BikeStores (Bikes) – Data Dictionary with Explanations

This document summarizes each table's purpose, columns (with one-line explanations), primary keys, and foreign key references for the BikeStores sample database.

stores

Purpose: Physical bicycle stores and their contact/location details.
Primary Key: store_id

Columns

- **store_id** — Unique identifier for each store.
- **store_name** — Store display name.
- **phone** — Primary contact phone number.
- **email** — Contact email address.
- **street** — Street address.
- **city** — City where the store operates.
- **state** — State/region.
- **zip_code** — 5-digit ZIP/postal code.

categories

Purpose: Top-level product categories (e.g., Mountain Bikes, Road Bikes).
Primary Key: category_id

Columns

- **category_id** — Unique identifier for each category.
- **category_name** — Category name or label.

brands

Purpose: Manufacturers/brands of bicycles and frames.
Primary Key: brand_id

Columns

- **brand_id** — Unique identifier for each brand.
- **brand_name** — Brand name (e.g., Trek, Surly).

products

Purpose: Product catalog for bikes/frames sold by the stores.
Primary Key: product_id
Foreign Keys: category_id → categories.category_id (CASCADE); brand_id → brands.brand_id (CASCADE)

Columns

- **product_id** — Unique identifier for each product.
- **product_name** — Marketing/display name of the product.
- **brand_id** — Brand/manufacturer of the product (FK).
- **category_id** — Category this product belongs to (FK).
- **model_year** — Model year of the product (e.g., 2017, 2018).
- **list_price** — List price (currency minor units as per sample inserts).

customers

Purpose: Customer master records with basic contact details.
Primary Key: customer_id

Columns

- **customer_id** — Unique identifier for each customer.
- **first_name** — Customer's first name.
- **last_name** — Customer's last name.
- **phone** — Customer phone number.
- **email** — Customer email address.
- **street** — Street address.
- **city** — City of residence.
- **state** — State/region.
- **zip_code** — 5-digit ZIP/postal code.

staffs

Purpose: Employees (sales and managers) working at the stores.
Primary Key: staff_id
Foreign Keys: store_id → stores.store_id (CASCADE); manager_id → staffs.staff_id (self-reference)

Columns

- **staff_id** — Unique identifier for each staff member.
- **first_name** — Staff's first name.
- **last_name** — Staff's last name.
- **email** — Work email address (unique).
- **phone** — Contact phone number.
- **active** — Active flag (0/1) indicating employment status.
- **store_id** — Store where the staff works (FK).
- **manager_id** — Manager's staff_id if applicable (self-FK).

orders

Purpose: Sales order headers raised by customers and processed by store staff.
Primary Key: order_id
Foreign Keys: customer_id → customers.customer_id (CASCADE); store_id → stores.store_id (CASCADE); staff_id → staffs.staff_id

Columns

- **order_id** — Unique identifier for each order.
- **customer_id** — Customer who placed the order (FK).
- **order_status** — Order status code: 1=Pending, 2=Processing, 3=Rejected, 4=Completed.
- **order_date** — Date when the order was placed.
- **required_date** — Date by which the order is required.
- **shipped_date** — Actual shipping date (nullable until shipped).
- **store_id** — Store fulfilling the order (FK).
- **staff_id** — Employee handling the order (FK).

order_items

Purpose: Line items within each order, including quantity, price, and discount.
Primary Key: (order_id, item_id)
Foreign Keys: order_id → orders.order_id (CASCADE); product_id → products.product_id (CASCADE)

Columns

- **order_id** — Order header this line belongs to (FK).
- **item_id** — Line sequence number within the order (composite PK).

- **product_id** — Product being sold (FK).
- **quantity** — Quantity ordered for the product.
- **list_price** — Unit list price captured at order time.
- **discount** — Discount percentage (e.g., 0.10 = 10%).

stocks

Purpose: Inventory on hand by store and product.
Primary Key: (store_id, product_id)
Foreign Keys: store_id → stores.store_id (CASCADE); product_id → products.product_id (CASCADE)

Columns

- **store_id** — Store identifier (composite PK, FK).
- **product_id** — Product identifier (composite PK, FK).
- **quantity** — On-hand stock quantity for the product at the store.

Entity-Relationship (quick map)

- stores 1■■* staffs (via store_id)
- stores 1■■* orders (via store_id)
- stores 1■■* stocks (via store_id)
- staffs (self) Manager 1■■* Reports (via manager_id)
- customers 1■■* orders (via customer_id)
- orders 1■■* order_items (via order_id)
- products 1■■* order_items (via product_id)
- products 1■■* stocks (via product_id)
- brands 1■■* products (via brand_id)
- categories 1■■* products (via category_id)

Notes

- The schema is defined in SQL with explicit foreign key constraints and cascading rules on several relationships.
- Order status codes are defined in-line in the DDL comments as: 1=Pending, 2=Processing, 3=Rejected, 4=Completed.