



Autodesk® AutoCAD® Customization Boot Camp: Basics (No Experience Required)

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CM6186-L We can extend AutoCAD software in a number of ways, but many users are unsure of where or how to get started. In this lab you will create custom desktop icons, modify the ribbon and Quick Access toolbar, create and modify command aliases that you can use to start commands, and define tools and tool palettes to reduce repetitive drawing tasks. This lab will give you a solid foundation in some of the available customization features that AutoCAD software offers to help you become more productive when you return to your office.

Learning Objectives

At the end of this class, you will be able to:

- Create custom desktop icons
- Create command aliases
- Define tools and tool palettes
- Modify the ribbon and Quick Access toolbar in AutoCAD

About the Speaker

Lee is a Principal Learning Content Developer on the AutoCAD® team at Autodesk and has been an AutoCAD user for over 15 years in the fields of architecture and facilities management. He has been teaching AutoCAD users for over a decade at both the corporate and college level. He is best known for his expertise in programming and customizing AutoCAD-based products, and has 15+ years of experience programming with AutoLISP®, VBA, Microsoft® .NET, and ObjectARX®. Lee has written articles for AUGI® publications and white papers for Autodesk on customization. He is the author of several books on AutoCAD and has been an active technical editor for the AutoCAD Bible series.

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1 Introduction

AutoCAD is an extensive 2D drafting and 3D modeling program. The functionality of AutoCAD has grown since it was first introduced over 30 years ago in 1982. What sets AutoCAD apart from many other CAD programs is its expansive capabilities of being customized and tailored to the way a company works and their workflows. Workflows that are often customized are related to extracting data from a drawing for use downstream in a bill of materials or ordering system to consuming project information from a data source such as a spreadsheet or database.

This lab provides you with the opportunity to roll up your sleeves and get some experience with customizing AutoCAD, so you can go back to your office and get more out of your company's investment. While it is true that you need to learn how to program to get the maximum benefits out of AutoCAD, you do not need to learn how to program in order to be more productive in the everyday tasks you are already performing.

2 Which Customization and Programming Options are Available

Not all customization and programming options are created equally, and some of the ways you can customize AutoCAD are so well integrated into the program that you might not even realize you are customizing AutoCAD. Creating new layers and styles are forms of customization that many drafters perform on a daily basis, and do not even realize that they are customizing AutoCAD. Saving the layers and styles to a drawing template can help to reduce repetitive tasks and errors.

The following lists many of the common customization and programming options that are available:

Basic

- Layers
- Annotation styles (text, dimensions, multileaders, and tables)
- Blocks
- Drawing templates
- Plot styles
- User profiles
- Workspaces
- Desktop icon customization
- Command aliases
- Tool palettes
- Materials and visual styles

Intermediate

- Scripts
- User interface (CUI Editor)
- Dynamic blocks
- Action macros
- DIESEL
- Custom linetypes and hatch patterns
- Custom shapes and text styles

Advanced

- Database connectivity
- AutoLISP / Visual LISP
- Visual Basic for Applications (VBA)
- ActiveX / COM (VBA, VBScript, VB.NET, C#, C++)
- Managed .NET (VB.NET, C#)
- ObjectARX (C++)
- JavaScript
- Sheet Set Manager API
- Custom CAD Standards plug-ins

3 What You Need to Get Started

Most of the customization and programming options that are available in AutoCAD are supported through utilities or commands that can be found inside the program or are installed with the operating system (Windows or Mac OS). It is when you want to extend the functionality of AutoCAD by using .NET or ObjectARX that you will need to purchase, download, and/or install additional software.

4 Desktop Shortcuts

Shortcuts, often found on the desktop, are used to open documents and start applications. Application shortcuts are commonly used to start an executable and pass additional parameters to an application that alters the way the application starts up. For example, when you install an AutoCAD-based vertical program, it uses command line switches to set a profile current when launched.

Customizing a desktop shortcut is done by changing its Target property. You can add one of 15+ different command line switches to the Target property for a shortcut that starts the AutoCAD executable. Multiple command line switches can be used at a time and they are not case sensitive. The following is the default execution/target of the AutoCAD 2015 – English shortcut:

"C:\Program Files\Autodesk\AutoCAD 2015\acad.exe" /product ACAD /language "en-US"

Some of the most useful and commonly used command line switches are:

Switch Name	Description
/language	Specifies which installed language pack to use. /language "en-us"
/nohardware	Disables hardware acceleration at startup. /nohardware
/safemode	Prevents the loading and execution of all executable file types in the current session. (Introduced with AutoCAD 2014 and replaces /nolispl which was introduced with AutoCAD 2013 SP1) /safemode

Switch Name	Description
/nologo	Hides the splash screen at startup. /nologo
/p	Sets a named user profile current that is loaded in the product or loads a previously exported profile (ARG) file. /p "<<Unnamed Profile>>"
/pl	Loads a drawing set description (DSD) file created with the PUBLISH command and plots the drawings listed in the file in the background. /pl "mypublish.dsd"
/product	Specifies the AutoCAD-based product to launch when AutoCAD installed side-by-side with a vertical product. /product ACAD /product ACA
/t	Specifies the drawing template to use for the default drawing. /t "mytemplate.dwt"
/set	Loads a sheet set (DST) file. /set "mysheets.dst"
/w	Sets a named workspace current if it is part of the loaded CUI file. /w "2D Drafting"

Note: When specifying a folder or file that contains spaces in the Target property, you must surround the path and file name with double quotation marks.

The following shows an example of suppressing the splash screen (/nologo), creating the default drawing based on the *C-size.dwt* drawing template file (/t), and setting the 3D Basics workspace current (/w).

```
"C:\Program Files\Autodesk\AutoCAD 2015\acad.exe" /product ACAD /language "en-US"
/nologo /t "C:\Datasets\Tuesday\CM6186-L Autodesk® AutoCAD® Customization Boot Camp –
Basics (No Experience Required)\C-size.dwt" /w "3D Basics"
```

E1 Create a Desktop Shortcut

See the Exercises section at the end of the handouts.

5 Command Aliases

Commands are the heart and soul of AutoCAD, but they take time to type in or locate in the user interface. While there have been improvements to the user interface ever since AutoCAD was first introduced, the Command prompt is still the fastest way to execute a command.

Unlike the user interface, command aliases have stayed relatively consistent for well over 12+ releases. This is why many AutoCAD veterans can execute a command often in less time than

a user looking for a command in the user interface, whether in the 'Classic' workspace or using the ribbon.

Command aliases are stored in a Program Parameters (PGP) file named *acad.pgp* and can be edited using a plain text editor, such as Notepad. Two separate pieces of information, an abbreviation and an AutoCAD command name, are required to define a command alias and must use the following syntax:

*abbreviation, *command*

The following are examples of common command aliases:

```
C,    *CIRCLE
E,    *ERASE
L,    *LINE
P,    *PAN
Z,    *ZOOM
```

When defining new aliases, Autodesk recommends placing them at the bottom of the PGP file to make them easier to identify which aliases need to be migrated after upgrading to a new release. If you add an alias that has the same abbreviation as another alias in the PGP file, the last instance of an alias is the one AutoCAD loads and uses.

Tip: You can use the Alias Editor (ALIASEDIT command) that is part of the Express Tools to define and modify command aliases in the *acad.pgp* file.

Command aliases can only be used to start a command and not start a command with a specific sequence of options. To start a command and execute a series of options, you will want to create an action macro or define a custom function using AutoLISP. Action macros and a basic introduction to AutoLISP is covered in the "AutoCAD Customization Boot Camp: Beyond the Basics" AU sessions.

The PGP file also allows you to define external commands that are used to start OS applications from inside of AutoCAD. External commands are not as common these days since it is much easier to launch an application from the Windows UI, instead of from a DOS prompt.

The following is an example of an external command alias defined with the name EXPLORER and is used to start Windows Explorer or File Explorer:

```
EXPLORER, START EXPLORER, 1,,
```

For more information about external command aliases, see the beginning area of the PGP file or the AutoCAD Help system.

E2 Define Custom Command Aliases

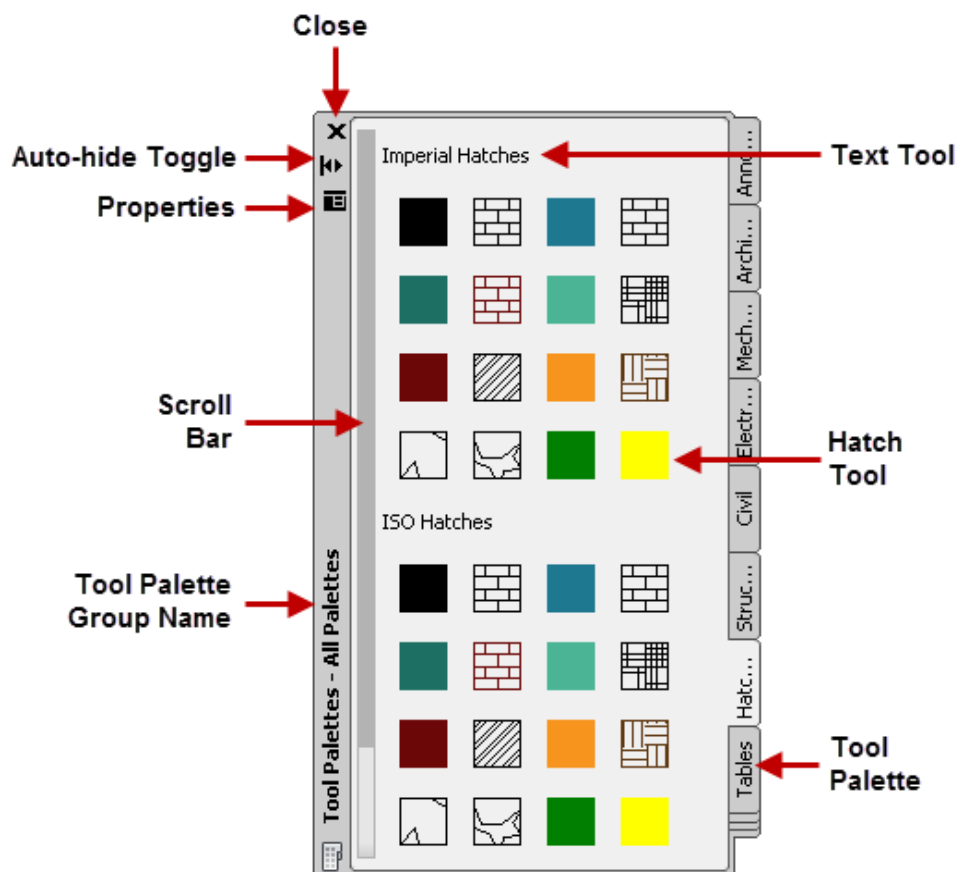
See the Exercises section at the end of the handouts.

6 Tool Palettes

Tool palettes are used to visually access commonly used drafting and annotation objects, commands, hatches and gradient fills, blocks and many other objects. Tool palettes were first introduced with AutoCAD 2004 and have been expanded to support new objects and styles over the releases since then.

Tool palettes are displayed in the Tool Palettes Window which can be displayed using one of the following methods:

- On the ribbon, click View tab > Palettes panel > Tool Palettes
- At the Command prompt, enter TOOLPALETTES or TP
- Press Ctrl+3



1. **Close** – Closes the Tool Palettes Window.
2. **Scroll bar** – Indicates additional tools are available and not currently visible. Click or drag on the scroll bar to move the other tools into the current view.
3. **Title bar** – Displays the palette's title and the current tool palette group.
4. **Auto-hide** – Collapses the Tool Palettes Window to just its title bar when it loses focus.

5. **Properties** – Displays the palette’s shortcut menu.
6. **Text (Comment) Tool** – Displays information about the tools on the current tool palette.
7. **Tool** – Command or specialty tool that performs an action when clicked or dragged into the drawing area.
8. **Tool Palette** – Displays the tools associated with the tool palette in the Tool Palettes Window.

