

Code4D - Wizard e OTA

{César Cardoso - @Code4Delphi

Torne a sua IDE Delphi mais
completa e produtiva

Embarcadero conference 2023



Code4D – Wizard e OTA

Acessar slides apresentação

{César Cardoso - @Code4Delphi

Torne a sua IDE Delphi
mais completa e
produtiva



Embarcadero conference 2023



AGENDA

- 1 Apresentação pessoal
- 2 Exemplos de Wizards e Experts
- 3 O que é a Open Tools API - OTA
- 4 Baixando e instalando o Code4D-Wizard
- 5 Principais recursos do Code4D-Wizard
- 6 Exemplo de uso da Open Tools API
- 7 Acessar exemplos e conteúdos prático

QUEM SOU EU

- César Augusto Santiago Cardoso
- Graduado em Análise e Desenvolvimento de Sistemas
- Pós-graduado em Desenvolvimento de Sistemas Web
- Desenvolvedor Delphi/PHP desde 2009
- Desenvolvedor Delphi na Solusys Sistemas
- Criador de conteúdo no canal **Code4Delphi**



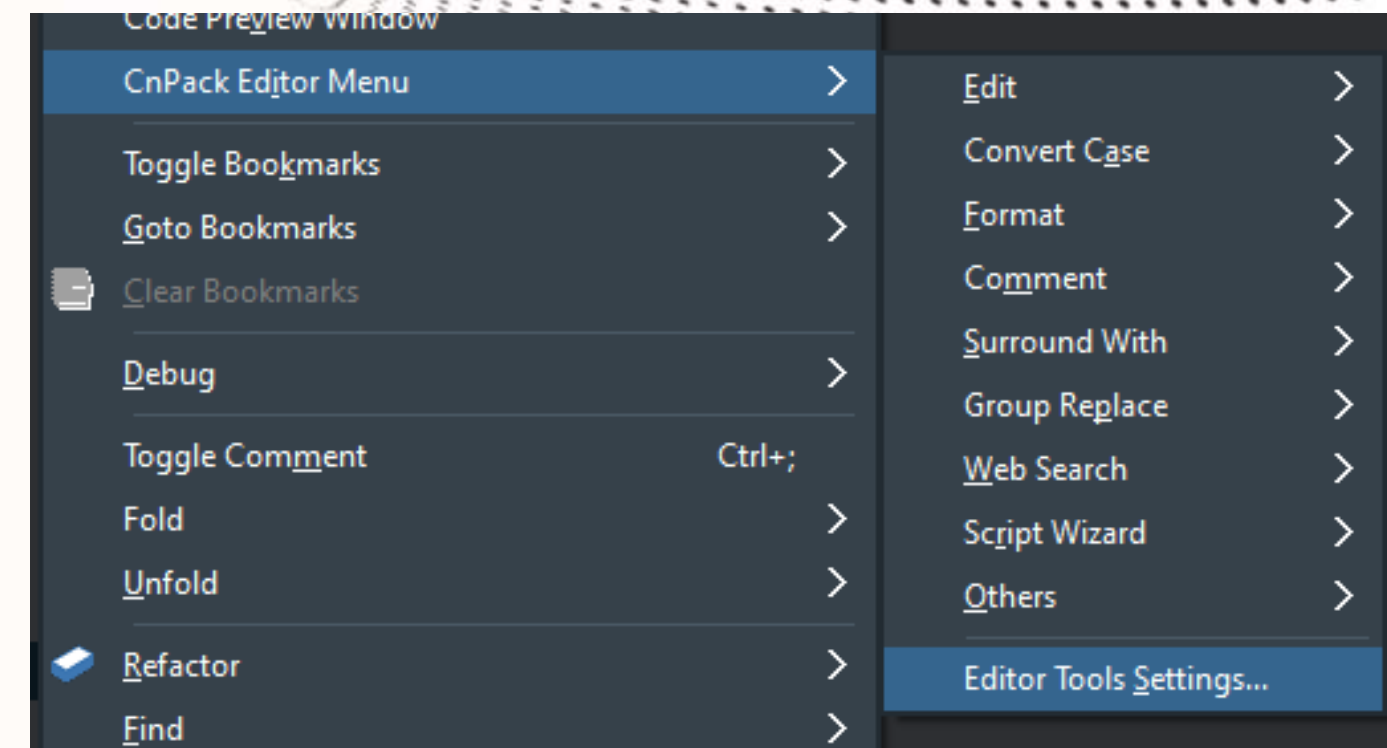
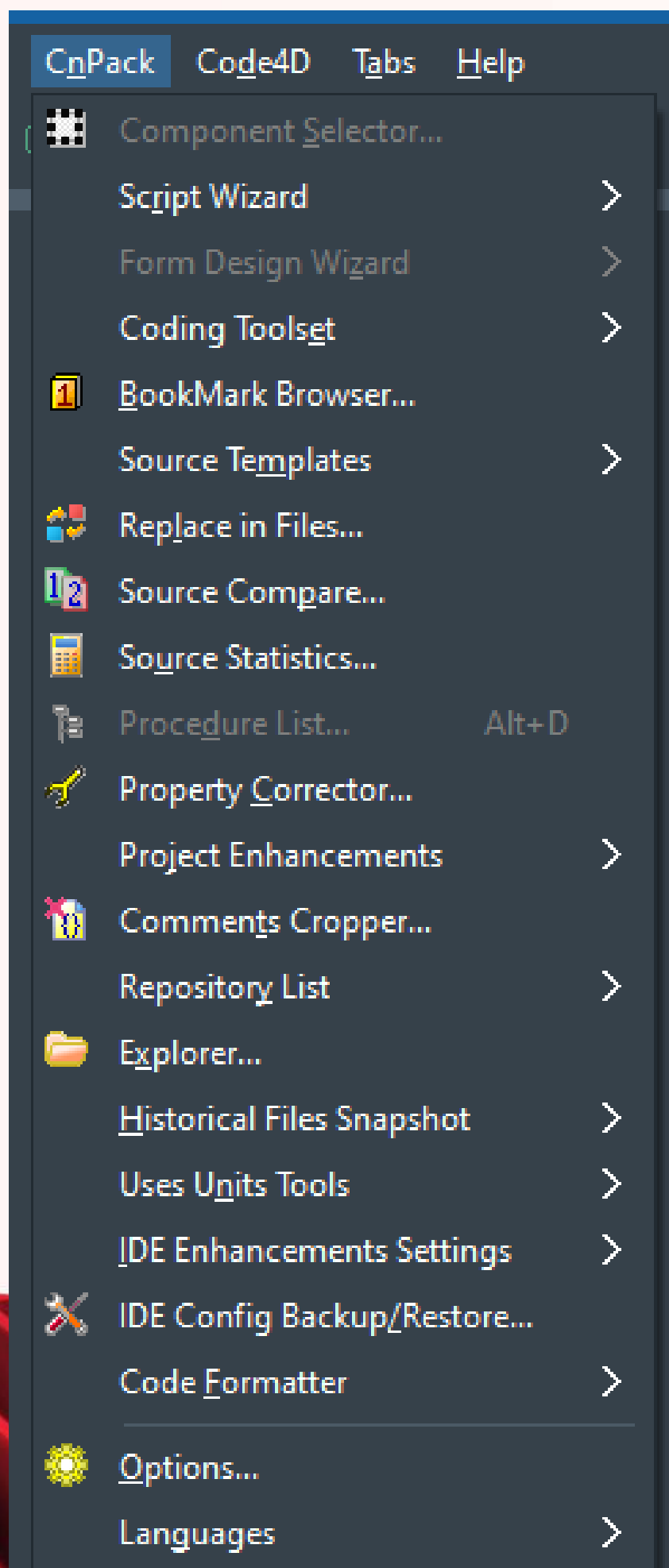
Objetivo

Despertar o interesse em utilizar a OTA para desenvolvimento de seus próprios recursos para a IDE

Exemplos de Wizards e Experts feitos utilizando OTA



CnPack

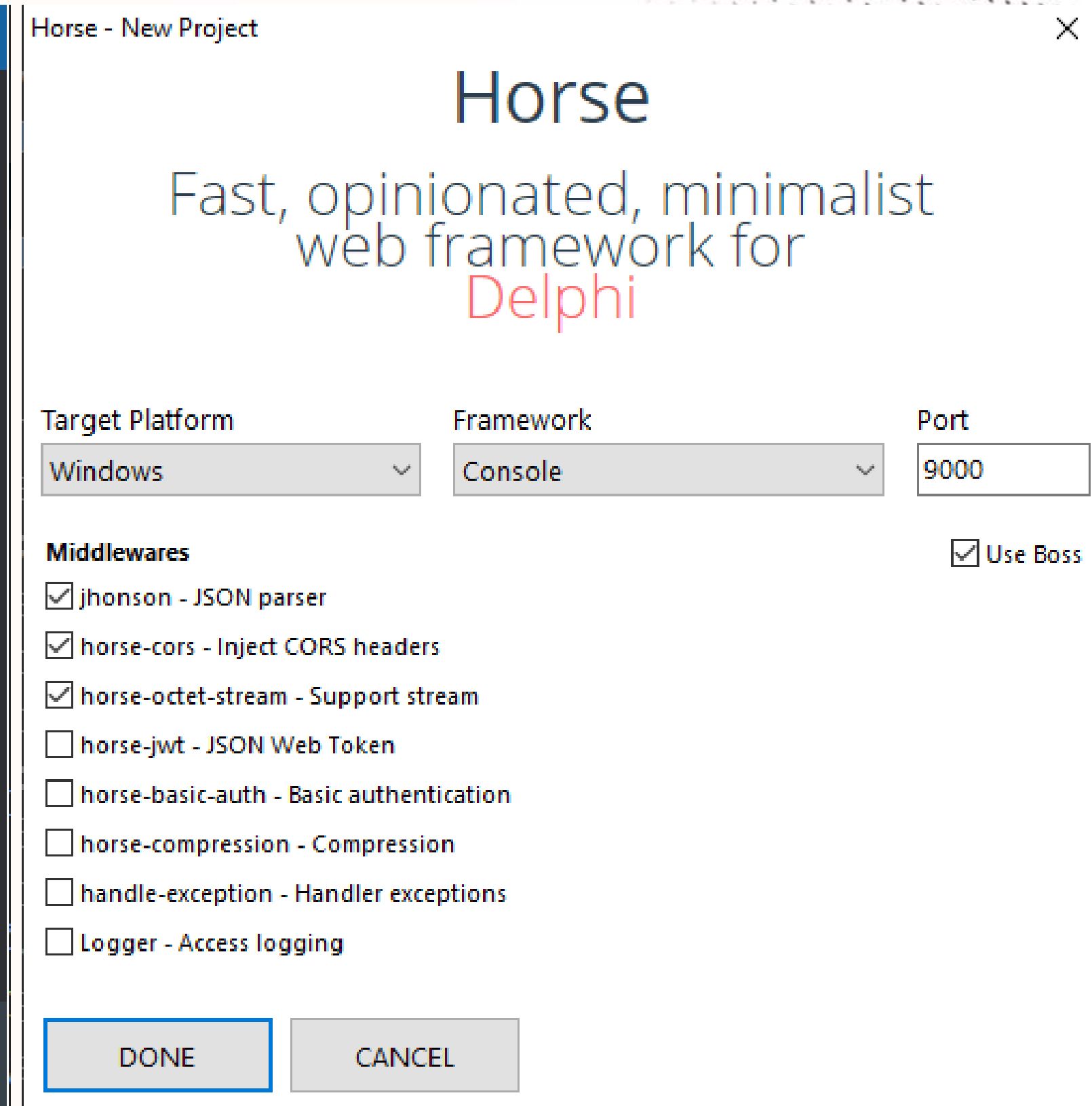
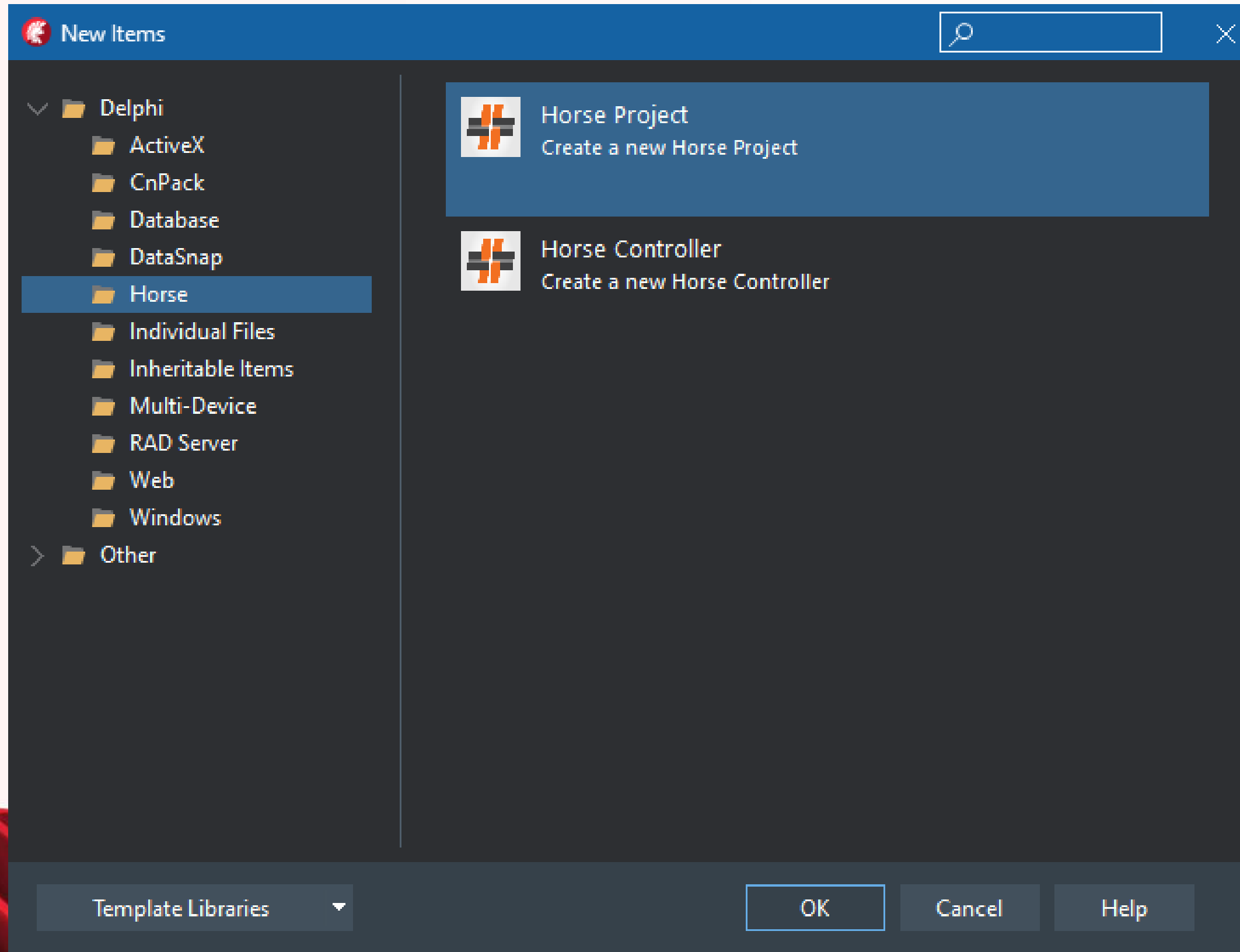


```
25 procedure TForm1.AlgumaCoisa(const ANum: Integer);
26 begin
27     try
28         if ANum <= 10 then
29             begin
30                 if ANum = 10 then
31                     ShowMessage('Número igual a 10')
32                 else
33                     ShowMessage('Número menor que 10')
34             end
35         else
36             ShowMessage('Número maior que 10');
37     except
38         on E: Exception do
39             ShowMessage('Falha ao processar: ' + E.Message);
40     end;
41 end;
```

