

CM6186-L - Autodesk® AutoCAD® Customization Boot Camp: Basics (No Experience Required)

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Where Am I and Who Should Be Here

You are in session:

CM6186-L - AutoCAD Customization Boot Camp: Basics (No Experience Required)

You should know:

AutoCAD 2015 (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
- AutoCAD user for over 20 years
- Work on the Customization, Developer, and CAD Administration documentation
 - Customizing and programming for over 18 years
 - AutoLISP/DCL, VBA, Managed .NET, and ObjectARX/MFC
- Author and Technical Editor
 - AutoCAD and AutoCAD LT Bible Series
 - AutoCAD Customization Platform Series

Who Are the Lab Assistants?

The lab assistants for this session are:

Alex Lepeska

John Jordan

Richard Lawrence

Their roles are to

- Help out when you get stuck
- 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
- Blocks
- Drawing templates
- Plot styles
- Annotation styles (text, dimensions, multileaders, and tables)
- Visual styles
- Materials
- Desktop icon
- Command aliases
- Tool palettes
- Workspaces
- User profiles

Basic Customization

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

Intermediate Customization

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

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

- AutoLISP / Visual LISP
- Visual Basic for Applications (VBA)
- ActiveX / COM (VBScript, VB.NET, C#, C++)
- Managed .NET (VB.NET, C#)
- ObjectARX (C++)
- JavaScript (JS)
- Sheet Set Object (SheetSet command)
- Custom CAD Standards plug-ins (Standards/CheckStandards commands)
- Transmittal API (eTransmit command)
- Database Connectivity Automation (dbConnect command)

What You Will Learn Today

NO prior customization experience is required for this session.

Customization is **COULD BE** programming, but **just not Today**.

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

- Create custom desktop icons
- Create and modify command aliases
- Define tools and tool palettes
- Modify the Quick Access toolbar, ribbon, and workspaces

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 session, you will be using:

