Demo Script: DevCon 2024

Download and Save Sample Code

1. Download twinBASIC BETA 504
2. Extract from Zip folder
3. Open twinBASIC > **Sample 4**
4. Enter Project Name: `Demo2024` (*Do not put spaces in the name*)
5. Save as: `%tmp%\Demo2024\Demo2024.twinproj`
    1. Navigate to: `%tmp%`
    2. Create folder named: `Demo2024`
    3. Filename: `Demo2024.twinproj`

Customize the Addin Name and Description

Next, let's customize the friendly name and description of our addin. This is the info that appears in the VBA Add-in Manager dialog box.

1. Go to **dllRegistration.twin** > **DllRegisterServer**
2. In the "FriendlyName" line, replace *AddinProjectName* with `DevCon 2024 Demo`
3. In the "Description" line, replace *AddinProjectName* with `Create a strongly-typed collection class from an existing VBA class object.`
4. Save the project
5. Build the project

Create the Tool Window Controls

1. Open myToolWindow.tbcontrol
2. Select all controls and delete them
3. Select form and set the following properties:
    - Height: 1700
    - Width: 2550
4. Create a text box and set the following properties:
    - Name: `tbObjName`
    - Anchors > Right: ☑ True
    - Height: 300
    - Left: 150
    - Text: *{blank}*
    - TextHint: `Object Class Name`
    - Top: 150
    - Width: 2250
5. Create a text box and set the following properties:

- Name: `tbCollName`
- Anchors > Right: ☑ True
- Height: 300
- Left: 150
- Text: *{blank}*
- TextHint: `Collection Class Name`
- Top: 600
- Width: 2250

6. Create a button and set the following properties:
   - Name: `btnCreateClass`
   - Anchors > Right: ☑ True
   - Caption: `Create Collection Class`
   - Height: 450
   - Left: 150
   - Top: 1050
   - Width: 2250

Edit the Code in myToolWindow.twin

1. Delete the `Timer1_Timer()` and `HelloWorld_Click()` subroutines
2. Add a Click event handler for btnCreateClass using the code below

```
    Private Sub btnCreateClass_Click()
        MsgBox "Object class name: " & Me.tbObjName.Text & vbNewLine & _
               "Collection class name: " & Me.tbCollName.Text, vbInformation,
"Create Class"
    End Sub
```

Build and Test the Addin on Same Machine

The following instructions assume a machine with 32-bit Office (e.g., mjw20):

1. Ensure "**win32**" is selected in dropdown
2. **File** > **Build**
   - Creates and registers this file:
     `M:\Repos\NLS\DevCon2024\Build\DevCon2024_win32.dll`
   - As part of registration, the following registry key and values are created:
     - HKEY_CURRENT_USER\SOFTWARE\Microsoft\VBA\VBE\6.0\Addins\DevCon2024.myAddIn\
       - Description: "DevCon2024"
       - FriendlyName: "DevCon2024"
       - LoadBehavior: 3 (3 => Loaded/Load at startup)
     - HKEY_CLASSES_ROOT\DevCon2024.myAddIn\CLSID
       - (Default): {9B80DA6E-8B20-4D53-AE54-430ACFAE987B} *(this matches the `[ClassID()]` attribute value above the myAddIn class in myAddIn.twin)*

- HKEY_CLASSES_ROOT\DevCon2024.myToolWindow\CLSID
  - (Default): {D531346A-90B8-470D-AA33-FB009F19CEFD} *(this matches the [ClassID()] attribute value above the myToolWindow class in myToolWindow.twin)*

- HKEY_CLASSES_ROOT\CLSID\{9B80DA6E-8B20-4D53-AE54-430ACFAE987B}
  - (Default): myAddIn
  - \InProcServer32
    - (Default): M:\Repos\NLS\DevCon2024\Build\DevCon2024_win64.dll *(NOTE: The presence of win64.dll here is likely a result of running the win64 build as shown in the next section)*
    - ThreadingModel: Both
  - \ProgID
    - (Default): DevCon2024.myAddIn

