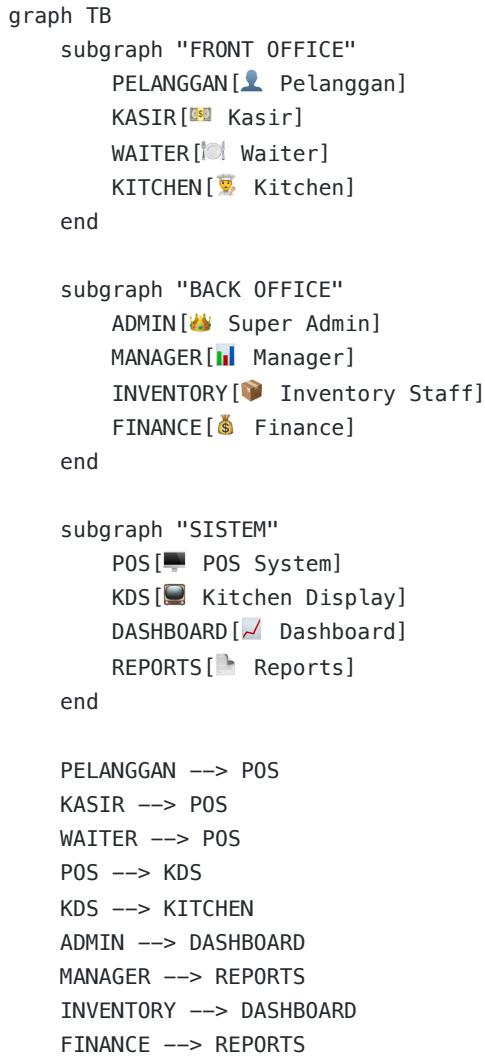# Alur Kerja Sistem KasPOS - Dokumentasi Lengkap

Dokumentasi ini menjelaskan alur kerja sistem **KasPOS** secara komprehensif, mencakup seluruh role dan modul dari **Front Office** hingga **Back Office**.

📊 Overview Sistem

KasPOS adalah sistem Point of Sale (POS) berbasis Laravel + React/Inertia dengan fitur:

```
graph TB
    subgraph "FRONT OFFICE"
        PELANGGAN[👤 Pelanggan]
        KASIR[💵 Kasir]
        WAITER[🍽 Waiter]
        KITCHEN[👨‍🍳 Kitchen]
    end

    subgraph "BACK OFFICE"
        ADMIN[👑 Super Admin]
        MANAGER[📊 Manager]
        INVENTORY[📦 Inventory Staff]
        FINANCE[💰 Finance]
    end

    subgraph "SISTEM"
        POS[🖥 POS System]
        KDS[📺 Kitchen Display]
        DASHBOARD[📈 Dashboard]
        REPORTS[📄 Reports]
    end

    PELANGGAN --> POS
    KASIR --> POS
    WAITER --> POS
    POS --> KDS
    KDS --> KITCHEN
    ADMIN --> DASHBOARD
    MANAGER --> REPORTS
    INVENTORY --> DASHBOARD
    FINANCE --> REPORTS
```

🎯 FRONT OFFICE

1. 👤 Pelanggan (Customer)

Alur Kerja Self-Order (via QR Code Meja)

```
sequenceDiagram
    participant P as Pelanggan
    participant QR as QR Code Meja
    participant S as Sistem
    participant K as Kitchen

    P->>QR: Scan QR Code di meja
```

```
QR->>S: Redirect ke /table/{table_id}
S->>P: Tampilkan menu katalog
P->>S: Pilih menu & tambah ke cart
P->>S: Submit pesanan
S->>S: Buat TransactionKitchen record
S->>K: Kirim ke Kitchen Display
Note over P,K: Pelanggan menunggu pesanan
```

Akses Fitur:

Fitur	Lokasi	Deskripsi
Lihat Menu	/ atau /table/{id}	Browse kategori & produk
Tambah ke Cart	Frontend	Pilih item, qty, varian
Submit Order	HomeController@store	Buat transaksi pending
Lihat Status	-	Update dari Kitchen

---

2. 💵 Kasir (Cashier)

