Project Session 02:

Admin Dashboard Web Pages and Database Structure

You Already Know

Before we begin, let's recall what we have covered so far:

- Git
- CSS
- SQL
- Angular
- HTML

A Day in the Life of a Full Stack Developer

After syncing Angular projects on GitHub, Bob wants to design the frontend, and create a database structure for his web application.

Let me think about this. Which technologies should I use for these requirements?

A Day in the Life of a Full Stack Developer

After brainstorming with the team and doing his own research, Bob found a solution for his requirements.

I will use HTML and CSS to design and develop web pages and then SQL and MySQL to design the database structure and create tables.

In this lesson, we will learn how to design, develop, and create a database structure for web pages to help Bob complete his task effectively and quickly.

Learning Objectives

By the end of this lesson, you will be able to:

- Develop the web page templates for admin dashboard
- Develop the CSS for styling the web pages
- Apply Angular component templates to build the structure of the frontend
- Correlate the pages in Angular with routing for seamless navigation

Learning Objectives

- Design a database for your project in MySQL
- Design a web app project for end user using Angular CLI
- Create primary and foreign key relations within tables for a robust database structure

TECHNOLOGY

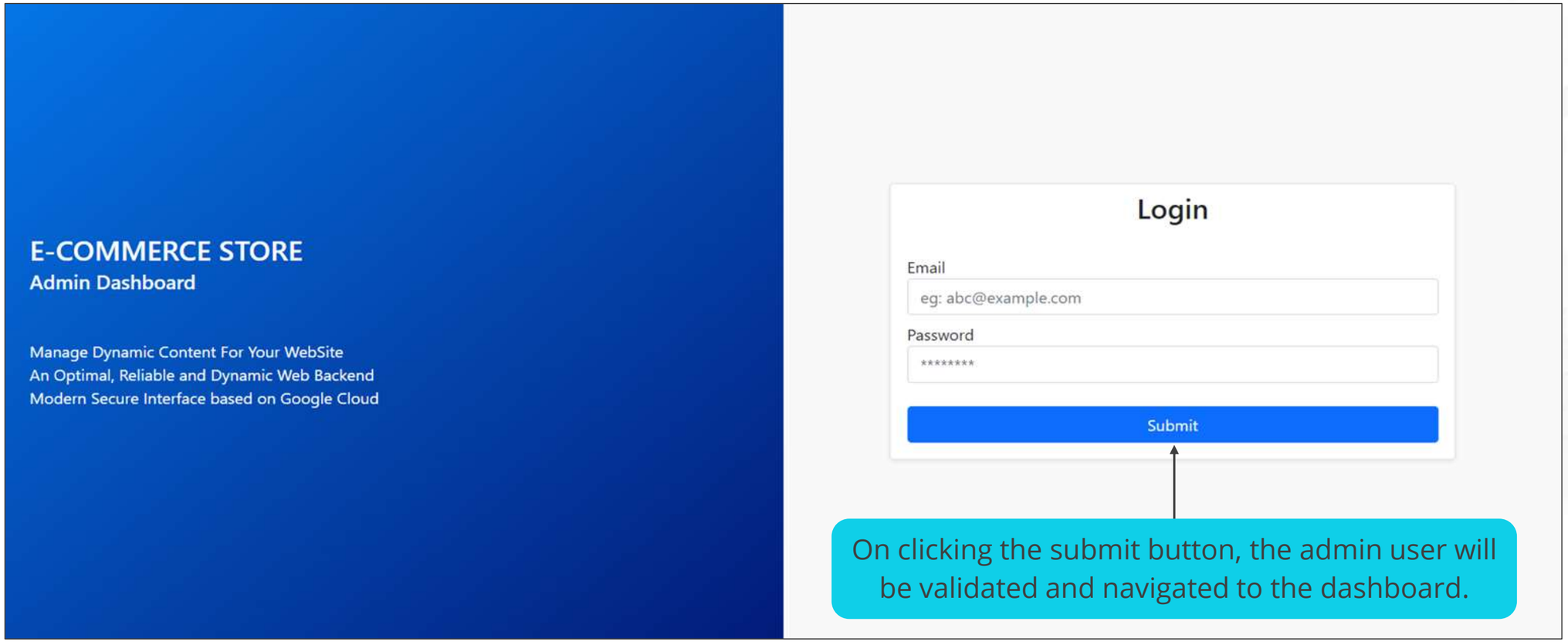
Develop the Web Pages in Angular for the Admin Dashboard

simplilearn

Angular Components

Web Page for Authentication Login Component

To begin, let's develop a login page for admin to sign in and access the dashboard for various management flows.



On clicking the submit button, the admin user will be validated and navigated to the dashboard.

