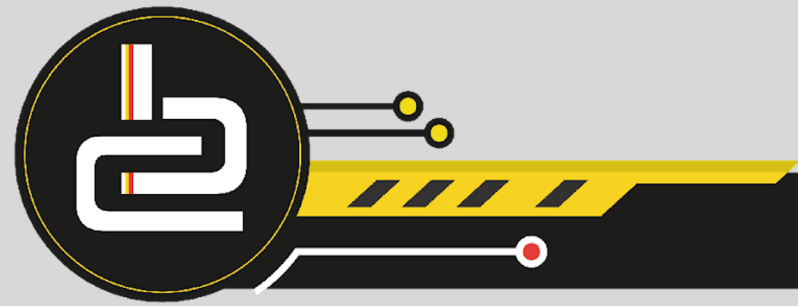
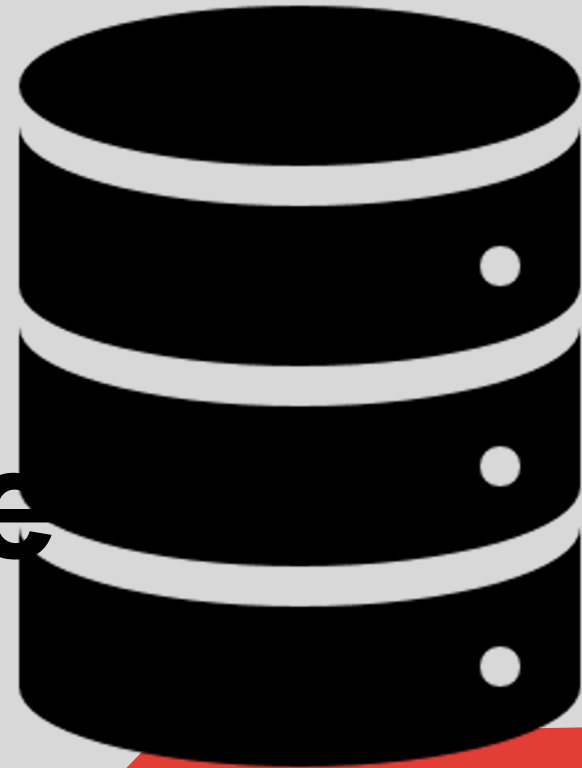


# Delphi - Database

V. Pretorius



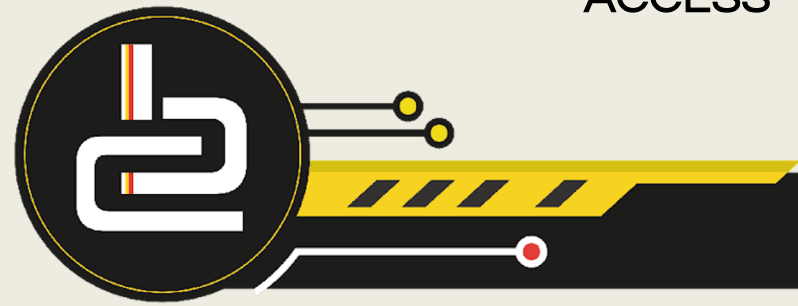
# Lesson objectives

- What is a database?
- Connecting Delphi and the database
  - ADOtable
  - Data Source
  - DBGrid
  - DGNavigator
- DBGrid vs. DBEdits



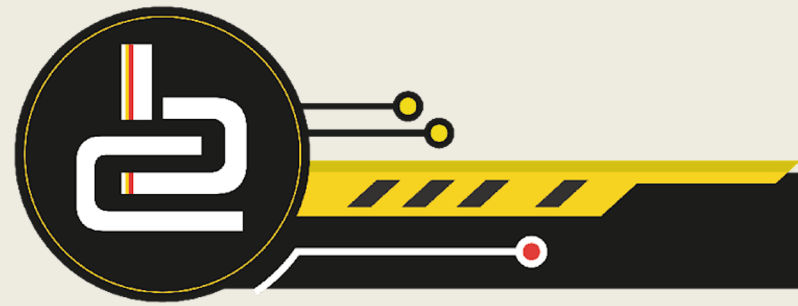
# The aim of this module:

