



Access Pacific

With George Hepworth

1st Thursday @ 6:30pm PT

December 5, 2024

Creating Add-ins that run in **Access** and **Office** COM (using VSTO)

Presented by

Crystal Long (strive4peace) MsAccessGurus.com

and

Geoff Griffith imaginethought.com

Speakers

Creating Add-ins that run in Access and Office
(COM using VSTO)

Crystal Long *(strive4peace)*

MsAccessGurus.com

- Remote training and programming

We connect, team-develop, and work together. As we build what you envision, I share knowledge and show you how to do what you want. Together we create something amazing.

- Web page with tools, code, articles

- <https://msaccessgurus.com>

- Add-ins https://msaccessgurus.com/tool/Addin_HowTo.htm

- YouTube

- <https://www.youtube.com/LearnAccessByCrystal>

Geoffrey L. Griffith

<https://www.imaginethought.com>



IMAGINE THOUGHT

Making Your Software Needs A Reality

Geoff is an avid user of Microsoft Access and has been working with the product for nearly 30 years now. Geoff began using Access in the Access 2.0 version when he took an “Intro to Computer Applications” class in high school. While attending college, Geoff worked for GBS, Inc., a small software company was developing insurance software applications using Access databases, among other development tools. Upon graduating from the University of Colorado’s Engineering School with a Bachelor’s degree in Computer Science in 2004, Geoff was hired by Microsoft to work on the Access team at the beginning of the Office 2007 development cycle. Later, Geoff went on to found “Imagine Thought,” a small IT Consulting firm, where he is still developing and supporting custom software solutions, many of which utilize the incredible power that Microsoft Access provides!

What is an add-in?

- software you can install once
- always available!
run anytime you're using Access or the application(s)
it's designed for

Type of add-ins you will see today

- Access
- COM

Access Add-ins

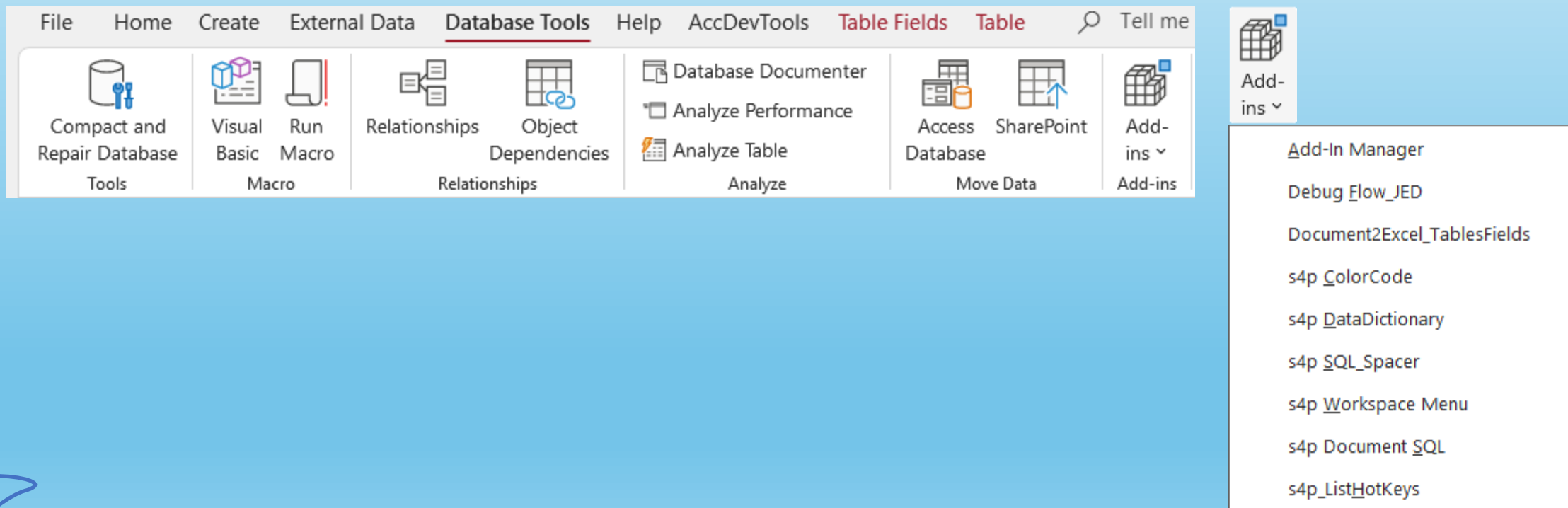
Crystal Long (strive4peace)

