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VISUALSOFT ®

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InnovBase®

Developer's Guide

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Al khubar address

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Introduction

Visualsoft® Innovation Database (InnovBase®) is the new generation of business development languages, InnovBase® was designed to have data access and development tools in Real-Time Mode; It is simply Programming on the Fly..

The scalability of InnovBase® is allowing the End-User to build and use his small application in very short time. Also, InnovBase® can build comprehensive ERP++ solutions.

Background:

The challenge nowadays is not on the ERP size, End-User is more intelligent than before and his requirements are enhancing daily. Visualsoft® decided to add a new concept of "ERP++" to the market, the tow major ideas for this concept:

ICON KEY
Valuable information
Note
Practical
Example

First "+": Utilizing the artificial intelligent techniques to support the END-User future expectation.

Second "+": Segregation between business logic and hard coding.

Database will be the source code for the ERP++, and InnovBase® will work as a language to translate this source code to a complete n-tier user friendly interface.

Investment in the existing ordinary ERP will not be lost, since InnovBase® can utilize existing database tables, stored procedures, triggers, views and reports. InnovBase® can work in parallel with the existing ERP until getting all of the features and store it as a Business Logic in the Database again.

Prerequisite Knowledge:

- We Assume Developers will already Have:
  - Working knowledge of Transact-SQL.
  - Working knowledge of relational databases
  - Some experience with database design
  - Working Knowledge in Using SQL Server Managements Studio 2005

Section 1

Vocabulary

Vocabulary	Description
Objects	Screens or additional permission items
Definition	For each field in the database, InnovBase® stores additional field attribute, formulas, Reminders
Programming Mode	A special login for development purposes.
Tag	New Definition.

Setup Instructions

1. Pre requirements:

- **Software:**
- .NET Framework 3.5
- SQL Server 2005 SP2 or Higher
- SQL Server Management Studio
- Windows Installer 3.1
- Crystal Reports Basics for Visual Studio 2008 (x86, x64)
- Microsoft Agent
- Microsoft PowerPack 3.0
- POP Email for InnovBase Platinum Edition to be used for Approvals by Email

- Hardware:

- High performance server with minimum 4GB RAM and 10GB free hard disk space.
- High Performance Workstations for users with minimum 1GB RAM and 1GB Free hard disk space

2. Setup

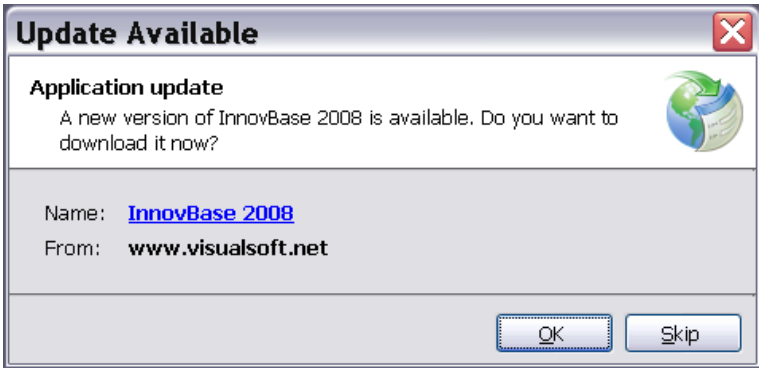
If the previous components are already installed, you can launch the application now by clicking on the following link

http://www.visualsoft.net/Innovbase2011/setup.htm

Otherwise, please download and install the prerequisites by clicking on the following link
http://www.visualsoft.net/innovbase2011/download/1. Windows Update.zip
http://www.visualsoft.net/innovbase2011/download/2. InnovBase Setup.zip
http://www.visualsoft.net/innovbase2011/download/3. Activation.zip
http://www.visualsoft.net/innovbase2011/download/4. Fun and Support.zip
http://www.visualsoft.net/innovbase2011/download/5. Technical Documentation.zip
http://www.visualsoft.net/innovbase2011/download/6. Sample ERP.zip
http://www.visualsoft.net/innovbase2011/download/AutomationService.zip

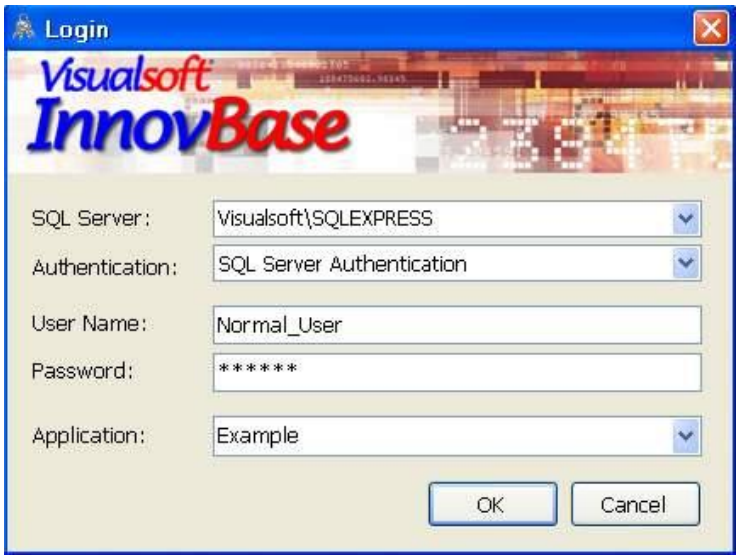
- **Online Update**

InnovBase® checks for updates whenever you lunch it.



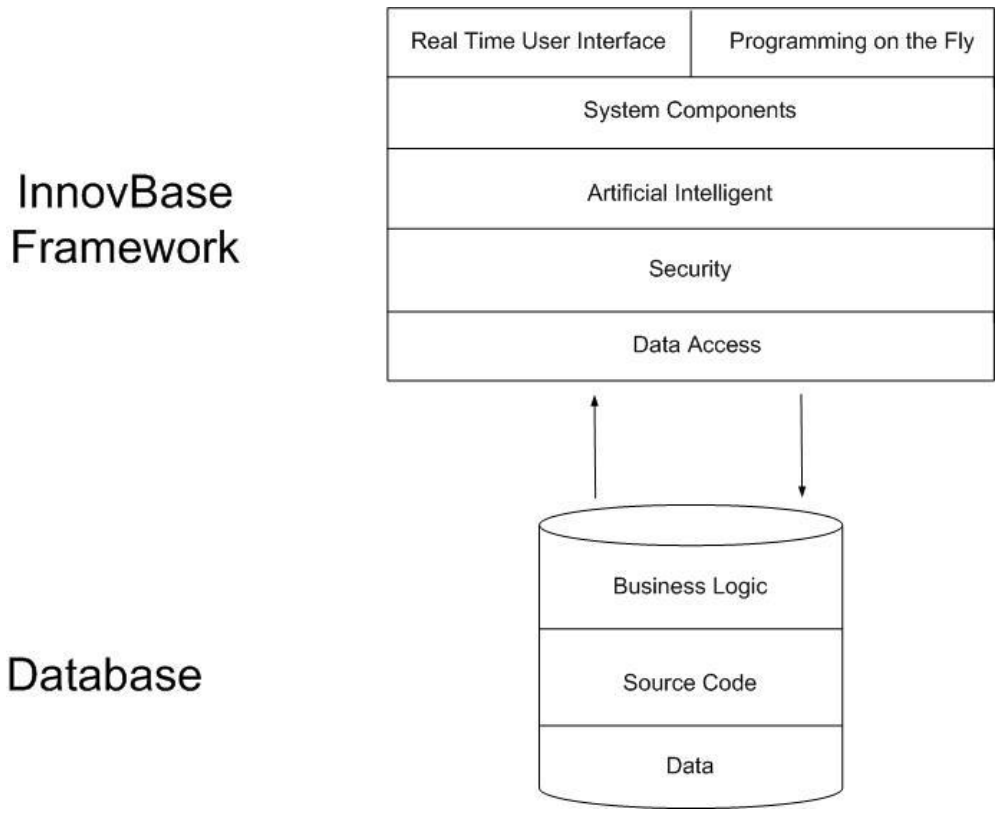
You will see a small window with title "Lunching Application" downloading InnovBase® new updates from Internet.

Login Menu will be displayed



Section 2

Abstract



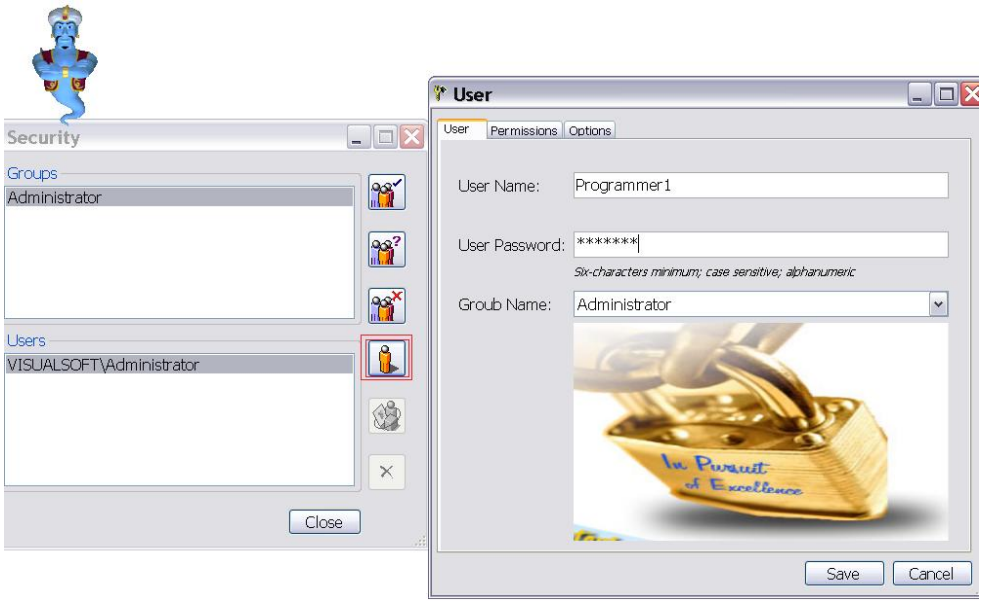
Database Registration

- After successfully launch the InnovBase®, the following Login Screen will appear:

- Select the Server, Authentication and database then press OK –please see section2.3. Authentication for more details-

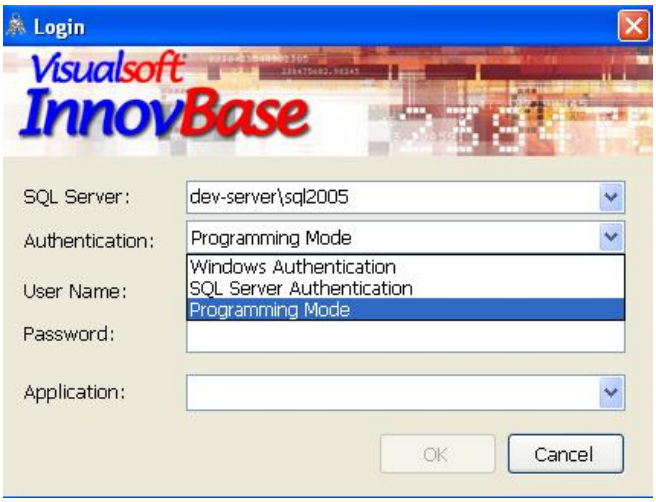
- Help assistant will ask you to register the database. Please backup your database before this step because InnovBase® will add a new objects into the selected Database.

