Portfolio Project: API Spec

CS 493: Cloud Application Development

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Alex Lubrano & Oregon State University

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Change log

Version	Change	Date
1.0	Initial version.	Oct 6, 2022
2.0	Conversion to Assignment 4 API Specs	May 1, 2023
3.0	Conversion to Assignment 5 API Specs	May 9, 2023
4.0	Conversion to Portfolio Project API Specs	June 13, 2023

Application Base URL

- https://portfolio-lubranoa.uc.r.appspot.com/

Data Model

The app stores three kinds of entities in Datastore, Users, Boats, and Loads.

Users

Property	Data Type	Notes
id	String	The id of the user, which is also the user's 'sub' attribute from Auth0.
name	String	Name of the user on Auth0

Boats

Property	Data Type	Notes
id	Integer	The id of the boat. Datastore automatically generates it.
name	String	Name of the boat. Only letters and digits.
type	String	Type of the boat. E.g., Sailboat, Catamaran, etc. Only letters and digits.
length	Integer	The length of the boat in feet. Only positive integers less than 2000.
owner	String	The owner of the boat. Only one owner can own a boat. Cannot be NULL. This is the 'sub' user id.
loads	Array of Integers	List of id integers of all loads on the boat. A boat may contain any number of loads.

Loads

Property	Data Type	Notes
id	Integer	The id of the load. Datastore automatically generates it.
volume	Integer	The volume of the load. Only positive integers less than 100.
item	String	The item in the load. Only letters and digits.
creation_date	String	The date the load was created. "MM/DD/YY" format
carrier	Integer	If there is a boat holding the load, then id of that boat. Otherwise, null. Only one boat can hold a load.

Get all Users

Allows a user to get a list of all users on the application.

GET /users

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON – Required

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	405 Method Not Allowed	If any request other than GET is sent to root /users URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If client's Accept header is set to unsupported MIME type, the list of users is not sent and status code 406 must be returned. Sends as 'text/plain'

Response Examples

Success

```
Status: 200 OK

[
  {
    "id": "auth0|647e2365ed1538be4d1a4748",
    "name": "wallace@cheese.com"
  },
  {
    "id": "auth0|947e2365ed1538be4d1a0399",
    "name": "grommet@cheese.com"
  }
]
```

Failure – Attempted disallowed CRUD method to root /users URL

```
Status: 405 Method Not Allowed

{
"Error": "Method not allowed"
}
```

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Create a Boat

Allows a user to create a new boat.

```
POST /boats
```

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON – Required

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 – Required

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	If any of the three required attributes are missing, the boat must not be created and status code 400 must be returned.
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat must not be created and status code 401 must be returned.

Failure	405 Method Not Allowed	If client sends anything other than a POST or GET request to root /boats URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be created and status code 406 must be returned. Sends as 'text/plain'
Failure	415 Unsupported Media Type	If the client sends an unsupported MIME type, the boat must not be created and status code 415 must be returned.

Response Examples

- Datastore will automatically generate an ID and store it with the entity being created.
- The value of the attribute `loads` is an array of load IDs that the boat currently holds, which is initialized to an empty array.
- The value of the attribute `self` is a string that contains the URL endpoint that points to the boat itself. This should not be in the data model and should be generated for each response.

Success

```
Status: 201 Created

{
  "id": 123,
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "owner": "auth0|647e2365ed1538be4d1a4748",
  "loads": [],
  "self": "https://appspot.com/boats/123"
}
```

Failure

```
Status: 400 Bad Request

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

Failure – Attempted disallowed CRUD method to /boats URL

```
Status: 405 Method Not Allowed

{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

```
Status: 415 Unsupported Media Type

{
"Error": "Client sent content in an unsupported MIME type"
}
```

View a Boat

Allows a user to get one of their existing boats.

