Cooking Calendar: Service Layer

Overview

I will use an ASP.NET core web API hosted by Azure. For now, user information will be passed in the token from the client otherwise an userId would need to be passed on almost every route. I have broken up the rest of the document by controllers which will have a base route for all endpoints. In theory, the error responses will only ever be seen while developing and will never occur in production as long as the server is running correctly and the client formats its input correctly. I will use my localhost server to demonstrate responses, but in the future, the base server URI "https://localhost:7133" will change.

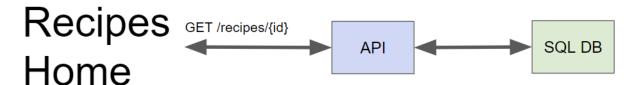
Recipe Controller "/recipes"

GET Requests

Retrieve Recipe

Route: "/recipes/{recipeId}"

Purpose: Used when the user navigates to the recipe page to view the recipe they have input. Also called on the home page to get details for the next upcoming meal.



```
Successful Request GET /recipes/1
Response: Status Code 200
{
   "id": 1,
   "name": "Tacos",
   "description": "Yummy Mexican Food",
   "servingSize": 12,
   "ingredients": [
   {
      "id": 1,
```

```
"ingredientId": 1,
  "ingredient": "Ground Beef",
  "measurement": 9,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 1,
  "denominator": 2
 },
  "id": 2,
  "ingredientId": 2,
  "ingredient": "Lettuce",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 0,
  "numerator": 1,
  "denominator": 2
 },
  "id": 3,
  "ingredientId": 3,
  "ingredient": "Cheese",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 0,
  "denominator": 0
 },
  "id": 4,
  "ingredientId": 4,
  "ingredient": "Taco Shells",
  "measurement": 0,
  "sortOrder": 1,
  "amount": 12,
  "numerator": 0,
  "denominator": 0
}
],
"tags": [
  "id": 1,
  "tagld": 1,
  "name": "Mexican"
```

```
},
  "id": 2,
  "tagld": 2,
  "name": "Easy"
}
],
"steps": [
 {
  "id": 1,
  "step": "Brown @1",
  "sortOrder": 1,
  "ingredients": [
     "id": 1,
     "recipeIngredientId": 1,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 1
 ]
 },
  "id": 2,
  "step": "Get @1 and put @2 into each shell, top with @3 and @4 to taste",
  "sortOrder": 1,
  "ingredients": [
   {
     "id": 2,
     "recipeIngredientId": 4,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 1
   },
     "id": 3,
     "recipeIngredientId": 1,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 12
   },
     "id": 4,
     "recipeIngredientId": 2,
```

```
"ingredientId": null,
       "numerator": 1,
       "denominator": 1
     },
       "id": 5,
       "recipeIngredientId": 3,
       "ingredientId": null,
       "numerator": 1,
       "denominator": 1
    ]
  },
    "id": 3,
    "step": "Enjoy",
    "sortOrder": 1,
    "ingredients": []
 ]
}
```

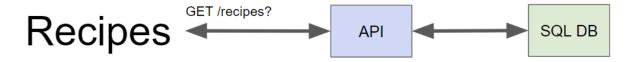
Error Request: https://localhost:7133/recipe/-1

Response: 400 Recipe with given Id could not be found

Retrieve Filtered Recipes

Route: "/recipes"

Purpose: On the recipe search page the user can use this endpoint to search through all of their recipes using the filters. Results will be paginated so filtering needs to be done on the server side.



Successful Request 1: GET

https://localhost:7133/recipes?Limit=10&Name=Ta&Taglds=1

```
Response 1: 200 {
    "id": 1,
    "name": "Tacos",
    "tags": [
```

```
"Mexican"
],
"ingredients": [
"Ground Beef",
"Lettuce",
"Cheese",
"Taco Shells"
]
```

Successful Request 2: GET

https://localhost:7133/recipes?Limit=10&Offset=0&Name=Ta&TagIds=1&TagIds=2&MustBeVegit arian=true&MustBeDairyFree=false&MustBeGlutenFree=true&IngredientsToInclude=1&IngredientsToInclude=2&IngredientsToExclude=3&IngredientsToExclude=4&NotMadeSinceDate=2023-0 3-23

Response 2: 204

Error Request: https://localhost:7133/recipes?Name=Ta&TagIds=1

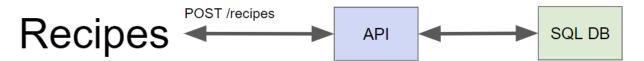
Error Response: **400** Limit is required

POST Requests

Create Recipe

Route: "/recipes"

Purpose: Called when the save button is clicked on a new recipe so the user can create a new recipe to cook.