- AutoCAD 2015
- Customize User Interface Editor
- Notepad, 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 2015\acad.exe"  
/product ACAD /language "en-US" /nologo /t  
"C:\Datasets\Tuesday\CM6186-L AutoCAD Customization  
Boot Camp Basics (No Experience Required)\C-size.dwt" /w  
"3D Basics"
```

Creating a Desktop Shortcut

To create a desktop shortcut, you typically will:

1. Copy the existing AutoCAD 2015 desktop shortcut.
2. Evaluate which command line switches you want to use.
3. Modify the properties of the copied desktop shortcut.

Alternatively, you can:

1. On the Windows Desktop, right-click and click Shortcut.
2. Specify the location of the AutoCAD executable.
3. Evaluate which command line switches you want to use.

Do exercise "E1 - Create a Desktop Shortcut"

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 **don't** support command options.

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 with the REINIT command.

Do exercise "E2 - Define Custom Command Aliases"

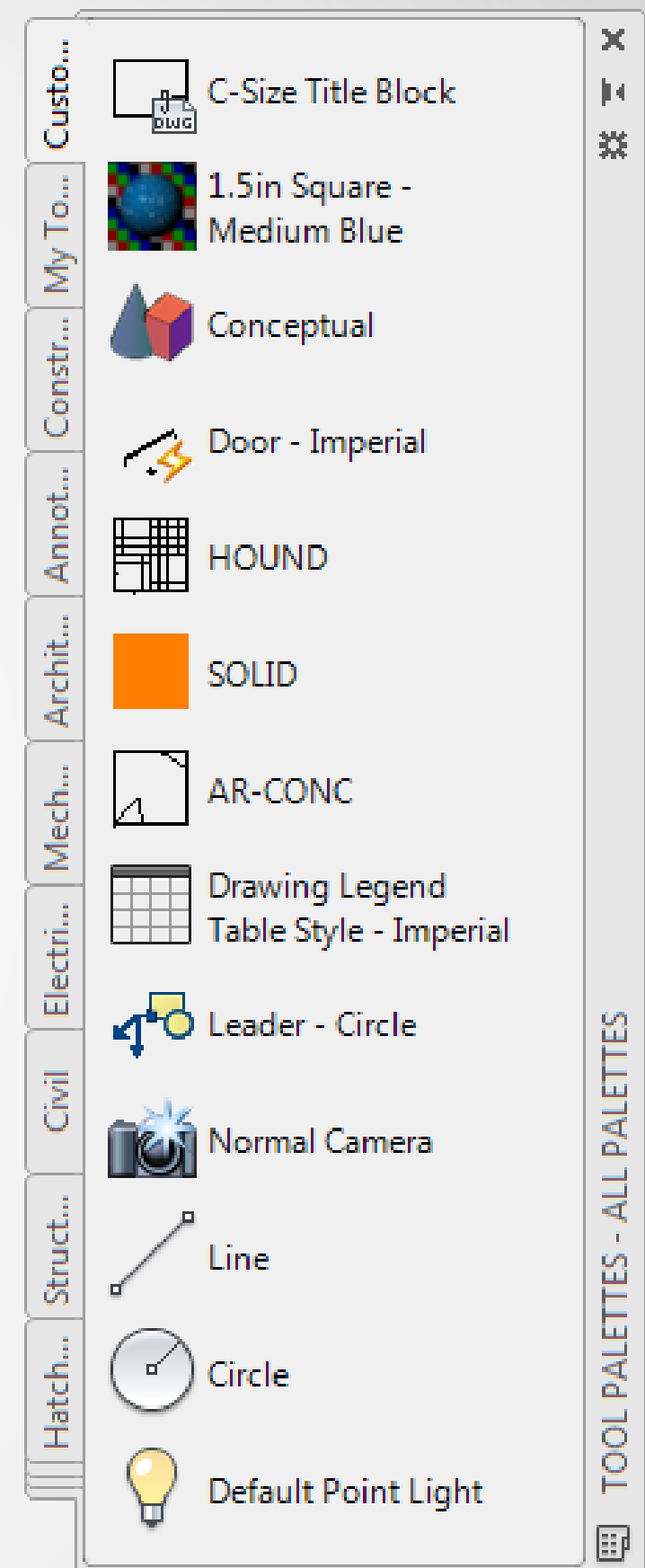
Tool Palettes

Tool Palettes

