

Step 5: NoSQL Use Case (MongoDB) :

use case for MongoDB: “Detailed Employee Skills and Development Profiles”

MongoDB Pros for this scenario:

- **Flexible Schema:** Unlike relational databases, MongoDB's document model allows for varying fields and structures across employee profiles. This is ideal for diverse skills, certifications, and evolving performance feedback criteria. You can add new attributes (e.g., a specific license number for one certification) without impacting other documents or requiring a global schema change.
- **Nested Data Structures:** MongoDB allows you to embed arrays and sub-documents within a single document. This is perfect for naturally hierarchical data like an employee's multiple skills, various certifications, or a series of past performance reviews. All this related data can be stored and retrieved efficiently in one unit.
- **Scalability:** MongoDB is designed to scale horizontally across multiple servers, making it well-suited for handling large volumes of dynamic data that might exceed the capacity of a single traditional database server.
- **Read Performance for Full Profiles:** Retrieving an employee's entire, complex skill and development profile (all skills, all certifications, all past reviews) becomes very efficient, often requiring just a single document read instead of multiple JOIN operations required in a relational database.

Part2

Example MongoDB Document Structure:

This document would typically be stored in a collection like `employee_development_profiles` in MongoDB, with `employeeNumber` serving as a link back to your relational `Employees` table.

JSON

```
{
  "_id": ObjectId("60d5ec49e0a6d5f7b8c9d0e1"),
  "employeeNumber": 1001,
  "currentSkills": [
    { "name": "Python", "level": "Advanced", "lastUsed": "2024-05-10" },
    { "name": "SQL", "level": "Expert", "lastUsed": "2024-06-01" },
    { "name": "Project Management", "level": "Intermediate" }
  ],
  "certifications": [
    { "name": "PMP", "issueDate": "2022-06-01", "expiryDate": "2025-06-01", "issuingBody": "PMI" }
  ],
  "performanceReviews": [
    {
      "year": 2023,
      "overallRating": 4,
      "managerFeedback": "Exceeded expectations in Q3, particularly on project Alpha.",
      "achievedGoals": ["Lead Project Alpha to completion"]
    }
  ]
}
```

Point: // adding this sign anywhere let you right comments))