Alur Kerja Shift Kasir

```
sequenceDiagram
    participant K as Kasir
    participant POS as POS System
    participant S as Shift System

    K->>POS: Login ke sistem
    POS->>K: Cek status shift
    alt Belum buka shift
        K->>S: Buka Shift Kasir
        K->>S: Input modal awal
        S->>POS: Shift aktif
    end
    Note over K,POS: Mulai melayani transaksi
    K->>S: Tutup Shift
    S->>S: Hitung total penjualan
    S->>K: Laporan shift (modal + penjualan - pengeluaran)
```

Alur Transaksi Penjualan:

```
flowchart TD
    A[Buka POS] --> B{Ada transaksi pending?}
    B -->|Ya| C[Ambil dari Pending List]
    B -->|Tidak| D[Buat transaksi baru]

    C --> E[Tampilkan cart]
    D --> E

    E --> F[Tambah item ke cart]
    F --> G{Semua item?}
    G -->|Belum| F
    G -->|Sudah| H[Apply Discount/Coupon]
```

```
    H --> I[Pilih metode bayar]
    I --> J{Metode?}
    J -->|Cash| K[Input nominal bayar]
    J -->|Transfer/QRIS| L[Pilih bank account]

    K --> M[Proses pembayaran]
    L --> M

    M --> N[Simpan transaksi]
    N --> O[Cetak struk]
    O --> P{Kirim ke Kitchen?}
    P -->|Ya| Q[Send to Kitchen Display]
    P -->|Tidak| R[Selesai]
    Q --> R
```

Akses Fitur Kasir:

Fitur	Route	Controller Method
Buka POS	`/pos`	`PosController@index`
Buka Shift	`/pos/open-cashier-shift`	`PosController@openCashierShift`
Tutup Shift	`/pos/close-cashiers`	`PosController@closeCashierShift`
Proses Transaksi	`/pos (POST)`	`PosController@store`
Cari produk barcode	`/pos/products/search-barcode`	`PosController@searchByBarcode`
Pending Transactions	`/pos/pending-transactions`	`PosController@pendingTransaction`
History Transactions	`/pos/history-transactions`	`PosController@historyTransaction`
Cetak Struk	`/pos/print-receipt`	`PosController@receipt`
Kirim ke Kitchen	`/pos/send-kitchen`	`PosController@sendKitchen`
Buka Meja	`/pos/update-table`	`PosController@openTable`
Discount per Item	`/pos/discount-per-item`	`PosController@discountPerItem`

3. 🍽️ Waiter

Waiter berinteraksi dengan sistem melalui POS untuk:

```
flowchart LR
    W[Waiter] --> A[Buka/Assign Meja]
    W --> B[Input Pesanan Customer]
    W --> C[Kirim ke Kitchen]
    W --> D[Update Status Meja]

    A --> E[tables.open-tables]
    B --> F[POS Transaction]
    C --> G[Kitchen Display]
    D --> H[Table Management]
```

Fitur Khusus Waiter:

- Assign meja ke transaksi
- Input pesanan pelanggan
- Kirim pesanan ke Kitchen Display
- Monitor status pesanan

4. 👨‍🍳 Kitchen (Dapur)

Alur Kerja Kitchen Display System (KDS)

```
sequenceDiagram
    participant POS as POS/Kasir
    participant KDS as Kitchen Display
    participant COOK as Koki

    POS->>KDS: Pesanan baru masuk
    KDS->>KDS: Tampilkan dengan status "pending"
    COOK->>KDS: Mulai masak – Update "cooking"
    COOK->>KDS: Selesai – Update "done"
    KDS->>POS: Notifikasi pesanan siap
```

Kitchen Display Interface:

Status	Warna	Aksi
pending	🟡 Kuning	Menunggu diproses
cooking	🔵 Biru	Sedang dimasak
done	🟢 Hijau	Siap disajikan
cancelled	🔴 Merah	Dibatalkan

Akses Fitur Kitchen:

Fitur	Route	Controller Method
Kitchen Display	/kitchen	TransactionKitchenController@index
List Orders	/kitchen/list-orders	TransactionKitchenController@listOrders
Update Status	/kitchen/{id}/update	TransactionKitchenController@update

🏢 BACK OFFICE

5. 👑 Super Admin

Super Admin memiliki akses penuh ke seluruh sistem.

