**TM Forum Specifications**

**Test Data Management API User Guide**

**TMF706**

**Team Approved Date: 29-Jul-2020**

|  |  |
| --- | --- |
| **Release Status: Production** | **Approval Status: TM Forum Approved** |
| **Version 4.0.0** | **IPR Mode: RAND** |

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Table of Contents

[NOTICE 2](#_Toc47947415)

[Table of Contents 4](#_Toc47947416)

[List of Tables 6](#_Toc47947417)

[Introduction 7](#_Toc47947418)

[SAMPLE USE CASES 8](#_Toc47947419)

[Support of polymorphism and extension patterns 9](#_Toc47947420)

[RESOURCE MODEL 10](#_Toc47947421)

[Managed Entity and Task Resource Models 10](#_Toc47947422)

[Test Data Instance resource 10](#_Toc47947423)

[Test Data Schema resource 17](#_Toc47947424)

[Notification Resource Models 24](#_Toc47947425)

[Test Data Instance Create Event 25](#_Toc47947426)

[Test Data Instance Change Event 26](#_Toc47947427)

[Test Data Instance Delete Event 26](#_Toc47947428)

[Test Data Instance Attribute Value Change Event 26](#_Toc47947429)

[Test Data Instance State Change Event 27](#_Toc47947430)

[Test Data Schema Create Event 27](#_Toc47947431)

[Test Data Schema Change Event 28](#_Toc47947432)

[Test Data Schema Delete Event 28](#_Toc47947433)

[Test Data Schema Attribute Value Change Event 28](#_Toc47947434)

[Test Data Schema State Change Event 29](#_Toc47947435)

[API OPERATIONS 30](#_Toc47947436)

[Operations on Test Data Instance 30](#_Toc47947437)

[List test data instances 30](#_Toc47947438)

[Retrieve test data instance 32](#_Toc47947439)

[Create test data instance 33](#_Toc47947440)

[Patch test data instance 35](#_Toc47947441)

[Delete test data instance 37](#_Toc47947442)

[Operations on Test Data Schema 37](#_Toc47947443)

[List test data schemas 37](#_Toc47947444)

[Retrieve test data schema 38](#_Toc47947445)

[Create test data schema 39](#_Toc47947446)

[Patch test data schema 42](#_Toc47947447)

[Delete test data schema 43](#_Toc47947448)

[API NOTIFICATIONS 45](#_Toc47947449)

[Register listener 45](#_Toc47947450)

[Unregister listener 46](#_Toc47947451)

[Publish Event to listener 46](#_Toc47947452)

[Appendix 1 48](#_Toc47947453)

[Examples of base64-encoded Attachment content for ONAP VTP 48](#_Toc47947454)

[Example 1. ONAP VTP test data instance representation example 48](#_Toc47947455)

[Acknowledgements 49](#_Toc47947456)

[Version History 49](#_Toc47947457)

[Release History 49](#_Toc47947458)

[Contributors to Document 49](#_Toc47947459)

List of Tables

N/A

Introduction

The following document is the specification of the REST API for test data management. It includes the model definition as well as all available operations.

# SAMPLE USE CASES

Reader will find example of use cases in TMF913 “Test API Component Suite” document.

# Support of polymorphism and extension patterns

Support of polymorphic collections and types and schema based extension is provided by means of a list of generic meta-attributes that we describe below. Polymorphism in collections occurs when entities inherit from base entities, for instance TestDataInstance and TestDataSchema inheriting properties from the abstract ManagedArtifact entity.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines v3.0 Part 2 document.

The @type attribute provides a way to represent the actual class type of an entity. For example, within a list of ManagedArtifact instances some may be instances of TestDataInstance where other could be instances of TestDataSchema. The @type gives this information. All resources and sub-resources of this API have a @type attributes that can be provided when this is useful.

The @schemaLocation property can be used in resources to allow specifying user-defined properties of an Entity or to specify the expected *characteristics* of an entity.

The @baseType attribute gives a way to provide explicitly the base of class of a given resource that has been extended.

