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# PROJECT DOCUMENTATION

Screening Project

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## OVERVIEW

You want to design a database to manage information for a B2B e-commerce site.

Users are companies which may have many subsidiaries, and each subsidiary has many end customers. The B2B platform allows them to buy products from qualified suppliers and sell them to end customers.

End customers are people who are identified by their document number, the full name, date of birth, home address, email and contact numbers (landline, mobile, fax, etc.).

Companies are identified by CUIT number (an unique identifier), date of commencement of its activities, website, email and telephones (landline, mobile, fax, etc.).

Subsidiaries are identified by SUIT number (an unique identifier), a nickname and an address

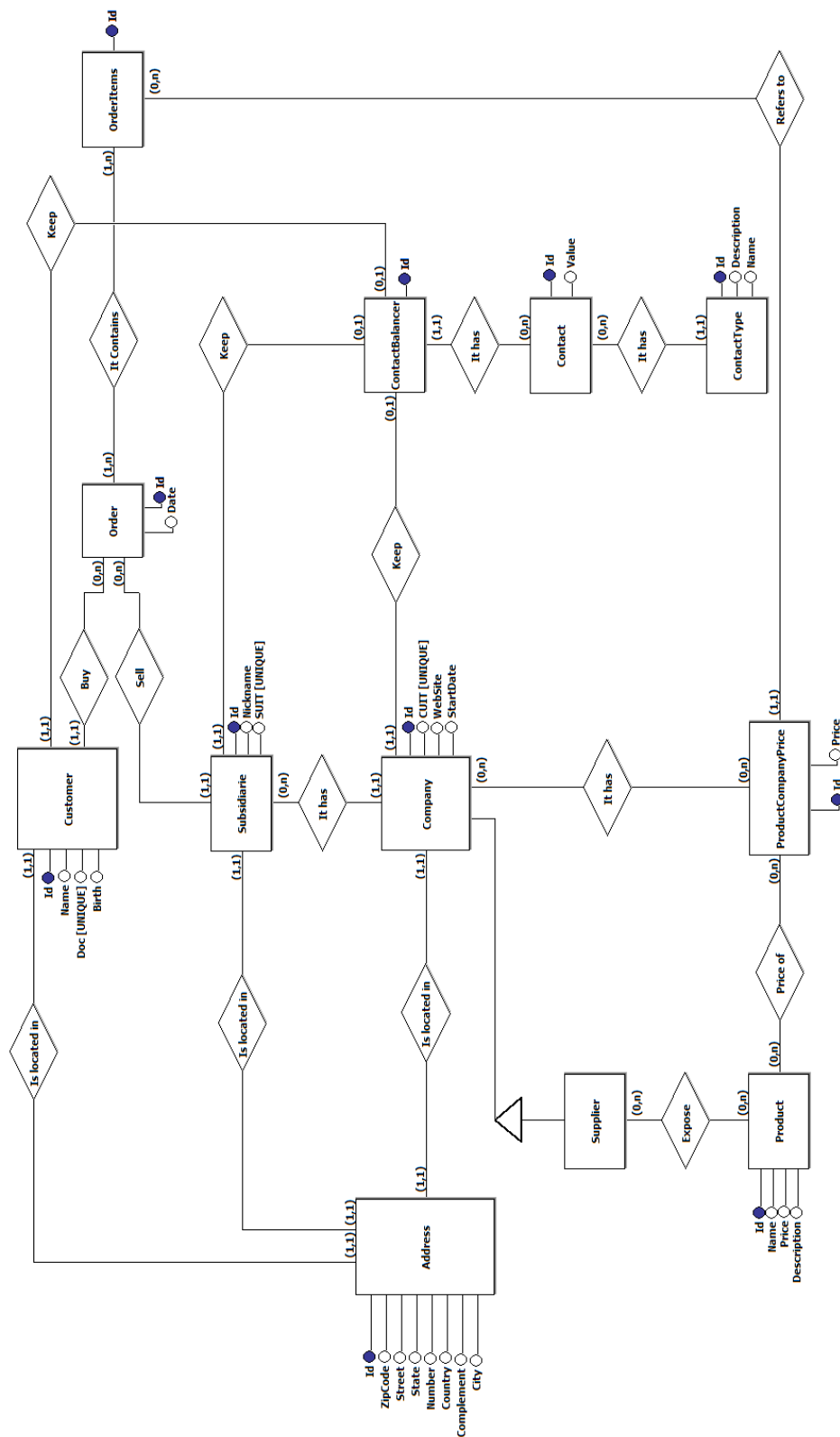
Suppliers are just a different type of company, and they expose a list of products and default prices.