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Run Access Add-in

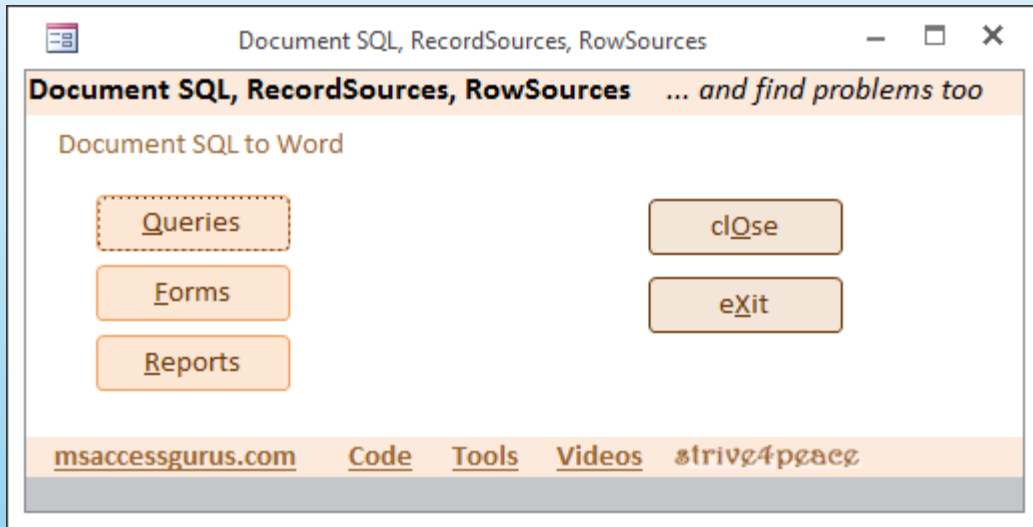
Once installed, Access Add-ins will appear on the **Database Tools** ribbon under the **Add-ins** drop-down menu



some of my Access Add-ins

- Document SQL
- SQL Spacer
- Workspace Save and Restore
- List Hot Keys
- Color Code
- Data Dictionary

Document SQL



https://msaccessgurus.com/tool/Addin_DocumentSql.htm

Form Name control name	RecordSource / RowSource
a_f_ANALYZER_MENU BatchID BAD!	SELECT bat.BatchID , bat.BatNm AS [Batch Name] , bat.dtmAdd AS [Batch Date] FROM Lfa_Batches AS bat ORDER BY bat.BatchID DESC;
a_f_ANALYZER_MENU DbExtID 9 records	SELECT DbEx.DbExtID , DbEx.DbExt , DbEx.DbFmt FROM a_DbExts AS DbEx WHERE (((DbEx.IsActiv)=True)) ORDER BY DbEx.DbExtID;
a_f_ANALYZER_MENU DbTypeID 3 records	SELECT DbTy.DbTypeID , DbTy.DbType , DbTy.StartRule , DbTy.InRule FROM a_DbTypes AS DbTy ORDER BY DbTy.DbType;
a_f_ANALYZER_MENU lst_aCatID 16 records	SELECT aCats.aCatID , aCats.aCat , aCats.CatCode FROM a_aCats AS aCats WHERE (((aCats.IsActiv)=True)) ORDER BY aCats.aCat;

SQL Spacer https://msaccessgurus.com/tool/Addin_SQLSpacer.htm

The screenshot shows a web-based application window titled "f_Menu_SQLSpacer_s4p". The main content area is titled "SQL Spacer" and displays two columns: "Original" and "Result".

