Portfolio Project: API Spec

Data Model

My project is inspired by my enthusiasm for caffeinated beverages. This API allows users to create/read/update/delete their own favorite coffee recipes.

The app stores three kinds of entities in Datastore, Coffee, Milk, User.

Milk options can be added by anyone, but only the authorized users can view their own private recipes.

Users can add milk options to their coffee recipes, and also remove milk options from the coffee recipes

Entities

Non-User Entities: Coffee, Milk

Coffee

Property	Data Type	Notes
id	Integer	The id of the coffee recipe. Datastore automatically generates it.
name	String	Name of the coffee recipe, required
description	String	Description of the coffee recipe, required
ingredients	String	Main ingredients of the coffee recipe, required
self	String	Self-link that points to the most canonical representation of the entity instance, generated by the application when user creates the instance
milk options	Dictionary	Milk options for this coffee recipe, not required. Key: milk's id, Value: milk name
owner	String	The "sub" (subject) attribute in the JWT generated by the authorized user, which identifies the owner of the JWT

Milk

Property	Data Type	Notes
id	Integer	The id of the milk (or diary alternative). Datastore automatically generates it.
name	String	Name of the milk (or diary alternative) product, required
description	String	Description of the milk (or diary alternative) product, required
vegan	Boolean	True/False value to describe whether the milk option is vegan-friendly or not
self	String	Self-link that points to the most canonical representation of the entity instance, generated by the application when user creates the instance
recipes	Dictionary	Milk options for this coffee recipe, not required. Key: coffee's id, Value: coffee's name
owner	String	The "sub" (subject) attribute in the JWT generated by the authorized user, which identifies the owner of the JWT

User Entity

User

Property	Data Type	Notes
sub	String	The “sub” (subject) attribute in the JWT generated by the authorized user, which identifies the owner of the JWT
email	String	Email address of the user, required when creating new accounts, or login using Email and Password

Relationships

a user can have zero or more coffee recipes. [zero to many]

a coffee recipe can have zero ore more milk option [zero to many]

a coffee recipe can only have one user [one to one]

a milk can be used in zero or more coffee recipes [zero to many]

ERD

Create a Milk Option

Allows you to create a new milk option

```
POST /milk
```

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the milk.	Yes
description	The description of the milk, i.e., “Whole Milk”, “2% Milk”	Yes
vegan	True/False	Yes

Request Body Example

```
{
    "name": "Nonfat Milk",
    "description": "365 by Whole Foods Market Nonfat Milk",
    "vegan": false
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	If the request is missing any of the 3 required attributes, the milk must not be created, and 400 status code must be returned.

Response Examples

Success

```
Status: 201 Created

{
    "name": "Nonfat Milk",
    "description": "365 by Whole Foods Market Nonfat Milk",
    "vegan": false,
    "id": 5677459739508736,
    "self": "https://tangmm-project.wl.r.appspot.com/milk/5677459739508736",
    "recipes": {}
}
```

Failure

Status: 400 Bad Request

```
"Bad Request: At least one required attribute is missing"
```

View a Milk Option

Allows you to get an existing milk

```
GET /milk/:milk_id
```

Request

Request Header Parameters

Name	Allowed
Accept	application/json

Path Parameters

Name	Description
milk_id	ID of the milk

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No milk with this milk_id exists

Response Examples

Success

Status: 200 OK

```
{
    "description": "365 by Whole Foods Market Nonfat Milk",
    "vegan": false,
    "name": "Nonfat Milk",
    "id": 5677459739508736,
    "recipes": {},
    "self": "https://tangmm-project.wl.r.appspot.com/milk/5677459739508736"
}
```

Failure

Status: 404 Not Found

```
"Not Found: No milk option with this milk_id exists"
```

Status: 406 Not Acceptable

```
"Not Acceptable: Unsupported MIME Type"
```

List all Milk Options

List all the milk options

```
GET /milk
```

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	

Response Examples

Success

Status: 200 OK
Pagination: Displaying 5 items per page

