

# AC2075-L - AutoCAD® Customization Boot Camp: No Experience Required

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# Where Am I and Who Should Be Here

You are in session:

AC1542-L - Autodesk® AutoCAD® Customization Boot Camp: No Experience Required

You should know:

AutoCAD 2014 (or AutoCAD 2009 and later)

You should want to:

- Learn how to perform basic customization in AutoCAD
- Get AutoCAD to work for you

# Who Am I?

## My name is Lee Ambrosius

- Principal Learning Content Developer at Autodesk
- Work on the Customization, Developer, and CAD Administration documentation
- AutoCAD user for over 18 years; started on R12 DOS
- Customizing and programming AutoCAD for 16 years
  - AutoLISP/DCL, VBA, Managed .NET, and ObjectARX/MFC
- Contributing Author and Technical Editor on AutoCAD related books and articles
  - AutoCAD and AutoCAD LT Bible Series
  - Autodesk White papers, and AUGI HotNews and AUGIWorld

# Who Are the Lab Assistants?

The lab assistants for this session are:

Lab Aid1 – Company1

Lab Aid2 – Company2

Lab Aid3 – Company3

Their roles are to

- help you when you get stuck, and
- ensure no one gets left behind.

# Session Rules

A few rules for this session:

- Silent your mobile phone and any other device
- If you have to leave at anytime, please do so quietly
- Hold all questions the end
- If you get stuck, raise your hand and one of the lab assistants will help you out

Thanks for Your Cooperation

# Welcome to Basic Training

# Do you customize Today?

Do you consider the following customization?

- Creating a new block
- Adding a layer
- Modifying or adding a style (text, dimension, ...)

If not, you should as these are all forms of customization.

# Which Customization Options are Available

Customization can be categorized into three levels of expertise:

- Basic
- Intermediate
- Advanced (programming required)

Two types of customization:

- Drawing
- Application



# Basic Customization

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

# Intermediate Customization

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

# Advanced Customization/Programming

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

# Session Overview

**NO** prior customization experience is required for this lab.

Customization is **NOT** programming, but it can be (**just not Today**).

By the end of this lab, you will learn how to:

- Create custom desktop icons
- Create and modify command aliases
- Record and playback action macros
- Define tools and tool palettes
- Modify the ribbon and Quick Access toolbar
- Create and modify a workspace and profile

# What is Going to be Covered

The handouts are broken into two parts:

- Supplemental – Content for the flight back
- Exercises – What we will be doing during this session

# What You Need to Get Started

For this lab, you will be using:

- AutoCAD 2014
- AutoCAD-based utilities
  - Action Recorder
  - Customize User Interface Editor
- Notepad which is part of the Windows operating system

# Desktop Shortcuts

# Desktop Shortcuts

Used to launch and alter the startup behavior of AutoCAD.

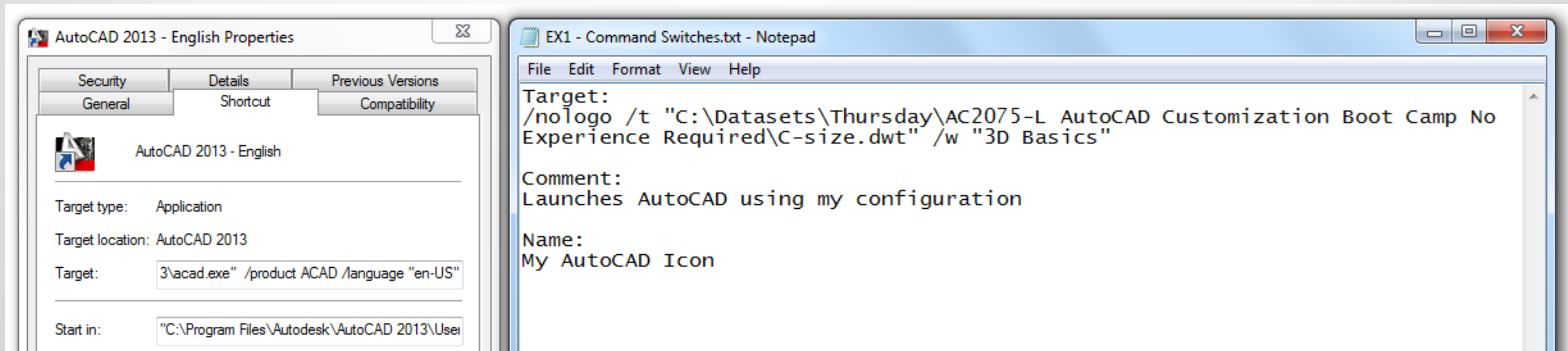
/t	Specifies the drawing template to use for the default drawing. /t "mytemplate.dwt"
/nologo	Splash screen is disabled at startup. /nologo
/p	Sets a named user profile current that is defined in the product or loads a previously exported profile (ARG) file. /p "<<Unnamed Profile>>"
/w	Sets a named workspace current, must be in one of the loaded customization files. /w "2D Drafting"



# Desktop Shortcuts

An example, of a desktop shortcut with command line switches:

```
"C:\Program Files\Autodesk\AutoCAD 2014\acad.exe" /product ACAD  
/language "en-US" /nologo /t "C:\Datasets\AC1542-L - Autodesk  
AutoCAD Customization Boot Camp No Experience Required \C-  
size.dwt" /w "3D Basics"
```



# Creating a Desktop Shortcut

To create a desktop shortcut, you need to:

1. Copy the existing AutoCAD 2014 desktop shortcut.
2. Evaluate which command line switches you want to use.
3. Modify the properties of the copied desktop shortcut.

