MongoDB Physical Model

Schema for:

Model name: Mongoose DB
Author:
Version:
File name: HNDIR.json
File path: C:\Users\musul\Documents\HNDIR.json
Printed On: Mon Mar 26 2018 16:39:33 GMT+0100 (Morocco Daylight Time)
Created with: Hackolade - Visual data modeling for NoSQL and multimodel databases

1. Model

2. Databases

3. Relationships

1. MODEL

1.1 Model Mongoose DB

1.1.1 Mongoose DB Entity Relationship Diagram
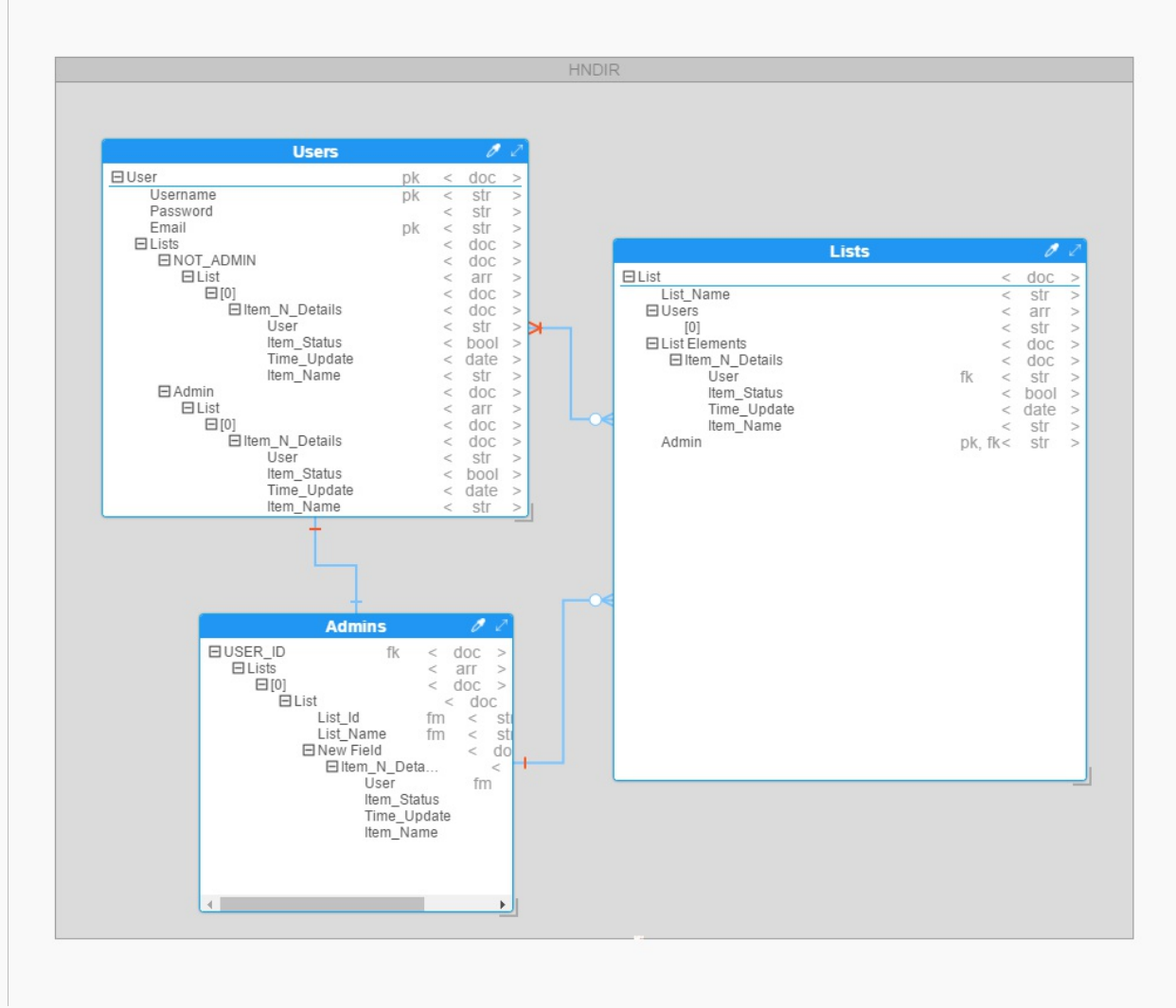
1.1.2 Mongoose DB Properties

PROPERTY	VALUE
Model name	Mongoose DB
Description	
Author	
Version	
DB vendor	MongoDB
DB version	v3.6
Enable sharding	
Comments	

