

# JEngine REST API Specification v2.0

BP2014W1 - Team

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One goal of the JEngine was to provide a flexible API. Developers can use this API to build an UI or to control/use the engine from within another application. There are methods to configure, control and monitor processes and their instances. This document will provide a specification/documentation of the Rest-Interface, by providing the information about the allowed methods and examples .

## 1 Structure

http://domain:port/jengine/api/	interface/{version}
	config/{version}
	jcomparser/{version}
	history/{version}
	analytics/{version}

Table 1: API Core Path

The API is divided into four parts (Table 1):

1. **Interface.** The interface provides methods for creating and controlling instances of scenarios. More information can be found in Chapter 2.1.
2. **Config.** This API can be used to configure a process model. Currently the configuration is restricted to email tasks. More information and examples can be found in Chapter 2.2.
3. **Comparser.** The JEngine can be used to execute Production Case Management (PCM) models created with the JEditor<sup>1</sup>. The JComparser is an interface between the core of the engine and the model repository provided by the JEditor. The JComparser provides an interface to view and load models from the repository. More information and examples can be found in chapter 2.3.

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<sup>1</sup>BP2014W1processeditor.html

4. **History.** Detailed information about state changes of data object and activities of running and terminated scenario instances can be accessed via the history interface. Chapter 2.4 provides examples and detailed information.
5. **Analytics.** to be explained. (framework for implementing analytic algorithms for analysing the PCM execution logs)

## 2 Functions

This chapter provides information about all possible REST calls. For more detailed information you may take a look at the *Java doc* provides for each class.

### 2.1 Interface

The interface provides methods mainly used by the UI. It offers functions for viewing and controlling scenarios and their instances.

#### 2.1.1 Scenarios

##### Get all Scenarios

`http GET interface/{version}/scenario`

```
{
  "ids": [140, 141, 142, 143],
  "links": {
    "140": "http://domain:port/jengine/api/interface/v2/scenario/140",
    "141": "http://domain:port/jengine/api/interface/v2/scenario/141",
    "142": "http://domain:port/jengine/api/interface/v2/scenario/142",
    "143": "http://domain:port/jengine/api/interface/v2/scenario/143"
  },
  "labels": {
    "140": "TestScenario",
    "141": "CoffeeScenario",
    "142": "BookingScenario",
    "143": "BoschScenario"
  }
}
```

Example 1: Example output of get all Scenarios request

##### Get all Scenarios with filter condition

`http GET interface/{version}/scenario?filter=Coffee`

```
{
  "ids": [141],
  "links": {
    "141": "http://domain:port/jengine/api/interface/v2/scenario/141"
  },
}
```

```

    "labels":{
      "141":"CoffeeScenario"
    }
  }
}

```

Example 2: Example output of get all Scenarios request with filter condition

#### Get detailed information about a Scenario

http GET interface/{version}/scenario/1

```

{
  "modelid":0,
  "instances":["http://domain:port/jengine/api/interface/v2/scenario/1/instance",
  "name":"HELLOWORLD",
  "id":1,
  "modelversion":0
}

```

Example 3: Example output of get a specific scenario

### 2.1.2 Scenario Instances

**Get all scenario instances** Scenario instances, that are in state terminated will not be listed.

http GET interface/{version}/scenario/1/instance

```

{
  "ids":[47,48,49],
  "links":{
    "47":"http://domain:port/jengine/api/interface/v2/scenario/1/instance/47",
    "48":"http://domain:port/jengine/api/interface/v2/scenario/1/instance/48",
    "49":"http://domain:port/jengine/api/interface/v2/scenario/1/instance/49"
  },
  "labels":{
    "47":"Berlin-Istanbul",
    "48":"Herr Meyer Reise",
    "49":"Sommerurlaub"
  }
}

```

Example 4: Example output of get all scenario instances

#### Get all scenario instances with filter condition

http GET interface/{version}/scenario/1/instance?filter=Herr

```

{
  "ids":[47,48,49],
  "links":{
    "48":"http://domain:port/jengine/api/interface/v2/scenario/1/instance/48"
  }
}

```

```

    },
    "labels":{
      "48":"Herr Meyer Reise"
    }
  }
}

```

Example 5: Example output of get all scenario instances with condition

### Start a new instance

A new instance can be started by performing a PUT or POST. The PUT provides the possibility to name the new instance.

```

http PUT    interface/{version}/scenario/1/instance
http POST   interface/{version}/scenario/1/instance

```

If you want to name the scenario instance you have to provide a body (Figure 6):

```

{
  "name":"This is the new instance"
}

