CUSTOMER

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
customer_id	PK	SERIAL	NOT NULL		
company_name		VARCHAR(80)	NOT NULL		
company_phone		VARCHAR(20)	NOT NULL		
company_email	AK	VARCHAR(50)	UNIQUE, NOT NULL		
contract_agreement		TEXT			Details about special contract terms

CUSTOMER_ADDRESS

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
address_id	PK	SERIAL	NOT NULL		
customer_id	FK	INT	NOT NULL	customer.customer_id	
address_line1		VARCHAR(60)	NOT NULL		
address_line2		VARCHAR(60)			
post_code		VARCHAR(10)	NOT NULL		
City		VARCHAR(50)	NOT NULL		
address_type		ENUM	CHECK(address type		

			IN ('Billing',oute 'HQ'))		

DRIVER_LICENSE

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
staff_id	PK	INT	NOT NULL		
license_no	AK	VARCHAR(20)	NOT NULL, UNIQUE		
issue_date		DATE	NOT NULL		
expiry_date		DATE	NOT NULL		
issuing_country		VARCHAR(50)	NOT NULL		
issuing_authority		VARCHAR(20)	NOT NULL		
vehicle_class		VARCHAR(10)	NOT NULL		Type of vehicle allowed (C1, B, C, etc)

INVOICE

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
invoice_id	PK	SERIAL	NOT NULL		
order_id	FK	INT	NOT NULL	order.order_id	
invoice_no		VARCHAR(20)	NOT NULL, UNIQUE		Business invoice number
invoice_date		DATE	NOT NULL		

due_date		DATE	NOT NULL		Payment deadline
Amount		DECIMAL(10, 2)	NOT NULL, CHECK (amount ≥ 0)		Amount before VAT
VAT		DECIMAL(4, 2)	NOT NULL, CHECK (VAT ≥ 0)		Stored as percentage, e.g. 20.00 = 20%
Status		ENUM	NOT NULL, CHECK (status IN ('Pending', 'Paid', 'Overdue')		Current invoice status

INVENTORY					
Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
warehouse_id	PK/FK	INT	NOT NULL	warehouse.warehouse_id	
product_id	PK/FK	INT	NOT NULL	product.product_id	
Quantity		INT	NOT NULL, CHECK(quantity ≥ 0)		Current stock quantity
shelf_location		VARCHAR(20)			Physical shelf location
last_stock_count		DATE	NOT NULL		

OUTLETS					
Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description

outlet_id	PK	SERIAL	NOT NULL		
customer_id	FK	INT	NOT NULL	customer.customer_id	
outlet_name		VARCHAR(80)	NOT NULL		
address_line1		VARCHAR(50)	NOT NULL		
address_line2		VARCHAR(50)			
Postcode		VARCHAR(10)	NOT NULL		
City		VARCHAR(50)	NOT NULL		
outlet_type		VARCHAR(30)			Type (shop, café, restaurant, etc)
opening_time		TIME	NOT NULL		
closing_time		TIME	NOT NULL, CHECK(closing_time > opening_time)		
outlet_phone_no		VARCHAR(20)	invo		
outlet_email		VARCHAR(250)			Branch's email

vehiclevehicle_

ORDER_LINE					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
order_id	PK/FK	INT	NOT NULL	order.order_id	
line_no	PK	SMALLINT	NOT NULL, CHECK (line_no >0)		Line index inside the order (1, 2, 3)

product_id	FK	INT	NOT NULL	product.product_id	
Quantity		INT	NOT NULL, CHECK(quantity > 0)		
unit_price		DECIMAL(10, 2)	NOT NULL, CHECK (unit_price ≥ 0)		Price per unit at the time of ordering
Discount		DECIMAL(10, 2)	DEFAULT 0.00, CHECK (discount ≥ 0)		Discount if applicable

