

<https://baucusr-final-v2.uw.r.appspot.com>

Data Model

The three entities stored in this model are **BOATS**, **LOADS** and **USERS**

There is no input validation for type and the only required attributes are those added by the API automatically.

A Boat contains zero or more loads. Each load holds a reference to the Boat that carries it by its ‘carrier’ attribute: The three properties of the Load.carrier attribute are those of the Boat that carries it. There is no constraint on a load having more than one carrier (i.e. a load can exist in multiple places at once), nonsensical as that is. Each Boat entity that is created has an owner property, which is a reference to the User entity property user_id and the ‘sub’ property of the authorization token that is created upon login on the base_url login page.

Boat

Property	Data Type	Notes	REQUIRED ?		
Id	String	Int stored as string, e.g. "6158022959169536"	yes		
Name	String	name of boat	no		
type	String	e.g. dinghy, yacht etc.	no		
length	Javascript Number	int or decimal ok	no		
loads	array	array of JS objects, default = []	no		
owner	String	jwt auth token ‘sub’ attribute,e.g. "auth0 637fb9b432de0084d4edfdc2"	yes		
self	String	canonical resource location , e.g. "http://localhost:8080/boats/6487975399522304"	yes		

** note: id, owner and self are ‘required’ because they are automatically added by the API

Example of a Boat entity:

```
boat: {
  "id": "6594314998120448",
  "owner": "auth0|637fb9b432de0084d4edfdc2",
  "name": "The Glorious MooCat!",
  "loads": [
    {
      "carrier": {
        "self": "http://localhost:8080/boats/6594314998120448",
        "id": "6594314998120448",
        "name": "The Glorious MooCat!"
      },
      "id": "4967948858949632",
      "self": "http://localhost:8080/loads/4967948858949632",
      "volume": 3.1415,
      "item": "whoopee cushions",
      "weight": 419.99999
    }
  ],
  "self": "http://localhost:8080/boats/6594314998120448",
  "length": 4.2,
  "type": "Mighty Snizzle Craft"
}
```

Loads

Property	Data Type	notes	required ?
id	String	Int stored as string, e.g. "6158022959169536"	yes
item	String	what the load is	no
weight	Javascript Number	int or double	no
volume	Javascript Number	int or double	no
carrier	Javascript Object	{"carrier": { "self": String, "id": String, "name":String}}, default= null	no
self	String		yes

**required attributes only in the sense that they are added automatically.

load.carrier example:

```
{
  "carrier": {
    "self": "http://localhost:8080/boats/6594314998120448",
    "id": "6594314998120448",
    "name": "The Glorious MooCat!"
  },
  "id": "6158022959169536"
}
```

load example:

```
load: {
  "id": "5892296084029440",
  "item": "whoopee cushions2",
  "carrier": {
    "id": "6594314998120448",
    "name": "Charu Canoe",
    "self": "http://localhost:8080/boats/6594314998120448"
  },
  "weight": 419.99999,
  "volume": 3.1415,
  "self": "http://localhost:8080/loads/5892296084029440"
}
```

User

property	data type	notes	required?
username	String	for auth0 login	yes
createdAt	String	timestamp added at user creation	yes
user_id	String	same as Boat.owner property	yes

example of a User:

```
{
  "username": "coney@coney.com",
  "createdAt": "2022-11-24T18:37:09.889Z",
  "user_id": "auth0|637fb9b432de0084d4edfdc2"
}
```

Notes on the User data model:

The unique identifier for User is “user_id”, which references the Boat entity’s “owner” property. For authentication and authorization to use the API a user needs to supply a username (stored in datastore by the API as “username”) and a password, which is kept on auth0. Resources that require authorization are validated by comparing the “sub” claim listed on the JavaScript Web Token used in the Authorization Header as a bearer token and are compared to the “owner” attribute of the Boat that is being queried. If they don’t match the API returns a 403 Not Authorized status.

