Modeling Data Relationships
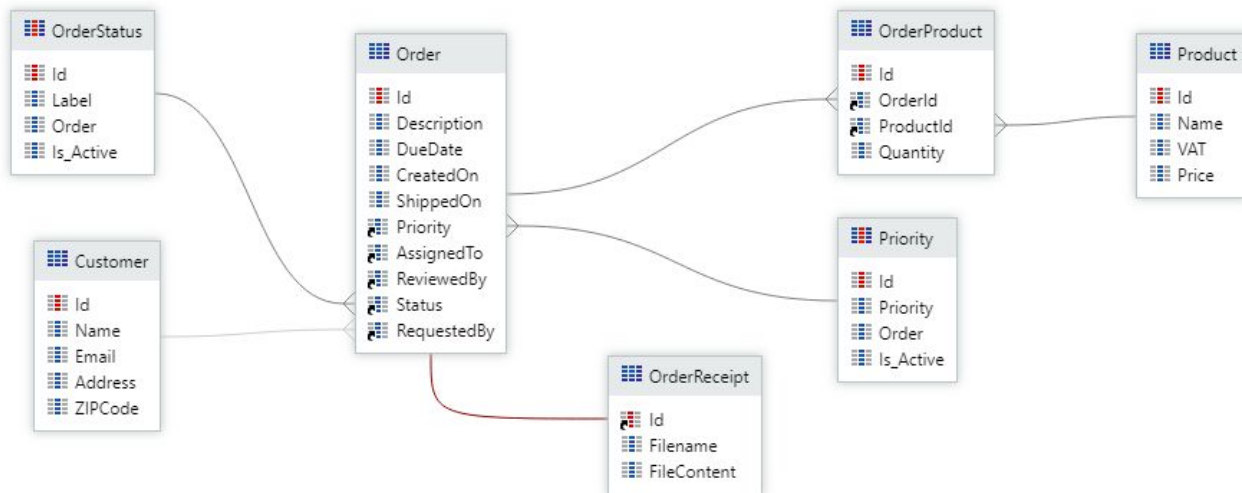
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Data Relationships

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

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Data Relationships

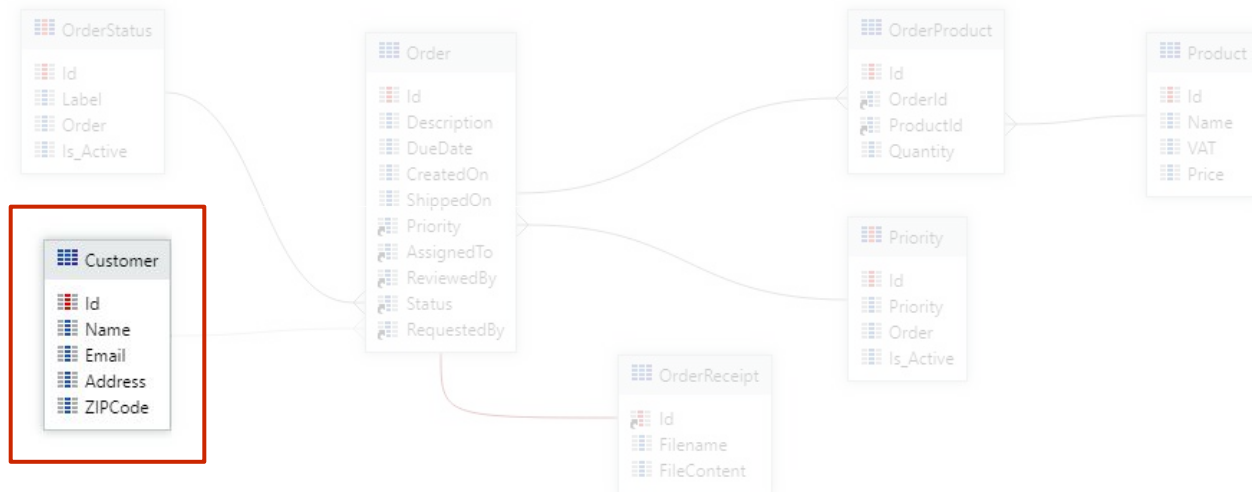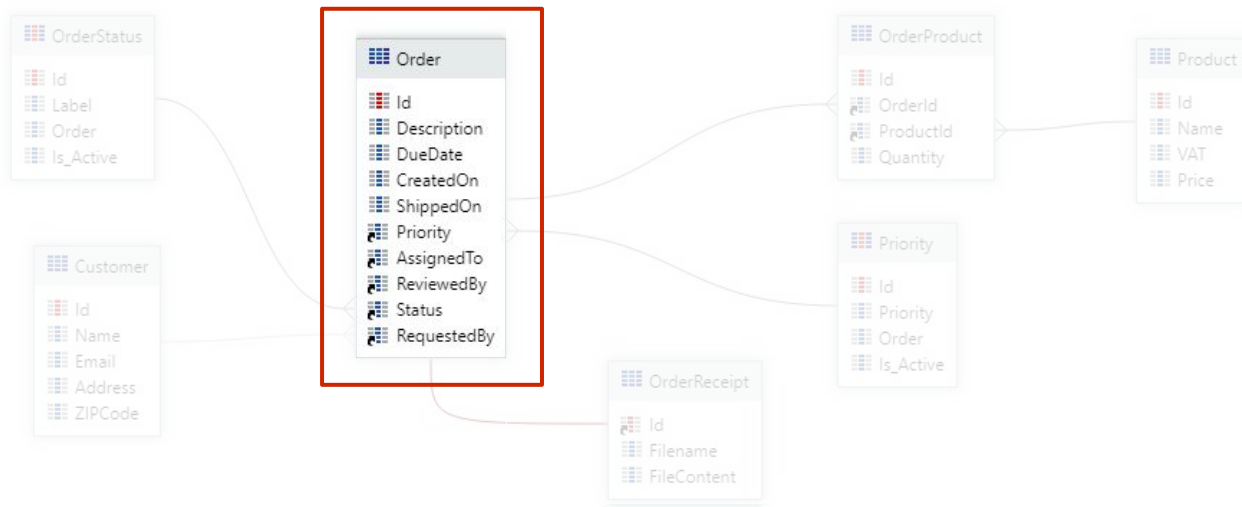Data is rarely isolated

