Assignment 5: API Spec

CS 493: Cloud Application Development

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GCP URL: https://hw5-paceym.wl.r.appspot.com/

Table of Contents

Change log

Version	Change	Date
1.0	Initial version.	May 7, 2023

Data Model

The app stores one entity in Datastore: Boats

Boats

Property	Data Type	Notes
id	Integer	The id of the boat. Datastore automatically generates it.
name	String	Name of the boat. Each name must be unique across all entries (this is enforced at create and edit time). Names are restricted to alphanumeric characters and spaces and can be a max of 20 characters long.
type	String	Type of boat. E.g., Sailboat, Catamaran, etc.
length	Integer	The length of the boat in feet.

Create a Boat

Allows you to create a new boat. The required parameters are name, type, and length. If any other attributes are given (e.g. color), they will be ignored and the boat will be created with only the 3 required attributes (assuming they are also given in the request).

POST /boats

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the boat. Names are restricted to alphanumeric characters and spaces and can be a max of 20 characters long.	Yes
type	The type of the boat. E.g., Sailboat, Catamaran, etc.	Yes
length	Length of the boat in feet.	Yes

Request Body Example

```
{

   "name": "Sea Witch",

   "type": "Catamaran",

   "length": 28

}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	If the request is missing any of the 3 required attributes,

		the boat must not be created, and 400 status code must be returned.
		You don't need to validate the values of the attributes and can assume that if the request contains any of the listed attributes, then that attribute's value is valid.
		You can also assume that the request will not contain any extraneous attribute (i.e., the request JSON will never contain any attribute that is not listed above).

Response Examples

Success

```
Status: 201 Created

{

  "id": 123,

  "name": "Sea Witch",

  "type": "Catamaran",

  "length": 28

}
```

Failure

```
Status: 400 Bad Request

 {

"Error":  "The request object is missing at least one of the required attributes"

}
```

Delete a Boat

Allows you to delete a boat.

```
DELETE /boats/:boat_id
```

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

None

Response

No body

Response Body Format

Success: No body

Failure: JSON

Response Statuses

Outcome	Status Code	Notes
Success	204 No Content	
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

```
Status: 204 No Content
```

Failure

```
Status: 404 Not Found

{
    "Error": "No boat with this boat_id exists"
}
```

Edit a Boat (PATCH)

Allows you to edit an existing boat. With PATCH, you may specify any subset of attributes to update (except id). Any attributes not given will remain unedited.

```
PATCH /boats/:boat_id
```

Request JSON Attributes

Name	Description	Required?
name	The name of the boat. Names are restricted to alphanumeric characters and spaces and can be a max of 20 characters long.	No
type	The type of the boat. E.g., Sailboat, Catamaran, etc.	No
length	Length of the boat in feet.	No

Path Parameters

Name	Description
boat_id	ID of the boat

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

```
Status: 200 OK

{
   "id": 6372443765604352,
   "length": 28,
   "name": "Sea Witch",
   "self": "http://hw5-paceym.uw.r.appspot.com/boats/6372443765604352",
   "type": "Catamaran"
}
```

Failure

```
Status: 404 Not Found

{

"Error":  "No boat with this boat_id exists"

}
```

Edit a Boat (PUT)

Allows you to edit an existing boat. With PUT, you must specify all attributes (except id).

```
PUT /boats/:boat_id
```

Request JSON Attributes

Name	Description	Required?

name	The name of the boat. Names are restricted to alphanumeric characters and spaces and can be a max of 20 characters long.	Yes
type	The type of the boat. E.g., Sailboat, Catamaran, etc.	Yes
length	Length of the boat in feet.	Yes

Path Parameters

Name	Description
boat_id	ID of the boat

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

Status: 303 OK
Location: "http://hw5-paceym.uw.r.appspot.com/boats/6372443765604352"

```
{
    "id": 6372443765604352,
    "length": 28,
    "name": "Sea Witch",
    "self": "http://hw5-paceym.uw.r.appspot.com/boats/6372443765604352",
    "type": "Catamaran"
}
```

Failure

Status: 404 Not Found

```
{

"Error":  "No boat with this boat_id exists"
```

```
    }
```

View a Boat

Allows you to get an existing boat

```
GET /boats/:boat_id
```

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

None

Request Headers

Name	Description
Accept	Format the client wants to receive the data in. Acceptable values: "application/json" (this is the default) or "text/html". All other formats will be rejected with status code 406.

Response

Response Body Format

JSON or HTML

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No boat with this boat_id exists
Failure	406 Invalid Accept type	The requested Accept type is not supported.

Response Examples

Success (json)

```
Status: 200 OK

{
    "id": 6372443765604352,
    "length": 28,
    "name": "Sea Witch",
```

```
    "self": "http://hw5-paceym.uw.r.appspot.com/boats/6372443765604352",
    "type": "Catamaran"
}
```

Success (html)

```
Status: 200 OK

<table>
        <tr>
                <td> Key </td>
                <td> Value </td>
        </tr>
        <tr>
                <td>id</td>
                <td>5669152601669632</td>
        </tr>
        <tr>
                <td>name</td>
                <td>Sea Witch</td>
        </tr>
        <tr>
                <td>type</td>
                <td>Catamaran</td>
        </tr>
        <tr>
                <td>length</td>
                <td>28</td>
        </tr>
        <tr>
                <td>url</td>
                <td>http://hw5-paceym.uw.r.appspot.com/boats/5669152601669632</td>
        </tr>
</table>
```

Failure

```
Status: 404 Not Found

{

"Error":  "No boat with this boat_id exists"

}
```

Failure

```
Status: 406 Invalid Accept type
```

```
{

"Error":  "Invalid accept type"

}
```