Alur Kerja Harian Super Admin

```
graph TD
    A[Login] --> B[Dashboard]
    B --> C{Pilih Aktivitas}

    C --> D[Kelola Users & Roles]
    C --> E[Kelola Produk & Stok]
```

```
    C --> F[Kelola Keuangan]
    C --> G[Lihat Reports]
    C --> H[Settings Toko]

    D --> D1[CRUD Users]
    D --> D2[CRUD Roles]
    D --> D3[CRUD Permissions]

    E --> E1[Products]
    E --> E2[Categories]
    E --> E3[Materials/Bahan]
    E --> E4[Stock Opname]

    F --> F1[Transactions]
    F --> F2[Expenses]
    F --> F3[Orders/Pembelian]

    G --> G1[Sales Report]
    G --> G2[Stock Report]
    G --> G3[Cash Flow]
    G --> G4[Profit/Loss]

    H --> H1[Store Info]
    H --> H2[Bank Accounts]
    H --> H3[Shift Settings]
    H --> H4[Customer Loyalty]
```

Akses Lengkap Super Admin:

Modul	Routes	Deskripsi
Dashboard	/dashboard	Analytics & overview
Users	/users/*	Kelola akun pengguna
Roles	/roles/*	Kelola role & hak akses
Permissions	/permissions/*	Kelola permission
Products	/products/*	Kelola produk
Categories	/categories/*	Kelola kategori
Suppliers	/suppliers/*	Kelola supplier
Materials	/materials/*	Kelola bahan baku
Checking Stocks	/checking-stocks/*	Stock opname
Orders	/orders/*	Purchase orders ke supplier
Transactions	/transactions/*	Transaksi penjualan
Expenses	/expenses/*	Kelola pengeluaran
Reports	/reports/*	Berbagai laporan
Settings	/setting-stores/*	Pengaturan toko
Audit Logs	/audit-logs/*	Log aktivitas sistem

6. 📊 Manager / Supervisor

Fokus Utama: Monitoring & Reporting

```
flowchart TD
    M[Manager Login] --> D[Dashboard]

    D --> A[📈 Lihat Statistik Penjualan]
    D --> B[📉 Monitor Stok Rendah]
    D --> C[💰 Review Expenses]
    D --> E[📊 Generate Reports]

    A --> A1[Daily Sales]
    A --> A2[Monthly Trends]
    A --> A3[Top Products]

    B --> B1[Low Stock Alert]
    B --> B2[Request Purchase Order]

    E --> E1[Sales Report]
    E --> E2[Stock Report]
    E --> E3[Cash Flow Report]
    E --> E4[Profit/Loss Report]
```

Dashboard Analytics:

- Total penjualan (harian/bulanan)
- Top 10 produk terlaris
- Stok rendah (low stock alerts)
- Grafik penjualan per kategori
- Perbandingan month-over-month

Reports Available:

Report	Route	Deskripsi
Cash Flow	/reports/cash-flow	Arus kas masuk/keluar
Purchase	/reports/purchase	Laporan pembelian
Sales	/reports/sale	Laporan penjualan
Stock	/reports/stock	Laporan stok
Card Stock	/reports/card-stock	Kartu stok per item
Profit/Loss	/reports/profit-loss	Laporan laba rugi

7. 📦 Inventory / Gudang

Alur Kerja Inventory Staff

```
flowchart TD
    I[Inventory Staff] --> A[Kelola Stok]

    A --> B[Stock Opname]
    A --> C[Purchase Orders]
```

```
    A --> D[Purchase Returns]
    A --> E[Material Management]

    B --> B1[Buat Checking Stock]
    B1 --> B2[Hitung Fisik]
    B2 --> B3[Input Selisih]
    B3 --> B4[Adjustment Stok]

    C --> C1[Buat PO ke Supplier]
    C1 --> C2[Terima Barang]
    C2 --> C3[Update Stok]

    D --> D1[Return Barang Rusak]
    D1 --> D2[Kurangi Stok]

    E --> E1[Track Bahan Baku]
    E1 --> E2[Recipe Management]
```