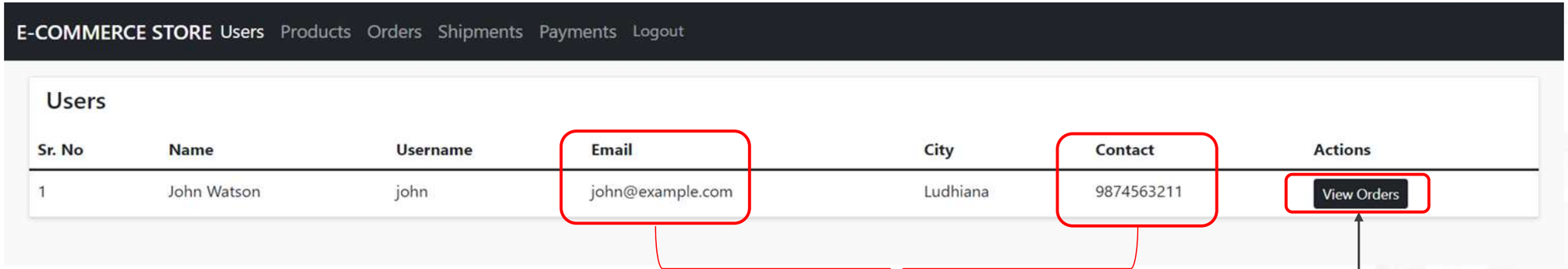
Web Page for Authentication Login Component

In the directory: **src/app/pages/login/**

Command	Use
login.component.css	CSS goes here to design the page and forms.
login.component.html	HTML code is written in this template file.
login.component.ts	Logic will be written in TypeScript file.

Web Page for Users Component

On the admin dashboard, a navigation bar should be designed to allow users to navigate between various modules. The users' component should have a list of all the users registered with the platform.



The search can be implemented through phone number or email ID.

The view order button shows the order history of the corresponding user.

Web Page for Users Component

In the directory: src/app/pages/users/

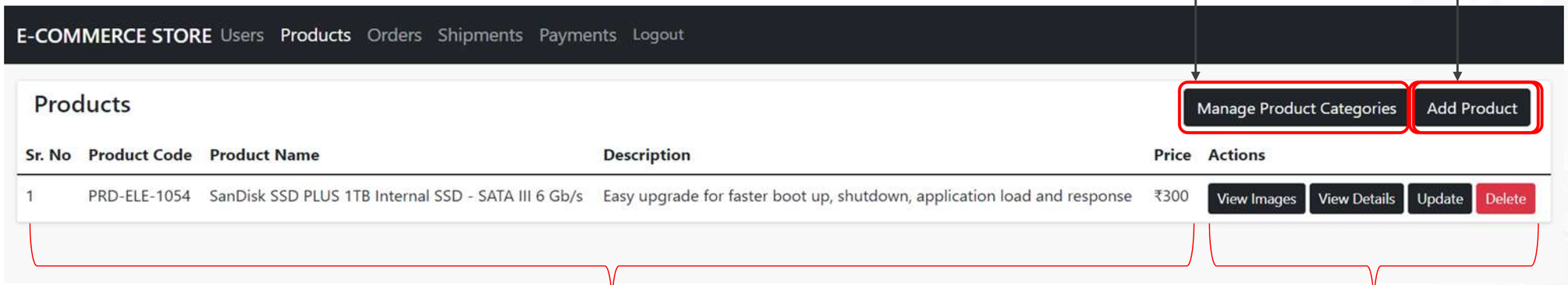
Command	Use
users.component.css	CSS goes here to design the page and forms.
users.component.html	HTML code is written in this template file.
users.component.ts	Logic will be written in TypeScript file.

Web Page for Products Component

To display the products along with categories, the admin must add them from the dashboard.

This button directs the admin to a category management component.

This button opens a form to add products to the database.



All the products are listed here.

These buttons perform actions corresponding to their labels.

Web Page for Products Component

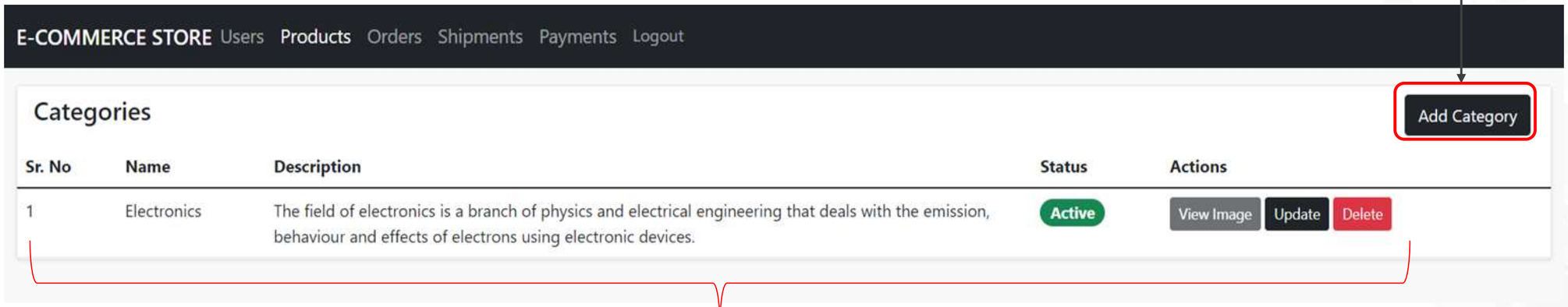
In the directory: src/app/pages/products/

Command	Use
products.component.css	CSS goes here to design the page and forms.
products.component.html	HTML code is written in this template file.
products.component.ts	Logic will be written in TypeScript file.

