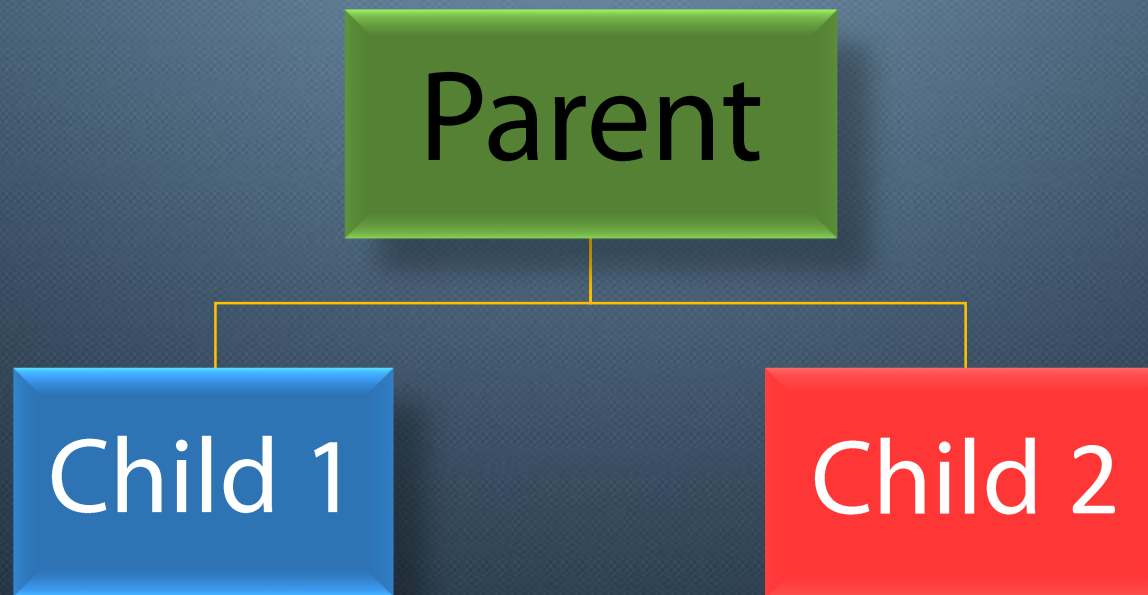