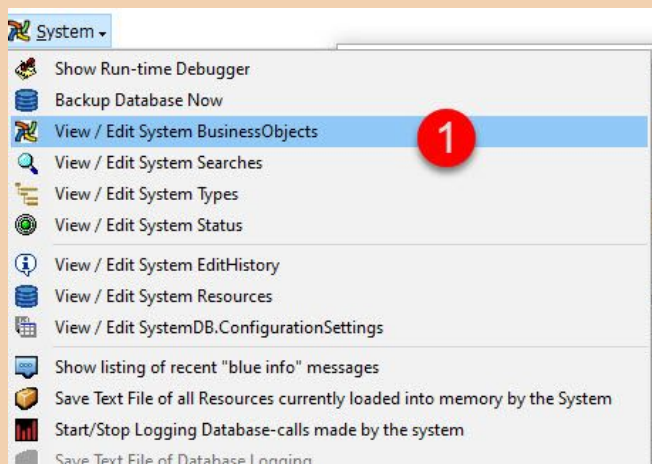# Reverse engineering a BusinessObject from an existing App

The easiest way to create a new BusinessObject is to run a pre-written "CREATE" SQL script. These are available direct from Orixa, or via our website, they will create new BusinessObjects, and add other useful features such as reports and dashboards.

You can also create a BusinessObject use an existing BusinessObject as a model. This is particularly useful if you have 2 Orixa systems and you want to copy parts of the structures from one to another. Note that when you use this tool and copy the BusinessObject it only copies the structure. None of the data is copied across.

Use the BusinessObject's "Reverse Engineer" / "SQL Export" action to generate a script. Any SQL Script that creates a BusinessObject can be manually edited then to change the name of the data-table, fields and other features, so you can extend any BusinessObject as you copy it from one system to another.
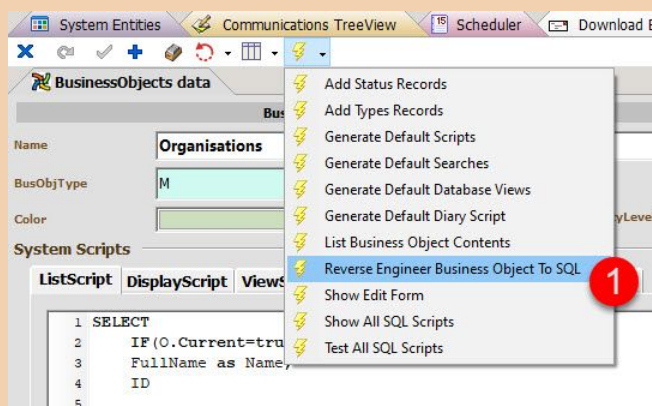
Using the "Reverse Engineer BusinessObject" Tool

System Menu Business Objects

From the "System" menu, select "View/Edit System BusinessObjects". (shown at 1., in the image)

Note that the "System" menu is only available for users with adequate security.

Reverse Engineer Business Object

Navigate to the record in the BusinessObjects system-table which you want to use as a base for the new BusinessObject.

Double click on this record to open its Edit-screen.

From the "Actions" menu of the Edit-screen, select "Reverse Engineer ..." (shown at 1., in the image).

This will open a screen with options to select.

The BusinessObjects SQL Export window

This window allows the user to select which parts of the object that is being copied to include in the output script.

It is rarely useful to use the whole of the BusinessObject definition, unless you are aiming to recreate the whole object in a new App.

Pick What to Export

Business Objects SQL Export

☑ Functions Called by Table

☑ Table CREATE SQL

☑ Business Objects Insert SQL

☑ Insert Searches

☑ Insert Types

☑ Insert Status

☑ INSERT Resources

OK

Cancel

Reverse Engineer Business Object Form

If the selected BusinessObject does not have some of the selected features (for example a BusinessObject might not have a "StatusID") no scripts for such features will be generated.

The Resulting SQL Script


```
Database Management Utility
> Database                    System SQL   SQL Editor                    2
> SystemDB                     1 -- ORIXA AUTOMATED SQL FOR BUSINESS OBJECT --
> Local Stores                 2 -- "Organisations" --
> Remote Stores                3 -- FUNCTIONS WHICH ARE CALLED BY Organisations --
> Jobs                         4 CREATE FUNCTION "StatusID" (IN "Value" VARCHAR COLLATE "ANSI")
                               5 RETURNS INTEGER
                               6 BEGIN
                               7   DECLARE Crsr Cursor FOR Stmt;
                               8   DECLARE Result INTEGER;
                               9
                              10 PREPARE Stmt FROM
                              11 ' SELECT ID
                              12    FROM Status
                              13    WHERE UPPER(Name) = UPPER(?) ';
                              14 OPEN Crsr USING Value;
                              15 FETCH FIRST FROM Crsr('ID') INTO Result;
                              16 CLOSE Crsr;
                              17 RETURN Result;
                              18 END
                              19 VERSION 1.00!
                              20 -- MAIN CREATE SCRIPT FOR Organisations --
                              21 CREATE TABLE "Organisations"
                              22 (
                              23 "ID" INTEGER DEFAULT UID() NOT NULL,        1
                              24 "Name" VARCHAR(40) COLLATE "ANSI" NOT NULL,
                              25 "OrgCode" VARCHAR(12) COLLATE "ANSI",
                              26 "OrganisationsTypeID" INTEGER,
                              27 "MainContactID" INTEGER,
                              28 "RegionsID" INTEGER,
                              29 "WebsiteAddress" VARCHAR(200) COLLATE "ANSI" DESCRIPTION '[Properties
                              30 URL=1',
                              31 "Memo" CLOB COLLATE "ANSI",
                              32 "StatusID" INTEGER DEFAULT StatusID('Customer'),
                              33 "DateCreated" TIMESTAMP DEFAULT Current_Timestamp NOT NULL,
                              34 "Current" BOOLEAN DEFAULT true NOT NULL,
                              35 "FullName" VARCHAR(80) COLLATE "ANSI" COMPUTED ALWAYS AS Name + ' (' 
                              36 "CountriesID" INTEGER,
                              37 CONSTRAINT "PK_Organisations" PRIMARY KEY ("ID"),
                              38 CONSTRAINT "RegionsID" FOREIGN KEY ("RegionsID") REFERENCES "Regions"
```

Reverse Engineer Business Object Output SQL Script

If you click "OK" in the SQL Creation screen, the SQL script will be generated and displayed in the "SQL Editor" window of the Database Management Utility, (script is shown at 1. in the image above, note that the script is in the "SQL Editor" window shown at 2.).

The script includes many segments, including the main **CREATE** statement (as shown at 3., in the image above) as well as segments which **INSERT** records into the BusinessObjects, Searches, Reports, SystemReports, Types and Status system-tables.

Remember that you can cut and paste these statements together with other statements to make your final script.