GET /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

None

Response

Response Body Format

JSON – Required

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat must not be displayed and status code 401 must be returned.
Failure	403 Forbidden	If the user's JWT was valid but the boat is owned by someone else, the boat must not be displayed and status code 403 must be returned.
Failure	404 Not Found	No boat with this boat_id exists
Failure	405 Method Not Allowed	If client sends a POST to /boats/:boat_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be displayed and status code 406 must be returned. Sends as 'text/plain'

Response Examples

- In the data model, the value of the attribute $loads$ is an array of load IDs that the boat currently holds. If there are no loads in this boat, the value of $loads$ should be an empty array. If the array contains any load IDs, the load IDs should each be converted to a JSON object representing a load

with the attributes `id` and `self` containing the load's ID and URL endpoint that points to the load. This JSON object should not be in the data model and should be generated on the fly.

Success – No Loads

```
Status: 200 OK

{
  "id": 123,
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "owner": "auth0|647e2365ed1538be4d1a4748",
  "loads": [],
  "self": "https://appspot.com/boats/123"
}
```

Success – Contains Loads

```
Status: 200 OK

{
  "id": 123,
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "owner": "auth0|647e2365ed1538be4d1a4748",
  "loads": [
    {
      "id": 123,
      "self": "https://appspot.com/loads/123"
    },
    {
      "id": 456,
      "self": "https://appspot.com/loads/456"
    }
  ],
  "self": "https://appspot.com/boats/123"
}
```

Failure – Error in validating JWT (Multiple errors)

```
Status: 401 Unauthorized

{
"Error": "Error in validating JWT"
}
```

Failure – Attempted to view a boat not owned by user

```
Status: 403 Forbidden


{
"Error": "User is not allowed to view boats owned by someone else"
}
```

Failure

```
Status: 404 Not Found


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

Failure – Attempted disallowed CRUD method to /boats/:boat_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

View all Boats

List all the boats for a user.

```
GET /boats  (If no query, defaults to below with offset of zero)
GET /boats?limit=5&offset=n
```

Request

Path Parameters

None

Query Parameters

Name	Description
limit	The upper limit of how many boats will be returned at a time, which is 5
offset	The amount of boats to skip (defaults to zero)

Request Body

None

Response

Response Body Format

JSON – Required

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat list must not be created and status code 401 must be returned.
Failure	405 Method Not Allowed	If client sends a anything other than a POST or GET request to /boats URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the user's boat list must not be created and status code 406 must be returned. Sends as 'text/plain'

Response Examples

- This endpoint has pagination implemented and should only return a response with at most three boats. If there are more boats to get, the response will contain a `next` parameter with a URL that can be used to get the next page of boats. If there are no more boats, `next` is omitted.

Success – No more boats

```
Status: 200 OK

{
  "boats": [
    {
      "id": 123,
      "name": "Sea Witch",
      "type": "Catamaran",
      "length": 28,
      "owner": "auth0|647e2365ed1538be4d1a4748",
      "loads": [],
      "self": "https://appspot.com/boats/123"
    }
  ]
}
```

Success – More boats can be displayed

```
Status: 200 OK
{
  "boats": [
    {
      "id": 123,
      "name": "Sea Witch",
      "type": "Catamaran",
      "length": 28,
      "owner": "auth0|647e2365ed1538be4d1a4748",
      "loads": [],
      "self": "https://appspot.com/boats/123"
    },
    {
      "id": 456,
      "name": "Adventure",
      "type": "Sailboat",
      "length": 50,
      "owner": "auth0|647e2365ed1538be4d1a4748",
      "loads": [
        {
          "id": 123,
          "self": "https://appspot.com/loads/123"
        },
        {
          "id": 456,
          "self": "https://appspot.com/loads/456"
        }
      ],
      "self": "https://appspot.com/boats/456"
    },
    {
      "id": 789,
      "name": "Hocus Pocus",
      "type": "Sailboat",
      "length": 100,
      "owner": "auth0|647e2365ed1538be4d1a4748",
      "loads": [
        {
          "id": 909,
          "self": "https://appspot.com/loads/909"
        }
      ],
      "self": "https://appspot.com/boats/789"
    }
  ],
  "next": "https://appspot.com/boats?limit=5&offset=5"
}
```

