

Openbiz – How to create a list box to a referenced table

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Introduction

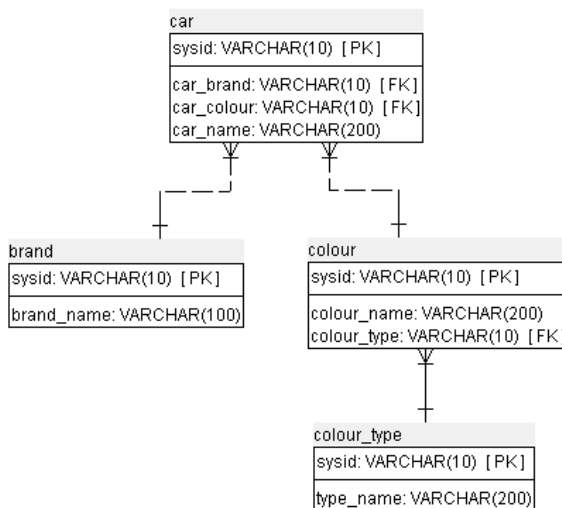
Openbiz is a very powerful platform, but some things can be tricky to do.

I have some hard time trying to create a form, to fill a table, that contains a list box related with other table.

During my work I did this how to manual to help others with similar problems.

1. Data model

For this example, it will be used the following data model:



To create this model use the following script:

```
CREATE TABLE colour_type (
    sysid VARCHAR(10) NOT NULL,
    type_name VARCHAR(200) NOT NULL,
    PRIMARY KEY (sysid)
);

CREATE TABLE brand (
    sysid VARCHAR(10) NOT NULL,
    brand_name VARCHAR(100) NOT NULL,
    PRIMARY KEY (sysid)
);

CREATE TABLE colour (
    sysid VARCHAR(10) NOT NULL,
    colour_name VARCHAR(200) NOT NULL,
    colour_type VARCHAR(10) NOT NULL,
    PRIMARY KEY (sysid)
);

CREATE TABLE car (
    sysid VARCHAR(10) NOT NULL,
    car_brand VARCHAR(10) NOT NULL,
    car_colour VARCHAR(10) NOT NULL,
    car_name VARCHAR(200) NOT NULL,
    PRIMARY KEY (sysid)
);
```

```

ALTER TABLE colour ADD CONSTRAINT colour_type_colour_fk
FOREIGN KEY (colour_type)
REFERENCES colour_type (sysid)
ON DELETE NO ACTION
ON UPDATE NO ACTION;

ALTER TABLE car ADD CONSTRAINT brand_car_fk
FOREIGN KEY (car_brand)
REFERENCES brand (sysid)
ON DELETE NO ACTION
ON UPDATE NO ACTION;

ALTER TABLE car ADD CONSTRAINT colour_car_fk
FOREIGN KEY (car_colour)
REFERENCES colour (sysid)
ON DELETE NO ACTION
ON UPDATE NO ACTION;

CREATE TABLE `ob_sysids` (
  `TABLENAME` char(20) NOT NULL DEFAULT '',
  `PREFIX` char(10) DEFAULT NULL,
  `IDBODY` int(11) DEFAULT NULL,
  PRIMARY KEY (`TABLENAME`)
) ENGINE=MyISAM DEFAULT CHARSET=utf8;

--
-- Extraindo dados da tabela `ob_sysids`
--

INSERT INTO `ob_sysids` (`TABLENAME`, `PREFIX`, `IDBODY`) VALUES
('colour_type', 'CLT', 1),
('brand', 'BRD', 1),
('colour', 'CLR', 1),
('car', 'CAR', 1);

```

2. Environment configuration

I developed all this example over the baseapp sample.

