- Other alternates could be to integrate swagger UI for documenting the APIs but as it was mentioned to do minimal documentation, so I am doing it here.
- Many improvements could be done inside the code before moving it to production like :
  - Adding Asynchronous loggers (such as Winston etc)

1. Add Survivor API

URL : POST /api/survivor/add-survivor

Description : This API allows to add survivors to the database.

Query params : none

Request Body :

- name (string, required) : The name of the survivor
- age (number, required) : The age of the survivor
- gender (string, required) : The gender of the survivor
- lastLocation (object) :
  - latitude (number, required) : The latitude parameter of the location
  - longitude (number, required) : The longitude parameter of the location
- inventory(array) :
  - item (string, required) : The item name
  - quantity (number, required) : The quantity of that item

Response :

```
{
"message" : "Survivor created"
}
```

2. Update Location API

URL : PUT /api/survivor/update-location

Description : This API allows to update location (longitude, latitude) of a specific survivor

Query params : id

Request Body :

- longitude (number, required) : The longitude parameter of the location
- latitude (number, required) : The latitude parameter of the location

Response :

```
{
  "message": "Location successfully updated",
  "updated_loc": {
    "lastLocation": {
      "latitude": 6,
      "longitude": 2
    },
    "_id": "6439a43b93dd77bad3200287",
    "name": "hassan",
    "age": 18,
    "gender": "male",
    "inventory": [
      {
        "item": "water",
        "quantity": 9,
        "_id": "6439a43b93dd77bad3200288"
      }
    ],
    "infected": true,
    "__v": 0
```

}}

3. Infect Survivor API

URL : PUT /api/survivor/infect-survivor

Description : This API allows to infect a particular survivor

Query params : id

Request Body :

- infected (Boolean, required) : send **true** In order to mark the survivor as infected

Response :

```
{

  "message": "Survivor Flagged as Infected",

  "update_infected": {

    "lastLocation": {

      "latitude": 6,

      "longitude": 2

    },

    "_id": "6439a43b93dd77bad3200287",

    "name": "hassan",

    "age": 18,

    "gender": "male",

    "inventory": [

      {

        "item": "water",

        "quantity": 9,

        "_id": "6439a43b93dd77bad3200288"

      }

    ],

    "infected": true,

    "__v": 0

  }}
```

4. Trade Items API

URL : POST /api/survivor/trade-items

Description : This API allows survivors to trade items among themselves according to a predefined price table. Both the sender and receiver of the trade must offer the same amount of points worth of items. The items will be transferred from the sender to the receiver. The two survivors who are making the trade should not be infected.

Query params : none

Request Body :

- senderId (string, required) : The unique id of the sender
- receiverId (string, required) : The unique id of the receiver
- senderItems (array) :
  - item (string, required) : The type of item offered by the sender (water, ammunition etc)
  - quantity (number, required) : The quantity of item offered by the sender
- receiverItems (array) :
  - item (string, required) : The type of item offered by the receiver (water, ammunition etc)
  - quantity (number, required) : The quantity of item offered by the receiver

Response :

{

  "message": "Items traded successfully"

}

5. Get Percentage of Infected and Non-infected survivors

URL : GET /api/survivor/get-percentage

Description: This API provided the percentage data of infected and non-infected survivors

Query params : none

Request Body : none

Response Body :

```
{

  "infectedPercentage": 16.666666666666664,

  "nonInfectedPercentage": 83.33333333333334

}
```

6. Get Average Items API

URL : GET /api/survivor/get-average-items

Description : This API Provides the average amount of each kind of resource by the survivor

Query params : none

Request Body : none

Response :

```
{

  "average": {

    "water": 23,

    "food": 0,

    "medication": 0,

    "ammunition": 0

  }

}
```

7. Get Percentage of Infected and Non-infected survivors

URL : GET /api/survivor/get-percentage

Description: This API provides the percentage data of infected and non-infected survivors

Query params : none

Request Body : none

Response Body :

{

  "infectedPercentage": 16.666666666666664,

  "nonInfectedPercentage": 83.33333333333334

}

8. Get points Lost API

URL : GET /api/survivor/get-points-lost

Description : This API provides the points lost because of infected survivors.

Query params : id

Request Body : none

Response Body :

{

  "pointsLost": 124

}