Marina Management API Specification

Application URL: https://marina-management-api.wl.r.appspot.com

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Change log

Version	Change	Date
1.0	Initial version.	Nov 30, 2022

Data Model

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

Users

Property	Data Type	Notes
id	Integer	The id of the user. Generated automatically by Datastore. Do not manually add this property.
first_name	String	The user's first name.
last_name	String	The user's last name.
user_id	Integer	The sub value of the JWT used to authenticate the user.

Boats

Property	Data Type	Notes
id	Integer	The id of the boat. Generated automatically by Datastore. Do not manually add this property.
owner	Integer	The user_id of the user that owns the boat.
name	String	The name of the boat.
type	String	The type of the boat. E.g. Sailboat, Catamaran, etc.
length	Integer	The length of the boat in meters.
loads	Array	The loads carried by the boat. An array of load id values.

Loads

Property	Data Type	Notes
id	Integer	The id of the load. Generated automatically by Datastore. Do not manually add this property.
volume	Integer	The volume of the load in cubic meters.
item	String	The item(s) in the load.
creation_date	String	The date the load was created. Format as mm/dd/yyyy.
carrier	Integer	The id of the boat carrying the load.

Comments

- Requests to protected endpoints must contain an Authorization Header with a Bearer Token. The value of the token should be a JWT that authenticates you. The JWT can be obtained from our app homepage after logging in.

Get All Users

Get all the users. This is an unprotected endpoint: authentication is not necessary.

Note: the endpoint to create users is not exposed. This is done automatically by the app when the user first logs in.

GET /users

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	406 Not Acceptable	The requested media type is not acceptable.

Response Examples

Success

```
Status: 200 OK

[
  {
    "id": 123,
    "first_name": "Bob",
    "last_name": "Smith",
    "user_id": 123
  },
  {
    "id": 456,
    "first_name": "John",
    "last_name": "Doe",
    "user_id": 456
  },
  {
    "id": 789,
    "first_name": "Jane",
    "last_name": "Doe",
    "user_id": 789
  }
]
```

Failure

```
Status: 406 Not Acceptable

{
  "Error":  "The requested media type is not acceptable"
}
```

Create a Boat

Allows users to create a new boat. This is a protected endpoint: the user must be authenticated.

The created boat's `owner` attribute is automatically populated by the app using the user's `user_id`. To add `loads`, use the "Assign Load to boat" endpoint.

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.	Yes
type	The type of the boat. E.g. Sailboat, Catamaran, etc.	Yes
length	The length of the boat in meters.	Yes

Request Body Example

```
{
  "name": "Odyssey",
  "type": "Yatch",
  "length": 24
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	The request attributes do not match the required attributes.
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	415 Unsupported Media Type	The sent media type is unsupported.

Response Examples

- All newly created boats begin with no loads.

Success

```
Status: 201 Created

{
  "id": 123,
  "owner": 123,
  "name": "Odyssey",
  "type": "Yatch",
  "length": 24,
  "loads": [],
  "self": "https://marina-management-api.wl.r.appspot.com/boats/123"
}
```

Failure

```
Status: 400 Bad Request

{
   "Error":  "The request attributes do not match the required attributes"
}
```

Failure

```
Status: 401 Unauthorized

{
   "Error":  "Authentication failed. The token is missing, expired, or invalid"
}
```

Failure

```
Status: 415 Unsupported Media Type

{
   "Error":  "The sent media type is unsupported"
}
```

Get a Boat

Allows users to get an existing boat. This is a protected endpoint: the user must be authenticated.

GET /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	403 Forbidden	The boat is owned by someone else.
Failure	404 Not Found	No boat with this boat_id exists.
Failure	406 Not Acceptable	The requested media type is not acceptable.

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "owner": 123,
  "name": "Odyssey",
  "type": "Yatch",
  "length": 24,
  "loads": [],
  "self": "https://marina-management-api.wl.r.appspot.com/boats/123"
}
```

Failure

```
Status: 401 Unauthorized

{
  "Error":  "Authentication failed. The token is missing, expired, or invalid"
}
```

Failure

```
Status: 403 Forbidden

{
  "Error":  "The boat is owned by someone else"
}
```

