resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string
Body	pmJobModific ations required		pmJobModifications

pmJobModifications

Name	Description	Schema
authenticatio n optional		authentication
callbackUri optional	String formatted according to IETF RFC 3986.	string (uri)

authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	< enum (BASIC, OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array

Name	Description	Schema
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	

paramsBasic

Name	Description	Schema
password optional	Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string
userName optional	Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

params O auth 2 Client Credentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string

Name	Description	Schema
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string (uri)

HTTP Code	Description	Schema
200	200 OK Shall be returned when the request has been processed successfully. The response body shall contain a data structure of type "PmJobModifications". Headers: WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 200

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 404
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
412	412 PRECONDITION FAILED Error: A precondition given in an HTTP request header is not fulfilled. Typically, this is due to an ETag mismatch, indicating that the resource was modified by another entity. The response body should contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
authenticatio n optional		authentication
callbackUri optional	String formatted according to IETF RFC 3986.	string (uri)

authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	< enum (BASIC, OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsOauth2Client Credentials

paramsBasic

Name	Description	Schema
password optional	Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string
userName optional	Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

params O auth 2 Client Credentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string (uri)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Read an individual performance report.

GET /pm_jobs/{pmJobId}/reports/{reportId}

Description

The API consumer can use this method for reading an individual performance report.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231.	string
Header	Authorization required	The authorization token for the request. Reference: IETF RFC 7235.	string
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	pmJobId required	Identifier of the PM job.	string
Path	reportId required	Identifier of the performance report.	string

HTTP Code	Description	Schema
200	200 OK Shall be returned when information of an individual performance report has been read successfully. The response body shall contain a representation of the "Individual performance report" resource, as defined in clause 7.5.2.10. Headers: Content-Type (string): The MIME type of the body of the response. This header field shall be present if the response has a non-empty message body. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 404
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
entries required	List of performance information entries. Each performance report entry is for a given metric of a given object (i.e. NS instance), but can include multiple collected values.	

entries

Name	Description	Schema
objectInstanc eId required	An identifier with the intention of being globally unique.	string

Name	Description	Schema
objectType required	A string as defined in IETF RFC 8259.	string
performance Metric required	A string as defined in IETF RFC 8259.	string
performanceV alues optional	List of performance values with associated timestamp.	<pre></pre>
subObjectInst	Identifier of the sub-object instance of the measured object instance for which the performance metric is reported. Shall be present if this is required in clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type. The sub-object allows to structure the measured object but is not to be confused with sub-counters which allow to structure the measurement value.	< string > array
anceId optional	EXAMPLE: Measured object: VnfInstanceXYZ Sub-object: VnfcInstance1 Measurement: vCPU_utilization Sub-counters: vCPU utilization of each of the vCPUs of VnfcInstance1 (vCPU_utilization.vCPU1, vCPU_utilization.vCPU2, etc.).	

performance Values

Name	Description	Schema
context optional	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	
value optional	Value of the metric collected. The type of this attribute shall correspond to the related "Measurement Unit" as defined in clause 7.3 of ETSI GS NFV-IFA 027.	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Create a threshold.

POST /thresholds

Description

The POST method can be used by the API consumer to create a threshold. This method shall follow the provisions specified in the table 7.4.5.3.1-2 for URI query parameters, request and response data structures, and response codes. As the result of successfully executing this method, a new "Individual threshold" resource as defined in clause 7.4.6 shall have been created.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	Authorization optional	The authorization token for the request. Reference: IETF RFC 7235	string
Header	Content-Type required	The MIME type of the body of the request. Reference: IETF RFC 7231	string
Header	Version required	Version of the API requested to use when responding to this request.	string
Body	CreateThresh oldRequest required		CreateThresholdReq uest

${\bf Create Threshold Request}$

Name	Description	Schema
authenticatio n optional		authentication
criteria required	This type represents criteria that define a threshold.	criteria
objectInstanc eId required	An identifier with the intention of being globally unique.	string
objectType required	A string as defined in IETF RFC 8259.	string

Name	Description	Schema
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance for which performance information is requested to be collected. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type. If this attribute is present, the cardinality of the "objectInstanceIds" attribute shall be 1. If this attribute is absent and a sub-object is defined in clause 6.2 of ETSI GS NFV IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsOauth2Client Credentials

paramsBasic

Name	Description	Schema
password optional	Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

