



**Application Note:
Create New Application
For SmartRF05 + CC2530**

Document Number: SWRA231

Texas Instruments, Inc.
San Diego, California USA

Version	Description	Date
1.0	Initial release.	09/08/2008
1.1	Updated for 2.2.0 release	04/02/2009

Table of Contents

1. PURPOSE.....	1
2. ASSUMPTIONS	1
3. MAKE A NEW PROJECT.....	1
3.2 COPY AND RENAME FILES/FOLDERS.....	1
3.3 EDIT PROJECT FILES	5
3.4 EDIT SOURCE FILES	7
3.5 TEST MODIFIED PROJECT AND SOURCE FILES.....	10

1. Purpose

This application note describes, step by step, how to clone a Z-Stack™ sample project, to serve as a template for the development of a new application.

2. Assumptions

- You already have an application either by :
 - using GenericApp or SerialApp, the **.c** and **.h** files have been used as templates, and modified to make your new application files..
- For this example, we will use the following:
 - New application files will be Widget.c, Widget.h, and OSAL_Widget

3. Make a New Project

3.1 Release Version and Platform

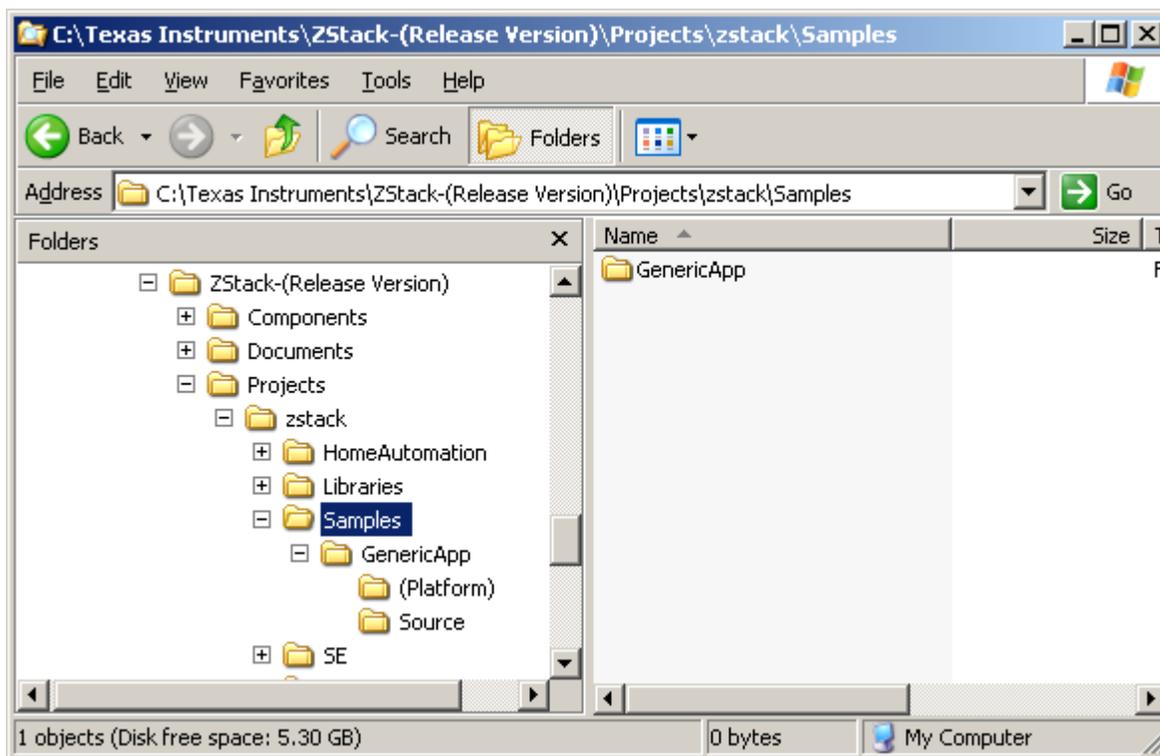
In some generic screenshots below, references are made to (*Release Version*) and (*Platform*). For this document:

- (*Release version*) refers to **2.2.0**.
- (*Platform*) refers to **CC2530DB**.