Failure

```
Status: 404 Not Found

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

Failure

```
Status: 406 Not Acceptable

{
  "Error":  "The requested media type is not acceptable"
}
```

Get All Boats

Allows users to get all their owned boats. This is a protected endpoint: the user must be authenticated.

GET /boats

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	406 Not Acceptable	The requested media type is not acceptable.

Response Examples

- Results implement pagination and return 5 boats per page.
- `next` provides a link to get the next page of results, unless there are no more pages left.
- `total` indicates the total number of boats in the collection.

Success

```
Status: 200 OK

{
  "boats":
  [
    {
      "id": 123,
      "owner": 123,
      "name": "Odyssey",
      "type": "Yatch",
      "length": 24,
      "loads": [],
      "self": "https://marina-management-api.wl.r.appspot.com/boats/123"
    },

    ...

    {
      "id": 456,
      "owner": 456,
      "name": "Adventure",
      "type": "Sailboat",
      "length": 10,
      "loads": [],
      "self": "https://marina-management-api.wl.r.appspot.com/boats/456"
    }
  ],
  "next": " https://marina-management-api.wl.r.appspot.com /boats?cursor=123",
  "total": 10
}
```

Failure

```
Status: 401 Unauthorized

{
  "Error":  "Authentication failed. The token is missing, expired, or invalid"
}
```

Failure

```
Status: 406 Not Acceptable

{
  "Error":  "The requested media type is not acceptable"
}
```

Edit a Boat (PUT)

Allows users to edit a boat. This is a protected endpoint: the user must be authenticated.

This performs a complete update and requires all updateable attributes. Only the `name`, `type`, and `length` attributes can be updated using this endpoint. To update `loads`, use the appropriate "Assign Load to boat" or "Remove Load from Boat" endpoints.

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

Request

Path Parameters

Name	Description
boat_id	ID of the boat

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	The length of the boat in meters.	Yes

Request Body Example

```
{
  "name": "Odyssey II",
  "type": "Yatch",
  "length": 24,
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	The request attributes do not match the required attributes.
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	403 Forbidden	The boat is owned by someone else.
Failure	404 Not Found	No boat with this boat_id exists.
Failure	415 Unsupported Media Type	The sent media type is unsupported.

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "owner": 123,
  "name": "Odyssey II",
  "type": "Yatch",
  "length": 24,
  "loads": [],
  "self": "https://marina-management-api.wl.r.appspot.com/boats/123"
}
```

Failure

```
Status: 400 Bad Request

{
  "Error":  "The request attributes do not match the required attributes"
}
```

Failure

```
Status: 401 Unauthorized

{
  "Error":  "Authentication failed. The token is missing, expired, or invalid"
}
```

Failure

```
Status: 403 Forbidden

{
  "Error":  "The boat is owned by someone else"
}
```

Failure

```
Status: 404 Not Found

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

Failure

```
Status: 415 Unsupported Media Type

{
  "Error":  "The sent media type is unsupported"
}
```

Edit a Boat (PATCH)

Allows users to edit a boat. This is a protected endpoint: the user must be authenticated.

This performs a partial update based on the provided attributes. At least one of the attributes must be provided. Only the `name`, `type`, and `length` attributes can be updated using this endpoint. To update `loads`, use the appropriate "Assign Load to boat" or "Remove Load from Boat" endpoints.

PATCH /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of the boat

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	The length of the boat in meters.	No*

*At least one attribute must be provided.

Request Body Example

```
{
   "name": " Odyssey III"
}
```

Response

Response Body Format
JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	The request attributes do not match the required attributes.
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	403 Forbidden	The boat is owned by someone else.
Failure	404 Not Found	No boat with this boat_id exists.
Failure	415 Unsupported Media Type	The sent media type is unsupported.

