

Fullstack Training Certification project.

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Shop 24X7

Shop 24x7 is a brick and mortar store which runs 24x7 and wants to create an online presence and allows users to order online. They have consulted with a Design agency which has helped in creating UX designs for them and their technical staff has created API specs based on those Design and Project requirements. You (and your colleagues) have joined the development team at Shop 24x7.

As a Team, The team is responsible for breaking the requirements into smaller features and assigning them to individual contributors (Fullstack Developers).

As a Fullstack Engineer, The developer will be responsible for creating the UX using Angular and API using NodeJS for the feature assigned. They may have to handle 2 different user personas (Customer and Admin) depending on the feature. The developer will be responsible for creating Unit test cases using karma or Cypress.

As a Quality Assurance Engineer, QA engineers are from a different team and they have already created a testing suite to test feature implementation and have asked Fullstack Engineers to provide predefined data-testid on certain HTML elements to help them test the feature.

Example

```
1 <input data-testid="login-username" placeholder="Enter username" />
```

Features

- **Products**
 - Admin
 - Add New Product
 - Edit Product
 - Delete Products
 - Customer
 - Product Listing
 - Product Details
- **Orders**
 - Admin
 - Process Orders
 - Delete Order
 - Customer

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- Cart
- Checkout
- **User Profile**
 - Admin
 - Add new users
 - Edit users
 - Delete users.
 - Customer
 - Login
 - Register
 - User Profile
 - Edit User Profile
- **Homepage**
 - Admin
 - Shared with Product Feature.
 - Customer
 - Homepage

User Personas

As an Admin, The Admin will be allowed to create and new products, process orders and manage users.

As a Customer, The Customers can register themselves using their email address. A customer can search products, add products to cart and place orders.

Tech Stack

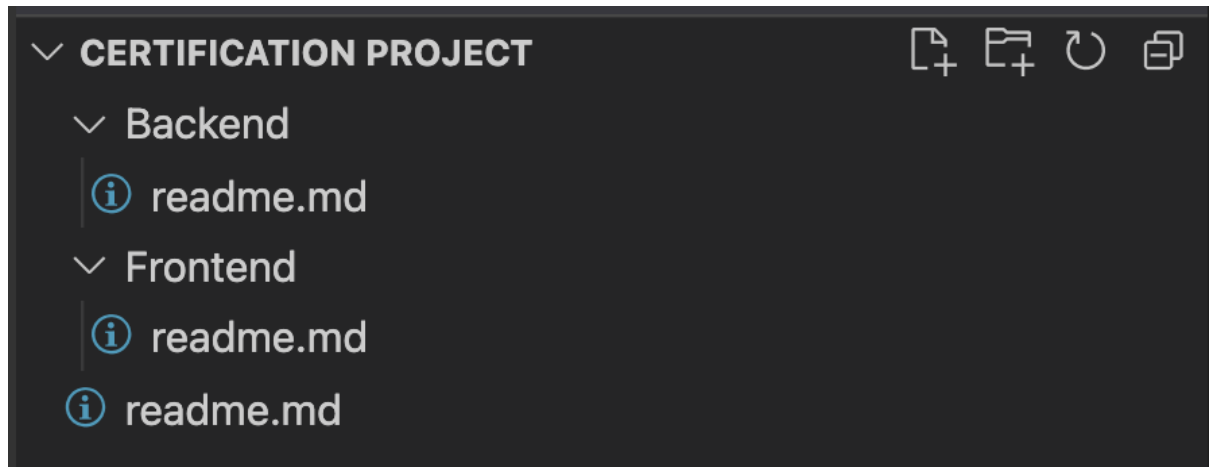
- Angular Or React
- NodeJS
- JWT
- Bootstrap or Material UI
- ExpressJS
- More...

Project Folders

- Backend Project should run on port 8080
- Frontend Project should run on port 4200

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- Folder structure should be similar to as shown in image below.



Project Submissions

Project should be submitted by all team members.

Project Evaluation

Project evaluation will be done on the basis of teamwork, code quality, design, feature implementation, and test cases.

Functional requirements are as follows -

- Use Bootstrap or Material design for designing the application.
- Default currency for the application will be Euro.
- All forms should have proper validations.
- Application should be made using NodeJS and Angular.
- Every API response should have the correct HTTP response code (<https://developer.mozilla.org/en-US/docs/Web/HTTP/Status>).
- Data validation should be done at Angular and NodeJS.
- Passwords should be kept in encrypted form using Bcrypt or similar solution.

