

Year 12 : Visual Basic Tutorial.

STUDY
THIS**ADO - Adding SQL statements.**

SQL stands for **Structured Query Language**. It is a language used to select or update data in a database.

You need to become familiar with the structure of SQL **SELECT** statements.

Here is an example :

```
SELECT PatientID, Surname, Forename FROM [Patients] WHERE Surname = 'Jones'
ORDER BY Surname
```

This will filter out all the Patients with surname 'Jones', and sort the results in alphabetical order of Surname.

..but don't panic - there is a Query Builder wizard that will do this for you!

You will also look at a really useful object for displaying data - the **DataGridView**.

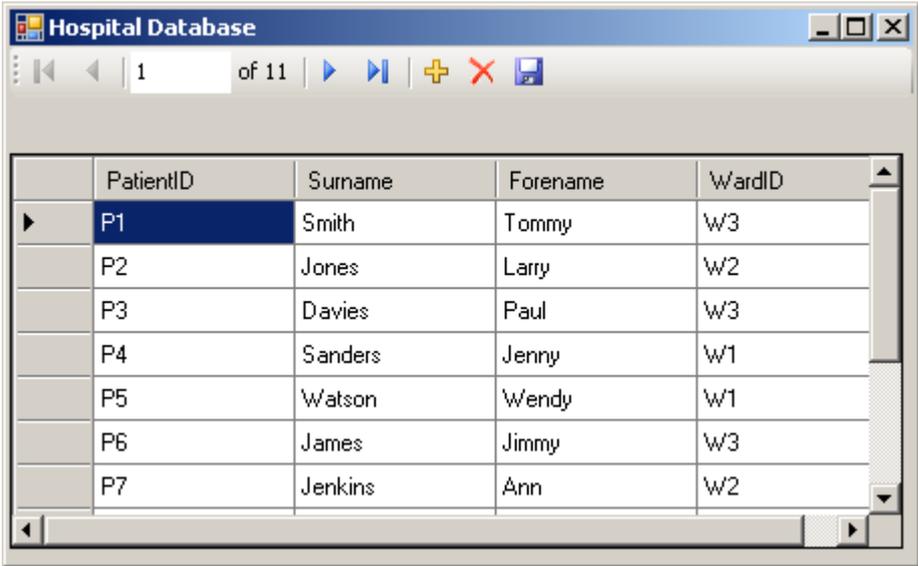
HANDS
ON

- [1] Open the **Hospital** application from the previous chapter.

Delete all the Labels and TextBoxes... you are going to replace it with a **DataGridView**.

From the Data Sources window, **drag** the Patients Table onto the form. A **DataGridView** will appear, but you may need to adjust its size.

Run the program and all the data records should be displayed in a grid.



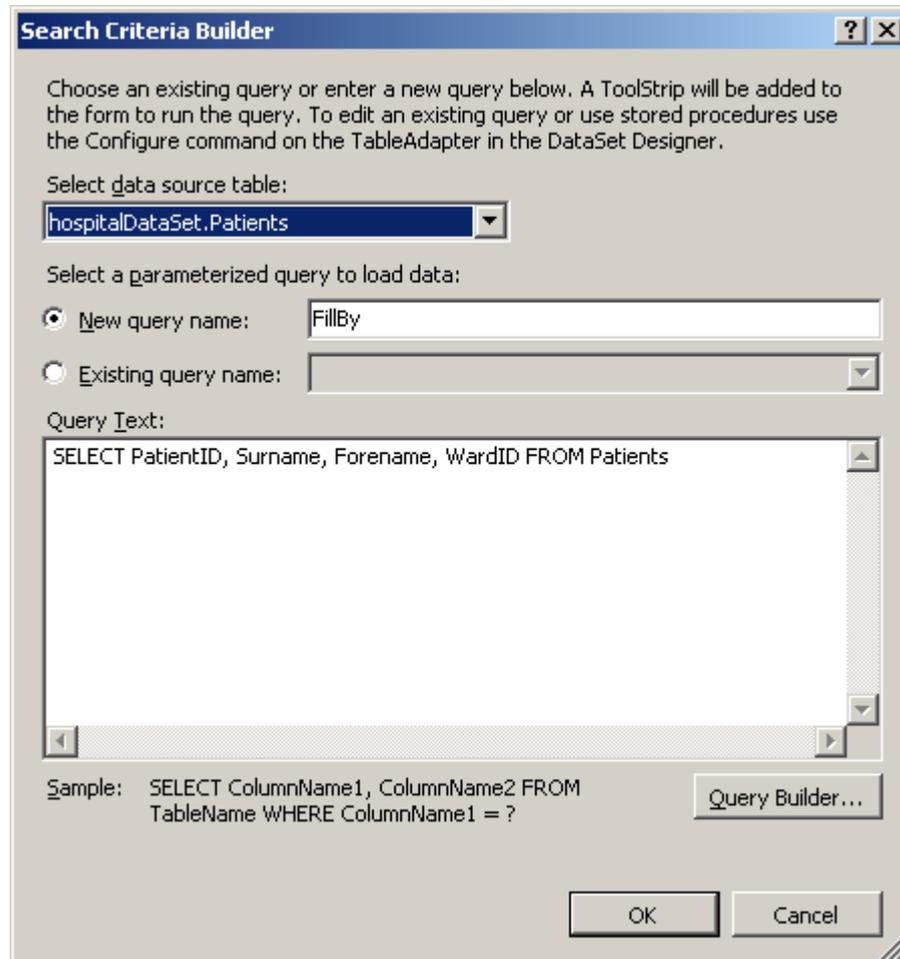
The screenshot shows a window titled "Hospital Database" with a DataGridView displaying a list of patients. The grid has columns for PatientID, Surname, Forename, and WardID. The first row is selected, showing PatientID P1, Surname Smith, Forename Tommy, and WardID W3. There are 11 records in total, as indicated by the "1 of 11" text above the grid.