- Help assistant will ask you again to create at least one user with SQL Authentication to be used in the Programming Mode login, this means that you have successfully registered your database and you have only to create the additional user(s) as follows:



Authentication

● InnovBase has three login options; select your authentication as follows:



● Windows Authentication: To login using your Windows User Account.

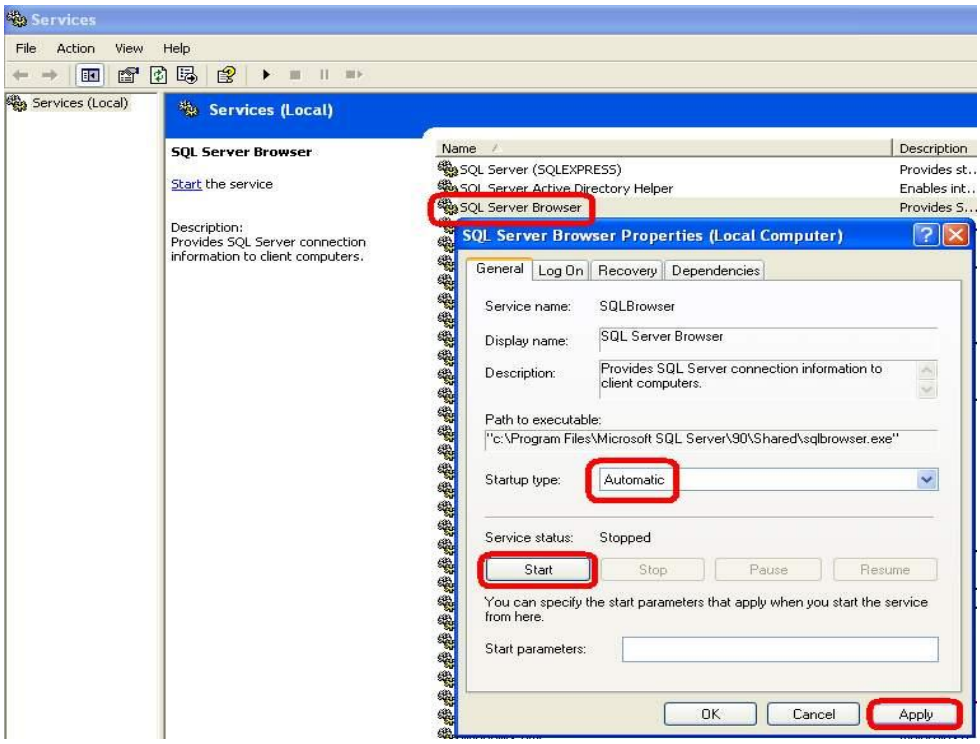
● SQL Server Authentication: To login using SQL Server User Account (User Name & Password are required).

● Programming Mode (Golden & Platinum Edition Only): a special login for development purposes.

● Before selecting SQL Server Authentication, run SQL Server Management Studio then:
● Server Properties window → Security page → SQL Server and Windows Authentication mode.

● Finally select your application and press OK.

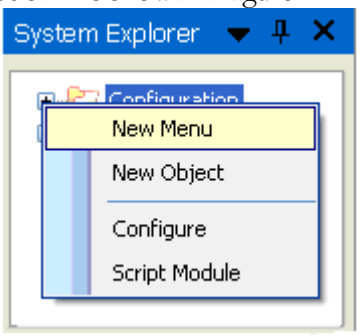
● To be able to browse your databases, you have to be sure that SQL Server Browse Service is Automatic & Started, as follows:
In Control Panel → Administrative Tools →Services



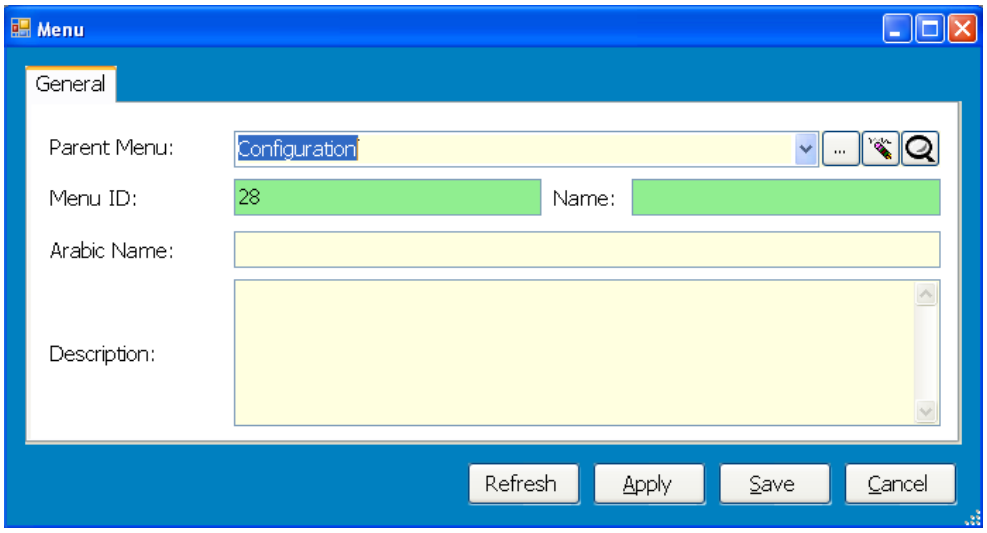
● Double-click on SQL Server Browser, and then select Automatic in Startup Type then press Apply then press Start & OK

How to Create New Menu

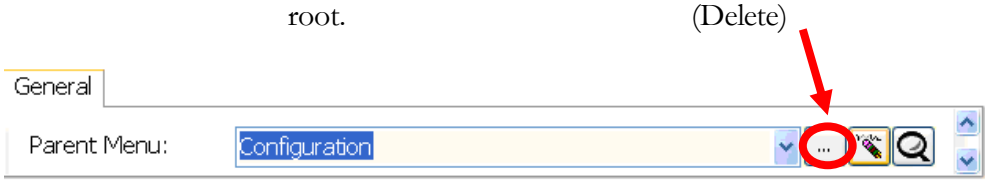
● Right click on **Configuration** Menu in System Explorer and select the **New Menu** option. As shown in figure:



● This will start InnovBase® Creating New Menu As shown in screen down:

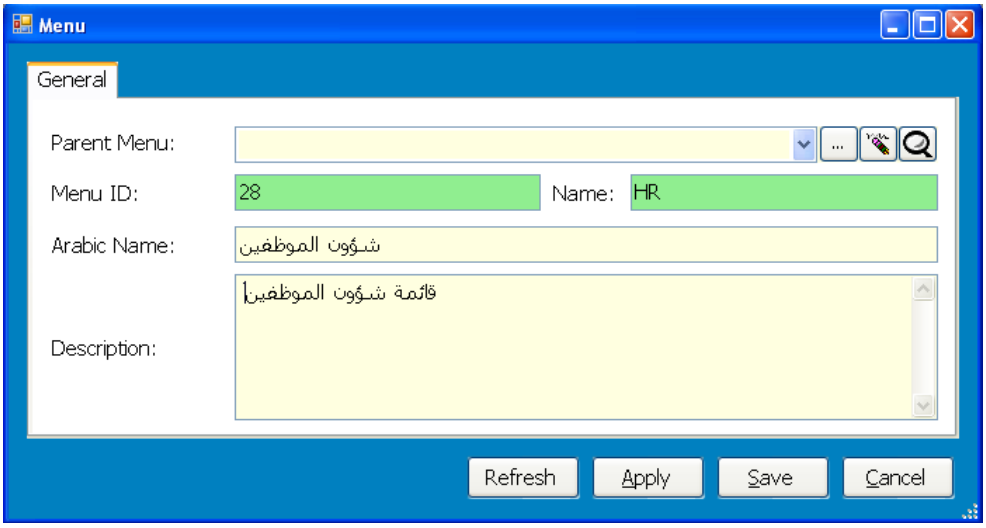


● Delete **Parent Menu** "Configuration" and keep it empty by Click on **Delete** command to create New Menu on the root. (Delete)



- Once you keep **Parent Menu** without Deleting as Configuration, the New Menu will create belong to Configuration Menu

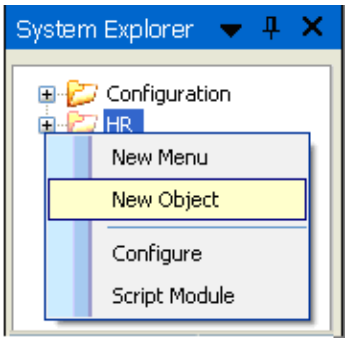
- Choose a name for the New Menu, also you can choose **Arabic Name**, and write **Description** for this New Menu – see example below which create HR Menu:



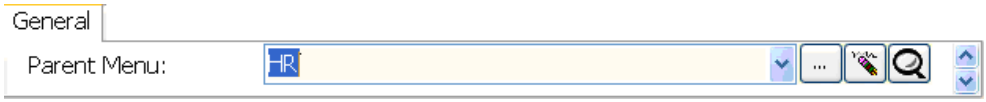
- Click **Apply** then **Save**

How to Create New Object

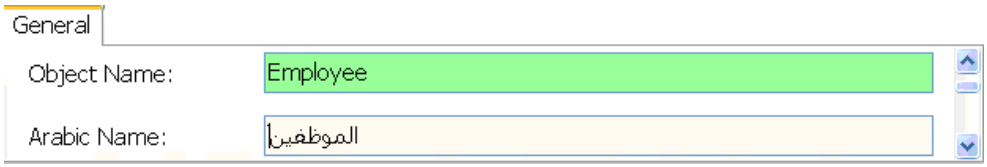
- Right click on the **Menu** that you already create it before and select **New Object** option. – For example **HR** Menu:



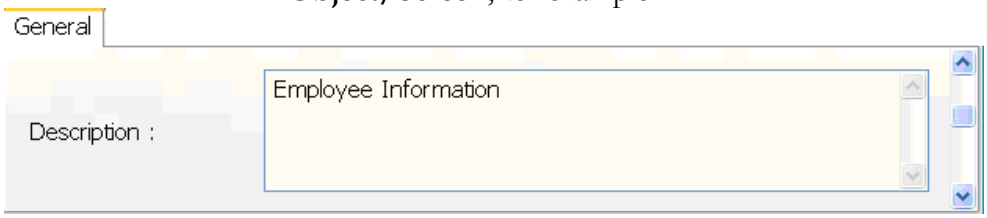
- In **General tab** as shown in screen down, you will see **Parents Menu** already selected as HR Menu.



