Designer™ for Microsoft® Access®

Application Guide

1.7.2018

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1 Getting Started

1.1 UNDERSTANDING DATABASES

Databases are, very simply, tools to efficiently store, organize, and access information. What makes a database different from a spreadsheet is its ability to organize information based on the relationships between them in a way that minimizes duplication and errors. To understand how databases work, we recommend visiting our What Is Microsoft Access Used For page.

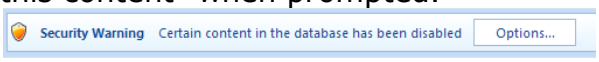
1.2 HOW DESIGNER WORKS

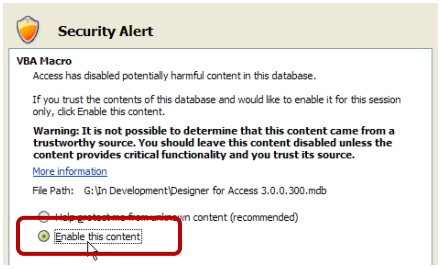
Designer asks you a series of questions about what you want to track, and how you want it to appear to your users. Once you are satisfied with the setup of your database, Designer creates your tables and forms. You have a chance to review the tables and forms, and if needed, create a new version of your database with changes.

> **Important!**
> Designer does not have the ability to change an existing database, so once you complete your project and begin adding data to your database, you will need to use the standard Microsoft Access table and form design modes to make changes.

2 Starting Designer

Access 2007 and higher users, be sure to select "Options…" then "Enable this content" when prompted.





2.1 STEP 1: STARTING FROM SCRATCH, USING A TEMPLATE, OR IMPORTING DEMO DATA

When you start Designer, you will first need to choose whether you want to start a fresh database (with no tables or fields defined),

continue an existing project, use one of the existing templates, or import work you have already completed in another copy of Designer.

2.2 STEP 2: WHAT THINGS DO YOU WANT TO TRACK?

In this step, you tell Designer what main things you want to track with your database. Each "thing" will become a table in your database, and in steps after this you will be able to further define the detailed information you want manage in the database.

For this step, it is best to think in very high level terms. It may be helpful to verbally talk through what you want to manage in your database.

> **Tip**
> If you aren't sure about something, ask whether you would track the thing all by itself. For example, you would track Vehicles by themselves, but not Colors. Colors are simply an attribute about a Vehicles.

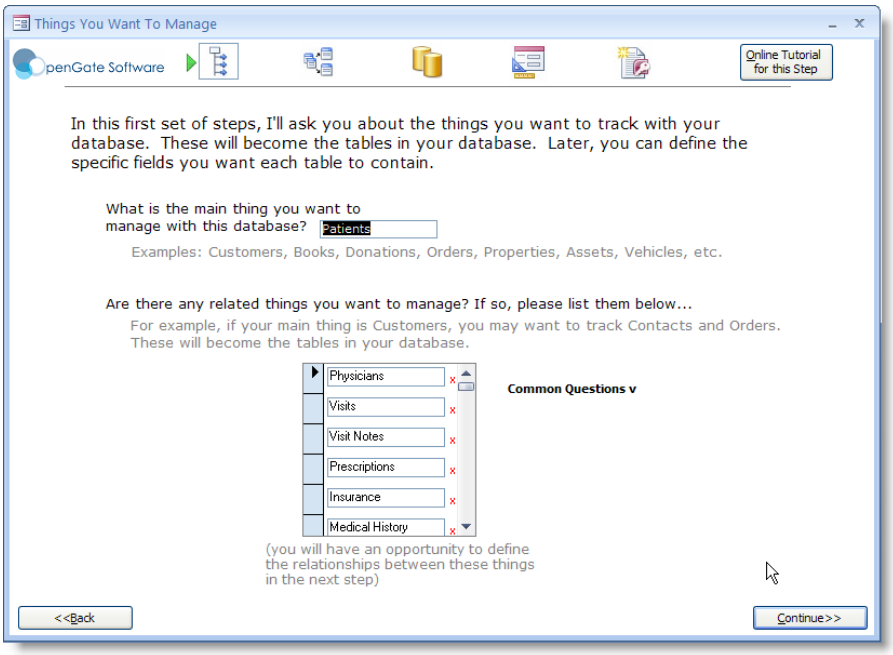


Figure 1: Things You Want to Manage screen

In Figure 1 above, you can see that we will track Patients, Physicians, Visits, Visit Notes, Prescriptions, etc. Note, however, that we do not place "Patient First Name" or "Patient Last Name" here. Defining specific details about each of these things comes in the next step.

