

Modeling Data Relationships

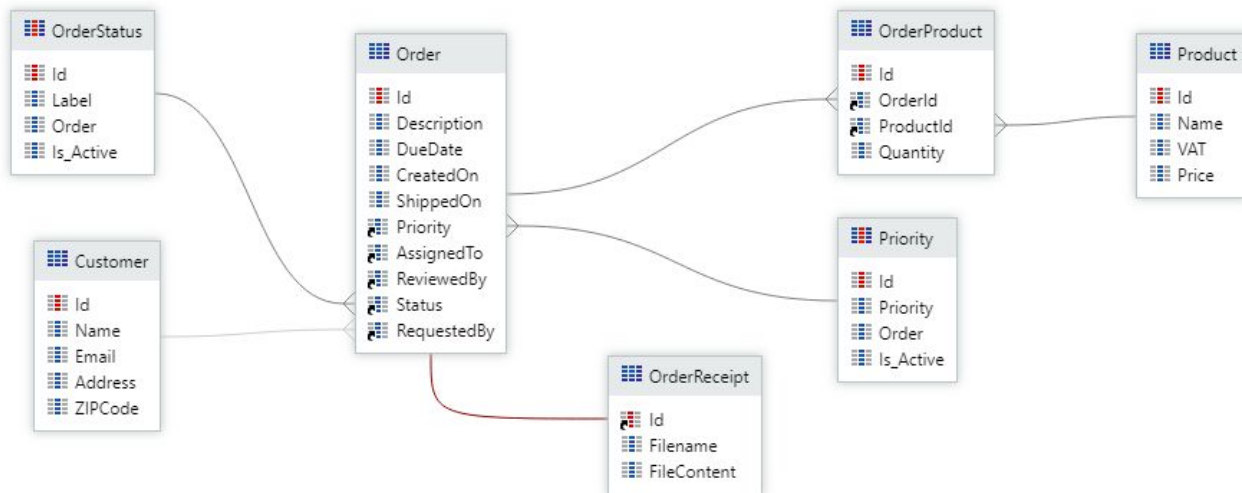


Data Relationships

Entity and Reference Identifiers

Types of Relationships

Data Relationships

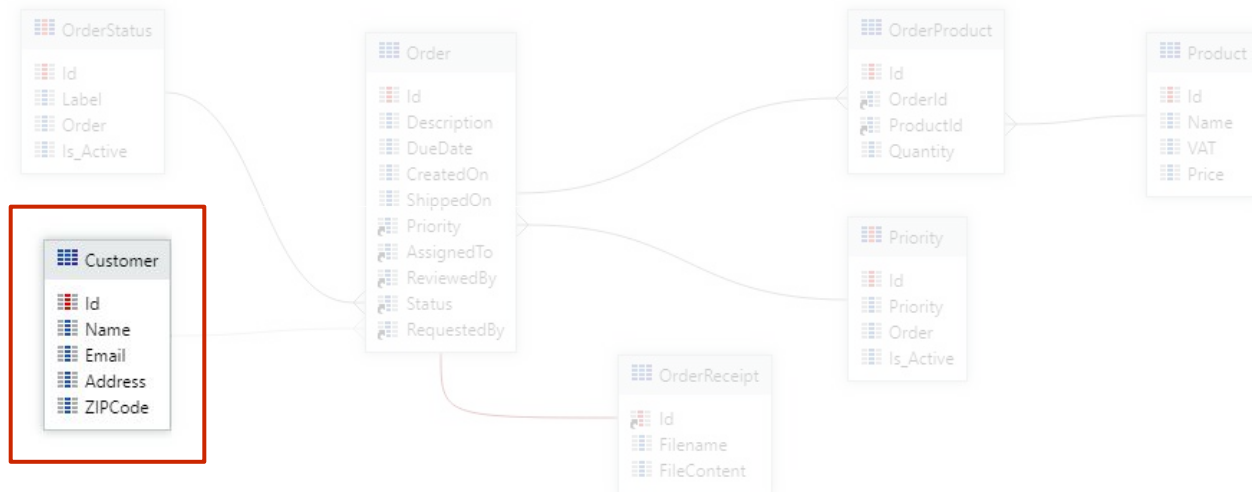


Data is rarely isolated

A rich data model