```
Status: 401 Unauthorized


{
"Error": "Error in validating JWT"
}
```

Failure – Attempted disallowed CRUD method to /boats URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Partially Edit a Boat

Allows you to edit a boat.

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

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

Required

Request Body Format

JSON – Required

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

```
{
  "type": "Dinghy",
  "length": 7
}
```

Response

Response Body Format

JSON – Required (sent as 'text/plain' if 406 occurs)

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If all of the three attributes are missing, the boat must not be created and status code 400 must be returned.
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat must not be updated and status code 401 must be returned.
Failure	403 Forbidden	If the user's JWT was valid but the boat is owned by someone else, the boat must not be updated and status code 403 must be returned.
Failure	404 Not Found	No boat with this boat_id exists
Failure	405 Method Not Allowed	If client sends a POST to /boats/:boat_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be updated and status code 406 must be returned. Sends as 'text/plain'
Failure	415 Unsupported Media Type	If the client sends an unsupported MIME type, the boat must not be updated and status code 415 must be returned

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "name": "Sea Witch",
  "type": "Dinghy",
  "length": 7,
  "owner": "auth0|647e2365ed1538be4d1a4748",
  "loads": [],
  "self": "https://appspot.com/boats/123"
}
```

Failure – Missing attributes

```
Status: 400 Bad Request

{
"Error": "The request object is empty. Must update at least one attribute"
}
```

Failure – Error in validating JWT (Multiple errors)

```
Status: 401 Unauthorized


{
"Error": "Error in validating JWT"
}
```

Failure – Attempted to update a boat not owned by user

```
Status: 403 Forbidden


{
"Error": "User is not allowed to update boats owned by someone else"
}
```

Failure – Boat not found

```
Status: 404 Not Found


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

Failure – Attempted disallowed CRUD method to /boats/:boat_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Failure – Sent unsupported MIME type to endpoint

```
Status: 415 Unsupported Media Type


{
"Error": "Client sent content in an unsupported MIME type"
}
```

Completely Edit a Boat

Allows you to edit a boat.

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

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

Required

Request Body Format

JSON - Required

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 Lady",
  "type": "Dinghy",
  "length": 7
}
```

Response

Response Body Format

JSON – Required (sent as 'text/plain' if 406 occurs)

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If any of the three required attributes are missing, the boat must not be created and status code 400 must be returned.
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat must not be updated and status code 401 must be returned.
Failure	403 Forbidden	If the user's JWT was valid but the boat is owned by someone else, the boat must not be updated and status code 403 must be returned.
Failure	404 Not Found	No boat with this boat_id exists
Failure	405 Method Not	If client sends a POST to /boats/:boat_id URL, request

	Allowed	must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be updated and status code 406 must be returned. Sends as 'text/plain'
Failure	415 Unsupported Media Type	If the client sends an unsupported MIME type, the boat must not be updated and status code 415 must be returned

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "name": "Sea Lady",
  "type": "Dinghy",
  "length": 7,
  "owner": "auth0|647e2365ed1538be4d1a4748",
  "loads": [],
  "self": "https://appspot.com/boats/123"
}
```

Failure – Missing attributes

```
Status: 400 Bad Request

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

Failure – Error in validating JWT (Multiple errors)

```
Status: 401 Unauthorized

{
"Error": "Error in validating JWT"
}
```

Failure – Attempted to u[date a boat not owned by user

```
Status: 403 Forbidden

{
"Error": "User is not allowed to update boats owned by someone else"
}
```

Failure – Boat not found

```
Status: 404 Not Found

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

Failure – Attempted disallowed CRUD method to /boats/:boat_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Failure – Sent unsupported MIME type to endpoint

```
Status: 415 Unsupported Media Type

{
"Error": "Client sent content in an unsupported MIME type"
}
```

Delete a Boat

Allows user to delete a boat. Note that if the boat is currently holding a load(s), deleting the boat unloads the boat. The boat is also deleted from the user's boats.

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	401 Unauthorized	If the user's JWT fails in validation, the boat must not be updated and status code 401 must be returned.
Failure	403 Forbidden	If the user's JWT was valid but the boat is owned by

		someone else, the boat must not be updated and status code 403 must be returned.
Failure	404 Not Found	No boat with this boat_id exists
Failure	405 Method Not Allowed	If client sends a POST to /boats/:boat_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be updated and status code 406 must be returned. Sends as 'text/plain'

Response Examples

- If the boat contains any loads, each of those load's carrier attributes should be set to null.

Success

