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GBD CFGS ASIX 1r

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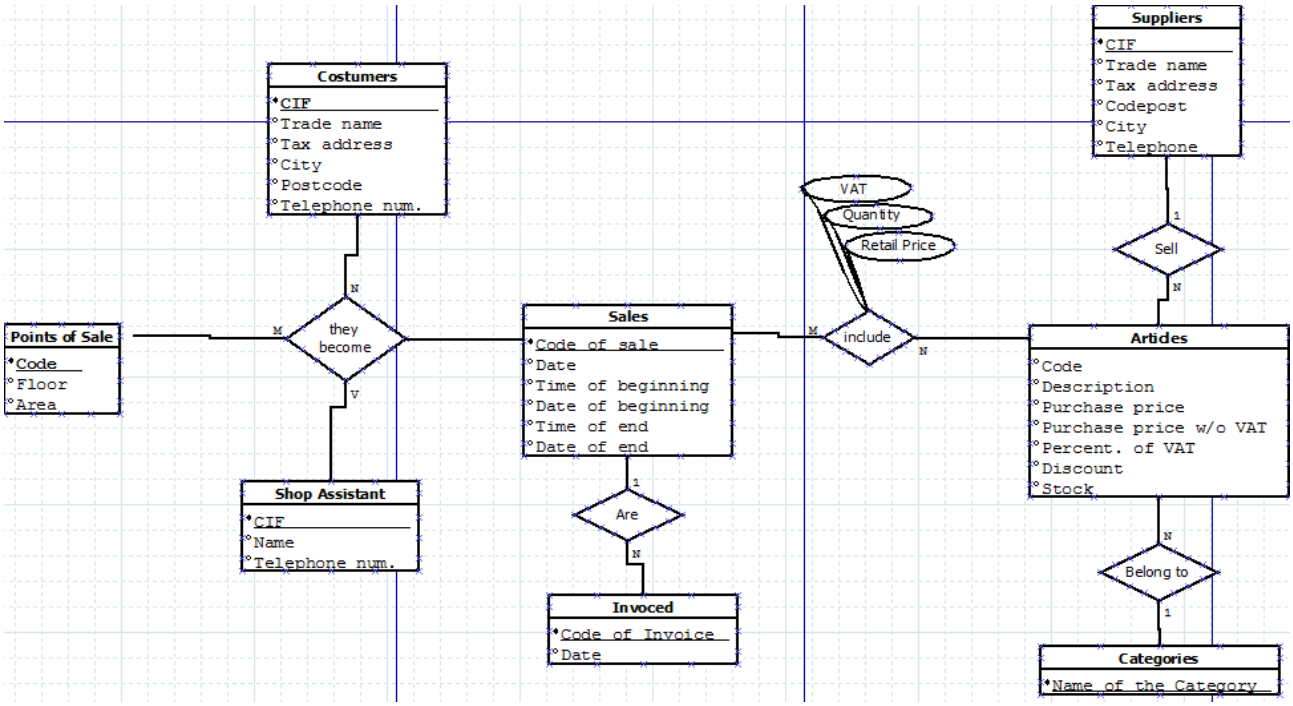
1. Modelo entidad Relación



2. Dominio de los atributos.

Costumers

- **CIF:** *A00000000 - Z99999999*
- Trade name: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- Tax Address: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- City: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- Postcode: *000000 - 999999*
- Telephone num.: *000000000 - 999999999*

Points of Sale:

- **Code:** *00000 - 99999*
- Floor: *00 - 99*
- Area: *North, South, East, West.*

Shop Assistant:

- **CIF:** *A00000000 - Z99999999*
- Name: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- Telephone Number: *000000000 - 999999999*

Sales:

- **Code of Sale:** *00000 - 99999*
- Date: 01/01/1900 – *01/01/2100*
- Time of beginnig: *00:00 – 23:59*
- Date of beginning: *01/01/1900 – 01/01/2100*
- Time of end: *00:00 – 23:59*
- Date of end: *01/01/1900 – 01/01/2100*

Invoced:
- **Code of invoce:** *00000 - 99999*
- Date: *01/01/1900 – 01/01/2100*

Suppliers:
- **CIF:** *A00000000 - Z99999999*
- Trade name: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- Tax address: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- Codepost: *000000 - 999999*
- City: *AAAAAAAAAAAA - ZZZZZZZZZZZZ*
- Telephone: *000000000 - 999999999*