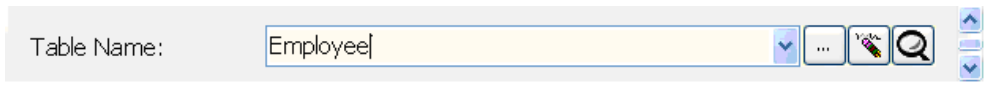
- **Object Name:** choose a name for this Object.
- **Arabic Name**: rename Object in Arabic language



- **Description:** write short description to describe **Object/Screen**, for example:



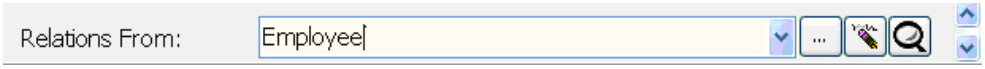
- **Table Name:** select Table Name from the list that already stored in Database that you create it using SQL server, for example select Employee table.



- **Search View:** select views from the list that already create it by using SQL Server, for example suppose that you create Views and you already Name it EmpSearch using SQL Server.

● **Arabic Search View:** select Arabic Search View that you already create it by using SQL Server.

● **Relation From:** if the Table Name is a view, use Relation From to take the same relation from the main table – For example: **Table Name:** EmpMain and Read data from Employee table, so **Relation from:** Employee

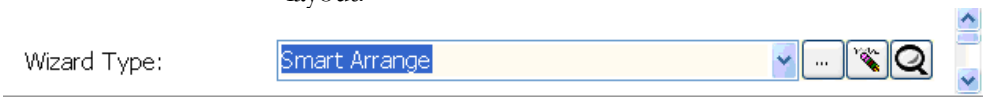


- Once you create a view using SQL Server Management Studio, and Rename each column by typing using the Alias column, you should keep the Primary keys Names as the same names on the table.

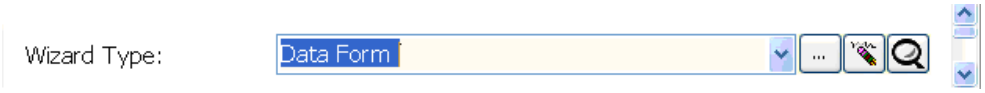
Wizard Options- View your Layout as Data Form, Tree View, Class, and Reports Viewer

● Select **Wizard Options** tab.

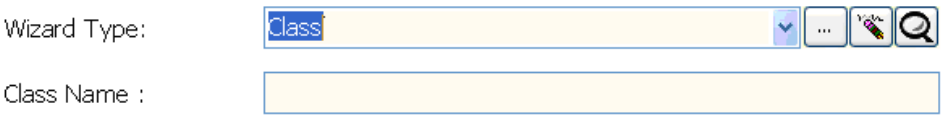
● Select Wizard Type as Smart Arrange to View as defaults layout.



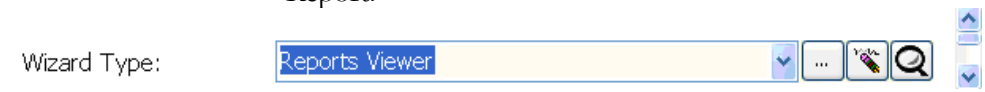
● Select Wizard Type as Data Form to View each field per line.



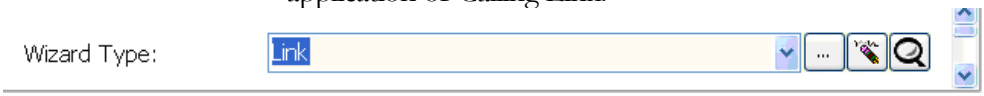
● Select Wizard Type as **Class** to design a special screen using **.**net, by writing hard code and save it as DLL in system folder, and **Class Name** to choose a name.



● Select Wizard Type as Reports Viewer to View object as Report.



● Select Wizard Type as **Link** to execute external application or Calling Link.



● Select Wizard Type as Tree View to View Object as Tree, you can use this type to create organizational chart.

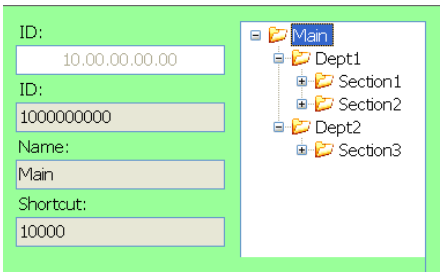
• **Tree View Name** to choose a name

• Select **Tree format** to define the count of levels and how many digits in each level, for example 522222 first number count of levels and after that number count of digits in each level.

• Select **Tree Field ID** by click on SQL button to determine Field ID.

• Then select **Tree Display Name**: by click on SQL button and select Display Name.

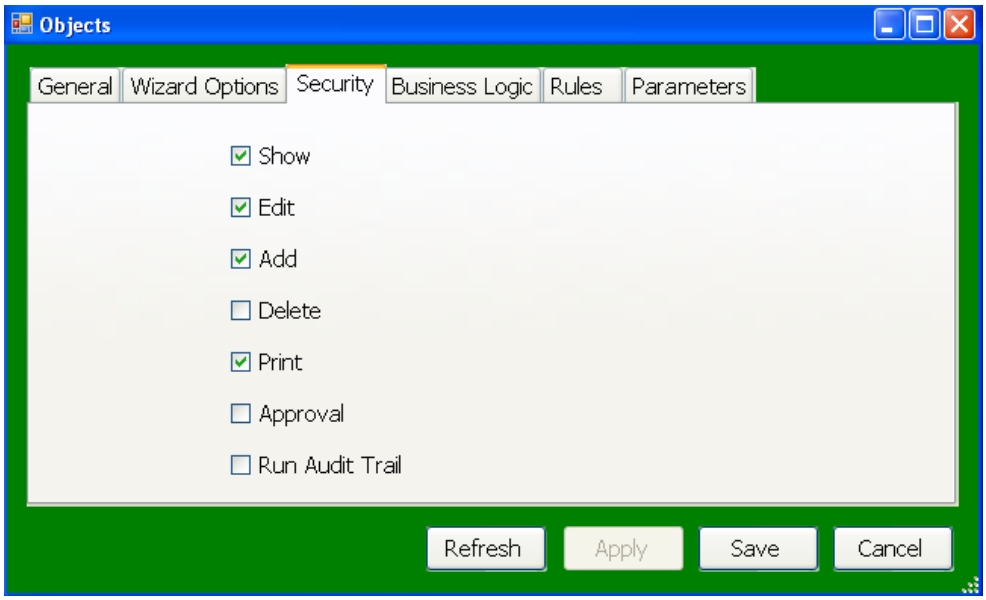
Example Organizational Chart:



Security-

- Configure Privileges and Run Audit Trail:

- Select **Security** tab



- Select Security tab > Show for browsing data without modifying.
- Select Security tab > Add for adding new record
- Select Security tab > Delete to delete record
- Select Security tab > Edit to edit record
- Select Security tab > Print to print record
- Select Security tab > Approval to set approval- select **Business Logic** to choose Approval Type and add Approval List.- see Business Logic for more details.
- Select Security > Run Audit Trail to Record changes happened by user log in.

Business Logic:

• Developers can perform business logic in response to Create, Delete, and Modified events.

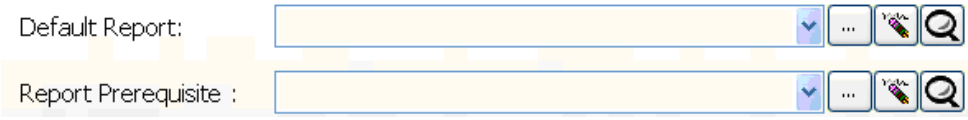
• Select **Business Logic** tab

• **Created Event:** what is the stored procedure user wants to perform and execute when he create new record. - To create a new stored procedure use SQL Server.

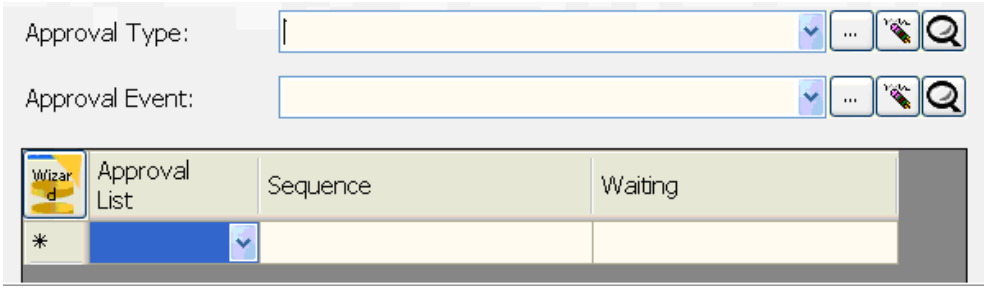
• **Modified Events:** what is the stored procedure that the user wants to perform and execute when modified record**.**

• **Deleted:** what is the stored procedure that the user wants to perform and execute when delete record**.**

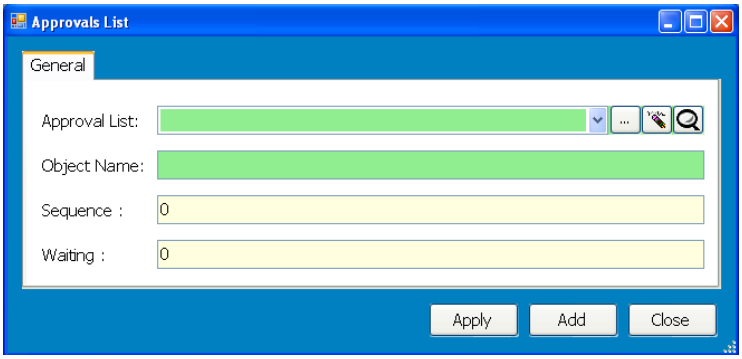
• **Default Report:** user can make default report to print current record, for example default invoice.
• **Report Perquisite:** user can create report that read data from specific table.



• **Approval Type:** approval type list:
- All Must: should be all approved and via approval list
- Add Hoc: at lest one approve.



