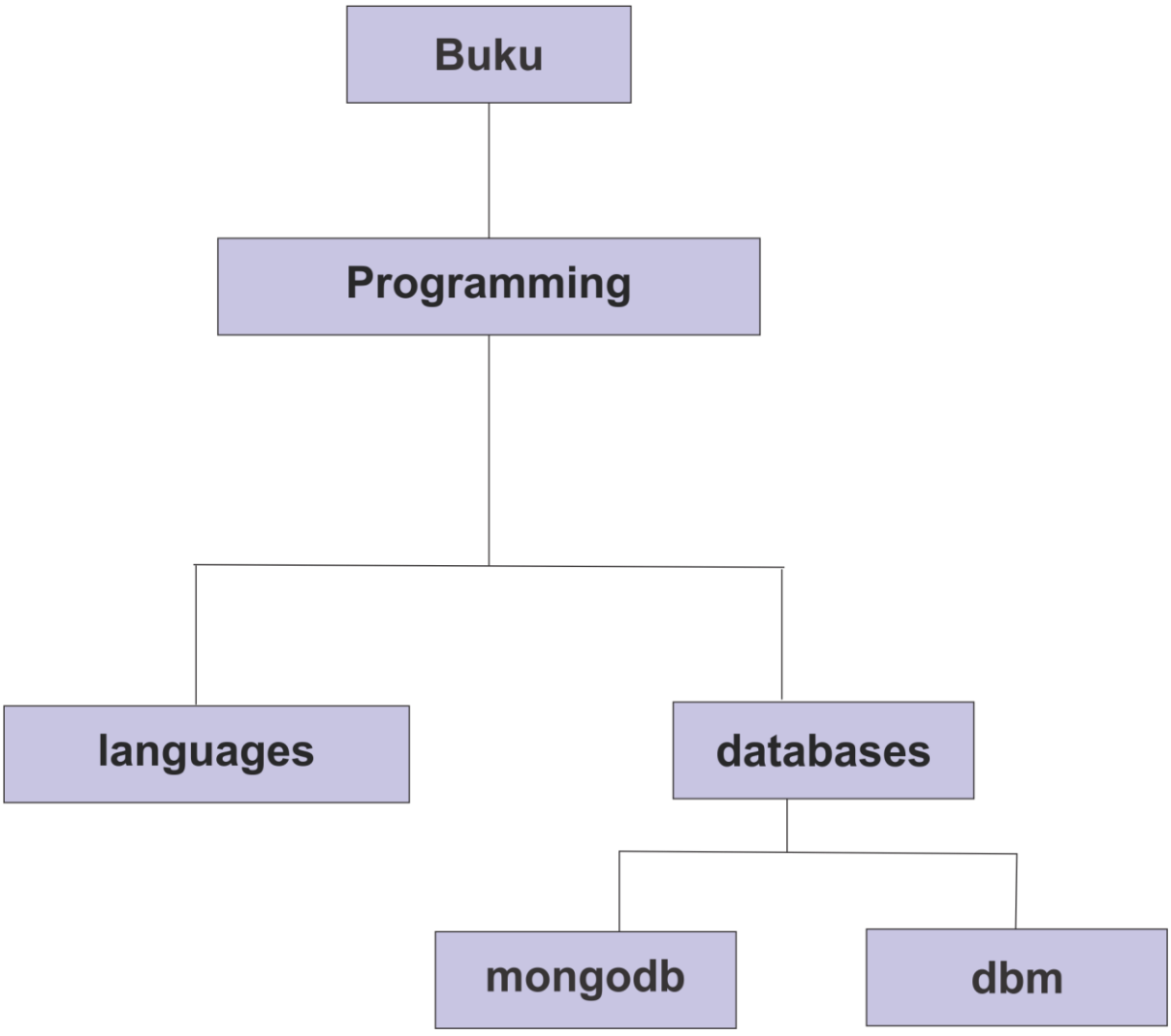
