



MongoDB Physical Model

Schema for:

Model name: Modelo UTNPHONE
Author: Patricio Diaz - Mariano Zanier
Version: 1
File name: utnphonemongodb.json
File path: C:\Users\Mariano\Desktop\utnphonemongodb.json
Printed On: Tue Jun 30 2020 23:19:46 GMT-0300 (hora estándar de Argentina)
Created with: [Hackolade](#) - Visual data modeling for NoSQL and multimodel databases

1. Model

2. Databases

2.1 UTNPhone

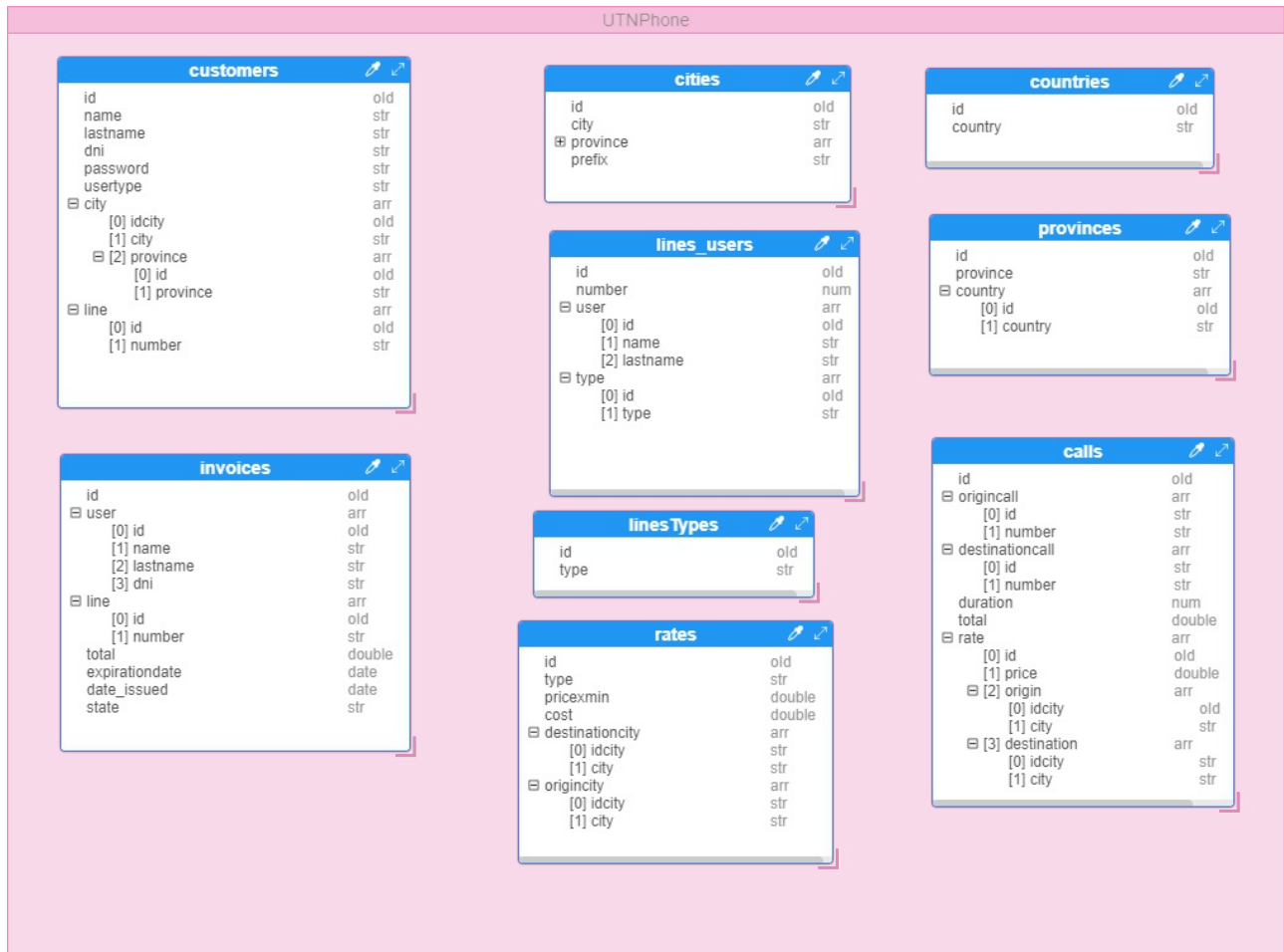
2.1.2. Collections

- 2.1.2.1 calls
- 2.1.2.2 cities
- 2.1.2.3 countries
- 2.1.2.4 customers
- 2.1.2.5 invoices
- 2.1.2.6 linesTypes
- 2.1.2.7 lines_users
- 2.1.2.8 provinces
- 2.1.2.9 rates

1. MODEL

1.1 Model Modelo UTNPHONE

1.1.1 Modelo UTNPHONE Entity Relationship Diagram



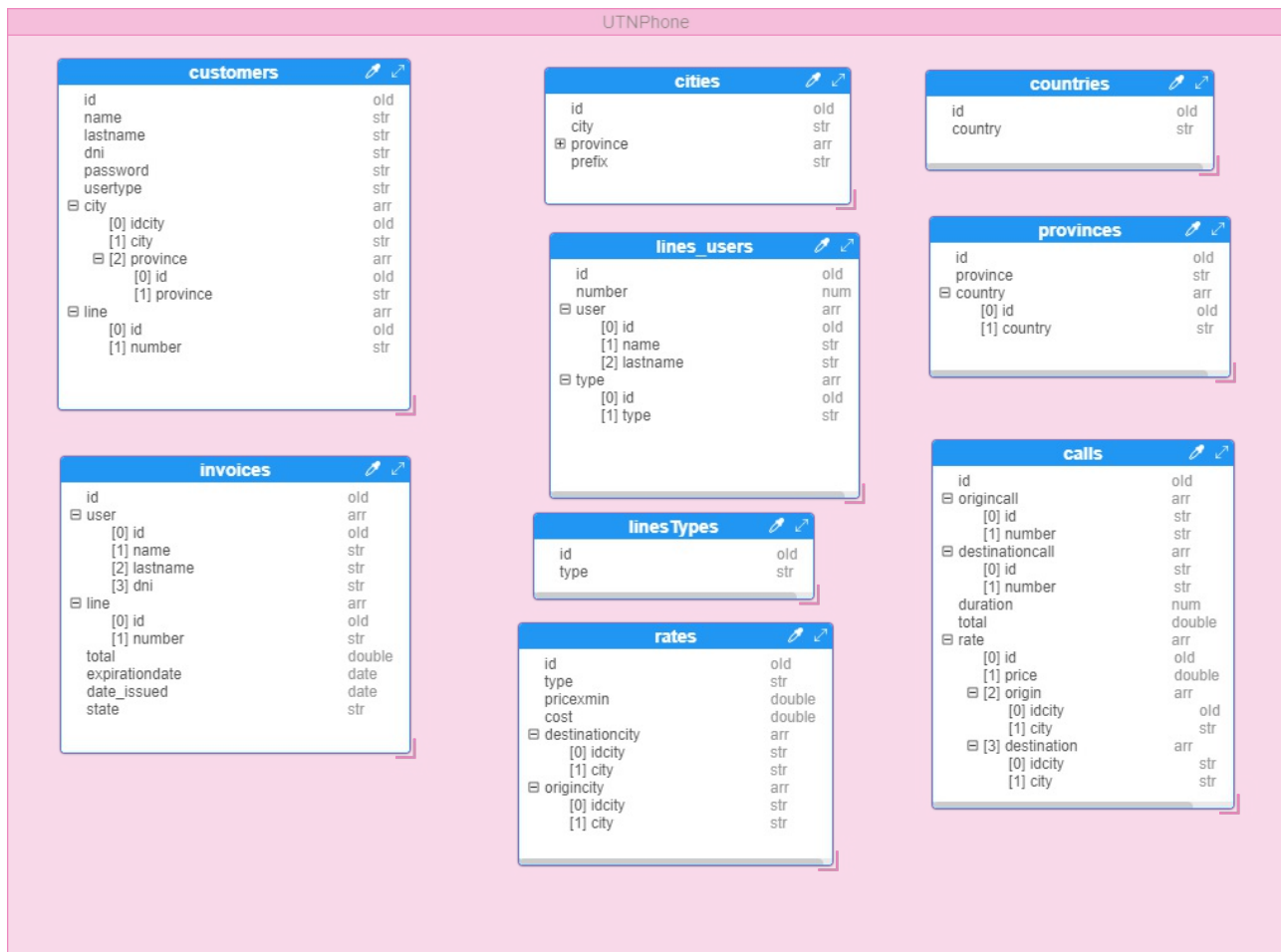
1.1.2 Modelo UTNPHONE Properties

PROPERTY	VALUE
Model name	Modelo UTNPHONE
Technical name	MongoDBUTN
Description	Modelo de BD en MongoDB UTNPHONE
Author	Patricio Diaz - Mariano Zanier
Version	1
DB vendor	MongoDB
DB version	v4.4
Comments	