```
Status: 204 No Content
```

Failure – Error in validating JWT (Multiple errors)

```
Status: 401 Unauthorized


{
"Error": "Error in validating JWT"
}
```

Failure – Attempted to delete a boat not owned by user

```
Status: 403 Forbidden


{
"Error": "User is not allowed to delete boats owned by someone else"
}
```

Failure

```
Status: 404 Not Found


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

Failure – Attempted disallowed CRUD method to /boats/:boat_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

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	Required?
volume	The volume of the load.	Yes
item	The item in the load.	Yes
creation_date	The date the load was created.	Yes

Request Body Example

```
{
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "10/18/21"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	If any of the three required attributes are missing, the load must not be created and status code 400 must be returned.
Failure	405 Method Not Allowed	If client sends anything other than a POST or GET request to root /loads URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the load must not be created and status code 406 must be returned. Sends as 'text/plain'
Failure	415 Unsupported Media Type	If the client sends an unsupported MIME type, the load must not be created and status code 415 must be returned.

Response Examples

- Datastore will automatically generate an ID and store it with the entity being created. This value needs to be sent in the response body as shown in the example.
- The value of the attribute `carrier` is the ID of the boat currently at this load. The value of `carrier` should initialized to be `null`.
- The value of the attribute `self` is a string that contains the URL endpoint that points to the load itself. This should not be in the data model and should be generated for each response.

Success

```
Status: 201 Created


{
  "id": 123,
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "10/18/21",
  "carrier": null,
  "self": "https://appspot.com/loads/123"
}
```

Failure

```
Status: 400 Bad Request


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

Failure – Attempted disallowed CRUD method to /boats URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Failure – Sent unsupported MIME type to endpoint

```
Status: 415 Unsupported Media Type


{
"Error": "Client sent content in an unsupported MIME type"
}
```

View a Load

Allows you to get an existing load.

GET /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of the load

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No load with this load_id exists
Failure	405 Method Not Allowed	If client sends a POST to /boats/:boat_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be displayed and status code 406 must be returned. Sends as 'text/plain'

Response Examples

- In the data model, the value of the attribute `carrier` is a boat ID that currently holds this item. If no boat holds the load, the value of `carrier` should be null. If the array contains a boat ID, the boat ID be converted to a JSON object representing a boat with the attributes `id`, `name`, and `self` containing the boat's ID, name, and URL endpoint pointing to the boat. This JSON object should not be in the data model and should be generated on the fly.

Success – No Carrier

```
Status: 200 OK

{
  "id": 123,
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "10/18/21",
  "carrier": null,
```

```
  "self": "https://appspot.com/loads/123"
}
```

Success – Has a Carrier

```
Status: 200 OK

{
  "id": 123,
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "10/18/21",
  "carrier": 123,
  "self": "https://appspot.com/loads/123"
}
```

Failure

```
Status: 404 Not Found


{
"Error": "No load with this load_id exists"
}
```

Failure – Attempted disallowed CRUD method to /boats/:boat_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

View all Loads

List all the loads.

GET /loads (If no query, defaults to below with offset of zero) GET /loads?limit=3&offset=n

Request

Path Parameters

None

Query Parameters

Name	Description
limit	The upper limit of how many loads will be returned at a time, which is 3
offset	The amount of loads to skip (defaults to zero)

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	405 Method Not Allowed	If client sends a anything other than a POST or GET request to /loads URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the load list must not be created and status code 406 must be returned. Sends as 'text/plain'

Response Examples

- This endpoint has pagination implemented and should only return a response with at most three loads. If there are more loads to get, the response will contain a next parameter with a URL that can be used to get the next page of loads. If there are no more loads, next is omitted.