Original (609 characters):

```
SELECT E.AtomicN, E.Symb, E.Element, CInt([AtomicMass]) AS AtomMass, E.Row_ AS Row, E.Column_ AS Col, C.ColrClass AS ColorFill, 0 AS ColorText, IIf(Nz([v1],0)<>-1,16777215,255) AS ColorBorder, C.Classification AS Legend, C.ClassOrdr AS LegendOrder, C.ColrClass AS LegendFill, 16777215 AS LegendBorder, G.GroupN, G.GroupAN, "" AS ExtralInfo, "" AS Subtitle  
FROM ((t_ELEMENT AS E LEFT JOIN t_Classification AS C ON E.ClassID = C.ClassID) LEFT JOIN (SELECT symb, v1 FROM t_ElementProperty eP WHERE eP.PropertyID=44) AS pv ON E.Symb = pv.Symb) LEFT JOIN t_Group AS G ON E.GroupID = G.GroupID  
ORDER BY E.AtomicN;
```

Result (734 characters):

```
SELECT E.AtomicN  
, E.Symb  
, E.Element  
, CInt([AtomicMass]) AS AtomMass  
, E.Row_ AS Row  
, E.Column_ AS Col  
, C.ColrClass AS ColorFill  
, 0 AS ColorText  
, IIf(Nz([v1],0)<>-1,16777215,255) AS ColorBorder  
, C.Classification AS Legend  
, C.ClassOrdr AS LegendOrder  
, C.ColrClass AS LegendFill  
, 16777215 AS LegendBorder  
, G.GroupN  
, G.GroupAN  
, "" AS ExtralInfo  
, "" AS Subtitle  
FROM ((t_ELEMENT AS E  
LEFT JOIN t_Classification AS C  
ON E.ClassID = C.ClassID)  
LEFT JOIN (SELECT symb  
, v1  
FROM t_ElementProperty eP  
WHERE eP.PropertyID=44) AS pv  
ON E.Symb = pv.Symb)  
LEFT JOIN t_Group AS G  
ON E.GroupID = G.GroupID  
ORDER BY E.AtomicN;
```

At the top right of the main area, there are two buttons: "Copy to Clipboard" and "Save to File". The number "230728" is displayed in the top right corner of the main area.

The bottom of the window features a navigation bar with the following links: msaccessgurus.com, [Code](#), [Tools](#), [Add-ins](#), [SQL Spacer add-in](#), [Videos](#), [Addin Video](#), [strive4peace](#), and "Edit:". A search bar is located on the far right of this bar.

Workspace Save and Restore

https://msaccessgurus.com/tool/Addin_Workspace.htm

Save & Restore Workspace (strive4peace)

Save & Restore Workspace (Tables)

Save Close

Restore Exit

c_Contact

CID	CatID	IsACTIV	gravity	MainName	NameA	NameB	Title	Sufx	NickName
1	54	✓	10	Zanders	Abigail				
4	3	✓	35	Brayton	Valarie				
4	53	✓	43	Brayton	Glenn				
1317	6	✓	35	Henry	Brad	M.			
7	53	✓	35	Fiddler	Maude		Jr.		

Record: 1 of 152

c_URL

URLID	CID	TypIDurl	URL
3	801	234	http://www.ackerman.com
4	801	245	http://GolfTimes.com
5	14	234	http://Lorrie_Zieglar.com
42	1317		http://www.AandMsurplus.com/
45	700		http://www.AldoHormell.com

Record: 1 of 80

c_Address

AdriD	TypIDadr	CID	OrdrAdr	Addr1	Addr2	City	St	Zip	Zip2	Ctry
983	0	1	0	1018 Fallow Bend		North Newton	KS	67117		US
2	0	3	0	3737 Comet Ave	#916	Jacksonville	Ga	32224		US
3	0	4	0	1198 Devin Ave		Riverdale	GA	30296		US
7	0	9	0	505 Greybull Ave		Midway	GA	31320		US
8	0	10	0	1091 South Airpark Blvd		Stone Mountai	GA	30087		US
9	0	11	0	163 Hideaway Lake Ct		Ball Ground	GA	30107	1234	US

