RESTful Shop-Demo API Guide

Malte Basse

Table of Contents

Introduction

This document describes all RESTful microservice of this shop demo project.

Overview

HTTP verbs

RESTful notes tries to adhere as closely as possible to standard HTTP and REST conventions in its use of HTTP verbs.

Verb	Usage
GET	Used to retrieve a resource
POST	Used to create a new resource
PATCH	Used to update an existing resource, including partial updates
DELETE	Used to delete an existing resource

RESTful notes tries to adhere as closely as possible to standard HTTP and REST conventions in its use of HTTP status codes.

Status code	Usage
200 OK	The request completed successfully
201 Created	A new resource has been created successfully. The resource's URI is available from the response's Location header
204 No Content	An update to an existing resource has been applied successfully
400 Bad Request	The request was malformed. The response body will include an error providing further information
404 Not Found	The requested resource did not exist

Hypermedia

RESTful Notes uses hypermedia and resources include links to other resources in their responses. Responses are in Hypertext Application from resource to resource. Language (HAL) format. Links can be found beneath the `_links` key. Users of the API should not create URIs themselves, instead they should use the above-described links to navigate

Product REST Service

The product rest service is used to create, modify and list products.

Listing product

The GET request returns all products.

/products/{page}/{size}

Table 1. Request path parameters

Parameter	Description
page	Page of results
size	Size of the page.

Table 2. Response fields

Path	Type	Description
content[].productUuid	String	The unique identifier of the product
content[].creationDate	String	Creation date ot the object
content[].updateDate	String	Update date of the object
content[].productId	Number	Database primary key
content[].name	String	Name of the product
content[].shortDescription	String	Short product description
content.[].longDescription	String	Long product description
totalPages	Number	Number of total pages.
totalElements	Number	Total amount of elements.
last	Boolean	Indicates whether the current page is the last one.
size	Number	Size of the page.
number	Number	Number of the current page.
sort	Object	Sorting parameters for the page.
first	Boolean	Indicates whether the current page is the first one.
numberOfElements	Number	Number of elements currently on this page.

Example request

```
$ curl 'http://localhost:8080/products/0/3' -i \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1363

{
  "content" : [ {
    "creationDate" : "2018-03-17 23:09 PM UTC",
    "updateDate" : "2018-03-17 23:09 PM UTC",
    "productId" : 1000,
    "productUuid" : "f21e588b-3610-4c2f-9c6a-3a9854142ad5",
    "name" : "Product1",
    "shortDescription" : "product1 short description",
    "longDescription" : "product1 long description"
  }, {
    "creationDate" : "2018-03-17 23:09 PM UTC",
    "updateDate" : "2018-03-17 23:09 PM UTC",
    "productId" : 1003,
    "productUuid" : "415faf8b-e583-4605-a891-1b51dec6d873",
    "name" : "Product2",
    "shortDescription" : "product2 short description",
    "longDescription" : "product2 long description"
  }, {
    "creationDate" : "2018-03-17 23:09 PM UTC",
    "updateDate" : "2018-03-17 23:09 PM UTC",
    "productId" : 1001,
    "productUuid" : "165e088b-9295-4206-afd0-24464b16e304",
    "name" : "name updated",
    "shortDescription" : "short description updated",
    "longDescription" : "long description updated"
  } ],
  "pageable" : {
    "sort" : {
      "sorted" : false,
      "unsorted" : true
    },
    "offset" : 0,
    "pageSize" : 3,
    "pageNumber" : 0,
    "unpaged" : false,
    "paged" : true
  },
  "totalPages" : 1,
  "totalElements" : 3,
  "last" : true,
```

```
    "size" : 3,
    "number" : 0,
    "numberOfElements" : 3,
    "first" : true,
    "sort" : {
      "sorted" : false,
      "unsorted" : true
    }
  }
```

Returning product

The GET request returns a product identified by the unique identifier.

/product/{uuid}

Table 3. Request path parameters

Parameter	Description
uuid	The unique identifier of the product

Table 4. Response fields

Path	Type	Description
productUuid	String	The unique identifier of the product
creationDate	String	Creation date ot the object
updateDate	String	Update date of the object
productId	Number	Database primary key
name	String	Name of the product
shortDescription	String	Short product description
longDescription	String	Long product description
_links.next.href	String	Link to the next product

Example request

```
$ curl 'http://localhost:8080/product/f21e588b-3610-4c2f-9c6a-3a9854142ad5' -i \
    -H 'Accept: application/hal+json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/hal+json;charset=UTF-8
Content-Length: 396

{
  "creationDate" : "2018-03-17 23:09 PM UTC",
  "updateDate" : "2018-03-17 23:09 PM UTC",
  "productId" : 1000,
  "productUuid" : "f21e588b-3610-4c2f-9c6a-3a9854142ad5",
  "name" : "Product1",
  "shortDescription" : "product1 short description",
  "longDescription" : "product1 long description",
  "_links" : {
    "next" : {
      "href" : "http://localhost:8080/product/testuuid"
    }
  }
}
```

Saving/Updating product

The POST request saves or updates a product.

