

MONGODB - DATABASE REFERENCES

https://www.tutorialspoint.com/mongodb/mongodb_database_references.htm

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As seen in the last chapter of MongoDB relationships, to implement a normalized database structure in MongoDB, we use the concept of **Referenced Relationships** also referred to as **Manual References** in which we manually store the referenced document's id inside other document. However, in cases where a document contains references from different collections, we can use **MongoDB DBRefs**.

DBRefs vs Manual References

As an example scenario, where we would use DBRefs instead of manual references, consider a database where we are storing different types of addresses *home, office, mailing, etc.* in different collections *address_{home}, address_{office}, address_{mailing}, etc.* Now, when a **user** collection's document references an address, it also needs to specify which collection to look into based on the address type. In such scenarios where a document references documents from many collections, we should use DBRefs.

Using DBRefs

There are three fields in DBRefs –

- **\$ref** – This field specifies the collection of the referenced document
- **\$id** – This field specifies the `_id` field of the referenced document
- **\$db** – This is an optional field and contains the name of the database in which the referenced document lies

Consider a sample user document having DBRef field **address** as shown in the code snippet –

```
{
  "_id": ObjectId("53402597d852426020000002"),
  "address": {
    "$ref": "address_home",
    "$id": ObjectId("534009e4d852427820000002"),
    "$db": "tutorialspoint"},
  "contact": "987654321",
  "dob": "01-01-1991",
  "name": "Tom Benzamin"
}
```

The **address** DBRef field here specifies that the referenced address document lies in **address_home** collection under **tutorialspoint** database and has an id of 534009e4d852427820000002.

The following code dynamically looks in the collection specified by **\$ref** parameter (**address_home** in our case) for a document with id as specified by **\$id** parameter in DBRef.

```
>var user = db.users.findOne({"name":"Tom Benzamin"})
>var dbRef = user.address
>db[dbRef.$ref].findOne({"_id":(dbRef.$id)})
```

The above code returns the following address document present in **address_home** collection –

```
{
  "_id" : ObjectId("534009e4d8524278200000002"),
  "building" : "22 A, Indiana Apt",
  "pincode" : 123456,
  "city" : "Los Angeles",
  "state" : "California"
}
```