

Proicere, Inc.

MS Access 2007: Fields

Lesson Notes

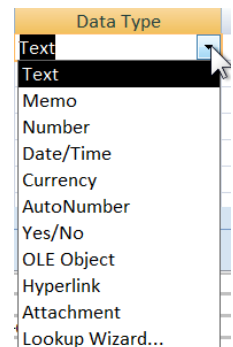
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Field Data Types

The DataType indicates the type of data to be stored in the field. A field can have only one data type.

Field Properties

Each DataType has its own field properties. Some of the property choices are unique to the DataType while others are available for most DataTypes.



Field Size

The size of the field dictates how much data can be entered into an individual field.

Format

The Format Property is how the data will be displayed. What format is available depends on the DataType.

Input Mask

Used to make data entry easier and to control the values users can enter into the field. Works only with Text or Date DataTypes.

Caption

Changes the name of the field for display purposes.

General	Lookup
Format	Long Date
Input Mask	99/99/0000;0;_
Caption	Date of Visit
Default Value	=Now()
Validation Rule	<=Date()
Validation Text	The visit date can not
Required	No
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	
Text Align	General
Show Date Picker	For dates

Default Value

When a new record is created, the default value is placed in the field, but may be overwritten by the user.

Validation Rule

Restricts the data allowed in the field.

Validation Text

Message to appear when the user enters values not allowed by the Validation Rule.

Required

Will not allow the record to be saved unless there is a value in the field.

Text Fields

(Default) Text or combinations of text and numbers, as well as numbers that don't require calculations, such as phone numbers.

Up to 255 characters or the length set by the **FieldSize** property, whichever is less. Microsoft Access does not reserve space for unused portions of a text field.

Format

Text can be changed

< Force all characters to lowercase.

> Force all characters to uppercase.

tblOwners	
Field Name	Data Type
LastName	Text
StreetAddress	Text
City	Text
State	Text

Field Properties	
General	Lookup
Field Size	2
Format	<
Input Mask	
Caption	
Default Value	"VA"
Validation Rule	

Masking

can be used for ease of data entry.
i.e. Telephone numbers, zip codes, social security numbers, etc.

(757) 428-1515
 () -
 (757) 853-1225

tblOwners	
Field Name	Data Type
PhoneNumber	Text
FirstName	Text
LastName	Text
StreetAddress	Text

Field Properties	
General	Lookup
Field Size	10
Format	
Input Mask	!(999) "000\ -0000;_
Caption	

Memo Field

Lengthy text or combinations of text and numbers.
Up to 65,999 characters

Memo fields are searchable, but not sortable. They cannot be indexed.

A memo field can be changed from "Plain Text" to "Rich Text". By changing the memo field to Rich Text, the text in the field can be formatted to add bold, colors, etc.

Notes	
Field Name	Data Type
Notes	Memo

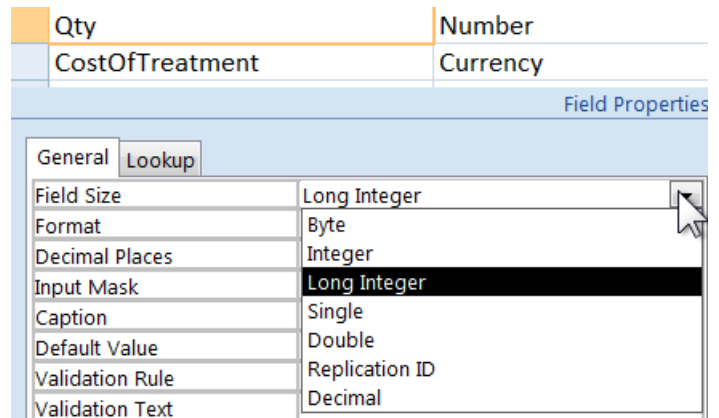
Field Properties	
General	Lookup
Format	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	
Text Format	Plain Text
Text Align	Plain Text
	Rich Text

Number

Numeric data used in mathematical calculations.