endpoints base url=https://baucusr-final-v2.uw.r.appspot.com

**** all endpoints are given as relative to the base url ****

endpoint	protected ?	status codes	sample request	sample response
GET “/”	no	200	set browser to url	see below

example response: (not logged in)

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JWT protected datastore API



Biscuit sez:

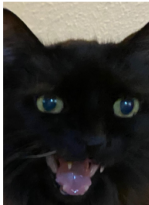
You are not AUTHENTICATED ! Sign in and then POST to /login for a JWT (OPIDC) **Login!**

**JWT OAuth2 Token for the AUTHORIZED user:
POST for a JWT @ '/' and be sure to refresh to see it!**

NO JWT YET. MAKE A POST TO '/' WITH USERNAME AND PASSWORD

sample response (logged in)

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JWT protected datastore API



Waffle sez:

You are logged in to OpenID!
Make a post request to '/' with username and password for JWT token!

If you want to logout, click here --> **Logout!**

The 'unique ID' data for the user "coney@coney.com" who is logged in:

auth0|637fb9b432de084d4edfdc2

**JWT OAuth2 Token for the AUTHORIZED user:
POST for a JWT @ '/' and be sure to refresh to see it!**

```
{
  "access_token": "eyJhbGciOiJIUzUuIiwiaXNjaW50eS0yA-SB8axKDzQhB5j2FZILyBGoojWdSLKSo01Yfrfjw9_Xr_cQZs9G9Y-KyU8nQKJmhIfoFCAXN",
  "token_type": "bearer",
  "expires_in": 3600,
  "refresh_token": "eyJhbGciOiJIUzUuIiwiaXNjaW50eS0yA-SB8axKDzQhB5j2FZILyBGoojWdSLKSo01Yfrfjw9_Xr_cQZs9G9Y-KyU8nQKJmhIfoFCAXN",
  "refresh_token_expires_in": 3600,
  "scope": "openid profile email"
}
```

endpoint	protected	status codes	sample request	sample response
GET /users	no	200	GET https://baucusr-final-v2.uw.r.appspot.com/users	see below

Path parameters : None

Request Body : None

Response Body Format : JSON

Required Headers : None

Response example:

Status 200 OK

```
[
  {
    "createdAt": "2022-12-03T21:43:38.522Z",
    "user_id": "auth0|638bc2f6641d93c228a54e06",
    "username": "coney@coney.com"
  },
  {
    "user_id": "auth0|638bc36abc99c67d71520973",
    "username": "flib@flib.com",
    "createdAt": "2022-12-03T21:45:19.201Z"
  }
],
{
  "moreResults": "NO_MORE_RESULTS",
  "endCursor": "CkcKFgoJY3JlYXRlZEF0EgkI6JXe9rXe+wISKWoUenV3fmJhdWN1c3ItZm1uYWwtdjJyEQsSBFVzZXIYgICAmNTu3gsMGAAGAA=="
}
```

Delete a Boat

endpoint	protected ?	status codes	sample request
DELETE /boats/:boat_id	yes	204, 401, 403, 404, 406	https://baucusr-final-v2.uw.r.appspot.com/boats/5732110983757824

Path parameters : boat_id, the boat you want to delete

Request Body : None

Response Body Format : JSON

Required Headers : None

Response examples:

Status 204 No Content

[no content in response]

status 403 : Forbidden

```
{
  "error": "DELETE ERROR: can't delete someone else's boat!"
}
```

status 401: unauthorized

```
{
  "error": "DELETE /boats/:boat_id, invalid jwt"
}
```

status 404: Not Found

```
{
  "error": "DELETE ERROR: boat_id 39485739875938457394857937 doesn't exist"
}
```

Modify Boat

endpoint	protected ?	status codes	
PATCH /boats/:boat_id	yes	401, 403, 406, 415	

Path parameters : boat_id, the boat you want to modify

Request Body : { "name" : string, "type": string, "length": int/double }

note: all three body parameters are optional

Response Body Format : JSON

Required Headers : Accept = "application/json", Content-Type=application/json

Sample Request : PATCH https://baucusr-final-v2.uw.r.appspot.com/boats/4845116049063936