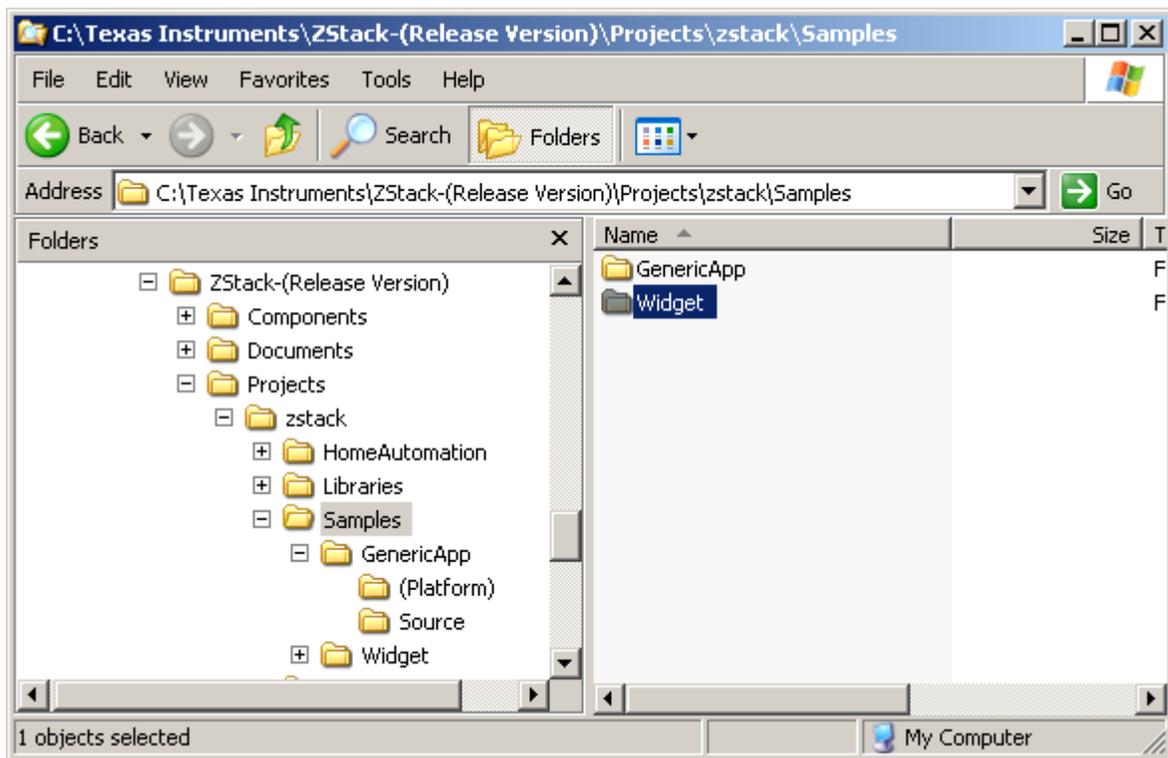
3.2 Copy and Rename Files/Folders

Determine what type of application you want to model. If your application is going to use the serial port to send and receive serial data, (not Z-Tool™) you should start with the SerialApp project in...\Projects\zstack\Utilities. If your application doesn't have anything to do with the serial port (except Z-Tool), start with the GenericApp project in...\Projects\zstack\Samples.

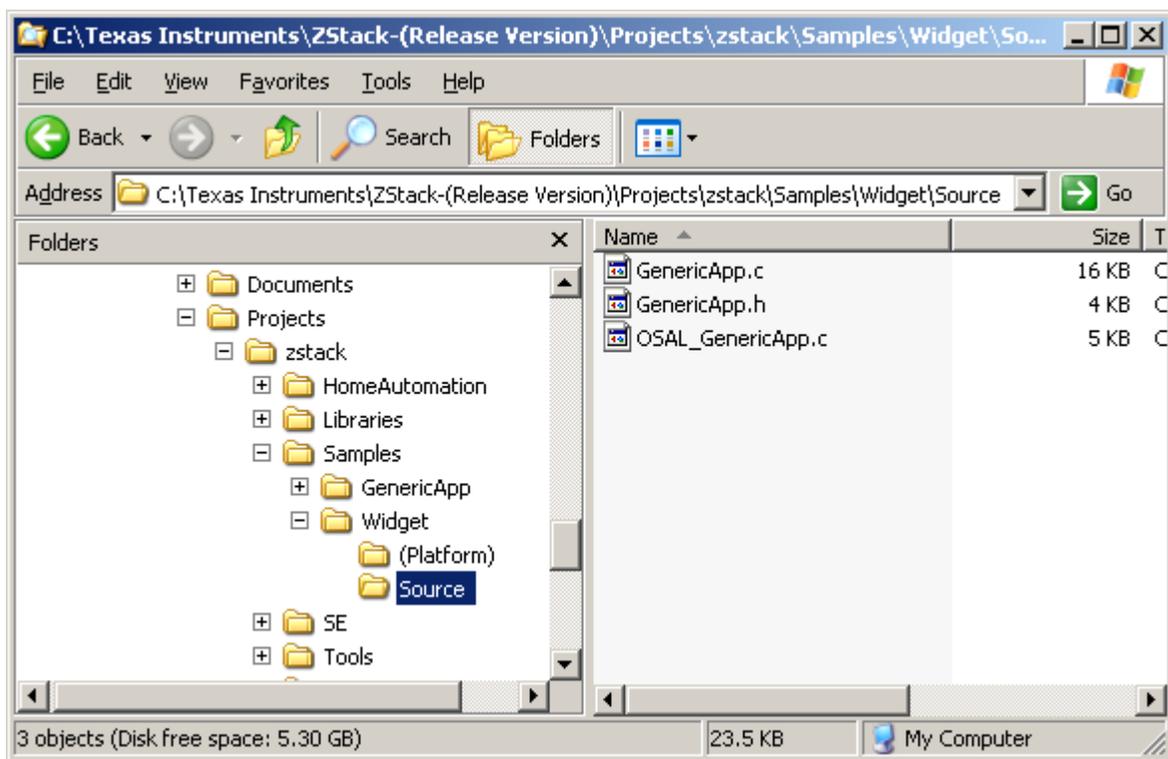
- For this example, we will copy and modify the ...\Projects\zstack\Samples\GenericApp project:



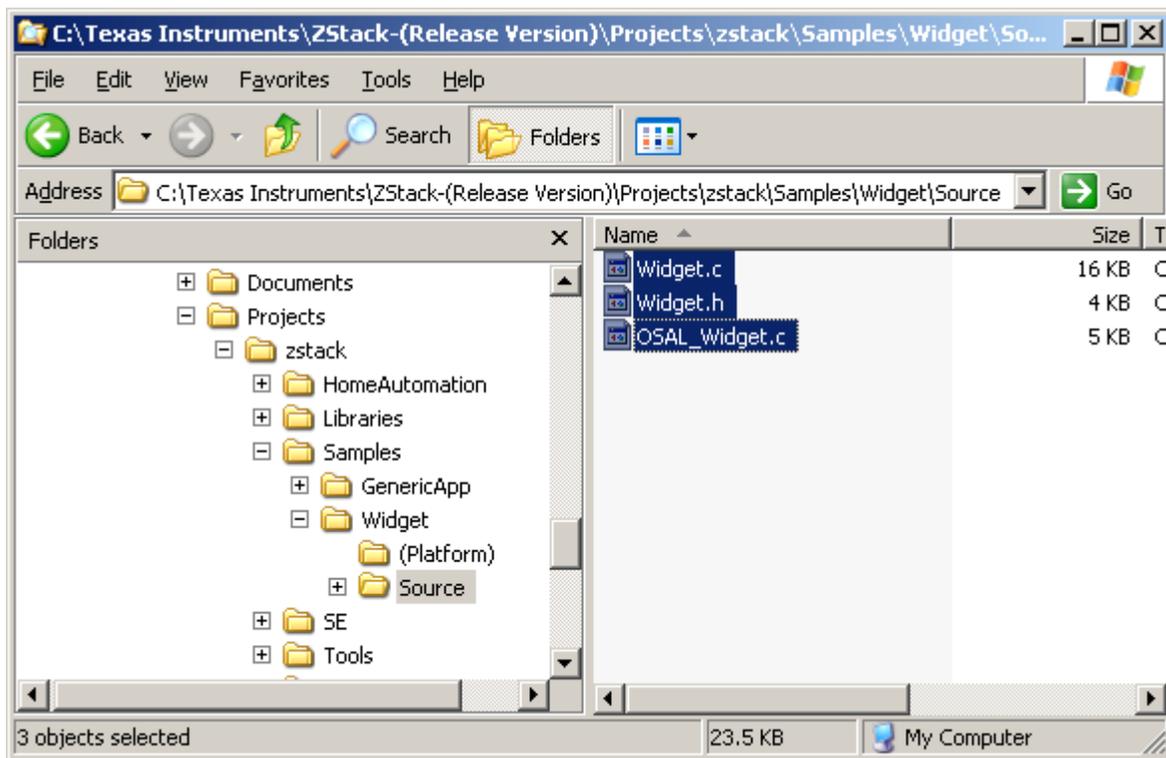
- Copy the **GenericApp** folder and rename it **Widget**:



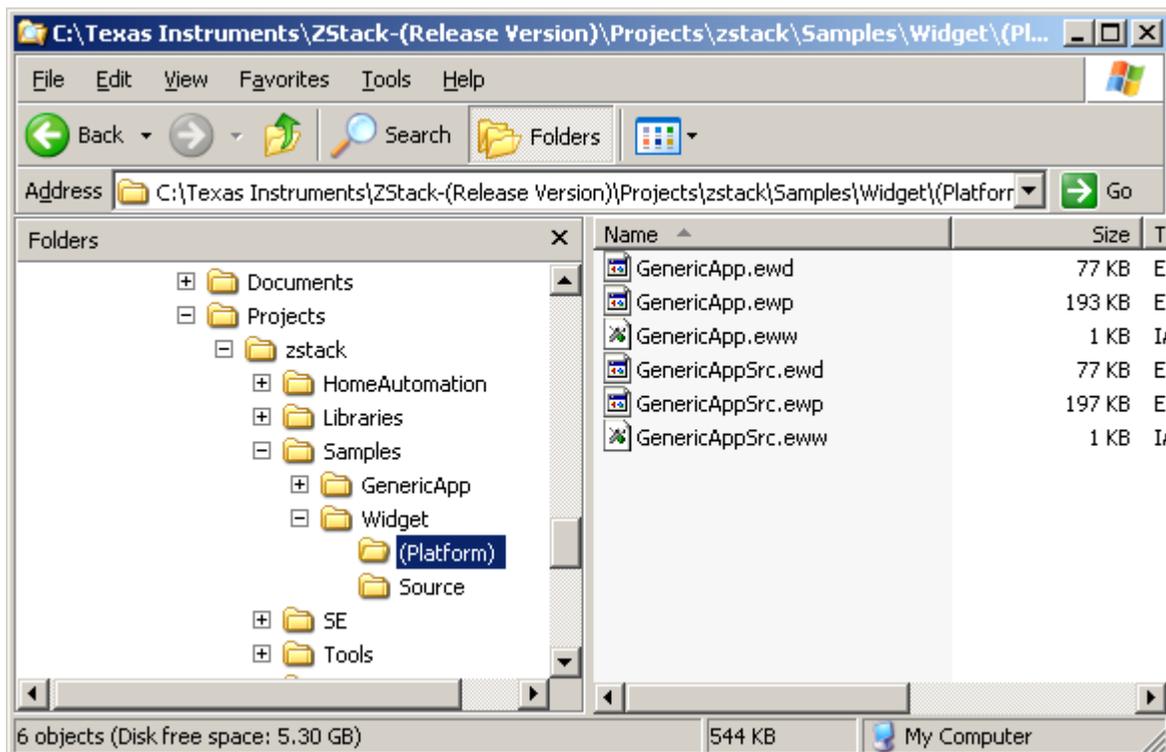
- Open the **Source** folder within the new **Widget** folder:



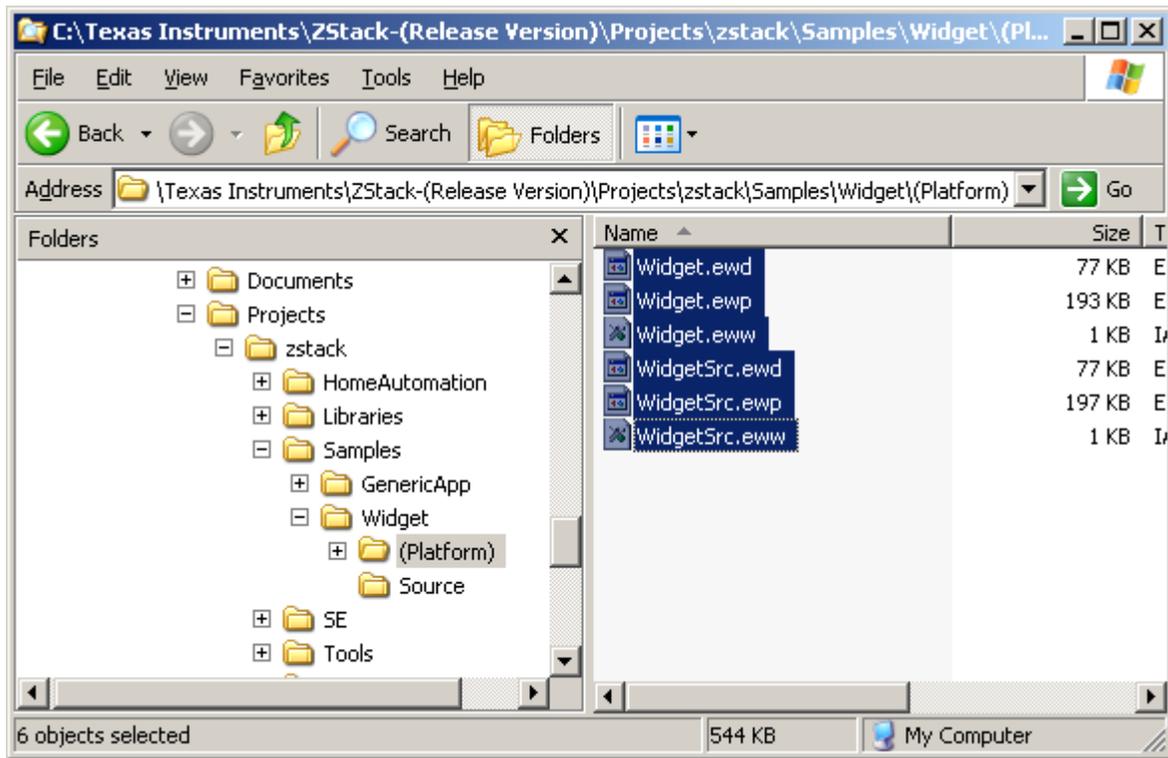
- Rename each of the files by replacing *GenericApp* with *Widget*:



- Open the (Platform) folder (in this case **CC2530DB**) within the new **Widget** folder:

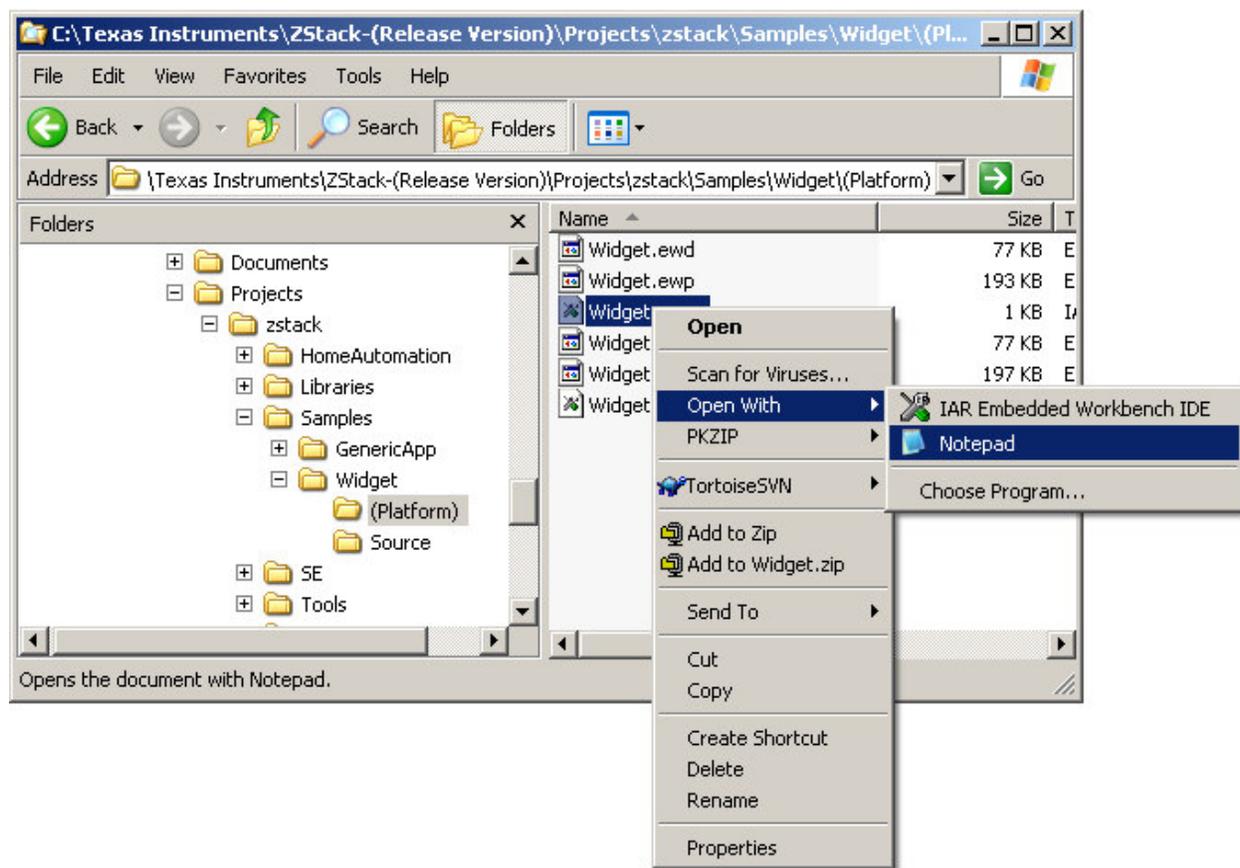


- Rename each of the project files by replacing *GenericApp* with *Widget*:

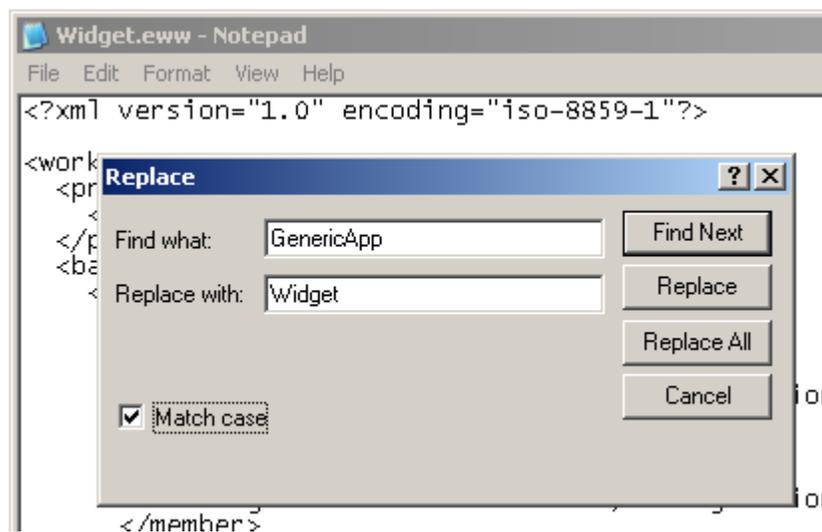


3.3 Edit Project Files

In the ...\\Widget\\(Platform) folder (in this case **CC2530DB**), right click on *Widget.eww*, then select *Open With*, and then click on *Notepad* to open the IAR Embedded Workbench workspace file for editing:



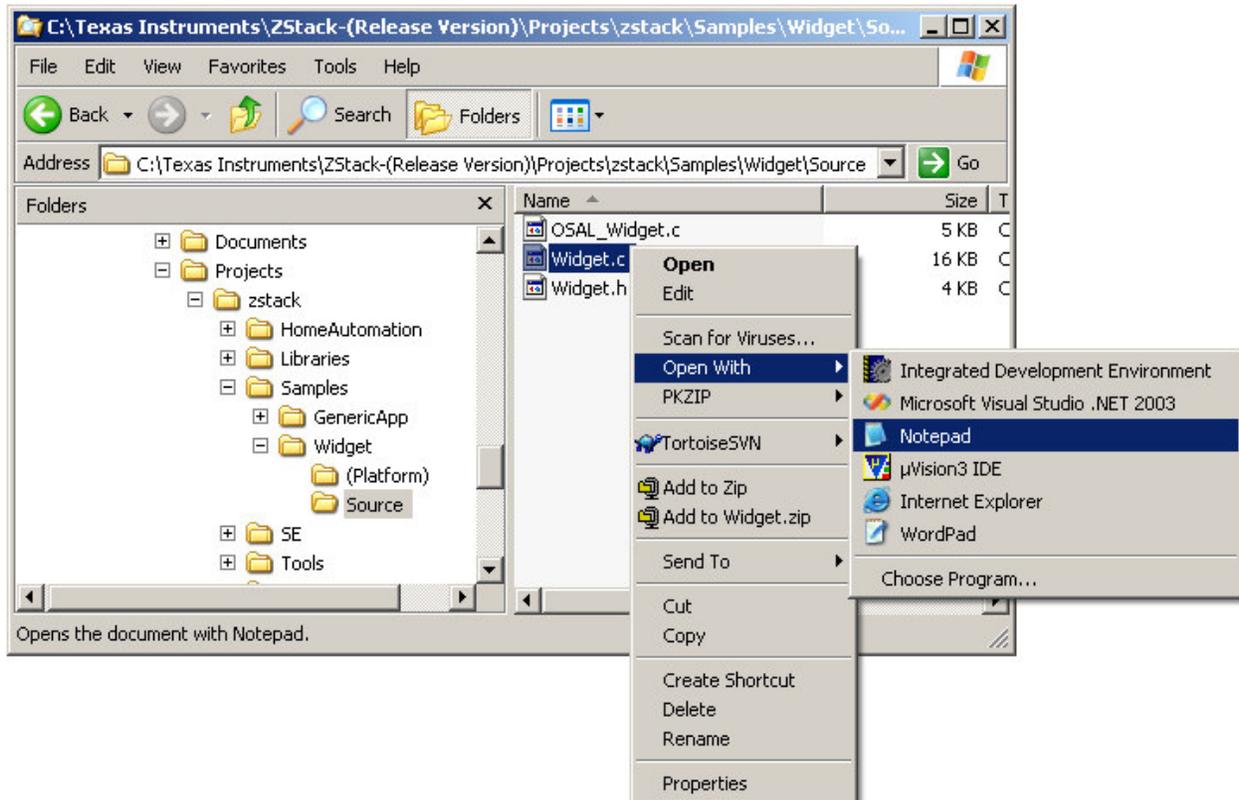
- Select **Edit**→**Replace...**, then **Replace All** instances of GenericApp with Widget.
- Select **Cancel**, then **File**→**Save**, and finally **File**→**Exit**



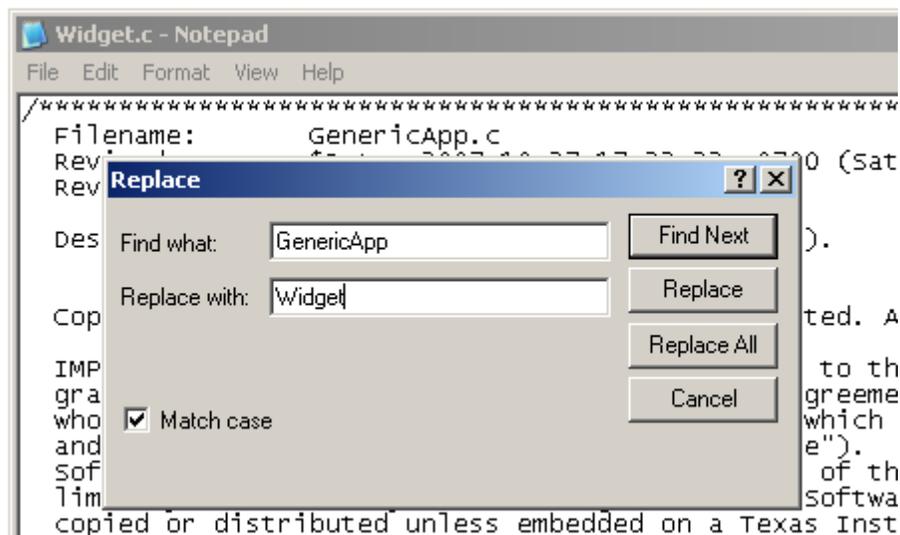
- Repeat the same process for **WidgetSrc.eww** and **WidgetSrc.ewp** if applicable.