establishes the relationships
between data

The relationships
can be as important as
the data itself

Data Relationships

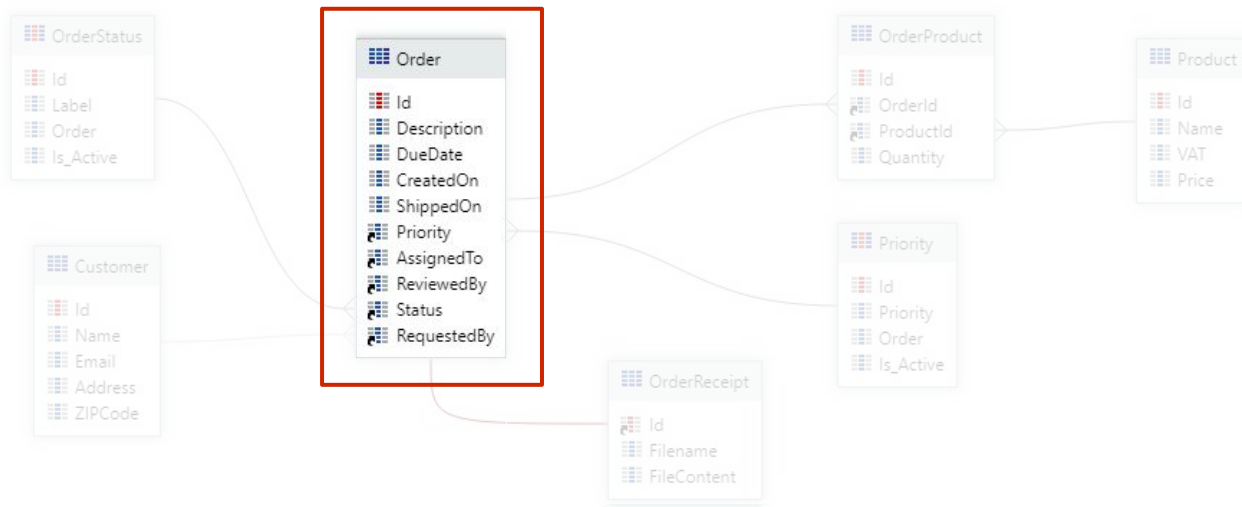


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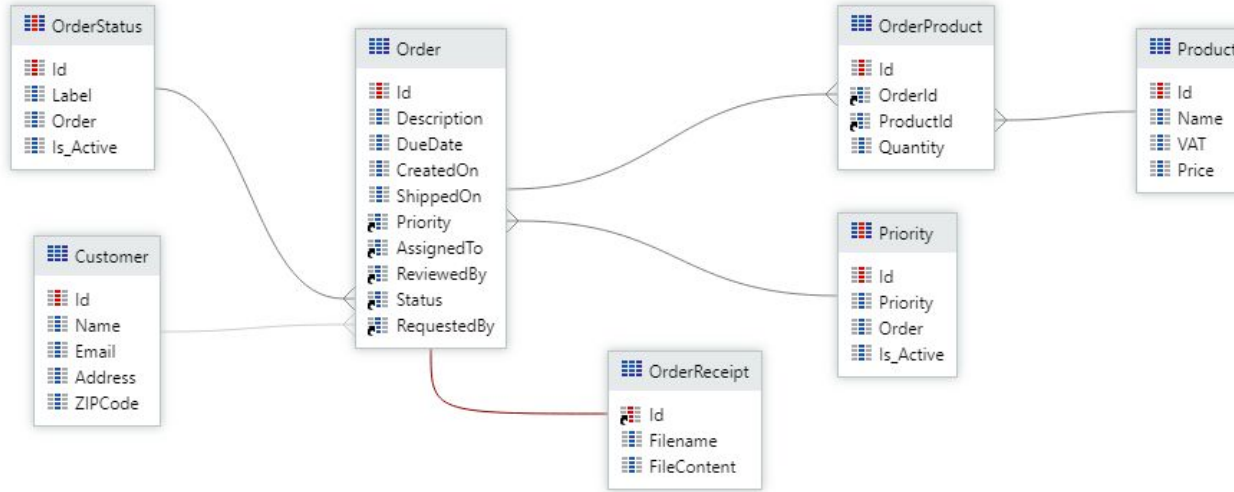


