API Spec Document

Portfolio Rest API

CS493: Cloud App Development

Author: Jacob Russell (russelj2)

May 29, 2022

Gcloud App Link:

https://api-portfolio-project-350723.uc.r.appspot.com

Data Model

Note: all properties below are required.

Boats

Property	Data Type	Notes
Key.id	Integer	Datastore Id of the boat
name	String < 20 chars	Name of boat
type	String < 15 chars	Type of boat
length	Integer	Length of boat (in feet)
Loads	Array	Any load entities assigned to the boat. *Relationship*: Many-to-one (a load can only be assigned to one boat, a boat can have many loads)

Loads

Property	Data Type	Notes
Key.id	Integer	Datastore Id of the load
item	String < 20 chars	Name of load items
Creation date	String < 15 chars	Date created
Volume	Integer	Volume of load (in cubic feet)
Carrier	Null or Object	If load is assigned to a boat entity. *Relationship*: Many-to-one (a load can have up to one carrier/boat. A carrier/boat can have many loads).

Users

Property	Data Type	Notes
Key.id	Integer	Datastore Id of the user
name	String < 20 chars	Name of boat
sub	From JWT	Sub property of the JWT (aka 'Owner ID'). Each user has a unique sub property. *Relationships*: This is the "owner_id" used by boat entities. JWT sub property must match "owner_id" in order to CRUD boat entities.

Create a Boat

Allows you to create a new boat.

Protected, JWT required.

POST /boats

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
name	String < 20 chars	Name of the boat	Yes
type	String < 15 chars	Type of boat	Yes
length	Number	Length of 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	401 Unauthorized	Invalid JWT or wrong owner
Failure	406 Not Acceptable	Request accepts has invalid content-type

Response Examples

Success

Status: 201 Created

```
{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "loads": [ ],
    "self": https://appspot.com/boats/123
}
```

Failure

Status: 401 Forbidden

```
{
"Error": Boat belongs to another user
}
{
"Error": "Invalid JWT. Must have valid authorization to view boats."
}
```

Status: 406 Not Acceptable

```
{
"Error": "Not accepted response content-type. Must be application/json."
}
```

Get all Boats (for a user)

Allows you to get all boats for the current user, based on JWT auth. Includes pagination, with five results at a time.

Protected, JWT required.

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	Invalid JWT token
Failure	406 Not Acceptable	Response can only be JSON. If anything else in request header accepts, request will fail.

Response Examples

Success (JSON)

Status: 200 OK

```
{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "loads": [ ],
    "self": https://appspot.com/boats/123
}
{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
```

```
        "id": 123,
        "owner": auth0|141ji141y81oh,
        "loads": [ ],
        "self": https://appspot.com/boats/123
    }
    {
        "name": "Sea Witch",
        "type": "Catamaran",
        "length": 28
        "id": 123,
        "owner": auth0|141ji141y81oh,
        "loads": [ ],
        "self": https://appspot.com/boats/123
    }
    {
        "name": "Sea Witch",
        "type": "Catamaran",
        "length": 28
        "id": 123,
        "owner": auth0|141ji141y81oh,
        "loads": [ ],
        "self": https://appspot.com/boats/123
    }
    {
        "name": "Sea Witch",
        "type": "Catamaran",
        "length": 28
        "id": 123,
        "owner": auth0|141ji141y81oh,
        "loads": [ ],
        "self": https://appspot.com/boats/123
    }
```
Total results: 12
Next page link

Failure

Status: 401 Unauthorized

```
{

"Error": "Invalid JWT. Must have valid authorization to view boats."
}
```

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json
}
```

Get a Boat

Allows you to get an existing boat.

Protected, JWT required.

GET /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of boat

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	Invalid JWT token for this transaction, OR Boat belongs to different user
Failure	404 Not Found	No boat with this boat_id exists
Failure	406 Not Acceptable	Response can only be JSON. If anything else in request header accepts, request will fail.

Response Examples

Success (JSON)

Status: 200 OK

```
{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "loads": [ ],
    "self": https://appspot.com/boats/123
}
```

Failure

Status: 401 Unauthorized

{
"Error": "Invalid JWT. Must have valid authorization to view boats."
}
{
"Error": "Boat belongs to another user"
}

Status: 404 Not Found

{
"Error": "No boat found for given ID"
}

Status: 406 Not Acceptable

{
"Error": " Can only respond in application/json
}

Edit a Boat

Allows you to edit some attributes of a boat.

Protected, JWT required.

PATCH /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of boat

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
name	String < 20 chars	Name of the boat	Yes
type	String < 15 chars	Type of boat	Yes
length	Number	Length of boat (in feet)	Yes

Note: any other "extra" attributes will be ignored.

Request Body Example

{
    "type": "Catamaran",
    "length": 28
}

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If request tries to update all attributes, rejects. Use PUT instead.

Failure	401 Unauthorized	Bad JWT, or belongs to a different user/owner
Failure	404 Not Found	No boat with this boat_id exists
Failure	406 Not Acceptable	Can only respond in JSON

Response Examples

Success

Status: 200 OK