Category Management Component

In this web page, the UI should be developed to manage various categories for the products.

The Add Category button will open a modal to add the details to the database.



This page lists all the categories along with the action buttons to view, update, and delete the categories.

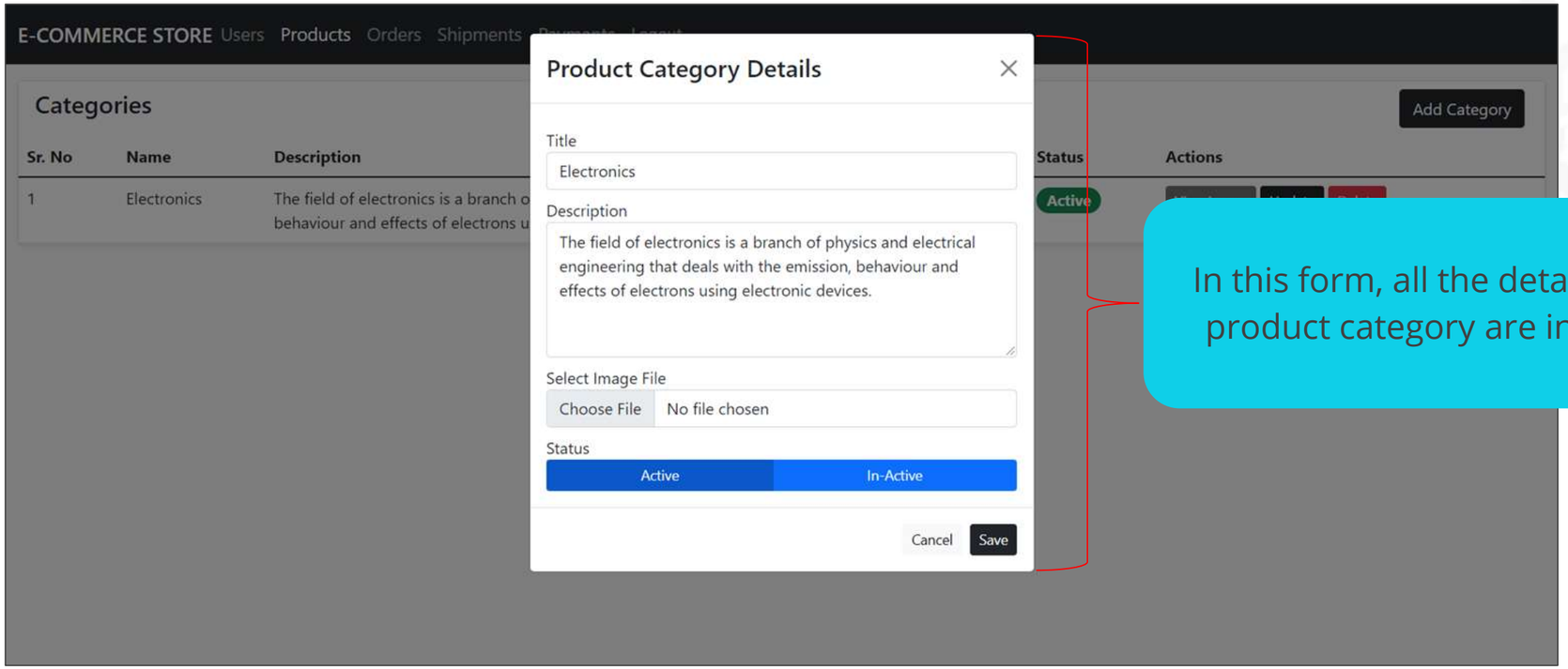
Category Management Component

In the directory: src/app/pages/categories/

Command	Use
categories.component.css	CSS goes here to design the page and forms.
categories.component.html	HTML code is written in this template file.
categories.component.ts	Logic will be written in TypeScript file.

Category Management Component: Add Category Modal

- Use the NgbModal service to develop the modal and add the category details.
- Create the modal for product category details in the directory src/app/pages/modals/category.ts



In this form, all the details of the product category are included.

Web Page for Product Component: Add Product Modal

The action button should be used to add the product to the database on the products component web page.