```

Example 6: Body of the PUT request to create a new named instance

### Get detailed information about a scenario instance

```

http GET    interface/{version}/scenario/1/instance/48

```

```

{
  "name":"Herr Meyer Reise",
  "id":48,
  "terminated":false,
  "scenario_id":1,
  "activities":"http://domain:port/jengine/api/interface/v2/scenario/1/instance/48/activity"
}

```

Example 7: Example output of get a single scenario instance

## 2.1.3 Activity Instances

### List all activity instances

```

http GET    interface/{version}/scenario/1/instance/48/activity

```

```

{
  "activities":{
    "189":{
      "link":"http://domain:port/jengine/interface/v2/scenario/1/instance/48/activity/189",
      "id":189,
    }
  }
}

```

```

        "label": "Book journey",
        "state": "ready"},
    "6686": {
        "link": "http://domain:port/jengine/interface/v2/scenario/1/instance/
                                     48/activity/6686",
        "id": 6686,
        "label": "Cancel journey",
        "state": "ready"
    },
    "ids": [189, 6686]
}

```

Example 8: Example of get all activities

### Get Activities with State

http GET interface/{version}/scenario/1/instance/48/activity?state=ready

```

{
  "activities": {
    "189": {
        "link": "http://domain:port/jengine/interface/v2/scenario/1/instance/
                                     48/activity/189",
        "id": 189,
        "label": "Book journey",
        "state": "ready"},
    "6686": {
        "link": "http://domain:port/jengine/interface/v2/scenario/1/instance/
                                     48/activity/6686",
        "id": 6686,
        "label": "Cancel journey",
        "state": "ready"
    },
    "ids": [189, 6686]
}

```

Example 9: Example of get all activities with an specific state

### Get Activities with Filter

http GET interface/{version}/scenario/1/instance/48/activity?filter=Cancel

```

{
  "activities": {
    "6686": {
        "link": "http://domain:port/jengine/interface/v2/scenario/1/instance/
                                     48/activity/6686",
        "id": 6686,
        "label": "Cancel journey",
        "state": "ready"
    },
    "ids": [6686]
}

```

Example 10: Example of get all activities with an specific filter condition

Parameter	Options
state	ready, running, termianted
filter	a String

Table 2: Query Parameters and their options

### Change the state of an activity instance

http PUT interface/{version}/scenario/1/instance/48/activity?state=begin

Parameter	Options
state	begin, terminate

Table 3: Query Parameters and their options

```
{
  "message":" activity state changed."
}
```

Example 11: Example output of begin activity

### 2.1.4 Data objects

This path provides methods to get information about Data Object instance used inside an scenario instance.

#### Get all Data Objects of an instance

http GET interface/{version}/scenario/1/instance/48/ dataobject

```
{
  "ids":[1,2],
  "results":{
    "1":{
      "link":" http://server:port/interface/v2/scenario/1/instance/72/dataobject/1",
      "id":1,
      "label":" Flight",
      "state":" payed"
    },
    "2":{
      "link":" http://server:port/interface/v2/scenario/1/instance/72/dataobject/2",
      "id":2,
      "label":" Reservation",
      "state":" init"
    }
  }
}
```

Example 12: Example output of get all Dataobjects

**Get detailed information about a Data Objects instance**

http GET interface/{version}/scenario/1/instance/48/ dataobject/1

```
{
  "id":1,
  "label":" object1",
  "state":" Flight"
}
```

Example 13: Example output of get all Dataobjects

**Terminations Bedingungen**

http PUT interface/{version}/scenario/1/instance/48/ activity?state=begin

```
{
  "conditions":{
    "1":[{"data_object":" Flight","set_id":1,"state":" payed"},
        {"data_object":" Reservation","set_id":1,"state":" payed"}]
    "2":[{"data_object":" Flight","set_id":2,"state":" canceled"},
        {"data_object":" Reservation","set_id":2,"state":" canceled"}]
  },
  "setIDs":[1,2]
}
```

Example 14: Example output of get all Dataobjects

**Get Output**

http GET interface/{version}/scenario/1/instance/2/activity/8587/output

```
[
  {
    "id":209,
    "linkDataObject":" http://172.16.64.113:8080/JEngine/api/interface/v2/scenario/160/in
    /1406/outputset/209"
  }
]
```

Example 15: Example output of get output for activities

**Get References**

http GET interface/{version}/scenario/1/instance/2/activity/8587/references

```
{
  "ids":[],
  "activities":[]
}
```

Example 16: Example output of get references for activities

**Get Outputset**

http GET interface/{version}/scenario/1/instance/2/activity/outputset/209

```
[
  {
    "label": "Bestellung",
    "id": 1184,
    "state": "init",
    "attributeConfiguration": [
      {
        "id": 298,
        "name": "Preis",
        "type": "",
        "value": ""
      },
      {
        "id": 299,
        "name": "Artikel",
        "type": "",
        "value": ""
      }
    ]
  }
]
```