Record: 1 of 141

c_Phone

PhoneID	CID	TypIDpho	OrdrPho	Phone
1	1	223		(770) 876-0897
3	3	223		(904) 687-8708
4	4	223		(770) 786-5939
6	6	223		(912) 940-1776
7	7	223		(912) 260-6176
9	9	224	2	(912) 021-5832

Record: 1 of 100

c_eAddress

eAdriD	TypIDead	CID	eAdr	OrdrEad	NoteEad
1	0	1	Priscilla.Jenkins@astrazeneca.com	0	
3	0	3	Valarie.Brawdy@hotmail.com	0	
4	0	4	Glenn.Brawdy@comcast.net	0	
6	0	6	Brad@AandMsurplus.com	0	
7	0	7	Maude.Fiddler@yahoo.com	0	

Record: 1 of 90

List Hot Keys (ActiveForm)

https://msaccessgurus.com/tool/Addin_ListHotKeys.htm

The screenshot shows the 'List Objects, Loop Access Files' ActiveForm. The title bar reads 'f_MENU_ListObjects_LoopFiles_s4p'. The interface includes a 'Folder:' text box with a 'Browse...' button. Below this are two checked options: 'Recursive document databases in sub-folders too' and 'Count Records'. A 'Start Time' label is positioned above a 'Reports' section. The 'Reports' section contains a 'Reset' button and a 'Batch:' dropdown menu. Below the 'Batch' menu is a 'File' dropdown menu. The 'Object Type:' dropdown menu and 'Pattern:' text box are also present. A checkbox labeled 'include MSys objects' is located below the 'Object Type' dropdown. At the bottom of the 'Reports' section are four buttons: 'Objects Report', 'Files Report', 'Objects Query', and 'Files Query'. The footer of the form contains the website 'www.MsAccessGurus.com', 'Video Tutorials', and 'Download' links.

The 'ListHotKeys' dialog box displays the shortcut keys: 'B, F, G, i, O, P, Q, R, T, u'. It includes the instruction 'Look at Immediate window for details' and an 'OK' button.

The Immediate window displays the following hot key assignments for the ActiveForm:

```
*** Hot Keys for f_MENU_ListObjects_LoopFiles_s4p in E:\T^
B   &Batch:                               BatchID_Label
F   &Files Report                           cmd_ReportFileSummary
i   &include MSys objects                   chk_MSys_Label
L   Object &List, Loop Files                cmd_GetObjectList_Loop
O   &Objects Report                         cmd_ReportObjects
P   &Pattern:                               txtPattern_Label
Q   Objects &Query                          cmd_QueryObjects
R   &Reset                                  cmd_ResetCriteria
T   Object &Type:                           objTypN_Label
u   Files Q&uery                           cmd_QueryFileSummary
```