Each user company can define its own price list using products from many suppliers. They can also place orders to the platform indicating which end customer has to receive the goods, orders among other things, should include a reference to the ordering subsidiary.

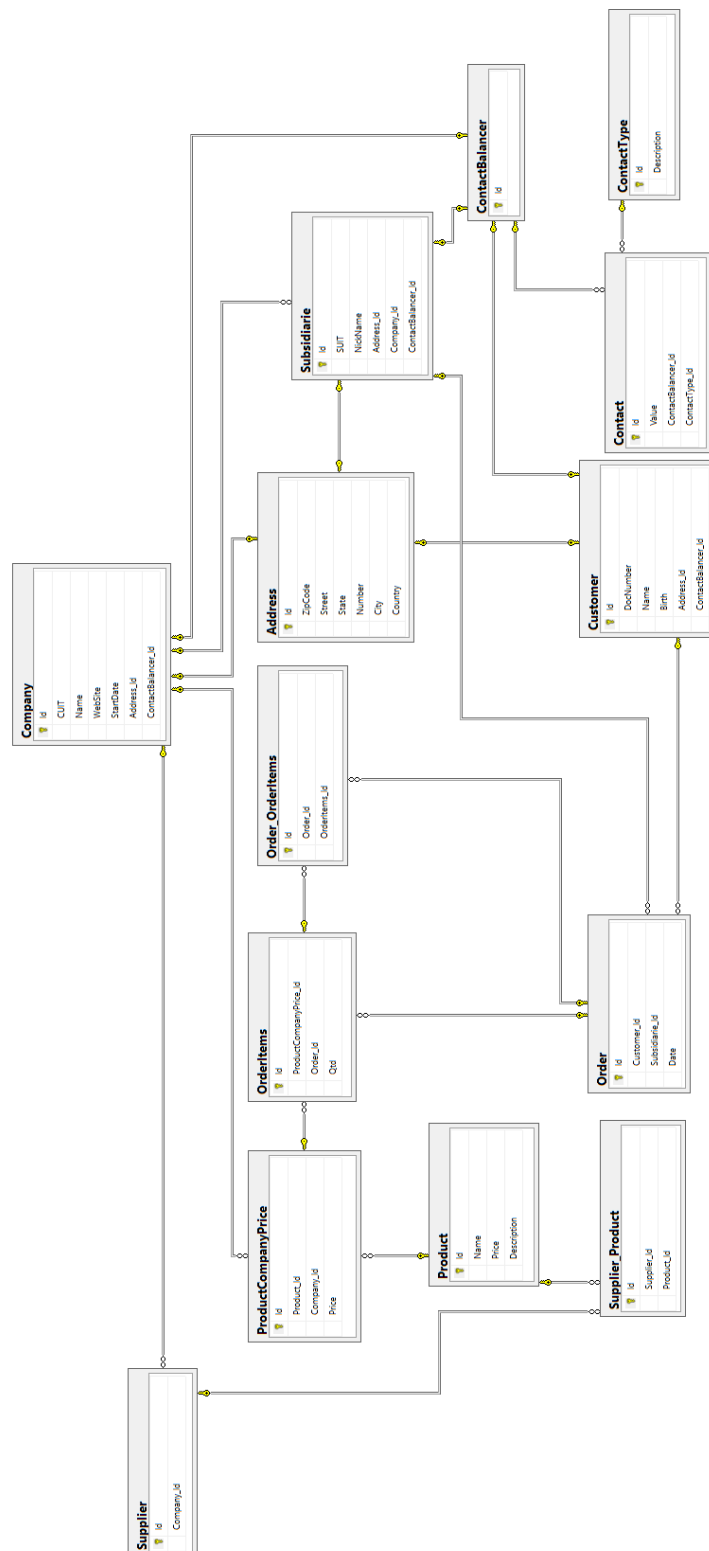
## PROJECT REQUIREMENTS

- 1) Entity Relationship Model (ERM) diagram, including:
  - a. A description of the entities and their attributes.
  - b. Relationships
- 2) A database which implements the ERM.
- 3) SQL script that will create the whole database along with the constraints and relationships.
- 4) An SQL query or stored procedure for the following interactions with the database:
  - Getting how much products did a certain company order per month, broken down into subsidiaries.
  - Getting total orders paid from all companies coming from a specific end-customer.
  - Inserting a new company along with defining its subsidiaries.
- 5) Read - replica database on the same machine. Replication needs to be as real time as possible.
- 6) Automatic backups of the database every two hours.

