**1. Purchase Orders (PurchaseOrders)**

CREATE TABLE PurchaseOrders (

po\_id INT PRIMARY KEY,

buyer\_id INT,

supplier\_id INT,

rfq\_id INT,

total\_amount DECIMAL(12,2),

status ENUM('Draft', 'Issued', 'Delivered', 'Closed', 'Cancelled'),

issue\_date DATE,

delivery\_date DATE,

created\_at DATETIME,

updated\_at DATETIME,

FOREIGN KEY (buyer\_id) REFERENCES Persons(person\_id),

FOREIGN KEY (supplier\_id) REFERENCES Persons(person\_id),

FOREIGN KEY (rfq\_id) REFERENCES RFQs(rfq\_id)

);

**🔗 Child Table: POItems**

CREATE TABLE POItems (

po\_item\_id INT PRIMARY KEY,

po\_id INT,

item\_id INT,

quantity INT,

unit\_price DECIMAL(10,2),

total\_price DECIMAL(12,2),

FOREIGN KEY (po\_id) REFERENCES PurchaseOrders(po\_id),

FOREIGN KEY (item\_id) REFERENCES Inventory(item\_id)

);

**2. Invoices (Invoices)**

CREATE TABLE Invoices (

invoice\_id INT PRIMARY KEY,

po\_id INT,

supplier\_id INT,

invoice\_number VARCHAR(50),

invoice\_date DATE,

amount DECIMAL(12,2),

status ENUM('Submitted', 'Approved', 'Paid', 'Rejected'),

submitted\_at DATETIME,

approved\_at DATETIME,

paid\_at DATETIME,

FOREIGN KEY (po\_id) REFERENCES PurchaseOrders(po\_id),

FOREIGN KEY (supplier\_id) REFERENCES Persons(person\_id)

);

**3. Requests for Quotation (RFQs)**

CREATE TABLE RFQs (

rfq\_id INT PRIMARY KEY,

buyer\_id INT,

rfq\_title VARCHAR(100),

description TEXT,

status ENUM('Open', 'Closed', 'Awarded', 'Cancelled'),

issue\_date DATE,

closing\_date DATE,

created\_at DATETIME,

updated\_at DATETIME,

FOREIGN KEY (buyer\_id) REFERENCES Persons(person\_id)

);

**Child Table: RFQItems**

CREATE TABLE RFQItems (

rfq\_item\_id INT PRIMARY KEY,

rfq\_id INT,

item\_name VARCHAR(100),

quantity INT,

specification TEXT,

FOREIGN KEY (rfq\_id) REFERENCES RFQs(rfq\_id)

);

**🔗 Child Table: RFQResponses**

CREATE TABLE RFQResponses (

response\_id INT PRIMARY KEY,

rfq\_id INT,

supplier\_id INT,

item\_id INT,

quoted\_price DECIMAL(10,2),

delivery\_days INT,

response\_date DATE,

FOREIGN KEY (rfq\_id) REFERENCES RFQs(rfq\_id),

FOREIGN KEY (supplier\_id) REFERENCES Persons(person\_id)

);

**4. Inventory (Inventory)**

CREATE TABLE Inventory (

item\_id INT PRIMARY KEY,

item\_name VARCHAR(100),

description TEXT,

category VARCHAR(50),

quantity\_on\_hand INT,

reorder\_level INT,

unit\_of\_measure VARCHAR(20),

last\_updated DATETIME

);

**Optional: InventoryTransactions**

CREATE TABLE InventoryTransactions (

transaction\_id INT PRIMARY KEY,

item\_id INT,

transaction\_type ENUM('IN', 'OUT', 'ADJUSTMENT'),

quantity INT,

transaction\_date DATETIME,

reference\_doc VARCHAR(50),

FOREIGN KEY (item\_id) REFERENCES Inventory(item\_id)

);

**Schema Highlights**

* **POs link to RFQs** for traceability.
* **Invoices link to POs** for payment validation.
* **RFQs support multi-supplier responses**.
* **Inventory supports real-time stock and transaction history**.