So the files listed in this document, was created on the “vehicles” directory:

Nome	Tamanho	Tipo	Data de modificação
database_script.sql	2 KB	Arquivo SQL	28/3/2009 15:37
doBrand.xml	1 KB	Documento XML	28/3/2009 16:07
doCar.xml	1 KB	Documento XML	28/3/2009 16:06
doColour.xml	1 KB	Documento XML	28/3/2009 16:09
doColourType.xml	1 KB	Documento XML	28/3/2009 16:08
doRefColour.xml	1 KB	Documento XML	29/3/2009 11:23
foBrand.xml	3 KB	Documento XML	28/3/2009 16:16
foColour.xml	3 KB	Documento XML	29/3/2009 11:24
foColourType.xml	3 KB	Documento XML	29/3/2009 08:56
vehicle_data_model.architect	21 KB	Arquivo ARCHITECT	28/3/2009 15:38
vehicle_data_model.png	12 KB	Imagem PNG	28/3/2009 15:37
vwBrand.xml	1 KB	Documento XML	28/3/2009 16:26
vwColour.xml	1 KB	Documento XML	29/3/2009 11:24
vwColourType.xml	1 KB	Documento XML	28/3/2009 16:23

I consider that you would be able to configure the database and Eclipse Plugin by yourself.

3. Create the base data objects

The base data objects are the simplest objects of the software. There is a base object for each database table and no relationship is configured in these objects.

Data object	DO prefix	Object Names
base dataobj	do	doCar doBrand doColour doColourType

doCar.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizDataObj Class="BizDataObj" DBName="Vehicle" Description="Base Data Object Car "
IdGeneration="Openbiz" InheritFrom="" Name="doCar" OtherSQLRule="" Package="vehicles" SearchRule=""
SortRule="" Table="Car">
  <BizFieldList>
    <BizField Column="sysid" Name="Id"/>
    <BizField Column="car_brand" Name="car_brand" Type="Text"/>
    <BizField Column="car_colour" Name="car_colour" Type="Text"/>
    <BizField Column="car_name" Name="car_name" Type="Text"/>
  </BizFieldList>
  <TableJoins>
  </TableJoins>
  <ObjReferences>
  </ObjReferences>
</BizDataObj>
```

doBrand.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizDataObj Class="BizDataObj" DBName="Vehicle" Description="Base Data Object Brand"
IdGeneration="Openbiz" InheritFrom="" Name="doBrand" OtherSQLRule="" Package="vehicles"
SearchRule="" SortRule="" Table="brand">
  <BizFieldList>
    <BizField Column="sysid" Name="Id"/>
    <BizField Column="brand_name" Name="brand_name" Type="Text"/>
  </BizFieldList>
  <TableJoins>
  </TableJoins>
  <ObjReferences>
  </ObjReferences>
</BizDataObj>
```

doColour.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizDataObj Class="BizDataObj" DBName="Vehicle" Description="Base Data Object Colour"
IdGeneration="Openbiz" InheritFrom="" Name="doColour" OtherSQLRule="" Package="vehicles"
SearchRule="" SortRule="" Table="colour">
  <BizFieldList>
    <BizField Column="sysid" Name="Id"/>
    <BizField Column="colour_name" Name="colour_name" Type="Text"/>
    <BizField Column="colour_type" Name="colour_type" Type="Text"/>
  </BizFieldList>
  <TableJoins>
  </TableJoins>
  <ObjReferences>
  </ObjReferences>
</BizDataObj>
```

doColourType.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizDataObj Class="BizDataObj" DBName="Vehicle" Description="Base Data Object Colour Type"
IdGeneration="Openbiz" InheritFrom="" Name="doColourType" OtherSQLRule="" Package="vehicles"
SearchRule="" SortRule="" Table="colour_type">
  <BizFieldList>
    <BizField Column="sysid" Name="Id"/>
    <BizField Column="type_name" Name="type_name" Type="Text"/>
  </BizFieldList>
  <TableJoins>
  </TableJoins>
  <ObjReferences>
  </ObjReferences>
</BizDataObj>
```

4. Create the brand form

This is a simple form, without relationships.

Later, it will be used to create more complex forms.

