

海克斯康三坐标PC-DMIS软件二次开发指南-V1.0

1. 开发环境准备

1.1 软件要求

- PC-DMIS软件(演示版本为：PC-DMIS 2017 R1)
- 开发工具:Visual Studio 2026 (C#/VB.NET) 或其他支持COM的开发环境 (Excel自带的VBE编辑器)
- .NET Framework 4.5或更高版本 (适用于：Visual Studio)

1.2 必要组件

- PC-DMIS COM API文档

[pcdbasic.chm](#)

[automationobjects.chm](#)

- 相关DLL引用文件

[Pcdlrn.tlb \(适用于：Excel自带的VBE编辑器\)](#)

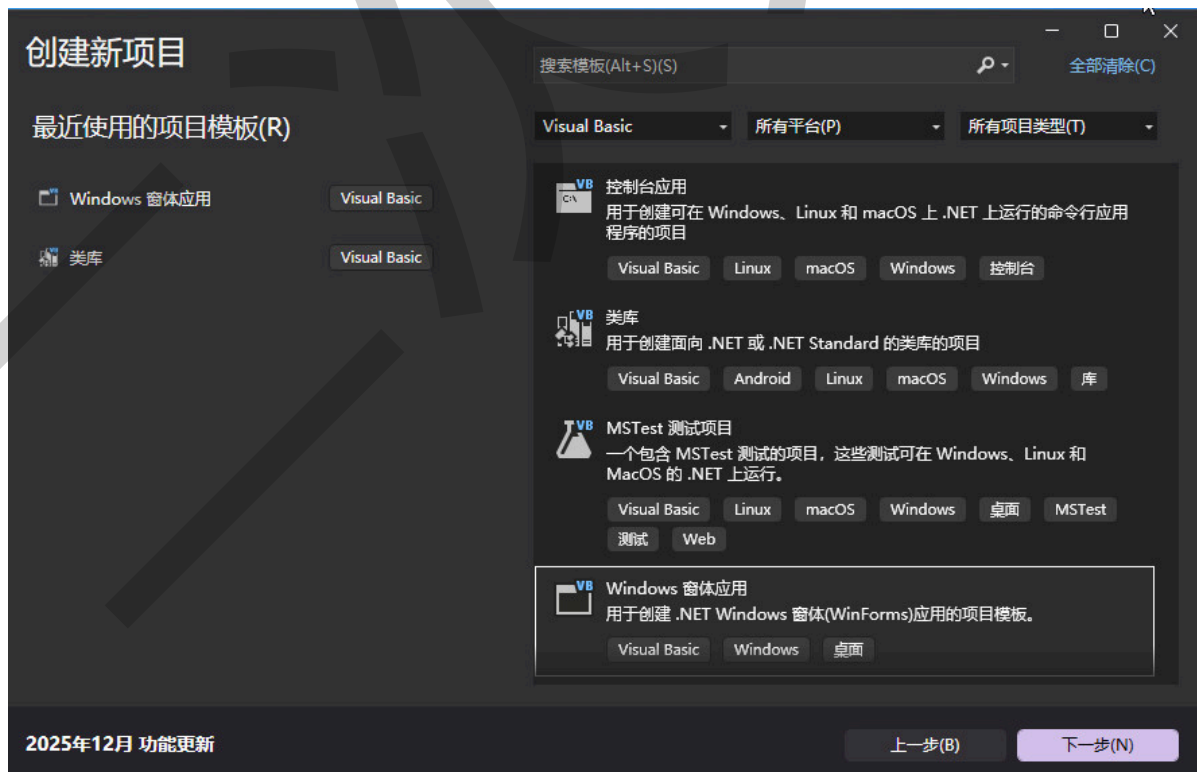
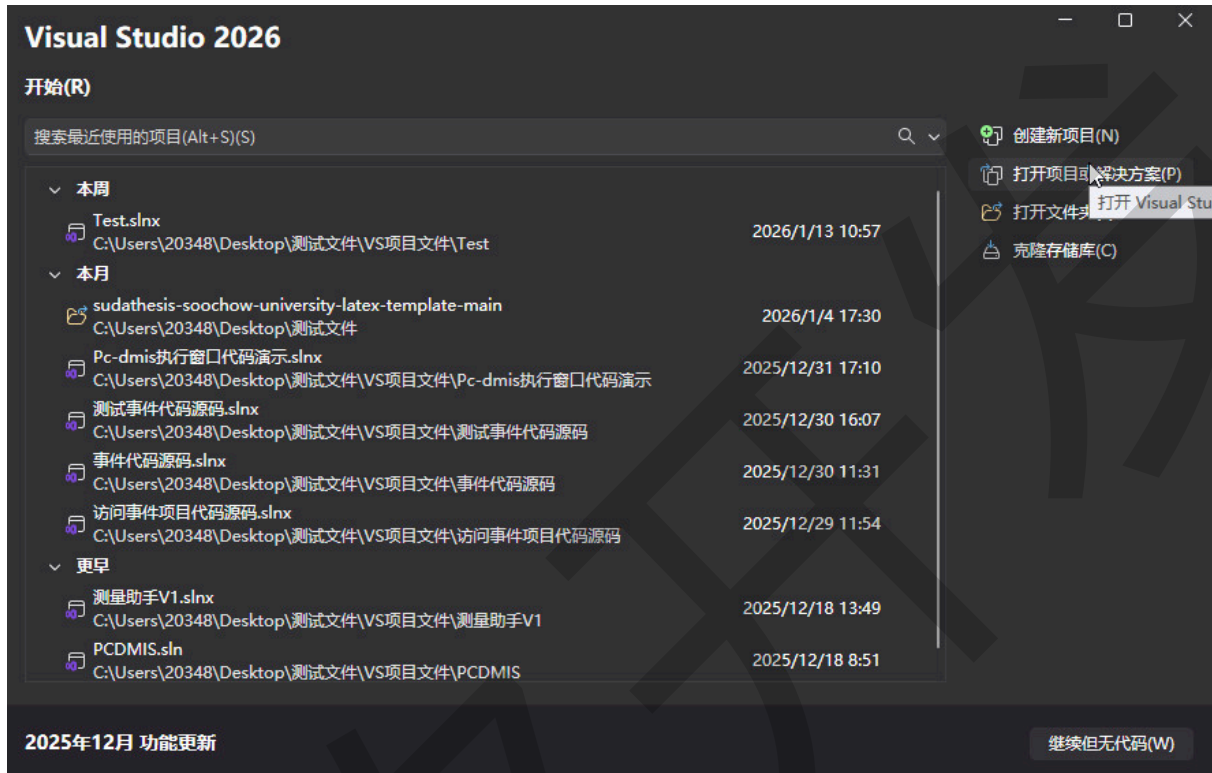
[INTEROP.PCDLRN.DLL \(适用于：Visual Studio 2026\)](#)

