

Assignment 5: API Spec

CS 493: Cloud Application Development

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Oregon State University

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URL: <https://final-project-llanesm.uw.r.appspot.com>

Example Users:

Username/Email: wallace@cheese.com Password: Cheese123

Username/Email: derplander@test.com Password: Password1

Data Model

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

Boats

Property	Data Type	Notes
id	Integer	The id of the boat automatically generated by datastore
name	String	Name of the boat.
type	String	Type of the boat. E.g., Sailboat, Catamaran, etc.
length	Integer	The length of the boat in feet.
loads	Array	Load objects stored on the boat
owner	String	Owner of the boat represented as an Auth0 sub value

Loads

Property	Data Type	Notes
id	Integer	The id of the boat automatically generated by datastore
volume	String	Amount of content the load can hold in square feet
content	String	Description of content in the load
creation_date	Date and time	Date and time the load was created
carrier	Array	Boat id that load is stored upon

Owners

Property	Data Type	Notes
id	Integer	The id of the boat automatically generated by datastore
username	String	Auth0 username/password
password	String	Auth0 password
sub	String	Auth0 sub

Create a Boat

Allows you to create a new boat.

POST /boats

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Protected

Yes

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

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Must have all three requested attributes present
Failure	415 Unsupported Media Type	Request must be in JSON format
Failure	403 Forbidden	Boat names must be unique
Failure	401 Unauthorized	Must have valid JWT

Response Examples

Success

Status: 201 Created

```
{
  "id": 123,
```

```
{
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "self": https:// final-project-llanesm.uw.r.appspot.com/boats/123
  "loads": []
}
```

Failure

Status: 400 Bad Request

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

Failure

Status: 415 Unsupported Media Type

```
{
  "Error": "Accepted media type: application/json"
}
```

Failure

Status: 403 Forbidden

```
{
  "Error": "Boat with that name already exists"
}
```

Failure

Status: 401 Unauthorized

```
{
  "Error": "Invalid JWT"
}
```

Get Boats

Retrieve all boats of a user

GET /boats

Request

Path Parameters

None

Request Body

None

Response Body Format

JSON

Protected

No

Response Statuses

Outcome	Status Code	Notes
Success	200 Ok	Invalid JWT results in empty list of boats

Response Examples

Success

Status: 200 Ok

```
{
  "boats": [
    {
      "length": 50,
      "owner": "auth0|61ad8bf7036abd006bc4eefa",
      "type": "Pilgrim Boat",
      "name": "Santa Maria",
      "loads": [],
      "id": 5186724158242816,
      "self": "https://final-project-llanesm.uw.r.appspot.com/boats/5186724158242816"
    },
    {
      "length": 33,
      "name": "The Black Pearl",
      "type": "Pirate Ship",
      "owner": "auth0|61ad8bf7036abd006bc4eefa",
      "loads": [
        {
          "id": 5172667434926080,
          "self": "https://final-project-llanesm.uw.r.appspot.com/loads/5172667434926080"
        }
      ]
    }
  ]
}
```

```

    },
    {
      "id": 6660331464032256,
      "self": "https://final-project-llanesm.uw.r.appspot.com/loads/6660331464032256"
    }
  ],
  "id": 5528646773112832,
  "self": "https://final-project-llanesm.uw.r.appspot.com/boats/5528646773112832"
},
{
  "length": 22,
  "name": "BoatySmithMcBoater",
  "type": "Yacht",
  "loads": [],
  "owner": "auth0|61ad8bf7036abd006bc4eefa",
  "id": 5669152601669632,
  "self": "https://final-project-llanesm.uw.r.appspot.com/boats/5669152601669632"
},
{
  "name": "Boaty McBoatster",
  "length": 42,
  "type": "Tugboat",
  "owner": "auth0|61ad8bf7036abd006bc4eefa",
  "loads": [],
  "id": 6298567341768704,
  "self": "https://final-project-llanesm.uw.r.appspot.com/boats/6298567341768704"
},
{
  "loads": [],
  "name": "Lil boaty",
  "length": 19,
  "type": "Sailboat",
  "owner": "auth0|61ad8bf7036abd006bc4eefa",
  "id": 6586623114346496,
  "self": "https://final-project-llanesm.uw.r.appspot.com/boats/6586623114346496"
}
],
"next": "https://final-project-llanesm.uw.r.appspot.com/boats?limit=5&offset=5"
}

```

Get a Boat

Allows you to get an existing boat

GET /boats/:boat_id

Request

Path Parameters

Name	Description
boat_id	ID of the boat

Request Body

None

Response

Response Body Format

JSON/HTML

Protected

Yes

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No boat with this boat_id exists
Failure	401 Unauthorized	Invalid JWT
Failure	403 Forbidden	Boat owned by someone else

Response Examples

Success

Status: 200 OK

```
{
  "id": 123,
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "self": https://final-project-llanesm.uw.r.appspot.com/boats/123
  "loads": []
}
```

Success

Status: 200 OK

```
{"id": 5710353417633792, "name": "Sea Witch", "type": "Catamaran", "length": 28, "loads": [], "self":
"https://hw5-llanesm.uw.r.appspot.com/boats/5710353417633792/5710353417633792"}
```

Failure

Status: 404 Not Found

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

```
}
```

Failure

Status: 401 Unauthorized

```
{  
"Error": " Invalid JWT"  
}
```

Failure

Status: 403 Forbidden

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


Delete a Boat

Allows you to delete a boat.