1.1.3 Mongoose DB Database Users

1.1.4 Mongoose DB DB Definitions

2. DATABASES

2.1 Database HNDIR
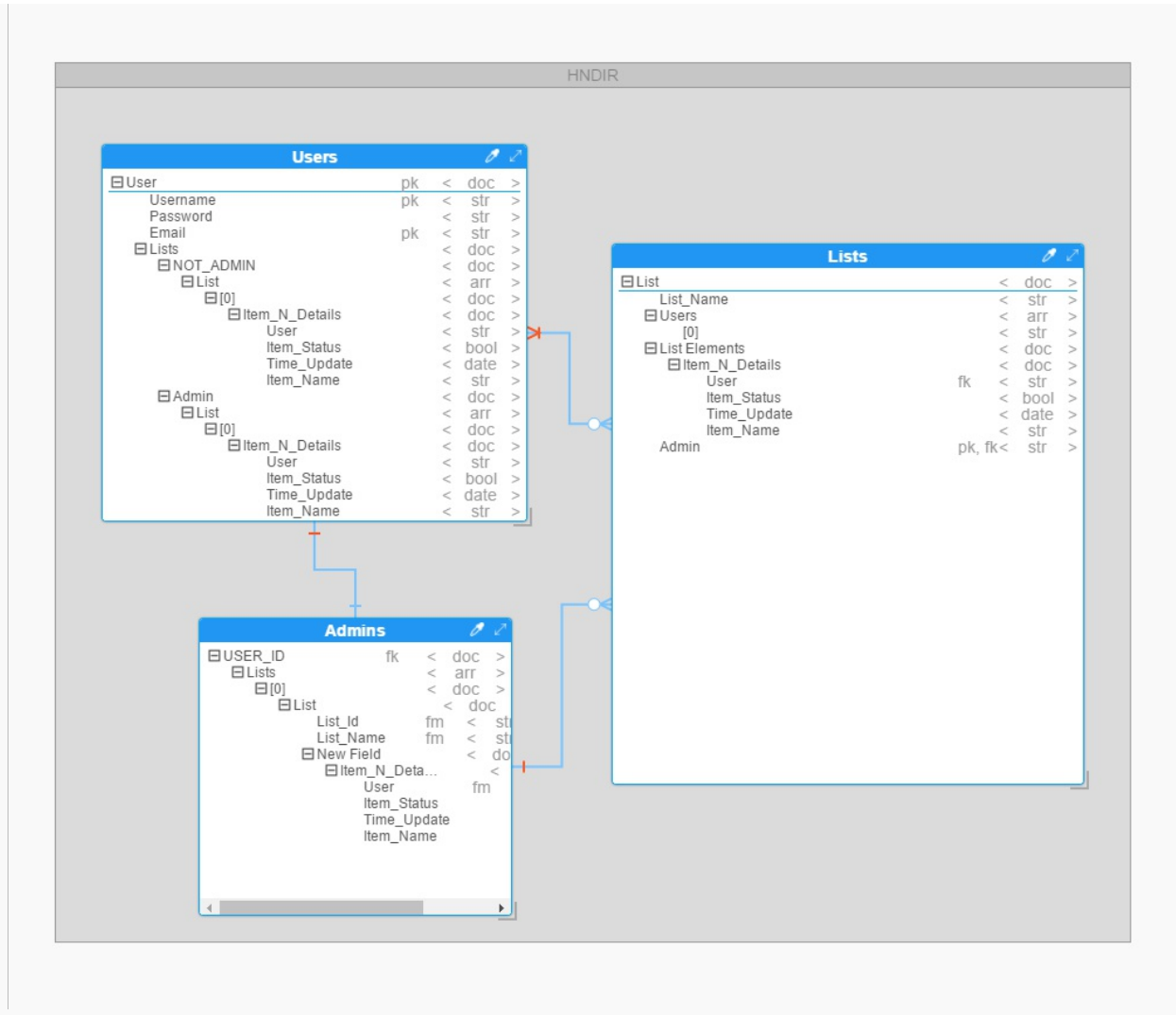
2.1.2 HNDIR Properties

PROPERTY	VALUE
Database name	HNDIR
Description	
Comments	

2.1.3 HNDIR Collections

2.1.3.1 Collection Admins

2.1.3.1.1 Admins Tree Diagram
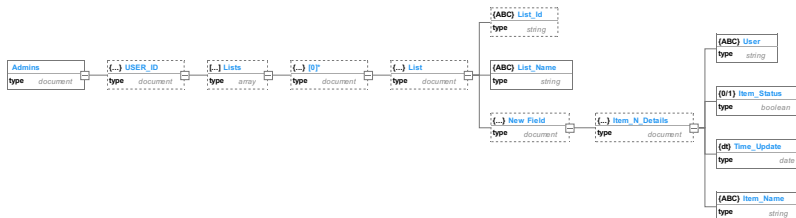
2.1.3.1.2 Admins Properties

PROPERTY	VALUE
Collection name	Admins
Id	ADMINS
Description	Collection of List ADMINS
Database	HNDIR
Capped	false
Size	
Max	
Storage engine	WiredTiger
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.3.1.3 Admins Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
USER_ID	document	false			
Lists	array	false			
[0]	document	false			
List	document	false		Will Have as ID the admin ID and the list name	
List_Id	string	false			
List_Name	string	true			
New Field	document	false		Items Document	
Item_N_Details	document	false			
User	string	true		User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			

2.1.3.1.3.1 Field USER_ID

2.1.3.1.3.1.1 USER_ID Tree Diagram
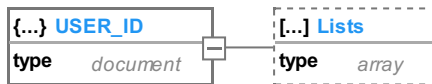
2.1.3.1.3.1.2 USER_ID Hierarchy

Parent field: **Admins**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
Lists	array	false			

USER_ID properties

PROPERTY	VALUE
Name	USER_ID
Id	
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	Users
Foreign field	User
Relationship type	Foreign Key
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.1.3.2 Field Lists

2.1.3.1.3.2.1 Lists Tree Diagram
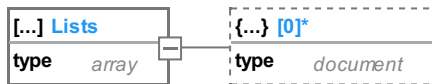
2.1.3.1.3.2.2 Lists Hierarchy

Parent field: **USER_ID**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0]	document	false			

Lists properties

PROPERTY	VALUE
Name	Lists
Id	
Type	array
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	Lists
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.3.1.3.3 Field New Field

2.1.3.1.3.3.1 New Field Tree Diagram

```
{...} [0]              {...} List
type    document       type    document
```
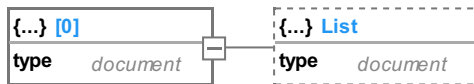
2.1.3.1.3.3.2 New Field Hierarchy

Parent field: **Lists**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
List	document	false		Will Have as ID the admin ID and the list name	

New Field properties

PROPERTY	VALUE
Name	New Field
Id	
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.1.3.4 Field List

2.1.3.1.3.4.1 List Tree Diagram
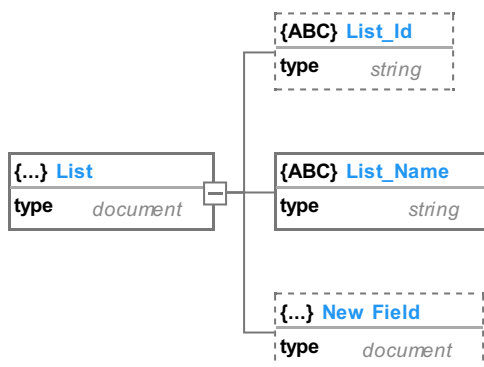
2.1.3.1.3.4.2 List Hierarchy

Parent field: **New Field**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
List_Id	string	false	fm		
List_Name	string	true	fm		
New Field	document	false		Items Document	

List properties

PROPERTY	VALUE
Name	List
Id	Adminid_ListNale
Type	document
Description	Will Have as ID the admin ID and the list name
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.1.3.5 Field List_Id

2.1.3.1.3.5.1 List_Id Tree Diagram

{ABC} List_Id	
type	*string*

List_Id properties

PROPERTY	VALUE
Name	List_Id
Id	Adminid_ListName
Type	string
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	Lists
Foreign field	
Relationship type	Foreign Master
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.1.3.6 Field List_Name

2.1.3.1.3.6.1 List_Name Tree Diagram

{ABC} List_Name	
type	*string*

List_Name properties

PROPERTY	VALUE
Name	List_Name
Id	LN
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	Lists
Foreign field	List_Name
Relationship type	Foreign Master
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.1.3.7 Field New Field

2.1.3.1.3.7.1 New Field Tree Diagram

```
{...} New Field          {...} Item_N_Details
type        document      type        document
```
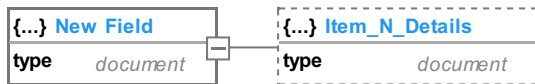
2.1.3.1.3.7.2 New Field Hierarchy

Parent field: **List**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
Item_N_Details	document	false			

New Field properties

PROPERTY	VALUE
Name	New Field
Id	List_ID
Type	document
Description	Items Document
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.1.3.8 Field Item_N_Details