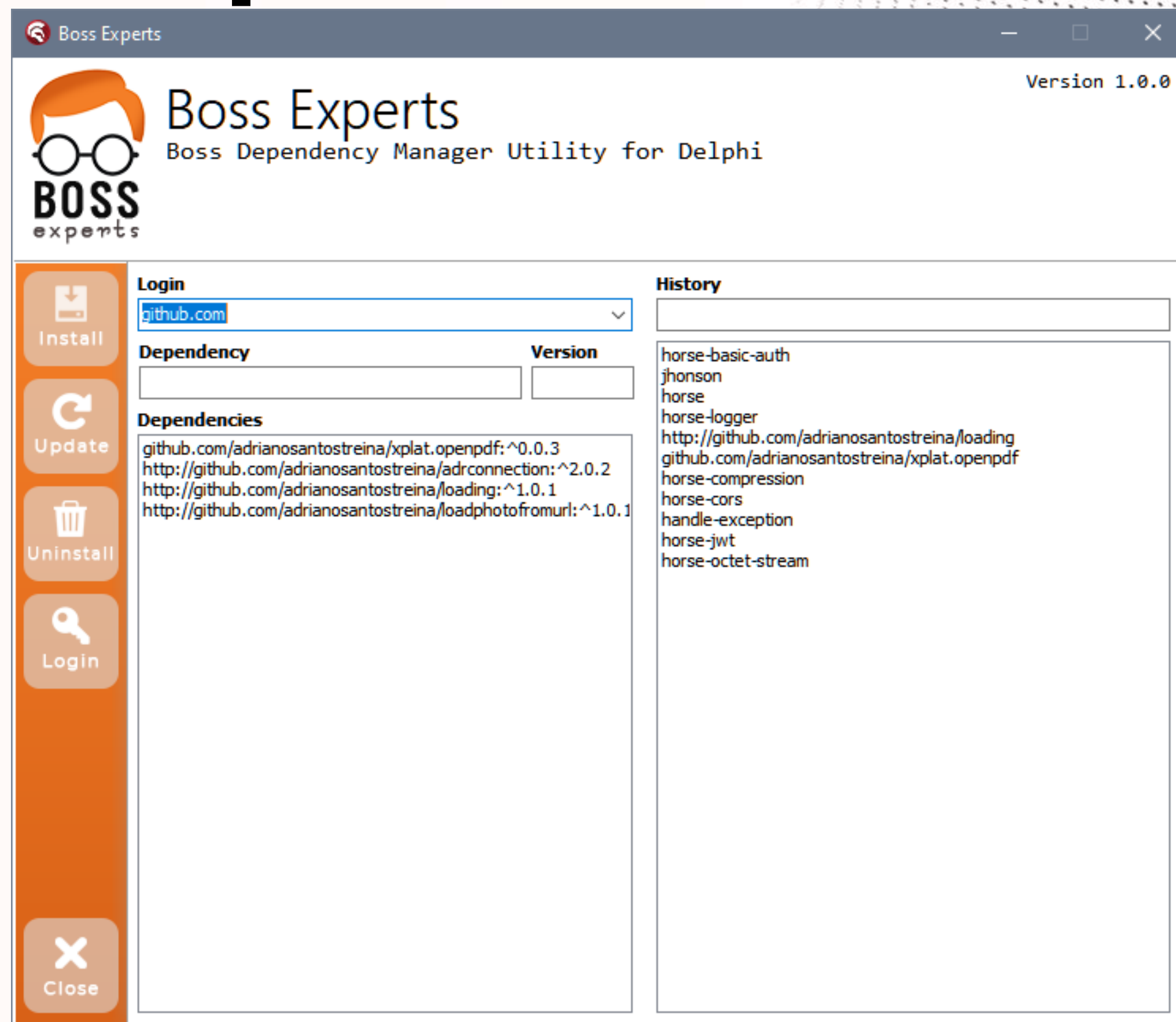
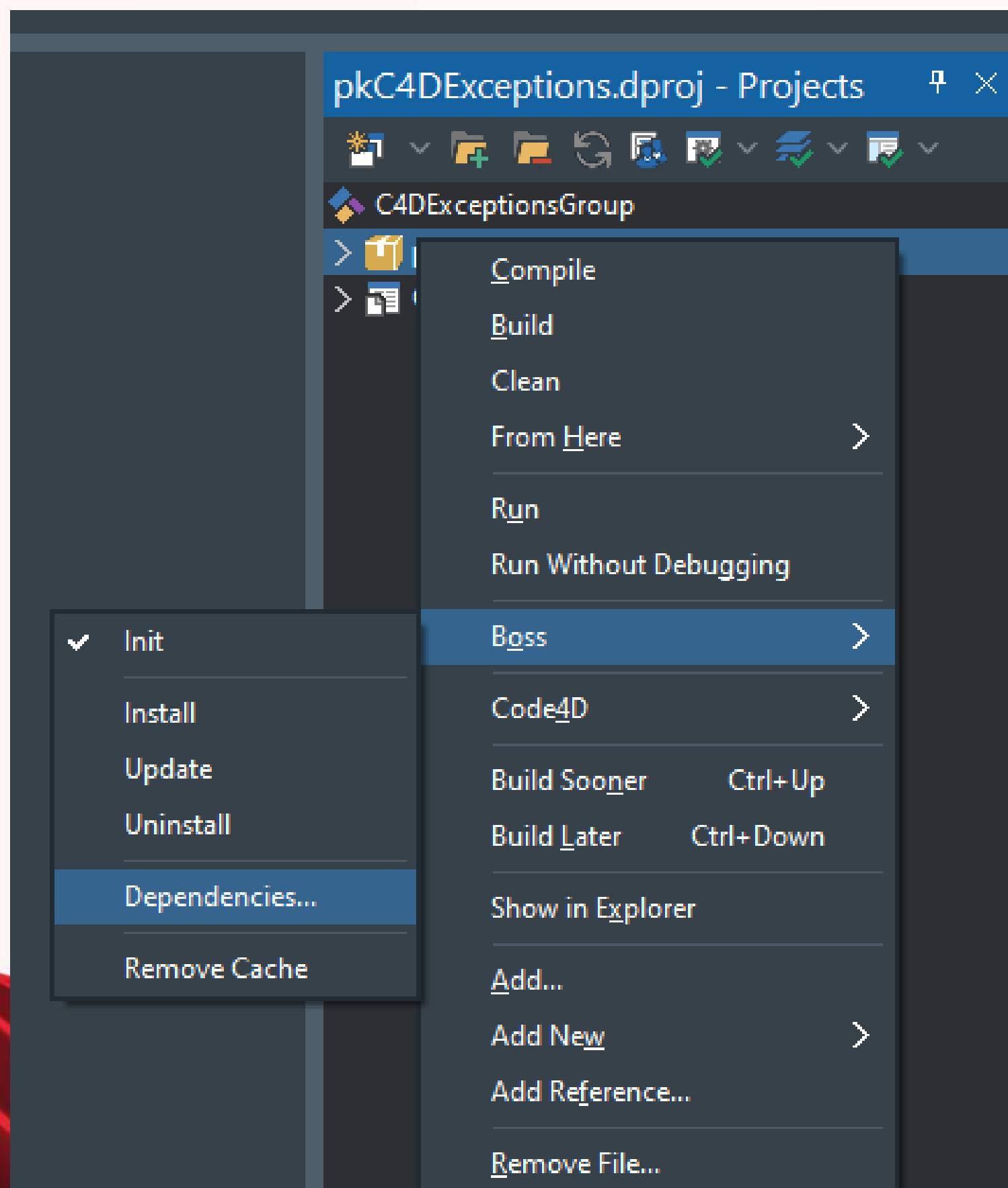

GExperts



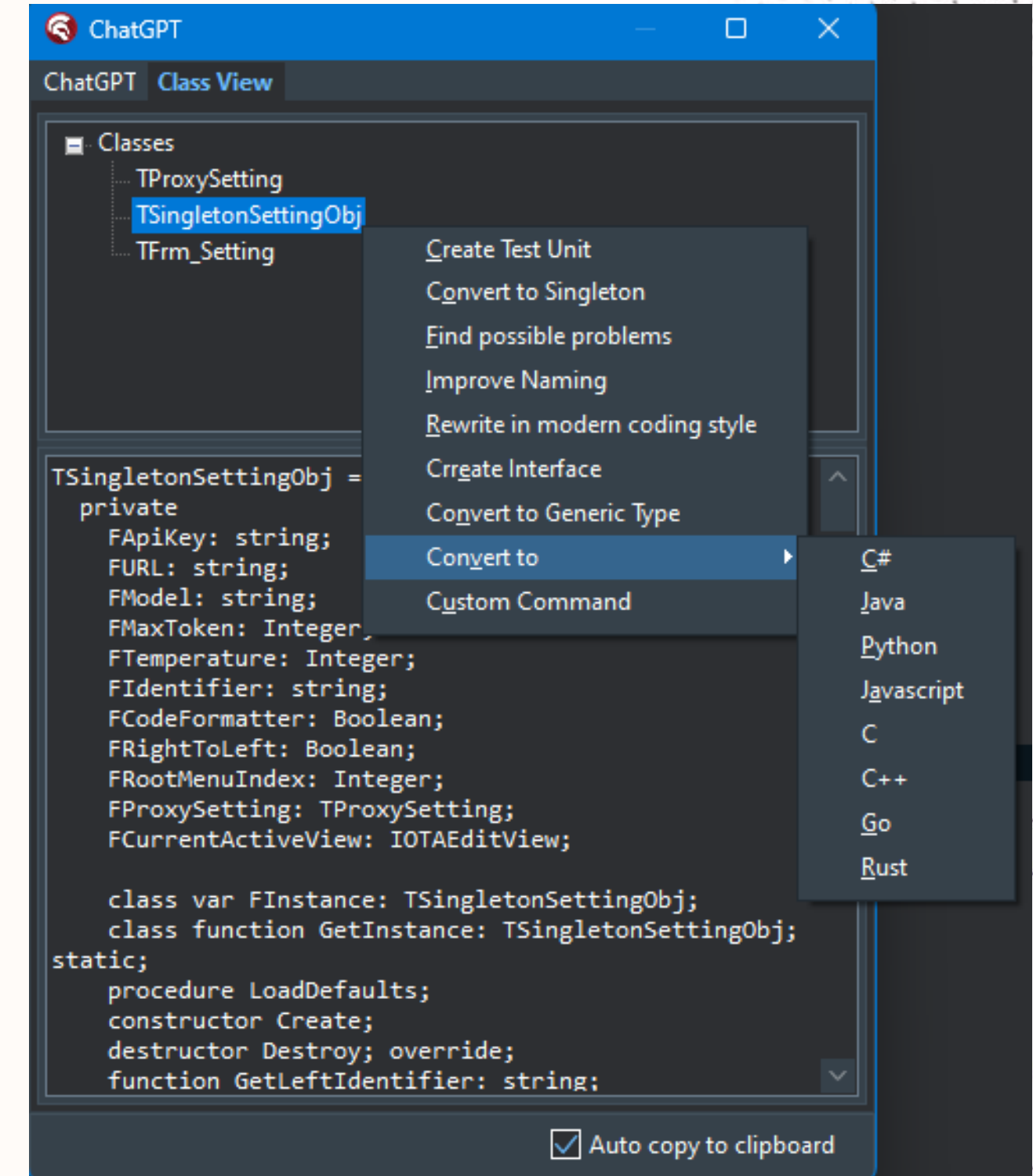
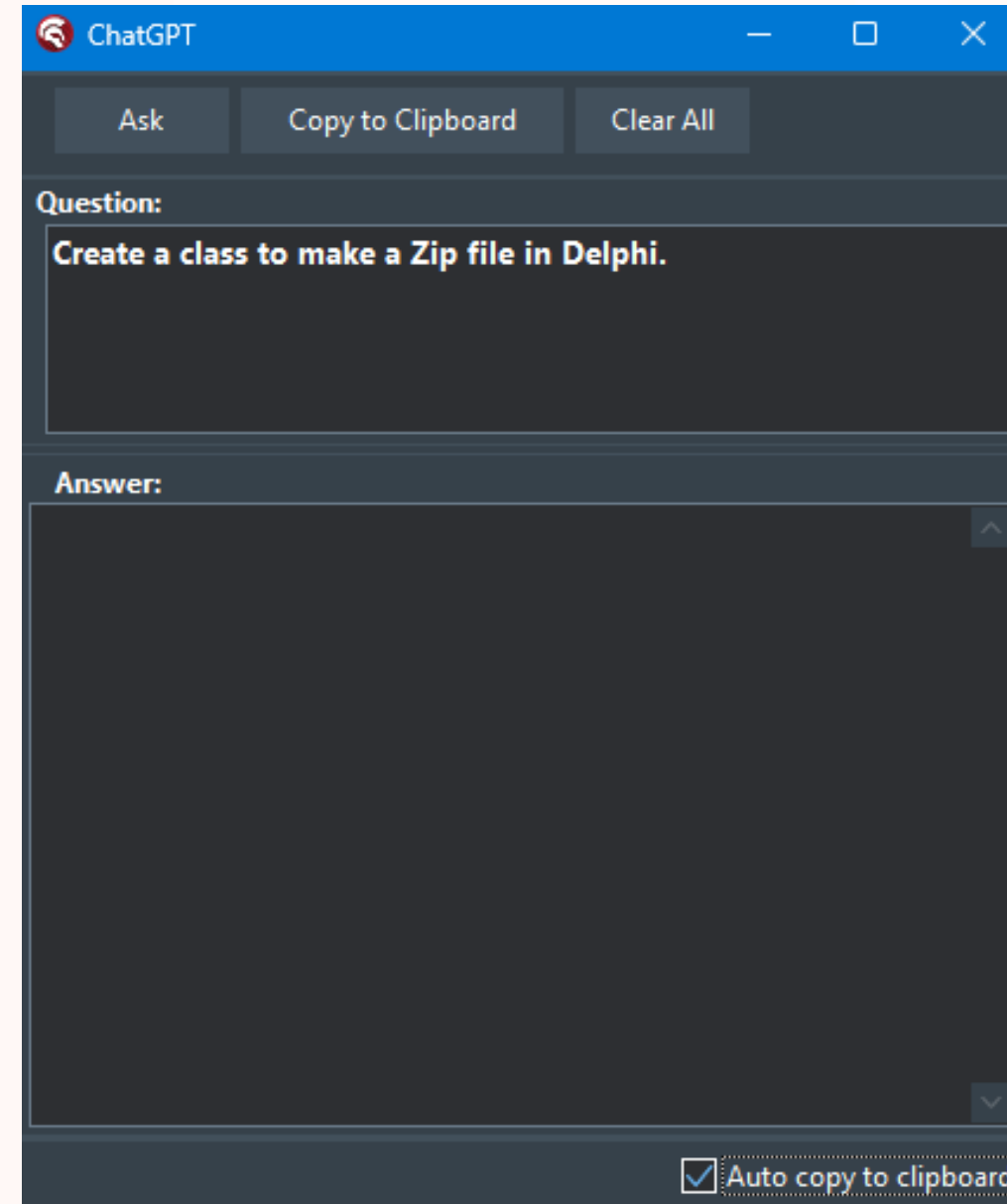
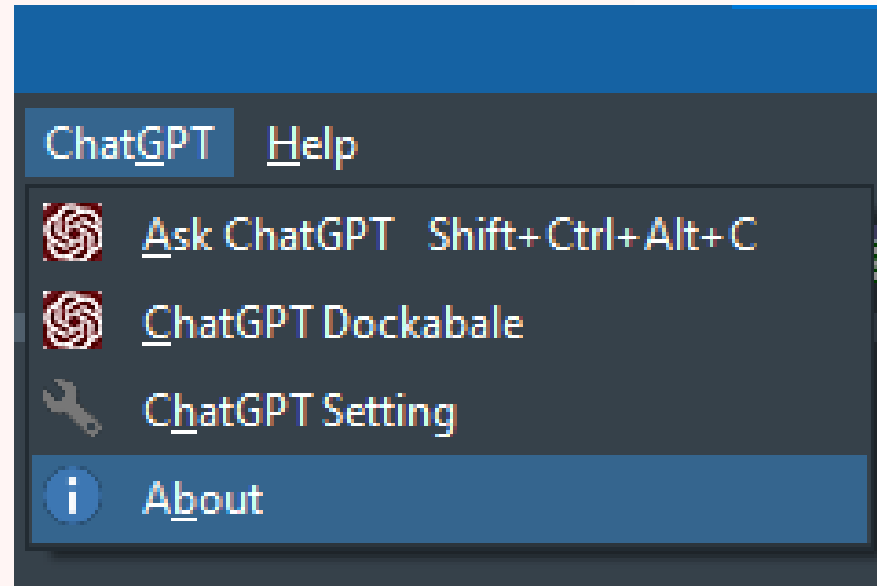
Horse wizard