ColorCode

https://msaccessgurus.com/tool/Addin_ColorCode.htm

The screenshot shows the ColorCode application window. At the top, it has a title bar 'f_ColorCODE_s4p'. Below that is a menu bar with 'Color Comments GREEN', 'Color Keywords BLUE', and 'Set: HTML'. A dropdown menu shows '200430 Access 2007 format'. There are input fields for 'Tag before code: <pre>', 'after code: </pre>', 'before comment: ', 'after comment: ', 'before Keyword: ', and 'after keyword: '. A checkbox 'Tag Keywords?' is checked, and a button 'Open Keywords Used Query' is visible. Below the input fields are buttons for 'Copy to Clipboard' and 'Save to File'. The main area is split into two panes: 'Original Code' (2,911 characters) and 'Result: Code with Tags' (4,345 characters). The original code is a VBA procedure 'SetSubDatasheetNone()' with various comments. The result pane shows the same code with color tags: green for comments and blue for keywords. At the bottom, there is a navigation bar with links like 'msaccessgurus.com', 'Code', 'Tools', 'Add-ins', 'Color Code add-in', 'Videos', 'Addin Video', 'strive4peace', and 'SetSubDatasheetNone'.

```
Public Sub SetSubDatasheetNone()  
  
'crystal (strive4peace) 061027, 160905, 200423  
'strive4peace  
'based on code written by Allen Browne  
' Microsoft Access Flaws - Problem properties by Allen Browne  
' http://allenbrowne.com/bug-09.html  
  
'set the Subdatasheet property to [None]  
'in all user tables  
  
'needs reference to  
'Microsoft DAO Library  
  
Dim tdf As DAO.TableDef _  
,prop As DAO.Property  
  
Dim iCountDone As Integer _  
,iCountChecked As Integer _  
,bChanged As Boolean _  
,sName As String  
  
'skip errors  
On Error Resume Next  
  
iCountDone = 0  
iCountChecked = 0  
For Each tdf In CurrentDb.TableDefs  
'skip Microsoft System tables  
If Left(tdf.Name,4) <> "Msys" Then  
  
bChanged = False  
iCountChecked = iCountChecked + 1  
Err.Number = 0  
sName = tdf.Properties("SubdatasheetName")  
If Err.Number > 0 Then  
  
Set prop = tdf.CreateProperty( _  
"SubdatasheetName",dbText, "[None]")  
  
tdf.Properties.Append prop  
bChanged = True  
Else  
'thanks, Allen!  
If tdf.Properties("SubdatasheetName") <> "[None]" Then  
tdf.Properties("SubdatasheetName") = "[None]"  
bChanged = True  
End If  
End If  
If bChanged = True Then  
iCountDone = iCountDone + 1  
End If  
End If  
Next tdf  
  
Set prop = Nothing  
Set tdf = Nothing  
  
MsgBox iCountChecked & " tables checked" & vbCrLf & vbCrLf _  
& "Reset SubdatasheetName property to [None] in " _  
& iCountDone & " tables" _  
,, "Reset Subdatasheet to None"  
  
End Sub
```

SetSubDatasheetNone

SetSubDatasheetNone is launched by
command button in ColorCode add-in (footer)

*mainly for my convenience ... not for any other logical reason, based
on code written by Allen Browne*

https://msaccessgurus.com/tool/Addin_ColorCode.htm

VBA is posted here, unmodified in the add-in ...

http://msaccessgurus.com/VBA/Code/table_SetSubDatasheetNone.htm

... since VBA references **CurrentDb.TableDefs**

To reference the add-in database, use **CodeDb**

```
Public Sub SetSubDatasheetNone()  
  
    'crystal (strive4peace) 061027, 160905, 200423  
    'strive4peace  
    'based on code written by Allen Browne  
    'Microsoft Access Flaws - Problem properties by Allen Browne  
    'http://allenbrowne.com/bug-09.html  
  
    'set the Subdatasheet property to [None]  
    'in all user tables  
  
    'needs reference to  
    'Microsoft DAO Library  
  
    Dim tdf As DAO.TableDef _  
        ,prop As DAO.Property  
  
    Dim iCountDone As Integer _  
        ,iCountChecked As Integer _  
        ,bChanged As Boolean _  
        ,sName As String  
  
    'skip errors  
    On Error Resume Next  
  
    iCountDone = 0  
    iCountChecked = 0  
    For Each tdf In CurrentDb.TableDefs  
        'skip Microsoft System tables  
        If Left(tdf.Name,4) <> "Msys" Then  
  
            bChanged = False  
            iCountChecked = iCountChecked + 1  
            Err.Number = 0  
            sName = tdf.Properties("SubdatasheetName")  
            If Err.Number > 0 Then  
  
                Set prop = tdf.CreateProperty( _  
                    "SubdatasheetName",dbText, "[None]")  
  
                tdf.Properties.Append prop  
                bChanged = True  
            Else  
                'thanks, Allen!  
                If tdf.Properties("SubdatasheetName") <> "[None]" Then  
                    tdf.Properties("SubdatasheetName") = "[None]"  
                    bChanged = True  
                End If  
            End If  
            If bChanged = True Then  
                iCountDone = iCountDone + 1  
            End If  
        End If  
    Next tdf  
  
    Set prop = Nothing  
    Set tdf = Nothing  
  
    MsgBox iCountChecked & " tables checked" & vbCrLf & vbCrLf _  
        & "Reset SubdatasheetName property to [None] in " _  
        & iCountDone & " tables" _  
        ,, "Reset Subdatasheet to None"  
  
End Sub
```


