***Step 5-Part1:***

NoSQL Use Case (MongoDB) scenario

“Detailed Employee Skills and Development Profiles” and its Pros

*• 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 subdocuments*

*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.*

***Step5-Part2:***

MongoDB Document Structure example:

*{*

*"\_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"]*

*}*

*]*

*}*

***Step5-Part3:***

Alguns consultas simples para usar no script:

***Buscar todos os colaboradores:***

*db.colaboradores.find({})*

***Buscar colaborador com nomeCompleto = "Pedro Guerreiro"***

*db.colaboradores.find({ nomeCompleto: "Pedro Guerreiro" })*

***Buscar colaboradores do departamento "IT"***

*db.colaboradores.find({ departamento: "IT" })*

***Buscar colaboradores contratados após 1º de janeiro de 2021***

1. *db.colaboradores.find({*

*dataContratacao: { $gt: new Date("2021-01-01") }*

*})*

Alguns consultas simples para usar no Compass:

**Quem trabalha no dep IT:**

{ "departamento": "IT" }

**Buscar um colaborador especifico:**

{ "nomeCompleto": "Sina Sarikhani" }

**Para buscar Rating 5 in 2024:**

{

"historicoDesempenho": {

"$elemMatch": {

"anoAvaliacao": 2024,

"ratingGeral": 5

}

}

}

**Para fazer sorting:**

{ "dataContratacao": -1 }