# **Data Flow Diagram (DFD) for Retail Application**

## **Level 0 (Context Diagram)**

At the highest level, the system interacts with external entities (User and Admin). The overall system processes authentication, product management, and customer interactions.

+-----------------------+

| External Entities |

| |

| - User |

| - Admin |

+-----------------------+

|

|

v

+------------------------+

| Retail Application |

| (Process: 1.0) |

+------------------------+

|

|

v

+------------------------+

| Data Store: DB |

+------------------------+

### **Explanation:**

* **External Entities:** Users and Admin interact with the Retail Application.
* **Process 1.0:** Handles user authentication, product management, and interactions.
* **Data Store:** Contains user accounts, product information, and customer messages.

## **Level 1 DFD (Decomposition of Processes)**

Now, breaking down the system into key processes:

+-----------------------+ +-----------------------+

| External Entity | | External Entity |

| (User) | | (Admin) |

+-----------------------+ +-----------------------+

| |

v v

+-----------------------+ +-----------------------+

| Process: 1.1 - User | | Process: 1.2 - Admin |

| Authentication | | Manage Products |

+-----------------------+ +-----------------------+

| |

v v

+-----------------------+ +-----------------------+

| Data Store: User DB | | Data Store: Product DB |

+-----------------------+ +-----------------------+

|

v

+------------------------+

| Process: 1.3 - Product |

| Browsing & Order |

+------------------------+

|

v

+------------------------+

| Data Store: Orders DB |

+------------------------+

### **Explanation:**

1. **Process 1.1 - User Authentication:**
   * Users provide login/signup credentials, which are verified against the **User DB**.
   * Successful authentication allows users to browse and order products.
2. **Process 1.2 - Admin Manage Products:**
   * Admins can add/update/delete products stored in the **Product DB**.
3. **Process 1.3 - Product Browsing & Order:**
   * Users browse products, add them to the cart, and place orders.
   * Orders are stored in the **Orders DB**.

### **Data Flow:**

* Users provide credentials (email, password) for authentication.
* The system verifies credentials against the **User DB**.
* If authentication is successful, users can browse and purchase products.
* Orders are stored in the **Orders DB**, while admins manage products in the **Product DB**.