Success – More loads can be displayed

```
Status: 200 OK

{
  "loads": [
    {
      "id": 123,
      "volume": 5,
      "item": "LEGO Blocks",
      "creation_date": "10/18/21",
      "carrier": 123,
      "self": "https://appspot.com/loads/123"
    },
    {
      "id": 456,
      "volume": 2,
      "item": "Plastic Dinosaurs",
      "creation_date": "10/19/21",
      "carrier": 123,
      "self": "https://appspot.com/loads/456"
    },
    {
      "id": 909,
      "volume": 9,
      "item": "Skittles",
      "creation_date": "10/20/21",
      "carrier": 123,
      "self": "https://appspot.com/loads/909"
    }
  ],
  "next": https://appspot.com/loads?limit=5&offset=5
}
```

Success – No more loads

```
Status: 200 OK
{
  "loads": [
    {
      "id": 123,
      "volume": 5,
      "item": "LEGO Blocks",
      "creation_date": "10/18/21",
      "carrier": null,
      "self": "https://appspot.com/loads/123"
    }
  ]
}
```

Failure – Attempted disallowed CRUD method to /boats URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Partially Edit a Load

Allows user to partially edit a load.

```
PATCH /loads/:load_id
```

Request

Path Parameters

Name	Description
load_id	ID of the load

Request Body

Required

Request Body Format

JSON – Required

Request JSON Attributes

Name	Description	Required?
volume	The volume of the load.	No
item	The item in the load.	No
creation_date	The date the load was created.	No

Request Body Example

```
{
  "volume": 6,
  "creation_date": "10/19/21"
}
```

Response

Response Body Format

JSON – Required (sent as 'text/plain' if 406 occurs)

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If all of the three attributes are missing, the load must not be created and status code 400 must be returned.
Failure	404 Not Found	No load with this load_id exists
Failure	405 Method Not Allowed	If client sends a POST to /loads/:load_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the load must not be updated and status code 406 must be returned. Sends as 'text/plain'
Failure	415 Unsupported Media Type	If the client sends an unsupported MIME type, the load must not be updated and status code 415 must be returned

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "volume": 6,
  "item": "LEGO Blocks",
  "creation_date": "10/19/21",
  "carrier": 123,
  "self": "https://appspot.com/loads/123"
}
```

Failure – Missing attributes

```
Status: 400 Bad Request

{
"Error": "The request object is empty. Must update at least one attribute"
}
```

Failure – Load not found

```
Status: 404 Not Found

{
"Error": "No load with this load_id exists"
}
```

Failure – Attempted disallowed CRUD method to /boats/:boat_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Failure – Sent unsupported MIME type to endpoint

```
Status: 415 Unsupported Media Type

{
"Error": "Client sent content in an unsupported MIME type"
}
```

Completely Edit a Load

Allows user to completely edit a load.

PUT /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of the load

Request Body

Required

Request Body Format

JSON - Required

Request JSON Attributes

Name	Description	Required?
volume	The volume of the load.	Yes
item	The item in the load.	Yes
creation_date	The date the load was created.	Yes

Request Body Example

```
{
  "volume": 6,
  "item": "LEGO Blocks",
  "creation_date": "10/19/21",
}
```

Response

Response Body Format

JSON – Required (sent as 'text/plain' if 406 occurs)

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If any of the three required attributes are missing, the load must not be created and status code 400 must be returned.
Failure	404 Not Found	No boat with this boat_id exists
Failure	405 Method Not Allowed	If client sends a POST to /loads/:load_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the load must not be updated and status code 406 must be returned. Sends as 'text/plain'
Failure	415 Unsupported	If the client sends an unsupported MIME type, the load

	Media Type	must not be updated and status code 415 must be returned

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "volume": 6,
  "item": "LEGO Blocks",
  "creation_date": "10/19/21",
  "carrier": 123,
  "self": "https://appspot.com/loads/123"
}
```

Failure – Missing attributes

```
Status: 400 Bad Request

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

Failure – Load not found

```
Status: 404 Not Found

{
"Error": "No load with this load_id exists"
}
```

Failure – Attempted disallowed CRUD method to /loads/:load_id URL

```
Status: 405 Method Not Allowed
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Failure – Sent unsupported MIME type to endpoint

```
Status: 415 Unsupported Media Type

{
"Error": "Client sent content in an unsupported MIME type"
}
```

Delete a Load

Allows user to delete a load. If the load being deleted is in a boat, the boat has now unloaded that load.