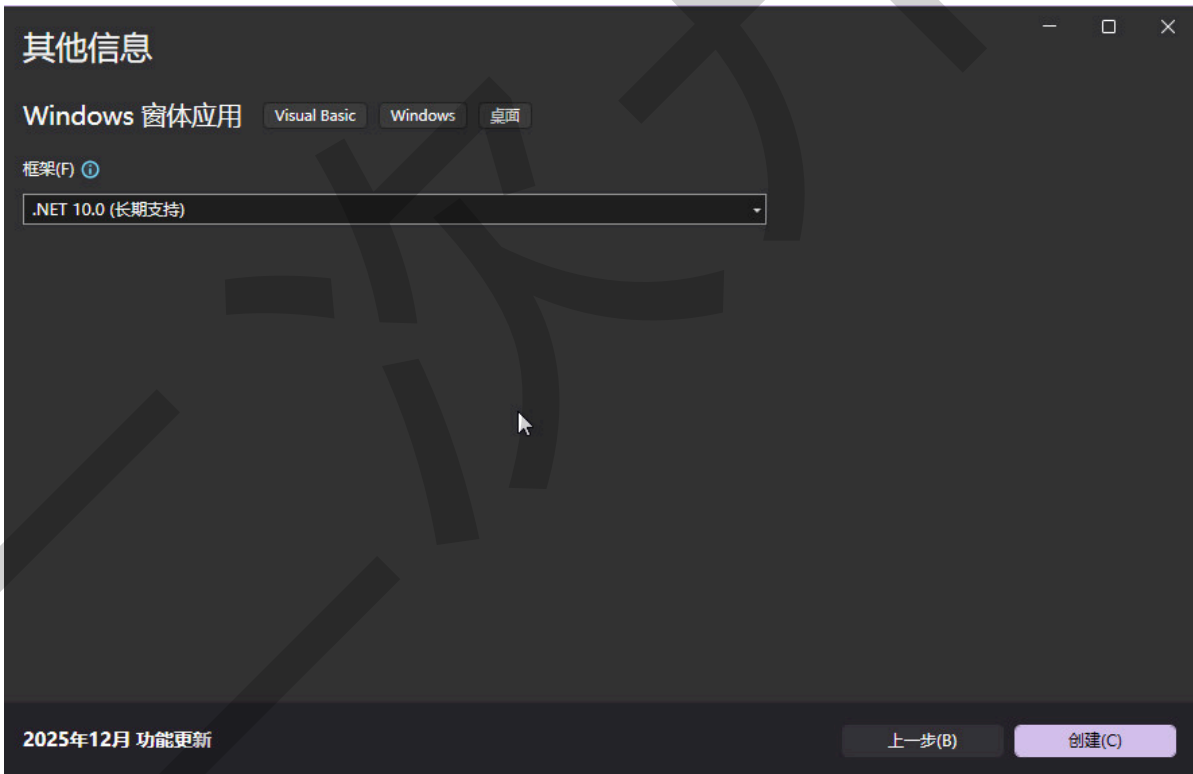
2. COM接口开发

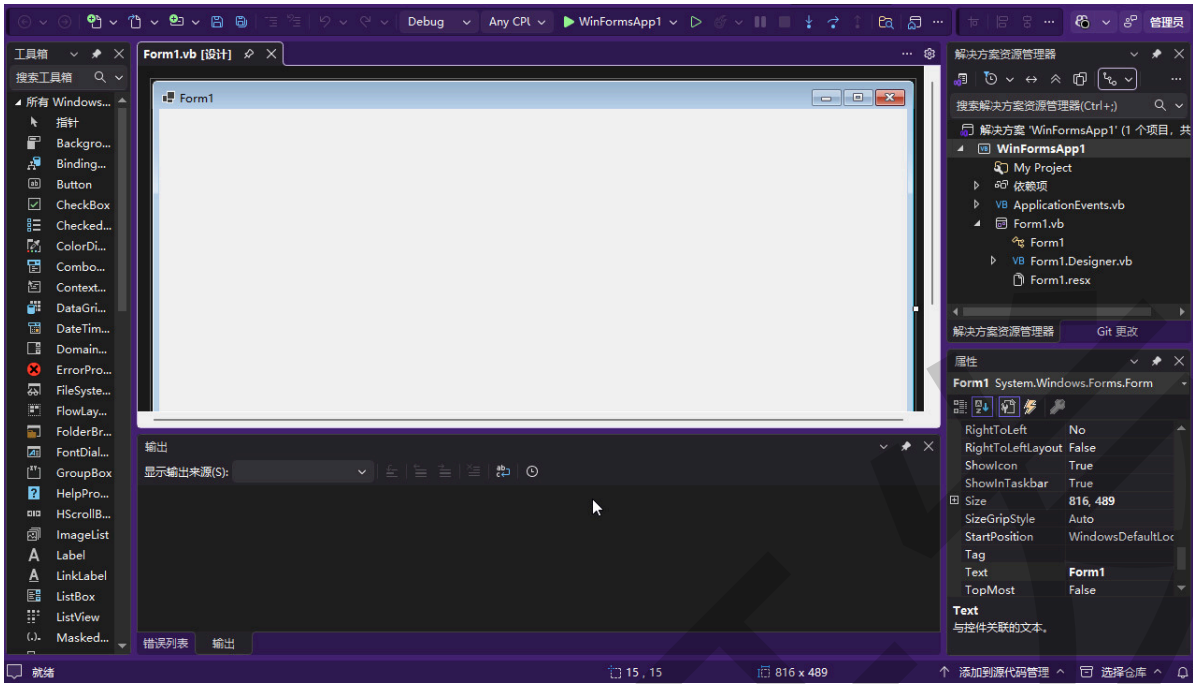
2.1 COM接口开发（Visual Studio 2026）

Visual Studio 2026 开发操作步骤：

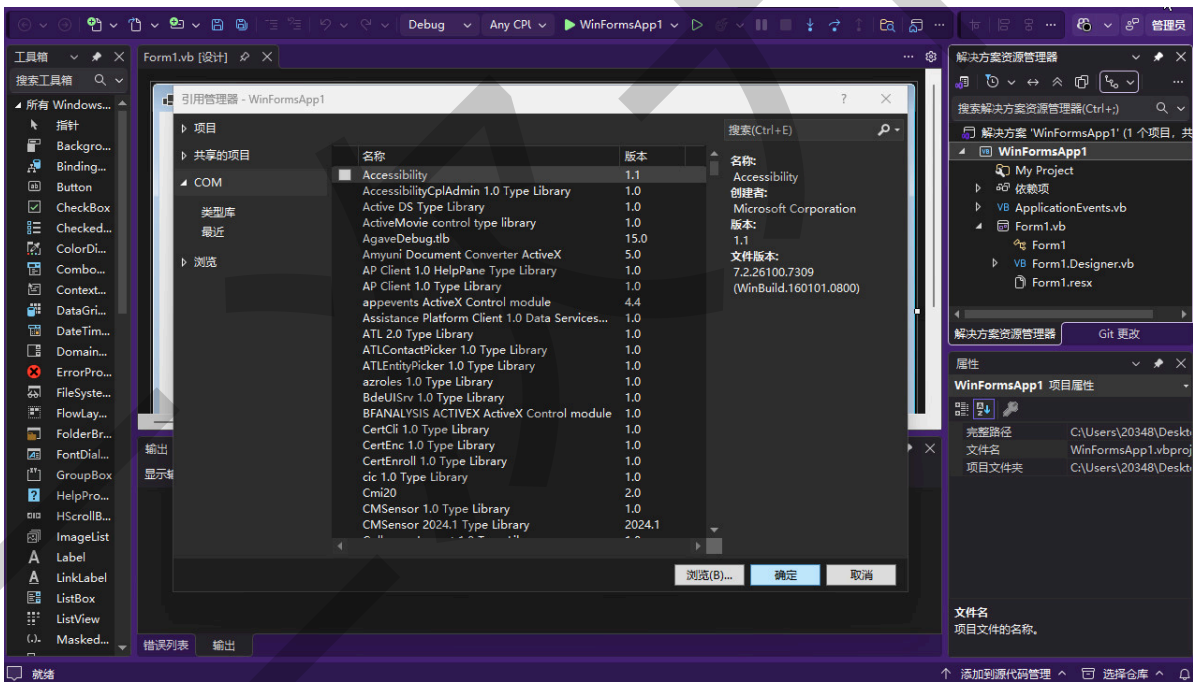
