Frontend

- Complete doc

Complete doc

Table of Contents

1. Project Overview
2. Technology Stack
3. Getting Started
4. Project Structure
5. Features & Modules
6. Authentication & Authorization
7. API Integration
8. Component Library
9. State Management
10. Routing & Navigation
11. Development Guidelines
12. Deployment
13. Troubleshooting

Project Overview

OnMart POS Frontend is a modern Point of Sale (POS) system built for retail management. The application provides comprehensive functionality for managing sales, inventory, customers, and reporting across multiple outlets.

Key Features

- **Role-based Access Control**: Master Admin, Super Admin, Admin, and Cashier roles
- **POS Terminal**: Fast checkout and transaction processing
- **Inventory Management**: Products, categories, brands, and stock control
- **Customer Management**: Customer database and transaction history
- **Reporting & Analytics**: Sales reports, dashboard analytics, and transaction tracking

- **Multi-outlet Support**: Manage multiple store locations
- **Shift Management**: Cashier shift tracking and reporting

Technology Stack

Core Framework

- **Next.js 15.5.12**: React framework with App Router
- **React 19**: Latest React version
- **TypeScript 5**: Type-safe development
- **Tailwind CSS 4**: Utility-first CSS framework

UI Components & Libraries

- **Radix UI**: Accessible component primitives
  - Dialog, Popover, Checkbox, Separator, Slot, Tooltip
- **Headless UI**: Unstyled, accessible UI components
- **Lucide React**: Icon library
- **Heroicons**: Additional icon set
- **shadcn/ui**: Component library (New York style)

Data Fetching & State Management

- **SWR 2.3.4**: React Hooks for data fetching
- **Axios 1.10.0**: HTTP client
- **React Hook Form 7.59.0**: Form management

Data Visualization

- **Recharts 2.15.3**: Charting library for dashboard analytics
- **@tanstack/react-table 8.21.3**: Table management

Additional Libraries

- **date-fns 4.1.0**: Date manipulation
- **SweetAlert2 11.22.0**: Beautiful alert dialogs

- **React Hot Toast 2.5.2**: Toast notifications
- **class-variance-authority**: Dynamic class management
- **clsx & tailwind-merge**: Class utility functions

Development Tools

- **ESLint 9**: Code linting
- **Turbopack**: Fast bundler (Next.js dev mode)

Getting Started

Prerequisites

- Node.js 20+ installed
- npm, yarn, pnpm, or bun package manager
- Access to OnMart backend API

Installation

1. **Clone the repository**

```
git clone <repository-url>
cd onmart-pos-frontend
```

2. **Install dependencies**

```
npm install
# or
yarn install
# or
pnpm install
```

3. **Configure environment variables**

Create or update `.env.local` file:

```
NEXT_PUBLIC_API_URL=http://localhost:3000/api
ORIGIN_CORS=http://localhost:3711
```

4. **Run development server**

```
npm run dev
# or
yarn dev
```

The application will start on `http://localhost:3711`

Available Scripts

```
# Start development server with Turbopack
npm run dev

# Build for production
npm run build

# Start production server
npm run start

# Run ESLint
npm run lint
```