1.1.3 Modelo UTNPHONE DB Definitions

2. DATABASES

2.1 Database UTNPhone



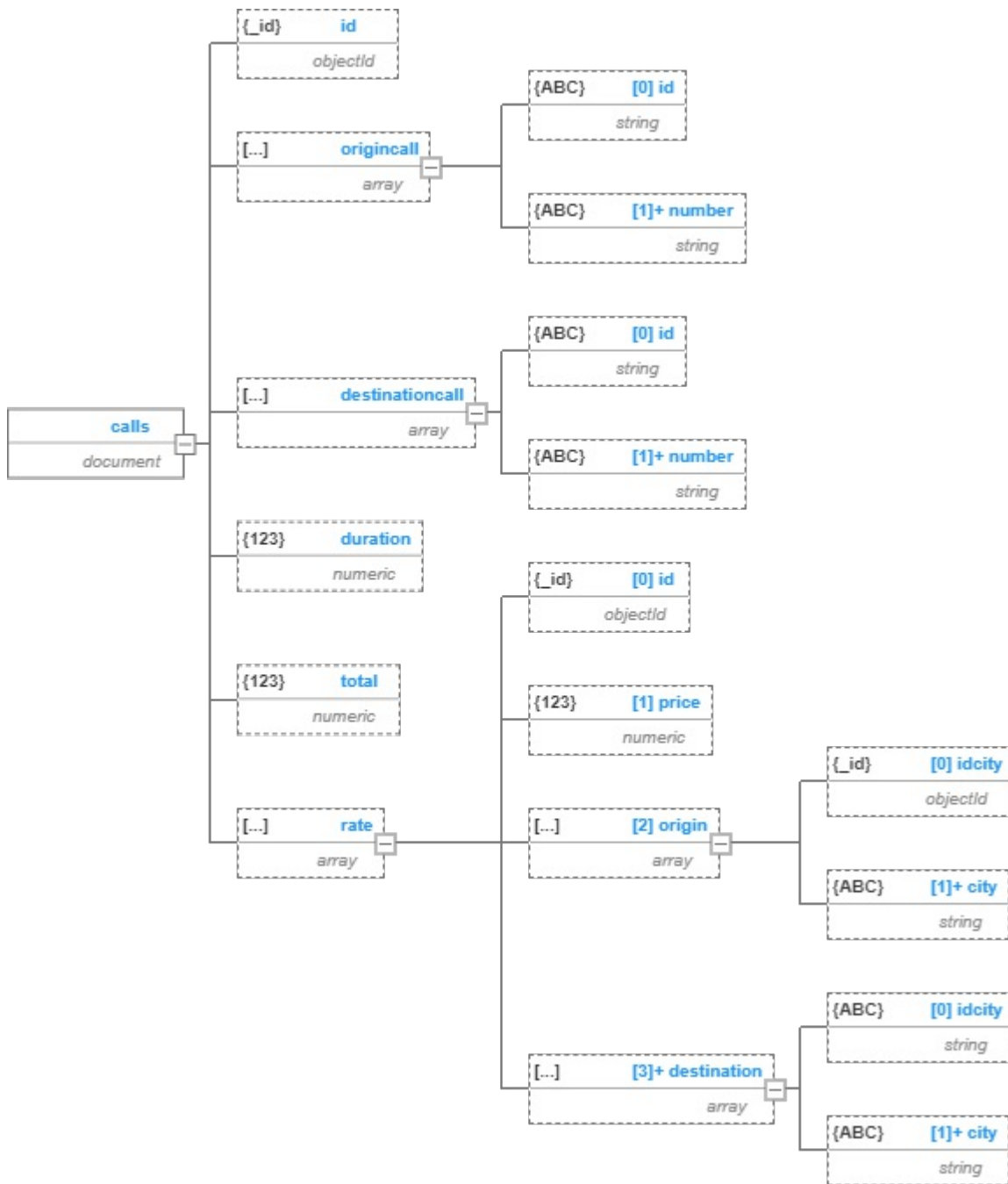
2.1.1 UTNPhone Properties

PROPERTY	VALUE
Database name	UTNPhone
Technical name	utn
Enable sharding	true
Description	Modelo de Base de datos proyecto final UTN PHONE Tecnicatura en Sistemas Informaticos año 2020. Profesor: Pablo Fino. Alumnos: Patricio Diaz - Mariano Zanier.
Comments	

2.1.2 UTNPhone Collections

2.1.2.1 Collection calls

2.1.2.1.1 calls Tree Diagram



2.1.2.1.2 calls Properties

PROPERTY	VALUE
Collection name	calls
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.1.3 calls Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
origincall	array	false			
[0] id	string	false			
[1] number	string	false			
destinationcall	array	false			
[0] id	string	false			
[1] number	string	false			
duration	numeric	false		tiempo medido en minutos	
total	double	false			
rate	array	false			
[0] id	objectId	false			
[1] price	double	false			
[2] origin	array	false			
[0] idcity	objectId	false			
[1] city	string	false			
[3] destination	array	false			
[0] idcity	string	false			
[1] city	string	false			

2.1.2.1.3.1 Field id

2.1.2.1.3.1.1 id Tree Diagram

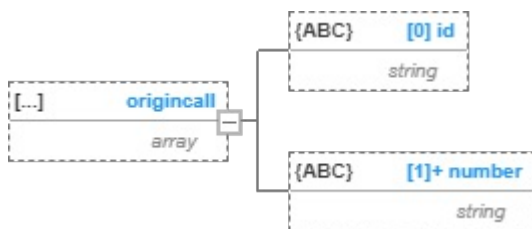


2.1.2.1.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.1.3.2 Field origincall

2.1.2.1.3.2.1 origincall Tree Diagram



2.1.2.1.3.2.2 origincall Hierarchy

Parent field: **calls**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	string	false			
[1] number	string	false			

2.1.2.1.3.2.3 origincall properties

PROPERTY	VALUE
Name	origincall
Technical name	
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	

2.1.2.1.3.3 Field [0] id

2.1.2.1.3.3.1 [0] id Tree Diagram



2.1.2.1.3.3.2 [0] id properties

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

2.1.2.1.3.4 Field [1] number

2.1.2.1.3.4.1 [1] number Tree Diagram

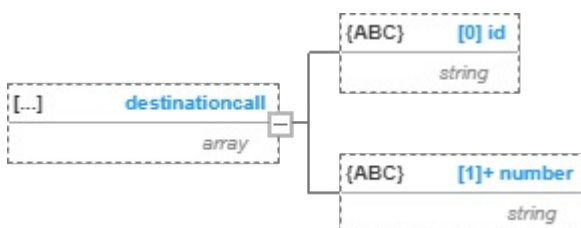


2.1.2.1.3.4.2 [1] number properties

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

2.1.2.1.3.5 Field destinationcall

2.1.2.1.3.5.1 destinationcall Tree Diagram



2.1.2.1.3.5.2 destinationcall Hierarchy

Parent field: **calls**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	string	false			
[1] number	string	false			

2.1.2.1.3.5.3 destinationcall properties

PROPERTY	VALUE
Name	destinationcall
Technical name	
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	

2.1.2.1.3.6 Field [0] id

2.1.2.1.3.6.1 [0] id Tree Diagram



2.1.2.1.3.6.2 [0] id properties

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

2.1.2.1.3.7 Field [1] number**2.1.2.1.3.7.1 [1] number Tree Diagram****2.1.2.1.3.7.2 [1] number properties**

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

2.1.2.1.3.8 Field duration**2.1.2.1.3.8.1 duration Tree Diagram**

2.1.2.1.3.8.2 duration properties

PROPERTY	VALUE
Name	duration
Technical name	
Id	
Type	numeric
Subtype	
Description	tiempo medido en minutos
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.1.3.9 Field total

2.1.2.1.3.9.1 total Tree Diagram

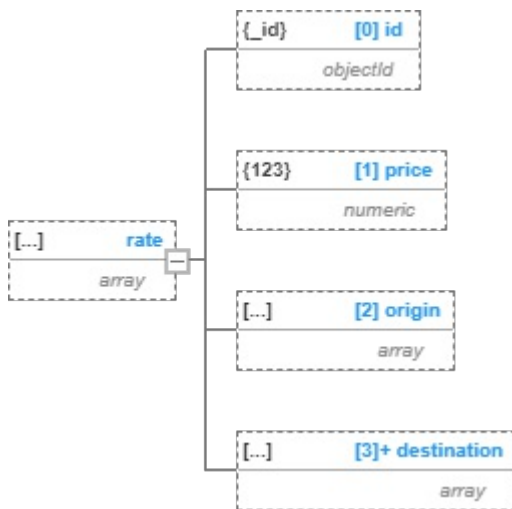


2.1.2.1.3.9.2 total properties

PROPERTY	VALUE
Name	total
Technical name	
Id	
Type	numeric
Subtype	double
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.1.3.10 Field rate

2.1.2.1.3.10.1 rate Tree Diagram



2.1.2.1.3.10.2 rate Hierarchy

Parent field: **calls**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] price	numeric	false			
[2] origin	array	false			
[3] destination	array	false			

2.1.2.1.3.10.3 rate properties

PROPERTY	VALUE
Name	rate
Technical name	
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	

2.1.2.1.3.11 Field [0] id

2.1.2.1.3.11.1 [0] id Tree Diagram**2.1.2.1.3.11.2 [0] id properties**

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

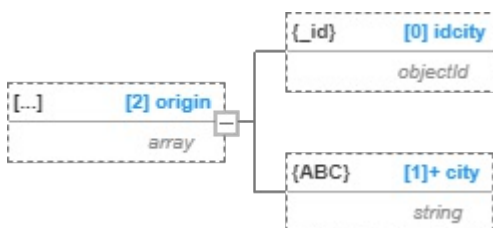
2.1.2.1.3.12 Field [1] price**2.1.2.1.3.12.1 [1] price Tree Diagram**