Data object	Form object	View object
doBrand	foBrand	vwBrand

<http://localhost/baseapp/bin/controller.php?view=vehicles.vwbrand>

foBrand.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizForm BizDataObj="vehicles.doBrand" Class="BizForm" Description="Brand Form" InheritFrom=""
Name="foBrand" Package="vehicles" PageSize="20" SearchRule="" Title="" jsClass="jbForm">
  <DisplayModes>
    <Mode DataFormat="array" Name="QUERY" TemplateFile="edit.tpl"/>
    <Mode DataFormat="array" Name="EDIT" TemplateFile="edit.tpl"/>
    <Mode DataFormat="array" Name="NEW" TemplateFile="edit.tpl"/>
    <Mode DataFormat="block" FormatStyle="tbl" Name="READ" TemplateFile="list.tpl"/>
  </DisplayModes>
  <BizCtrlList>
    <BizCtrl DisplayName="Id" FieldName="Id" Name="bctrl_Id"/>
    <BizCtrl DisplayName="Brand Name" FieldName="brand_name" Name="bctrl_brand_name"/>
  </BizCtrlList>
  <Toolbar>
    <Control Caption="Search" DisplayMode="READ" Function="SearchRecord()" Image="search.gif"
Name="btn_search" Type="Button"/>
    <Control Caption="Search" DisplayMode="QUERY" Function="RunSearch()" Image=""
Name="btn_dosearch" Type="button"/>
    <Control Caption="Edit" DisplayMode="READ" Function="EditRecord()" Image="edit.gif"
Name="btn_edit" Type="Button"/>
    <Control Caption="New" DisplayMode="READ" Function="NewRecord()" Image="new.gif"
Name="btn_new" Type="Button"/>
    <Control Caption="Save" DisplayMode="EDIT|NEW" Function="SaveRecord()" Image=""
Name="btn_save" Type="Button"/>
    <Control Caption="Copy" DisplayMode="READ" Function="CopyRecord()" Image="copy.gif"
Name="btn_copy" Style="" Type="button"/>
    <Control Caption="Delete" DisplayMode="READ" Function="DeleteRecord()" Image="delete.gif"
Name="btn_delete" Style="" Type="button"/>
    <Control Caption="Cancel" DisplayMode="EDIT|NEW|QUERY" Function="Cancel()" Image=""
Name="btn_cancel" Type="Button"/>
    <Control Caption="Default Query" DisplayMode="READ" Function="RefreshQuery()"
Image="refresh.gif" Name="btn_refresh" Style="" Type="button"/>
  </Toolbar>
  <Navbar>
    <Control Caption="Next" DisplayMode="READ" Function="NextPage()" Image="next.gif"
Name="btn_next" Type="Button"/>
    <Control Caption="Previous" DisplayMode="READ" Function="PrevPage()" Image="prev.gif"
Name="btn_prev" Type="Button"/>
    <Control Caption="Last" DisplayMode="READ" Function="GotoPage(-1)" Image="nextlast.gif"
Name="btn_last" Type="Button"/>
    <Control Caption="First" DisplayMode="READ" Function="GotoPage(1)" Image="prevfirst.gif"
Name="btn_first" Type="Button"/>
  </Navbar>
</Parameters/>
</BizForm>
```

vwBrand.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizView Class="BizView" Description="" Name="vwBrand" Package="vehicles" Template="view.tpl">
  <ControlList>
    <Control Form="vehicles.foBrand" Name="Form Brand"/>
  </ControlList>
</BizView>
```

5. Create the colour type form

This is a simple form, without relationship with others.

Later, it will be used to create more complex forms.