Login

Allows user to login, after successful login user will be taken to the homepage.

URL - /login


Permissions - Public

Test IDs

- Email input should have "login-email".

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- Password input should have “login-password”.
- Login button should have “login-submit”.

Shop 24x7 Home Departments Offers Profile 

Welcome to Shop 24x7

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla venenatis magna gravida tellus tempor, ut lacinia nulla efficitur. Pellentesque ac leo convallis, tempor risus quis, porta tellus. Duis scelerisque leo et dui auctor vehicula. Sed sit amet efficitur lectus. In hac habitasse platea dictumst. Maecenas congue sed elit in commodo. Nunc a tempor dui. Pellentesque sed quam vestibulum, gravida nunc a, pharetra neque. Nam massa nulla, consequat id erat non, sollicitudin aliquet metus. Morbi convallis dignissim semper. Nunc quis ex id justo luctus feugiat eget sed metus.

Login

Email

Password

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Register

Allows new users to register and after registration the user will be navigated to the login page.

URL - /register

Permissions - Public

Test IDs

- First name input should have a "register-first-name".
- Last name input should have a "register-last-name".
- Email input should have a "register-email".
- Password input should have a "register-password".
- Confirm Password input should have a "register-confirm-password".
- Register button should have a "register-submit"

Shop 24x7

Home Departments Offers Profile

Search Products

Welcome to Shop 24x7

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla venenatis magna gravida tellus tempor, ut lacinia nulla efficitur. Pellentesque ac leo convallis, tempor risus quis, porta tellus. Duis scelerisque leo et dui auctor vehicula. Sed sit amet efficitur lectus. In hac habitasse platea dictumst. Maecenas congue sed elit in commodo. Nunc a tempor dui. Pellentesque sed quam vestibulum, gravida nunc a, pharetra neque. Nam massa nulla, consequat id erat non, sollicitudin aliquet metus. Morbi convallis dignissim semper. Nunc quis ex id justo luctus feugiat eget sed metus.

Register

Firstname

Lastname

Email

Password

Confirm Password

Password and Confirm Password are not matching.

Register

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User Profile

URL - /profile


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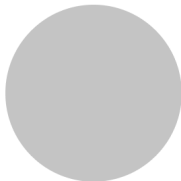
Permissions - Logged In

- Only logged in users can change their profile.
- Show user profile and allow user to edit profile and address.
- Email cannot be changed.
- Profile image can be deleted and changed.
- Changing address will be done at the same screen.

Test IDs

- Profile img tag should have a "profile-image"
- Profile delete image button should have a "profile-delete-button"
- Profile upload image button should have a "profile-upload-button"
- Address edit button should have a "address-edit-button"
- First name should be shown in span tag with "profile-first-name"
- Last name should be shown in span tag with "profile-last-name"
- Email should be shown in span tag with "profile-email-name"

