

Securing an Access Database

Presentation for Windows/Microsoft Developer's Forum by Art Yates

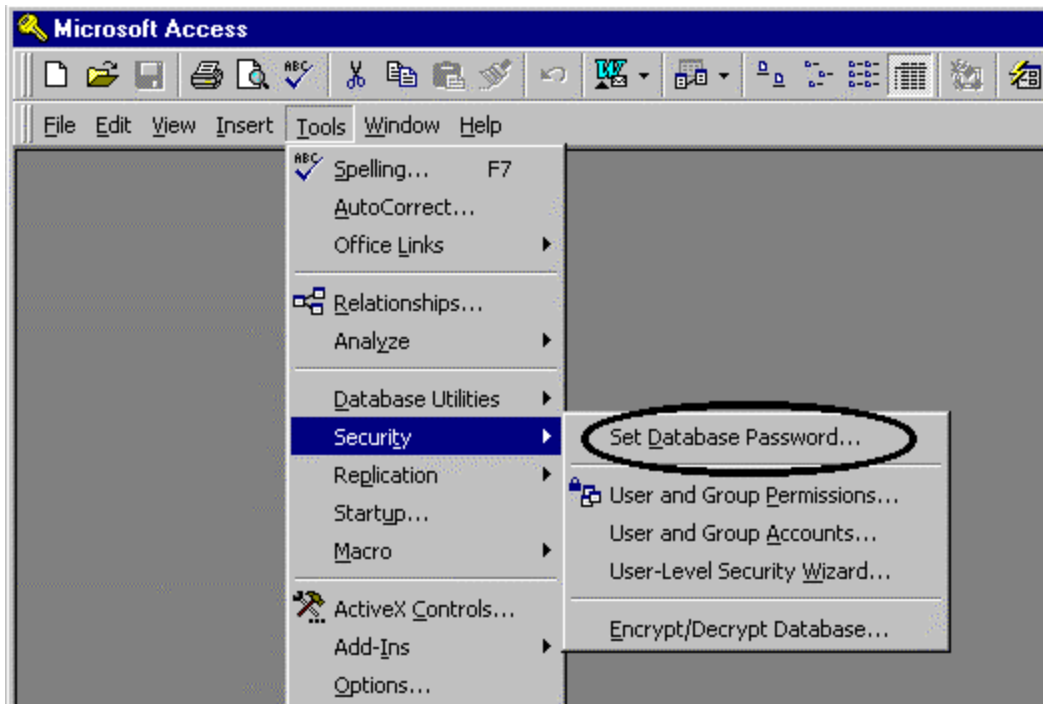
<u>Method</u>	<u>What it protects</u>	<u>Why Use</u>	<u>Disadvantages</u>
Covert to MDE	Locks code, forms, & reports	quick, protects code	1. Doesn't lock tables, queries, or macros. 2. Need copy of original mdb 3. No back-door
Database Password	Keeps out users who don't know psw	1. Code/ UI is elsewhere, e.g. in VB 2. Protects data	Only for a data-mdb, not for users
Disable Shiftlock	Keeps 'power users' from changing mdb	relatively simple	1. Not selective 2. Need to implement custom toolbars 3. Need back-door to unlock
Use Access Security	Selected objects, Can assign permissions by group or person for each form, table, ..etc.	1. Distributing component (mda) 2. Need finer access levels & permissions	1. Painful to implement 2. Don't misplace system.mdw 3. Copy original system.mdw 4. DB will compress less 5. Recovery is impossible
Rename .mdb to .xxx	User cannot double click to open. 'Hide in plain sight'	1. Quick 2. Code/UI is elsewhere 3. Protects data	1. If they watch you, they may figure it out. 2. Data-mdb only.

Good database design suggests that you could split the UI from the data.
You could use different methods for UI.mdb and data.mdb.

Recommendation: Disable shiftlock for all mdb's or disable shiftlock for UI and password data. Don't forget to give yourself a back-door to unshift-lock UI.mdb.