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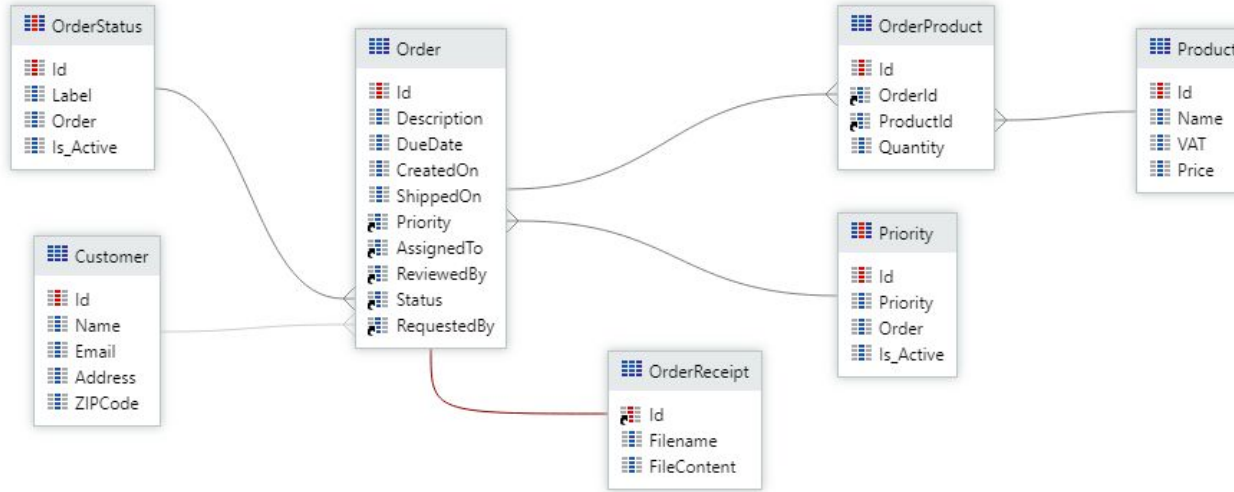