- 新建一个WinFWorms项目



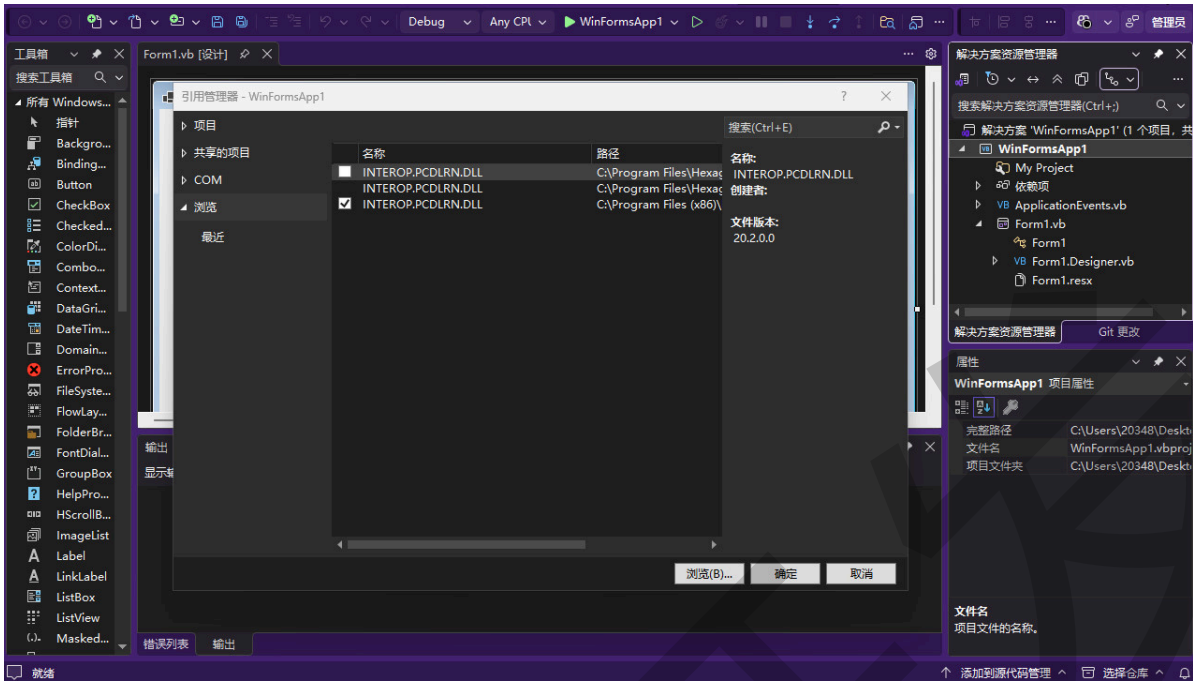




- 引用pc-dmis的二次开发库（解决方案右键—添加—COM引用）



- 浏览—选择pc-dmis的软件的根目录（C:\Program Files (x86)\Hexagon\PC-DMIS 2017 R1 32-bit）中的INTEROP.PCDLRN.DLL文件