2.1.3.1.3.8.1 Item_N_Details Tree Diagram
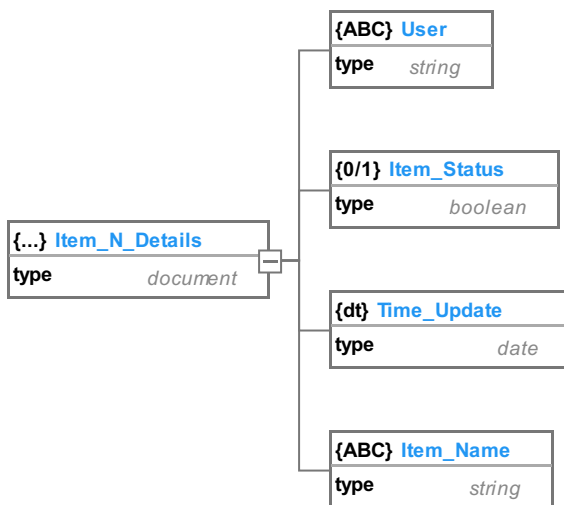
2.1.3.1.3.8.2 Item_N_Details Hierarchy

Parent field: **New Field**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
User	string	true	fm	User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			

Item_N_Details properties

PROPERTY	VALUE
Name	Item_N_Details
Id	User_List_Item
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.1.3.9 Field User

2.1.3.1.3.9.1 User Tree Diagram

{ABC} **User**
type *string*

User properties

PROPERTY	VALUE
Name	User
Id	
Type	string
Description	User Who added the item
Dependencies	
Required	true
Primary key	false
Foreign collection	Lists
Foreign field	User
Relationship type	Foreign Master
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.1.3.10 Field Item_Status

2.1.3.1.3.10.1 Item_Status Tree Diagram

{0/1} Item_Status	
type	*boolean*

Item_Status properties

PROPERTY	VALUE
Name	Item_Status
Id	Item_Name
Type	boolean
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.1.3.11 Field Time_Update

2.1.3.1.3.11.1 Time_Update Tree Diagram

{dt} Time_Update	
type	*date*

Time_Update properties

PROPERTY	VALUE
Name	Time_Update
Id	_time
Type	date
Description	Time of Last Update of the element
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.1.3.12 Field Item_Name

2.1.3.1.3.12.1 Item_Name Tree Diagram

{ABC} Item_Name	
type	*string*

Item_Name properties

PROPERTY	VALUE
Name	Item_Name
Id	Item_Name
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.1.4 Admins Users (TBD)

2.1.3.1.5 Admins Indexes

2.1.3.1.6 Admins Sharding

PROPERTY	SHARDING
Key	
Hashed	
Unique	true
Number of initial chunks	
Collation	null
Zone (Tag)	
Comments	

2.1.3.1.7 Admins Definitions

2.1.3.1.8 Admins JSON Schema

```
{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "id": "ADMINS",
    "type": "object",
    "description": "Collection of List ADMINS",
    "additionalProperties": false,
    "capped": false,
    "properties": {
        "USER_ID": {
            "type": "object",
            "additionalProperties": false,
            "primaryKey": false,
            "properties": {
                "Lists": {
                    "type": "array",
                    "additionalItems": true,
                    "primaryKey": false,
                    "uniqueItems": false,
                    "GUID": "d2902140-3053-11e8-b935-cbb7c5ca28bd",
                    "items": {
                        "type": "object",
                        "additionalProperties": false,
                        "arrayItem": true,
                        "primaryKey": false,
                        "properties": {
                            "List": {
                                "id": "Adminid_ListNale",
                                "type": "object",
                                "description": "Will Have as ID the admin ID and the list name",
                                "additionalProperties": false,
                                "primaryKey": false,
                                "properties": {
                                    "List_Id": {
                                        "id": "Adminid_ListName",
                                        "type": "string",
                                        "primaryKey": false,
                                        "GUID": "dd72b5c1-3105-11e8-8481-9d220933f326"
                                    },
                                    "List_Name": {
                                        "id": "LN",
                                        "type": "string",
                                        "primaryKey": false,
                                        "GUID": "dd72b5c3-3105-11e8-8481-9d220933f326"
                                    },
                                    "New Field": {
                                        "id": "List_ID",
                                        "type": "object",
                                        "description": "Items Document",
                                        "additionalProperties": false,
                                        "primaryKey": false,
                                        "properties": {
                                            "Item_N_Details": {
                                                "id": "User_List_Item",
                                                "type": "object",
                                                "additionalProperties": false,
```

```
                                          "primaryKey": false,
                                          "properties": {
                                            "User": {
                                              "type": "string",
                                              "description": "User Who added the item",
                                              "primaryKey": false,
                                              "GUID": "dd72b5c8-3105-11e8-8481-9d220933f326"
                                            },
                                            "Item_Status": {
                                              "id": "Item_Name",
                                              "type": "boolean",
                                              "primaryKey": false,
                                              "GUID": "dd72dcd0-3105-11e8-8481-9d220933f326"
                                            },
                                            "Time_Update": {
                                              "id": "_time",
                                              "type": "date",
                                              "description": "Time of Last Update of the element",
                                              "primaryKey": false,
                                              "GUID": "dd72dcd1-3105-11e8-8481-9d220933f326"
                                            },
                                            "Item_Name": {
                                              "id": "Item_Name",
                                              "type": "string",
                                              "primaryKey": false,
                                              "GUID": "dd72dcd2-3105-11e8-8481-9d220933f326"
                                            }
                                          },
                                          "GUID": "dd72b5c7-3105-11e8-8481-9d220933f326",
                                          "required": [
                                            "User",
                                            "Item_Status",
                                            "Time_Update",
                                            "Item_Name"
                                          ]
                                        }
                                      },
                                      "GUID": "dd72b5c6-3105-11e8-8481-9d220933f326"
                                    }
                                  },
                                  "GUID": "dd72b5c0-3105-11e8-8481-9d220933f326",
                                  "required": [
                                    "List_Name"
                                  ]
                                }
                              },
                              "GUID": "dd71a450-3105-11e8-8481-9d220933f326"
                            }
                          }
                        },
                        "GUID": "5ad4c2d0-3050-11e8-b935-cbb7c5ca28bd"
                      }
                    },
                    "validationAction": "Warn",
                    "validationLevel": "Off"
                  }
```