Name	Description	Schema
userName optional	Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

params O auth 2 Client Credentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string (uri)

criteria

Name	Description	Schema
performance Metric required	Defines the performance metric associated with the threshold. Valid values are specified as "Measurement Name" values in clause 7.2 of ETSI GS NFV IFA 027.	
simpleThresh oldDetails optional	Details of a simple threshold. Shall be present if thresholdType="SIMPLE".	simpleThresholdDet ails

Name	Description	Schema
thresholdTyp e required	Type of threshold. This attribute determines which other attributes are present in the data structure. Permitted values: * SIMPLE: Single-valued static threshold In the present document, simple thresholds are defined. The definition of additional threshold types is left for future specification.	

simple Threshold Details

Name	Description	Schema
hysteresis required	The hysteresis of the threshold. Shall be represented as a non-negative floating point number. A notification with crossing direction "UP" will be generated if the measured value reaches or exceeds "thresholdValue" + "hysteresis". A notification with crossing direction "DOWN" will be generated if the measured value reaches or undercuts "thresholdValue" - "hysteresis". The hysteresis is defined to prevent storms of threshold crossing notifications. When processing a request to create a threshold, implementations should enforce a suitable minimum value for this attribute (e.g. override the value or reject the request).	integer
thresholdValu e required	The threshold value. Shall be represented as a floating point number.	integer

HTTP Code	Description	Schema
201	201 CREATED Shall be returned when a threshold has been created successfully. The response body shall contain a representation of the created "Individual threshold" resource, as defined in clause 7.5.2.9. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the created threshold resource. Headers: Content-Type (string): The MIME type of the body of the response. This header field shall be present if the response has a non-empty message body. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 201

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
_links required	Links for this resource.	_links
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents criteria that define a threshold.	criteria
id required	An identifier with the intention of being globally unique.	string

Name	Description	Schema
objectInstanc eId required	An identifier with the intention of being globally unique.	string
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance associated with the threshold. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measurement type. If this attribute is absent and a sub-object is defined n clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

_links

Name	Description	Schema
self required	This type represents a link to a resource.	self

self

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

criteria

Name	Description	Schema
performance Metric required	Defines the performance metric associated with the threshold. Valid values are specified as "Measurement Name" values in clause 7.2 of ETSI GS NFV IFA 027.	
simpleThresh oldDetails optional	Details of a simple threshold. Shall be present if thresholdType="SIMPLE".	simpleThresholdDet ails

Name	Description	Schema
thresholdTyp e required	Type of threshold. This attribute determines which other attributes are present in the data structure. Permitted values: * SIMPLE: Single-valued static threshold In the present document, simple thresholds are defined. The definition of additional threshold types is left for future specification.	

simple Threshold Details

Name	Description	Schema
hysteresis required	The hysteresis of the threshold. Shall be represented as a non-negative floating point number. A notification with crossing direction "UP" will be generated if the measured value reaches or exceeds "thresholdValue" + "hysteresis". A notification with crossing direction "DOWN" will be generated if the measured value reaches or undercuts "thresholdValue" - "hysteresis". The hysteresis is defined to prevent storms of threshold crossing notifications. When processing a request to create a threshold, implementations should enforce a suitable minimum value for this attribute (e.g. override the value or reject the request).	
thresholdValu e required	The threshold value. Shall be represented as a floating point number.	integer

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Query thresholds.

GET /thresholds

Description

The API consumer can use this method to query information about thresholds.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	Authorization optional	The authorization token for the request. Reference: IETF RFC 7235	string

Type	Name	Description	Schema
Header	Version required	Version of the API requested to use when responding to this request.	string
Query	filter optional	Attribute-based filtering expression according to clause 5.2 of ETSI GS NFV-SOL 013. The NFVO shall support receiving this parameter as part of the URI query string. The OSS/BSS may supply this parameter. All attribute names that appear in the Thresholds data type and in data types referenced from it shall be supported by the NFVO in the filter expression.	
Query	nextpage_opa que_marker optional	Marker to obtain the next page of a paged response. Shall be supported by the NFVO if the NFVO supports alternative 2 (paging) according to clause 5.4.2.1 of ETSI GS NFV SOL 013for this resource.	

