MicroStation - Custom Tools

Overview

When working through a sequence of steps to produce a product, it may seem as if you are bouncing from one toolbox to another, then back, then to another, and so on. The default tools are not always set up optimally for any given task. Docking, undocking, resizing, and placing toolsets in close proximity may help, but sometimes, what you really need is a custom toolset with the specific tools placed in the order that you use them.

It is possible to customize your interface to include custom sets of native commands to do any number of sequences or make user defined tools available.

Custom tools in MicroStation V8i are stored in a user defined DGN library (*.**DGNLib**). This tech note will walk you through setting up an example custom toolset as a task.

Before going on, please see the Custom Resources tech note. This tech note does not cover function keys or button menus.

The basic topics covered here are:

- Open the appropriate DGNLib
- Create a new Toolbox and tools
- Create a new Task/Menu
- Add tools to the Task/Menu
- Update old toolsets to V8i
- Example tool sets

Creating Custom Tools

This process assumes you have used the Custom Resources tech note to set up a custom set of user resource files including a DGNLib file.

Opening the Customize Workspace

1. Open a DGN file in MicroStation
2. Select *Workspace* > *Customize*
3. In the *Customize* dialog, select *File* > **YourName.DGNlib**

   This would be a DGN library that you set up. If you don't have one or have questions, contact the CAE Help Desk at 360-709-8013.

Transfers to the appropriate user defined DGNLib file for developing custom tools.

Create a new toolbox and tool(s)

A custom toolbox is a grouping of tools defined with commands or command sets. Once created, these toolboxes can be displayed/opened or hidden/closed using MicroStation's *Tools* > *Toolboxes* dialog.

Create the toolbox

1. In the *tools* tab of the Customize dialog, expand *User Tools* in the left pane
2. Right-click on **YourName.DGNlib**
3. Select **New Tool box**
4. Give the toolbox a name

Create a new tool

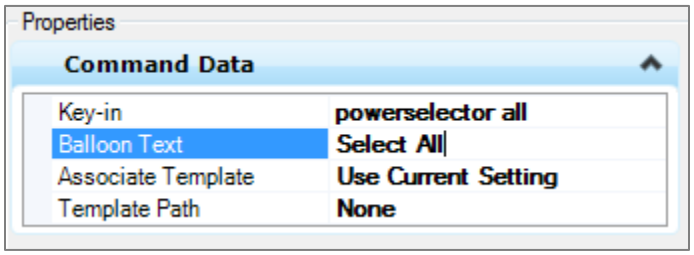
5. Right-click on the new toolbox and select **New Tool**

   Note other options in the right-click menu. These allow you to manage your toolbox.

6. Name the new tool **Select All**

Set Command Data

7. In the *Properties* > *Command Data* area, replace the *Key-in* value with a valid key in such as `powerselector all`
8. Enter the *balloon text* also known as *tool tips* or *alternative text*



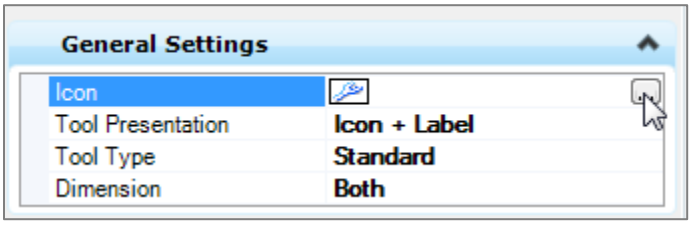
NOTE: When setting your command data you can use the key-in to try out your command.

The key-in browser keeps a record of recent commands you can cop/paste from. Remember you can use a semicolon (**;**) to string several commands together into a more complex command.

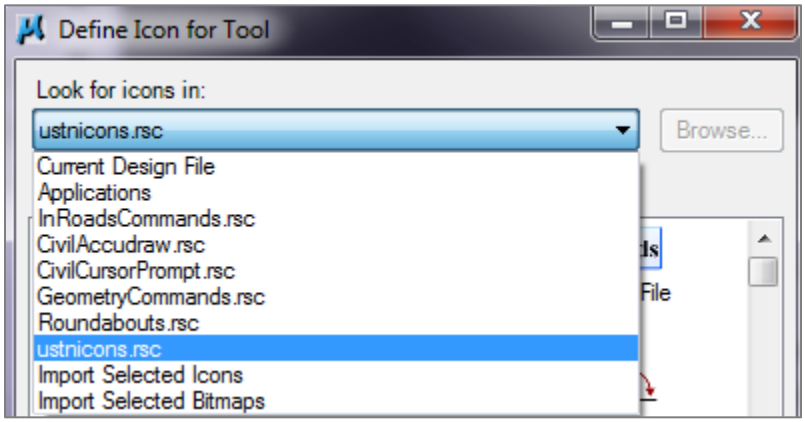
9. Revise the Key-in value to read `powerselector all; delete`
10. Change the *Balloon* text to `Delete All`
11. Rename the tool to `Delete All`

Set General Settings

12. In the *Properties* > *General Settings* area, left-click in the *Icon* field and click on the ellipsis picker.



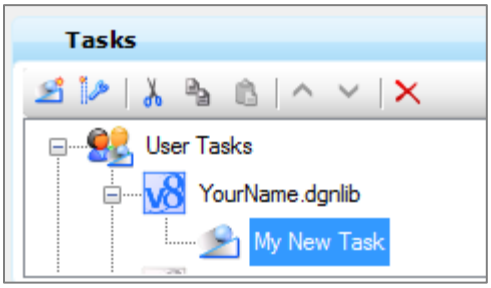
If you choose to import a custom Bitmap, any 32x32 pixel BMP file will work. Any graphics application including Microsoft Paint may be used.



