

```
const express = require('express');
const { Pool } = require('pg');

const app = express();
const port = process.env.PORT || 3000;

// PostgreSQL configuration
const pool = new Pool({
  user: 'your_username',
  host: 'your_host',
  database: 'your_database',
  password: 'your_password',
  port: 5432,
});

// Database schema creation function
const createTables = async () => {
  const createProductsTable = `CREATE TABLE IF NOT EXISTS products (
    product_id SERIAL PRIMARY KEY,
    product_name VARCHAR(255) NOT NULL,
    description TEXT,
    price DECIMAL,
    image_url TEXT,
    category_id INT
  );`;

  const createCategoriesTable = `CREATE TABLE IF NOT EXISTS categories (
    category_id SERIAL PRIMARY KEY,
    category_name VARCHAR(255) NOT NULL
  );`;

  const createUsersTable = `CREATE TABLE IF NOT EXISTS users (
    user_id SERIAL PRIMARY KEY,
    username VARCHAR(255) NOT NULL,
    password VARCHAR(255) NOT NULL,
    email VARCHAR(255) NOT NULL
  );`;

  const createOrdersTable = `CREATE TABLE IF NOT EXISTS orders (
    order_id SERIAL PRIMARY KEY,
    user_id INT,
    product_id INT,
    quantity INT,
    total_price DECIMAL,
```

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    order_date DATE,  
    FOREIGN KEY (user_id) REFERENCES users(user_id),  
    FOREIGN KEY (product_id) REFERENCES products(product_id)  
);`;
```

```
try {  
    await pool.query(createProductsTable);  
    await pool.query(createCategoriesTable);  
    await pool.query(createUsersTable);  
    await pool.query(createOrdersTable);  
} catch (error) {  
    console.error('Error creating tables', error);  
}  
};
```

```
app.use(express.json());
```

```
// User registration endpoint
```

```
app.post('/register', async (req, res) => {  
    try {  
        const { username, password, email } = req.body;  
        const insertUserQuery = 'INSERT INTO users (username, password, email) VALUES ($1, $2, $3)';  
        await pool.query(insertUserQuery, [username, password, email]);  
        res.status(201).send('User registered successfully');  
    } catch (error) {  
        console.error('Error registering user', error);  
        res.status(500).send('Internal Server Error');  
    }  
});
```

```
// User login endpoint
```

```
app.post('/login', async (req, res) => {  
    try {  
        const { username, password } = req.body;  
        const userQuery = 'SELECT * FROM users WHERE username = $1 AND password = $2';  
        const { rows } = await pool.query(userQuery, [username, password]);  
        if (rows.length === 1) {  
            res.status(200).send('Login successful');  
        } else {  
            res.status(401).send('Invalid credentials');  
        }  
    } catch (error) {  
        console.error('Error during login', error);  
    }  
});
```

```
    res.status(500).send('Internal Server Error');
  }
});
```

// Add to cart endpoint

```
app.post('/cart/add', async (req, res) => {
  try {
    const { userId, productId, quantity } = req.body;
    // Implement shopping cart functionality here
    // You need to manage user carts and quantities
    res.status(200).send('Product added to cart successfully');
  } catch (error) {
    console.error('Error adding to cart', error);
    res.status(500).send('Internal Server Error');
  }
});
```

// Remove from cart endpoint

```
app.post('/cart/remove', async (req, res) => {
  try {
    const { userId, productId } = req.body;
    // Implement shopping cart functionality here
    // Remove products from the user's cart
    res.status(200).send('Product removed from cart successfully');
  } catch (error) {
    console.error('Error removing from cart', error);
    res.status(500).send('Internal Server Error');
  }
});
```

// Checkout endpoint

```
app.post('/checkout', async (req, res) => {
  try {
    const { userId, products, totalPrice } = req.body;
    // Implement the checkout process, including payment handling
    // Create an order entry and update product quantities
    res.status(200).send('Checkout successful');
  } catch (error) {
    console.error('Error during checkout', error);
    res.status(500).send('Internal Server Error');
  }
});
```

// Endpoint to fetch all products

```
app.get('/products', async (req, res) => {  
  try {  
    const { rows } = await pool.query('SELECT * FROM products');  
    res.json(rows);  
  } catch (error) {  
    console.error('Error executing query', error);  
    res.status(500).send('Internal Server Error');  
  }  
});
```

```
app.listen(port, async () => {  
  console.log(`Server is running on port ${port}`);  
  await createTables();  
});
```