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Perbedaan SQL dan NoSql

Database SQL	Database NoSQL
Cocok digunakan untuk aplikasi yang databasenya bersifat konsisten. Seperti aplikasi transaksional dan aplikasi pemrosesan transaksi online	Digunakan untuk analisis data yang sifat datanya semi terstruktur
Model data dinormalkan ke dalam bentuk table yang terdiri dari baris dan kolom. Data bersifat vertical	Model data dapat berupa dokumen, grafik, nilai kunci, dan pencarian. Data-data yang ada bersifat horisontal
Format file berupa sql	Disajikan dalam bentuk json
Kinerjanya bergantung pada subsistem disk. Sehingga pengoptimalan query, index, dan struktur table sangat diperlukan	Kinerjanya umumnya merupakan fungsi dari ukuran kluster hardware, latensi jaringan, aplikasi jaringan

1. Insert Data

Sintaks:

```
> db.pelanggan.insertOne({
... "kode" : "14105",
... "nama": "B2",
... "kontak" : "Siti Haryu",
... "alamat" : "jogja",
... "kota" : "Jogja"})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("5dd785c093076a50c7680f2d")
}
```

Hasil:

```
> db.pelanggan.find({"nama":"B2"}).pretty();
{
  "_id" : ObjectId("5dd785c093076a50c7680f2d"),
  "kode" : "14105",
  "nama" : "B2",
  "kontak" : "Siti Haryu",
  "alamat" : "jogja",
  "kota" : "Jogja"
}
```

2. Melakukan sewa

Sintaks:

```
> db.sewa.insert({"nofaktur" : "F006", "kodepelanggan" : "14105", "tglsewa": "10/10/2019", "kodemobil": "M007", "lamasewa" : 3})
```

Hasil:

```
> db.sewa.find({"lamasewa":3}).pretty();
{
  "_id" : ObjectId("5dd7892993076a50c7680f2e"),
  "nofaktur" : "F006",
  "kodepelanggan" : "14105",
  "tglsewa" : "10/10/2019",
  "kodemobil" : "M007",
  "lamasewa" : 3
}
```

3. Tambahkan data

Sintaks 1:

```
> db.mobil.updateOne({merk:"BMW E5"},{$set:{merk:{ manufacturer : "BMW", produksi : "1999 - sekarang", class : "Executive Luxury SUV", bodyStyle : "5-door SUV", layout : ["Front-engine","four-wheel-drive","Front-engine","rear-wheel-drive"] }}})
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
```

Hasil 1:

```
> db.mobil.find().pretty();
{
  "_id" : ObjectId("5dd76ba647e3051085213788"),
  "kode" : "M001",
  "jenis" : "SEDAN",
  "merk" : {
    "manufacturer" : "BMW",
    "produksi" : "1999 - sekarang",
    "class" : "Executive Luxury SUV",
    "bodyStyle" : "5-door SUV",
    "layout" : [
      "Front-engine",
      "four-wheel-drive",
      "Front-engine",
      "rear-wheel-drive"
    ]
  },
  "tarif" : 500000,
  "nopol" : "BG1234AA"
}
```

Sintaks 2:

```
> db.mobil.updateOne({merk:"HONDA CRV"},{$set:{merk:{ manufacturer : "Honda", produksi : "1995 - sekarang", class : "Compact crossover SUV", bodyStyle : "5-door SUV", layout : ["Front-engine four-wheel-drive","Front-engine rear-wheel-drive"] }}})
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
```

Hasil 2:

```

> db.mobil.find().pretty();
{
  "_id" : ObjectId("5dd76ba647e3051085213788"),
  "kode" : "M001",
  "jenis" : "SEDAN",
  "merk" : {
    "manufacturer" : "BMW",
    "produksi" : "1999 - sekarang",
    "class" : "Executive Luxury SUV",
    "bodyStyle" : "5-door SUV",
    "layout" : [
      "Front-engine",
      "four-wheel-drive",
      "Front-engine",
      "rear-wheel-drive"
    ]
  },
  "tarif" : 500000,
  "nopol" : "BG1234AA"
}
{
  "_id" : ObjectId("5dd76ba647e3051085213789"),
  "kode" : "M002",
  "jenis" : "SEDAN",
  "merk" : {
    "manufacturer" : "Honda",
    "produksi" : "1995 - sekarang",
    "class" : "Compact crossover SUV",
    "bodyStyle" : "5-door SUV",
    "layout" : [
      "Front-engine four-wheel-drive",
      "Front-engine rear-wheel-drive"
    ]
  },
  "tarif" : 350000,
  "nopol" : "BG2345BB"
}
{
  "_id" : ObjectId("5dd76ba647e305108521378a"),
  "kode" : "M003",

```

Sintaks 3:

```

> db.mobil.updateOne({merk:"DYNA"},{$set:{merk:{ manufacturer : ["Toyota", "hino", "Kuozei Motors"], produksi : "1959
- sekarang", class : "Truck(Standard cab, crew cab)}}})
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

```

Hasil 3:

```

> db.mobil.find({"jenis":"BUS"}).pretty();
{
  "_id" : ObjectId("5dd76ba647e305108521378a"),
  "kode" : "M003",
  "jenis" : "BUS",
  "merk" : "MERCEDEZ",
  "tarif" : 1000000,
  "nopol" : "BG3456CC"
}
{
  "_id" : ObjectId("5dd76ba647e305108521378b"),
  "kode" : "M004",
  "jenis" : "BUS",
  "merk" : {
    "manufacturer" : [
      "Toyota",
      "hino",
      "Kuozui Motors"
    ],
    "produksi" : "1959 - sekarang",
    "class" : "Truck(Standard cab, crew cab"
  },
  "tarif" : 800000,
  "nopol" : "BG8443DD"
}
{
  "_id" : ObjectId("5dd76ba647e305108521378e"),
  "kode" : "M007",
  "jenis" : "BUS",
  "merk" : "TAYO",
  "tarif" : 30000000,
  "nopol" : "AA1210C"
}

```

4. Mobil beserta jumlahnya

```

> db.mobil.aggregate([{$unwind:"$jenis"}, {$sortByCount:"$jenis"}])
{ "_id" : "BUS", "count" : 6 }
{ "_id" : "SEDAN", "count" : 4 }
{ "_id" : "TRUCK", "count" : 2 }
{ "_id" : "MOBIL", "count" : 1 }

```

5. Data mobil yang disewa