- In some cases it is necessary for application software to keep a great deal of data, so that the user can manipulate the data. In such cases we will make use of Delphi in co-operation with a database.
- 90% of modern software uses some kind of stored data.
- Delphi has the capability to communicate with a database.
- Delphi can read data from the database, manipulate the data and even make changes to the data in the database.
- The database that we will use in conjunction with Delphi is: **MICROSOFT ACCESS**



# What is the Database?

- A database is a collection of organised data.
- In a database the data is separated into fields and then related data can be normalized into different tables
- The different tables will then be connected through their relationship
- The database table looks like a matrix, we call the columns fields and the rows is records.

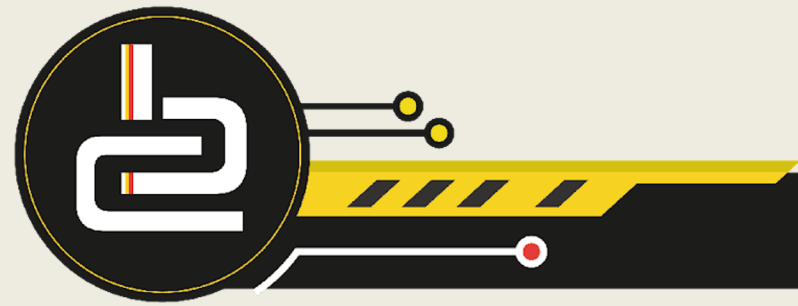




# Work with the database through Delphi

It is very important to keep the following in mind:

- We work with internal data (everything in Delphi)
- We work with external data (everything in the database)
- As with text files, it is very important to connect the internal and external data.
- To achieve this we make use of certain applications in the database and Delphi.

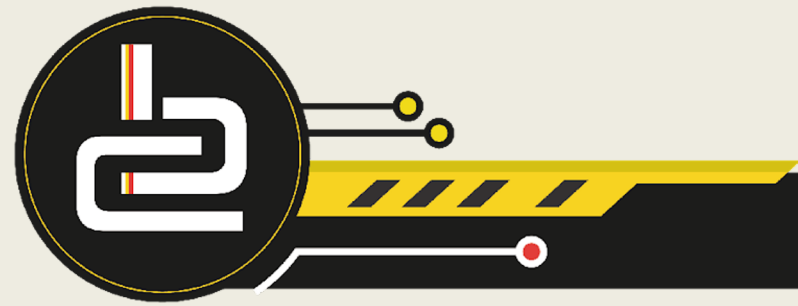


# How to Connect the Database with Delphi

- Open a new application
- Do the following in this specific order and you will never have any trouble

Put the following components on the new form:

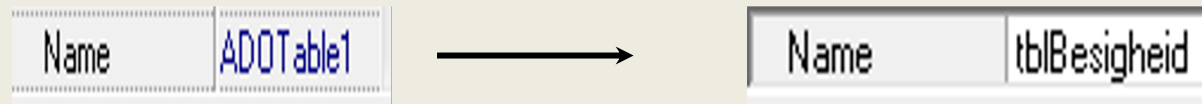
- Table component
- Go to the ADO page on your component palette and seek for the ADO Table component