Tools and Tool Palettes

A tool is the smallest component of a tool palette that is displayed as part of the Tool Palettes window. Tool palettes can contain one of the following types of tools:

- Basic geometry (lines, arcs, circles, polylines, ...)
- Annotation (dimensions, text, tables, leaders, ...)
- External references (xrefs, raster images, and underlays)
- Hatch and gradient fills
- Blocks (static and dynamic)
- Visual styles
- Materials
- Lights
- Cameras
- Command and command sequences

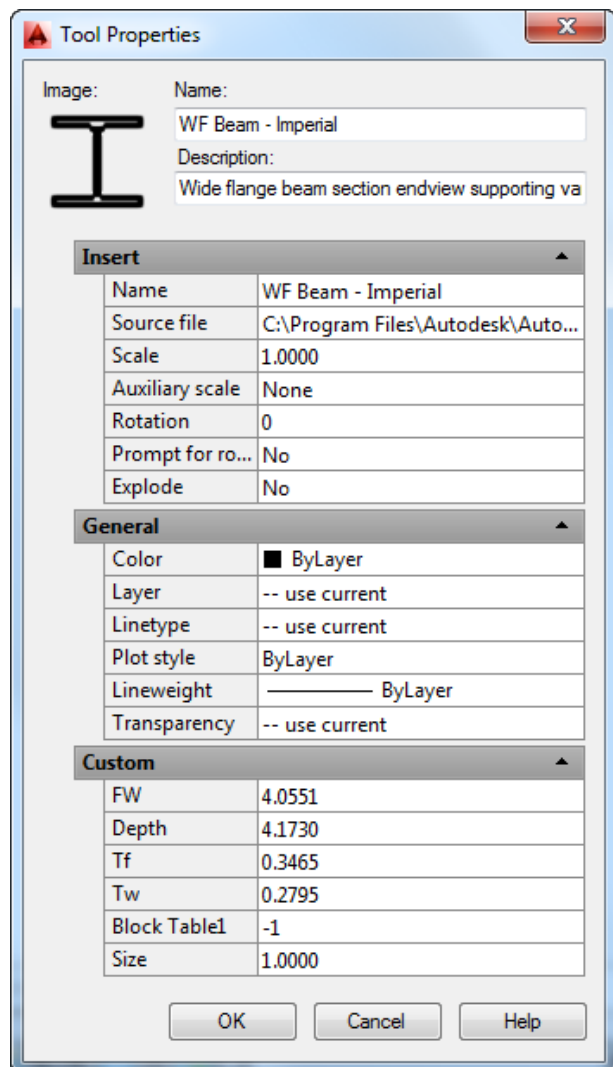
Create and Modify Tools

New tools can be added to a tool palette using one of the following methods:

- Drag an object from the drawing area to a tool palette
- Drag a command from the Commands pane in the Customize User Interface (CUI) Editor to a tool palette
- Drag a supported file format from Windows Explorer or File Explorer (DWG, PNG, JPG, PDF, DGN, ...) to a tool palette
- Use DesignCenter to add xrefs, blocks, raster images, and hatch patterns

Tools contain two different types of properties; tool specific and general properties that are common to most tools. The general properties that can be adjusted for most tools are:

- Color



- Layer
- Linetype
- Plot Style
- Lineweight
- Transparency

The properties of a tool can be modified using the Tool Properties dialog box. The Tool Properties dialog box is displayed by right-clicking over a tool and clicking Properties.

Tools can be copied and removed by right-clicking over the tool and clicking Copy or Delete. If you copy a tool, it can be pasted as a duplicate of the original tool on the same tool palette or it can be pasted on a different tool palette.

Warning: Removing a tool from a tool palette cannot be undone.

Tool Palettes

Tools are easy to create, and as a result can be hard to find without some planning and organization. You can create new tool palettes to group related tools together, and utilize both separators and text on a tool palette to further group related tools.

Tool palettes can be renamed and removed by right-clicking over a tab along the side of the Tool Palettes window.

Warning: Removing a tool palette cannot be undone.

Tool Palette Groups

Tool palette groups are used to control which tool palettes are displayed in the Tool Palettes window. The **All Palettes** tool palette group displays all loaded tool palettes in the Tool Palettes window. The Customize dialog box (CUSTOMIZE command) is used to create and manage tool palette groups.

A tool palette group can be set current by right-clicking the title bar of the Tool Palettes window, and clicking the tool palette group from the bottom of the menu.

Sharing Tool Palettes

Tool Palettes can be shared between multiple users. You can export a palette from one workstation and then import it on another, or place the tool palette files in a shared location. Exporting and importing tool palettes is handled through the Customize dialog box (CUSTOMIZE command).

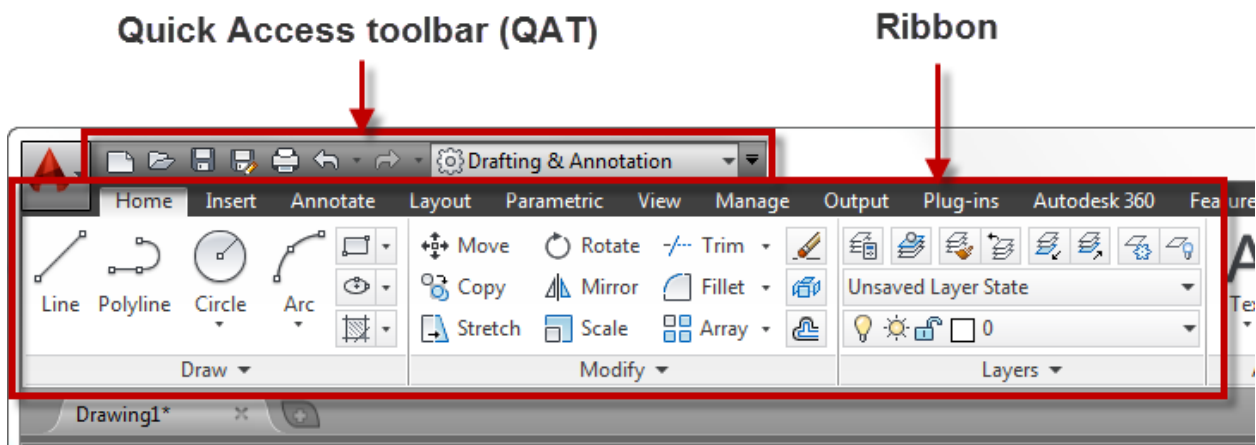
If you have access to a network, it might be more efficient to place the tool palette files on a network share and then add the location to the Tool Palettes File Locations item on the Files tab of the Options dialog box (OPTIONS command).

E3 Create a Tool Palette and Tools

See the Exercises section at the end of the handouts.

7 User Interface (Quick Access toolbar (QAT), Ribbon, and Workspaces)

The AutoCAD user interface contains many features that are used to execute a command or change a current setting. The main features of the user interface that are exposed by default are the Quick Access toolbar (QAT) and the ribbon, which can also be seen in modern applications created by other software companies such as Microsoft and TechSmith.



Quick Access Toolbar (QAT)

The QAT is displayed in the top-left corner of the AutoCAD application window by default with the ribbon located below it. Most of the tools located on the QAT are related to file management tasks; opening, saving, creating, and plotting drawings.

Customizing the QAT is handled directly from the application window or the Customize User Interface (Editor). From the application window, you can toggle the display of items currently assigned to the QAT, add or remove controls, and the placement of the QAT below the ribbon using the Customize button located on the right side of the QAT.

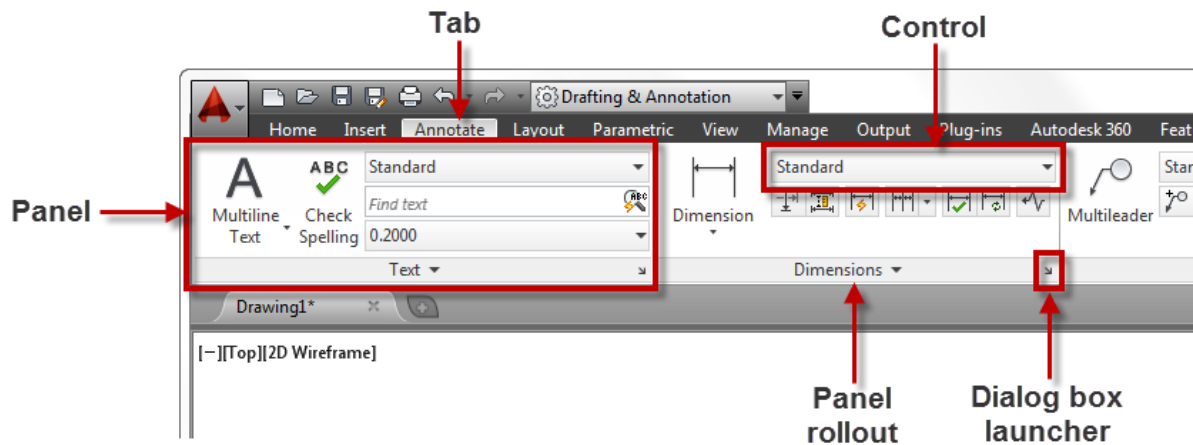
The Customize User Interface (CUI) Editor provides the most flexibility as you can create different Quick Access toolbars and assign them to different workspaces as needed.

E4 Create a Quick Access Toolbar

See the Exercises section at the end of the handouts.

Ribbon

The ribbon utilizes tabs and panels to group commands and settings by tasks.



1. **Tab** – Organizes panels by task; draw, annotate, and output among others.
2. **Panel** – Groups related commands and controls by feature/task; draw, modify, layers, and dimensions among others.
3. **Control** – Executes a command or changes a setting.
4. **Panel rollout** – Expands the panel to display additional controls.
5. **Dialog box launcher** – Starts a command macro, which commonly displays a dialog box or palette.

The ribbon can be customized in a limited capacity directly from the application window. You can minimize the display of the ribbon, toggle the display of panels and tabs that are currently assigned to the workspace, dock and undock ribbon panels, reorder panels on a ribbon tab, and assign a tool palette group to display when a tab is set current.

Most customization of the ribbon is handled through the Customize User Interface (CUI) Editor. You use the CUI Editor to create ribbon panels and then assign those ribbon panels to a ribbon tab. Like the Quick Access toolbar, you must assign a ribbon tab to a workspace before it can be displayed.

The creation and customization of a ribbon panel is very similar to a Quick Access toolbar, the main difference is that you can create multiple rows of controls on the ribbon instead of a single row, and you can specify which controls on a panel should be displayed by default and those that are available when the panel is expanded. Controls placed below the **<SLIDEOUT>** item are available only when the panel is expanded.

E5 Create a Ribbon Tab and Panel

See Exercises at the end of the handouts.

Workspaces

Workspaces control the display and placement of many user interface elements in the application and drawing window. AutoCAD ships with several pre-defined workspaces that help

you to switch between the use of 2D drafting and 3D modeling tools. The Drafting and Annotation workspace is the default workspace that is used when AutoCAD is installed.

The user interface elements that workspaces control are:

- Quick Access toolbar (QAT)
- Toolbars
- Pull-down menus
- Palettes
- Ribbon tabs

Workspaces can also do the following:

- Set the Model tab or last used layout current when a drawing is opened
- Control the display of the
 - menu bar,
 - application and drawing status bars,
 - navigation bar,
 - drawing window model/layout tabs,
 - and scroll bars in the drawing window.

Workspaces can be modified through the direct manipulation of user interface elements in the application window. After manipulating the interface, you use the `WSSAVE` command to save the changes to a new or existing workspace. If you need more control over the elements of a workspace, you can use the Customize User Interface (CUI) Editor.

E6 Modify and Create a New Workspace

See Exercises at the end of the handouts.