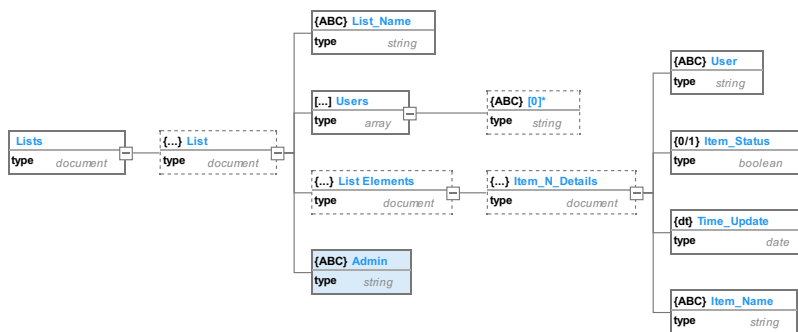### 2.1.3.1.9 Admins JSON data

```
{
  "USER_ID": {
    "Lists": [
      {
        "List": {
          "List_Id": "Lorem",
          "List_Name": "Lorem",
          "New Field": {
            "Item_N_Details": {
              "User": "Lorem",
              "Item_Status": true,
              "Time_Update": ISODate("2016-04-08T15:06:21.595Z"),
              "Item_Name": "Lorem"
            }
          }
        }
      }
    ]
  }
}
```

2.1.3.2 Collection Lists

2.1.3.2.1 Lists Tree Diagram

2.1.3.2.2 Lists Properties

PROPERTY	VALUE
Collection name	Lists
Id	Lists
Description	
Database	HNDIR
Capped	false
Size	
Max	
Storage engine	WiredTiger
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.3.2.3 Lists Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
List	document	false		Will Have as ID the admin ID and the list name	
List_Name	string	true			
Users	array	true			
[0]	string	false			
List Elements	document	false		Items Document	
Item_N_Details	document	false			
User	string	true		User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			
Admin	string	true			

2.1.3.2.3.1 Field List

2.1.3.2.3.1.1 List Tree Diagram
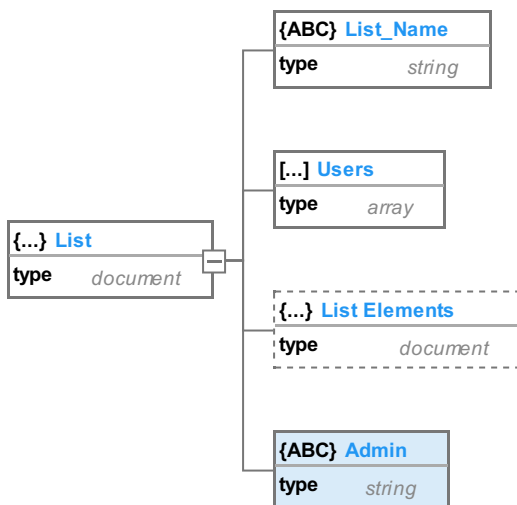
2.1.3.2.3.1.2 List Hierarchy

Parent field: **Lists**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
List_Name	string	true			
Users	array	true			
List Elements	document	false		Items Document	
Admin	string	true	pk, fk		

List properties

PROPERTY	VALUE
Name	List
Id	Adminid_ListName
Type	document
Description	Will Have as ID the admin ID and the list name
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.2.3.2 Field List_Name

2.1.3.2.3.2.1 List_Name Tree Diagram

{ABC} List_Name	
type	*string*

List_Name properties

PROPERTY	VALUE
Name	List_Name
Id	LN
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.2.3.3 Field Users

2.1.3.2.3.3.1 Users Tree Diagram

[...] **Users**	{ABC} **[0]***
type *array*	**type** *string*
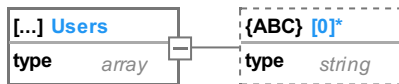
2.1.3.2.3.3.2 Users Hierarchy

Parent field: **List**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0]	string	false			

Users properties

PROPERTY	VALUE
Name	Users
Id	
Type	array
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.3.2.3.4 Field [0]

2.1.3.2.3.4.1 [0] Tree Diagram

{ABC} [0]	
type	*string*

[0] properties

PROPERTY	VALUE
Name	
Id	_id
Type	string
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.2.3.5 Field List Elements

2.1.3.2.3.5.1 List Elements Tree Diagram

{...} **List Elements**		{...} **Item_N_Details**
type *document*	—	**type** *document*
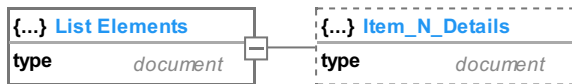
2.1.3.2.3.5.2 List Elements Hierarchy

Parent field: **List**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
Item_N_Details	document	false			

List Elements properties

PROPERTY	VALUE
Name	List Elements
Id	List_ID
Type	document
Description	Items Document
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.2.3.6 Field Item_N_Details

2.1.3.2.3.6.1 Item_N_Details Tree Diagram

```
                              {ABC} User
                              ┌──────────────────┐
                              │ type    string   │
                              └──────────────────┘

                              {0/1} Item_Status
                              ┌──────────────────┐
                              │ type    boolean  │
                              └──────────────────┘
{...} Item_N_Details
┌──────────────────┐   ─┤
│ type   document  │          {dt} Time_Update
└──────────────────┘          ┌──────────────────┐
                              │ type    date     │
                              └──────────────────┘

                              {ABC} Item_Name
                              ┌──────────────────┐
                              │ type    string   │
                              └──────────────────┘
```
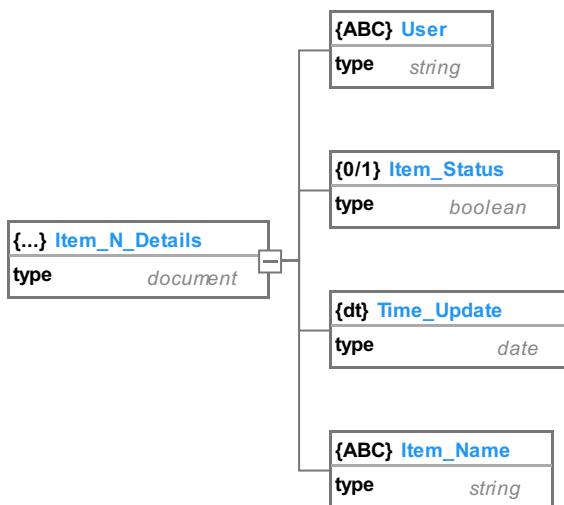
2.1.3.2.3.6.2 Item_N_Details Hierarchy

Parent field: **List Elements**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
User	string	true	fk	User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			

Item_N_Details properties

PROPERTY	VALUE
Name	Item_N_Details
Id	User_List_Item
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.2.3.7 Field User

2.1.3.2.3.7.1 User Tree Diagram

{ABC} User
type *string*

User properties

PROPERTY	VALUE
Name	User
Id	
Type	string
Description	User Who added the item
Dependencies	
Required	true
Primary key	false
Foreign collection	Users
Foreign field	User
Relationship type	Foreign Key
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.2.3.8 Field Item_Status

2.1.3.2.3.8.1 Item_Status Tree Diagram

{0/1} Item_Status	
type	*boolean*

Item_Status properties

PROPERTY	VALUE
Name	Item_Status
Id	Item_Name
Type	boolean
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.2.3.9 Field Time_Update

