Altium Designer

Module 23: Customization and the Scripting System

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Module Seq = 23

23.1 Customizing toolbars, menus & shortcut keys

All methods of command selection can be customized, including menus, toolbars and shortcut key menus. These are often referred to as *resources* in Altium Designer.

23.1.1 Customizing resources

- Resources are customized via the DXP System menu, or by right-clicking on a menu or toolbar and selecting **Customize**.
- Figure 1 shows the *Customizing Schematic Editor* dialog. When you select **Customize** with a schematic as the active document, this dialog opens ready to customize the resources for that editor. Customization options include adding, deleting or re-ordering menu entries and toolbar buttons, and adding new shortcut key definitions.

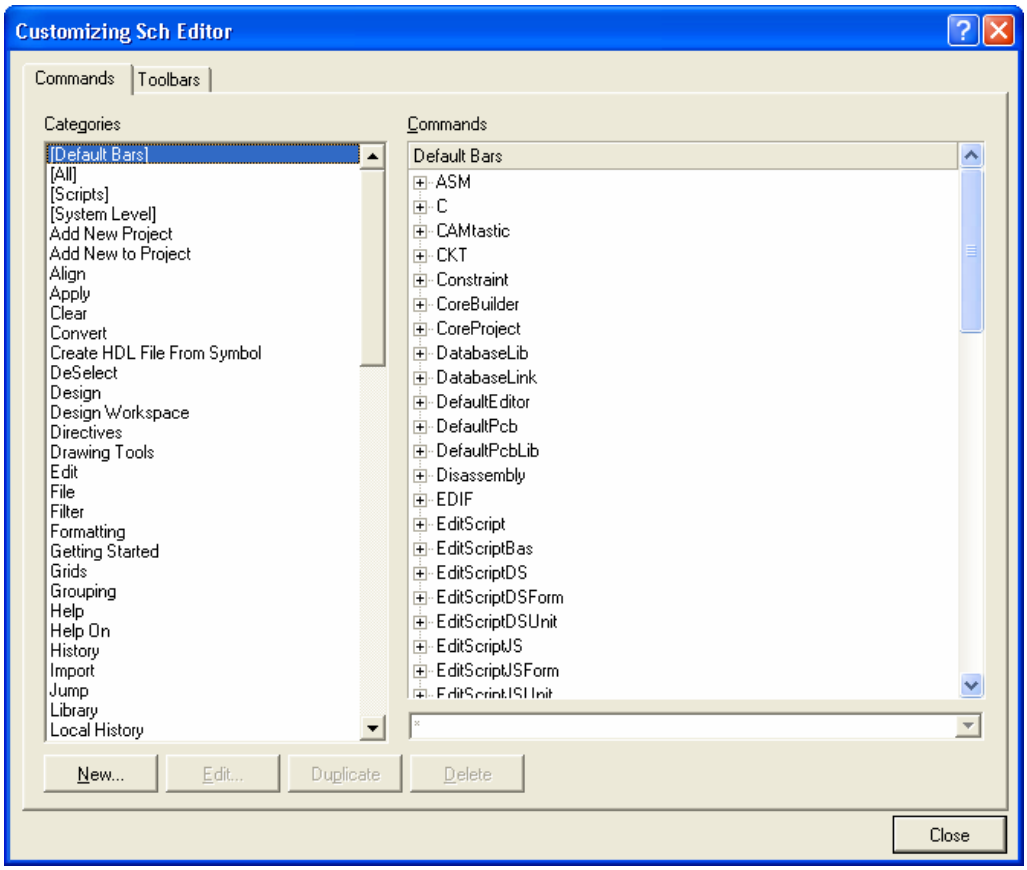

Figure 1. Toolbar Properties dialog

23.1.1.1 Adding a command to a menu and toolbar

- The **Commands** tab of the *Customizing* dialog gives access to all the commands available to this editor.
- There are essentially two ways of accessing a command:
  - selecting **Default Bars**, then using the tree-like structure on the right, or
  - choosing a flat list of commands, either **All** commands in one list, or clicking on a menu name on the left to access a command in that menu.

- When the required command has been located, click and drag it to the required toolbar or menu, then release in the required location.
- When the *Customizing* dialog is open, menu entries and toolbar buttons can be:
  - moved, by clicking and dragging
  - copied, by holding **Ctrl** while you click and drag
  - edited, by double-clicking.
- When the *Customizing* dialog is open, separators can be:
  - added to a menu by clicking and dragging a menu entry down slightly from the previous entry to add a separator in between
  - removed by dragging the entry that follows the separator up and releasing on top of the separator.
  - Use the same techniques to add/remove a separator from a toolbar.
- When the *Customizing* dialog is not open, hold Ctrl as you click on a menu entry or toolbar button to directly access the *Edit Command* dialog for that command.