2.1.2.1.3.12.2 [1] price properties

PROPERTY	VALUE
Display name	price
Id	
Type	numeric
Subtype	double
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.1.3.13 Field [2] origin

2.1.2.1.3.13.1 [2] origin Tree Diagram



2.1.2.1.3.13.2 [2] origin Hierarchy

Parent field: **rate**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] idcity	objectId	false			
[1] city	string	false			

2.1.2.1.3.13.3 [2] origin properties

PROPERTY	VALUE
Display name	origin
Id	
Type	array
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.2.1.3.14 Field [0] idcity**2.1.2.1.3.14.1 [0] idcity Tree Diagram****2.1.2.1.3.14.2 [0] idcity properties**

PROPERTY	VALUE
Display name	idcity
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

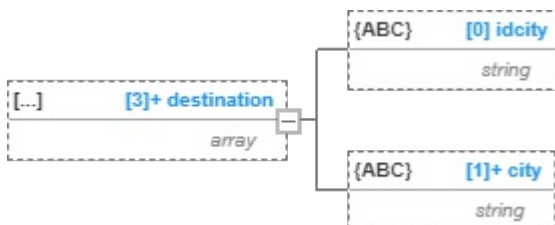
2.1.2.1.3.15 Field [1] city**2.1.2.1.3.15.1 [1] city Tree Diagram**

2.1.2.1.3.15.2 [1] city properties

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

2.1.2.1.3.16 Field [3] destination

2.1.2.1.3.16.1 [3] destination Tree Diagram



2.1.2.1.3.16.2 [3] destination Hierarchy

Parent field: **rate**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] idcity	string	false			
[1] city	string	false			

2.1.2.1.3.16.3 [3] destination properties

PROPERTY	VALUE
Display name	destination
Id	
Type	array
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.2.1.3.17 Field [0] idcity**2.1.2.1.3.17.1 [0] idcity Tree Diagram****2.1.2.1.3.17.2 [0] idcity properties**

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

2.1.2.1.3.18 Field [1] city

2.1.2.1.3.18.1 [1] city Tree Diagram



2.1.2.1.3.18.2 [1] city properties

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

2.1.2.1.4 calls JSON Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "calls",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    "origincall": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string"
        },
        {
          "type": "string"
        }
      ]
    }
  }
}
  
```

```

    }
  ]
},
"destinationcall": {
  "type": "array",
  "additionalItems": true,
  "uniqueItems": false,
  "items": [
    {
      "type": "string"
    },
    {
      "type": "string"
    }
  ]
},
"duration": {
  "type": "number",
  "description": "tiempo medido en minutos\n"
},
"total": {
  "type": "number"
},
"rate": {
  "type": "array",
  "additionalItems": true,
  "uniqueItems": false,
  "items": [
    {
      "type": "string",
      "pattern": "^a-zA-F0-9]{24}$"
    },
    {
      "type": "number"
    },
    {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string",
          "pattern": "^a-zA-F0-9]{24}$"
        },
        {
          "type": "string"
        }
      ]
    }
  ]
},
{
  "type": "array",
  "additionalItems": true,
  "uniqueItems": false,
  "items": [
    {
      "type": "string"
    }
  ]
}

```

```

    },
    {
      "type": "string"
    }
  ]
}
]
}
}
}
}

```

2.1.2.1.5 calls JSON data

```

{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "origincall": [
    "Lorem",
    "Lorem"
  ],
  "destinationcall": [
    "Lorem",
    "Lorem"
  ],
  "duration": 29,
  "total": -1.5911592639606896e+30,
  "rate": [
    ObjectId("507f1f77bcf86cd799439011"),
    -1.0386939187689248e+30,
    [
      ObjectId("507f1f77bcf86cd799439011"),
      "Lorem"
    ],
    [
      "Lorem",
      "Lorem"
    ]
  ]
}

```

2.1.2.1.6 calls Target Script

```

use utn;

db.createCollection( "calls",{
  "storageEngine": {
    "wiredTiger": {}
  },

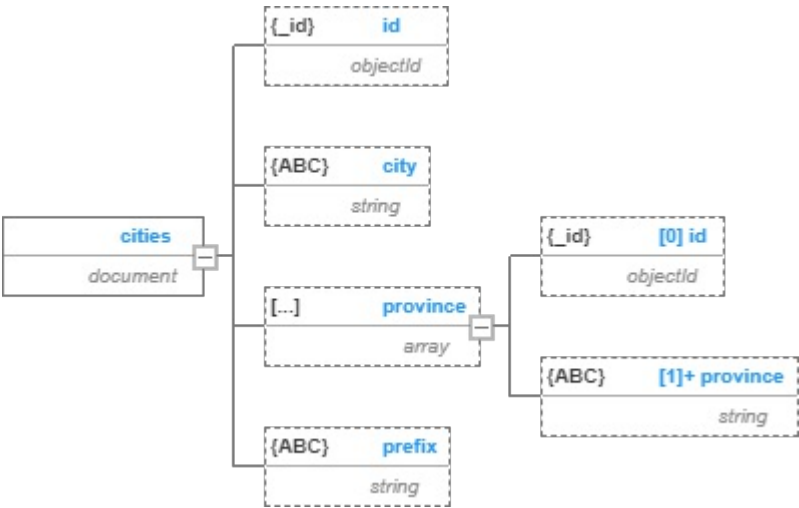
```

```
"capped": false,
"validator": {
  "$jsonSchema": {
    "bsonType": "object",
    "title": "calls",
    "additionalProperties": false,
    "properties": {
      "_id": {
        "bsonType": "objectId"
      },
      "id": {
        "bsonType": "objectId"
      },
      "origincall": {
        "bsonType": "array",
        "additionalItems": true,
        "uniqueItems": false,
        "items": [
          {
            "bsonType": "string"
          },
          {
            "bsonType": "string"
          }
        ]
      },
      "destinationcall": {
        "bsonType": "array",
        "additionalItems": true,
        "uniqueItems": false,
        "items": [
          {
            "bsonType": "string"
          },
          {
            "bsonType": "string"
          }
        ]
      },
      "duration": {
        "bsonType": "number",
        "description": "tiempo medido en minutos\n"
      },
      "total": {
        "bsonType": "double"
      },
      "rate": {
        "bsonType": "array",
        "additionalItems": true,
        "uniqueItems": false,
        "items": [
          {
            "bsonType": "objectId"
          },
          {
            "bsonType": "double"
          }
        ]
      }
    }
  }
}
```

```
    },
    {
      "bsonType": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "bsonType": "objectId"
        },
        {
          "bsonType": "string"
        }
      ]
    },
    {
      "bsonType": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "bsonType": "string"
        },
        {
          "bsonType": "string"
        }
      ]
    }
  ]
}
}
},
"validationLevel": "off",
"validationAction": "warn"
});
```

2.1.2.2 Collection cities

2.1.2.2.1 cities Tree Diagram



2.1.2.2.2 cities Properties

PROPERTY	VALUE
Collection name	cities
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.2.3 cities Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
city	string	false			
province	array	false			
[0] id	objectId	false			
[1] province	string	false			
prefix	string	false			

2.1.2.2.3.1 Field id

2.1.2.2.3.1.1 id Tree Diagram



2.1.2.2.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.2.3.2 Field city

2.1.2.2.3.2.1 city Tree Diagram

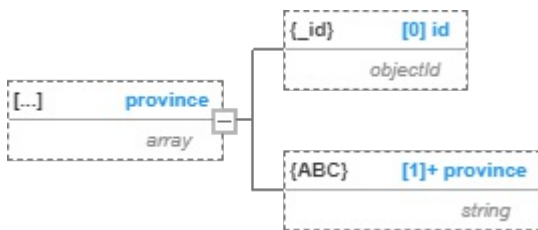


2.1.2.2.3.2.2 city properties

PROPERTY	VALUE
Name	city
Technical name	
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	

2.1.2.2.3.3 Field province

2.1.2.2.3.3.1 province Tree Diagram



2.1.2.2.3.3.2 province Hierarchy

Parent field: **cities**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] province	string	false			

2.1.2.2.3.3.3 province properties

PROPERTY	VALUE
Name	province
Technical name	
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	

2.1.2.2.3.4 Field [0] id

2.1.2.2.3.4.1 [0] id Tree Diagram



2.1.2.2.3.4.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.2.3.5 Field [1] province

2.1.2.2.3.5.1 [1] province Tree Diagram



2.1.2.2.3.5.2 [1] province properties

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

2.1.2.2.3.6 Field prefix

2.1.2.2.3.6.1 prefix Tree Diagram



2.1.2.2.3.6.2 prefix properties

PROPERTY	VALUE
Name	prefix
Technical name	
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	

2.1.2.2.4 cities JSON Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "cities",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    "city": {
      "type": "string"
    },
    "province": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string",
          "pattern": "^[a-zA-F0-9]{24}$"
        },
        {
          "type": "string"
        }
      ]
    },
    "prefix": {
      "type": "string"
    }
  }
}
```

2.1.2.2.5 cities JSON data

```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "city": "Lorem",
  "province": [
    ObjectId("507f1f77bcf86cd799439011"),
    "Lorem"
  ],
  "prefix": "Lorem"
}
```