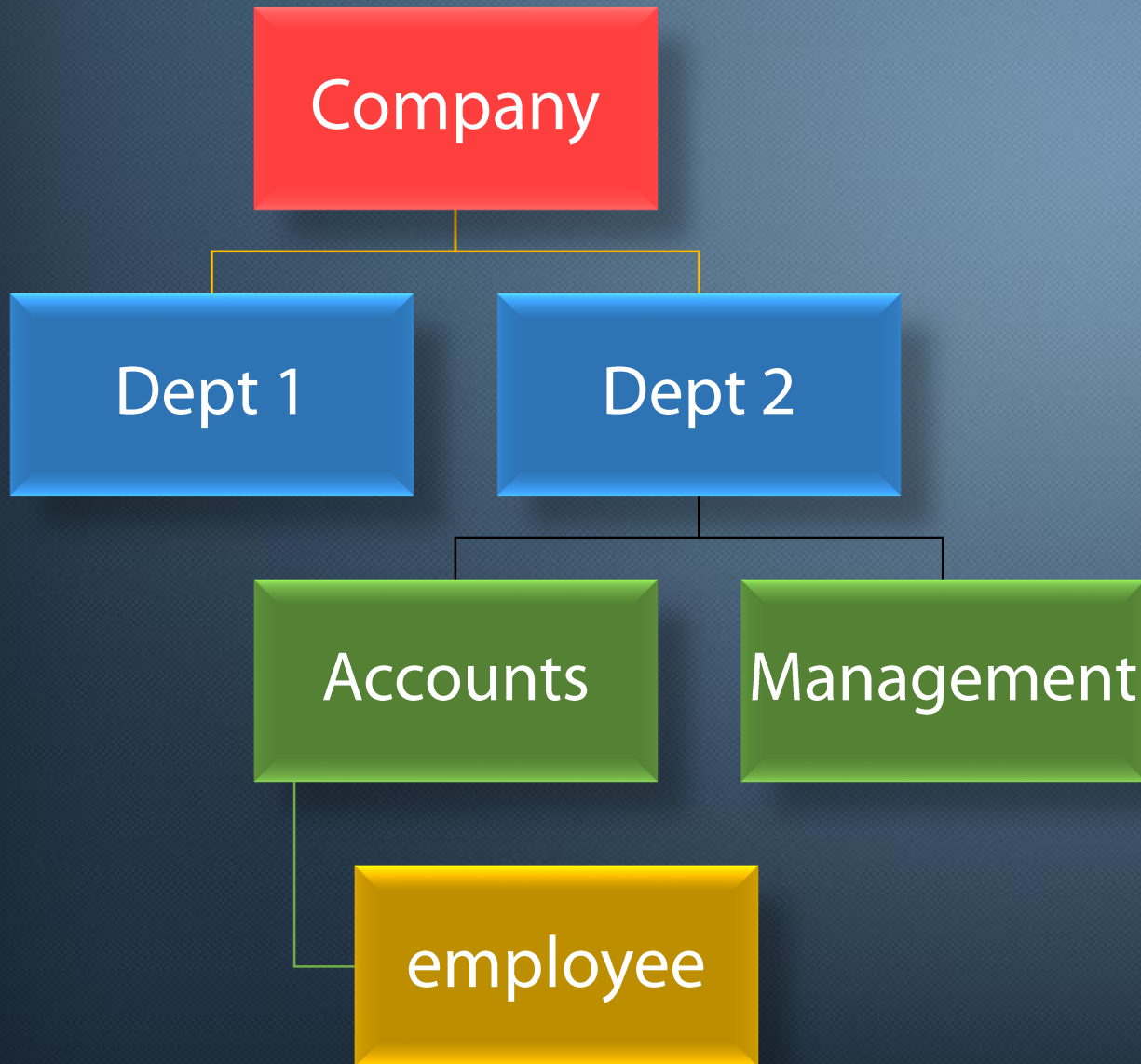# Model Tree Structures