Backend Only Methods

1. Change name from backend.mdb to backend.dat or backend.any.
Any extension can be used. Just link from your front end.
2. Run docmd.quit on start up.
3. Database Password



Set and unset password from tools menu. MDB will not open without password.

From User Interface database or program use code that looks like:

```
Public Sub Main()  
'Application Start up Sequence  
Dim Log As String, INIFilePath as String  
On Error GoTo ErrMain  
  
WinPath = GetWindowsDir 'ini file is stored in \windows directory  
INIFilePath = WinPath & "FeeSched.ini"  
Log = Dir(INIFilePath)  
If Len(Log) = 0 Then  
    FSetUP.Show 1 'allow user to point to database location & create ini  
End If  
'put full path of mdb into global variable DataPath  
DataPath = GetIniEntry("DataPath", INIFilePath)  
Log = Dir(DataPath)  
If Len(Log) = 0 Then  
    FSetUP.Show 1  
End If  
  
'gStrPass is global var with password string
```

```

Set Wks = CreateWorkspace("FeeSched", "Admin", "")
Set WKCompDB = Wks.OpenDatabase(DataPath,False, False, ";pwd=" & gStrPass)
....etc....
end sub

```

How to unlock the Access97 password:

```

Function AccessPassword(Byval Filename As string) as string
'access 97 password recovery
'Tom Pickles www.Planet-Source-Code.com

```

```

Dim MaxSize, NextChar, MyChar, secretpos,TempPwd
Dim secret(13)
secret(0) = (&H86)
secret(1) = (&HFB)
secret(2) = (&HEC)
secret(3) = (&H37)
secret(4) = (&H5D)
secret(5) = (&H44)
secret(6) = (&H9C)
secret(7) = (&HFA)
secret(8) = (&HC6)
secret(9) = (&H5E)
secret(10) = (&H28)
secret(11) = (&HE6)
secret(12) = (&H13)
secretpos = 0

```

```

Open Filename For Input As #1' Open file for input.

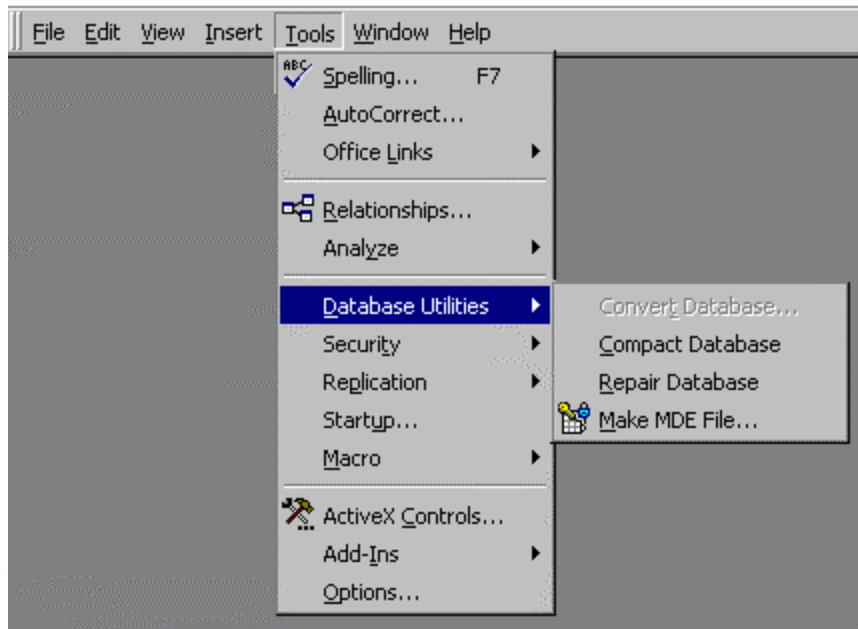
```

```

For NextChar = 67 To 79 Step 1 'Read In Encrypted Password
  Seek #1, NextChar' Set position.
  MyChar = Input(1, #1)' Read character.
  TempPwd = TempPwd & Chr(Asc(MyChar) Xor secret(secretpos)) 'Decrypt using Xor
  secretpos = secretpos + 1'increment pointer
Next NextChar
Close #1' Close file.
AccessPassword = TempPwd
End Function