Collection of tools to start commands and create geometry.

Tools can be created from:

- Drawing objects in the current drawing
- Commands from the CUI Editor
- Hatch patterns and blocks in DesignCenter
- Drawing and image files from Windows Explorer or File Explorer
- Saved visual styles and materials

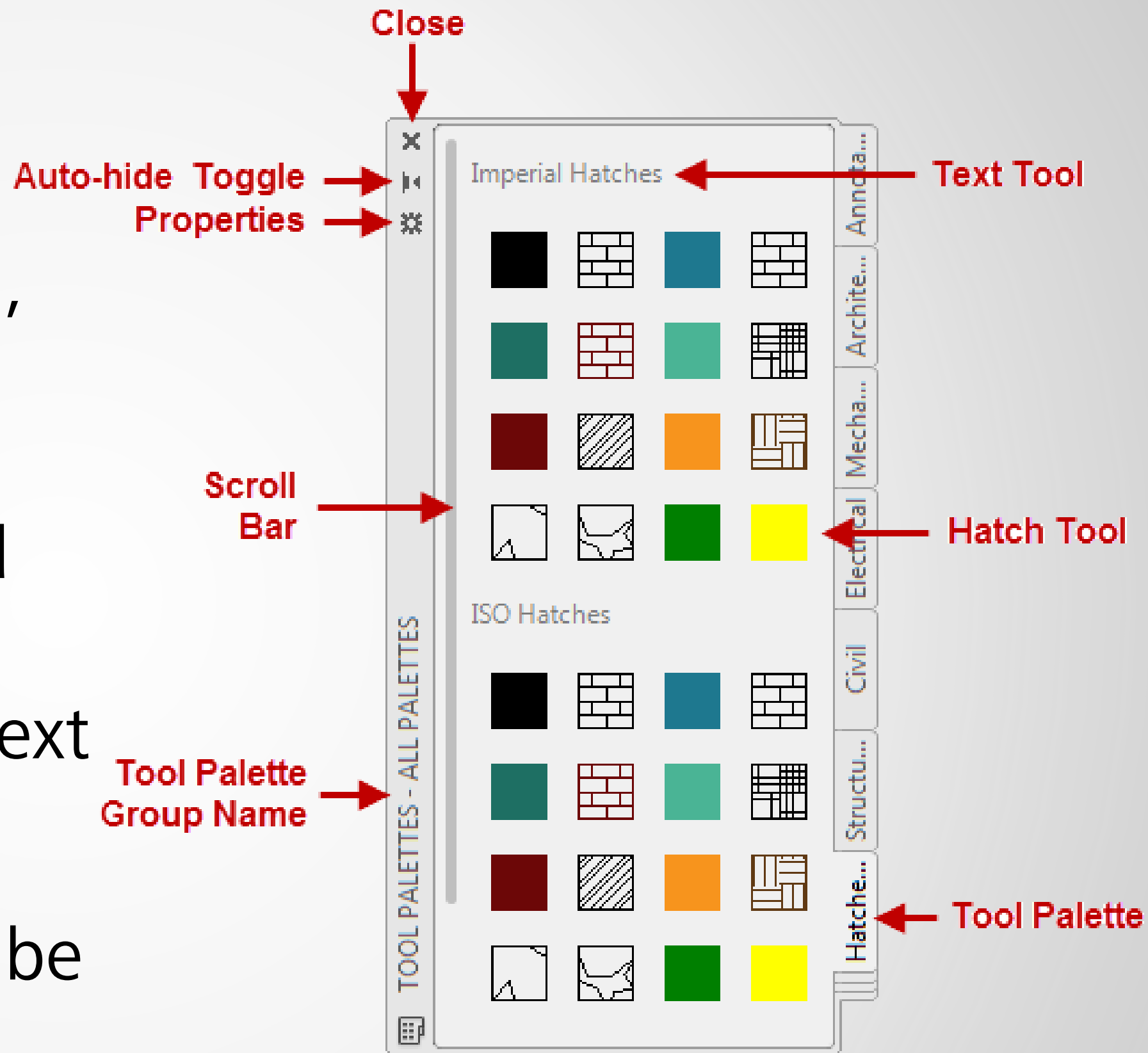


Tool Palettes

After a tool has been created, you can:

- Edit its properties
- Use the tool (via drag and drop, or click)
- Group similar tools with text and separators

Similar tool palettes can also be grouped.



