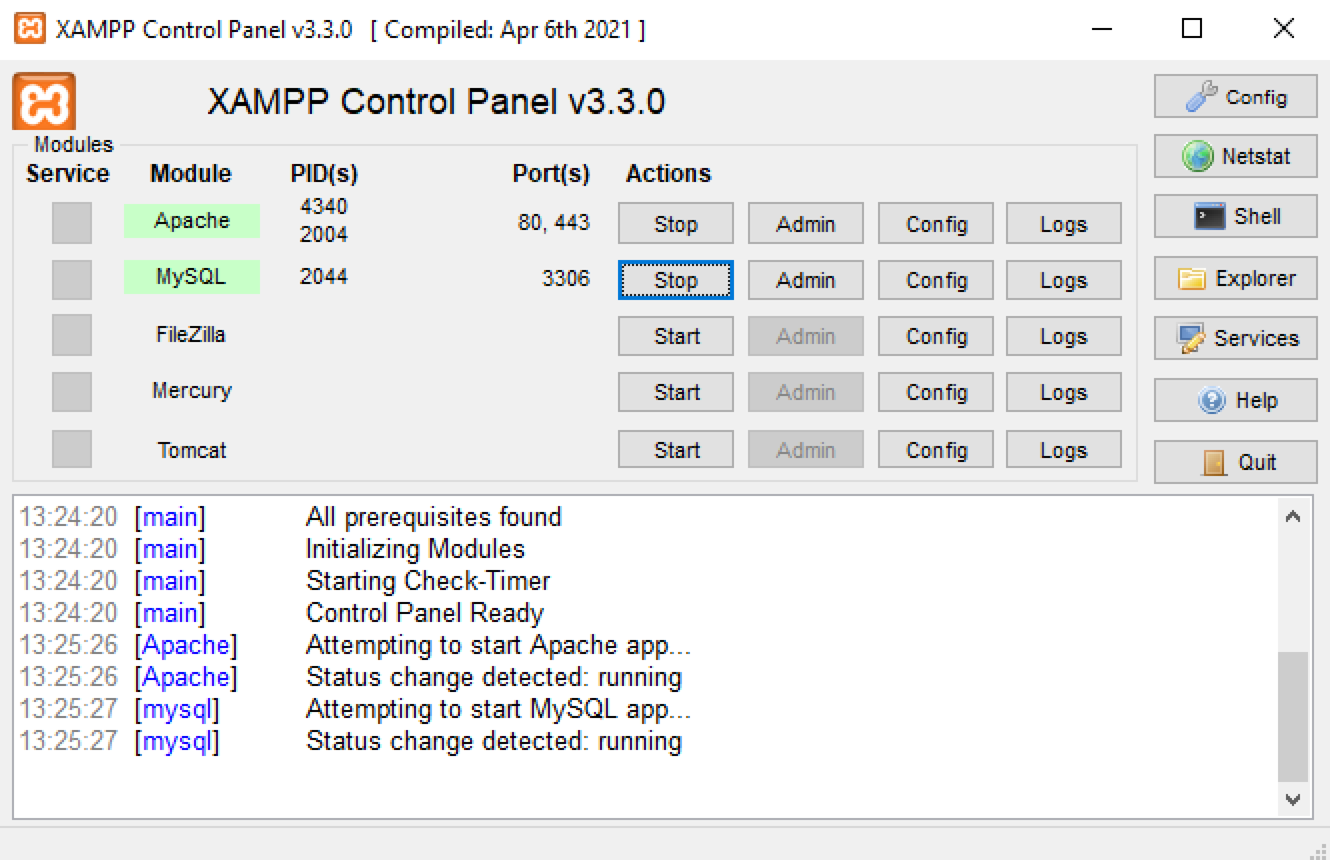
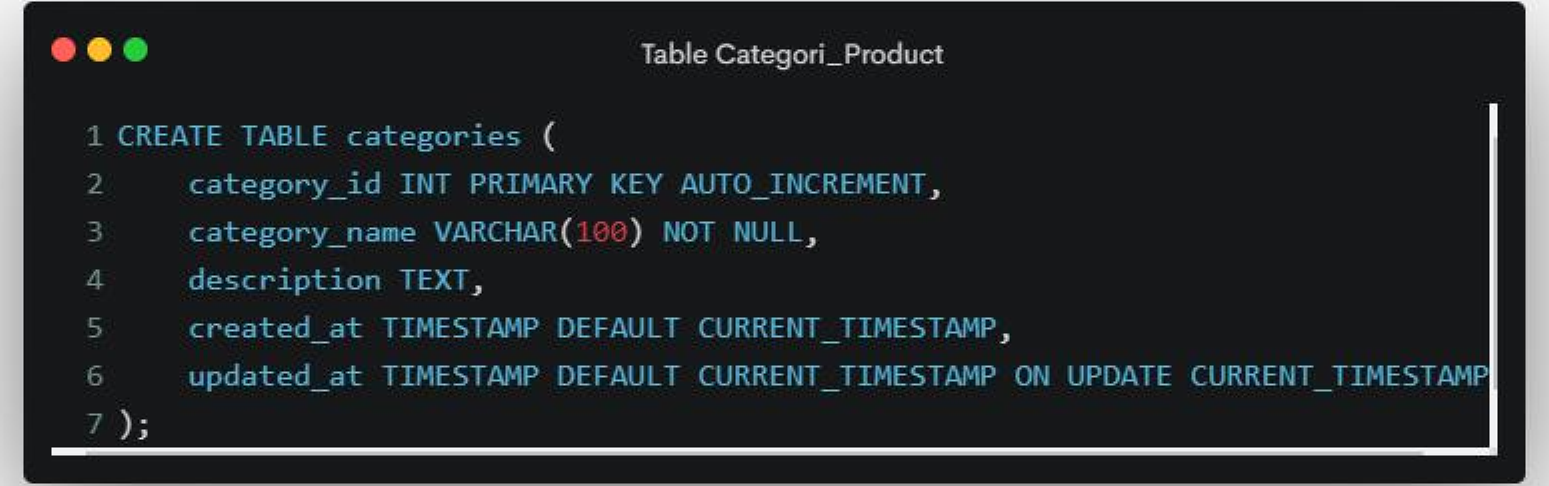


XAMPP Control Panel v3.3.0 [ Compiled: Apr 6th 2021 ]
XAMPP Control Panel v3.3.0
Config
Netstat
Shell
Explorer
Services
Help
Quit