Data object	Form object	View object
doColourType	foColourType	vwColourType

http://localhost/baseapp/bin/controller.php?view=vehicles.vwbrand

foColourType.xml

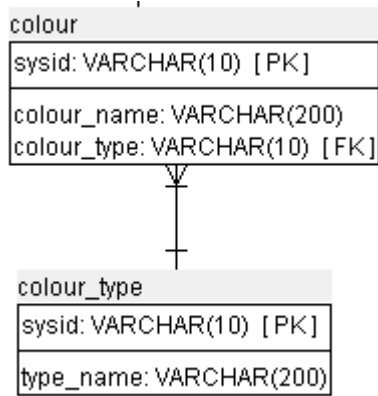
```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizForm BizDataObj="vehicles.doColourType" Class="BizForm" Description="Colour Type Form"
InheritFrom="" Name="foColourType" Package="vehicles" PageSize="5" SearchRule="" Title=""
jsClass="jbForm">
  <DisplayModes>
    <Mode DataFormat="array" Name="QUERY" TemplateFile="edit.tpl"/>
    <Mode DataFormat="array" Name="EDIT" TemplateFile="edit.tpl"/>
    <Mode DataFormat="array" Name="NEW" TemplateFile="edit.tpl"/>
    <Mode DataFormat="block" FormatStyle="tbl" Name="READ" TemplateFile="list.tpl"/>
  </DisplayModes>
  <BizCtrlList>
    <BizCtrl DisplayName="Id" FieldName="Id" Name="bctrl_Id"/>
  <BizCtrl DisplayName="Colour Type" FieldName="type_name" Name="bctrl_type_name"/>
</BizCtrlList>
  <Toolbar>
    <Control Caption="Search" DisplayMode="READ" Function="SearchRecord()" Image="search.gif"
Name="btn_search" Type="Button"/>
    <Control Caption="Search" DisplayMode="QUERY" Function="RunSearch()" Image=""
Name="btn_dosearch" Type="button"/>
    <Control Caption="Edit" DisplayMode="READ" Function="EditRecord()" Image="edit.gif"
Name="btn_edit" Type="Button"/>
    <Control Caption="New" DisplayMode="READ" Function="NewRecord()" Image="new.gif"
Name="btn_new" Type="Button"/>
    <Control Caption="Save" DisplayMode="EDIT|NEW" Function="SaveRecord()" Image=""
Name="btn_save" Type="Button"/>
    <Control Caption="Copy" DisplayMode="READ" Function="CopyRecord()" Image="copy.gif"
Name="btn_copy" Style="" Type="button"/>
    <Control Caption="Delete" DisplayMode="READ" Function="DeleteRecord()" Image="delete.gif"
Name="btn_delete" Style="" Type="button"/>
    <Control Caption="Cancel" DisplayMode="EDIT|NEW|QUERY" Function="Cancel()" Image=""
Name="btn_cancel" Type="Button"/>
    <Control Caption="Default Query" DisplayMode="READ" Function="RefreshQuery()"
Image="refresh.gif" Name="btn_refresh" Style="" Type="button"/>
  </Toolbar>
  <Navbar>
    <Control Caption="Next" DisplayMode="READ" Function="NextPage()" Image="next.gif"
Name="btn_next" Type="Button"/>
    <Control Caption="Previous" DisplayMode="READ" Function="PrevPage()" Image="prev.gif"
Name="btn_prev" Type="Button"/>
    <Control Caption="Last" DisplayMode="READ" Function="GotoPage(-1)" Image="nextlast.gif"
Name="btn_last" Type="Button"/>
    <Control Caption="First" DisplayMode="READ" Function="GotoPage(1)" Image="prevfirst.gif"
Name="btn_first" Type="Button"/>
  </Navbar>
</BizForm>
```

vwColourType.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizView Class="BizView" Description="" Name="vwColourType" Package="vehicles" Template="view.tpl">
  <ControlList>
    <Control Form="vehicles.foColourType" Name="Form Colour Type"/>
  </ControlList>
</BizView>
```

6. Create the colour form

The colour depends of the colour type.



So it will be constructed a form where the colour type can be choose from a list box:

And the list form shows the colour type description, not the colour type code:

Colour	Colour Type
Red	Metallic
Blue	Metallic
Metallic Black	Metallic
Black	Solid
Green	Metallic

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6.1. Create a Data Object with the relationship.

The first step is to create a data object with all the information of the relationship.

To reduce the code it will be used inheritance feature.

doRefColour.xml