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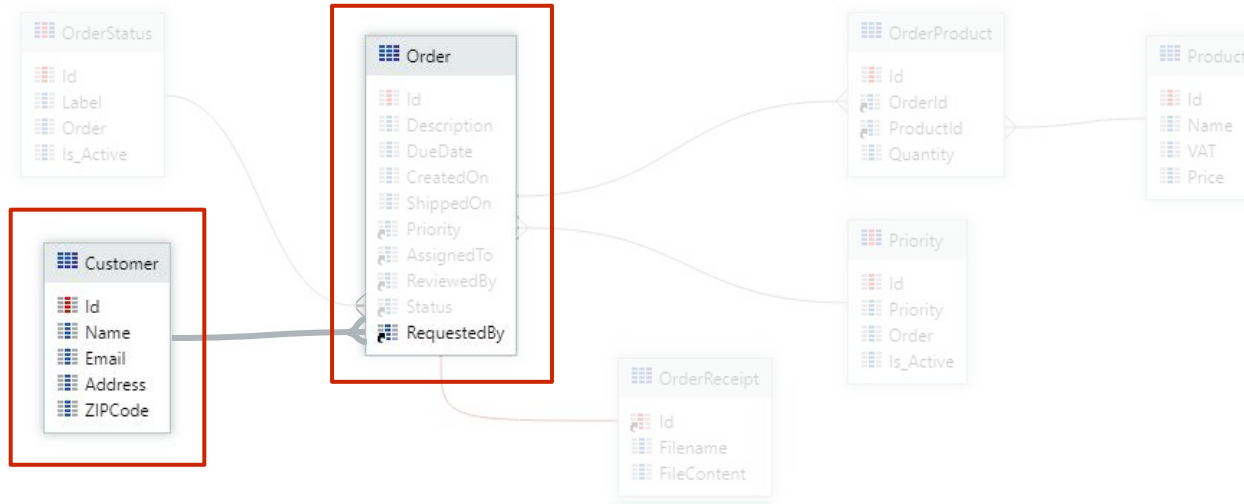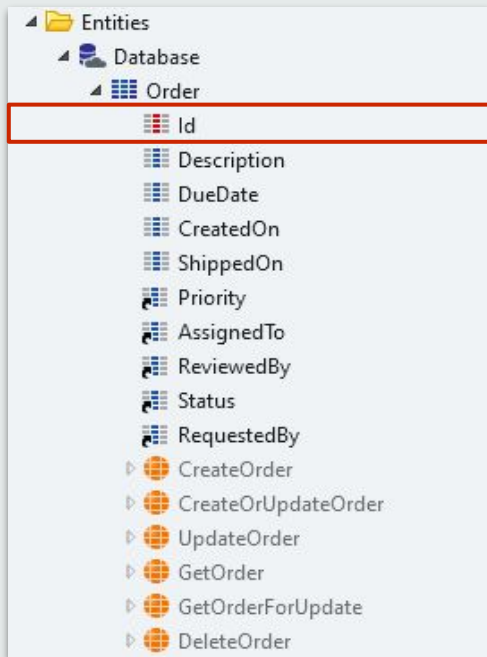
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Data Relationships

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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!

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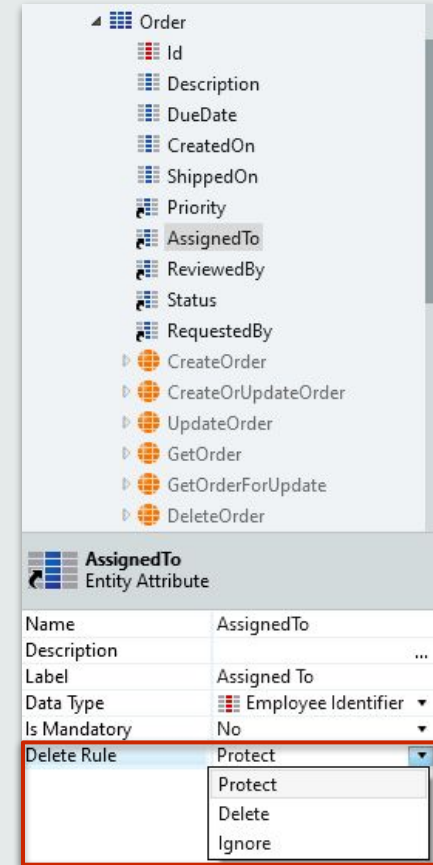
Referencing an Entity

- 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

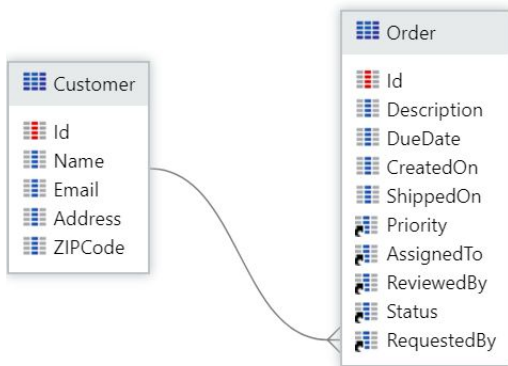- *NullIdentifier()* is the default value for reference attributes