Table 5. Request fields

Path	Type	Description
productUuid	Null	The unique identifier of the product
creationDate	String	Creation date ot the object
updateDate	String	Update date of the object
productId	Null	Database primary key
name	String	Name of the product
shortDescription	String	Short product description
longDescription	String	Long product description

Example request

```
$ curl 'http://localhost:8080/product' -i -X POST \
    -H 'Content-Type: application/json' \
    -d '{
  "creationDate" : "2018-03-17 23:09 PM UTC",
  "updateDate" : "2018-03-17 23:09 PM UTC",
  "productId" : null,
  "productUuid" : null,
  "name" : "Product2",
  "shortDescription" : "product2 short description",
  "longDescription" : "product2 long description"
}'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 299

{
  "creationDate" : "2018-03-17 23:09 PM UTC",
  "updateDate" : "2018-03-17 23:09 PM UTC",
  "productId" : 1003,
  "productUuid" : "415faf8b-e583-4605-a891-1b51dec6d873",
  "name" : "Product2",
  "shortDescription" : "product2 short description",
  "longDescription" : "product2 long description"
}
```

Deleting product

The DELETE request deletes a product identified by the unique identifier.

/product/{uuid}

Table 6. Request path parameters

Parameter	Description
uuid	The unique identifier of the product

Example request

```
$ curl 'http://localhost:8080/product/0f4c99d9-7eb1-45c6-adc4-b9438313c5ae' -i -X
DELETE \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1

1
```

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1
```

Recommendation REST Service

The recommendation rest service is used to create, modify and list product recommendations.

Returning recommendations

The `GET` request returns the recommendations for a product identified by the unique product identifier.

/recommendation/product/{uuid}

Table 7. Request path parameters

Parameter	Description
`uuid`	The unique identifier of the product

Table 8. Response fields

Path	Type	Description
`creationDate`	`String`	Creation date ot the object
`updateDate`	`String`	Update date of the object
`recommendationId`	`Number`	Database primary key
`recommendationUuid`	`String`	The unique identifier of the recommendation
`recommendationFor`	`Object`	Product for which the recommendations are
`recommendations[]`	`Array`	Recommendations for the product

Example request

```
$ curl 'http://localhost:8080/recommendation/product/bba54047-ab88-4f9a-87d5-
512aab022e62' -i \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1504

{
  "creationDate" : "2018-03-17 23:08 PM UTC",
  "updateDate" : "2018-03-17 23:08 PM UTC",
  "recommendationId" : 1000,
  "recommendationUuid" : "84cd59b5-281a-4adf-8365-51d7562f0a97",
  "recommendationFor" : {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1004,
    "productUuid" : "bba54047-ab88-4f9a-87d5-512aab022e62",
    "name" : "Product5",
    "shortDescription" : "product5 short description",
    "longDescription" : "product5 long description"
  },
  "recommendations" : [ {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1000,
    "productUuid" : "6a402c81-ee7d-42cb-9355-2674d6e830cf",
    "name" : "Product1",
    "shortDescription" : "product1 short description",
    "longDescription" : "product1 long description"
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1002,
    "productUuid" : "e80e653f-17db-4a90-b506-2cd1df1ef23a",
    "name" : "Product3",
    "shortDescription" : "product3 short description",
    "longDescription" : "product3 long description"
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1003,
    "productUuid" : "37fbda8c-16a3-4f3c-9ae4-6de158e01f1f",
    "name" : "Product4",
    "shortDescription" : "product4 short description",
    "longDescription" : "product4 long description"
  } ]
}
```

Saving/Updating recommendation

The POST request saves or updates a recommendation.

Table 9. Request fields

Path	Type	Description
creationDate	String	Creation date ot the object
updateDate	String	Update date of the object
recommendationId	Null	Database primary key
recommendationUuid	Null	The unique identifier of the recommendation
recommendationFor	Object	Product for which the recommendations are
recommendations[]	Array	Recommendations for the product

Example request

