**TM Forum Specification**

Test Environment Management API

Conformance Profile

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| --- | --- |
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# INTRODUCTION - API DESCRIPTION

This API provides a standardized mechanism for the management of test artifacts related to test environment specification. These include Abstract Test Environments, Concrete Environment Metamodels used to map abstract environments to concrete test resources, Environment Provisioning Artifacts, and Test Resource APIs exposed to test cases.

# RESOURCE MODEL CONFORMANCE

## API MANDATORY RESOURCES

The following table indicates the mandatory resources for this API.

| Resource Name | | | | | | | | | | | | | | | | | | | | | Comment |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ProvisioningArtifact | | | | | | | | | | | | | | | | | | | | | Mandatory unless the AbstractEnvironment or the ConcreteEnvironmentMetaModel or the TestResourceAPI resource is present |
| TestResourceAPI | | | | | | | | | | | | | | | | | | | | | Mandatory unless the AbstractEnvironment or the ConcreteEnvironmentMetaModel or the ProvisioningArtifact resource is present |
| ConcreteEnvironmentMetaModel | | | | | | | | | | | | | | | | | | | | | Mandatory unless the AbstractEnvironment or the TestResourceAPI or the ProvisioningArtifact resource is present |
| AbstractEnvironment | | | | | | | | | | | | | | | | | | | | | Mandatory unless the ConcreteEnvironmentMetaModel or the TestResourceAPI or the ProvisioningArtifact resource is present |

## General Notes on Resource Attribute Conformance

There are three situations that could occur for an attribute:

* Mandatory attribute,
* Mandatory attribute if the optional parent attribute is present,
* Non-mandatory/Optional attribute. Those are all the other attributes not mentioned in the following subsections. Please refer to the corresponding API REST Specification for more details.
* The tables in the subsections below indicate which attributes are mandatory including mandatory when an optional parent is present.
* Where a resource is an input into an API (e.g. POST, PATCH), Mandatory means that the attribute value must be supplied by the API consumer in the input (and must not be blank or null).
* Where a resource is an output from an API (e.g. GET, POST), Mandatory means that the attribute value must be supplied by the API provider in the output (and must not be blank or null).
* For a sub-resource that is not an array, Mandatory (cardinality 1..1) means that the sub-resource must be present, while Optional (cardinality 0..1) means that the sub-resource may be absent. Mandatory and Optional on the sub-resource attributes apply to the sub-resource if present.
* For a sub-resource that is an array, Mandatory (cardinality 1..\*) means that at least one sub-resource must be present in the array, while Optional (cardinality 0..\*) means that the array may be absent. Mandatory and Optional on the sub-resource attributes apply to each of the sub-resources if present.

In this table are listed all mandatory attributes. A mandatory attribute MUST be retrieved in resource representation when no attribute selection is used (e.g. GET /../{id}) without any attribute selection

When an attribute is listed with an indentation (in second column) it means this attribute is mandatory if root (parent) attribute is present.

## ProvisioningArtifact Resource Mandatory Attributes

| Mandatory attribute when parent is present | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| description | | | | | | | | | | | | | | | | | | | | | M |
| href | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| id | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| provisioningArtifactDefinition | | | | | | | | | | | | | | | | | | | | | M |
| version | | | | | | | | | | | | | | | | | | | | | M |
| relatedParty (if present) | | | | | | | | | | | | | | | | | | | | | Array of RelatedPartyWithContactInfo |
|  | @referredType | | | | | | | | | | | | | | | | | | | | M |
| attribute.characteristic (if present) | | | | | | | | | | | | | | | | | | | | |  |
|  | name | | | | | | | | | | | | | | | | | | | | M |
|  | value | | | | | | | | | | | | | | | | | | | | M |