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

Protected

Yes

Response Statuses

Outcome	Status Code	Notes
Success	204 No Content	
Failure	404 Not Found	No boat with this boat_id exists
Failure	401 Unauthorized	Invalid JWT
Failure	403 Forbidden	Boat owned by someone else

Response Examples

Success

Status: 204 No Content

Failure

Status: 404 Not Found

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

Failure

Status: 401 Unauthorized

```
{
  "Error": "Invalid JWT"
}
```

Failure

Status: 403 Forbidden

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

Edit (Put) a Boat

Allows you to replace a boat's properties

PUT /boats/:boat_id

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	Length of the 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	303 See Other	Content-location URL in header of response
Failure	400 Bad Request	Must have all three requested attributes present
Failure	415 Unsupported Media Type	Request must be in JSON format
Failure	403 Forbidden	Boat names must be unique, boat owned by someone else
Failure	404 Not Found	
Failure	406 Not Acceptable	Client must accept response as JSON
Failure	401 Unauthorized	Invalid JWT

Response Examples

Success

Status: 303 See Other

```
{
  "id": 123,
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "loads": [],
  "self": "https://<your-app>/boats/123"
}
```

Failure

Status: 400 Bad Request

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

Failure

Status: 415 Unsupported Media Type

```
{
  "Error": "Accepted media type: application/json"
}
```

Failure

Status: 403 Forbidden

```
{
  "Error": "Boat with that name already exists"
}
```

Failure

Status: 403 Forbidden

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

Failure

Status: 404 Not Found

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

Failure

Status: 406 Not Acceptable

```
{
  "Error": "Client must accept media type application/json"
}
```

```
}
```

Failure

Status: 401 Unauthorized

```
{
```

```
"Error": "Invalid JWT"
```

```
}
```

Edit (Patch) a Boat

Allows you to selectively update properties of a boat.

PUT /boats/:boat_id

Request

Path Parameters

None

Request Body

Optional

Request Body Format

JSON

Protected

Yes

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

```
{
  "length": 28
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	Must have all three requested attributes present
Failure	415 Unsupported Media Type	Request must be in JSON format
Failure	403 Forbidden	Boat names must be unique, boat owned by someone else
Failure	404 Not Found	
Failure	406 Not Acceptable	Client must accept JSON
Failure	401 Unauthorized	Invalid JWT

Response Examples

Success

Status: 200 OK

```
{
  "id": 123,
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "self": "https://<your-app>/boats/123"
}
```

Failure

Status: 400 Bad Request

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

Failure

Status: 415 Unsupported Media Type

```
{
  "Error": "Accepted media type: application/json"
}
```

Failure

Status: 403 Forbidden

```
{
  "Error": "Boat with that name already exists"
}
```

Failure

Status: 403 Forbidden

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

Failure

Status: 404 Not Found

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

Failure

Status: 406 Not Acceptable

```
{
  "Error": "Client must accept media type application/json"
}
```

Failure

Status: 401 Unauthorized

```
{
```

```
"Error": "Invalid JWT"  
}
```

Create a Load

Allows you to create a new load.

POST /loads

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Protected

No

Request JSON Attributes

Name	Description	Required?
volume	Amount the container can hold in sq. ft.	Yes
content	Description of the content contained in the load	Yes

Request Body Example

```
{
  "volume": 88,
  "content": "Some stuff"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Must have all three requested attributes present
Failure	415 Unsupported Media Type	Request must be in JSON format

Response Examples

Success

Status: 201 Created

```
{
  "id": 123,
  "volume": 88,
  "content": "Some stuff"
  "carrier": null,
  "creation_date": "2021-12-07 05:11:58.629715+00:00",
}
```



```
"self": https:// final-project-llanesm.uw.r.appspot.com/loads/123
}
```

Failure

Status: 400 Bad Request

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

Failure

Status: 415 Unsupported Media Type

```
{
"Error": "Accepted media type: application/json"
}
```