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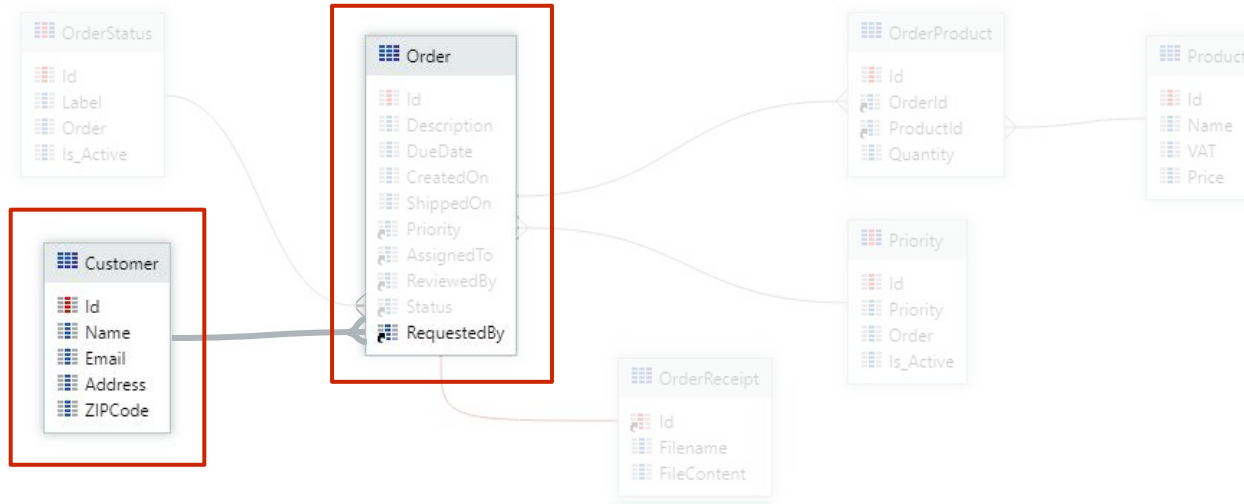


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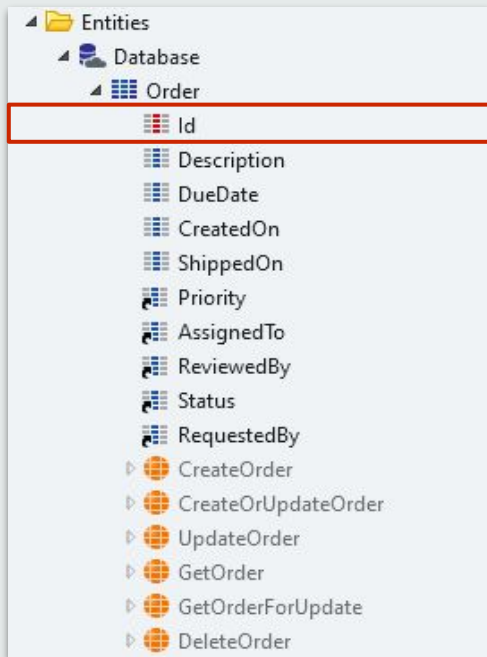


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Entity Identifier



- An Entity **must** have an **Identifier** to allow relationships
 - **Id** attribute is a long integer and automatically numbered by default
 - Mandatory
 - Possible types
 - Text
 - Integer / Long Integer
 - (Another) Entity Identifier
- Represents the DB table's Primary Key
 - Support **simple primary keys**
 - **NO** composite keys!



