Coding Assignment - Rust Application

Create an application which opens a port for external users to access data in JSON format via Rust APIs. Create a database in PostgreSQL with below schema and import data attached in the format of csv files.

Task

Create four APIs as given below. These APIs should be accessible via curl and postman over http.

1. Fetch agent details - GET /fetch-agent-by-id?agent-id=1
2. Fetch call details - GET /fetch-call-by-id?call-id=33314
3. Fetch all calls by agent (implement skip and limit) - POST /fetch-calls-by-agent -

   request json {“agent-id” : 1, “skip”:2, “limit”: 30} ,

   response json

   ```
    {
      "calls" : [
        {
          "call-id":22334,
          "customer_id": 6626262,
          "priority": 0 ,
          "type": "NW",
          "date": 990201,
          "ivr_in": "08:28:47",
          "ivr_out": "08:28:47",
          "ivr_time": 13,
          "q_start": "08:28:47",
          "q_exit": "08:28:47",
          "q_time":  12,
          "outcome": "AGENT",
          "agent_start": "08:28:47",
          "agent_exit": "08:28:47",
          "ser_time" : 12,
          "agent_id" : 1
        },
        {...},
        {...},
        {...}
        ]

    }
   ```

4. Fetch daily call volume data for agent - POST /daily-call-volume
   Request json
   ```
   {“start-date”:990101 , “end-date”: 990103, “agent-id” : 1}
   ```
   Response json
   ```
   {
     "data" : [
      {
       "date": 990101,
       "call_count": 13, --- total number of calls
       "total_ivr_time": 1232, --- sum of ivr_time
       "total_q_time":  122, --- sum of q_time
       "total_ser_time" : 14562,  --- sum of ser_time
      },
       {
       "date": 990102,
       "call_count": 33, --- total number of calls
       "total_ivr_time": 434, --- sum of ivr_time
       "total_q_time":  23, --- sum of q_time
       "total_ser_time" : 23962,  --- sum of ser_time
      },
       {
       "date": 990103,
       "call_count": 54, --- total number of calls
       "total_ivr_time": 2455, --- sum of ivr_time
       "total_q_time":  432, --- sum of q_time
       "total_ser_time" : 65455,  --- sum of ser_time
      }
      ]

    }
   ```
5.

Database :
Table 1 - Call Record

1. call_id - id assigned to the call
2. Customer_id - id of the customer calling
3. priority - 0 : unidentified customer, 1 : regular customer, 2 : premium customer
4. type -
   a. PS - regular activity in Hindi
   b. PE - regular activity in English
   c. IN - internet consulting
   d. NW - potential customer getting information

    e. TT – customers who left a message asking to return their call but, while the system returned their call, the calling-agent became busy hence the customers were put on hold in the queue.

5. date - yymmdd
6. ivr_in - time when users enters the IVR
7. ivr_out - time when user exits the IVR
8. ivr_time - time spent in the IVR
9. q_start - time when user enters the queue
10. q_exit - time when user exits the queue
11. q_time - time spent by the user in the queue
12. outcome - AGENT : picked up by agent, HANG : hung up by customer
13. agent_start - time when agent pickups
14. agent_exit - time when agent is done
15. ser_time - service time by agent
16. agent_id - id of the agent

Table 2 - Agent

1. agent _id
2. agent_name