

□ Database Documentation —

price_optimization

This database supports a price optimization application with users having different roles (admin, buyer, supplier), a catalog of products categorized by type, and user verification tokens.

□ Tables Overview

Table Name	Description
roles	Defines user roles (admin, buyer, supplier)
users	Stores user account details
categories	Categories of products with associated tax rates
products	Product details and pricing
verification_tokens	Stores tokens for verifying users (e.g. via email)

□ Table: roles

Defines the types of users in the system.

Column	Type	Description
id	INT	Primary key
name	TEXT	Role name (admin, buyer, supplier)

❑ Sample Data:

```
1 | admin
2 | buyer
3 | supplier
```

❑ Table: **users**

Stores registered user information.

Column	Type	Description
<code>id</code>	INT	Primary key
<code>email</code>	TEXT	User email
<code>password</code>	TEXT	User password (hashed in real apps)
<code>role_id</code>	INT	Foreign key to <code>roles(id)</code>
<code>is_verified</code>	BOOLEAN	Whether the user has been verified
<code>name</code>	TEXT	User's full name

❑ Sample Data:

```
admin@example.com, demo@123, role: 1, verified
buyer@example.com, demo@123, role: 2, verified
supplier@example.com, demo@123, role: 3, verified
```

Table: **categories**

Product category classifications along with tax percentage.

Column	Type	Description
id	INT	Primary key
name	TEXT	Name of the category
Profit_margin	DECIMAL	Profit margin for the category

❑ **Sample Data:**

```
1 | Electronics      | 2.0
2 | Apparel          | 2.5
3 | Wearables        | 2.2
4 | Outdoor & Sports | 1.8
5 | Home Automation  | 2.0
6 | Transportation    | 1.5
```

❑ **Table: products**

Holds details of all products in the system.

Column	Type	Description
id	INT	Primary key
name	TEXT	Product name
description	TEXT	Product description
cost_price	DECIMAL	Purchase price
selling_price	DECIMAL	Selling price
stock_available	INT	Inventory in stock

<code>units_sold</code>	INT	When to restock
<code>customer_rating</code>	DECIMAL	Average product rating
<code>demand_forecast</code>	DECIMAL	Profit margin (optional)
<code>optimized_price</code>	DECIMAL	Discount on selling price (optional)
<code>created_at</code>	DATETIME	Creation timestamp
<code>updated_at</code>	DATETIME	Last update timestamp
<code>updated_by_user_id</code>	INT	Foreign key to <code>users(id)</code>
<code>created_by_user_id</code>	INT	Foreign key to <code>users(id)</code>
<code>category_id</code>	INT	Foreign key to <code>categories(id)</code>

☐ **Sample Products:**

- Wireless Mouse — Cost: 10.5, Sell: 19.99
 - Water Bottle — Cost: 5, Sell: 12.99
 - Wireless Earbuds — Cost: 25, Sell: 59.99
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□ Table: **verification_tokens**

Column	Type	Description
<code>id</code>	INT	Primary key
<code>user_id</code>	INT	Foreign key to <code>users(id)</code>
<code>token</code>	TEXT	Unique token string
<code>expires_at</code>	DATETIME	Expiry timestamp of the token
<code>created_at</code>	DATETIME	Creation time

Used for verifying user emails or resetting passwords.

□ Entity Relationships

- □ `users.role_id` → `roles.id`
- □ `products.category_id` → `categories.id`
- □ `verification_tokens.user_id` → `users.id`