2.3 STEP 3: DEFINING RELATIONSHIPS AND FIELDS

2.3.1 HOW DO X AND Y RELATE?

In this step, you will notice the left-hand side of the wizard form the list of all the things you entered in the prior step as shown in Figure 2 below. With the exception of the first table you named, you will be prompted to indicate how each thing your database will track is related to the other things. In the drop-down box, choose one of the other things that your database will track. While you will only be asked to specify a single thing that relates to the current item, you will have an opportunity to link many things together through this process.

> **Tip**
> You will want to select things that directly relate to one another. While it may seem that everything is related to everything else, remember that something usually has a few direct relationships to any other thing, and indirect relationships to many more.
>
> For example, a Customer, Order, and Product are all related. But the direction relationships are between a Customer and Order, and an Order and Products. You can always identify which Customer owns which Products, but it is done through the Order.

After selecting another item in the drop-down list, you will be asked two questions, and your responses will dictate to Designer how the two things relate to one another. Designer uses this information to create the primary and foreign key relationships between tables in the database. If you feel you made an error, you can always select the '(change my selection)' to try again.

> **Important**
> If you answer 'Yes' to both questions, Designer will know that the two things relate in what is called a "many-to-many" relationship. You will notice your database contains a table to join the two. For example, if you say that "Orders" and "Products" have a many-to-many relationship, Designer will create a table 'tblOrderProductjoin' which will join the two things together.

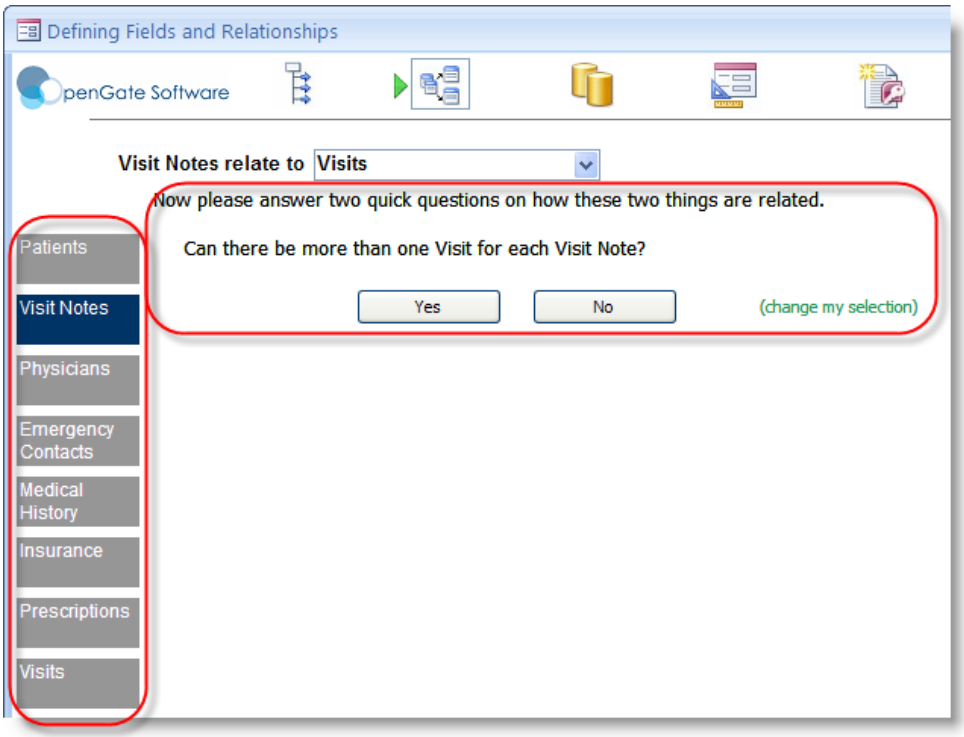


Figure 2: Relationships

2.3.2 Defining Fields

After answering how your things relate, you will see a space at the bottom of the form to enter the fields you want to store for the current item. For each row, you enter the plain-language name of the field, the select what sort of information you want to store in the field. Note that only the columns with a * are required.

> **Important**
> You do not need to specify any sort of unique identifier field such as "CustomerID" here. Designer automatically creates a Microsoft Access autonumber field for each table for you.