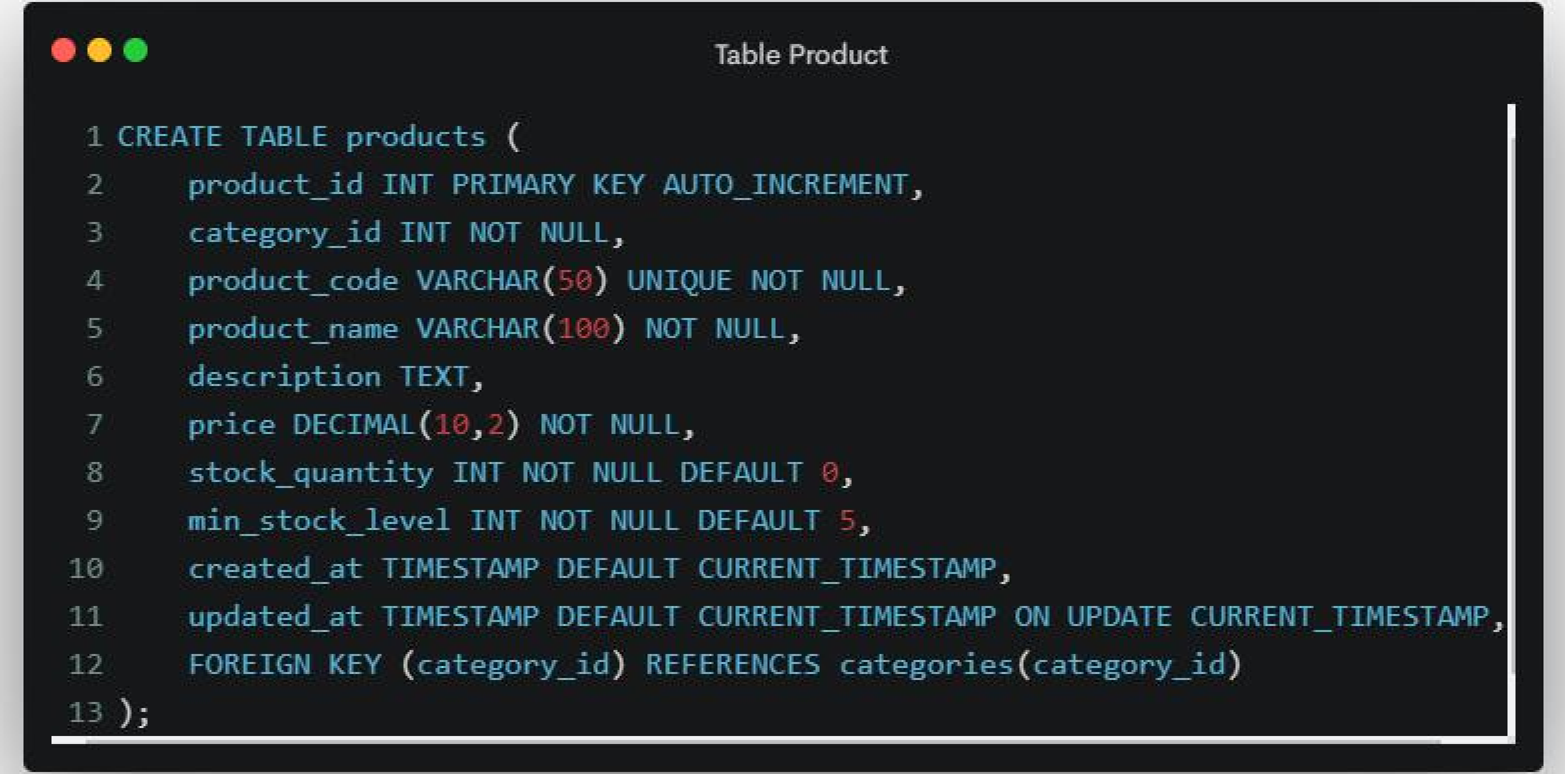
Modules

| Service | Module | PID(s) | Port(s) | Actions | | | |
|---|---|---|---|---|---|---|---|
| □ | Apache | 4340<br>2004 | 80, 443 | Stop | Admin | Config | Logs |
| □ | MySQL | 2044 | 3306 | Stop | Admin | Config | Logs |
| □ | FileZilla | | | Start | Admin | Config | Logs |
| □ | Mercury | | | Start | Admin | Config | Logs |
| □ | Tomcat | | | Start | Admin | Config | Logs |

```
13:24:20  [main]      All prerequisites found
13:24:20  [main]      Initializing Modules
13:24:20  [main]      Starting Check-Timer
13:24:20  [main]      Control Panel Ready
13:25:26  [Apache]    Attempting to start Apache app...
13:25:26  [Apache]    Status change detected: running
13:25:27  [mysql]     Attempting to start MySQL app...
13:25:27  [mysql]     Status change detected: running
```



```sql
CREATE TABLE categories (
    category_id INT PRIMARY KEY AUTO_INCREMENT,
    category_name VARCHAR(100) NOT NULL,
    description TEXT,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
);
```



```sql
CREATE TABLE products (
    product_id INT PRIMARY KEY AUTO_INCREMENT,
    category_id INT NOT NULL,
    product_code VARCHAR(50) UNIQUE NOT NULL,
    product_name VARCHAR(100) NOT NULL,
    description TEXT,
    price DECIMAL(10,2) NOT NULL,
    stock_quantity INT NOT NULL DEFAULT 0,
    min_stock_level INT NOT NULL DEFAULT 5,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
    FOREIGN KEY (category_id) REFERENCES categories(category_id)
);
```

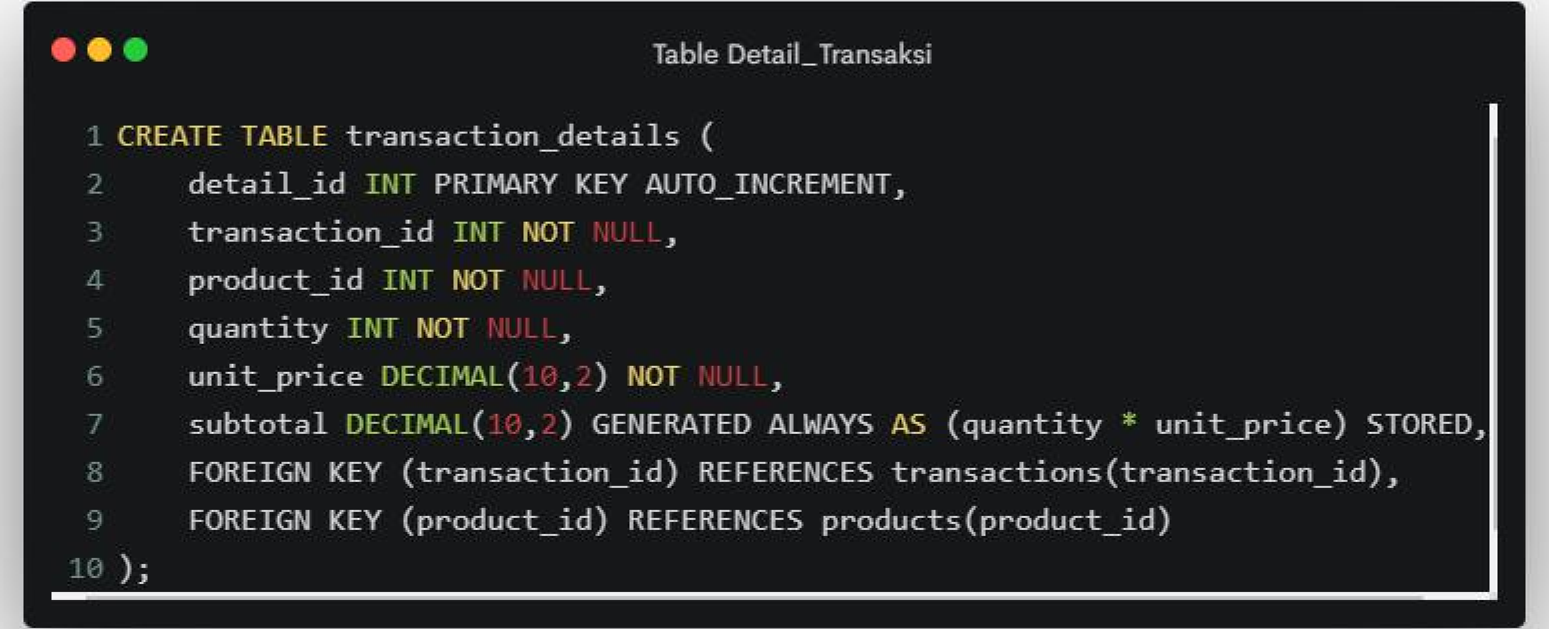


Table Detail_Transaksi

```sql
CREATE TABLE transaction_details (
    detail_id INT PRIMARY KEY AUTO_INCREMENT,
    transaction_id INT NOT NULL,
    product_id INT NOT NULL,
    quantity INT NOT NULL,
    unit_price DECIMAL(10,2) NOT NULL,
    subtotal DECIMAL(10,2) GENERATED ALWAYS AS (quantity * unit_price) STORED,
    FOREIGN KEY (transaction_id) REFERENCES transactions(transaction_id),
    FOREIGN KEY (product_id) REFERENCES products(product_id)
);
```

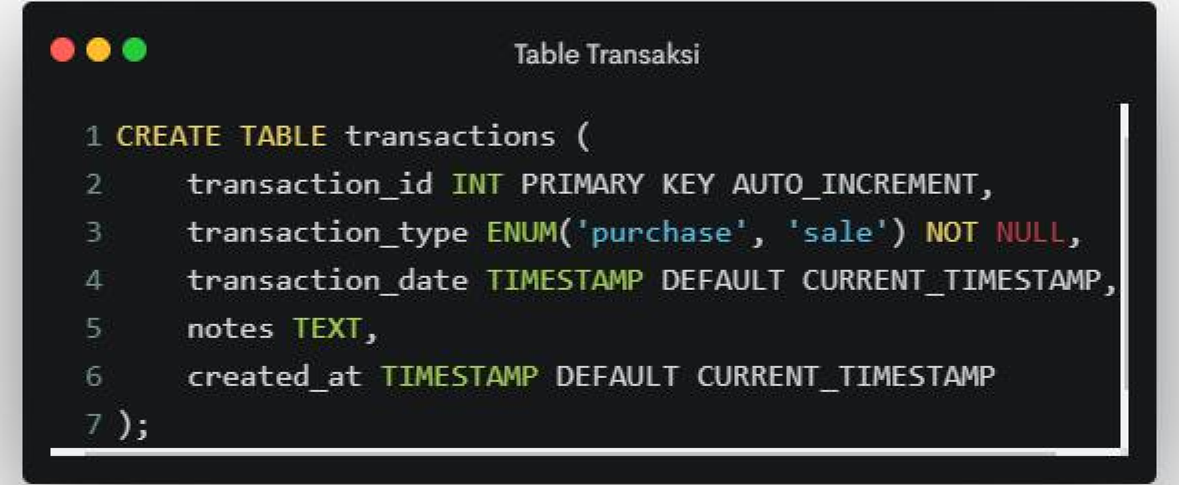
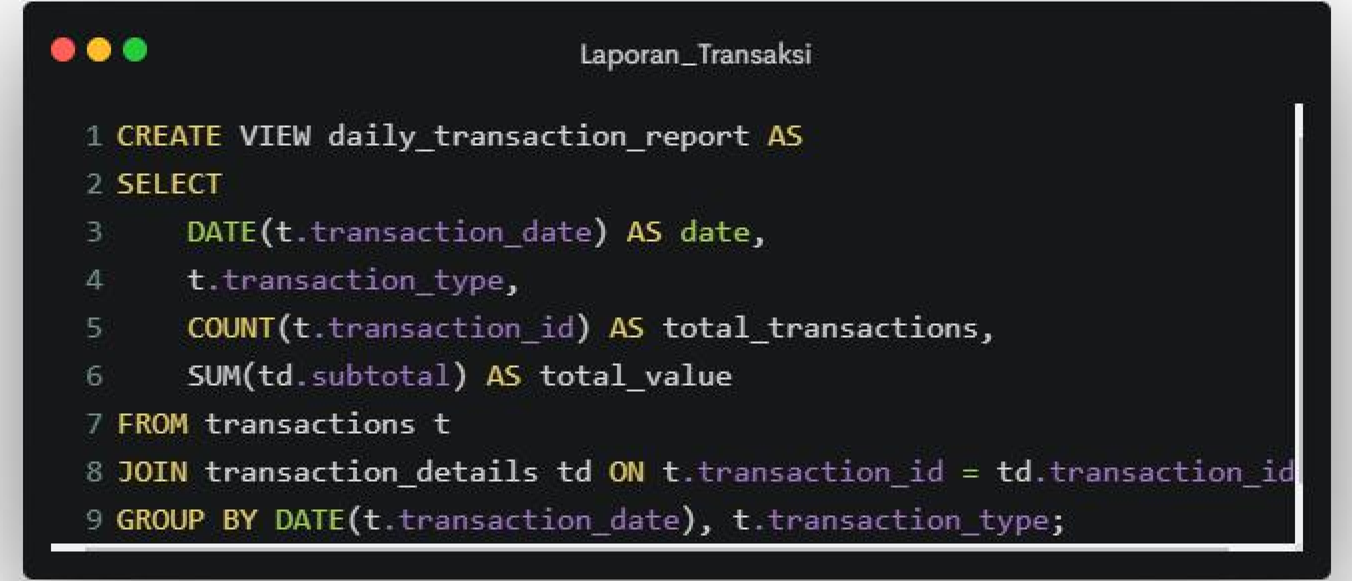


