

# Mapping Stored Procedures

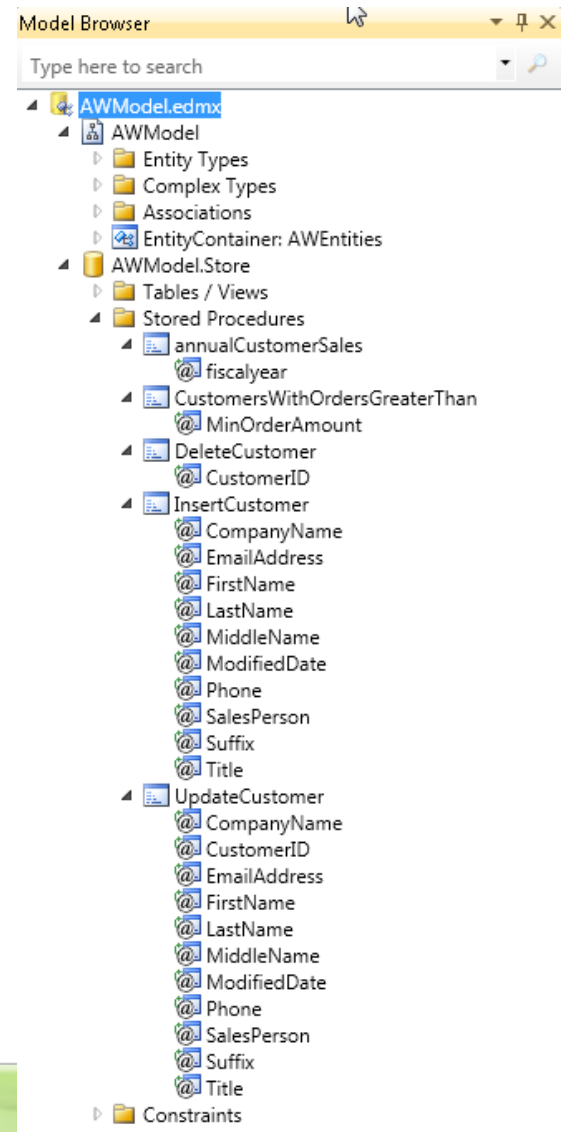
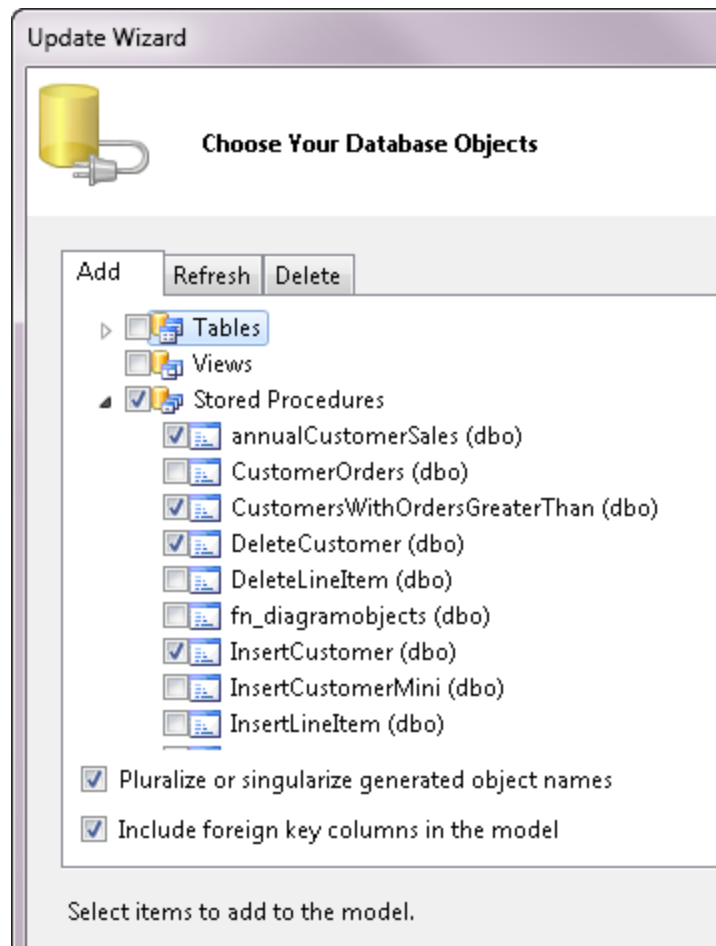
Using the Entity Data Model Designer to Implement Stored Procedures into your Entity Framework Model