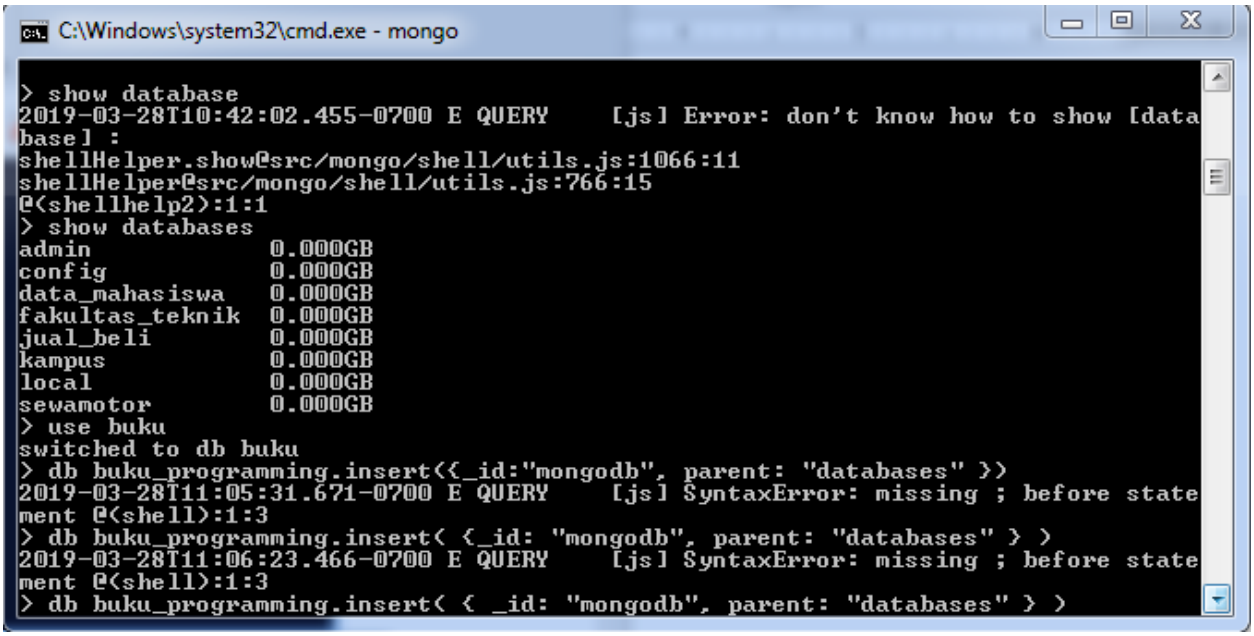
Nama : Satriyo Mangku Wibowo

