SQL Architecture

Introduction

The SQL database for OpenStore uses a single SQL database table to store all data.

NBrightBuy

It has 2 linked tables that are used for indexing and langue, which helps OpenStore have quick database retrieval.

NBrightBuyIdx

NBrightBuyLang

These 2 tables are data duplicated of NBrightBuy, purely to help with database speed and are maintained by using triggers on the main data table (NBrightBuy).

The data structure works as a NoSQL database, but has the advantage that SQL can be used on the data. All data is saved in the SQL Server standard XML.

We will refer to these 3 tables as the OpenStore Database.

NBrightBuy

The NBrightBuy table is a generic structure that uses XML to store data. The other columns indicate relationship between records or external sources. Different columns will be used depending on the data record TypeCode.

Column Name	Description
ItemId	Identity column, unique SQL record id.
PortalId	PortalId in DNN
ModuleId	ModuleId in DNN
TypeCode	The data record type, to identify what data is kept in the record XML
XMLData	XML data source
GUIDKey	Identifying ID. Despite the name this is NOT guaranteed to be unique and is not usually a GUID.
ModifiedDate	Date last changed
TextData	Text data, not used in OpenStore
XrefItemId	Cross reference id, that links to another record in the table.
ParentItemId	Parent reference id, that links to another record in the table.
Lang	Identifies a localized record.
UserId	User id
LegacyItemId	Legacy id, often used for import of data from other systems.

OpenStore Database TypeCode

The TypeCode column in the NBrightBuy table is the key identifier for data. You can think of this column as the equivalent of a table name. Each TypeCode in the table holds a different type of data.

TypeCode	Description
CART	Cart Data
CATCASCADE	Products in all sub-categories
CATEGORY	Category & Property data
CATEGORYLANG	Category & Property localized data
CATGRPXREF	Category Filter Groups
CATXREF	Which Products are in which category.
CLIENT	Client data, favourite lists
DISCOUNTCODE	Discount code data
DISCOUNTCODELANG	Discount code localized data
GROUP	Property groups data
GROUPLANG	Property groups localized data.
ORDER	Order data
PLUGIN	Plugin data
PRD	Product data
PRDLANG	Product localized data
PRDXREF	Product related products
SETTINGS	Module and store settings
SHIPPING	Shipping data
USERDATA	User profile and addresses.

There will also be extra TypeCode from other plugins to the system. When creating a plugin we MUST NOT use any TypeCode that is already used.

Localized Data

In OpenStore we need to keep data for multiple languages, this is done by creating a localized or "*LANG" record in the data. For example, for products you have 2 record types, PRD & PRDLANG. The PRDLANG record contains the localized data, with the "Lang" column populated with the localized culturecode.

XML Data

The xml data in the "XMLData" column is the core data for OpenStore. The root node for the xml is "<genxml>".

For localized records we use the "LANG" suffix, the return data will use the "NBrightBuyLang.XMLData" column. This column is a merge of the standard xml record, with the localized xml inserted into a node "<lang>"

```
<genxml>
      [Normal Data]
  <lang>
    <genxml>
            [Localized Data]
    </genxml>
  </lang>
</genxml>
```

Triggers

`Trigger_NBrightBuyIdx` If the only trigger, which is linked to the NBrightBuy table. When the NBrightBuy table is updated, the trigger updates the NBrightBuyIdx and NBrightBuyLang tables, to keep them in-line with the NBrightBuy data table.

Store Procedures

- dbo.NBrightBuy_CleanData
- dbo.NBrightBuy_DashboardStats
- dbo.NBrightBuy_Delete
- dbo.NBrightBuy_Get
- dbo.NBrightBuy_GetData
- dbo.NBrightBuy_GetDataLang
- dbo.NBrightBuy_GetDNNUserProductClient
- dbo.NBrightBuy_GetDNNUsers
- dbo.NBrightBuy_GetDNNUsersCount
- dbo.NBrightBuy_GetList
- dbo.NBrightBuy_GetListCount
- dbo.NBrightBuy_GetListLangNoPage
- dbo.NBrightBuy_GetListLangPage
- dbo.NBrightBuy_MoveProductinCateogry
- dbo.NBrightBuy_Update

These Stored Procedures are used by OpenStore to maintain the NBrightBuy table and no other Stored Procedures are used in any database access.

Name	Description
NBrightBuy_CleanData	Remove all data that is linked to a deleted module.
NBrightBuy_DashboardStats	Get all data required to display the OpenStore Admin dashboard.
NBrightBuy_Delete	Delete records
NBrightBuy_Get	Get record by id. WITH localized data
NBrightBuy_GetData	Get record by id, WITHOUT localized data
NBrightBuy_GetDataLang	Get localized record.
NBrightBuy_GetDNNUserProductClient	Get DNN user data.
NBrightBuy_GetDNNUsers	Get DNN user data list.
NBrightBuy_GetDNNUsersCount	Get DNN User Count.
NBrightBuy_GetList	Get data list. (Calls "NBrightBuy_GetListLangNoPage" or "NBrightBuy_GetListLangPage" depending on parameters)
NBrightBuy_GetListCount	Get data list count.
NBrightBuy_GetListLangNoPage	Get data list without paging.
NBrightBuy_GetListLangPage	Get data list with paging.
NBrightBuy_MoveProductinCateogry	Moves product sort order in a category.
NBrightBuy_Update	Update data record.

OpenStore SQL Views

In v4.1 a number of SQL views have been created to make SQL reports easier. Because the data is in XML, SQL Server does not support view updates, therefore you'll not be able to update through these tables.

- dbo.vw_OS_Categories
- dbo.vw_OS_CategoryXML
- dbo.vw_OS_Order_Audits
- dbo.vw_OS_Order_Items
- dbo.vw_OS_Order_Products
- dbo.vw_OS_Orders
- dbo.vw_OS_Product_Docs
- dbo.vw_OS_Product_Images
- dbo.vw_OS_Product_Models
- dbo.vw_OS_Product_Options
- dbo.vw_OS_Product_Options_Values
- dbo.vw_OS_Products
- dbo.vw_OS_ProductXML
- dbo.vw_OS_Properties
- dbo.vw_OS_PropertyXML
- dbo.vw_OS_Userdata
- dbo.vw_OS_UserInfos

SQL examples

Get data for a data type (example PRD for products)

```
SELECT * FROM [dbo].[NBrightBuy] where typecode = 'PRD'
```

Return all data linked to 1 product

```
SELECT * FROM [dbo].[NBrightBuy] where itemid = 83 or ParentItemId = 83 or XrefItemId = 83
```

Delete ALL products in DB

```
delete from NBrightBuy where typecode = 'PRD'
delete from NBrightBuy where typecode = 'PRDLANG'
delete from NBrightBuy where typecode = 'PRDXREF'
delete from NBrightBuy where typecode = 'USERPRDXREF'
delete from NBrightBuy where typecode = 'CATCASCADE'
delete from NBrightBuy where typecode = 'CATXREF'
```

Delete ALL Categories in DB

```
delete from NBrightBuy where typecode = 'CATEGORY' and
[XMLData].value('(genxml/dropdownlist/ddlgrouptype)[1]','nvarchar(max)') = 'cat'
delete from NBrightBuy where typecode = 'CATEGORYLANG' and ParentItemId not in (Select itemid from
NBrightBuy where typecode = 'CATEGORY')
```