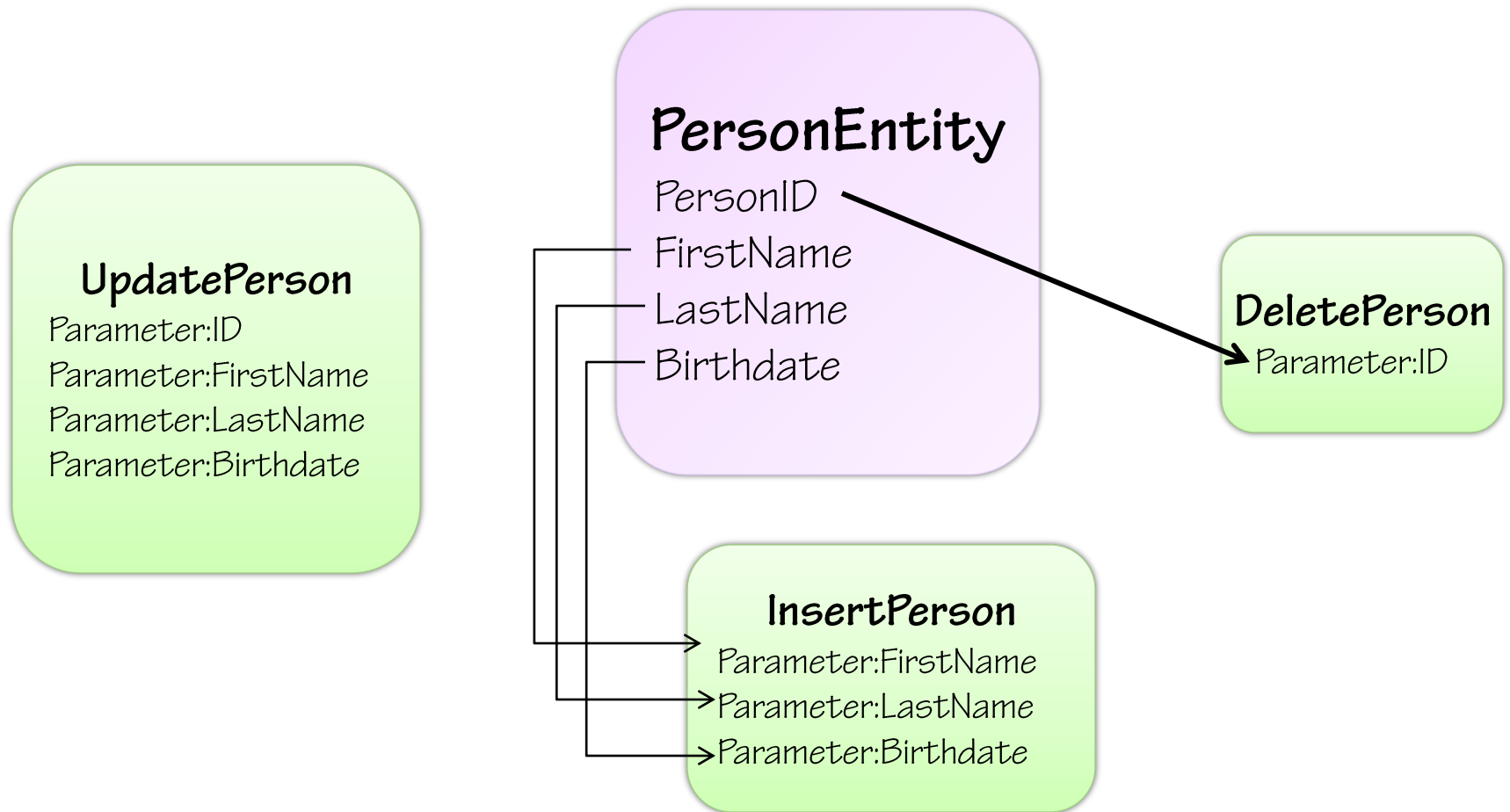
# Objectives

- **Bringing Database Stored Procedures into the Model**
- **Mapping Modification Procedures to Entities**
- **Importing Stored Procedures that Return Entities**
- **Importing Stored Procedures that Return Non-Entity Data**
- **Implementing Stored Procedures that Impact the Database**