# Change the ADOtable Properties

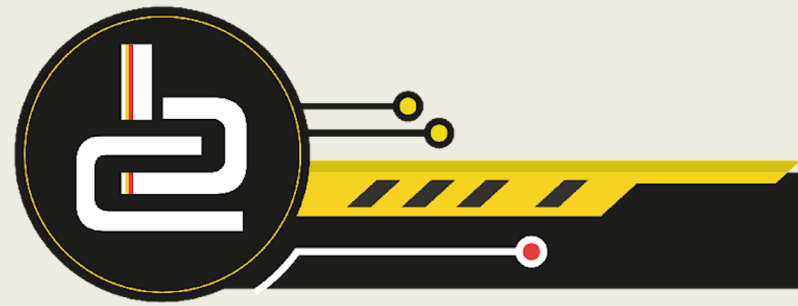
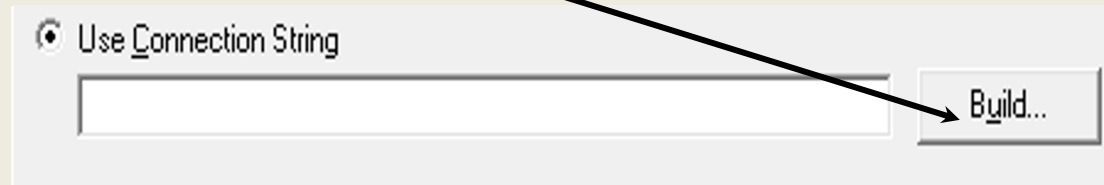
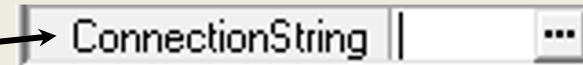
Change the following properties in the OI:

- Name attribute: tblName (the name you want to use in your program)



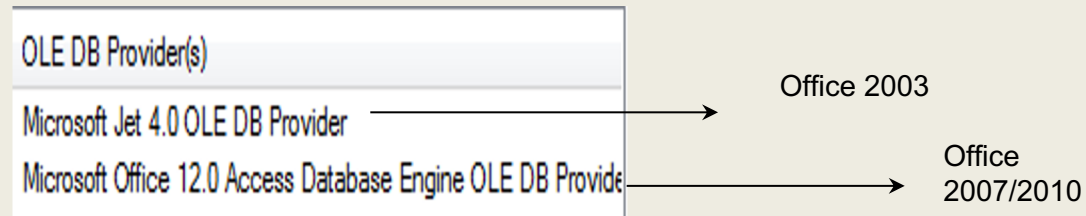
- Connection string:

Click on the ellipse next to the ConnectionString.  
Click on the BUILD button.

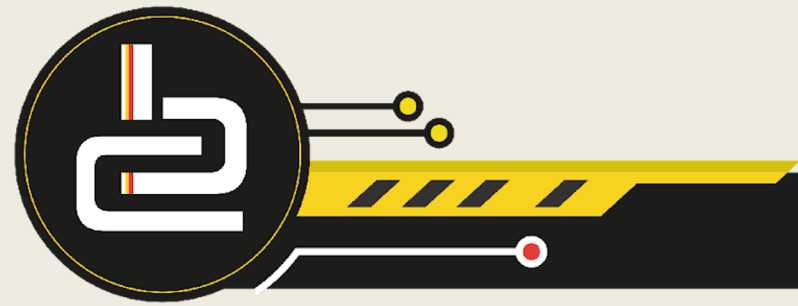


# Change the ADOtable Properties

- Choose the Microsoft Jet 4.0 OLE DB Provider (for all the MS Office up to Office 2003) else choose the Microsoft Office 12.0 ACCESS Database Engine OLE DB Provider.



- Click next



# Change the ADOtable Properties

Provider Connection Advanced All

Specify the following to connect to Access data:

1. Select or enter a database name:

WildReservaat.mdb

2. Enter information to log on to the database:

User name:

Password:

☒ Blank password ☐ Allow saving password

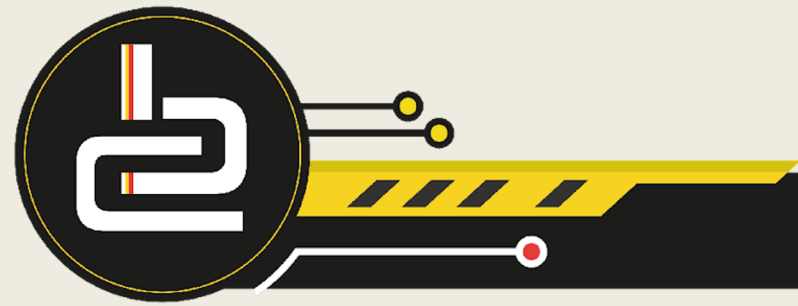
Test Connection

Browse for the database that you will be using. Erase the path in front of the database name.