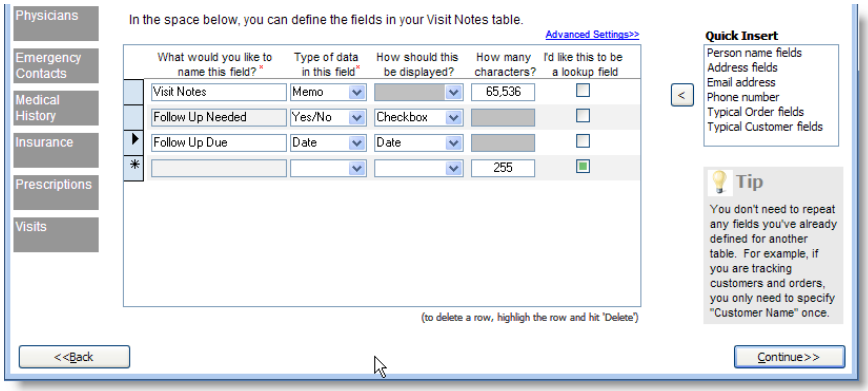


Figure 3: Defining Fields

Type of Data

Text	The field in the table will accept up to 255 alphanumeric characters.
Memo	The field in the table will accept up to 65,536 alphanumeric characters. Note that using this type of field will take up more space in your database, and is not searchable in the same manner as a 'Text' field.
Number	The field in the table will only accept a numeric value.
Date	The field in the table will only accept a date or date/time value. The date will be formatted according to your machine's system date format setup.
Yes/No	Displays a checkbox in the table.
Attachment	Access 2007 and 2010 only. An attachment field allows you to attach multiple files to a record within your MS Access database.

Display Options

Currency	Displays the data in the currency setup for your local machine. Only available if you say the type of data is 'Number.'
Date	The field in the table will only accept a date or date/time value. The date will be formatted according to your machine's system date format setup.
Number	Choose to display no decimals, or two decimals. The full number of decimals will be stored in the table, but will be rounded according to the option you choose.
Percent	
Phone Number	Choose either the US or European phone number format. Only available if you say the type of data is 'Number.'
Postal Code	Choose either the US or Canadian postal code format. Due to the wide variability of UK and other international postal code formats, only the US and Canada are available. Only available if you say the type of data is 'Text.'

Dropdown Field

In some cases you may want to limit your users to select from a list of specific text values. For these instances, select the "Dropdown" check box for your field. Designer will automatically create a table to store your dropdown field values, and link your main table to that lookup table with a dropdown box, as shown in Figure 4. Designer will also automatically create forms for each dropdown field to help you and your users enter lookup values.