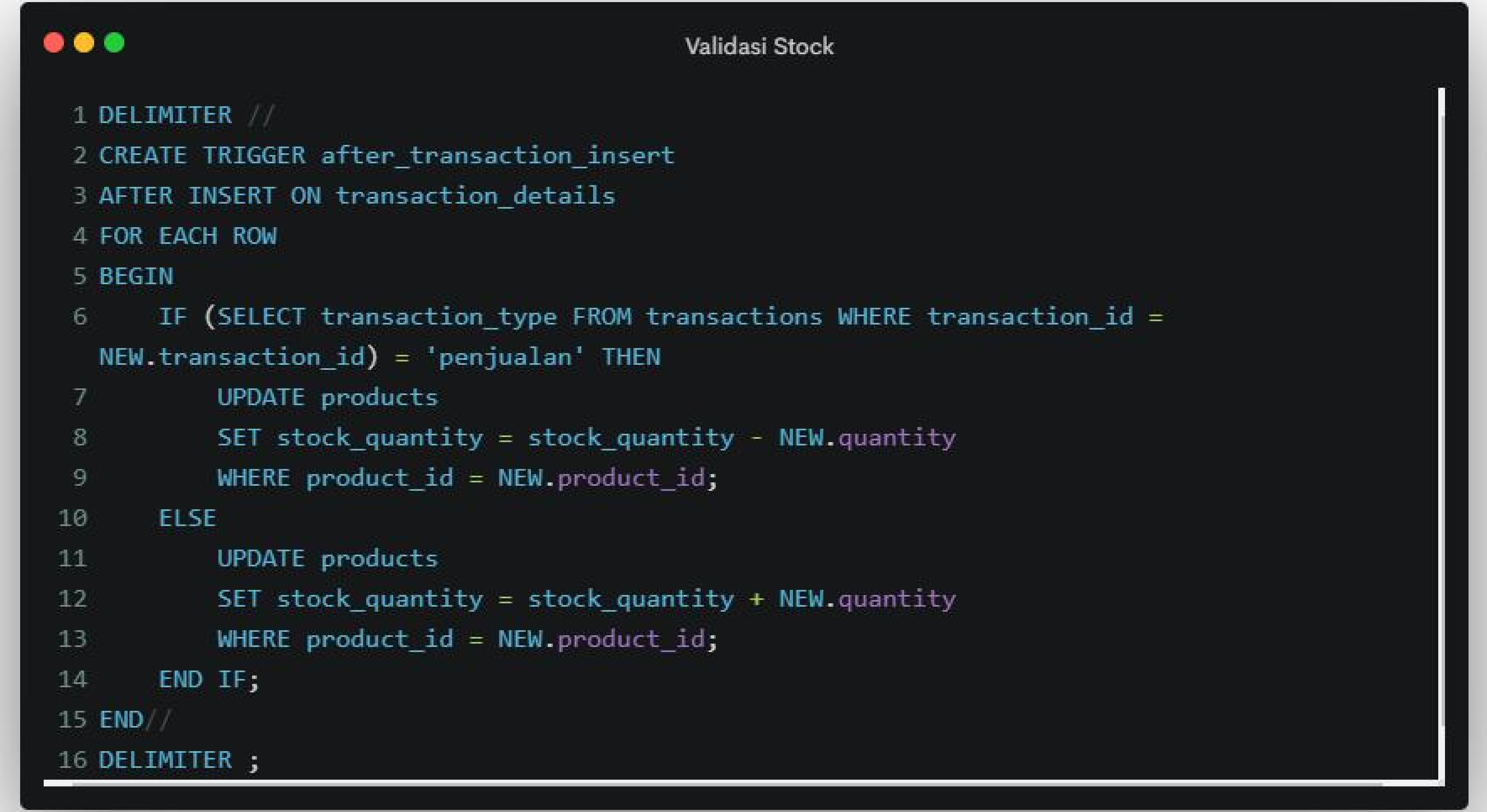
Table Transaksi

```sql
CREATE TABLE transactions (
    transaction_id INT PRIMARY KEY AUTO_INCREMENT,
    transaction_type ENUM('purchase', 'sale') NOT NULL,
    transaction_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    notes TEXT,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```



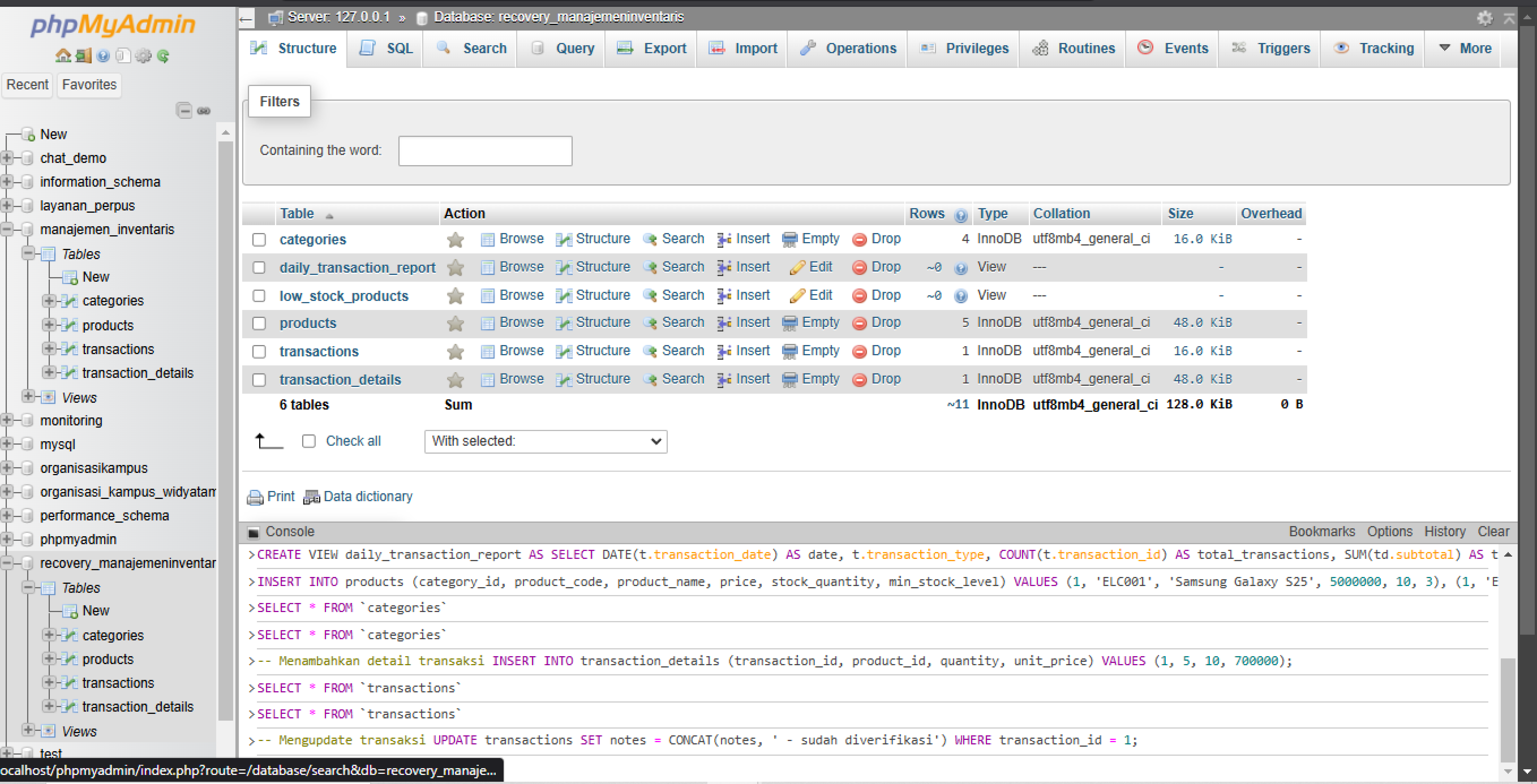
Laporan_Transaksi