Do exercise “E1 - Create a Desktop Shortcut” on Page 18.

# Command Aliases

# Command Aliases

Used to make entering and starting commands easier.

- Command aliases often remain consistent between releases.
- Stored in the acad.pgp (AutoCAD) or acadlt.pgp (AutoCAD LT) file.

For example, entering **L** starts the **LINE** command.

Command aliases cannot be defined with command options.

- For example, the Previous option cannot be specified with the ZOOM command.

# Command Aliases

Syntax:

abbreviation, \*command

Examples:

C, \*CIRCLE

L, \*LINE

M, \*MOVE

# Defining a Command Alias

To create or modify a command alias, you need to:

1. Open the program's PGP file.
2. Add or edit an existing command alias.
3. Save the changes to the PGP file.
4. Reload the changed PGP file in the program.

Do exercise “E2 - Define Custom Command Aliases” on Page 20.

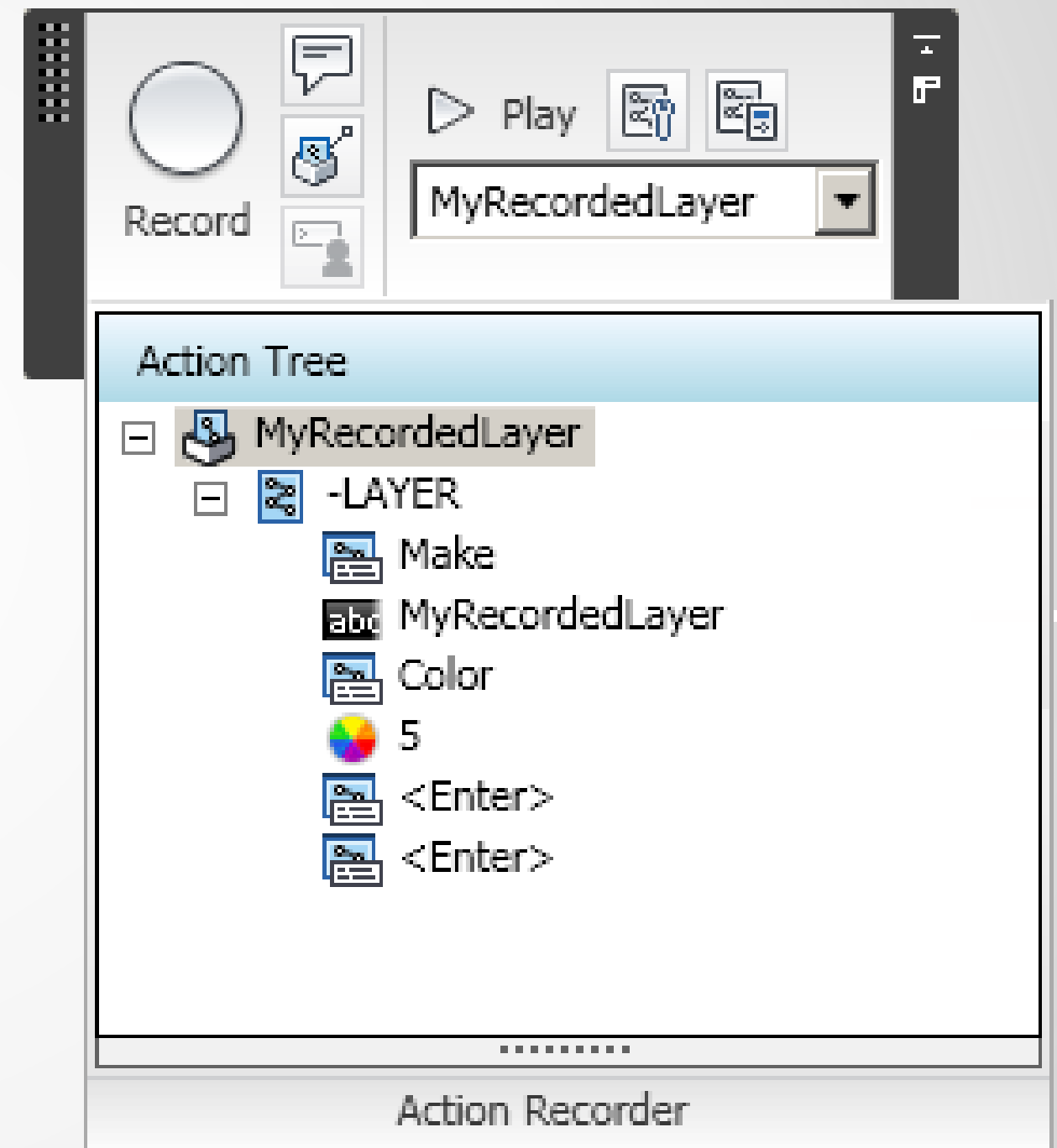
# Action Macros

# Action Macros

Created with the Action Recorder while performing actions in the application and drawing windows.