8 Where to Get More Information

When you are first starting to use a new feature, you will have questions and where you go to find answers might not be clear. The following is a list of resources that you can use to get help:

- **Help System** – The Customization Guide in the AutoCAD online Help system contains a lot of information on customizing many of the options mentioned earlier. To access the online help, go to: <http://help.autodesk.com/view/ACD/2015/ENU/>.
- **Autodesk Discussion Forums** – The Autodesk forums provide peer-to-peer networking and some interaction with Autodesk moderators. You can ask a question about anything in AutoCAD and get a response from a fellow user or Autodesk employee. To access the discussion forums, go to <http://forums.autodesk.com>, click AutoCAD, and then click one of the links for a subgroup.
- **AUGI Forums** – The AUGI forums provide peer-to-peer networking where you can ask questions about virtually anything in AutoCAD and get a response from a fellow user. Visit AUGI at <http://www.augi.com/>.

- **Industry Events and Classes** – Industry events such as AUGI CAD Camp and Autodesk University are great places to learn about new features in an Autodesk product. Along with industry events, you might also be able to find classes at your local technical college or Autodesk Authorized Training Center (ATC).
- **Internet** – There are tutorials on the Internet to learn many of the customization and programming options that are offered in AutoCAD. Use your favorite search engine, such as Google or Bing and search on the topic of interest.
- **Books** – There are general and specialized books on AutoCAD that cover the customization and programming options that are available.


9 Exercises

This section contains all the exercises for this lab and for when you get back to the office.


E1 Create a Desktop Shortcut

This exercise demonstrates how to create a custom desktop shortcut to launch AutoCAD with a specific template and to set the '3D Basic' workspace current.

1. Open Windows Explorer or File Explorer, and browse to *C:\Datasets\Tuesday\CM6186-L Autodesk® AutoCAD® Customization Boot Camp – Basics (No Experience Required)*.

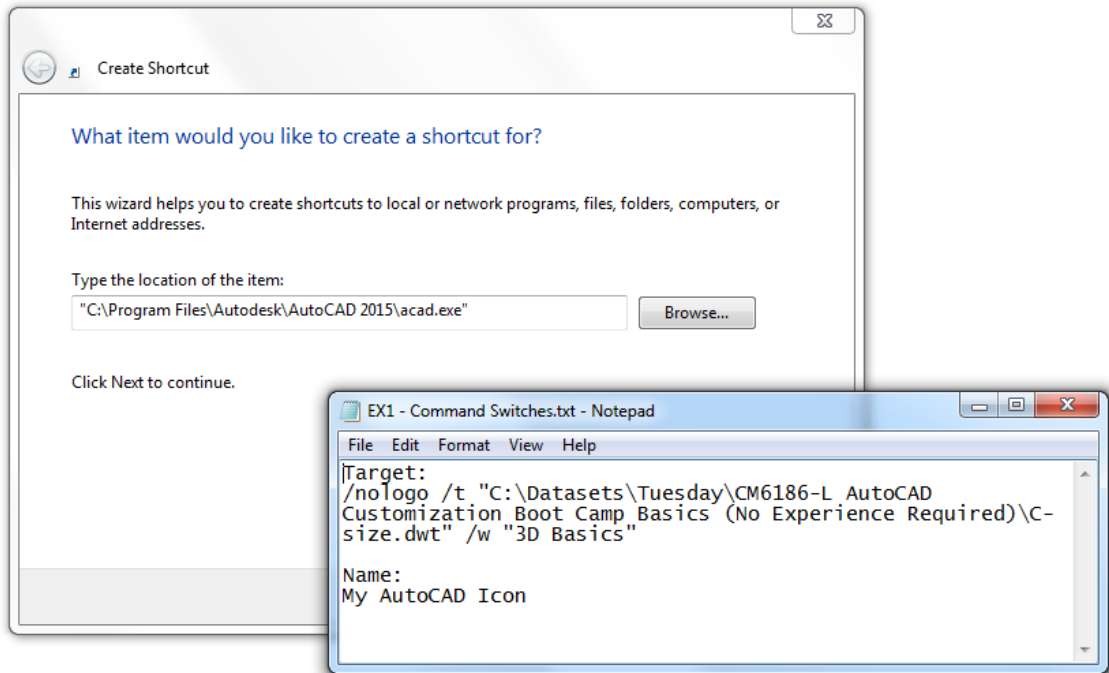
Tip: If you have a keyboard with a Windows key, press +E to launch Windows Explorer or File Explorer.

2. In Windows Explorer or File Explorer, double-click the *EX1 - Command Switches.txt* file to open it in Notepad.
3. Minimize all open applications until you get to the desktop.

Tip: If you have a keyboard with a Windows key, press +M to minimize all open Windows.

4. Right-click in an empty area of the desktop and click New ➤ Shortcut.
5. In the Create Shortcut dialog box, in the Type the Location of the Item text box, type **C:** and then click Browse.

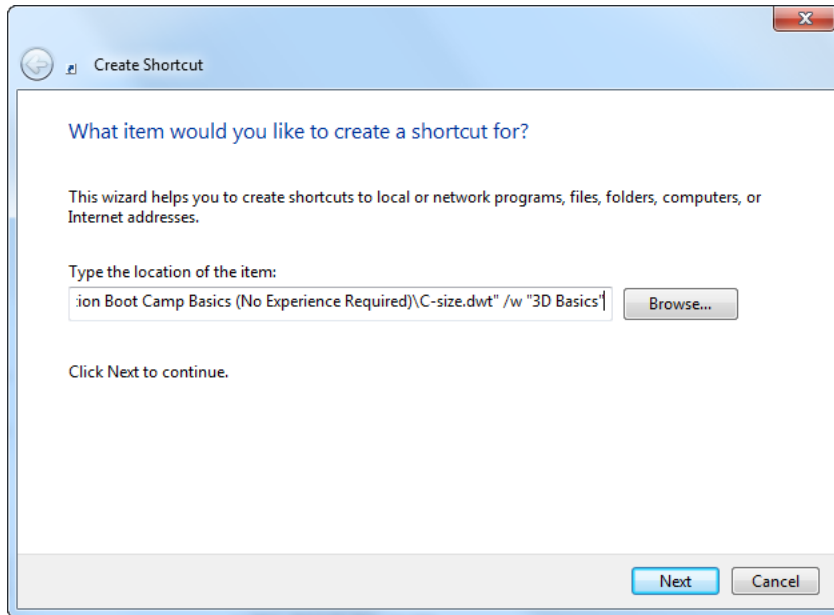
6. In the Browse for Files or Folders dialog box, navigate to *C:\Program Files\Autodesk\AutoCAD 2015* and select **acad.exe**. Click OK.



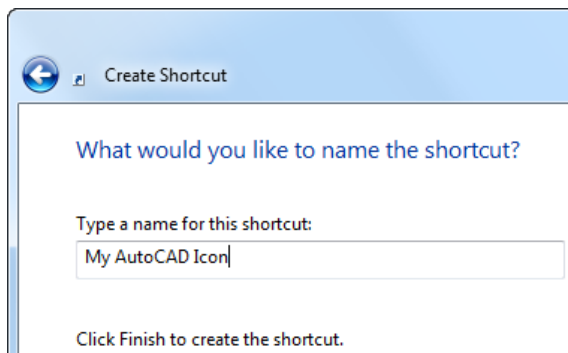
7. In Notepad, select the text under Target. Right-click the selected text and click Copy.
8. In the Create Shortcut dialog box, click in the Type the Location of the Item text box and press the End key.
9. Press the Spacebar once.

10. Right-click in the Type the Location of the Item text box. Click Paste to add the copied command line switches.

Note: If the dataset was placed in a different location, update the text *C:\Datasets\Tuesday\CM6186-L Autodesk® AutoCAD® Customization Boot Camp – Basics (No Experience Required)* in the pasted text to match the location of the dataset for this session.



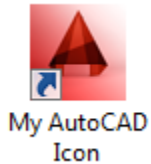
11. In the Create Shortcut dialog box, click Next.
12. In Notepad, copy the text under Name.
13. In the Create Shortcut dialog box, click in the Type a Name for this Shortcut text box and select the current text. Paste the text copied from Notepad.



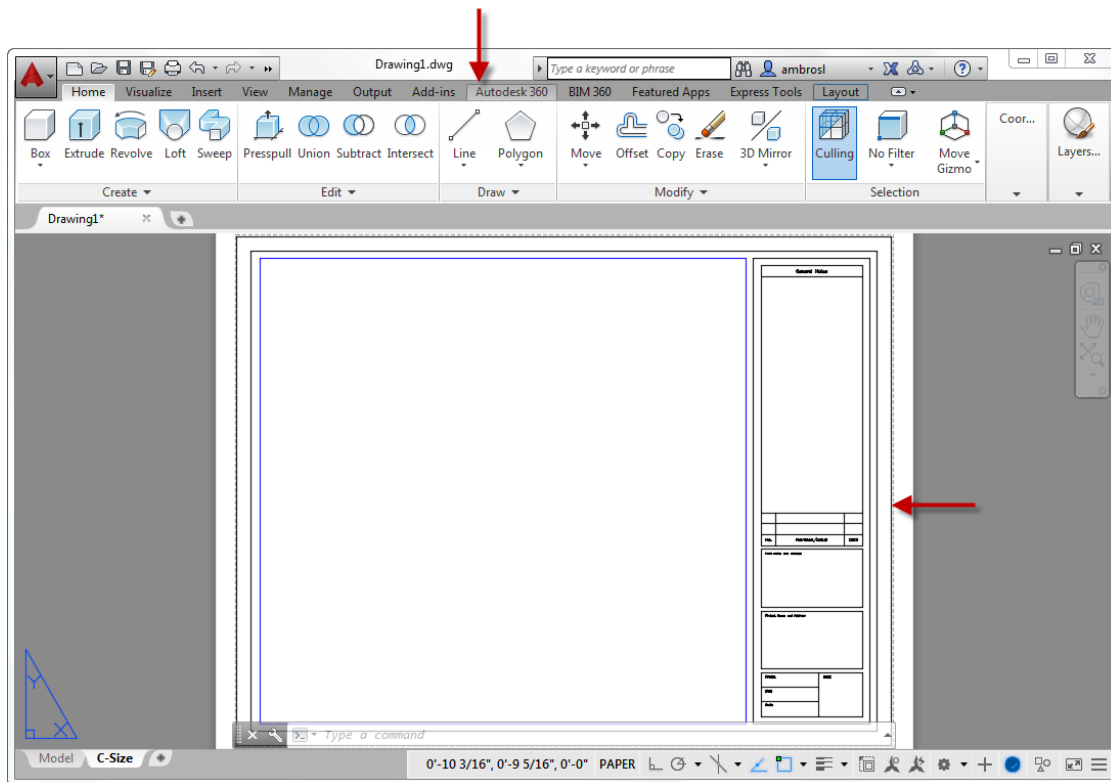
14. Click Finish to create the shortcut.

If a message box is displayed informing you that the shortcut already exists, click Yes. Normally, you would click No and change the name being used for the shortcut to avoid losing a previously customized shortcut.

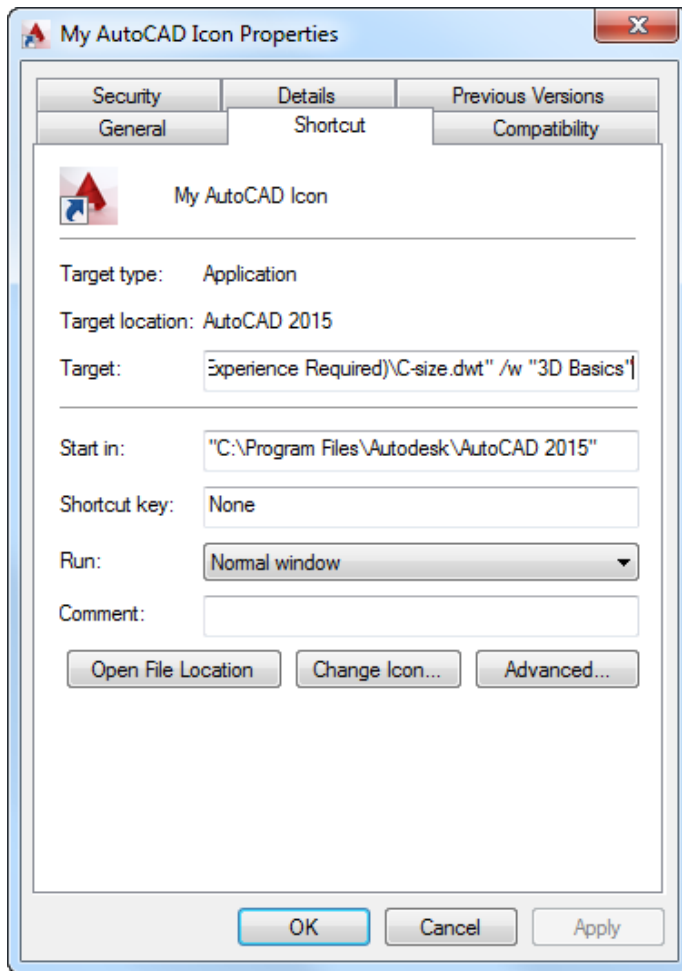
15. Double-click the new My AutoCAD Icon shortcut to test it.