- DEBUG CONSOLE should show this:
  - [LINKER] SUCCESS created output file 'M:\Repos\NLS\DevCon2024\Build\DevCon2024_win32.dll'
  - [LINKER] → Open Folder *(NOTE: this is a clickable link)*
  - [REGISTER] type-library registration completed. DllRegisterServer() returned OK

3. Open Excel or Access
4. Press [Alt] + [F11] to go to VBA IDE
5. Tool window will likely be floating; click and drag to dock it somewhere:

6. Enter Obj Name in the first text box, Coll Name in the second text box, then click [Create Collection Class]

Build and Test the Addin on a Different Machine and Bitness

The following instructions assume you are building on a machine with 32-bit Office (mjw20), but installing on a machine with 64-bit Office (e.g., gbm18):

1. Ensure "**win64**" is selected in dropdown
2. **File** > **Build**
3. I copied M:\Repos\NLS\DevCon2024\Build\DevCon2024_win64.dll to %fb%\12114\DevCon2024_win64.dll (I will test registering it tomorrow on gbm18)
4. Open a non-admin cmd prompt
5. Run: regsvr32 DevCon2024_win64.dll
   - Receive message: "DllRegisterServer in DevCon2024_win64.dll succeeded."
6. Open Word (or Excel) - The add-in appears.

Copy and Paste Working VBA Code into twinBASIC

1. Add a standard code module named "MyModule":
    1. Right-click Sources > **Add** > **Add Module (.TWIN supporting Unicode)**
2. Go to Strongly-Typed Collections: The Easy Way
    1. Copy and paste the GetGuidBasedTempPath code
    2. Copy and paste the FileWrite code
3. Handle "Unrecognized datatype symbol 'Scripting'" error in DIAGNOSTICS pane:
    1. Go to **Project** > **References**
    2. Switch to "Available COM References" tab
    3. Search for "script" and then click the "Microsoft Scripting Runtime" reference
    4. Click [Save Changes]

Add fafalone's WinDevLib Package for API Calls

1. **Project** > **References...**
2. Switch to "Available Packages" tab
3. Search for "windows"
4. Check box next to "☑ Windows Development Library for twinBASIC vX.Y.ZZZ"
    - The package will immediately begin downloading in the background
    - When the download finishes, the name will change to "☑ [IMPORTED] Windows Development Library for twinBASIC vX.Y.ZZZ"
    - NOTE: "WinDevLib for Implements" is a different package
5. Click [Save Changes]
6. Comment out (or delete) API `Declare` lines throughout the project
    - Be aware that if you used non-standard `Alias` names, you may need to adjust your API calls to match the standard versions used in WinDevLib
    - **myAddIn.twin**:
        - Delete `Private Type RECT` structure
        - Delete `GetClientRect()` function declare
    - **InterProcess.twin**:
        - Delete `GetCurrentProcessId()` function declare line...
        - ...through `Type UUID` structure
    - **MyModule.twin**:
        - Delete `Sleep` sub declare
        - Comment out `CoCreateGuid` function declare and highlight the failure to compile due to the stricter typing of `id As UUID` in WinDevLib versus `id As Any` in my code
        - Uncomment the `CoCreateGuid` function to show that explicit API declares override the WinDevLib versions
7. Pass Unicode strings directly to API declare functions
    - Most string-related API functions have ANSI and Unicode versions ("A" and "W" for "ANSI" and "Wide", respectively)
    - Lots of legacy VB6/VBA code use the ANSI version of API functions
    - WinDevLib encourages the use of Unicode versions by default
    - This means that code that passes input strings to API functions may require wrapping the

string in `StrPtr()` (or removing `StrPtr()`) from your existing code
- ☐ Remove `StrPtr()` from calls to `FindWindowEx()` in InterProcess.callerApplicationObject
- ☐ Convert final argument from `0&` to `vbNullString` for calls to `FindWindowEx()` in InterProcess.callerApplicationObject