Response Examples

Success

Status: 200 OK

```
{
  "id": 123,
  "owner": 123,
  "name": "Odyssey III",
  "type": "Yatch",
  "length": 24,
  "loads":[],
  "self": "https://marina-management-api.wl.r.appspot.com/boats/123"
}
```

Failure

Status: 400 Bad Request

```
{
  "Error":  "The request attributes do not match the required attributes"
}
```

Failure

Status: 401 Unauthorized

```
{
  "Error":  "Authentication failed. The token is missing, expired, or invalid"
}
```

Failure

Status: 403 Forbidden

```
{
  "Error":  "The boat is owned by someone else"
}
```

Failure

Status: 404 Not Found

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

Failure

Status: 415 Unsupported Media Type

```
{
  "Error":  "The sent media type is unsupported"
}
```

Delete a Boat

Allows users to delete a boat. This is a protected endpoint: the user must be authenticated.

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	Authentication failed. The token is missing, expired, or invalid.
Failure	403 Forbidden	The boat is owned by someone else.
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

```
Status: 204 No Content
```

Failure

```
Status: 401 Unauthorized


{
  "Error":  "Authentication failed. The token is missing, expired, or invalid"
}
```

Failure

```
Status: 403 Forbidden


{
  "Error":  "The boat is owned by someone else"
}
```

Failure

```
Status: 404 Not Found


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

Create a Load

Allows users to create a new load. This is an unprotected endpoint: authentication is not necessary.

To add a `carrier`, use the "Assign Load to boat" endpoint.

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 in cubic meters.	Yes
item	The item(s) in the load.	Yes
creation_date	The date the load was created.	Yes

Request Body Example

```
{
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "11/30/2022"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	The request attributes do not match the required attributes.
Failure	415 Unsupported Media Type	The sent media type is unsupported.

Response Examples

- All newly created loads begin unassigned to any boat.

Success

```
Status: 201 Created

{
  "id": 123,
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "11/30/2022",
  "carrier": null,
  "self": "https://marina-management-api.wl.r.appspot.com/loads/123"
}
```

Failure

```
Status: 400 Bad Request

{
  "Error":  "The request attributes do not match the required attributes"
}
```

Failure

```
Status: 415 Unsupported Media Type

{
  "Error":  "The sent media type is unsupported"
}
```

Get a Load

Allows users to get an existing load. This is an unprotected endpoint: authentication is not necessary.

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	406 Not Acceptable	The requested media type is not acceptable.

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "volume": 5,
  "item": "LEGO Blocks",
  "creation_date": "11/30/2022",
  "carrier": null,
  "self": "https://marina-management-api.wl.r.appspot.com/loads/123"
}
```

Failure

```
Status: 404 Not Found

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

Failure

```
Status: 406 Not Acceptable

{
  "Error":  "The requested media type is not acceptable"
}
```

Get All Loads

Allows users to get all existing loads. This is an unprotected endpoint: authentication is not necessary.

GET /loads

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	406 Not Acceptable	The requested media type is not acceptable.

Response Examples

- Results implement pagination and return 5 loads per page.
- `next` provides a link to get the next page of results, unless there are no more pages left.
- `total` indicates the total number of loads in the collection.

Success

```
Status: 200 OK

{
  "loads":
  [
    {
      "id": 123,
      "volume": 5,
      "item": "LEGO Blocks",
      "creation_date": "11/30/2022",
      "carrier": null,
      "self": "https://marina-management-api.wl.r.appspot.com/loads/123"
    },

    ...

    {
      "id": 456,
      "volume": 10,
      "item": "Bicycles",
      "creation_date": "11/30/2022",
      "carrier": null,
      "self": "https://marina-management-api.wl.r.appspot.com/loads/456"
    }
  ],
  "next": "http://localhost:8080/loads?cursor=123",
  "total": 100
}
```

Failure

```
Status: 406 Not Acceptable

{
  "Error":  "The requested media type is not acceptable"
}
```

Edit a Load (PUT)

Allows users to edit a load. This is an unprotected endpoint: authentication is not necessary.

This performs a complete update and requires all updateable attributes. Only the `volume`, `item`, and `creation_date` attributes can be updated using this endpoint. To update the `carrier`, use the appropriate "Assign Load to boat" or "Remove Load from Boat" endpoints.