When AutoCAD starts, no splash screen will be displayed, the 3D Basic workspace will now be current, and the default drawing file that is opened will be based on the *C-size.dwt* drawing template file.



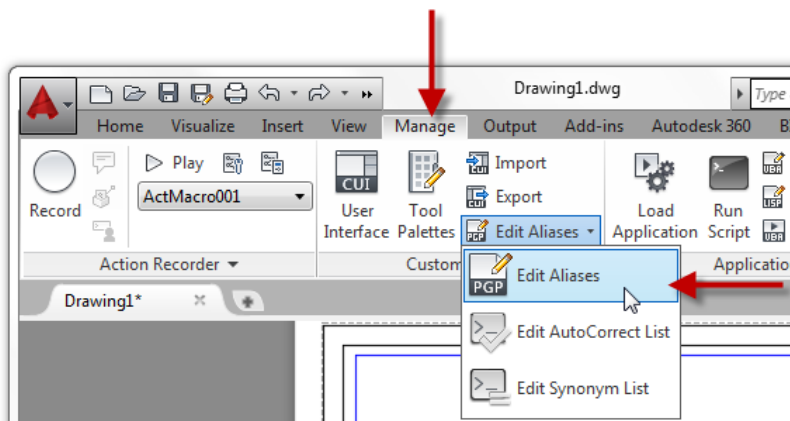
After you create a shortcut, you can modify it by right-clicking the shortcut and then clicking Properties.



E2 Define Custom Command Aliases

This exercise demonstrates how to define an alias to start the REVLOUD command, override the C alias to start the COPY command instead of CIRCLE, and create a new alias for the CIRCLE command.

1. In AutoCAD, on the ribbon, click Manage tab > Customization panel > Edit Aliases > Edit Aliases.



2. In Notepad, scroll to the bottom of the file and click in the blank line under the 'User Defined Command Aliases' section.
3. Type the following text:

```
RV, *REVCLLOUD  
C, *COPY  
CC, *CIRCLE
```

The PGP file should now look similar to the following:

```
; than once in this file, items in the User Defined Command Alias take  
; precedence over duplicates that appear earlier in the file.  
; *****-----***** ; No xlate ; DO NOT REMOVE  
RV, *REVCLLOUD  
C, *COPY  
CC, *CIRCLE
```

4. In Notepad, click File menu > Save.
5. Switch back to AutoCAD, at the Command prompt, type **reinit** and press Enter.
6. In the Re-initialization dialog box, click PGP File and click OK.
7. At the Command prompt, type **rv** and press Enter.

The REVCLLOUD command should start.

8. Test the C and CC command aliases as well.

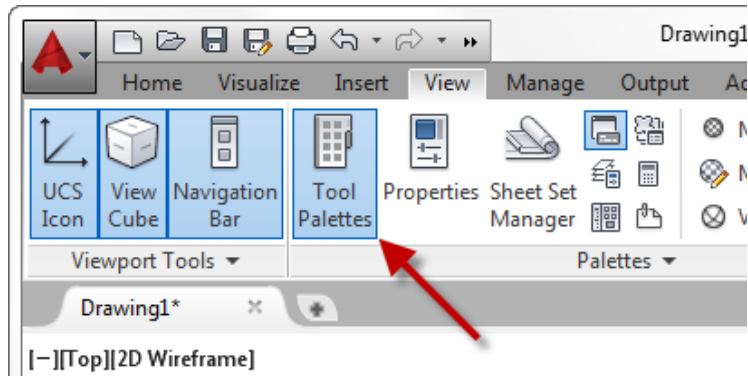
E3 Create a Tool Palette and Tools

This exercise explains how to create a new tool palette with some new tools.

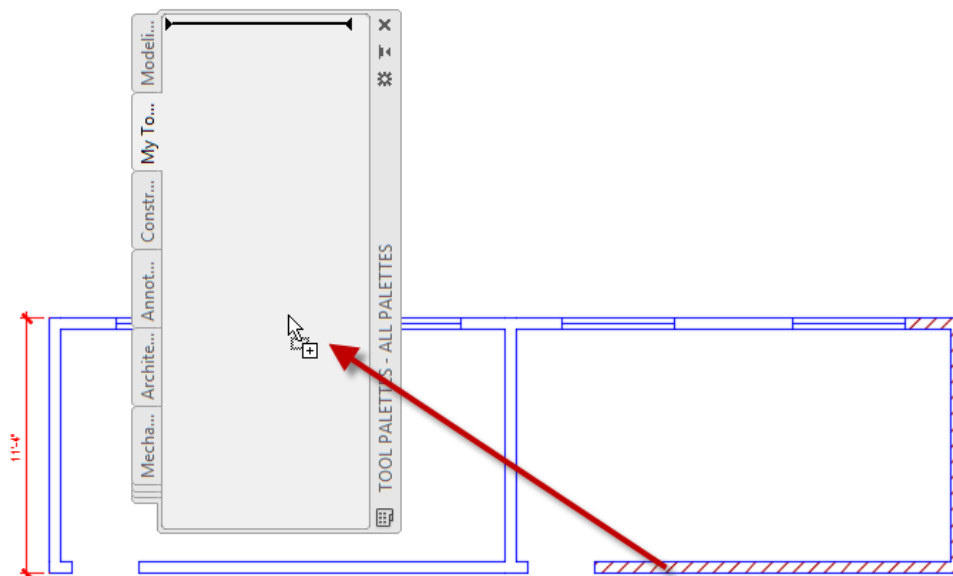
1. Open the *Sample Drawing.dwg* file from **C:\Datasets\CM6186-L Autodesk® AutoCAD® Customization Boot Camp – Basics (No Experience Required)** if you do not already have it open from the previous exercise.

2. Display the Tool Palettes window if it is not displayed from the previous exercise yet.

On the ribbon, click View tab > Palettes panel > Tool Palettes.



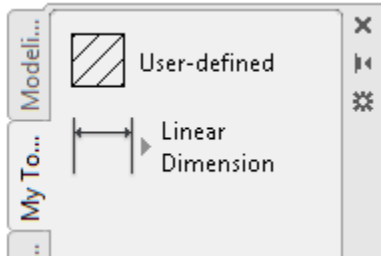
3. On the Tool Palettes window, right-click over a tab and click **New Palette**.
4. In the in-place editor, type **My Tools** and press Enter.
5. Click the hatch object located in the walls along the right side of the drawing. Press and hold down the right mouse button, and then drag the cursor over the My Tools palette.



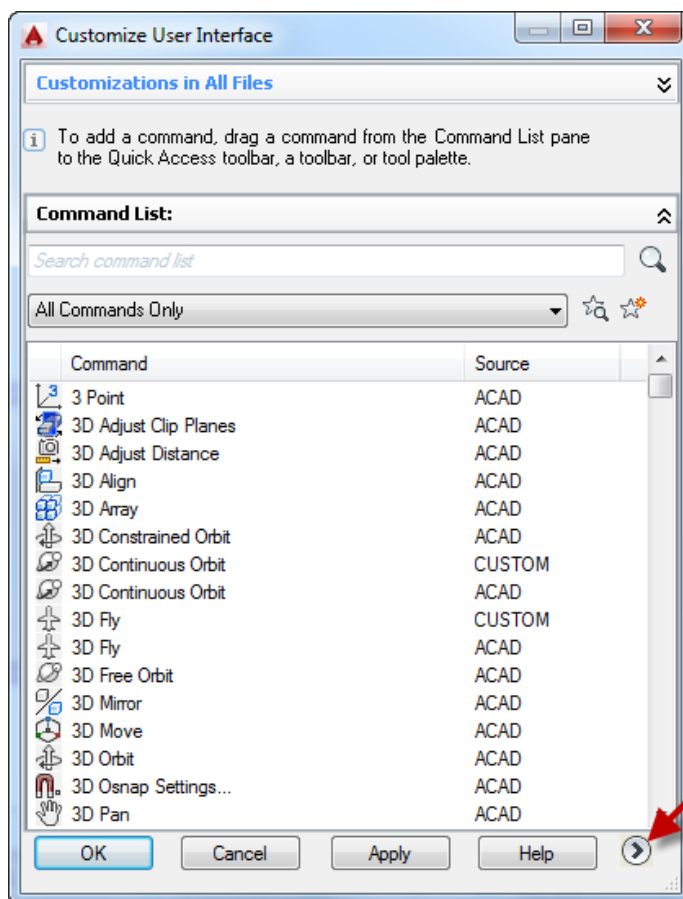
6. Release the right mouse button to create a new hatch tool based on the properties of the selected hatch object

7. Click and drag the dimension from the left side of the drawing onto the My Tools palette.

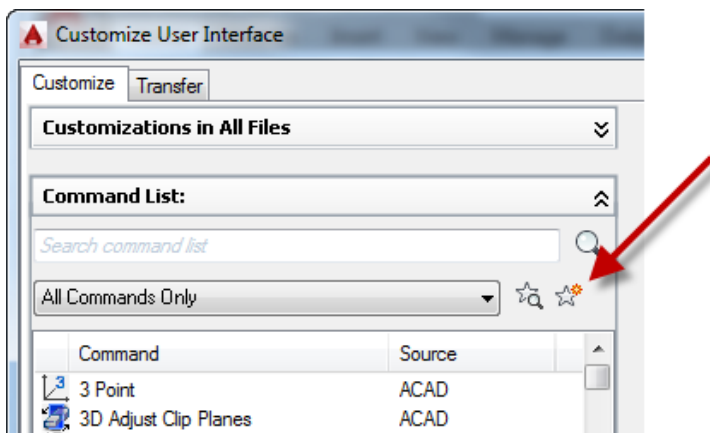
You should now have two new tools on the My Tools palette.



8. In an empty area of the My Tools palette, right-click and click **Customize Commands**.
9. In the Customize User Interface (CUI) Editor, in the lower-right corner, click the disclosure triangle.