Actions can be:

- Commands and user input
- Changes made with the Properties or Quick Properties palette
- Tools from a tool palette, and changes made with the Layer Properties Manager palette





# Action Macros

Once recorded and saved, action macros can be played back by:

- Entering its name at the Command prompt
- Selecting and playing it from the Action Recorder panel

Things you should know:

- Avoid recording commands that display a dialog box
- You can change system variable values while recording
- Action macros can be shared

# Recording an Action Macro

To record an action macro, you need to:

1. Start recording on the Action Recorder.
2. Perform the actions in the application and drawing you want to record.
3. Stop recording and save the action macro.
4. Edit the actions that were recorded in the Action tree.
5. Playback and test the action macro.

Do exercise “E3 - Creating a Custom Action Macro” on Page 21.

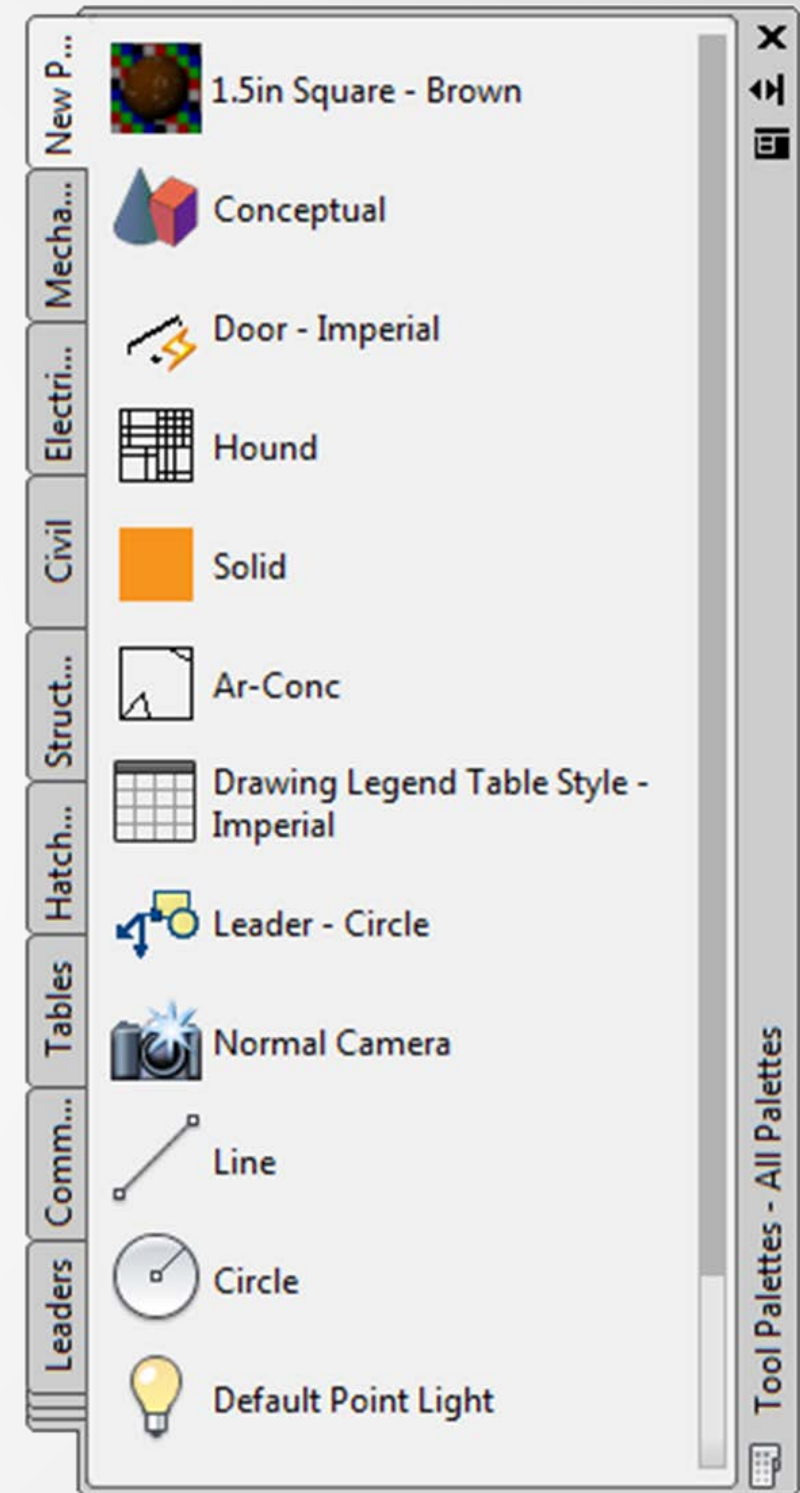
# Tool Palettes

# Tool Palettes

Collection of tools that allow you to start commands and create geometry.