2.1.3.2.3.9.1 Time_Update Tree Diagram

{dt} Time_Update	
type	*date*

Time_Update properties

PROPERTY	VALUE
Name	Time_Update
Id	_time
Type	date
Description	Time of Last Update of the element
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.2.3.10 Field Item_Name

2.1.3.2.3.10.1 Item_Name Tree Diagram

{ABC} Item_Name	
type	*string*

Item_Name properties

PROPERTY	VALUE
Name	Item_Name
Id	Item_Name
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.2.3.11 Field Admin

2.1.3.2.3.11.1 Admin Tree Diagram

{ABC} **Admin**	
type	*string*

Admin properties

PROPERTY	VALUE
Name	Admin
Id	_id
Type	string
Description	
Dependencies	
Required	true
Primary key	true
Foreign collection	Admins
Foreign field	USER_ID
Relationship type	Foreign Key
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.2.4 Lists Users (TBD)

2.1.3.2.5 Lists Indexes

2.1.3.2.6 Lists Sharding

PROPERTY	SHARDING
Key	
Hashed	
Unique	true
Number of initial chunks	
Collation	null
Zone (Tag)	
Comments	

2.1.3.2.7 Lists Definitions

2.1.3.2.8 Lists JSON Schema

```
{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "id": "Lists",
    "type": "object",
    "additionalProperties": false,
    "capped": false,
    "properties": {
        "List": {
            "id": "Adminid_ListName",
            "type": "object",
            "description": "Will Have as ID the admin ID and the list name",
            "additionalProperties": false,
            "primaryKey": false,
            "properties": {
                "List_Name": {
                    "id": "LN",
                    "type": "string",
                    "primaryKey": false,
                    "GUID": "9cb542e0-304d-11e8-b935-cbb7c5ca28bd"
                },
                "Users": {
                    "type": "array",
                    "additionalItems": true,
                    "primaryKey": false,
                    "uniqueItems": false,
                    "GUID": "f2c9d070-3105-11e8-8481-9d220933f326",
                    "items": {
                        "id": "_id",
                        "type": "string",
                        "arrayItem": true,
                        "primaryKey": false,
                        "GUID": "4615d4f0-310a-11e8-8481-9d220933f326"
                    }
                },
                "List Elements": {
                    "id": "List_ID",
                    "type": "object",
                    "description": "Items Document",
                    "additionalProperties": false,
                    "primaryKey": false,
                    "properties": {
                        "Item_N_Details": {
                            "id": "User_List_Item",
                            "type": "object",
                            "additionalProperties": false,
                            "primaryKey": false,
                            "properties": {
                                "User": {
                                    "type": "string",
                                    "description": "User Who added the item",
                                    "primaryKey": false,
                                    "GUID": "8b92e652-304f-11e8-b935-cbb7c5ca28bd"
                                },
                                "Item_Status": {
                                    "id": "Item_Name",
```

```
                              "type": "boolean",
                              "primaryKey": false,
                              "GUID": "8b92e653-304f-11e8-b935-cbb7c5ca28bd"
                            },
                            "Time_Update": {
                              "id": "_time",
                              "type": "date",
                              "description": "Time of Last Update of the element",
                              "primaryKey": false,
                              "GUID": "8b92e654-304f-11e8-b935-cbb7c5ca28bd"
                            },
                            "Item_Name": {
                              "id": "Item_Name",
                              "type": "string",
                              "primaryKey": false,
                              "GUID": "8b92e655-304f-11e8-b935-cbb7c5ca28bd"
                            }
                          },
                          "GUID": "8b92e651-304f-11e8-b935-cbb7c5ca28bd",
                          "required": [
                            "User",
                            "Item_Status",
                            "Time_Update",
                            "Item_Name"
                          ]
                        }
                      },
                      "GUID": "8b92e650-304f-11e8-b935-cbb7c5ca28bd"
                    },
                    "Admin": {
                      "id": "_id",
                      "type": "string",
                      "primaryKey": true,
                      "GUID": "15217bb0-310a-11e8-8481-9d220933f326"
                    }
                  },
                  "GUID": "ed1a6d60-304c-11e8-b935-cbb7c5ca28bd",
                  "required": [
                    "List_Name",
                    "Users",
                    "Admin"
                  ]
                }
              },
              "validationAction": "Warn",
              "validationLevel": "Off"
            }
```
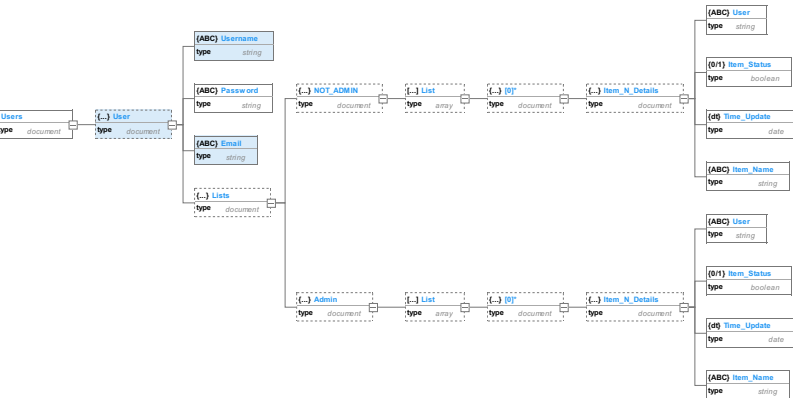
2.1.3.2.9 Lists JSON data

```
{
  "List": {
    "List_Name": "Lorem",
    "Users": [
      "Lorem"
    ],
    "List Elements": {
      "Item_N_Details": {
        "User": "Lorem",
        "Item_Status": true,
        "Time_Update": ISODate("2016-04-08T15:06:21.595Z"),
        "Item_Name": "Lorem"
      }
    },
    "Admin": "Lorem"
  }
}
```

2.1.3.3 Collection Users

### 2.1.3.3.1 Users Tree Diagram

2.1.3.3.2 Users Properties

PROPERTY	VALUE
Collection name	Users
Id	
Description	
Database	HNDIR
Capped	false
Size	
Max	
Storage engine	WiredTiger
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.3.3.3 Users Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
User	document	false			
Username	string	true			
Password	string	true			
Email	string	true			
Lists	document	false			
NOT_ADMIN	document	false		Items Document	
List	array	false			
[0]	document	false			
Item_N_Details	document	false			
User	string	true		User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			
Admin	document	false			
List	array	false			
[0]	document	false		Instance of the List doc content: List [0]	
Item_N_Details	document	false			
User	string	true		User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			