- 编程时优先引用PCDLRN，代码如下：

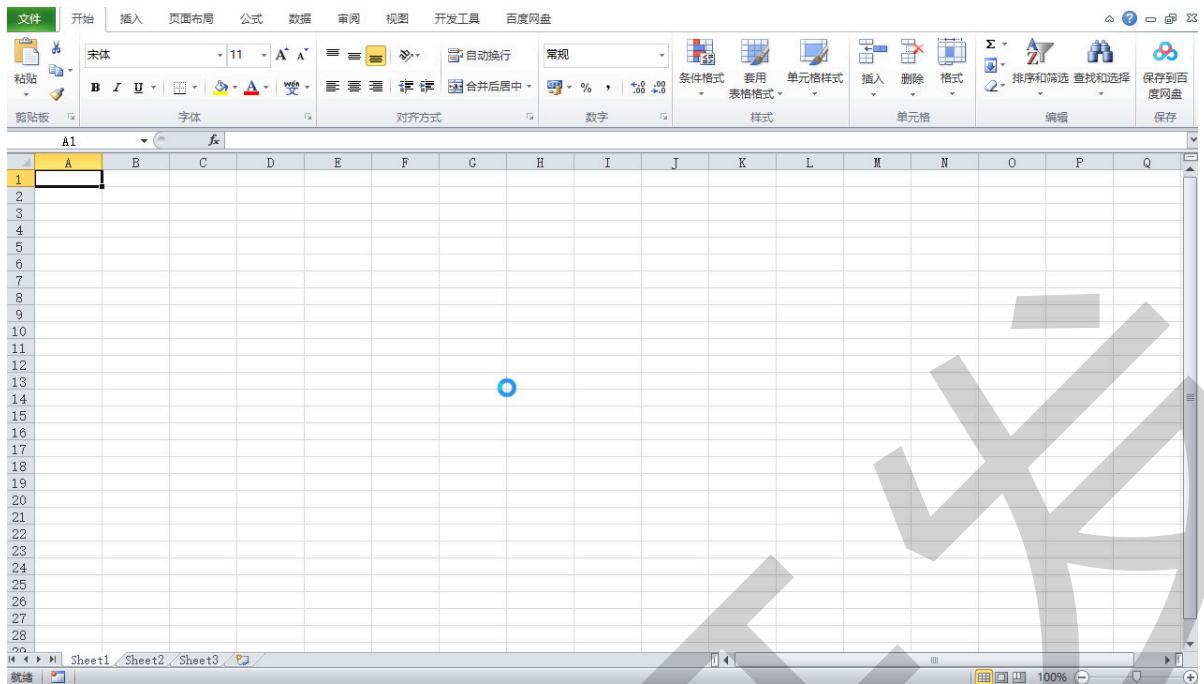
```
'引用pc-dmis的二次开发库
Imports PCDLRN
Public Class Form1
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load

    End Sub
End Class
```