# RESOURCE MODEL

## Managed Entity and Task Resource Models

### Test Data Instance resource

A managed test data instance resource.

**Resource model**



**Field descriptions**

*TestDataInstance* fields

|  |  |
| --- | --- |
| description | A string. The description for the artifact. |
| version | A string. The artifact version. |
| versionDescription | A string. The artifact version description. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| testDataInstanceDefinition | A test data instance definition (TestDataInstanceDefinition). Test data instance definition. |
| agreement | A test agreement (TestAgreement). |
| attribute | A list of attributes (Attribute [\*]). |
| relatedParty | A list of related party with contact infos (RelatedPartyWithContactInfo [\*]). Related party specialization that includes contact information. |
| state | A managed artifact state type (ManagedArtifactStateType). Possible values for the state of a managed artifact: 'incomplete', 'beta', 'stable', 'deprecated'. |

*Attribute* sub-resource

|  |  |
| --- | --- |
| characteristic | A characteristic (Characteristic). Describes a given characteristic of an object or entity through a name/value pair. |
| description | A string. The attribute description. |

*Characteristic* sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

|  |  |
| --- | --- |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| characteristicRelationship | A list of characteristic relationships (CharacteristicRelationship [\*]). Another Characteristic that is related to the current Characteristic;. |
| id | A string. Unique identifier of the characteristic. |
| name | A string. Name of the characteristic. |
| value | An any (Any). The value of the characteristic. |
| valueType | A string. Data type of the value of the characteristic. |

*CharacteristicRelationship* sub-resource

Another Characteristic that is related to the current Characteristic;.

|  |  |
| --- | --- |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. Unique identifier of the characteristic. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| relationshipType | A string. The type of relationship. |

*ContactMedium* sub-resource

Indicates the contact medium that could be used to contact the party.

|  |  |
| --- | --- |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| characteristic | A medium characteristic (MediumCharacteristic). Any additional characteristic(s) of this contact medium. |
| mediumType | A string. Type of the contact medium, such as: email address, telephone number, postal address. |
| preferred | A boolean. If true, indicates that is the preferred contact medium. |
| validFor | A time period. The time period that the contact medium is valid for. |

*MediumCharacteristic* sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

|  |  |
| --- | --- |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| city | A string. The city. |
| contactType | A string. The type of contact, for example: phone number such as mobile, fixed home, fixed office. postal address such as shipping installation…. |
| country | A string. The country. |
| emailAddress | A string. Full email address in standard format. |
| faxNumber | A string. The fax number of the contact. |
| phoneNumber | A string. The primary phone number of the contact. |
| postCode | A string. Postcode. |
| socialNetworkId | A string. Identifier as a member of a social network. |
| stateOrProvince | A string. State or province. |
| street1 | A string. Describes the street. |
| street2 | A string. Complementary street description. |

*Quantity* sub-resource

An amount in a given unit.

|  |  |
| --- | --- |
| amount | A float. Numeric value in a given unit. |
| units | A string. Unit. |

*RelatedPartyWithContactInfo* sub-resource

Related party specialization that includes contact information.

|  |  |
| --- | --- |
| @referredType | A string. The actual type of the target instance when needed for disambiguation. |
| role | A string. Role played by the related party. |
| name | A string. Name of the related entity. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| contact | A list of contact mediums (ContactMedium [\*]). Indicates the contact medium that could be used to contact the party. |

*TestAgreement* sub-resource

|  |  |
| --- | --- |
| name | A string. The agreement name. |
| terms | A string. The terms of the agreement. |
| url | An uri (Uri). The agreement URL. |

*TestDataInstanceDefinition* sub-resource

Test data instance definition.

|  |  |
| --- | --- |
| attachmentType | A string. Attachment type such as video, picture. |
| content | A base 6 4 (Base64). The actual contents of the attachment object, if embedded, encoded as base64. |
| description | A string. A narrative text describing the content of the attachment. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| mimeType | A string. Attachment mime type such as extension file for video, picture and document. |
| name | A string. The name of the attachment. |
| url | An uri (Uri). Uniform Resource Locator, is a web page address (a subset of URI). |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| size | A quantity (Quantity). The size of the attachment. |
| validFor | A time period. The period of time for which the attachment is valid. |