ORDER					
Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
order_id	PK	SERIAL	NOT NULL		
customer_id	FK	INT	NOT NULL	customer.customer_id	
outlet_id	FK	INT	NOT NULL	outlets.outlets_id	
order_date		TIMESTAMP	NOT NULL		
order_reference_no		VARCHAR(20)	NOT NULL, UNIQUE		
order_status		ENUM	NOT NULL, CHECK(order_status) IN ('Pending', 'Processing', 'Dispatched', 'Delivered', 'Cancelled')		

tracking_number		VARCHAR(30)	UNIQUE		Courier tracking number
total_amount		DECIMAL(10,2)	NOT NULL, CHECK(total_amount ≥ 0)		Order total before VAT/Discount
payment_status		ENUM	NOT NULL, CHECK(payment_status IN ('Unpaid', 'Paid', 'Refunded'))		Payment status

ORD					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
product_id	PK	SERIAL	NOT NULL		
product_name		VARCHAR(60)	NOT NULL		
product_category		VARCHAR(30)	NOT NULL, CHECK(product_categ ory category IN ('Fruit', 'Vegetable', 'Dairy', 'Other'))		
wholesale_price		DECIMAL(10, 2)	NOT NULL, CHECK (wholesale_price ≥ 0)		Price for wholesalers
retail_price		DECIMAL(10, 2)	NOT NULL, CHECK (retail_price ≥ 0)		Suggested retail price
has_customer_ agreement		BOOLEAN	NOT NULL		Whether specific pricing applies

PAYMENT

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
payment_id	PK	SERIAL	NOT NULL		
invoice_id	FK	INT	NOT NULL	invoice.invoice_id	
payment_date		DATE	NOT NULL		
payment_method		ENUM	NOT NULL, CHECK(payment_method IN ('Cash', 'Card', 'BankTransfer', 'Cheque')		
Amount		DECIMAL(10, 2)	NOT NULL, CHECK(amount > 0)		
bank_reference		VARCHAR(50)			Bank transaction reference (if applicable)

ROLES

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
role_id	PK	SERIAL	NOT NULL		
role_name		VARCHAR(40)	NOT NULL, UNIQUE		
role_descreption		TEXT			What are the role's duties

ROUTE					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
route_id	PK	SERIAL	NOT NULL		
route_name		VARCHAR(50)	NOT NULL, UNIQUE		Name of the route (e.g. Southsea Run)
start_city		VARCHAR(50)	NOT NULL		Starting location of the route
end_point		VARCHAR(50)	NOT NULL		Ending point of the route
distance_km		DECIMAL(6, 2)	NOT NULL, CHECK (distance_km ≥ 0)		
estimated_duration		INTERVAL	NOT NULL		Estimated time to complete route

RUNSTOP					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
stop_id	PK	SERIAL	NOT NULL		
route_id	FK	INT	NOT NULL	route.route_id	Route this stop belongs to
outlet_id	FK	INT	NOT NULL	outlet.outlet_id	Outlet visited at this stop
est_arrival		TIMESTAMP			Estimated time to complete route

RETURN

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
return_id	PK	SERIAL	NOT NULL		
order_id	FK	INT	NOT NULL	order.order_id	
line_no	FK	SMALLINT	NOT NULL, CHECK (line_no > 0)		Line number in the oorder (which product)
return_date		DATE	NOT NULL		
return_status		ENUM	NOT NULL, CHECK(return_status IN ('Pending', ' Approved', 'Rejected', 'Refunded')		
reason		TEXT			
qty_returned		INT	NOT NULL, CHECK(qty_returned > 0)		Quantity returned from the order line
refund_amount		DECIMAL(10, 2)	NOT NULL, CHECK(refund_amount > 0)		

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STAFF

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
staff_id	PK	SERIAL	NOT NULL		

role_id	FK	INT	NOT NULL	role.role_id	
first_name		VARCHAR(30)	NOT NULL		
last_name		VARCHAR(40)	NOT NULL		
date_of_birth		DATE	NOT NULL		
phone_no		VARCHAR(20)	NOT NULL		
emergency_contact _first_name		VARCHAR(50)	NOT NULL		
emergency_contact _last_name		VARCHAR(50)	NOT NULL		
emergency_contact _no		VARCHAR(20)	NOT NULL		Phone number of a person who is staff's emergenecy contact
personal_email		VARCHAR(150)	NOT NULL, UNIQUE		Personal, non-professional email
business_email		VARCHAR(150)	NOT NULL, UNIQUE		Professional, business-only use email
hire_date		DATE	NOT NULL		
leaving_date		DATE	NULL, CHECK(leaving_date ≥ hire_date)		NULL if still employed
has_lisence		BOOLEAN	NOT NULL		