• Determine users and add Sequence and time of waiting by clicking on **Wizard**, see the following screen**:**



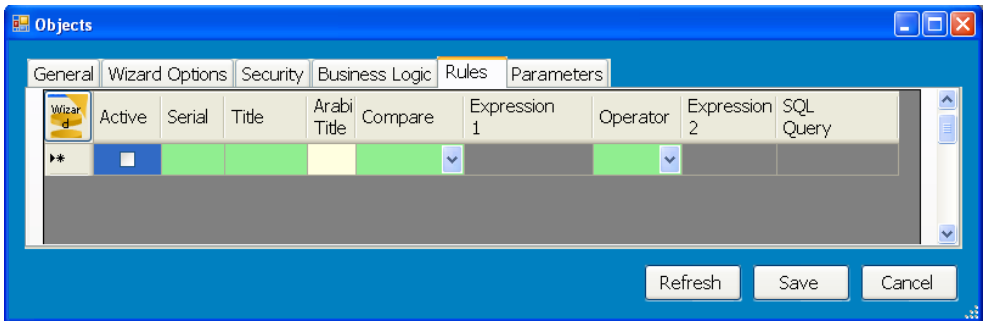
Rules: Enforce your Company Rule

● Use Rules to enforce column domain integrity by limiting the values that may be inserted into a column.

for example enforce a company rule that no employee in your system is allowed to earn more than $10,000 or less than $3,000, or limiting Employee ID to be less than 100 see example below:

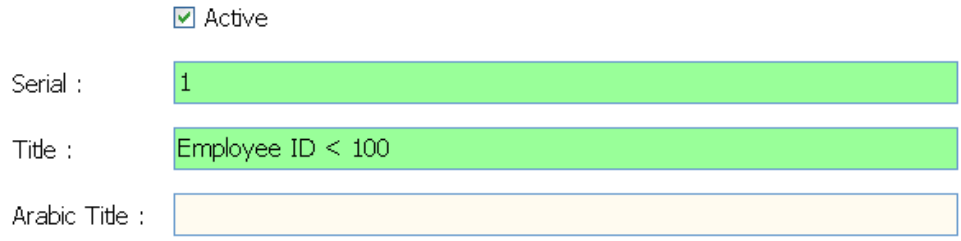
● Select **Rules** tab

● Add Rule by clicking on **Wizard.**



● **Serial**: write serial number for this rule

- **Title:** Title of the rule, for example makes limitation in Employee ID < 100



- **Compare list:** choose comparing options
  - Expression 1 with Expression 2

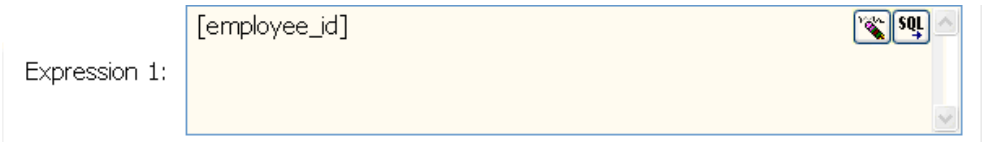
- Expression 1 with SQL Query

- SQL Query Result for Current Record

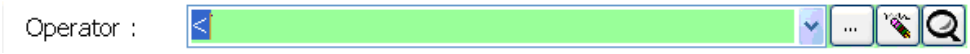
- General SQL Query Result

- We will choose Expression 1 with Expression 2 for example:

-Expression 1: select Field by click on **SQL** button (see the example**)**

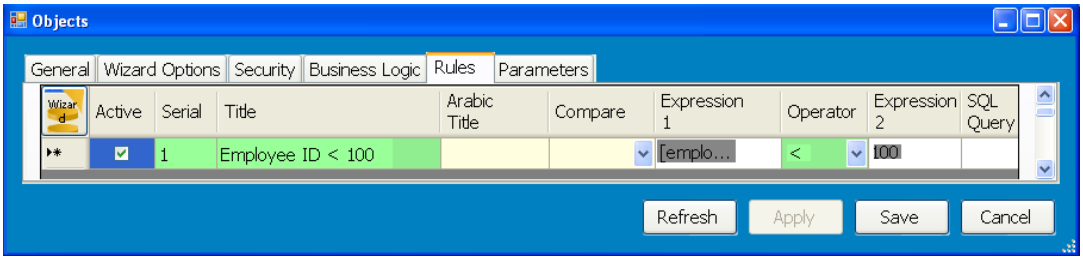


- Operator: choose operator.



- Expression 2: the second Expression, write 100 by click on SQL button (see the example)

- **Apply** then **Add**:
- After you complete adding rule, you should keep it **Active** and click **Save** as the following screen:



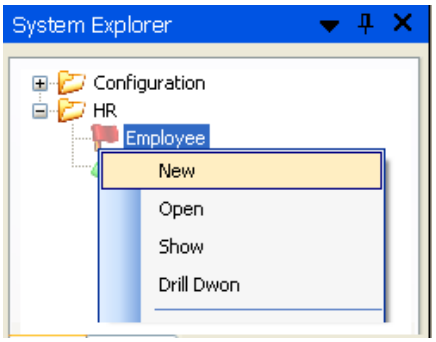
- User can add more than one rule.

Section 3

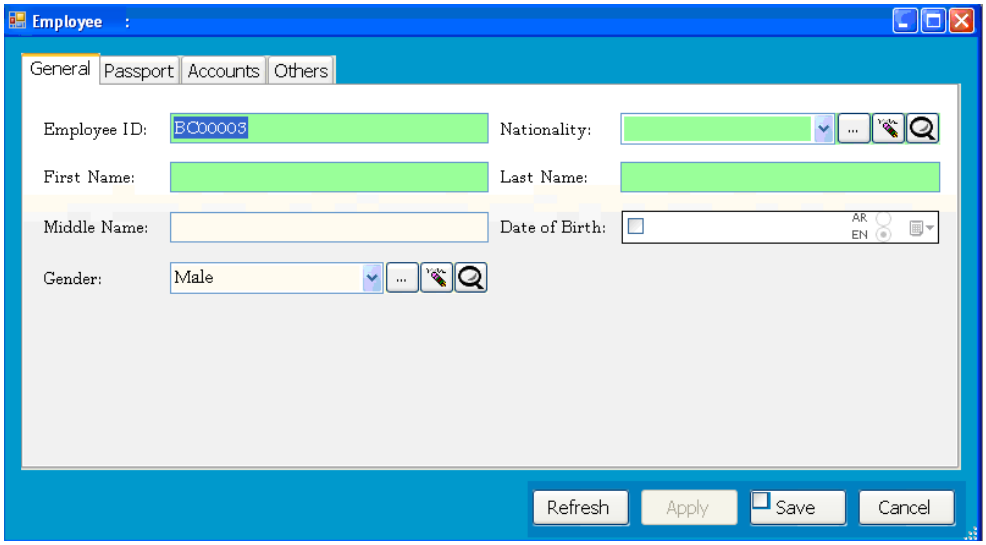
How to Create New Field:

For example: Add **New Field** to Employee table in HR application:

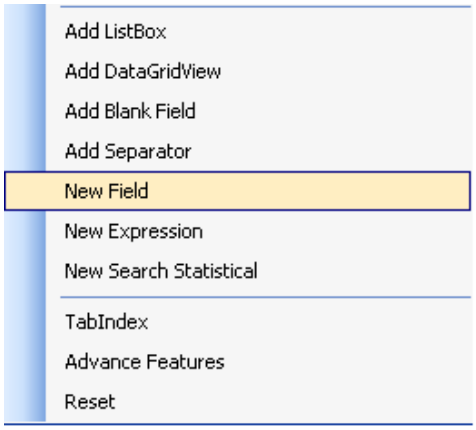
1. Right click on Employee object and Choose **New** as adding new employee-



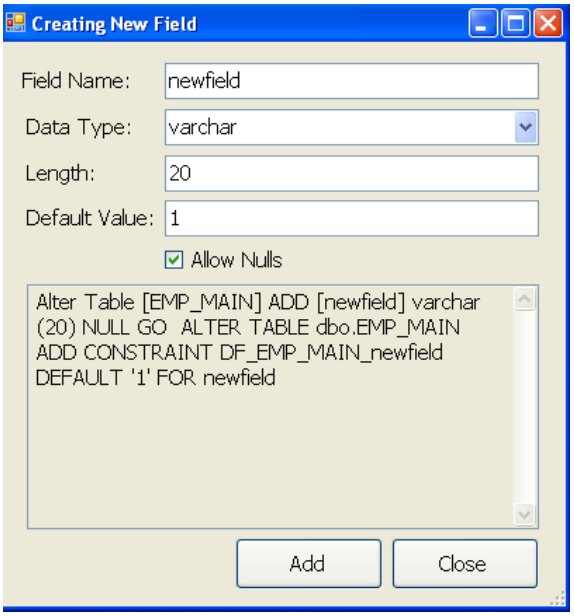
Employee screen-



2. Right click on any field and select New Field

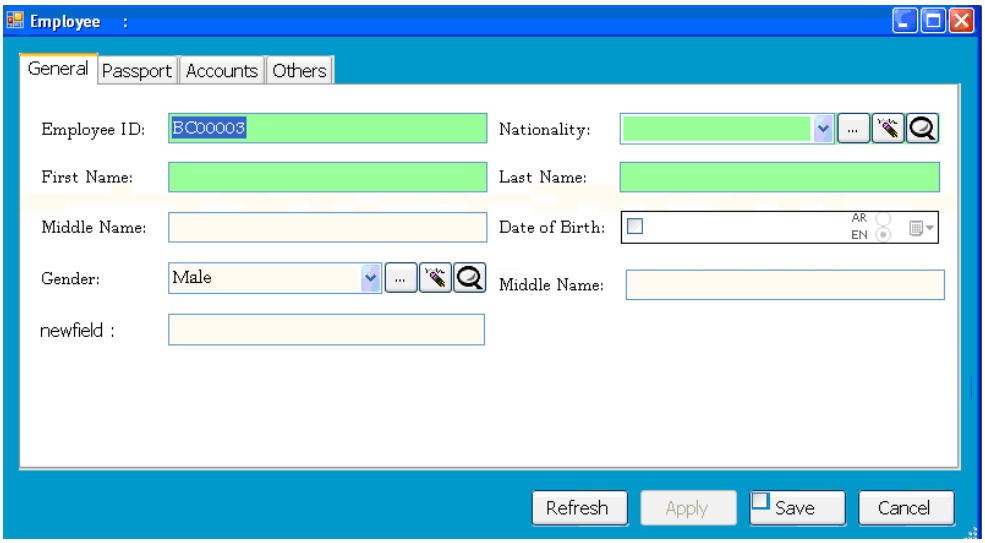


3. Creating New Field, **Field Name**, **Data Type**, **Length**, **Default Value**, **Allow Nulls**, for example:



4. Click **Add** and then **Close**,

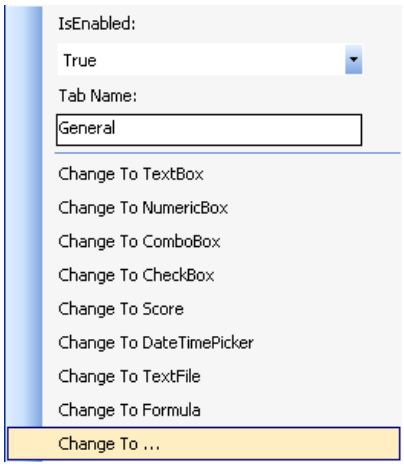
The new field will appear after click on Refresh button exist in the Employee screen as shown below:



- When you Create **New Field** using SQL Server you will find it appear after Refresh InnovBase®.