Project Structure

```
onmart-pos-frontend/
├── src/
│   ├── app/                    # Next.js App Router
│   │   ├── (auth)/             # Authentication routes
│   │   │   ├── login/
│   │   │   ├── logout/
│   │   │   └── redirect/
│   │   ├── (dashboard)/        # Protected dashboard routes
│   │   │   ├── dashboard/      # Main dashboard
```

```
│   │   │   ├── products/      # Product management
│   │   │   ├── categories/    # Category management
│   │   │   ├── brands/        # Brand management
│   │   │   ├── promos/        # Promotions & discounts
│   │   │   ├── outlets/       # Outlet management
│   │   │   ├── customers/     # Customer management
│   │   │   ├── invoices/      # Invoice history
│   │   │   ├── transactions/  # Transaction reports
│   │   │   ├── posterminal/   # POS Terminal
│   │   │   ├── myshift/       # Cashier shift management
│   │   │   ├── usermanagement/# User management
│   │   │   └── accountsettings/# Account settings
│   │   ├── api/               # API routes
│   │   ├── layout.tsx         # Root layout
│   │   ├── page.tsx           # Home page
│   │   └── globals.css        # Global styles
│   ├── components/            # React components
│   │   ├── ui/                # UI primitives
│   │   ├── icons/             # Custom icons
│   │   ├── layouts/           # Layout components
│   │   └── page.tsx           # Page component
│   ├── features/              # Feature modules
│   │   ├── auth/              # Authentication
│   │   ├── products/          # Product features
│   │   ├── categories/        # Category features
│   │   ├── brands/            # Brand features
│   │   ├── promos/            # Promo features
│   │   ├── outlets/           # Outlet features
│   │   ├── customers/         # Customer features
│   │   ├── invoices/          # Invoice features
│   │   ├── transactions/      # Transaction features
│   │   ├── posTerminal/       # POS Terminal features
│   │   ├── myshift/           # Shift management
│   │   ├── userManagement/    # User management
│   │   └── accountSettings/ # Account settings
│   ├── hooks/                 # Custom React hooks
│   │   └── use-mobile.ts      # Mobile detection hook
│   ├── lib/                   # Utility libraries
│   │   ├── api/               # API configuration
```

```
│   │   │   └── endpoints.ts # API endpoints
│   │   ├── fetchWithAuth.ts      # Server-side fetch
│   │   ├── fetchWithAuthClient.ts# Client-side fetch
│   │   ├── utils.ts              # Utility functions
│   │   └── alert.ts              # Alert utilities
│   ├── types/              # TypeScript types
│   │   ├── product.ts      # Product types
│   │   └── profile.ts      # Profile types
│   └── middleware.ts       # Next.js middleware
├── public/                 # Static assets
├── .env.local              # Environment variables
├── next.config.ts          # Next.js configuration
├── tailwind.config.ts      # Tailwind configuration
├── tsconfig.json           # TypeScript configuration
├── components.json         # shadcn/ui configuration
└── package.json            # Dependencies
```

Directory Explanation

/src/app

Contains Next.js App Router pages and layouts. Organized with route groups:

- `(auth)`: Public authentication pages
- `(dashboard)`: Protected dashboard pages

/src/components

Reusable React components:

- `ui/`: Base UI components (buttons, inputs, tables, etc.)
- `icons/`: Custom SVG icons for navigation
- `layouts/`: Layout components like `dashboardLayout.tsx`

/src/features

Feature-specific components organized by domain:

- Each feature contains: `actions.tsx`, `columns.tsx`, `formX.tsx`, `listX.tsx`
- Follows a consistent pattern for CRUD operations

/src/lib

Utility functions and configurations:

- API endpoint definitions
- Authentication helpers
- Shared utilities

Features & Modules

1. Dashboard

Path: `/dashboard`
Roles: Master Admin, Super Admin, Admin, Cashier

Features:

- Sales summary with key metrics (Gross Sales, Net Sales, Gross Profit)
- Transaction count and average sale tracking
- Day of week sales analysis (Bar chart)
- Hourly sales trends (Area chart)
- Top-selling items table
- Category analysis by volume and sales (Pie charts)
- Date range filtering
- Multi-outlet filtering

Components:

- `src/app/(dashboard)/dashboard/page.tsx`
- Uses Recharts for data visualization

2. POS Terminal

Path: `/posterminal`
Roles: Cashier

Features:

- Product search and barcode scanning
- Shopping cart management
- Customer selection
- Payment processing
- Multiple payment methods

- Receipt generation
- Shift management integration

Components:

- `src/features/posTerminal/productSearch.tsx`
- `src/features/posTerminal/cartItemList.tsx`
- `src/features/posTerminal/customerModal.tsx`
- `src/features/posTerminal/formPosTerminal.tsx`
- `src/features/posTerminal/openShiftModal.tsx`

3. Product Management

Path: `/products`
Roles: Master Admin, Super Admin, Admin

Features:

- Product CRUD operations
- Product listing with search and filters
- Stock management
- Category and brand assignment
- Barcode management
- Bulk import (CSV/Excel)
- Export functionality

Components:

- `src/features/products/listProducts.tsx`
- `src/features/products/formProduct.tsx`
- `src/features/products/columns.tsx`
- `src/features/products/actions.tsx`

API Endpoints:

- GET `/api/products` - List products
- POST `/api/products` - Create product
- PUT `/api/products/:id` - Update product
- DELETE `/api/products/:id` - Delete product
- POST `/api/products/import-csv` - Import CSV
- POST `/api/products/import-excel` - Import Excel
- GET `/api/products/export-csv` - Export CSV