Erase the username

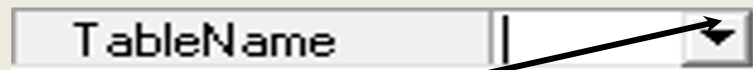
Un-tick the blank password

Click the button Test Connection and the click OK



# Change the ADOtable Properties

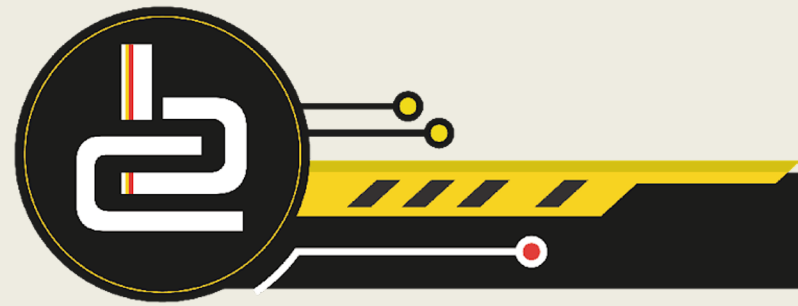
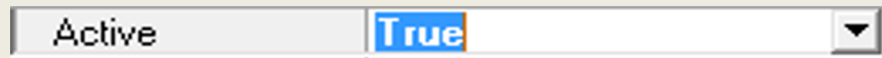
- Look for the name attribute in the ADO Table component's properties in the OI.



- Click on the arrow next to it.
- Choose the table to which this table component should connect.



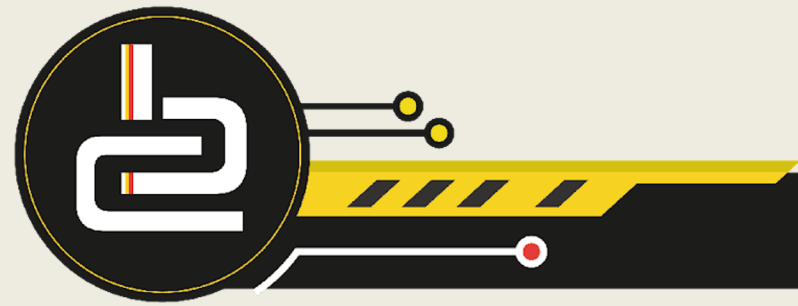
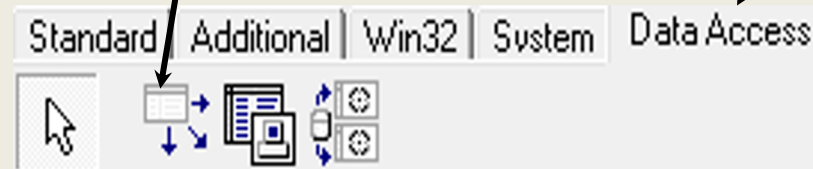
- Change the 'Active' attribute of the table to TRUE





# Next Component: The Data Source

- You can get the Data Source component on the Data Access page on the component pallet.