Tools can be created from:

- Drawing objects in the current drawing
- Commands from the Customize User Interface (CUI) Editor
- Hatch patterns and blocks in DesignCenter
- Drawing and image files from Windows Explorer
- Saved visual styles and materials

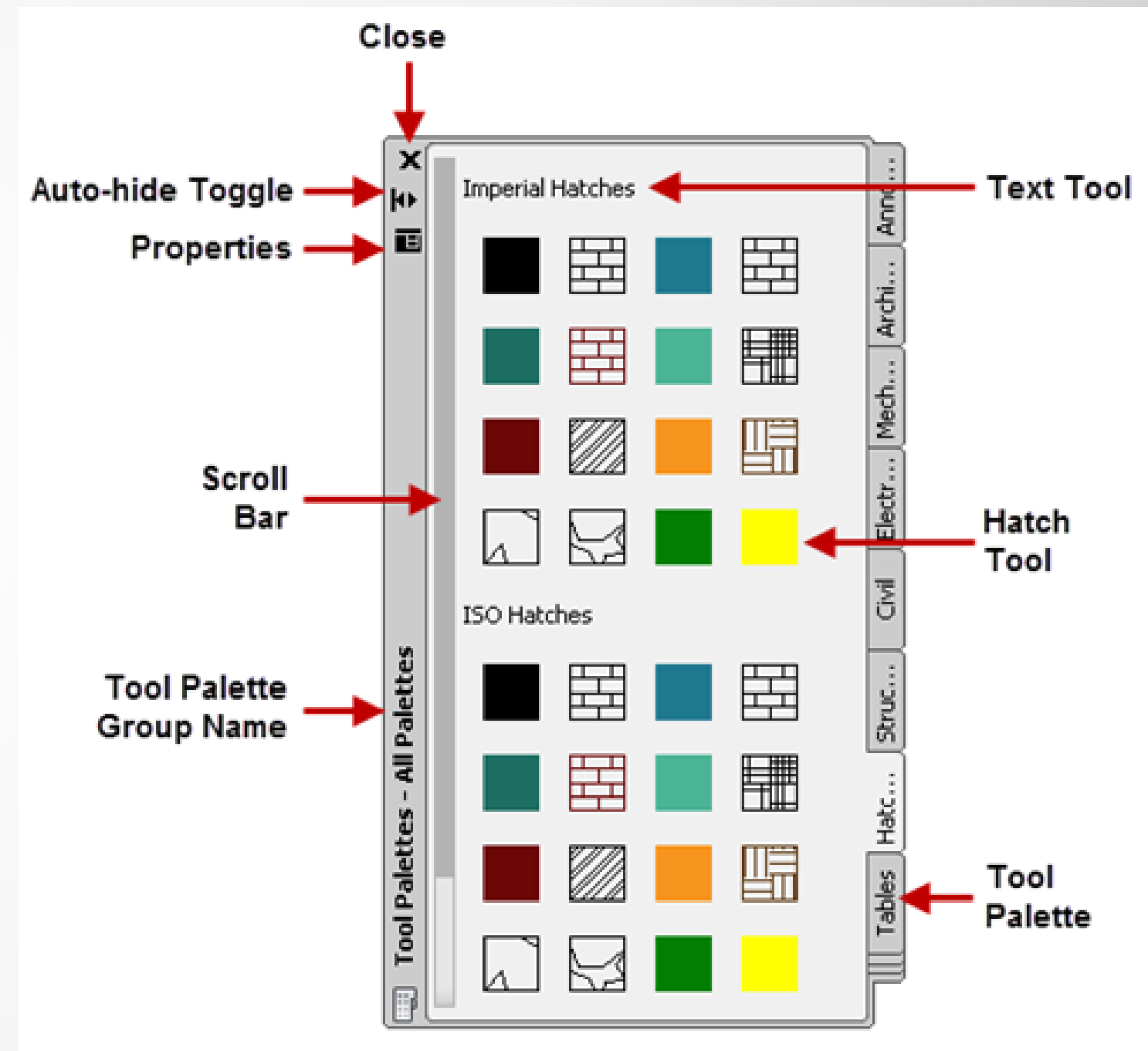


# Tool Palettes

After a tool has been created, you can:

- Edit its properties
- Drag and drop a tool in the drawing
- Click a tool and start the associated command
- Organize it on a tool palette using text and separators

Similar tool palettes can be grouped together.



# Creating a Tool Palette and Adding Tools

To create a tool palette and adding tools, you need to:

1. Create a new tool palette.
2. Add tools to the tool palette and edit their properties.
3. Test the tools you create.
4. Organize the tools on a tool palette and group related tool palettes.

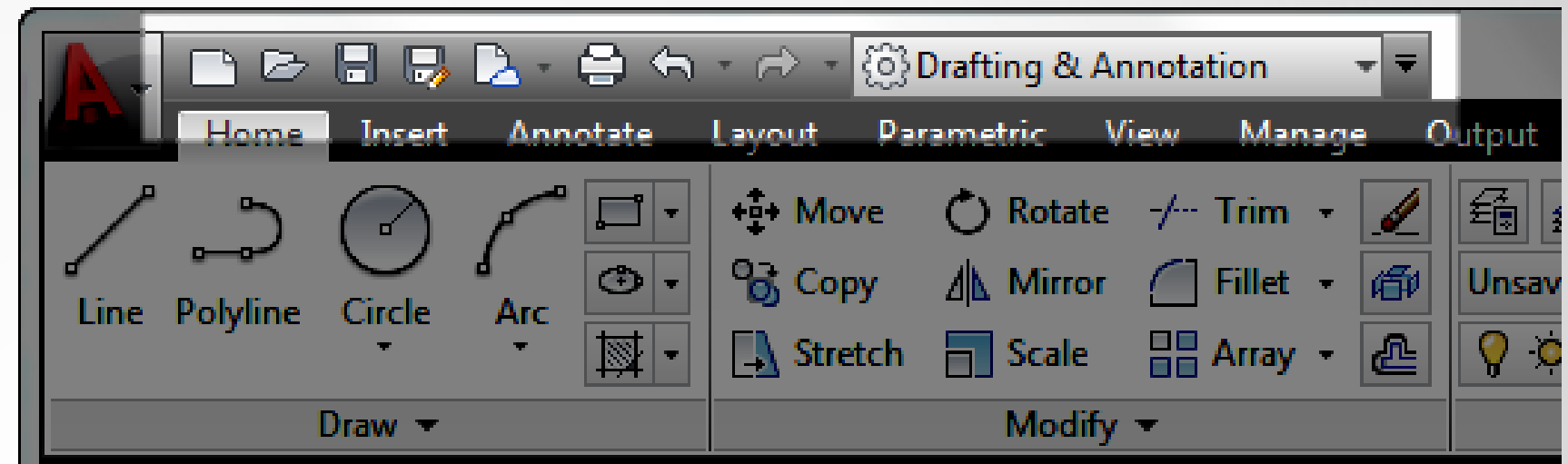
Do exercise “E4 - Create a Tool Palette and Tools” on Page 25.

