

Développement d'applications Cloud

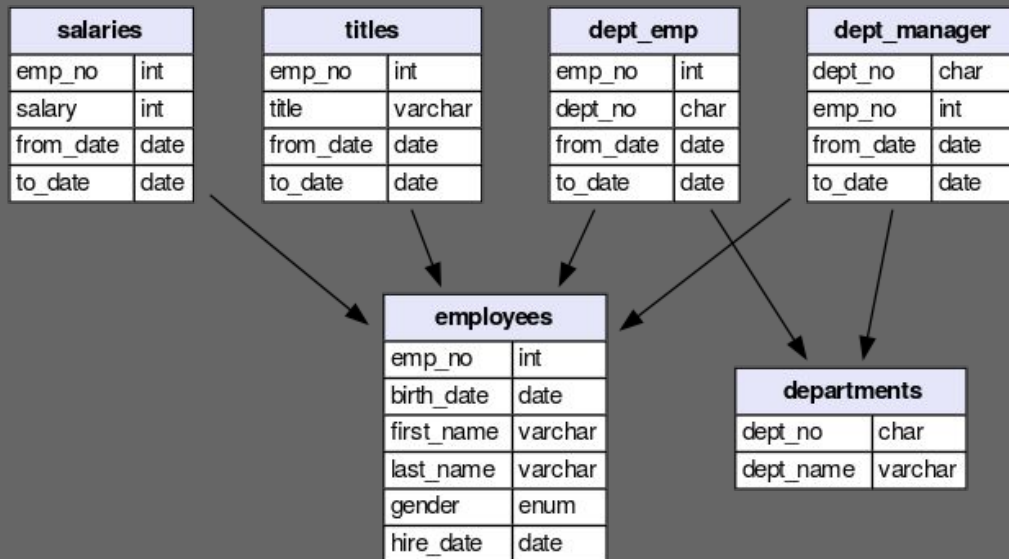
Equipe 11



Dataset & Cas d'usage

Dataset

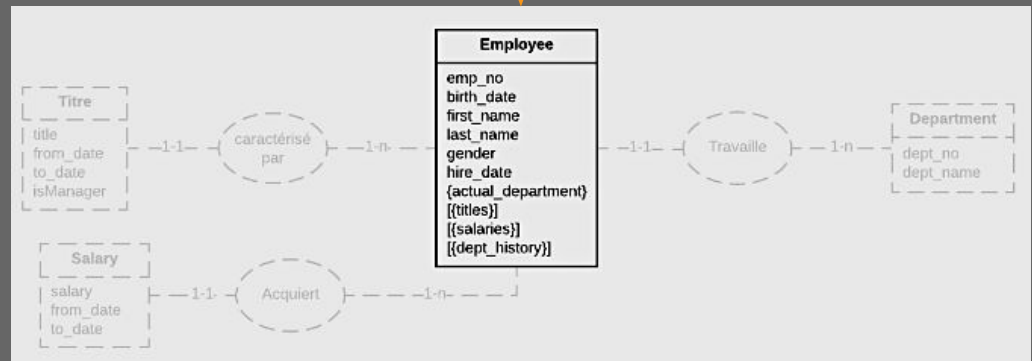
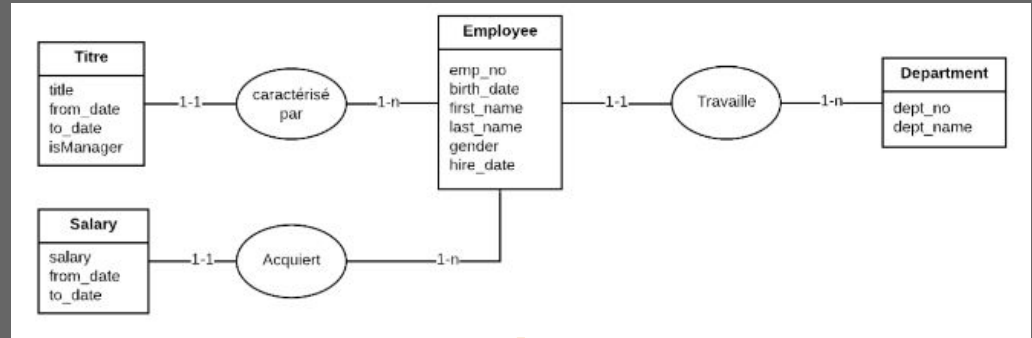
- 6 tables
- ~ 4M lignes
- ~ 2.8M salaires
- 197.4 MB