# Change the attributes of the Data Source

- Change the component Name to drsName (the name that you will use in your programming)

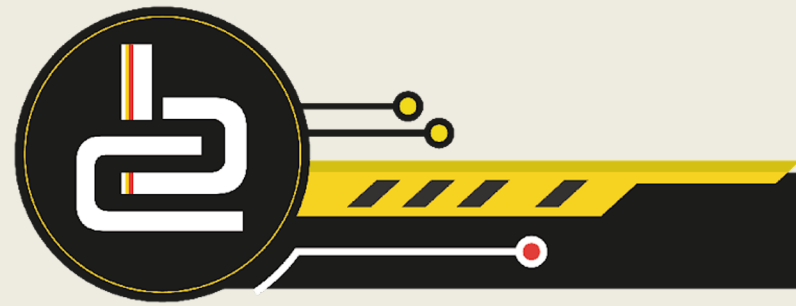
Name	drsBesigheid
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- Click on the arrow next to the Data-Set attribute

DataSet	
---------	---

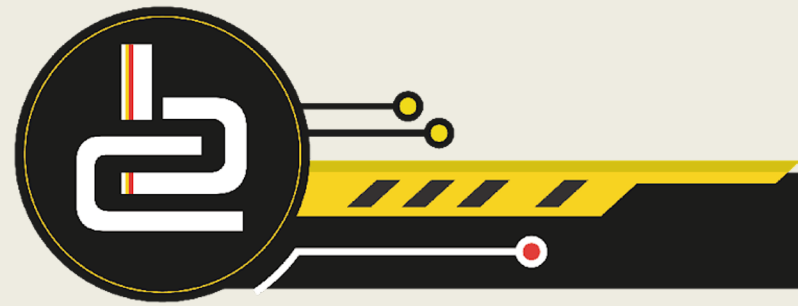
- Choose the table to which this component should connect.

+ DataSet	tblBesigheid
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# Next Component: DBGrid

- You can get the DBGrid in the component palette on the Data Controls page



# Change the Attributes of the DBGrid


- Change the name attribute to dbgName (the name that you will use in your program).

Name	dbgBesigheid
------	--------------

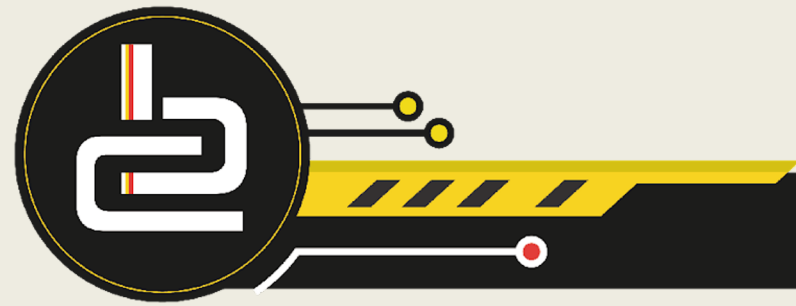
- Click on the arrow next to the Data Source properties.

DataSource	
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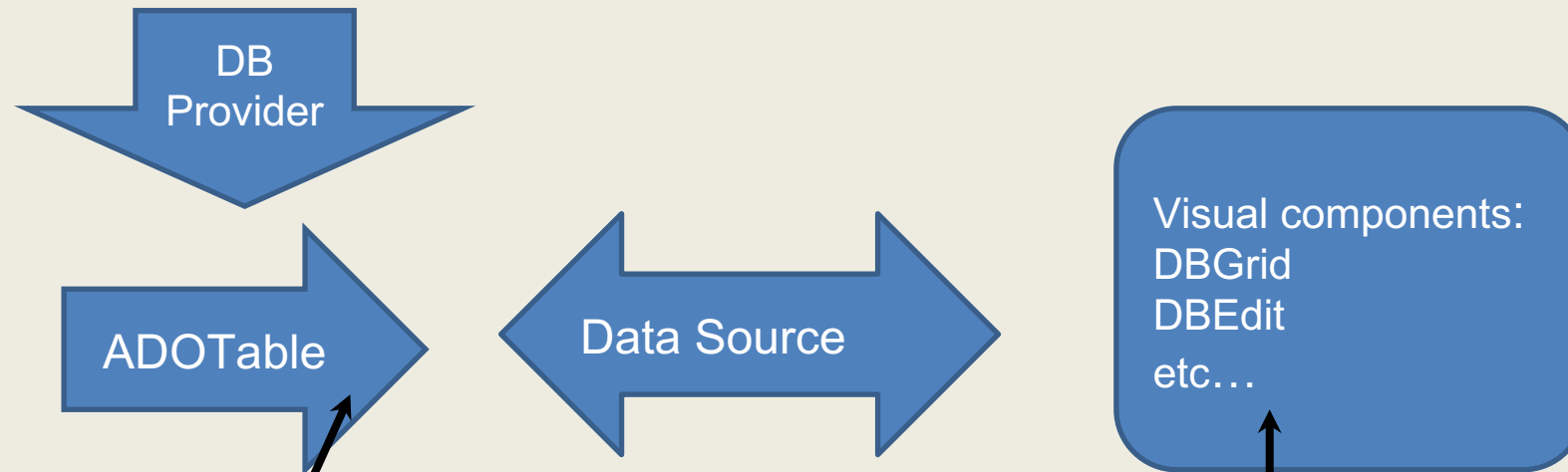
- Choose the Data Source that this component should connect to.