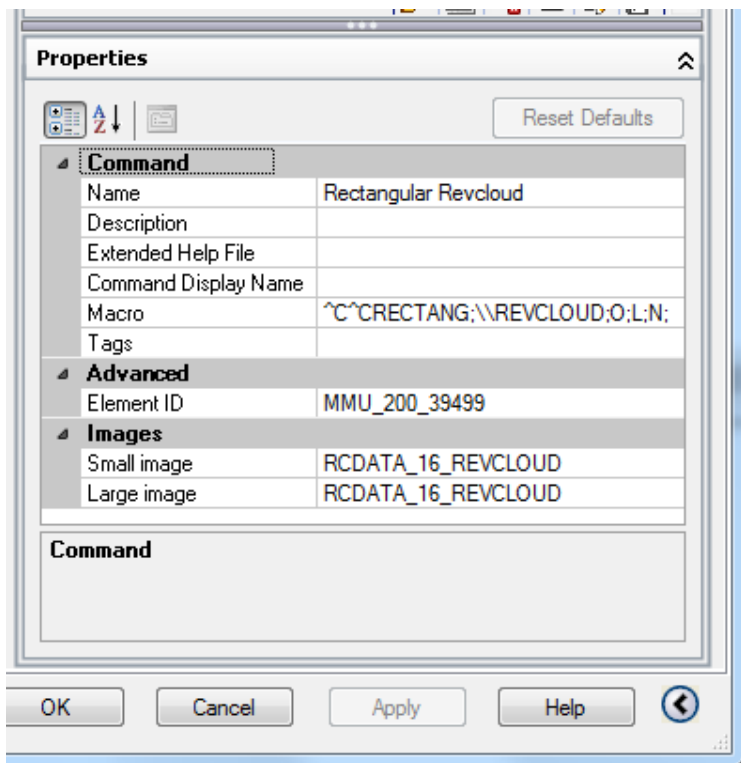


10. In the Command List pane, click Create a New Command.



11. In the Properties pane, enter the following values:

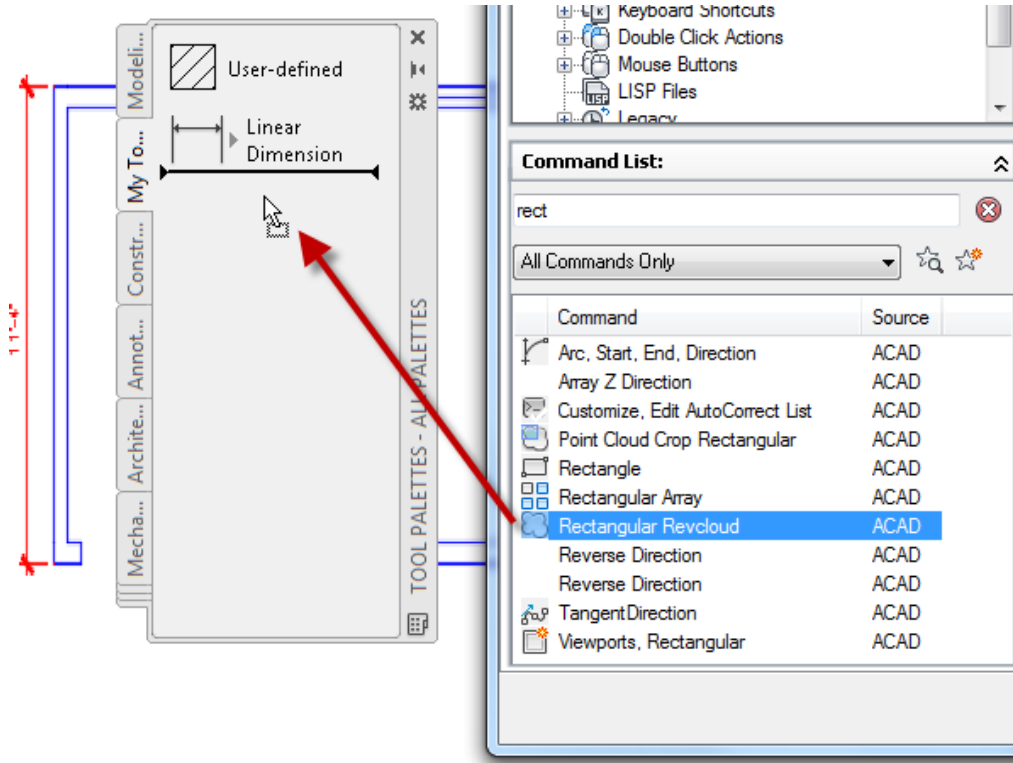
- Command Name: **Rectangular Revcloud**
- Macro: **^C^CRECTANG;\\REVCLLOUD;O;L;N;**
- Small Image: **RCDATA_16_REVCLLOUD**
- Large Image: **RCDATA_16_REVCLLOUD**



12. Click Apply.

13. Click and drag the Rectangular Revcloud command from the Command List pane onto the My Tools palette. Release the mouse button to add the Command tool.

Note: You might need to move the Customize User Interface (CUI) Editor to see the Tool Palettes window.

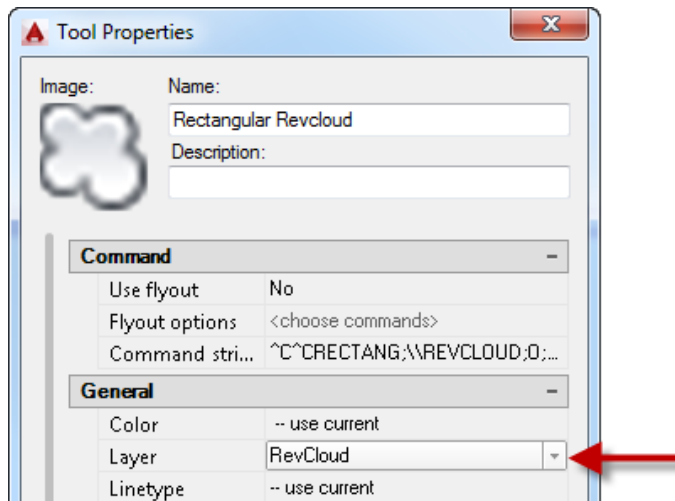


14. Click OK.

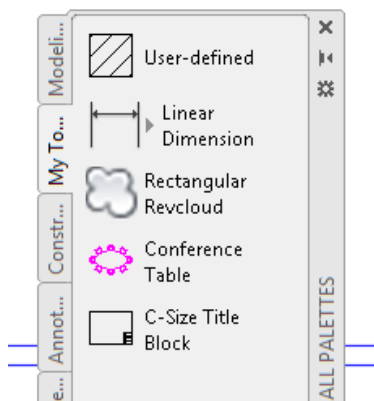
15. On the Tools Palettes window, right-click over the Rectangular Revcloud tool and click Properties.

16. In the Tool Properties dialog box, Command String field, notice it contains the macro string you entered in the Customize User Interface Editor.

17. In the General section, click the Layer field and choose RevCloud from the drop-down list.



18. Click OK.
19. At the AutoCAD Command prompt, type **explorer** and press Enter. Navigate to the **C:\Datasets\Tuesday\CM6186-L Autodesk® AutoCAD® Customization Boot Camp – Basics (No Experience Required)** folder.
20. Drag and drop the *Conference Table.dwg* and *C-Size Title Block.dwg* files onto the My Tools palette.



21. Switch to the AutoCAD application and try each of the tools you added to the My Tools palette.

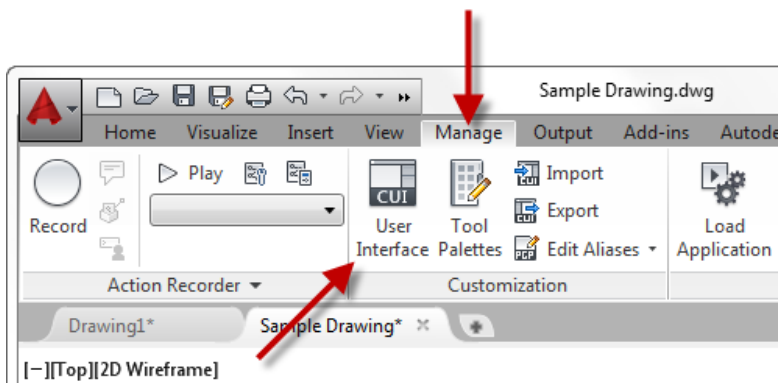
Some tools can only be clicked, while others can be clicked or dragged onto the drawing area.

Tip: Pressing the Spacebar repeats the last tool used from the Tool Palettes window.

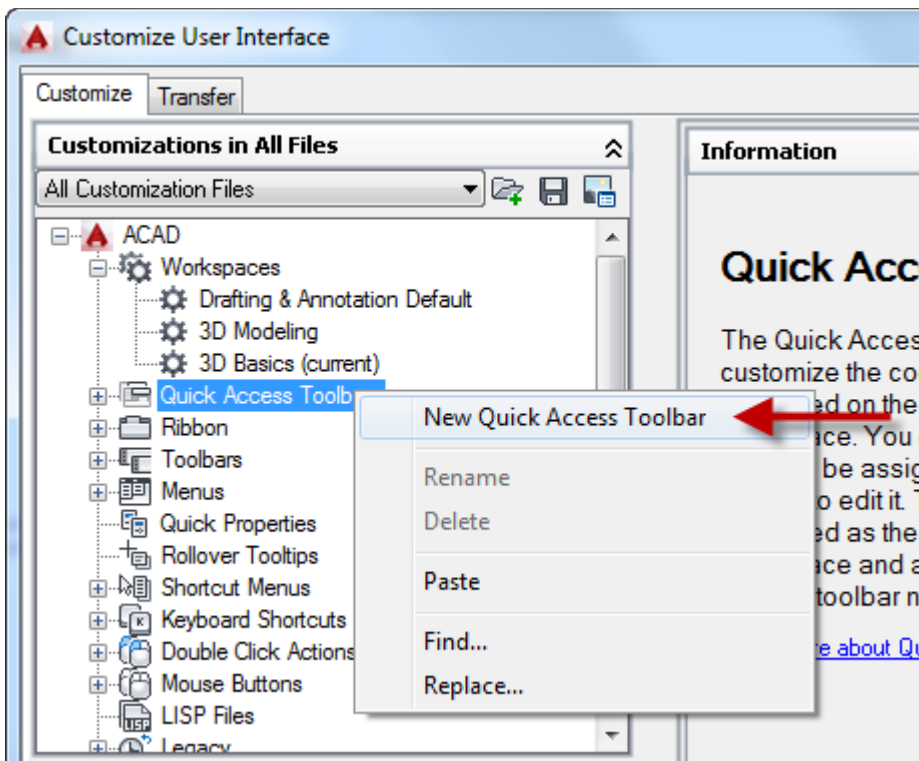
E4 Create a Quick Access Toolbar

This exercise explains how to create a new Quick Access toolbar and assign it to a workspace.

1. On the ribbon, click Manage tab > Customization panel > User Interface.

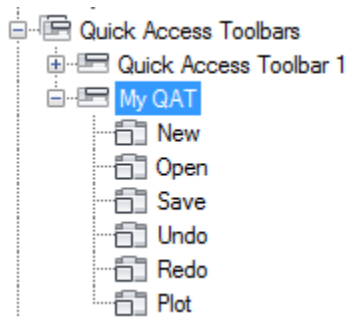


2. In the Customize User Interface (CUI) Editor, Customizations In pane, right-click the Quick Access Toolbars node and click New Quick Access Toolbar.

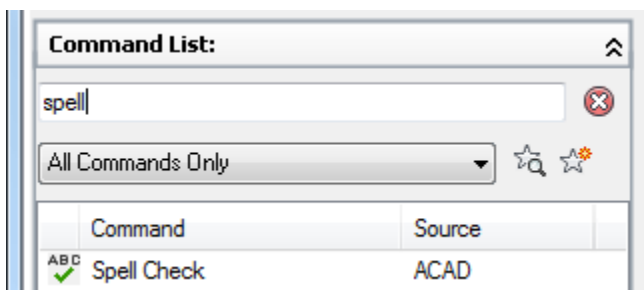


3. Rename the new toolbar by typing **My QAT** and pressing Enter.
If you cannot change its name, right-click the new toolbar and click Rename.