Response examples :

status 201: created

```
{
  "length": 4.2,
  "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/5427638336225280",
  "name": "Charu's Super Snizzler",
  "id": "5427638336225280",
  "type": "Shrimp Boat",
  "owner": "auth0|638bc2f6641d93c228a54e06",
  "loads": []
}
```

status 401: unauthorized

```
{ "error": "PATCH /boats/:boat_id, invalid/missing auth token" }
```

status 403: forbidden

```
{ "error": "PATCH /boats/:boat_id : can't modify someone else's boat!" }
```

status 404: not found

```
{
  "error": "PATCH /boats/:boat_id : boat_id= 304958304958304958 doesn't exist"
}
```

status 406: unacceptable

```
{
  "error": "NOT ACCEPTABLE: Server only sends application/json data."
}
```

status 415: unsupported media type

```
{
  "error": "Server only accepts application/json data."
}
```


Modify Boat

endpoint	protected ?	status codes
PUT “/boats/:boat_id	yes	204, 401, 403, 404, 406

Path parameters : boat_id, the boat you want to modify

Request Body : { “name” : string, “type”: string, “length”: int/double}

note: all three body parameters are optional

Response Body Format : N/A

Required Headers : Accept = “application/json”

Sample Request : PUT <https://baucusr-final-v2.uw.r.appspot.com/boats/4845116049063936>

Sample Responses:

status 201: created

```
{
  "id": "5427638336225280",
  "name": "Franku's Frigate",
  "type": "Frankie's Fluids Hauling Barge",
  "owner": "auth0|637ea33437595e4c99569178",
  "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/5427638336225280",
  "loads": [],
  "length": 42
}
```

status 401: Not Authorized

```
{
  "error": "PUT /boats/:boat_id , invalid or missing auth token"
}
```

status 403: forbidden

```
{
  "error": "PUT /boats/:boat_id : can't modify someone else's boat!"
}
```

status 406 : Unacceptable

{'error': 'NOT ACCEPTABLE: Server only sends application/json data.'}

Assign Load to Boat

endpoint	protected?	status codes
PUT /boats/:boat_id/loads/:load_id	yes	204, , 400, 401, 403, 406

Path parameters : boat_id, the boat to put load on; load_id, the load to put onto boat

Request Body : None

Response Body Format : N/A

Required Headers : Accept = “application/json”

Sample Request :

PUT https://baucusr-final-v2.uw.r.appspot.com/boats/4845116049063936/loads/6738493847694837

Sample Responses:

status 204: No Content

[no content]

status 400: Bad Request (trying to place a load that already has a carrier)

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

status 401: Unauthorized

{"error": "No Authorization credentials provided"}

status 403: Forbidden

{'error':`PUT ERROR: can't PUT a load on someone else's boat!`}

Remove Load from Boat - DOES NOT DELETE THE LOAD (just removes it from boat)

endpoint	protected ?	status codes
DELETE '/boats/:boat_id/loads/:load_id	yes	204, 401, 403, 404

Path parameters :
boat_id, the boat to put load on; load_id, the load to put onto boat

Request Body : None

Response Body Format : N/A

Required Headers : None

Sample Request :
DELETE https://baucusr-final-v2.uw.r.appspot.com/boats/4845116049063936/loads/6738493847694837

Sample Responses:

status 204: No Content
[no content]

status 401: Unauthorized
{"error": "DELETE /boats/:boat_id/loads/:load_id invalid/missing auth token"}

status 403: Forbidden
{'error':`DELETE ERROR: can't remove a load on someone else's boat!`}

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

Display boats (for authorized user)

endpoint	protected ?	status codes
GET /boats	yes	200, 401, 406

Path parameters : None

Request Body : None

Response Body Format : JSON

Required Headers : Accept = “application/json”