```
{
    "milk options": [
        {
            "id": 4579477656961024,
            "self": "http://127.0.0.1:8080/milk/4579477656961024",
            "description": "Some Milk with Duplicate Name",
            "vegan": true,
            "name": "null",
            "recipes": {}
        },
        {
            "recipes": {},
            "name": "Almond Milk",
            "description": "365 by Whole Foods Market Organic Unsweetened Original
Almondmilk",
            "vegan": true,
            "self": "https://tangmm-project.wl.r.appspot.com/milk/5071211717459968",
            "id": 5071211717459968
        },
        {
            "self": "https://tangmm-project.wl.r.appspot.com/milk/5112644562321408",
            "recipes": {},
            "description": "365 by Whole Foods Market Organic Unsweetened Original
Coconut milk",
            "name": "Coconut Milk",
            "vegan": true,
            "id": 5112644562321408
        },
        {
            "recipes": {},
            "name": "Soy Milk",
            "vegan": true,
            "description": "365 by Whole Foods Market Organic Unsweetened Original
Soymilk",
            "id": 5143677177430016,
            "self": "https://tangmm-project.wl.r.appspot.com/milk/5143677177430016"
        },
        {
            "vegan": false,
            "id": 5677459739508736,
            "name": "Nonfat Milk",
            "recipes": {},
            "self": "https://tangmm-project.wl.r.appspot.com/milk/5677459739508736",
            "description": "365 by Whole Foods Market Nonfat Milk"
```

Edit Partial Milk Option

Allows you to edit one or more attributes of a milk option

PATCH / milk/:milk_id

Request

Path Parameters (at least 1 of the 3 is required)

Name	Description
milk_id	ID of the milk

Request Body

Required

Request Body Format

JSON

Request JSON Attributes (at least 1 of the 3 is required))

Name	Description	Required?
name	The name of the milk.	No
description	The description of the milk, i.e., “Whole Milk”, “2% Milk”	No
vegan	True/False	No

Request Body Example

```
{
    "description": "Super Sweet Vanilla Milk"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If the request is missing any of the 3 required attributes, the milk must not be updated, and 400 status code must be returned.
Failure	404 Not Found	No milk with this milk_id exists

Response Examples

Success

Status: 200 OK

```
{
    "self": "https://tangmm-project.wl.r.appspot.com/milk/5677459739508736",
    "recipes": {},
    "description": "Super Sweet Vanilla Milk",
    "id": 5677459739508736,
    "vegan": false,
    "name": "Nonfat Milk"
}
```

Failure

Status: 400 Bad Request

```
"Bad Request: At least one required attribute is missing"
```

Status: 404 Not Found

```
"Not Found: No milk option with this milk_id exists"
```

Edit Entire Milk Option

Allows you to edit all attributes of a milk option

PUT / milk/:milk_id

Request

Path Parameters

Name	Description
milk_id	ID of the milk

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the milk.	No
description	The description of the milk, i.e., “Whole Milk”, “2% Milk”	No
vegan	True/False	No

Request Body Example

```
{
    "name": "Super Milk",
    "description": "Super Sweet Strawberry Milk",
    "vegan": false
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If the request is missing any of the 3 required attributes, the milk must not be updated, and 400 status code must be returned.
Failure	404 Not Found	No milk with this milk_id exists

Response Examples

Success

Status: 200 OK

```
{
    "recipes": {},
    "description": "Super Sweet Strawberry Milk",
    "self": "https://tangmm-project.wl.r.appspot.com/milk/5677459739508736",
    "id": 5677459739508736,
    "vegan": false,
    "name": "Super Milk"
}
```

Failure

Status: 400 Bad Request

```
"Bad Request: At least one required attribute is missing"
```

Status: 404 Not Found

```
"Not Found: No milk option with this milk_id exists"
```

Delete a Milk Option

Allows you to delete a milk option. Note that if the milk is currently in a coffee recipe, deleting the milk makes the coffee recipe’s milk options lose this milk option

