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**Assignment 4: Intermediate Rest API**

Link: <https://hw4-rajamong.wl.r.appspot.com/>

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**Data Model**

The app stores two kinds of entities in the Datastore, Boats and Loads.

**Boats:**

|  |  |  |
| --- | --- | --- |
| **Property** | **Data Type** | **Notes** |
| id | integer | The Datastore automatically generates this. |
| name | string | The name of the boat. (Titanic, Odyssey, etc.) |
| type | string | The type of the boat. (Sailing, Yatch, etc.) |
| length | integer | The length of the boat in feet. |

**Loads:**

|  |  |  |
| --- | --- | --- |
| **Property** | **Data Type** | **Notes** |
| id | integer | The Datastore automatically generates this. |
| weight | integer | The weight of the load in tons. |
| content | string | The content of the load. (tennis balls, feathers, etc.) |
| delivery\_date | date | The date the load will be delivered. |

**Create a Boat**

Allows you to create a new boat.

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

**Request**

Path Parameters:

None

Request Body:

Required

Request Body Format:

JSON

**Request JSON Attributes:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| name | The name of the boat. (Titanic, Odyssey, etc.) |
| type | The type of the boat. (Sailing, Yatch, etc.) |
| length | The length of the boat in feet. |

**Request Body Example:**

|  |
| --- |
| {  “name”: “Odyssey”,  “type”: “Yatch”,  “length”: 99  } |

**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 a 400 status code must be returned. |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 201 Created  {  “id”: 123456754321234512,  “name”: “Odyssey”,  “type”: “Yatch”,  “length”: 99,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>boats/123456754321234512  } |

**Failure:**

|  |
| --- |
| Status: 400 Bad Request  {  “error”: “object is missing one or more of the required attributes”  } |

**View a Boat**

Allows you to view an existing boat.

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

**Request**

Path Parameters:

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

Request Body:

None

Request 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”: 123456754321234512,  “name”: “Odyssey”,  “type”: “Yatch”,  “length”: 99,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>boats/123456754321234512  } |

**Failure:**

|  |
| --- |
| Status: 404 Not Found  {  “error”: “no boat with this id exists”  } |

**View all Boats**

Allows you to view all existing boats.

|  |
| --- |
| GET /boats |

**Request**

Path Parameters:

None

Request Body:

None

Request Body Format:

JSON

**Response Statuses:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 200 OK |  |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 200 OK  [  {  “id”: 123456754321234512,  “name”: “Odyssey”,  “type”: “Yatch”,  “length”: 99,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>boats/123456754321234512  },  {  “id”: 765432345676543212,  “name”: “Titanic”,  “type”: “Sailing”,  “length”: 200,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>boats/765432345676543212  },  {  “id”: 444678632234999,  “name”: “Midnight Dream”,  “type”: “Fishing”,  “length”: 350,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>boats/444678632234999  }  ] |

**Delete a Boat**

Allows you to delete an existing boat.

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

**Request**

Path Parameters:

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

Request Body:

None

Request 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 id exists”  } |

**Create a Load**

Allows you to create a new load.

|  |
| --- |
| POST /loads |

**Request**

Path Parameters:

None

Request Body:

Required

Request Body Format:

JSON

**Request JSON Attributes:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| weight | The weight of the load in tons. |
| content | The content of the loads. (tennis balls, feathers, etc.) |
| delivery\_date | The date that the load will be delivered. |

**Request Body Example:**

|  |
| --- |
| {  “weight”: 24,  “content”: “tennis balls”,  “delivery\_date”: “10/24/2021”  } |

**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 load must not be created, and a 400 status code must be returned. |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 201 Created  {  “carrier”: null,  “content”: “tennis balls”,  “delivery\_date”: “10/24/2021”,  “id”: 123456754321234512,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/123456754321234512”,  “weight”: 24  } |

**Failure:**

|  |
| --- |
| Status: 400 Bad Request  {  “error”: “object is missing one or more of the required attributes”  } |

**View a Load**

Allows you to view an existing load.