4. Category Management

Path: `/categories`
Roles: Master Admin, Super Admin, Admin

Features:

- Category CRUD operations
- Category listing
- Product count per category

Components:

- `src/features/categories/listCategory.tsx`
- `src/features/categories/formCategory.tsx`
- `src/features/categories/columns.tsx`

5. Brand Management

Path: `/brands`
Roles: Master Admin, Super Admin, Admin

Features:

- Brand CRUD operations
- Brand listing
- Product count per brand

Components:

- `src/features/brands/formBrand.tsx`
- `src/features/brands/columns.tsx`

6. Promotions & Discounts

Path: `/promos`
Roles: Master Admin, Super Admin, Admin

Features:

- Promo/discount creation and management
- Discount rules configuration
- Active/inactive status management

7. Outlet Management

Path: `/outlets`
Roles: Master Admin, Super Admin

Features:

- Multiple store location management
- Outlet-specific inventory
- Per-outlet reporting

8. Customer Management

Path: `/customers`
Roles: All roles

Features:

- Customer database
- Customer information management
- Purchase history
- Customer search

Components:

- `src/features/customers/` (contains customer CRUD components)

9. Invoice Management

Path: `/invoices`
Roles: All roles

Features:

- Invoice history
- Invoice details view
- Invoice search and filtering
- Invoice printing

Components:

- `src/features/invoices/` (contains invoice list and detail views)

10. Transaction Reports

Path: `/transactions`
Roles: Master Admin, Super Admin, Admin

Features:

- Transaction history
- Advanced filtering (date, outlet, status)
- Transaction void functionality
- Transaction refund functionality
- Export capabilities

Components:

- `src/features/transactions/` (contains transaction reports)

API Endpoints:

- GET `/api/transactions` - List transactions
- GET `/api/transactions/:id/invoice` - Get invoice details
- PATCH `/api/transactions/:id/void` - Void transaction
- PATCH `/api/transactions/:id/refund` - Refund transaction

11. My Shift

Path: `/myshift`
Roles: Cashier

Features:

- Shift start/end tracking
- Shift summary
- Cash reconciliation
- Shift history

Components:

- `src/features/myshift/listMyshift.tsx`
- `src/features/myshift/formMyShift.tsx`
- `src/features/myshift/columns.tsx`

12. User Management

Path: `/usermanagement`
Roles: Master Admin, Super Admin, Admin

Features:

- User CRUD operations
- Role assignment
- User status management
- Password management

Components:

- `src/features/userManagement/listUser.tsx`
- `src/features/userManagement/formUser.tsx`
- `src/features/userManagement/columns.tsx`

13. Account Settings

Path: `/accountsettings`
Roles: All roles

Features:

- Profile information
- Password change
- User preferences

Components:

- `src/features/auth/accountPage.tsx`

Authentication & Authorization

Authentication Flow

1. **Login Process**
   - User enters credentials on `/login`
   - `loginAction` validates credentials with backend
   - On success, JWT token is stored in cookies
   - User profile is stored in cookies
   - Redirect to `/redirect` then to appropriate dashboard
2. **Token Management**
   - Access token stored in `access_token` cookie

- Profile data stored in `profile` cookie
- "Remember Me" extends cookie lifetime to 7 days
- Token is automatically included in API requests

3. **Logout Process**
   - `/logout` page calls logout API
   - Clears cookies
   - Redirects to `/login`

Middleware Protection

File: `src/middleware.ts`

```
// Public routes accessible without authentication
const publicRoutes = ["/login", "/auth/redirect"];

// Logic:
// - If logged in + accessing public route → redirect to /dashboard
// - If not logged in + accessing private route → redirect to /login
```

Protected Routes:

- All routes except `/login` and `/auth/redirect` require authentication
- Static files (`/_next/static`, images, etc.) are excluded from middleware

Role-Based Navigation

File: `src/components/layouts/dashboardLayout.tsx`

Navigation items are filtered based on user role:

Master Admin

- Dashboard
- Reports (Transactions)
- Library (Products, Categories, Brands, Promos)
- Outlets
- Customers
- Invoices
- User Management
- Account Settings

Super Admin / Admin

- Dashboard
- Reports (Transactions)
- Library (Products, Categories, Brands, Promos)
- Customers
- Invoices
- User Management
- Account Settings

Cashier

- Customers
- My Shift
- POS Terminal
- Invoices
- Account Settings

Authentication Helpers

Client-Side Fetch

File: `src/lib/fetchWithAuthClient.ts`

```
// Automatically adds Authorization header from localStorage
const fetchWithAuthClient = async (input, init) => {
  const token = localStorage.getItem("access_token");
  headers.set("Authorization", `Bearer ${token}`);
  return fetch(input, { ...init, headers });
};
```

Server-Side Fetch

File: `src/lib/fetchWithAuth.ts`

For server components and API routes with cookie-based authentication.

