Cardano Recycling Dapp Backend and API
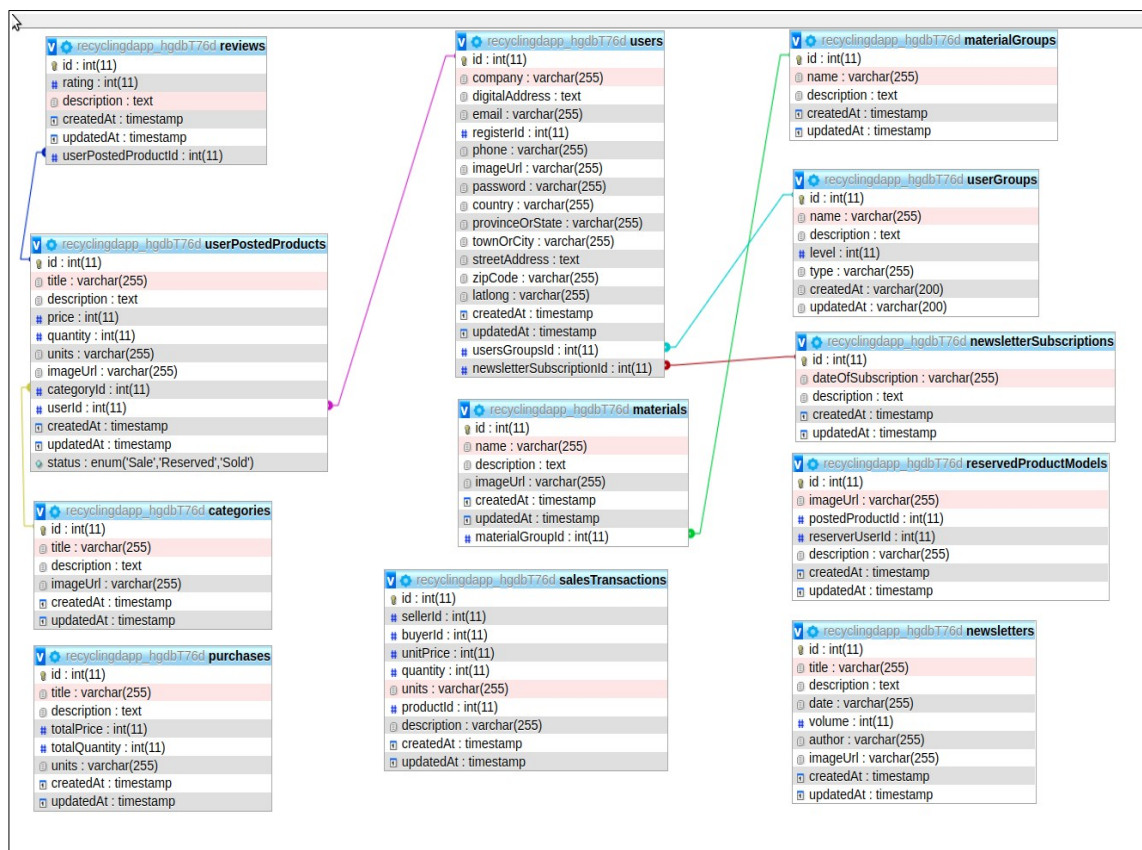
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1. Hosting and Domain - Tobb Technologies

```
https://vcfdt6yh.recyclingdapp.xyz/api/{collection}/???
```

2. Database Schema

3. System Interactions

```
a) register users groups.
b) register users. A user belongs to a user group
c) register waste material categories
d) Users actions
- users login to system (get a user –supply password, username, etc)
- users post waste materials from different categories e.g. metal, paper,
glass, etc. UserPostedProducts)
- users reserve posted materials
- users perform sales transactions
e) Reports

- sales
- posted materials
- bought materials
- reserved materials
- newsletter subscriptions
```