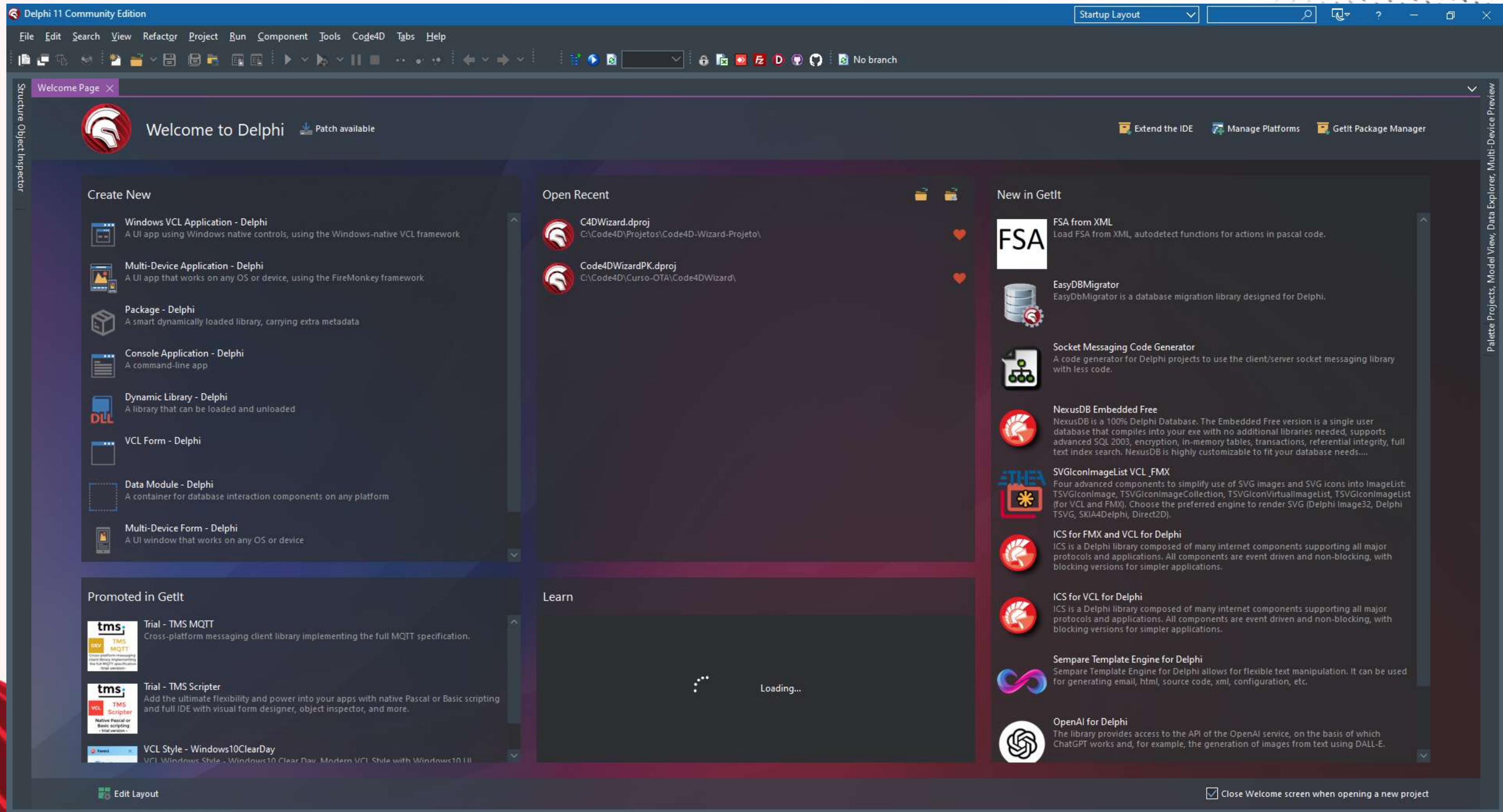
Boss Experts



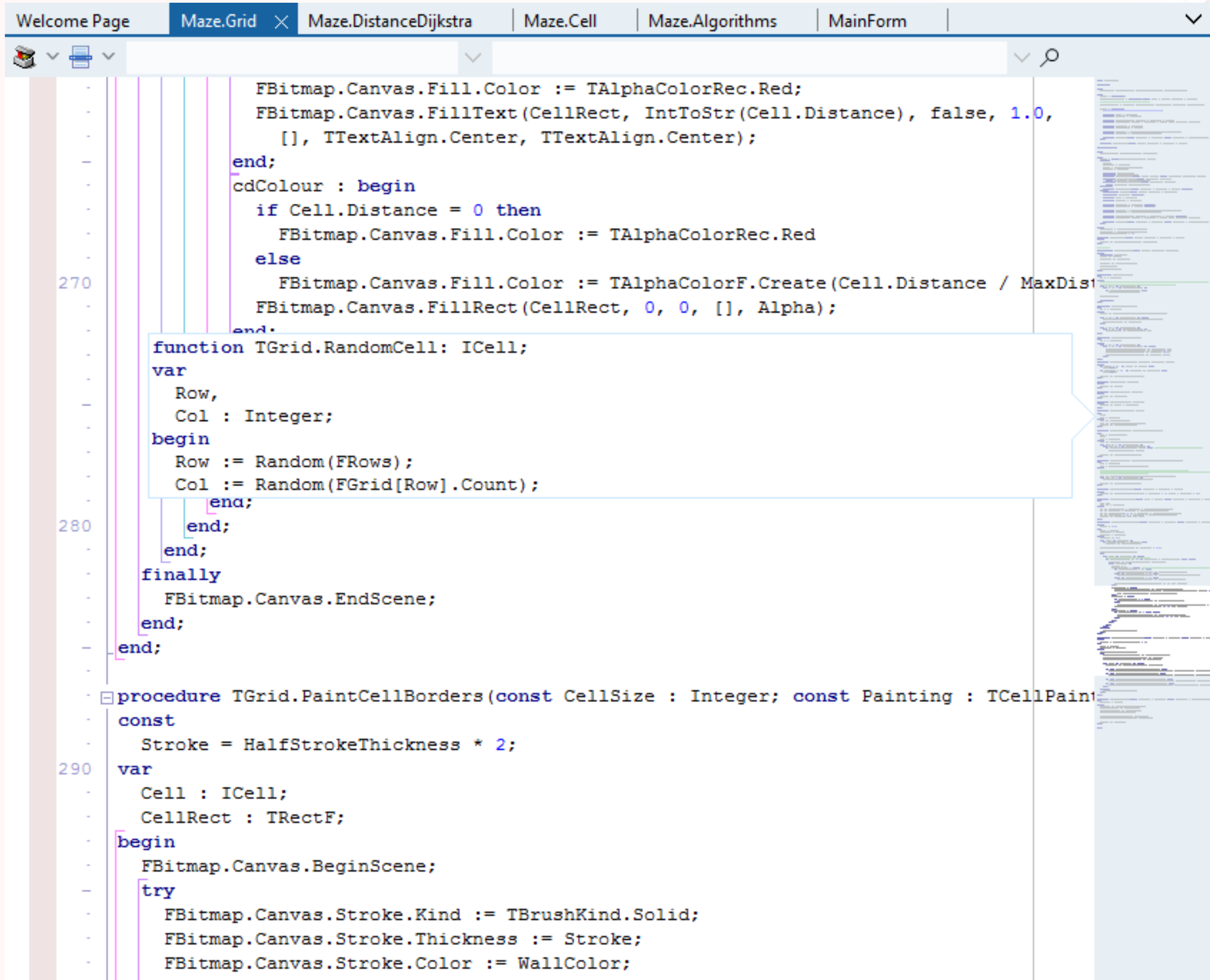
ChatGPTWizard



Página inicial e widgets - Usam OTA

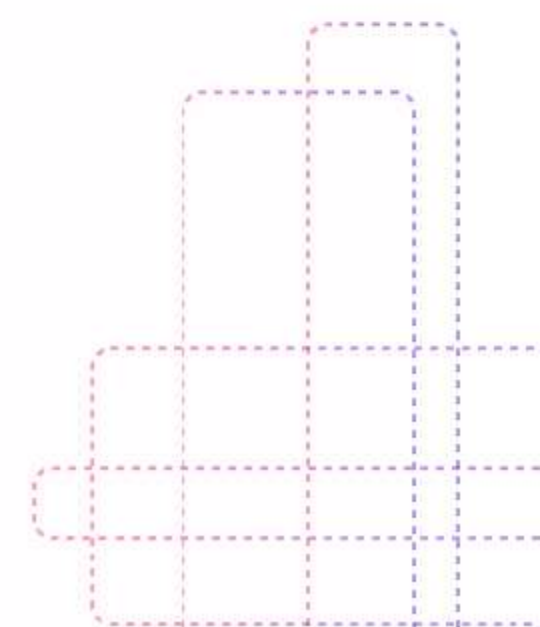



Minimap - Usa OTA



```
270 FBitmap.Canvas.Fill.Color := TAlphaColorRec.Red;
    FBitmap.Canvas.FillText(CellRect, IntToStr(Cell.Distance), false, 1.0,
        [], TTextAlign.Center, TTextAlign.Center);
    end;
    cdColour : begin
        if Cell.Distance = 0 then
            FBitmap.Canvas.Fill.Color := TAlphaColorRec.Red
        else
            FBitmap.Canvas.Fill.Color := TAlphaColorF.Create(Cell.Distance / MaxDist
            FBitmap.Canvas.FillRect(CellRect, 0, 0, [], Alpha);
        end;
    function TGrid.RandomCell: ICell;
    var
        Row,
        Col : Integer;
    begin
        Row := Random(FRows);
        Col := Random(FGrid[Row].Count);
    end;
    end;
    end;
    finally
        FBitmap.Canvas.EndScene;
    end;
end;

280 procedure TGrid.PaintCellBorders(const CellSize : Integer; const Painting : TCellPaint
const
    Stroke = HalfStrokeThickness * 2;
290 var
    Cell : ICell;
    CellRect : TRectF;
begin
    FBitmap.Canvas.BeginScene;
    try
        FBitmap.Canvas.Stroke.Kind := TBrushKind.Solid;
        FBitmap.Canvas.Stroke.Thickness := Stroke;
        FBitmap.Canvas.Stroke.Color := WallColor;
```



C4D César Cardoso - @Code4Delphi

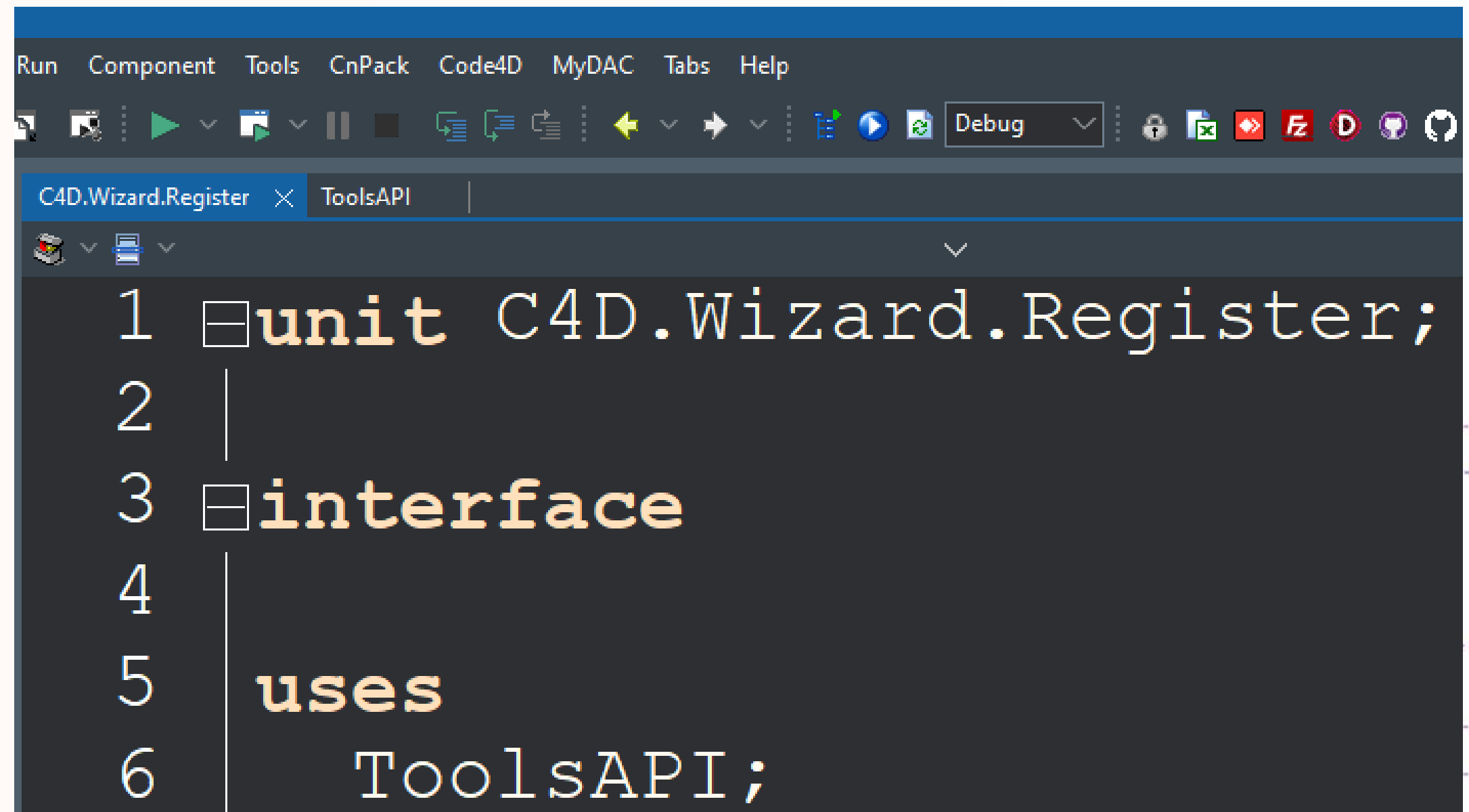


O que é **O**pen **T**ools **A**PI?