Creating a Tool Palette and Adding Tools

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

1. Create a new tool palette.
2. Add tools to the tool palette by dragging objects from the drawing area or an external file onto a tool palette.
3. Edit the properties of the new tools.
4. Test the new tools.
5. Organize the tools on a tool palette and group related tool palettes.

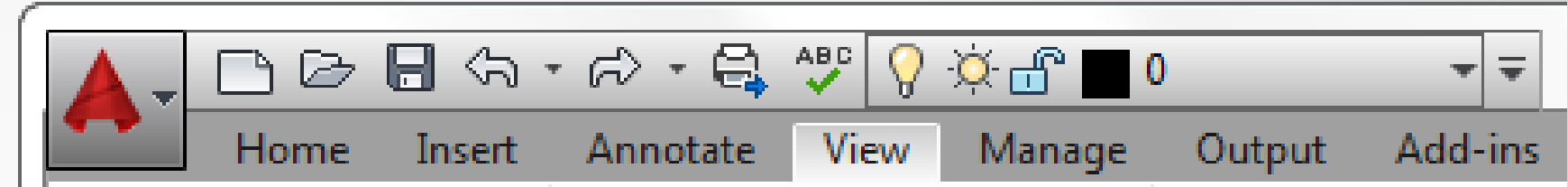
Do exercise “E3 - Create a Tool Palette and Tools”

Quick Access Toolbar (QAT)

Quick Access Toolbar (QAT)

