

Architecture

```
public class Car {
    private ObjectId _id;
    private String name;
    private int hp, year;
    private String description;
    private TreeSet<Ownership> collOwnership = new TreeSet<>();
```

```
public final class Ownership implements Comparable<Ownership>{

    private LocalDate startDate, endDate;
    private ObjectId idOwner;
```

```
public final class Owner {
    private ObjectId _id;
    private String name, details;
    private LocalDate birth;
```

User's View

MongoDB - Car Administration V3a (car has 'n' ownerships (ownerid is attribute of ownership))

Car Owner Database 127.0.0.1

Insert
=> Car
Car =>
Update
find all

OwnerShip

9/30/2018
10/31/2018

assign selected owner to selected car
* date values are not allowed to be null
* startdate has to be unique

owner info

Weinstein Werner 21.03.1948
10.11.2001...parking problem

Ro 80, 1994, 110, some special text about the famous car...
Isetta, 1966, 11, some special text about the famous car...
Maybach, 1901, 110, some special text about the famous car...

30.09.2018, 31.10.2018, 5c177d26a467e03916ff062b
05.11.2018, 18.12.2018, 5c177d47a467e03916ff062d

Blaustein Berti, birth=1999-01-21, details=currently no delicts
Kernstein Karli, birth=1987-03-21, details=currently no delicts
Weinstein Werner, birth=1948-03-21, details=10.11.2001...parki

Kernstein Karli, birth=1987-03-21, details=currently no delicts ==> Maybach, 1901, 110, some special text about the famous car...

MongoDB - Car Administration V3a (car has 'n' ownerships (ownerid is attribute of ownership))

Car Owner Database 127.0.0.1

car info

Ro 80 1994 110
some special text about the famous car

select car ==> list of ownerships sorted by date of begin

Ro 80, 1994, 110, some special text about the famous car...
Isetta, 1966, 11, some special text about the famous car...
Maybach, 1901, 110, some special text about the famous car...

OwnerShip

start date
end date

08.12.2009, 18.12.2013, 5c177d26a467e03916ff062b
05.12.2011, 30.12.2011, 5c17a567a467e03c422125bb
07.12.2016, 17.12.2018, 5c177d47a467e03916ff062d
29.12.2018, 20.12.2019, 5c177d47a467e03916ff062d

owner info

Kernstein Karli 21.03.1987
currently no delicts

{ "_id": { "\$oid": "5c177749a467e0370d3bef05" }, "name": "Ro 80", "hp": 110, "year": 1994, "description": "some special text about the famous car", "collOwnership": [{ "startDate": { "year": 2009, "month": 12, "day": 8 }, "endDate": { "year": 2013, "month": 12, "day": 18 }, "idOwner": { "timestamp": "1545043238", "machineIdentifier": "10774496", "processIdentifier": "14614", "counter": "16713259" }, { "year": 2011, "month": 12, "day": 5 }, "endDate": { "year": 2011, "month": 12, "day": 30 }, "idOwner": { "timestamp": "1545053543", "machineIdentifier": "10774496", "processIdentifier": "15426", "counter": "2172347" }, { "startDate": { "year": 2016, "month": 12, "day": 7 }, "endDate": { "year": 2018, "month": 12, "day": 17 }, "idOwner": { "timestamp": "1545043271", "machineIdentifier": "10774496", "processIdentifier": "14614", "counter": "16713259" }] }

Car Administration V3 (car has array of embedded documents)

MongoDB - Car Administration V3a (car has 'n' ownerships (ownerid is attribute of ownership))

Car Owner Database 127.0.0.1

▼ car info

Ro 80 1994 110

some special text about the famous car

▼ Ownership

start date

end date

▼ owner info

Kernstein Karli 21.03.1987

currently no delicts

Ro 80, 1994, 110, some special text about the famous car...
Isetta, 1966, 11, some special text about the famous car...
Maybach, 1901, 110, some special text about the famous car...

08.12.2009, 18.12.2013, 5c177d26a467e03916ff062b
05.12.2011, 30.12.2011, 5c17a567a467e03c422125bb
07.12.2016, 17.12.2018, 5c177d47a467e03916ff062d
29.12.2018, 20.12.2019, 5c177d47a467e03916ff062d

Owner{id=5c177d26a467e03916ff062b, name=Kernstein Karli, details=currently no delicts, birth=1987-03-21}

MongoDB - Car Administration V3a (car has 'n' ownerships (ownerid is attribute of ownership))

Car Owner Database 127.0.0.1

▼ car info

Ro 80 1994 110

some special text about the famous car

▼ Ownership

start date

end date

▼ owner info

Kernstein Karli 21.03.1987

currently no delicts

Isetta, 1966, 11, some special text about the famous car...
Ro 80, 1994, 110, some special text about the famous car...

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05.12.2011, 30.12.2011, 5c17a567a467e03c422125bb
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29.12.2018, 20.12.2019, 5c177d47a467e03916ff062d

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Owner{id=5c177d26a467e03916ff062b, name=Kernstein Karli, details=currently no delicts, birth=1987-03-21}

MongoDB - Car Administration V3a (car has 'n' ownerships (ownerid is attribute of ownership))

Car Owner Database 127.0.0.1

Insert
=> Car
Update
find all

▼ car info

1994 110

special text about the famous car

▼ Ownership

start date

end date

remove selected ownership

▼ owner info

Blaustein Berti 21.01.1999

currently no delicts

Isetta, 1966, 11, some special text about the famous car...
Ro 80, 1994, 110, some special text about the famous car...

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Owner{id=5c17a567a467e03c422125bb, name=Blaustein Berti, details=currently no delicts, birth=1999-01-21}