# Quick Access Toolbar (QAT)

# Quick Access Toolbar (QAT)

Contains drawing file management related tasks:

- Creating and opening
- Saving
- Plotting



Access common tools across all ribbon tabs.

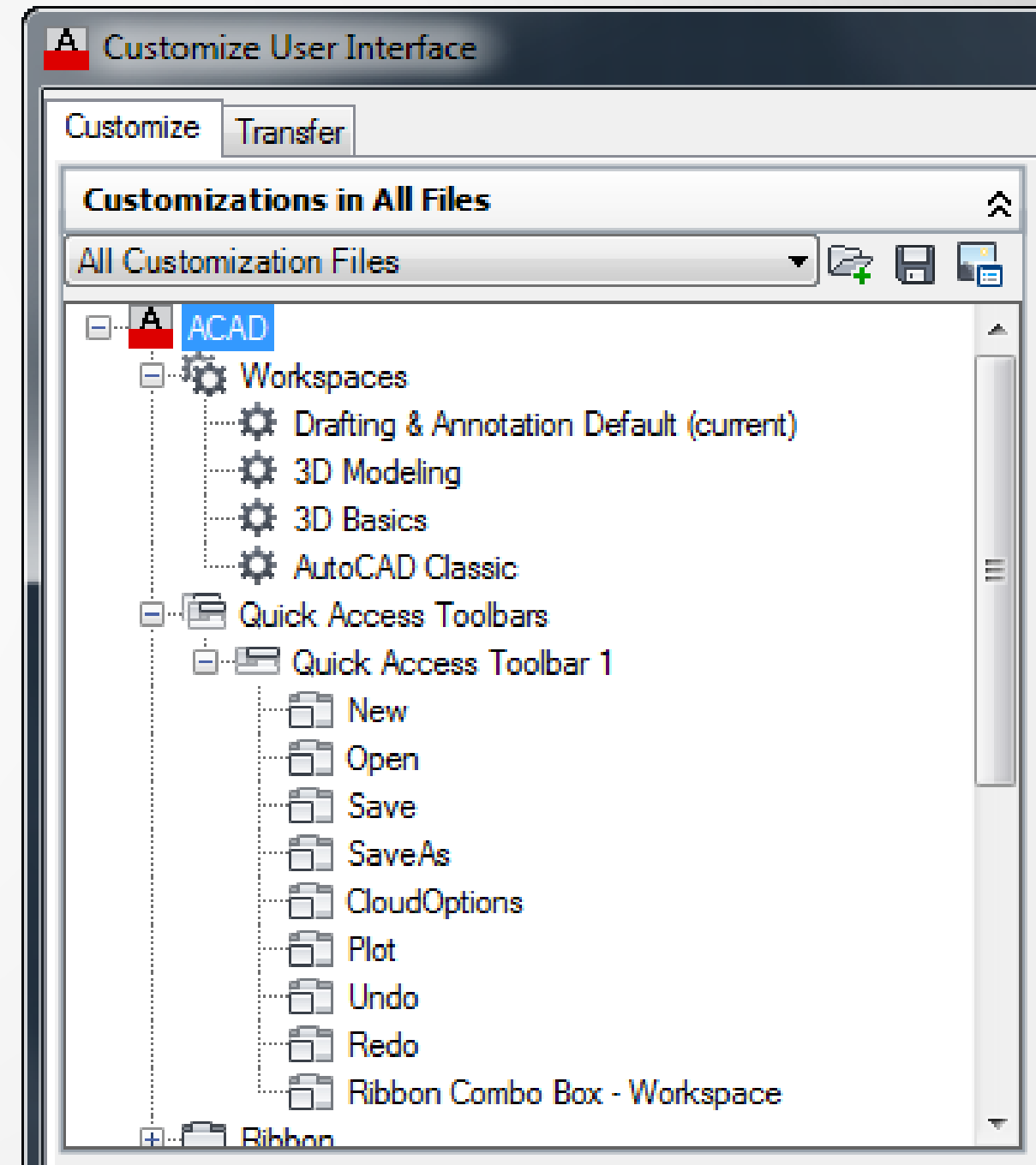
Displayed in the upper-left corner by default.