DELETE /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of the load

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
Failure	405 Method Not Allowed	If client sends a POST to /boats/:boat_id URL, request must be ignored and status code 405 must be returned.
Failure	406 Not Acceptable	If the request's Accept header is set to an unsupported MIME type, the boat must not be updated and status code 406 must be returned. Sends as 'text/plain'

Response Examples

- If load being deleted is in a boat, the load ID should be removed from the boat's loads.

Success

Status: 204 No Content

Failure

Status: 404 Not Found
 	
{
"Error": "No load with this load_id exists"
}

Failure – Attempted disallowed CRUD method to /loads/:load_id URL

Status: 405 Method Not Allowed

```
{
"Error": "Method not allowed"
}
```

Failure – Accept header set to unsupported MIME type

```
Status: 406 Not Acceptable(note: 'text/plain')

'{"Error": "Client Accept header not set to application/json"}'
```

Add Load to a Boat

Put a load into a boat. (Note: Adds load_id to boat's loads[] and updates load's carrier to boat_id)

PUT /boats/:boat_id/loads/:load_id

Request

Path Parameters

Name	Description
boat_id	ID of the boat
load_id	ID of the load

Request Body

None

Note: Set Content-Length to 0 in your request when calling out to this endpoint.

Response

No body

Response Body Format

Success: No body

Failure: 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, the load is not already in another boat, and the user owns the boat
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat must not be displayed and status code 401 must be returned.
Failure	403 Forbidden	If the user's JWT was valid but the boat is owned by someone else or the load is already in another boat, the boat and load must not be updated and status code 403 must be returned.
Failure	404 Not Found	The specified boat and/or load does not exist

Failure	405 Method Not Allowed	If client sends a request other than PUT or DELETE, request must be ignored and status code 405 must be returned.

Response Examples

Success

Status: 204 No Content

Failure – Load in other boat

Status: 403 Forbidden
 	
{
"Error": "The load is already loaded on another boat"
}

Failure – Boat is owned by another user already

Status: 403 Forbidden
 	
{
"Error": "Cannot add load to a different user's boat"
}

Failure – Boat or load does not exist

Status: 404 Not Found
 	
{
"Error": "The specified boat and/or load does not exist"
}

Failure – Attempted disallowed CRUD method

Status: 405 Method Not Allowed
 	
{
"Error": "Method not allowed"
}

Delete a Load from a Boat

Remove a load from a boat. (Note: Removes load_id from boat's loads and updates load's carrier to null).

DELETE /boats/:boat_id/loads/:load_id

Request

Path Parameters

Name	Description
boat_id	ID of the boat
load_id	ID of the load

Request Body

None

Response

No body

Response Body Format

Success: No body

Failure: JSON

esponse 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, the load is on this boat, and the user owns the boat
Failure	401 Unauthorized	If the user's JWT fails in validation, the boat and load must not be updated and status code 401 must be returned.
Failure	403 Forbidden	If the user's JWT was valid but the boat is owned by someone else or the load is in a different boat, the boat and load must not be updated and status code 403 must be returned.
Failure	404 Not Found	The specified boat and/or load does not exist
Failure	405 Method Not Allowed	If client sends a request other than PUT or DELETE, request must be ignored and status code 405 must be returned.

Response Examples

Success

```
Status: 204 No Content
```

Failure – Load in other boat

```
Status: 403 Forbidden

{
"Error": "The load is already loaded on another boat"
}
```

Failure – Boat is owned by another user already

```
Status: 403 Forbidden

{
"Error": "Cannot remove load from a different user boat"
}
```

Failure – Boat or load does not exist

```
Status: 404 Not Found


{
"Error": "The specified boat and/or load does not exist"
}
```

Failure – Attempted disallowed CRUD method

```
Status: 405 Method Not Allowed


{
"Error": "Method not allowed"
}
```