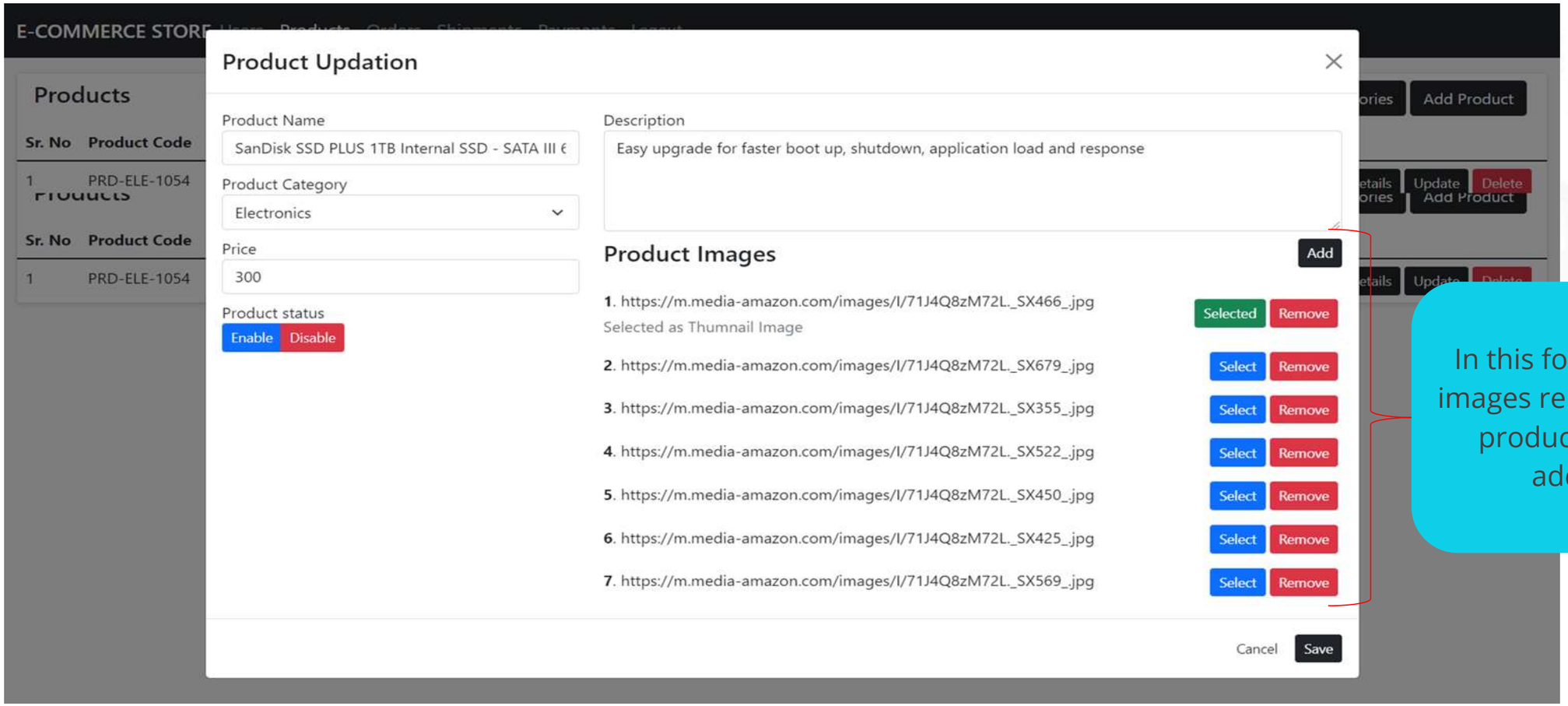
On clicking, it should open a modal, which is a UI in a dialog view. Here, the user should be able to add the details of a product in a form.

The user should also be able to select the category from a dropdown to be linked to the product.

Here, the user should be able to associate as many images as they wish to link to the product, and these images must be shown as a thumbnail that can be managed.

Web Page for Product Component: Add Product Modal

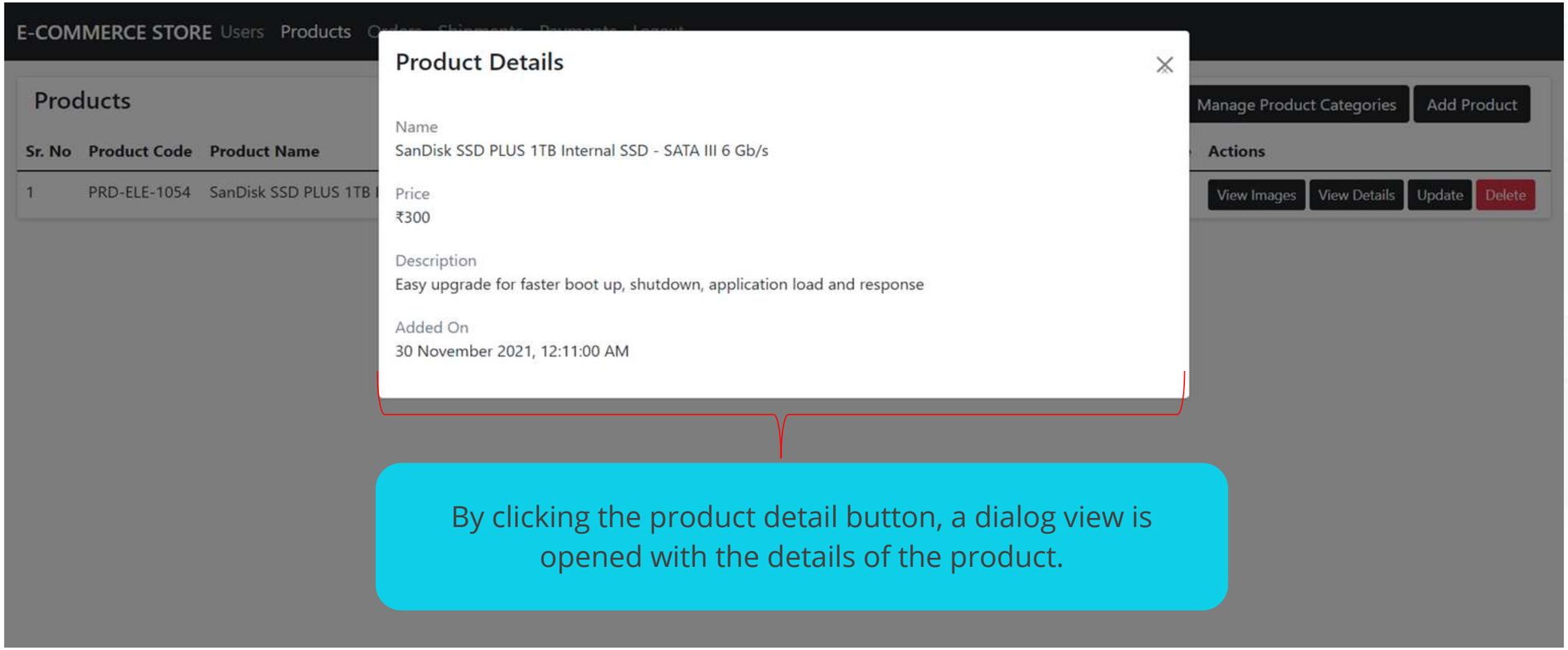
Below is an image of the product update page:



In this form, all the images related to the product can be added.

Web Page for Product Component: Product Details Modal

Create the modal for adding product details in the directory:
src/app/pages/modals/products.ts



By clicking the product detail button, a dialog view is opened with the details of the product.

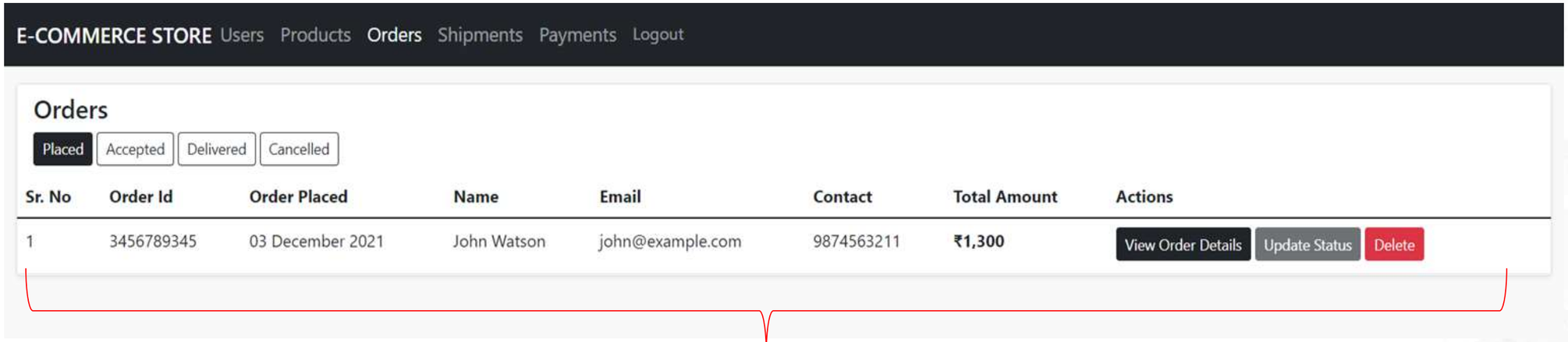
Web Page for Product Component: Product Images Modal

A UI element should be added as a button in the product component to view the product images.

By clicking the button, an image modal is opened where all the product images are added.

Web Page for Orders Component: View Orders

In the end-user web app, users should place orders from their account. The same list of orders should be displayed in the admin panel for various users.



In this form, the order status can be modified using the update status button.

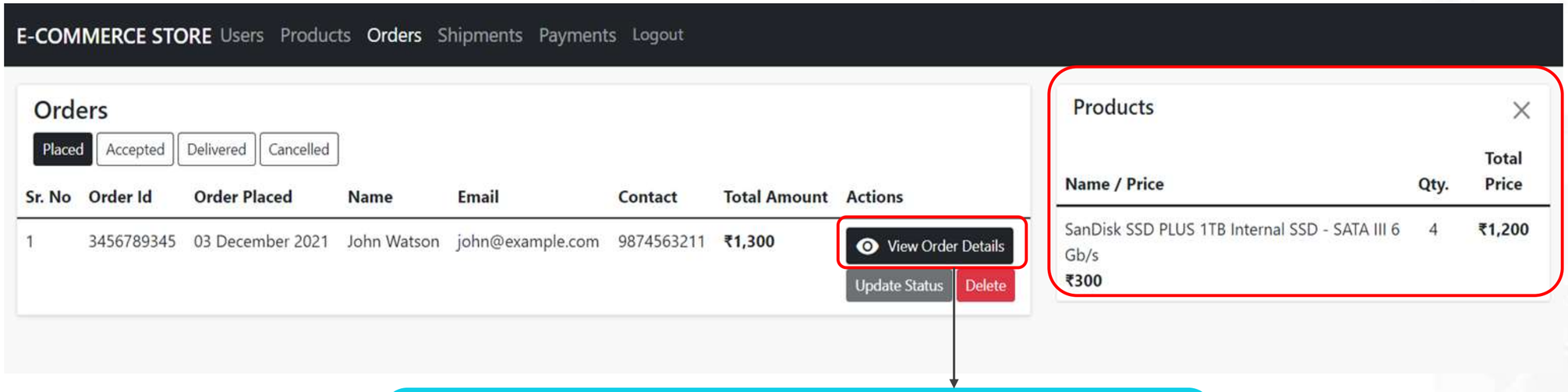
Web Page for Orders Component: View Orders

