SOL005 - VNF Package Management Notification interface

Overview

SOL005 - VNF Package Management Notification interface

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 002 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 : 1.0.0

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 : HTTP, HTTPS

Consumes

- `application/json`

Produces

- `application/json`

External Docs

Description : ETSI GS NFV-SOL 005 V2.4.1
URL : http://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/005/02.04.01_60/gs_NFV-SOL005v020401p.pdf

Paths

Notify about VNF package onboarding or change

```
POST /URI_is_provided_by_the_client_when_creating_the_subscription-
VnfPackageChangeNotification
```

Description

The POST method delivers a notification from the server to the client. This method shall follow the provisions specified in the Tables 9.4.10.3.1-1 and 9.4.10.3.1-2 for URI query parameters, request and response data structures, and response codes.

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	**VnfPackageChangeNotification** *required*	A notification about changes of status in a VNF package.	VnfPackageChangeNotification

VnfPackageChangeNotification

Name	Description	Schema
VnfPackageCh angeNotificati on *optional*	This type represents a VNF package management notification, which informs the receiver of a change of the status in an on-boarded VNF package. Only changes in the "operationalState" attribute of an on-boarded VNF package and the deletion of the VNF package will be reported. Change in the "usageState" and "onboardingState" attributes are not reported. The notification shall comply with the provisions defined in Table 9.5.2.9-1. The support of this notification is mandatory. The notification shall be triggered by the NFVO when there is a change in the status of an onboarded VNF package, as follows. - The "operationalState" attribute of a VNF package has changed, and the "onboardingState" attribute of the package has the value "ONBOARDED". - The on-boarded VNF package has been deleted.	VnfPackageChangeN otification

VnfPackageChangeNotification

Name	Description	Schema
_links *required*	This type represents the links to resources that a VNF package management notification can contain.	_links
changeType *required*	The enumeration PackageChangeType shall comply with the provisions defined in Table 9.5.4.6-1. Permitted Values: - OP_STATE_CHANGE: The "operationalState" attribute has been changed. - PKG_DELETE: The VNF package has been deleted.	enum (OP_STATE_CHANGE , PKG_DELETE)
id *required*	An identifier with the intention of being globally unique.	string
notificationTy pe *required*	Discriminator for the different notification types. Shall be set to "VnfPackageChangeNotification" for this notification type.	string
operationalSt ate *optional*	"The enumeration PackageOperationalStateType shall comply with the provisions defined in Table 9.5.4.4-1." Acceptable values are: -ENABLED - The VNF package is enabled, i.e. it can be used for instantiation of new VNF instances. -DISABLED - The VNF package is disabled, i.e. it cannot be used for further VNF instantiation requests (unless and until the VNF package is re-enabled).	enum (ENABLED, DISABLED)

Name	Description	Schema
subscriptionId *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)
vnfPkgId *required*	An identifier with the intention of being globally unique.	string
vnfdId *required*	An identifier with the intention of being globally unique.	string

_links

Name	Description	Schema
subscription *required*	This type represents a link to a resource.	subscription
vnfPackage *required*	This type represents a link to a resource.	vnfPackage

subscription

Name	Description	Schema
href *required*	URI of the referenced resource.	string (url)

vnfPackage

Name	Description	Schema
href *required*	URI of the referenced resource.	string (url)

Responses

HTTP Code	Description	Schema
204	204 No Content The notification was delivered successfully. **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
400	Bad Request. Error: Invalid attribute-based filtering parameters. The response body shall 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.	Response 400
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.	Response 401
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.	Response 403

HTTP Code	Description	Schema
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 withthis 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.	[Response 500](#)
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 [13] 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.	[Response 503](#)

Response 400

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.	string (URI)
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)

Response 401

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.	string (URI)
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)

Response 403

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.	string (URI)
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)

Response 500

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.	string (URI)
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)

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.	string (URI)
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)

Test the notification endpoint

```
GET /URI_is_provided_by_the_client_when_creating_the_subscription-
VnfPackageChangeNotification
```

Description

The GET method allows the server to test the notification endpoint that is provided by the client, e.g. during subscription. This method shall follow the provisions specified in the Tables 9.4.10.3.2-1 and 9.4.10.3.2-2 for URI query parameters, request and response data structures, and response codes.

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	**Version** *required*	Version of the API requested to use when responding to this request.	string

Responses

HTTP Code	Description	Schema
204	204 No Content The notification endpoint was tested successfully. The response body shall be empty.	No Content

HTTP Code	Description	Schema
400	Bad Request. Error: Invalid attribute-based filtering parameters. The response body shall 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.	Response 400
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.	Response 401
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.	Response 403
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 withthis 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.	Response 500

HTTP Code	Description	Schema
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 [13] 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.	Response 503

Response 400

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.	string (URI)
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)

Response 401

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.	string (URI)
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)

Response 403

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.	string (URI)
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)

Response 500

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.	string (URI)
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)

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.	string (URI)
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)

Notify about VNF package onboarding or change

```
POST /URI_is_provided_by_the_client_when_creating_the_subscription-
VnfPackageOnboardingNotification
```

Description

The POST method delivers a notification from the server to the client. This method shall follow the provisions specified in the Tables 9.4.10.3.1-1 and 9.4.10.3.1-2 for URI query parameters, request and response data structures, and response codes.

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	**VnfPackageOnboardingNotification** *required*	A notification about on-boarding of a VNF package.	VnfPackageOnboardingNotification

VnfPackageOnboardingNotification

Name	Description	Schema
VnfPackageOnboardingNotification *optional*	This type represents a VNF package management notification, which informs the receiver that the on boarding process of a VNF package incomplete and the package is ready for use. A change of the on-boarding state before the VNF package is on-boarded is not reported. It shall comply with the provisions defined in Table 9.5.2.8-1. The support of this notification is mandatory. The notification shall be triggered by the NFVO when the value of the "onboardingState" attribute of a new VNF package has changed to "ONBOARDED".	VnfPackageOnboardingNotification

VnfPackageOnboardingNotification

Name	Description	Schema
_links *required*	This type represents the links to resources that a VNF package management notification can contain.	_links
id *required*	An identifier with the intention of being globally unique.	string
notificationType *required*	Discriminator for the different notification types. Shall be set to "VnfPackageOnboardingNotification" for this notification type.	string
subscriptionId *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)
vnfPkgId *required*	An identifier with the intention of being globally unique.	string
vnfdId *required*	An identifier with the intention of being globally unique.	string

_links

Name	Description	Schema
subscription *required*	This type represents a link to a resource.	subscription
vnfPackage *required*	This type represents a link to a resource.	vnfPackage

subscription

Name	Description	Schema
href *required*	URI of the referenced resource.	string (url)

vnfPackage

Name	Description	Schema
href *required*	URI of the referenced resource.	string (url)

Responses

HTTP Code	Description	Schema
204	204 No Content The notification was delivered successfully. **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
400	Bad Request. Error: Invalid attribute-based filtering parameters. The response body shall 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.	Response 400
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.	Response 401

HTTP Code	Description	Schema
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.	Response 403
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 withthis 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.	Response 500
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 [13] 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.	Response 503

Response 400

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.	string (URI)
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)

Response 401

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.	string (URI)
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)

Response 403

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.	string (URI)
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)

Response 500

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.	string (URI)
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)

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.	string (URI)
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)