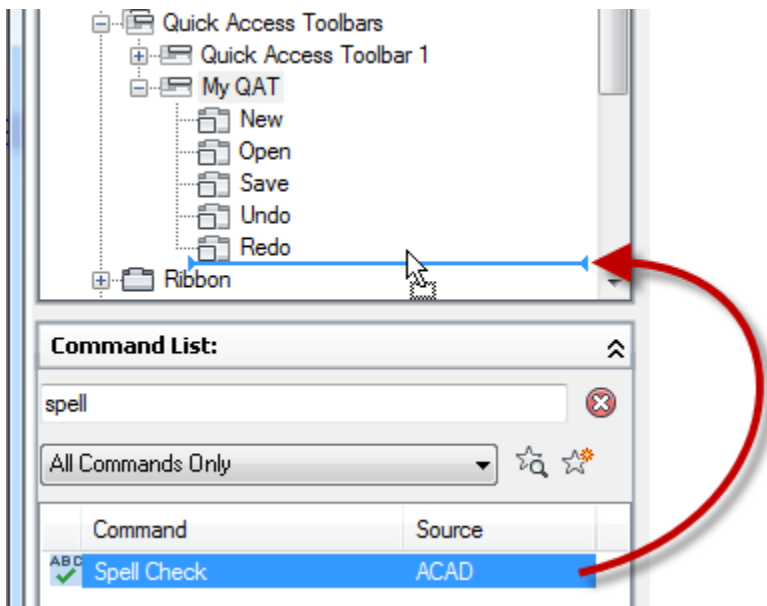
- 4. Click the plus sign next to the new toolbar and reveal the default commands that are added.



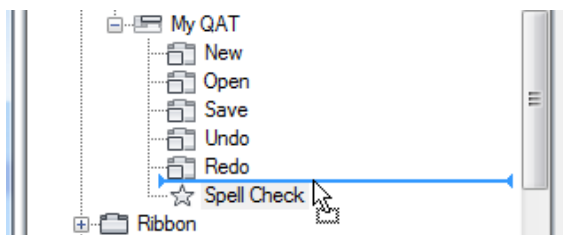
- 5. Right-click the Plot command and click Remove. Click Yes to delete the element.
- 6. In the Command List pane, in the Search Command List text box, type **spell**.



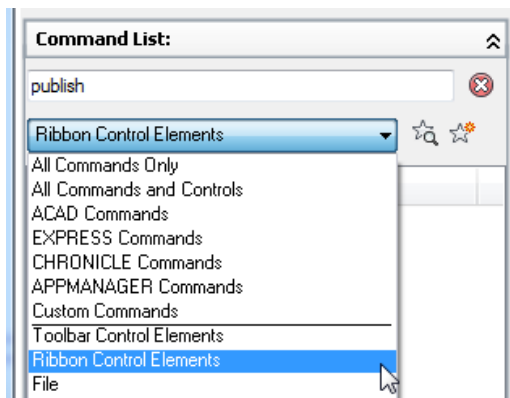
- 7. Click and drag the Spell Check command from the Command List and drop it onto the My QAT toolbar.



8. In the Command List pane, in the Search Command List text box, type **publish**.
9. Add the Publish... command above Spell Check on the My QAT toolbar.



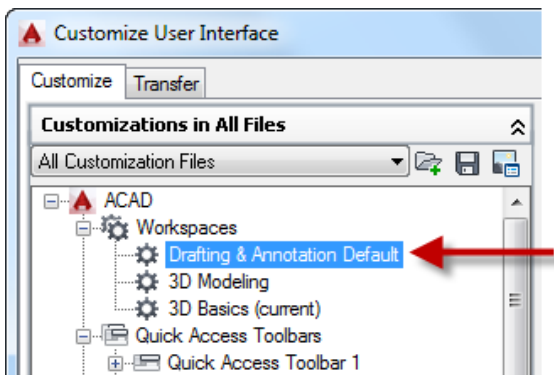
10. Click the Command List drop-down list and choose Ribbon Control elements.



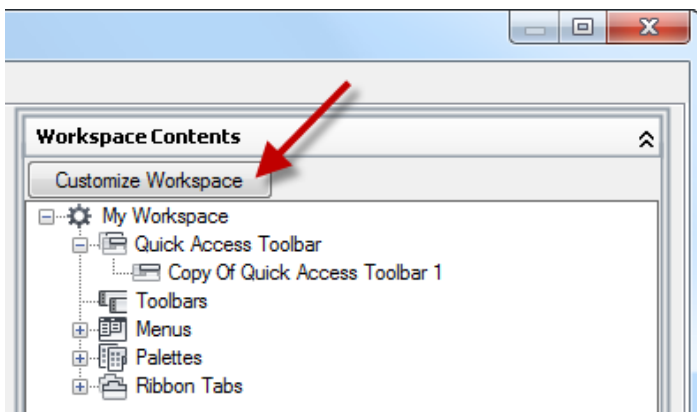
11. In the Search Command List text box, type **layer**.
12. Add the Layer List Combo Box control after Spell Check on the My QAT toolbar.

Once you create a Quick Access toolbar, it must be added to a workspace to be displayed.

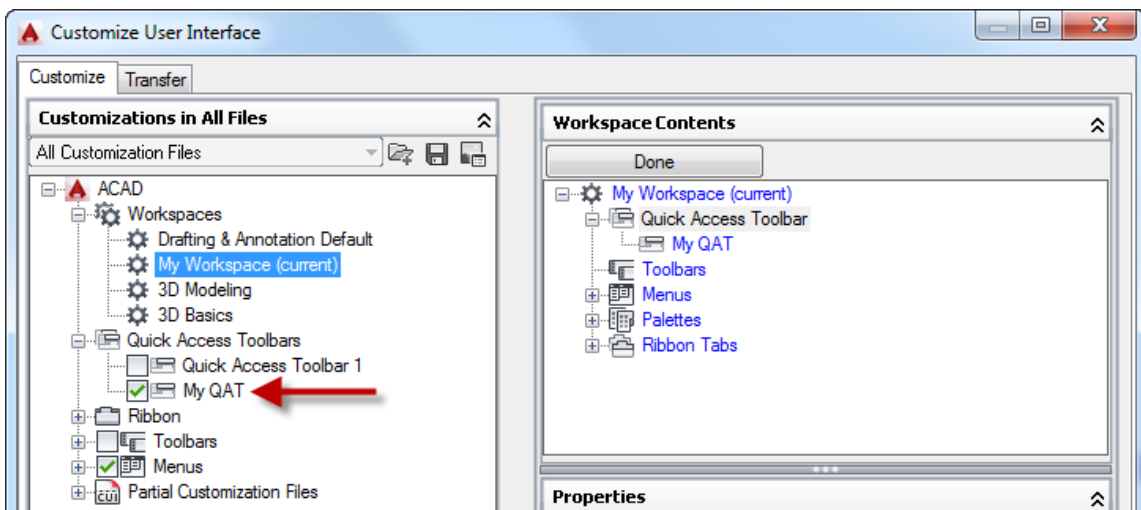
1. In the Customize User Interface (CUI) Editor, Customizations In pane, click the plus sign next to the Workspaces node to expand it.
2. Select the Drafting & Annotation workspace.



3. Right-click over the Drafting & Annotation workspace and click Duplicate.
4. Right-click over the new workspace named Copy Of Drafting & Annotation1 and click Rename.
5. In the in-place editor, type **My Workspace** and press Enter.
6. Right-click over My Workspace and click Set Current.
7. In the Workspace Contents pane, click Customize Workspace.

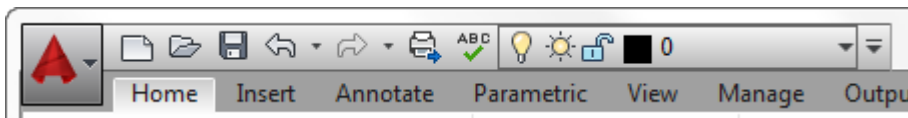


8. In the Customizations In pane, expand the Quick Access Toolbars node and click the check box next to My QAT.



9. In the Workspace Contents pane, click Done.

10. Click OK to save the changes and exit the CUI Editor.

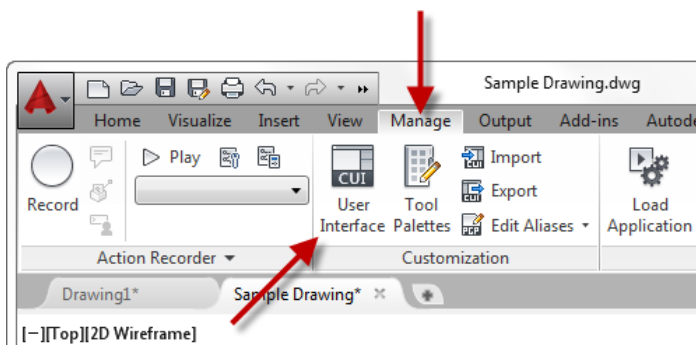


If any message boxes are displayed, click OK to continue loading the changes to the CUIx file.

E5 Create a Ribbon Tab and Panel

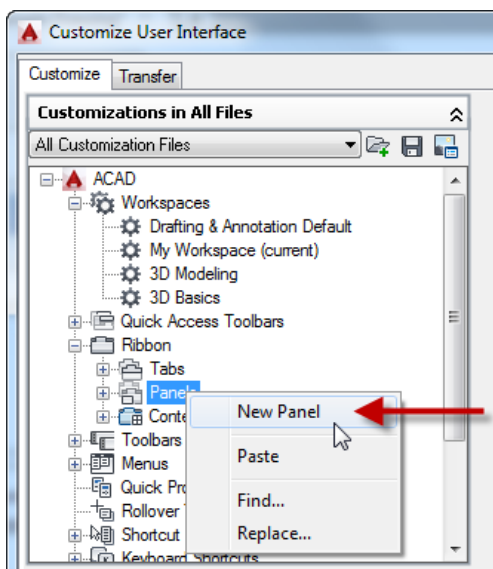
This exercise explains how to create and customize a ribbon panel.

1. On the ribbon, click Manage tab > Customization panel > User Interface.

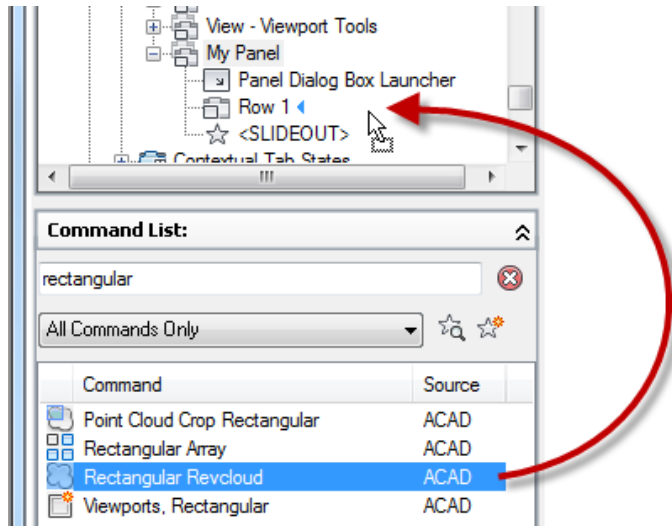


2. In the Customize User Interface (CUI) Editor, Customizations In pane, click the plus sign next to the Ribbon node to expand it.

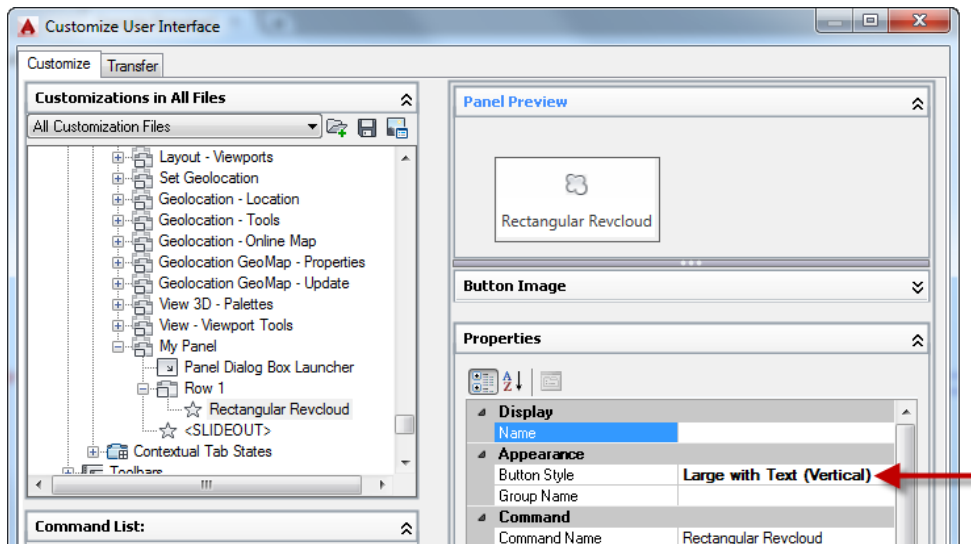
3. Right-click the Panels node and click New Panel.