## TestResourceAPI Resource Mandatory Attributes

| Mandatory attribute when parent is present | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| description | | | | | | | | | | | | | | | | | | | | | M |
| href | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| id | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| testResourceAPIDefinition | | | | | | | | | | | | | | | | | | | | | M |
| version | | | | | | | | | | | | | | | | | | | | | M |
| relatedParty (if present) | | | | | | | | | | | | | | | | | | | | | Array of RelatedPartyWithContactInfo |
|  | @referredType | | | | | | | | | | | | | | | | | | | | M |
| attribute.characteristic (if present) | | | | | | | | | | | | | | | | | | | | |  |
|  | name | | | | | | | | | | | | | | | | | | | | M |
|  | value | | | | | | | | | | | | | | | | | | | | M |

## ConcreteEnvironmentMetaModel Resource Mandatory Attributes

| Mandatory attribute when parent is present | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| concreteEnvironmentMetaModelDefinition | | | | | | | | | | | | | | | | | | | | | M |
| description | | | | | | | | | | | | | | | | | | | | | M |
| href | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| id | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| version | | | | | | | | | | | | | | | | | | | | | M |
| relatedParty (if present) | | | | | | | | | | | | | | | | | | | | | Array of RelatedPartyWithContactInfo |
|  | @referredType | | | | | | | | | | | | | | | | | | | | M |
| attribute.characteristic (if present) | | | | | | | | | | | | | | | | | | | | |  |
|  | name | | | | | | | | | | | | | | | | | | | | M |
|  | value | | | | | | | | | | | | | | | | | | | | M |

## AbstractEnvironment Resource Mandatory Attributes

| Mandatory attribute when parent is present | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| abstractEnvironmentDefinition | | | | | | | | | | | | | | | | | | | | | M |
| description | | | | | | | | | | | | | | | | | | | | | M |
| href | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| id | | | | | | | | | | | | | | | | | | | | | M (in response messages) |
| version | | | | | | | | | | | | | | | | | | | | | M |
| relatedParty (if present) | | | | | | | | | | | | | | | | | | | | | Array of RelatedPartyWithContactInfo |
|  | @referredType | | | | | | | | | | | | | | | | | | | | M |
| attribute.characteristic (if present) | | | | | | | | | | | | | | | | | | | | |  |
|  | name | | | | | | | | | | | | | | | | | | | | M |
|  | value | | | | | | | | | | | | | | | | | | | | M |

# API OPERATIONS CONFORMANCE

For every single resource the following tables includes mandatory operations.

## ProvisioningArtifact Mandatory Operations

The following table indicates which ones are mandatory for the ProvisioningArtifact resource:

| Uniform API Operation | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GET | | | | | | | | | | | | | | | | | | | | |
| POST | | | | | | | | | | | | | | | | | | | | |

## TestResourceAPI Mandatory Operations

The following table indicates which ones are mandatory for the TestResourceAPI resource:

| Uniform API Operation | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GET | | | | | | | | | | | | | | | | | | | | |
| POST | | | | | | | | | | | | | | | | | | | | |

## ConcreteEnvironmentMetaModel Mandatory Operations

The following table indicates which ones are mandatory for the ConcreteEnvironmentMetaModel resource:

| Uniform API Operation | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GET | | | | | | | | | | | | | | | | | | | | |
| POST | | | | | | | | | | | | | | | | | | | | |

## AbstractEnvironment Mandatory Operations

The following table indicates which ones are mandatory for the AbstractEnvironment resource:

| Uniform API Operation | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GET | | | | | | | | | | | | | | | | | | | | |
| POST | | | | | | | | | | | | | | | | | | | | |

# API GET OPERATION CONFORMANCE

All the GET operations in this API share the same status code pattern.

|  |  |
| --- | --- |
| GET | Mandatory/Optional |
| Response Status Code 200 if successful | M |
| Response Status Code 404 if not found | M |

## Definitions for Filter

The following definitions apply to all the GET operations:

* Filtered Search: A filtered search can be applied using query parameters to obtain only the resources that meet the criteria defined by the filtering parameters included in the query request. Several elements can be applied to the filtered search. In that case logic, a logical AND is applied to combine the criteria (e.g.:?severity=<value>&status=<value>).
* Attribute selection (Limiting Response Data): In order to limit which attributes are included in the response, the GET request can include the ?fields= query parameter. Only those attributes whose names are supplied in this parameter will be returned. Attribute selection capabilities are the same for collections retrieval and individual resource queries.
* Level: The filtering and attribute selection can apply to the top level properties (attributes) and subproperties. The tables below show which attributes need to be supported in top-level or contained resources.