```

Converting to an MDE

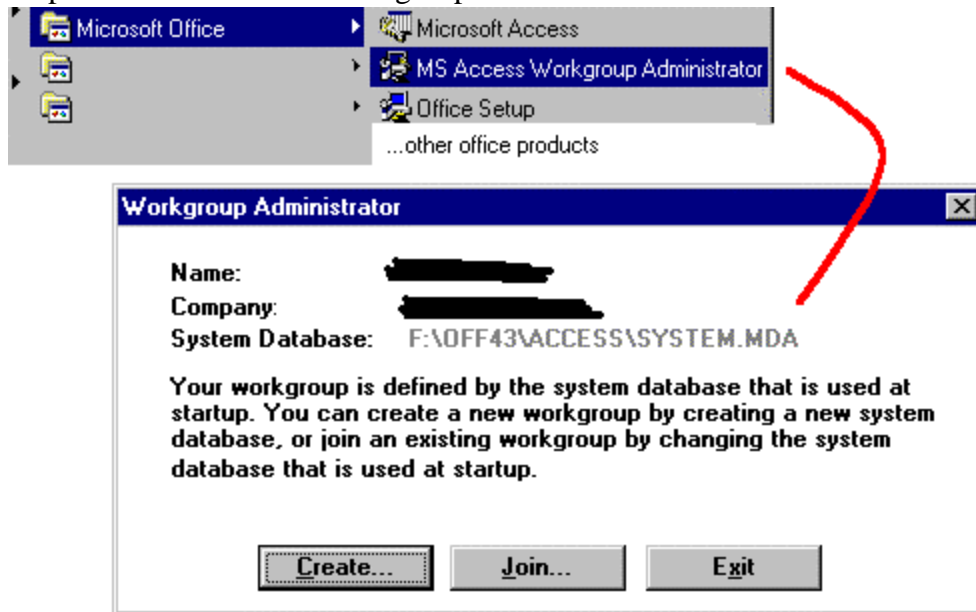


An MDE could be used front-end or Back-end. Lock Code, Forms & Reports.
Does not lock Tables, Queries, or Macros.