```
{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "loads": [ ],
    "self": https://appspot.com/boats/123
}
```
Failure

Status: 400 Bad Request

```
{
"Error": "Cannot use PATCH to update all attributes. Use PUT instead. "
}
```

Status: 401 Unauthorized

```
{
"Error": "You cannot edit someone else's boat."
}
{
"Error": "Invalid JWT. Must have valid authorization to view boats."
}
```

Status: 404 Not Found

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

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json or text/html"
}
```

Replace a Boat

Allows you to replace a boat.

Protected, JWT required.

PUT /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of boat

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
name	String < 20 chars	Name of the boat	Yes
type	String < 15 chars	Type of boat	Yes
length	Number	Length of boat (in feet)	Yes

Note: any other "extra" attributes will be ignored.

Request Body Example

{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
}

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	303 Resource Moved	
Failure	400 Bad Request	Must edit all properties, otherwise use Patch
Failure	401 Unauthorized	Bad JWT token, or boat belongs to another user/owner

Failure	404 Not Found	No boat with this boat_id exists
Failure	406 Not Acceptable	Can only respond in JSON

Response Examples

Success

Status: 303 Resource Moved

Response Body

```
{
    "name": "Sea Witch",
    "type": "Catamaran",
    "length": 28
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "loads": [ ],
    "self": https://appspot.com/boats/123
}
```

Failure

Status: 400 Bad Request

```
{
"Error": "Cannot use PATCH to update all attributes. Use PUT instead."
}
```

Status: 401 Unauthorized

```
{
"Error": "You cannot edit someone else's boat."
}
{
"Error": "Invalid JWT. Must have valid authorization to view boats."
}
```

Status: 404 Not Found

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

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json or text/html"
}
```

Delete a Boat

Allows you to delete a boat. Note that if the boat has any loads, those loads will be "unloaded" (carrier = null).

Protected, JWT required.

DELETE /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of 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	Bad JWT or wrong user/owner
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

Status: 204 No Content

Failure

Status: 401 unauthorized

{
"Error": "JWT invalid, delete request denied."
}
{
"Error": "Boat owned by someone else."

}
Status: 404 Not Found

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

INVALID REQUEST METHODS:

DELETE boats/

If any request attempts to DELETE root URL.

Response:

Status: **405 Method Not Allowed**

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	Type	Description	Required?
item	String < 20 chars	Name of the load item	Yes
Creation_date	String < 15 chars	Date created	Yes
Volume	Number	volume of load (in cubic feet)	Yes

Request Body Example

```
{
        "volume": 8,
        "item": Legos,
        "creation_date": 01-01-2001
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	406 Not Acceptable	Request accepts has invalid content-type

Response Examples

Success

Status: 201 Created

```
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
```
Failure

Status: 406 Not Acceptable

```
{
"Error": "Not accepted response content-type. Must be application/json."
}
```

Get all Loads

Allows you to get all loads.

Unprotected, no JWT required.

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	Response can only be JSON. If anything else in request header accepts, request will fail.

Response Examples

Success (JSON)

Status: 200 OK

```
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
```

```
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
{

    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
{

    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
{

    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
```
Total results: 12
Next page link
Failure

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json
}
```

Get a Load

Allows you to get an existing load.

Unprotected, no JWT required.

GET /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of 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	Response can only be JSON. If anything else in request header accepts, request will fail.

Response Examples

Success (JSON)

Status: 200 OK

```
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
```

Failure

Status: 404 Not Found

```
{
"Error": "No load found for given ID"
}
```

Status: 406 Not Acceptable

{
"Error": " Can only respond in application/json
}

Edit a Load

Allows you to edit some attributes of a load.

Unprotected, no JWT required.

PATCH /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of load

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
item	String < 20 chars	Name of the load item	Yes
Creation_date	String < 15 chars	Date created	Yes
Volume	Number	volume of load (in cubic feet)	Yes

Request Body Example

```
{
    "volume": 8,
    "item": Legos,
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If request tries to update all attributes, rejects. Use PUT instead.
Failure	404 Not Found	No load with this load_id exists
Failure	406 Not Acceptable	Can only respond in JSON

Response Examples

Success

Status: 200 OK

```
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
```
Failure