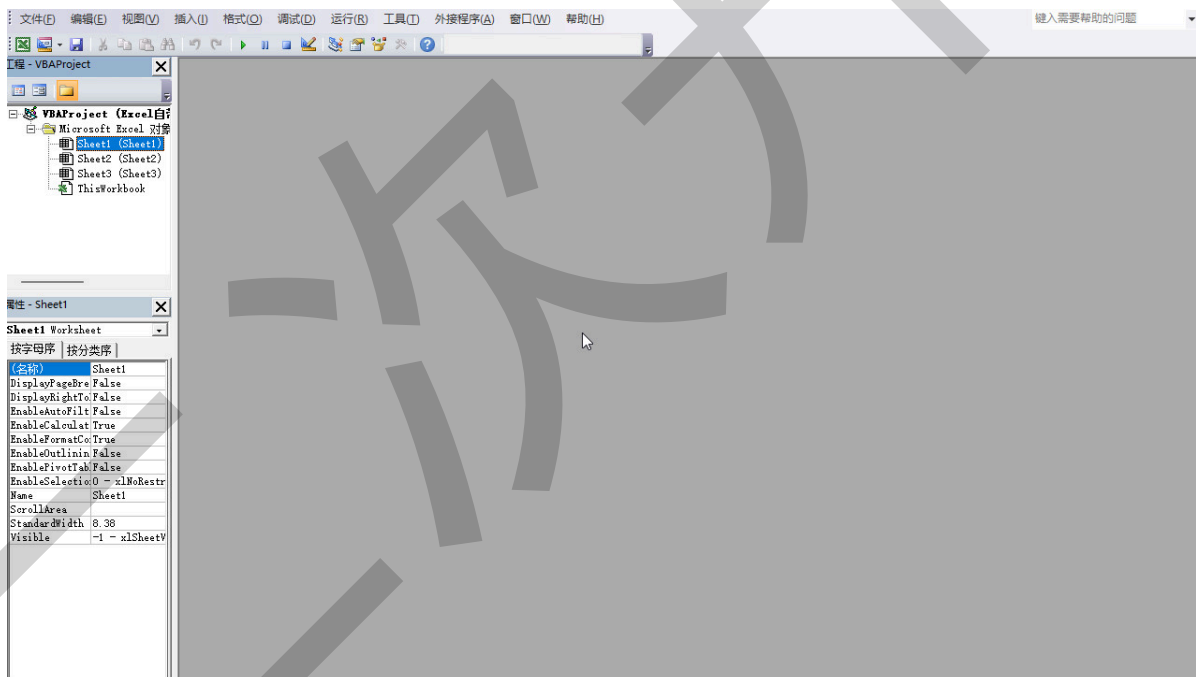
2.2 COM接口开发（Excel自带的VBE编辑器）

Excel自带的VBE编辑器开发步骤：

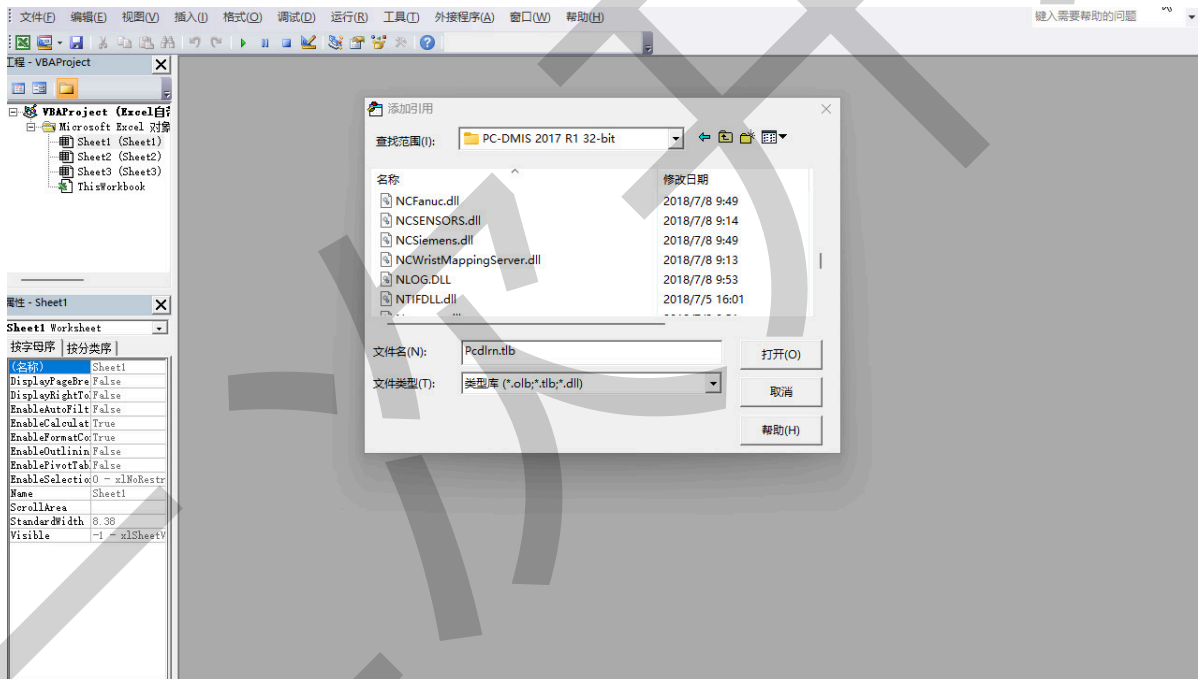
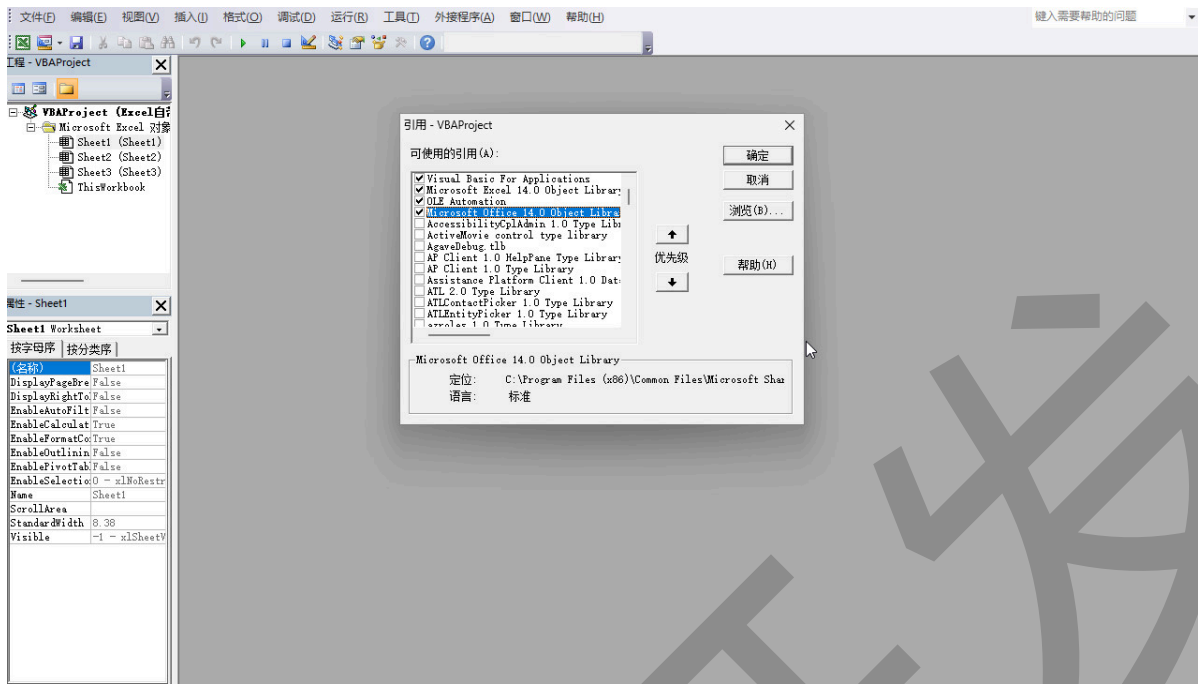
- 新建Excel文件