2.1.3.3.3.1 Field User

2.1.3.3.3.1.1 User Tree Diagram
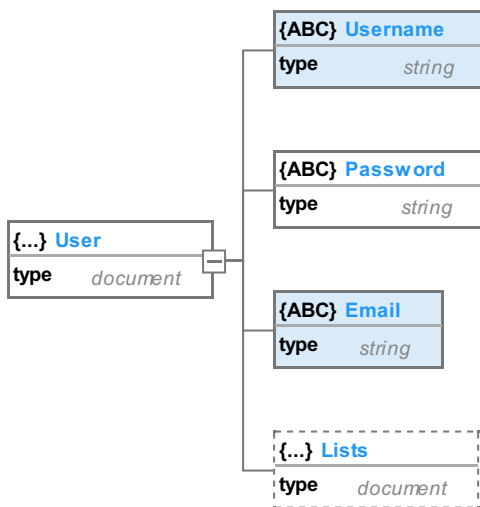
2.1.3.3.3.1.2 User Hierarchy

Parent field: **Users**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
Username	string	true	pk		
Password	string	true			
Email	string	true	pk		
Lists	document	false			

User properties

PROPERTY	VALUE
Name	User
Id	
Type	document
Description	
Dependencies	
Required	false
Primary key	true
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.2 Field Username

2.1.3.3.3.2.1 Username Tree Diagram

{ABC} **Username**
type *string*

Username properties

PROPERTY	VALUE
Name	Username
Id	_un
Type	string
Description	
Dependencies	
Required	true
Primary key	true
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.3.3.3 Field Password

2.1.3.3.3.3.1 Password Tree Diagram

{ABC} **Password**	
type	*string*

Password properties

PROPERTY	VALUE
Name	Password
Id	_PW
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.3.3.4 Field Email

2.1.3.3.3.4.1 Email Tree Diagram

{ABC} Email	
type	*string*

Email properties

PROPERTY	VALUE
Name	Email
Id	_e
Type	string
Description	
Dependencies	
Required	true
Primary key	true
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	email
Enum	
Sample	
Comments	

2.1.3.3.3.5 Field Lists

2.1.3.3.3.5.1 Lists Tree Diagram
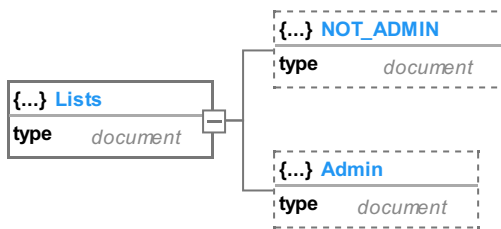
2.1.3.3.3.5.2 Lists Hierarchy
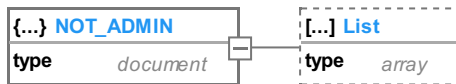
Parent field: **User**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
NOT_ADMIN	document	false		Items Document	
Admin	document	false			

Lists properties

PROPERTY	VALUE
Name	Lists
Id	
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.6 Field NOT_ADMIN

2.1.3.3.3.6.1 NOT_ADMIN Tree Diagram

```
{...} NOT_ADMIN          [...] List
type        document      type        array
```

2.1.3.3.3.6.2 NOT_ADMIN Hierarchy

Parent field: **Lists**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
List	array	false			

NOT_ADMIN properties

PROPERTY	VALUE
Name	NOT_ADMIN
Id	List_ID
Type	document
Description	Items Document
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.7 Field List

2.1.3.3.3.7.1 List Tree Diagram

```
[...] List          {...} [0]*
type    array       type    document
```

2.1.3.3.3.7.2 List Hierarchy

Parent field: **NOT_ADMIN**
Child field(s):
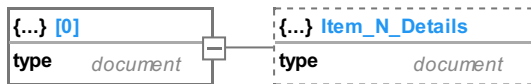
FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0]	document	false			

List properties

PROPERTY	VALUE
Name	List
Id	
Type	array
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.3.3.3.8 Field New Field

2.1.3.3.3.8.1 New Field Tree Diagram

```
{...} [0]                    {...} Item_N_Details
type        document         type        document
```

2.1.3.3.3.8.2 New Field Hierarchy

Parent field: **List**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
Item_N_Details	document	false			

New Field properties

PROPERTY	VALUE
Name	New Field
Id	
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.9 Field Item_N_Details

2.1.3.3.3.9.1 Item_N_Details Tree Diagram
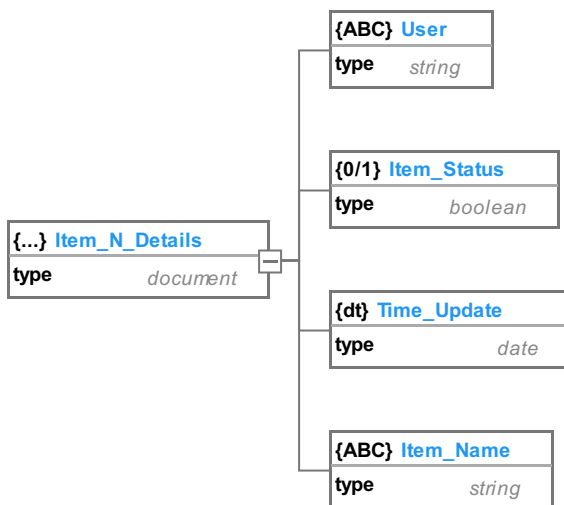
2.1.3.3.3.9.2 Item_N_Details Hierarchy

Parent field: **New Field**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
User	string	true		User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			

Item_N_Details properties

PROPERTY	VALUE
Name	Item_N_Details
Id	User_List_Item
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.10 Field User

2.1.3.3.3.10.1 User Tree Diagram

{ABC} User	
type	*string*

User properties

PROPERTY	VALUE
Name	User
Id	_id
Type	string
Description	User Who added the item
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.3.3.11 Field Item_Status

2.1.3.3.3.11.1 Item_Status Tree Diagram

{0/1} Item_Status	
type	*boolean*

Item_Status properties

PROPERTY	VALUE
Name	Item_Status
Id	Item_Name
Type	boolean
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.3.3.12 Field Time_Update

2.1.3.3.3.12.1 Time_Update Tree Diagram

{dt} **Time_Update**	
type	*date*

Time_Update properties

PROPERTY	VALUE
Name	Time_Update
Id	_time
Type	date
Description	Time of Last Update of the element
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.3.3.13 Field Item_Name

2.1.3.3.3.13.1 Item_Name Tree Diagram

{ABC} **Item_Name**	
type	*string*

Item_Name properties

PROPERTY	VALUE
Name	Item_Name
Id	Item_Name
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.3.3.14 Field Admin

2.1.3.3.3.14.1 Admin Tree Diagram

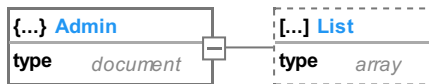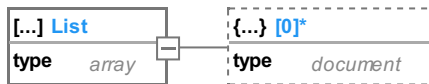### 2.1.3.3.3.14.2 Admin Hierarchy

Parent field: **Lists**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
List	array	false			

