Portfolio Assignment: API Spec

CS 493: Cloud Application Development

Spring 2020

URL: https://josephri-fp.ue.r.appspot.com/

Oregon State University

Last Update: June 8, 2020

Change log

Page	Change	Date
	Initial version.	June 08, 2020

Data Model

- User

Property	Type	Required?	Valid Values
JWT	JSON Web Token	Yes	JWT generated by Google Oauth
Unique ID	String	Yes	Sub of JWT

- Boat

Property	Type	Required	Valid Values
ID	String	Yes	Automatically created by DataStore.
Name	String	Yes	Name of the boat. E.g. "VIII Rings"
Type	String	Yes	Can be any string, should be descriptive. E.g. "yacht"
Length	Integer	Yes	Any integer is acceptable. Allowance of integers as string but not recommended.
Loads	String	No	ID of Load Model.
Owner	Unique ID of User Model (String)	Yes	Must be a User Model that has already been created.

- Load

Property	Type	Required	Valid Values
ID	String	Yes	Automatically created by DataStore.
Weight	Integer	Yes	Any integer is acceptable. Allowance of integers as string but not recommended.
Content	String	Yes	Content of the load.
Delivery Date	String	Yes	String in the format of "mm/dd/yyyy".
Boats	String	No	ID of boat model.

- The Boat and Load are the two non-user entities. The boat has the ability to have zero or more loads on it, but the load can only be on one boat at a given time. To put a load on another boat it will require unlinking the load from the boat and placing it on another boat.
- The unique identifier for the users in my data model is the sub of the json web token. If a request needs to supply a user identifier the JWT must be supplied. While the JWT is generated the Unique ID is also generated. The User is only related to the Boat in which the boat is owned by the User, this is accomplished by having the boat have an owner property.

Create a Boat

Allows you to create a new boat.

POST /boats/

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
name	String	The name of the boat.	Yes
type	String	The type of the boat. E.g., Sailboat, Catamaran, etc.	Yes
length	Integer	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	401 Unauthorized Error	If the request has an invalid or missing JWT this status code is returned.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

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.

```
Status: 201 Created

{
  "id": "abc123",
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "loads": "NULL",
  "owner": "Owner Sub JWT",
  "self": Entity URL
}
```

Failure

```
Status: 401 Unauthorized Error

{
"Error":  "Unauthorized Error"
}
```

```
Status: 405 Method Not Allowed

{
"Error": "Method Not Allowed"
}
```

```
Status: 406 Not Acceptable

{
"Error": "Not Acceptable"
}
```

Create a Load

Allows you to create a new load.

POST /loads/

Request

Request Parameters

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
weight	Integer	Weight of the load	Yes
content	String	Contents in load	Yes
delivery_date	Integer	Date of delivery	Yes

Request Body Example

```
{
  "weight": 28,
  "content": "Eggs",
  "delivery_date": "11/19/2020"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

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.

Success

Status: 201 Created

```
{
  "id": "abc123",
  "weight": 88,
  "content": "Eggs",
  "delivery_date": "11/21/2021,
  "boat": "NULL",
  "self": Entity URL
}
```

Failure

Status: 401 Unauthorized Error

```
{
"Error":  "Unauthorized Error"
}
```

Status: 405 Method Not Allowed

```
{
"Error": "Method Not Allowed"
}
```

Status: 406 Not Acceptable

```
{
"Error": "Not Acceptable"
}
```

View Boat/Boats

Allows you to view your boats

GET /boats/

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized Error	If the request has an invalid or missing JWT this status code is returned.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK

{
 "boats": [
  "id": "abc123",
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "owner": "Owner Sub JWT"
  "loads": "NULL",
  "self": Entity Link
 ]
}
```

Failure

Status: 401 Unauthorized Error
 	
{
"Error": "Unauthorized Error"
}

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

Status: 406 Not Acceptable
 	
{
"Error": "Not Acceptable"
}

View a Specific Boat

View a specific boat that you own.

