# Java Coding Challenge

You are being asked to create an order entry system for a pet store. You should create a REST API that can receive an order with a customer number and the product IDs and quantities of the items ordered. Your new application will need to call an established inventory API to get the product name and price. You should store the order details including the current name and price of the items. You should provide a way to retrieve the order summary and include the total cost for the order.

Requirements:

1. Create a new REST API using Java/JVM technologies.
2. Provide a storage mechanism for storing the order details. If you use a database you do not need to include the database, but you should include instructions to set up and create the database.
3. Write unit tests to verify the logic for calculating the total cost of the order.

The order entry request will be JSON and have the following format:

**{**

"customerId"**:** "string"**,**

"items"**:** **[**

**{**

"productId"**:** "string"**,**

"quantity"**:** 0

**}**

**]**

**}**

Example Order:

**{**

"customerId"**:** "12345"**,**

"items"**:** **[**

**{**

"productId"**:** "8ed0e6f7"**,**

"quantity"**:** 1

**},**

**{**

"productId"**:** "c0258525"**,**

"quantity"**:** 3

**},**

**{**

"productId"**:** "0a207870"**,**

"quantity"**:** 2

**}**

**]**

**}**

Inventory API:

The Inventory API that you will use to get item details is: [https://petstoreapp.azurewebsites.net/api/products/{productId}](https://petstoreapp.azurewebsites.net/api/products/%7bproductId%7d)

To get a list of all products call the API without a product ID: <https://petstoreapp.azurewebsites.net/api/products>

**SOLUTION**

CUSTOMER

(PK)CUSTOMER\_ID

CUSTOMER\_NAME

CUSTOMER\_TYPE

PRODUCTS

(PK)PRODUCT\_ID

PRODUCT\_NAME

PRODUCT\_TYPE

PRODUCT\_PRICE

INVENTORY

(PK)INVENTORY\_ID

PRODUCT\_ID

PRODUCT\_QTY

PRODUCT\_TYPE

PRODUCT\_ACTIVE

PRODUCT\_PRICE

ORDER

(PK)ORDER\_ID

(FK)CUSTOMER\_ID

(FK)OL\_ORDERLIST\_SEQ

ORDER\_TYPE

ORDER\_TOTAL

PRODUCT\_PRICE

ORDER\_LIST

(PK)OL\_ORDER\_SEQ

(PK)OL\_PROD\_ID

(PK)OL\_PROD\_QTY

(PK)ORDER\_DATE

ORDER\_TXT

PRODUCT\_PRICE

DB Queries

CREATE TABLE CUSTOMER (  
    Customer\_ID int NOT NULL,  
    Customer\_Name varchar (100),  
    Customer\_Type varchar (255),  
    Customer\_Type varchar (255),

PRIMARY KEY (Customer\_ID)

);

CREATE TABLE PRODUCTS (  
    Product\_ID int NOT NULL,  
    Product\_Name varchar (100),  
    Product\_Type varchar (255),  
    Product\_Price Float,

PRIMARY KEY (Product\_ID)

);

CREATE TABLE INVENTORY (  
    Inventory\_ID int NOT NULL,  
    Product\_ID varchar (100),  
    Product\_QTY varchar (255),  
    Product\_Type Float,

Product\_Active varchar(2),

PRIMARY KEY (Inventory\_ID)

);

CREATE TABLE ORDER (  
    Order\_ID int NOT NULL,  
    Customer\_ID varchar (100),  
    OL\_Orderlist\_Seq varchar (255),  
    Order\_Type varchar(10),

Order\_Total Float,

PRIMARY KEY (Product\_ID),

FOREIGN KEY (Customer\_ID) REFERENCES Customer(Customer\_ID)

);

CREATE TABLE ORDER\_LIST (  
    OL\_Order\_Seq int NOT NULL,  
    OL\_PROD\_ID int NOT NULL,  
    OL\_Prod\_Qty varchar (255),  
    Order\_Date Date(10) NOT NULL,

Order\_Txt varchar(200),

PRIMARY KEY (OL\_Order\_Seq , OL\_PROD\_ID , OL\_Prod\_Qty, Order\_Date),

FOREIGN KEY (OL\_Prod\_ID) REFERENCES Product(Product\_ID)

);