Admin properties

PROPERTY	VALUE
Name	Admin
Id	
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.15 Field List

2.1.3.3.3.15.1 List Tree Diagram

```
[...] List          {...} [0]*
type    array       type    document
```

2.1.3.3.3.15.2 List Hierarchy

Parent field: **Admin**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0]	document	false		Instance of the List doc content: List [0]	

List properties

PROPERTY	VALUE
Name	List
Id	
Type	array
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.3.3.3.16 Field New Field

2.1.3.3.3.16.1 New Field Tree Diagram

```
{...} [0]              {...} Item_N_Details
type      document     type         document
```

2.1.3.3.3.16.2 New Field Hierarchy

Parent field: **List**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
Item_N_Details	document	false			

New Field properties

PROPERTY	VALUE
Name	New Field
Id	
Type	document
Description	Instance of the List doc content: List [0]
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.17 Field Item_N_Details

2.1.3.3.3.17.1 Item_N_Details Tree Diagram
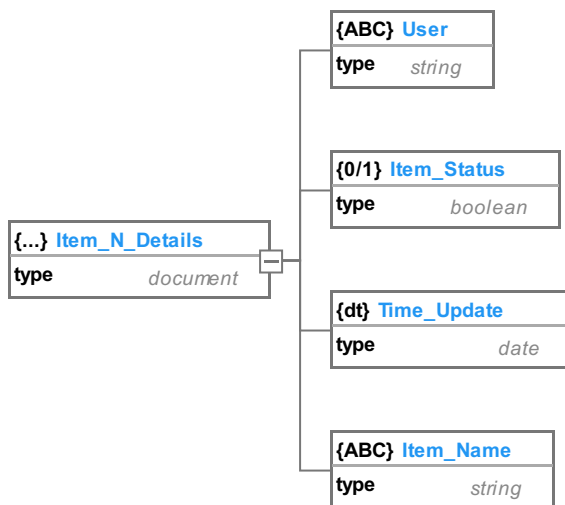
2.1.3.3.3.17.2 Item_N_Details Hierarchy

Parent field: **New Field**
Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
User	string	true		User Who added the item	
Item_Status	boolean	true			
Time_Update	date	true		Time of Last Update of the element	
Item_Name	string	true			

Item_N_Details properties

PROPERTY	VALUE
Name	Item_N_Details
Id	User_List_Item
Type	document
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
DBRef	
Min Properties	
Max Properties	
Additional properties	false
Comments	

2.1.3.3.3.18 Field User

2.1.3.3.3.18.1 User Tree Diagram

{ABC} **User**
type *string*

User properties

PROPERTY	VALUE
Name	User
Id	_id
Type	string
Description	User Who added the item
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.3.3.19 Field Item_Status

2.1.3.3.3.19.1 Item_Status Tree Diagram

{0/1} Item_Status	
type	*boolean*

Item_Status properties

PROPERTY	VALUE
Name	Item_Status
Id	Item_Name
Type	boolean
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.3.3.20 Field Time_Update

2.1.3.3.3.20.1 Time_Update Tree Diagram

{dt} Time_Update	
type	*date*

Time_Update properties

PROPERTY	VALUE
Name	Time_Update
Id	_time
Type	date
Description	Time of Last Update of the element
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.3.3.3.21 Field Item_Name

2.1.3.3.3.21.1 Item_Name Tree Diagram

{ABC} **Item_Name**	
type	*string*

Item_Name properties

PROPERTY	VALUE
Name	Item_Name
Id	Item_Name
Type	string
Description	
Dependencies	
Required	true
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.3.3.4 Users Users (TBD)

2.1.3.3.5 Users Indexes

2.1.3.3.6 Users Sharding

PROPERTY	SHARDING
Key	
Hashed	
Unique	true
Number of initial chunks	
Collation	null
Zone (Tag)	
Comments	