Data Dictionary

https://msaccessgurus.com/tool/Addin_DataDictionary.htm

DATA DICTIONARY strive4peace

Data Dictionary for Table Close

Pattern System Hidden QDBC Linked Exclusive SavePW

Table ODBC Table Linked Table

Table: RESET Open File Open Folder Write to File TXT CSV Delimiter

Contacts

21 fields, 152 records, AutoNumber: CID

Estimated Record Size (bytes): **704**

ord	Fieldname	DataType	Size	Description	Format, DefaultValue	Control	Req	UC
0	CID_	Long	4	Head Contact				
1	CID	AutoNumber	4	CID				
2	CatID	Long	4	Category (Default if there is m				
3	IsACTIV	Integer	2	is this an active contact?	, -1	CheckBox		
4	MainName	Text	75	Main Name: Last name for Hun				
5	NameA	Text	50	Name A: First name for Human				
6	NameB	Text	50	Name B: Middle name or initia				
7	Title	Text	50	Title (ie: Mr, Mrs, Dr, Prof, ...)				
8	Sufx	Text	10	Suffix (ie: Jr, Sr, III, ...)				
9	NickName	Text	30	Nick Name				

msaccessgurus.com [Code](#) [Tools](#) [Videos](#) [strive4peace](#)

What is different about an Add-in database?

- USysRegInfo table
- Database Properties

VBA

- CodeDb references the add-in database
- CurrentDb references the database the user has open

USysRegInfo table

Subkey

Type

ValName

Value

USysRegInfo: Datasheet and Design Views

Show System Objects

Navigation Options

Grouping Options

Click on a Category to change the Category display order or to add groups

Categories	Groups for "Object Type"
Tables and Related Views	<input checked="" type="checkbox"/> Tables
Object Type	<input checked="" type="checkbox"/> Queries
Custom	<input checked="" type="checkbox"/> Forms
	<input checked="" type="checkbox"/> Reports
	<input checked="" type="checkbox"/> Macros
	<input checked="" type="checkbox"/> Modules

Add Item Delete Item Rename Item Add Group Delete Group Rename Group

Display Options

Show Hidden Objects Show System Objects

Show Search Bar

Open Objects with

Single-click Double-click

OK Cancel

Set Database Properties

(optional but a good idea)

Title

Company

Comments

Install/Uninstall an Access Add-in

Install an Access Add-in

- make ACCDB with objects
- set up **USysRegInfo** table
- define database **properties**, *optional*
- create *form(s), tables*, write **code** ... compile, save, test
- close, backup, and rename to **ACCDA** (*optional*)
- open Access using **Run as administrator**
- OPEN ANY OTHER DATABASE
- **install add-in**: Ribbon: Database Tools, Add-ins, Add-in manager, click Add New... and browse to add-in file

