SOL003 - Virtualised Resources Quota Available Notification Notification interface

Overview

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IMPORTANT

Please note that this file might be not aligned to the current version of the ETSI Group Specification it refers to. In case of discrepancies the published ETSI Group Specification takes precedence.

In clause 4.3.2 of ETSI GS NFV-SOL 003 v2.4.1, an attribute-based filtering mechanism is defined. This mechanism is currently not included in the corresponding OpenAPI design for this GS version. Changes to the attribute-based filtering mechanism are being considered in v2.5.1 of this GS for inclusion in the corresponding future ETSI NFV OpenAPI design. Please report bugs to https://forge.etsi.org/bugzilla/buglist.cgi?component=Nfv-Openapis&list_id=61&product=NFV&resolution=

Version information

Version : 1.2.0-impl:etsi.org:ETSI_NFV_OpenAPI:1

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:/callback/v1 Schemes: HTTPS

Consumes

application/json

Produces

• application/json

External Docs

Description: ETSI GS NFV-SOL 003 V2.5.1

URL: https://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/003/02.05.01_60/gs_nfv-

sol003v020501p.pdf

Paths

POST /URI-is-provided-by-the-client-when-creating-the-subscription

Description

Notify

The POST method delivers a notification from the server to the client.

Parameters

| Туре | Name | Description | Schema |
|--------|------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------|
| Header | Authorization optional | The authorization token for the request. Reference: IETF RFC 7235 | string |
| Header | Content-Type required | The Content-Type header shall be set to "application/merge-patch+json" according to IETF RFC 7396. | string |
| Header | Version required | Version of the API requested to use when responding to this request. | string |
| Body | VrQuotaAvail Notification required | A notification related to the availability of the virtualised resources quota. | VrQuotaAvailNotific ation |

VrQuotaAvailNotification

| Name | Description | Schema |
|-----------------------|-----------------------------------------------------------------------------------------------------------------|--------|
| _links required | This type represents the links to resources that a notification of type "VrQuotaAvailNotification" can contain. | _links |
| id required | An identifier with the intention of being globally unique. | string |

| Name | Description | Schema |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| notificationTy pe required | Discriminator for the different notification types. Shall be set to "VrQuotaAvailNotification" for this notification type. | enum (VrQuotaAvailNotifi cation) |
| resourceGrou pId required | An identifier maintained by the VIM or other resource provider. It is expected to be unique within the VIM instance. | string |
| resourceProvi derId optional | An identifier with the intention of being globally unique. | string |
| subscriptionI d required | An identifier with the intention of being globally unique. | string |
| timeStamp required | Date-time stamp. Representation: String formatted according to IETF RFC 3339. | string (date-time) |
| vimConnectio nInfo optional | This type represents parameters to connect to a VIM for managing the resources of a VNF instance. This structure is used to convey VIM-related parameters over the Or-Vnfm interface. Additional parameters for a VIM may be configured into the VNFM by means outside the scope of the present document, and bound to the identifier of that VIM. | vimConnectionInfo |

_links

| Name | Description | Schema |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| subscription required | This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1. | |

subscription

| Name | Description | Schema |
|----------------------|----------------------------------------------|--------|
| href required | String formatted according to IETF RFC 3986. | string |

${\bf vim Connection Info}$

| Name | Description | Schema |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| accessInfo 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. | object |
| extra 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. | object |
| id required | An identifier with the intention of being globally unique. | string |
| interfaceInfo 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. | object |
| vimId optional | An identifier with the intention of being globally unique. | string |
| vimType required | Discriminator for the different types of the VIM information. The value of this attribute determines the structure of the "interfaceInfo" and "accessInfo" attributes, based on the type of the VIM. The set of permitted values is expected to change over time as new types or versions of VIMs become available. The ETSI NFV registry of VIM-related information provides access to information about VimConnectionInfo definitions for various VIM types. The structure of the registry is defined in Annex C of SOL003. | string |

| HTTP Code | Description | Schema |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 204 | 204 NO CONTENT The notification was delivered successfully. Headers : 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. | |

| 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) |

| 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". | |

GET /URI-is-provided-by-the-client-when-creating-the-subscription

Description

The GET method allows the server to test the notification endpoint that is provided by the client, e.g. during subscription.

Parameters

| Type | Name | Description | Schema |
|--------|-------------------------|----------------------------------------------------------------------|--------|
| Header | Version required | Version of the API requested to use when responding to this request. | string |

| HTTP Code | Description | Schema |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 204 | 204 NO CONTENT The notification was delivered successfully. Headers: Version (string): Version of the API used in the response. | No Content |
| 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. WW-Authenticate (string): Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has not provided authorizatio | 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". | |

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

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