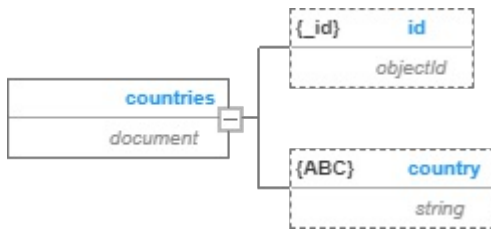
2.1.2.2.6 cities Target Script

```
use utn;

db.createCollection( "cities",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "cities",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "city": {
          "bsonType": "string"
        },
        "province": {
          "bsonType": "array",
          "additionalItems": true,
          "uniqueItems": false,
          "items": [
            {
              "bsonType": "objectId"
            },
            {
              "bsonType": "string"
            }
          ]
        },
        "prefix": {
          "bsonType": "string"
        }
      }
    }
  },
  "validationLevel": "off",
  "validationAction": "warn"
});
```

2.1.2.3 Collection countries

2.1.2.3.1 countries Tree Diagram



2.1.2.3.2 countries Properties

PROPERTY	VALUE
Collection name	countries
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.3.3 countries Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
country	string	false			

2.1.2.3.3.1 Field id

2.1.2.3.3.1.1 id Tree Diagram



2.1.2.3.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.3.3.2 Field country

2.1.2.3.3.2.1 country Tree Diagram



2.1.2.3.3.2.2 country properties

PROPERTY	VALUE
Name	country
Technical name	
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	

2.1.2.3.4 countries JSON Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "countries",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    "country": {
      "type": "string"
    }
  }
}
```

2.1.2.3.5 countries JSON data

```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "country": "Lorem"
}
```

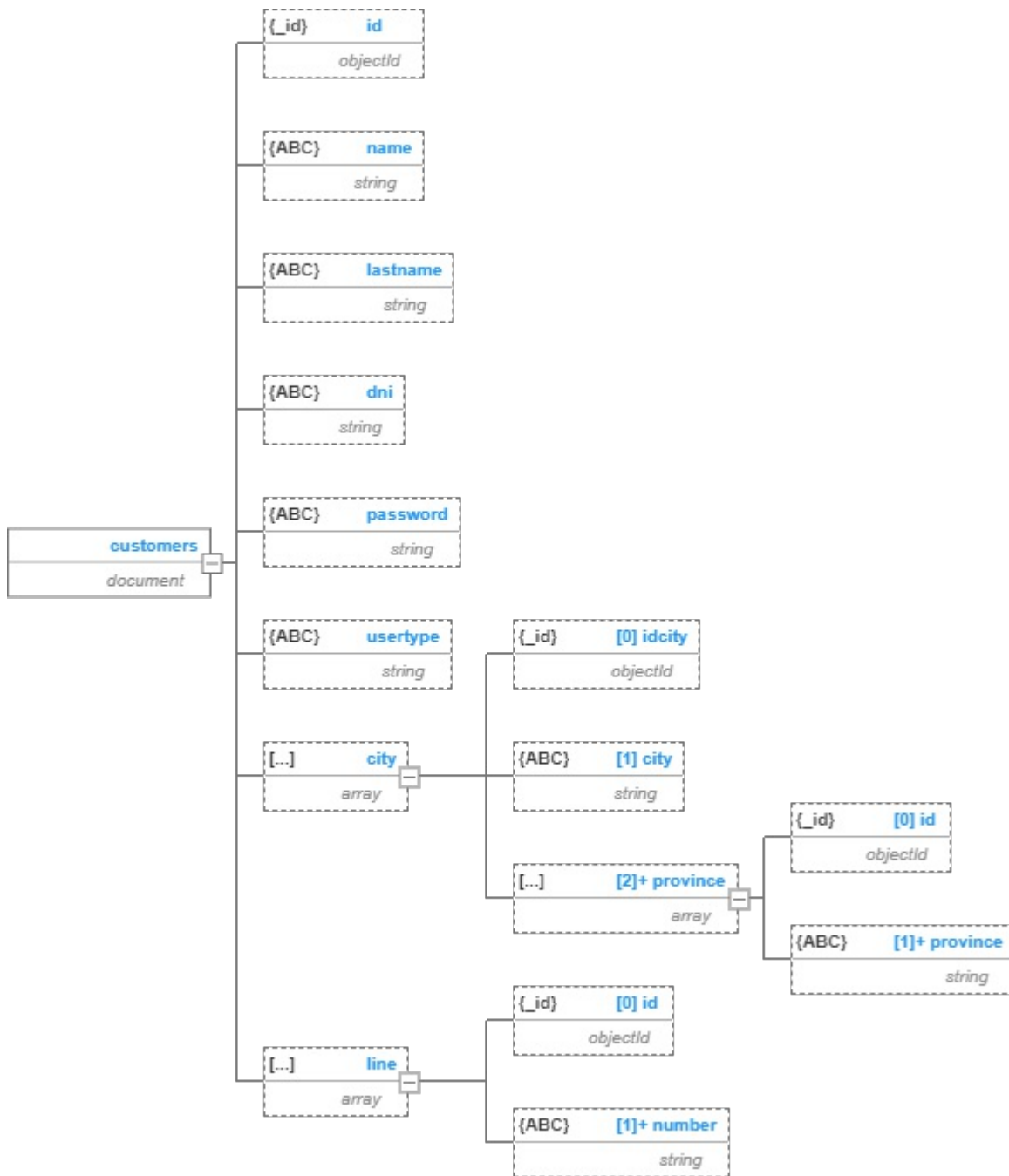
2.1.2.3.6 countries Target Script

```
use utn;

db.createCollection( "countries",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "countries",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "country": {
          "bsonType": "string"
        }
      }
    }
  },
  "validationLevel": "off",
  "validationAction": "warn"
});
```

2.1.2.4 Collection customers

2.1.2.4.1 customers Tree Diagram



2.1.2.4.2 customers Properties

PROPERTY	VALUE
Collection name	customers
Technical name	customers
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.4.3 customers Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
name	string	false			
lastname	string	false			
dni	string	false			
password	string	false			
usertype	string	false			
city	array	false			
[0] idcity	objectId	false			
[1] city	string	false			
[2] province	array	false			
[0] id	objectId	false			
[1] province	string	false			
line	array	false			
[0] id	objectId	false			
[1] number	string	false			

2.1.2.4.3.1 Field id

2.1.2.4.3.1.1 id Tree Diagram



2.1.2.4.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.4.3.2 Field name

2.1.2.4.3.2.1 name Tree Diagram



2.1.2.4.3.2.2 name properties

PROPERTY	VALUE
Name	name
Technical name	
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	

2.1.2.4.3.3 Field lastname

2.1.2.4.3.3.1 lastname Tree Diagram



2.1.2.4.3.3.2 lastname properties

PROPERTY	VALUE
Name	lastname
Technical name	
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	

2.1.2.4.3.4 Field dni

2.1.2.4.3.4.1 dni Tree Diagram



2.1.2.4.3.4.2 dni properties

PROPERTY	VALUE
Name	dni
Technical name	
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	

2.1.2.4.3.5 Field password

2.1.2.4.3.5.1 password Tree Diagram



2.1.2.4.3.5.2 password properties

PROPERTY	VALUE
Name	password
Technical name	
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	

2.1.2.4.3.6 Field usertype

2.1.2.4.3.6.1 usertype Tree Diagram

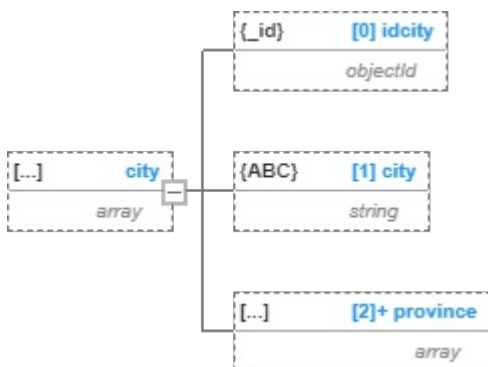


2.1.2.4.3.6.2 usertype properties

PROPERTY	VALUE
Name	usertype
Technical name	
Id	
Type	string
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	Empleado, Cliente
Sample	
Comments	

2.1.2.4.3.7 Field city

2.1.2.4.3.7.1 city Tree Diagram



2.1.2.4.3.7.2 city Hierarchy

Parent field: **customers**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] idcity	objectId	false			
[1] city	string	false			
[2] province	array	false			

2.1.2.4.3.7.3 city properties

PROPERTY	VALUE
Name	city
Technical name	
Id	
Type	array
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	0
Max items	10
Unique items	false
Additional items	true
Comments	

2.1.2.4.3.8 Field [0] idcity

2.1.2.4.3.8.1 [0] idcity Tree Diagram



2.1.2.4.3.8.2 [0] idcity properties

PROPERTY	VALUE
Display name	idcity
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.4.3.9 Field [1] city

2.1.2.4.3.9.1 [1] city Tree Diagram

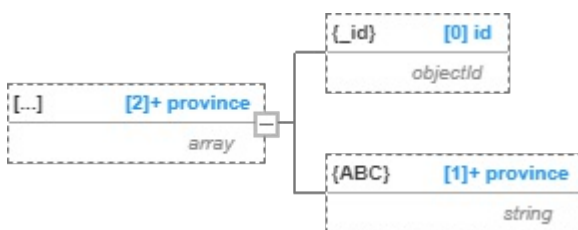


2.1.2.4.3.9.2 [1] city properties

PROPERTY	VALUE
Display name	city
Id	City
Type	string
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	
Sample	
Comments	

2.1.2.4.3.10 Field [2] province

2.1.2.4.3.10.1 [2] province Tree Diagram



2.1.2.4.3.10.2 [2] province Hierarchy

Parent field: **city**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] province	string	false			

2.1.2.4.3.10.3 [2] province properties

PROPERTY	VALUE
Display name	province
Id	province
Type	array
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.2.4.3.11 Field [0] id

2.1.2.4.3.11.1 [0] id Tree Diagram



2.1.2.4.3.11.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	id
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.4.3.12 Field [1] province

2.1.2.4.3.12.1 [1] province Tree Diagram

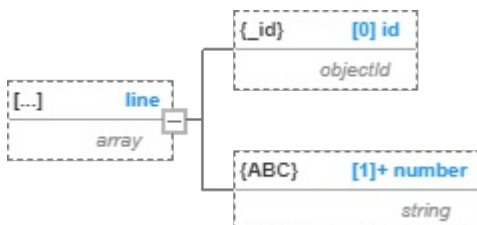


2.1.2.4.3.12.2 [1] province properties

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

2.1.2.4.3.13 Field line

2.1.2.4.3.13.1 line Tree Diagram



2.1.2.4.3.13.2 line Hierarchy

Parent field: **customers**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] number	string	false			

2.1.2.4.3.13.3 line properties

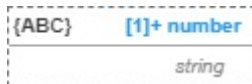
PROPERTY	VALUE
Name	line
Technical name	
Id	
Type	array
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Min items	
Max items	
Unique items	false
Additional items	true
Comments	

2.1.2.4.3.14 Field [0] id**2.1.2.4.3.14.1 [0] id Tree Diagram****2.1.2.4.3.14.2 [0] id properties**

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.4.3.15 Field [1] number

2.1.2.4.3.15.1 [1] number Tree Diagram



2.1.2.4.3.15.2 [1] number properties

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

2.1.2.4.4 customers JSON Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "customers",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^([a-zA-F0-9]{24})$"
    },
    "name": {
      "type": "string"
    },
    "lastname": {
      "type": "string"
    },
    "dni": {
      "type": "string"
    },
    "password": {