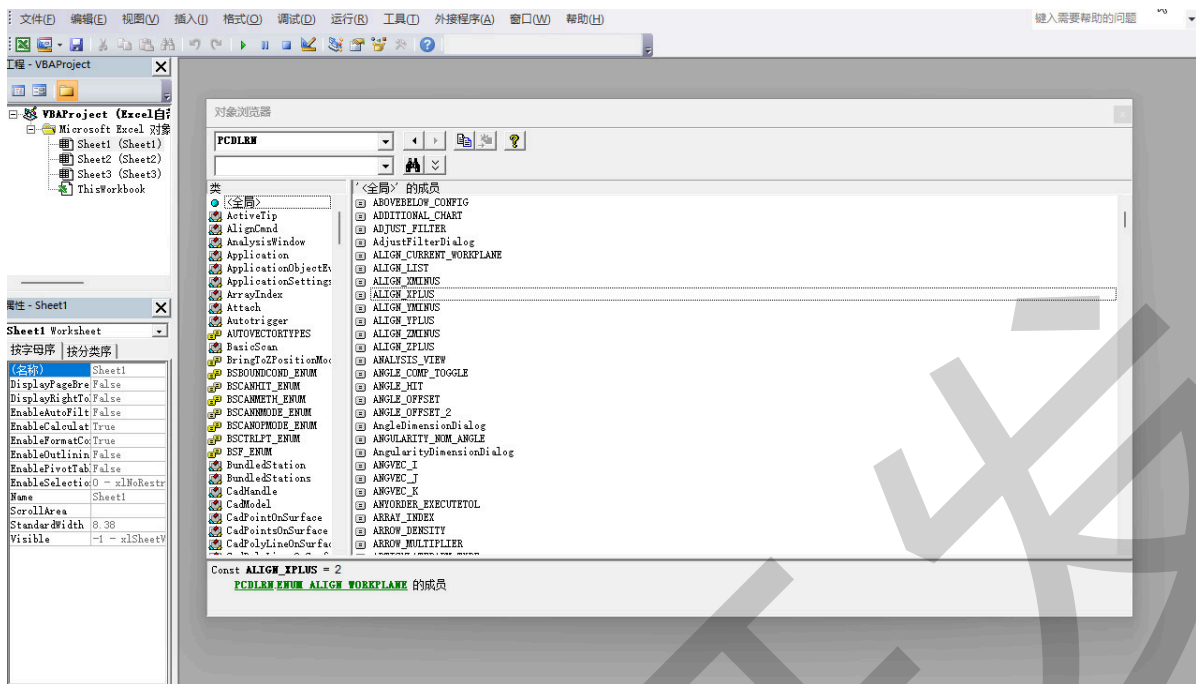


- 开发工具—Visual Basic



- 工具—引用—浏览—pc-dmis的软件的根目录（C:\Program Files (x86)\Hexagon\PC-DMIS 2017 R1 32-bit）中的PcdIrn.tlb文件





- 应用具体代码如下：

Option Explicit

Sub main()