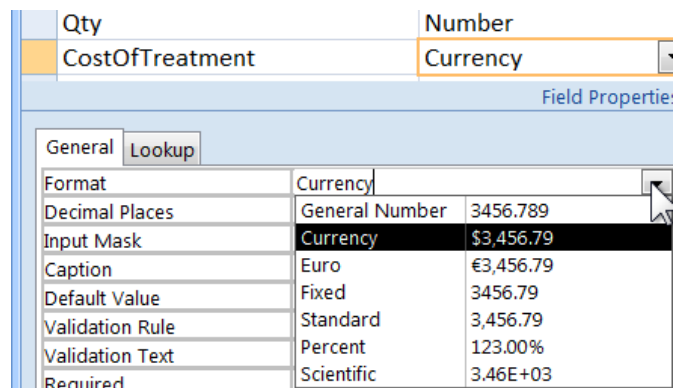
Field Size

Setting	Stores
Byte	0 to 255 (no fractions)
Integer	-32,768 to 32,767 (no fractions)
Long Integer	-2,147,483,648 to 2,147,483,647 (no fractions) (Default)
Single	-3.402823E38 to -1.401298E-45 for negative values and from 1.401298E-45 to 3.402823E38 for positive values
Double	-1.79769313486231E308 to -4.94065645841247E-324 for negative values and from 1.79769313486231E308 to 4.94065645841247E-324 for positive values
Replication ID	Globally unique identifier (GUID) a unique 16 bit number used as a replication identifier.
Decimal	Stores numbers from $-10^{38}-1$ through $10^{38}-1$ (.adp) Stores numbers from $-10^{28}-1$ through $10^{28}-1$ (.mdb, .accdb)



Format

Setting	Description
General Number	(Default) Display the number as entered.
Currency	Use the thousand separator; display negative numbers enclosed in parentheses; the default DecimalPlaces property setting is 2.
Fixed	Display at least one digit; the default DecimalPlaces property setting is 2.
Standard	Use the thousand separator; the default DecimalPlaces property setting is 2.
Percent	Multiply the value by 100 and append a percent sign (%); the default DecimalPlaces property setting is 2.
Scientific	Use standard scientific notation.



Custom Formats

Custom number formats can have one to four sections with semicolons (;) as the list separator. Each section contains the format specification for a different type of number.

Section	Description
First	The format for positive numbers.
Second	The format for negative numbers.
Third	The format for zero values.
Fourth	The format for Null values.

For example, you could use the following custom Currency format:

\$#,##0.00[Green];(\$#,##0.00)[Red];"Zero";"Null"

Symbol	Description
.	Decimal separator
,	Thousand separator.
0	Digit placeholder. Display a digit or 0.
#	Digit placeholder. Display a digit or nothing.
\$	Display the literal character "\$".
%	Percentage. The value is multiplied by 100 and a percent sign is appended.

Decimal Places

Allows the number of decimal places for numbers sizes that allow fractions, it has no effect on other numbers.

Qty	Number
CostOfTreatment	Currency
Field Properties	
<div style="display: flex; border-bottom: 1px solid gray;"> <div style="border-right: 1px solid gray; padding-right: 5px;">General</div> <div style="padding-left: 5px;">Lookup</div> </div>	
Field Size	Double
Format	
Decimal Places	2
Input Mask	
Caption	
Default Value	
Validation Rule	...
Validation Text	
Required	No
Indexed	No
Smart Tags	
Text Align	General

Input Mask

Not used with numbers.

Default Value

Must meet the criteria of the field size.
i.e. text can not be the default value for a number field.

Validation rule

Individual numbers may be entered, or a range.
i.e. Between 5 and 25 or <100.

Currency

Currency values and numeric data used in mathematical calculations involving data with one to four decimal places. Accurate to 15 digits on the left side of the decimal separator and to 4 digits on the right side. 8 bytes.

Follows the same rules as numbers for field properties.

AutoNumber

A unique sequential (incremented by 1) number or random number assigned by Microsoft Access whenever a new record is added to a table.

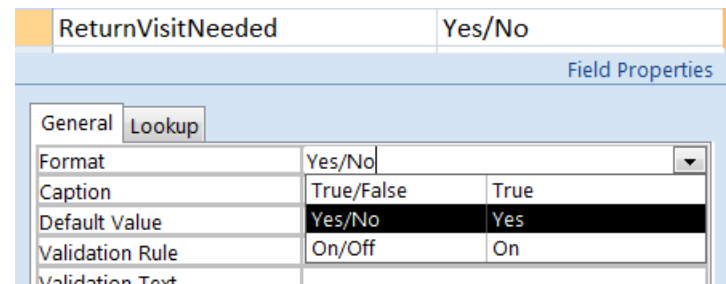
AutoNumber fields can't be changed or updated.

