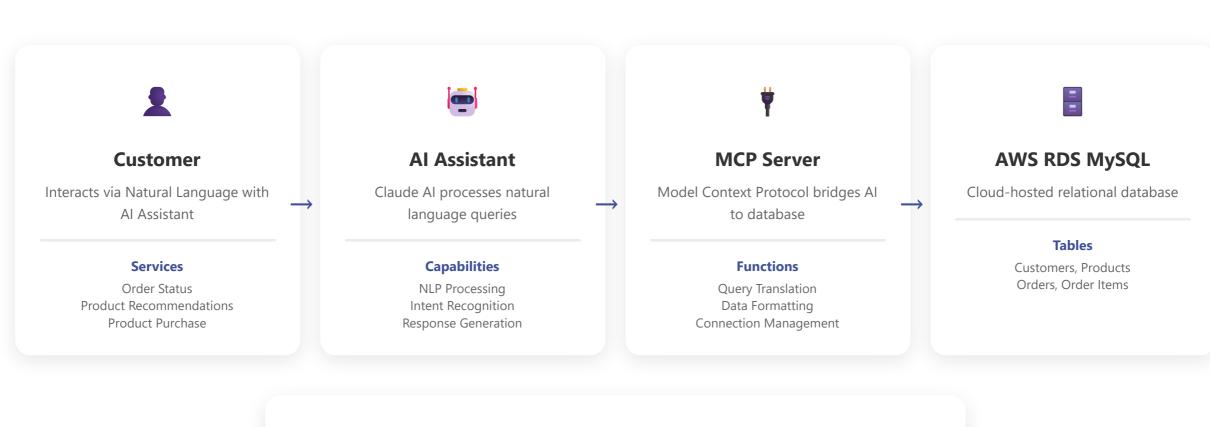
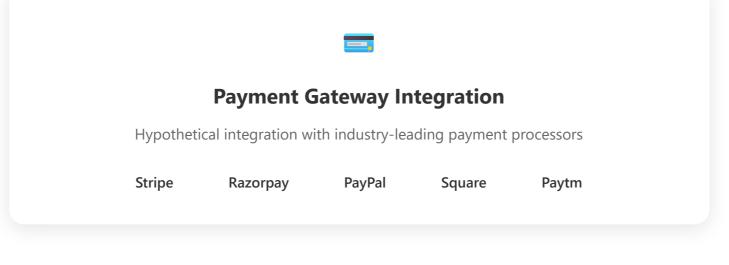


Al-Powered Order Management System Architecture

## **System Architecture Flow**













## **©** Al Assistant Services

## **II** Order Status Tracking

Real-time order status updates via MCP → MySQL. Customer asks "Where's my order?" and gets instant status: Pending, Preparing, Ready, or Completed.

## Product **Recommendations**

Al analyzes menu items from database and recommends based on category, price, popularity, and customer preferences.

### **Product Purchase**

Customer places order through AI  $\rightarrow$ Creates order record → Integrates with hypothetical payment gateway → Updates inventory.

### **Menu Information**

Fetches product details, descriptions, pricing, and availability status directly from the products table via MCP.

## **Sample Database Data**

#### **st** customers

customer_id	name	email	country_code	phone
1	Rahul Kumar	rahul@gmail.com	+91	9876543210
2	Emily Chen	emily.chen@outlook.com	+1	5550123456
3	Ahmed Al-Farsi	ahmed.alfarsi@yahoo.com	+971	501234567
4	Yuki Tanaka	yuki.tanaka@icloud.com	+81	9012345678
5	Priya Singh	priya.singh@hotmail.com	+91	9123456789
6	Marcus Johnson	marcus.j@protonmail.com	+44	7700900123

## products (Sample Items)

product_id	name	category	price	stock
1	Vibes Espresso Shot	COFFEE	\$2.50	100
2	Tech Latte	COFFEE	\$3.50	100
3	KGP Cold Brew	COFFEE	\$4.00	80
13	Byte Brownie	SNACKS & MEALS	\$2.50	80
20	Startup Burger	MEALS	\$5.00	60

product_id	name	category	price	stock
26	Database Pasta	MEALS	\$6.50	50

+ 36 more products from the KGP Vibes menu

## **orders**

order_id	customer_id	order_date	total_amount	status
1	1	2025-10-15 09:30:00	\$12.30	Completed
2	2	2025-10-15 11:45:00	\$8.50	Ready
3	3	2025-10-16 08:15:00	\$15.80	Preparing
4	4	2025-10-16 10:00:00	\$6.20	Pending

## order\_items

order_item_id	order_id	product_id	quantity	item_price
1	1	2 (Tech Latte)	2	\$3.50
2	1	13 (Byte Brownie)	1	\$2.50
3	2	9 (Talkie Chai)	3	\$2.00
4	3	26 (Database Pasta)	1	\$6.50
5	3	6 (Hackathon Iced Coffee)	2	\$4.50
6	4	34 (Zero-Bug Brownie Sundae)	1	\$4.20

# **⊘** Table Relationships

#### **One-to-Many Relationships:**

- One customer can have multiple orders
- One order can contain multiple order items
- One product can appear in multiple order items

## Data Flow Example

**1** Customer Query

"Show me coffee options under \$4"

**2** Al Processing

Al Assistant interprets the natural language request

**3** MCP Translation

MCP Server converts to SQL query: SELECT \* FROM products WHERE category='COFFEE' AND price < 4.00 Database Response

AWS RDS MySQL returns matching products: Vibes Espresso, Code Cappuccino, Talkie Chai, Debug Mocha, Tech Latte

KGP Vibes Café - Al-Powered Order Management System

Architecture: Customer → Al Assistant → MCP Server → AWS RDS MySQL