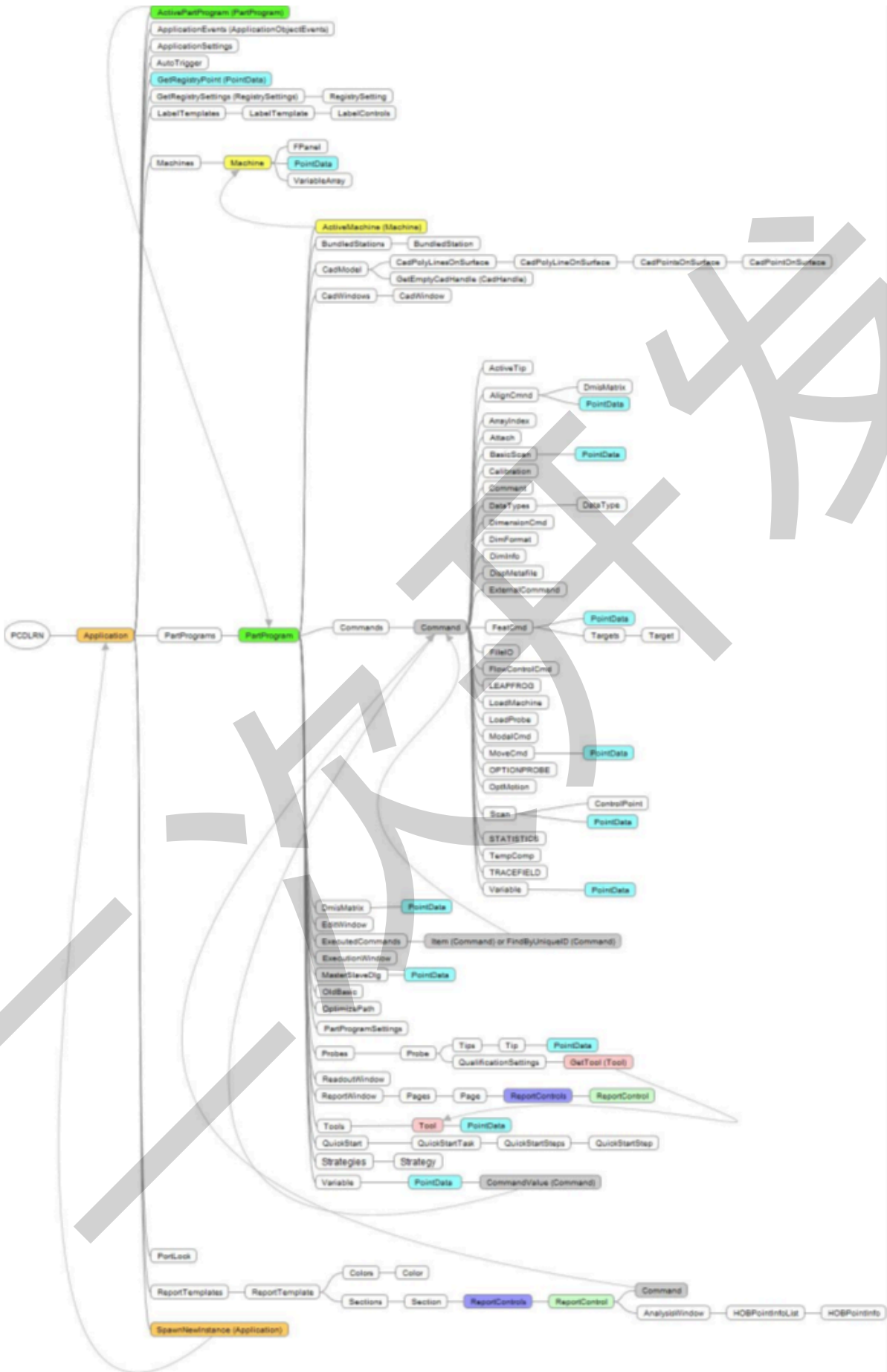
Dim pcApp As PCDLRN.Application

Set pcApp = New PCDLRN.Application

End Sub

3. 核心API对象

3.1 使用对象层次结构图



- `PCDLRN.Application` - 主应用程序对象
- `PCDLRN.PartPrograms` - 测量程序对象集合
- `PCDLRN.PartProgram` - 测量程序对象
- `PCDLRN.Commands` - 命令集合
- `PCDLRN.Command` - 单个命令对象

3.2 常用操作

- Visual Studio 2026 应用具体代码如下：

```
Imports PCDLRN
Public Class Form1
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        ' 引用二次开口库创建PC-DMIS应用程序实例
        Dim pcApp As PCDLRN.Application
        pcApp = New PCDLRN.Application
        pcApp.Visible = True

        ' 获取当前测量程序
        Dim partProgram As PCDLRN.partProgram
        partProgram = pcdApp.ActivePartProgram

        ' 获取命令集合
        Dim cmds As PCDLRN.Commands
        cmds = partProgram.Commands
    End Sub
End Class
```

- Excel自带的VBE编辑器应用具体代码如下：

```
Sub main()
    ' 引用二次开口库创建PC-DMIS应用程序实例
    Dim pcApp As PCDLRN.Application
    Set pcApp = New PCDLRN.Application
    pcApp.Visible = True
```

```

' 获取当前测量程序
Dim partProgram As PCDLRN.partProgram
Set partProgram = pcdApp.ActivePartProgram

' 获取命令集合
Dim cmds As PCDLRN.Commands
Set cmds = partProgram.Commands
End Sub

```

3.3 增加一个PC-DMIS变量演示案例

- Visual Studio 2026 开发操作应用具体代码如下：

Pc-dmis中的程序代码：

```

C1      =COMMENT/INPUT,NO,FULL SCREEN=NO,
Type an integer
ASSIGN/V1=INT(C1.INPUT)
COMMENT/OPER,NO,FULL SCREEN=NO,AUTO-CONTINUE=NO,
"BEFORE SCRIPT - Variable is: " + V1

```

Visual Studio 2026 代码：

```

Imports PCDLRN
Public Class Form1
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        Dim pcApp As PCDLRN.Application
        pcApp = New PCDLRN.Application
        pcApp.Visible = True
        Dim partPrograms As PCDLRN.PartPrograms
        partPrograms = pcApp.PartPrograms
        Dim partProgram1 As PCDLRN.PartProgram
        partProgram1 = partPrograms.Open("C:\Users\Public\Documents
\Hexagon\PC-DMIS\2017 R1\1.PRG", "Offline")
        Dim partProgram As PCDLRN.PartProgram
        partProgram = pcApp.ActivePartProgram
        Dim Var As PCDLRN.Variable
        Var = partProgram.GetVariableValue("V1")
        Dim I As Object
    End Sub
End Class

```

```

If Not Var Is Nothing Then
    MsgBox.Show("Initial value of V1: " & Var.LongValue)
    Var.LongValue = Var.LongValue + 1
    partProgram.SetVariableValue("V1", Var)
    MsgBox.Show("V1 is now: " & Var.LongValue)
Else
    MsgBox.Show("Could not find a V1 variable")
End If
End Sub
End Class

```

- Excel自带的VBE编辑器应用具体代码如下：

Pc-dmis中的程序代码：

```

C1      =COMMENT/INPUT,NO,FULL SCREEN=NO,
Type an integer
ASSIGN/V1=INT(C1.INPUT)
COMMENT/OPER,NO,FULL SCREEN=NO,AUTO-CONTINUE=NO,
"BEFORE SCRIPT - Variable is: " + V1

```

Excel自带的VBE编辑器代码：

```

Sub Main()
    Dim pcApp As PCDLRN.Application
    Set pcApp = New PCDLRN.Application
    pcApp.Visible = True
    Dim partPrograms As PCDLRN.partPrograms
    Set partPrograms = pcApp.partPrograms
    Dim partProgram1 As PCDLRN.partProgram
    Set partProgram1 = partPrograms.Open("C:\Users\Public\Documents
\Hexagon\PC-DMIS\2017 R1\1.PRG", "Offline")
    Dim partProgram As PCDLRN.partProgram
    Set partProgram = pcApp.ActivePartProgram
    Dim Var As PCDLRN.Variable
    Set Var = partProgram.GetVariableValue("V1")
    Dim I As Object
    If Not Var Is Nothing Then
        MsgBox "Initial value of V1: " & Var.LongValue, 0, "Script Message
Box"
    End If
End Sub