In the directory: src/app/pages/orders/

Command	Use
orders.component.css	CSS goes here to design the page and forms.
orders.component.html	HTML code is written in this template file.
orders.component.ts	Logic will be written in the TypeScript file.

Web Page for Orders Component: View Products in an Order

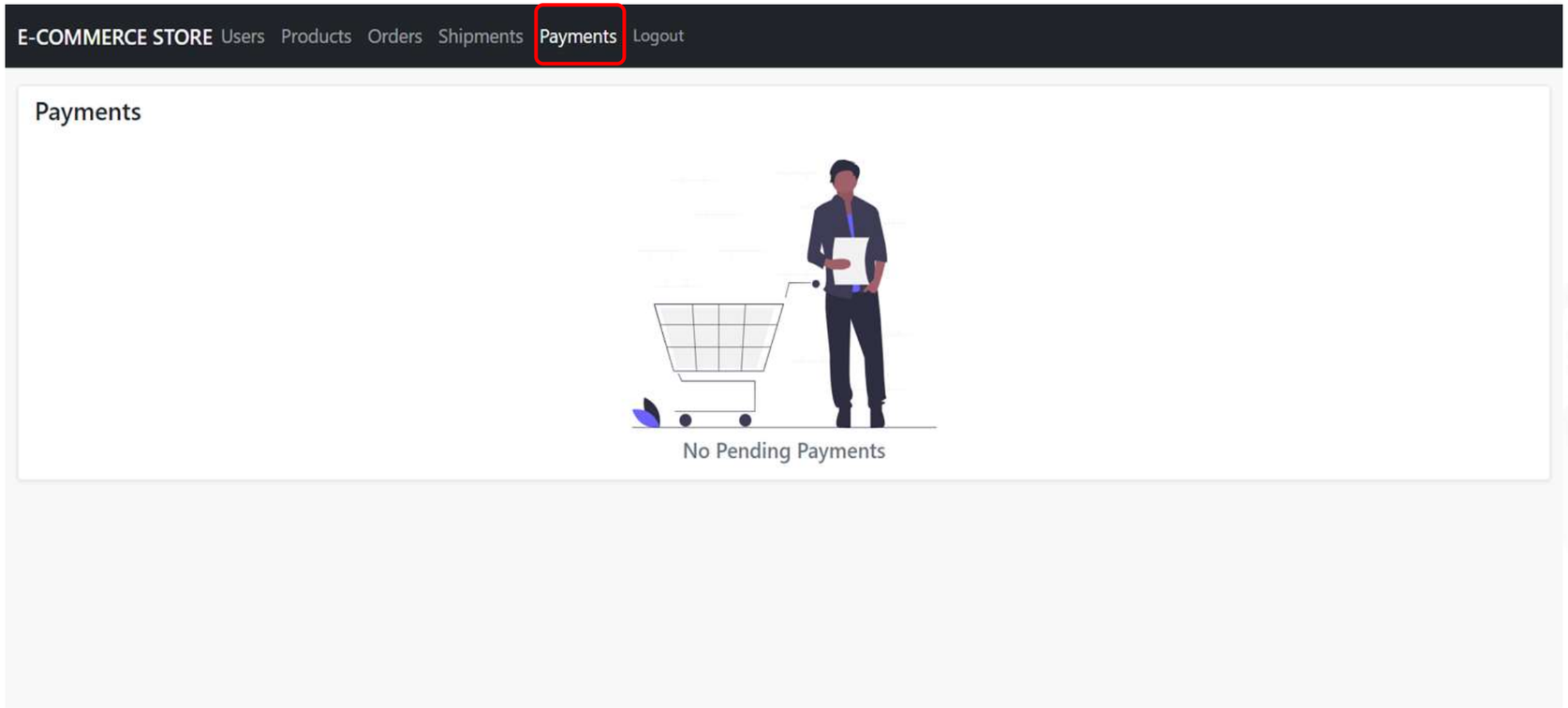
An action button on the orders page should be View Order Details.



By clicking it, the details of an order, including the product list and total amount, are displayed.

Web Page for Payments Component

Develop a payments page to check the payment methods and status of the payments or transactions made by the end users for the orders.