```
DELETE /milks/:milk_id
```

Request

Path Parameters

Name	Description
milk_id	ID of the milk

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 milk with this milk_id exists

Response Examples

Success

```
Status: 204 No Content
```

Failure

```
Status: 404 Not Found

"Not Found: No milk option with this milk_id exists"
```

Create a Coffee recipe [PROTECTED]

Allows you to create a new coffee recipe.

POST /coffee recipes

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the coffee recipe	Yes
description	The description of the coffee recipe, i.e. “Iced Americano”	Yes
ingredients	Main ingredients of the recipe	Yes

Request Body Example

```
        {
            "name": "Vanilla Cold Brew",
            "description": "coffee that has been brewed with cold water, accented
with vanilla and topped with a delicate float of house-made vanilla sweet cream ",
            "ingredients": "espresso, cold water, vanilla syrup, vanilla sweet
cream"
        }
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	201 Created	

Failure	400 Bad Request	If the request is missing the number attribute, the coffee recipe must not be created, and 400 status code must be returned.
Failure	403 Forbidden	If the name has been taken, the coffee recipe must not be created, and 403 status code must be returned

Response Examples

Success

Status: 201 Created

```
{
    "name": "Vanilla Cold Brew",
    "description": "coffee that has been brewed with cold water, accented with
vanilla and topped with a delicate float of house-made vanilla sweet cream ",
    "ingredients": "espresso, cold water, vanilla syrup, vanilla sweet cream",
    "id": 5149787439497216,
    "owner": "auth0|629d107900e9d50068e8a628",
    "self": "https://tangmm-project.wl.r.appspot.com/coffee/5149787439497216",
    "milk options": {}
}
```

Failure

Status: 400 Bad Request

```
"Bad Request: At least one required attribute is missing"
```

Status: 403 Forbidden

```
"Forbidden: The recipe name has been taken"
```

View a Coffee recipe [PROTECTED]

Allows you to get an existing coffee recipe.

```
GET /coffee recipes/:coffee_id
```

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

Name	Description
coffee recipe_id	ID of the coffee recipe

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No coffee recipe with this coffee recipe_id exists

Response Examples

Success

Status: 200 OK

```
{
    "owner": "auth0|629d107900e9d50068e8a628",
    "milk options": {},
    "description": "coffee that has been brewed with cold water, accented with
vanilla and topped with a delicate float of house-made vanilla sweet cream ",
    "name": "Vanilla Cold Brew",
    "ingredients": "espresso, cold water, vanilla syrup, vanilla sweet cream",
    "self": "https://tangmm-project.wl.r.appspot.com/coffee/5102723456303104",
    "id": 5102723456303104
}
```

Failure

Status: 404 Not Found

```
"Not Found: No coffee with this coffee_id exists"
```

Edit Partial Coffee Recipe [PROTECTED]

Allows you to edit one or more attributes of a milk option

PATCH / milk/:milk_id

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

Name	Description
milk_id	ID of the milk

Request Body

Required

Request Body Format

JSON

Request JSON Attributes (at least 1 of the 3 attributes is required)

Name	Description	Required?
name	The name of the coffee recipe	No
description	The description of the coffee recipe, i.e. “Iced Americano”	No
ingredients	Main ingredients of the recipe	No

Request Body Example

```
{
  "name": "My Favorite Latte"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	400 Bad Request	If the request is missing any of the 3 required attributes, the coffee recipe must not be updated, and 400 status code must be returned.
Failure	404 Not Found	No coffee recipe with this coffee_id exists
Failure	403 Forbidden	Wrong JWT was provided
Failure	403 Forbidden	No coffee recipe with this coffee_id exists

Response Examples

Success

Status: 200 OK

```
{
    "name": "My Favorite Latte",
    "milk options": {},
    "owner": "auth0|629d107900e9d50068e8a628",
    "self": "https://tangmm-project.wl.r.appspot.com/coffee/5221067589156864",
    "description": "coffee that has been brewed with cold water, accented with
vanilla and topped with a delicate float of house-made vanilla sweet cream ",
    "id": 5221067589156864,
    "ingredients": "espresso, cold water, vanilla syrup, vanilla sweet cream"
}
```

Failure

Status: 400 Bad Request