Articles:
- **Code:** *00000 - 99999*
- Description: *AAAAAAAAAAAAAAAAAAAA-ZZZZZZZZZZZZZZZZZZZZ*
- Purchase price: *000000 - 999999*
- Purchase price w/o VAT: *000000 - 999999*
- Percent. Of VAT: *0% - 99%*
- Discount: *0% - 99%*
- Stock: *1 - 9999*

Categories:
- **Name of category:** *AAAAAAAAAA – ZZZZZZZZZZ*

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3. Llaves Primarias:

Costumers	
SuperKeys	*CIF, CIF + TradeName, CIF + Tax Address, CIF + City, CIF + PostCode, Telephone Num, Telephone Num + TradeName, Telephone Num + TaxAddress, Telephone Num + PostCode, TradeName + TaxAddress, Tax Address.*
Candidate Keys	*CIF, Telephone Num, TradeName + TaxAddress,*
Primary Key	**CIF**.
Alternative Keys	*Telephone Num, TradeName + TaxAddress.*

Points of Sale	
SuperKeys	*Code, Floor+Area, Code+Floor+Area, Code+Floor, Code+Area*
Candidate Keys	*Code, Floor + Area*
Primary Key	***Code***
Alternative Keys	*Floor + Area*

Shop Assistant	
SuperKeys	*CIF, Telephone Number, CIF+Name, Telephone Number+Name*
Candidate Keys	*CIF, Telephone Number.*
Primary Key	***CIF***
Alternative Keys	*Telephone Number*

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Sales	
SuperKeys	*Code of Sale, Date+Time of beginnig, Date+Time of end, Code of Sale+Date, Code of Sale+Date of beginning*
Candidate Keys	*Code of Sale*
Primary Key	**Code of Sale**
Alternative Keys	-

Invoced	
SuperKeys	*Code of invoce, code of invoce+Date.*
Candidate Keys	*Code of invoce*
Primary Key	**Code of invoce**
Alternative Keys	-

Suppliers	
SuperKeys	*CIF, Telephone, TradeName+TaxAddress, TradeName+TaxAddress+CodePost, Tax Address, TaxAddress+Telephone, City+Telephone, City+TaxAddres, TradeName+City+TaxAddress*
Candidate Keys	*CIF, Telephone, TradeName+TaxAddress, TradeName+TaxAddress+CodePost, City+TaxAddres, TradeName+City+TaxAddress*
Primary Key	**CIF**
Alternative Keys	*Telephone, TradeName+TaxAddress, TradeName+TaxAddress+CodePost, City+TaxAddres, TradeName+City+TaxAddress*

Articles	
SuperKeys	*Code, Description.*
Candidate Keys	*Code, Description.*
Primary Key	**Code**
Alternative Keys	*Description*

Categories	
SuperKeys	*Name of category*
Candidate Keys	*Name of category*
Primary Key	**Name of category**
Alternative Keys	-

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4. Modelo Relacional

Points of Sale = (**Code**, Floor, Area)
Costumers = (**coCIF**, tradeName, taxAddress, City, PostCode, TelephoneNumber)
Shop Assistant = (**saCIF**, Name, TelephoneNumber)
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
*They Become =(**Code, coCIF, saCIF, Code of Sale**)*

Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
Invoced = (**Code of invoce**, date)
Are = (Code of Invoce, **Code of Sale**)

Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
Invoced = (**Code of invoce**, date, **Code of Sale**)
F.K.

Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock)
Include = (VAT, Quantity, Retail Price)

Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock)
Include = (**Code of Sale, aCode,** VAT, Quantity, Retail Price)

Suppliers = (**CIF**, tradeName, taxAddress, codePost, city, telephone)
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock)
Sell = (**CIF, aCode)**

Suppliers = (**CIF**, tradeName, taxAddress, codePost, city, telephone)
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock, **CIF**)

Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock)
Categories = (**NameOfCategory)**
Belong to = (**aCode, NameOfCategory**)

Points of Sale = (**Code**, Floor, Area)
Costumers = (**coCIF**, tradeName, taxAddress, City, PostCode, TelephoneNumber)
Shop Assistant = (**saCIF**, Name, TelephoneNumber)
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
They Become =(**Code, coCIF, saCIF, Code of Sale**)
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end)
Invoced = (**Code of invoce**, date, **Code of Sale**)
F.K.
Include = (**Code of Sale, aCode,** VAT, Quantity, Retail Price)
Suppliers = (**CIF**, tradeName, taxAddress, codePost, city, telephone)
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock, **CIF**(suppliers))
Belong to = (**aCode, NameOfCategory**)

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5. Integridad referencial.