```sql
CREATE VIEW daily_transaction_report AS
SELECT
    DATE(t.transaction_date) AS date,
    t.transaction_type,
    COUNT(t.transaction_id) AS total_transactions,
    SUM(td.subtotal) AS total_value
FROM transactions t
JOIN transaction_details td ON t.transaction_id = td.transaction_id
GROUP BY DATE(t.transaction_date), t.transaction_type;
```



Validasi Stock

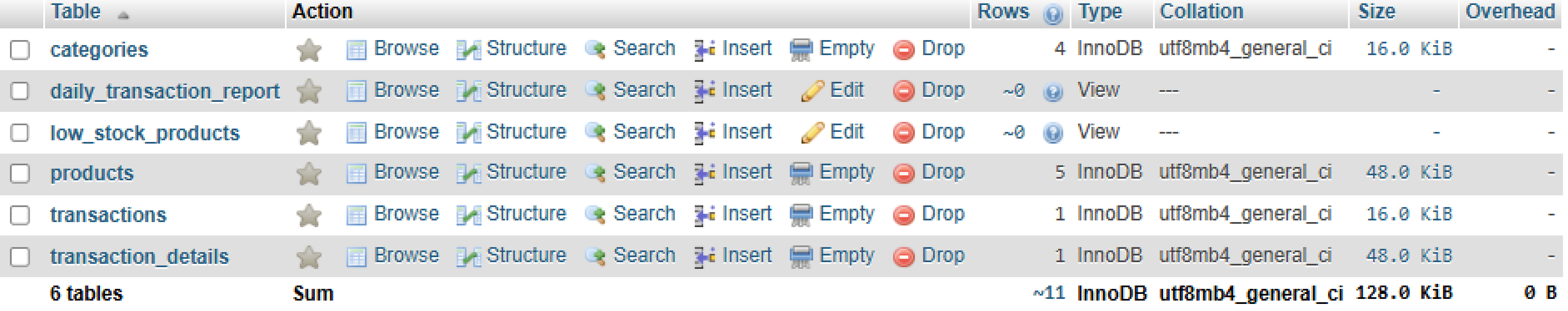
```sql
DELIMITER //
CREATE TRIGGER after_transaction_insert
AFTER INSERT ON transaction_details
FOR EACH ROW
BEGIN
    IF (SELECT transaction_type FROM transactions WHERE transaction_id = NEW.transaction_id) = 'penjualan' THEN
        UPDATE products
        SET stock_quantity = stock_quantity - NEW.quantity
        WHERE product_id = NEW.product_id;
    ELSE
        UPDATE products
        SET stock_quantity = stock_quantity + NEW.quantity
        WHERE product_id = NEW.product_id;
    END IF;
END//
DELIMITER ;
```



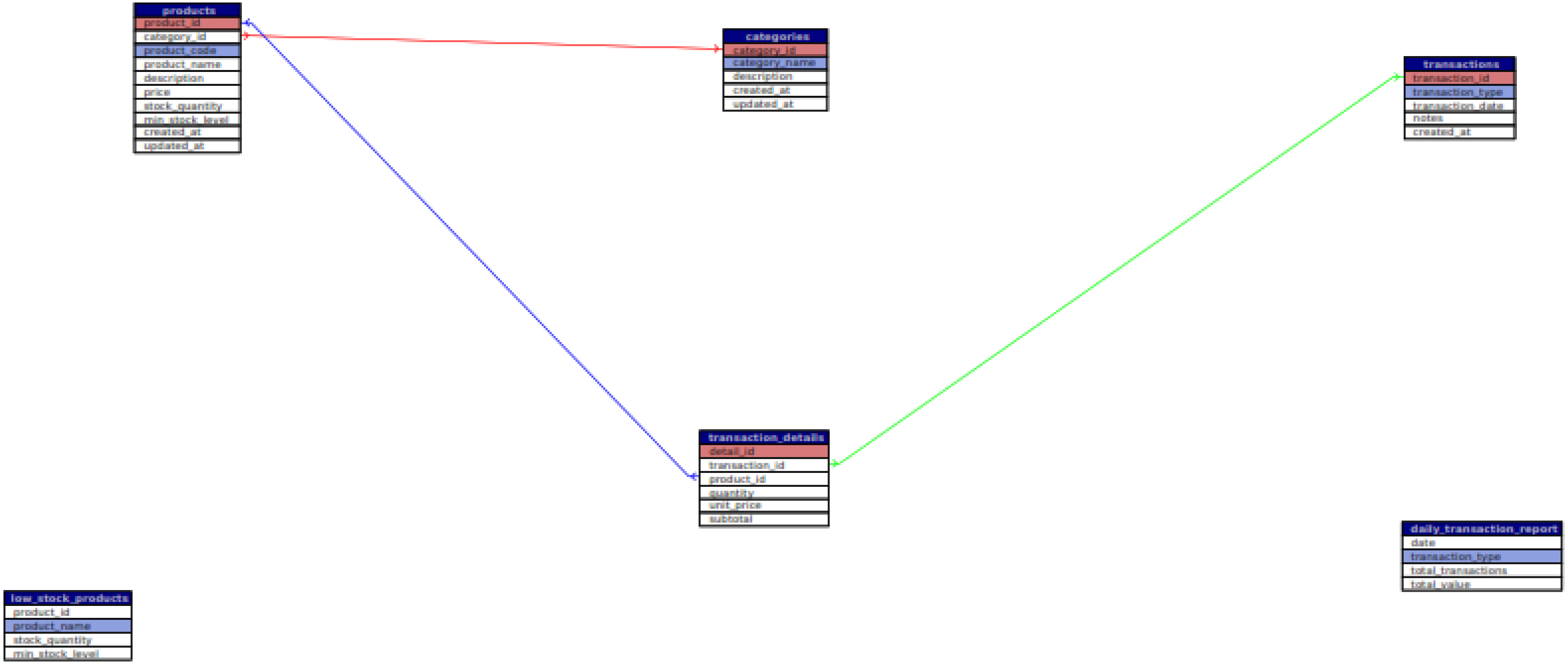
| | Table | Action | | | | | | Rows | Type | Collation | Size | Overhead |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| □ | categories | ★ Browse | Structure | Search | Insert | Empty | Drop | 4 | InnoDB | utf8mb4_general_ci | 16.0 KiB | - |
| □ | daily_transaction_report | ★ Browse | Structure | Search | Insert | Edit | Drop | ~0 | View | --- | - | - |
| □ | low_stock_products | ★ Browse | Structure | Search | Insert | Edit | Drop | ~0 | View | --- | - | - |
| □ | products | ★ Browse | Structure | Search | Insert | Empty | Drop | 5 | InnoDB | utf8mb4_general_ci | 48.0 KiB | - |
| □ | transactions | ★ Browse | Structure | Search | Insert | Empty | Drop | 1 | InnoDB | utf8mb4_general_ci | 16.0 KiB | - |
| □ | transaction_details | ★ Browse | Structure | Search | Insert | Empty | Drop | 1 | InnoDB | utf8mb4_general_ci | 48.0 KiB | - |
| | 6 tables | Sum | | | | | | ~11 | InnoDB | utf8mb4_general_ci | 128.0 KiB | 0 B |

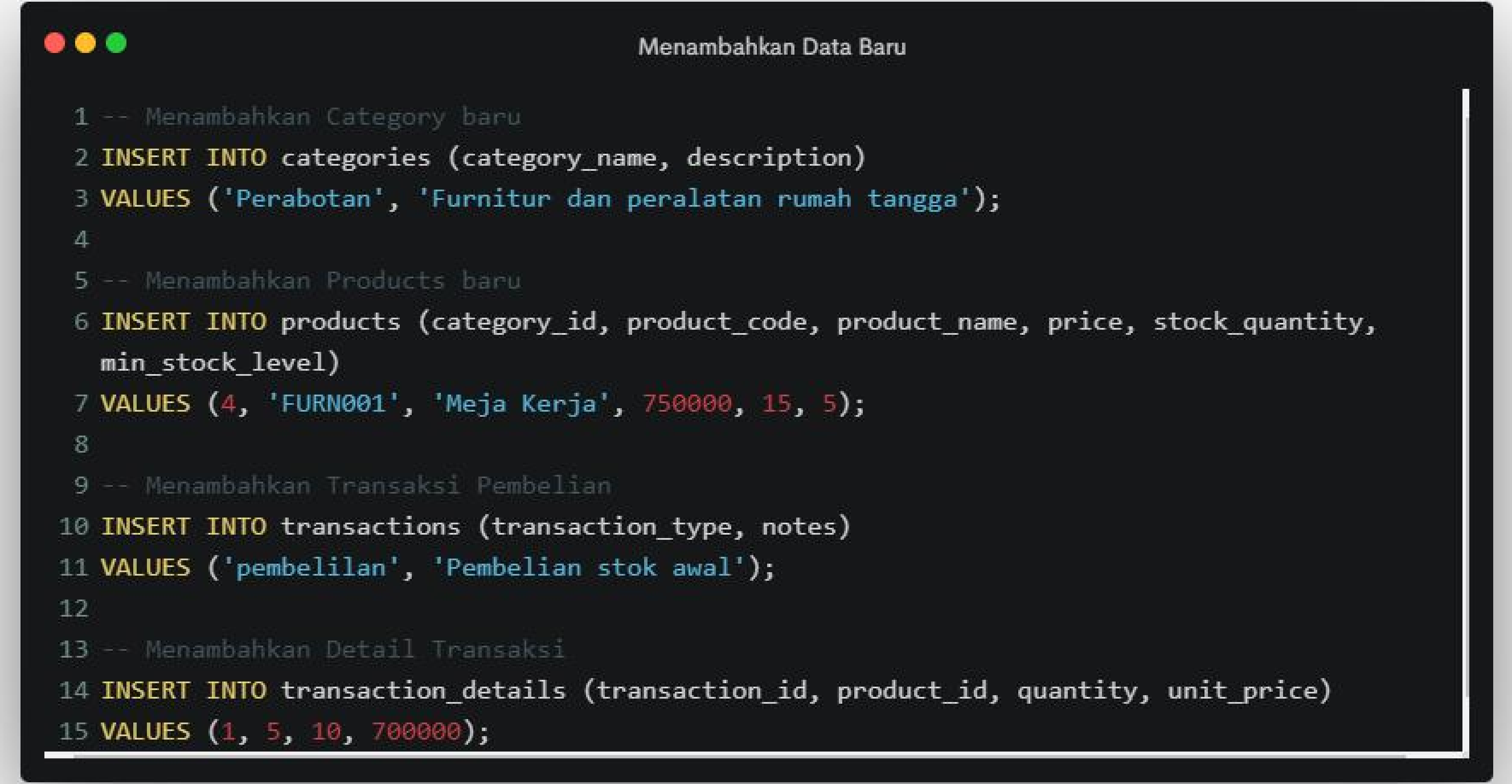
```
>CREATE VIEW daily_transaction_report AS SELECT DATE(t.transaction_date) AS date, t.transaction_type, COUNT(t.transaction_id) AS total_transactions, SUM(td.subtotal) AS t
>INSERT INTO products (category_id, product_code, product_name, price, stock_quantity, min_stock_level) VALUES (1, 'ELC001', 'Samsung Galaxy S25', 5000000, 10, 3), (1, 'E