Cardano Recycling Dapp Backend and API

4. API Endpoints
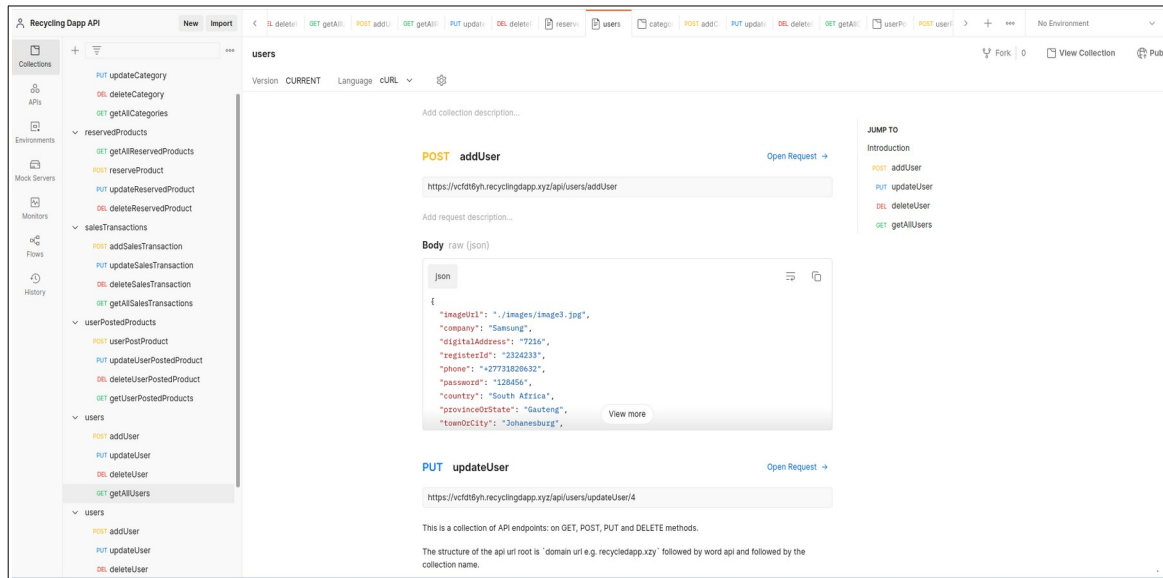
Testing can be via Postman or via Curl at the OS terminal

A: POSTMAN

1. Categories

categories

This is a categories collection API on retrieve, add, update and delete material/products categories like paper, metal, glass, etc

The structure of the api url root is `domain url e.g. recycledapp.xzy` followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

POST

addCategory

https://vcfdt6yh.recyclingdapp.xyz//api/categories/addCategory

Add a category to the database API cURL call. This endpoint requires caller to pass in a json object with correct table fields

Bodyraw (json)
json
{

```
  "title": "Cloths Waste Materials",
  "imageUrl": "./glassImages/image11.jpg",
  "description": "Clothing waste materials "
}
```

PUT

updateCategory

https://vcfdt6yh.recyclingdapp.xyz//api/categories/updateCategory/2

This is an update endpoint. Callers need to pass in json object as demonstrated here.

For the update pass in the request parameter id which is the primary key id of the row in a table.

Bodyraw (json)
json
```
{
  "imageUrl": "./buildingImages/image8.jpg"
}
```

DEL

deleteCategory

https://vcfdt6yh.recyclingdapp.xyz//api/categories/deleteCategory/5

For the delete pass in the request parameter id which is the primary key id of the row in a table.

GET

getAllCategories

https://vcfdt6yh.recyclingdapp.xyz//api/categories/allCategories

This is an endpoint to get all records from the collection table. The return result is a json object containing all rows from the table.

