

# TM Forum Specification

## XXX\_FruitBasketTest API

**TMF777**

**TBD**

**October 2022**

<b>Release: TBD</b>	<b>Status: TBD</b>
<b>Version: 5.0.0</b>	<b>IPR Mode: RAND</b>

## NOTICE

Copyright © TM Forum 2022. All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to TM FORUM, except as needed for the purpose of developing any document or deliverable produced by a TM FORUM Collaboration Project Team (in which case the rules applicable to copyrights, as set forth in the [TM FORUM IPR Policy](#), must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by TM FORUM or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and TM FORUM DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Direct inquiries to the TM Forum office:

4 Century Drive, Suite 100  
Parsippany, NJ 07054, USA  
Tel No. +1 973 944 5100  
Fax No. +1 973 988 7196

TM Forum Web Page: [www.tmforum.org](http://www.tmforum.org)

# Table of Contents

NOTICE .....	i
Introduction.....	1
Sample Use Cases .....	2
Support of polymorphism and extension patterns .....	3
RESOURCE MODEL .....	4
Managed Entity and Task Resource Models .....	4
FruitBasket resource .....	4
Notification Resource Models .....	5
API OPERATIONS .....	7
Operations on FruitBasket.....	7
Retrieves a FruitBasket by ID .....	7
List or find FruitBasket objects .....	7
API NOTIFICATIONS.....	8
Register listener .....	8
Unregister listener .....	9
Publish Event to listener .....	9
Acknowledgements .....	11
Release History .....	11
Contributors to Document .....	11

# Introduction

The following document is the user guide of the REST API for Any management. It includes the model definition as well as all available operations.

## Sample Use Cases

Reader will find example of use cases using Usage API in “Open Digital Business Scenarios and Use Cases” 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 a BillingAccount and SettlementAccount inheriting properties from the abstract Account 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 Account instances some may be instances of BillingAccount where other could be instances of SettlementAccount. 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 @referredType can be used within reference entities (like for instance an AccountRef object) to explicitly denote the actual entity type of the referred class. Notice that in reference entities the @type, when used, denotes the class type of the reference itself, such as BillingAccountRef or SettlementAccountRef, and not the class type of the referred object. However since reference classes are rarely sub-classed, @type is generally not useful in reference objects.

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

### FruitBasket resource

A JSON Schema.

#### Resource model

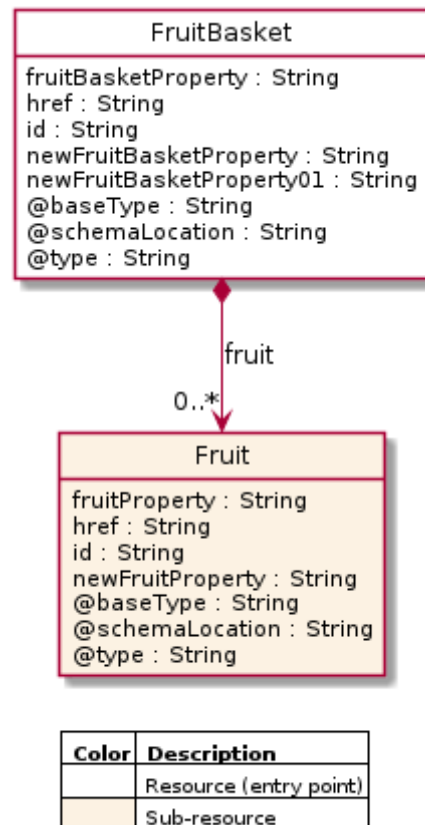


Figure 1 - FruitBasket

### Field descriptions

#### FruitBasket fields

fruit	A Fruit.
fruitBasketProperty	A String. FruitBasketProperty description.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
newFruitBasketProperty	A String. FruitProperty description.
newFruitBasketProperty01	A String. New FruitProperty 01 description.

**Fruit sub-resource fields**

fruitProperty	A String. FruitProperty description.
href	A String. Hyperlink reference.
id	A String. Unique identifier.
newFruitProperty	A String. New FruitProperty description.

**Notification Resource Models**

0 notifications are defined for this API.

Notifications related to FruitBasket:

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).





Figure 1 - Notification Pattern

# 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
Execute an Action on an Entity	POST on TASK Resource	POST must be used to execute Task Resources
Other Request Methods	POST on TASK Resource	GET and POST must not be used to tunnel other request methods.

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

Notifications are also described in a subsequent section.

## Operations on FruitBasket

### Retrieves a FruitBasket by ID

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

#### Description

This operation retrieves a FruitBasket entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

### List or find FruitBasket objects

**GET** /fruitBasket

#### Description

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

# 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/hub

Accept: application/json

{
  "callback": "http://in.listener.com"
}
```

#### Response

```
201

Content-Type: application/json

Location: /api/hub/42

{
  "id": "42",
  "callback": "http://in.listener.com",
  "query": ""
}
```

```
}
```

## 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/42  
  
Accept: 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/listener

Accept: 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.

# Acknowledgements

## Release History

Release Number	Date	Release led by:	Description

## Contributors to Document