Tree structure with parent references

- This data model describes a tree-like structure in MongoDB documents by storing references to parent nodes in children nodes.

- The *Parent References* pattern stores each tree node in a document ; in addition to the tree node, the document stores the id of the node's parent.

Tree structure example with parent references


```
db.organize.insert({"_id" : "employee", "parent" :
"accounts"})

db.organize.insert({"_id" : "Accounts", "parent" :
"Dept2"})

db.organize.insert({"_id" : "Management", "parent" :
"Dept2"})

db.organize.insert({"_id" : "Dept2", "parent" :
"Company"})

db.organize.insert({"_id" : "Dept1", "parent" :
"Company"})

db.organize.insert({"_id" : "Company", "parent" : "null"})
```
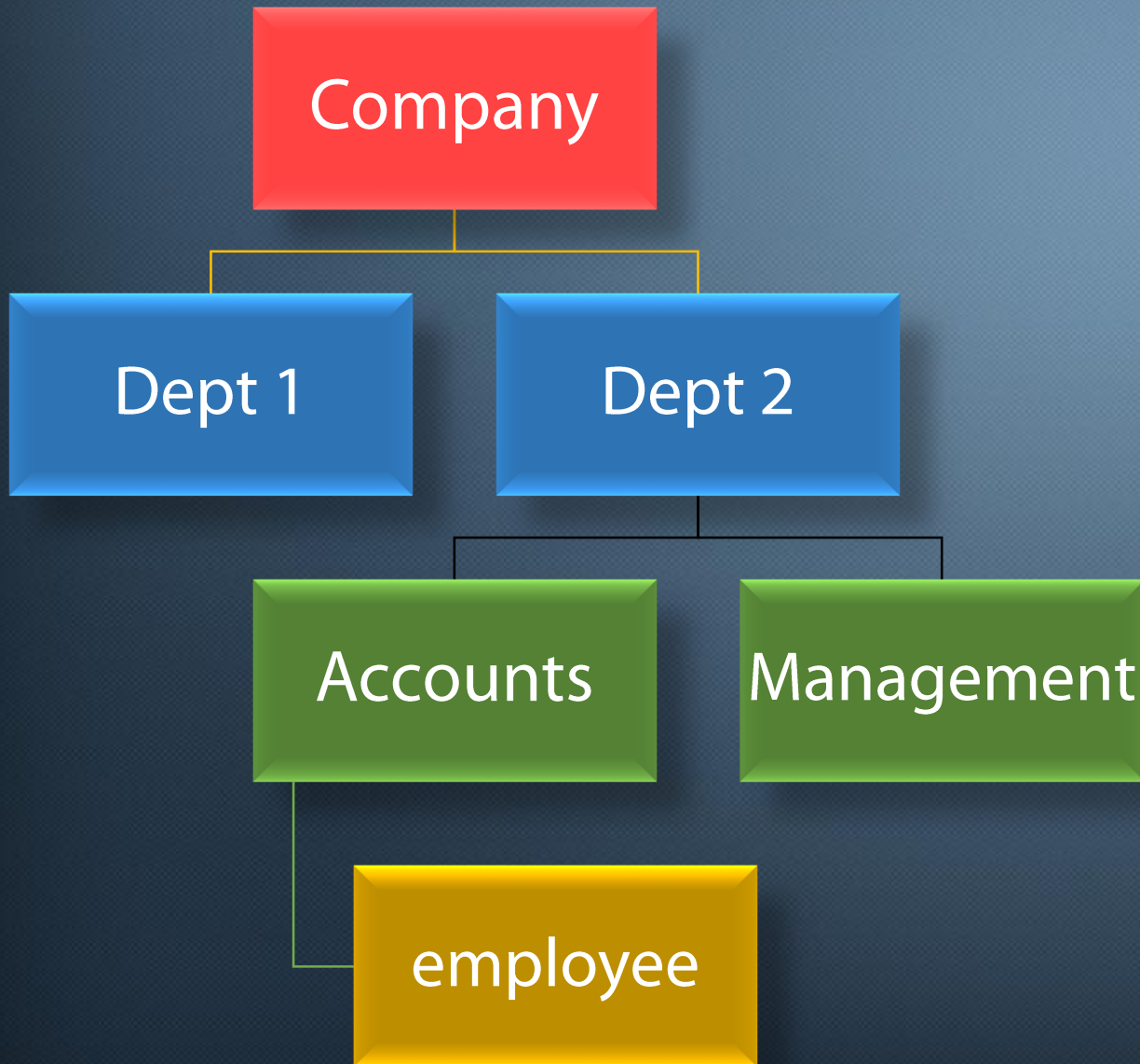
Tree structure example with child references


```
db.organize.insert({"_id" : "employee", "children" : []})

db.organize.insert({"_id" : "Accounts", "children" : ["employee"]})

db.organize.insert({"_id" : "Management", "children" : []})

db.organize.insert({"_id" : "Dept2", "children" : ["Accounts","Management"]})

db.organize.insert({"_id" : "Dept1", "children" : []})

db.organize.insert({"_id" : "Company", "children" : ["Dept1", "Dept2"]})
```

Architecture of MongoDB

EASYLEARNING.GURU

Shard 1

Secondary

Secondary

Primary

Shard 2

Secondary

Secondary

Primary

Shard 3

Secondary

Secondary

Primary

Config Server

Config Server

Config Server

Mongos

Client