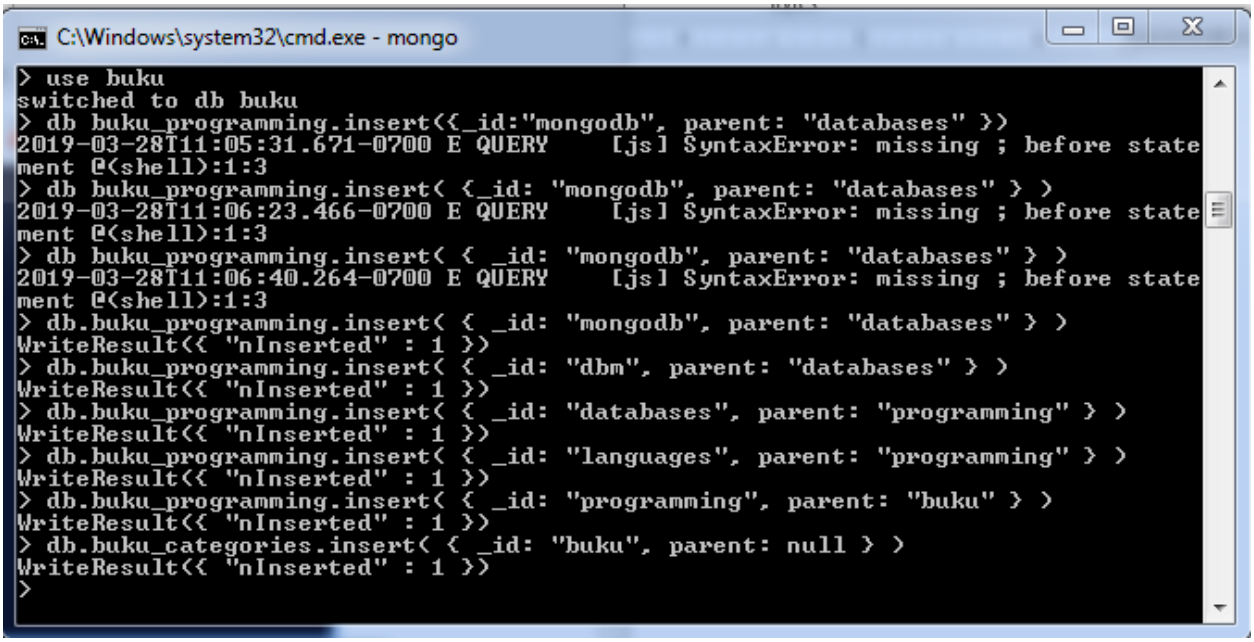
NIM : 17050623004

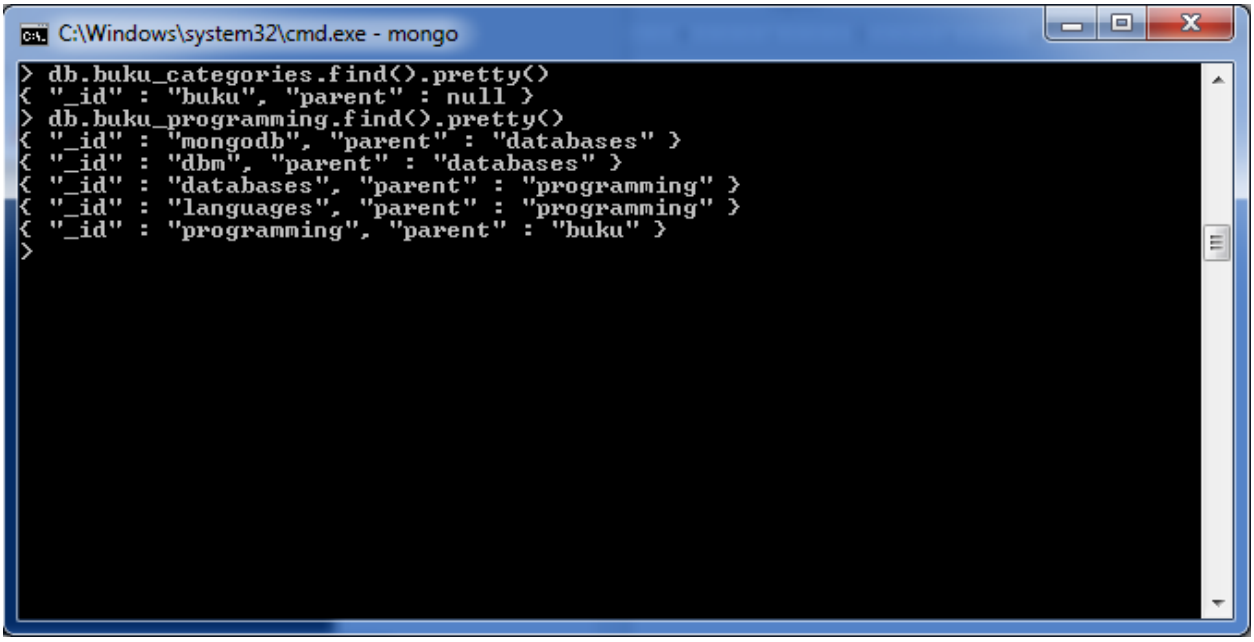
Prodi : D3-Manajemen Informatika

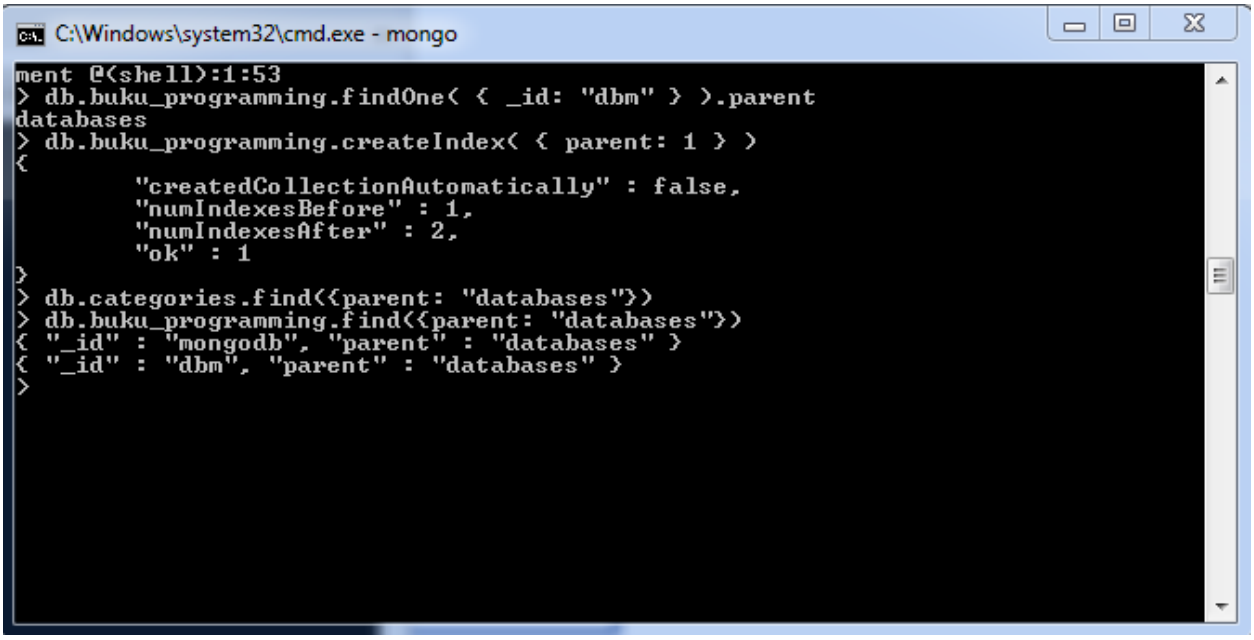


1. Model Tree Structures with Parent References

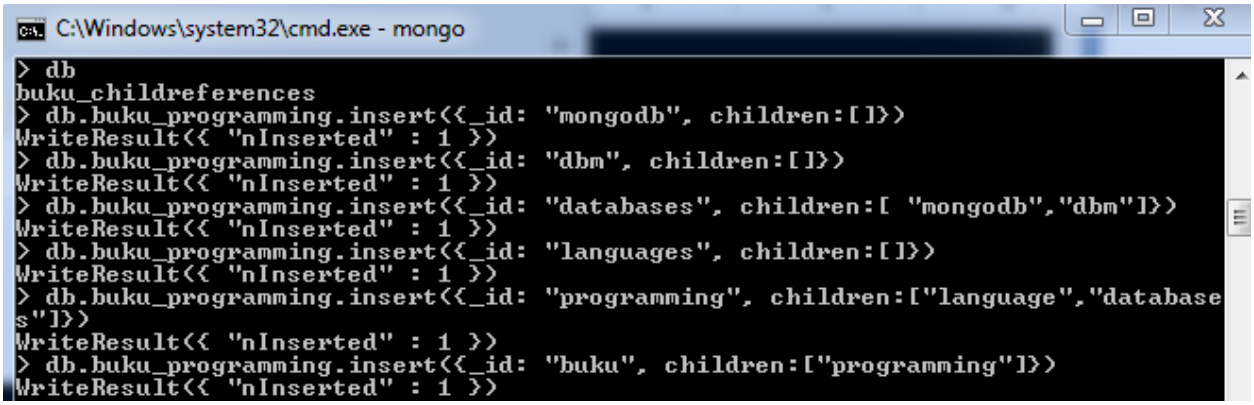


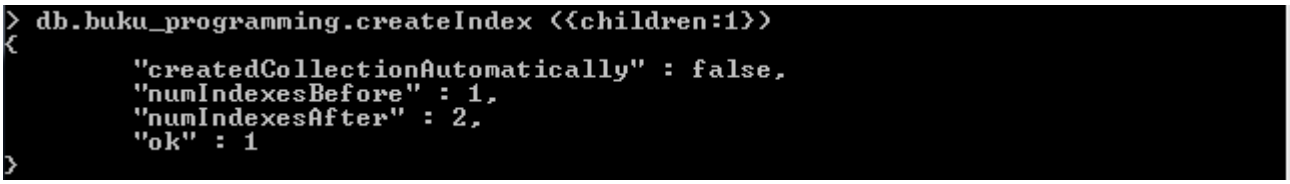


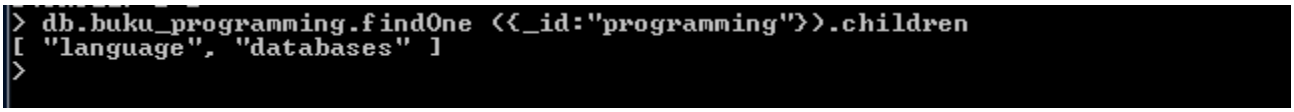

C:\Windows\system32\cmd.exe - mongo
> db.buku_categories.find().pretty()