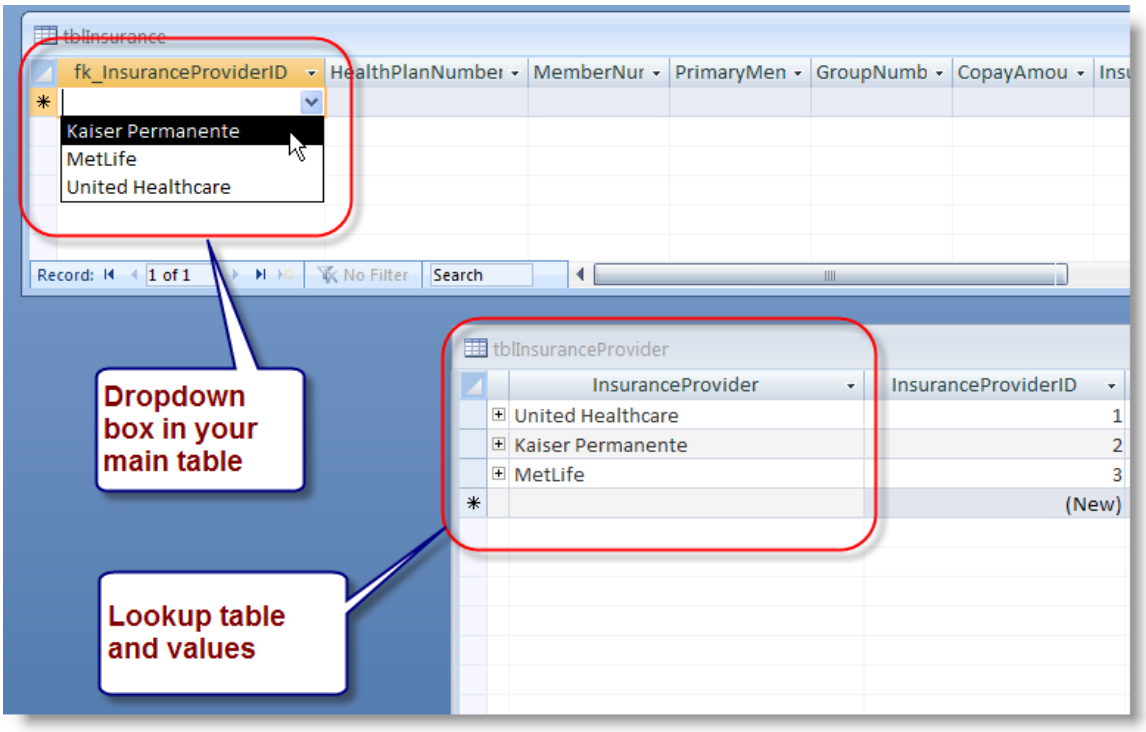


Figure 4: Lookup Fields and Tables

> **Tip**
> Use dropdown fields for information that isn't likely to change often, and you want to make sure your users don't enter values that aren't valid to maintain data consistency. Good examples are State/Province names, status names, category names. Avoid using dropdowns for things like people's first names, unique ID numbers (e.g., social security or national IDs) as it will unnecessarily complicate your data entry.

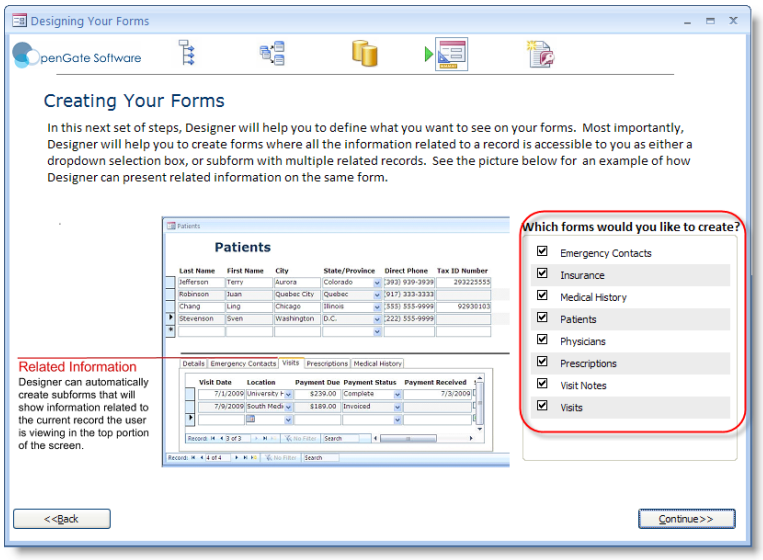
When you check a field to be a dropown list, Designer will also ask you if you would like to define what the list of possible values should be. This step is optional, and you can always add values in your lookup forms once your database has been created.

Required Field (advanced setting)
Checking this box will mean that a user must enter a value in this field, otherwise they will not be able to save the record.

Unique Field (advanced setting)
Checking this box will mean that a user must enter a unique value in this field, otherwise they will not be able to save the record.

2.4 STEP 4: CREATING FORMS

In this step, check the boxes next to the names of the tables in your database that you want Designer to create forms on your behalf. Uncheck a box to prevent Designer from creating a form for the table.



2.5 STEP 5: DESIGNING YOUR FORMS

Next, Designer will prompt you to design each form that was checked in the previous step.

2.5.1 FORM PROPERTIES

In the top section of the form, you can specify the caption of the form, how you want to order records, and how you want the form to behave.

