## Year 12 : Visual Basic Tutorial.

### ADO - Linking to Microsoft Access Databases.

### IMPORTANT :

You will use a database called hospital.mdb for the walkthroughs and exercises presented here. The path to this database will always be C:\hospital.mdb in these notes - You will have to change this to the path of the database on your computer, whenever it occurs.

There are two ways to link to a database in VB -

[A] The Easy Way (faster but not so versatile) or

[B] by writing Program Code.

We'll stick to the Easy Way for now....

- [1] Create a new Windows application.
- [2] In the Data menu, click the Add New Data Source command. The Data Source Configuration wizard should appear...

Data Sourc	e Configuration Wiz	ard				? ×
Ļ	Choose a Data	Source Type	,			
<u>W</u> here w	ill the application g	jet data from?				
Databa	Web Service	U Object				
Lets you dataset.	connect to a database	and choose the	database obj	ects for your a	application. This o	option creates a
		<[	Previous	<u>N</u> ext >	Einish	Cancel

Select Database and click <Next>

You now need to set up the connection to your database.

Click on the [New Connection] button.

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Add Connection	<u>? ×</u>			
Enter information to connect to the selected da click "Change" to choose a different data source provider.	ata source or :e and/or			
Data <u>s</u> ource:				
Microsoft Access Database File (OLE DB)	_hange			
Database file name:				
C:\hospital.mdb	<u>B</u> rowse			
Log on to the database				
User name: Admin				
Password:				
Save my password				
[	Ad <u>v</u> anced			
Test Connection OK	Cancel			

Make sure the dialog box is set to the above options (the path to your database will probably be different - use the Browse button to find your database)

Test the connection before moving on by clicking [OK].

The details of the connection should now be filled in (Click the [+] to see the connection string.)

Data Source Configuration Wizard	? ×
Choose Your Data Connection	
Which data connection should your application use to connect to the data	base?
ACCESS.C:\hospital.mdb	New Connection
This connection string appears to contain sensitive data (for example, a password), wh connect to the database. However, storing sensitive data in the connection string can you want to include this sensitive data in the connection string?	ich is required to be a security risk. Do
$m{O}$ No, gxdude sensitive data from the connection string. I wil set this information	in my application code.
O Yes, include sensitive data in the connection string.	
Connection string	
Provider=Microsoft.Jet.OLEDB.4.0;Data Source=C:\hospital.mdb	
< Previous Next >	sh Cancel

Click the **<Next>** button.

You will see a message displayed asking whether you want to make a copy of the database into your project. There is no need to do this so select [No].

You will now be asked if you want to save the Connection string..and [Yes] - you do! (If the location of your database changes then you only need to edit the string in the configuration file of your Solution explorer)

You now create the **dataset** to be used in your application. A dataset is a copy of some or all of the fields in the tables of your database.

Data Source Configuration Wizard	? X
Choose Your Database Objects	
Which database objects do you want in your dataset?	
Image: Constraint of the second se	
DataSet name:	
[hospitalDataSet	
< Brevious Next > Einish Can	el //

Select all the tables (as shown above).

### Click [Finish]

[3] You should now see an extra element appear in the Solution Explorer. There is now hospitalDataSet.xsd.

Solution Explorer	×
WindowsApplication1	
📴 My Project	
📄 🔤 📑 app.config	
📰 Form1.vb	
🔜 🔝 hospitalDataSet.xsd	
Solution Explorer	

If you right-click hospitalDataSet.xsd and view the Designer you should see a visual representation of the schema of the database.

🎼 Wards	8	🎼 Nurses	≳
🕴 WardID		🕴 NurseID	
WardName		Name Name	
🗽 WardsTableAdapter		WardID	_
🕺 Fill,GetData ()		🧏 NursesTableAdapter	≳
	\$	🕺 Fill,GetData ()	
		👡 🐂 Patients	8
			8
		Patients PatientID Surname	8
		<ul> <li>Patients</li> <li>PatientID</li> <li>Surname</li> <li>Forename</li> </ul>	8
		Patients       PatientID       Surname       Forename       WardID	8
		<ul> <li>Patients</li> <li>PatientID</li> <li>Surname</li> <li>Forename</li> <li>WardID</li> <li>PatientsTableAdapte</li> </ul>	8 •

[4] You will now write an application that displays some of this data.

Find your **Data Sources** window. The tables and fields of your dataset should be displayed. Expand the Patients table...



Drag each of the four fields of the Patients table onto the Form. Labels and TextBoxes should be created for each.

A Navigation Bar is also created at the top of the form, as well as these object displayed at the bottom of the screen...

避 HospitalDataSet	ឺរី PatientsBindingSource	🔄 PatientsTableAdapter	PatientsBindingNavigator

A TableAdapter moves data between the database and the DataSet.

A BindingSource makes sure objects display data from the DataSet.

[5] Run the program and you should be able to see data from the Patients Table..

🔜 Hospital Datab		
	of 11   🕨 🔰   🕂 🗙 🛃	
Patient ID:	P1	
Surname:	Smith	
Forename:	Tommy	
Ward ID:	W3	

Using the Navigator Bar you can look at each of the records in the table, navigate to the First, Last, Next or Previous record.

You can also Add new patients to the table and save the data, or delete records (careful!).

Save this project - you will need it in the next chapter.