

# Portfolio Assignment: API Spec

CS 493: Cloud Application Development

Fall 2022

Oregon State University

Last Update: Dec. 5 11:15 pm Pacific

URL: <https://portfolio-hicksa2.ue.r.appspot.com/>

Change log.....	1
Data Model.....	2
Create a Console – Protected.....	3
Get a Console - Protected .....	5
List User’s Consoles - Protected .....	7
Partial Edit a Console - Protected.....	9
Delete a Console .....	11
Create a Game.....	12
Get a Game .....	14
List all Games .....	15
Delete a Game.....	17
Put Game in Console - Protected .....	18
Remove Game from Console .....	19

## Change log

Version	Change	Date
1.0	Initial version.	Dec 5, 2022

## Data Model

The app stores three kinds of entities in Datastore, Users, Consoles, and Games

### Users

Property	Data Type	Notes
id	Integer	The id of the user. Datastore automatically generates it. Don't add it yourself as a property of the entity.
name	String	User's "nickname" pulled from JWT.
email	String	User's email used to log into account.
auth0ID	String	the auth0 ID automatically generated for the user. Used to verify ownership of console for CRUD operations.

### Consoles

Property	Data Type	Notes
id	Integer	The id of the console. Datastore automatically generates it. Don't add it yourself as a property of the entity.
name	String	Name of the console. E.g., PlayStation, Xbox
memory	String	RAM of the console.
storage	String	External storage of the console.
games	Object[ ]	Array of game objects that are being used by the console. Initializes as null.
owner	String	id of the user who created the console. They are the only ones able to perform CRUD operations on the console.
self	String	self url of specific console.

### Games

Property	Data Type	Notes
id	Integer	The id of the game. Datastore automatically generates it. Don't add it yourself as a property of the entity.
name	String	The name of the game.
type	String	The type of game. E.g., RPG, Platformer, Simulation
rating	String	The rating of the game. E.g., M, T, E
console	String	Console game is currently plugged in to. If not plugged into any, the value is null.
self	String	self url of specific game.

## Create a Console – Protected

Allows a user who is signed in to create a new console.

POST /consoles

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the console.	Yes
memory	RAM of the console.	Yes
storage	External storage of the console.	Yes

Request Body Example

```
{
  "name": "PlayStation 5",
  "memory": "16 GB",
  "storage": "1 TB"
}
```

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, this error will be thrown, and the console will not be created.
Failure	406 Not Acceptable	Responses will always be JSON, so if client doesn't accept JSON this error will be thrown.
Failure	401 Unauthorized	Missing or malformed JWT.

Response Examples

- Datastore will automatically generate an ID, and owner will be assigned from the JWT.

Success

Status: 201 Created

```
{
  "storage": "1 TB",
}
```

```
"name": "PlayStation 5",
"self": "http://localhost:8080/consoles/5710150413320192",
"memory": "16 GB",
"owner": "auth0|638d78b19b0c438142ecfcfe",
"games": [],
"id": "5710150413320192"
}
```

#### *Failure*

<b>Status: 400 Bad Request</b>
<pre><code>{   "Error": "Bad Request - Missing Attributes" }</code></pre>
<b>Status: 406 Not Acceptable</b>
Client must accept application/json response.
<b>Status: 401 Unauthorized</b>
<pre><code>{   "Error": "Unauthorized - Missing Authentication" }</code></pre>

## Get a Console - Protected

Allows user to get their own existing console.

GET /consoles/:console\_id

Request

Path Parameters

Name	Description
console_id	ID of the console

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	Missing or malformed JWT.
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with auth0ID.
Failure	404 Not Found	No console with this console_id exists
Failure	406 Not Acceptable	Responses will always be JSON, so if client doesn't accept JSON this error will be thrown.

Response Examples

*Success*

Status: 200 OK

```
{
  "storage": "1 TB",
  "name": "PlayStation 5",
  "self": "http://localhost:8080/consoles/5710150413320192",
  "memory": "16 GB",
  "owner": "auth0|638d78b19b0c438142ecfcfe",
  "games": [],
  "id": "5710150413320192"
}
```

*Failure*

Status: 404 Not Found

```
{
  "Error": "No console with this console_id exists"
}
```

Status: 401 Unauthorized

```
{  
  "Error": "Unauthorized - Missing Authentication"  
}
```

**Status: 406 Not Acceptable**

Client must accept application/json response.