```

<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizDataObj Class="BizDataObj" DBName="Vehicle" Description="Data Object Colour with reference to
Colour Type" IdGeneration="Openbiz" InheritFrom="vehicles.doColour" Name="doRefColour"
OtherSQLRule="" Package="vehicles" SearchRule="" SortRule="" Table="colour">
  <BizFieldList>
<BizField Column="type_name" Join="Colour Type" Name="colourtype_name"/>
</BizFieldList>
  <TableJoins>
    <Join Column="sysid" ColumnRef="colour_type" Description="Colour Type Relationship" JoinRef=""
JoinType="INNER JOIN" Name="Colour Type" Table="colour_type"/>
  </TableJoins>
  <ObjReferences>
</ObjReferences>
<Parameters/>
</BizDataObj>
  
```

Is this object is established the join between colour and colour type tables.

6.1.1. Create the Form

The colour type information must come from colour type form.

foColour.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizForm BizDataObj="vehicles.doRefColour" Class="BizForm" Description="" InheritFrom=""
Name="foColour" Package="vehicles" PageSize="5" SearchRule="" Title="" jsClass="jbForm">
  <DisplayModes>
    <Mode DataFormat="array" Name="QUERY" TemplateFile="edit.tpl"/>
    <Mode DataFormat="array" Name="EDIT" TemplateFile="edit.tpl"/>
    <Mode DataFormat="array" Name="NEW" TemplateFile="edit.tpl"/>
    <Mode DataFormat="block" FormatStyle="tbl" Name="READ" TemplateFile="list.tpl"/>
  </DisplayModes>
  <BizCtrlList>
    <BizCtrl DisplayMode="NEW" DisplayName="Colour Id" Enabled="N" FieldName="Id" Hidden=""
Name="bctrl_Id"/>
    <BizCtrl DisplayName="Colour" FieldName="colour_name" Name="bctrl_colour_name"/>
    <BizCtrl DisplayMode="NEW|EDIT|QUERY" DisplayName="Colour Type" FieldName="colour_type" Hidden=""
Name="bctrl_colour_type" SelectFrom="doColourType[type_name:Id]" Type="Listbox"/>
    <BizCtrl DisplayMode="READ" DisplayName="Colour Type" FieldName="colourtype_name"
Name="bctrl_colourtype_name" SelectFrom="" Type=""/>
  </BizCtrlList>
  <Toolbar>
    <Control Caption="Search" DisplayMode="READ" Function="SearchRecord()" Image="search.gif"
Name="btn_search" Type="Button"/>
    <Control Caption="Search" DisplayMode="QUERY" Function="RunSearch()" Image=""
Name="btn_dosearch" Type="button"/>
    <Control Caption="Edit" DisplayMode="READ" Function="EditRecord()" Image="edit.gif"
Name="btn_edit" Type="Button"/>
    <Control Caption="New" DisplayMode="READ" Function="NewRecord()" Image="new.gif"
Name="btn_new" Type="Button"/>
    <Control Caption="Save" DisplayMode="EDIT|NEW" Function="SaveRecord()" Image=""
Name="btn_save" Type="Button"/>
    <Control Caption="Delete" DisplayMode="READ" Function="DeleteRecord()" Image="delete.gif"
Name="btn_delete" Style="" Type="button"/>
    <Control Caption="Cancel" DisplayMode="EDIT|NEW|QUERY" Function="Cancel()" Image=""
Name="btn_cancel" Type="Button"/>
    <Control Caption="Default Query" DisplayMode="READ" Function="RefreshQuery()"
Image="refresh.gif" Name="btn_refresh" Style="" Type="button"/>
  </Toolbar>
  <Navbar>
    <Control Caption="Next" DisplayMode="READ" Function="NextPage()" Image="next.gif"
Name="btn_next" Type="Button"/>
    <Control Caption="Previous" DisplayMode="READ" Function="PrevPage()" Image="prev.gif"
Name="btn_prev" Type="Button"/>
    <Control Caption="Last" DisplayMode="READ" Function="GotoPage(-1)" Image="nextlast.gif"
Name="btn_last" Type="Button"/>
    <Control Caption="First" DisplayMode="READ" Function="GotoPage(1)" Image="prevfirst.gif"
Name="btn_first" Type="Button"/>
  </Navbar>
</BizForm>
```