Shop 24x7 Home Departments Offers Profile 



Delete Image **Upload**

Firstname
John

Lastname
Walker

Email
john@gmail.com

Phone
8933221122

Interests
Apple, Samsung, Laptops

Address
83, Fifth Avenue, New York **Edit**

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Shop 24x7

Home

Departments

Offers

Profile

Search Products

Delete Image

Upload

Firstname

John

Email

john@gmail.com

Phone

8933221122

Interests

Apple, Samsung, Laptops

Address

Street Address

City

State

Zip Code

Save

Lastname

Walker

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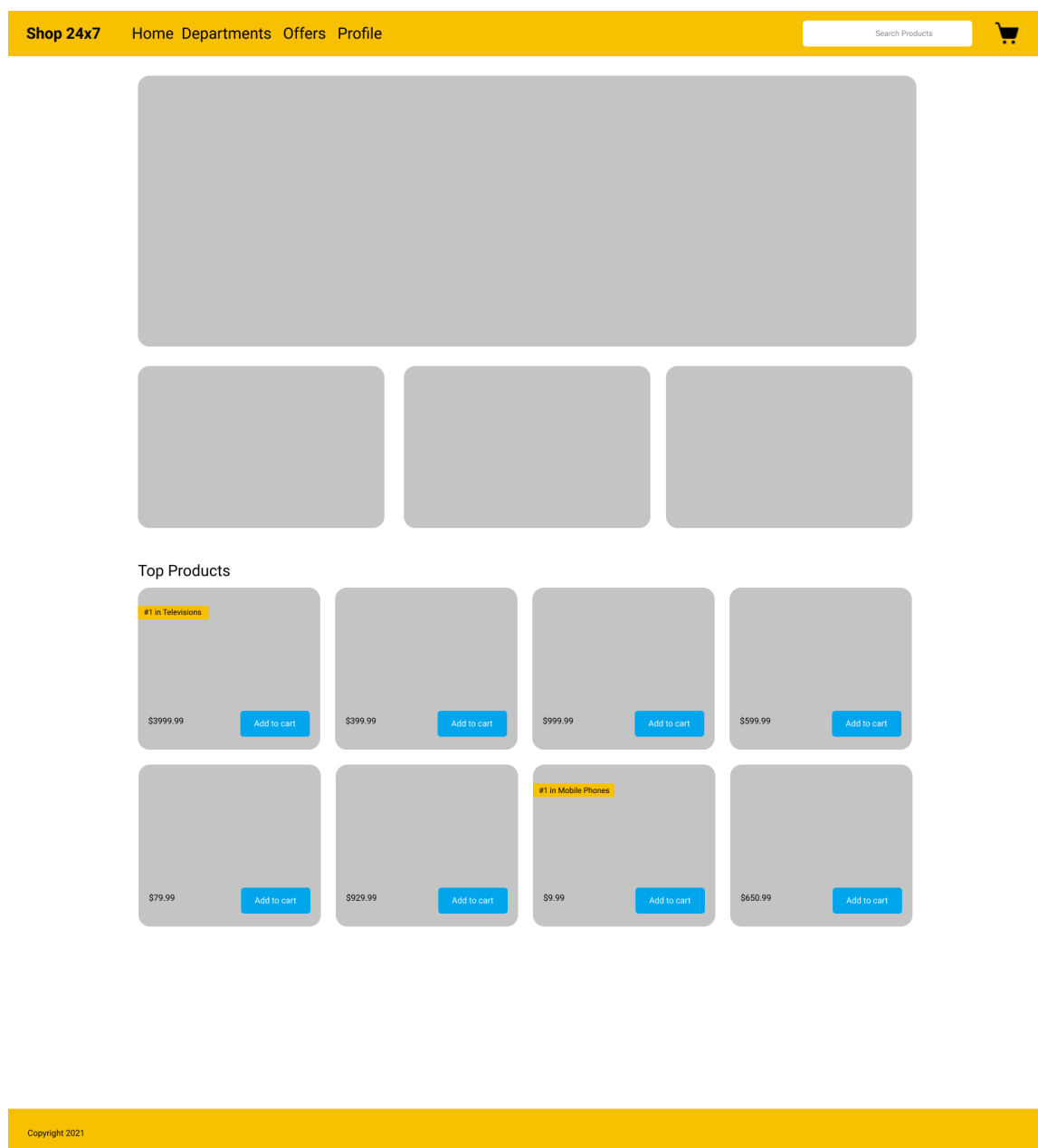
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Homepage

URL - /

Permissions - Public

- Create a homepage component and setup routing.
- Create components for Carousel, Categories Listing.
- Show listing of top 8 products with tagging the #1 sold product.



Test IDs

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- Banner should have a “homepage-banner”.
- Category box should have a “homepage-category”.
- Product should have a “homepage-product”