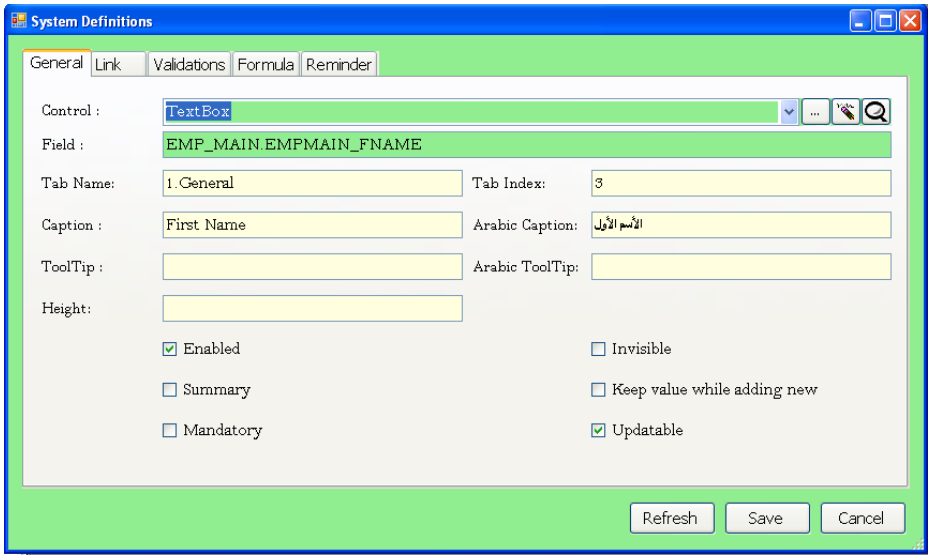
How to Change Field Attribute:

● In InnovBase®, the changing of fields attribute becomes easier, once you determine field in Object screen right click on the specific field that you want to change and choose the specific change directly by **Change** shortcuts in the list or choose **Change To** for more options. For example Change field attribute exist in Employee screen:



General- Change Field Control or Tab Name or Make it Invisible, and more:

● in General tab make deferent changes, you can change **Tab Name, Caption**, or **Tab Index** to sort**, Mandatory**, **Enabled, Invisible**, or **Updatable** (Important: if the field is formula you have to unmark it **Updatable**).

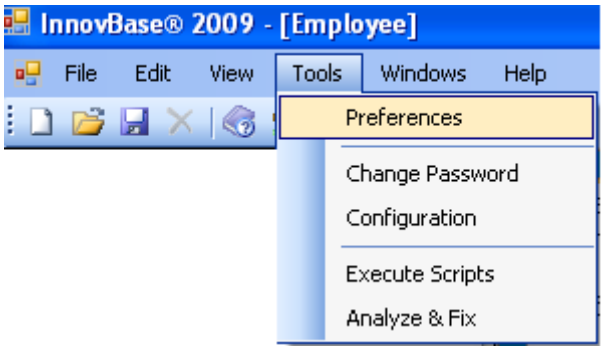


● Change field **Control**: choose control type from the **Control** List.

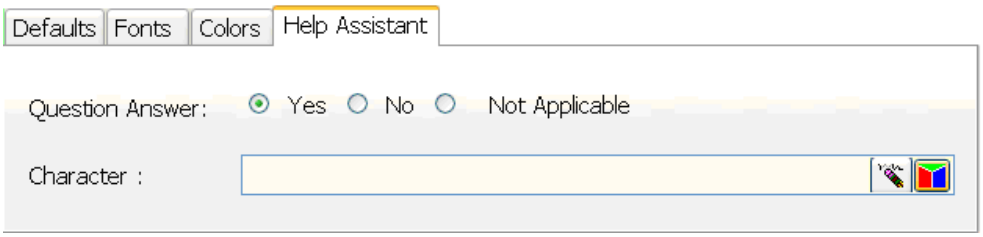
Controls

• **Assistant List:** standard control to choose help assistant and select character,

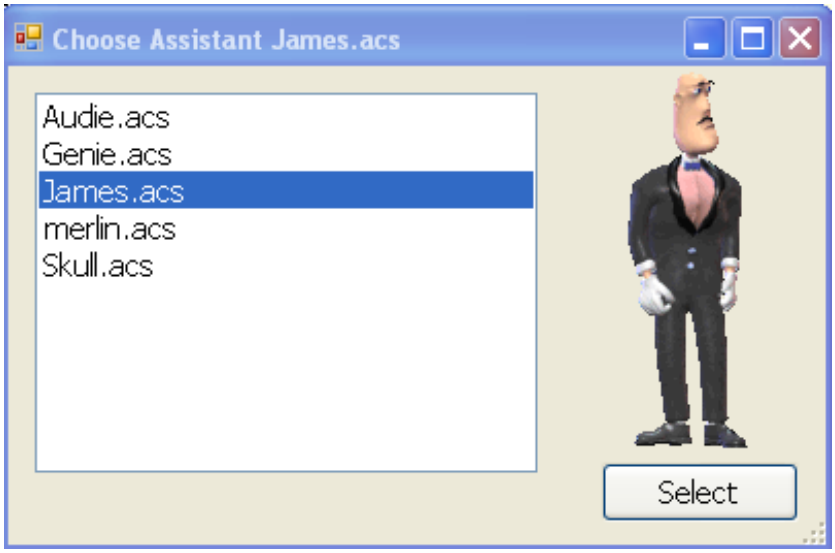
- You can find it by select **Preference** from Tools:



- Select Help Assistant tab:



- Change character by click on  button :



• **Auto number:** based on primary key that exist in the table and effect when the user select **Save,** the user will find it appear as start* on the field when he enter a new records,

• **Blank:** arrangement control,

• **Separator:** arrangement control to add separate line,

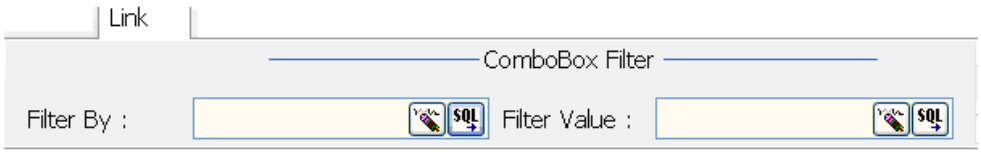
• **Check Box:** to make multiple selections from a number of options.

• **Color Dialog:** Color dialog control is used to change color.

- change colors by select **Preference** from Tools and select Color tab-please see User Manual for more details-:

• **Combo Box:** when you choose this control go to select **Link** tab to select **(Link Table**, **Link Field** and **Display Field)**.

- also this control has **Combo box Filter**, if the combo box related to another combo box the **Filter by** to select the field that you want to filter it and then select the **Filter value**,



• **Date Hijri:** contain the Hijri Date (H.D.) Formula, but actually store the A.D. and share the same attribute with A.D.

- Select Validations tab to adjust (**Minimum Date**, **Maximum Date** and **Month Year Only to** make it return month and year**)**:

• **Date Picker:** this Control to pick the current date.

• **Date Time Picker:** pick the current date and time.

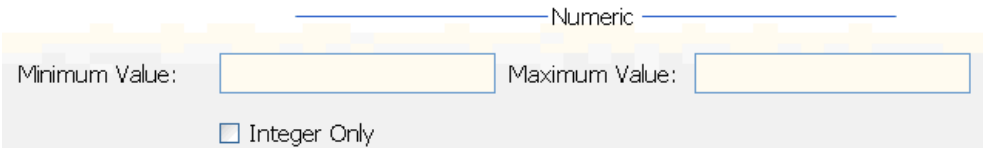
• **Font Dialog:** command control to format the font, to change font please see User Manual for more details,

• **Label:** Formula, Default value,

• **Grid:** relations between tables "data grid",

• **List Box:** relations between tables as list ,

•**Numeric Box:** has (**Minimum Value**, **Maximum Value** and **Integer only),**
- Select Validations tab to adjust attribute:



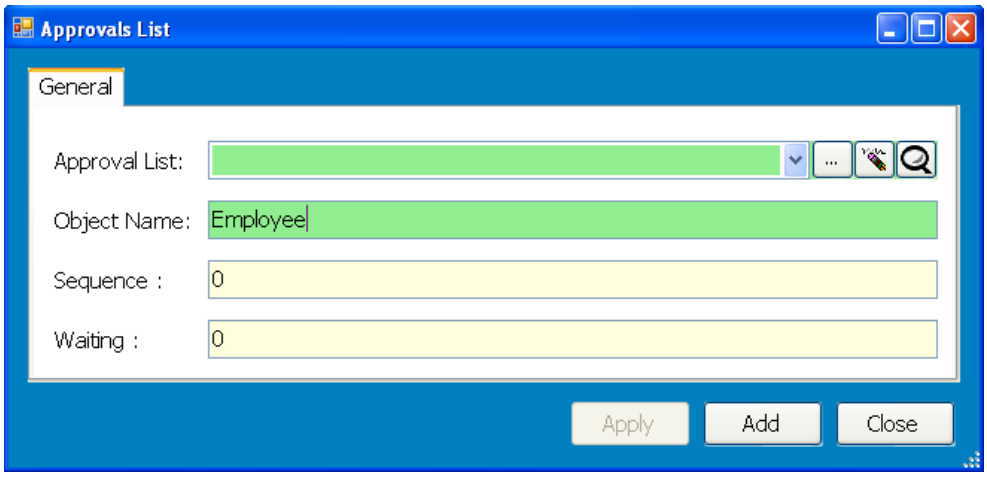
• **Picture Box Control:** the system divides it into binary type.

• **Radio Button:** standard control used to implement one-of-many selections.

• **Score:** command properties it's a radio button and has attribute: Integer Only and yes/no for example 0-2 poor, 3,4 accepted, 5,6 good, 7,8 very good,

• **Statistical:** control used to make quick search formula, but you have to identify object,

• **Target:** to call screen - for example if you select object configuration- for example Employee and open Approval list from Business Logic tab you will find **Object Name** Employee:



- **Text Box:** command to add formula,
- **Text Condition:** the last part after **where** for example- Reminder,
- **Text Expression:** system control, used to call SQL expression,
- **Text Formula:** system control used all applicable statement for SELECT- for example default value,
- **Text File:** common control used to store the path.
- **Text Folder:** common control used to store Folder
- **Text link:** to store link

Text parameters: to determine parameters.

Text statistical: statistical formula

Link-:

- Select Link tab to link fields.

- Select **Link Table**: choose Link Table

- **Link field**: Choose the field that you want to link it that store data- by click on **SQL** button

- **Display Field**: Choose the field that you want to display in the screen

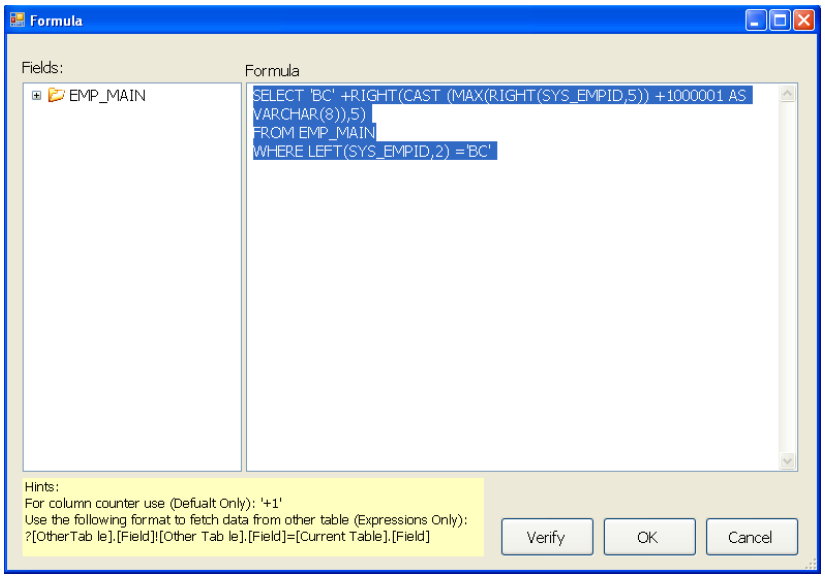
- **Drill Field** to view in drill down list.