PatientID	Surname	Forename	WardID
P1	Smith	Tommy	W3
P2	Jones	Larry	W2
P3	Davies	Paul	W3
P4	Sanders	Jenny	W1
P5	Watson	Wendy	W1
P6	James	Jimmy	W3
P7	Jenkins	Ann	W2

The **DataGridView** is a very powerful tool for displaying data and can be formatted in many ways - worth having a good look at this for your coursework!

- [2] Let's filter the data now. Suppose we only wanted to view the Patients in Ward W1, and we would like them displayed in alphabetical order of surname.

In the Designer view, click on the DataGridView and then in the [Data] menu, select [Add Query]. This dialog box should appear...



The default Query for the Patients Table Adapter is displayed.

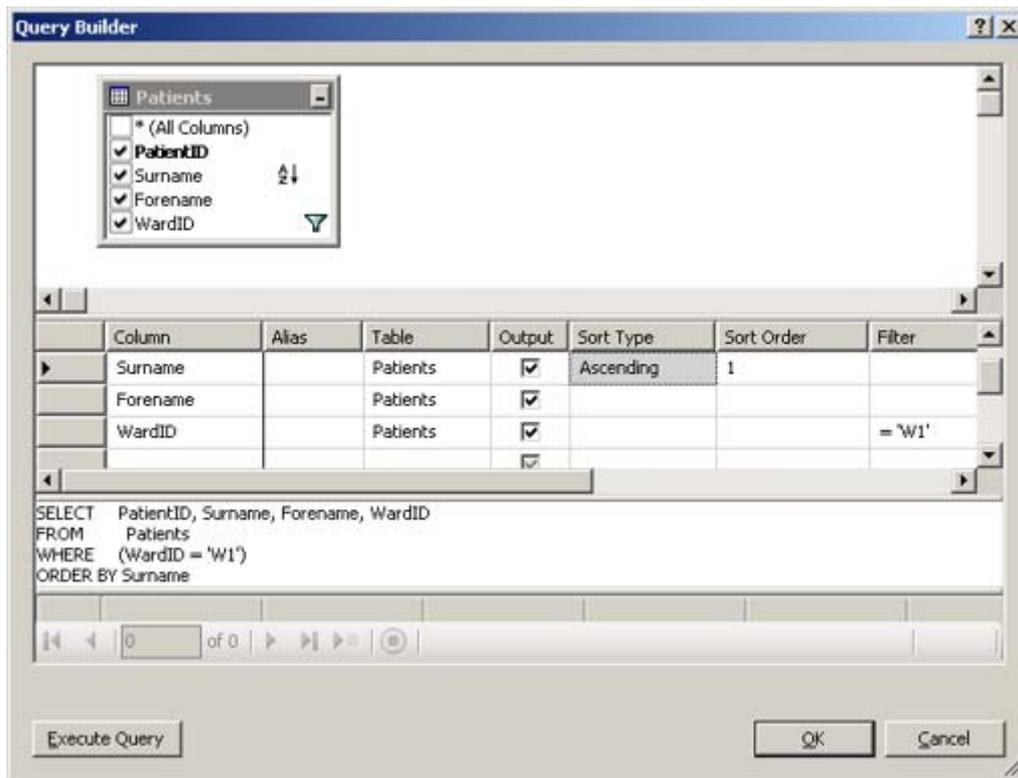
You could enter your SQL statement in the Query Text box, but let's use the **Query Builder...**

The data source table is displayed and should not be changed - we are displaying data from the Patients table.