Invoced = **Code of Sale** (**F.K.**)
- It can not contain NULL values
- It can not be deleted
- Cascade modification

Include = **aCode** (**F.K.**)
- It can not contain NULL values
- It can not be deleted
- Cascade modification

Belong to = **NameOfCategory**
- It can not contain NULL values
- It can be deleted
- Cascade Modification

Articles = **CIF**(suppliers)
- It can not contain NULL values
- It can not be deleted
- Cascade Modification

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6. Formas normales sobre Bases de Datos Relacionales.

+ PRIMERA FORMA NORMAL (1FN)
- *Todos los dominios sobre los que están definidos los atributos son simples o atómicos.*

Points of Sale = (**Code**, Floor, Area) √
Costumers = (**coCIF**, tradeName, taxAddress, City, PostCode, TelephoneNumber) √
Shop Assistant = (**saCIF**, Name, TelephoneNumber) √
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end) √
They Become =(**Code, coCIF, saCIF, Code of Sale**) √
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end) √
Invoced = (**Code of invoce**, date, **Code of Sale**) √
F.K.
Include = (**Code of Sale, aCode,** VAT, Quantity, Retail Price) √
Suppliers = (**CIF**, tradeName, taxAddress, codePost, city, telephone) √
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock, **CIF**(suppliers)) √
Belong to = (**aCode, NameOfCategory**) √

+ SEGUNDA FORMA NORMAL (2FN)
- *Todo atributo que no forma parte de llave primaria depende funcionalmente de toda la llave primaria.*

Points of Sale = (**Code**, Floor, Area) √
Costumers = (**coCIF**, tradeName, taxAddress, City, PostCode, TelephoneNumber) √
Shop Assistant = (**saCIF**, Name, TelephoneNumber) √
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end) √
They Become =(**Code, coCIF, saCIF, Code of Sale**) √

Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end) √

Invoced = (**Code of invoce**, date, **Code of Sale**) √
F.K.

Include = (**Code of Sale, aCode,** VAT, Quantity, Retail Price) √

Suppliers = (**CIF**, tradeName, taxAddress, codePost, city, telephone) √

Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock, **CIF**(suppliers)) √

Belong to = (**aCode, NameOfCategory**) √

+ TECERA FORMA NORMAL (3FN)

- *Todo atributo que no forma parte de llave primaria, no depende funcionalmente de ningún otro atributo que no sea llave.*

Points of Sale = (**Code**, Floor, Area) √
Costumers = (**coCIF**, tradeName, taxAddress, City, PostCode, TelephoneNumber) √
Shop Assistant = (**saCIF**, Name, TelephoneNumber) √
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end) √
They Become =(**Code, coCIF, saCIF, Code of Sale**) √
Sales = (**Code of Sale**, Date, Time of beginning, Date of beginning, Time of end, Date of end) √
Invoced = (**Code of invoce**, date, **Code of Sale**) √
F.K.
Include = (**Code of Sale, aCode,** VAT, Quantity, Retail Price) √
Suppliers = (**CIF**, tradeName, taxAddress, codePost, city, telephone) √
Articles = (**aCode**, Description, PurchasePrice, PurchasePrice w/o VAT, Percent.Of VAT, Discount, Stock, **CIF**(suppliers)) √
Belong to = (**aCode, NameOfCategory**) √