Akses Fitur Inventory:

Fitur	Route	Deskripsi
Products	/products	Lihat & kelola produk
Materials	/materials	Bahan baku & stok
Checking Stocks	/checking-stocks	Stock opname
Purchase Orders	/orders	Pembelian ke supplier
Purchase Returns	/purchase-returns	Retur pembelian
Suppliers	/suppliers	Data supplier

8. 💰 Finance / Keuangan

Alur Kerja Finance Staff

```
flowchart TD
    F[Finance Staff] --> A[Input Transaksi]
    F --> B[Kelola Expenses]
    F --> C[Generate Reports]

    A --> A1[Review Transactions]
    A --> A2[Process Payments]
    A --> A3[Handle Returns]

    B --> B1[Create Expense Categories]
    B --> B2[Input Daily Expenses]
    B --> B3[Approve Expenses]

    C --> C1[Cash Flow Report]
    C --> C2[Profit/Loss Statement]
    C --> C3[Sales Summary]
    C --> C4[Export to Excel]
```

Struktur Expense Management:

```
📁 Expense Categories
├── 📁 Operasional
│    ├── Listrik
│    ├── Air
│    └── Internet
├── 📁 Gaji
│    ├── Karyawan Tetap
│    └── Part-time
├── 📁 Supplies
│    ├── Bahan Baku
│    └── Packaging
└── 📁 Marketing
     ├── Ads
     └── Promo
```

Akses Fitur Finance:

Fitur	Route	Deskripsi
Transactions	/transactions	Review transaksi
Transaction Returns	/transaction-returns	Proses retur
Expenses	/expenses	Input pengeluaran
Expense Categories	/expense-categories	Kategori pengeluaran
Expense Subcategories	/expense-subcategories	Sub-kategori
Cash Flow Report	/reports/cash-flow	Arus kas
Profit/Loss	/reports/profit-loss	Laba rugi

🔄 Alur Transaksi End-to-End

Complete Transaction Flow

```
flowchart TB
    subgraph "1. ORDER PHASE"
        A[Customer/Kasir] --> B[Pilih Produk]
        B --> C[Add to Cart]
        C --> D{Discount?}
        D -->|Ya| E[Apply Coupon/Discount]
        D -->|Tidak| F[Review Cart]
        E --> F
    end

    subgraph "2. PAYMENT PHASE"
        F --> G[Pilih Payment Method]
        G --> H{Method Type}
        H -->|Cash| I[Input Cash Amount]
        H -->|Transfer| J[Select Bank]
        H -->|QRIS| J
        I --> K[Calculate Change]
        J --> K
        K --> L[Submit Payment]
```

```
    end

    subgraph "3. KITCHEN PHASE"
        L --> M{Food Item?}
        M -->|Ya| N[Send to Kitchen]
        N --> O[Kitchen Display]
        O --> P[Cook Prepares]
        P --> Q[Mark as Done]
        M -->|Tidak| R[Ready for Pickup]
        Q --> R
    end

    subgraph "4. COMPLETION PHASE"
        R --> S[Print Receipt]
        S --> T[Update Stock]
        T --> U[Add Customer Points]
        U --> V[Transaction Complete]
    end
```
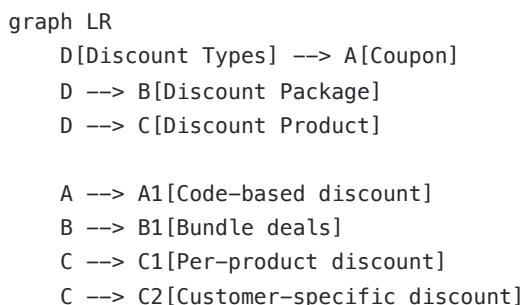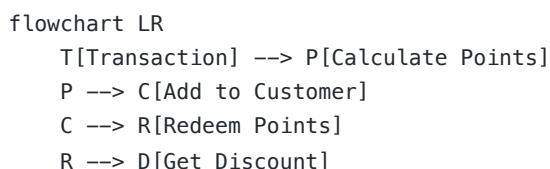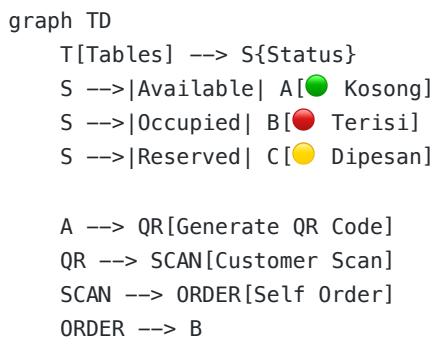
📱 Fitur Tambahan