{ "_id" : "buku", "parent" : null }
> db.buku_programming.find().pretty()
{ "_id" : "mongodb", "parent" : "databases" }
{ "_id" : "dbm", "parent" : "databases" }
{ "_id" : "databases", "parent" : "programming" }
{ "_id" : "languages", "parent" : "programming" }
{ "_id" : "programming", "parent" : "buku" }
>

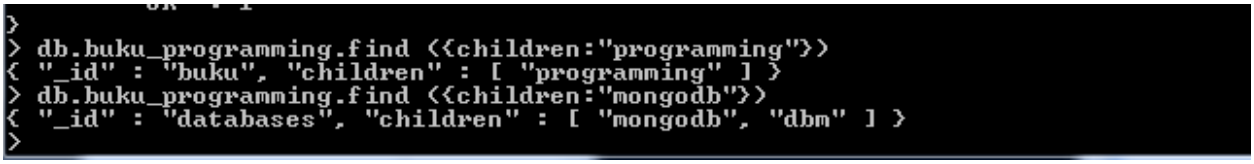

C:\Windows\system32\cmd.exe - mongo
ment @(shell):1:53
> db.buku_programming.findOne({ _id: "dbm" }).parent
databases
> db.buku_programming.createIndex({ parent: 1 })
{
"createdCollectionAutomatically" : false,
"numIndexesBefore" : 1,
"numIndexesAfter" : 2,
"ok" : 1
}
> db.categories.find({parent: "databases"})
> db.buku_programming.find({parent: "databases"})
{ "_id" : "mongodb", "parent" : "databases" }
{ "_id" : "dbm", "parent" : "databases" }
>