PUT /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of the load

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
volume	The volume of the load in cubic meters.	Yes
item	The item(s) in the load.	Yes
creation_date	The date the load was created.	Yes

Request Body Example

```
{
  "volume": 5,
  "item": "Party Balloons",
  "creation_date": "11/30/2022"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	The request attributes do not match the required attributes.
Failure	404 Not Found	No load with this load_id exists.
Failure	415 Unsupported Media Type	The sent media type is unsupported.

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "volume": 5,
  "item": "Party Balloons",
  "creation_date": "11/30/2022",
  "carrier": null,
  "self": "https://marina-management-api.wl.r.appspot.com/loads/123"
}
```

Failure

```
Status: 400 Bad Request

{
  "Error":  "The request attributes do not match the required attributes"
}
```

Failure

```
Status: 404 Not Found

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

Failure

```
Status: 415 Unsupported Media Type

{
  "Error":  "The sent media type is unsupported"
}
```

Edit a Load (PATCH)

Allows users to edit a boat. This is an unprotected endpoint: authentication is not necessary.

This performs a partial update based on the provided attributes. At least one of the attributes must be provided. Only the `volume`, `item`, and `creation_date` attributes can be updated using this endpoint. To update the `carrier`, use the appropriate "Assign Load to boat" or "Remove Load from Boat" endpoints.

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

Request

Path Parameters

Name	Description
load_id	ID of the load

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
volume	The volume of the load in cubic meters.	No*
item	The item(s) in the load.	No*
creation_date	The date the load was created.	No*

*At least one attribute must be provided.

Request Body Example

```
{
    "name": "Party Balloons"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	The request attributes do not match the required attributes.
Failure	404 Not Found	No load with this load_id exists.
Failure	415 Unsupported Media Type	The sent media type is unsupported.

Response Examples

Success

```
Status: 200 OK

{
  "id": 123,
  "volume": 5,
  "item": "Party Balloons",
  "creation_date": "11/30/2022",
  "carrier": null,
  "self": "https://marina-management-api.wl.r.appspot.com/loads/123"
}
```

Failure

```
Status: 400 Bad Request

{
  "Error":  "The request attributes do not match the required attributes"
}
```

Failure

```
Status: 404 Not Found

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

Failure

```
Status: 415 Unsupported Media Type

{
  "Error":  "The sent media type is unsupported"
}
```

Delete a Load

Allows users to delete a load. This is an unprotected endpoint: authentication is not necessary.

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 load with this load_id exists

Response Examples

Success

Status: 204 No Content

Failure

Status: 404 Not Found

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

Assign Load to Boat

Allows users to assign a load to a boat. This is a protected endpoint: the user must be authenticated.

The boat's `loads` property and the load's `carrier` property are updated accordingly.

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 the 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 with this boat_id exists, a load with this load_id exists, and the load is not already loaded on another boat.
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	403 Forbidden	The boat is owned by someone else or the load is already loaded on another boat.
Failure	404 Not Found	The specified boat and/or load does not exist.

Response Examples

Success

Status: 204 No Content

Failure

Status: 401 Unauthorized
```{   "Error": "Authentication failed. The token is missing, expired, or invalid" }```

Failure

Status: 403 Forbidden
```{   "Error": "The boat is owned by someone else or the load is already loaded on another boat" }```

Failure

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

Comments

- A load cannot be assigned to multiple boats simultaneously.
- If a load is already assigned to a boat, it must first be removed from that boat prior to being assigned to another boat.

Remove Load from Boat

Allows users to remove a load from a boat. This is a protected endpoint: the user must be authenticated.

The boat's `loads` property and the load's `carrier` property are updated accordingly.

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

Note: Set Content-Length to 0 in the 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 with this boat_id exists, a load with this load_id exists, and this load is at this boat.
Failure	401 Unauthorized	Authentication failed. The token is missing, expired, or invalid.
Failure	403 Forbidden	The boat is owned by someone else.
Failure	404 Not Found	No load with this load_id is at the boat with this boat_id. This could be because no boat with this boat_id exists, or no load with this load_id exists, or even if both boat_id and load_id are valid, the load with this load_id is not at the boat with this boat_id.

Response Examples

Success

Status: 204 No Content

Failure

Status: 401 Unauthorized

{
  "Error": "Authentication failed. The token is missing, expired, or invalid"
}

Failure

Status: 403 Forbidden

{
  "Error": "The boat is owned by someone else"
}

Failure

Status: 404 Not Found

{
  "Error": "No load with this load_id is at the boat with this boat_id "
}