Discount & Promo System

```
graph LR
    D[Discount Types] --> A[Coupon]
    D --> B[Discount Package]
    D --> C[Discount Product]

    A --> A1[Code-based discount]
    B --> B1[Bundle deals]
    C --> C1[Per-product discount]
    C --> C2[Customer-specific discount]
```

Tipe	Route	Deskripsi
Coupon	`/coupons`	Kode promo
Discount Package	`/discount-packages`	Paket bundling
Discount Product	`/discount-products`	Diskon per produk

Customer Loyalty Program

```
flowchart LR
    T[Transaction] --> P[Calculate Points]
    P --> C[Add to Customer]
    C --> R[Redeem Points]
    R --> D[Get Discount]
```

Table Management (Resto/Cafe)

```
graph TD
    T[Tables] --> S{Status}
    S -->|Available| A[🟢 Kosong]
    S -->|Occupied| B[🔴 Terisi]
    S -->|Reserved| C[🟡 Dipesan]

    A --> QR[Generate QR Code]
    QR --> SCAN[Customer Scan]
    SCAN --> ORDER[Self Order]
    ORDER --> B
```

🔓 Role & Permission Matrix

Role	Dashboard	POS	Kitchen	Products	Orders	Transactions	Reports	Settings	Users
Super Admin	✅	✅	✅	✅	✅	✅	✅	✅	✅
Manager	✅	❌	❌	✅	✅	✅	✅	❌	❌
Kasir	❌	✅	❌	❌	❌	❌	❌	❌	❌
Kitchen	❌	❌	✅	❌	❌	❌	❌	❌	❌
Inventory	❌	❌	❌	✅	✅	❌	✅	❌	❌
Finance	❌	❌	❌	❌	❌	✅	✅	❌	❌

🗄 Struktur Data Utama

Entity Relationship Overview

```
erDiagram
    USER ||--o{ TRANSACTION : creates
    USER ||--o{ CASHIER_SHIFT : opens
    CASHIER_SHIFT ||--o{ TRANSACTION : contains
    TRANSACTION ||--o{ TRANSACTION_DETAIL : has
    TRANSACTION_DETAIL }o--|| PRODUCT : references
    TRANSACTION ||--o{ TRANSACTION_KITCHEN : sends
    TRANSACTION_KITCHEN ||--o{ TRANSACTION_KITCHEN_ITEM : contains
    TRANSACTION ||--o| TABLE : uses
    TRANSACTION ||--o| CUSTOMER : belongs_to
    CUSTOMER ||--o{ CUSTOMER_POINT : earns
    PRODUCT }o--|| CATEGORY : belongs_to
    PRODUCT ||--o{ PRODUCT_VARIANT : has
    PRODUCT }o--|| UNIT : uses
    ORDER ||--o{ ORDER_DETAIL : has
    ORDER }o--|| SUPPLIER : from
    ORDER_DETAIL }o--|| MATERIAL : references
    EXPENSE }o--|| EXPENSE_SUBCATEGORY : categorized
    EXPENSE_SUBCATEGORY }o--|| EXPENSE_CATEGORY : belongs_to
```

📝 Kesimpulan

Sistem KasPOS mengintegrasikan:

1. **Front Office**: Operasional harian dengan POS, Kitchen Display, dan self-ordering
2. **Back Office**: Manajemen inventory, keuangan, dan reporting
3. **Role-based Access**: Kontrol akses berdasarkan role pengguna
4. **Real-time Updates**: Kitchen Display System untuk koordinasi dapur
5. **Comprehensive Reporting**: Laporan lengkap untuk analisis bisnis

Setiap role memiliki workflow yang terintegrasi untuk memastikan operasional bisnis berjalan lancar dari pesanan hingga pelaporan keuangan.