Example 17: Example output of get outputset



## 2.2 JConfiguration alias Config

### 2.2.1 Service eMail Tasks

**Get all available email tasks**

```
http GET config/{version}/scenario/148/emailtask/
```

```
{
  "ids":
    [
      448
    ]
}
```

Example 18: Example output of get all available email tasks

**Get details for a specific email task**

```
http GET config/{version}/scenario/1/emailtask/448/?
```

```
{
  "receiver ":" bp2014w1@byom.de" ,
  "subject ":" Test" ,
  "message ":" Test Message"
}
```

Example 19: Example output of get all available email tasks

**PUT changes for an email task**

```
http PUT config/{version}/emailtask/448/?
```

```
{
  "receiver ":" bp2014w1@byom.de" ,
  "subject ":" Test" ,
  "message ":" Test Message"
}
```

Example 20: Example output of PUT request to change an email task

### 2.2.2 Scenarios

**Delete an scenario**

```
http DELETE config/{version}/scenario/156/?
```

### 2.2.3 Webservice Tasks

#### GET all webservice tasks

```
http GET config/{version}/scenario/1/webservice?
```

```
{
  "ids":[527]
}
```

Example 21: Example output of get all webservice tasks for a specific scenario

#### GET specific webservice task

```
http GET config/{version}/scenario/1/webservice/253?
```

```
{
  "body":"",
  "link":"http://localhost:9998/interface/v2/scenario/156/instance",
  "method":"POST",
  "attributes":
    [
      {
        "order":1,
        "controlnode_id":527,
        "key":"id",
        "dataattribute_id":14
      }
    ]
}
```

Example 22: Example output of get specific webservice tasks for a specific scenario

#### PUT specific webservice task

```
http PUT config/{version}/webservice/253?
```

```
{
  "method":"POST",
  "link":"http://localhost:9998/interface/v2/scenario/156/instance",
  "attributes":
    [
      {
        "order":1,
        "controlnode_id":527,
        "key":"id",
        "dataattribute_id":14
      },
      {
        "order":2,
```

```
        "controlnode_id":527,  
        "key":" link",  
        "dataattribute_id":15  
    }  
]  
}
```

Example 23: Example output of get specific webservice tasks for a specific scenario

## 2.3 JComparser

### 2.3.1 Scenarios

#### Get all available scenarios for import

http GET jcomparser/scenarios

```
{
  "ids":
  {
    "800682779972007735":"Coffee process",
    "635432698":"Coffee process",
    "932221086":"Kaffeeprozess"
  }
}
```

Example 24: Example output of get all available scenarios from jcomparser

#### Get image of scenario

http GET jcomparser/scenarios/932221086/image/

\missingfigure{example scenario image}

Example 25: Example output of get activies log

#### POST launch import of scenario

http POST jcomparser/scenarios/932221086/

## 2.4 JHistory alias History

### 2.4.1 Activities

#### Get activities log

```
http GET history/{version}/scenario/149/instance/1085/activities/
```

```
{
  "881":
    {
      "activityinstance_id":7871,
      "timestamp":"2015-03-17 16:26:29.0",
      "scenarioinstance_id":1085,
      "label":"Kaffeestand pruefen",
      "newstate":"init"
    },
  [...]
}
```

Example 26: Example output of get activities log

### 2.4.2 Data Objects

#### Get dataobjects log

```
http GET history/{version}/scenario/149/instance/1085/dataobjects/
```

```
{
  "68":
    {
      "timestamp":"2015-03-17 16:26:56.0",
      "scenarioinstance_id":1085,
      "dataobjectinstance_id":879,
      "new_state_name":"fertig",
      "name":"Kaffee",
      "old_state_id":120,
      "old_state_name":"gekocht",
      "new_state_id":119
    },
  [...]
}
```

Example 27: Example output of get dataobjects log

### 2.4.3 Attributes

#### Get attribute log

```
http GET history/{version}/scenario/149/instance/1085/attributes/
```

```

{
  "1":
  {
    "h.scenarioinstance_id":1,
    "da.name":" Preis",
    "h.timestamp":"2015-05-07 09:43:33.0",
    "h.id":1,
    "h.dataattributeinstance_id":1,
    "h.newvalue":"","
    "do.name":" Bestellung"
  },
}

```

Example 28: Example output of get activies log

## 2.5 JAnalytics

### 2.5.1 Analytic Algorithms

#### Get all services

http GET analytics/{version}/services

#### POST analysis

http POST analytics/{version}/services/{service} You can add arguments in an JSONObject with an JSONArray for the key args.

#### Get analysis results

http GET analytics/{version}/services/{service}

```
{
  "message": "content not defined yet"
}
```

Example 29: Example output of get analysis results request