**Json representation sample**

We provide below the json representation of an example of a 'TestDataInstance' resource object

|  |
| --- |
| { "id": "2db74193-e5fb-462a-98e0-6b1ed970dfc7", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7", "description": "Input parameters for test case execution", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataInstanceDefinition": { "attachmentType": "json", "content": "<base64-encoded test data instance>", "mimeType": "base64" }} |

### Test Data Schema resource

A managed test data schema resource.

**Resource model**



**Field descriptions**

*TestDataSchema* fields

|  |  |
| --- | --- |
| description | A string. The description for the artifact. |
| version | A string. The artifact version. |
| versionDescription | A string. The artifact version description. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| testDataSchemaDefinition | A test data schema definition (TestDataSchemaDefinition). Test data schema definition. |
| agreement | A test agreement (TestAgreement). |
| attribute | A list of attributes (Attribute [\*]). |
| relatedParty | A list of related party with contact infos (RelatedPartyWithContactInfo [\*]). Related party specialization that includes contact information. |
| state | A managed artifact state type (ManagedArtifactStateType). Possible values for the state of a managed artifact: 'incomplete', 'beta', 'stable', 'deprecated'. |

*Attribute* sub-resource

|  |  |
| --- | --- |
| characteristic | A characteristic (Characteristic). Describes a given characteristic of an object or entity through a name/value pair. |
| description | A string. The attribute description. |

*Characteristic* sub-resource

Describes a given characteristic of an object or entity through a name/value pair.

|  |  |
| --- | --- |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| characteristicRelationship | A list of characteristic relationships (CharacteristicRelationship [\*]). Another Characteristic that is related to the current Characteristic;. |
| id | A string. Unique identifier of the characteristic. |
| name | A string. Name of the characteristic. |
| value | An any (Any). The value of the characteristic. |
| valueType | A string. Data type of the value of the characteristic. |

*CharacteristicRelationship* sub-resource

Another Characteristic that is related to the current Characteristic;.

|  |  |
| --- | --- |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. Unique identifier of the characteristic. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| relationshipType | A string. The type of relationship. |

*ContactMedium* sub-resource

Indicates the contact medium that could be used to contact the party.

|  |  |
| --- | --- |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| characteristic | A medium characteristic (MediumCharacteristic). Any additional characteristic(s) of this contact medium. |
| mediumType | A string. Type of the contact medium, such as: email address, telephone number, postal address. |
| preferred | A boolean. If true, indicates that is the preferred contact medium. |
| validFor | A time period. The time period that the contact medium is valid for. |

*MediumCharacteristic* sub-resource

Describes the contact medium characteristics that could be used to contact a party (an individual or an organization).

|  |  |
| --- | --- |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| city | A string. The city. |
| contactType | A string. The type of contact, for example: phone number such as mobile, fixed home, fixed office. postal address such as shipping installation…. |
| country | A string. The country. |
| emailAddress | A string. Full email address in standard format. |
| faxNumber | A string. The fax number of the contact. |
| phoneNumber | A string. The primary phone number of the contact. |
| postCode | A string. Postcode. |
| socialNetworkId | A string. Identifier as a member of a social network. |
| stateOrProvince | A string. State or province. |
| street1 | A string. Describes the street. |
| street2 | A string. Complementary street description. |

*Quantity* sub-resource

An amount in a given unit.

|  |  |
| --- | --- |
| amount | A float. Numeric value in a given unit. |
| units | A string. Unit. |

*RelatedPartyWithContactInfo* sub-resource

Related party specialization that includes contact information.

|  |  |
| --- | --- |
| @referredType | A string. The actual type of the target instance when needed for disambiguation. |
| role | A string. Role played by the related party. |
| name | A string. Name of the related entity. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| contact | A list of contact mediums (ContactMedium [\*]). Indicates the contact medium that could be used to contact the party. |

