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# 1 What kind of APIs can you use?

ZWCAD provides following APIs:

- LISP: Provided in Std and Pro version; it should run correctly in ZWCAD without any modification
- VBA: Only provided in Pro version
- ZRX: Only provided in Pro version
- .NET: Only provided in Pro version

# 2 What is the developing environment?

## LISP:

- Any text editor, for example, Visual Studio Code/Notepad/Notepad++...

## VBA:

- If you want to run the VBA program directly in ZWCAD, Please use the VBAIDE in ZWCAD to create the program.
- Any programming language that supports COM technology can access the COM interface of ZWCAD. Please note that ZWCAD's CLSID is "**ZWCAD.Application**".

## ZRX:

- You should use Visual Studio 2017 (**version 15.9 or later**) to develop a ZRX program.

## .NET:

- You should use Visual Studio 2015 or later version to develop a .NET program for ZWCAD, and the target framework should be **.NET Framework 4.7**.

## 3 How to protect you source code?

### LISP:

- The file format is .LSP. You can:
  - Use ZWCAD's encryption tool (COMPILE) to compile/encrypt your code.
  - Compile your code as .fas or .vlx file with Autocad, then they can be converted to zelx/vlx files and then be loaded in ZWCAD.
  - ✓ Note: The files compiled/encrypted by COMPILE can only be loaded in ZWCAD.

### VBA:

- The file format is .ZVB. You can:
  - The VBA IDE can set a password to you project.
  - If you use COM interface via other programming language, please refer to the protect policy of the language you use.

### ZRX:

- A compiled .ZRX file is a binary file.
  - ✓ Note: The extension of a ZRX program should be .ZRX.

### .NET:

- A compiled .NET file is a binary file.
  - ✓ Note: The extension of a .NET program for ZWCAD should be .DLL.

## 4 Some register item that you may want to know.

*Note: You can know the language of ZWCAD by reading the file ZWCAD.ini in ZWCAD installation directory. For example, if LocaleId is 1033, then the register path would be [HKEY\_CURRENT\_USER\Software\ZWSoft\ZWCAD\2021\en-US]. The relationship between LocaleId and the symbol (for example, en-US) is also defined in ZWCAD.ini.*

*(Let's assume that you are using **English** version and the profile is "Default")*

- If you want to get the installation path of ZWCAD:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ZWSOFT\ZWCAD\2021\en-US\Location

- If you want to get the version of ZWCAD:  
HKEY\_CURRENT\_USER\Software\ZWSOFT\ZWCAD\CurVer

- If you want to get the language of ZWCAD:  
HKEY\_CURRENT\_USER\Software\ZWSOFT\ZWCAD\2021\CurVer
- If you want to switch the UI between classic and ribbon:  
HKEY\_CURRENT\_USER\Software\ZWSOFT\ZWCAD\2021\en-US\Profiles\Default\Config\WSCurrent
- ✓ **Note:** 1) Its value represents the name of current workspace, e.g. “ZWCAD Classic” means classic UI.  
2) You could also switch between classic and ribbon inside ZWCAD with system variable “WSCurrent”.
- If you want to know the name of current profile:  
HKEY\_CURRENT\_USER\Software\ZWSOFT\ZWCAD\2021\en-US\Profiles
- If you want to read or modify the support files search path:  
HKEY\_CURRENT\_USER\Software\ZWSOFT\ZWCAD\2021\en-US\Profiles\Default\Config\ZWCADSEARCHPATH
- Other important keys:  
HKEY\_CURRENT\_USER\Software\ZWSOFT\ZWCAD\2021\en-US\Profiles\Default\Config

## 5. You may want to know when you loading your program

### Manually loading

Here are some ways to load you program manually:

- You can use APPLOAD command to load all the programs (except .NET programs).
- You can use VBALOAD or VBAMAN command to load a VBA program.
- You can use ZRX command to load a ZRX program.
- You can use NETLOAD command to load a .NET program.
- You can use MENU or MENULOAD/CUILOAD command to load a MNU/MNS/CUIX menu file.
- You can drag all the all the programs (except .NET programs) to ZWCAD drawing area to load them.

### Automatically loading

Here are some ways to load you program automatically:

- Add your programs (except .NET programs) to the Startup Suite in APPLOAD dialog.
- If you have a MNU/MNS/CUIX menu file, you can create a MNL file including with the same name in the same directory of the menu file. Then you can write lisp codes in the MNL file and it will be load when the menu file is loaded.
- Using /ld command line switch in ZWCAD's desktop short cut to load specific zrx file when launching ZWCAD:

```
2021\ZWCAD.exe" /ld "loader.zrx"
```

- The files ZWCAD2021.lsp and ZWCAD2021doc.lsp will be automatically loaded when ZWCAD starts and a drawing is created or opened. So you can write you code in these two files to load you programs. The location of these two files is:

**Windows XP:**

```
<...\Documents and Settings\<UserName>\Application  
Data\ZWSOFT\ZWCAD\2021\en-US\Support>
```

**Windows Vista and later:**

```
<...\Users\<UserName>\AppData\Roaming\ZWSOFT\ZWCAD\2021\en-US\Su  
pport>
```

- ✓ **Note:** If needed, you can created your own ZWCAD2021.lsp and ZWCAD2021doc.lsp, then place them in any support path and make sure that path is in front of <...\ZWSOFT\ZWCAD\2021\en-US\Support > (which means it has a higher priority ).

## Automatically load profile

- Uses /p command line switch in ZWCAD's desktop short cut to specify the profile :

```
.\ZWCAD 2021\ZWCAD.exe" /p "Default" ,
```

- ✓ **Note:**
  - You can specify a path to a profile definition file with /P parameter.

## 6. Some system variables and special functions you may need to know.

- Variable Product tells the name of product. Its value in original ZWCAD is "ZWCAD".
- Variable VerAuth tells the authority version. It would be PRO, STD or NONE.
- Variable VerNum tells the detail version of ZWCAD.
- Variable ZrxVerNum tells the general version of ZWCAD.

- Variable `Filedia` controls if a dialog will appear when users need to input file name.
- LISP function “`get-license-serial`” can get the activation information of ZWCAD.
  - ✓ It returns like (1 "1F22DA9DB027308A" 0), which means
    - The first number means the type of activation. 1 is software activation; 2 is dongle; 3 is trial.
    - The second string is an encrypted license code.
    - The third number means the way to get activation. 1 is network version and 2 is standalone.
- There is a ZRX function “`Zw_GetLicenseSerial`” serves a similar purpose as “`get-license-serial`”. In order to use this function, you should declare it in your program:  
`int Zw_GetLicenseSerial(int* retType, char* Serial, int chkLock, int* retIsNet);`  
The parameter `chkLock` controls if ZWCAD should read the dongle (if there is) when reading the information.