É um conjunto de Interface que o Delphi disponibiliza para alterarmos e interagirmos com a IDE

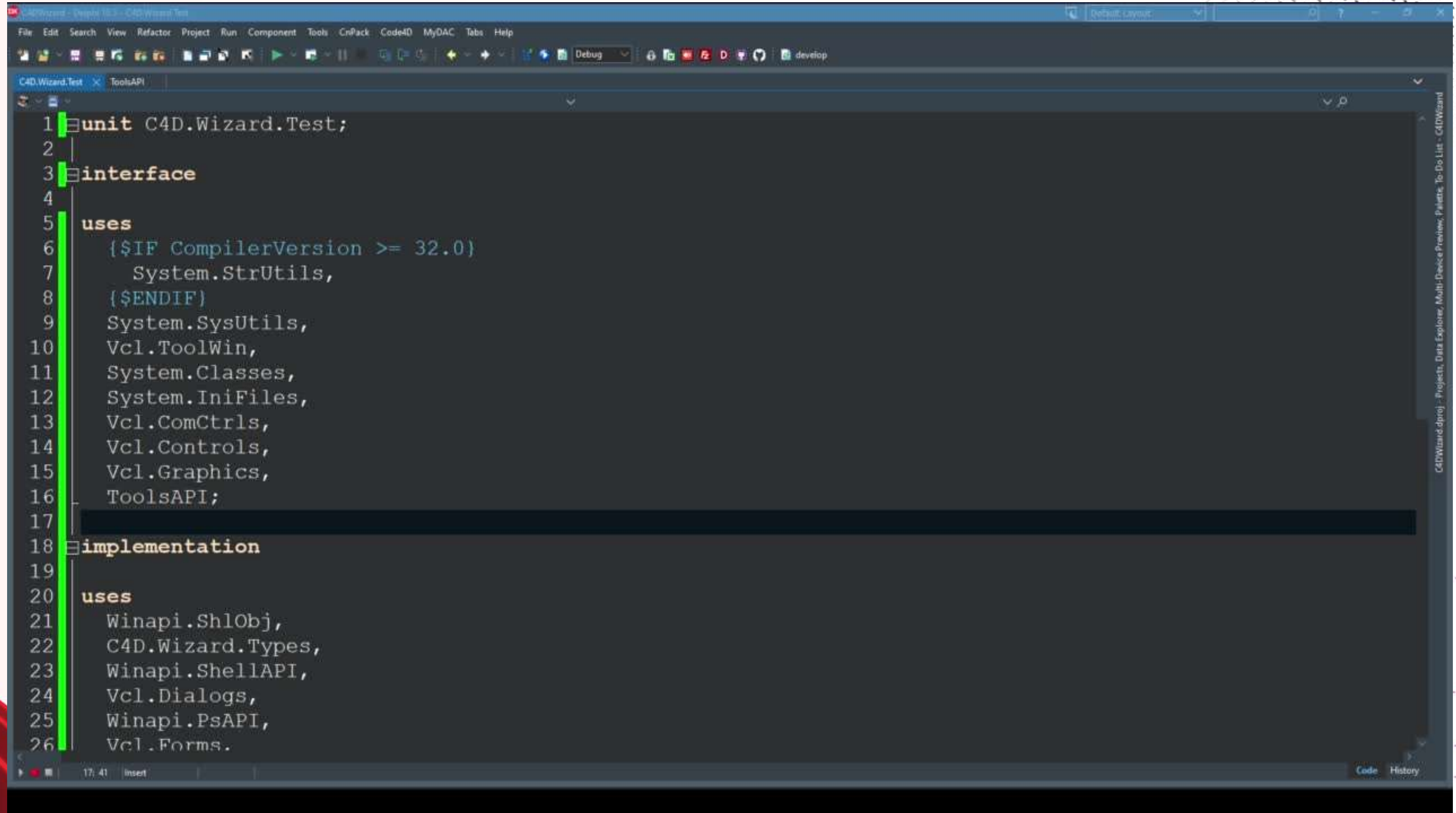
Principais USES:

- **ToolsAPI**
- **DesignMenus**
- **DesignIntf**

A screenshot of the Delphi IDE interface. The top menu bar includes 'Run', 'Component', 'Tools', 'CnPack', 'Code4D', 'MyDAC', 'Tabs', and 'Help'. Below the menu is a toolbar with various icons for running, debugging, and editing. The main window has two tabs: 'C4D.Wizard.Register' and 'ToolsAPI'. The 'ToolsAPI' tab is active, showing a code editor with the following Pascal code:

```
1  unit C4D.Wizard.Register;  
2  |  
3  interface  
4  |  
5  uses  
6  ToolsAPI;
```

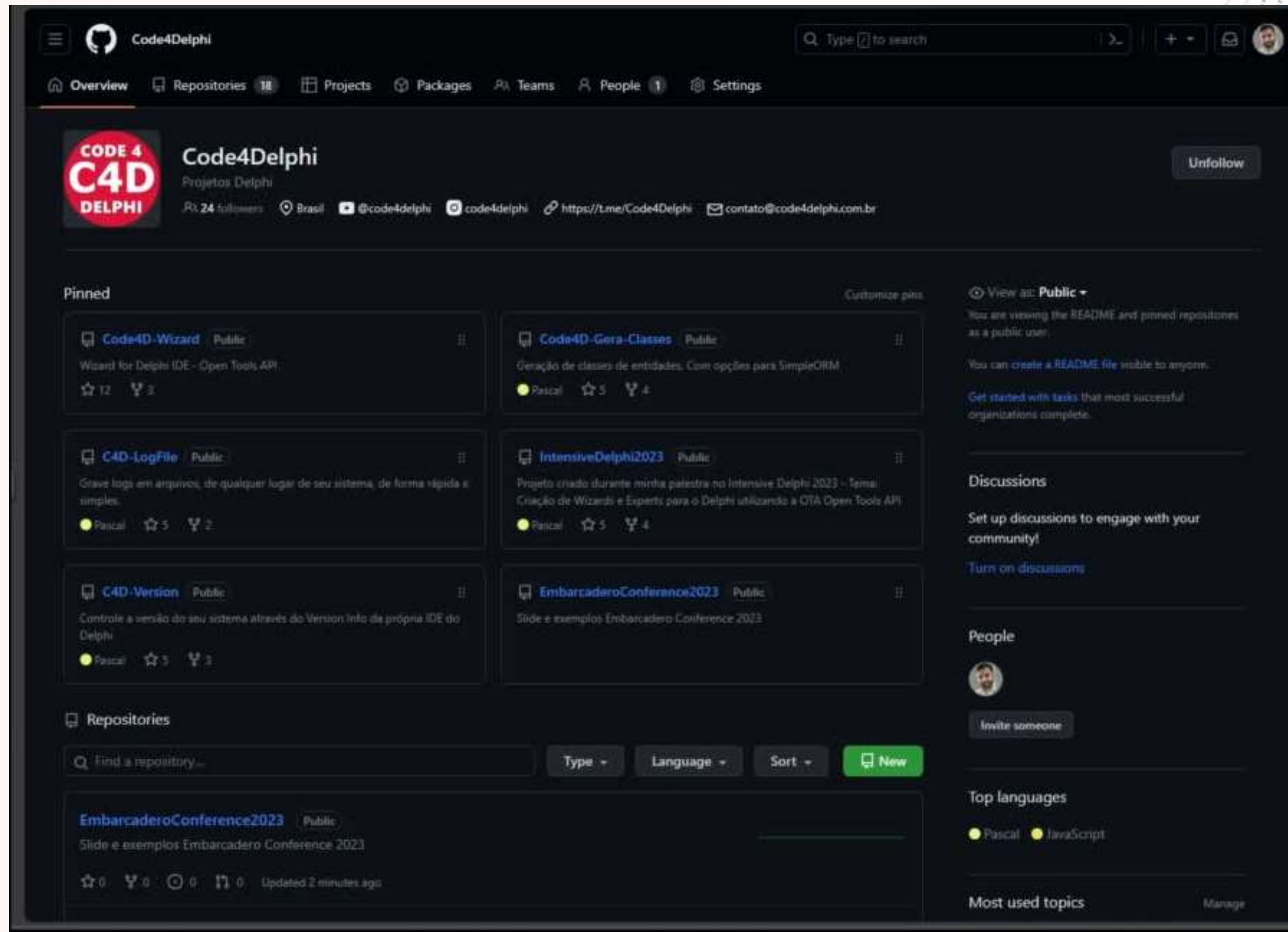

Unit: ToolsAPI



```
1 unit C4D.Wizard.Test;
2
3 interface
4
5 uses
6     {$IF CompilerVersion >= 32.0}
7     System.StrUtils,
8     {$ENDIF}
9     System.SysUtils,
10    Vcl.ToolWin,
11    System.Classes,
12    System.IniFiles,
13    Vcl.ComCtrls,
14    Vcl.Controls,
15    Vcl.Graphics,
16    ToolsAPI;
17
18 implementation
19
20 uses
21     Winapi.ShlObj,
22     C4D.Wizard.Types,
23     Winapi.ShellAPI,
24     Vcl.Dialogs,
25     Winapi.PsAPI,
26     Vcl.Forms.
```

Baixando e instalando o Code4D-Wizard

Baixando e instalando o Code4D-Wizard



<https://github.com/Code4Delphi/Code4D-Wizard>

 César Cardoso - @Code4Delphi

Principais recursos do Code4D-Wizard

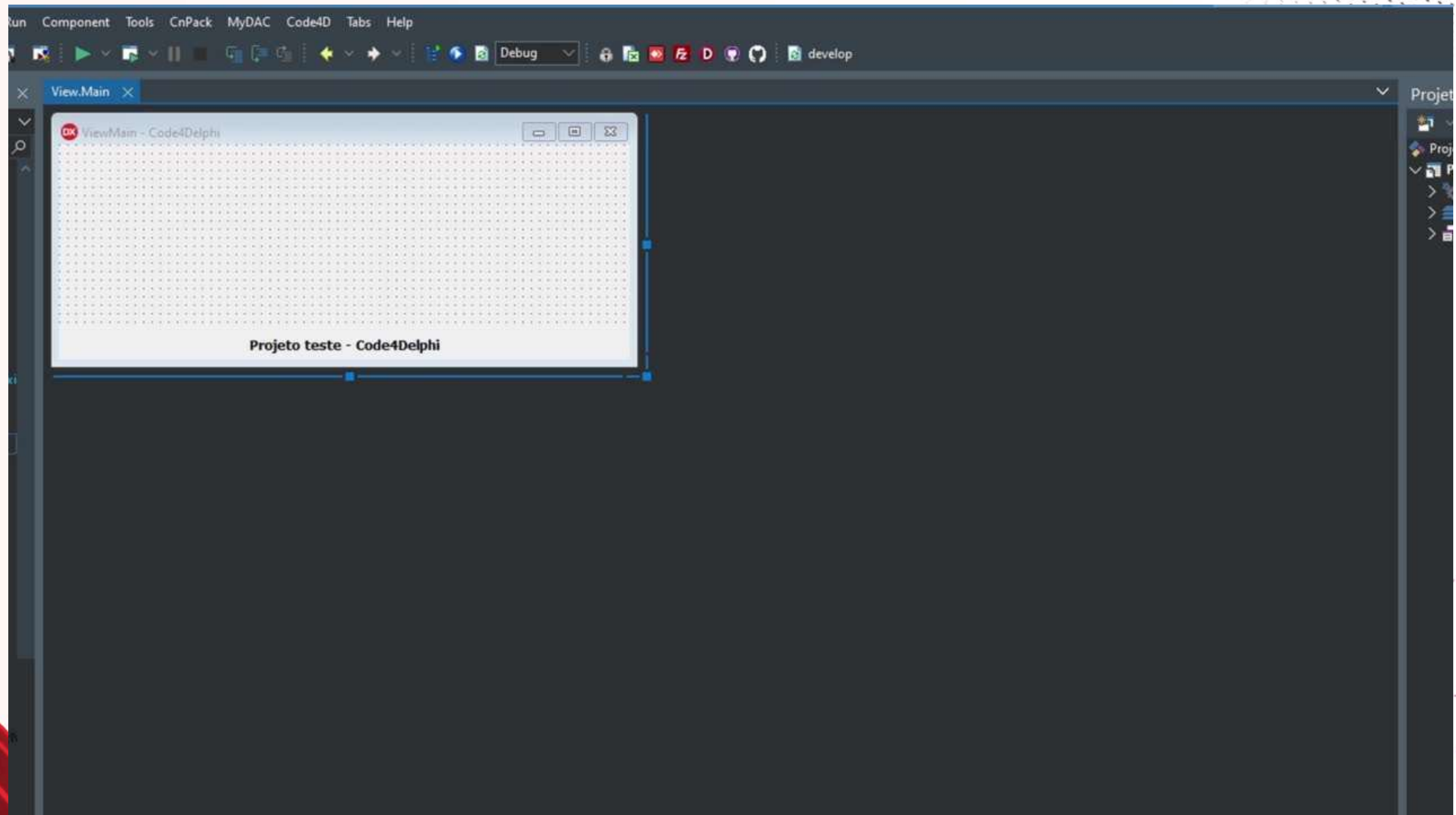
Tradução de texto direto na IDE

The image is a screenshot of a Delphi IDE. The top menu bar includes 'Run', 'Component', 'Tools', 'CnPack', 'Code4D', 'MyDAC', 'Tabs', and 'Help'. Below the menu is a toolbar with various icons, including a 'Debug' button. The main window title is 'C4D.Wizard.Backup.Import.View'. The code editor shows the source code for 'TC4DWizardBackupImportView'. The code is as follows:

```
105 | end;  
106 | end;  
107 | .....  
108 | procedure TC4DWizardBackupImportView.WriteConfigurationScreen  
109 | begin  
110 |     TC4DWizardModelIniFileComponents  
111 |         .New(Self.Name)  
112 |         .Write(edtFolder);  
113 | end;  
114 | .....  
115 | procedure TC4DWizardBackupImportView.ReadConfigurationScreen  
116 | begin  
117 |     TC4DWizardModelIniFileComponents  
118 |         .New(Self.Name)  
119 |         .Read(edtFolder, '');  
120 | end;
```

A lightning bolt icon is visible next to line 118, indicating a compilation error. The error message is partially visible on the left side of the image.