*TestAgreement* sub-resource

|  |  |
| --- | --- |
| name | A string. The agreement name. |
| terms | A string. The terms of the agreement. |
| url | An uri (Uri). The agreement URL. |

*TestDataSchemaDefinition* sub-resource

Test data schema definition.

|  |  |
| --- | --- |
| attachmentType | A string. Attachment type such as video, picture. |
| content | A base 6 4 (Base64). The actual contents of the attachment object, if embedded, encoded as base64. |
| description | A string. A narrative text describing the content of the attachment. |
| href | An uri (Uri). Hyperlink reference. |
| id | A string. unique identifier. |
| mimeType | A string. Attachment mime type such as extension file for video, picture and document. |
| name | A string. The name of the attachment. |
| url | An uri (Uri). Uniform Resource Locator, is a web page address (a subset of URI). |
| @baseType | A string. When sub-classing, this defines the super-class. |
| @schemaLocation | An uri (Uri). A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A string. When sub-classing, this defines the sub-class Extensible name. |
| code | A string. The test data schema code. |
| size | A quantity (Quantity). The size of the attachment. |
| validFor | A time period. The period of time for which the attachment is valid. |

**Json representation sample**

We provide below the json representation of an example of a 'TestDataSchema' resource object

|  |
| --- |
| { "id": "f7a4914b-e2b0-43db-92ec-5457688a9cde", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cde", "description": "Sample test data schema", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataSchemaDefinition": { "attachmentType": "json", "content": "<base64-encoded test data schema>", "mimeType": "base64" }} |

## Notification Resource Models

10 notifications are defined for this API

Notifications related to TestDataInstance:
 - TestDataInstanceCreateEvent
 - TestDataInstanceChangeEvent
 - TestDataInstanceDeleteEvent
 - TestDataInstanceAttributeValueChangeEvent
 - TestDataInstanceStateChangeEvent

Notifications related to TestDataSchema:
 - TestDataSchemaCreateEvent
 - TestDataSchemaChangeEvent
 - TestDataSchemaDeleteEvent
 - TestDataSchemaAttributeValueChangeEvent
 - TestDataSchemaStateChangeEvent

The notification structure for all notifications in this API follow the pattern depicted by the figure below.
A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType).
This notification structure owns an event payload structure ("SpecificEventPayload" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).



### Test Data Instance Create Event

Notification TestDataInstanceCreateEvent case for resource TestDataInstance

**Json representation sample**

We provide below the json representation of an example of a 'TestDataInstanceCreateEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataInstanceCreateEvent", "event": { "testDataInstance" :  {-- SEE TestDataInstance RESOURCE SAMPLE --} }} |

### Test Data Instance Change Event

Notification TestDataInstanceChangeEvent case for resource TestDataInstance

**Json representation sample**

We provide below the json representation of an example of a 'TestDataInstanceChangeEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataInstanceChangeEvent", "event": { "testDataInstance" :  {-- SEE TestDataInstance RESOURCE SAMPLE --} }} |

### Test Data Instance Delete Event

Notification TestDataInstanceDeleteEvent case for resource TestDataInstance

**Json representation sample**

We provide below the json representation of an example of a 'TestDataInstanceDeleteEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataInstanceDeleteEvent", "event": { "testDataInstance" :  {-- SEE TestDataInstance RESOURCE SAMPLE --} }} |

### Test Data Instance Attribute Value Change Event

Notification TestDataInstanceAttributeValueChangeEvent case for resource TestDataInstance

**Json representation sample**

We provide below the json representation of an example of a 'TestDataInstanceAttributeValueChangeEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataInstanceAttributeValueChangeEvent", "event": { "testDataInstance" :  {-- SEE TestDataInstance RESOURCE SAMPLE --} }} |

### Test Data Instance State Change Event

Notification TestDataInstanceStateChangeEvent case for resource TestDataInstance

**Json representation sample**

We provide below the json representation of an example of a 'TestDataInstanceStateChangeEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataInstanceStateChangeEvent", "event": { "testDataInstance" :  {-- SEE TestDataInstance RESOURCE SAMPLE --} }} |