Dénormalisation

Dénormalisation

- 197.4 MB → 264.2 MB
- Non scalable → Scalable
- Faibles coûts réseau
- Collection unique



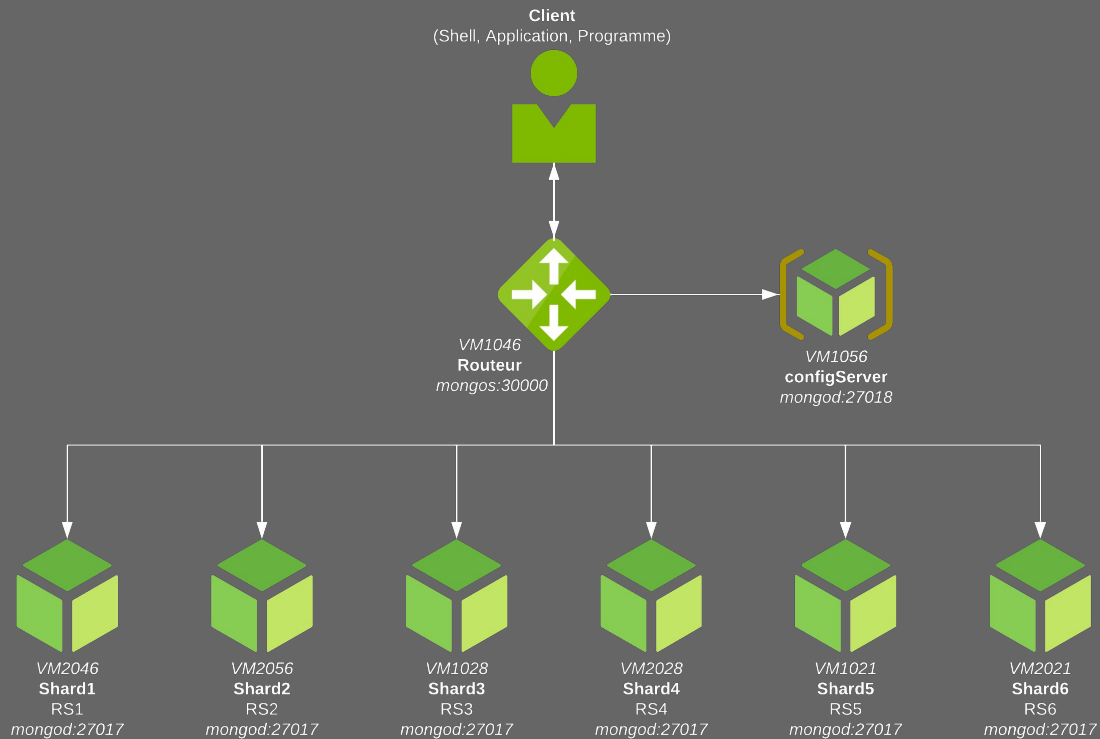
Document dénormalisé

```
{
  "_id" : 10015,
  "emp_no" : 10015,
  "birth_date" : ISODate("1959-08-19T00:00:00Z"),
  "first_name" : "Guoxiang",
  "last_name" : "Nooteboom",
  "gender" : "M",
  "hire_date" : ISODate("1987-07-02T00:00:00Z"),
  "titles" : [
    {
      "title" : "Senior Staff",
      "from_date" : ISODate("1992-09-19T00:00:00Z"),
      "to_date" : ISODate("1993-08-22T00:00:00Z"),
      "isManager" : false
    }
  ],
  "salaries" : [
    {
      "salary" : 40000,
      "from_date" : ISODate("1992-09-19T00:00:00Z"),
      "to_date" : ISODate("1993-08-22T00:00:00Z")
    }
  ],
  "dept_history" : [
    {
      "dept_name" : "Research",
      "dept_no" : "d008",
      "from_date" : ISODate("1992-09-19T00:00:00Z"),
      "to_date" : ISODate("1993-08-22T00:00:00Z")
    }
  ],
  "current_dept" : {
    "dept_name" : "No longer employed",
    "dept_no" : "d000",
    "from_date" : ISODate("1993-08-22T00:00:00Z")
  }
}
```