STAFF_PAY					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
staff_pay_id	PK	SERIAL	NOT NULL		

staff_id	FK	INT	NOT NULL	staff.staff_id	
bank_account_no		VARCHAR(20)	NOT NULL		
sort_code		VARCHAR(8)	NOT NULL		
Salary		DECIMAL(10, 2)	CHECK(salary ≥ 0)		
hourly_rate		DECIMAL(10, 2)	CHECK(hourly_rate ≥ 0)		Annual salary (Value is NULL if hourly paid)
pay_frequency		ENUM	NOT NULL, CHECK(pay_frequency IN 'Weekly', 'Monthly')		Pay per hour (Values are NULL if salary paid)
effective_from		DATE	NOT NULL		Date when this pay rate began

STAFF_SCHEDULE					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
schedule_id	PK	SERIAL	NOT NULL		
staff_id	FK	INT	NOT NULL	staff.staff_id	
start_time		TIMESTAMP	NOT NULL		
end_time		TIMESTAMP	NOT NULL, CHECK (end_time ≥ start_time)		
break_mins		INT	NOT NULL, CHECK(break_mins ≥ 0)		

STAFF_ROLE

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
staff_id	PK/FK	INT	NOT NULL	staff.staff_id	
role_id	PK/FK	INT	NOT NULL	role.role_id	
from_date		DATE	NOT NULL		Date when role assignment started
to_date		DATE	NULL, CHECK(to_date ≥ from_date)		Date when role assignment ended, (NULL because role might still be active)
required_licence		BOOLEAN	NOT NULL		Whether this role requires a license

STAFF_WAREHOUSE

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
sw_id	PK	SERIAL	NOT NULL		Staff warehouse unique identifier
staff_id	FK	INT	NOT NULL	staff.staff_id	
warehouse_id	FK	INT	NOT NULL	warehouse.warehouse_id	
from_date		DATE	NOT NULL		
to_date		DATE	NULL, CHECK(to_date≥		End of assignment (NULL because assignment may not be over)

			from_date		

STAFF_ROUTE					
Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
sw_id	PK/FK	INT	NOT NULL	staff_warehouse.sw_id	
route_id	PK/FK	INT	NOT NULL	route.route_id	Route that the specific staff is going to take
assignment_date	PK/FK	DATE	NOT NULL		
notes		TEXT			Specifications about the route

WAREHOUSE					
Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
warehouse_id	PK	SERIAL	NOT NULL		
Name		VARCHAR(40)	NOT NULL		Name of the warehouse facility
address_line1		VARCHAR(60)	NOT NULL		
address_line2		VARCHAR(60)			

City		VARCHAR(50)	NOT NULL		
post_code		VARCHAR(10)	NOT NULL		

VEHICLE					
Attribute_Name	**KEY**	**Data Type & Size**	**Domains & Constraints**	**FK Reference**	**Description**
vehicle_id	PK	SERIAL	NOT NULL		
vehicle_type		VARCHAR(15)	NOT NULL		
licence_plate		VARCHAR(20)	NOT NULL		
Model		VARCHAR(30)	NOT NULL		
requires_license		BOOLEAN	NOT NULL		Whether a specific license is required
Capacity		DECIMAL(8, 2)	NOT NULL, CHECK(capacity ≥ 0)		Weight or volume capacity of the vehicle
wheel_tax_due		DATE			
Mileage		INT	NOT NULL, CHECK(milequage ≥ 0)		

VEHICLE_ASSIGNMENT_HISTORY

Attribute_Name	KEY	Data Type & Size	Domains & Constraints	FK Reference	Description
assignment_id	PK	SERIAL	NOT NULL		
staff_id	FK	INT	NOT NULL	staff.staff_id	
vehicle_id	FK	INT	NOT NULL	vehicle.vehicle_id	
assigned_from		TIMESTAMP	NOT NULL		Time vehicle was assigned to driver and started being use
assigned_to		TIMESTAMP	NOT NULL, CHECK(assigned_to ≥ assigned_from)		Time until assigned vehicle was used
Reason		VARCHAR(50)			