```

```

    "type": "string"
  },
  "usertype": {
    "type": "string",
    "enum": [
      "Empleado",
      "Cliente"
    ]
  },
  "city": {
    "type": "array",
    "additionalItems": true,
    "minItems": 0,
    "maxItems": 10,
    "uniqueItems": false,
    "items": [
      {
        "type": "string",
        "pattern": "^[a-zA-F0-9]{24}$"
      },
      {
        "id": "City",
        "type": "string"
      },
      {
        "id": "province",
        "type": "array",
        "additionalItems": true,
        "uniqueItems": false,
        "items": [
          {
            "id": "id",
            "type": "string",
            "pattern": "^[a-zA-F0-9]{24}$"
          },
          {
            "id": "province",
            "type": "string"
          }
        ]
      }
    ]
  },
  "line": {
    "type": "array",
    "additionalItems": true,
    "uniqueItems": false,
    "items": [
      {
        "type": "string",
        "pattern": "^[a-zA-F0-9]{24}$"
      },
      {
        "type": "string"
      }
    ]
  }
]

```



```
}  
}  
}
```

2.1.2.4.5 customers JSON data

```
{  
  "id": ObjectId("507f1f77bcf86cd799439011"),  
  "name": "Lorem",  
  "lastname": "Lorem",  
  "dni": "Lorem",  
  "password": "Lorem",  
  "usertype": "Cliente",  
  "city": [  
    ObjectId("507f1f77bcf86cd799439011"),  
    "Lorem",  
    [  
      ObjectId("507f1f77bcf86cd799439011"),  
      "Lorem"  
    ]  
  ],  
  "line": [  
    ObjectId("507f1f77bcf86cd799439011"),  
    "Lorem"  
  ]  
}
```

2.1.2.4.6 customers Target Script

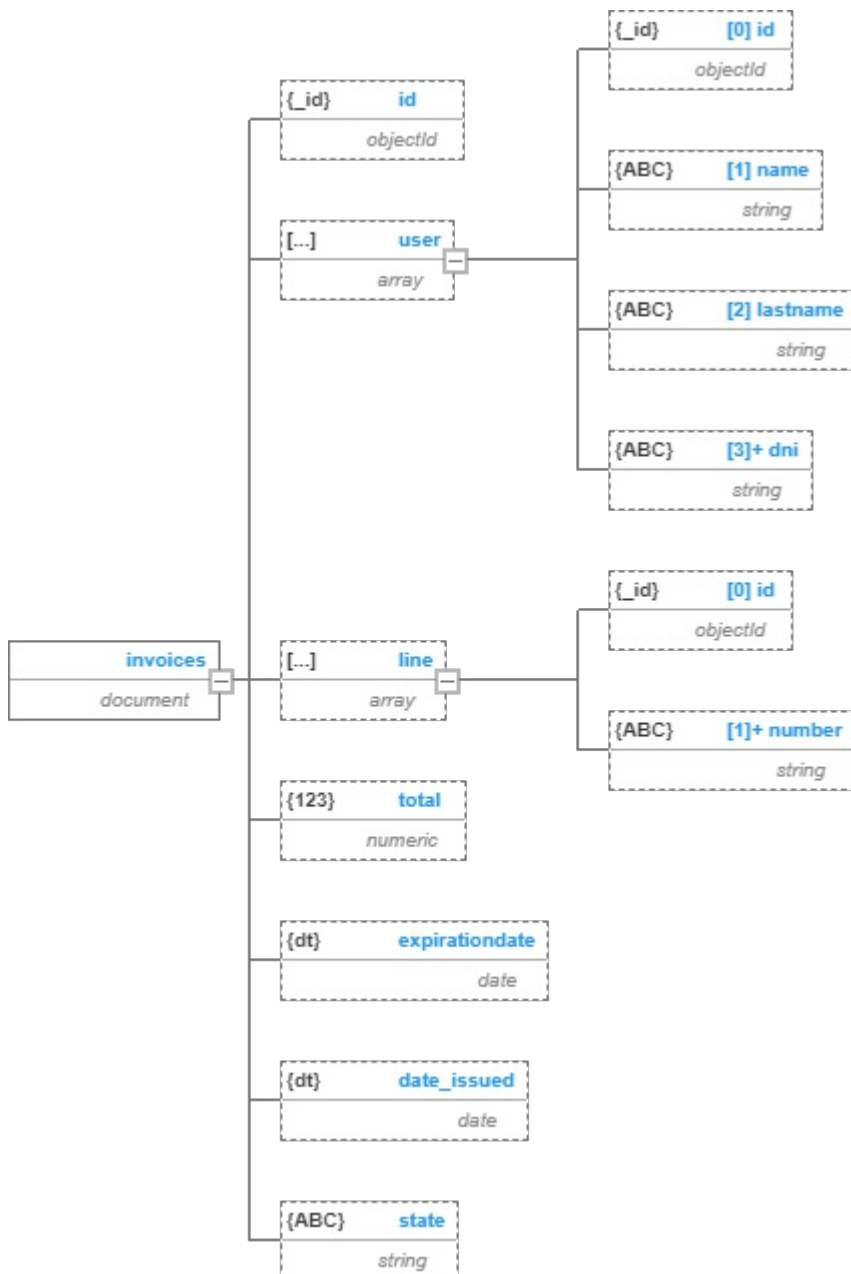
```
use utn;  
  
db.createCollection( "customers",{  
  "storageEngine": {  
    "wiredTiger": {}  
  },  
  "capped": false,  
  "validator": {  
    "$jsonSchema": {  
      "bsonType": "object",  
      "title": "customers",  
      "additionalProperties": false,  
      "properties": {  
        "_id": {  
          "bsonType": "objectId"  
        },  
        "id": {  
          "bsonType": "objectId"        }  
      }  
    }  
  }  
})
```

```
,
"name": {
  "bsonType": "string"
},
"lastname": {
  "bsonType": "string"
},
"dni": {
  "bsonType": "string"
},
"password": {
  "bsonType": "string"
},
"usertype": {
  "bsonType": "string",
  "enum": [
    "Empleado",
    "Cliente"
  ]
},
"city": {
  "bsonType": "array",
  "additionalItems": true,
  "minItems": 0,
  "maxItems": 10,
  "uniqueItems": false,
  "items": [
    {
      "bsonType": "objectId"
    },
    {
      "bsonType": "string"
    },
    {
      "bsonType": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "bsonType": "objectId"
        },
        {
          "bsonType": "string"
        }
      ]
    }
  ]
},
"line": {
  "bsonType": "array",
  "additionalItems": true,
  "uniqueItems": false,
  "items": [
    {
      "bsonType": "objectId"
    },
  ],
}
```

```
        {
          "bsonType": "string"
        }
      ]
    }
  }
},
"validationLevel": "off",
"validationAction": "warn"
});
```

2.1.2.5 Collection invoices

2.1.2.5.1 invoices Tree Diagram



2.1.2.5.2 invoices Properties

PROPERTY	VALUE
Collection name	invoices
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	
Locale	en_US
Variant	
Strength	3-Tertiary
Case level	
Case first	off
Numeric ordering	
Alternate	non-ignorable
Max variable	
Backwards	true
Normalization	

2.1.2.5.3 invoices Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
user	array	false			
[0] id	objectId	false			
[1] name	string	false			
[2] lastname	string	false			
[3] dni	string	false			
line	array	false			
[0] id	objectId	false			
[1] number	string	false		number	
total	double	false			
expirationdate	date	false			
date_issued	date	false			
state	string	false			