23.1.1.2 Bars – the menu bar and toolbars

- Toolbars and the main menu are all classified as bars. Set any bar to be the main menu in the **Bars** tab of the *Customizing* dialog.
- When you create a new toolbar in the **Bars** tab of the *Customizing* dialog, the blank bar appears just to the right of the main menu bar.
- Alternate menu bars can be created and kept as a toolbar, then switched to be the menu bar when required.

23.1.1.3 Shortcut keys

- Shortcuts are defined as part of the command. To examine all shortcuts, click on **All** in the *Customizing* dialog, then click on the Shortcut heading in the Commands section of the dialog on the right to sort by shortcut key.
- When the *Customizing* dialog is open, a Shortcut menu appears on the toolbar at the top of the workspace.
- Only one set of shortcuts can be defined for each editor.

23.1.2 Behind the scenes - processes and parameters

- Underlying every command in the DXP environment is a process. Each DXP server presents its functionality to the environment as a set of processes.
- Many processes support parameters, where each parameter is used to control the behavior of the process.
- Commands, which are edited in the *Customizing* dialog, are pre-packed combinations of a process + required parameters + menu caption + shortcut keys.

23.1.2.1 Using parameters

- Adding parameters can further customize the operation of any process.
- An example of the use of parameters is the **Digital Objects** tools, available on the **Utilities** toolbar in the Schematic Editor (**View » Toolbars » Utilities** to control the display of the toolbar**)**.

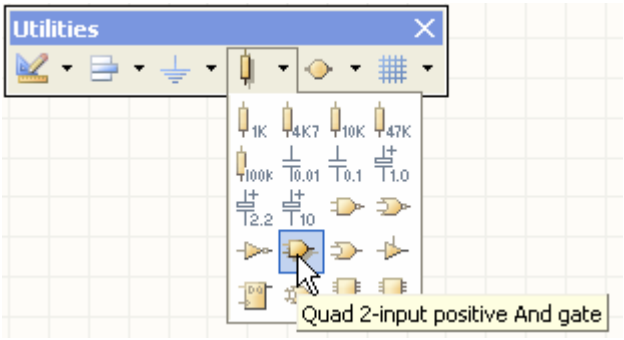

Figure 2. Digital Objects tools, accessed on the Utilities bar

All the buttons on this toolbar use the process:
`IntegratedLibrary:PlaceLibraryComponent`

it is the parameters that specify which part is placed, e.g.
`LibReference=SN74F08D | Library=Texas Instruments\TI Logic Gate 2.IntLib | Orientation=0`

Note: Multiple parameters are separated by a pipe symbol (|).

23.1.3 Exercises — Customizing resources

23.1.3.1 Adding a command to a toolbar

In this exercise, we will add the **Find » Text** command to the Schematic Editor's Main toolbar.

1. While in a Schematic document, right-click on the main menu (or a toolbar) and select **Customize** from the floating menu that appears. The *Customizing* dialog will appear.
2. The **Find Text** command is already available in the menus, so rather than finding it in the *Customizing* dialog, we will simply copy the command from a menu to the toolbar.
3. Click once on **Edit** menu, then click once on the **Find Text** command. It will be highlighted with a black box.
4. Holding the CTRL key, click and hold on the **Find Text** command and drag it up to the main toolbar, dropping it before the **Cut** button, as shown in Figure 3.
5. Close the *Customizing* dialog, then click the new button to confirm that it works, the *Find Text* dialog should open.