Verificações antes Compile/Build



Organização/manutenção de USES

DX Code4D - Uses Organization

Options

- ☐ Order uses in alphabetical order
- ☒ One uses per line Maximum number of characters per line
- ☐ Group units by namespaces
 - ☐ Line break between namespaces
- ☒ Display Result in Message Tab
- ☐ Show confirmation before replace

Number of columns at the beginning of the line

Uses to Remove

☐ Uses to remove (separate by comma)

Uses to Add

☐ Uses to add if needed (separate by comma)

☐ Only if the unit has the string (separate by comma)

Scope

☒ Current Unit

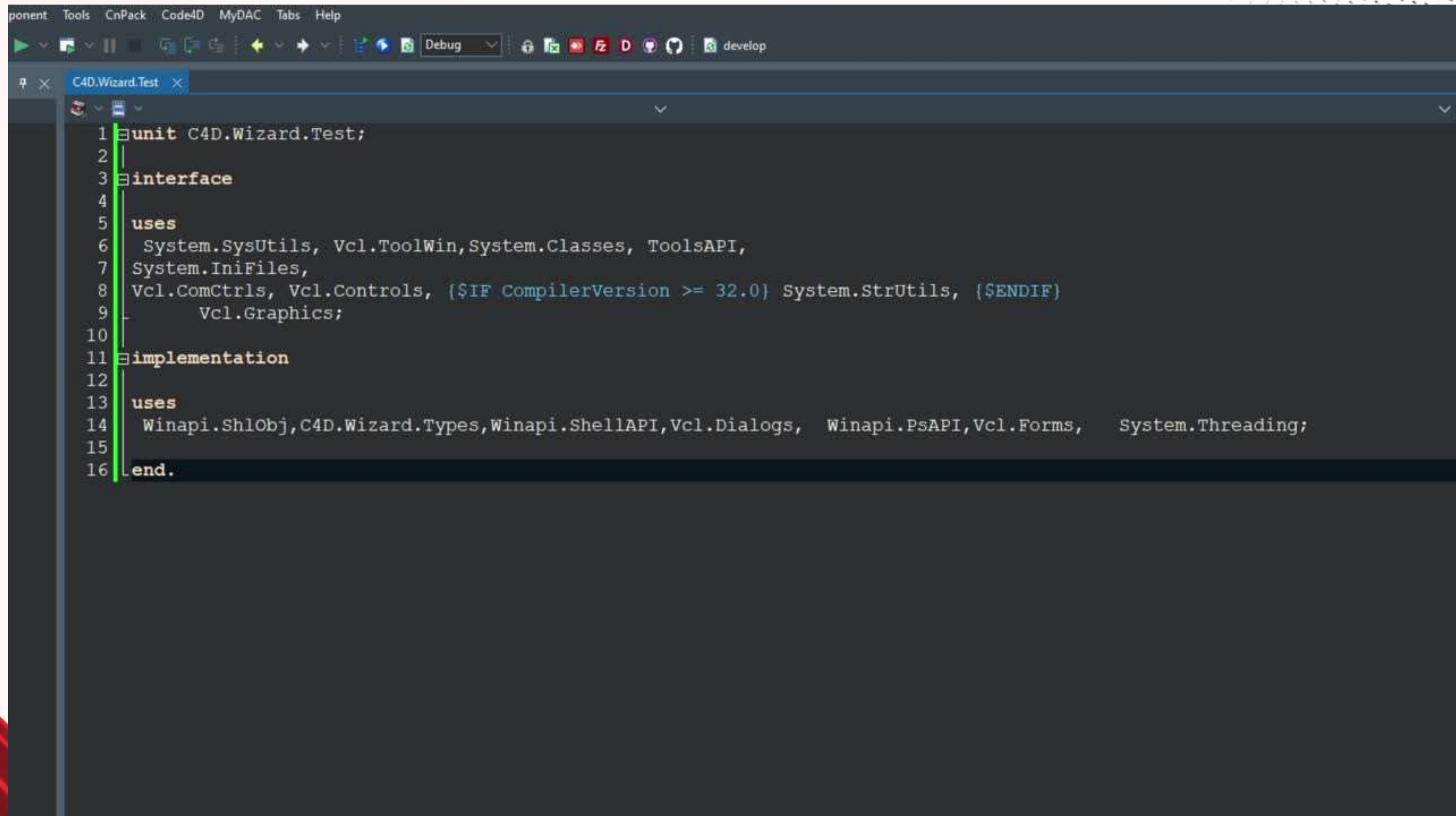
☐ Files in Project Group

☐ Files in Project

☐ All Opened Files

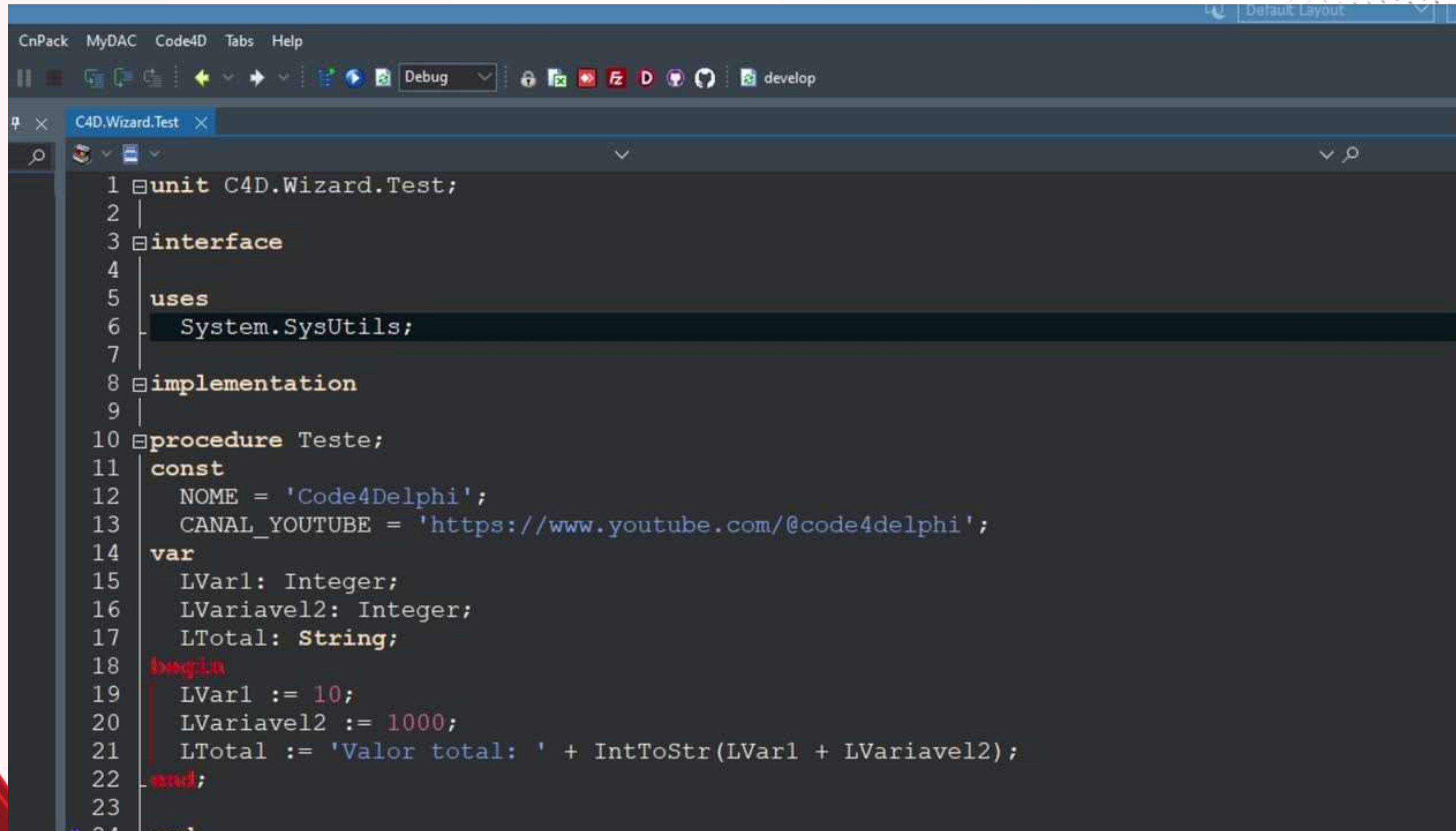
* Comments after two slashes will be removed

Organização/manutenção de USES



```
1 unit C4D.Wizard.Test;
2
3 interface
4
5 uses
6   System.SysUtils, Vcl.ToolWin, System.Classes, ToolsAPI,
7   System.IniFiles,
8   Vcl.ComCtrls, Vcl.Controls, {$IF CompilerVersion >= 32.0} System.StrUtils, {$ENDIF}
9   Vcl.Graphics;
10
11 implementation
12
13 uses
14   Winapi.ShlObj, C4D.Wizard.Types, Winapi.ShellAPI, Vcl.Dialogs, Winapi.PsAPI, Vcl.Forms, System.Threading;
15
16 end.
```


Indentação de Texto Selecionado

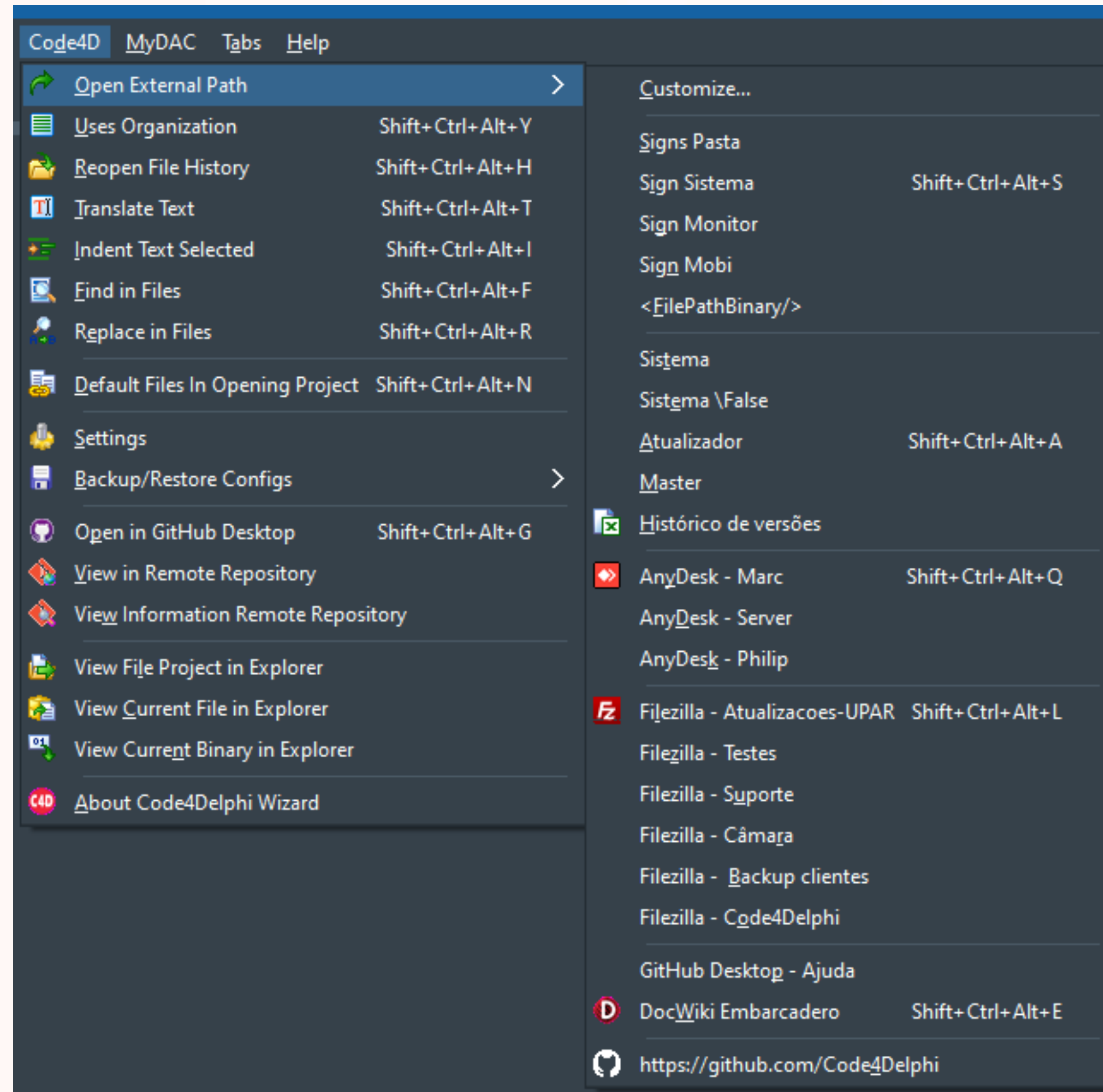


The screenshot shows a Delphi IDE window titled 'C4D.Wizard.Test'. The code is as follows:

```
1 unit C4D.Wizard.Test;
2
3 interface
4
5     uses
6         System.SysUtils;
7
8     implementation
9
10    procedure Teste;
11    const
12        NOME = 'Code4Delphi';
13        CANAL_YOUTUBE = 'https://www.youtube.com/@code4delphi';
14    var
15        LVar1: Integer;
16        LVariavel2: Integer;
17        LTotal: String;
18    begin
19        LVar1 := 10;
20        LVariavel2 := 1000;
21        LTotal := 'Valor total: ' + IntToStr(LVar1 + LVariavel2);
22    end;
23
24 end;
```

The code is formatted with standard Delphi indentation. The 'uses' section is indented under the 'interface' section, and the 'begin' block of the 'Teste' procedure is indented under the 'procedure' declaration. The 'end;' of the procedure is aligned with the 'begin'.

Open External Path



Open External Path

Code4D - Open External

Search

Description	Order	Shortcut	Kind	Visible	Visible Tool...	Path	Param...
Histórico de versões	45		Files	True	True	C:\Projetos\Ajuda\Histórico-de-versões.xls	
-	50		Separators	True	False		
AnyDesk - Marc	51	Shift+Ctrl+Alt+Q	Files	True	True	C:\Projetos\Ajuda\Code4D-Wizard\Bats\Any...	
AnyDesk - Server	52		Files	True	False	C:\Projetos\Ajuda\Code4D-Wizard\Bats\Any...	
AnyDesk - Philip	53		Files	True	False	C:\Projetos\Ajuda\Code4D-Wizard\Bats\Any...	
-	60		Separators	True	False		
Filezilla - Atualizacoes-UPAR	61	Shift+Ctrl+Alt+L	Files	True	True	C:\Program Files\FileZilla FTP Client\filezilla.exe	-c "0/sc
Filezilla - Testes	62		Files	True	False	C:\Program Files\FileZilla FTP Client\filezilla.exe	-c "0/w
Filezilla - Suporte	63		Files	True	False	C:\Program Files\FileZilla FTP Client\filezilla.exe	-c "0/w
Filezilla - Câmara	65		Files	True	False	C:\Program Files\FileZilla FTP Client\filezilla.exe	-c "0/Ca
Filezilla - Backup clientes	66		Links	True	False	C:\Program Files\FileZilla FTP Client\filezilla.exe	-c "0/sc
Filezilla - Code4Delphi	67		Files	True	False	C:\Program Files\FileZilla FTP Client\filezilla.exe	-c "0/Ca
-	80		Separators	True	False		
Bpl\Code4DWizard	82		Files	False	False	C:\Users\Public\Documents\Embarcadero\S...	
Melhores-praticas-nomenclaturas...	83		CMD Com...	False	False	CMD Commands	start no
Pasta Inicializar	84		Folders	False	False	C:\Users\cesar\AppData\Roaming\Microsoft...	
Macros-teclado	85		Files	False	False	C:\Projetos\Ajuda\Macros-teclado\Atalhos-b...	
GitHub Desktop - Ajuda	86		CMD Com...	True	False	CMD Commands	GitHub
DocWiki Embarcadero	87	Shift+Ctrl+Alt+E	Links	True	True	https://docwiki.embarcadero.com/RADStud...	
-	90		Separators	True	False		
Abrir projeto no GitHub Desktop	200		CMD Com...	False	True	CMD Commands	GitHub
https://github.com/Code4Delphi	201		Links	True	True	https://github.com/Code4Delphi	