2.1.2.5.3.1 Field id

2.1.2.5.3.1.1 id Tree Diagram

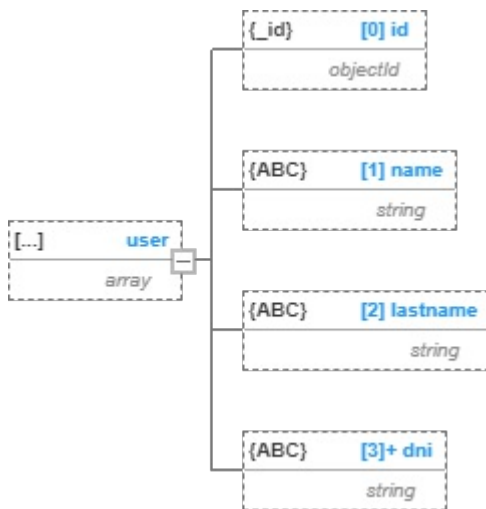


2.1.2.5.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	user
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.5.3.2 Field user

2.1.2.5.3.2.1 user Tree Diagram



2.1.2.5.3.2.2 user Hierarchy

Parent field: **invoices**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] name	string	false			
[2] lastname	string	false			
[3] dni	string	false			

2.1.2.5.3.2.3 user properties

PROPERTY	VALUE
Name	user
Technical name	
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	

2.1.2.5.3.3 Field [0] id

2.1.2.5.3.3.1 [0] id Tree Diagram



2.1.2.5.3.3.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.5.3.4 Field [1] name

2.1.2.5.3.4.1 [1] name Tree Diagram



2.1.2.5.3.4.2 [1] name properties

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

2.1.2.5.3.5 Field [2] lastname**2.1.2.5.3.5.1 [2] lastname Tree Diagram**

2.1.2.5.3.5.2 [2] lastname properties

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

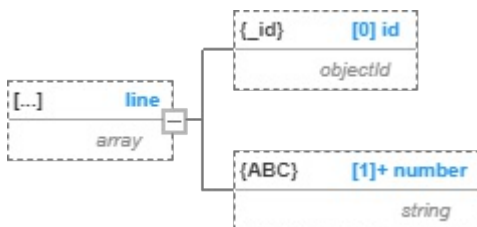
2.1.2.5.3.6 Field [3] dni**2.1.2.5.3.6.1 [3] dni Tree Diagram**

2.1.2.5.3.6.2 [3] dni properties

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

2.1.2.5.3.7 Field line

2.1.2.5.3.7.1 line Tree Diagram



2.1.2.5.3.7.2 line Hierarchy

Parent field: **invoices**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] number	string	false		number	

2.1.2.5.3.7.3 line properties

PROPERTY	VALUE
Name	line
Technical name	
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	

2.1.2.5.3.8 Field [0] id

2.1.2.5.3.8.1 [0] id Tree Diagram

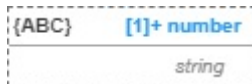


2.1.2.5.3.8.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.5.3.9 Field [1] number

2.1.2.5.3.9.1 [1] number Tree Diagram



2.1.2.5.3.9.2 [1] number properties

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

2.1.2.5.3.10 Field total

2.1.2.5.3.10.1 total Tree Diagram



2.1.2.5.3.10.2 total properties

PROPERTY	VALUE
Name	total
Technical name	
Id	
Type	numeric
Subtype	double
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.5.3.11 Field expirationdate**2.1.2.5.3.11.1 expirationdate Tree Diagram**

2.1.2.5.3.11.2 expirationdate properties

PROPERTY	VALUE
Name	expirationdate
Technical name	
Id	
Type	date
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.5.3.12 Field date_issued**2.1.2.5.3.12.1 date_issued Tree Diagram****2.1.2.5.3.12.2 date_issued properties**

PROPERTY	VALUE
Name	date_issued
Technical name	
Id	
Type	date
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.5.3.13 Field state

2.1.2.5.3.13.1 state Tree Diagram



2.1.2.5.3.13.2 state properties

PROPERTY	VALUE
Name	state
Technical name	state
Id	
Type	string
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	pagada,impaga
Sample	
Comments	

2.1.2.5.4 invoices JSON Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "invoices",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^a-fA-F0-9{24}$"
    },
    "user": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string",
          "pattern": "^a-fA-F0-9{24}$"
        }
      ]
    }
  }
}
  
```



```

    },
    {
      "type": "string"
    },
    {
      "type": "string"
    },
    {
      "id": "dni",
      "type": "string"
    }
  ]
},
"line": {
  "type": "array",
  "additionalItems": true,
  "uniqueItems": false,
  "items": [
    {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    {
      "id": "number",
      "type": "string",
      "description": "number"
    }
  ]
},
"total": {
  "type": "number"
},
"expirationdate": {
  "type": "string",
  "format": "date-time"
},
"date_issued": {
  "type": "string",
  "format": "date-time"
},
"state": {
  "type": "string",
  "enum": [
    "pagada",
    "impaga"
  ]
}
},
"dependencies": {
  "id": [
    "user"
  ]
}
}

```

2.1.2.5.5 invoices JSON data

```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "user": [
    ObjectId("507f1f77bcf86cd799439011"),
    "Lorem",
    "Lorem",
    "Lorem"
  ],
  "line": [
    ObjectId("507f1f77bcf86cd799439011"),
    "Lorem"
  ],
  "total": -2.17264228903546e+29,
  "expirationdate": ISODate("2016-04-08T15:06:21.595Z"),
  "date_issued": ISODate("2016-04-08T15:06:21.595Z"),
  "state": "impaga"
}
```

2.1.2.5.6 invoices Target Script

```
use utn;

db.createCollection( "invoices",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "invoices",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "user": {
          "bsonType": "array",
          "additionalItems": true,
          "uniqueItems": false,
          "items": [
            {
              "bsonType": "objectId"
            }
          ],
        }
      }
    }
  }
})
```

```

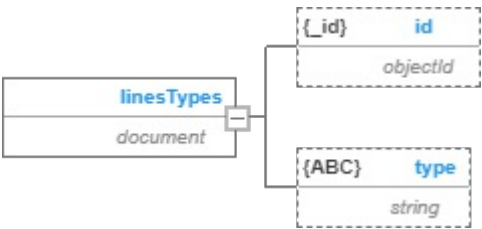
        {
            "bsonType": "string"
        },
        {
            "bsonType": "string"
        },
        {
            "bsonType": "string"
        }
    ]
},
"line": {
    "bsonType": "array",
    "additionalItems": true,
    "uniqueItems": false,
    "items": [
        {
            "bsonType": "objectId"
        },
        {
            "bsonType": "string",
            "description": "number"
        }
    ]
},
"total": {
    "bsonType": "double"
},
"expirationdate": {
    "bsonType": "date"
},
"date_issued": {
    "bsonType": "date"
},
"state": {
    "bsonType": "string",
    "enum": [
        "pagada",
        "impaga"
    ]
},
"dependencies": {
    "id": [
        "user"
    ]
}
},
"validationLevel": "off",
"validationAction": "warn",
"collation": {
    "locale": "en_US",
    "strength": 3,
    "caseFirst": "off",
    "alternate": "non-ignorable",

```

```
"backwards": true
}
});
```

2.1.2.6 Collection linesTypes

2.1.2.6.1 linesTypes Tree Diagram



2.1.2.6.2 linesTypes Properties

PROPERTY	VALUE
Collection name	linesTypes
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.6.3 linesTypes Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
type	string	false			

2.1.2.6.3.1 Field id

2.1.2.6.3.1.1 id Tree Diagram



2.1.2.6.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.6.3.2 Field type

2.1.2.6.3.2.1 type Tree Diagram



2.1.2.6.3.2.2 type properties

PROPERTY	VALUE
Name	type
Technical name	
Id	
Type	string
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Min length	
Max length	
Pattern	
Format	
Enum	Celular, Telefonía Fija
Sample	
Comments	

2.1.2.6.4 linesTypes JSON Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "linesTypes",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{24}$"
    },
    "type": {
      "type": "string",
      "enum": [
        "Celular",
        "Telefonia Fija"
      ]
    }
  }
}
```

2.1.2.6.5 linesTypes JSON data

```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "type": "Telefonia Fija"
}
```

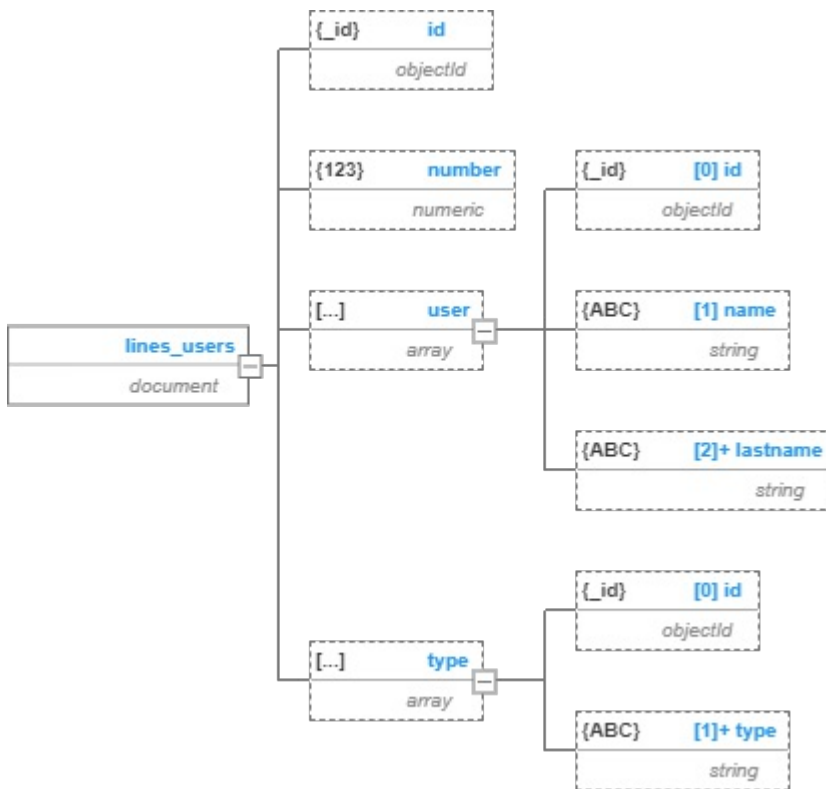
2.1.2.6.6 linesTypes Target Script

```
use utn;

db.createCollection( "linesTypes",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "linesTypes",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "type": {
          "bsonType": "string",
          "enum": [
            "Celular",
            "Telefonia Fija"
          ]
        }
      }
    }
  },
  "validationLevel": "off",
  "validationAction": "warn"
});
```