Category Listing

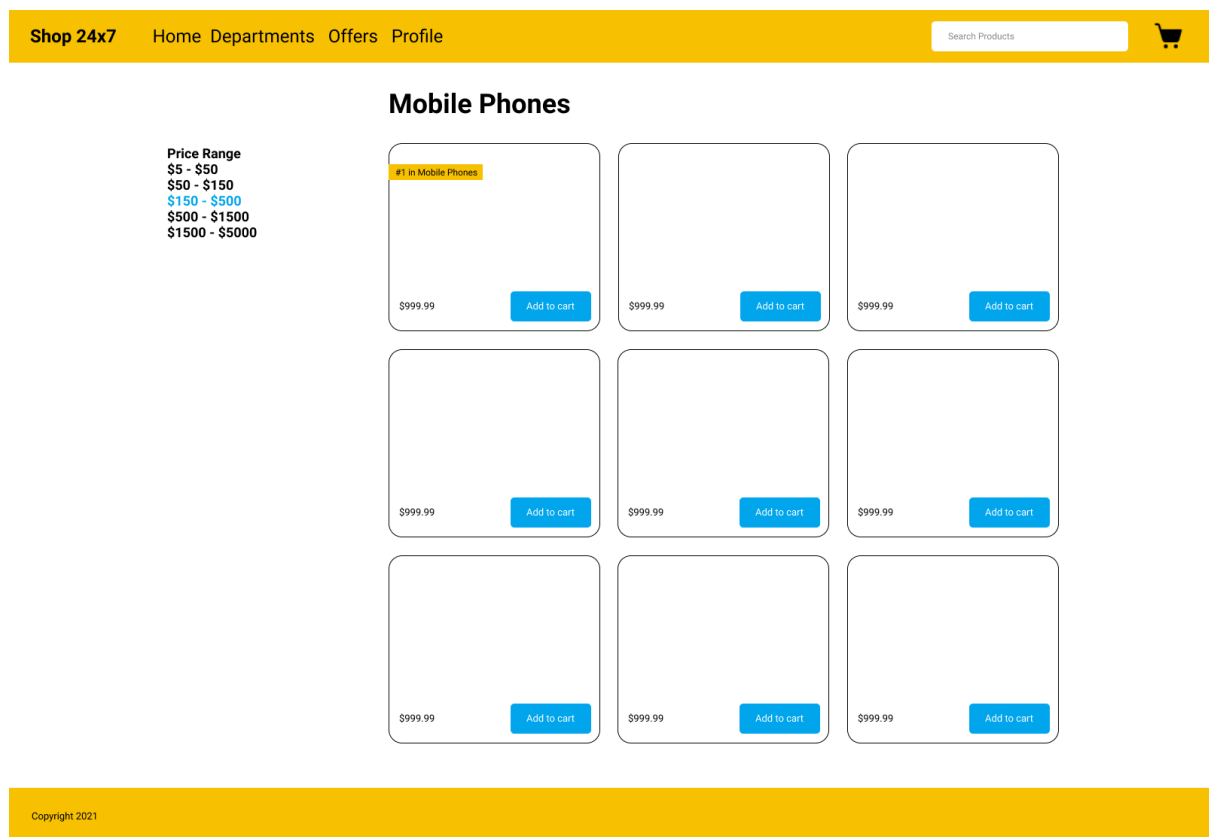
URL - /categories/:category_id

Permissions - Public

- Create a Category listing component and setup routing.
- Setup filtering and sorting option on left side.
- Add to cart will add product to cart storage
- Clicking on the product will take the user to the product details page.
- Highest rated product should have label of #1 Product.

Test IDs

- Banner should have a “homepage-banner”.
- Category box should have a “homepage-category”.
- Product should have a “homepage-product”.