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

**Request**

Path Parameters:

|  |  |
| --- | --- |
| **Name** | **Description** |
| load\_id | The ID of the load. |

Request Body:

None

Request Body Format:

JSON

**Response Statuses:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 200 OK |  |
| Failure | 404 Not Found | No load with this id exists. |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 200 OK  {  “carrier”: null,  “content”: “tennis balls”,  “delivery\_date”: “10/24/2021”,  “id”: 123456754321234512,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/123456754321234512”,  “weight”: 24  } |

**Failure:**

|  |
| --- |
| Status: 404 Not Found  {  “error”: “no load with this id exists”  } |

**View all Loads**

Allows you to view all existing boats.

|  |
| --- |
| GET /loads |

**Request**

Path Parameters:

None

Request Body:

None

Request Body Format:

JSON

**Response Statuses:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 200 OK |  |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 200 OK  [  {  “carrier”: null,  “content”: “tennis balls”,  “delivery\_date”: “10/24/2021”,  “id”: 123456754321234512,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/123456754321234512”,  “weight”: 24  },  {  “carrier”: null,  “content”: “feathers”,  “delivery\_date”: “12/25/2016”,  “id”: 2222333334444445,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/2222333334444445”,  “weight”: 2  },  {  “carrier”: null,  “content”: “trucks”,  “delivery\_date”: “01/02/2003”,  “id”: 9993334400421234,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/9993334400421234”,  “weight”: 300  }  ] |

**Delete a Load**

Allows you to delete an existing load.

|  |
| --- |
| DELETE /loads/:load\_id |

**Request**

Path Parameters:

|  |  |
| --- | --- |
| **Name** | **Description** |
| load\_id | The ID of the load. |

Request Body:

None

Request Body Format:

Success: No Body

Failure: JSON

**Response Statuses:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 204 No Content |  |
| Failure | 404 Not Found | No load with this load\_id exists. |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 204 No Content |

**Failure:**

|  |
| --- |
| Status: 404 Not Found  {  “error”: “no load with this id exists”  } |

**Managing Loads**

Allows you to assign loads to boats.

|  |
| --- |
| PUT /boats/:boat\_id/loads/:load\_id |

**Request**

Path Parameters:

|  |  |
| --- | --- |
| **Name** | **Description** |
| boat\_id | The ID of the boat. |
| load\_id | The ID of the load. |

Request Body:

None

Request Body Format:

JSON

**Response Statuses:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 204 No Content | Succeeds only if a boat exists with this boat\_id, a load exists with this load\_id. |
| Failure | 403 Forbidden | The load has already been assigned to a boat. |
| Failure | 404 Not Found | No boat with this boat\_id exists.  No load with this load\_id exists. |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 204 No Content |

**Failure:**

|  |
| --- |
| Status: 403 Forbidden  {  “error”: “this load was already assigned to boat”  } |

|  |
| --- |
| Status: 404 Not Found  {  “error”: “no boat with this id exists”  } |

|  |
| --- |
| Status: 404 Not Found  {  “error”: “no load with this id exists”  } |

**View all Loads for a Given Boat**

Allows you to view all existing boats.

|  |
| --- |
| GET /boats/:specific\_boat\_id/loads |

**Request**

Path Parameters:

|  |  |
| --- | --- |
| **Name** | **Description** |
| specific\_boat\_id | The ID of the specified boat. |

Request Body:

None

Request Body Format:

JSON

**Response Statuses:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Status Code** | **Notes** |
| Success | 200 OK |  |

**Response Examples:**

**Success:**

|  |
| --- |
| Status: 200 OK  [  {  “carrier”: null,  “content”: “tennis balls”,  “delivery\_date”: “10/24/2021”,  “id”: 123456754321234512,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/123456754321234512”,  “weight”: 24  },  {  “carrier”: null,  “content”: “feathers”,  “delivery\_date”: “12/25/2016”,  “id”: 2222333334444445,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/2222333334444445”,  “weight”: 2  },  {  “carrier”: null,  “content”: “trucks”,  “delivery\_date”: “01/02/2003”,  “id”: 9993334400421234,  “self”: “<https://hw4-rajamong.wl.r.appspot.com/>loads/9993334400421234”,  “weight”: 300  }  ] |