4. Rename the new ribbon panel by typing **My Panel** and pressing Enter.
If you cannot change its name, right-click the new ribbon panel and click Rename.
5. In the Command List pane, in the Search Command List text box, type **rectangular**.
6. In the Command List pane, select the Rectangular Revcloud command and drag it to Row 1 under the My Panel ribbon panel.



7. Release the mouse button to add the Rectangular Revcloud command to Row 1 on the My Panel ribbon panel.
8. Select the Rectangular Revcloud command in Row 1 under the My Panel ribbon panel.
9. In the Properties pane, change Button Style to Large with Text (Vertical).



10. Click in the text box to the right of the Name field and type **Rectangular\nRevcloud**.

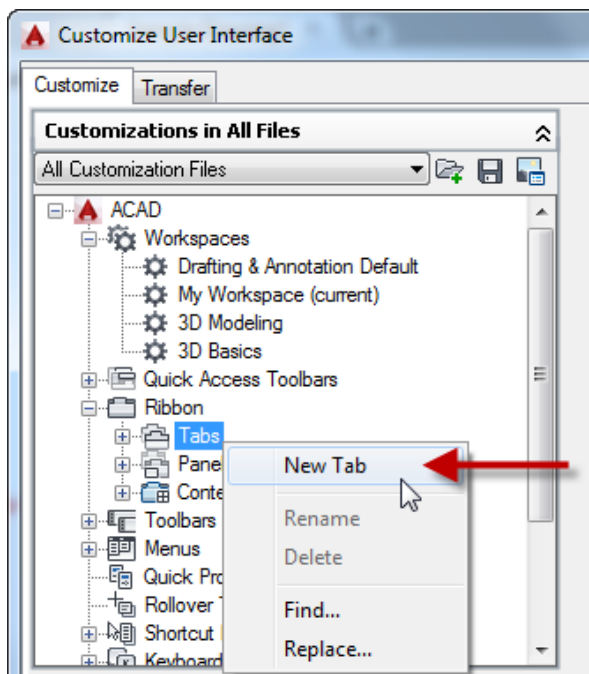
The \n Forces the label to be displayed on two lines.

11. Add a few of your favorite commands from the Command List pane to the My Panel ribbon panel.

12. Click Apply to save the changes.

The following explains how to create and customize a ribbon tab.

1. In the Customize User Interface (CUI) Editor, Customizations In pane, click the plus sign next to the Ribbon node to expand it.
2. Right-click the Tabs node and click New Tab.

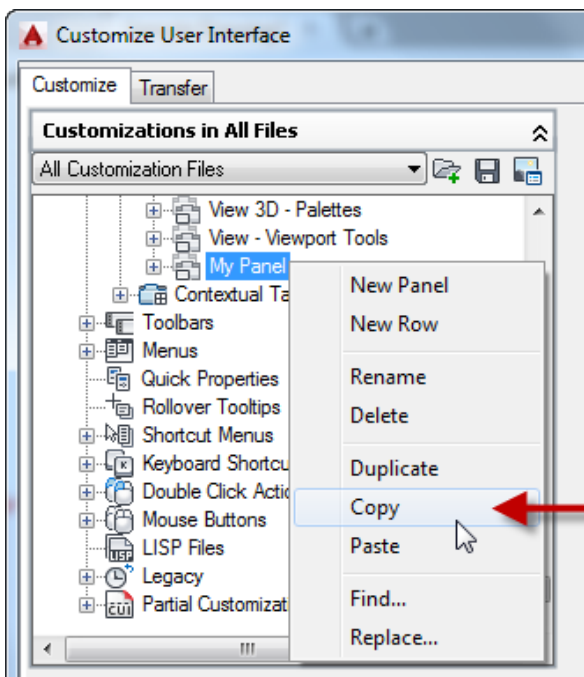


3. Rename the new ribbon tab by typing **My Tab** and pressing Enter.

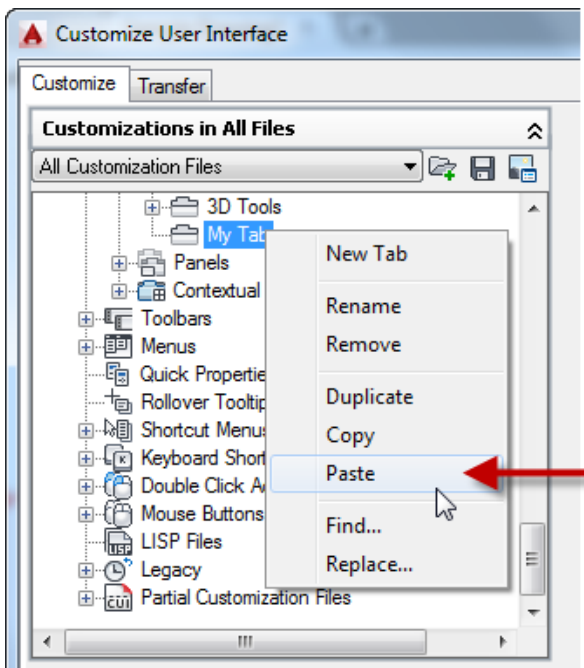
If you cannot change its name, right-click the new ribbon tab and click Rename.

4. Expand the Panels node under Ribbons.

5. Under the Panels node, right-click over My Panel and click Copy.



6. Under the Tabs node, right-click over My Tab and click Paste.

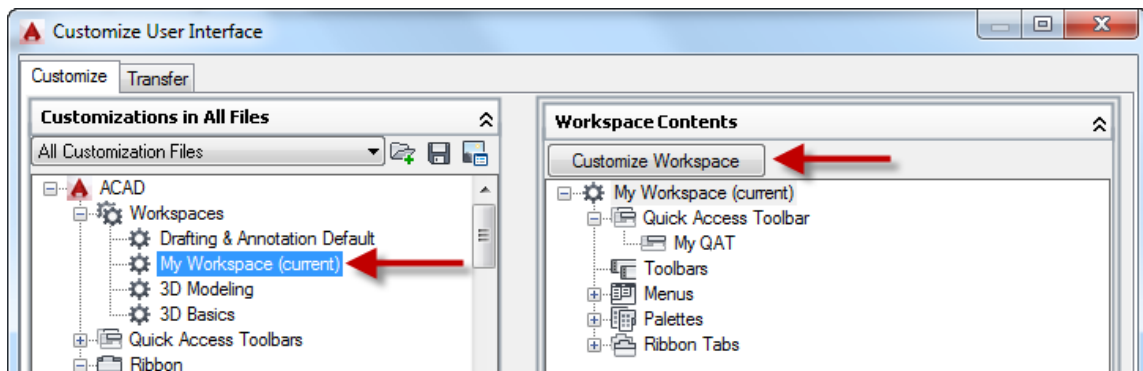


A reference to the 3D ribbon panel is added to the ribbon tab.

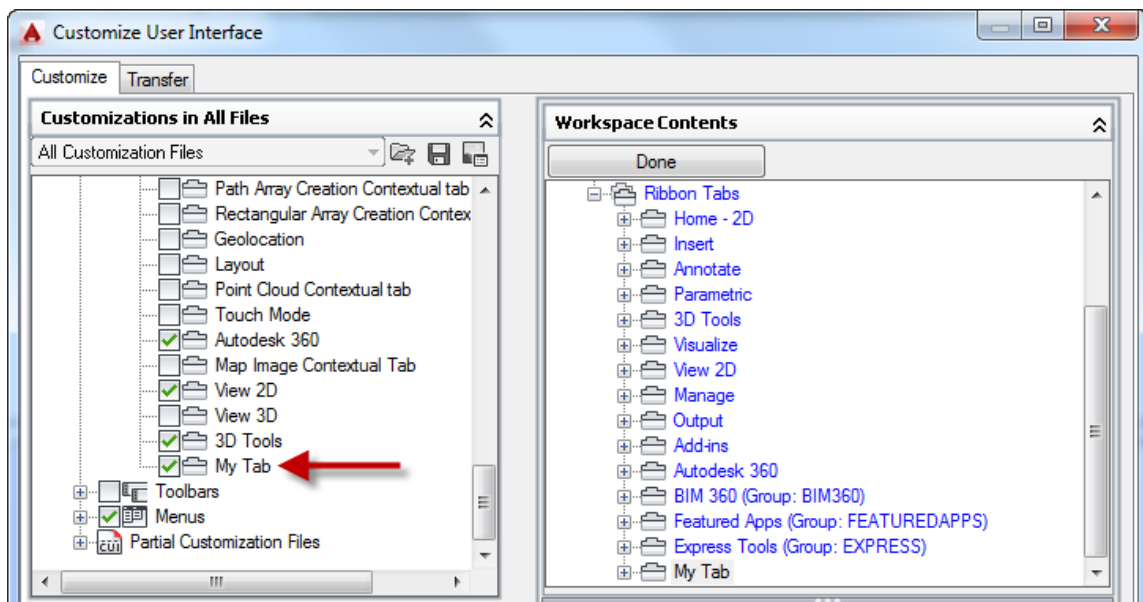
7. Click Apply to save the changes.

The following explains how to add a ribbon tab to the current workspace.

1. In the Customize User Interface (CUI) Editor, Customizations In pane, click the plus sign next to the Workspaces node to expand it.
2. Select the workspace that ends with the text **(current)** and click Customize Workspace.



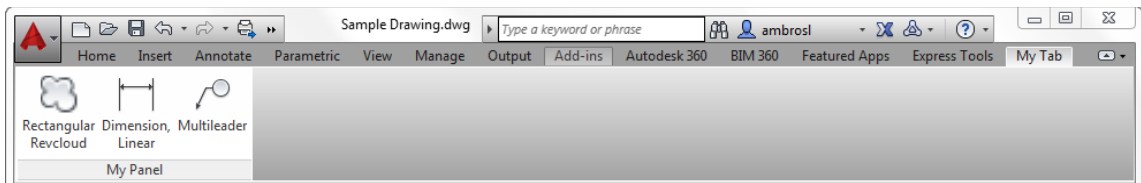
3. In the Customizations In pane, expand the Ribbon > Tabs node and click the check box next to My Tab.



4. In the Workspace Contents pane, click Done.
5. Click OK to save the changes and exit the CUI Editor.

If any message boxes are displayed, click OK to continue loading the changes to the CUIx file.