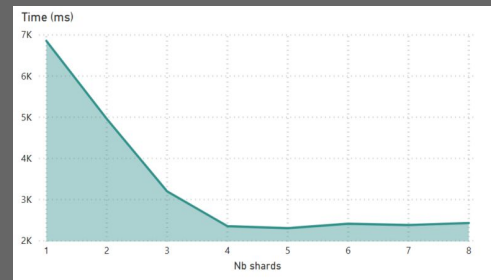
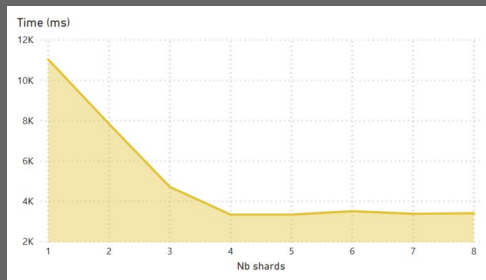
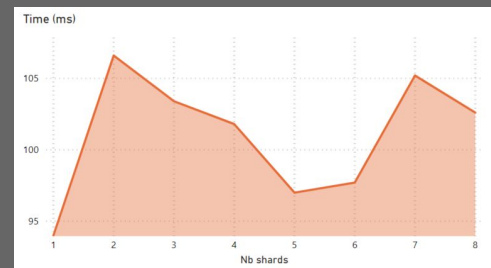
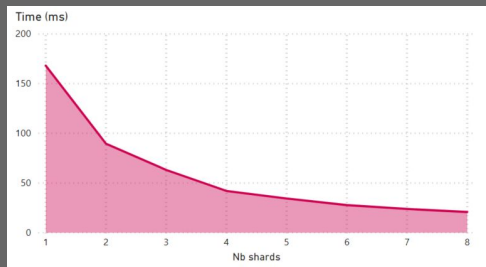
Scalability

Architecture

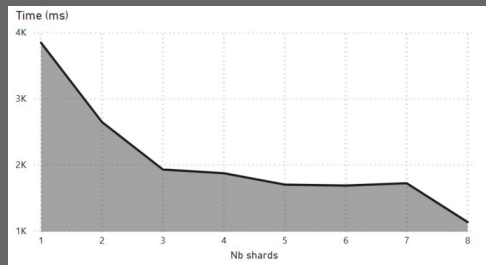
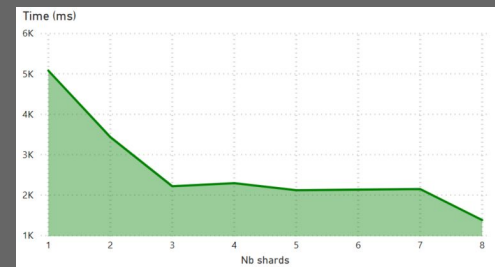
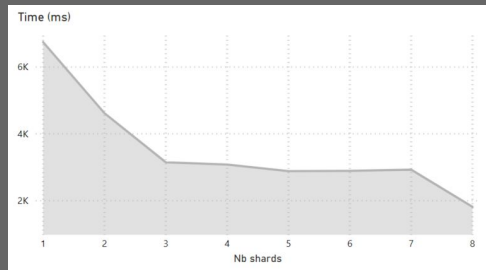
- 6 shards
- 1 config server
- 1 mongos



