Customize Your AutoCAD Plant 3D Isometric Configuration

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Class summary

This class will teach you how to create and then customize an AutoCAD Plant 3D iso style. Several methods for creating an iso style, including the new iso style wizard, will be covered. Instruction continues into simple customization using Project Setup and then goes beyond into advanced customization that requires direct editing of the configuration files.

Key learning objectives

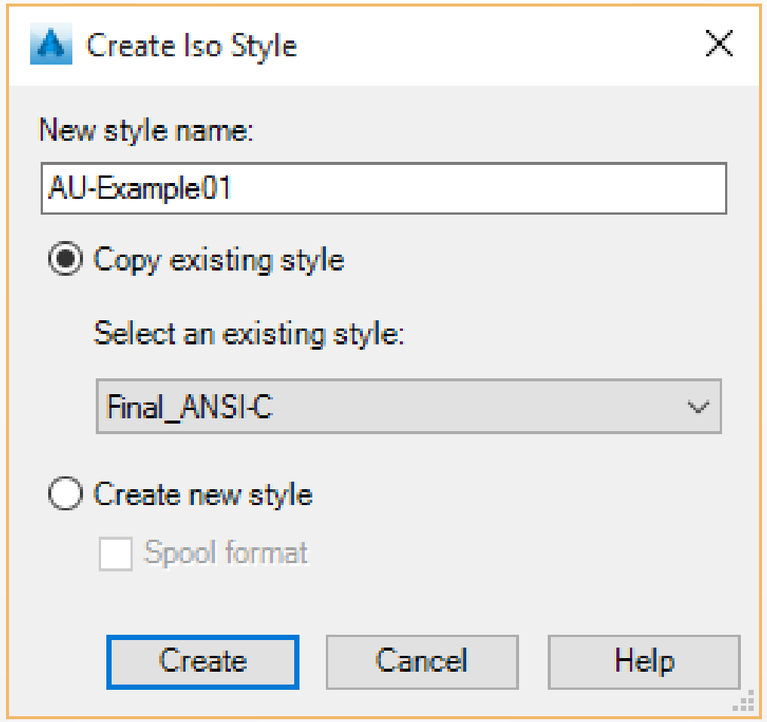
At the end of this class, you will be able to:

- Create and customize a new iso style
- Populate an iso title block at run time using attributes linked to the database or an external line list
- Integrate a custom symbol, filter, and annotation scheme into AutoCAD Plant 3D isometrics
- Navigate the IsoConfig.xml to modify configurable items that are not present in the GUI

Let’s Create an Iso Style!

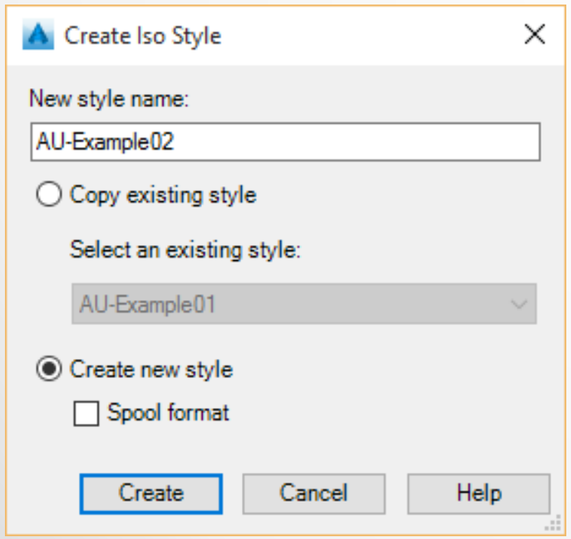
Example 1: Create an Iso Style from a Template