An **Auto Number** is treated as an integer for purposes of properties and relationships.

Yes/No

Yes and No values and fields that contain only one of two values (Yes/No, True/False, or On/Off).
1 bit.

Note: Yes/True/On = -1, No/False/Off = 0



Date/Time

Date and time values for the years 100 through 9999. 8 bytes.

Format

Setting	Description				
General Date	(Default) If the value is a date only, no time is displayed; if the value is a time only, no date is displayed. This setting is a combination of the Short Date and Long Time settings. Examples: 4/3/93, 05:34:00 PM, and 4/3/93 05:34:00 PM.				
Long Date	Day of week, month, day date, year with four digits.				
Medium Date	Military date format. Day, month, year				
Short Date	Month, day, 2 digit year. <i>Note: MS Access stores four digits for the year. If only two digits are keyed, MS Access has to guess as to the first two digits. The formula it uses is as follows:</i>				
	<table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 50%;">30-99 = 1930 – 1999</td> <td style="width: 50%;">1/5/30 = January 5, 1930</td> </tr> <tr> <td>00-29 = 2000 - 2029</td> <td>11/3/21 = November 3, 2021</td> </tr> </tbody> </table>	30-99 = 1930 – 1999	1/5/30 = January 5, 1930	00-29 = 2000 - 2029	11/3/21 = November 3, 2021
30-99 = 1930 – 1999	1/5/30 = January 5, 1930				
00-29 = 2000 - 2029	11/3/21 = November 3, 2021				
Long Time	Hour, minute, second, am or pm				
Medium Time	Hour, minute, am or pm				
Short Time	Military time (24 hour clock) hour, minute				

Custom formatting

Enter the codes in the format area to get the desired display.

mmmm	Month spelled out	dddd	Day of the week spelled out
mmm	Month abbreviated	ddd	Day of week abbreviated
mm	Month number with place holder	dd	Day of week number with place holder
m	Month number	d	Day of week number

Masking

An operator can be forced to enter a four digit year by placing four zeros instead of two in the mask.

i.e. 99/99/00;0;_ can be changed to 99/99/0000;0;_

Default Value

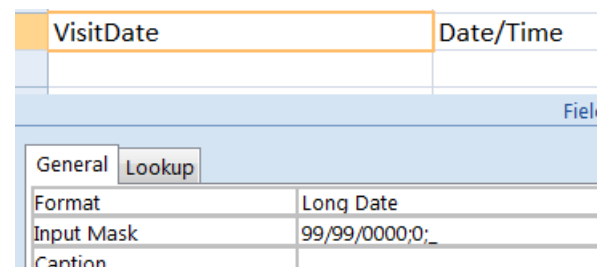
Must meet the criteria of the field size.

i.e. text can not be the default value for a date field.

Default Value can be set to bring in the current date and time

=NOW() brings in the current date and time.

=Date() brings in just the current date.



Validation Rule

Limits the date to a specific date range or before/after dates including current date.

OLE Object

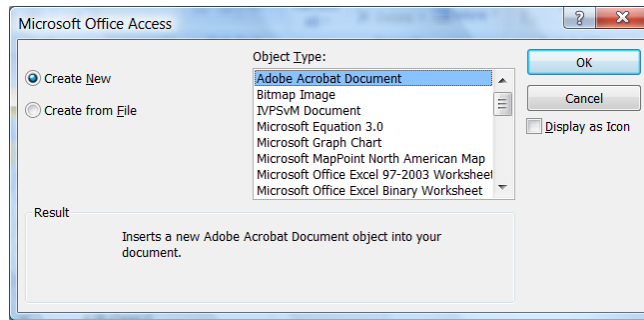
An object (such as a Microsoft Excel spreadsheet, a Microsoft Word document, graphics, sounds, or other binary data) linked to or embedded in a Microsoft Access table.

Up to 1 gigabyte (limited by available disk space)

Note: Pictures should be in the bmp format.