Get Loads

Retrieve all loads in the collection

GET /loads

Request

Path Parameters

None

Request Body

None

Response Body Format

JSON

Protected

No

Response Statuses

Outcome	Status Code	Notes
Success	200 Ok	

Response Examples

Success

Status: 200 Ok

```
{
  "loads": [
    {
      "carrier": null,
      "content": "Some other stuff",
      "creation_date": "2021-12-07 05:11:58.629715+00:00",
      "volume": 12,
      "id": 4858468934615040,
      "self": "https://final-project-llanesm.uw.r.appspot.com/loads"
    },
    {
      "content": "Some things",
      "creation_date": "2021-12-07 05:12:03.104352+00:00",
      "carrier": null,
      "volume": 9,
      "id": 5112644562321408,
      "self": "https://final-project-llanesm.uw.r.appspot.com/loads"
    },
    {
      "carrier": 789824563,
      "content": "Some other other stuff",
      "volume": 115,
      "creation_date": "2021-12-07 05:12:00.821611+00:00",
```

```
{
  "id": 5117579211309056,
  "self": "https://final-project-llanesm.uw.r.appspot.com/loads"
},
{
  "creation_date": "2021-12-07 04:50:07.469170+00:00",
  "content": "Some other stuff",
  "volume": 12,
  "carrier": {
    "id": 5528646773112832,
    "self": "https://final-project-llanesm.uw.r.appspot.com/boats/5528646773112832"
  },
  "id": 5172667434926080,
  "self": "https://final-project-llanesm.uw.r.appspot.com/loads"
},
{
  "carrier": 1231445456,
  "volume": 101,
  "creation_date": "2021-12-07 05:12:07.195616+00:00",
  "content": "Some other other things",
  "id": 5180720062398464,
  "self": "https://final-project-llanesm.uw.r.appspot.com/loads"
}
],
"next": "https://final-project-llanesm.uw.r.appspot.com/loads?limit=5&offset=5"
}
```

Get 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/HTML

Protected

No

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

Status: 200 OK

```
{
  "id": 123,
  "volume": 88,
  "content": "Some stuff",
  "carrier": 75423451345,
  "creation_date": "2021-12-07 05:11:58.629715+00:00",
  "self": https:// final-project-llanesm.uw.r.appspot.com/loads/123
}
```

Success

Status: 200 OK

```
{
  "id":123,"volume":88,"content":"Some stuff","carrier":75423451345,
  "creation_date":"2021-12-07 05:11:58.629715+00:00",
  "self":https:// final-project-llanesm.uw.r.appspot.com/loads/123
}
```

Failure

Status: 404 Not Found

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

Delete A Load

Allows you to delete a 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

Protected

No

Response Statuses

Outcome	Status Code	Notes
Success	204 No Content	
Failure	404 Not Found	No boat with this boat_id exists

Response Examples

Success

Status: 204 No Content

Failure

Status: 404 Not Found

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

Edit (Put) a Load

Allows you to replace a load's properties

PUT /loads/:load_id

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Protected

No

Request JSON Attributes

Name	Description	Required?
volume	Size of the load in sq. ft.	Yes
content	Description of the load's content	Yes

Request Body Example

```
{
  "volume": 99,
  "content": "Some other stuff"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	303 See Other	Content-location URL in header of response
Failure	400 Bad Request	Must have all three requested attributes present
Failure	415 Unsupported Media Type	Request must be in JSON format
Failure	404 Not Found	
Failure	406 Not Acceptable	Client must accept response as JSON

Response Examples

Success

Status: 303 See Other

```
{
  "id": 123,
  "volume": 99,
  "content": "Some other stuff"
}
```

```
"carrier": 123423452345,  
"creation_date": "2021-12-07 05:11:58.629715+00:00"  
"self": https:// final-project-llanesm.uw.r.appspot.com/loads/123  
}
```

Failure

Status: 400 Bad Request

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

Failure

Status: 415 Unsupported Media Type

```
{  
"Error": "Accepted media type: application/json"  
}
```

Failure

Status: 404 Not Found

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

Failure

Status: 406 Not Acceptable

```
{  
"Error": "Client must accept media type application/json"  
}
```

Edit (Patch) a Load

Allows you to selectively update properties of a load.

PUT /loads/:load_id

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Protected

No

Request JSON Attributes

Name	Description	Required?
volume	Size of the load in sq. ft.	Yes
content	Description of the load's content	Yes

Request Body Example

```
{
  "volume": 99,
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 Ok	
Failure	415 Unsupported Media Type	Request must be in JSON format
Failure	404 Not Found	
Failure	406 Not Acceptable	Client must accept response as JSON

Response Examples

Success

Status: 200 Ok

```
{
  "id": 123,
  "volume": 99,
  "content": "Some stuff",
  "carrier": 123423452345,
  "creation_date": "2021-12-07 05:11:58.629715+00:00"
```



```
"self": https:// final-project-llanesm.uw.r.appspot.com/loads/123
}
```

Failure

Status: 415 Unsupported Media Type

```
{
"Error": "Accepted media type: application/json
}
```

Failure

Status: 404 Not Found

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

Failure

Status: 406 Not Acceptable

```
{
"Error": "Client must accept media type application/json"
}
```

Get Owners

Retrieve all owners in the collection

GET /owners

Request

Path Parameters

None

Request Body

None

Response Body Format

JSON

Protected

No

Response Statuses

Outcome	Status Code	Notes
Success	200 Ok	

Response Examples

Success

Status: 200 Ok

```
[
  {
    "sub": "auth0|61ad73b3036abd006bc4e80d",
    "username": "derplander@test.com",
    "password": "Password1",
    "self": "https://final-project-llanesm.uw.r.appspot.com/owners/5524511155814400"
  },
  {
    "username": "wallace@cheese.com",
    "sub": "auth0|61ad8bf7036abd006bc4eefa",
    "password": "Cheese123",
    "self": "https://final-project-llanesm.uw.r.appspot.com/owners/5680529164730368"
  }
]
```