 DataSource	dsrBesigheid
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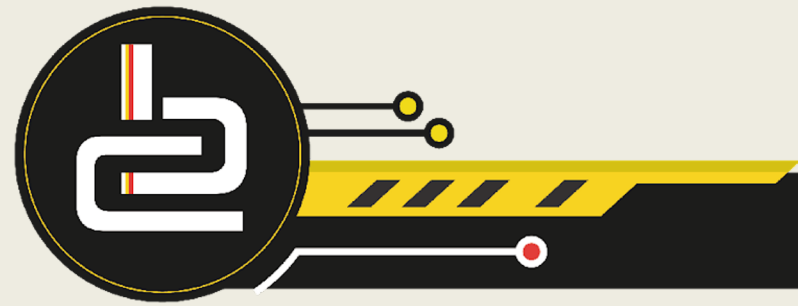
- You will see that the data from the database will show immediately in the dbGrid.



# The Function of the Three Components

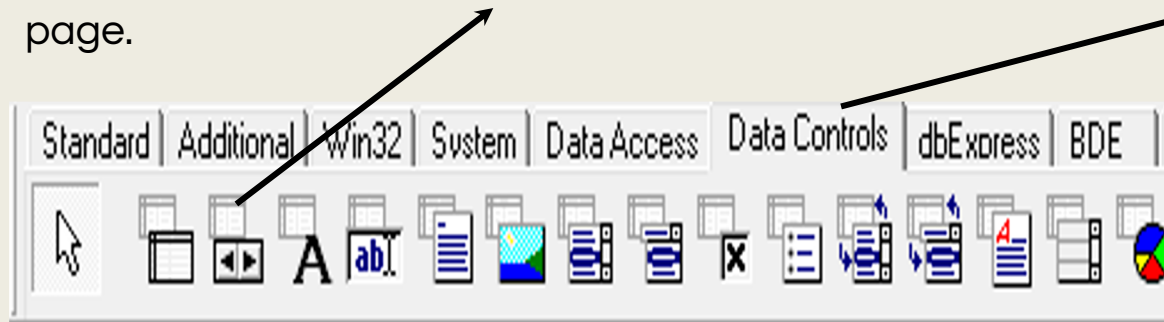


- The Data Source is the connection between the visual components and the non-visual components.

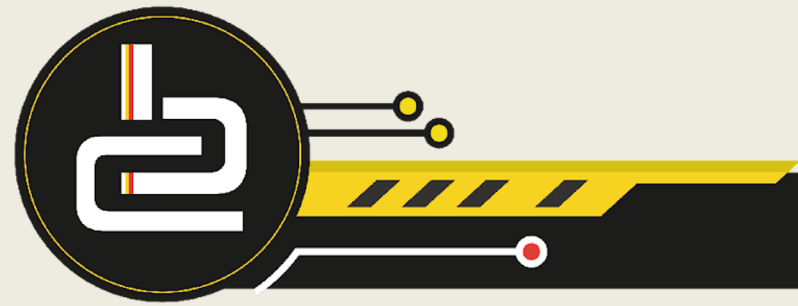


# DGNavigate – If necessary

- In some cases you need to navigate through the database data. You can then make use of the DBNavigate. This component is on the Data Controls page.