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
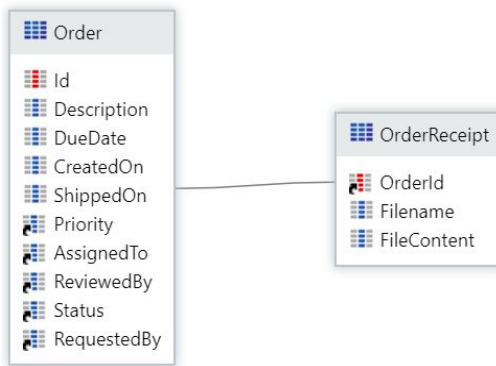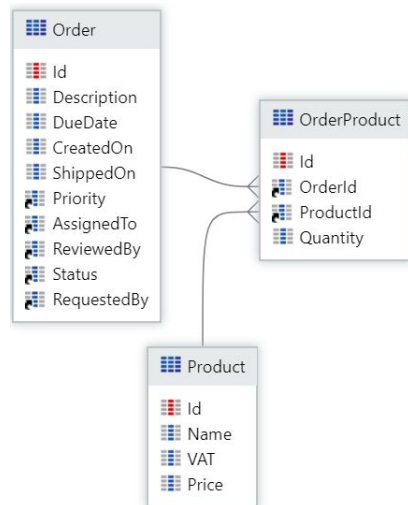   - Employee is deleted. Orders are kept
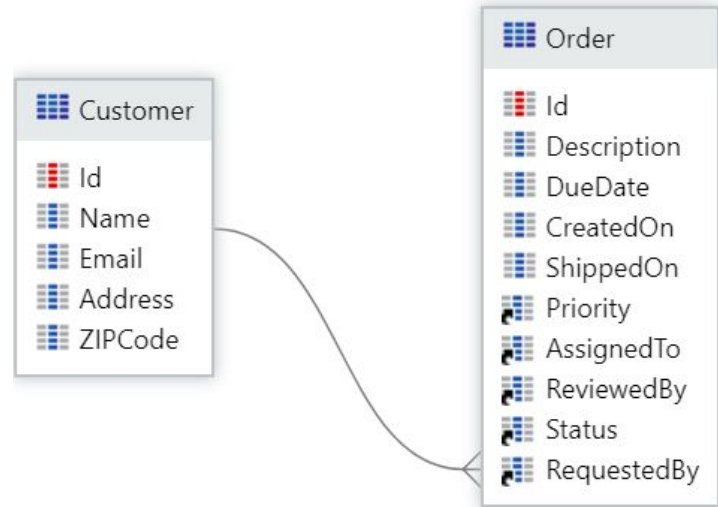
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Types of Relationships

1-to-Many

1-to-1

Many-to-Many

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Types of Relationships

1-to-Many

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Types of Relationships

1-to-1

Order
Id
Description
DueDate
CreatedOn
ShippedOn
Priority
AssignedTo
ReviewedBy
Status
RequestedBy

OrderReceipt
OrderId
Filename
FileContent

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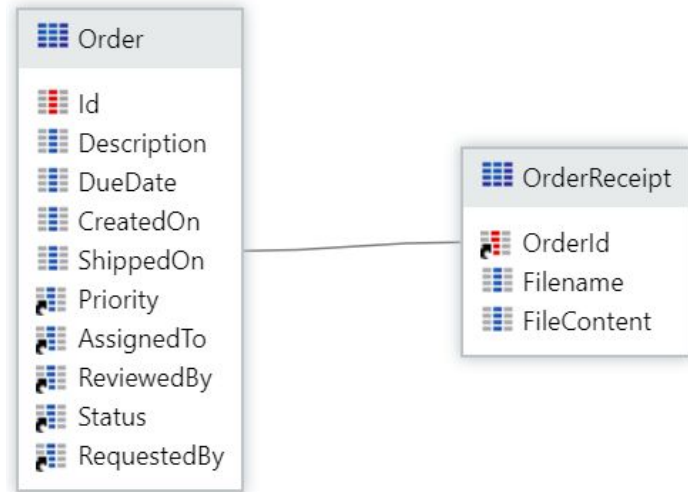
Types of Relationships

Many-to-Many

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Questions?

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Thank you

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