

Here's a clean and scalable **backend folder structure** for your PERN Stack Stationery E-commerce Website, designed to support:

- Role-based access ( `admin`, `user` )
  - Auth (JWT: access & refresh tokens)
  - Product, Cart, Order, and Return Management
  - PostgreSQL with a query builder or ORM (e.g., `Sequelize`, `Prisma`, or `Knex` — adaptable)
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## 📁 Backend Folder Structure

```
backend/
  config/
    db.js          # PostgreSQL DB connection
    jwt.js         # JWT secret keys & config
    dotenv.js      # Load environment variables

  controllers/
    auth.controller.js   # Register, Login, Logout, Refresh
    user.controller.js   # User data, profile, admin-user mgmt
    product.controller.js # CRUD for products
    cart.controller.js   # Cart management
    order.controller.js   # Place, view, update orders
    return.controller.js  # Return request and status mgmt

  middleware/
    auth.middleware.js   # JWT token verify middleware
    role.middleware.js   # Role-based access control
    validate.middleware.js # Input validation (if needed)

  models/
    index.js        # Init all models
    user.model.js
    product.model.js
    cart.model.js
    order.model.js
    orderItem.model.js
    return.model.js

  routes/
    auth.routes.js
    user.routes.js
    product.routes.js
```

```
|   └── cart.routes.js
|   └── order.routes.js
|   └── return.routes.js
|   └── index.js          # Combine all routes
|
└── services/
    ├── auth.service.js
    ├── user.service.js
    ├── product.service.js
    ├── cart.service.js
    ├── order.service.js
    └── return.service.js
|
└── utils/
    ├── token.utils.js      # Create, verify tokens
    ├── password.utils.js   # Hash/compare passwords
    └── response.utils.js   # Format standard responses
|
└── validations/
    ├── auth.validation.js
    ├── product.validation.js
    ├── cart.validation.js
    ├── order.validation.js
    └── return.validation.js
|
├── .env                  # Environment variables
├── app.js                # Express app config
└── server.js              # App entry point
└── package.json
```