>SELECT * FROM `categories`
>SELECT * FROM `categories`
>-- Menambahkan detail transaksi INSERT INTO transaction_details (transaction_id, product_id, quantity, unit_price) VALUES (1, 5, 10, 700000);
>SELECT * FROM `transactions`
>SELECT * FROM `transactions`
>-- Mengupdate transaksi UPDATE transactions SET notes = CONCAT(notes, ' - sudah diverifikasi') WHERE transaction_id = 1;
```

ocalhost/phpmyadmin/index.php?route=/database/search&db=recovery_manaje...

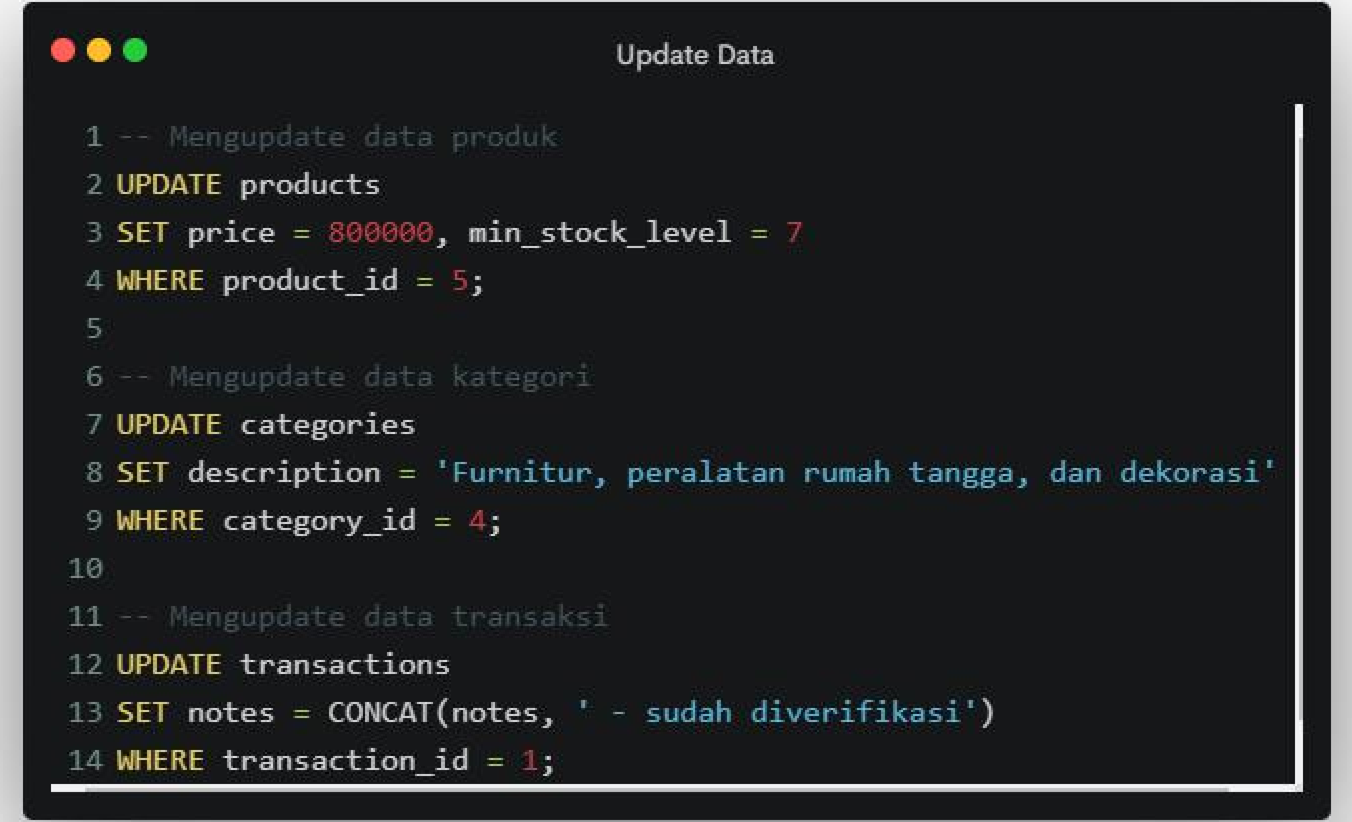


| | Table | Action | | | | | | | Rows | Type | Collation | Size | Overhead |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| □ | categories | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 4 | InnoDB | utf8mb4_general_ci | 16.0 KiB | - |
| □ | daily_transaction_report | ☆ | Browse | Structure | Search | Insert | Edit | Drop | ~0 | View | --- | - | - |
| □ | low_stock_products | ☆ | Browse | Structure | Search | Insert | Edit | Drop | ~0 | View | --- | - | - |
| □ | products | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 5 | InnoDB | utf8mb4_general_ci | 48.0 KiB | - |
| □ | transactions | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 1 | InnoDB | utf8mb4_general_ci | 16.0 KiB | - |
| □ | transaction_details | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 1 | InnoDB | utf8mb4_general_ci | 48.0 KiB | - |
| | **6 tables** | **Sum** | | | | | | | ~11 | **InnoDB** | **utf8mb4_general_ci** | **128.0 KiB** | **0 B** |

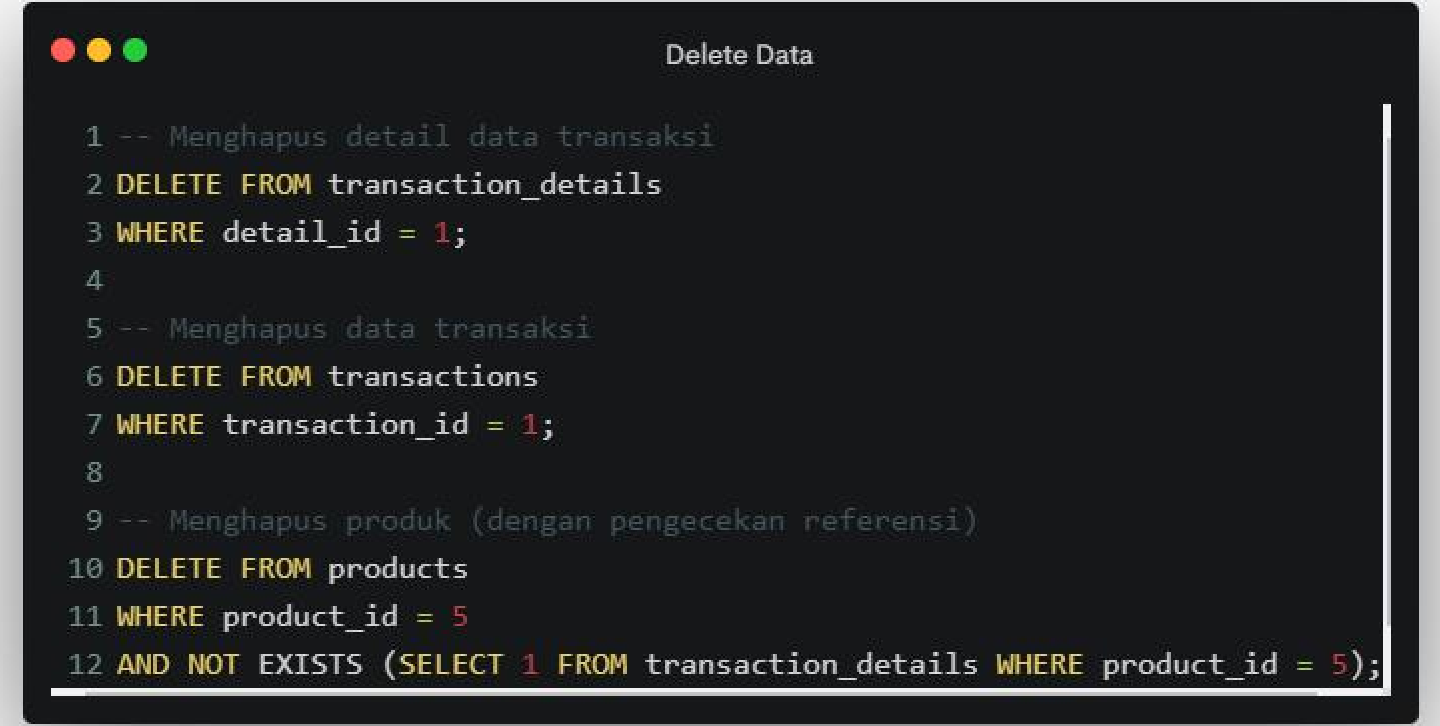

products
product_id
category_id
product_code
product_name
description
price
stock_quantity
min_stock_level
created_at
updated_at
categories
category_id
category_name
description
created_at
updated_at
transactions
transaction_id
transaction_type
transaction_date
notes
created_at
transaction_details
detail_id
transaction_id
product_id
quantity
unit_price
subtotal
daily_transaction_report
date
transaction_type
total_transactions
total_value
low_stock_products
product_id
product_name
stock_quantity
min_stock_level



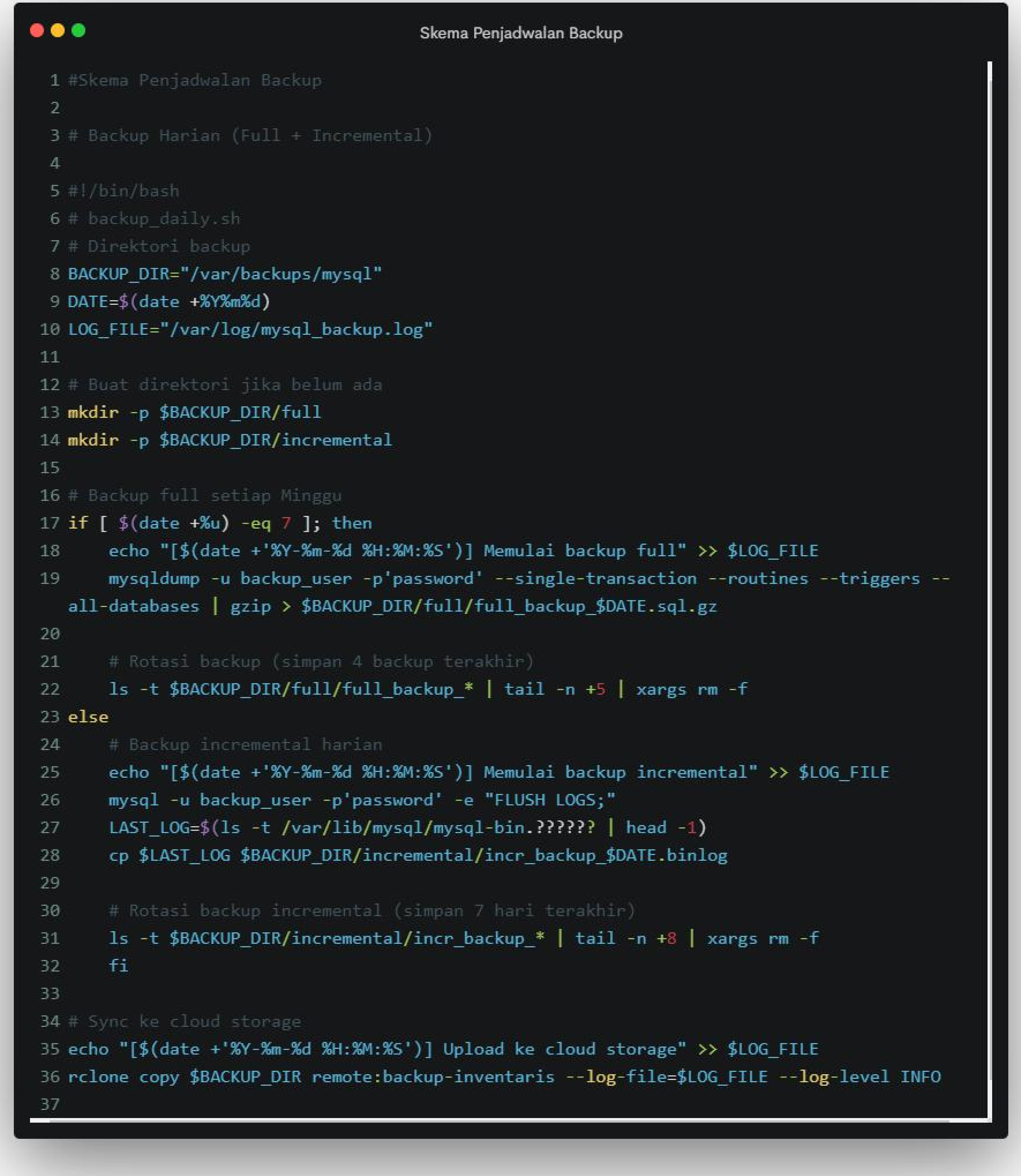
```sql
-- Menambahkan Category baru
INSERT INTO categories (category_name, description)
VALUES ('Perabotan', 'Furnitur dan peralatan rumah tangga');