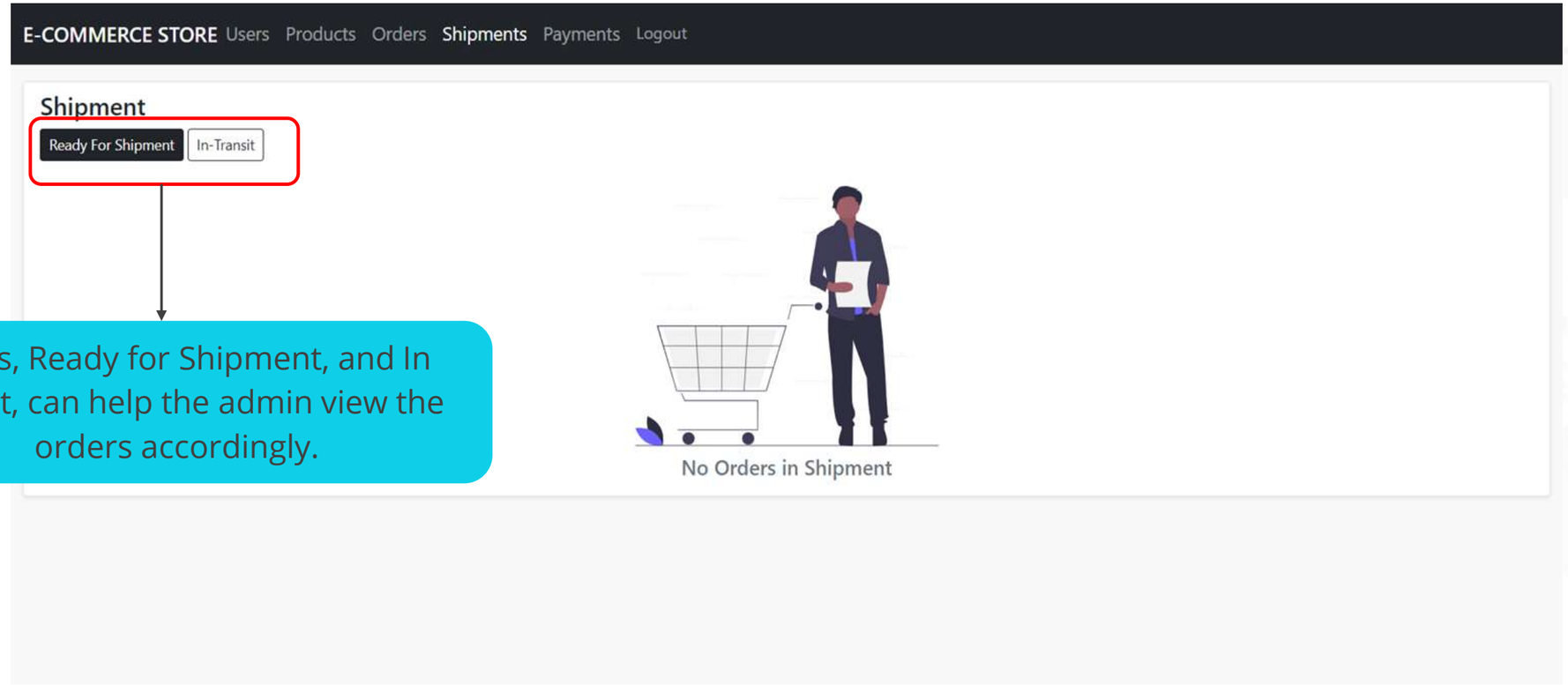
Web Page for Payments Component

In the directory: src/app/pages/payments/

Command	Use
payments.component.css	CSS goes here to design the page and forms.
payments.component.html	HTML code is written in this template file.
payments.component.ts	Logic will be written in the TypeScript file.

Web Page for Shipment Component

The shipments page should help the admin track the orders ready for shipment and in transit.



Filters, Ready for Shipment, and In Transit, can help the admin view the orders accordingly.

Web Page for Shipment Component

In the directory: src/app/pages/shipments/

Command	Use
shipments.component.css	CSS goes here to design the page and forms.
shipments.component.html	HTML code is written in this template file.
shipments.component.ts	Logic will be written in the TypeScript file.

Database Structure for Admin

Creating Database in MySQL

In MySQL, the CLI uses these commands to create and work with the database.

CREATE DATABASE ecommerce

This command creates the e-commerce database.

USE DATABASE ecommerce

This command sets the current working database to e-commerce.

SHOW TABLES

This command lists all the tables in the database. It will return an empty set if no tables are available.

Creating Tables

Prerequisites

- Make sure the database is set to e-commerce.
- User can execute the following command to select the e-commerce database:

```
use database ecommerce;
```

Creating Admin's Table for Login

To create a table for the admin, use columns such as admin ID, email, and password.

```
CREATE TABLE ADMINS
  adminId              INTEGER NOT NULL PRIMARY KEY
AUTO_INCREMENT,
  email                VARCHAR(50) NOT NULL,
  password             VARCHAR(50) NOT NULL,
  fullName             VARCHAR(255) NOT NULL,
  loginType            INTEGER DEFAULT 1,
  addedOn              DATETIME DEFAULT CURRENT_TIMESTAMP
```