2.1.3.3.7 Users Definitions

2.1.3.3.8 Users JSON Schema

```
{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "type": "object",
    "additionalProperties": false,
    "capped": false,
    "properties": {
        "User": {
            "type": "object",
            "additionalProperties": false,
            "primaryKey": true,
            "properties": {
                "Username": {
                    "id": "_un",
                    "type": "string",
                    "primaryKey": true,
                    "GUID": "da21f230-3107-11e8-8481-9d220933f326"
                },
                "Password": {
                    "id": "_PW",
                    "type": "string",
                    "primaryKey": false,
                    "GUID": "e2b33e90-3107-11e8-8481-9d220933f326"
                },
                "Email": {
                    "id": "_e",
                    "type": "string",
                    "format": "email",
                    "primaryKey": true,
                    "GUID": "ef7ae1a0-3107-11e8-8481-9d220933f326"
                },
                "Lists": {
                    "type": "object",
                    "additionalProperties": false,
                    "primaryKey": false,
                    "properties": {
                        "NOT_ADMIN": {
                            "id": "List_ID",
                            "type": "object",
                            "description": "Items Document",
                            "additionalProperties": false,
                            "primaryKey": false,
                            "properties": {
                                "List": {
                                    "type": "array",
                                    "additionalItems": true,
                                    "primaryKey": false,
                                    "uniqueItems": false,
                                    "GUID": "4967a9f0-3108-11e8-8481-9d220933f326",
                                    "items": {
                                        "type": "object",
                                        "additionalProperties": false,
                                        "arrayItem": true,
                                        "primaryKey": false,
                                        "properties": {
                                            "Item_N_Details": {
```

```
                    "id": "User_List_Item",
                    "type": "object",
                    "additionalProperties": false,
                    "primaryKey": false,
                    "properties": {
                      "User": {
                        "id": "_id",
                        "type": "string",
                        "description": "User Who added the item",
                        "primaryKey": false,
                        "GUID": "7c63ba11-3108-11e8-8481-9d220933f326"
                      },
                      "Item_Status": {
                        "id": "Item_Name",
                        "type": "boolean",
                        "primaryKey": false,
                        "GUID": "7c63ba13-3108-11e8-8481-9d220933f326"
                      },
                      "Time_Update": {
                        "id": "_time",
                        "type": "date",
                        "description": "Time of Last Update of the element",
                        "primaryKey": false,
                        "GUID": "7c63ba14-3108-11e8-8481-9d220933f326"
                      },
                      "Item_Name": {
                        "id": "Item_Name",
                        "type": "string",
                        "primaryKey": false,
                        "GUID": "7c63ba15-3108-11e8-8481-9d220933f326"
                      }
                    },
                    "GUID": "7c63ba10-3108-11e8-8481-9d220933f326",
                    "required": [
                      "User",
                      "Item_Status",
                      "Time_Update",
                      "Item_Name"
                    ]
                  }
                },
                "GUID": "4dd05b40-3108-11e8-8481-9d220933f326"
              }
            }
          },
          "GUID": "28b26740-3108-11e8-8481-9d220933f326"
        },
        "Admin": {
          "type": "object",
          "additionalProperties": false,
          "primaryKey": false,
          "properties": {
            "List": {
              "type": "array",
              "additionalItems": true,
              "primaryKey": false,
```

```
                        "uniqueItems": false,
                        "GUID": "df6ca9a0-3108-11e8-8481-9d220933f326",
                        "items": {
                          "type": "object",
                          "description": "Instance of the List doc content: List [0]",
                          "additionalProperties": false,
                          "arrayItem": true,
                          "primaryKey": false,
                          "properties": {
                            "Item_N_Details": {
                              "id": "User_List_Item",
                              "type": "object",
                              "additionalProperties": false,
                              "primaryKey": false,
                              "properties": {
                                "User": {
                                  "id": "_id",
                                  "type": "string",
                                  "description": "User Who added the item",
                                  "primaryKey": false,
                                  "GUID": "df6ca9a3-3108-11e8-8481-9d220933f326"
                                },
                                "Item_Status": {
                                  "id": "Item_Name",
                                  "type": "boolean",
                                  "primaryKey": false,
                                  "GUID": "df6ca9a5-3108-11e8-8481-9d220933f326"
                                },
                                "Time_Update": {
                                  "id": "_time",
                                  "type": "date",
                                  "description": "Time of Last Update of the element",
                                  "primaryKey": false,
                                  "GUID": "df6ca9a6-3108-11e8-8481-9d220933f326"
                                },
                                "Item_Name": {
                                  "id": "Item_Name",
                                  "type": "string",
                                  "primaryKey": false,
                                  "GUID": "df6ca9a7-3108-11e8-8481-9d220933f326"
                                }
                              },
                              "GUID": "df6ca9a2-3108-11e8-8481-9d220933f326",
                              "required": [
                                "User",
                                "Item_Status",
                                "Time_Update",
                                "Item_Name"
                              ]
                            }
                          },
                          "GUID": "df6ca9a1-3108-11e8-8481-9d220933f326"
                        }
                      }
                    },
                    "GUID": "32aae4c0-3108-11e8-8481-9d220933f326"
```

```
            }
          },
          "GUID": "0320f0f0-3108-11e8-8481-9d220933f326"
        }
      },
      "GUID": "9b866b50-3107-11e8-8481-9d220933f326",
      "required": [
        "Username",
        "Password",
        "Email"
      ]
    }
  },
  "validationAction": "Warn",
  "validationLevel": "Off"
}
```
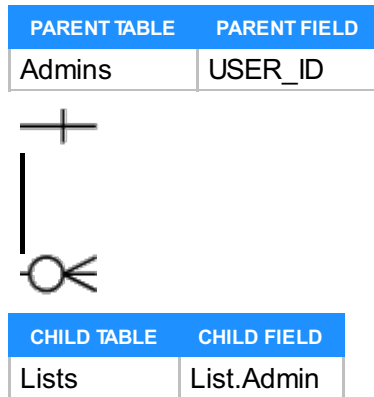
2.1.3.3.9 Users JSON data

```
{
  "User": {
    "Username": "Lorem",
    "Password": "Lorem",
    "Email": "sample@email.com",
    "Lists": {
      "NOT_ADMIN": {
        "List": [
          {
            "Item_N_Details": {
              "User": "Lorem",
              "Item_Status": true,
              "Time_Update": ISODate("2016-04-08T15:06:21.595Z"),
              "Item_Name": "Lorem"
            }
          }
        ]
      },
      "Admin": {
        "List": [
          {
            "Item_N_Details": {
              "User": "Lorem",
              "Item_Status": true,
              "Time_Update": ISODate("2016-04-08T15:06:21.595Z"),
              "Item_Name": "Lorem"
            }
          }
        ]
      }
    }
  }
}
```

3. RELATIONSHIPS

3.1 Relationship Admin-List

3.1.1 Admin-List Diagram

PARENT TABLE	PARENT FIELD
Admins	USER_ID

CHILD TABLE	CHILD FIELD
Lists	List.Admin

3.1.2 Admin-List Properties

PROPERTY	VALUE
Name	Admin-List
Description	Each user can be admin of 0....n lists each list has 1 admin
Parent Collection	Admins
Parent field	USER_ID
Parent Cardinality	1
Child Collection	Lists
Child field	Admin
Child Cardinality	0..n
Comments	

3.2 Relationship Admin-User

3.2.1 Admin-User Diagram

PARENT TABLE	PARENT FIELD
Users	User

CHILD TABLE	CHILD FIELD
Admins	USER_ID
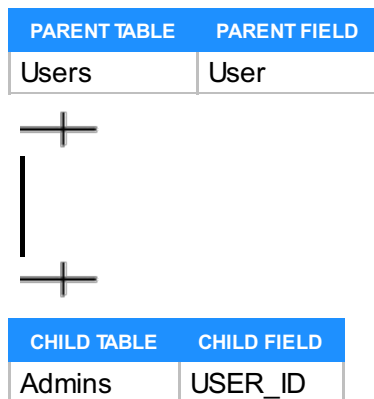
3.2.2 Admin-User Properties

PROPERTY	VALUE
Name	Admin-User
Description	EACH Admin is a user
Parent Collection	Users
Parent field	User
Parent Cardinality	1
Child Collection	Admins
Child field	USER_ID
Child Cardinality	1
Comments	

3.3 Relationship USER/MEMBER-List

3.3.1 USER/MEMBER-List Diagram

PARENT TABLE	PARENT FIELD
Users	User

CHILD TABLE	CHILD FIELD
Lists	List.'List Elements'.Item_N_Details.User
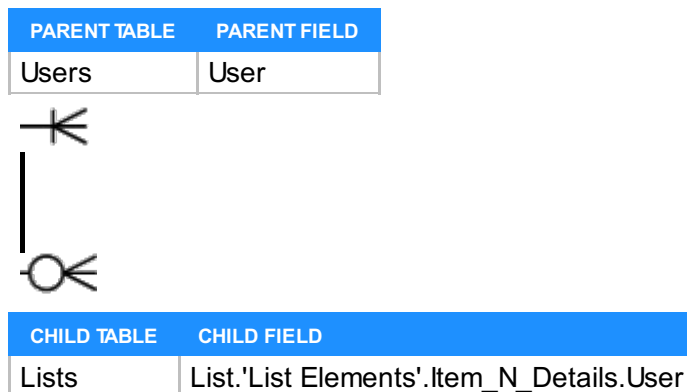
3.3.2 USER/MEMBER-List Properties

PROPERTY	VALUE
Name	USER/MEMBER-List
Description	each user is a member of 0..n lists Each list has 1 ...n members
Parent Collection	Users
Parent field	User
Parent Cardinality	1..n
Child Collection	Lists
Child field	User
Child Cardinality	0..n
Comments	