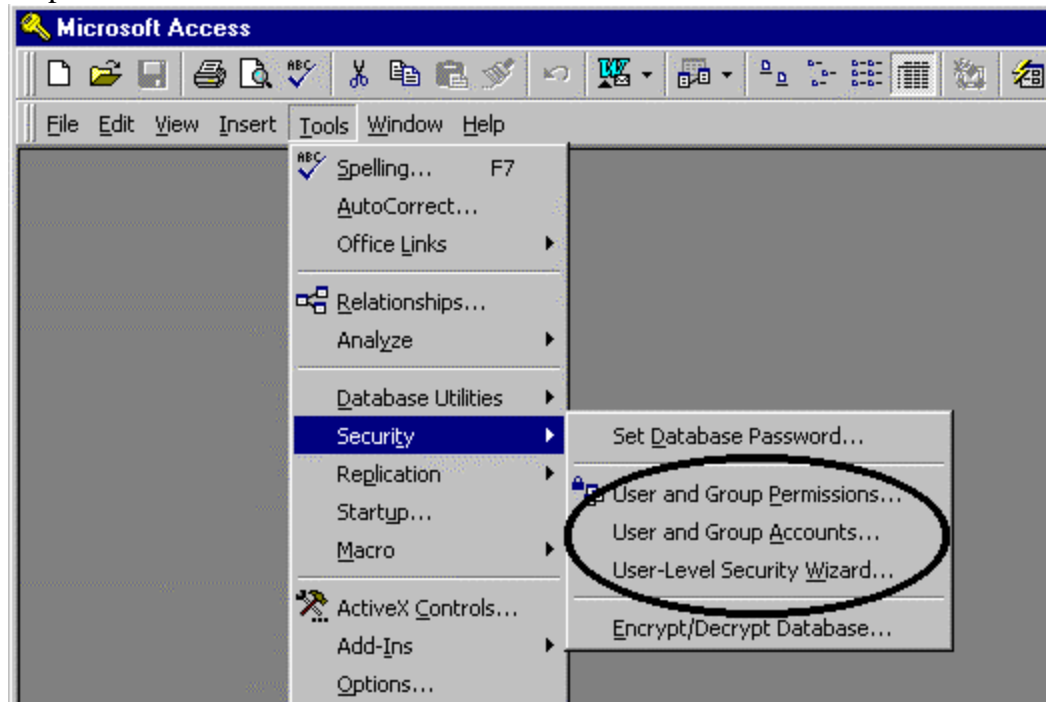
Access Security

Step 1 - Backup your System.mdw file.

Step 2 – Create or Join a workgroup.



Step 3 – Run the wizard



User-Level Security Wizard

The Security Wizard creates a new secured database from your existing unsecured database. Your existing database isn't modified in any way. If you've never used Microsoft Access Security before, click Help for an overview.

What objects do you want to secure?

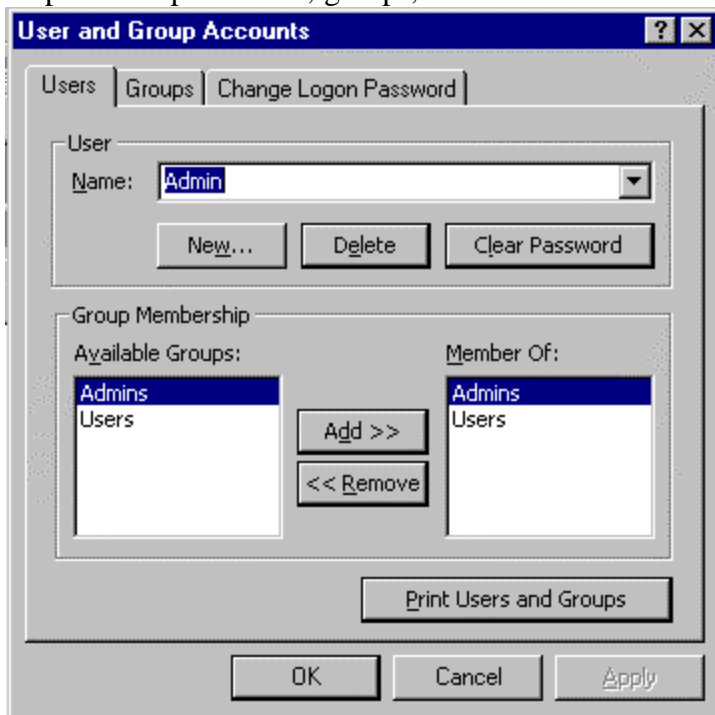
<input checked="" type="checkbox"/> Tables	<input checked="" type="checkbox"/> Forms	<input checked="" type="checkbox"/> Macros
<input checked="" type="checkbox"/> Queries	<input checked="" type="checkbox"/> Reports	<input checked="" type="checkbox"/> Modules