Contains drawing file management related tasks:

- Creating and opening
- Saving
- Plotting



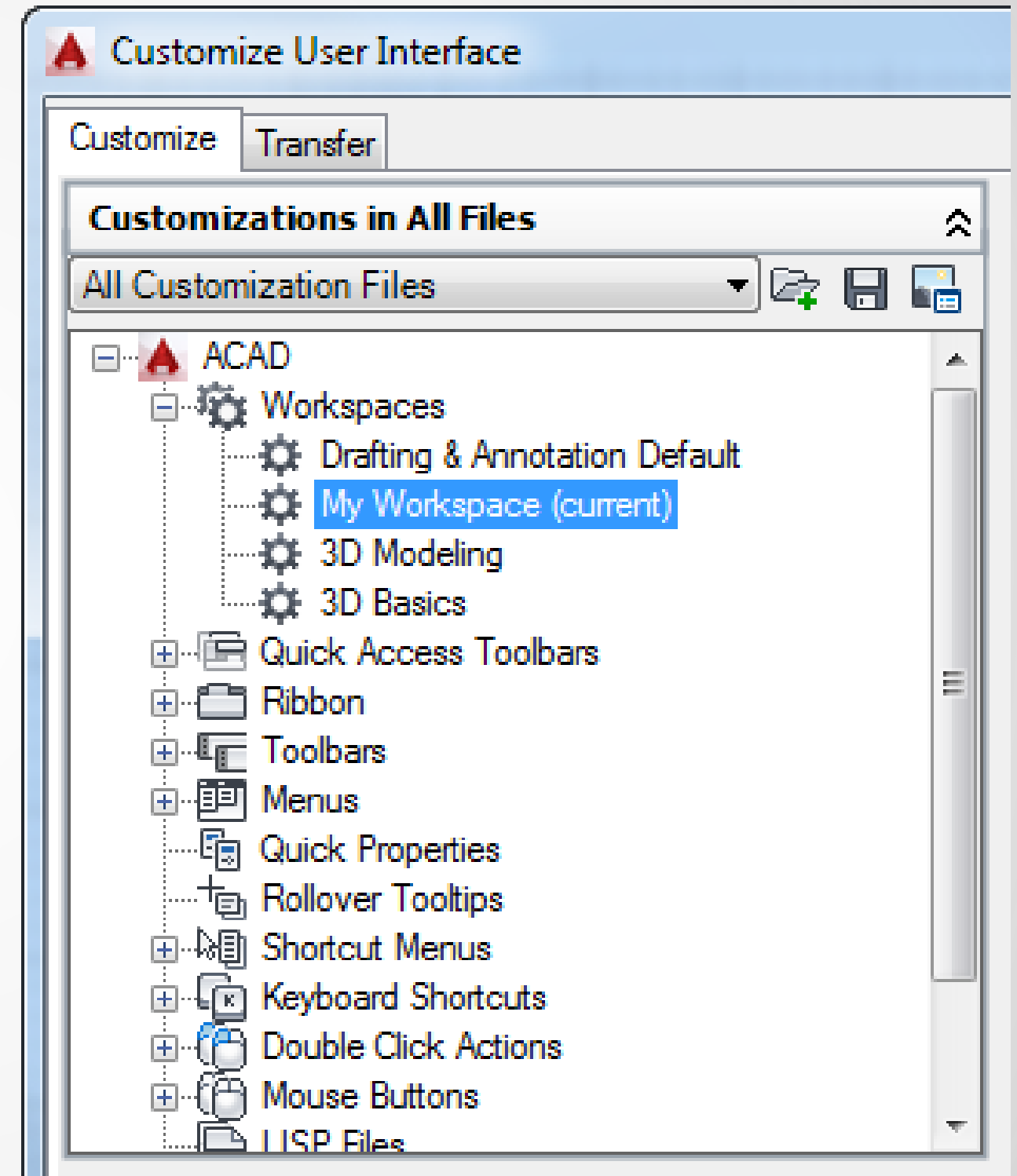
Access to common tools across all ribbon tabs.

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.

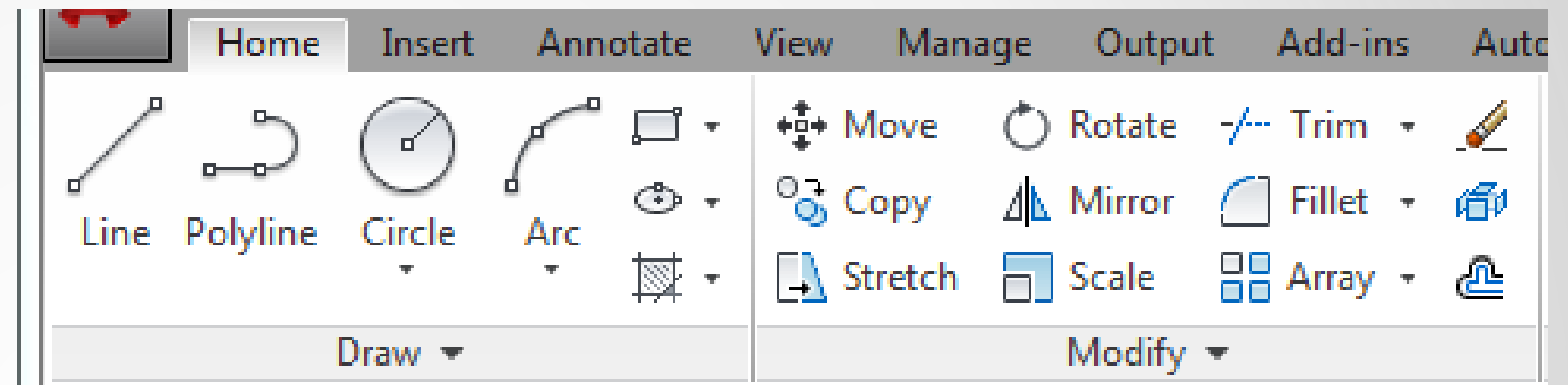
Do exercise "E4 - Create a Quick Access Toolbar"

Ribbon

Ribbon

Contains tools organized by task:

- Creating and editing objects
- Working w/ blocks and references
- Adding annotation
- Outputting drawings

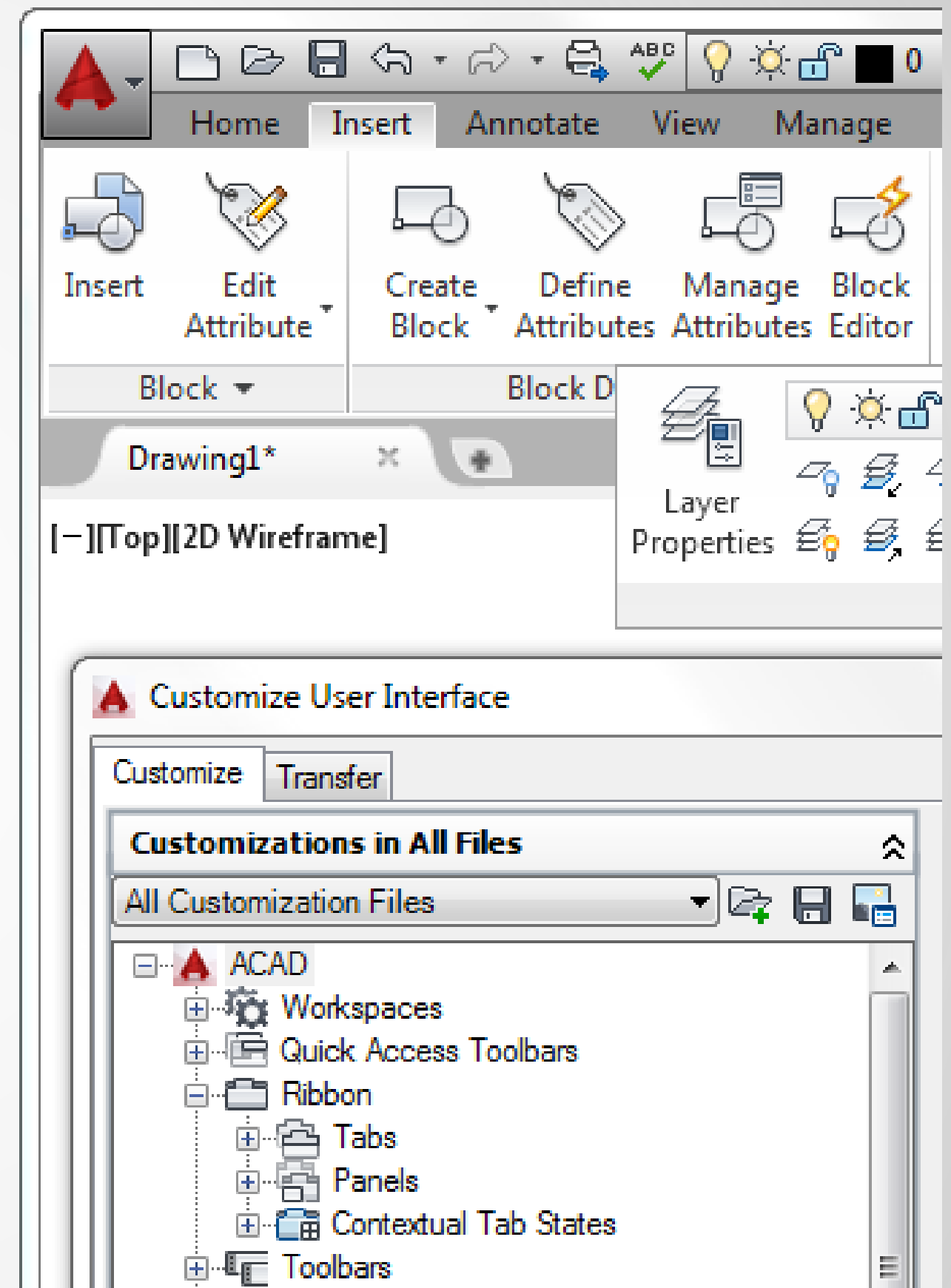