GET /boats/<Boat_id>

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Name	Type	Description	Required?
Boat_id	String	ID of the Boat	Yes

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized Error	If the request has an invalid or missing JWT this status code is returned.
Failure	403 Forbidden	Valid JWT but the boat does not belong to the user.
Failure	404 Not Found	Boat was not found
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK
{
  "id": "abc123",
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "loads": "NULL",
  "owner": "Owner Sub JWT",
  "self": Entity URL
}
```

Failure

```
Status: 401 Unauthorized Error

{
"Error":  "Unauthorized Error"
```

}

Status: 403 Forbidden
 	
{
`"Error":  "Forbidden"`
}

Status: 404 Not Found
 	
{
`"Error":  "Not Found"`
}

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

Status: 406 Not Acceptable
 	
{
"Error": "Not Acceptable"
}

View Loads

Allows you to view all loads

GET /loads/

Request

Request Parameters

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK

{
  "loads": [
   "id": "abc123",
   "weight": 88,
   "content": "Eggs",
   "delivery_date": "11/21/2021,
   "boat": "NULL",
   "self": Entity URL
}
```

Failure

```
Status: 405 Method Not Allowed

{
"Error": "Method Not Allowed"
}
```

```
Status: 406 Not Acceptable

{
```

```
"Error": "Not Acceptable"
}
```

View a Specific Load

View a specific load

GET /loads/<load_id>

Request

Request Parameters

Name	Type	Description	Required?
load_id	String	ID of the load	Yes

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	Load was not found
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK
{
  "id": "abc123",
  "weight": 88,
  "content": "Eggs",
  "delivery_date": "11/21/2021,
  "boat": "NULL",
  "self": Entity URL
}
```

Failure

```
Status: 404 Not Found

{
"Error": "Not Found"
}
```

```
Status: 405 Method Not Allowed

{
"Error": "Method Not Allowed"
}
```

```
Status: 406 Not Acceptable

{
"Error": "Not Acceptable"
}
```

Edit a Boat (PUT)

Edit all the attributes of a boat.

PUT /boats/<Boat_id>

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Name	Type	Description	Required?
Boat_id	String	ID of the Boat	Yes

Request Body

Name	Type	Description	Required?
name	String	The name of the boat.	Yes
type	String	The type of the boat. E.g., Sailboat, Catamaran, etc.	Yes
length	Integer	Length of the boat in feet.	Yes

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized Error	If the request has an invalid or missing JWT this status code is returned.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK
{
  "id": "abc123",
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "loads": "NULL",
  "owner": "Owner Sub JWT",
  "self": Entity URL
}
```

Failure

```
Status: 401 Unauthorized Error

{
```

```
"Error":  "Unauthorized Error"
}
```

Status: 405 Method Not Allowed

```
{
"Error": "Method Not Allowed"
}
```

Status: 406 Not Acceptable

```
{
"Error": "Not Acceptable"
}
```

Edit a Boat (PATCH)

Edit only one of the attributes of a boat at a time.

PUT /boats/<Boat_id>

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Name	Type	Description	Required?
Boat_id	String	ID of the Boat	Yes

Request Body

Name	Type	Description	Required?
name	String	The name of the boat.	Optional
type	String	The type of the boat. E.g., Sailboat, Catamaran, etc.	Optional
length	Integer	Length of the boat in feet.	Optional

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized Error	If the request has an invalid or missing JWT this status code is returned.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK
{
  "id": "abc123",
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "loads": "NULL",
  "owner": "Owner Sub JWT",
  "self": Entity URL
}
```

Failure

```
Status: 401 Unauthorized Error


{
```

`"Error": "Unauthorized Error"` `}`

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

Status: 406 Not Acceptable
 	
{
"Error": "Not Acceptable"
}

Edit a Load (PUT)

Edit all the attributes of a load.

PUT /loads/<Load_id>

Request

Request Parameters

Name	Type	Description	Required?
Load_id	String	ID of the Load	Yes

Request Body

Name	Type	Description	Required?
weight	Integer	Weight of the load	Yes
content	String	Contents in load	Yes
delivery_date	Integer	Date of delivery	Yes

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

Status: 200 OK
{
  "id": "abc123",
  "weight": 88,
  "content": "Eggs",
  "delivery_date": "11/21/2021,
  "boat": "NULL",
  "self": Entity URL
}

Failure

Status: 401 Unauthorized Error
 	
{
"Error": "Unauthorized Error"
}

Status: 405 Method Not Allowed