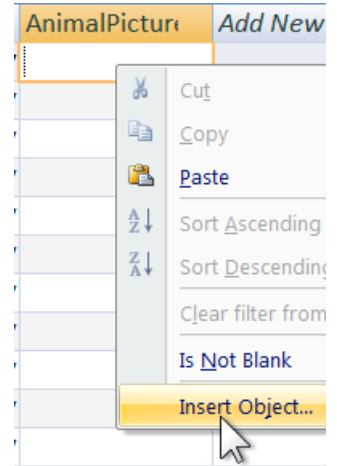
To insert the object into the record, right click on the field. From the menu, choose Insert Object.

In the dialog box that appears, choose the type of file to create, or choose Create from File to pull in a copy of an existing file.



AnimalPicture	OLE Object
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Field Properties	
General	
Caption	
Required	No
Text Align	General



Attachments

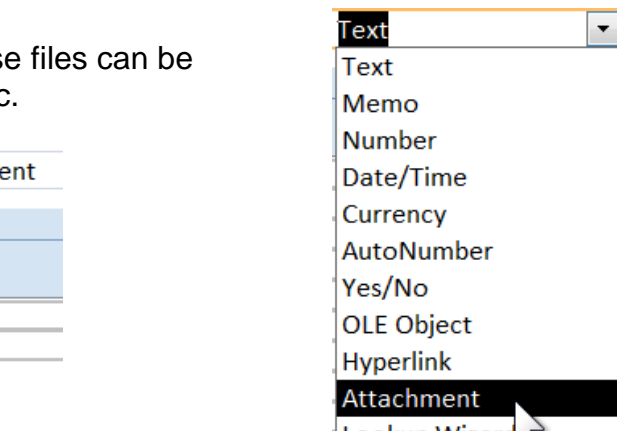
The field holds one or more separate files. These files can be pictures, Word documents, Excel documents, etc.

AnimalPicture	Attachment
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Field Properties	
General	
Caption	
Required	No

Attachment fields use storage space more efficiently because they don't create a bitmap image of the original file.

In the datasheet view, a number will display showing how many files are attached.



AnimalSex	AnimalDOB	Attachment
F	8/26/1997	📎(0)
F	1/31/2009	📎(0)
M	9/27/2006	📎(2)
M	2/7/1998	📎(1)

In the form view, one attachment will display at a time. Pictures will display as a thumbnail, other documents will have to be opened to view. When the mouse is held in the field, a navigation bar will appear to move between the attachments.



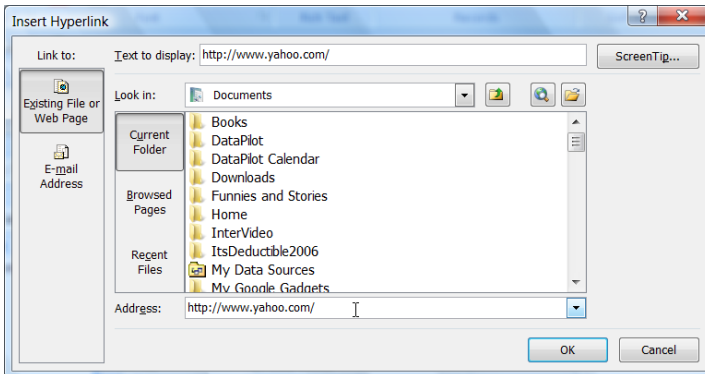
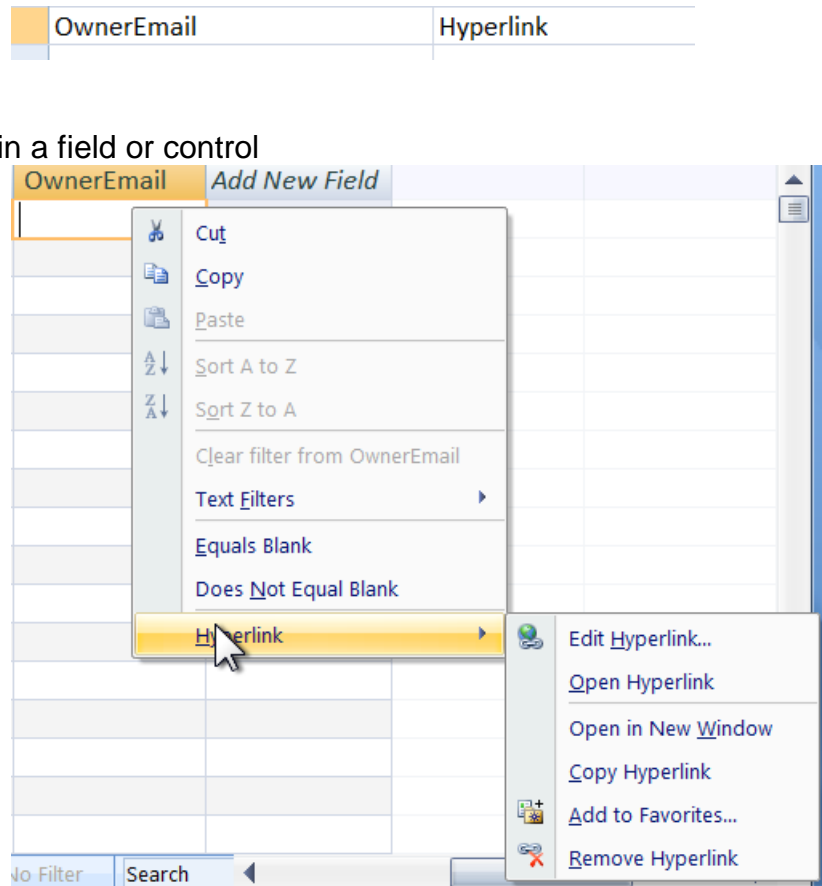
Hyperlink