3.4 Edit Source Files

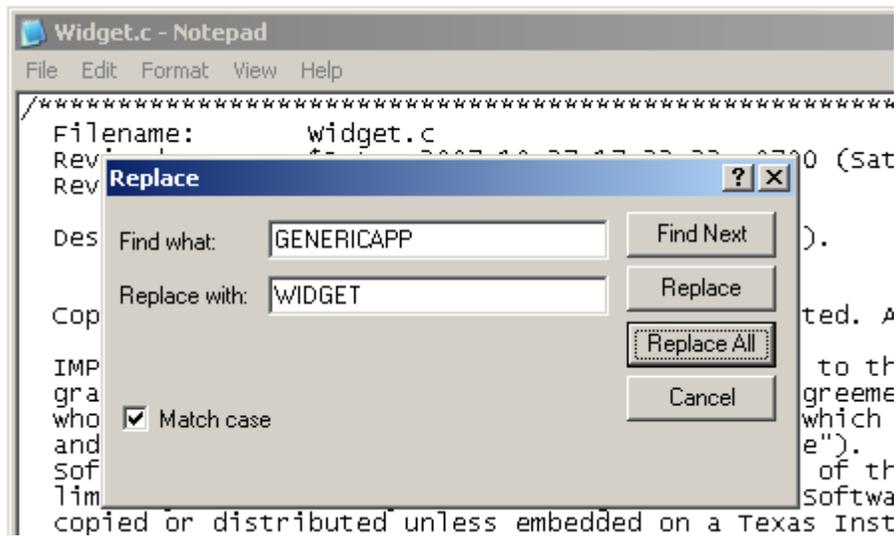
In the ...**Widget\Source** folder, right click on *Widget.c*, select *Open With*, and click on *Notepad* to open:



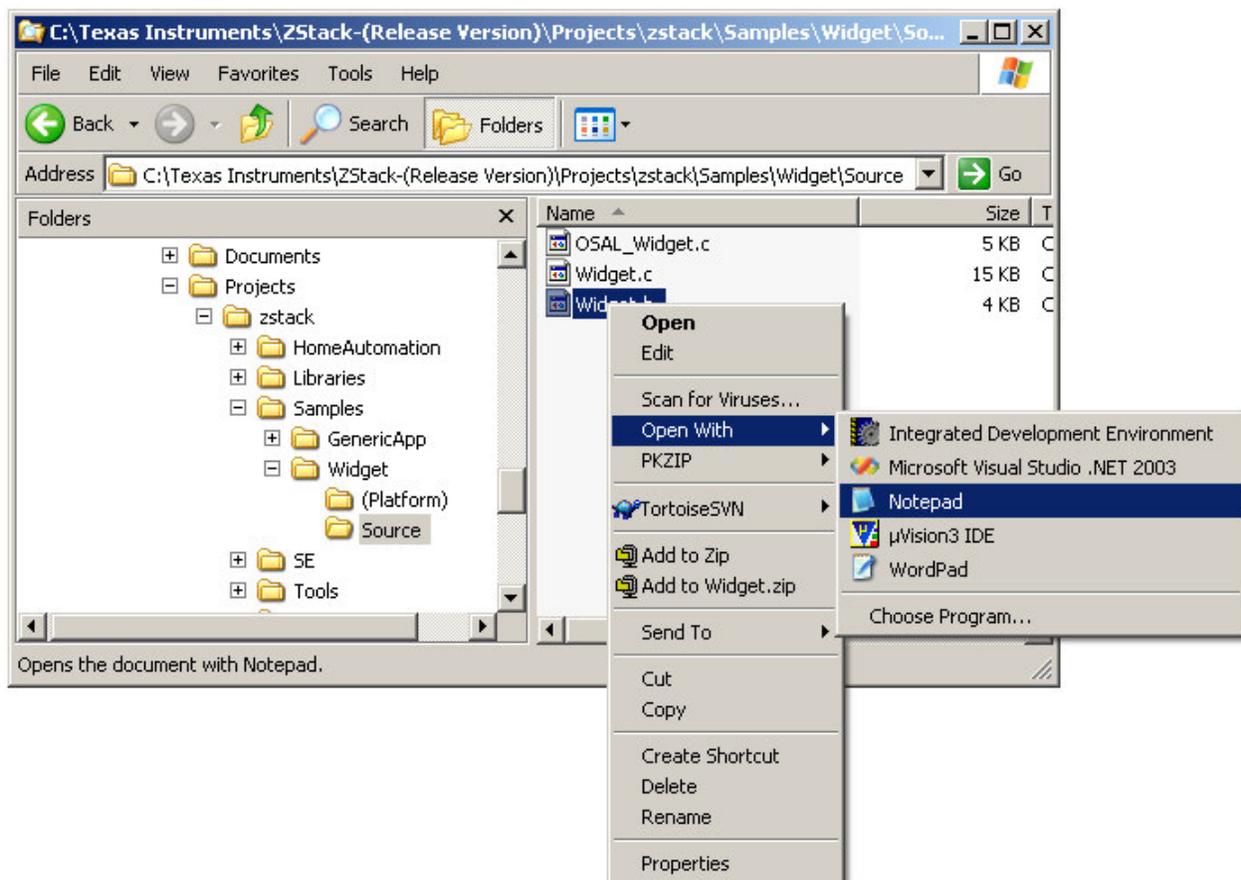
- Select **Edit**→**Replace...**, Match case, then **Replace All** instances of **GenericApp** with **Widget**.



