**Project description for the coding interview**

* Create a database in Postgres using the following schema and records (use pgadmin)
* Implement constraints so that data integrity is ensured (use pgadmin)

|  |  |
| --- | --- |
| **Employee** | |
| **Field** | **Data type** |
| EmploeeId | Int |
| Name | Varchar |
| *ClubId* | *Char* |
| *DepartmentId* | *char* |

|  |  |
| --- | --- |
| **Department** | |
| **Field** | **Data type** |
| DepartmentId | char |
| Name | Varchar |
| AnnualBudget | Decimal |

|  |  |
| --- | --- |
| **Club** | |
| **Field** | **Data type** |
| ClubId | char |
| Name | Varchar |

Records

Employee table:

1. (1, Satish, A, m)
2. (2, Hiren, B, m)
3. (3, Naren, A, n)
4. (4, Chris, A, m)
5. (5, Jon, B, n)

Department table:

1. (m, Accounting, 1000)
2. (n, Engineering, 1200)

Club table:

1. (A, Roadtrip)
2. (B, Boating)

* Develop an API to add an employee record (demo using Postman)
* Develop an API to remove a department record; ensure data integrity in the database (demo using Postman)
* Develop an API that returns the average annual budget of the departments of the employees in club A (demo using Postman)
  + Implement the join and aggregation completely in the database
  + Implement the join and aggregation using Entity framework
  + Implement the join and aggregation in C# using Linq
* Develop a SignalR based connection to show the total number of employees updated in one client to all clients in real-time (demo using console application with multiple simultaneous http client)