# Quick Access Toolbar (QAT)

Can be customized by:

- Clicking the Customize button on the right
- Right-clicking over the QAT
- Using the Customize User Interface (CUI) Editor



# Creating a Quick Access Toolbar

To create a Quick Access toolbar, you need to:

1. Start the Customize User Interface (CUI) Editor.
2. Create a new Quick Access toolbar.
3. Modify the Quick Access toolbar.
4. Assign the Quick Access toolbar to a workspace.
5. Set the workspace current.

Do exercise “E5 - Create a Quick Access Toolbar” on Page 28.

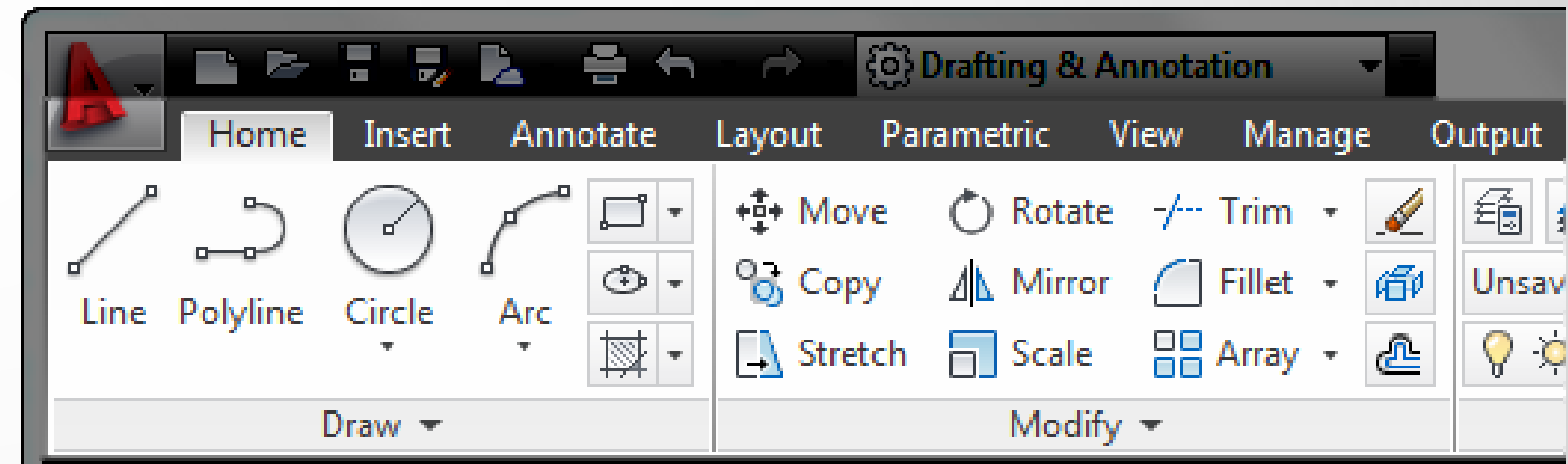
# Ribbon

# Ribbon

Contains tools organized by task:

- Creating and editing objects
- Working w/ blocks and references
- Add annotation
- Output drawings

Provides access to most common commands.