## CONCEPTUAL MODEL



## LOGICAL MODEL



## DATA DICTIONARY

<b>ENTITY: Address</b>		This entity stores the adress of active resources of system		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of address records
	ZipCode	int		Zip code of address
	Street	varchar	300	Street of address
	State	varchar	100	Complete name of state of address
	Number	int		Number of the building or house of address
	City	varchar	100	City of address
	Country	varchar	100	Country of address

<b>ENTITY: Company</b>		This entity stores the data about companies		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of company records
UNIQUE	CUIT	bigint		For the unique identification of company
	Name	varchar	300	Name of company
	WebSite	varchar	100	WebSite of company
	StartDate	datetime		Date of commencement of company activities
FK	Address_Id	int		Current Address identification
FK	ContactBalancer_Id	int		Current ContactBalancert identification

<b>ENTITY: Contact</b>		This entity stores the contact of active resources of system		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of contact records
	Value	varchar	MAX	Value of this contact record
FK	ContactBalancer_Id	int		Current ContactBalancert identification
FK	ContactType_Id	int		Current ContactType identification

<b>ENTITY: ContactBalancer</b>		This entity stores the contact balancer to relate contact to an active resource of system		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	INT		For the unique and incremental identification of contact balancer records

<b>ENTITY: ContactType</b>		This entity stores the contact type of a contact (Email, phone, cell, skype)		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
	Id	INT		For the unique and incremental identification of contact type records
	Description	VARCHAR	MAX	Description of contact type

<b>ENTITY: Customer</b>		This entity stores the data about customer		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of customer records
UNIQUE	DocNumber	bigint		For the document number of customer
	Name	varchar	300	Name of customer
	Birth	datetime		Date of birth of customer
FK	Address_Id	int		Current Customer identification
FK	ContactBalancer_Id	int		Current ContactBalancer identification

<b>ENTITY: Order</b>		This entity stores the data about purchase order		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of order records
FK	Customer_Id	int		Current Customer identification
FK	Subsidiarie_Id	int		Current Subsidiarie identification
	Date	datetime		Date of issuance of the order

<b>ENTITY: Order_OrderItems</b>		This entity stores the relationship between order and order items		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of Order_OrderItems records
FK	Order_Id	int		Current Order identification
FK	OrderItems_Id	int		Current OrderItems identification

<b>ENTITY: OrderItems</b>		This entity stores the items of a purchase order		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of OrderItems records
FK	ProductCompanyPrice_Id	int		Current ProductCompanyPrice identification
FK	Order_Id	int		Current Order identification
	Qtd	int		Quantity of this item in the current order

<b>ENTITY: Product</b>		This entity stores the data about products		
PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description

PK	Id	int		For the unique and incremental identification of product records
	Name	varchar	300	Name of product
	Price	money		Original price of product
	Description	varchar	MAX	Description of product

**ENTITY: ProductCompanyPrice** This entity stores the price definition of products by companies

PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of ProductCompanyPrice records
FK	Product_Id	int		Current Product identification
FK	Company_Id	int		Current Company identification
	Price	money		Company's price definition of product

**ENTITY: Subsidiarie** This entity stores the data about subsidiaries

PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of subsidarie records
	SUIT	bigint		For the unique identification of subsidarie
	NickName	varchar	300	Nickname of subsidarie
FK	Address_Id	int		Current Address identification
FK	Company_Id	int		Current Company identification
FK	ContactBalancer_Id	int		Current ContactBalancer identification

**ENTITY: Supplier** This entity stores the data about supplier

PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of supplier records
FK	Company_Id	int		Current Company identification

**ENTITY: Supplier\_Product** This entity stores the relationship between supplier and product

PK / FK / UNIQUE	Field Name	Data Type	Field Length	Description
PK	Id	int		For the unique and incremental identification of Address records
FK	Supplier_Id	int		Current Supplier identification
FK	Product_Id	int		Current Product identification