- Change the Name attribute to dbnName (the name that you will use in the program).
- Set the Data Source attribute to connect to the correct component.

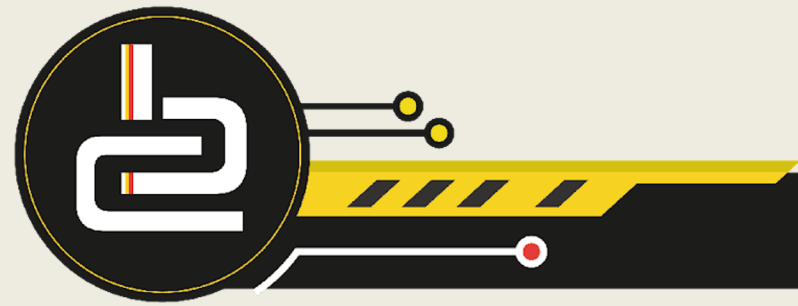




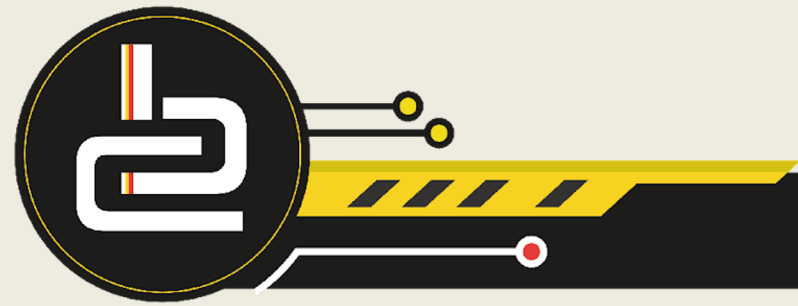
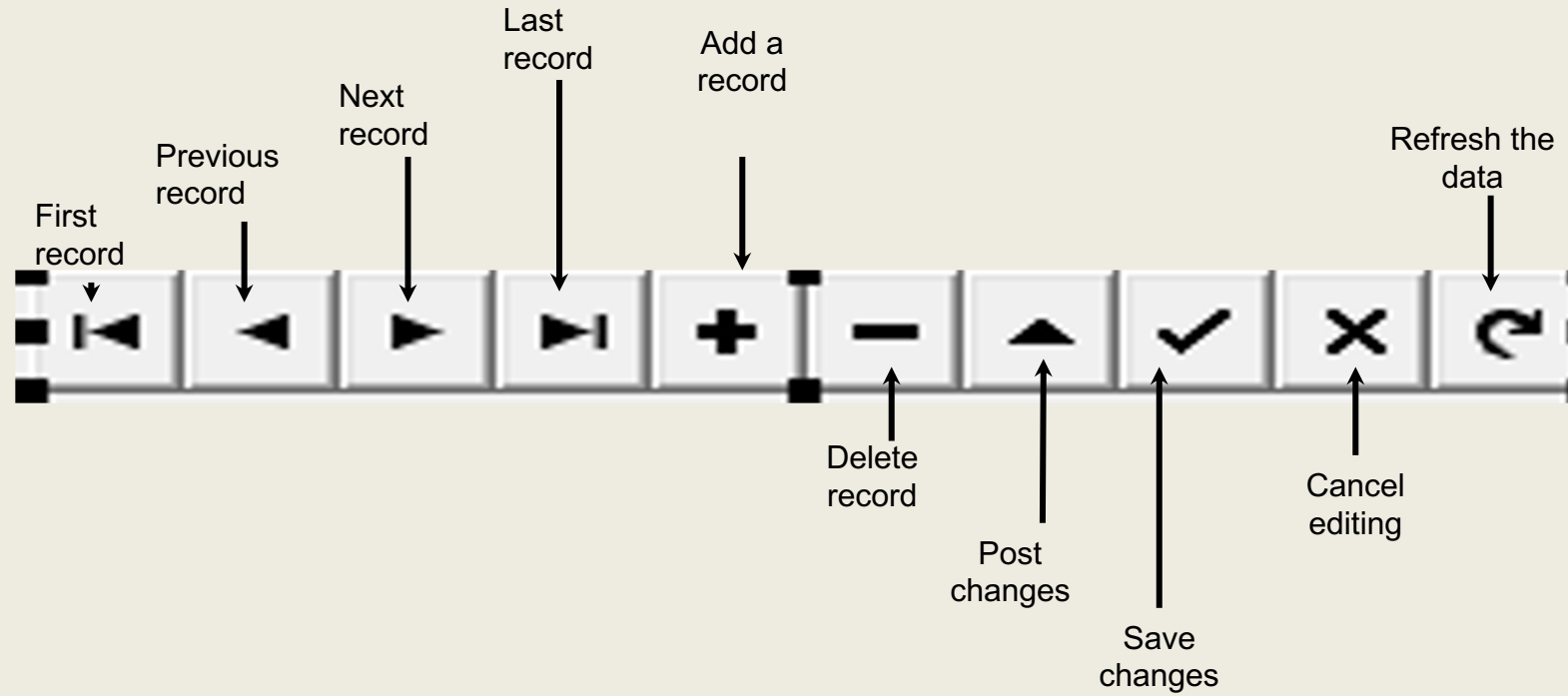
# DBNavigate