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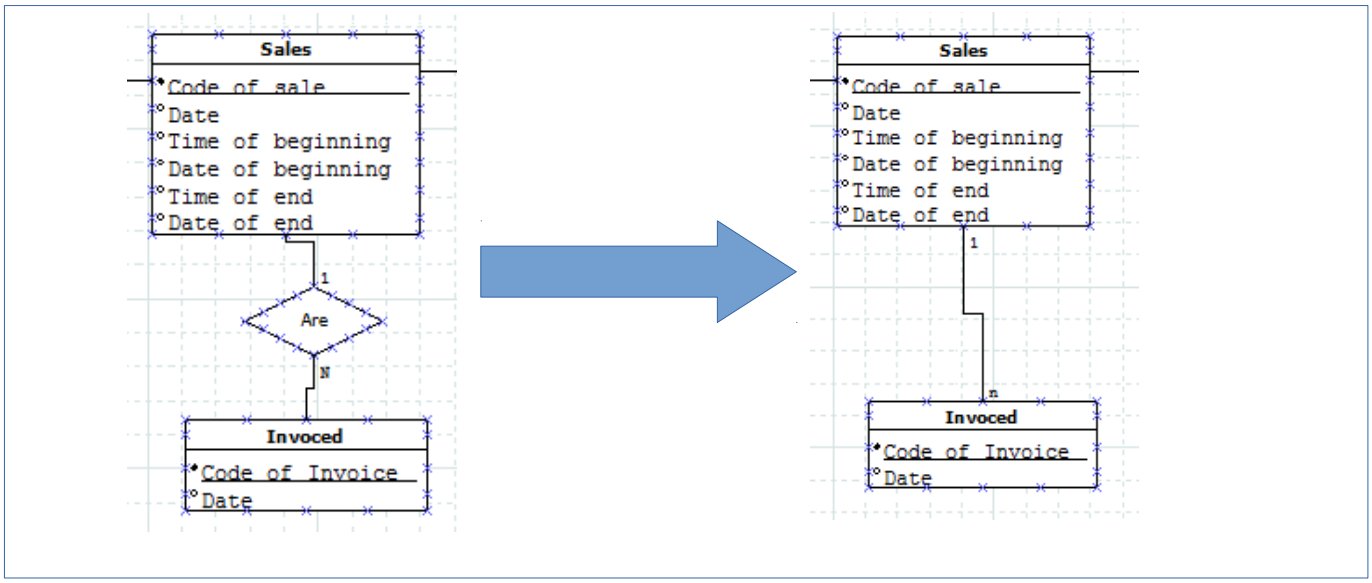
7. Traducción del modelo relacional de datos al modelo físico de datos.



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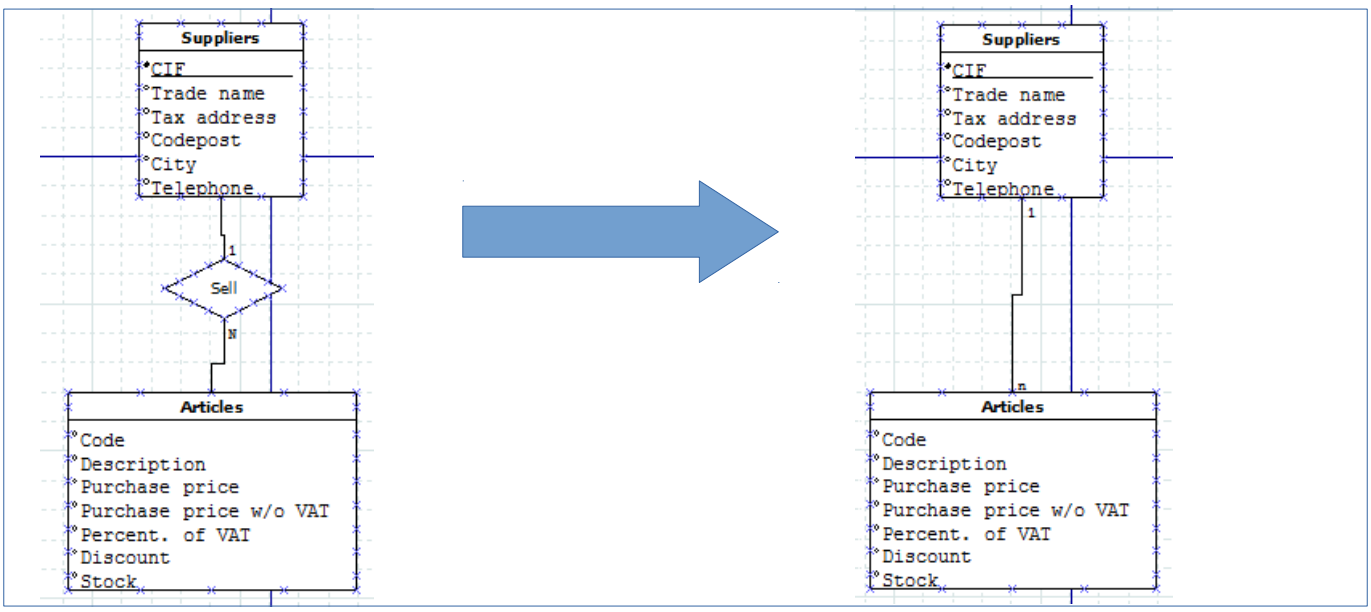