Successful Request: Post https://localhost:7133/recipe
Body: {
 "id": null,
 "name": "Tacos",
 "description": "Yummy Mexican Food",
 "servingSize": 12,
 "ingredients": [
 {
 "id": null,
 "ingredientId": 1,

```
"ingredient": "Ground Beef",
  "measurement": 9,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 1,
  "denominator": 2
 },
  "id": null,
  "ingredientId": 2,
  "ingredient": "Lettuce",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 0,
  "numerator": 1,
  "denominator": 2
 },
  "id": null,
  "ingredientId": 3,
  "ingredient": "Cheese",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 0,
  "denominator": 0
 },
  "id": null,
  "ingredientId": 4,
  "ingredient": "Taco Shells",
  "measurement": 0,
  "sortOrder": 1,
  "amount": 12,
  "numerator": 0,
  "denominator": 0
}
],
"tags": [
  "id": null,
  "tagId": 1,
  "name": "Mexican"
},
```

```
"id": null,
  "tagId": 2,
  "name": "Easy"
"steps": [
  "id": null,
  "step": "Brown @1",
  "sortOrder": 1,
  "ingredients": [
     "id": null,
     "recipeIngredientId": 1,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 1
  ]
 },
  "step": "Get @1 and put @2 into each shell, top with @3 and @4 to taste",
  "sortOrder": 1,
  "ingredients": [
     "id": null,
     "recipeIngredientId": null,
     "ingredientId": 4,
     "numerator": 1,
     "denominator": 1
   },
     "id": null,
     "recipeIngredientId": 1,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 12
   },
     "id": null,
     "recipeIngredientId": 2,
     "ingredientId": null,
```

```
"numerator": 1,
      "denominator": 1
     },
      "id": null,
      "recipeIngredientId": 3,
      "ingredientId": null,
      "numerator": 1,
      "denominator": 1
     }
   ]
  },
    "id": null,
    "step": "Enjoy",
    "sortOrder": 1,
    "ingredients": []
  }
]
Response: 201
 "id": 1,
 "name": "Tacos",
 "description": "Yummy Mexican Food",
 "servingSize": 12,
 "ingredients": [
  {
    "id": 1,
    "ingredientId": 1,
    "ingredient": "Ground Beef",
    "measurement": 9,
    "sortOrder": 1,
    "amount": 1,
    "numerator": 1,
    "denominator": 2
  },
    "id": 2,
    "ingredientId": 2,
    "ingredient": "Lettuce",
    "measurement": 5,
    "sortOrder": 1,
    "amount": 0,
```

```
"numerator": 1,
  "denominator": 2
},
  "id": 3,
  "ingredientId": 3,
  "ingredient": "Cheese",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 0,
  "denominator": 0
},
  "id": 4,
  "ingredientId": 4,
  "ingredient": "Taco Shells",
  "measurement": 0,
  "sortOrder": 1,
  "amount": 12,
  "numerator": 0,
  "denominator": 0
}
"tags": [
  "id": 1,
  "tagld": 1,
  "name": "Mexican"
},
  "id": 2,
  "tagld": 2,
  "name": "Easy"
}
],
"steps": [
  "id": 1,
  "step": "Brown @1",
  "sortOrder": 1,
  "ingredients": [
    "id": 1,
```

```
"recipeIngredientId": 1,
    "ingredientId": null,
    "numerator": 1,
    "denominator": 1
 ]
},
 "id": 2,
 "step": "Get @1 and put @2 into each shell, top with @3 and @4 to taste",
 "sortOrder": 1,
 "ingredients": [
    "id": 2,
   "recipeIngredientId": 4,
    "ingredientId": null,
    "numerator": 1,
    "denominator": 1
  },
    "id": 3,
    "recipeIngredientId": 1,
   "ingredientId": null,
    "numerator": 1,
    "denominator": 12
  },
    "id": 4,
    "recipeIngredientId": 2,
    "ingredientId": null,
    "numerator": 1,
    "denominator": 1
  },
    "id": 5,
    "recipeIngredientId": 3,
    "ingredientId": null,
    "numerator": 1,
    "denominator": 1
]
},
 "id": 3,
```

```
"sortOrder": 1,
    "ingredients": []
 ]
}
Error Request: POST <a href="https://localhost:7133/recipes">https://localhost:7133/recipes</a>
Body: {}
Response: 400
 "type": "https://tools.ietf.org/html/rfc7231#section-6.5.1",
 "title": "One or more validation errors occurred.",
 "status": 400,
 "traceId": "00-0d9f04cb86376360dffb0cb729620d03-b9f635586fca5feb-00",
 "errors": {
   "": [
    "A non-empty request body is required."
  ],
   "recipe": [
    "The recipe field is required."
 }
```