Performance



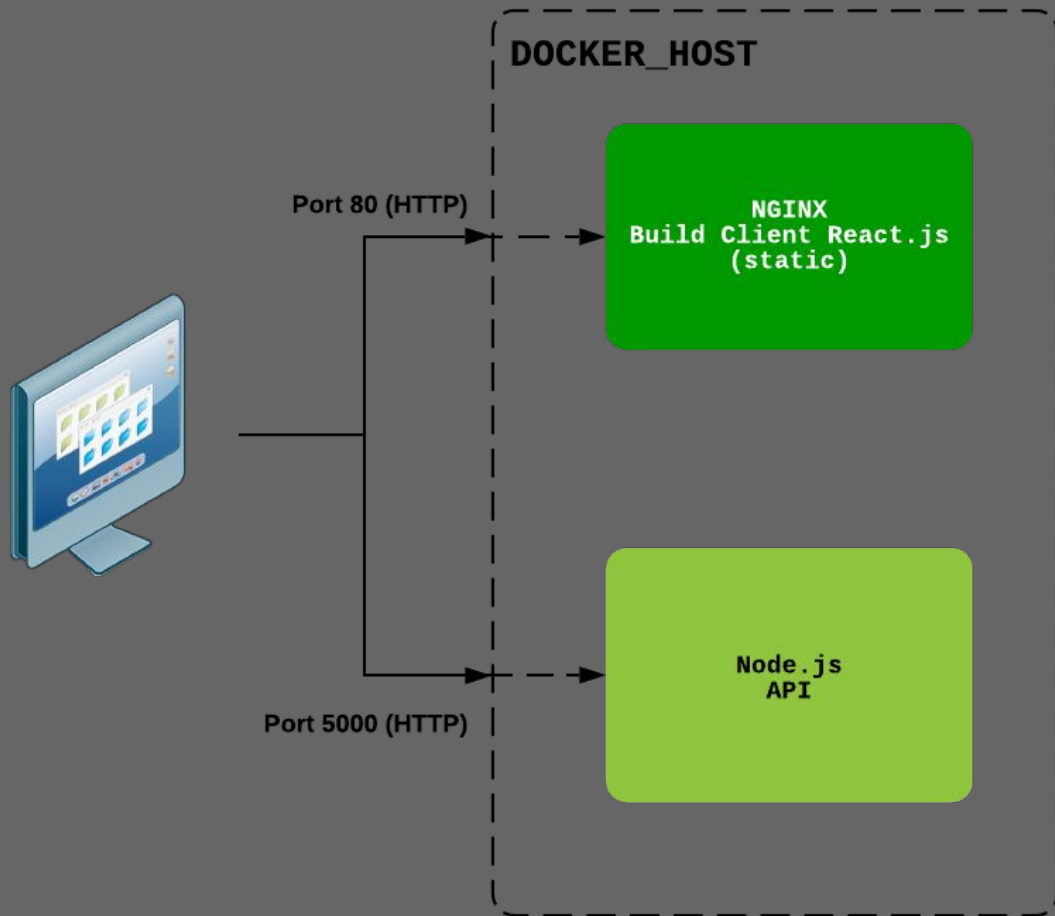
Performance



Application pour le Cloud

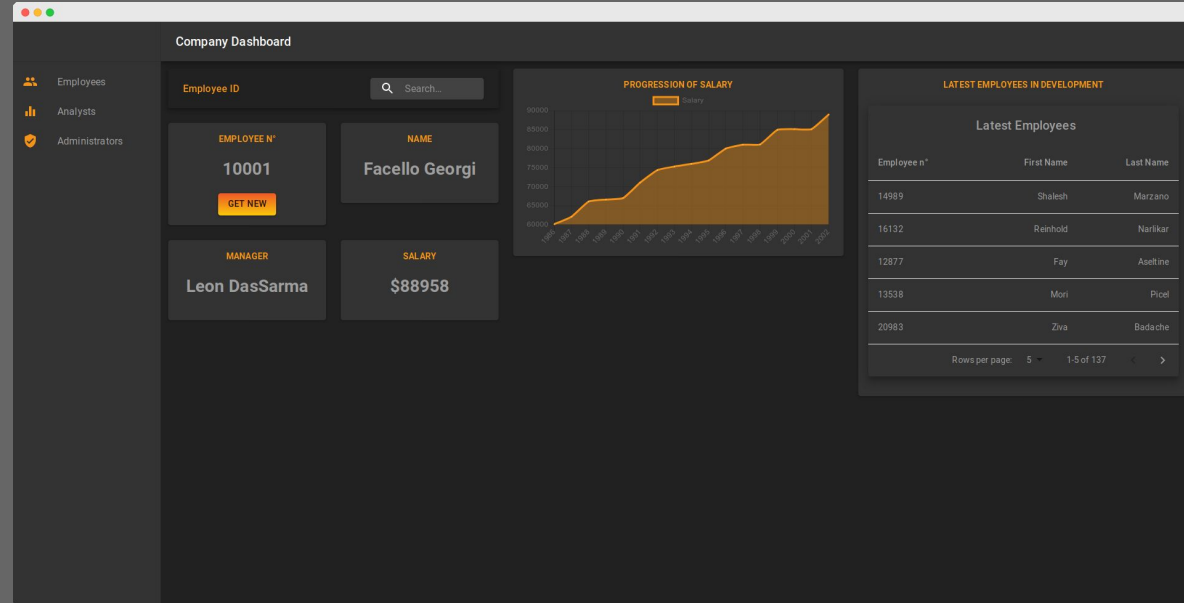
Architecture

- 1 host
- 2 containers
 - nginx + react.js
 - express.js API