### Test Data Schema Create Event

Notification TestDataSchemaCreateEvent case for resource TestDataSchema

**Json representation sample**

We provide below the json representation of an example of a 'TestDataSchemaCreateEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataSchemaCreateEvent", "event": { "testDataSchema" :  {-- SEE TestDataSchema RESOURCE SAMPLE --} }} |

### Test Data Schema Change Event

Notification TestDataSchemaChangeEvent case for resource TestDataSchema

**Json representation sample**

We provide below the json representation of an example of a 'TestDataSchemaChangeEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataSchemaChangeEvent", "event": { "testDataSchema" :  {-- SEE TestDataSchema RESOURCE SAMPLE --} }} |

### Test Data Schema Delete Event

Notification TestDataSchemaDeleteEvent case for resource TestDataSchema

**Json representation sample**

We provide below the json representation of an example of a 'TestDataSchemaDeleteEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataSchemaDeleteEvent", "event": { "testDataSchema" :  {-- SEE TestDataSchema RESOURCE SAMPLE --} }} |

### Test Data Schema Attribute Value Change Event

Notification TestDataSchemaAttributeValueChangeEvent case for resource TestDataSchema

**Json representation sample**

We provide below the json representation of an example of a 'TestDataSchemaAttributeValueChangeEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataSchemaAttributeValueChangeEvent", "event": { "testDataSchema" :  {-- SEE TestDataSchema RESOURCE SAMPLE --} }} |

### Test Data Schema State Change Event

Notification TestDataSchemaStateChangeEvent case for resource TestDataSchema

**Json representation sample**

We provide below the json representation of an example of a 'TestDataSchemaStateChangeEvent' notification event object

|  |
| --- |
| { "eventId":"00001", "eventTime":"2015-11-16T16:42:25-04:00", "eventType":"TestDataSchemaStateChangeEvent", "event": { "testDataSchema" :  {-- SEE TestDataSchema RESOURCE SAMPLE --} }} |

#  API OPERATIONS

Remember the following Uniform Contract:

|  |  |  |
| --- | --- | --- |
| Operation on Entities | Uniform API Operation | Description |
| Query Entities | GET Resource | GET must be used to retrieve a representation of a resource. |
| Create Entity | POST Resource | POST must be used to create a new resource |
| Partial Update of an Entity | PATCH Resource | PATCH must be used to partially update a resource |
| Remove an Entity | DELETE Resource | DELETE must be used to remove a resource |

Filtering and attribute selection rules are described in the TMF REST Design Guidelines.

Notifications are also described in a subsequent section.

## Operations on Test Data Instance

### List test data instances

 **GET /testDataInstance?fields=...&{filtering}**

**Description**

This operation list test data instance entities.
Attribute selection is enabled for all first level attributes.
Filtering may be available depending on the compliance level supported by an implementation.

**Usage Samples**

Here's an example of a request for retrieving a list of test data instances.

|  |
| --- |
| **Request** |
| GET /tmf-api/testData/v4/testDataInstanceAccept: application/json |
| **Response** |
| 200[ { "id": "2db74193-e5fb-462a-98e0-6b1ed970dfc7", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7", "description": "Input parameters for test case execution", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataInstanceDefinition": { "content": "<base64-encoded test data instance> - please see Example 1 in Appendix 1", "mimeType": "base64", "url": "http://myservice.com/artifact/1234" } }] |

### Retrieve test data instance

 **GET /testDataInstance/{id}?fields=...&{filtering}**

**Description**

This operation retrieves a test data instance entity.
Attribute selection is enabled for all first level attributes.
Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

**Usage Samples**

Here's an example of a request for retrieving a specific test data instance.

|  |
| --- |
| **Request** |
| GET /tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7Accept: application/json |
| **Response** |
| 200{ "id": "2db74193-e5fb-462a-98e0-6b1ed970dfc7", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7", "description": "Input parameters for test case execution", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataInstanceDefinition": { "content": "<base64-encoded test data instance> - please see Example 1 in Appendix 1", "mimeType": "base64", "url": "http://myservice.com/artifact/1234" }} |

### Create test data instance

 **POST /testDataInstance**

**Description**

This operation creates a test data instance entity.