Referencing an Entity

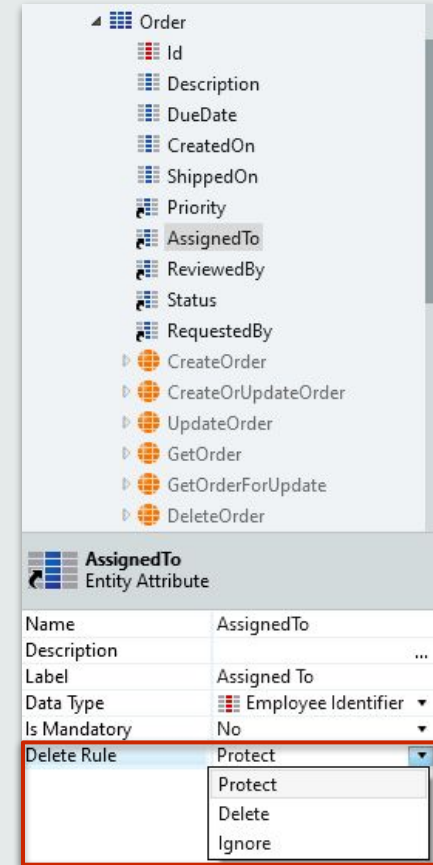
- Entities can be referenced by their identifier
 - Create an attribute of type *Entity Identifier*
 - Can be mandatory or not
 - Static Entities can only reference other Static Entities
- Represents the database table's Foreign Key
- *NullIdentifier()* is the default value for reference attributes

The screenshot shows the OutSystems IDE interface. On the left, a tree view displays the 'Entities' folder, containing a 'Database' folder with an 'Order' entity. The 'Order' entity has attributes: Id, Description, DueDate, CreatedOn, ShippedOn, Priority, AssignedTo, ReviewedBy, Status, and RequestedBy. The 'Priority' attribute is highlighted with a red box. A line connects this attribute to the 'Priority' attribute configuration panel on the right. This panel shows the 'Priority' attribute is an 'Entity Attribute'. The 'Data Type' is set to 'Priority Identifier', which is also highlighted with a red box. Other fields include Name (Priority), Description (empty), Label (Priority), Is Mandatory (No), and Delete Rule (Protect).

Priority Entity Attribute	
Name	Priority
Description	...
Label	Priority
Data Type	Priority Identifier
Is Mandatory	No
Delete Rule	Protect

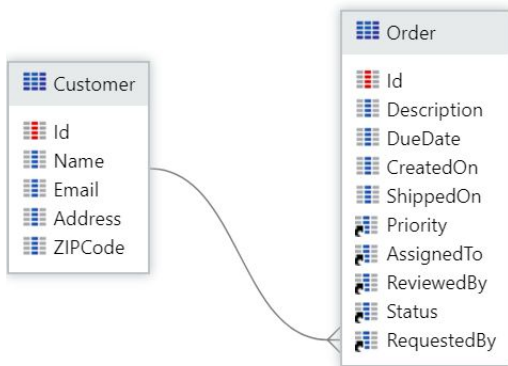
Delete Rule

- Property of the reference attribute
 - Specifies the referential integrity
- Applied when deleting a record from the referenced Entity (e.g. Employee)
 - Protect - does not allow deleting the record
 - Employee with Orders assigned to it is not deleted
 - Delete - deletes the record and cascades delete all the records that reference it
 - Employee is deleted as well as all the Orders assigned to it
 - Ignore - does not guarantee referential integrity
 - Employee is deleted. Orders are kept