Formula- Add Formula, Write Expression and Default Value for Future Use - Requirement Enhancing:

- Select Formula tab to.

Expression: write expression, you can fetch data from other table -please see attachment file to find what can use in Expression.

Default Value: write default value Click on **SQL** button and select the field and write Formula.



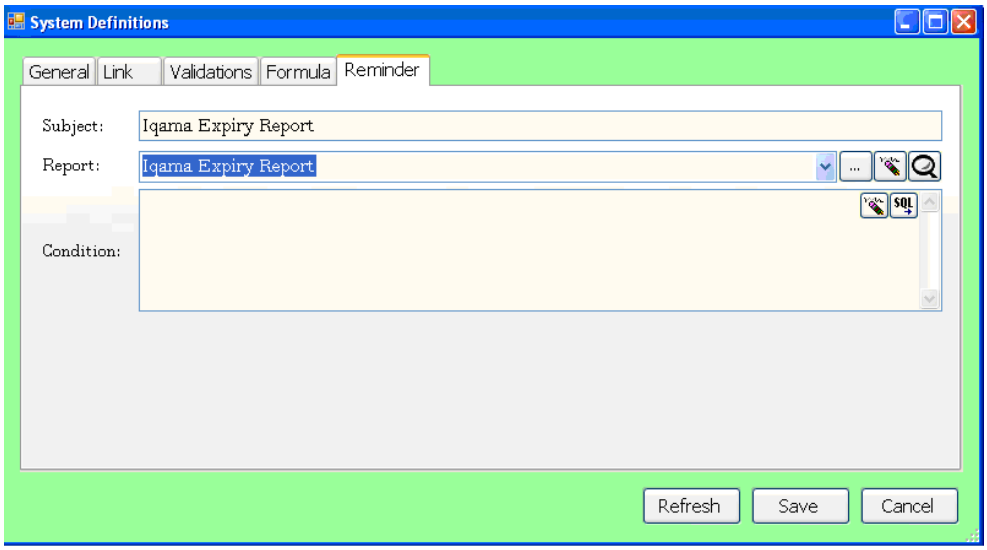
Statistical: to create quick search formula and make it appear when you **Open** object- *for more details please see section 2-How to build search screen.*

Reminder- Add Reminder

Add Employee Iqama expiry date Reminder

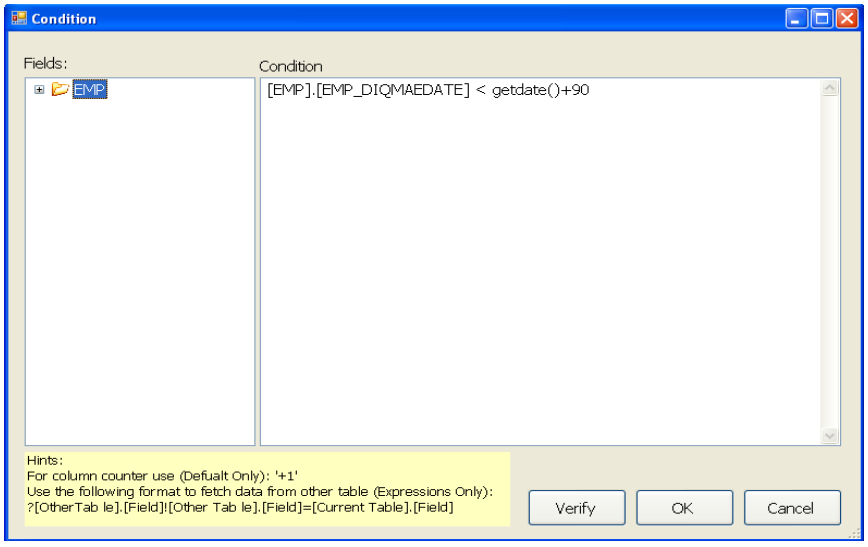
- add reminder to remind you of Iqama expiry date before three month.

- Choose **Subject** Iqama Expiry Report**,**

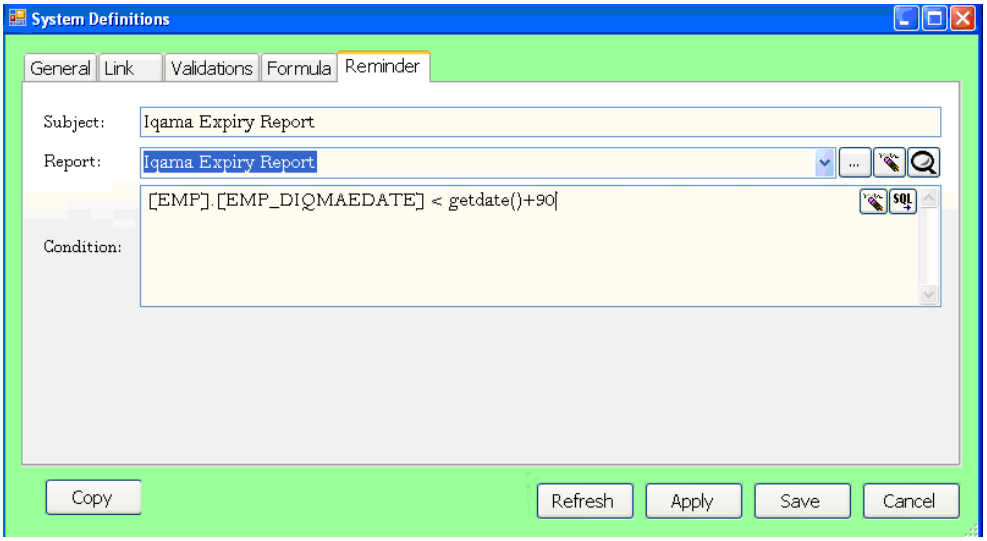


- Add new **Report**–*(for more details please see section 5 of Developer's Guide How to add new Report)*.

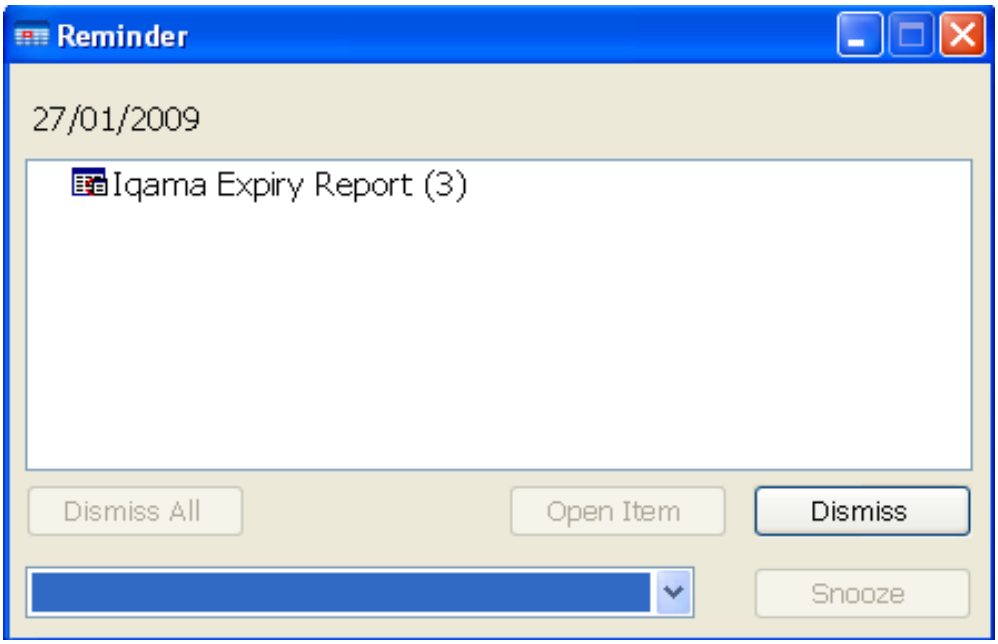
- in **Condition** Click on **SQL** button then duple click on field to select it then write the **Condition-** for example:



- **Verify** Then **OK**



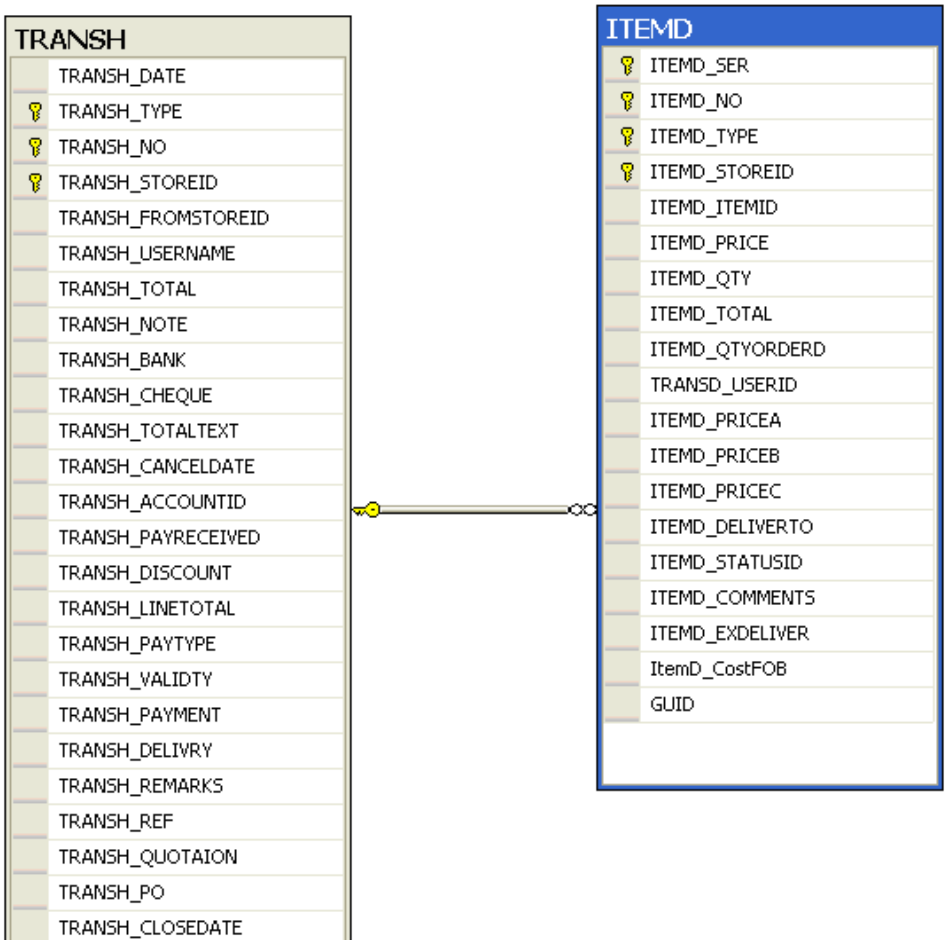
- **Apply** Then **Save**



Section 4

How to Add Data Grid Views:

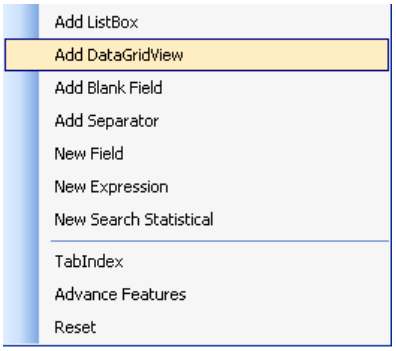
●First step add **Relationship** between tables, Use SQL Server to add Relationship-for example see Figure below that adding a relationship between TRANSH and item details ITEMD tables– invoice



●Now in InnovBase®, create **New Object** and name it **Invoice** and select **Table Name** TRANSH.