```
"Bad Request: At least one required attribute is missing"
```

Status: 403 Forbidden

```
"Forbidden: The recipe name has been taken"
```

Status: 403 Forbidden

```
"Forbidden: You are not the owner of the recipe"
```

Status: 404 Not Found

```
"Not Found: No coffee with this coffee_id exists"
```

Edit Entire Coffee Recipe [PROTECTED]

Allows you to edit all attributes of a milk option

PUT / milk/:milk_id

Request

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

Name	Description
milk_id	ID of the milk

Request Body

Required

Request Body Format

JSON

Request JSON Attributes (at least 1 of the 3 attributes is required)

Name	Description	Required?
name	The name of the coffee recipe	Yes
description	The description of the coffee recipe, i.e. “Iced Americano”	Yes
ingredients	Main ingredients of the recipe	Yes

Request Body Example

```
{
  "name": "Cafe with Milk",
  "description": "coffee with hot milk added",
  "ingredients": "coffee, hot milk"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	

Failure	400 Bad Request	If the request is missing any of the 3 required attributes, the coffee recipe must not be updated, and 400 status code must be returned.
Failure	404 Not Found	No coffee recipe with this coffee_id exists
Failure	403 Forbidden	No coffee recipe with this coffee_id exists
Failure	403 Forbidden	Wrong JWT was provided

Response Examples

Success

Status: 200 OK

```
{
    "name": "Cafe with Milk",
    "description": "coffee with hot milk added",
    "id": 5221067589156864,
    "owner": "auth0|629d107900e9d50068e8a628",
    "ingredients": "coffee, hot milk",
    "self": "https://tangmm-project.wl.r.appspot.com/coffee/5221067589156864",
    "milk options": {}
}
```

Failure

Status: 400 Bad Request

```
"Bad Request: At least one required attribute is missing"
```

Status: 403 Forbidden

```
"Forbidden: The recipe name has been taken"
```

Status: 403 Forbidden

```
"Forbidden: You are not the owner of the recipe"
```

List all Coffee recipes [PROTECTED]

List all the coffee recipes owned by the authorized user (authenticated using JWT)

GET /coffee

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	

Response Examples

Success

Status: 200 OK
Pagination: 5 items per page

```
{
    "coffee recipes": [
        {
            "milk options": {},
            "owner": "auth0|629d107900e9d50068e8a628",
            "description": "a beverage made of espresso and steamed milk with a
caramel sauce drizzled on top and flavored with vanilla syrup",
            "name": "Caramel Macchiato",
            "ingredients": "vanilla syrup, steamed milk, espresso and caramel
sauce",
            "id": 4582827194580992,
            "self": "https://tangmm-project.wl.r.appspot.com/coffee/
4582827194580992"
        },
        {
            "owner": "auth0|629d107900e9d50068e8a628",
            "name": "Caffe Mocha",
            "self": "https://tangmm-project.wl.r.appspot.com/coffee/
4942801020125184",
            "milk options": {},
            "ingredients": "espresso, milk, chocolate",
            "id": 4942801020125184,
            "description": "a chocolate-flavoured warm beverage that is a variant of
a café latte"
        },
        {
            "self": "https://tangmm-project.wl.r.appspot.com/coffee/
5138716758638592",
            "id": 5138716758638592,
            "owner": "auth0|629d107900e9d50068e8a628",
            "description": "My favorite",
            "ingredients": "espresso, water, ice",
            "milk options": {},
            "name": "Iced Americano"
        },
        {
            "milk options": {},
            "id": 5214432602882048,
            "description": "coffee that has been brewed with cold water",
            "ingredients": "espresso, cold water",
            "self": "https://tangmm-project.wl.r.appspot.com/coffee/
5214432602882048",
            "owner": "auth0|629d107900e9d50068e8a628",
            "name": "Cold Brew"
        },
```