-- Menambahkan Products baru
INSERT INTO products (category_id, product_code, product_name, price, stock_quantity, min_stock_level)
VALUES (4, 'FURN001', 'Meja Kerja', 750000, 15, 5);

-- Menambahkan Transaksi Pembelian
INSERT INTO transactions (transaction_type, notes)
VALUES ('pembelilan', 'Pembelian stok awal');

-- Menambahkan Detail Transaksi
INSERT INTO transaction_details (transaction_id, product_id, quantity, unit_price)
VALUES (1, 5, 10, 700000);
```



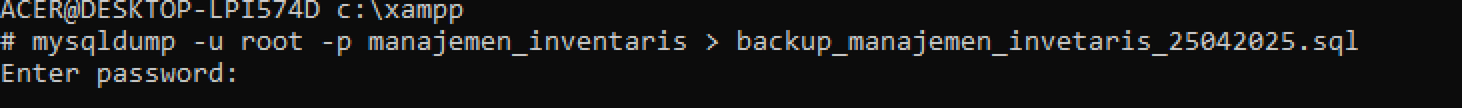
```sql
-- Mengupdate data produk
UPDATE products
SET price = 800000, min_stock_level = 7
WHERE product_id = 5;

-- Mengupdate data kategori
UPDATE categories
SET description = 'Furnitur, peralatan rumah tangga, dan dekorasi'
WHERE category_id = 4;

-- Mengupdate data transaksi
UPDATE transactions
SET notes = CONCAT(notes, ' - sudah diverifikasi')
WHERE transaction_id = 1;
```



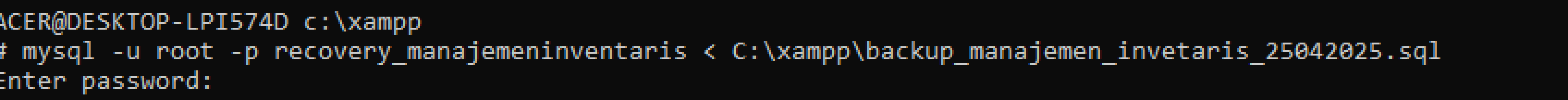
```sql
-- Menghapus detail data transaksi
DELETE FROM transaction_details
WHERE detail_id = 1;

-- Menghapus data transaksi
DELETE FROM transactions
WHERE transaction_id = 1;