## List User's Consoles - Protected

List all consoles created under current user.

GET /consoles

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	401 Unauthorized	Missing or malformed JWT.
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with auth0ID.
Failure	406 Not Acceptable	Client must accept JSON values.

Response Examples

Success

Status: 200 OK

```
{
  "totalConsoles": 6,
  "consoles": [
    {
      "memory": "64 GB",
      "self": "http://localhost:8080/consoles/4802063531769856",
      "name": "PC",
      "storage": "4 TB",
      "owner": "auth0|638d78b19b0c438142ecfcfe",
      "games": [],
      "id": "4802063531769856"
    },
    {
      "owner": "auth0|638d78b19b0c438142ecfcfe",
      "name": "PlayStation 5",
      "self": "http://localhost:8080/consoles/5107442887163904",
      "storage": "1 TB",
      "memory": "16 GB",
      "games": [],
      "id": "5107442887163904"
    }
  ],
}
```

<pre> {   "memory": "4 GB",   "storage": "64 GB",   "owner": "auth0 638d78b19b0c438142ecfcfe",   "games": [],   "self": "http://localhost:8080/consoles/5143677177430016",   "name": "Nintendo DS",   "id": "5143677177430016" }, {   "storage": "500 GB",   "name": "Nintendo Switch",   "self": "http://localhost:8080/consoles/5685839489138688",   "memory": "8 GB",   "owner": "auth0 638d78b19b0c438142ecfcfe",   "games": [],   "id": "5685839489138688" }, {   "memory": "32 GB",   "games": [],   "name": "Xbox One",   "owner": "auth0 638d78b19b0c438142ecfcfe",   "storage": "2 TB",   "self": "http://localhost:8080/consoles/6209438415323136",   "id": "6209438415323136" } ], "next": "http://localhost:8080/consoles?cursor=CjESK2oTcH5wb3J0Zm9saW8taGlja3NhMnIUCxIHQ29uc29sZRIaGIDYuO6DCwwYACAA" } </pre>	<p><b>Status: 401 Unauthorized</b></p> <pre> {   "Error": "Unauthorized - Missing Authentication" } </pre>
<p><b>Status: 406 Not Acceptable</b></p> <p>Client must accept application/json response.</p>	



## Partial Edit a Console - Protected

Allows user to edit part of one of their consoles

PATCH /consoles/:console\_id

Request

Path Parameters

Name	Description
console_id	ID of the console

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the console.	No
memory	RAM of the console.	No
storage	External storage of the console.	No

Request Body Example

```
{
  "name": "PlayStation 4"
}
```

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	204 No Content	
Failure	404 Not Found	No console with this console_id exists
Failure	401 Unauthorized	Missing or malformed JWT.
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with authOID.

Response Examples

*Success*

Status: 204 No Content

*Failure*

Status: 404 Not Found

```
{
  "Error": "No console with this console_id exists"
}
```

Status: 401 Unauthorized

```
{  
  "Error": "Unauthorized - Missing Authentication"  
}
```

## Delete a Console - Protected

Allows you to delete a console. Note that if a game is currently in the console, it removes the console from the game.

DELETE /consoles/:console\_id

### Request

#### Path Parameters

Name	Description
console_id	ID of the console

### 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 console with this console_id exists
Failure	401 Unauthorized	Missing or malformed JWT.
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with auth0ID.

### Response Examples

#### Success

Status: 204 No Content

#### Failure

Status: 404 Not Found

```
{
  "Error": "No console with this console_id exists"
}
```

Status: 401 Unauthorized

```
{
  "Error": "Unauthorized - Missing Authentication"
}
```

## Create a Game

Allows you to create a new game.

POST /games

Request

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Description	Required?
name	The name of the game.	Yes
type	The type of game. E.g., RPG, Platformer, Simulation	Yes
rating	The rating of the game. E.g., M, T, E	Yes

Request Body Example

```
{
  "name": "God of War: Ragnarok",
  "type": "Open World",
  "rating": "M"
}
```

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 game must not be created, and 400 status code must be returned.
Failure	406 Not Acceptable	Client must accept JSON values.

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.
- The value of the attribute `current_console` is the ID of the console currently at this game. If there is no console at this game, the value of `current_console` should be null.