Product Page

URL - /products/:product_id

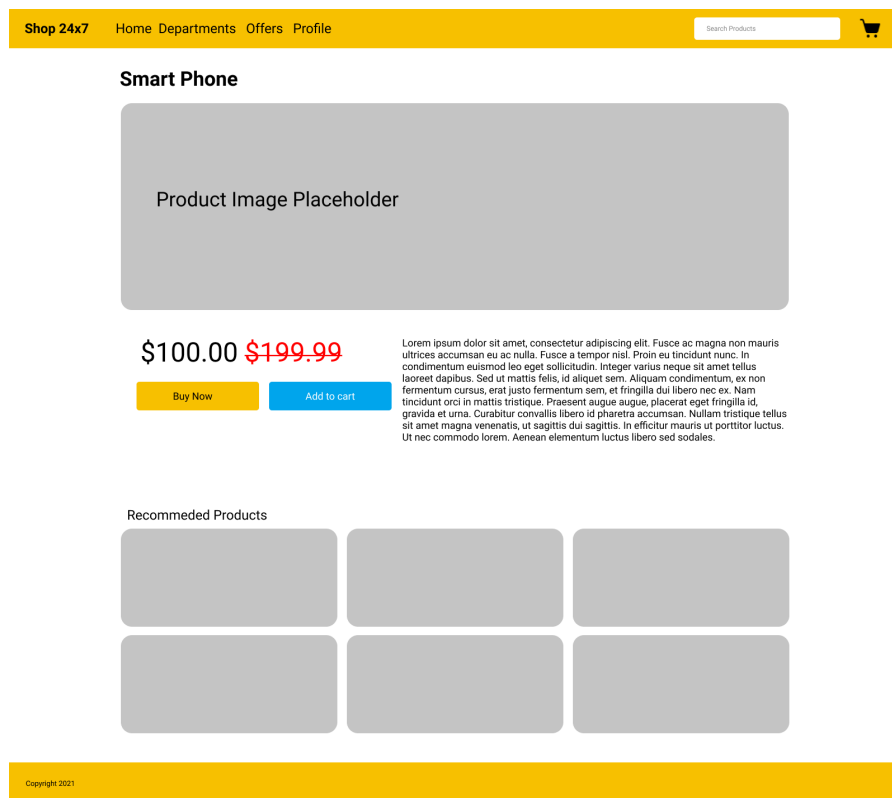
Permissions - Public

- Create a Product Details component and setup routing.
- Show the product details based on the Product ID parameter provided in the URL.
- Show list of products as Recommend Products for the same category.
- Add button for "Add to cart" and "Buy now"
- Buy now will allow you to place orders directly without adding the product to cart.
- Buy now will add the product to cart.

Test IDs

- Banner Image Tag should have a "product-page-banner".
- Buy now button should have a "product-page-buynow".
- Add to cart button should have a "product-page-add-to-cart".

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Cart

URL - /cart

Permissions - Public


- Cart page will show the list of Products and their quantities added to the cart.
- Cart data will be stored in Angular service.
- Cart will allow you to delete products or change quantity for cart.
- Cart will show the calculated Grand Total of the order.
- Cart will show the discount applied on the products.

Test IDs

- Grand total text tag should have a "cart-grand-total".
- Checkout button should have a "cart-button".

Shop 24x7 [Home](#) [Departments](#) [Offers](#) [Profile](#)

Search Products



Cart

1X Smart Phone Price \$1000.00 Discount \$99.99 Remove	\$1000.00
1X Smart Television Price \$10200.00 Discount \$999.99 Remove	\$10200.00
1X Smart Tablet Price \$100.00 Discount \$9.99 Remove	\$100.00
Grand Total \$11300.00	
Checkout	

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Checkout


URL - /checkout

Permissions - Public | Logged In

- Checkout page will allow users to provide their Name, Email, Address information required to complete the order.
- If the user is already logged in, Name and Email will be auto filled based on the logged in user.
- After the order is placed the user will be navigated to orders listing page.
- Submit button should be disabled if the form is invalid.

Test IDs

- Place order button should have a "checkout-button".

Shop 24x7 [Home](#) [Departments](#) [Offers](#) [Profile](#) 

User Info

Firstname

Lastname

Email

Shipping Address

Street Address

City

State

Zip Code

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User Orders


URL - /orders

Permissions - Logged In

Test IDs

- Order row should have an "order-row".

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Shop 24x7 Home Departments Offers Profile 

Your Orders

#122314123212313
user@example.com [Details](#)

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Admin > Add New Product

URL - /admin/add-new-product


Permissions - Admin

- Product Name, Department, Price, Product Image, Product Description are Required fields.
- Product name should not be more than 64 Chars.
- Discount Price should not be more than Actual price.
- Description should be atleast 20 chars.
- Submit button should be disabled if the form is invalid.

Test IDs

- Add new product button should have an "add-new-button".

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Search Products 

Add new product

Product Name

Department

Price

Discount Price

Product Image

Product Description

Top Selling Product ☐

Add New Product

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Admin > Manage Products

URL - /admin/products

Permissions - Admin

- All products will be shown on this page.
- Admin can add new or delete products on this page.
- On Edit user will navigated to ["/admin/products/:product_id/edit"](/admin/products/:product_id/edit) page will use similar layout as **Add New Page**

Test IDs

- Product row should have an "manage-product-row".