2.1.2.7 Collection lines_users

2.1.2.7.1 lines_users Tree Diagram



2.1.2.7.2 lines_users Properties

PROPERTY	VALUE
Collection name	lines_users
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.7.3 lines_users Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
number	numeric	false			
user	array	false			
[0] id	objectId	false			
[1] name	string	false			
[2] lastname	string	false			
type	array	false			
[0] id	objectId	false			
[1] type	string	false			

2.1.2.7.3.1 Field id

2.1.2.7.3.1.1 id Tree Diagram



2.1.2.7.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.7.3.2 Field number

2.1.2.7.3.2.1 number Tree Diagram

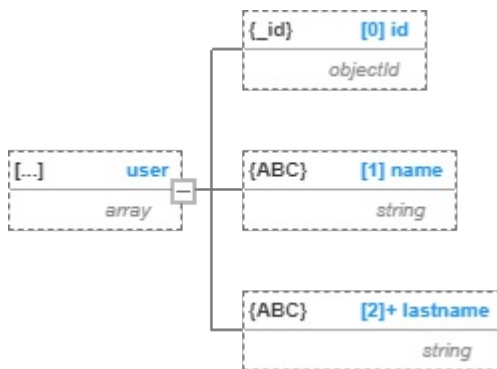


2.1.2.7.3.2.2 number properties

PROPERTY	VALUE
Name	number
Technical name	
Id	
Type	numeric
Subtype	
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.7.3.3 Field user

2.1.2.7.3.3.1 user Tree Diagram



2.1.2.7.3.3.2 user Hierarchy

Parent field: **lines_users**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] name	string	false			
[2] lastname	string	false			

2.1.2.7.3.3.3 user properties

PROPERTY	VALUE
Name	user
Technical name	
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	

2.1.2.7.3.4 Field [0] id

2.1.2.7.3.4.1 [0] id Tree Diagram



2.1.2.7.3.4.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.7.3.5 Field [1] name

2.1.2.7.3.5.1 [1] name Tree Diagram



2.1.2.7.3.5.2 [1] name properties

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

2.1.2.7.3.6 Field [2] lastname

2.1.2.7.3.6.1 [2] lastname Tree Diagram

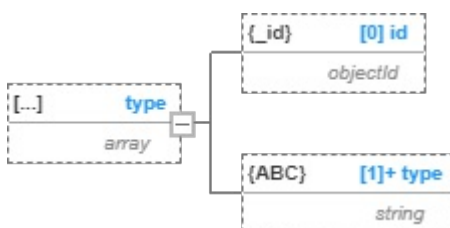


2.1.2.7.3.6.2 [2] lastname properties

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

2.1.2.7.3.7 Field type

2.1.2.7.3.7.1 type Tree Diagram



2.1.2.7.3.7.2 type Hierarchy

Parent field: **lines_users**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectid	false			
[1] type	string	false			

2.1.2.7.3.7.3 type properties

PROPERTY	VALUE
Name	type
Technical name	
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	

2.1.2.7.3.8 Field [0] id

2.1.2.7.3.8.1 [0] id Tree Diagram



2.1.2.7.3.8.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.7.3.9 Field [1] type

2.1.2.7.3.9.1 [1] type Tree Diagram



2.1.2.7.3.9.2 [1] type properties

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

2.1.2.7.4 lines_users JSON Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "lines_users",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    "number": {
      "type": "number"
    },
    "user": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string",
          "pattern": "^[a-zA-F0-9]{24}$"
        },
        {
          "type": "string"
        },
        {
          "type": "string"
        }
      ]
    },
    "type": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string",
          "pattern": "^[a-zA-F0-9]{24}$"
        },
        {
          "type": "string"
        }
      ]
    }
  }
}
```

2.1.2.7.5 lines_users JSON data


```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "number": 26,
  "user": [
    ObjectId("507f1f77bcf86cd799439011"),
    "Lorem",
    "Lorem"
  ],
  "type": [
    ObjectId("507f1f77bcf86cd799439011"),
    "Lorem"
  ]
}
```

2.1.2.7.6 lines_users Target Script

```
use utn;

db.createCollection( "lines_users",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "lines_users",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "number": {
          "bsonType": "number"
        },
        "user": {
          "bsonType": "array",
          "additionalItems": true,
          "uniqueItems": false,
          "items": [
            {
              "bsonType": "objectId"
            },
            {
              "bsonType": "string"
            },
            {

```

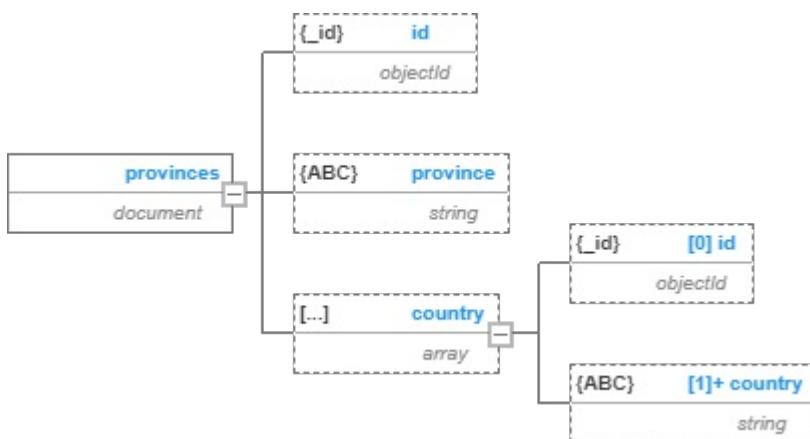
```

        "bsonType": "string"
      }
    ]
  },
  "type": {
    "bsonType": "array",
    "additionalItems": true,
    "uniqueItems": false,
    "items": [
      {
        "bsonType": "objectId"
      },
      {
        "bsonType": "string"
      }
    ]
  }
}
},
"validationLevel": "off",
"validationAction": "warn"
});

```

2.1.2.8 Collection provinces

2.1.2.8.1 provinces Tree Diagram



2.1.2.8.2 provinces Properties

PROPERTY	VALUE
Collection name	provinces
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.8.3 provinces Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
province	string	false			
country	array	false			
[0] id	objectId	false			
[1] country	string	false			

2.1.2.8.3.1 Field id

2.1.2.8.3.1.1 id Tree Diagram



2.1.2.8.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.8.3.2 Field province

2.1.2.8.3.2.1 province Tree Diagram

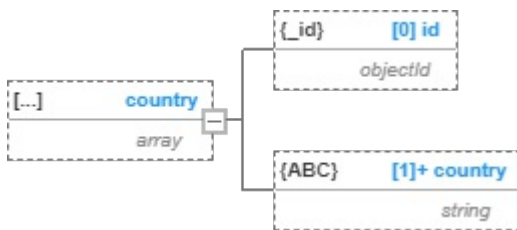


2.1.2.8.3.2.2 province properties

PROPERTY	VALUE
Name	province
Technical name	
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	

2.1.2.8.3.3 Field country

2.1.2.8.3.3.1 country Tree Diagram



2.1.2.8.3.3.2 country Hierarchy

Parent field: **provinces**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] id	objectId	false			
[1] country	string	false			

2.1.2.8.3.3.3 country properties

PROPERTY	VALUE
Name	country
Technical name	
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	

2.1.2.8.3.4 Field [0] id

2.1.2.8.3.4.1 [0] id Tree Diagram



2.1.2.8.3.4.2 [0] id properties

PROPERTY	VALUE
Display name	id
Id	
Type	objectId
Description	
Dependencies	
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.8.3.5 Field [1] country**2.1.2.8.3.5.1 [1] country Tree Diagram****2.1.2.8.3.5.2 [1] country properties**

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

2.1.2.8.4 provinces JSON Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "provinces",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    "province": {
      "type": "string"
    },
    "country": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string",
          "pattern": "^[a-zA-F0-9]{24}$"
        },
        {
          "type": "string"
        }
      ]
    }
  }
}
```

2.1.2.8.5 provinces JSON data

```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "province": "Lorem",
  "country": [
    ObjectId("507f1f77bcf86cd799439011"),
    "Lorem"
  ]
}
```