< >

Add new Edit Remove Run command Close

31 of 32 | CMD Commands GitHub <FolderGit/>

Open External Path

DX Code4D Open External - Adding

Kind

None

None

Files

Folders

Links

Separators

CMD Commands

Parameters

Order

0

Shortcut

Nenhum

Icon (.bmp 16 x 16)

☐ Load

☒ Visible in MainMenu

☐ Visible in ToolBar Utilities

Tags for fields "Path (file / link)" and "Parameters / Comandos":

<BlockTextSelect/>

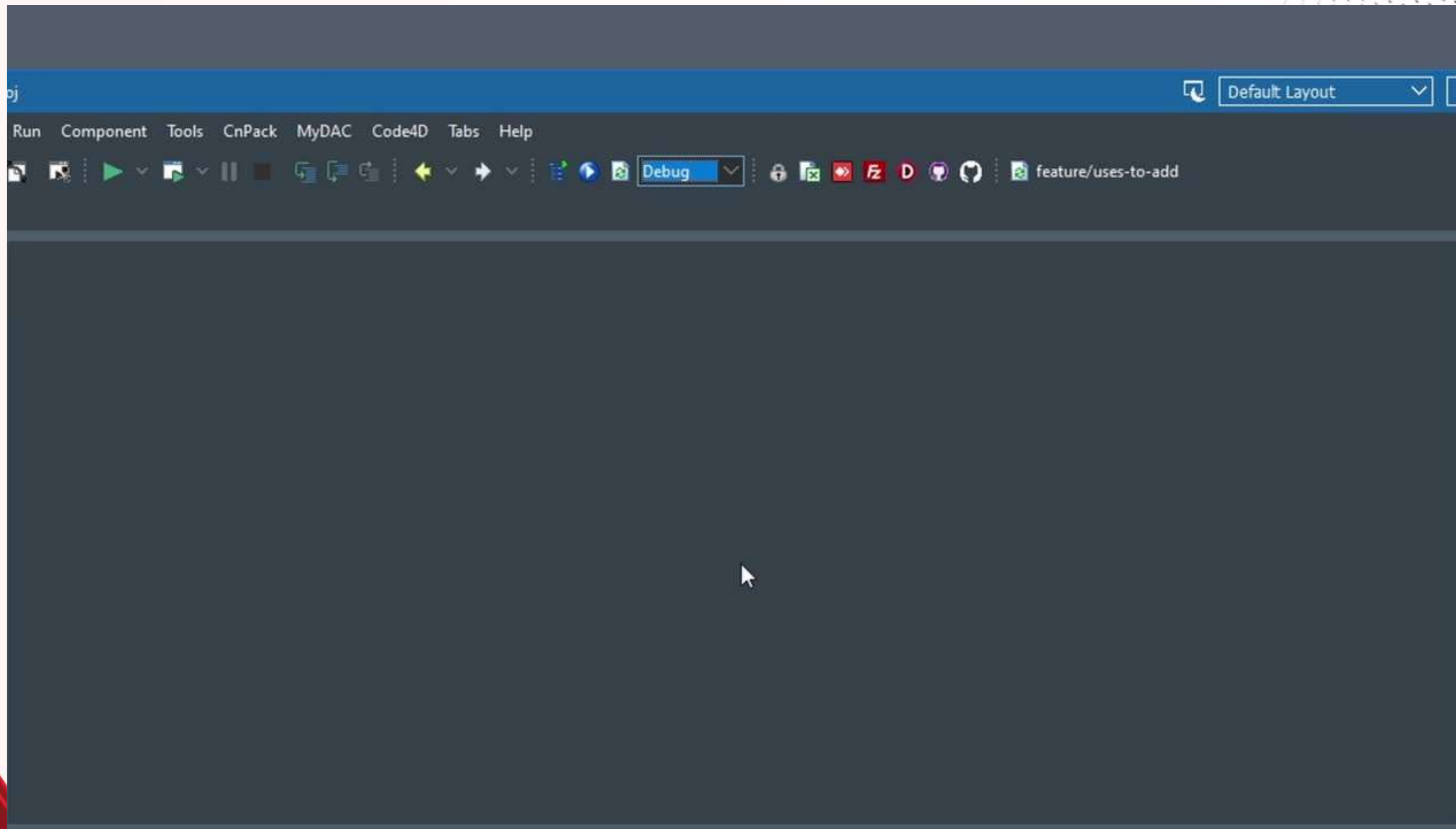
<FolderGit/>

<FilePathBinary/>

* Attention, some shortcut changes only work after restarting the Delphi IDE

Confirm Close

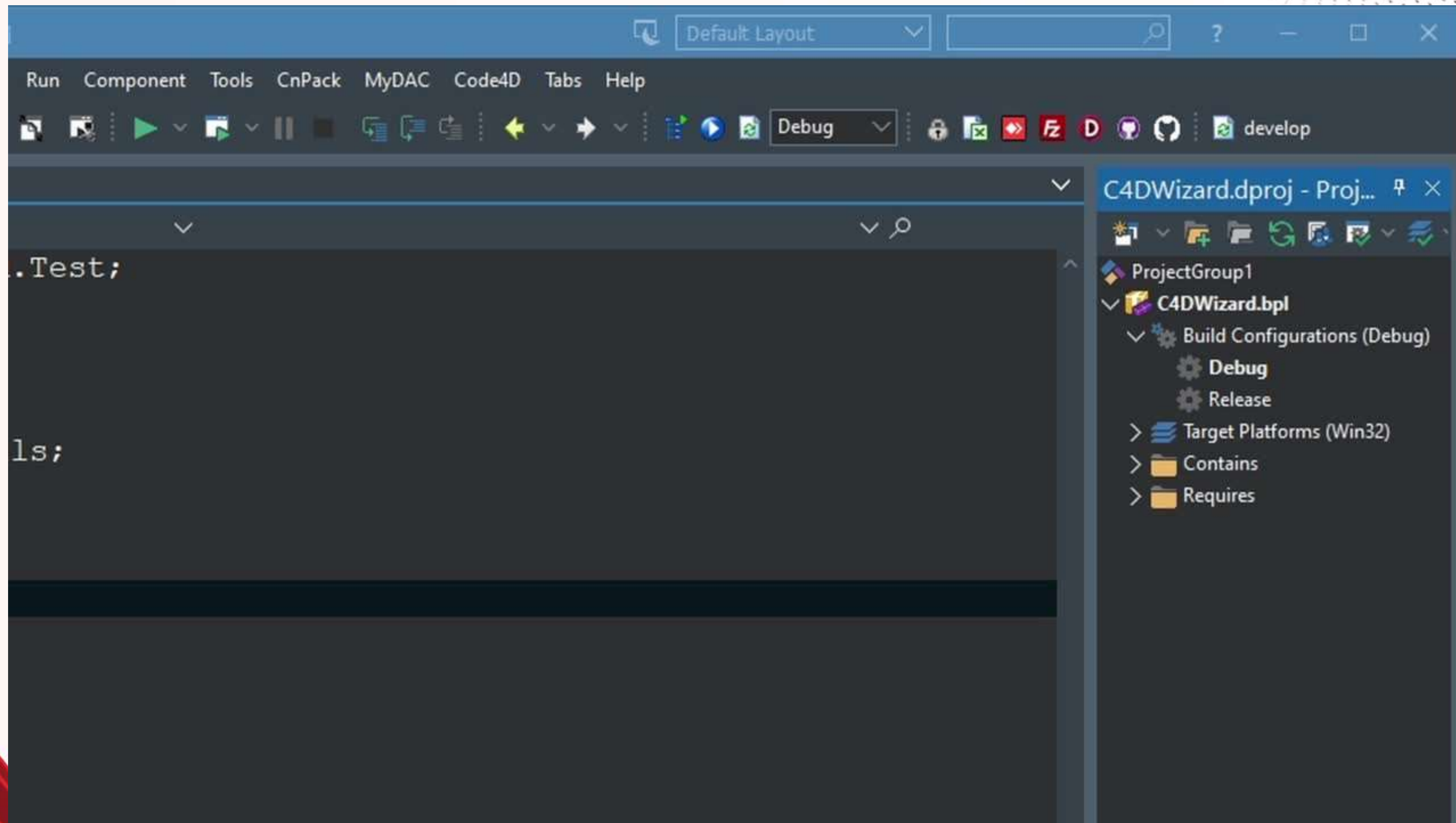
Open External Path



ToolBars



ToolBars



Reopen File History

DX Reopen

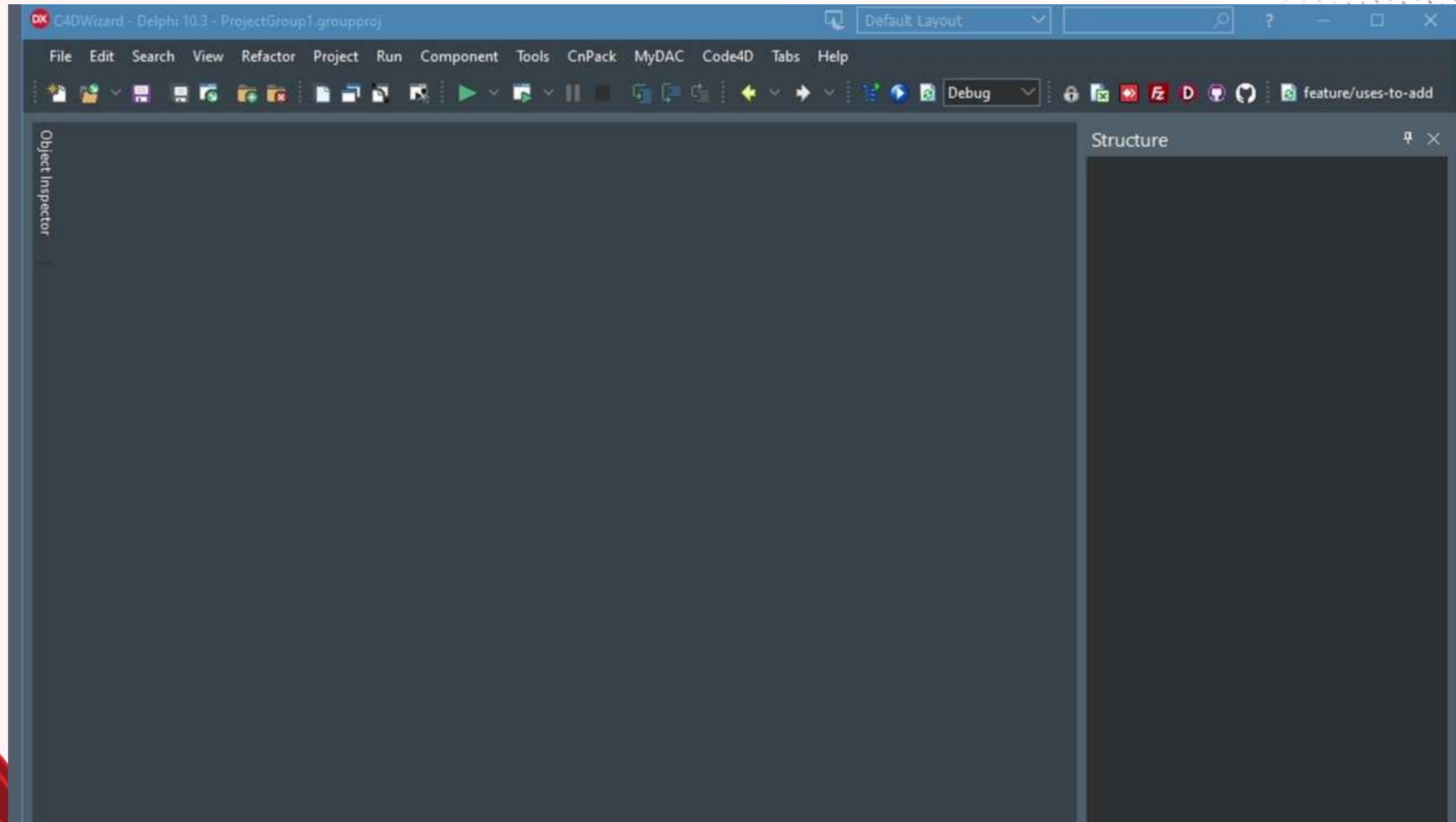
C4D - Wizard* Buscar Open period: 06/06/2023 06/09/2023

Open Edit Favorite Unfavorite Remove GitHub Desktop Remote Repository View in Explorer

F	Nickname	Name	Last open	Last close	Path
★	C4DWizard	C4DWizard.dproj	06/09/2023 22:13:36	06/09/2023 17:13:07	C:\Code4D\Projetos\Code4D-Wizard-Projeto\C...
★	C4DWizardGroup	C4DWizardGroup.groupproj	24/05/2023 00:43:16	21/05/2023 17:00:56	C:\Code4D\Projetos\Code4D-Wizard-Projeto\C...
★	C4DWizardDLL	C4DWizardDLL.dproj	24/05/2023 00:43:13	21/05/2023 17:00:57	C:\Code4D\Projetos\Code4D-Wizard-Projeto\C...
★	Projeto teste 03	ProjetoTeste03.dproj	21/05/2023 22:22:27	21/05/2023 22:43:31	C:\Users\cesar\Desktop\ProjetosTeste\Projeto...

1 of 4 C:\Code4D\Projetos\Code4D-Wizard-Projeto\C4DWizard.dproj

Reopen File History



Buscas em arquivos .pas .dfm .fmx

DX Code4D - Find In Files

Text
Search for:

Text to ignore
None

Options
☐ Case Sensitive
☐ Whole Word Only
☒ Display Accountant

Extension
☒ .pas
☒ .dfm
☐ .fmx
☐ .dpr and .dpk
☐ .dproj

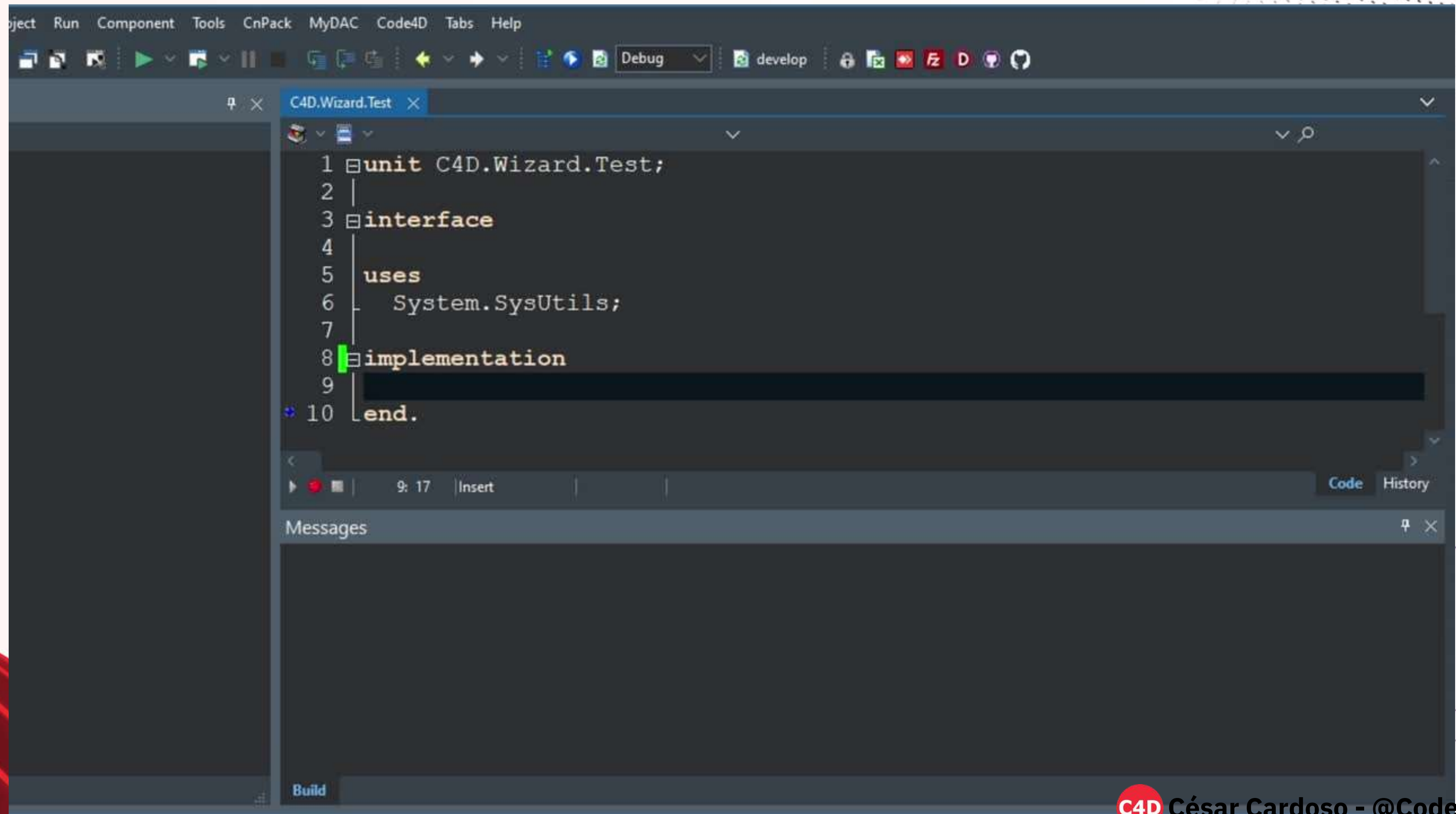
Scope
☐ Current Unit
☒ Files in Project Group
☐ Files in Project
☐ All Opened Files
☐ Files in Directories