```
$ curl 'http://localhost:8080/recommendation' -i -X POST \
    -H 'Content-Type: application/json' \
    -d '{
  "creationDate" : "2018-03-17 23:08 PM UTC",
  "updateDate" : "2018-03-17 23:08 PM UTC",
  "recommendationId" : null,
  "recommendationUuid" : null,
  "recommendationFor" : {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1000,
    "productUuid" : "6a402c81-ee7d-42cb-9355-2674d6e830cf",
    "name" : "Product1",
    "shortDescription" : "product1 short description",
    "longDescription" : "product1 long description"
  },
  "recommendations" : [ {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1001,
    "productUuid" : "b0b18c80-b9c2-444b-b5c1-c60b574751b7",
    "name" : "Product2",
    "shortDescription" : "product2 short description",
    "longDescription" : "product2 long description"
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1002,
    "productUuid" : "e80e653f-17db-4a90-b506-2cd1df1ef23a",
    "name" : "Product3",
    "shortDescription" : "product3 short description",
    "longDescription" : "product3 long description"
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1003,
    "productUuid" : "37fbda8c-16a3-4f3c-9ae4-6de158e01f1f",
    "name" : "Product4",
    "shortDescription" : "product4 short description",
    "longDescription" : "product4 long description"
  } ]
}'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1504

{
  "creationDate" : "2018-03-17 23:08 PM UTC",
  "updateDate" : "2018-03-17 23:08 PM UTC",
  "recommendationId" : 1001,
  "recommendationUuid" : "4a717aca-9551-4793-8417-1d44e7258807",
  "recommendationFor" : {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1000,
    "productUuid" : "6a402c81-ee7d-42cb-9355-2674d6e830cf",
    "name" : "Product1",
    "shortDescription" : "product1 short description",
    "longDescription" : "product1 long description"
  },
  "recommendations" : [ {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1001,
    "productUuid" : "b0b18c80-b9c2-444b-b5c1-c60b574751b7",
    "name" : "Product2",
    "shortDescription" : "product2 short description",
    "longDescription" : "product2 long description"
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1002,
    "productUuid" : "e80e653f-17db-4a90-b506-2cd1df1ef23a",
    "name" : "Product3",
    "shortDescription" : "product3 short description",
    "longDescription" : "product3 long description"
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1003,
    "productUuid" : "37fbda8c-16a3-4f3c-9ae4-6de158e01f1f",
    "name" : "Product4",
    "shortDescription" : "product4 short description",
    "longDescription" : "product4 long description"
  } ]
}
```

Deleting recommendation

The DELETE request deletes a recommendation identified by the unique product identifier.

/recommendation/product/{uuid}

Table 10. Request path parameters

Parameter	Description
uuid	The unique identifier of the product

Example request

```
$ curl 'http://localhost:8080/recommendation/product/bba54047-ab88-4f9a-87d5-
512aab022e62' -i -X DELETE \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1

1
```

Review REST Service

The review rest service is used to create, modify and list product reviews.

Listing reviews

The `GET` request returns all reviews of a product.

/reviews/product/{uuid}/{page}/{size}

Table 11. Request path parameters

Parameter	Description
`uuid`	The unique identifier of the product
`page`	Page of results
`size`	Size of the page.

Table 12. Response fields

Path	Type	Description
`content[].creationDate`	`String`	Creation date ot the object
`content[].updateDate`	`String`	Update date of the object
`content[].reviewId`	`Number`	Database primary key
`content[].reviewUuid`	`String`	The unique identifier of the review
`content[].author`	`String`	Author of the rating
`content[].rating`	`Number`	Evaluation of the product in a value range from 1 to 5 stars
`content[].reviewText`	`String`	Review text written by the author
`content[].product`	`Object`	Rated product
`totalPages`	`Number`	Number of total pages.
`totalElements`	`Number`	Total amount of elements.
`last`	`Boolean`	Indicates whether the current page is the last one.
`size`	`Number`	Size of the page.
`number`	`Number`	Number of the current page.
`sort`	`Object`	Sorting parameters for the page.
`first`	`Boolean`	Indicates whether the current page is the first one.
`numberOfElements`	`Number`	Number of elements currently on this page.

Example request

```
$ curl 'http://localhost:8080/reviews/product/9cbc99cb-bbce-44d8-ba12-
a21bc1809b7e/0/4' -i \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1637

{
  "content" : [ {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "reviewId" : 1000,
    "reviewUuid" : "b5ec4775-fedc-40b3-a06c-33b9408391f2",
    "author" : "Max Mustermann",
    "rating" : 5,
    "reviewText" : "Nice product",
    "product" : {
      "creationDate" : "2018-03-17 23:08 PM UTC",
      "updateDate" : "2018-03-17 23:08 PM UTC",
      "productId" : 1000,
      "productUuid" : "9cbc99cb-bbce-44d8-ba12-a21bc1809b7e",
      "name" : "Product1",
      "shortDescription" : "product1 short description",
      "longDescription" : "product1 long description"
    }
  }, {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "reviewId" : 1001,
    "reviewUuid" : "1af3251d-68de-46bb-882b-f7b1ff16943a",
    "author" : "John Doe",
    "rating" : 1,
    "reviewText" : "Bad product",
    "product" : {
      "creationDate" : "2018-03-17 23:08 PM UTC",
      "updateDate" : "2018-03-17 23:08 PM UTC",
      "productId" : 1000,
      "productUuid" : "9cbc99cb-bbce-44d8-ba12-a21bc1809b7e",
      "name" : "Product1",
      "shortDescription" : "product1 short description",
      "longDescription" : "product1 long description"
    }
  } ],
  "pageable" : {
```