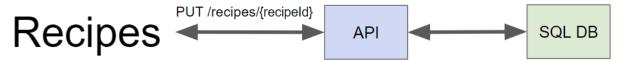
PUT Requests

"step": "Enjoy",

Update Recipe

Route: "/recipes/{recipeId}"

Purpose: Called when the save button is clicked on an existing recipe so the user can update a recipe after it has been created.



```
Successful Request: PUT <a href="https://localhost:7133/recipe/1">https://localhost:7133/recipe/1</a>
Body: {
  "id": 1,
  "name": "Tacos",
  "description": "Yummy Mexican Food",
  "servingSize": 12,
```

```
"ingredients": [
 {
  "id": 1,
  "ingredientId": 1,
  "ingredient": "Ground Beef",
  "measurement": 9,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 1,
  "denominator": 2
 },
  "id": 2,
  "ingredientId": 2,
  "ingredient": "Lettuce",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 0,
  "numerator": 1,
  "denominator": 2
 },
  "id": 3,
  "ingredientId": 3,
  "ingredient": "Cheese",
  "measurement": 5,
  "sortOrder": 1,
  "amount": 1,
  "numerator": 0,
  "denominator": 0
 },
  "id": 4,
  "ingredientId": 4,
  "ingredient": "Taco Shells",
  "measurement": 0,
  "sortOrder": 1,
  "amount": 12,
  "numerator": 0,
  "denominator": 0
 }
],
"tags": [
 {
```

```
"id": 1,
  "tagld": 1,
  "name": "Mexican"
 },
  "id": 2,
  "tagId": 2,
  "name": "Easy"
],
"steps": [
{
  "id": 1,
  "step": "Brown @1",
  "sortOrder": 1,
  "ingredients": [
   {
     "id": 1,
     "recipeIngredientId": 1,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 1
   }
  ]
 },
  "id": 2,
  "step": "Get @1 and put @2 into each shell, top with @3 and @4 to taste",
  "sortOrder": 1,
  "ingredients": [
   {
     "id": 2,
     "recipeIngredientId": 4,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 1
   },
     "id": 3,
     "recipeIngredientId": 1,
     "ingredientId": null,
     "numerator": 1,
     "denominator": 12
   },
```

```
"id": 4,
      "recipeIngredientId": 2,
      "ingredientId": null,
      "numerator": 1,
      "denominator": 1
     },
      "id": 5,
      "recipeIngredientId": 3,
      "ingredientId": null,
      "numerator": 1,
      "denominator": 1
   ]
  },
    "id": 3,
   "step": "Enjoy",
    "sortOrder": 1,
   "ingredients": []
]
Response: 204
Error Request: PUT /recipes/1
Body: {
 "id": 1,
 "description": "string",
 "servingSize": 0,
 "ingredients": [
 ],
 "tags": [
 "steps": [
]
Response: Status Code 400
 "type": "https://tools.ietf.org/html/rfc7231#section-6.5.1",
 "title": "One or more validation errors occurred.",
 "status": 400,
```