Sample Request :

GET https://baucusr-final-v2.uw.r.appspot.com/boats/

Sample Responses:

****NOTE: “total_boat_count” refers to all boats from all users in collection, not just authorized user ****

status 200: OK

```
{
  "total_boat_count": 17,
  "boats": [
    {
      "name": "The Scurvy Dawg",
      "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/4648216125505536",
      "id": "4648216125505536",
      "owner": "auth0|638bc2f6641d93c228a54e06",
      "length": 4.2,
      "type": "Pirate Ship",
      "loads": []
    },
    {
      "id": "4716504293572608",
      "type": "Galaxy Clas Destroyer",
      "loads": [],
      "length": 4.2,
      "name": "HMS Pinnafore",
      "owner": "auth0|638bc2f6641d93c228a54e06",
      "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/4716504293572608"
    },
    {
      "owner": "auth0|638bc2f6641d93c228a54e06",
      "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/4723950894448640",
      "length": 4.2,
      "type": "Race Boat",
      "id": "4723950894448640",
      "name": "The Golden Seal",
      "loads": []
    },
    {
      "type": "container vessle",
      "owner": "auth0|638bc2f6641d93c228a54e06",
      "id": "4906279973683200",
      "loads": [],
      "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/4906279973683200",
      "name": "jug boat",
      "length": 4.2
    }
  ],
}
```

```
{
  "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/5212796354560000",
  "owner": "auth0|638bc2f6641d93c228a54e06",
  "length": 555,
  "id": "5212796354560000",
  "type": "Fishing Boat",
  "loads": [],
  "name": "The Idle Time"
}
],
"next": "http://baucusr-final-
v2.uw.r.appspot.com/boats?cursor=Ci8SKWoUenV3fmJhdWNlc3ItZmluYWwtdjJyEQsSBEJvYXQYgICA2KugoQkMGAAGAA=="
}
```

status 401: Unauthorized

```
{"error": "GET /boats route messed up, invalid JWT"}
```

status 403: Forbidden

```
{ 'Error': 'Unauthorized: you may not view boats of another owner'}
```

status 406: Unacceptable

```
{'error': 'NOT ACCEPTABLE: Server only sends application/json data.'}
```

Display boat by id

endpoint	protected ?	status codes
GET /boats/:boat_id	yes	200, 401, 403, 406

Path parameters : boat_id, the boat you want to view

Request Body : None

Response Body Format : JSON

Required Headers : Accept = "application/json"

Sample Request :

GET https://baucusr-final-v2.uw.r.appspot.com/boats/2098502947684837

Sample Responses:

status 200: ok

```
{
  "length": 4.2,
  "id": "5220156183674880",
  "owner": "auth0|638bc2f6641d93c228a54e06",
  "loads": [
    {
      "item": "clarinet reeds",
      "id": "6064581113806848",
      "volume": 3.1415,
      "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/6064581113806848",
      "weight": 419.99999,
      "carrier": {
        "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/5220156183674880",
        "name": "Charu Canoe",
        "id": "5220156183674880"
      }
    }
  ],
  "type": "Mighty Snizzle Craft",
  "name": "Charu Canoe",
  "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/5220156183674880"
}
```

status code 401:

{"error": "GET /boats route messed up, invalid JWT"}

status code 403:

{ 'Error': 'Unauthorized: you may not view boats of another owner'}

status code 406:

{'error': 'NOT ACCEPTABLE: Server only sends application/json data.'}

Create Boat

endpoint	protected ?	status codes
POST '/boats'	yes	201, 401, 406, 415

Path parameters : N/A

Request Body : {"name": String, "type": String, "length": int/double}

Note: **all 3 body params are optional**

Response Body Format : JSON

Required Headers : Accept = "application/json", Content-Type="application/json"

Sample Request :