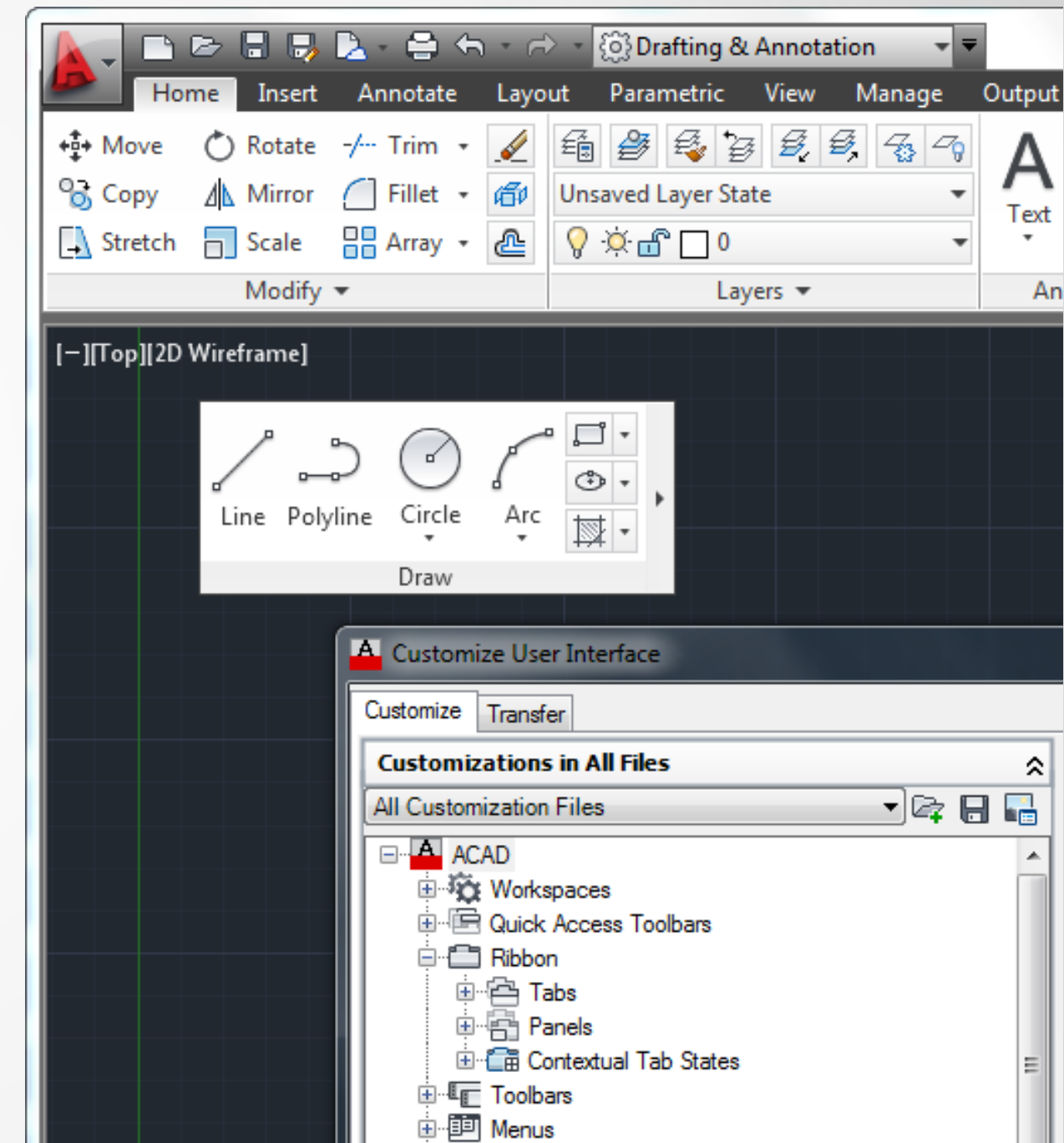


Displayed across the top of the application below the Quick Access toolbar.

# Ribbon

Can be customized by:

- Right-clicking over a ribbon tab or panel
- Dragging and dropping a panel into the drawing area
- Using the Customize User Interface (CUI) Editor
- Create and modify panels
- Add and remove commands and controls
- Create and modify tabs



# Customizing the Ribbon

To create ribbon panels and tabs, you need to:

1. Start the Customize User Interface (CUI) Editor.
2. Create a new ribbon panel and add commands/controls to it.
3. Create a new ribbon tab and add ribbon panels to it.
4. Assign the new ribbon tabs to a workspace.
5. Set the workspace current.

Do exercise “E6 - Create a Ribbon Tab and Panel” on Page 32.