Search Directory Options
Directory
 ...
☒ Include subdirectories

☒ Close form when finished searching

Find Cancel - Esc Close

Buscas em arquivos .pas .dfm .fmx



Replace em arquivos .pas .dfm .fmx

Code4D - Replace in Files

Text
Search for:
Replace by: ☒ Ever equals

Options
☐ Case Sensitive
☐ Whole Word Only
☒ Display Accountant
☒ Display Result in Message Tab

Extension
☒ .pas
☒ .dfm
☐ .fmx
☐ .dpr and .dpk
☐ .dproj

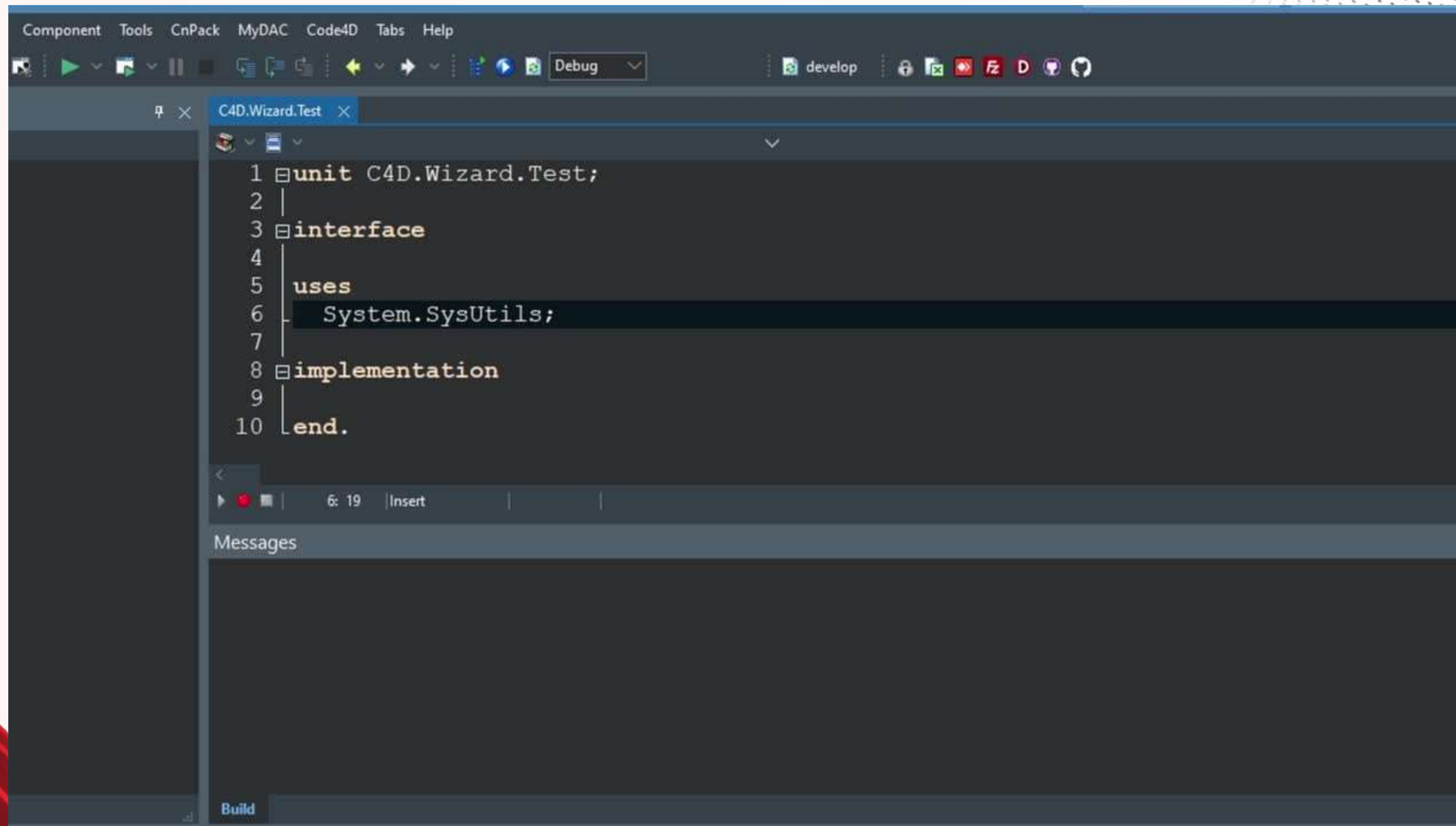
Scope
☐ Current Unit
☒ Files in Project Group
☐ Files in Project
☐ All Opened Files
☐ Files in Directories

Search Directory Options
Directory: ...
☒ Include subdirectories

☐ Show confirmation before replace

Buttons: Replace, Cancel - Esc, Close

Replace em arquivos .pas .dfm .fmx



Arquivos padrões abertura projeto

List Files For Selection

Find

Name	Path	File I ^
C4D.Wizard.Backup.Export.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Backup\C4D.Wizard.Backup.Exp...	False
C4D.Wizard.Backup.Import.SelectFiles.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Backup\C4D.Wizard.Backup.Im...	False
C4D.Wizard.Backup.Interfaces.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Backup\C4D.Wizard.Backup.Int...	False
C4D.Wizard.Consts.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Consts\C4D.Wizard.Consts.pas	False
C4D.Wizard.DefaultFilesInOpeningProject.Interfaces.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\DefaultFilesInOpeningProject\C...	False
C4D.Wizard.DefaultFilesInOpeningProject.Model.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\DefaultFilesInOpeningProject\C...	False
C4D.Wizard.DefaultFilesInOpeningProject.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\DefaultFilesInOpeningProject\C...	False
C4D.Wizard.dpipes.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\ProcessDelphi\C4D.Wizard.dpip...	False
C4D.Wizard.dprocess.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\ProcessDelphi\C4D.Wizard.dpro...	False
C4D.Wizard.Find.Interfaces.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Find\C4D.Wizard.Find.Interface...	False
C4D.Wizard.Find.Model.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Find\C4D.Wizard.Find.Model.pas	False
C4D.Wizard.Find.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Find\C4D.Wizard.Find.View.pas	False
C4D.Wizard.FormatSource.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\FormatSource\C4D.Wizard.For...	False
C4D.Wizard.Groups.AddEdit.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Groups\C4D.Wizard.Groups.Add...	False
C4D.Wizard.Groups.Interfaces.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Groups\C4D.Wizard.Groups.Int...	False
C4D.Wizard.Groups.Model.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Groups\C4D.Wizard.Groups.Mo...	False
C4D.Wizard.Groups.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Groups\C4D.Wizard.Groups.pas	False
C4D.Wizard.Groups.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Groups\C4D.Wizard.Groups.Vie...	False
C4D.Wizard.IDE.About.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\About\C4D.Wizard.IDE.Ab...	False
C4D.Wizard.IDE.CompileNotifier.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\CompileNotifier\C4D.Wizard...	False
C4D.Wizard.IDE.EditServicesNotifier.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\EditServicesNotifier\C4D.Wi...	False
C4D.Wizard.IDE.FileNotification.Notifier.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\FileNotification\C4D.Wizard....	False
C4D.Wizard.IDE.ImageListMain.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\ImageListMain\C4D.Wizard....	False
C4D.Wizard.IDE.MainMenu.Backup.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\MainMenu\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.MainMenu.Clicks.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\MainMenu\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.MainMenu.OpenExternal.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\MainMenu\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.MainMenu.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\MainMenu\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.MainMenu.Register.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\MainMenu\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.PopupMenu.Item.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\PopupMenu\C4D.Wizard.ID...	False
C4D.Wizard.IDE.PopupMenu.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\PopupMenu\C4D.Wizard.ID...	False
C4D.Wizard.IDE.PopupMenuDesigner.ComponentSel.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\PopupMenuDesigner\C4D....	False
C4D.Wizard.IDE.PopupMenuDesigner.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\PopupMenuDesigner\C4D....	False
C4D.Wizard.IDE.ShortCut.KeyboardBinding.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\ShortCut\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.Shortcuts.BlockKeyInsert.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\Shortcuts\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.Shortcuts.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\Shortcuts\C4D.Wizard.IDE....	False
C4D.Wizard.IDE.Splash.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\Splash\C4D.Wizard.IDE.Spl...	False
C4D.Wizard.IDE.ToolBars.Branch.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\ToolBars\C4D.Wizard.IDE.T...	False
C4D.Wizard.IDE.ToolBars.Build.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\ToolBars\C4D.Wizard.IDE.T...	False
C4D.Wizard.IDE.ToolBars.Notifier.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\IDE\ToolBars\C4D.Wizard.IDE.T...	False

Count: 93

Find

Name	Path	File I...
C4D.Wizard.Backup.Import.View.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\Backup\C4D.Wizard.Backup.Im...	True
C4D.Wizard.Test.pas	C:\Code4D\Projetos\Code4D-Wizard-Projeto\Src\C4D.Wizard.Test.pas	True

Count: 2

>

<

<|

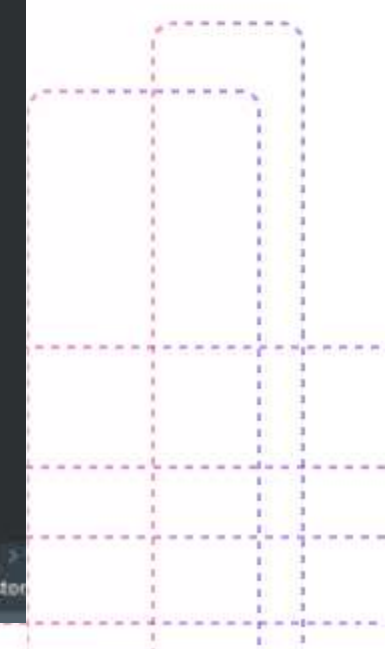
Open >

OK

Close



- Keyboard
- Type
- nt
- zScrollBar
- n
- Preview
- t
- eBindings
- argins
- own



Atalhos / Configurações

DX

Code4D - Settings

✕

Shortcut

<input checked="" type="checkbox"/> Uses Organization	Ctrl + Shift + Alt + Y
<input checked="" type="checkbox"/> Reopen File History	Ctrl + Shift + Alt + H
<input checked="" type="checkbox"/> Translate Text	Ctrl + Shift + Alt + T
<input checked="" type="checkbox"/> Indent	Ctrl + Shift + Alt + I
<input checked="" type="checkbox"/> Find in Files	Ctrl + Shift + Alt + F
<input checked="" type="checkbox"/> Replace in Files	Ctrl + Shift + Alt + R
<input checked="" type="checkbox"/> GitHub Desktop	Ctrl + Shift + Alt + G
<input checked="" type="checkbox"/> Default Files In Opening Project	Ctrl + Shift + Alt + N