API Integration

Base URL Configuration

File: `src/lib/api/endpoints.ts`

```
// Production API
const baseUrl = "https://posapi.onemart.id/api";

// For local development, uncomment:
// const baseUrl = "http://localhost:3710/api";
```

API Endpoints

All endpoints are defined in `src/lib/api/endpoints.ts`:

Authentication

- `POST /api/auth/login` - User login
- `POST /api/auth/logout` - User logout
- `GET /api/auth/me` - Get current user
- `PUT /api/auth/me/password` - Change password

Products

- `GET /api/products` - List products
- `POST /api/products` - Create product
- `PUT /api/products/:id` - Update product
- `DELETE /api/products/:id` - Delete product
- `POST /api/products/import-csv` - Import CSV
- `POST /api/products/import-excel` - Import Excel
- `GET /api/products/export-csv` - Export CSV

Categories

- `GET /api/categories` - List categories
- `POST /api/categories` - Create category
- `PUT /api/categories/:id` - Update category
- `DELETE /api/categories/:id` - Delete category

Brands

- `GET /api/brands` - List brands
- `POST /api/brands` - Create brand
- `PUT /api/brands/:id` - Update brand
- `DELETE /api/brands/:id` - Delete brand

Promotions

- `GET /api/promos` - List promotions
- `POST /api/promos` - Create promotion
- `PUT /api/promos/:id` - Update promotion
- `DELETE /api/promos/:id` - Delete promotion

Outlets

- `GET /api/outlets` - List outlets
- `POST /api/outlets` - Create outlet
- `PUT /api/outlets/:id` - Update outlet
- `DELETE /api/outlets/:id` - Delete outlet

Customers

- `GET /api/customers` - List customers
- `POST /api/customers` - Create customer
- `PUT /api/customers/:id` - Update customer
- `DELETE /api/customers/:id` - Delete customer

Payment Methods

- `GET /api/payment-methods` - List payment methods

Shifts

- `GET /api/cashier/shifts` - List shifts
- `POST /api/cashier/shifts` - Start shift
- `PUT /api/cashier/shifts/:id` - End shift

Transactions

- `GET /api/transactions` - List transactions
- `GET /api/transactions/:id/invoice` - Get invoice details
- `PATCH /api/transactions/:id/void` - Void transaction
- `PATCH /api/transactions/:id/refund` - Refund transaction

Dashboard

- `GET /api/dashboard/summary` - Dashboard summary
  - Query params: `dateStart`, `dateEnd`, `outletId`

Users

- `GET /api/users` - List users
- `POST /api/users` - Create user
- `PUT /api/users/:id` - Update user
- `DELETE /api/users/:id` - Delete user

Roles

- `GET /api/roles` - List roles

Making API Calls

Using SWR (Recommended for GET requests)

```
import useSWR from 'swr';
import { fetchWithAuthClient } from '@/lib/fetchWithAuthClient';
import endpoints from '@/lib/api/endpoints';

const { data, error, isLoading, mutate } = useSWR(
  endpoints.product.url,
  fetchWithAuthClient
);
```

Using Axios

```
import axios from 'axios';
import endpoints from '@/lib/api/endpoints';

const response = await axios({
  url: endpoints.product.url,
  method: endpoints.product.method,
  headers: {
    Authorization: `Bearer ${token}`,
  },
  data: productData,
});
```

Using fetch directly

```
import { fetchWithAuthClient } from '@/lib/fetchWithAuthClient';
import endpoints from '@/lib/api/endpoints';
```

```
const response = await fetchWithAuthClient(
  endpoints.product.url,
  {
    method: 'POST',
    body: JSON.stringify(productData),
    headers: {
      'Content-Type': 'application/json',
    },
  }
);
```

Component Library

UI Components

The application uses shadcn/ui components with Radix UI primitives.