Text or combinations of text and numbers stored as text and used as a hyperlink address. A hyperlink address can have up to three parts: display text $\frac{3}{4}$ the text that appears in a field or control address $\frac{3}{4}$ the path to a file (UNC path) or page (URL).sub address $\frac{3}{4}$ a location within the file or page. The easiest way to insert a hyperlink address in a field or control is to click Hyperlink on the Insert menu. Each part of the three parts of a Hyperlink data type can contain up to 2048 characters.

Hyperlinks can be to web address or to files stored on an accessible drive.

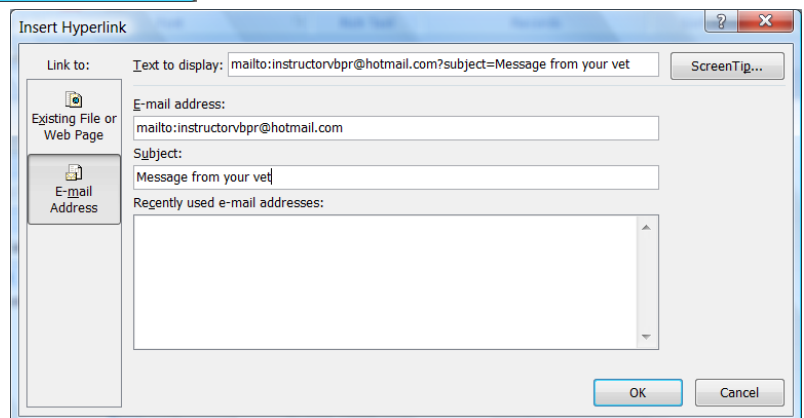
To change an entered hyperlink, right click on the hyperlink.

From the menu choose Hyperlink, Edit Hyperlink.



In the dialog box make the desired changes.

You can either hyperlink to a web address, file on system, or use an email address for easy creation of an email.



Lookup Wizard

Creates a field that allows you to choose a value from another table or from a list of values by using a list box or combo box. Clicking this option starts the Lookup Wizard, which creates a Lookup field. After you complete the wizard, Microsoft Access sets the data type based on the values selected in the wizard. The same size as the primary key field used to perform the lookup, typically 4 byte

OwnerNumber	AnimalNumber	AnimalName
7574220997	334	Domino
7574220997	Jane	Austen
7575181792	Gene	Autry
7575151227	Scott	Bois

Field Name	Data Type
OwnerNumber	Text
AnimalNumber	Text
AnimalName	Memo
AnimalSpecies	Number
	Date/Time
	Currency
	AutoNumber
	Yes/No
	OLE Object
	Hyperlink
	Attachment
	Lookup Wizard...

General		Lookup	
Field Size	10		
Format			
Input Mask			
Caption			
Default Value			
Validation Rule			
Validation Text			

PhoneNumbe	FirstName	LastNam
(214) 221-9975	Tia	Carrere
	AnimalNumb	AnimalName
	358	Pixie
	378	Silver
	(New)	
(214) 320-9636	Alvin	Cullum