Displayed across the top of the application below the Quick Access toolbar.

Ribbon

Can be customized by:

- Right-clicking over a ribbon tab or panel
- Dragging and dropping a panel over the drawing area
- Using the Customize User Interface (CUI) Editor
- Creating and modifying panels and 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 ribbon panels to the new ribbon tab.
5. Assign the new ribbon tabs to a workspace.
6. Set the workspace current.

Do exercise “E5 - Create a Ribbon Tab and Panel”

Workspaces

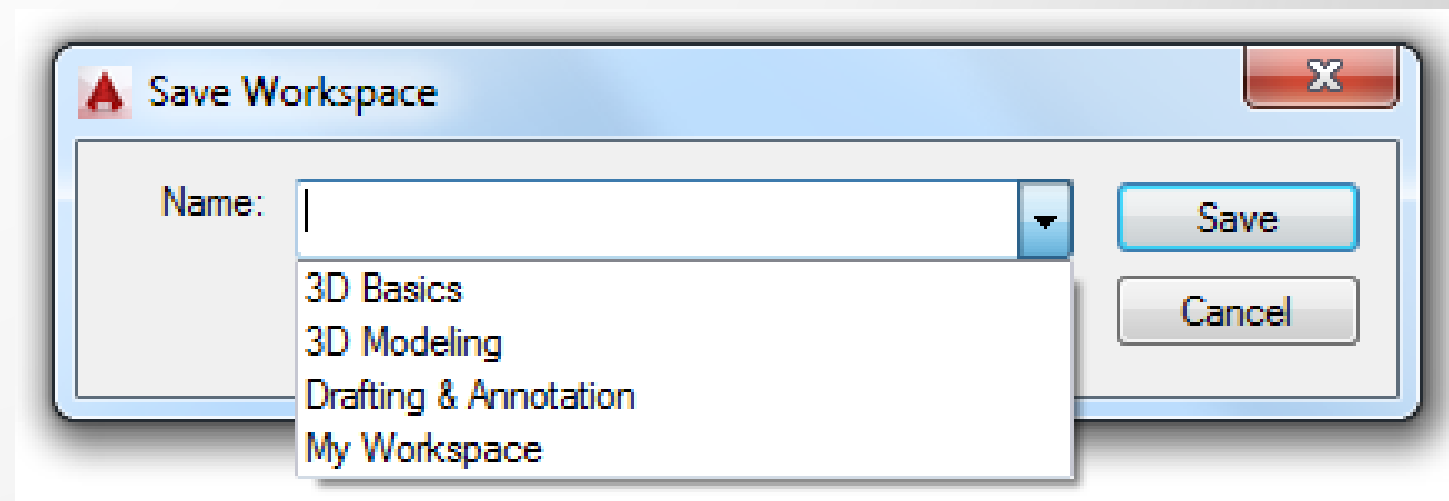