Creating Users Table

To create a table for the user, use columns such as user ID, email, and password.

```
CREATE TABLE USERS(
  userId                INTEGER NOT NULL PRIMARY KEY
AUTO_INCREMENT,
  email                 VARCHAR(50) NOT NULL,
  password              VARCHAR(50) NOT NULL,
  fullName              VARCHAR(255) NOT NULL,
  street                VARCHAR(50) DEFAULT NULL,
  city                  VARCHAR(50) DEFAULT NULL,
  state                 VARCHAR(50) DEFAULT NULL,
  country               VARCHAR(50) DEFAULT NULL,
  pincode               INTEGER,
  image                 VARCHAR(1000),
  contact               BIGINT,
  addedOn               DATETIME DEFAULT CURRENT_TIMESTAMP
```

Creating Product Categories Table

To create a table for categories, use columns such as category ID and category name.

```
CREATE TABLE CATEGORIES (
  categoryId            INTEGER NOT NULL PRIMARY KEY
AUTO_INCREMENT,
  categoryName          VARCHAR(255) NOT NULL,
  categoryDescription   VARCHAR(255),
  categoryImageUrl      VARCHAR(500),
  active                INTEGER DEFAULT 0,
  addedOn               DATETIME DEFAULT CURRENT_TIMESTAMP
);
```

Creating Products' Table

To create a table for the product, use columns such as product ID and product title.

```
CREATE TABLE PRODUCTS(
  productId             INTEGER NOT NULL PRIMARY KEY AUTO_INCREMENT,
  productTitle          VARCHAR(500) NOT NULL,
  productDescription    VARCHAR(500) NOT NULL,
  productCode           VARCHAR(500) NOT NULL,
  categoryId            INTEGER,
  images                VARCHAR(1000),
  thumbnailImage        INTEGER DEFAULT 0,
  price                 INTEGER DEFAULT 0,
  addedOn               DATETIME DEFAULT CURRENT_TIMESTAMP,
  rating                INTEGER NOT NULL,
  FOREIGN KEY (categoryId) REFERENCES CATEGORIES(categoryId)
);
```

Creating Orders' Table

To create a table for orders, use columns such as order ID and order date.

```
CREATE TABLE ORDERS(
  orderId              INTEGER NOT NULL PRIMARY KEY,
  orderDate            DATETIME DEFAULT CURRENT_TIMESTAMP,
  orderStatus          VARCHAR(50) NOT NULL,
  totalItems           INTEGER NOT NULL,
  itemsSubTotal        INTEGER NOT NULL,
  shipmentCharges      INTEGER NOT NULL,
  totalAmount          INTEGER NOT NULL,
  paymentStatus        INTEGER DEFAULT 0,
  paymentStatusTitle   VARCHAR(255),
  paymentMethod        INTEGER,
  paymentMethodTitle   VARCHAR(255) NOT NULL,
  userId               INTEGER NOT NULL,
  name                 VARCHAR(255) NOT NULL,
  email                VARCHAR(255) NOT NULL,
  contact              BIGINT NOT NULL,
  address              VARCHAR(500) NOT NULL,
  FOREIGN KEY (userId) REFERENCES USERS(userId)
);
```

Creating Shipments' Table

To create a table for shipments, use columns such as shipment ID and order ID.

```
CREATE TABLE SHIPMENTS(
  shipmentId           INTEGER NOT NULL PRIMARY KEY AUTO_INCREMENT,
  orderId              INTEGER,
  shipmentStatus       INTEGER,
  shipmentTitle        VARCHAR(255),
  shipmentDate         DATETIME DEFAULT CURRENT_TIMESTAMP,
  expectedDeliveryDate DATETIME,
  shipmentMethod       VARCHAR(255),
  shipmentCompany      VARCHAR(255),
  FOREIGN KEY (orderId) REFERENCES ORDERS(orderId)
);
```

Creating Order Items' Table

To create a table for order items, use columns such as order item ID and order ID.

```
CREATE TABLE ORDERITEMS(
  orderItemId          INTEGER NOT NULL PRIMARY KEY AUTO_INCREMENT,
  orderId              INTEGER,
  productId            INTEGER,
  productCode          VARCHAR(255) NOT NULL,
  productImg           VARCHAR(255) NOT NULL,
  productTitle         VARCHAR(255) NOT NULL,
  productDescription   VARCHAR(255) NOT NULL,
  productCategory      VARCHAR(255) NOT NULL,
  price                INTEGER NOT NULL,
  quantity             INTEGER NOT NULL,
  totalPrice           INTEGER NOT NULL,
  FOREIGN KEY (orderId) REFERENCES ORDERS(orderId),
  FOREIGN KEY (productId) REFERENCES PRODUCTS(productId)
);
```

Key Takeaways

- HTML and CSS are used for the development of the admin dashboard.
- Angular templates are used for web page development.
- Various Angular CLI commands, such as ng serve, are used to view the web app.
- The UI is developed on the web page for admin users to manage various product categories.

Key Takeaways

- The action button on the product component web page adds the product to the database.
- In the end-user web app, users can place orders from their account, and the same list of orders is displayed in the admin panel for updating order status by an admin user.
- The shipments page helps the admin track the orders that are ready for shipment and in transit.
- The database is set to e-commerce to create tables.