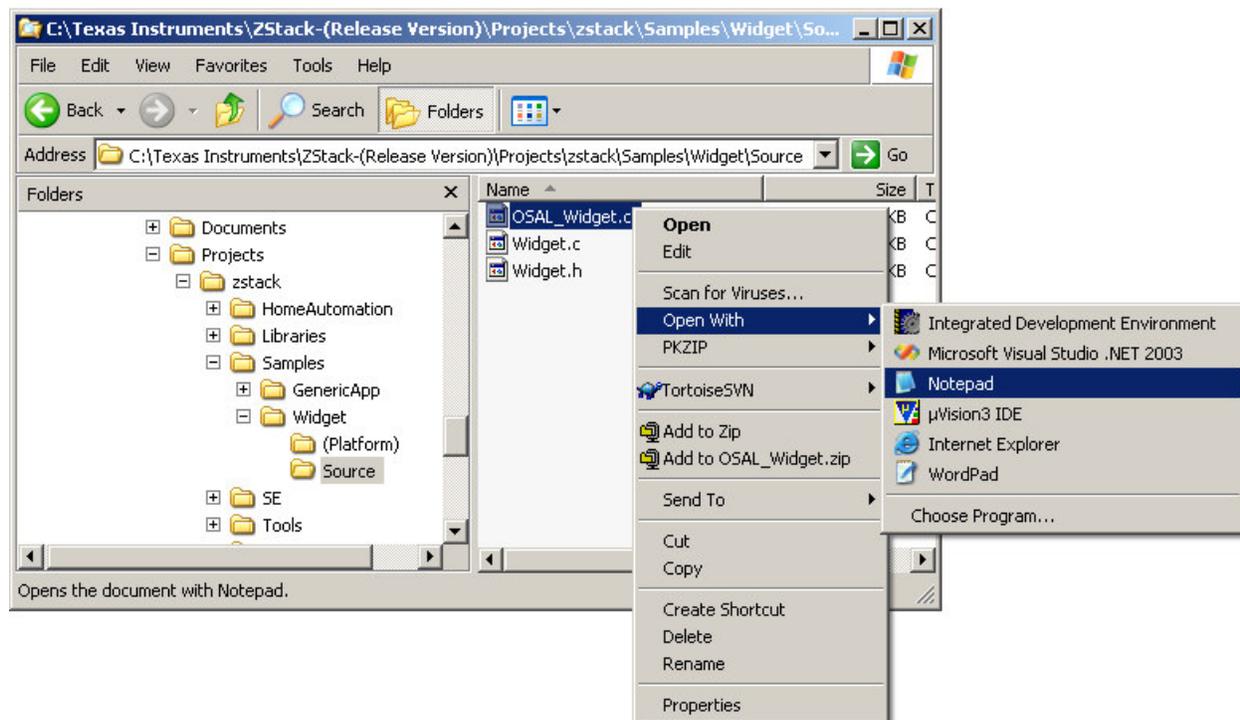
- Select **Edit**→**Replace...**, Match case, then **Replace All** instances of GENERICAPP with WIDGET.
- Select **Cancel**, then **File**→**Save**, and finally **File**→**Exit**



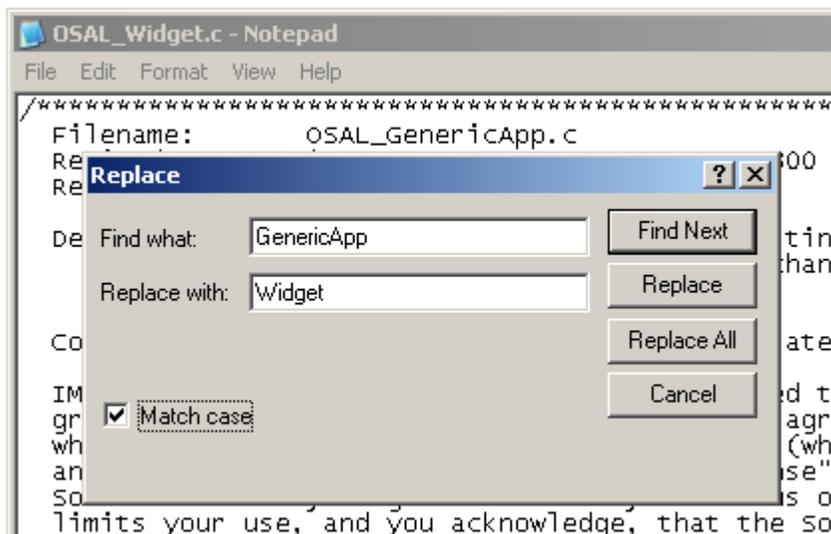
In the ...**WidgetSource** folder, right click on *Widget.h*, select *Open With*, and click on *Notepad* to open. Repeat each of the steps shown above – Replace GenericApp with Widget and GENERICAPP with WIDGET, then save and close the file.



In the ...**Widget**\Source folder, right click on *OSAL_Widget.c*, select *Open With*, and click on *Notepad* to open:

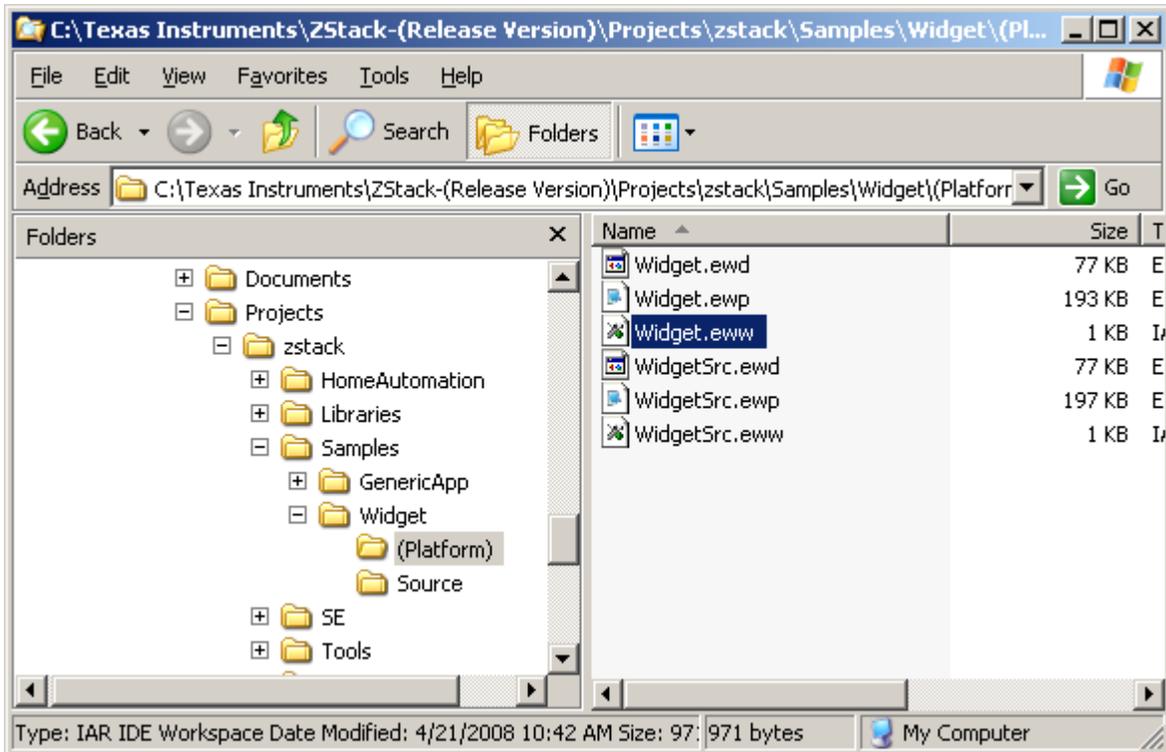


- Select **Edit**→**Replace...** , then **Replace All** instances of GenericApp with Widget.
- Select **Cancel**, then **File**→**Save**, and finally **File**→**Exit**

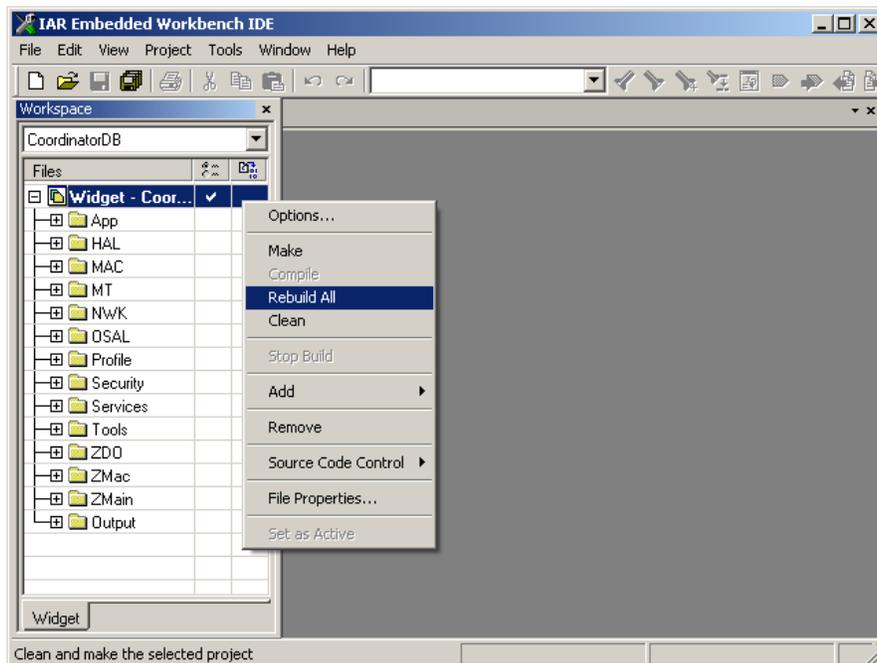


3.5 Test Modified Project and Source Files

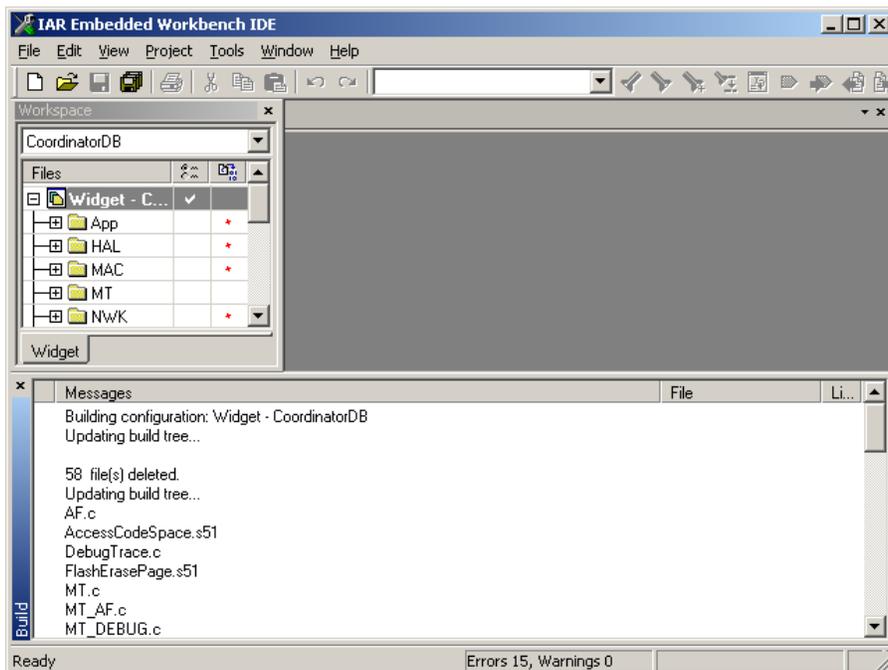
After completing modifications to the project and source files, test the changes by building the project. In the ...Widget\(**Platform**) folder (in this case **CC2530DB**), double-click on *Widget.eww* to start the IAR Embedded Workbench:



To build the project, right click on the *Widget-Coordinator...* item in the Files box, and click on **Rebuild All**:



Compiler and Linker status is shown in the *Messages* box, normally at the bottom of the IDE display:



At this point, the *Widget* project is ready to serve as a template for building an actual project. Normally, changes would be made to the *Widget.c* and *Widget.h* files to create the user's customized application. Other source files that are distributed with Z-Stack may be changed as needed, keeping in mind that those changes will need to be merged into future updates of the Z-Stack package.