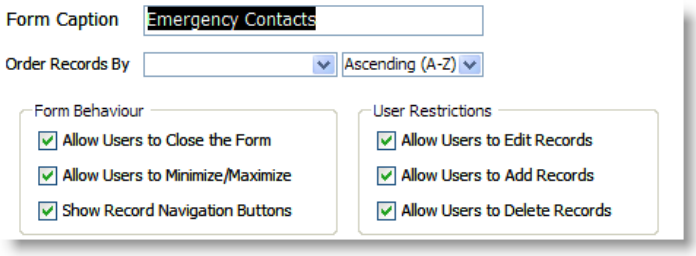


Figure 5: General Form Properties

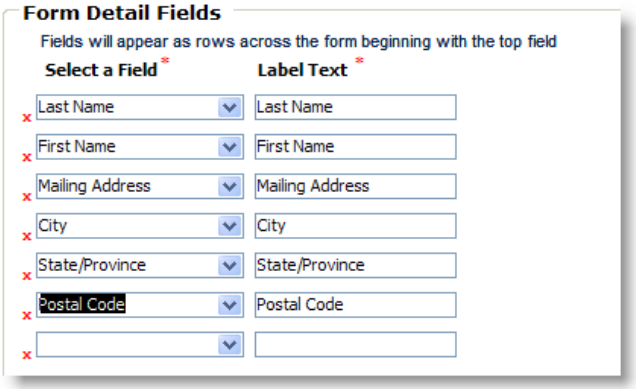
> **Tip**
> You can always change your choices after the form has been created by opening the Microsoft Access form properties dialog and changing your selections.

If you wish to see the unique identifier for each record on your form, click on the "Show Unique Identifier" box at the far right. This field will

be disabled, and automatically increment to the next number when new records are created in your form.

2.5.2 Form Header Fields.

In the Form Detail Fields section, you can select from the fields you already defined for your table in Step 3. You can also choose to change the label text that will appear on the form if desired. Note that the field width on the form will be determined by the length of the label text. You can always choose to change the width of the field on the form after the form is created.



Not in List Behaviour

If you indicate that a field should appear as a dropdown list, Designer will ask you during the form design phase whether you want to allow users to add new values to your dropdown list "on the fly" while entering data. If you do not want users to be able to add their own dropdown list values, click the "Allowed" link to toggle it to "Not Allowed."

2.5.3 Calculated Fields

One of the most powerful capabilities of a database, or Excel, is to be able to calculate values rather than requiring manual updates. Like Excel, Access supports field-level calculations. The notation is similar, but does require some adjustment. In Excel, a formula is expressed as "=C12*C13" where in Access you would express that same formula using field names instead of cells: =[FieldName1]*[FieldName2].

Click the "Add Calculated Field" to create a new field in your form that can use one or more fields in the form as the source. For example, if you have a field "Quantity" and another field "Price/Unit" you can add a calculated field "Line Total" that will be the product of the two fields.

> **Tip**
> You can calculate the difference between two dates, or the current date and a field in your form using the DateAdd() and DateDiff() methods.

More information about the formula syntax is available on Microsoft's website (click on the hyperlinks for either method above.

2.5.4 Related Information

Designer uses the information you provided earlier about how things relate to one another to help you create better forms. The Related Items box will show you all the related items you can include on your form, as well as how they will appear. Note that the way they appear, as a subform or dropdown, is dictated by how things relate. For example, if you can have only one Customer assigned to a Contact, the Contact form will show a dropdown box where you can choose from a list of Customers. Similarly, the Customer form would show a subform with the details of each related Contact.

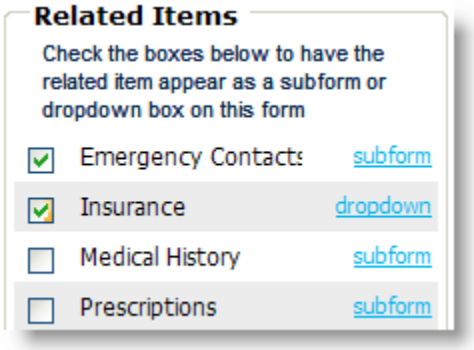


Figure 6: Related Items

When you check a related item that is designated to appear as a dropdown, Designer will ask you how you want the dropdown box to appear to the user. In the Dropdown Builder form, you can choose which fields should appear in the dropdown box on your form.

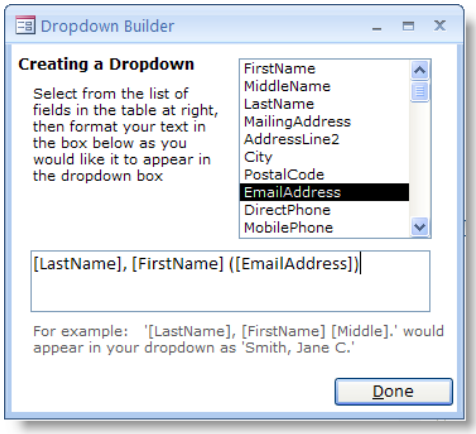


Figure 7: Dropdown Builder

2.5.5 Many-to-Many Form Relationships

For any tables in your database that are classified as a many-to-many relationship, you will need to follow a few extra steps to set up your forms to display the information properly. The forms with many-to-many relationships will appear as shown in Figure 8 below.