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Home Departments Offers Profile

Search Products

Manage Products

Add New Product

1X Smart Phone Price \$1000.00	Edit Delete
1X Smart Television Price \$10200.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete
1X Smart Tablet Price \$100.00	Edit Delete

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Admin > Manage Order

URL - /admin/orders

Permissions - Admin

- Orders will be sorted on In-process and Delivered.
- Delete button will delete the order.
- Process button will modify the order status delivered, change the order color to Green and order moved to the last.
- Process button will be removed for delivered orders.

Test IDs

Order row should have an “manage-order-row”.

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Home Departments Offers Profile

Search Products

Manage Orders

#122314123212313 user@example.com	Process Delete
#122314123223212 example@example.com	Process Delete
#122314123223345 abc@example.com	Delete

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APIs Required

Base URL - /api/v1

Profile

POST /api/v1/users/login

API will accept email and password combination, if combination is correct will return JWT Token or return error response with matching HTTP status codes.

Permissions - Public

Request Body

```
{
  "email" : "johh.walker@gmail.com",
  "password" : "12345678"
}
```

Response Body

```
1 {
2   "status" : "success",
3   "message" : "user logged in successfully.",
4   "accessToken" : "4j454h3k5j3h5kj435.5jk342h53kj5h43j53.5435jk4j3h5j5"
5 }
```

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POST /api/v1/users/register

API will accept username, email, and password combination and store the information in the database. If successful, return the correct HTTP status code and response.

Permissions - Public

Request Body

```
1 {  
2   "firstName": "john",  
3   "lastName": "walker",  
4   "password": "12345678",  
5   "email": "john.walker@gmail.com"  
6 }
```

Response Body

```
1 {  
2   "status" : "success",  
3   "message" : "user created successfully."  
4 }
```

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POST /api/v1/profile

Permissions - Logged In (Based on JWT)

Response Body

```
1 {  
2   "status" : "success",  
3   "profile" : {  
4     "_id" : "DSDHKJASDHAADSJD"  
5     "firstName": "john",  
6     "lastName": "walker",  
7     "email": "john.walker@gmail.com",  
8     "profileImage" : "path/to/image/user.jpg"  
9     "address": {  
10      "streetAddress": "84 5th Avenue",  
11      "city": "New York",  
12      "state": "New York",  
13      "zipcode": "4DS34"  
14    }  
15  }  
16 }
```

DELETE /api/v1/profile/image

Permissions - Logged In (Based on JWT)

Response Body

```
1 {  
2   "status": "success",  
3   "message": "profile image deleted successfully."  
4 }
```

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PATCH /api/v1/profile/image

Permissions - Logged In (Based on JWT)

Response Body

```
1 {  
2   "status": "success",  
3   "message": "profile image updated successfully."  
4 }
```

PATCH /api/v1/profile/address

Permissions - Logged In (Based on JWT)

Request Body

```
1 {  
2   "profile" : {  
3     "address": {  
4       "streetAddress": "84 5th Avenue",  
5       "city": "New York",  
6       "state": "New York",  
7       "zipcode": "4DS34"  
8     }  
9   }  
10 }
```

Response Body

```
1 {  
2   "status": "success",  
3   "message": "profile modified successfully."  
4 }
```

Homepage

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GET /api/v1/homepage/banner

This api will return the list of banner images to be shown based on the last 3 added products

Permissions - Public

Response Body

```
1 {  
2   "status" : "success",  
3   "products" : [  
4     {  
5       "image" : "images/url/product.jpg",  
6       "name" : "product name"  
7     }  
8   ]  
9 }
```

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GET /api/v1/homepage/categories

This api will return the list of 3 randomly selected categories.

Permissions - Public

Response Body

```
1 {
2     "status" : "success",
3     "categories" : [
4         {
5             "name" : "category name"
6         }
7     ]
8 }
```

GET /api/v1/homepage/products

This api will return the list of 8 randomly products categories.

