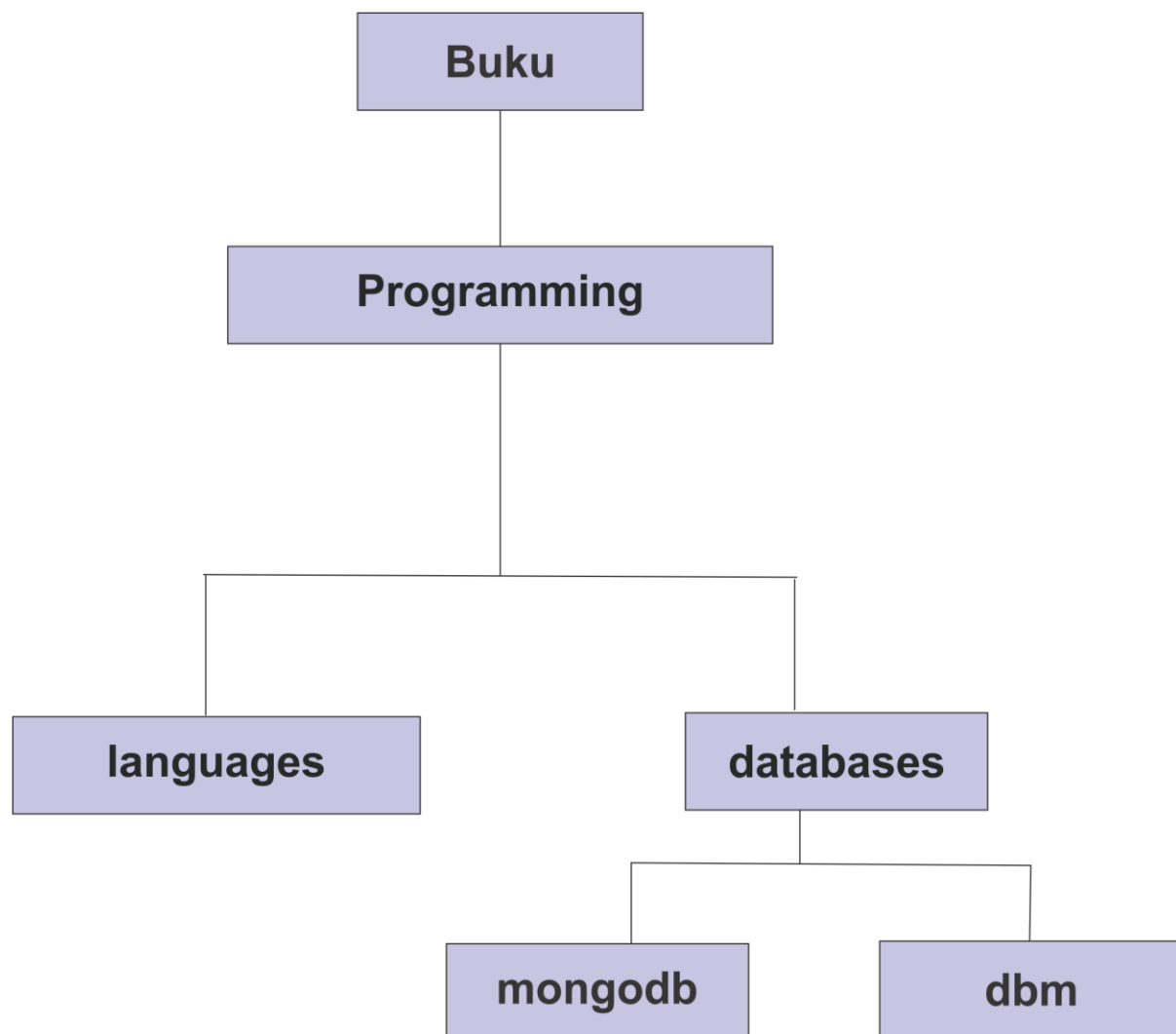


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Prodi : D3-Manajemen Informatika