```
{
“Error”: “Method Not Allowed”
}
```

Status: 406 Not Acceptable

```
{
“Error”: “Not Acceptable”
}
```

Edit a Load (PATCH)

Edit only one of the attributes of a load at a time.

PUT /loads/<Load_id>

Request

Request Parameters

Name	Type	Description	Required?
Load_id	String	ID of the Load	Yes

Request Body

Name	Type	Description	Required?
weight	Integer	Weight of the load	Optional
content	String	Contents in load	Optional
delivery_date	Integer	Date of delivery	Optional

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK
{
  "id": "abc123",
  "weight": 88,
  "content": "Eggs",
  "delivery_date": "11/21/2021,
  "boat": "NULL",
  "self": Entity URL
}
```

Failure

```
Status: 405 Method Not Allowed


{
"Error": "Method Not Allowed"
}
```

```
Status: 406 Not Acceptable


{
"Error": "Not Acceptable"
```

```
}
```

Add a Load to a Boat

Allows you to add a load to a boat.

PUT /boats/:boat_id/loads/:load_id

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Name	Type	Description	Required?
Boat_id	String	ID of the Boat	Yes
Load_id	String	ID of the Load	Yes

Request Body

None

Response

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized Error	Missing or invalid JWTs
Failure	403 Forbidden	JWT is valid but boat_id is owned by someone else, or JWT is valid but no boat with this boat_id exists.
Failure	404 Not Found	Boat or Load not found. Or Load is already on the boat.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

```
Status: 200 OK
{
  "id": "abc123",
  "name": "Sea Witch",
  "type": "Catamaran",
  "length": 28,
  "loads": "NULL",
  "owner": "Owner Sub JWT",
  "self": Entity URL
}
```

Failure

```
Status: 401 Unauthorized Error
{
"Error": "Unauthorized Error"
}
```
```
Status: 403 Forbidden
{
```

"Error": "Forbidden" }

Status: 404
{
"Error": "Boat Not Found"||"Load Not Found"||"Load is already on the boat"
}

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

Status: 406 Not Acceptable
 	
{
"Error": "Not Acceptable"
}

Remove a Load from the Boat

Allows you to delete a load from the boat.

DELETE /boats/:boat_id/loads/:load_id

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Name	Type	Description	Required?
Boat_id	String	ID of the Boat	Yes
Load_id	String	ID of the Load	Yes

Request Body

None

Response

JSON

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized Error	Missing or invalid JWTs
Failure	403 Forbidden	JWT is valid but boat_id is owned by someone else, or JWT is valid but no boat with this boat_id exists.
Failure	404 Not Found	Boat or Load not found.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.

Response Examples

Success

Status: 200 OK

Failure

Status: 401 Unauthorized Error
{
"Error": "Unauthorized Error"
}

Status: 403 Forbidden
{
"Error": "Forbidden"
}

Status: 404
{
"Error": "Boat Not Found"||"Load Not Found"
}

Status: 405 Method Not Allowed

```
{
"Error": "Method Not Allowed"
}
```

Status: 406 Not Acceptable

```
{
"Error": "Not Acceptable"
}
```

Delete a Boat

Allows you to delete a boat.

DELETE /boats/:boat_id

Request

Request Parameters

JWT must be included in the Header as an Authorization.

Name	Type	Description	Required?
Boat_id	String	ID of the Boat	Yes

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 Error	Missing or invalid JWTs
Failure	403 Forbidden	JWT is valid but boat_id is owned by someone else, or JWT is valid but no boat with this boat_id exists.
Failure	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

Status: 204 No Content

Failure

Status: 401 Unauthorized Error
{
"Error": "Unauthorized Error"
}

Status: 403 Forbidden
{
"Error": "Forbidden"
}

Status: 405 Method Not Allowed { "Error": "Method Not Allowed"

}
Status: 406 Not Acceptable
{
"Error": "Not Acceptable"
}

Delete a Load

Allows you to delete a Load.

DELETE /loads/:load_id

Request

Request Parameters

Name	Type	Description	Required?
Load_id	String	ID of the Load	Yes

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	405 Method Not Allowed	Wrong HTTP Verb used.
Failure	406 Not Acceptable	Another type other than 'application/json' was used.

Response Examples

Success

Status: 204 No Content

Failure

Status: 401 Unauthorized Error
{
"Error": "Unauthorized Error"
}

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

Status: 406 Not Acceptable
 	
{
"Error": "Not Acceptable"
}