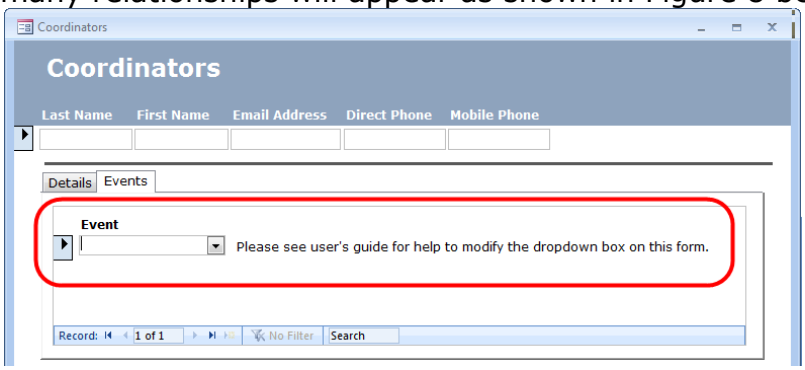


Figure 8: Many-to-Many Relationship

By default, Designer will select the first field for the table (in the example above, "Events") to display when the dropdown list is selected. However, you may wish to display a different value in the dropdown box. To do so:

1) Open the form in Design mode.
2) Delete the "Please see user's guide" label in the subform.
3) Select the "Fields List" option from the View menu in Access 2000/2003, or the "Add Existing Fields" button from the Access 2007 Design ribbon tab).

4) Make sure the combo box is highlighted. Open the Properties box for the field by right-clicking the field and select Properties.

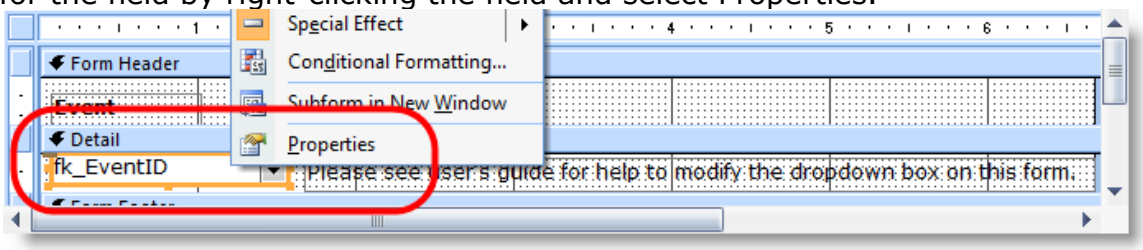


Figure 9: Combo Box Properties

5) In the Properties dialog, select the "Data" tab.
6) In the Data tab, select the Row Source icon as shown in Figure 10.

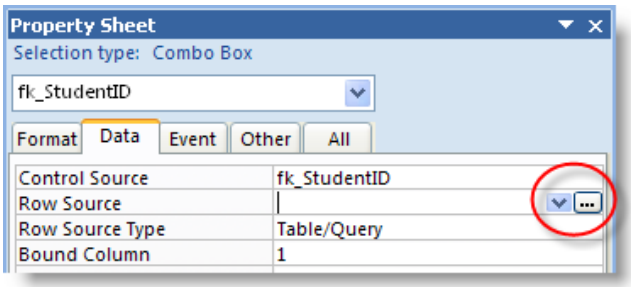


Figure 10: Row Source Selection

7) Locate the field(s) that you want to display in the dropdown and drag it to the bottom portion of the screen as shown below. Make sure to leave the first column "as-is."