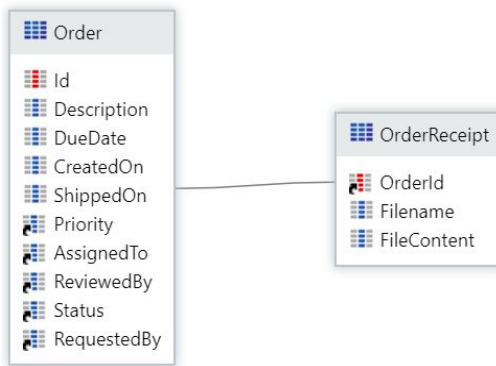


Types of Relationships

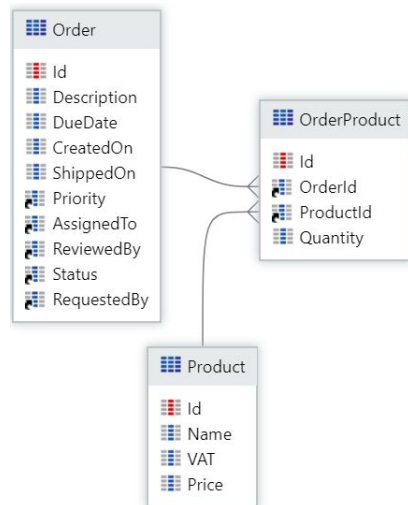
1-to-Many



1-to-1

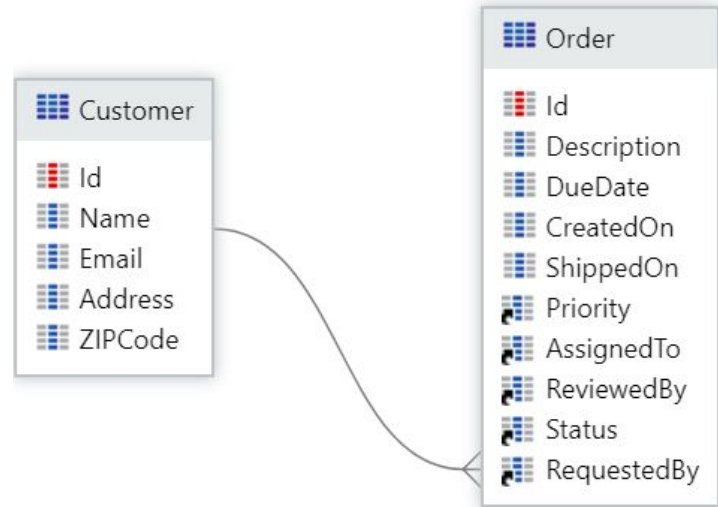


Many-to-Many



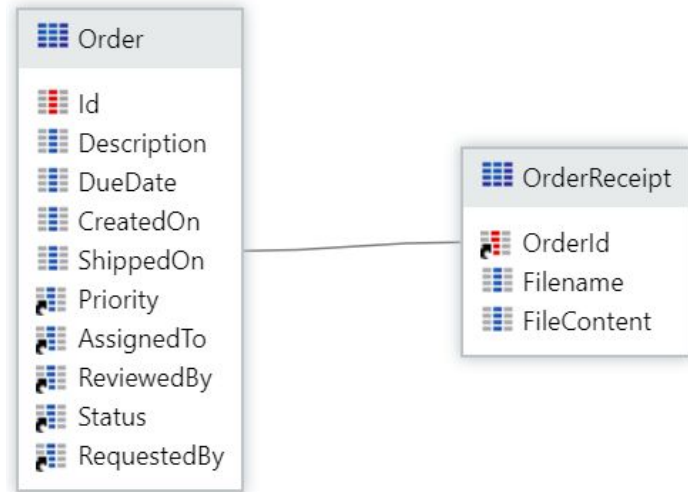
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1-to-Many