Set the following attributes of the DBNavigator:

- Change the ConfirmDelete attribute to TRUE – we do this so that you will be asked to confirm if you want to permanently delete the record.
- The VisualButtons attribute will let you choose which of the buttons on the dbNavigate should be active.
- If you set the Show Hints attribute to TRUE it will show you a hint, about the component, when you move over the component with the mouse.



# Understand the DBNavigate



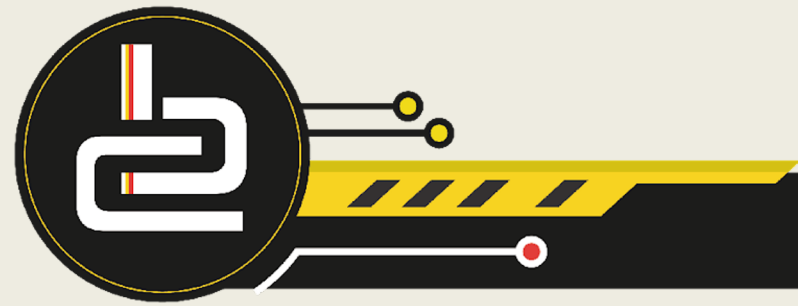
# DBGrid vs DBEdits

In some cases you need to see only one record at a time, you will then make use of a dbEdit.

All the dbEdits can be added at once:

- Double click on the ADOTable component, if you do not see the field names in the new window, you can right click and choose Add All Fields
- As soon as all the fields display you can again right click and choose Select All.
- Drag and drop the fields to your form

You can place the dbEdits individually on the form. Just make sure, if you go this route that you set all the dbEdits' Data Source attributes.



# Be advised

- The dbNavigate component can be used with a dbGrid component

Passenger Name	Passenger Address	Phone
René Eitzen	56 3rd Av, Linden	011-673 5783
Chantal Prinsloo	21 Letitia St, Ridgeway	012-464 2795
Dominique Prinsloo	21 Letitia St, Ridgeway	012-464 2795
Nathalie Prinsloo	21 Letitia St, Ridgeway	012-464 2795

- The dbNavigate component can also be used with the dbEdits

Passenger Name	René Eitzen
Passenger Address	56 3rd Av, Linden
Phone	011-673 5783
Sail Date	2008/03/03
Cabin No	A105