Current User: Admin

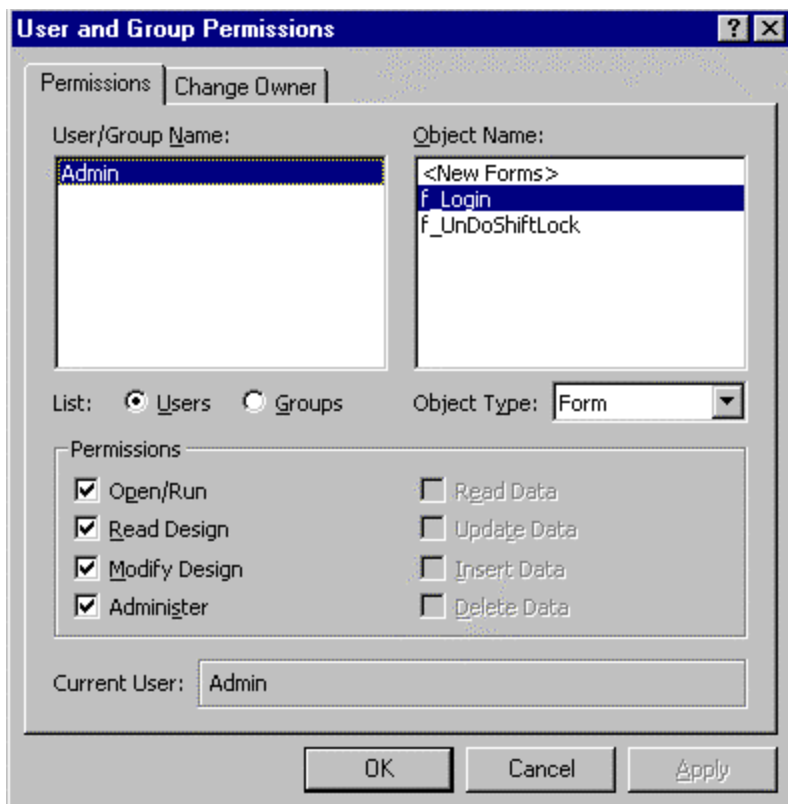
Workgroup File: E:\WIN98\SYSTEM\system.mdw

OK
Cancel
Help

Steps 4 Set up accounts, groups, users



Step 5 Setup permissions by group/user for each form,table,query,report,macro, & module.



When you distribute the Application, you should create an application directory For the mdb(s) and the system.mdw. On the command line for starting access, Include a / parameter to tell access which system.mdw to use .