HTTP Code	Description	Schema
200	200 OK Shall be returned when information about zero or more thresholds was queried successfully. If the "filter" URI parameter was supplied in the request, the data in the response body shall have been transformed according to the rules specified in clause 5.2.2 of ETSI GS NFV-SOL 013. The response body shall contain representations of zero or more thresholds, as defined in clause 7.5.2.9. If the NFVO supports alternative 2 (paging) according to clause 5.4.2.1 of ETSI GS NFV SOL 013 for this resource, inclusion of the Link HTTP header in this response shall follow the provisions in clause 5.4.2.3 of ETSI GS NFV SOL 013. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response. Link (string): Reference to other resources. Used for paging in the present document, see clause 4.7.2.1.	< Response 200 > array

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 404
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
_links required	Links for this resource.	_links
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents criteria that define a threshold.	criteria
id required	An identifier with the intention of being globally unique.	string

Name	Description	Schema
objectInstanc eId required	An identifier with the intention of being globally unique.	string
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance associated with the threshold. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measurement type. If this attribute is absent and a sub-object is defined n clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

_links

Name	Description	Schema
self required	This type represents a link to a resource.	self

self

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

criteria

Name	Description	Schema
performance Metric required	Defines the performance metric associated with the threshold. Valid values are specified as "Measurement Name" values in clause 7.2 of ETSI GS NFV IFA 027.	string
simpleThresh oldDetails optional	Details of a simple threshold. Shall be present if thresholdType="SIMPLE".	simpleThresholdDet ails

Name	Description	Schema
thresholdTyp e required	Type of threshold. This attribute determines which other attributes are present in the data structure. Permitted values: * SIMPLE: Single-valued static threshold In the present document, simple thresholds are defined. The definition of additional threshold types is left for future specification.	

simple Threshold Details

Name	Description	Schema
hysteresis required	The hysteresis of the threshold. Shall be represented as a non-negative floating point number. A notification with crossing direction "UP" will be generated if the measured value reaches or exceeds "thresholdValue" + "hysteresis". A notification with crossing direction "DOWN" will be generated if the measured value reaches or undercuts "thresholdValue" - "hysteresis". The hysteresis is defined to prevent storms of threshold crossing notifications. When processing a request to create a threshold, implementations should enforce a suitable minimum value for this attribute (e.g. override the value or reject the request).	integer
thresholdValu e required	The threshold value. Shall be represented as a floating point number.	integer

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Query a single threshold.

GET /thresholds/{thresholdId}

Description

The API consumer can use this method for reading an individual threshold. This method shall follow the provisions specified in the Tables 7.4.6.3.2-1 and 7.4.6.3.2-2 for URI query parameters, request and response data structures, and response codes.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	Authorization required	The authorization token for the request. Reference: IETF RFC 7235	string

Туре	Name	Description	Schema
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	thresholdId required	Identifier of the threshold. This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new threshold resource. It can also be retrieved from the "id" attribute in the payload body of that response.	ctring

HTTP Code	Description	Schema
200	200 OK Shall be returned when information about an individual threshold has been queried successfully. The response body shall contain a representation of the threshold, as defined in clause 7.5.2.9. Headers: Content-Type (string): The MIME type of the body of the response. This header field shall be present if the response has a non-empty message body. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 200

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
_links required	Links for this resource.	_links
callbackUri required	String formatted according to IETF RFC 3986.	string (uri)
criteria required	This type represents criteria that define a threshold.	criteria
id required	An identifier with the intention of being globally unique.	string

Name	Description	Schema
objectInstanc eId required	An identifier with the intention of being globally unique.	string
subObjectInst anceIds optional	Identifiers of the sub-object instances of the measured object instance associated with the threshold. May be present if a sub-object is defined in clause 6.2 of ETSI GS NFV-IFA 027 for the related measurement type. If this attribute is absent and a sub-object is defined n clause 6.2 of ETSI GS NFV-IFA 027 for the related measured object type, measurements will be taken for all sub-object instances of the measured object instance.	< string > array