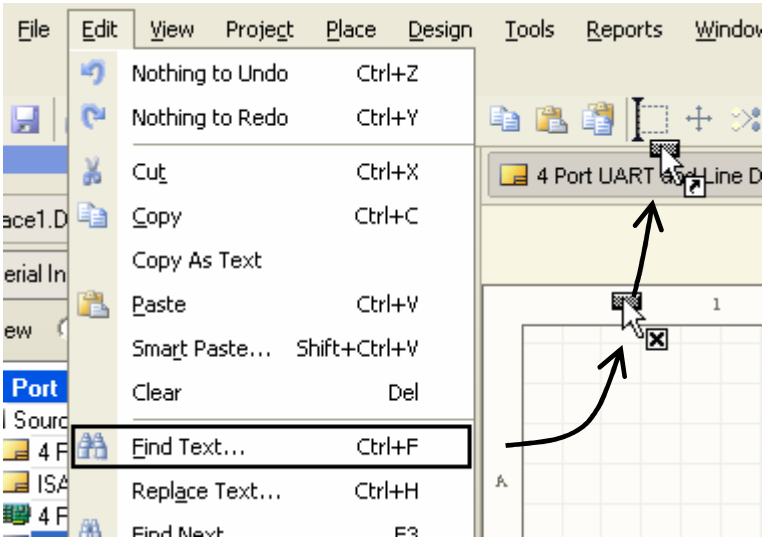

Figure 3. Copying a command from a menu to a toolbar

23.1.3.2 Adding an item to the main menu or right–click menu

In this exercise, you will add the Deselect All command to the right-click menu of the Schematic Editor. Menu items that appears in the **Right Mouse Click** menu, **Options** popup menu (press the O shortcut key) or **Filter** popup menu (press the Y shortcut key) are listed under the **Help » Popups** menu.

1. While in a Schematic document, right-click on the main menu (or a toolbar) and select **Customize** from the floating menu that appears. The *Customizing* dialog will appear.

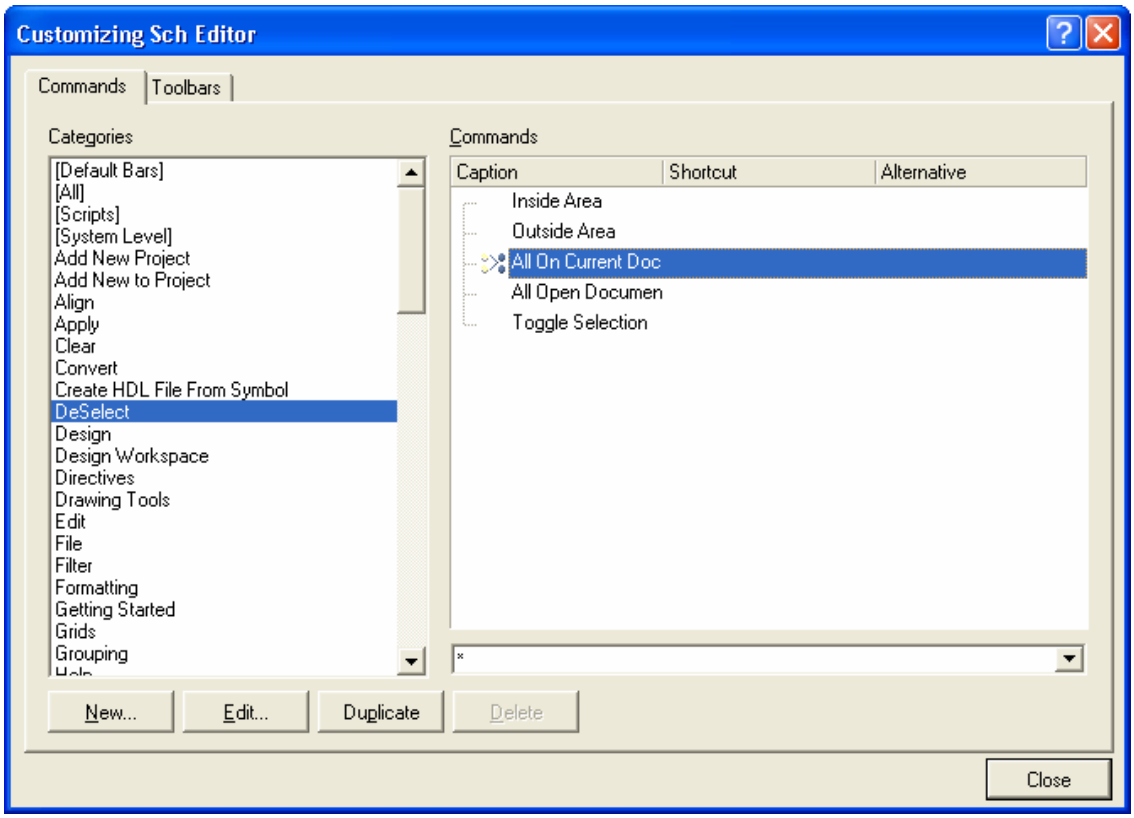

Figure 4. Customizing dialog with Right Mouse Click commands displayed

2. In the dialog, select **DeSelect** in the **Categories** list, then in the **Commands** list on the right locate the **All on Current Document** command.
3. Click and hold on this command and drag it up to the **Help** menu. Once it opens, drag down to **Popups**, then down to **Right Mouse Click**, then drop the command below the **Clear Filter** menu entry.
4. Before closing the menu we will edit the caption that appears in the menu. To do this, double-click on the new menu entry to open the *Edit Command* dialog.
5. In the Edit Command dialog, edit the caption to read **De&Select All**. Note the location of the ampersand character (&). This defines the letter that will act as the accelerator key. The letter `S` has been chosen because the letters `D` and `A` are already assigned in this menu. You are free to reassign any of the accelerator keys that are used in the menu.