```

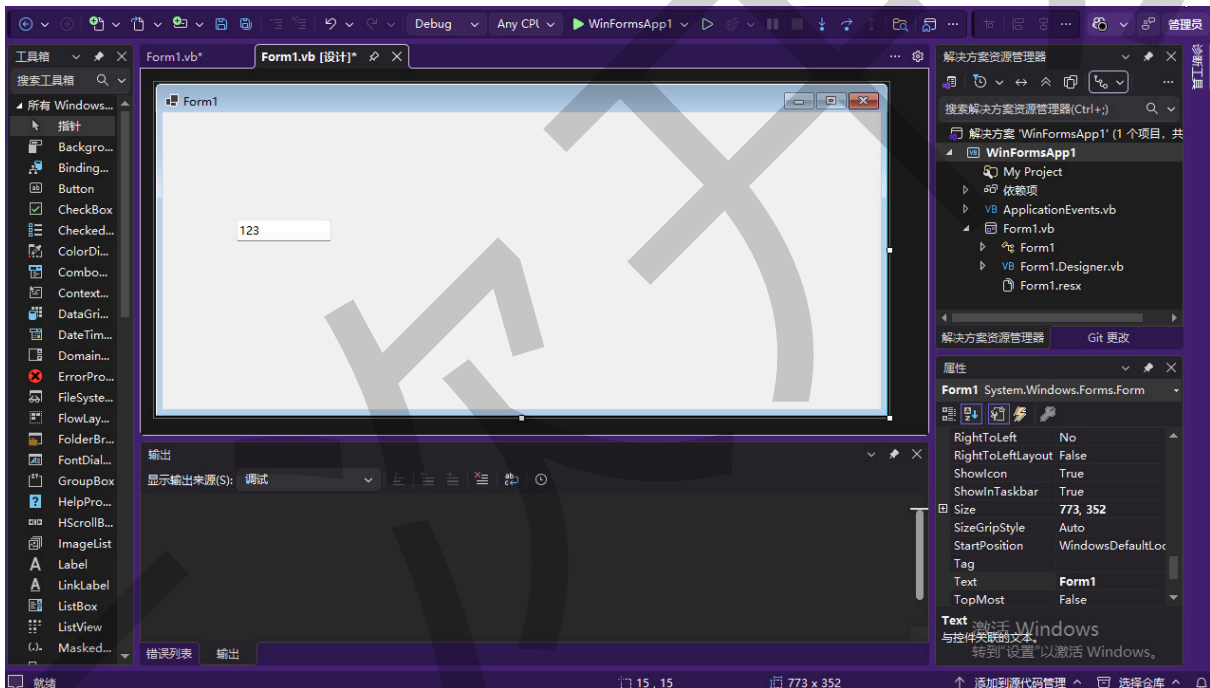
```

Var.LongValue = Var.LongValue + 1
partProgram.SetVariableValue "V1", Var
MsgBox "V1 is now: " & Var.LongValue, 0, "Script Message Box"
Else
MsgBox "Could not find a V1 variable", 0, "Script Message Box"
End If
End Sub

```

5. 开发实例

5.1 Pc-dmis程序中增加一个注释演示—Visual Studio 2026 开发操作应用具体代码如下：



```

Imports PCDLRN
Public Class Form1
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        Dim pcApp As PCDLRN.Application
        pcApp = New PCDLRN.Application
        pcApp.Visible = True
        Dim partPrograms As PCDLRN.PartPrograms
        partPrograms = pcApp.PartPrograms
    End Sub
End Class

```

```

Dim partProgram1 As PCDLRN.PartProgram
partProgram1 = partPrograms.Open("C:\Users\Public\Documents\Hexa
gon\PC-DMIS\2017 R1\1.PRG", "Offline")
Dim partProgram As PCDLRN.PartProgram
partProgram = pcApp.ActivePartProgram
Dim Cmds As PCDLRN.Commands
Cmds = partProgram.Commands
Dim LastCmd As PCDLRN.Command
LastCmd = Cmds.LastCommand
Dim Cmd As PCDLRN.Command
Cmds.InsertionPointAfter(LastCmd)
Cmd = Cmds.Add(OBTYPES.SET_COMMENT, True)
Cmd.PutText("REPT", ENUM_FIELD_TYPES.COMMENT_TYPE, 0)
Cmd.PutText(TextBox1.Text, ENUM_FIELD_TYPES.COMMENT_FIELD, 1)
Cmd.Redraw()
End Sub
End Class

```

5.2 Pc-dmis程序中增加一个注释演示—Excel自带的VBE编辑器应用 具体代码如下：

```

Sub Main()
N$ = InputBox$("Please enter your name:", "Operator", "", 200, 175)
Dim pcApp As PCDLRN.Application
Set pcApp = New PCDLRN.Application
pcApp.Visible = True
Dim partPrograms As PCDLRN.partPrograms
Set partPrograms = pcApp.partPrograms
Dim partProgram1 As PCDLRN.partProgram
Set partProgram1 = partPrograms.Open("C:\Users\Public\Documents\He
xagon\PC-DMIS\2017 R1\1.PRG", "Offline")
Dim partProgram As PCDLRN.partProgram
Set partProgram = pcApp.ActivePartProgram
Dim Cmds As PCDLRN.Commands
Set Cmds = partProgram.Commands
Dim LastCmd As PCDLRN.Command
Set LastCmd = Cmds.LastCommand
Dim Cmd As PCDLRN.Command

```

```
IsSet = Cmds.InsertionPointAfter(LastCmd)
Set Cmd = Cmds.Add(SET_COMMENT, True)
retvaltype = Cmd.PutText("REPT", COMMENT_TYPE, 0)
retvaltext = Cmd.PutText(N$, COMMENT_FIELD, 1)
Cmd.ReDraw
End Sub
```

6. 学习资源

- PC-DMIS官方帮助文档（需要安装帮助文件）

file:///C:/Program%20Files/Hexagon/PC-DMIS%202025.2%2064-bit%20Chinese_Simplified%20Help/pcdmis/2025.2/zh-hans/helpcenter/mergedProjects/automationobjects/webframe.html#Using%20the%20Object%20Heirarchy%20Chart.html

- 海克斯康官方培训课程

PC-DMIS VB脚本编程-育人平台官网-三坐标计量培训认证
面向有自动化编程需求，以及特殊软件功能算法需要的用户
<https://edu.hexagonmi.com.cn/course/recorded/detail-324.html>

- PC-DMIS用户论坛

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<https://edu.hexagonmi.com.cn/forum/list.html?cid=2#list>