Status: 400 Bad Request

```
{
"Error": "Cannot use PATCH to update all attributes. Use PUT instead. "
}
```

Status: 404 Not Found

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

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json or text/html"
}
```

Replace a Load

Allows you to replace a load.

Unprotected, no JWT required.

PUT /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of load

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
item	String < 20 chars	Name of the load item	Yes
Creation_date	String < 15 chars	Date created	Yes
Volume	Number	volume of load (in cubic feet)	Yes

Request Body Example

```
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	303 Resource Moved	
Failure	400 Bad Request	Must edit all properties, otherwise use Patch
Failure	404 Not Found	No load with this load_id exists
Failure	406 Not Acceptable	Can only respond in JSON

Response Examples

Status: 303 Resource Moved

Response Body

```
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
}
```
Failure

Status: 400 Bad Request

```
{
"Error": "Cannot use PATCH to update all attributes. Use PUT instead."
}
```

Status: 404 Not Found

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

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json or text/html"
}
```

Delete a Load

Allows you to delete a load. Note that if load has a "carrier" (boat), the load will be removed from that boat, if it is the correct owner of the boat.

Unprotected, no JWT required.

DELETE /loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of 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"
}

INVALID REQUEST METHODS:

DELETE loads/

If any request attempts to DELETE root URL.

Response:

Status: **405 Method Not Allowed**

Get all Loads for a Boat

Allows you to get all loads for a given boat.

Protected, JWT required.

GET /boats/:boat_id/loads/

Request

Path Parameters

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	Invalid JWT token or boat belongs to another user
Failure	404 Not Found	Boat doesn't exist
Failure	406 Not Acceptable	Response can only be JSON. If anything else in request header accepts, request will fail.

Response Examples

Success (JSON)

Status: 200 OK

```
Loads: [
{
    "volume": 8,
    "item": Legos,
    "creation_date": 01-01-2001
    "id": 123,
    "owner": auth0|141ji141y81oh,
    "carrier": null,
    "self": https://appspot.com/loads/123
},
{
```

```
        "volume": 8,
        "item": Legos,
        "creation_date": 01-01-2001
        "id": 123,
        "owner": auth0|141ji141y81oh,
        "carrier": null,
        "self": https://appspot.com/loads/123
    },
    {
        "volume": 8,
        "item": Legos,
        "creation_date": 01-01-2001
        "id": 123,
        "owner": auth0|141ji141y81oh,
        "carrier": null,
        "self": https://appspot.com/loads/123
    }
]
```

Failure

Status: 401 Unauthorized

```
{

"Error": "Invalid JWT. Must have valid authorization to view boats."
}
{

"Error": "Boat belongs to another user"
}
```

Status: 404 Not Found

```
{
"Error": "The specified boat does not exist"
}
```

Status: 406 Not Acceptable

```
{
"Error": " Can only respond in application/json
}
```

Assign Load to Boat

Allows you to assigned a load to a boat, assuming you own the boat.

Protected, JWT required.

PUT /boats/:boat_id/loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of load
Boat_id	ID of boat

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

None

Request Body Example

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	303 Resource Moved	
Failure	401 Unauthorized	Bad JWT token, or boat belongs to another user/owner
Failure	403 Forbidden	Load already assigned to another boat
Failure	404 Not Found	No load/boat with this id exists
Failure	406 Not Acceptable	Can only respond in JSON

Response Examples

Success

Status: 204 No Content

Response Body

Status: 401 Unauthorized

{
"Error": "Boat belongs to another user"
}
{
"Error": "JWT invalid, load assignment request denied."}

Status: 404 Not Found

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

Status: 406 Not Acceptable

{
"Error": " Can only respond in application/json or text/html"
}

Remove Load from a Boat

Allows you to remove a load from a boat, if you own the boat.

Protected, JWT required.

DELETE /boats/:boat_id/loads/:load_id

Request

Path Parameters

Name	Description
load_id	ID of load
Boat_id	ID of 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	Bad JWT or wrong user/owner
Failure	404 Not Found	No boat with this boat_id is loaded with the load with this load_id

Response Examples

Success

Status: 204 No Content

Failure

Status: 401 unauthorized

{
"Error": "JWT invalid, delete request denied."

```
}
{
"Error": " Boat owned by someone else."
}
```

Status: 404 Not Found

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

Get all Users

Allows you to get a list of all users.

Unprotected, no JWT required.

GET /users

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	

Response Examples

Success (JSON)

Status: 200 OK

```
{
    "name": "email@gmail.com"
    "sub": Auth0|12498ugjoajih324ri,
}
{
    "name": "email2@gmail.com"
    "sub": Auth0|22498ugjoajih324ri,
}
```