Note: Resource customizations are stored in the file DXP.RCS, which is located in the `C:\Documents and Settings\<your logon name>\Application Data\AltiumDesignerSummer08` folder.

23.1.4 Creating a new menu, toolbar or shortcut key menu

Creating a new menu bar or toolbar is similar to editing one. The procedure is outlined below.

Select the **Customize** command from the **DXP System** menu (to the left of the **File** menu). This displays *Customize Editor* dialog shown in Figure 5.

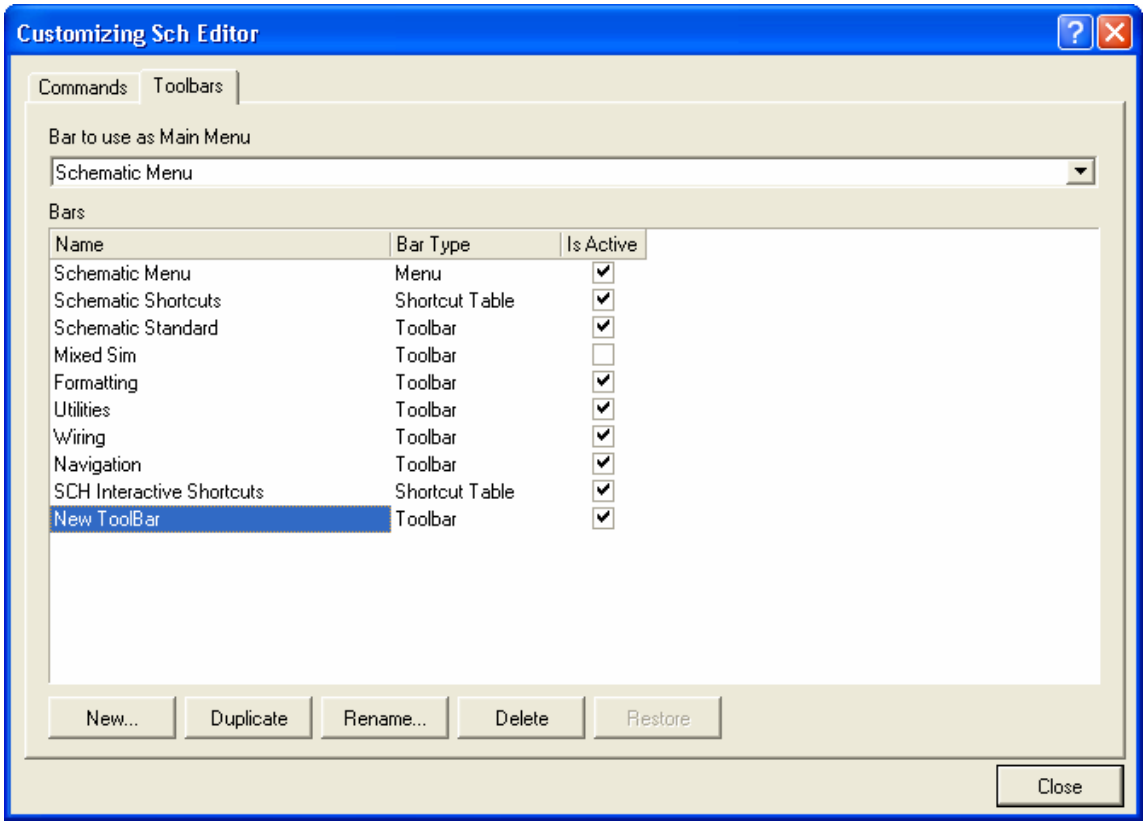

Figure 5. Bars tab of the Customizing dialog

The **Bars** tab can be used to create a new toolbar, control the display of toolbars and select which bar will be the menu bar. Only one menu can be active at any one time but any toolbar can be selected to be the menu bar. To set a new bar to be the menu bar, change the **Bar to Use as Main Menu** drop down.

