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Domain Model

Last update: Feb 4, 2020

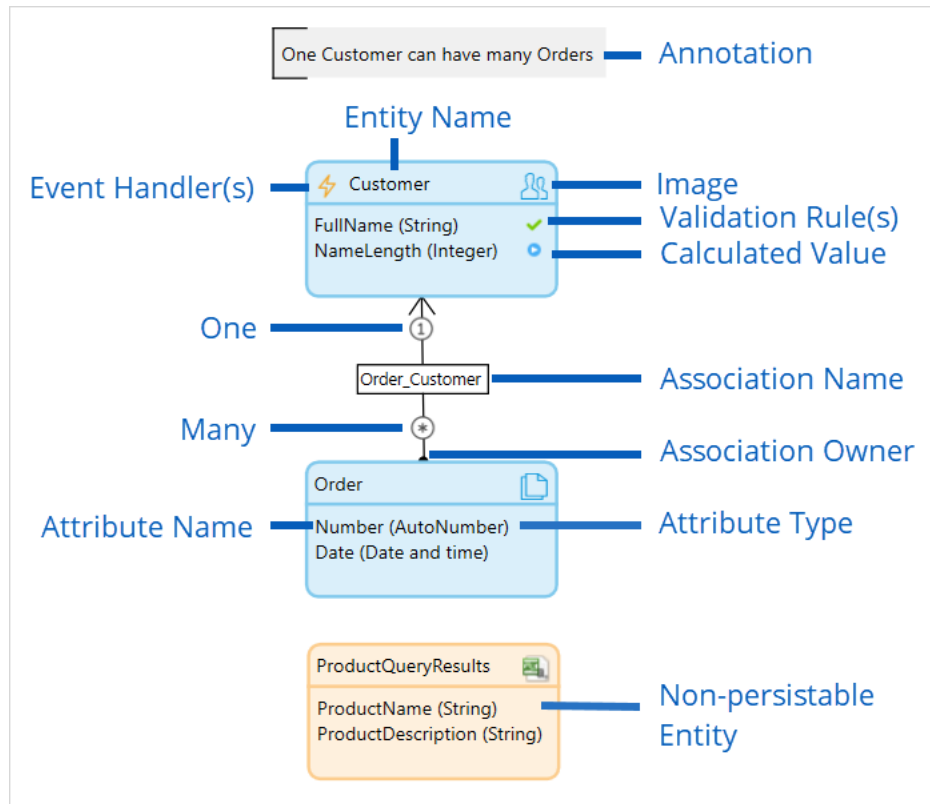
Edit (https://github.com/mendix/docs/blob/development/content/refguide/domain-model.md)

1 Introduction

The **domain model** is a model that describes the information (or *data*) used by your application in an abstract way. It is central to the architecture of your application. Each module (modules) has its own domain model which describes the data used in that module. All modules within a app project can use data from all the domain models within the app.

A domain model consists of entities (entities) with their relationships to other entities represented by associations (associations). You can also add annotations (annotations) to your domain model to explain how it is to be used.

Below is a domain model that defines customers and orders. The names of the entities are `Customer` and `Order`. The line between them is an association. `Order_Customer`. One customer can have many orders, but each order is for one customer. Within the boxes representing the entities you can see the attributes (attributes) of the entities together with the type (attributes#type) of data they hold. There is also a non-persistable (persistability) entity, `ProductQueryResults`, which is used to record product information which is retrieved from a separate product system.



(attachments/domain-model/annotated-domain-model.png)

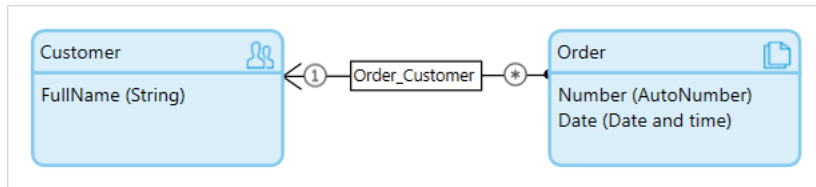
Element	Displays
Annotation	A comment explaining an aspect of the domain model
Entity Name	How the entity will be referred to in the database
Event Handler(s)	An indication that one or more event handlers (event-handlers) have been set up for this entity
Image	An image which helps to identify the entity
Validation Rule(s)	An indication that one or more validation rules (validation-rules) have been set up for this attribute
Calculated Value	And indication that the value of this attribute is calculated
One	Indicates that one of this entity relates to the quantity of the entity at the other end of the association
Association Name	How the association will be referred in the database
Many	Indicates that many of these entities relate to the quantity of the entity at the other end of the association
Association Owner	An end of an association without an arrow indicates that this entity owns the association (it is possible for both entities to own the association)
Attribute Name	How this attribute will be referred to in the database
Attribute Type	The type (attributes#type) of data stored in this attribute

Element	Displays
Non-persistable Entity	This is an entity which is not stored in a database but only stored temporarily within the app

2 Implementation

In the database every entity is stored in a separate table and has columns for the attributes defined in Studio Pro, the system attributes, and a unique object identifier. If an entity has specializations there is also a column indicating which specialization the object belongs to. An association is stored in a junction table with the identifiers (ID) of both objects.

Take a look at the following domain model.



(attachments/domain-model/customer-order.png)

The entity 'Customer' is stored in the table 'module\$customer' which is shown below. Take note of the 'system\$owner' and 'system\$changedby' columns which contain the IDs of the 'User' objects from the 'System' module.

id	createddate	changeddate	system\$owner	system\$changedby	fullname
1	2006-10-24 08:10:45.053	2009-11-27 09:56:45.099	66	29	Steve Jobs
3	2007-09-30 09:56:45.099	2008-04-01 08:10:45.053	66	34	Bill Gates

The association 'Order_Customer' is stored in the table 'module\$order_customer' which is shown below. Both columns contain IDs of the associated objects.

module\$orderid	module\$customerid
8	1
5	3

The entity 'Order' is stored in the table 'module\$order' which is shown below. It is similar to the table of the entity 'Customer'. However all system attributes have been disabled and are not stored in the table.

id	number	date
5	5	2009-11-27 09:56:45.099
8	8	2008-04-01 08:10:45.053

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