**Mandatory and Non Mandatory Attributes**

The following tables provide the list of mandatory and non mandatory attributes when creating a TestDataInstance, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

|  |  |
| --- | --- |
| Mandatory Attributes | Rule |
| description |  |
| version |  |
| termsOfService |  |
| contact |  |
| license |  |
| testDataInstanceDefinition |  |

|  |  |
| --- | --- |
| Non Mandatory Attributes | Rule |
| versionDescription |  |
| @baseType |  |
| @schemaLocation |  |
| @type |  |
| agreement |  |
| attribute |  |
| relatedParty |  |
| state |  |

**Usage Samples**

Here's an example of a request for creating a test data instance.

|  |
| --- |
| **Request** |
| POST /tmf-api/testData/v4/testDataInstanceContent-Type: application/json{ "description": "Input parameters for test case execution", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "@referredType": "Individual", "role": "Owner", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataInstanceDefinition": { "attachmentType": "json", "content": "<base64-encoded test data instance> - please see Example 1 in Appendix 1", "mimeType": "base64" }} |
| **Response** |
| 201{ "id": "2db74193-e5fb-462a-98e0-6b1ed970dfc7", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7", "description": "Input parameters for test case execution", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataInstanceDefinition": { "content": "<base64-encoded test data instance> - please see Example 1 in Appendix 1", "mimeType": "base64", "url": "http://myservice.com/artifact/1234" }} |

### Patch test data instance

 **PATCH /testDataInstance/{id}**

**Description**

This operation allows partial updates of a test data instance entity. Support of json/merge (https://tools.ietf.org/html/rfc7386) is mandatory, support of json/patch (http://tools.ietf.org/html/rfc5789) is optional.

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

**Patchable and Non Patchable Attributes**

The tables below provide the list of patchable and non patchable attributes, including constraint rules on their usage.

|  |  |
| --- | --- |
| Patchable Attributes | Rule |
| description |  |
| versionDescription |  |
| @baseType |  |
| @schemaLocation |  |
| @type |  |
| testDataInstanceDefinition |  |
| agreement |  |
| attribute |  |
| relatedParty |  |
| state |  |

|  |  |
| --- | --- |
| Non Patchable Attributes | Rule |
| id |  |
| href |  |
| version |  |

**Usage Samples**

Here's an example of a request for patching a TestDataInstance resource.

|  |
| --- |
| **Request** |
| PATCH /tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7Content-Type: application/merge-patch+json{ "name": "new name"} |
| **Response** |
| 200{ "id": "2db74193-e5fb-462a-98e0-6b1ed970dfc7", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7", "description": "Input parameters for test case execution", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataInstanceDefinition": { "attachmentType": "json", "content": "<base64-encoded test data instance>", "mimeType": "base64" }, "name": "new name"} |

### Delete test data instance

 **DELETE /testDataInstance/{id}**

**Description**

This operation deletes a test data instance entity.

**Usage Samples**

Here's an example of a request for deleting a test data instance.

|  |
| --- |
| **Request** |
| DELETE /tmf-api/testData/v4/testDataInstance/2db74193-e5fb-462a-98e0-6b1ed970dfc7 |
| **Response** |
| 204 |

## Operations on Test Data Schema

### List test data schemas

 **GET /testDataSchema?fields=...&{filtering}**

**Description**

This operation list test data schema entities.
Attribute selection is enabled for all first level attributes.
Filtering may be available depending on the compliance level supported by an implementation.