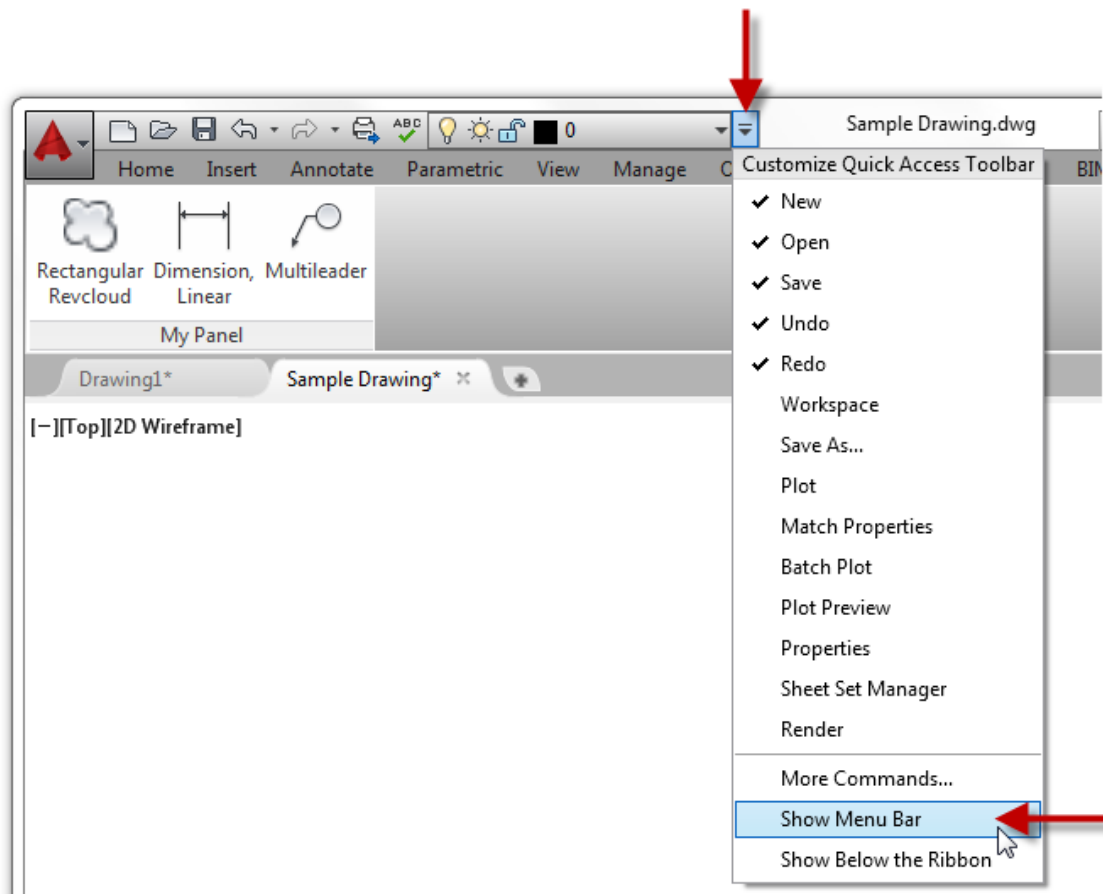
6. Click the new My Tab on the ribbon to see what the My Panel looks like.



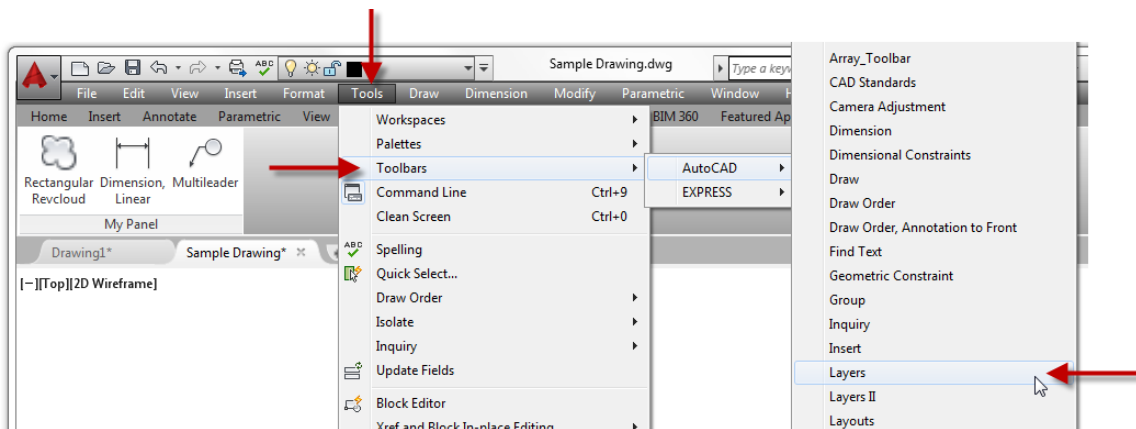
E6 Modify and Create a New Workspace from the AutoCAD User Interface

This exercise explains how to interactively modify and create a new workspace from the AutoCAD user interface.

1. On the Quick Access toolbar, click the Customize button and then click Show Menu Bar.

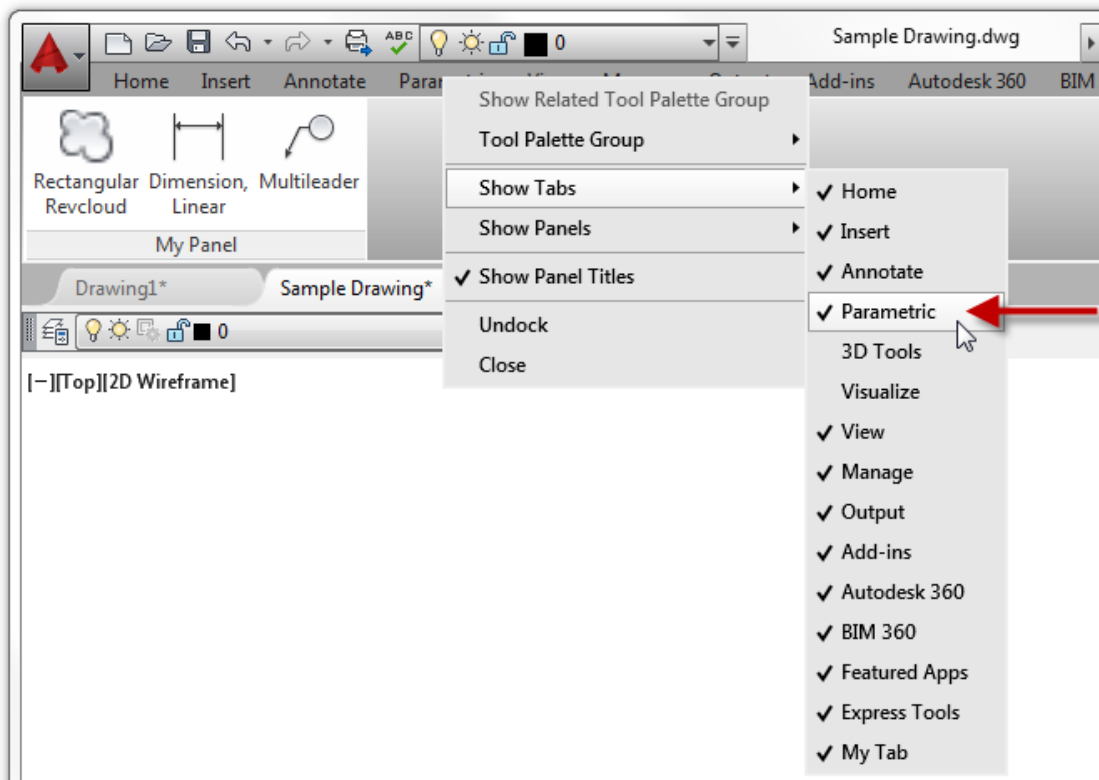


2. On the menu bar, click Tools > Toolbars > AutoCAD > Layers.



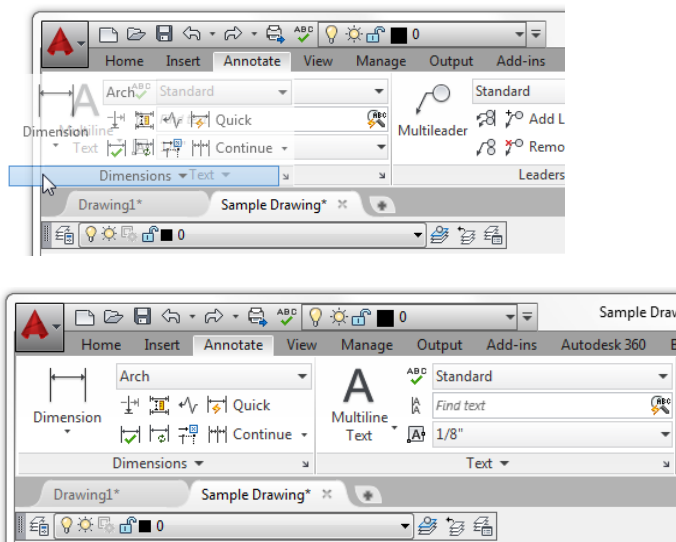
3. On the Quick Access toolbar, click the Customize button and then click Hide Menu Bar.

4. On the ribbon, right-click a ribbon tab and click Show Tabs > Parametric to hide the ribbon tab.

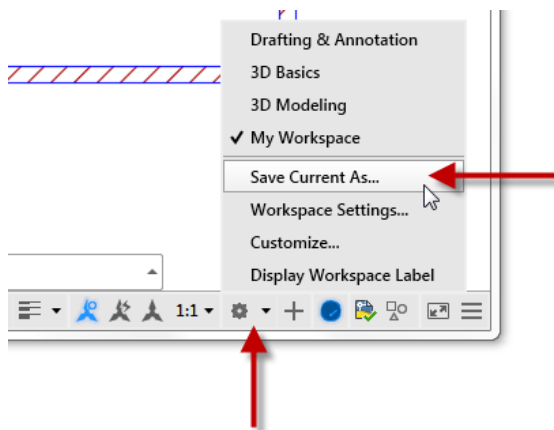


5. On the ribbon, click the Annotate tab.

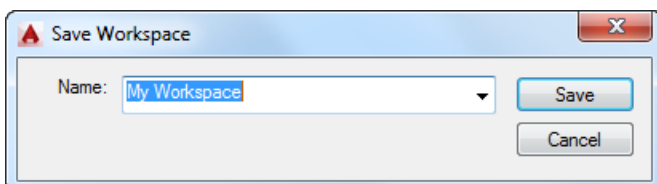
- Click and hold the left mouse button over an empty area of the Dimensions panel and drag it to the left of the Text panel. Release the mouse button to reposition the Dimensions panel.



- On the ribbon, click View tab > Palettes panel > Properties.
- If the Design Feed palette is open, close it.
- On the status bar, click Workspace Switching > Save Current As.



- In the Save Workspace dialog box, click the drop-down list and choose My Workspace.



11. Click Save. When prompted to replace the workspace, click Replace.

12. On the status bar, click Workspace Switching > Drafting & Annotation.

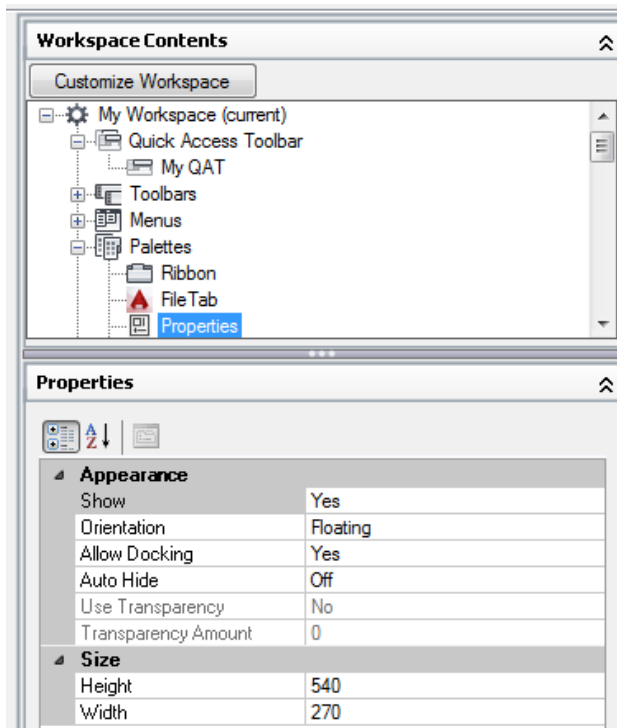
You should notice your changes are no longer present. The Parametric tab is displayed once again on the ribbon and the Properties palette is hidden.

13. On the status bar, click Workspace Switching > My Workspace.

Your changes are restored. The Parametric tab and Design Feed palette are hidden once again and the Properties palette is displayed.

Note: You can update an existing workspace by selecting it from the Name drop-down list in the Save Workspace dialog box.

If you need additional control over the elements in a workspace, you can use the Customize User Interface (CUI) Editor. Select a workspace from the Workspaces node and adjust the properties of the elements in the Workspace Contents pane by dragging elements up and down or using the Properties pane. Click Customize Workspace to add or remove elements.



Tip: You can use the /w command line switch to set a workspace current as AutoCAD starts up when using a desktop shortcut.