2. Model Tree Structures with Child References

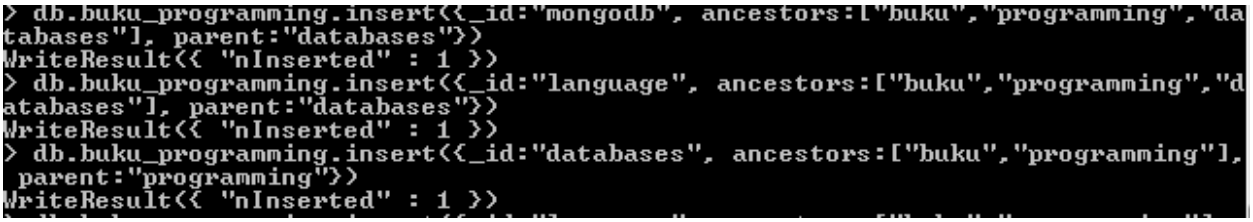


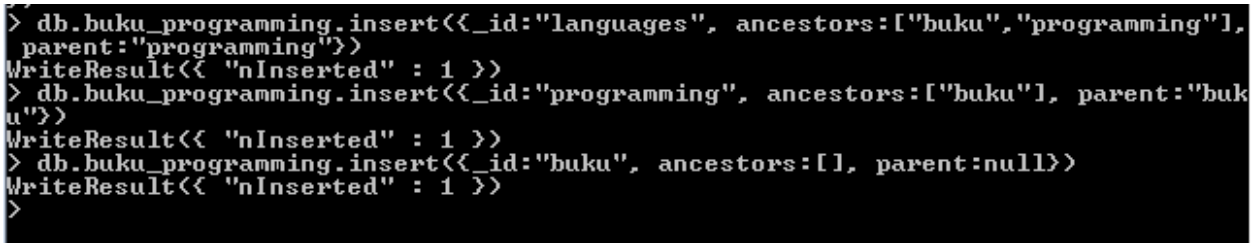


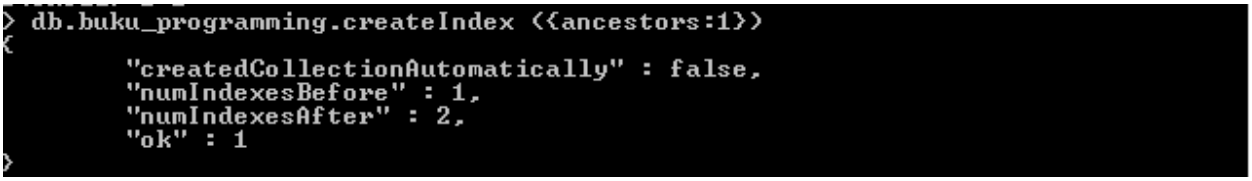


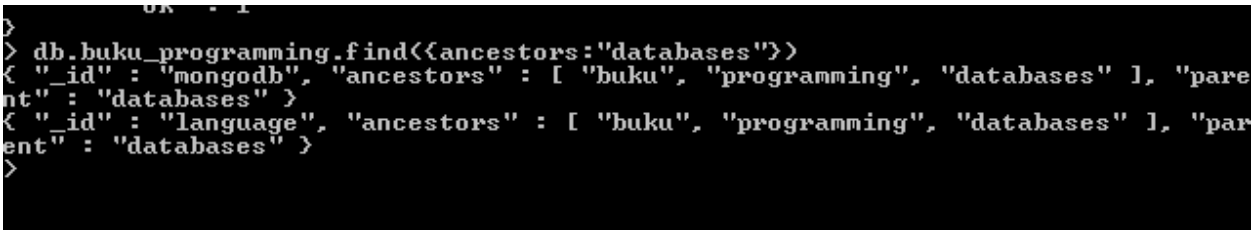


3. Model Tree Structures with An Array Of Ancestor









4. Model Tree Structures with Materialized Paths

```
> use buku_materializepaths
switched to db buku_materializepaths
> db
```

```
> db.buku_programming.insert({_id:"buku", path:null})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"programming", path:buku})
2019-03-28T14:53:34.061-0700 E QUERY    [js] ReferenceError: buku is not define
 :
@(shell):1:48
> db.buku_programming.insert({_id:"programming", path:"buku"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"langages", path:"buku,programming"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"mongodb", path:"buku,programming,databases"}
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"dbm", path:"buku,programming,databases"})
WriteResult({ "nInserted" : 1 })
```

```
> db.buku_programming.find().sort({path:1})
{ "_id" : "buku", "path" : null }
{ "_id" : "programming", "path" : "buku" }
{ "_id" : "langages", "path" : "buku,programming" }
{ "_id" : "mongodb", "path" : "buku,programming,databases" }
{ "_id" : "dbm", "path" : "buku,programming,databases" }
```

```
> db.buku_programming.find({path:/databases/})
{ "_id" : "mongodb", "path" : "buku,programming,databases" }
{ "_id" : "dbm", "path" : "buku,programming,databases" }
>
```