Location: `src/components/ui/`

Available Components

1. **Button** (`button.tsx`)
   - Variants: default, destructive, outline, secondary, ghost, link
   - Sizes: default, sm, lg, icon

   ```
   <Button variant="default" size="default">Click me</Button>
   ```

2. **Input** (`input.tsx`)
   - Standard text input

   ```
   <Input type="text" placeholder="Enter text" />
   ```

3. **Checkbox** (`checkbox.tsx`)
   - Accessible checkbox component

   ```
   <Checkbox checked={checked} onCheckedChange={setChecked} />
   ```

4. **Select** (`select.tsx`)
   - Dropdown select component

```
<Select value={value} onValueChange={setValue}>
  <SelectOption value="option1">Option 1</SelectOption>
</Select>
```

5. **Textarea** (`textarea.tsx`)
   - Multi-line text input

```
<Textarea placeholder="Enter description" />
```

6. **Table** (`table.tsx`)
   - Table components (Table, TableHeader, TableBody, TableRow, TableCell)

```
<Table>
  <TableHeader>
    <TableRow>
      <TableHead>Column</TableHead>
    </TableRow>
  </TableHeader>
  <TableBody>
    <TableRow>
      <TableCell>Data</TableCell>
    </TableRow>
  </TableBody>
</Table>
```

7. **DataTable** (`dataTable.tsx`)
   - Advanced table with @tanstack/react-table integration
   - Features: sorting, filtering, pagination
8. **Sheet** (`sheet.tsx`)
   - Slide-out panel component

```
<Sheet open={open} onOpenChange={setOpen}>
  <SheetContent>Content</SheetContent>
</Sheet>
```

9. **Popover** (`popover.tsx`)
   - Floating popover component

```
<Popover>
  <PopoverTrigger>Open</PopoverTrigger>
  <PopoverContent>Content</PopoverContent>
</Popover>
```

10. **Tooltip** (`tooltip.tsx`)
    - Accessible tooltip component

```
<Tooltip>
  <TooltipTrigger>Hover me</TooltipTrigger>
  <TooltipContent>Tooltip text</TooltipContent>
</Tooltip>
```

11. **Separator** (`separator.tsx`)
    - Visual divider

```
<Separator orientation="horizontal" />
```

12. **Skeleton** (`skeleton.tsx`)
    - Loading placeholder

```
<Skeleton className="h-4 w-full" />
```

13. **Sidebar** (`sidebar.tsx`)
    - Navigation sidebar component
14. **NavbarAvatar** (`navbarAvatar.tsx`)
    - User avatar with dropdown menu

Custom Icons

Location: `src/components/icons/`

Custom SVG icons for navigation:

- `bar-chart.tsx` - Dashboard icon
- `customers.tsx` - Customers icon
- `inventory.tsx` - Inventory icon
- `invoices.tsx` - Invoices icon
- `library.tsx` - Library icon
- `myShift.tsx` - Shift management icon
- `pos-terminal.tsx` - POS terminal icon
- `product-lookup.tsx` - Product lookup icon
- `reports.tsx` - Reports icon
- `user-management.tsx` - User management icon

Layout Components

DashboardLayout (`src/components/layouts/dashboardLayout.tsx`)

- Main application layout

- Responsive sidebar
- Role-based navigation
- User profile dropdown
- Mobile-friendly hamburger menu

State Management

Data Fetching with SWR

The application uses SWR for efficient data fetching and caching.

Benefits:

- Automatic revalidation
- Built-in caching
- Optimistic UI updates
- Real-time data synchronization

Example:

```
import useSWR from 'swr';
import { fetchWithAuthClient } from '@/lib/fetchWithAuthClient';

function ProductList() {
  const { data, error, isLoading, mutate } = useSWR(
    '/api/products',
    fetchWithAuthClient
  );

  // mutate() - manually revalidate
  // data - response data
  // error - error object
  // isLoading - loading state
}
```

Form State with React Hook Form

Forms use React Hook Form for validation and state management.

Example:

```
import { useForm } from 'react-hook-form';

function ProductForm() {
  const { register, handleSubmit, formState: { errors } } = useForm();

  const onSubmit = async (data) => {
    // Handle form submission
  };

  return (
    <form onSubmit={handleSubmit(onSubmit)}>
      <input {...register('name', { required: true })} />
      {errors.name && <span>This field is required</span>}
    </form>
  );
}
```

Local State

Component-level state is managed with React hooks:

- `useState` - Local state
- `useEffect` - Side effects
- `useMemo` - Memoized values
- `useCallback` - Memoized callbacks

Routing & Navigation

App Router Structure

Next.js 15 uses the App Router with file-based routing.