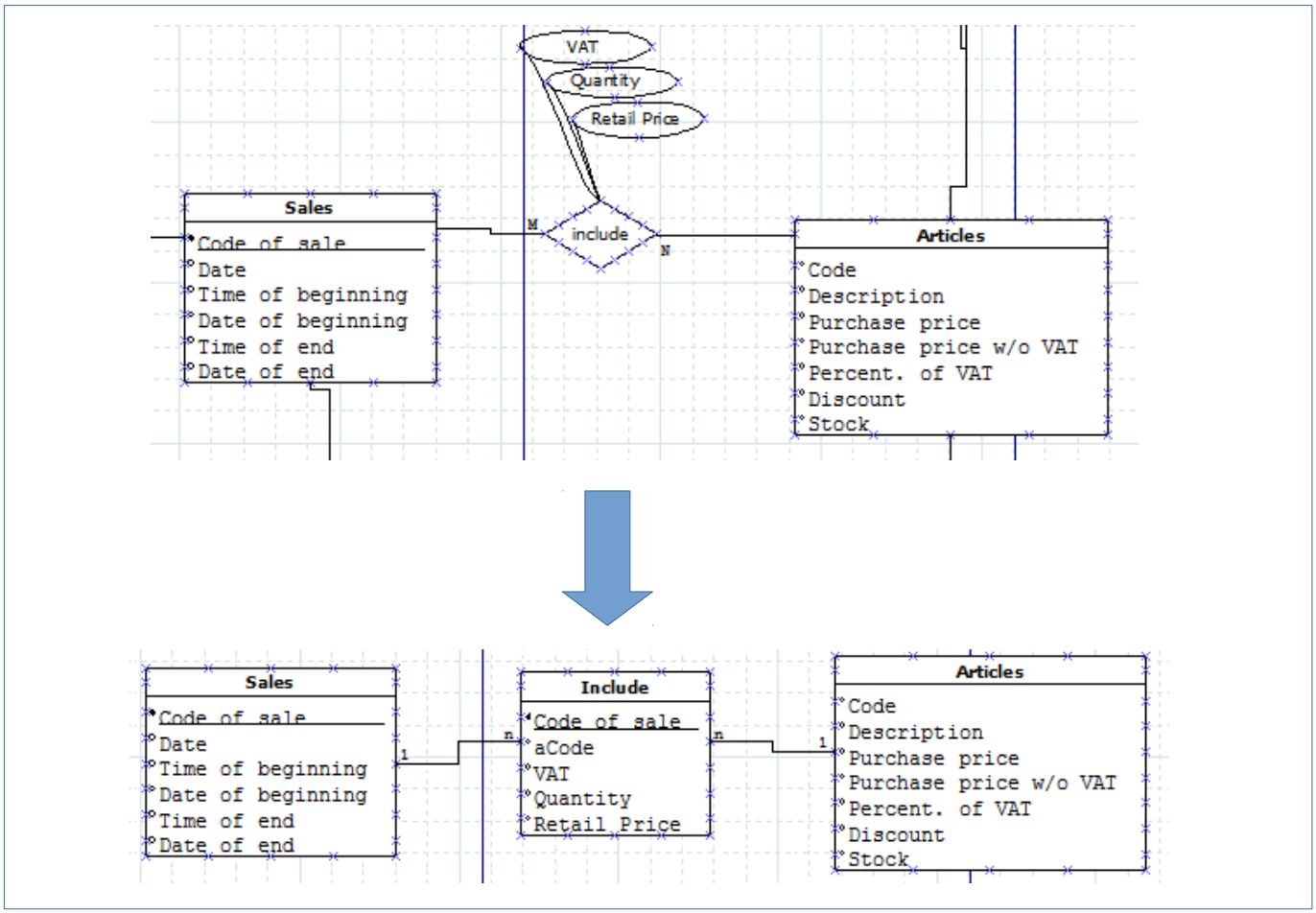

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