## GET /provisioningArtifact?fields=...&{filtering}

This operation list or find ProvisioningArtifact entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /provisioningArtifact/{id}?fields=...&{filtering}

This operation retrieves a ProvisioningArtifact entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /testResourceAPI?fields=...&{filtering}

This operation list or find TestResourceAPI entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /testResourceAPI/{id}?fields=...&{filtering}

This operation retrieves a TestResourceAPI entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /concreteEnvironmentMetaModel?fields=...&{filtering}

This operation list or find ConcreteEnvironmentMetaModel entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /concreteEnvironmentMetaModel/{id}?fields=...&{filtering}

This operation retrieves a ConcreteEnvironmentMetaModel entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /abstractEnvironment?fields=...&{filtering}

This operation list or find AbstractEnvironment entities

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

## GET /abstractEnvironment/{id}?fields=...&{filtering}

This operation retrieves a AbstractEnvironment entity. Attribute selection is enabled for all first level attributes.

Attribute selection is mandatory for all first level attributes except for the href attribute.

Filtering on sub-resources is optional for all compliance levels

# API POST OPERATION CONFORMANCE

All the POST operations in this API share the same status code pattern.

|  |  |
| --- | --- |
| POST | Mandatory/Optional |
| Status Code 201 if resource created | M |

## POST /provisioningArtifact

This operation creates a ProvisioningArtifact entity.

The following table provides the list of mandatory attributes when creating an instance of the ProvisioningArtifact resource, including any possible rule, conditions and applicable default values.

| Mandatory Attributes | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| description | | | | | | | | | | | | | | | | | | | | |  |
| provisioningArtifactDefinition | | | | | | | | | | | | | | | | | | | | |  |
| version | | | | | | | | | | | | | | | | | | | | |  |

## POST /testResourceAPI

This operation creates a TestResourceAPI entity.

The following table provides the list of mandatory attributes when creating an instance of the TestResourceAPI resource, including any possible rule, conditions and applicable default values.

| Mandatory Attributes | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| description | | | | | | | | | | | | | | | | | | | | |  |
| testResourceAPIDefinition | | | | | | | | | | | | | | | | | | | | |  |
| version | | | | | | | | | | | | | | | | | | | | |  |

## POST /concreteEnvironmentMetaModel

This operation creates a ConcreteEnvironmentMetaModel entity.

The following table provides the list of mandatory attributes when creating an instance of the ConcreteEnvironmentMetaModel resource, including any possible rule, conditions and applicable default values.

| Mandatory Attributes | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| concreteEnvironmentMetaModelDefinition | | | | | | | | | | | | | | | | | | | | |  |
| description | | | | | | | | | | | | | | | | | | | | |  |
| version | | | | | | | | | | | | | | | | | | | | |  |

## POST /abstractEnvironment

This operation creates a AbstractEnvironment entity.

The following table provides the list of mandatory attributes when creating an instance of the AbstractEnvironment resource, including any possible rule, conditions and applicable default values.

| Mandatory Attributes | | | | | | | | | | | | | | | | | | | | | Rule |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| abstractEnvironmentDefinition | | | | | | | | | | | | | | | | | | | | |  |
| description | | | | | | | | | | | | | | | | | | | | |  |
| version | | | | | | | | | | | | | | | | | | | | |  |

# ACKNOWLEDGEMENTS

## Release History

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## Version History

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