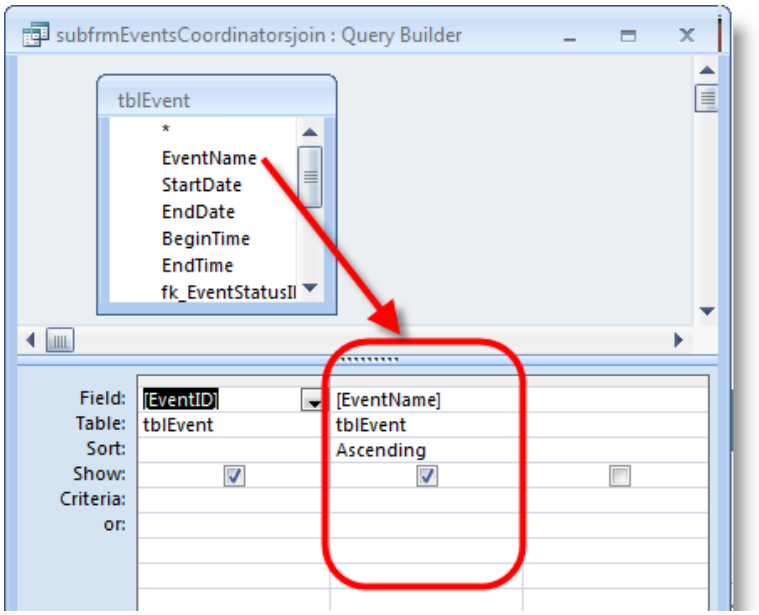
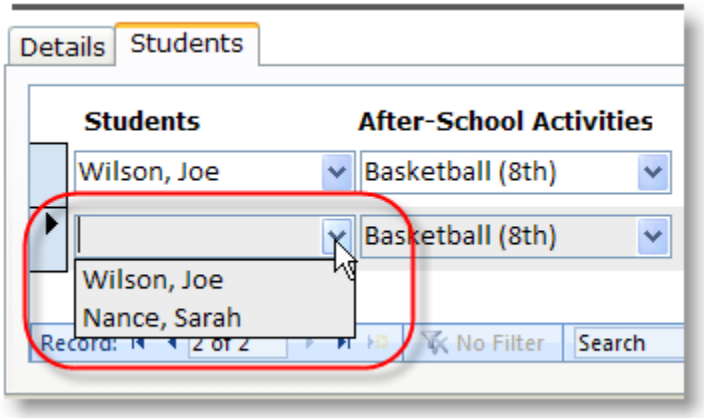


Figure 11: Creating the Dropdown Rowsource

8) Close the Query design view.

Repeat these steps for other many-to-many forms. If the steps above are properly followed, your dropdown box will look as follows:



2.6 STEP 6: CREATING AND REVIEWING YOUR DATABASE

After designing each of your forms, you are ready to create your database. We recommend you look at the forms, enter test records, and make sure the fields and forms work as you want them to. If you need to make changes, select "I'd like to make revisions…" button, and go through the Designer wizard, make revisions as needed, and then re-create your database.

2.6.1 SAVING YOUR NEW DATABASE INTO UI BUILDER

If you have also purchased UI Builder for Microsoft Access, you can save time by allowing Designer to add your new tables and forms into a new copy of UI Builder.

When you choose to save your database into a UI Builder, Designer will create a copy of the selected UI Builder file, and will also add the first several forms as new menu items in UI Builder to help you get started.

To save your Designer-created database into UI Builder:

a) Check the " Save my new database into UI Builder for Microsoft Access" box.
b) Select the "Browse" icon.
c) Locate the copy of UI Builder that you have downloaded from OpenGate Software.
d) Click "Ok"
e) Click "Create my Database"
f) Specify the location and name of your new database.

Designer will copy the UI Builder database you selected, then save it to the location and name you specified in step (f). Designer will then save all your new tables and forms into the UI Builder copy, and set up several menu buttons using the forms you have designed.

If you choose to make revisions to your database, Designer will create another copy of UI Builder, and perform the same steps to create your new database until you are satisfied with the end results.

> **Tip**
> You do not need to select "Migrate" in the UI Builder setup wizard, as Designer has already migrated your forms and tables into the new copy of UI Builder.

2.6.2 Advanced Options

In the final step with the button labeled "Create my Database" you may select the "Advanced Options" button at the top right to access advanced settings.

2.6.2.1 Automatically Created Fields

Designer automatically adds several audit fields to every table. The fields are, Date-Created, Created-By, Date-Modified, Modified-By. Uncheck the box if you do not want these fields to be added to each of your tables.

2.6.2.2 Required Field Indicator

You can choose to display an asterisk (*) after the caption of any field that is marked as a required field. This has become a standard user interface best practice to help users understand which fields on a form they need to file out to save a record.

2.6.2.3 Field Widths

Designer will create the text boxes on your form using the field name as a guide for how large the box should be sized. By default, the box width will roughly match the field name. Select "Wide" or "Widest" to make the default text box sizes be larger than the field name caption.

2.6.2.4 Font

You can select from several popular fonts to use for your database's style.

3 Working With Your New Database

3.1.1 Form Customization

While Designer will create your data entry forms to include all the fields you specify in the Designer wizard, it is common to want to further customize your forms.

