# Using Property Attributes To Describe Custom Data Objects

## What is an Attribute

An Attribute is extra bit of meta data that can be applied to a class or property that can be retrieved during runtime. The syntax looks like, where Table and Field are both attributes

[Table(TableName = "Sale")]

public partial class SaleDO : DataObject

{

//...

[Field(FieldName = "SaleNumber",

IsUnique = true,

IsPersisted = true,

SpecialFieldType = 0)]

public String SaleNumber

{

//...

}

}

## Creating a Data Object with Field Attributes

## Table Attribute

When reading data from the database the DAL will look for the tableName associated with the data object using the TableName from the Table Attribute. Thus the Table attribute is required and must have a valid TableName.

It should be noted that although Read method takes a table name, the table name taken by the Read method is ignored, and no longer use when building queries.

Optionally you can set a JoinCommand property in the TableAttribute that will allow you to pull values from other tables into you data. The Join Command uses the syntax described by <http://www.sqlite.org/syntaxdiagrams.html#join-source>

## Field Attribute

The DAL will use the Field Attribute associated with your classes properties to Read and Write data to the database.

There are three values you can set on the Field Attribute that can control how you read your data from the database. Most comonaly used will be the FieldName property. The FieldName can be any valid field name in the table used by the TableName mentiond earlier. Next there are the MappedExpression and Alias properties. Mapped Expression can be used if you would like to retrieve a value from a joined table (such as Tree.Species) or return the value of an expression (such as Sum(Counts.TreeCount) ). The Alias property must be provided if MappedExpression is used

Additionaly the Field Attribute allows you to set the default value and IsPersisted option. The Ispersisted option allows you the option to make a field read only and any changes will not be saved. Any field with mapped expression set will not be persisted regardless of the IsPersisted setting.

## Using a custom data object

Any custom data object you create must inherit from the DataObject class or another class that inherits from DataObject.

To read data from the database using you custom data object class

Dal.Read<CustomDO>(“SomeTableName”, “WHERE something = something”);