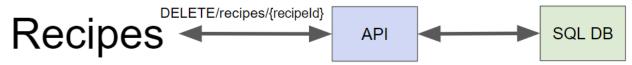
```
"traceId": "00-36692cb3b1829197a65595e1420d708a-bb9cb45e64cf8c72-00",
"errors": {
    "Name": [
    "The Name field is required."
    ]
}
```

DELETE Requests

Route: "/recipes/{recipeId}"

Purpose: Called when the user clicks a delete button and expects the unwanted recipe to be

deleted



Successful Request DELETE https://localhost:7133/recipes/1

Response: 204

Error Request DELETE https://localhost:7133/recipes/-1

Response: Recipe can not be deleted

Settings Controller "/settings"

GET Requests

Retrieve Settings

Route: "/settings"

},

Purpose: On the account page this endpoint will load the current user's settings so the user can make changes to them if needed.



```
Successful Request GET https://localhost:7133/settings
Response:{
 "isDefaultMeasurementStandard": true,
 "isDarkMode": true,
 "isMonthDefaultView": false,
 "categories": [
   "id": 1,
   "name": "Mystery",
   "dayOfWeek": 1,
   "categoryType": 4,
   "tagld": null,
   "ingredientId": null
  },
   "id": 1,
   "name": "Taco Tuesday",
   "dayOfWeek": 2,
   "categoryType": 1,
   "tagId": 1,
   "ingredientId": null
  },
   "id": 1,
   "name": "Chicken Day",
   "dayOfWeek": 4,
   "categoryType": 2,
   "tagld": null,
   "ingredientId": 1
```

```
{
    "id": 1,
    "name": "Take Out",
    "dayOfWeek": 0,
    "categoryType": 3,
    "tagId": null,
    "ingredientId": null
  }
]
```

Error Request: GET https://localhost:7133/settings

Response: **404**User does not exist

PUT Requests

Update Settings

Route: "/settings"

Purpose: When the user makes changes on the account page they will want to save the changes to make the website take into account their preferences.

Successful Request PUT https://localhost:7133/settings



```
Body: {
  "isDefaultMeasurementStandard": false,
  "isDarkMode": false,
  "isMonthDefaultView": true,
  "categories": [
    {
       "id": null,
       "name": "Mystery",
       "dayOfWeek": 1,
       "categoryType": 4,
       "tagld": null,
       "ingredientId": null
    },
    {
       "id": null,
```

```
"name": "Taco Tuesday",
   "dayOfWeek": 2,
   "categoryType": 1,
    "tagId": 1,
    "ingredientId": null
  },
    "id": null,
    "name": "Chicken Day",
   "dayOfWeek": 4,
    "categoryType": 2,
   "tagld": null,
   "ingredientId": 1
  },
    "id": null,
   "name": "Take Out",
    "dayOfWeek": 0,
    "categoryType": 3,
   "tagld": null,
    "ingredientId": null
]
Response: 204
Error Request PUT https://localhost:7133/settings
Body:
{
 "isDefaultMeasurementStandard": true,
 "isDarkMode": true,
 "isMonthDefaultView": true
Response: 400
 "type": "https://tools.ietf.org/html/rfc7231#section-6.5.1",
 "title": "One or more validation errors occurred.",
 "status": 400,
 "traceId": "00-b327928a1265986a74b500b655bf8942-ce19bd5bad86f74f-00",
 "errors": {
  "Categories": [
   "The Categories field is required."
  ]
}
```

Calendar Controller "/calendars"

GET Requests

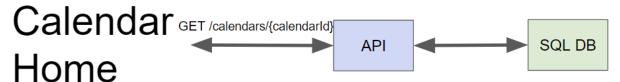
Retrieve Calendar

Route: "/calendars/{calendarId}"

Purpose: The user will use this endpoint on the calendar page to see upcoming meals in a specified time frame. The user will also get upcoming meals on the home page from this endpoint since similar information will be displayed in both places.