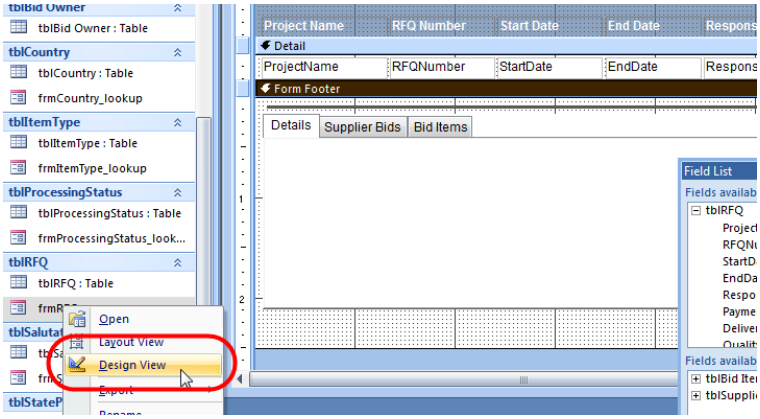


Figure 12: Form Design View

To open a form in the edit mode, right-click the form and select "Design View." The Microsoft Access form design view is a very intuitive interface where you can move and resize your fields to your liking.

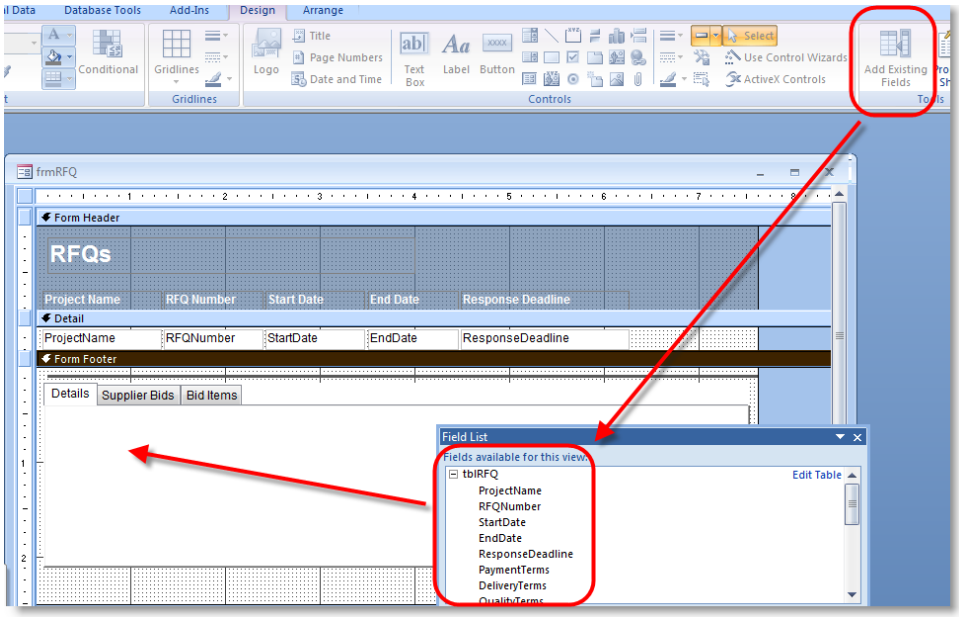


Figure 13: Adding fields to your form

As shown in Figure 13 above, you can drag other fields related to your form by selecting "Add Existing Fields," then dragging the field(s) from the Field List dialog box into the form itself.

3.1.2 CHANGING TABLES

Once Designer has created your tables and you have chosen to remove Designer, you can continue to make changes to your database tables. To do so, you will need to use the standard Microsoft Access table design mode.

3.1.3 CREATING QUERIES

When creating queries and adding tables to the query design view, you will notice that Access automatically links related tables and fields together. This is because Designer has automatically created the correct relationships between your tables. As a result, you can drag fields from multiple tables to create consolidated "views" of your data.

4 Resources to Help You With Microsoft Access

4.1 OPENGATE SUPPORT

Should you need assistance with Designer or other OpenGate products, please visit our support site, send an email to support@opengatesw.net, or visit our support forums online.

4.2 GENERAL MICROSOFT ACCESS HELP

UtterAccess.com - Dedicated MS Access community
AccessWeb - Access examples and code snippets
DatabaseDev.co.uk - Access Tutorials, Articles, and Downloads