I'll provide you with comprehensive TypeScript custom hooks for your grocery delivery app. These hooks will handle location services, payments, delivery slots, notifications, and admin functionality.Perfect! I've provided you with comprehensive TypeScript custom hooks for your grocery delivery app. Here's what each hook offers:

**🎯 Custom Hooks Overview**

**1. useLocation.ts**

* **GPS & Permissions**: Location services, permission handling, real-time tracking
* **Address Management**: CRUD operations for delivery addresses, geocoding
* **Delivery Areas**: Service area validation, delivery charge calculation
* **Distance Calculation**: Radius checking, route optimization

**2. usePayment.ts**

* **Multi-Gateway Support**: Stripe, Razorpay, PayPal integration
* **Payment Methods**: CRUD for saved payment methods, default selection
* **Payment Processing**: Transaction handling, verification, refunds
* **UAE Compliance**: AED currency, local payment preferences

**3. useDeliverySlots.ts**

* **Slot Management**: Morning, evening, express slot booking
* **Availability Checking**: Real-time capacity monitoring, date validation
* **Pricing Logic**: Dynamic delivery charges, slot-based pricing
* **Area Integration**: Service area validation, charge calculation

**4. useNotifications.ts**

* **Push Notifications**: Firebase Cloud Messaging integration
* **Local Notifications**: Scheduled reminders, instant alerts
* **Settings Management**: User preferences, channel configuration
* **Deep Linking**: Navigation handling from notifications

**5. useAdmin.ts**

* **Dashboard Analytics**: Real-time metrics, sales reporting
* **Order Management**: Status updates, delivery assignment, refunds
* **Product Management**: CRUD operations, stock monitoring, bulk updates
* **Customer Management**: User administration, notification sending

**🚀 Usage Examples**

// Location Management

const {

currentLocation,

selectedAddress,

addresses,

getCurrentLocation,

addAddress,

checkDeliveryAvailability,

} = useLocation();

// Payment Processing

const {

paymentMethods,

selectedMethod,

processPayment,

addPaymentMethod,

isProcessing,

} = usePayment();

// Delivery Slot Booking

const {

availableSlots,

selectedSlot,

fetchAvailableSlots,

bookSlot,

calculateDeliveryCharge,

} = useDeliverySlots();

// Notification Management

const {

notifications,

unreadCount,

requestPermission,

updateSettings,

markAsRead,

} = useNotifications();

// Admin Dashboard

const {

dashboardData,

orders,

products,

fetchDashboardData,

updateOrderStatus,

addProduct,

} = useAdmin();

**✨ Key Features**

**🔒 Security & Permissions**

* **Location permissions** with proper iOS/Android handling
* **Notification permissions** with fallback strategies
* **Payment validation** with PCI compliance ready
* **Admin role checking** for sensitive operations

**📱 Real-Time Updates**

* **Location tracking** with configurable intervals
* **Notification listeners** for foreground/background
* **Dashboard auto-refresh** every 5 minutes
* **Slot availability** real-time checking

**🛡️ Error Handling**

* **Comprehensive error states** with user-friendly messages
* **Network failure** retry mechanisms
* **Permission denied** graceful handling
* **Loading states** for all async operations

**💾 State Management**

* **Optimistic updates** for better UX
* **Cleanup functions** prevent memory leaks
* **Effect dependencies** properly managed
* **State persistence** where appropriate

**🇦🇪 UAE Market Integration**

**Location Services**

* **Abu Dhabi coordinates** as default store location
* **UAE postal codes** and area validation
* **Local delivery radius** (25km) enforcement
* **Arabic address** support ready

**Payment Integration**

* **AED currency** formatting and calculations
* **Local payment methods** (Cash on Delivery emphasis)
* **UAE VAT** (5%) integration
* **Razorpay** for UPI/wallet payments

**Delivery Optimization**

* **Weekend handling** (Friday-Saturday in UAE)
* **Local business hours** consideration
* **Express delivery** for busy markets
* **Area-based pricing** for different emirates

**🔧 Integration Points**

These hooks integrate seamlessly with:

// Services Integration

import locationService from '@services/location/locationService';

import paymentGateway from '@services/payment/paymentGateway';

import deliveryService from '@services/api/deliveryService';

// Configuration Integration

import {paymentConfig} from '@config/paymentConfig';

import {pushConfig, NOTIFICATION\_TYPES} from '@config/pushConfig';

// Type Safety

import {Address} from '@types/auth';

import {PaymentMethod, PaymentData} from '@types/payment';

import {DeliverySlot} from '@types/delivery';

**📦 Dependencies Required**

# Location services

npm install react-native-geolocation-service

npm install react-native-permissions

# Push notifications

npm install @react-native-firebase/messaging

npm install react-native-push-notification

# Additional utilities

npm install @react-native-community/async-storage

**📁 File Structure Update**

Your app/hooks/ directory now contains:

app/hooks/

├── useAuth.ts # ✅ (from previous response)

├── useCart.ts # ✅ (from previous response)

├── useLocation.ts # ✅ NEW - Location & address management

├── usePayment.ts # ✅ NEW - Payment processing

├── useDeliverySlots.ts # ✅ NEW - Delivery slot booking

├── useNotifications.ts # ✅ NEW - Push notifications

└── useAdmin.ts # ✅ NEW - Admin functionality

**🎯 Production Ready Features**

**Performance Optimizations**

* **useCallback** for all functions to prevent re-renders
* **Debounced API calls** for expensive operations
* **Cleanup functions** for subscriptions and timers
* **Memoized calculations** for complex operations

**User Experience**

* **Loading states** for all async operations
* **Error recovery** with retry mechanisms
* **Offline support** with cached data
* **Progressive enhancement** for features

**Scalability**

* **Modular design** for easy feature additions
* **Type safety** throughout the application
* **Configuration driven** behavior
* **Environment aware** settings

**🚀 Advanced Features**

**Smart Location Tracking**

* **Battery optimization** with configurable intervals
* **Geofencing** for delivery area validation
* **Route optimization** for delivery charges
* **Address autocomplete** with Google Places

**Intelligent Notifications**

* **Smart batching** to avoid notification spam
* **User behavior** based notification timing
* **A/B testing** ready notification channels
* **Rich notifications** with actions

**Advanced Admin Features**

* **Real-time dashboard** with WebSocket support
* **Bulk operations** for efficient management
* **Export functionality** for reporting
* **Role-based** feature access

Your grocery delivery app now has a complete set of production-ready custom hooks! 🛒⚡

Would you like me to help you implement any specific screen that uses these hooks or integrate them with your backend services?