13. Toolbox complete.

Create a new Task

1. On the right side of the Customize dialog, expand *Tasks*
2. Under *Tasks*, expand *User Tasks*
3. Right-click on **YourName.DGNlib** and select **New Task**
4. Give your task a name



Your task is automatically added to the Tasks dialog

Adding tools to a Task

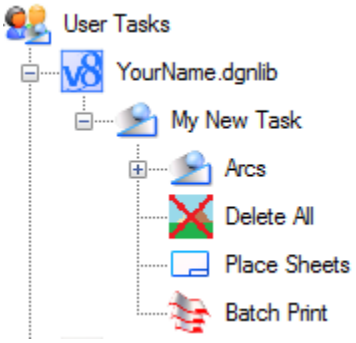
On the left pane…

5. Navigate the tree to find tools you want to include in your task.

6. Left-click and drag a tool from the left pane to the right pane and drop on the *My New Task* under **YourName.DGNlib**

   Alternatively, left-click and drag a toolbox from the left side to the right to add an entire toolbox to your task. This allows you to create tool frames similar to the main toolbox.

   NOTE: Your tasks can contain MicroStation standard tools as well as custom tools.



Additional Task Options

You can organize your task by dragging and dropping icons within the task inside the right pane. Left-click on your task on the right to display task properties below; from here you can set a custom icon for the task. By default the first tool in your task sets the icon. Set the default layout mode.

Set task type, which controls when your task is displayed. The default "No specific task" will display the task all the time.

Update Old Tool Set to V8i

Previous version MicroStation DGN libraries (*.DGNLib), and legacy tool set files (**ustn.m0***) may be brought forward into V8i. Once available, each tool can be assigned to a task and or variety of menus.

- Many tools can be brought forward.
- Some tools may have command syntax changes in the current version
- Some tools may no longer be available in the current version

***.m01** files represent custom tools developed many versions back and should be upgraded to the current environment to use them.

DGNLibs

On the left pane…

1. Expand *User Tools*
2. Expand **YourName.DGNlib**
3. Scroll down the list and find the custom toolset

   NOTE: The names of your custom toolboxes are blue

4. Right-click on the custom toolset and select **Copy**

5. Right-click on **YourName.DGNlib** and select **Paste**
6. Repeat for all custom tools you want to upgrade
7. Correct any syntax problems in your DGNLib copy and remove any tools that no longer exist
8. Once all your custom tools are copied and updated delete your **.m01** files to prevent conflicts

Legacy *.M01

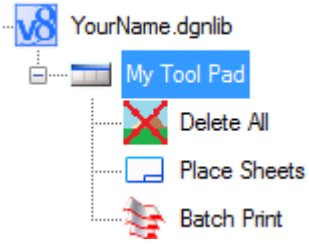
1. In Windows Explorer, copy the *.m01 file to
   C:\Users\Public\CAE\Interfaces\MicroStation\WSDOT

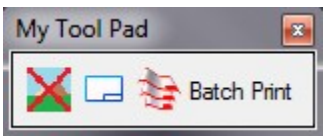
   This file can typically be found in H:\MS_UserRSC\WSDOT
2. Open MicroStation
3. At the MicroStation Manager, ensure that the Interface is set to **WSDOT**
4. Open a DGN file
5. Select *Workspace* > *Customize*
6. In the Customize dialog, select *File* > **YourName.DGNlib**
7. In the left pane, expand *Application Tools*
8. Under *Application Tools*, expand *MicroStation*
9. Scroll down the list noting the blue colored selections
10. On the right pane, expand *Tasks* (or other collection)
11. Expand *User Tasks* > **YourName.DGNlib**
12. Left-click and drag your toolset from the left pane to the right pane and drop on the *My New Task* under **YourName.DGNlib**

    Other collections (*MenuBar*, *Context Menus*, etc.) behave similarly

Example Tools

Here are some examples you could make.





This first example selects all elements in your file and deletes them. This command is built from the internal MicroStation commands **powerselector all** and **delete** chained together with a semicolon.

Properties

Command Data		General Settings	
Key-in	**powerselector all; delete**	Icon	
Balloon Text	**Delete All**	Tool Presentation	**Icon Only**
Associate Template	**Use Current Setting**	Tool Type	**Standard**
Template Path	**None**	Dimension	**Both**

In this second example we activate a custom WSDOT programmed utility, specifically the **Place/Label/Stamp sheets** utility.

Properties

Command Data		General Settings	
Key-in	**vba run modSheetUtils.SheetUtils**	Icon	
Balloon Text	**Place/Stamp/Label Sheets**	Tool Presentation	**Icon Only**
Associate Template	**Use Current Setting**	Tool Type	**Standard**
Template Path	**None**	Dimension	**Both**

In this final example we open an internal MicroStation dialog, the legacy Batch Print dialog. Note that the *Tool Presentation* indicates both icon AND label in the toolbox.

Properties

Command Data		General Settings	
Key-in	**mdl load batchplt**	Icon	
Balloon Text	**Batch Print**	Tool Presentation	**Icon + Label**
Associate Template	**Use Current Setting**	Tool Type	**Standard**
Template Path	**None**	Dimension	**Both**

For questions or comments on this tech note, contact your regional CAE Support Coordinator or the WSDOT CAE Help Desk at (360) 709-**8013**.