Delete a Coffee recipe [PROTECTED]

Allows you to delete a coffee recipe. If the coffee recipe being deleted has milk options, it will be removed from all the milk options's recipes' list

```
DELETE /coffee/:coffee_id
```

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

Name	Description
coffee_id	ID of the coffee recipe

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 coffee recipe with this coffee recipe_id exists

Response Examples

Success

```
Status: 204 No Content
```

Failure

Status: 404 Not Found

```
"Not Found: No coffee with this coffee_id exists"
```

Add a Milk Option to a Coffee Recipe [PROTECTED]

Allows you to add a milk option to the cofeee “milk options” list. The “recipes” attribute of the specified milk option will also be updated

```
PUT /coffee/:coffee_id/:milk_id
```

Request

Request Header Parameters

Name	Allowed	Description	Required
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

Name	Description
coffee_id	ID of the coffee recipe
milk_id	ID of the milk

Request Body

None

Note: Set Content-Length to 0 in your 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	200	Succeeds only if a milk exists with this milk_id, a coffee recipe exists with this coffee recipe_id and the coffee recipe is empty.
Failure	404 Not Found	No coffee recipe with this coffee_id exists. Or No milk option with the milk_id exists.

Response Examples

Success

Status: 200 OK

```
{
    "id": 6313654857236480,
    "ingredients": "espresso, cold water, vanilla syrup, vanilla sweet cream",
    "description": "coffee that has been brewed with cold water, accented with
vanilla and topped with a delicate float of house-made vanilla sweet cream ",
    "owner": "auth0|629d107900e9d50068e8a628",
    "self": "https://tangmm-project.wl.r.appspot.com/coffee/6313654857236480",
    "name": "Vanilla Cold Brew",
    "milk options": {
        "5321457550753792": "Nonfat Milk"
    }
}
```

Failure

Status: 404 Not Found

```
"Not Found: No coffee with this coffee_id exists and/or no milk with this milk_id
exists"
```

Delete a Milk Option from a Coffee Recipe [PROTECTED]

Allows you to delete a milk option to the cofeee “milk options” list. The “recipes” attribute of the specified milk option will also be updated

```
DELETE /coffee/:coffee_id/:milk_id
```

Request

Request Header Parameters

Name	**Allowed**	**Description**	**Required**
Authorization	Bearer[jwt]	Valid JSON Web Token	Yes

Path Parameters

Name	**Description**
coffee_id	ID of the coffee recipe
milk_id	ID of the milk

Request Body

None

Note: Set Content-Length to 0 in your 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	200	Succeeds only if a milk exists with this milk_id, a coffee recipe exists with this coffee recipe_id and the coffee recipe is empty.
Failure	404 Not Found	No coffee recipe with this coffee_id exists. Or No milk option with the milk_id exists.

Response Examples

Success

Status: 200 OK

```
{
    "id": 6313654857236480,
    "ingredients": "espresso, cold water, vanilla syrup, vanilla sweet cream",
    "description": "coffee that has been brewed with cold water, accented with
vanilla and topped with a delicate float of house-made vanilla sweet cream ",
    "owner": "auth0|629d107900e9d50068e8a628",
    "self": "https://tangmm-project.wl.r.appspot.com/coffee/6313654857236480",
    "name": "Vanilla Cold Brew",
    "milk options": {}
}
```

Failure

Status: 404 Not Found

```
"Not Found: No coffee with this coffee_id exists and/or no milk with this milk_id
exists"
```

List all Users

List all the coffee recipes.

```
GET /users
```

Request

Request Header Parameters

Name	Allowed
Accept	application/json

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	

Response Examples

Success

Status: 200 OK

```
{
    "all users": [
        {
            "sub": "auth0|629d107900e9d50068e8a628",
            "email": "insung@americano.com"
        },
        {
            "sub": "auth0|629d145ae9b4960069f3a96a",
            "email": "alice@coffee.com"
        }
    ]
}
```

Failure

Status: 406 Not Acceptable

```
"Not Acceptable: Unsupported MIME Type"
```