2. Reserved Products

reservedProducts

This is a collection of API endpoints: on GET, POST, PUT and DELETE methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy` followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

GET

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getAllReservedProducts

https://vcfdt6yh.recyclingdapp.xyz//api/reservedProducts/
allReservedProducts

POST

reserveProduct

https://vcfdt6yh.recyclingdapp.xyz//api/reservedProducts/reserveProduct

```
Bodyraw (json)
json
{
  "imageUrl": "./reservedProductsImages/image45.jp",
  "postedProductId": 3,
  "reserverUserId": 2,
  "description": "Reserve waste bottles for Coca cola"
}
```

PUT

updateReservedProduct

https://vcfdt6yh.recyclingdapp.xyz//api/reservedProducts/
updateReservedProduct/2

```
Bodyraw (json)
json
{
  "imageUrl": "./reservedProductsImages/image22.jp",
  "postedProductId": 3,
  "reserverUserId": 3,
  "description": "Reserve testing "
}
```

DEL

deleteReservedProduct

https://vcfdt6yh.recyclingdapp.xyz//api/reservedProducts/
deleteReservedProduct/4

3. Sales Transactions

salesTransactions

This is a collection of API endpoints: on GET, POST, PUT and DELETE
methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy`
followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

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POST

addSalesTransaction

https://vcfdt6yh.recyclingdapp.xyz//api/salesTransactions/
addSalesTransaction

Bodyraw (json)
json

```json
{
  "sellerId": 1,
  "buyerId": 3,
  "unitPrice": 15,
  "quantiy": 200,
  "units": "tonnes",
  "productId": 4,
  "description": "Samsung buys Standard Bank waste bricks"
}
```

PUT

updateSalesTransaction

https://vcfdt6yh.recyclingdapp.xyz//api/salesTransactions/
updateSalesTransaction/2

Bodyraw (json)
json

```json
{
  "sellerId": 1,
  "buyerId": 3,
  "unitPrice": 15,
  "quantity": 200,
  "units": "tonnes",
  "productId": 4,
  "description": "Samsung buys Standard Bank waste bricks"
}
```

DEL

deleteSalesTransaction

https://vcfdt6yh.recyclingdapp.xyz//api/salesTransactions/
deleteSalesTransaction/3

GET

getAllSalesTransactions

https://vcfdt6yh.recyclingdapp.xyz//api/salesTransactions/
allSalesTransactions

4. Users Posted waste Products

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userPostedProducts

This is a collection of API endpoints: on GET, POST, PUT and DELETE methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy` followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

POST

userPostProduct

https://vcfdt6yh.recyclingdapp.xyz//api/userPostedProducts/userPostProduct

Bodyraw (json)
```json
{
  "title": "Broken Laptops and Tablets",
  "imageUrl": "./laptopsImages/image19.jpg",
  "price": 10,
  "quantity": 100,
  "units": "kg",
  "description": "Samsung is disposing for recycling",
  "categoryId": 6,
  "userId": 3
}
```

PUT

updateUserPostedProduct

https://vcfdt6yh.recyclingdapp.xyz//api/userPostedProducts/
updateUserPostedProduct/3

Bodyraw (json)
```json
{
  "imageUrl": "./bottlesImages/image88.jpg"
}
```

DEL

deleteUserPostedProduct

https://vcfdt6yh.recyclingdapp.xyz//api/userPostedProducts/
deleteUserPostedProduct/6

GET

getUserPostedProducts

https://vcfdt6yh.recyclingdapp.xyz//api/userPostedProducts/
allUsersPostedProducts

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5. Users (Households, Organizations, Companies, etc)

users

This is a collection of API endpoints: on GET, POST, PUT and DELETE methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy` followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

POST

addUser

https://vcfdt6yh.recyclingdapp.xyz//api/users/addUser

Bodyraw (json)
json

```
{
  "imageUrl": "./images/image3.jpg",
  "company": "Samsung",
  "digitalAddress": "7216",
  "registerId": "2324233",
  "phone": "+27731820632",
  "password": "128456",
  "country": "South Africa",
  "provinceOrState": "Gauteng",
  "townOrCity": "Johanesburg",
  "streetAddress": "097 Gilbert Street",
  "zipCode": 2100,
  "latlong": "-26.0145589,28.1273711",
  "usersGroupsId": 4
}
```