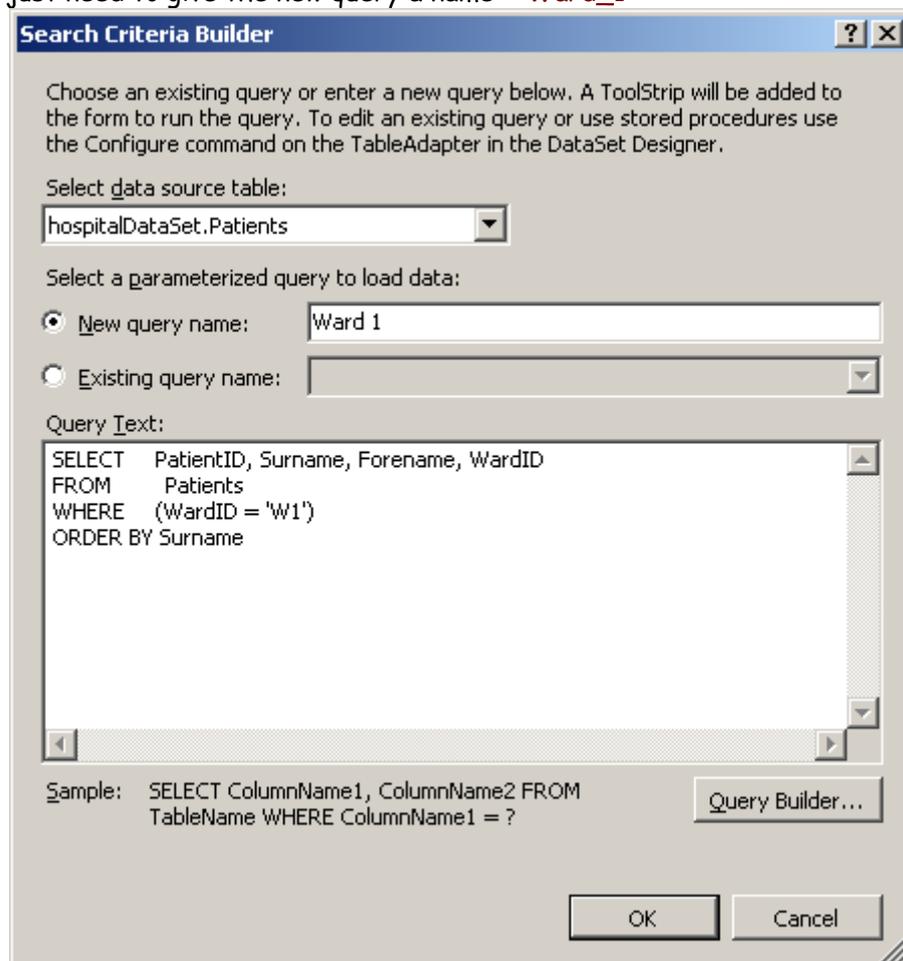
In the Query builder...

- set the Sort Type for the [Surname] field to be 'Ascending',
- set the Filter for the [WardID] field to be 'W1'

You will see the SQL text change automatically in the text box at the bottom.



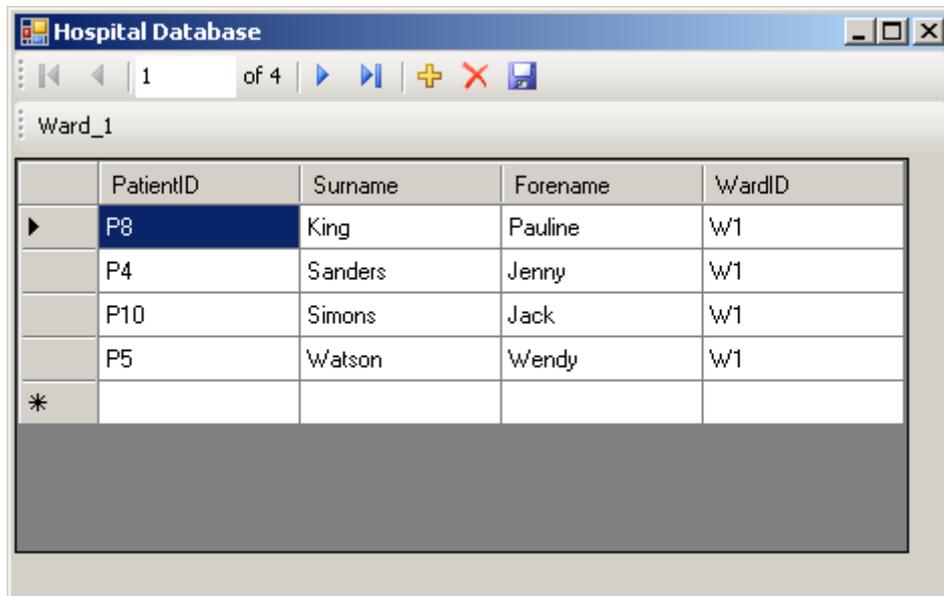
Click [OK]. The SQL text will be automatically transferred.
 You just need to give the new query a name - 'Ward_1'



Make sure your screen looks like the one above ..and click [OK]

VB will add a new **Toolbar** to your program with a **Button** on it for the Query.

- [3] Run the program and click the button and you should see the Patients in Ward W1 displayed in alphabetical order of surname.



Important Note : If you need to edit this query, go to the Dataset Designer, and use the *Configure* option on the Query.