Permissions - Public

Response Body

```
1 {
2     "status": "success",
3     "products": [
4         {
5             "id": "DNMSBDSA3123",
6             "name": "product name",
7             "category": "product category",
8             "price": 10.0,
9             "discountPrice": 8.0,
10            "description": "Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Aliquam tempus.",
11            "image": "/public/products/product-image.jpg",
12            "created_on": "2021-07-11T08:57:40.674Z",
13            "isTopProduct": true
14        }
15    ]
16 }
```

Product Listing

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GET /api/v1/products

Return the list of products

Permissions - Public

Response Body

```
1 {
2   "status": "success",
3   "products": [
4     {
5       "_id": "DNMSBDSA3123",
6       "name": "product name",
7       "category": "product category",
8       "price": 10.0,
9       "discountPrice": 8.0,
10      "description": "Lorem ipsum dolor sit amet, consectetur adipiscing elit.
    Aliquam tempus.",
11      "image": "/public/products/product-image.jpg",
12      "createdOn": "2021-07-11T08:57:40.674Z",
13      "isTopProduct": true
14    }
15  ]
16 }
```

GET /api/v1/products/:PRODUCT_ID

Return the details for the selected products.

Permissions - Public

Response Body

```
1 {
2   "status": "success",
3   "product": {
4     "_id": "DNMSBDSA3123",
5     "name": "product name",
6     "category": "product category",
7     "price": 10.0,
8     "discountPrice": 8.0,
9     "description": "Lorem ipsum dolor sit amet, consectetur adipiscing elit.
    Aliquam tempus.",
10    "image": "/public/products/product-image.jpg",
11    "createdOn": "2021-07-11T08:57:40.674Z",
12    "isTopProduct": true
13  }
14 }
```

POST /api/v1/admin/products

Allows admin users to add new products.

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Permissions - Admin (Based on JWT)

DELETE /api/v1/admin/products/:id

Allows admin users to delete products based on product id.

Permissions - Public

Response Body

```
1 {  
2     "status": "success",  
3     "message" : "product deleted successfully"  
4 }
```

PATCH /api/v1/admin/products/:id

Allows admin users to edit products using product id and product info.

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Permissions - Public

Request Body

```
1 {  
2     "status": "success",  
3     "product": {  
4         "isTopProduct": true  
5     }  
6 }
```

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Response Body

```
1 {  
2   "status": "success",  
3   "message" : "product edited successfully"  
4 }
```

Checkout

POST /api/v1/checkout

Place a new order using a logged in or guest user with email, password, first name and last name.

Permissions - Logged In (Based on JWT)

Request Body

```
1 {  
2   "cart": [  
3     {  
4       "productId": "DNMSBDSA3123",  
5       "quantity": 1  
6     },  
7     {  
8       "productId": "GJHGSFFDDSD",  
9       "quantity": 2  
10    }  
11  ]  
12 }
```

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Guest User and Cart Info

Permissions - Public

Request Body

```
1 {
2   "user": {
3     "firstName": "john",
4     "lastName": "walker",
5     "password": "12345678",
6     "email": "john.walker@gmail.com"
7   },
8   "cart": [
9     {
10      "productId": "DNMSBDSA3123",
11      "quantity": 1
12    },
13    {
14      "productId": "GJHGSFFDDSD",
15      "quantity": 2
16    }
17  ]
18 }
```

Response Body

```
1 {
2   "status": "success",
3   "message": "order placed successfully."
4 }
```

Orders

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GET /api/v1/orders

Get orders for logged in users or All orders for admin users.

Permissions - Logged In or Admin (Based on JWT)

Response Body

```
1 {
2   "status": "success",
3   "orders": [
4     {
5       "_id": "HJKJSDHJKDHSJ",
6       "user": "DSHDKJHSADKHLFYUD",
7       "orderPlacedOn": "2021-07-11T08:57:40.674Z",
8       "isDelivered": false,
9       "orderDeliveredOn": "2021-07-12T08:57:40.674Z",
10      "cart": [
11        {
12          "productId": "DNMSBDSA3123",
13          "quantity": 1
14        },
15        {
16          "productId": "GJHGSFFDDSDD",
17          "quantity": 2
18        }
19      ]
20    }
21  ]
22 }
```

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PATCH /api/v1/orders/:id

Allows admin users to modify order.

Permissions - Admin (Based on JWT)

Request Body

```
1 {  
2     "status": "success",  
3     "orders": {  
4         "isDelivered": true  
5     }  
6 }
```

Response Body

```
1 {  
2     "status": "success",  
3     "message": "order modified successfully."  
4 }
```

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DELETE /api/v1/admin/orders/:id

Allows admin users to delete orders.

Permissions - Admin (Based on JWT)

Response Body

```
1 {  
2   "status": "success",  
3   "message": "order deleted successfully."  
4 }
```

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