POST https://baucusr-final-v2.uw.r.appspot.com/boats/2098502947684837

Sample Responses:

status 201: created

```
{
  "id": "6592639625330688",
  "name": "Bubba Gump",
  "type": "Shrimp Boat",
  "length": 4.2,
  "loads": [],
  "owner": "auth0|638bc2f6641d93c228a54e06",
  "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/6592639625330688"
}
```

status 401: Unauthorized

{"error": "POST /boats, JWT invalid"}

Status 406: Unacceptable

{'error': 'NOT ACCEPTABLE: Server only sends application/json data.'}

Status 415: Unsupported Media Type

{'error': 'Server only accepts application/json data.'}

Delete all boats

endpoint	protected ?	status codes
DELETE '/boats'	no	405 Method not allowed

Path parameters : N/A

Request Body : N/A

Response Body Format : JSON

Required Headers : None

Sample Request :

DELETE https://baucusr-final-v2.uw.r.appspot.com/boats

Sample Responses:

status 405:

```
{ "DELETE /boats ?": "HOW DARE YOU ! TAKE A 405 AND THINK ABOUT WHAT YOU'VE DONE!" }
```


Delete a load (which triggers a deletion of associated loads)

endpoint	protected ?	status codes
DELETE '/loads/:load_id'	no	204, 404

Path parameters : load_id --> id of load to be deleted

Request Body : N/A

Response Body Format : JSON (for 404 error)

Required Headers : None

Sample Request :

DELETE https://baucusr-final-v2.uw.r.appspot.com/loads/5837495836475638

Sample Responses:

status 204 : no content

[None]

status 404: not found

{'error' : `DELETE ERROR: load_id \${req.params.load_id} doesn't exist`}

display all loads (5 at a time, with 'next' cursor)

endpoint	protected	status codes
GET /loads	no	200, 406

Path parameters : None

Request Body : N/A

Response Body Format : JSON

Required Headers : Accept = 'application/json'

Sample Request :

GET https://baucusr-final-v2.uw.r.appspot.com/loads

Sample Responses:

status 200 : OK

```
{
  "total_load_count": 14,
  "loads": [
    {
      "volume": 3.1415,
      "id": "4657206230253568",
      "weight": 419.99999,
      "carrier": null,
      "item": "deep fried sardines",
      "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4657206230253568"
    },
    {
      "id": "4897289868935168",
      "item": "onions",
      "volume": 3.1415,
      "weight": 419.99999,
      "carrier": null,
      "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4897289868935168"
    },
    {
      "carrier": null,
      "weight": 419.99999,
      "item": "onions",
      "volume": 3.1415,
      "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4903789765066752",
      "id": "4903789765066752"
    },
    {
      "carrier": null,
      "weight": 419.99999,
      "volume": 3.1415,
      "item": "whoopee cushions",
      "id": "4938681206964224",
      "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4938681206964224"
    },
    {
      "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/5185264741777408",
      "item": "whoopee cushions",
      "id": "5185264741777408",
      "carrier": null,
      "weight": 419.99999,
      "volume": 3.1415
    }
  ],
  "next": "http://baucusr-final-v2.uw.r.appspot.com/loads?cursor=Ci8SKWoUenV3fmJhdW1c3ItZmluYWwtZjYyEQsSBExvYWQYgICAuIj/mgkM6AAgAA=="
}
```

status 404: not found

{'error': 'NOT ACCEPTABLE: Server only sends application/json data.'}

GET load by id

endpoint	protected ?	Status codes
GET /loads/:load_id	no	200, 404, 406

Path parameters : ‘load_id’ id of load to query

Request Body : N/A

Response Body Format : JSON

Required Headers : Accept = ‘application/json’

Sample Request :

GET https://baucusr-final-v2.uw.r.appspot.com/loads

Sample Responses:

status 200 : OK

```
{
  "item": "whoopee cushions",
  "weight": 419.99999,
  "id": "4938681206964224",
  "carrier": null,
  "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4938681206964224",
  "volume": 3.1415
}
```

status: 404 Not Found

```
{
  "error": "No load exists with id=4899245085687808"
}
```

status 406: Not Acceptable

```
{
  "error": "NOT ACCEPTABLE: Server only sends application/json data."
}
```