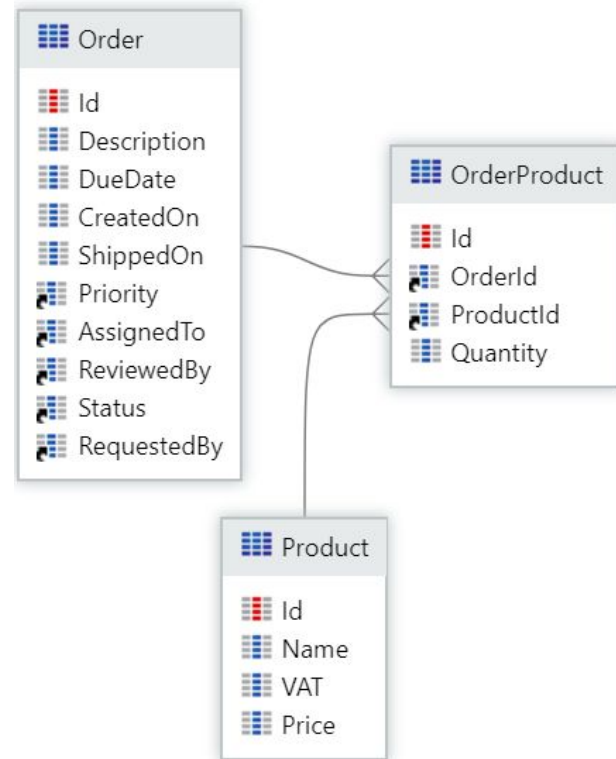
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1-to-1

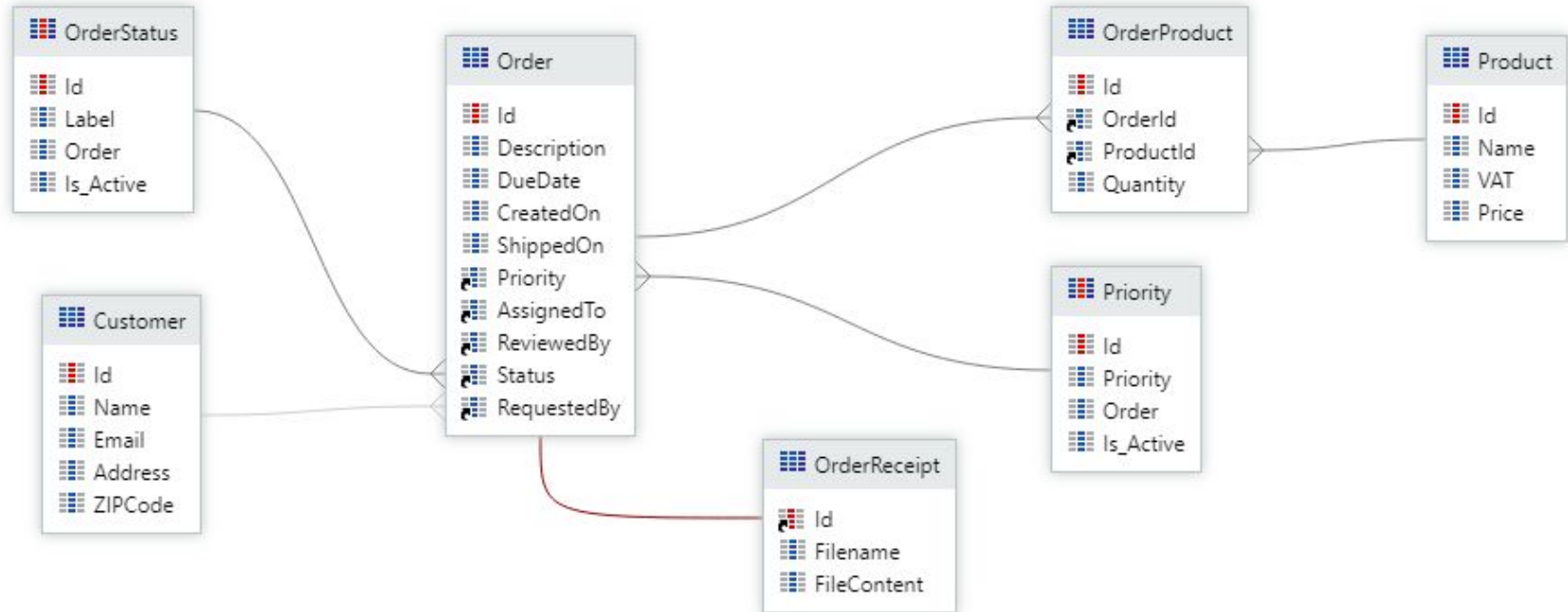


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Many-to-Many



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Questions?

Thank you