Route Groups:

- `(auth)` - Authentication pages (public)

- `(dashboard)` - Dashboard pages (protected)

Navigation Methods

Link Component

```
import Link from 'next/link';

<Link href="/products">Products</Link>
```

useRouter Hook

```
import { useRouter } from 'next/navigation';

const router = useRouter();
router.push('/dashboard');
router.back();
router.refresh();
```

Redirect Function

```
import { redirect } from 'next/navigation';

redirect('/login'); // Server-side redirect
```

Dynamic Routes

```
/transactions/[id] - Transaction detail page
/products/[id]/edit - Edit product page
```

Development Guidelines

Code Organization

1. **Feature-based Structure**
   - Group related components in feature folders
   - Each feature has consistent file naming: `listX.tsx`, `formX.tsx`, `columns.tsx`, `actions.tsx`
2. **Component Naming**
   - PascalCase for components: `ProductList`, `CategoryForm`
   - camelCase for functions and variables: `fetchProducts`, `productData`
   - kebab-case for files: `product-list.tsx`
3. **Type Definitions**
   - Define types in `src/types/`
   - Use interfaces for objects with properties
   - Export types from feature modules

Styling Guidelines

1. **Tailwind CSS**
   - Use Tailwind utility classes
   - Avoid inline styles
   - Use `className` for styling
2. **Custom Colors**
   - Brand colors defined in `next.config.ts`:
     - `brand-primary`: #f45b8c
     - `brand-hover`: #e04a7a
     - `brand-bg`: #ffeef2
     - `brand-bgSecondary`: #fdd9e5
     - `text-muted`: #6b7280
3. **Responsive Design**
   - Mobile-first approach
   - Use Tailwind breakpoints: `sm:`, `md:`, `lg:`, `xl:`, `2xl:`

TypeScript Best Practices

1. **Type Safety**
   - Always define types for props
   - Avoid `any` type
   - Use type inference where possible
2. **Interfaces vs Types**
   - Prefer interfaces for object shapes
   - Use types for unions and intersections
3. **Path Aliases**
   - Use `@/` prefix for imports
   - Examples: `@/components/ui/button`, `@/lib/utils`

Error Handling

1. **API Errors**
   - Handle 401 (Unauthorized) → redirect to login
   - Show user-friendly error messages
   - Use SweetAlert2 or React Hot Toast
2. **Form Validation**
   - Use React Hook Form validation
   - Display inline error messages
3. **Loading States**
   - Show skeletons or spinners
   - Disable buttons during submission

Performance Optimization

1. **Code Splitting**
   - Use dynamic imports for large components
   - Leverage Next.js automatic code splitting
2. **Image Optimization**
   - Use Next.js `<Image>` component
   - Optimize images before uploading
3. **Memoization**
   - Use `useMemo` for expensive calculations
   - Use `useCallback` for event handlers
4. **Data Fetching**
   - Use SWR for automatic caching
   - Implement pagination for large lists

Testing (Future)

While testing infrastructure is not currently set up, consider:

- Unit tests with Jest
- Component tests with React Testing Library
- E2E tests with Playwright or Cypress

Deployment

Build Process

1. **Production Build**

```
npm run build
```

This creates an optimized production build in `.next/` directory.

2. **Start Production Server**

```
npm run start
```

Runs on port 3711 by default.

Environment Variables

Production:

```
NEXT_PUBLIC_API_URL=https://posapi.onemart.id/api
ORIGIN_CORS=https://pos.onemart.id
```

Staging:

```
NEXT_PUBLIC_API_URL=https://staging-posapi.onemart.id/api
ORIGIN_CORS=https://staging-pos.onemart.id
```

Development:

```
NEXT_PUBLIC_API_URL=http://localhost:3710/api
ORIGIN_CORS=http://localhost:3711
```

Deployment Platforms

Vercel (Recommended)

1. Connect GitHub repository
2. Configure environment variables
3. Deploy automatically on push

Docker

```
FROM node:20-alpine
WORKDIR /app
COPY package*.json ./
RUN npm ci
COPY . .
RUN npm run build
EXPOSE 3711
CMD ["npm", "start"]
```