**Usage Samples**

Here's an example of a request for retrieving a list of test data schemas.

|  |
| --- |
| **Request** |
| GET /tmf-api/testData/v4/testDataSchemaAccept: application/json |
| **Response** |
| 200[ { "id": "f7a4914b-e2b0-43db-92ec-5457688a9cde", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cde", "description": "Sample test data schema", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataSchemaDefinition": { "content": "<base64-encoded test data schema>", "mimeType": "base64", "url": "http://myservice.com/testDataSchema/1234" } }] |

### Retrieve test data schema

 **GET /testDataSchema/{id}?fields=...&{filtering}**

**Description**

This operation retrieves a test data schema entity.
Attribute selection is enabled for all first level attributes.
Filtering on sub-resources may be available depending on the compliance level supported by an implementation.

**Usage Samples**

Here's an example of a request for retrieving a specific test data schema.

|  |
| --- |
| **Request** |
| GET /tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cdeAccept: application/json |
| **Response** |
| 200{ "id": "f7a4914b-e2b0-43db-92ec-5457688a9cde", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cde", "description": "Sample test data schema", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataSchemaDefinition": { "content": "<base64-encoded test data schema>", "mimeType": "base64", "url": "http://myservice.com/testDataSchema/1234" }} |

### Create test data schema

 **POST /testDataSchema**

**Description**

This operation creates a test data schema entity.

**Mandatory and Non Mandatory Attributes**

The following tables provide the list of mandatory and non mandatory attributes when creating a TestDataSchema, including any possible rule conditions and applicable default values. Notice that it is up to an implementer to add additional mandatory attributes.

|  |  |
| --- | --- |
| Mandatory Attributes | Rule |
| description |  |
| version |  |
| termsOfService |  |
| contact |  |
| license |  |
| testDataSchemaDefinition |  |

|  |  |
| --- | --- |
| Non Mandatory Attributes | Rule |
| versionDescription |  |
| @baseType |  |
| @schemaLocation |  |
| @type |  |
| agreement |  |
| attribute |  |
| relatedParty |  |
| state |  |

**Usage Samples**

Here's an example of a request for creating a test data schema.

|  |
| --- |
| **Request** |
| POST /tmf-api/testData/v4/testDataSchemaContent-Type: application/json{ "description": "Sample test data schema", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "@referredType": "Individual", "role": "Owner", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataSchemaDefinition": { "attachmentType": "json", "content": "<base64-encoded test case>", "mimeType": "base64" }} |
| **Response** |
| 201{ "id": "f7a4914b-e2b0-43db-92ec-5457688a9cde", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cde", "description": "Sample test data schema", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataSchemaDefinition": { "content": "<base64-encoded test data schema>", "mimeType": "base64", "url": "http://myservice.com/testDataSchema/1234" }} |

### Patch test data schema

 **PATCH /testDataSchema/{id}**

**Description**

This operation allows partial updates of a test data schema entity. Support of json/merge (https://tools.ietf.org/html/rfc7386) is mandatory, support of json/patch (http://tools.ietf.org/html/rfc5789) is optional.

Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the POST operation applies to the PATCH operation. Hence these tables are not repeated here.

**Patchable and Non Patchable Attributes**

The tables below provide the list of patchable and non patchable attributes, including constraint rules on their usage.

|  |  |
| --- | --- |
| Patchable Attributes | Rule |
| description |  |
| versionDescription |  |
| @baseType |  |
| @schemaLocation |  |
| @type |  |
| testDataSchemaDefinition |  |
| agreement |  |
| attribute |  |
| relatedParty |  |
| state |  |

|  |  |
| --- | --- |
| Non Patchable Attributes | Rule |
| id |  |
| href |  |
| version |  |

**Usage Samples**

Here's an example of a request for patching a TestDataSchema resource.

|  |
| --- |
| **Request** |
| PATCH /tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cdeContent-Type: application/merge-patch+json{ "name": "new name"} |
| **Response** |
| 200{ "id": "f7a4914b-e2b0-43db-92ec-5457688a9cde", "href": "https://mycsp:8080/tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cde", "description": "Sample test data schema", "version": "1.2.3", "relatedParty": [ { "name": "testUser", "role": "Owner", "@referredType": "Individual", "contact": [ { "mediumType": "email", "characteristic": { "emailAddress": "testUser@abc.com" } } ] } ], "state": "stable", "testDataSchemaDefinition": { "attachmentType": "json", "content": "<base64-encoded test data schema>", "mimeType": "base64" }, "name": "new name"} |

### Delete test data schema

 **DELETE /testDataSchema/{id}**

**Description**

This operation deletes a test data schema entity.