Successful Request GET

https://localhost:7133/calendars/1?StartDate=2023-03-23&EndDate=2023-03-31



```
Successful Response: 200
 "id": 1,
 "lastGenerated": "2023-03-23T20:42:56.700962-04:00",
 "meals": [
   "id": 1.
   "mealDate": "2023-03-29",
   "isUserAssigned": false,
   "recipe": {
     "id": 1,
     "name": "Tacos",
     "tags": [
      "Mexican"
     1,
     "ingredients": [
      "Ground Beef",
      "Lettuce",
      "Cheddar Cheese",
      "Taco Shells"
    ]
   }
  },
```

```
"id": 2,
"mealDate": "2023-03-31",
"isUserAssigned": false,
"recipe": {
    "id": 1,
    "name": "Grilled Cheese",
    "tags": [
        "Easy"
    ],
    "ingredients": [
        "White Bread",
        "American Cheese",
        "Butter"
    ]
    }
}
```

Error Request: GET

https://localhost:7133/calendars/1?StartDate=2023-03-23&EndDate=2023-03-22

Error Response: 400

Start date must come before end date

Post Requests

Generate Plan

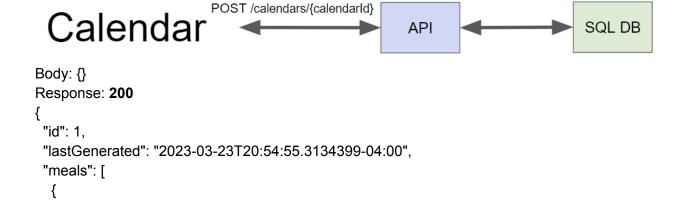
Route: "/calendars/{calendarId}"

Purpose: The user will use this endpoint on the calendar page to make the system generate

meals based on the categories the user has set.

Successful Request: Post

https://localhost:7133/calendars/1?StartDate=2023-03-23&EndDate=2023-03-31



```
"id": 1,
 "mealDate": "2023-03-29",
 "isUserAssigned": false,
 "recipe": {
  "id": 1,
  "name": "Tacos",
  "tags": [
   "Mexican"
  ],
  "ingredients": [
   "Ground Beef",
   "Lettuce",
   "Cheddar Cheese",
   "Taco Shells"
  ]
}
},
 "id": 2,
 "mealDate": "2023-03-31",
 "isUserAssigned": true,
 "recipe": {
  "id": 1,
  "name": "Grilled Cheese",
  "tags": [
   "Easy"
  ],
  "ingredients": [
   "White Bread",
   "American Cheese",
   "Butter"
```

Error Request: Post

https://localhost:7133/calendars/1?StartDate=2023-03-23&EndDate=2023-03-22

Error Response: 400

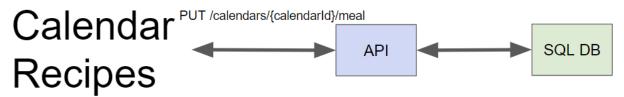
Start date must come before end date

PUT Requests

Assign Meal

Route: "/calendars/{calendarId}/meal"

Purpose: This endpoint will allow the user to specifically assign a recipe to a given day on either the calendar page or the view recipe page.



```
Successful Request 1: PUT https://localhost:7133/calendars/1/meal Body: {
   "mealId": 1,
   "mealDate": "2023-03-23",
   "recipeId": 1
}
Response 1: 204
Successful Request 2: PUT https://localhost:7133/calendars/1/meal Body: {
   "mealDate": "2023-03-23",
   "recipeId": 1
}
Response 2: 201 (Still no content)
```

Error Request: https://localhost:7133/calendars/1/meal

Body: {}

ErrorResponse: **400** Recipeld is required

Update Category

Route: "/calendars/{calendarIds}/category"

Purpose: This endpoint will allow the user to conveniently change one category when they are on the calendar tab and realize they want a change



Successful Request 1: PUT https://localhost:7133/calendars/1/category

```
Body: {
 "id": 1,
 "name": "Mystery",
 "dayOfWeek": 1,
 "categoryType": 4,
 "tagld": null,
 "ingredientId": null
Response 1: 204
Successful Request 2: PUT <a href="https://localhost:7133/calendars/1/category">https://localhost:7133/calendars/1/category</a>
Body:{
 "id": null,
 "name": "Mystery",
 "dayOfWeek": 1,
 "categoryType": 4,
 "tagld": null,
 "ingredientId": null
}
Response 2: 201 (Still no content)
Error Request: <a href="https://localhost:7133/calendars/1/category">https://localhost:7133/calendars/1/category</a>
Body: {
 "id": null,
 "name": "Mystery",
 "dayOfWeek": 1,
 "tagld": null,
 "ingredientId": null
ErrorResponse: 400
```