This is actually a standard form, except by:

- Colour Type list box – With this list box users can choose the colour type without worry about colour type id code. The list box is showed when the record is being created, edited or queried:

```
<BizCtrl DisplayMode="NEW|EDIT|QUERY" DisplayName="Colour Type" FieldName="colour_type" Hidden=""
Name="bctrl_colour_type" SelectFrom="doColourType[type_name:Id]" Type="Listbox"/>
```

- Display rules – Specific display rules makes the list box shows just when it's necessary:

```
<BizCtrl DisplayMode="NEW|EDIT|QUERY" DisplayName="Colour Type" FieldName="colour_type" Hidden=""
Name="bctrl_colour_type" SelectFrom="doColourType[type_name:Id]" Type="Listbox"/>
```

```
<BizCtrl DisplayMode="READ" DisplayName="Colour Type" FieldName="colourtype_name"
Name="bctrl_colourtype_name" SelectFrom="" Type=""/>
```

6.1.2. Create the View

The view object is a standard view. All the logic is contained in the form object.

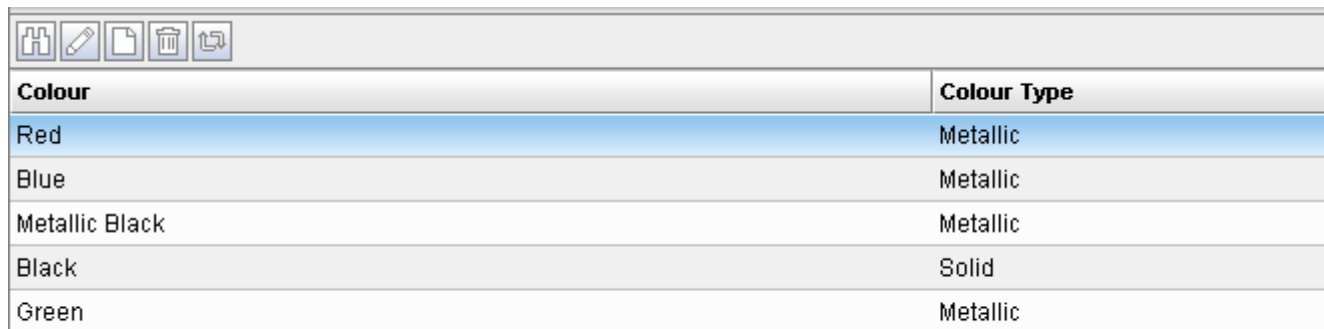
vwColour.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<BizView Class="BizView" Description="" Name="vwColour" Package="vehicles" Template="view.tpl">
  <ControlList>
    <Control Form="vehicles.foColour" Name="Form Colour" SubCtrls=""/>
  </ControlList>
</BizView>
```

You can access the view through the link:

<http://localhost/baseapp/bin/controller.php?view=vehicles.vwcolour>

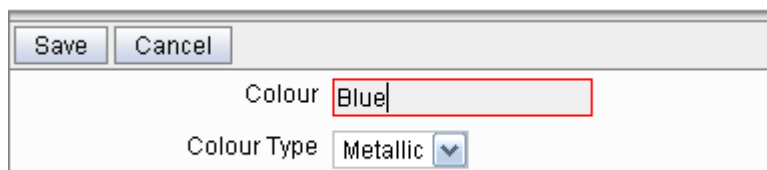
List form:



Colour	Colour Type
Red	Metallic
Blue	Metallic
Metallic Black	Metallic
Black	Solid
Green	Metallic

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Edit form – Pay attention to the list box. Same apply to search and new forms:



Save Cancel

Colour

Colour Type