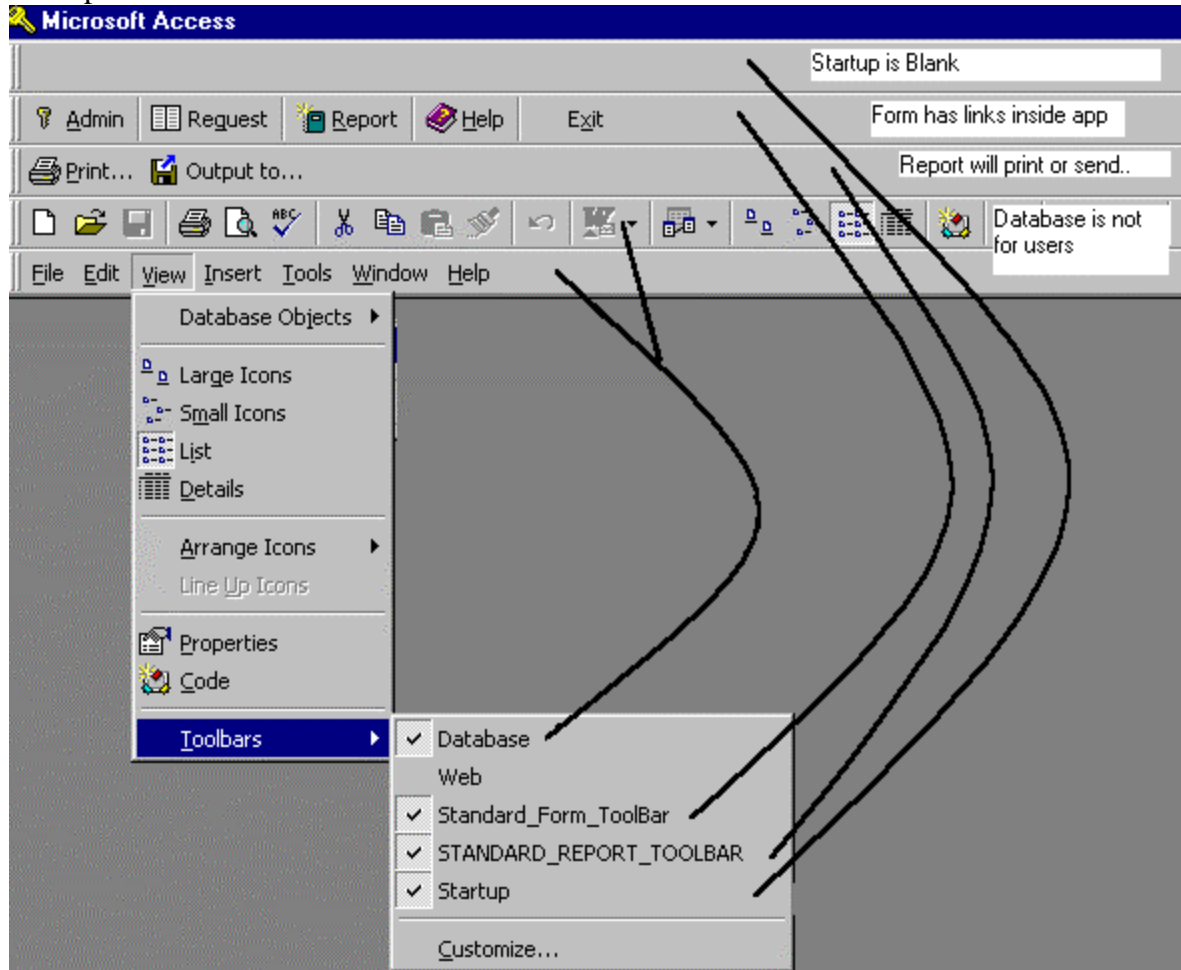
Controlling ShiftLock

Step 1 – Create toolbars/menubars for your application