**Usage Samples**

Here's an example of a request for deleting a test data schema.

|  |
| --- |
| **Request** |
| DELETE /tmf-api/testData/v4/testDataSchema/f7a4914b-e2b0-43db-92ec-5457688a9cde |
| **Response** |
| 204 |

# API NOTIFICATIONS

For every single of operation on the entities use the following templates and provide sample REST notification POST calls.

It is assumed that the Pub/Sub uses the Register and UnRegister mechanisms described in the REST Guidelines reproduced below.

## Register listener

 **POST /hub**

**Description**

Sets the communication endpoint address the service instance must use to deliver information about its health state, execution state, failures and metrics. Subsequent POST calls will be rejected by the service if it does not support multiple listeners. In this case DELETE /api/hub/{id} must be called before an endpoint can be created again.

**Behavior**

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 409 if request is not successful.

**Usage Samples**

Here's an example of a request for registering a listener.

|  |
| --- |
| **Request** |
| POST /api/hubAccept: application/json{"callback": "http://in.listener.com"} |
| **Response** |
| 201Content-Type: application/jsonLocation: /api/hub/42{"id":"42","callback":"http://in.listener.com","query":null} |

## Unregister listener

 **DELETE /hub/{id}**

**Description**

Clears the communication endpoint address that was set by creating the Hub.

**Behavior**

Returns HTTP/1.1 status code 204 if the request was successful.

Returns HTTP/1.1 status code 404 if the resource is not found.

**Usage Samples**

Here's an example of a request for un-registering a listener.

|  |
| --- |
| **Request** |
| DELETE /api/hub/42Accept: application/json |
| **Response** |
| 204 |

## Publish Event to listener

 **POST /client/listener**

**Description**

Clears the communication endpoint address that was set by creating the Hub.

Provides to a registered listener the description of the event that was raised. The /client/listener url is the callback url passed when registering the listener.

**Behavior**

Returns HTTP/1.1 status code 201 if the service is able to set the configuration.

**Usage Samples**

Here's an example of a notification received by the listener. In this example “EVENT TYPE” should be replaced by one of the notification types supported by this API (see Notification resources Models section) and EVENT BODY refers to the data structure of the given notification type.

|  |
| --- |
| **Request** |
| POST /client/listenerAccept: application/json{ "event": {  EVENT BODY  }, "eventType": "EVENT\_TYPE"} |
| **Response** |
| 201 |

For detailed examples on the general TM Forum notification mechanism, see the TMF REST Design Guidelines.

# Appendix 1

## Examples of base64-encoded Attachment content for ONAP VTP

### Example 1. ONAP VTP test data instance representation example

|  |
| --- |
| **Encoded value** |
| ewogICAgImFyZzEiOiAic2FtcGxlIHZhbHVlIgp9Cg== |
| **Original /decoded JSON object** |
| { "arg1": "sample value"} |

# Acknowledgements

## Version History

|  |  |  |  |
| --- | --- | --- | --- |
| **Version Number** | **Date**  | **Release led by:** | **Description**  |
| 4.0.0 | 29-Jul-2020 | Pierre GauthierTM Forumpgauthier@tmforum.orgEdward PershwitzITEA Technologiesedward.pershwitz@iteatechnologies.com  | First Release of the Document.  |

## Release History

|  |  |  |  |
| --- | --- | --- | --- |
| **Release Status** | **Date**  | **Release led by:** | **Description**  |
| Pre-production | 29-Jul-2020 | Pierre GauthierEdward Pershwitz | First Release of the Document.  |
| Production | 23-Sep-2020 | Adrienne Walcott | Updated to reflect TM Forum Approved Status |

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