Create Load

endpoint	protected ?	status codes
POST /loads	no	201, 406, 415

Path parameters : 'load_id' id of load to query

Request Body : { "item" : String, "weight" : int/double, "volume": int/double }
**all three body params are optional (lame, I know)

Response Body Format : JSON

Required Headers : Accept = 'application/json', Content – Type = 'application json'

Sample Request : POST <https://baucusr-final-v2.uw.r.appspot.com/loads>
body = { "item": "pickled herring", "weight": 42000, "volume" : 42000 }

Sample Responses:

status 200 : OK

```
{
  "message": "POST /loads success!",
  "new_load": {
    "id": "4931321377849344",
    "item": "kitty treats3",
    "weight": 394857,
    "volume": 4.394857934857,
    "carrier": null,
    "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4931321377849344"
  }
}
```

status 406: UNACCEPTABLE

```
{
  "error": "NOT ACCEPTABLE: Server only sends application/json data."
}
```

status 416: Unsupported Media Type

```
{
  "error": "Server only receives application/json data."
}
```

update load (and corresponding load on boat)

endpoint	protected	status codes
PATCH /loads/:load_id	no	201, 404, 406

Path parameters : 'load_id' id of load to update

Request Body : { "item" : String, "weight" : int/double, "volume": int/double }
**all three body params are optional (lame, I know)

Response Body Format : JSON

Required Headers : Accept = 'application/json'

Sample Request : PATCH https://baucusr-final-v2.uw.r.appspot.com/loads
body = { "item": "potato chips", "weight": 420, "volume" : 4200 }

Sample Responses:

status 200 : OK

```
{
  "item": "potato chips",
  "weight": 394857,
  "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4931321377849344",
  "volume": 4.394857934857,
  "id": "4931321377849344",
  "carrier": null
}
```

status 404: Not Found

```
{
  "error": "PATCH ERROR: load_id 30948503945830495830498340938 doesn't exist"
}
```

status 406: UNACCEPTABLE

```
{
  "error": "NOT ACCEPTABLE: Server only sends application/json data."
}
```

update load all attributes, even though the parameters aren't validated :(

endpoint	protected	status codes
PUT /loads/:load_id	no	201, 404, 406

Path parameters : 'load_id' id of load to update

Request Body : { "item" : String, "weight" : int/double, "volume": int/double }
**all three body params are optional (lame, I know)

Response Body Format : JSON

Required Headers : Accept = 'application/json'

Sample Request : PUT https://baucusr-final-v2.uw.r.appspot.com/loads
body = { "item": "potato chips", "weight": 420, "volume" : 4200 }

Sample Responses:

status 200 : OK

```
  {
    "weight": 20000,
    "volume": 42,
    "item": "cat nip",
    "carrier": {
      "name": "The Glorious MooCat!",
      "self": "http://baucusr-final-v2.uw.r.appspot.com/boats/5220156183674880",
      "id": "5220156183674880"
    },
    "self": "http://baucusr-final-v2.uw.r.appspot.com/loads/4931321377849344",
    "id": "4931321377849344"
  }
```

status 404: Not Found

```
  {
    "error": "put ERROR: load_id 039450398450980980980980 doesn't exist"
  }
```

status 406: UNACCEPTABLE

```
  {
    "error": "NOT ACCEPTABLE: Server only sends application/json data."
  }
```

delete all loads (how dare you even try !)

endpoint	protected	status codes
DELETE /loads	no	405

Path parameters : None

Request Body : None

Response Body Format : JSON

Required Headers : None

Sample Request : DELETE https://baucusr-final-v2.uw.r.appspot.com/loads

Sample Responses:

status 405 : method invalid

```
{
  "405 DELETE Error": "you can't just delete all the loads, GOSH!"
}
```