Database Upgrade

Journaling, Versioning

[Cases 2](#_Toc224729677)

[1. New ObjectClass 2](#_Toc224729678)

[2. New Value Property - Nullable 3](#_Toc224729679)

[3. New Value Property – not Nullable 4](#_Toc224729680)

[4. New 1:n Relation 5](#_Toc224729681)

[5. New n:m Relation 6](#_Toc224729682)

[6. New 1:1 Relation 7](#_Toc224729683)

[7. Delete ObjectClass 8](#_Toc224729684)

[8. Delete ObjectClass with relations 9](#_Toc224729685)

[9. Delete Property 10](#_Toc224729686)

[10. Delete 1:n Relation 11](#_Toc224729687)

[11. Delete n:m Relation 12](#_Toc224729688)

[12. Delete 1:1 Relation 13](#_Toc224729689)

[13. Rename ObjectClass 14](#_Toc224729690)

[14. Rename Property 15](#_Toc224729691)

[15. Move Property 16](#_Toc224729692)

[16. Change Property to Nullable 17](#_Toc224729693)

[17. Change Property to NOT NULL 18](#_Toc224729694)

[18. Add ObjectClass inheritance 19](#_Toc224729695)

[19. Change ObjectClass inheritance 20](#_Toc224729696)

[20. Remove ObjectClass inheritance 21](#_Toc224729697)

# Cases

## New ObjectClass

A new ObjectClass has been added.



Journal Entry:

* NewObjectClass

Actions:

* Create Table Statement with all Properties

## New Value Property - Nullable

A new nullable Property has been added to an ObjectClass.



Journal Entry:

* NewProperty

Actions:

* Alter Table Statement for adding a column

## New Value Property – not Nullable

A new not nullable Property has been added to an ObjectClass.



Journal Entry:

* NewProperty
* Default value or default function

Actions:

* Alter Table Statement for adding a column *nullable*
* Apply default value or default function
* Alter Table Statement for changing column to not nullable

## New Value Property – IsList

A new List Property (Collection) of Value Types has been added to an ObjectClass.

## New 1:n Relation

A new 1:n Relation has been added.



Journal Entry:

* NewRelation

Actions:

* Alter Table Add Colum Statement
* Create Relation Statement

## New n:m Relation

A new n:m Relation has been added.



Journal Entry:

* NewRelation

Actions:

* Create Table Statement
* Create Relations Statement

## New 1:1 Relation

A new 1:1 Relation has been added.



Journal Entry:

* NewRelation

Actions:

* Alter Table Add Column Statement for Storage Table
* Create Relation Statement for Storage Tables

## Delete ObjectClass

An ObjectClass has been deleted.



Journal Entry:

* DeleteObjectClass

Actions:

* Drop Table Statement

## Delete ObjectClass with relations

An ObjectClass with relations has been deleted.



Journal Entry:

* DeleteRelation
* DeleteObjectClass

Actions:

* Drop Relation Statement
* Alter Table Drop Column Statement for Relation Storage
  + OR: Drop Table Statement for Relation Storage
* Drop Table Statement

## Delete Property

A Property of an ObjectClass has been deleted.



Journal Entry:

* Delete Property

Actions:

* Alter Table Drop Column Statement

## Delete 1:n Relation

A 1:n Relation has been deleted.



Journal Entry:

* DeleteRelation

Actions:

* Drop Relation Statement
* Alter Table Drop Column Statement on Project Table

## Delete n:m Relation

A n:m Relation has been deleted.



Journal Entry:

* DeleteRelation

Actions:

* Drop Relation Statements
* Drop Table Statement for Relation Table

## Delete 1:1 Relation

A 1:1 Relation has been deleted.



Journal Entry:

* DeleteRelation

Actions:

* Drop Relation Statements
* Alter Table Drop Column Statement on Storage Tables

## Rename ObjectClass

An ObjectClass has been renamed.



Journal Entry:

* ObjectClassRenamed

Actions:

* Create Table Statement
* Copy Data
* Drop Relations Statement
* Create Relations Statement
* Drop Table Statement

## Rename Property

A Property has been renamed but remains in the same ObjectClass.



Journal Entry:

* RenameProperty

Actions:

* Alter Table Add Column Statement NULL
* Copy Data
* Alter Table ALTER Column Statement NOT NULL
* Alter Table Drop Column Statement

## Move Property

A Property has been moved from one ObjectClass to another.



Journal Entry:

* MoveProperty

Actions:

* Alter Table Add Column Statement NULL
* Copy Data
* Alter Table ALTER Column Statement NOT NULL
* Alter Table Drop Column Statement

TODO:

* Describe that User and Person need 1:1 relationship to be able to copy data

## Change Property to Nullable

A Property has been changed to allow null Values



Journal Entry:

* ChangePropertyNull

Actions:

* Alter Table Add Column Statement NULL

## Change Property to NOT NULL

A Property has been changed to forbid null Values



Journal Entry:

* DefaultValue
* ChangePropertyNotNull

Actions:

* Apply Default Values or Function
* Alter Table Add Column Statement NOT NULL

## Add ObjectClass inheritance

The changing ObjectClass derives from another ObjectClass now.



Journal Entry:

* AddInheritance

Actions:

* Alter Table Alter Column Remove Identity Statement
* Drop all Relations to User
* Update ID’s of User to MAX(ID) + Count(Person)
* Update all FK’s to User
* Insert Empty Persons for User
* Create Relation User – Person
* Recreate all User’s Relations

## Change ObjectClass inheritance

The changing ObjectClass changes inheritance.



Journal Entry:

* ChangeInheritance

Actions:

* Drop Relation Contact - User
* Drop all Relations to User
* Update ID’s of User to MAX(ID) + n of Person
* Update all FK’s to User
* Insert Empty Persons for User
* Create Relation User – Person
* Recreate all User’s Relations

## Remove ObjectClass inheritance

The changing ObjectClass removes its inheritance.



Journal Entry:

* RemoveInheritance

Actions:

* Drop Relation Person - User
* Alter Table Alter Column Add Identity Statement

## Create Struct Property

Works like a property.

## Delete Struct Property

Works like a property.

## Move Struct Property

Works like a property.

# Journalentry

|  |  |
| --- | --- |
| Property | Description |
| Type | Enum   * NewObjectClass * NewProperty * Default * NewRelation * DeleteObjectClass * DeleteProperty * DeleteRelation * ObjectClassRenamed * PropertyRenamed * PropertyMoved * ChangePropertyNotNull * ChangePropertyNull * AddInheritance * ChangeInheritance * RemoveInheritance |
| Name | Name of the affected Entity |
| NameOld | Old name of the affected Entity |
| Module |  |
| ObjectClass |  |
| Change Index |  |

Journal Entries are grouped by an export number.