CategoryType is required

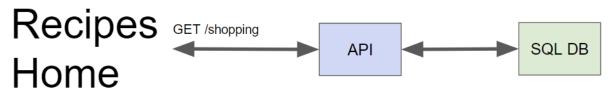
Shopping List Controller "/shopping"

GET Requests

Retrieve Shopping List

Route: "/shopping"

Purpose: This endpoint will be called when the user goes to the shopping list page and will return a list if one already exists for the user. This endpoint will also be used on the home page to fill in the shopping list section



```
Successful Request GET https://localhost:7133/shopping
Successful Response: 200
 "id": 1,
 "startDate": "2023-03-23",
 "endDate": "2023-03-31",
 "createdOn": "2023-03-23T23:51:23.4071655-04:00",
 "generatedItems": [
   "id": 1,
   "isChecked": false,
   "ingredientId": 1,
   "name": "Ground Beef",
   "amount": 3,
   "measurementType": 9
  },
   "id": 2,
   "isChecked": true,
   "ingredientId": 1,
   "name": "Cheddar Cheese",
   "amount": 12,
   "measurementType": 10
  }
 "enteredItems": [
  {
```

```
"id": 1,

"isChecked": false,

"name": "Mountain Dew",

"category": 2

},

{

"id": 2,

"isChecked": true,

"name": "Tortilla Chips",

"category": 3

}

]

No error response (unless there would be an internal server error)
```

POST Requests

Generate Shopping List

Route: "/shopping"

Purpose: This endpoint will generate a shopping list for the user when requested on the shopping page so that the user can take advantage of the database knowing what ingredients they will need.



```
Successful Request POST <a href="https://localhost:7133/shopping">https://localhost:7133/shopping</a>
Body: {
    "startDate": "2023-03-23",
    "endDate": "2023-03-31"
}
Successful Response: 201
{
    "id": 1,
    "startDate": "2023-03-23",
    "endDate": "2023-03-31",
    "createdOn": "2023-03-23T23:57:43.7089553-04:00",
    "generatedItems": [
    {
        "id": 1,
        "isChecked": false,
        "ingredientId": 1,
```

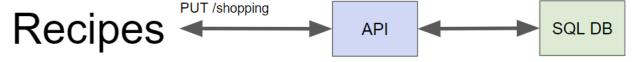
```
"name": "Ground Beef",
   "amount": 3,
   "measurementType": 9
   "id": 2,
   "isChecked": true,
   "ingredientId": 1,
   "name": "Cheddar Cheese",
   "amount": 12,
   "measurementType": 10
 ],
 "enteredItems": []
Errorl Request POST https://localhost:7133/shopping
Body: {
 "startDate": "2023-03-23",
 "endDate": "2023-03-22"
Error Response: 400
Start date must come before end date
```

PUT Requests

Update Shopping List

Route: "/shopping"

Purpose: This endpoint will allow the user to add, edit, and delete items from the shopping list as they see fit.



Successful Request PUT https://localhost:7133/shopping

```
Body: {
   "id": 1,
   "generatedItemIdsToCheck": [
   1,
   2
],
   "generatedItemIdsToUnCheck": [
   3
```

```
],
 "generatedItemIdsToDelete": [
  4
 "enteredItemsToUpdate": [
   "id": 1,
   "isChecked": true,
   "name": "Mountain Dew",
   "category": 2
 ],
 "enteredItemIdsToDelete": [
]
Successful Response: 204
Error Request: PUT https://localhost:7133/shopping
Body: {
 "id": 1,
 "enteredItemsToUpdate": [
   "id": -1,
   "isChecked": true,
   "name": "Mountain Dew",
   "category": 2
}
```

Error Response: 400 Entered Item Id did not exist