-- Menghapus produk (dengan pengecekan referensi)
DELETE FROM products
WHERE product_id = 5
AND NOT EXISTS (SELECT 1 FROM transaction_details WHERE product_id = 5);
```



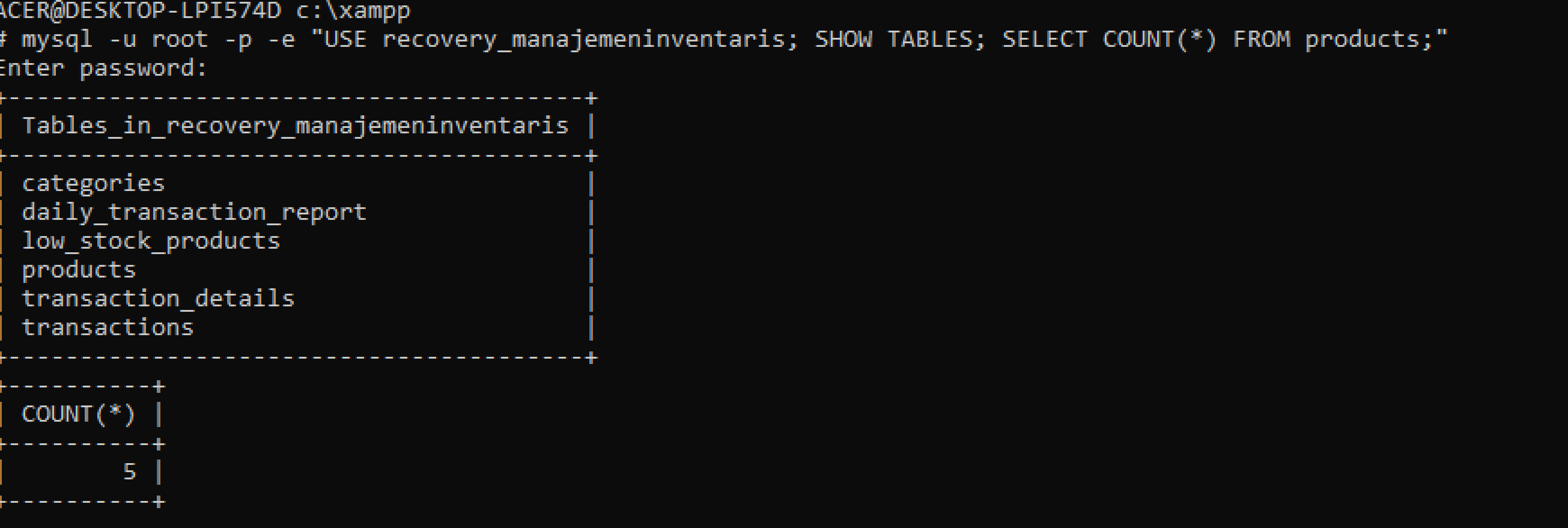
```
#Skema Penjadwalan Backup

# Backup Harian (Full + Incremental)

#!/bin/bash
# backup_daily.sh
# Direktori backup
BACKUP_DIR="/var/backups/mysql"
DATE=$(date +%Y%m%d)
LOG_FILE="/var/log/mysql_backup.log"

# Buat direktori jika belum ada
mkdir -p $BACKUP_DIR/full
mkdir -p $BACKUP_DIR/incremental

# Backup full setiap Minggu
if [ $(date +%u) -eq 7 ]; then
    echo "[$(date +'%Y-%m-%d %H:%M:%S')] Memulai backup full" >> $LOG_FILE
    mysqldump -u backup_user -p'password' --single-transaction --routines --triggers --all-databases | gzip > $BACKUP_DIR/full/full_backup_$DATE.sql.gz

    # Rotasi backup (simpan 4 backup terakhir)
    ls -t $BACKUP_DIR/full/full_backup_* | tail -n +5 | xargs rm -f
else
    # Backup incremental harian
    echo "[$(date +'%Y-%m-%d %H:%M:%S')] Memulai backup incremental" >> $LOG_FILE
    mysql -u backup_user -p'password' -e "FLUSH LOGS;"
    LAST_LOG=$(ls -t /var/lib/mysql/mysql-bin.?????? | head -1)
    cp $LAST_LOG $BACKUP_DIR/incremental/incr_backup_$DATE.binlog

    # Rotasi backup incremental (simpan 7 hari terakhir)
    ls -t $BACKUP_DIR/incremental/incr_backup_* | tail -n +8 | xargs rm -f
    fi

# Sync ke cloud storage
echo "[$(date +'%Y-%m-%d %H:%M:%S')] Upload ke cloud storage" >> $LOG_FILE
rclone copy $BACKUP_DIR remote:backup-inventaris --log-file=$LOG_FILE --log-level INFO

```



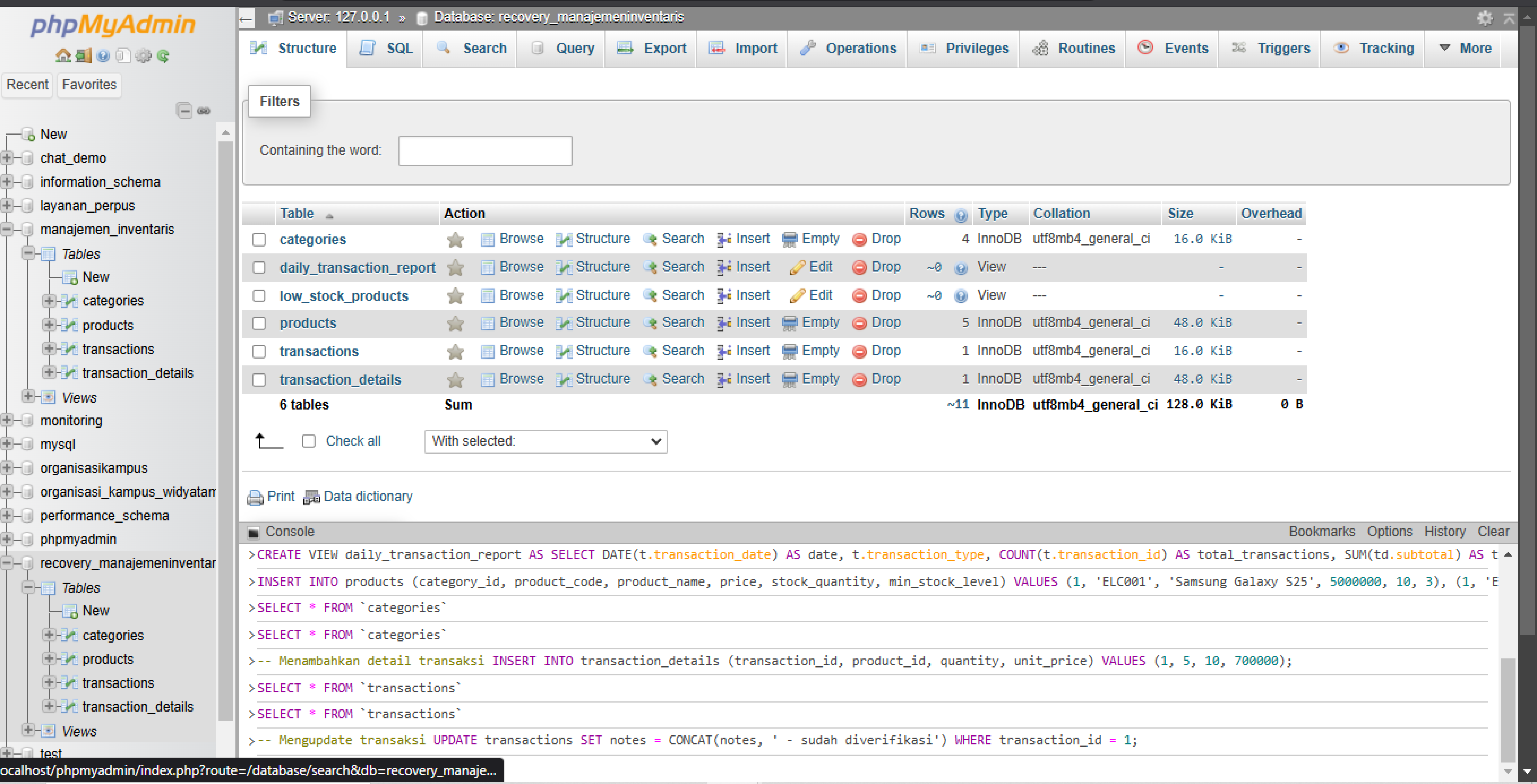
```
ACER@DESKTOP-LPI574D c:\xampp
# mysqldump -u root -p manajemen_inventaris > backup_manajemen_invetaris_25042025.sql
Enter password:
```



```
ACER@DESKTOP-LPI574D c:\xampp
# mysql -u root -p recovery_manajemeninventaris < C:\xampp\backup_manajemen_invetaris_25042025.sql
Enter password:
```