Settings

☒ Before compiling, check if binary is not running

☒ Block the INSERT Key

Data

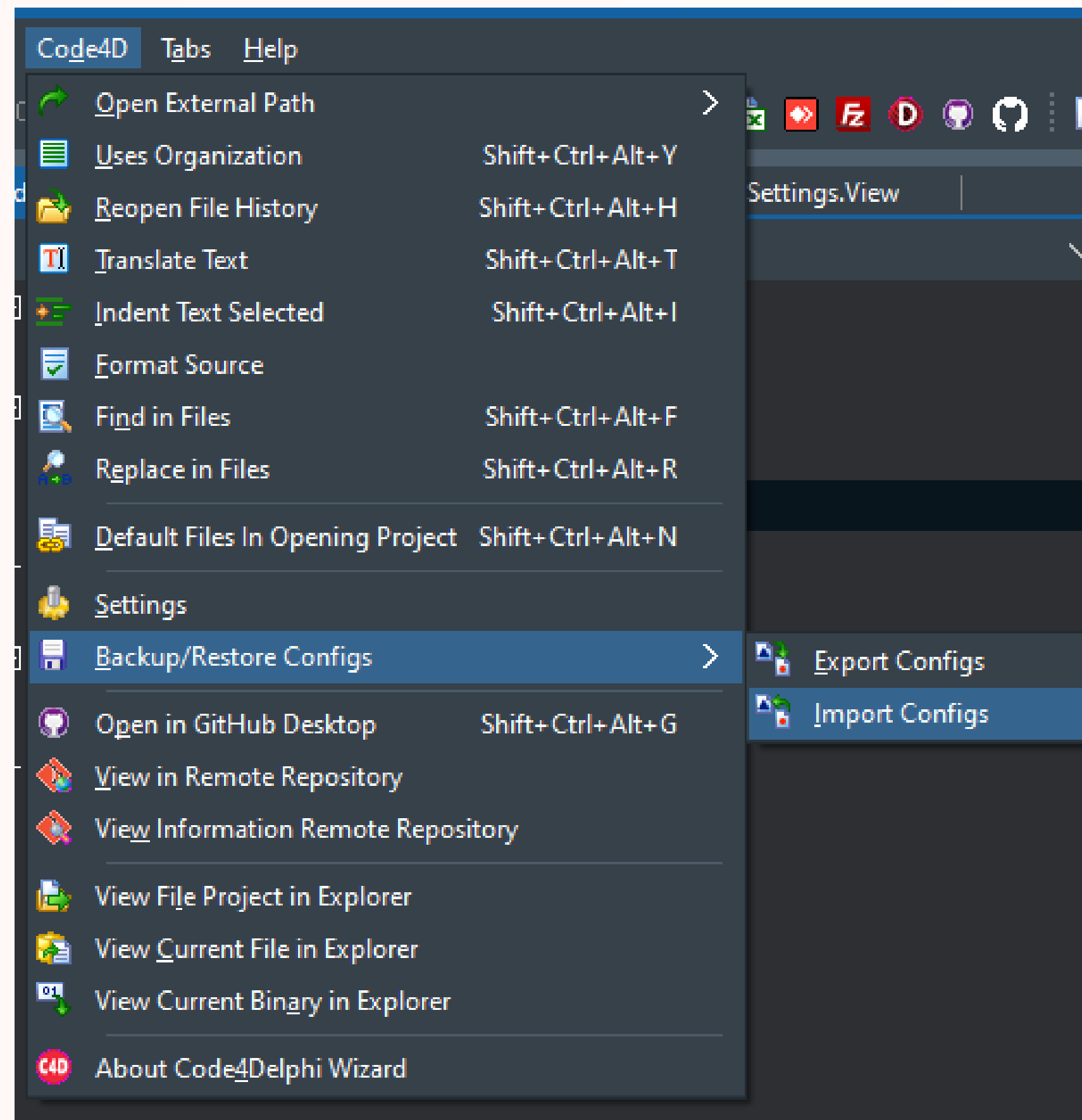
Open Data Folder

* Attention, some shortcut changes only work after restarting the Delphi IDE

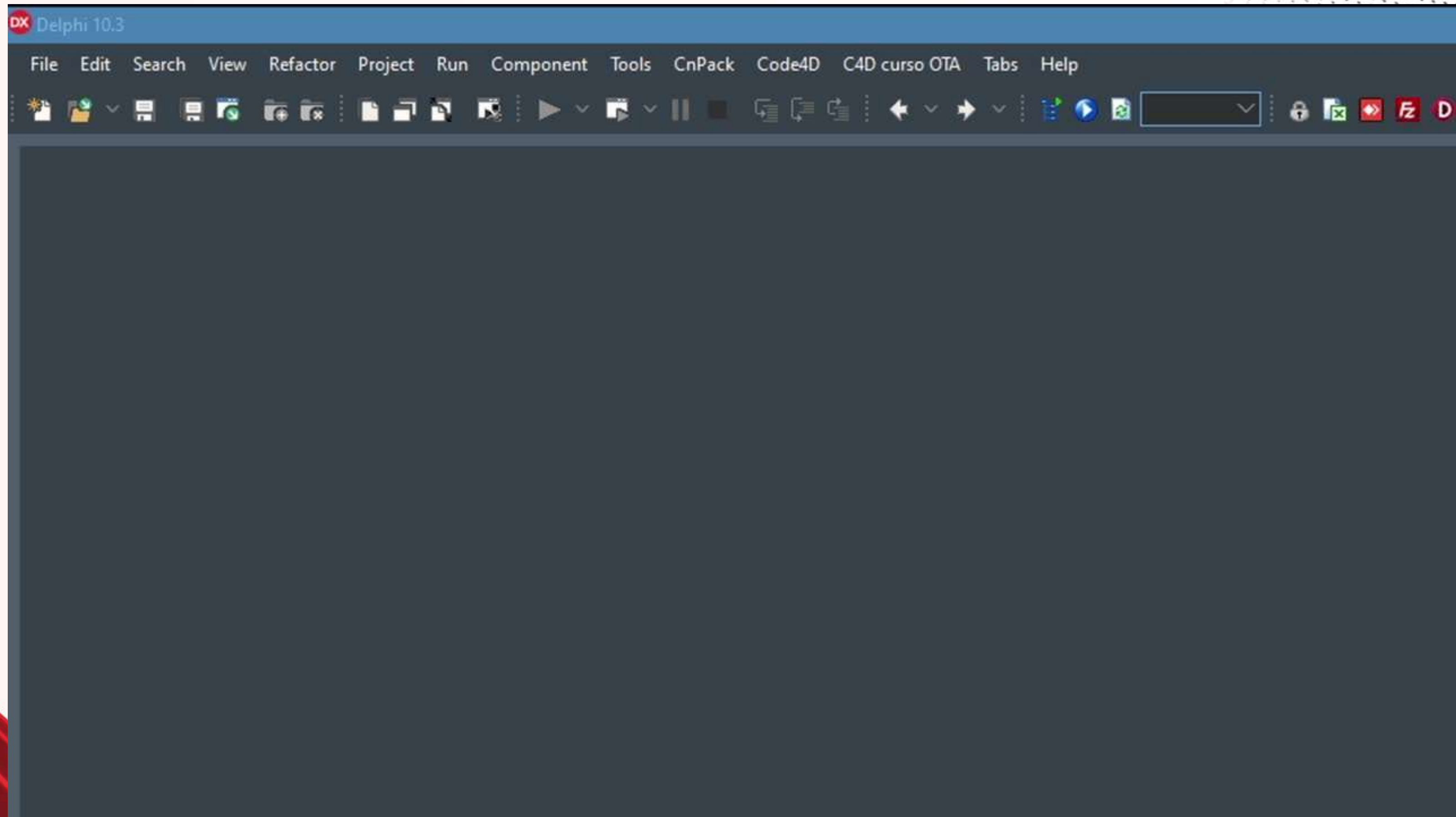
Confirm

Close

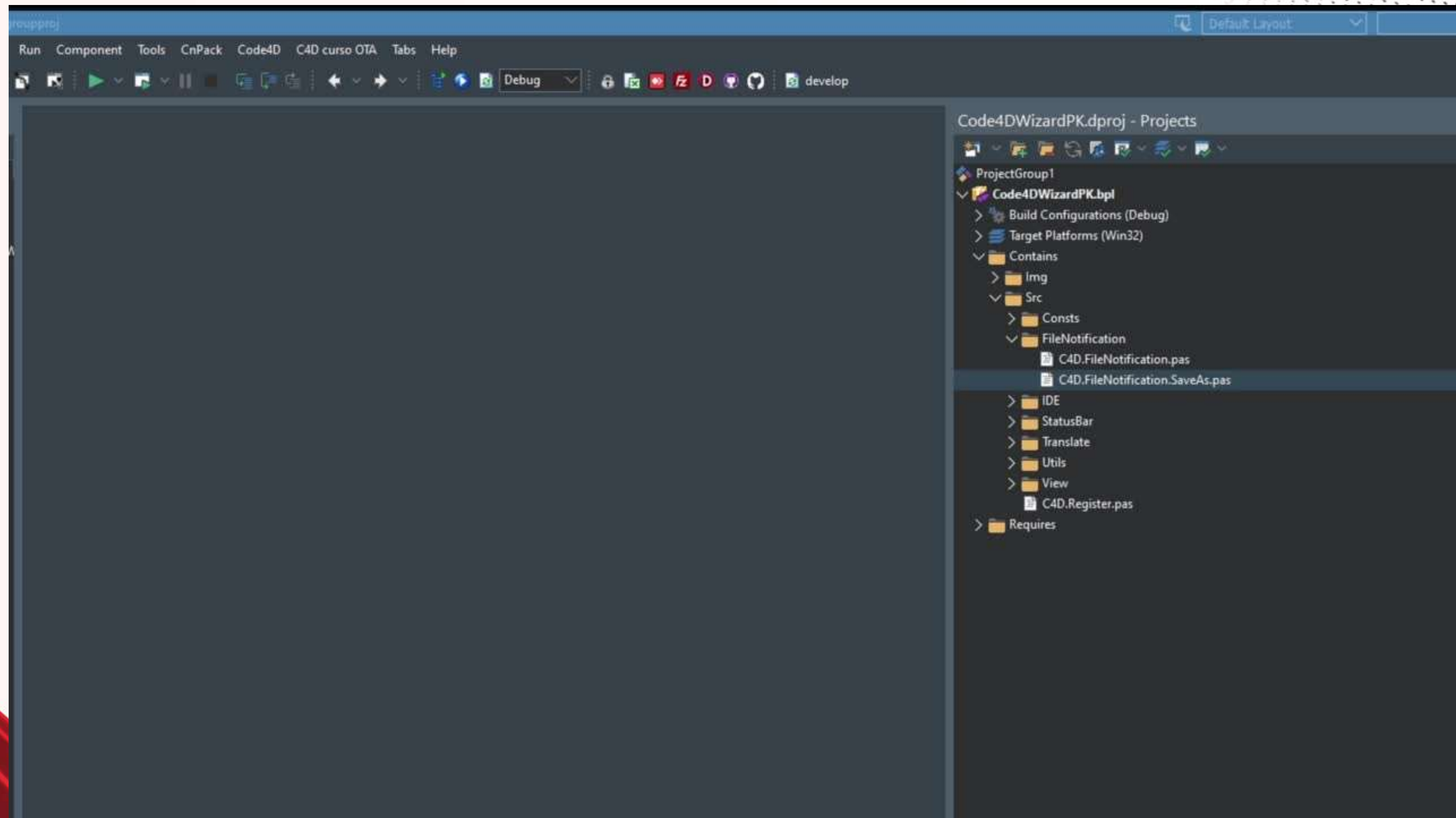
Outros recursos do MainMenu



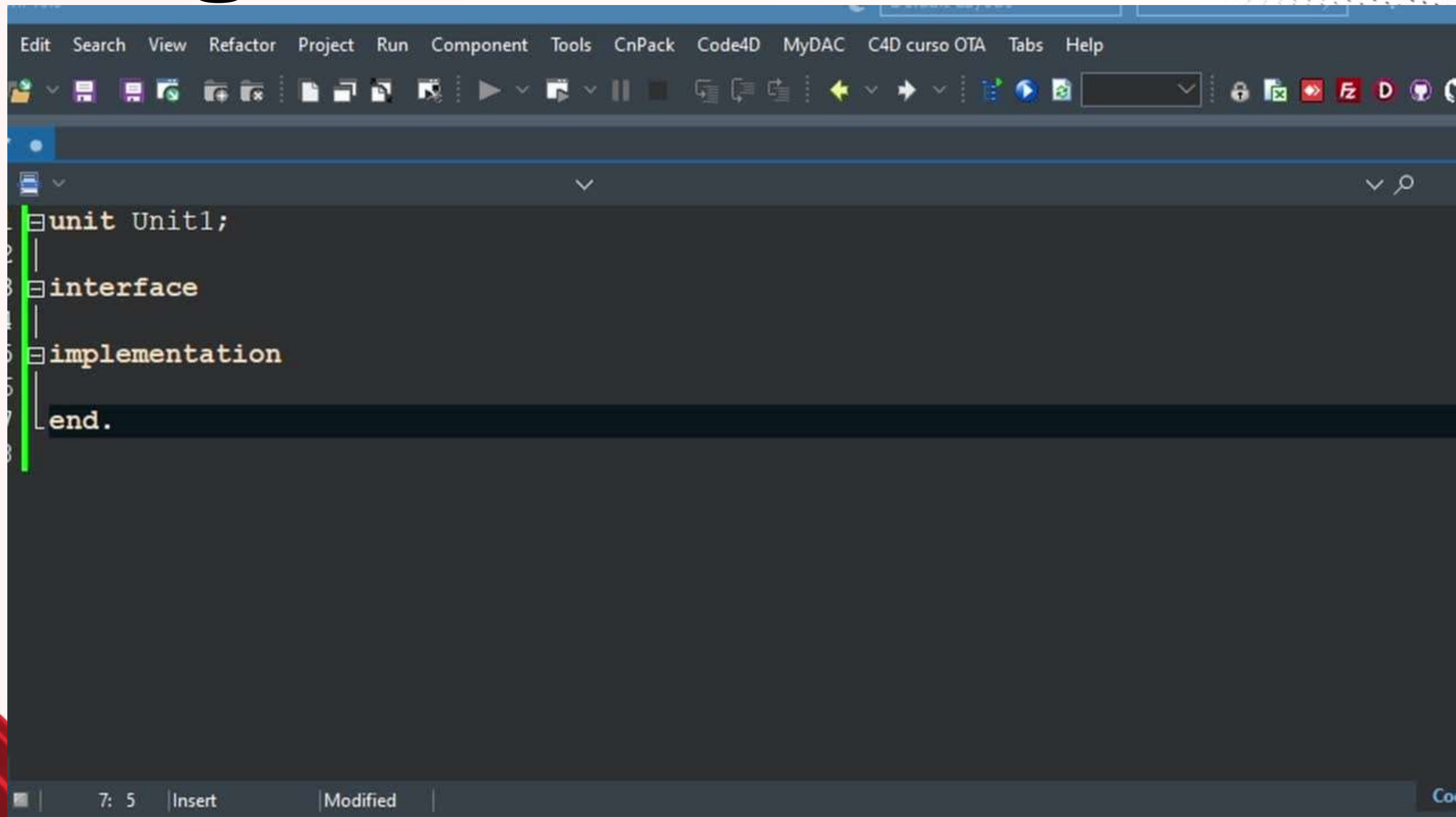
Tradução do MainMenu do Delphi



Senha em arquivos e projetos



Interagindo com a StatusBar da IDE



Usando a OTA

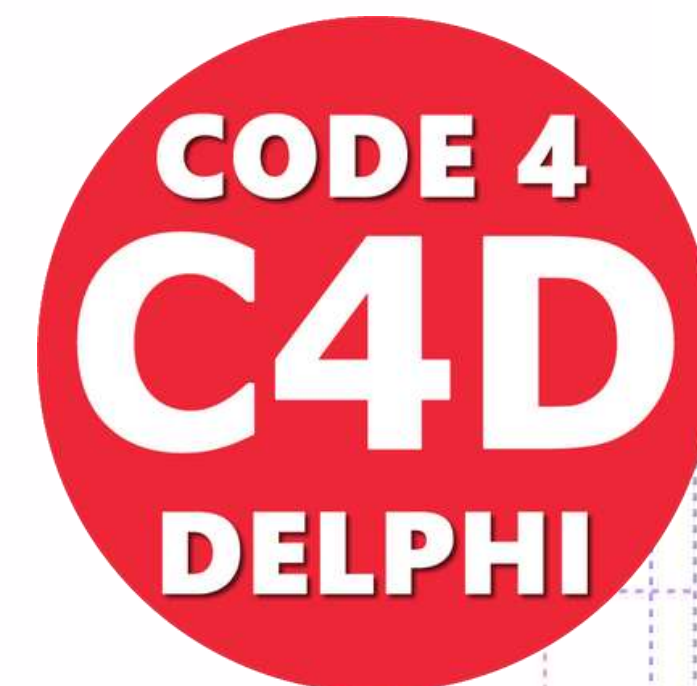
- Estatística de produtividade
- Contabilizar quantidade de horas programadas
- Qual método esta dando mais manutenção
- Qual a unit mais acessada
- Verificação/criação de teste unitário automatizados
- Indentação automática dos projetos

- Tenha a acesso ao código fonte do Code4D-Wizard

- Tenha acesso ao treinamento mais completo sobre OTA (Open Tools API) do mercado

- Utilize o cupom **#ECON2023** e tenha 20% de desconto

[Acessar Treinamento e Código Fonte](#)



Code4D-Wizard



Cesar Cardoso

{ Programador Delphi desde 2009. Criador de conteúdo no canal @code4delphi no YouTube e no Instagram



Embarcadero conference 2023

 **github.com/Code4Delphi**

 **youtube.com/@Code4Delphi**

 **[Code4Delphi](https://www.instagram.com/Code4Delphi)**

 **contato@code4delphi.com.br**

O que você achou da palestra?

Acesse o link do QR Code ao lado e responda a pesquisa.

- > Trilha: Cases & Updates & Security
- > Palestra: 16h30 | Code4D-Wizard e OTA...

