Database Upgrade

Journaling, Versioning

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# 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 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:

* 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