### Success

Status: 201 Created

```
{  
  "rating": "E",  
  "console": null,  
  "self": "http://localhost:8080/4834670923481088",  
  "name": "Little Big Planet",  
  "type": "Platformer",  
  "id": "4834670923481088"  
}
```

### Failure

Status: 400 Bad Request

```
{  
  "Error": "The request object is missing the required number"  
}
```

## Get a Game

Allows you to get an existing game.

GET /games/:game\_id

### Request

#### Path Parameters

Name	Description
game_id	ID of the game

#### Request Body

None

### Response

#### Response Body Format

JSON

#### Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	404 Not Found	No game with this game_id exists
Failure	406 Not Acceptable	Client must accept JSON values.

#### Response Examples

##### Success

Status: 200 OK

```
{
  "rating": "E",
  "console": null,
  "self": "http://localhost:8080/4834670923481088",
  "name": "Little Big Planet",
  "type": "Platformer",
  "id": "4834670923481088"
}
```

##### Failure

Status: 404 Not Found

```
{
  "Error": "No game with this game_id exists"
}
```

## List all Games

List all the games.

GET /games

Request

Path Parameters

None

Request Body

None

Response

Response Body Format

JSON

Response Statuses

Outcome	Status Code	Notes
Success	200 OK	
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with auth0ID.

Response Examples

*Success*

Status: 200 OK

```
{
  "totalGames": 3,
  "games": [
    {
      "rating": "E",
      "console": null,
      "self": "http://localhost:8080/4834670923481088",
      "name": "Little Big Planet",
      "type": "Platformer",
      "id": "4834670923481088"
    },
    {
      "self": "http://localhost:8080/5632139873746944",
      "name": "God of War",
      "rating": "T",
      "type": "Open World RPG",
      "console": null,
      "id": "5632139873746944"
    },
    {
      "self": "http://localhost:8080/5670392840585216",
      "rating": "E",
      "type": "Adventure",
      "name": "Stardew Valley",
      "console": {
```

```
        "id": "5707651547660288",
        "self": "http://localhost:8080/consoles/5707651547660288"
    },
    "id": "5670392840585216"
]
}
```



## Delete a Game

Allows you to delete a game. If the game being deleted has a console, the console is now considered “at sea.”

DELETE /games/:game\_id

### Request

#### Path Parameters

Name	Description
game_id	ID of the game

### 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 game with this game_id exists

#### Response Examples

##### Success

Status: 204 No Content

##### Failure

Status: 404 Not Found

```
{
  "Error": "No game with this game_id exists"
}
```

## Put Game in Console - Protected

Assign a game to the current user's console.

PUT /consoles/:console\_id/games/:game\_id

### Request

#### Path Parameters

Name	Description
game_id	ID of the game
console_id	ID of the console

### Request Body

None

### Response

No body

#### Response Body Format

Success: No body

Failure: JSON

#### Response Statuses

Outcome	Status Code	Notes
Success	204 No Content	Succeeds only if a console exists with this console_id, a game exists with this game_id and the game is empty.
Failure	403 Forbidden	The game is not empty because there is already a console at this game.
Failure	404 Not Found	The specified console and/or game does not exist
Failure	401 Unauthorized	Missing or malformed JWT.
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with auth0ID.

#### Response Examples

##### Success

Status: 204 No Content

##### Failure

Status: 403 Forbidden

```
{
  "Error": "This is not your console."
}
```

Status: 404 Not Found

```
{
  "Error": "The specified console and/or game does not exist"
}
```

## Remove Game from Console - Protected

Removed the game from the console.

DELETE /consoles/:console\_id/games/:game\_id

### Request

#### Path Parameters

Name	Description
game_id	ID of the game
console_id	ID of the console

### Request Body

None

### Response

No body

#### Response Body Format

Success: No body

Failure: JSON

#### Response Statuses

Outcome	Status Code	Notes
Success	204 No Content	Succeeds only if a console exists with this console_id, a game exists with this game_id and this game is plugged into this console.
Failure	404 Not Found	This could be because no console with this console_id exists, or because no game with game_id exists, or even if both console_id and game_id are valid, the game with this game_id is not plugged into the console with this console_id.
Failure	401 Unauthorized	Missing or malformed JWT.
Failure	403 Forbidden	JWT is valid, but the user does not own this console. Verified with auth0ID.

### Response Examples

#### Success

Status: 204 No Content

#### Failure

Status: 404 Not Found

```
{
  "Error": " No console with this console_id is at the game with this game_id"
}
```

Status: 401 Unauthorized

```
{
  "Error": "Unauthorized - Missing Authentication"
}
```