# Stored Procedure Represented in Metadata



# Modification Stored Procedure Mapping



# Importing Stored Procs that Return Entities

## NewCustomersInPastYear

```
SELECT P.PersonID,  
       FirstName as First,  
       LastName as Last,  
       Birthdate,H.CustomerDate,  
       H.RecommendedBy  
FROM Person P, History H  
WHERE P.PersonID=H.PersonID  
AND DateDiff(yy,  
             H.CustomerDate,  
             GetDate())<=1
```



## Person Entity

PersonID  
First  
Last  
Birthdate  
CustomerDate  
RecommendedBy

Person maps  
back to Person &  
History tables  
using Entity Splitting

# Importing Stored Procs that Return Non-Entities

```
ALTER PROCEDURE [CustomersWithOrdersGreaterThan]
@MinOrderAmount int
AS
SELECT  Max(CompanyName)
FROM    Customer C INNER JOIN
        SalesOrderHeader O ON C.CustomerID = O.CustomerID
WHERE   (SubTotal > @minorderamount)
GROUP BY C.CustomerID
```

Returns series  
of strings

- Acme Trading
- Eastside Sports
- Metro Bikes
- Main Street Cycles

```
ALTER PROCEDURE [TotalOfOrdersGreaterThanByCustomer]
@MinOrderAmount int
AS
SELECT  Max(CompanyName), Sum(SubTotal), Max(C.CustomerID)
FROM    Customer C INNER JOIN
        SalesOrderHeader O ON C.CustomerID = O.CustomerID
WHERE   (SubTotal > @minorderamount)
GROUP BY C.CustomerID
```

Returns series  
of string | decimal | int

- Acme Trading | 53012.25 | 57
- Eastside Sports | 2428.10 | 129
- Metro Bikes | 2428.10 | 241
- Main Street Cycles | 4538.75 | 32

# Importing Stored Procs that Affect the Database

```
ALTER PROCEDURE [ApplyShipDateToOrder]
    @orderId int,
    @shipDate datetime
AS
...
```

```
ALTER PROCEDURE [UpdateOrderTotals]
AS
...
```

```
ALTER PROCEDURE [CreateCustomerFromContact]
    @ContactID int
AS
...
```

# Stored Procs that Return Multiple Resultsets

ADO.NET Entity Framework Extensions - Home - Windows Internet Explorer

http://code.msdn.microsoft.com/EFExtensions

ADO.NET Entity Framework Extensions - Home

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## ADO.NET Entity Framework Extensions

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The ADO.NET Entity Framework Extensions library includes utilities that make querying stored procedures, creating typed results from D external data much easier in the Entity Framework. A sample application demonstrates several patterns using these utilities, including st sets, materialization of CLR types, and registering entities in the Entity Framework state manager.

### Overview

Utilities are included to simplify:

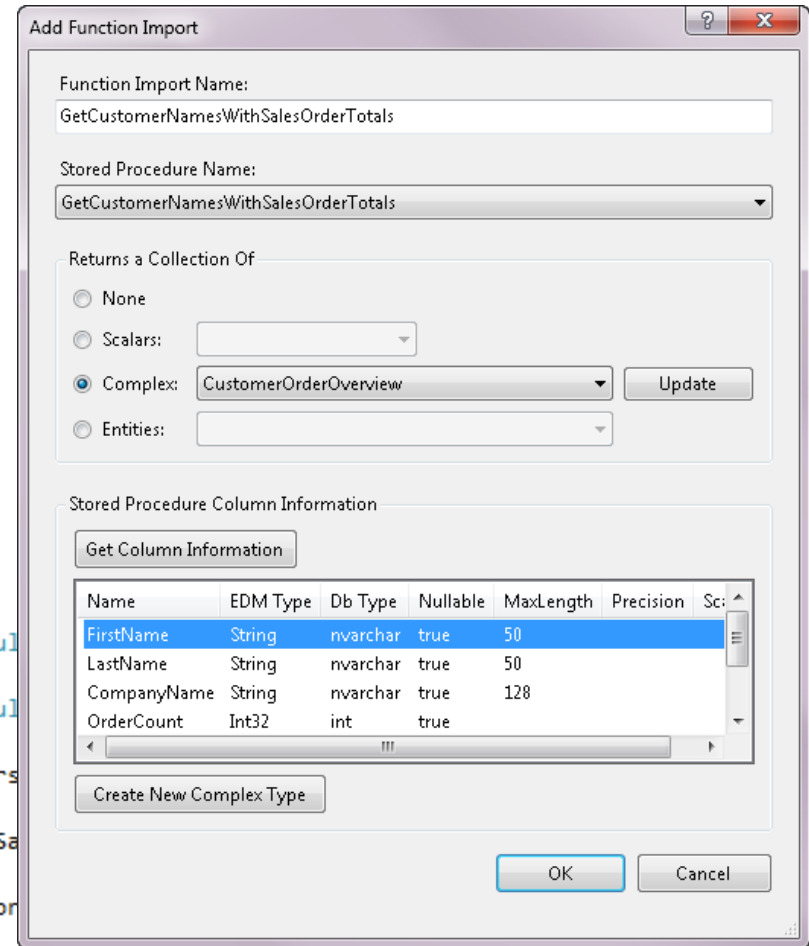
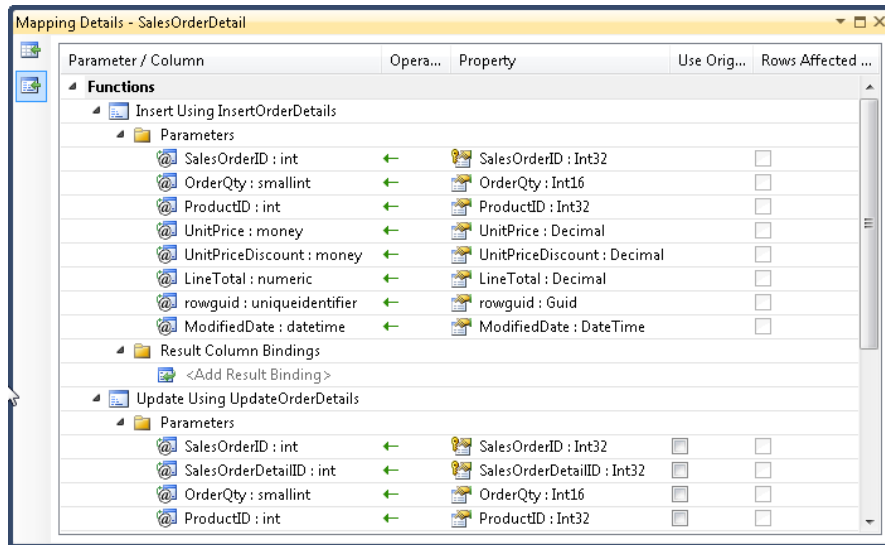
- » Execution of store commands via theObjectContext.
- » Connection lifetime management.
- » State management of entities from external sources.
- » Materialization of arbitrary CLR types given a data reader or DB command.
- » Stored procedure mapping:
  - » Multiple result sets.
  - » Column renames, polymorphic results and nested structures via the materialization service.
- » Getting and setting key values for entity references.
- » Rewrite **InvocationExpressions** in LINQ queries and expressions.

**This updated version of the extensions library targets Visual Studio 2010. Changes include:**

- » Removal of the EntitySet<T> class since its functionality is mostly subsumed by the shipping ObjectSet<T> class. The FindOrAttach methods have been rewritten as extension methods.
- » Removal of the Zip helper method which is now included in the standard LINQ library (System.Linq.Enumerable class).
- » Removal of the ExpressionVisitor class which is now included in the standard LINQ library (System.Linq.Expressions namespace).



# Summary



#region Function Imports

public ObjectResult<SalesOrderDetail> GetOrderDetailsForOrder(Nullable<int> orderID)

public ObjectResult<SalesOrderDetail> GetOrderDetailsForOrder(Nullable<int> orderID)

public ObjectResult<global::System.String> GetCustomersWithOrders(int orderID)

public ObjectResult<CustomerOrderOverview> GetCustomerNamesWithSalesOrderTotals(int orderID)

public int ApplyShipDateToOrder(Nullable<global::System.Int32> orderID, DateTime shipDate)

#endregion

# Resources

- **Pluralsight On Demand**
  - <http://www.pluralsight.com>
- **Programming Entity Framework, 2<sup>nd</sup> Edition, Julie Lerman**
  - O'Reilly Media, August 2010
  - <http://www.learnentityframework.com>
- **Microsoft Data Developer Center**
  - <http://msdn.com/data>