PUT

updateUser

https://vcfdt6yh.recyclingdapp.xyz//api/users/updateUser/4

This is a collection of API endpoints: on GET, POST, PUT and DELETE methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy` followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

Bodyraw (json)
json

```
{
  "imageUrl": "./images/image5.jpg",
```

```json
   "company": "Mercer",
   "digitalAddress": "4437216",
   "registerId": "234424233",
   "phone": "+277431820632",
   "password": "1228456",
   "country": "South Africa",
   "provinceOrState": "Gauteng",
   "townOrCity": "Johanesburg",
   "streetAddress": "997 Musa Street",
   "zipCode": 2100,
   "latlong": "-26.0145539,28.1278711",
   "usersGroupsId": 1
}
```

DEL

deleteUser

https://vcfdt6yh.recyclingdapp.xyz//api/users/deleteUser/4

GET

getAllUsers

https://vcfdt6yh.recyclingdapp.xyz//api/users/allUsers

6. Users Groups(Endpoints for processing groups)

usersGroups

This is a collection of API endpoints: on GET, POST, PUT and DELETE
methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy`
followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

POST

addUsersGroup

https://vcfdt6yh.recyclingdapp.xyz//api/usersGroups/addUserGroup

This is a collection of API endpoints: on GET, POST, PUT and DELETE
methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy`
followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

Bodyraw (json)
json
{

```
  "name": "Household",
  "level": 1,
  "description": "This group is for people and small companies selling
waste",
  "type": "metal"
}
```

PUT

updateUsersGroup

https://vcfdt6yh.recyclingdapp.xyz//api/usersGroups/updateUserGroup/1

```
Bodyraw (json)
json
{
  "name": "Enterprise",
  "level": 1,
  "description": "Enterprise waster paper collectors",
  "type": "paper"
}
```

DEL

deleteUserGroup

https://vcfdt6yh.recyclingdapp.xyz//api/usersGroups/deleteUserGroup/2

GET

getAllUsersGroups

https://vcfdt6yh.recyclingdapp.xyz//api/usersGroups/allUsersGroups

```
curl --location --request GET
'https://vcfdt6yh.recyclingdapp.xyz/api/users/allUsers'
```

B: CURL

usersGroups

POSTaddUsersGroup

https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/addUserGroup

This is a collection of API endpoints: on GET, POST, PUT and DELETE
methods.

The structure of the api url root is `domain url e.g. recycledapp.xzy`
followed by word api and followed by the collection name.

For the local host pass in the port as shown on the example.

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```
BODYraw
{
    "name":"Household",
    "level":1,
    "description":"This group is for people and small companies selling
waste",
    "type":"metal"
}
```

Example Request

addUsersGroup

```
curl --location --request POST
'https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/addUserGroup' \
--data-raw '{
    "name":"Household",
    "level":1,
    "description":"This group is for people and small companies selling
waste",
    "type":"metal"
}'
```

PUTupdateUsersGroup

```
https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/updateUserGroup/1
BODYraw
{
    "name":"Enterprise",
    "level":1,
    "description":"Enterprise waster paper collectors",
    "type":"paper"
}
```

Example Request

updateUsersGroup

```
curl --location --request PUT
'https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/updateUserGroup/1' \
--data-raw '{
    "name":"Enterprise",
    "level":1,
    "description":"Enterprise waster paper collectors",
    "type":"paper"
}'
```

DELdeleteUserGroup

```
https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/deleteUserGroup/2
```

Example Request

deleteUserGroup

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```
curl --location --request DELETE
'https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/deleteUserGroup/2'
```

GETgetAllUsersGroups

https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/allUsersGroups

Example Request

getAllUsersGroups

```
curl --location --request GET
'https://vcfdt6yh.recyclingdapp.xyz/api/usersGroups/allUsersGroups'
```

C: ONLINE LIVE Endpoints

a) userPostedProducts

https://documenter.getpostman.com/view/25064789/2s8Z6zzXkj

b) salesTransactions

https://documenter.getpostman.com/view/25064789/2s8Z6zzrYo