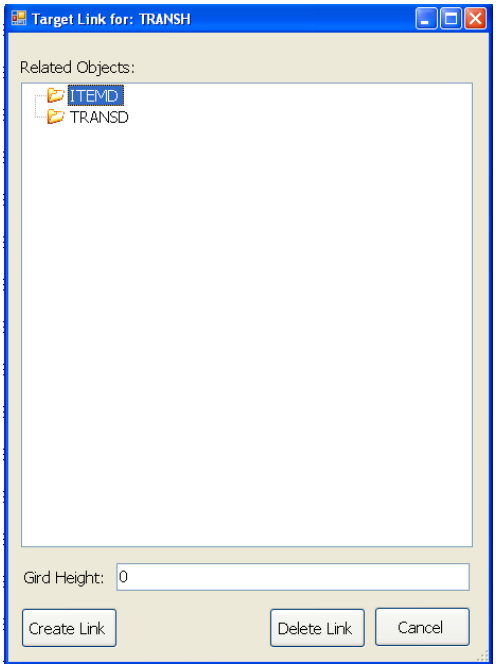
● Right click on **Invoice** to select **New**

● Now add **DataGridView** by right click on any field and choose **Add DataGridView** from the list.

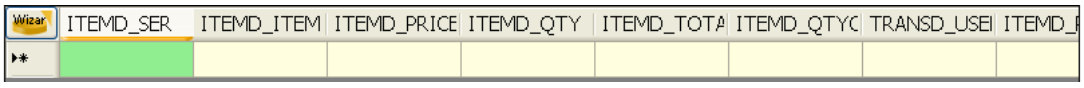


●The following screen present **Related Objects**

● Select ITEMD then click on **Create Link.**



● You will see **Item Details** appear down the screen after **Save** and **Refresh** InnovBase®:

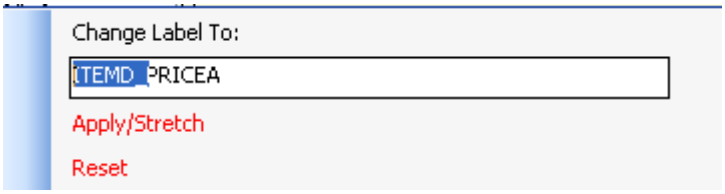


● Use Wizard 

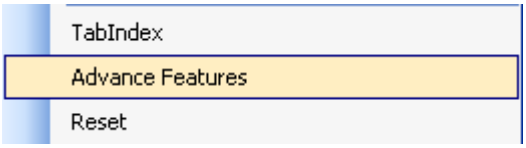
to add new details

● To arrange data add **New Object** and choose name **invoice details** and select the **Table Name** ITEMD.

● You can change **Field Label** by right click on the field you want to change and type new one under **Change Label TO**



● Or right click on any field and select **Advance Features** to search for field, then duple click on the field that you want to change to view field **Configuration** then make changes.

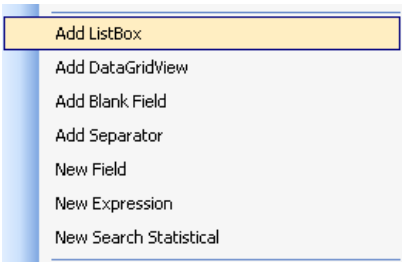


Recommended:
-Use Data Grid View if you need Many-to-Many relations, for example you need more details for invoice that includes items details.

- Use Data List if you need Many-to-Many relation- for example cars table and additional option table to select List Box so use data list

How to Add Data List:

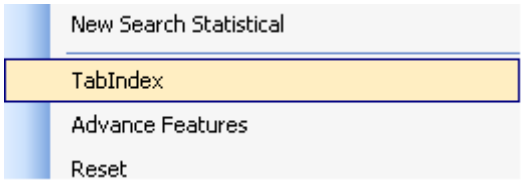
● Make sure that you already add **Relationship** between tables.
● Right click on the selected field and then Choose **Add ListBox**



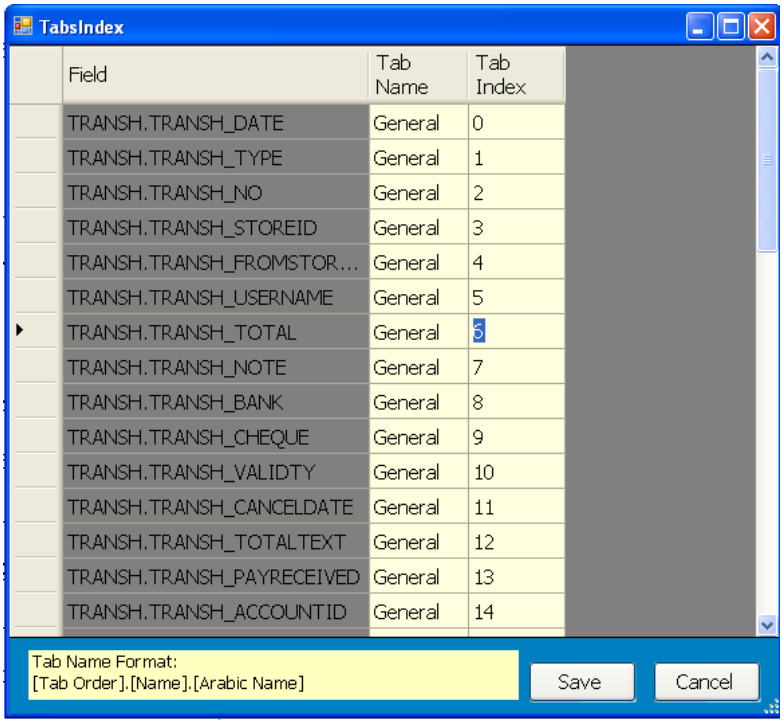
● Select **Check List Table**, **Related Objects**, and **List Field** then **Create Link**.

How to Arrange Screen Layout:

● In InnovBase it's easy to manipulate your screen, by **Drag and Drop** you can move the field and arrange the screen as you want or you can choose Tab Index by right click on the field to sort Fields



● Tab Index



- Also you can add another line to the field by right click on the selected field and choose **Change To** and then write the number of lines in **Height** field-for example make USER NAME 2 lines:

Section 5

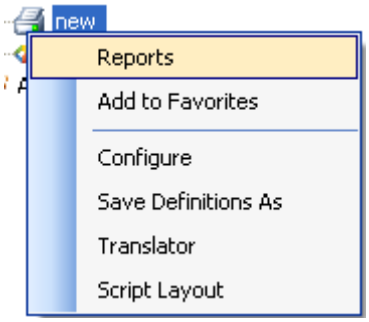
How to Add Reports

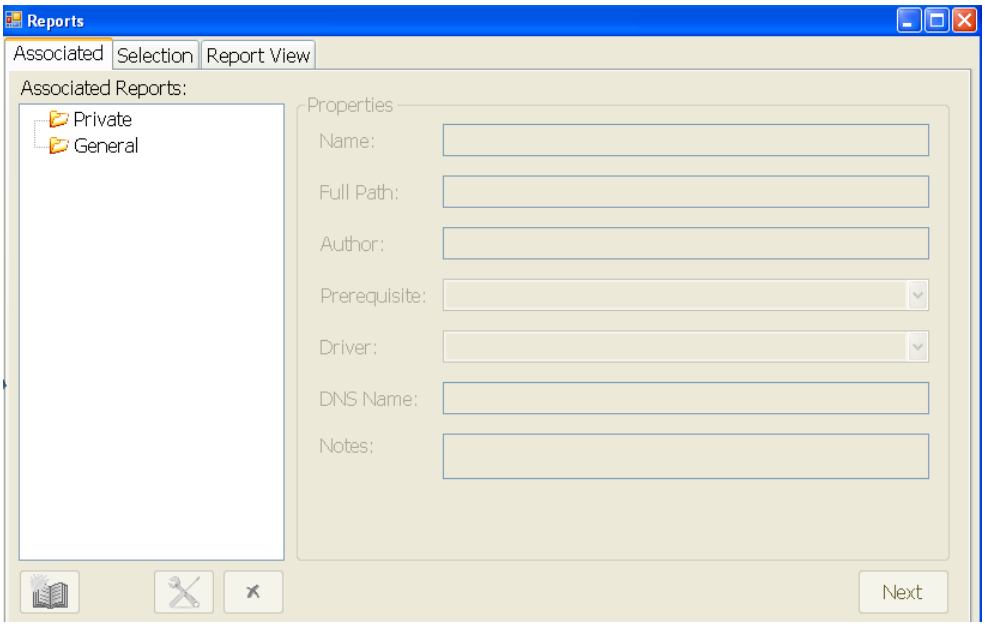
- Create **New Object** and choose a name for example **new**.

- Choose Wizard Type as Reports Viewer to View object as Report.

- **Save** then **Refresh**

- Right click on the object that you create it and select **Reports**.

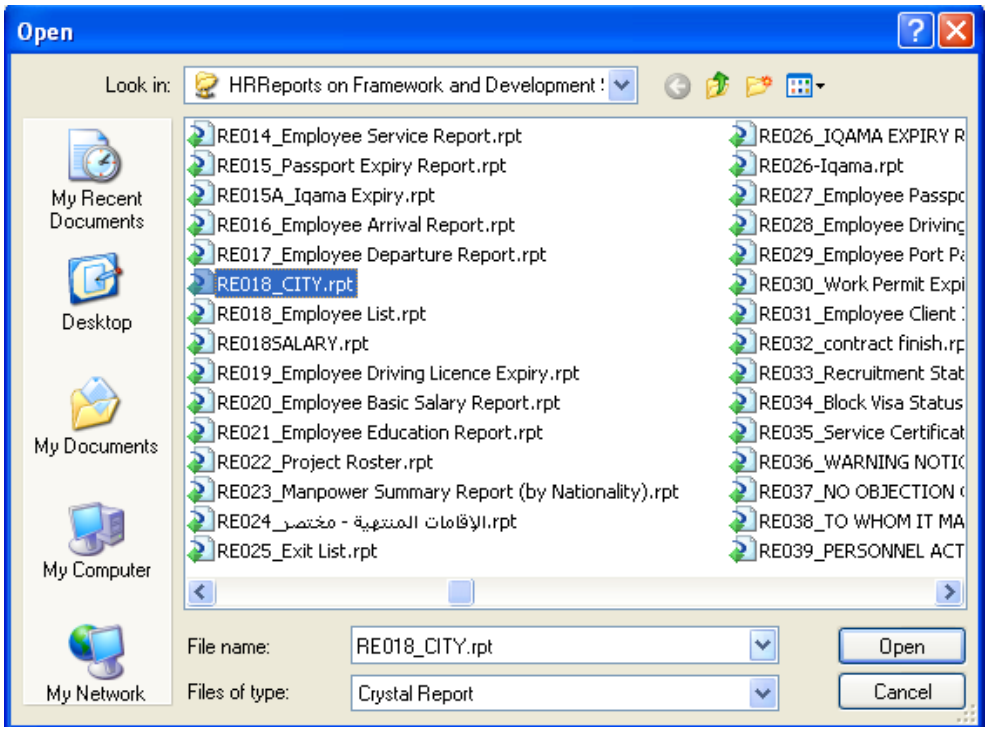




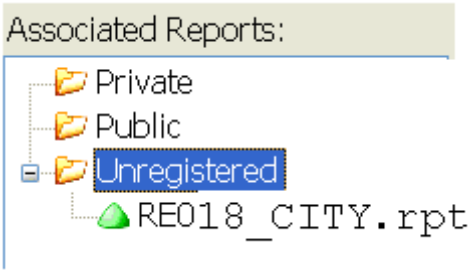
- Choose path as General: for all users and
- Private for one user
- Select associated Reports