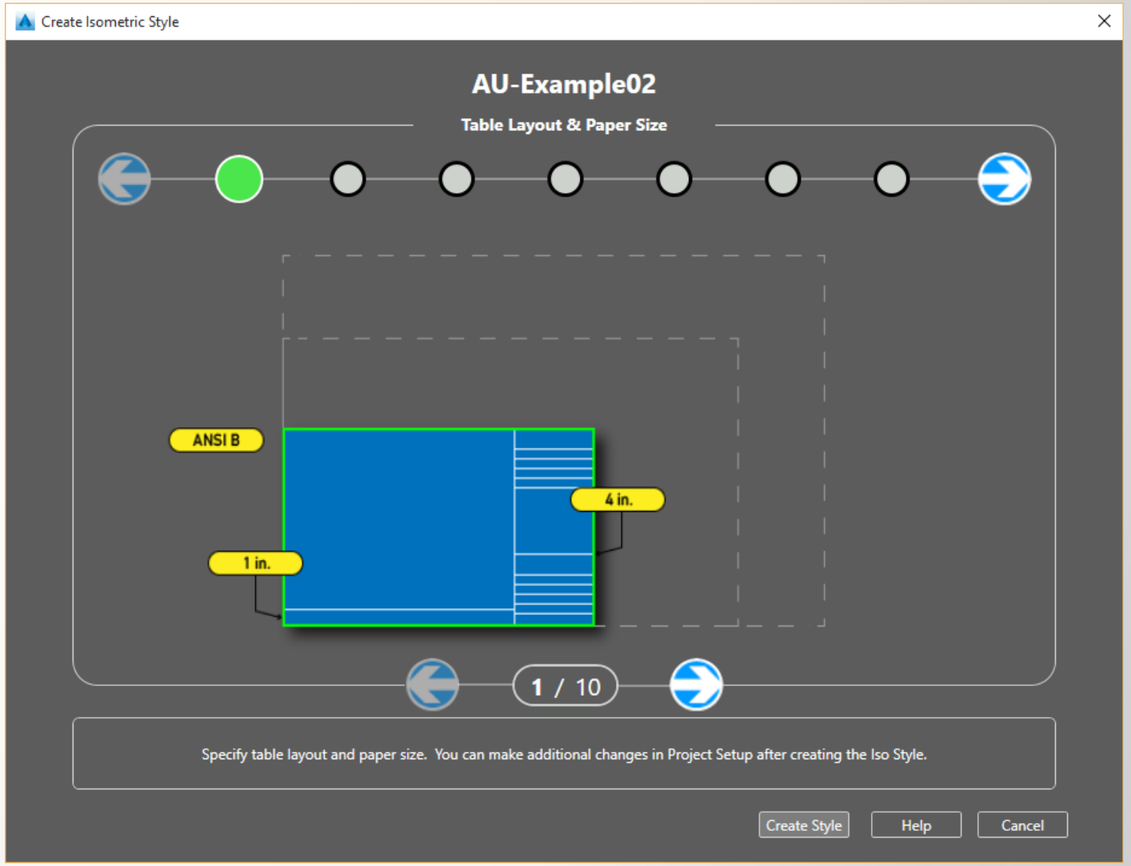
- Open Project Setup
- Click the ‘+’ next to the Iso Styles drop-down



Example 2: Create a new Iso Style

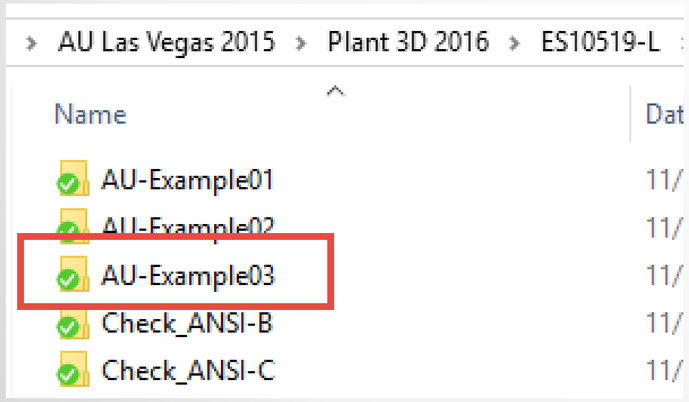
- Click the ‘+’ button in Project Setup
- Iso Style Wizard
  - Guided setup
  - ‘Create Style’ when complete