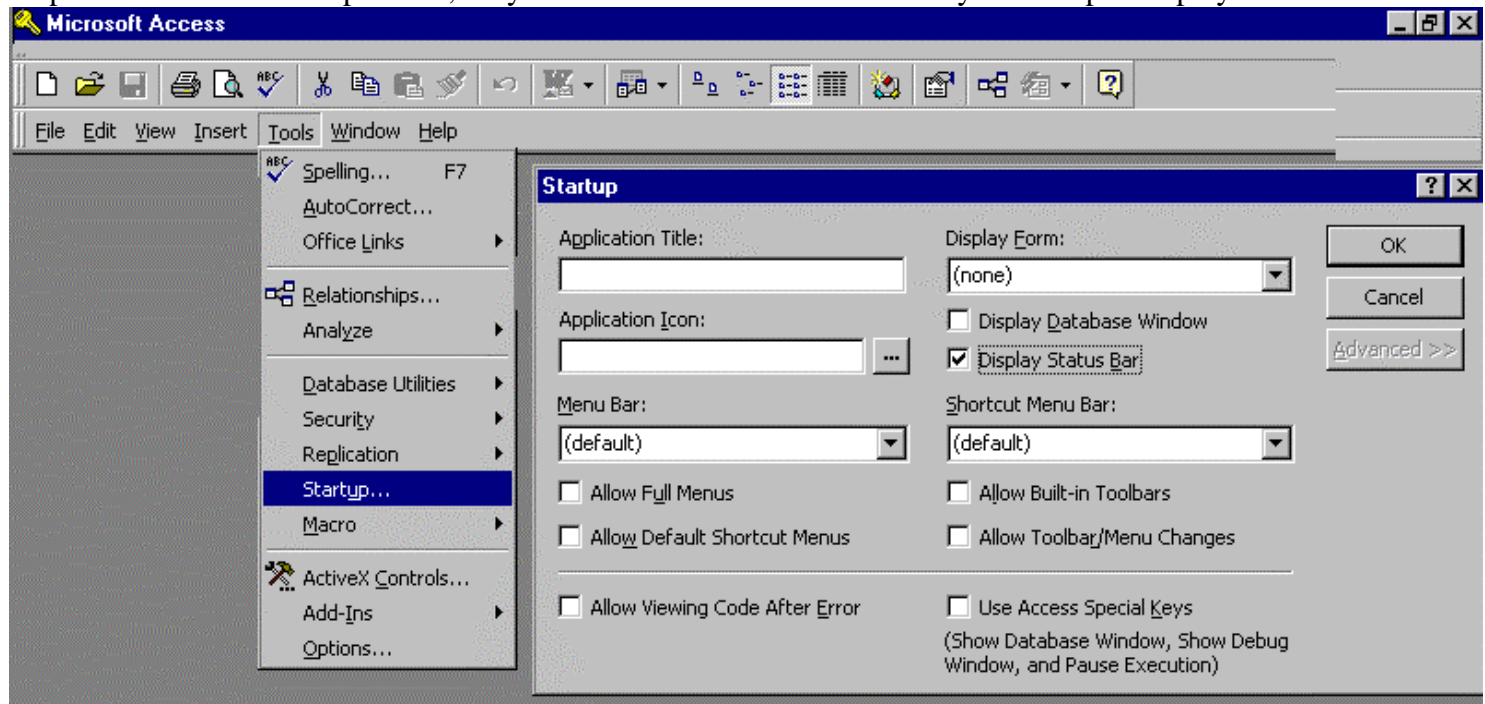
If you use an application login screen, you need an extra toolbar that is blank.