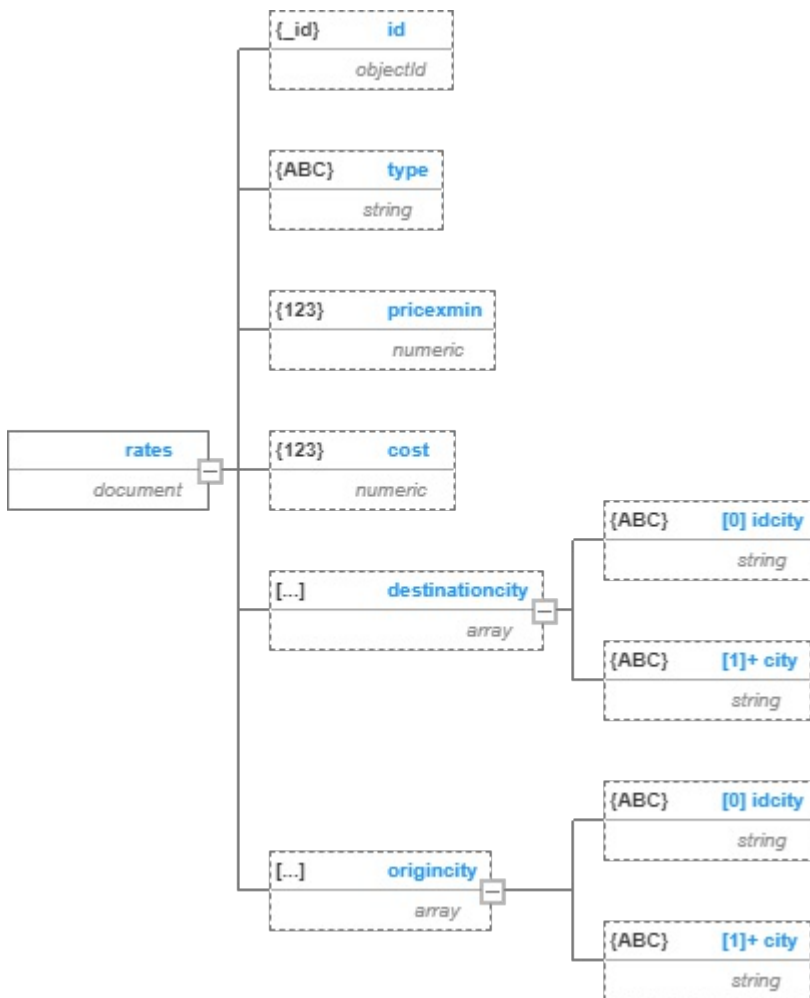
2.1.2.8.6 provinces Target Script

```
use utn;

db.createCollection( "provinces",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "provinces",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "province": {
          "bsonType": "string"
        },
        "country": {
          "bsonType": "array",
          "additionalItems": true,
          "uniqueItems": false,
          "items": [
            {
              "bsonType": "objectId"
            },
            {
              "bsonType": "string"
            }
          ]
        }
      }
    }
  },
  "validationLevel": "off",
  "validationAction": "warn"
});
```

2.1.2.9 Collection rates

2.1.2.9.1 rates Tree Diagram



2.1.2.9.2 rates Properties

PROPERTY	VALUE
Collection name	rates
Technical name	
Id	
Description	
Database	UTNPhone
Capped	false
Size	
Max	
Storage engine	WiredTiger
Config String	
Validation level	Off
Validation action	Warn
Additional properties	false
Comments	

2.1.2.9.3 rates Fields

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
id	objectId	false			
type	string	false			
pricexmin	double	false			
cost	double	false			
destinationcity	array	false			
[0] idcity	string	false			
[1] city	string	false			
origincity	array	false			
[0] idcity	string	false			
[1] city	string	false			

2.1.2.9.3.1 Field id

2.1.2.9.3.1.1 id Tree Diagram



2.1.2.9.3.1.2 id properties

PROPERTY	VALUE
Name	id
Technical name	
Id	
Type	objectId
Description	
Dependencies	type
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Sample	
Comments	

2.1.2.9.3.2 Field type

2.1.2.9.3.2.1 type Tree Diagram



2.1.2.9.3.2.2 type properties

PROPERTY	VALUE
Name	type
Technical name	
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	

2.1.2.9.3.3 Field pricexmin**2.1.2.9.3.3.1 pricexmin Tree Diagram**

2.1.2.9.3.3.2 pricexmin properties

PROPERTY	VALUE
Name	pricexmin
Technical name	
Id	
Type	numeric
Subtype	double
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.9.3.4 Field cost

2.1.2.9.3.4.1 cost Tree Diagram

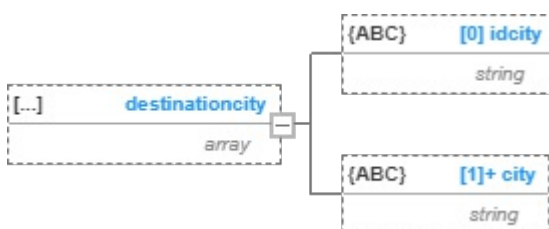


2.1.2.9.3.4.2 cost properties

PROPERTY	VALUE
Name	cost
Technical name	
Id	
Type	numeric
Subtype	double
Description	
Dependencies	
Required	false
Primary key	false
Foreign collection	
Foreign field	
Relationship type	
Default	
Unit	
Min value	
Excl min	false
Max value	
Excl max	false
Multiple of	
Divisible by	
Enum	
Sample	
Comments	

2.1.2.9.3.5 Field destinationcity

2.1.2.9.3.5.1 destinationcity Tree Diagram



2.1.2.9.3.5.2 destinationcity Hierarchy

Parent field: **rates**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] idcity	string	false			
[1] city	string	false			

2.1.2.9.3.5.3 destinationcity properties

PROPERTY	VALUE
Name	destinationcity
Technical name	
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	

2.1.2.9.3.6 Field [0] idcity

2.1.2.9.3.6.1 [0] idcity Tree Diagram



2.1.2.9.3.6.2 [0] idcity properties

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

2.1.2.9.3.7 Field [1] city

2.1.2.9.3.7.1 [1] city Tree Diagram

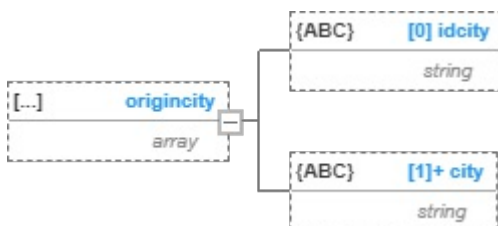


2.1.2.9.3.7.2 [1] city properties

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

2.1.2.9.3.8 Field origincity

2.1.2.9.3.8.1 origincity Tree Diagram



2.1.2.9.3.8.2 origincity Hierarchy

Parent field: **rates**

Child field(s):

FIELD	TYPE	REQ	KEY	DESCRIPTION	COMMENTS
[0] idcity	string	false			
[1] city	string	false			

2.1.2.9.3.8.3 origincity properties

PROPERTY	VALUE
Name	origincity
Technical name	
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	

2.1.2.9.3.9 Field [0] idcity

2.1.2.9.3.9.1 [0] idcity Tree Diagram



2.1.2.9.3.9.2 [0] idcity properties

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

2.1.2.9.3.10 Field [1] city**2.1.2.9.3.10.1 [1] city Tree Diagram****2.1.2.9.3.10.2 [1] city properties**

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

2.1.2.9.4 rates JSON Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "title": "rates",
  "additionalProperties": false,
  "properties": {
    "id": {
      "type": "string",
      "pattern": "^[a-zA-F0-9]{24}$"
    },
    "type": {
      "type": "string"
    },
    "pricexmin": {
      "type": "number"
    },
    "cost": {
      "type": "number"
    },
    "destinationcity": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string"
        },
        {
          "type": "string"
        }
      ]
    },
    "origincity": {
      "type": "array",
      "additionalItems": true,
      "uniqueItems": false,
      "items": [
        {
          "type": "string"
        },
        {
          "type": "string"
        }
      ]
    },
    "dependencies": {
      "id": [
        "type"
      ]
    }
  }
}
```

2.1.2.9.5 rates JSON data

```
{
  "id": ObjectId("507f1f77bcf86cd799439011"),
  "type": "Lorem",
  "pricexmin": -1.3263529511311514e+30,
  "cost": 1.4767692785085373e+30,
  "destinationcity": [
    "Lorem",
    "Lorem"
  ],
  "origincity": [
    "Lorem",
    "Lorem"
  ]
}
```

2.1.2.9.6 rates Target Script

```
use utn;

db.createCollection( "rates",{
  "storageEngine": {
    "wiredTiger": {}
  },
  "capped": false,
  "validator": {
    "$jsonSchema": {
      "bsonType": "object",
      "title": "rates",
      "additionalProperties": false,
      "properties": {
        "_id": {
          "bsonType": "objectId"
        },
        "id": {
          "bsonType": "objectId"
        },
        "type": {
          "bsonType": "string"
        },
        "pricexmin": {
          "bsonType": "double"
        },
        "cost": {
          "bsonType": "double"
        },
        "destinationcity": {
          "bsonType": "array",
```

```
    "additionalItems": true,
    "uniqueItems": false,
    "items": [
      {
        "bsonType": "string"
      },
      {
        "bsonType": "string"
      }
    ]
  },
  "origincity": {
    "bsonType": "array",
    "additionalItems": true,
    "uniqueItems": false,
    "items": [
      {
        "bsonType": "string"
      },
      {
        "bsonType": "string"
      }
    ]
  }
},
"dependencies": {
  "id": [
    "type"
  ]
}
},
"validationLevel": "off",
"validationAction": "warn"
});
```