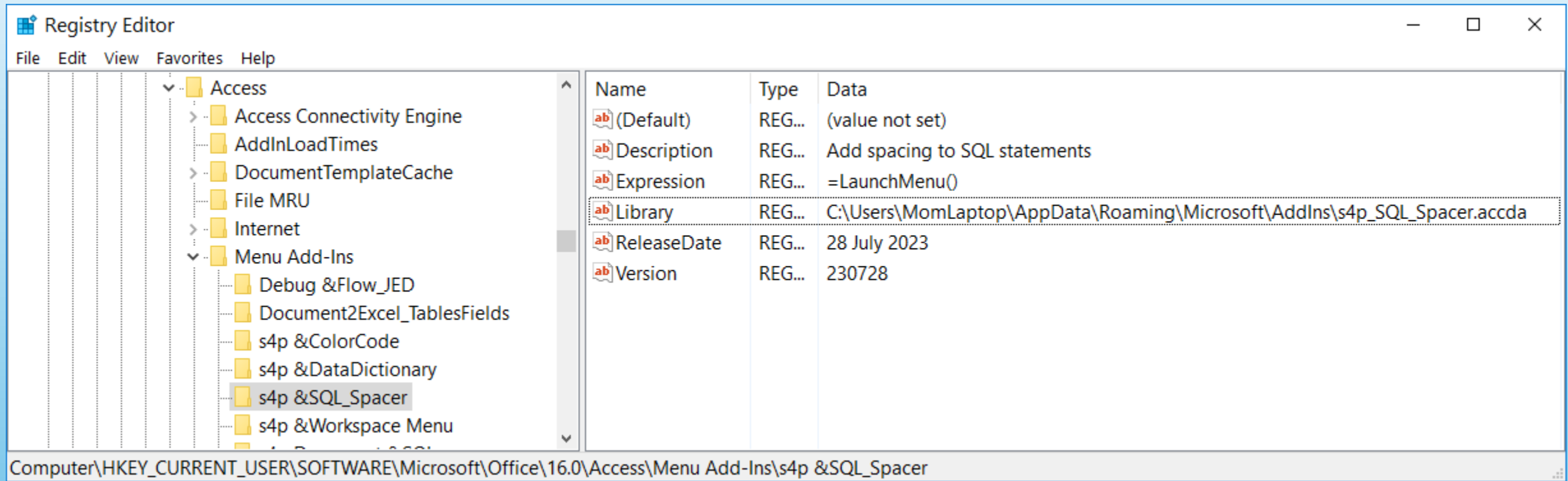
Uninstall Access Add-in

- open Access using **Run as administrator**
- open any regular database
- Ribbon: Database Tools, Add-ins, Add-in manager
- pick Add-in from list
- click Uninstall

Registry location for Add-ins

- For my version of Access, the official registry key where add-ins are is:
- HKEY_CURRENT_USER\SOFTWARE\Microsoft\Office\16.0\Access\Menu Add-Ins
- To edit the registry, Run **regedit**

Registry location



C:\Users\MomLaptop\AppData\Roaming\Microsoft\AddIns\

Where do add-in files go?

C:\Users\MomLaptop\AppData\Roaming\Microsoft\AddIns

The screenshot shows a Windows File Explorer window with the address bar set to C:\Users\MomLaptop\AppData\Roaming\Microsoft\AddIns. The 'AddIns' folder is selected in the left-hand navigation pane. The main pane displays a list of files with the following columns: Name, Date modified, File extension, Size, Type, and Date created.

Name	Date modified	File extension	Size	Type	Date created
s4p_ColorCode.accda	12/5/2024 2:57 PM	.accda	864 KB	Microsoft Office Access Add-in	4/30/2020 4:47 AM
s4p_DataDictionary.accda	3/3/2024 11:59 AM	.accda	904 KB	Microsoft Office Access Add-in	11/11/2019 1:53 P
s4p_Document2Excel_TableField.accda	8/9/2024 9:07 PM	.accda	548 KB	Microsoft Office Access Add-in	2/27/2022 5:47 PM
s4p_DocumentSQL.accda	3/10/2021 9:01 AM	.accda	616 KB	Microsoft Office Access Add-in	11/11/2019 1:53 P
s4p_ListHotKeys.accda	9/5/2023 10:50 AM	.accda	420 KB	Microsoft Office Access Add-in	9/4/2023 9:21 PM
s4p_SQL_Spacer.accda	11/29/2024 7:24 PM	.accda	592 KB	Microsoft Office Access Add-in	7/27/2023 7:59 PM
s4p_TableField_2Excel.accda	1/16/2024 8:09 PM	.accda	640 KB	Microsoft Office Access Add-in	2/27/2022 5:47 PM
s4p_Workspace_SaveRestore.accda	3/10/2021 9:01 AM	.accda	572 KB	Microsoft Office Access Add-in	11/11/2019 1:53 P

Demo:

Make a new Access Add-in

Toggle Case
UPPER CASE, lower case, Proper Case

Create new Access Add-in: 1

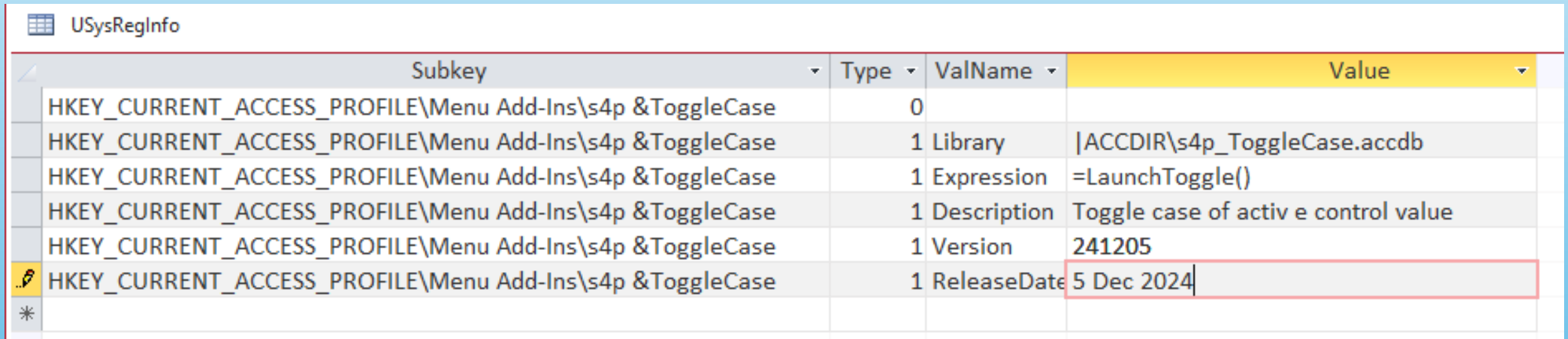
- You've made something useful – perhaps a form that want to turn it into an add-in
- best to keep code behind the form as much as you can
- if your project has general Sub/Functions that you use, perhaps copy and preface with PRIVATE so there is no conflict with general procedures

Create new Access Add-in: Database

- **CurrentDb**
 - references database that is running the add-in
- **CodeDb**
 - references the add-in database

USysRegInfo table: new Access Add-in

easiest way to create the USysRegInfo table is to import it from an existing add-in and then modify it



Subkey	Type	ValName	Value
HKEY_CURRENT_ACCESS_PROFILE\Menu Add-Ins\s4p &ToggleCase	0		
HKEY_CURRENT_ACCESS_PROFILE\Menu Add-Ins\s4p &ToggleCase	1 Library		ACCDIR\s4p_ToggleCase.accdb
HKEY_CURRENT_ACCESS_PROFILE\Menu Add-Ins\s4p &ToggleCase	1 Expression		=LaunchToggle()
HKEY_CURRENT_ACCESS_PROFILE\Menu Add-Ins\s4p &ToggleCase	1 Description		Toggle case of activ e control value
HKEY_CURRENT_ACCESS_PROFILE\Menu Add-Ins\s4p &ToggleCase	1 Version		241205
HKEY_CURRENT_ACCESS_PROFILE\Menu Add-Ins\s4p &ToggleCase	1 ReleaseDate		5 Dec 2024
*			

Database Properties: Toggle Case

The screenshot shows a dialog box titled "s4p_ToggleCase.accdb Properties" with a "Summary" tab selected. The dialog contains several text input fields for metadata. The "Title" field is filled with "ToGgle Case". The "Company" field is filled with "MsAccessGurus.com". The "Comments" field contains the text "Change active control value: TogGle Case, UPPER CASE, lower case, Proper Case". The "OK" button is highlighted with a blue border.

Property	Value
Title:	ToGgle Case
Subject:	
Author:	
Manager:	
Company:	MsAccessGurus.com
Category:	
Keywords:	
Comments:	Change active control value: TogGle Case, UPPER CASE, lower case, Proper Case
Hyperlink base:	
Template:	

How-To for Microsoft Access Add-ins

Creating and installing Microsoft Access Add-ins

https://msaccessgurus.com/tool/Addin_HowTo.htm

COM add-ins using VSTO by Geoff

Geoffrey L. Griffith

https://GeoffreyGriffith.com/downloads/Access/PAUG_Presentation_2024-12-05.zip