_links

Name	Description	Schema
self required	This type represents a link to a resource.	self

self

Name	Description	Schema
href required	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

criteria

Name	Description	Schema
performance Metric required	Defines the performance metric associated with the threshold. Valid values are specified as "Measurement Name" values in clause 7.2 of ETSI GS NFV IFA 027.	
simpleThresh oldDetails optional	Details of a simple threshold. Shall be present if thresholdType="SIMPLE".	simpleThresholdDet ails

Name	Description	Schema
thresholdTyp e required	Type of threshold. This attribute determines which other attributes are present in the data structure. Permitted values: * SIMPLE: Single-valued static threshold In the present document, simple thresholds are defined. The definition of additional threshold types is left for future specification.	

simple Threshold Details

Name	Description	Schema
hysteresis required	The hysteresis of the threshold. Shall be represented as a non-negative floating point number. A notification with crossing direction "UP" will be generated if the measured value reaches or exceeds "thresholdValue" + "hysteresis". A notification with crossing direction "DOWN" will be generated if the measured value reaches or undercuts "thresholdValue" - "hysteresis". The hysteresis is defined to prevent storms of threshold crossing notifications. When processing a request to create a threshold, implementations should enforce a suitable minimum value for this attribute (e.g. override the value or reject the request).	
thresholdValu e required	The threshold value. Shall be represented as a floating point number.	integer

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Delete a Threshold.

DELETE /thresholds/{thresholdId}

Description

This method allows to delete a threshold. As the result of successfully executing this method, the "Individual threshold" resource shall not exist any longer.

Parameters

Туре	Name	Description	Schema
Header	Accept required	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	Authorization required	The authorization token for the request. Reference: IETF RFC 7235	string

Туре	Name	Description	Schema
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	thresholdId required	Identifier of the threshold. This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new threshold resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string

HTTP Code	Description	Schema
204	204 NO CONTENT Shall be returned when the threshold has been deleted successfully. The response body shall be empty. Headers: WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	No Content

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 500
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
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instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

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instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Modify a Threshold

PATCH /thresholds/{thresholdId}

Description

This method allows to modify an "Individual threshold" resource. This method shall follow the provisions specified in the Tables 7.4.6.3.4-1 and 7.4.6.3.4-2 for URI query parameters, request and response data structures, and response codes.

Parameters

Type	Name	Description			Schema			
Header	Authorization required		authorization ence: IETF RFC		for	the	request.	string

Туре	Name	Description	Schema
Header	Content-type required		enum (application/merge- patch+json)
Header	Version required	Version of the API requested to use when responding to this request.	string
Path	thresholdId required	Identifier of the threshold. This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new threshold resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string
Body	thresholdMod ifications required		thresholdModificati ons

thresholdModifications

Name	Description	Schema
authenticatio n optional		authentication
callbackUri optional	String formatted according to IETF RFC 3986.	string (uri)

authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	< enum (BASIC, OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array

Name	Description	Schema
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	

paramsBasic

Name	Description	Schema
password optional	Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string
userName optional	Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

paramsOauth2ClientCredentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string

Name	Description	Schema
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string (uri)

HTTP Code	Description	Schema
200	200 OK Shall be returned when the request has been processed successfully. The response body shall contain a data structure of type "ThresholdModifications". Headers: WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 200

HTTP Code	Description	Schema
400	400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid auth	Response 400

HTTP Code	Description	Schema
401	401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 401
403	403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 403

HTTP Code	Description	Schema
404	404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
405	405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 405
406	406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 406

HTTP Code	Description	Schema
412	412 PRECONDITION FAILED Error: A precondition given in an HTTP request header is not fulfilled. Typically, this is due to an ETag mismatch, indicating that the resource was modified by another entity. The response body should contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
500	500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	
503	503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted. Headers: Content-Type (string): The MIME type of the body of the response. WWW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token. Version (string): Version of the API used in the response.	Response 503

Name	Description	Schema
authenticatio n optional		authentication
callbackUri optional	String formatted according to IETF RFC 3986.	string (uri)

authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsOauth2Client Credentials

paramsBasic

Name	Description	Schema
password optional	Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string
userName optional	Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band.	string

params O auth 2 Client Credentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string (uri)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
title optional	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	
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Name	Description	Schema
	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

Name	Description	Schema
detail required	A human-readable explanation specific to this occurrence of the problem.	string
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
status required	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	

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	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
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Name	Description	Schema
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type optional	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)