1. Model Tree Structures with Parent References

```
C:\Windows\system32\cmd.exe - mongo

> show database
2019-03-28T10:42:02.455-0700 E QUERY    [js] Error: don't know how to show [data
base] :
shellHelper@src/mongo/shell/utils.js:1066:11
shellHelper@src/mongo/shell/utils.js:766:15
@<shellhelp2>:1:1
> show databases
admin                0.000GB
config               0.000GB
data_mahasiswa       0.000GB
fakultas_teknik      0.000GB
jual_beli            0.000GB
kampus              0.000GB
local               0.000GB
sewamotor            0.000GB
> use buku
switched to db buku
> db buku_programming.insert(<_id:"mongodb", parent: "databases" > >)
2019-03-28T11:05:31.671-0700 E QUERY    [js] SyntaxError: missing ; before state
ment @<shell>:1:3
> db buku_programming.insert(<_id: "mongodb", parent: "databases" > >)
2019-03-28T11:06:23.466-0700 E QUERY    [js] SyntaxError: missing ; before state
ment @<shell>:1:3
> db buku_programming.insert(<_id: "mongodb", parent: "databases" > >)
```

```
C:\Windows\system32\cmd.exe - mongo

> use buku
switched to db buku
> db buku_programming.insert(<_id:"mongodb", parent: "databases" > >)
2019-03-28T11:05:31.671-0700 E QUERY    [js] SyntaxError: missing ; before state
ment @<shell>:1:3
> db buku_programming.insert(<_id: "mongodb", parent: "databases" > >)
2019-03-28T11:06:23.466-0700 E QUERY    [js] SyntaxError: missing ; before state
ment @<shell>:1:3
> db buku_programming.insert(<_id: "mongodb", parent: "databases" > >)
2019-03-28T11:06:40.264-0700 E QUERY    [js] SyntaxError: missing ; before state
ment @<shell>:1:3
> db.buku_programming.insert(<_id: "mongodb", parent: "databases" > >)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "dbm", parent: "databases" > >)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "databases", parent: "programming" > >)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "languages", parent: "programming" > >)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "programming", parent: "buku" > >)
WriteResult<< "nInserted" : 1 >>
> db.buku_categories.insert(<_id: "buku", parent: null > >)
WriteResult<< "nInserted" : 1 >>
>
```

```
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

```
C:\Windows\system32\cmd.exe - mongo
> use buku_childreferences
switched to db buku_childreferences
```

```
C:\Windows\system32\cmd.exe - mongo
> db
buku_childreferences
> db.buku_programming.insert(<_id: "mongodb", children:[]>)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "dbm", children:[]>)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "databases", children:[ "mongodb","dbm"]>)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "languages", children:[]>)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "programming", children:["language","databases"]>)
WriteResult<< "nInserted" : 1 >>
> db.buku_programming.insert(<_id: "buku", children:["programming"]>)
WriteResult<< "nInserted" : 1 >>
```

```
> db.buku_programming.createIndex (<children:1>)
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}
```

```
> db.buku_programming.findOne (<_id:"programming">).children
[ "language", "databases" ]
>
```

```
>
> db.buku_programming.find (<children:"programming">)
{ "_id" : "buku", "children" : [ "programming" ] }
> db.buku_programming.find (<children:"mongodb">)
{ "_id" : "databases", "children" : [ "mongodb", "dbm" ] }
>
```

3. Model Tree Structures with An Array Of Ancestor

```
> use buku_arrayofancestors
switched to db buku_arrayofancestors
> db
buku_arrayofancestors
> db.buku_programming.insert({_id:"mongodb", ancestors:["buku","programming","databases"], parent:"databases"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"language", ancestors:["buku","programming","databases"], parent:"databases"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"databases", ancestors:["buku","programming"], parent:"programming"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"languages", ancestors:["buku","programming"], parent:"programming"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"programming", ancestors:["buku"], parent:"buku"})
WriteResult({ "nInserted" : 1 })
> db.buku_programming.insert({_id:"buku", ancestors:[], parent:null})
WriteResult({ "nInserted" : 1 })
>

> db.buku_programming.findOne({_id:"mongodb"}).ancestors
[ "buku", "programming", "databases" ]

> db.buku_programming.createIndex ({ancestors:1})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}

> db.buku_programming.find({ancestors:"databases"})
{ "_id" : "mongodb", "ancestors" : [ "buku", "programming", "databases" ], "parent" : "databases" }
{ "_id" : "language", "ancestors" : [ "buku", "programming", "databases" ], "parent" : "databases" }
>
```

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" }
>
```