```
    "sort" : {
      "sorted" : false,
      "unsorted" : true
    },
    "offset" : 0,
    "pageSize" : 4,
    "pageNumber" : 0,
    "unpaged" : false,
    "paged" : true
  },
  "last" : true,
  "totalPages" : 1,
  "totalElements" : 2,
  "size" : 4,
  "number" : 0,
  "first" : true,
  "sort" : {
    "sorted" : false,
    "unsorted" : true
  },
  "numberOfElements" : 2
}
```

Saving/Updating review

The POST request saves or updates a review for a product.

Table 13. Request fields

Path	Type	Description
creationDate	String	Creation date ot the object
updateDate	String	Update date of the object
reviewId	Null	Database primary key
reviewUuid	Null	The unique identifier of the review
author	String	Author of the rating
rating	Number	Evaluation of the product in a value range from 1 to 5 stars
reviewText	String	Review text written by the author
product	Object	Rated product

Example request

```
$ curl 'http://localhost:8080/review' -i -X POST \
    -H 'Content-Type: application/json' \
    -d '{
  "creationDate" : "2018-03-17 23:08 PM UTC",
  "updateDate" : "2018-03-17 23:08 PM UTC",
  "reviewId" : null,
  "reviewUuid" : null,
  "author" : "Max Mustermann2",
  "rating" : 3,
  "reviewText" : "Nice product2",
  "product" : {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1001,
    "productUuid" : "476c928e-3e91-4137-8085-7a94d0d6ab4c",
    "name" : "Product2",
    "shortDescription" : "product2 short description",
    "longDescription" : "product2 long description"
  }
}'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 583

{
  "creationDate" : "2018-03-17 23:08 PM UTC",
  "updateDate" : "2018-03-17 23:08 PM UTC",
  "reviewId" : 1002,
  "reviewUuid" : "9ab96e8b-08d0-4388-aa86-e4828cf3d1a4",
  "author" : "Max Mustermann2",
  "rating" : 3,
  "reviewText" : "Nice product2",
  "product" : {
    "creationDate" : "2018-03-17 23:08 PM UTC",
    "updateDate" : "2018-03-17 23:08 PM UTC",
    "productId" : 1001,
    "productUuid" : "476c928e-3e91-4137-8085-7a94d0d6ab4c",
    "name" : "Product2",
    "shortDescription" : "product2 short description",
    "longDescription" : "product2 long description"
  }
}
```

Deleting review

The `DELETE` request deletes a review identified by the unique review identifier.

/review/{uuid}

Table 14. Request path parameters

Parameter	Description
`uuid`	The unique identifier of the review

Example request

```
$ curl 'http://localhost:8080/review/b5ec4775-fedc-40b3-a06c-33b9408391f2' -i -X
DELETE \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 1

1
```

Product Composite REST Service

The product composite rest service is used to list a summary product with reviews and recommendations.

Listing reviews

The `GET` request returns the summary product.

/{uuid}

Table 15. Request path parameters

Parameter	Description
`uuid`	The unique identifier of the product

Table 16. Response fields

Path	Type	Description
`product`	`Object`	Product summary data
`recommendations[]`	`Array`	Recommendations for the product
`reviews[]`	`Array`	Reviews for the product.

Example request

```
$ curl 'http://localhost:8080/82a66bde-03d5-4c67-9be3-f83557eb2917' -i \
    -H 'Accept: application/json'
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Content-Length: 653

{
  "product" : {
    "productUuid" : "f67dc537-d3d5-4184-86bd-10012b0b65d4",
    "name" : "Product2"
  },
  "recommendations" : [ {
    "recommendationUuid" : "bcd4ac88-ce90-4c48-ab47-9ec01da00f64",
    "products" : [ {
      "productUuid" : "98495b7f-a325-41b1-a31d-fba2c5b8381e",
      "name" : "Product1"
    }, {
      "productUuid" : "708f5240-64ce-4e72-bb04-191c82b43cb4",
      "name" : "Product3"
    }, {
      "productUuid" : "f20f6f65-a77f-4b45-9aae-e605960f7390",
      "name" : "Product4"
    } ]
  } ],
  "reviews" : [ {
    "reviewUuid" : "4b3bfc88-0f73-48ec-b7ba-f8f8ea0ed86b",
    "author" : "Max Mustermann2",
    "rating" : 3
  } ]
}
```