You need a minimum of two toolbars: one for forms & one for reports.

Examples:



Step 2 – Go into the startup screen, set your initial menubar and click every off except ‘Display Status Bar’



Step 3 Create a module and add code to control the shiftlock

There are 5 functions:

ChangeProperty - enables or disables shiftlock
 SetStartupProperties - disables shiftlock, called by a macro
 STD_OUTPUT_TO - used by toolbar to provide standard_output dialog to reports
 print_dot_dot_dot - used by toolbar to provide print... dialog to reports
 UnDoShiftLock - backdoor used to reverse shiftlock

Function ChangeProperty(strPropName As String, varPropType As Variant, varPropValue As Variant)

```
'enables/disables database property such as shift-lock key
Dim dbs As Database, prp As Property
Const conPropNotFoundError = 3270
Set dbs = CurrentDb
On Error GoTo Change_Err
dbs.Properties(strPropName) = varPropValue
ChangeProperty = True
Change_Bye:
Exit Function
Change_Err:
If Err = conPropNotFoundError Then 'Property not found.
Set prp = dbs.CreateProperty(strPropName, varPropType, varPropValue)
dbs.Properties.Append prp
Resume Next
Else
'Unknown error
ChangeProperty = False
Resume Change_Bye
End If
End Function
```

```

Function SetStartupProperties()
'Disallows Shift Key privilege of bypassing startup procedures.
  ChangeProperty "AllowBypassKey", dbBoolean, False
End Function

Public Function STD_OUTPUT_TO()
'menubar for output to ... dialog
On Error GoTo STD_OUTPUT_TO_Err
  DoCmd.OutputTo acReport, "", "", False, ""
STD_OUTPUT_TO_Exit:
  Exit Function
STD_OUTPUT_TO_Err:
  MsgBox Error$
  Resume STD_OUTPUT_TO_Exit
End Function

Public Function print_dot_dot_dot()
'menu item for print...
On Error Resume Next
  DoCmd.RunCommand acCmdPrint
End Function

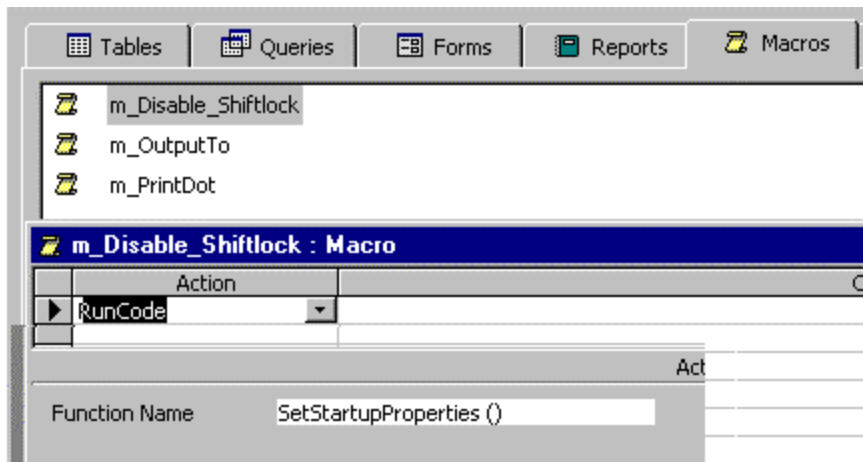
Function UnDoShiftLock(Optional pw As String) As Integer
're-enables Shift Key privilege of bypassing startup procedures, if correct password entered.
  Static Try As Integer
  Dim PSW As String, PswOK As Integer
  On Error Resume Next
  PswOK = False
  If Len(pw & "") = 0 Then
    PSW = Trim(LCase(InputBox("Enter Password", "Password") & ""))
  Else
    PSW = Trim(LCase(pw))
  End If
  If PSW = "melong99" Then PswOK = True 'put your password here
  If PSW = "johnm" Then PswOK = True 'or here -- use lower case
  Try = Try + 1

  If Try > 4 Then DoCmd.Quit acQuitSaveAll '4 strikes and you are out

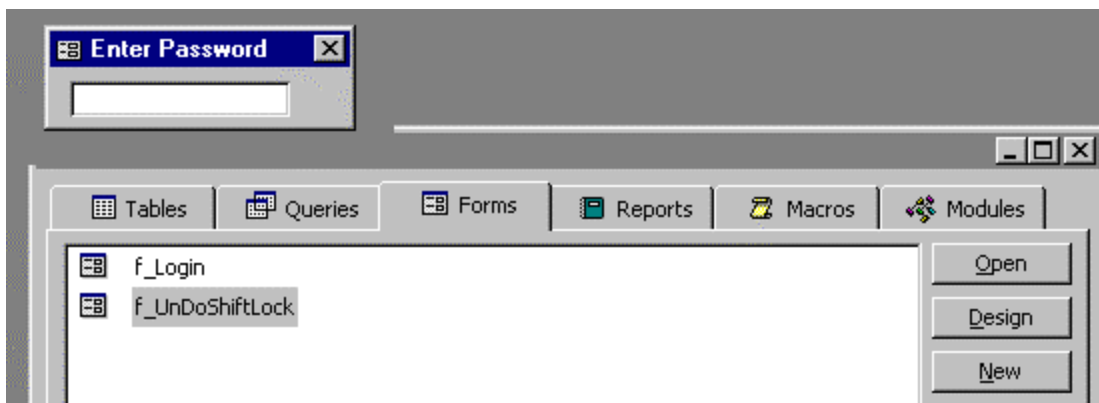
  If Not PswOK Then
    msgbox "Invalid Password, Attempt: " & Try
    UnDoShiftLock = False
    Exit Function
  End If
'call function to enable shiftlock
ChangeProperty "AllowBypassKey", dbBoolean, True
  UnDoShiftLock = True
End Function

```

Macro used to disable shift key



Example of Form used for backdoor



Changing From Blank Menubar

If you use a blank startup menubar, use the following code in your login verification function Behind the OK button to switch to your app's form menubar.



```
Private Sub Logon_cmd_Click()  
    Dim standard_toolbar  
    '..validate logon name & password  
    '...etc.....  
  
    'change mdb's default toolbar/menubar  
    Application.MenuBar = "Standard_form_toolbar"  
  
    '---if you want to enable/disable selected items on the toolbar  
    ' Set standard_toolbar = CommandBars("Standard_form_toolbar")  
    ' standard_toolbar.Controls(2).Enabled = True  
    ' standard_toolbar.Controls(5).Enabled = True  
  
    ' DoCmd.OpenForm "app main form"  
  
End Sub
```