```
ACER@DESKTOP-LPI574D c:\xampp
# mysql -u root -p -e "USE recovery_manajemeninventaris; SHOW TABLES; SELECT COUNT(*) FROM products;"
Enter password:
+----------------------------------------+
| Tables_in_recovery_manajemeninventaris |
+----------------------------------------+
| categories                             |
| daily_transaction_report               |
| low_stock_products                     |
| products                               |
| transaction_details                    |
| transactions                           |
+----------------------------------------+
+----------+
| COUNT(*) |
+----------+
|        5 |
+----------+
```

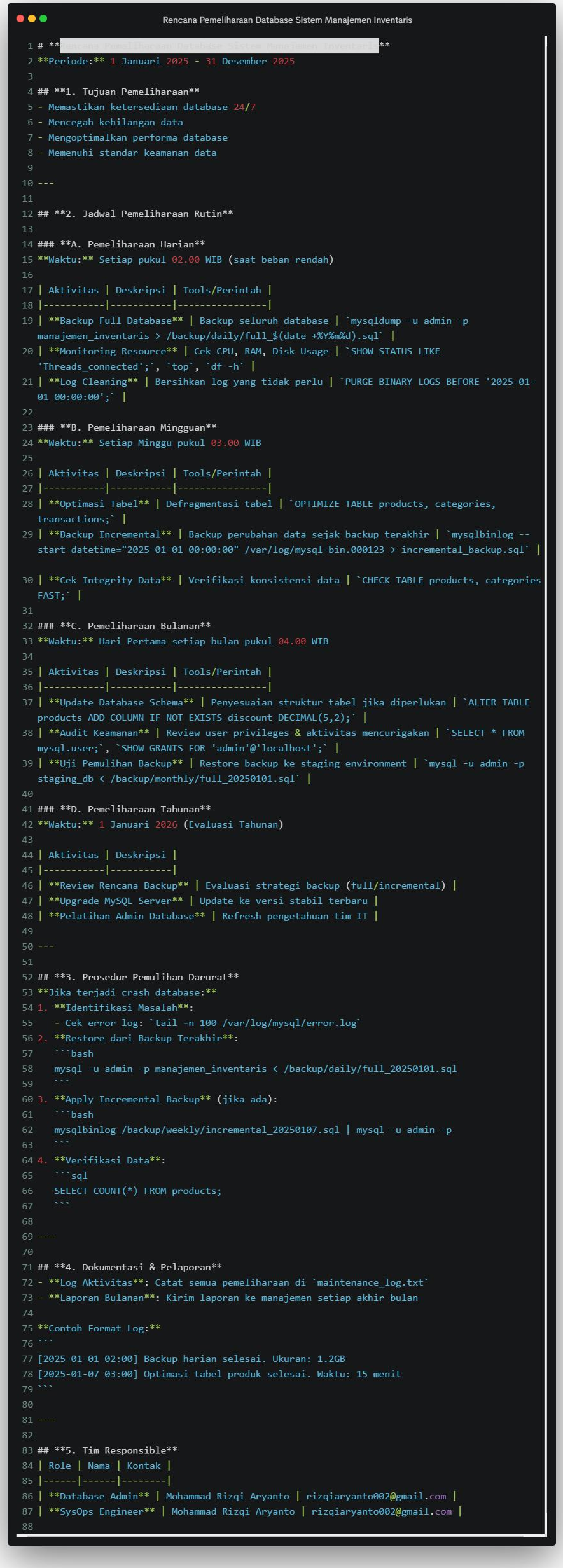


Containing the word:

| | Table | Action | | | | | | Rows | Type | Collation | Size | Overhead |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| □ | categories | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 4 | InnoDB | utf8mb4_general_ci | 16.0 KiB | - |
| □ | daily_transaction_report | ☆ | Browse | Structure | Search | Insert | Edit | Drop | ~0 | View | --- | - | - |
| □ | low_stock_products | ☆ | Browse | Structure | Search | Insert | Edit | Drop | ~0 | View | --- | - | - |
| □ | products | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 5 | InnoDB | utf8mb4_general_ci | 48.0 KiB | - |
| □ | transactions | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 1 | InnoDB | utf8mb4_general_ci | 16.0 KiB | - |
| □ | transaction_details | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 1 | InnoDB | utf8mb4_general_ci | 48.0 KiB | - |
| | 6 tables | Sum | | | | | | | ~11 | InnoDB | utf8mb4_general_ci | 128.0 KiB | 0 B |

```
>CREATE VIEW daily_transaction_report AS SELECT DATE(t.transaction_date) AS date, t.transaction_type, COUNT(t.transaction_id) AS total_transactions, SUM(td.subtotal) AS t
>INSERT INTO products (category_id, product_code, product_name, price, stock_quantity, min_stock_level) VALUES (1, 'ELC001', 'Samsung Galaxy S25', 5000000, 10, 3), (1, 'E
>SELECT * FROM `categories`
>SELECT * FROM `categories`
>-- Menambahkan detail transaksi INSERT INTO transaction_details (transaction_id, product_id, quantity, unit_price) VALUES (1, 5, 10, 700000);
>SELECT * FROM `transactions`
>SELECT * FROM `transactions`
>-- Mengupdate transaksi UPDATE transactions SET notes = CONCAT(notes, ' - sudah diverifikasi') WHERE transaction_id = 1;
```

ocalhost/phpmyadmin/index.php?route=/database/search&db=recovery_manaje...



Rencana Pemeliharaan Database Sistem Manajemen Inventaris

~~~markdown
# **Rencana Pemeliharaan Database Sistem Manajemen Inventaris**
**Periode:** 1 Januari 2025 - 31 Desember 2025

## **1. Tujuan Pemeliharaan**
- Memastikan ketersediaan database 24/7
- Mencegah kehilangan data
- Mengoptimalkan performa database
- Memenuhi standar keamanan data

---

## **2. Jadwal Pemeliharaan Rutin**

### **A. Pemeliharaan Harian**
**Waktu:** Setiap pukul 02.00 WIB (saat beban rendah)

| Aktivitas | Deskripsi | Tools/Perintah |
|-----------|-----------|----------------|
| **Backup Full Database** | Backup seluruh database | `mysqldump -u admin -p manajemen_inventaris > /backup/daily/full_$(date +%Y%m%d).sql` |
| **Monitoring Resource** | Cek CPU, RAM, Disk Usage | `SHOW STATUS LIKE 'Threads_connected';`, `top`, `df -h` |
| **Log Cleaning** | Bersihkan log yang tidak perlu | `PURGE BINARY LOGS BEFORE '2025-01-01 00:00:00';` |

### **B. Pemeliharaan Mingguan**
**Waktu:** Setiap Minggu pukul 03.00 WIB

| Aktivitas | Deskripsi | Tools/Perintah |
|-----------|-----------|----------------|
| **Optimasi Tabel** | Defragmentasi tabel | `OPTIMIZE TABLE products, categories, transactions;` |
| **Backup Incremental** | Backup perubahan data sejak backup terakhir | `mysqlbinlog --start-datetime="2025-01-01 00:00:00" /var/log/mysql-bin.000123 > incremental_backup.sql` |
| **Cek Integrity Data** | Verifikasi konsistensi data | `CHECK TABLE products, categories FAST;` |

### **C. Pemeliharaan Bulanan**
**Waktu:** Hari Pertama setiap bulan pukul 04.00 WIB

| Aktivitas | Deskripsi | Tools/Perintah |
|-----------|-----------|----------------|
| **Update Database Schema** | Penyesuaian struktur tabel jika diperlukan | `ALTER TABLE products ADD COLUMN IF NOT EXISTS discount DECIMAL(5,2);` |
| **Audit Keamanan** | Review user privileges & aktivitas mencurigakan | `SELECT * FROM mysql.user;`, `SHOW GRANTS FOR 'admin'@'localhost';` |
| **Uji Pemulihan Backup** | Restore backup ke staging environment | `mysql -u admin -p staging_db < /backup/monthly/full_20250101.sql` |

### **D. Pemeliharaan Tahunan**
**Waktu:** 1 Januari 2026 (Evaluasi Tahunan)

| Aktivitas | Deskripsi |
|-----------|-----------|
| **Review Rencana Backup** | Evaluasi strategi backup (full/incremental) |
| **Upgrade MySQL Server** | Update ke versi stabil terbaru |
| **Pelatihan Admin Database** | Refresh pengetahuan tim IT |

---

## **3. Prosedur Pemulihan Darurat**
**Jika terjadi crash database:**
1. **Identifikasi Masalah**:
   - Cek error log: `tail -n 100 /var/log/mysql/error.log`
2. **Restore dari Backup Terakhir**:
   ```bash
   mysql -u admin -p manajemen_inventaris < /backup/daily/full_20250101.sql
   ~~~
3. **Apply Incremental Backup** (jika ada):
   ```bash
   mysqlbinlog /backup/weekly/incremental_20250107.sql | mysql -u admin -p
   ```
4. **Verifikasi Data**:
   ```sql
   SELECT COUNT(*) FROM products;
   ```

---

## **4. Dokumentasi & Pelaporan**
- **Log Aktivitas**: Catat semua pemeliharaan di `maintenance_log.txt`
- **Laporan Bulanan**: Kirim laporan ke manajemen setiap akhir bulan

**Contoh Format Log:**
```
[2025-01-01 02:00] Backup harian selesai. Ukuran: 1.2GB
[2025-01-07 03:00] Optimasi tabel produk selesai. Waktu: 15 menit
```

---

## **5. Tim Responsible**
| Role | Nama | Kontak |
|------|------|--------|
| **Database Admin** | Mohammad Rizqi Aryanto | rizqiaryanto002@gmail.com |
| **SysOps Engineer** | Mohammad Rizqi Aryanto | rizqiaryanto002@gmail.com |

```
```