Assignment 5: API Spec

CS 493: Cloud Application Development

Spring 2023

Oregon State University

Last Update: May 8. 9:00 pm Pacific

[https://a5-rest-api.wl.r.appspot.com](https://a5-rest-api.wl.r.appspot.com/)

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Change log

|  |  |  |
| --- | --- | --- |
| **Version** | **Change** | **Date** |
| 1.0 | Initial version. | May 8, 2023 |

Data Model

Boats

|  |  |  |
| --- | --- | --- |
| **Property** | **Data Type** | **Notes** |
| id | Integer | The id of the boat. Datastore automatically generates it. Don't add it yourself as a property of the entity. |
| name | String | Name of the boat. |
| type | String | Type of the boat. E.g., Sailboat, Catamaran, etc. |
| length | Integer | The length of the boat in feet. |

\* Note PUT or DELETE requests to the root of the Boat kind will return a 405 Method Not Allowed.

Create a Boat

Allows you to create a new boat.

|  |
| --- |
| POST /boats |

Accepted request MIME types: JSON

Sent response MIME types: JSON

Request

Request Header

Required:

Content-Type: application/json

Accept: application/json

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Required?** |
| name | The name of the boat. | 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.  Invalid values.  **name**: must be under 21 characters, must be string, must not contain special characters  **type:** must be under 21 characters, must be string  **length**: must be number |
|  | 403 Forbidden | If the name of the boat to post is already in the database. Name must be a globally unique property among the boats kind. |
|  | 406 Not Acceptable | Request's Accept header does not include application/json |
|  | 415 Unsupported Media Type | Request's Content-Type header does not include application/json |

Response Examples, Important Notes

* Datastore will automatically generate an ID and store it with the entity being created.
* If properties other than name, type, or length are included in the body, they are ignored.
* Name must be unique in the Boats kind.

*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"  }  OR  {  "Error": "properties "type" must be a string under 21 characters and "length" must be a number"  }  OR  {  "Error": "property "name" must be a string under 21 characters that does not include special characters"  } |
| Status: 403 Bad Request  {  "Error": "Boat with this name already exists"  } |
| Status: 406 Not Acceptable  {  "Error": "Server only responds in application/json data"  } |
| Status: 415 Unsupported Media Type  {  "Error": "Server only accepts application/json data"  } |

Delete a Boat

Allows you to delete a boat.

|  |
| --- |
| DELETE /boats/:boat\_id |

Accepted request MIME types: -

Sent response MIME types: -

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"  } |

Patch a Boat

Allows you to edit requested properties of a boat.

|  |
| --- |
| PATCH /boats/:boat\_id |

Accepted request MIME types: JSON

Sent response MIME types: JSON

Request

Path Parameters

|  |  |
| --- | --- |
| **Name** | **Description** |
| boat\_id | ID of the boat |

Request Header

Required:

Content-Type: application/json

Accept: application/json

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Required?** |
| name | The name of the boat. | No |
| type | The type of the boat. E.g., Sailboat, Catamaran, etc. | No |
| length | Length of the boat in feet. | No |

Request Body Example

|  |
| --- |
| {  "name": "Sea Witch",  "length": 99  } |

Response

Response Body Format

JSON

Response Statuses

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 303 See Other | The Location header of the response contains a URL to the updated Boat. There was no requirement for PATCH to return status code 303 on success, but since PUT is required to, the choice to return 303 was made for homogeneity . |
| 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.  Invalid values.  **name**: must be under 21 characters, must be string, must not contain special characters  [~`!#$%\^&\*+=\-\[\]\\';,/{}|\\":<>\?]  **type:** must be under 21 characters, must be string  **length**: must be number |
|  | 403 Forbidden | If the name of the boat to post is already in the database. Name must be a globally unique property among the boats kind. |
|  | 404 Not Found | No boat with this boat\_id exists |
|  | 406 Not Acceptable | Request's Accept header does not include application/json |
|  | 415 Unsupported Media Type | Request's Content-Type header does not include application/json |

Response Examples, Important Notes

* You cannot patch the id property. If you attempt to do so using PUT, it will be ignored.
* If properties other than name, type, or length are included in the body, they are ignored.
* Name must be unique in the Boats kind.