# Workspaces

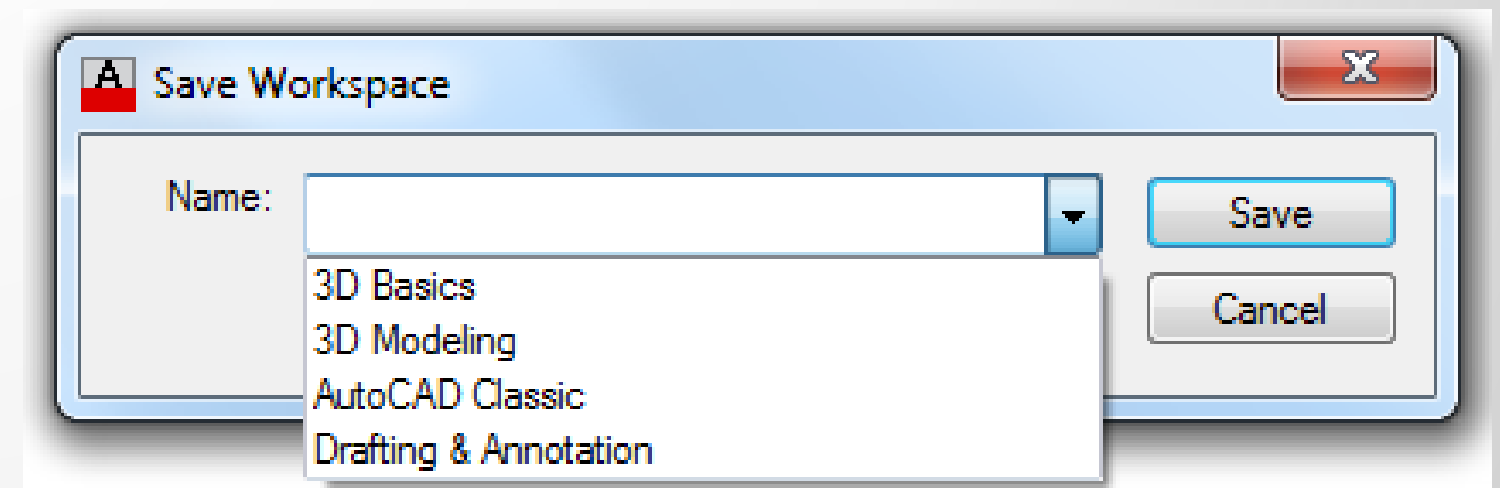
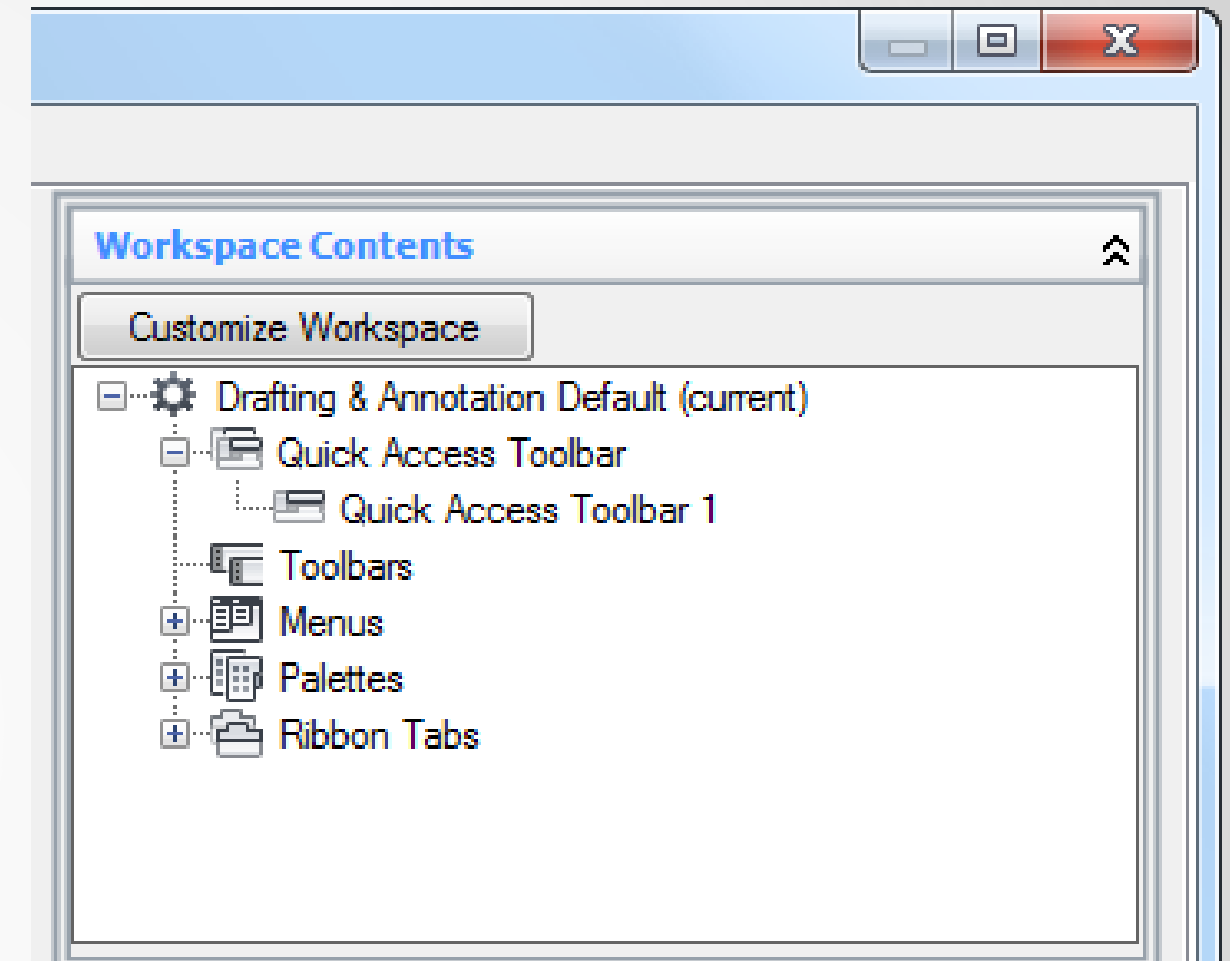
# Workspaces

Control the visibility and placement of user interface elements.

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

Can be customized

- directly from the user interface or
- using the CUI Editor





# Creating Workspaces

To create a workspace, you need to:

1. Start the Customize User Interface (CUI) Editor.
2. Create a new workspace.
3. Add or remove user interface elements to the workspace.
4. Set the workspace current.

# User Profiles

# User Profiles

Profiles are used to control application settings and user preferences:

- search paths used to locate support files,
- colors and fonts used by grips, application, and Command window,
- plot and publish options,
- open and save file options,
- and many other settings.

Profiles are:

- created using the Options dialog box, and
- set current using the Options dialog box or /p command line switch.

# Creating User Profiles

To create a user profile, you need to:

1. Display the Options dialog box.
2. Set the Profiles tab current.
3. Add a new profile and set it current.
4. Adjust the preferences and settings in the Options dialog box.

Do exercise “E7 - Modify and Create a New Workspace” on Page 37.

Do exercise “E8 - Modify and Create a New Profile” on Page 39.

# Final Thoughts and Questions

# Final Thoughts and Questions

Customization can

- enhance productivity
- improve or introduce new workflows

Customization has many similarities to the rabbit hole in *Alice's Adventures in Wonderland* by Lewis Carroll. Both

- are virtually endless, and
- hold many great mysteries that are just waiting to be discovered



# Closing Remarks

Thanks for choosing this session and hope you got something out of it.

Do not forget to complete the online evaluation.

If you have any further questions contact me via:

**email:** [lee.ambrosius@autodesk.com](mailto:lee.ambrosius@autodesk.com)

**twitter:** <http://twitter.com/leeambrosius>

Enjoy the rest of the conference.