Traditional Server

1. Build the application
2. Copy `.next/`, `public/`, `node_modules/`, `package.json`
3. Run with PM2 or similar process manager

```
pm2 start npm --name "onmart-pos" -- start
```

API URL Configuration

Change API endpoint in: `src/lib/api/endpoints.ts`

```
// Production
const baseUrl = "https://posapi.onemart.id/api";

// Development
// const baseUrl = "http://localhost:3710/api";
```

Pre-deployment Checklist

- ☐ Update API URL in `endpoints.ts`
- ☐ Set correct environment variables
- ☐ Test all features in staging
- ☐ Run build successfully (`npm run build`)
- ☐ Check for TypeScript errors (`npm run lint`)
- ☐ Verify authentication flows
- ☐ Test role-based access control
- ☐ Check responsive design on mobile devices

Troubleshooting

Common Issues

1. Authentication Issues

Problem: "Sesi Anda telah habis" or automatic logout

Solutions:

- Check if backend API is running
- Verify `access_token` cookie exists
- Check token expiration
- Ensure middleware is not blocking routes

Debug:

```
// Check token in browser console
document.cookie.split(';').find(c => c.includes('access_token'))
```

2. API Connection Errors

Problem: "Failed to fetch" or CORS errors

Solutions:

- Verify API URL in `endpoints.ts`
- Check CORS configuration on backend
- Ensure API server is running
- Check network connectivity

Debug:

```
// Test API directly
fetch('https://posapi.onemart.id/api/auth/me', {
  headers: { Authorization: 'Bearer YOUR_TOKEN' }
})
```

3. Build Errors

Problem: Build fails with TypeScript errors

Solutions:

- Run `npm run lint` to identify issues
- Check for missing type definitions
- Ensure all imports are correct
- Verify `tsconfig.json` is valid

4. Port Already in Use

Problem: Port 3711 is already in use

Solutions:

```
# Kill process on port 3711
lsof -ti:3711 | xargs kill -9

# Or use a different port
npm run dev -- -p 3712
```

5. Environment Variables Not Loading

Problem: API calls fail or incorrect URLs

Solutions:

- Ensure `.env.local` exists in root directory
- Restart dev server after changing env variables
- Check variable names start with `NEXT_PUBLIC_` for client-side access
- Verify no typos in variable names

6. Styling Issues

Problem: Tailwind classes not working

Solutions:

- Clear `.next/` cache: `rm -rf .next`
- Rebuild: `npm run build`
- Check Tailwind configuration in `next.config.ts`
- Verify `@tailwindcss/postcss` plugin is installed

7. SWR Not Updating

Problem: Data not refreshing after mutation

Solutions:

```
// Manually revalidate
mutate('/api/products');

// Revalidate with new data
mutate('/api/products', newData, false);

// Global revalidation
import { mutate } from 'swr';
mutate(() => true); // Revalidate all
```

Getting Help

1. **Check Console**: Open browser DevTools and check for error messages
2. **Check Network**: Review API calls in Network tab
3. **Check Logs**: Check terminal for server-side errors
4. **Documentation**: Review this documentation
5. **Backend Team**: Contact backend team for API issues

Glossary

- **POS**: Point of Sale - system for processing transactions
- **SKU**: Stock Keeping Unit - unique product identifier
- **JWT**: JSON Web Token - authentication token format
- **CRUD**: Create, Read, Update, Delete operations
- **SWR**: Stale-While-Revalidate - data fetching strategy
- **SSR**: Server-Side Rendering
- **CSR**: Client-Side Rendering
- **ISR**: Incremental Static Regeneration

Additional Resources

External Documentation

- Next.js Documentation
- React Documentation
- Tailwind CSS
- TypeScript Handbook
- SWR Documentation
- React Hook Form
- Radix UI
- shadcn/ui

Internal Resources

- Backend API Documentation (if available)
- Design System Guidelines (if available)
- API Postman Collection (if available)

Changelog

Version 0.1.0 (Current)

- Initial release
- Core POS functionality
- Dashboard analytics
- User management
- Multi-role support
- Multi-outlet support

License

This project is proprietary and confidential. All rights reserved by OnMart/OnIndonesia.

Contact & Support

For questions or support:

- Development Team: [Contact Information]
- Backend API Issues: [Backend Team Contact]
- Infrastructure: [DevOps Team Contact]

Document Version: 1.0
Last Updated: February 2026
Maintained By: Development Team