23.1.4.1 Exercise — Creating a new toolbar

1. While the Schematic Editor is active, select the Customize command from the DXP menu to display the Customizing dialog.
2. Click on the Toolbars tab and click New. A new toolbar will appear in the list. Click Rename and rename it as My Toolbar, then enable the Is Active check box to display it.
3. Locate the new blank bar, if the menu and toolbars are in the default locations it will be to the right of the Help menu, and drag it so it is floating in the workspace.
4. Finally, add some buttons to your new toolbar using the steps detailed in exercise 23.1.3.1 Adding a command to a toolbar.

23.1.5 Adding a script to a menu item

You have the ability to assign a script to a server menu, toolbar or hot key in Altium Designer which makes it possible for you to run the script over a current PCB document for example. You will need to specify the full path to the script project and specify which script unit and procedure to execute the script.

There are two parameters in this case: the `ProjectName` and the `ProcName`. For the `ProcName` parameter, you need to specify the script filename and the main procedure in this script. So the format is as follows: `ProcName = ScriptFileName>ProcedureName.` Note the **GreaterThan** symbol used between the script file name and the procedure name.

1. Double click on the PCB menu and the *Customizing PCB Editor* dialog appears.
2. Click on the **New** button of the *Customizing PCB Editor* dialog.
3. Choose **ScriptingSystem:RunScript** process in the **Process:** field of the *Customizing PCB Editor* dialog.
4. Enter `ProjectName = C:\Program Files\Altium Designer Summer 08\Examples\Scripts\DelphiScript Scripts\General\HelloWorld.PrjScr | ProcName = HelloWorldDialog>RunHelloWorld` text in the **Parameters:** field of the *Customizing PCB Editor* dialog.

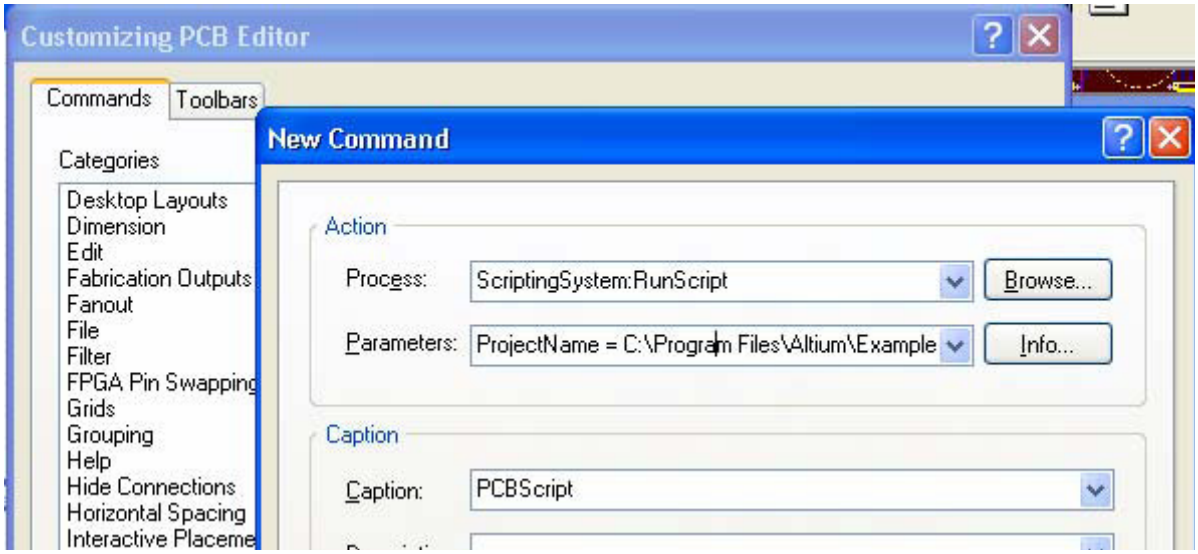

Figure 6. Creating a menu item for a script

5. You will need to give a name to this new command and assign a new icon if you wish. In this case, the name is `PCBScript` in the **Caption:** field of this dialog. The new commands appear in the **[Custom]** category of the **Categories** list. Click on the **[Custom]** entry from the **Categories** list. The **PCBScript** command appears in the **Commands** list of this dialog.
6. You then need to drag the new **PCBScript** command onto the **PCB** menu from the *Customizing PCB Editor* dialog. The command appears on the menu. You can then click on this new command and the HelloWorld form appears.