Application pour le cloud

Section “Employee” :



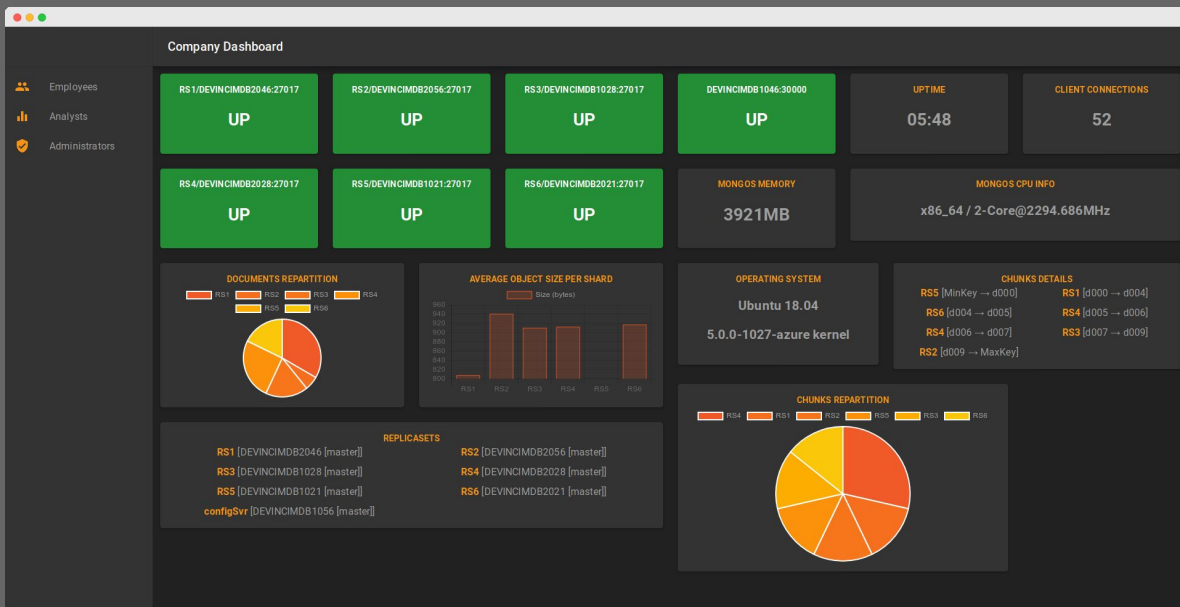
Application pour le cloud

Section “Analysts” :



Application pour le cloud

Section “Administrators” :



Conclusion

Merci !

Des questions ?