*Success*

|  |
| --- |
| Status: 303 See Other  {  "id": 123,  "name": "Sea Witch",  "type": "Catamaran",  "length": 99,  "self": "<https://a5-rest-api.wl.r.appspot.com/boats/5738709764800512>"  } |

*Failure*

|  |
| --- |
| Status: 400 Bad Request  {  "Error": "properties "type" must be a string under 21 characters and "length" must be a number"  }  OR  {  "Error": "property "name" must be a string under 21 characters that does not include special characters"  }  OR  {  "Error": "boat\_id cannot be patched"  } |

|  |
| --- |
| Status: 404 Not Found  {  "Error": "No boat with this boat\_id exists"  } |

|  |
| --- |
| Status: 403 Bad Request  {  "Error": "Boat with this name already exists"  } |
| Status: 406 Not Acceptable  {  "Error": "Server only responds in application/json data"  } |
| Status: 415 Unsupported Media Type  {  "Error": "Server only accepts application/json data"  } |

Put a Boat

Allows you to edit a boat. All properties must be sent through the body.

|  |
| --- |
| PATCH /boats/:boat\_id |

Accepted request MIME types: JSON

Sent response MIME types: JSON

Request

Path Parameters

|  |  |
| --- | --- |
| **Name** | **Description** |
| boat\_id | ID of the boat |

Request Header

Required:

Content-Type: application/json

Accept: application/json

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Required?** |
| name | The name of the boat. | 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": "Warship",  "length": 99  } |

Response

Response Body Format

JSON

Response Statuses

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 303 See Other | The Location header of the response contains a URL to the updated Boat. |
| Failure | 400 Bad Request | Attempting to patch the id property returns a Bad Request.  Invalid values.  **name**: must be under 21 characters, must be string, must not contain special characters  [~`!#$%\^&\*+=\-\[\]\\';,/{}|\\":<>\?]  **type:** must be under 21 characters, must be string  **length**: must be number |
|  | 403 Forbidden | If the name of the boat to post is already in the database. Name must be a globally unique property among the boats kind. |
|  | 404 Not Found | No boat with this boat\_id exists |
|  | 406 Not Acceptable | Request's Accept header does not include application/json |
|  | 415 Unsupported Media Type | Request's Content-Type header does not include application/json |

Response Examples, Important Notes

* You cannot patch the id property.
* If properties other than name, type, or length are included in the body, they are ignored.
* Name must be unique in the Boats kind.

*Success*

|  |
| --- |
| Status: 303 See Other  {  "id": 123,  "name": "Sea Witch",  "type": "Warship",  "length": 99,  "self": "<https://a5-rest-api.wl.r.appspot.com/boats/5738709764800512>"  } |

*Failure*

|  |
| --- |
| Status: 400 Bad Request  {  "Error": "properties "type" must be a string under 21 characters and "length" must be a number"  }  OR  {  "Error": "property "name" must be a string under 21 characters that does not include special characters"  }  OR  {  "Error": "The request object is missing at least one of the required attributes"  } |

|  |
| --- |
| Status: 404 Not Found  {  "Error": "No boat with this boat\_id exists"  } |

|  |
| --- |
| Status: 403 Bad Request  {  "Error": "Boat with this name already exists"  } |
| Status: 406 Not Acceptable  {  "Error": "Server only responds in application/json data"  } |
| Status: 415 Unsupported Media Type  {  "Error": "Server only accepts application/json data"  } |

Get a Boat

Allows you to get an existing boat

|  |
| --- |
| GET /boats/:boat\_id |

Accepted request MIME types: -

Sent response MIME types: JSON or HTML

Request

Path Parameters

|  |  |
| --- | --- |
| **Name** | **Description** |
| boat\_id | ID of the boat |

Request Header

Accept: application/json OR text/html

Request Body

None

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 |
|  | 406 Not Acceptable | Request's Accept header does not include application/json or text/html |

Response Examples

*Success*

|  |
| --- |
| Status: 200 OK  {  "id": 123,  "name": "Sea Witch",  "type": "Catamaran",  "length": 28,  "self": "<https://a5-rest-api.wl.r.appspot.com/boats/5738709764800512>"  } |

*Failure*

|  |
| --- |
| Status: 404 Not Found  {  "Error": "No boat with this boat\_id exists"  } |

|  |
| --- |
| Status: 406 Not Acceptable  {  "Error": "Server only responds in application/json or text/html data"  } |