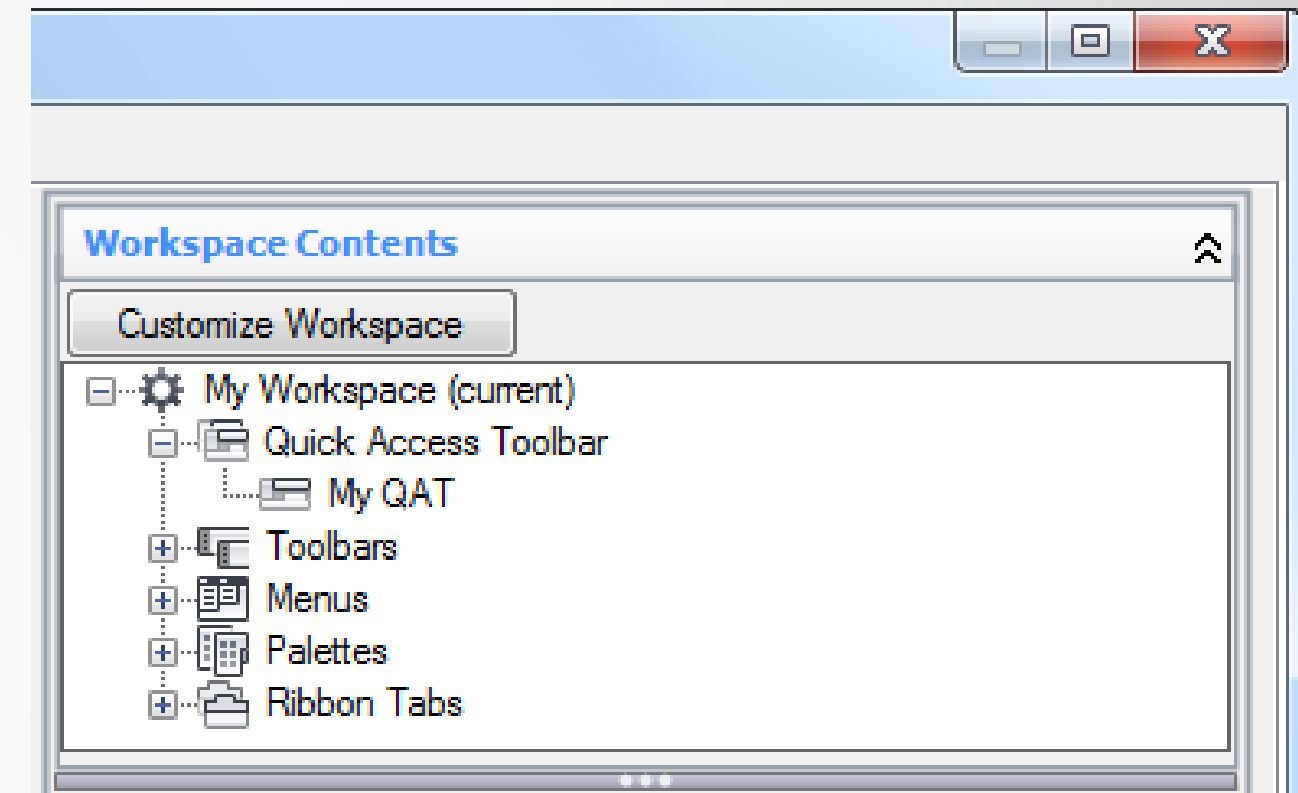
Workspaces

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
- 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.

Do exercise “E6 - Modify and Create a New Workspace”

Final Thoughts and Questions

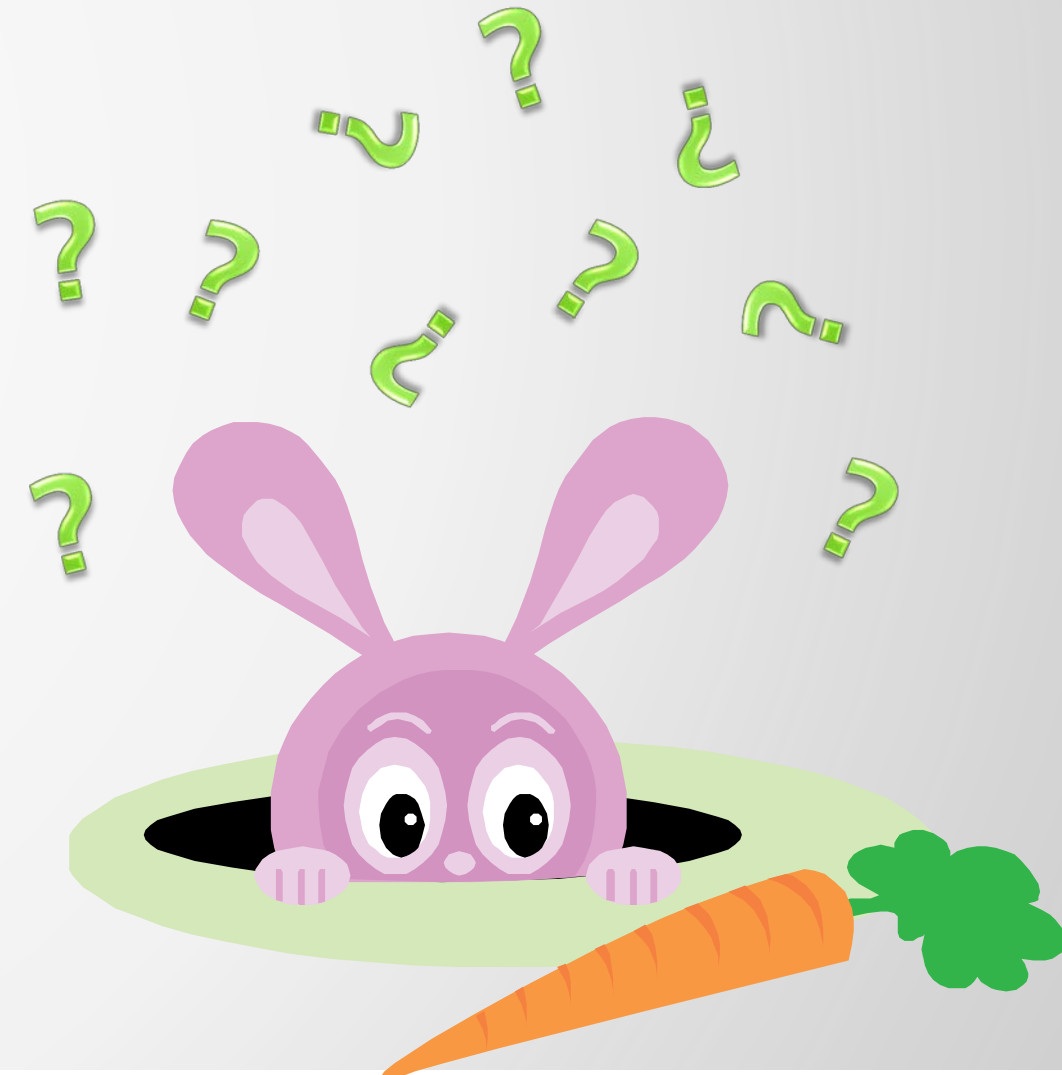
Final Thoughts and Questions

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 mysteries that are 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

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

Enjoy the rest of the conference.