- Click on **Register New Report** Button down after you select the path:

- The window below, contain all reports in the Path that you select –for example select General Path



- Directly, you will find Unregistered folder that contain the report that you select

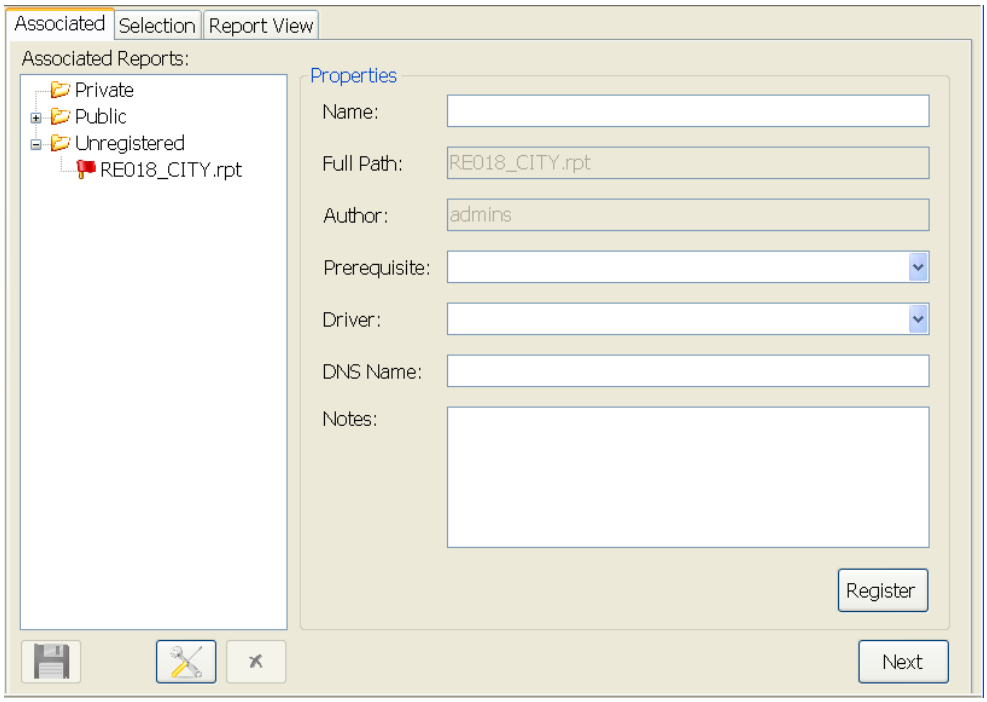


- Click on **Save** button

- You can edit report by click on Report Design button

- You can delete report by click on Delete Report Button

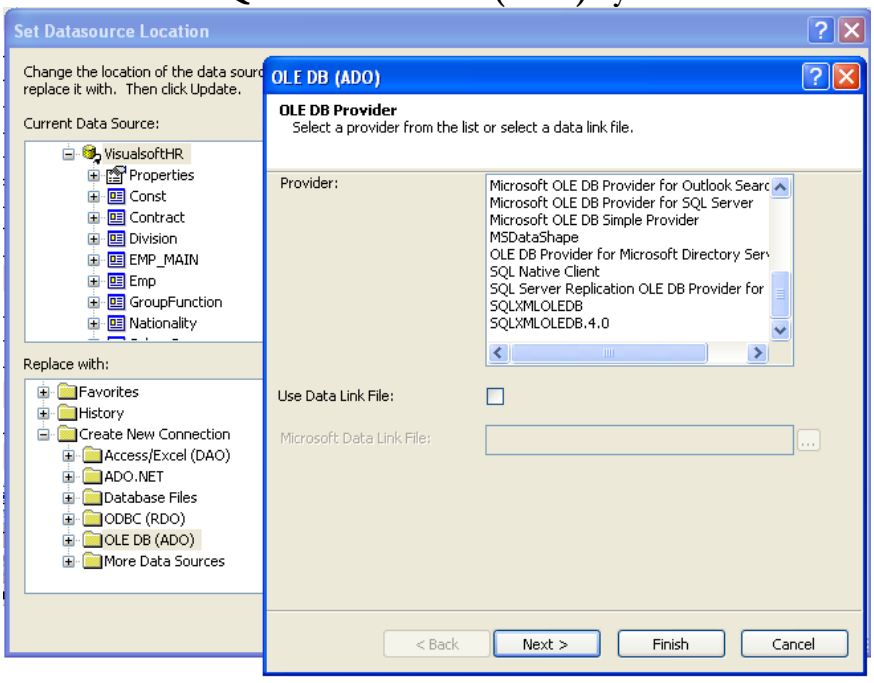
- Choose Name for the report



- Choose Driver: to adjust Connections

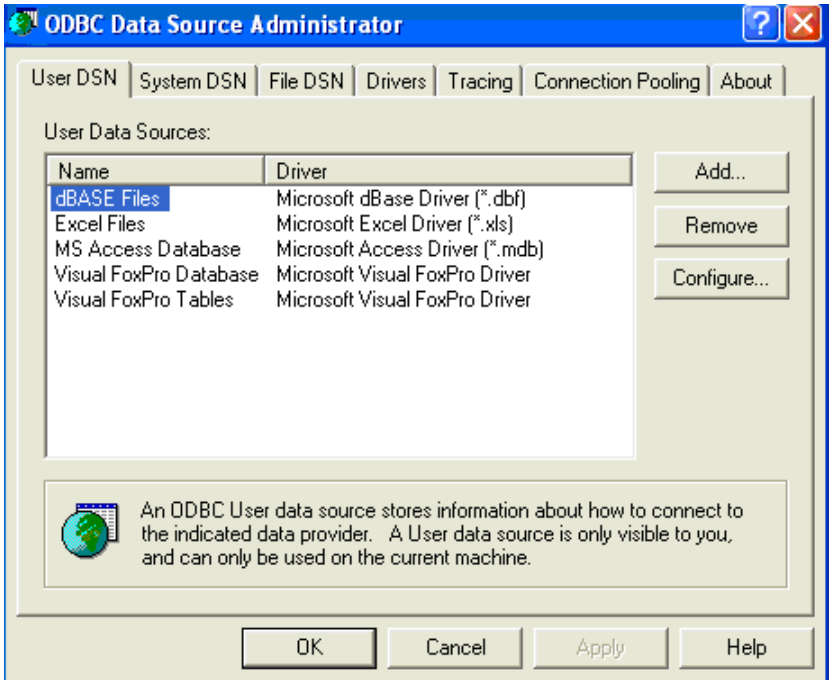
SQL Server Native Client
SQL Server Native Client 10.0
SQL Server

Or SQL Server OLEDB (ADO) by default



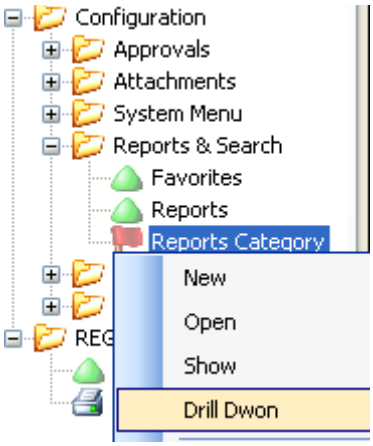
Then next to choose the server

● Choose DNS which used in Crystal Report, you can find it in administrator tools in control panel - figure-



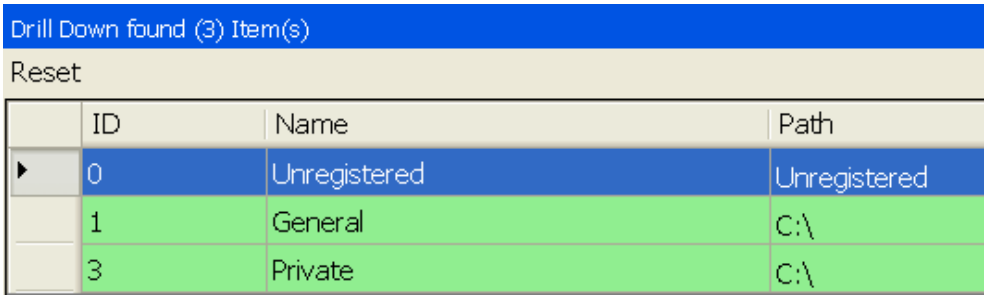
Change Path – Report Category

- Select **Configuration Menu** in **System Explorer** then select **Reports & Search** and choose Report Category by right click and select drill down.

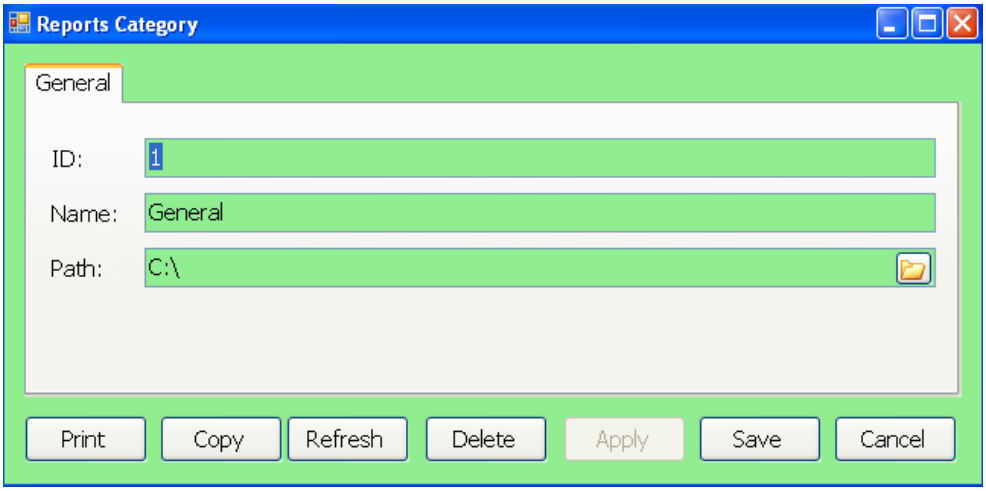


- Now you will see **Reports Configuration**

- **General**: all users can store reports. default
- **Privet:** one user can store report default
- **Unregistered**.



- Duple click to change the path- for example -General



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