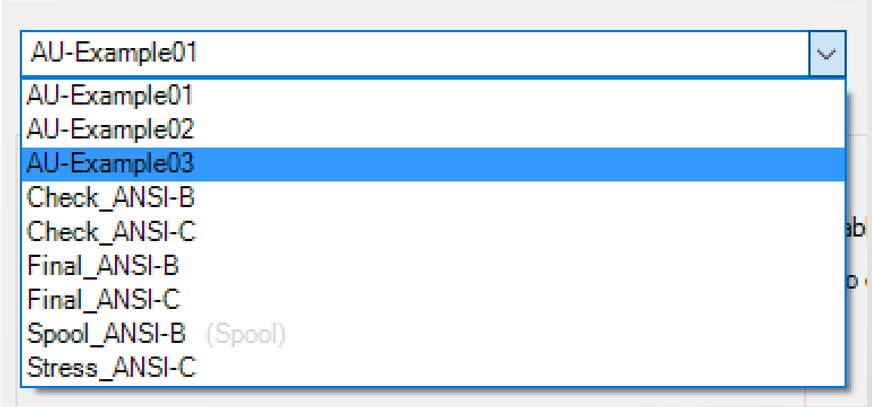




Example 3: Create an Iso Style Manually

- Close Project Setup
- Open Windows File Explorer
- Browse to C:\Datasets\ES10519-L\Isometric
- Select source style and then Copy/Paste
- Rename copy to AU-Example03





Iso Style Customization

Example 4: Customization using Project Setup

- Start with AU-Example04 Iso Style
- Tasks
  - Open Project Setup
  - Change File Naming to Service LineNumber
  - Change output paths
  - Modify Advanced default settings
  - Suppress manual valve annotations, welds, and cut pieces
  - Refine connection annotations
  - Alter dimension offsets

Example 4: Customization using Project Setup

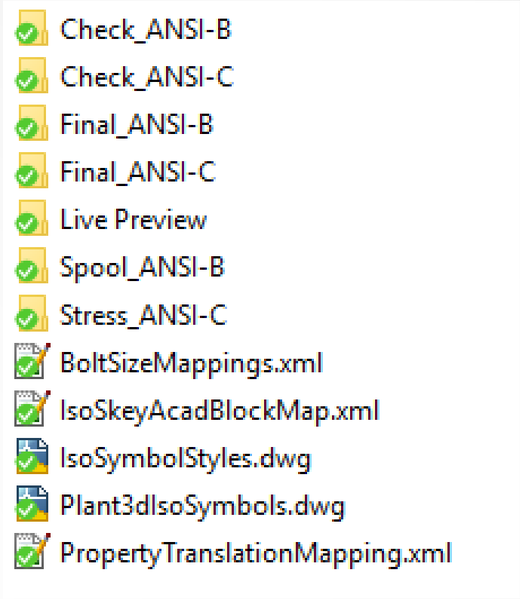
- Tasks (continued)
  - Understand Themes
  - Toggle Dimension Types
  - Change sloped pipe annotation to Imperial Incline
  - Increase hatching percentage
  - Review Offset Piping display
  - Make bends round
  - Enable insulation and pipe supports

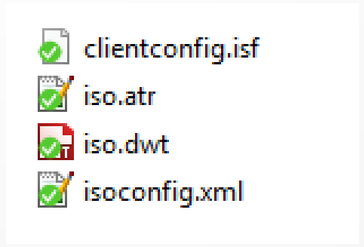
Example 5: Customize a Drawing Template

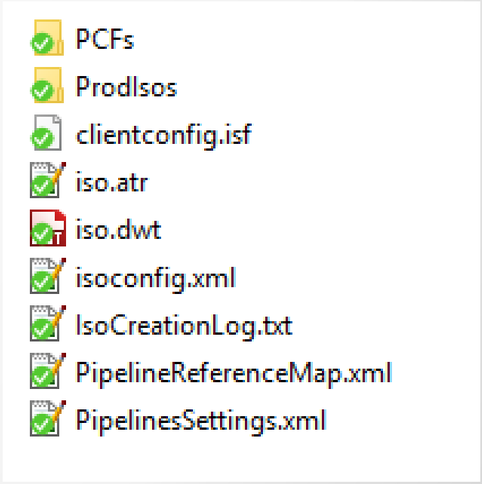
- Start with AU-Example05 Iso Style
- Tasks
  - Adjust to D-Size (22x34) sheet
  - Delete and purge existing Title Block only
  - Insert AU-D-Border and rename to Title Block
  - Assign Draw, No-Draw Areas
  - Place Bill of Material Table and modify
  - Adjust North arrow and modify it to point upper right
  - Insert Attributes including Excel line list data

Anatomy of an Iso Style

- Root Isometric folder
  - Various settings files
  - Block libraries
  - Iso styles
  - Live Preview
- Iso Style folders
  - Core configuration files
  - On-demand files
  - Output folders

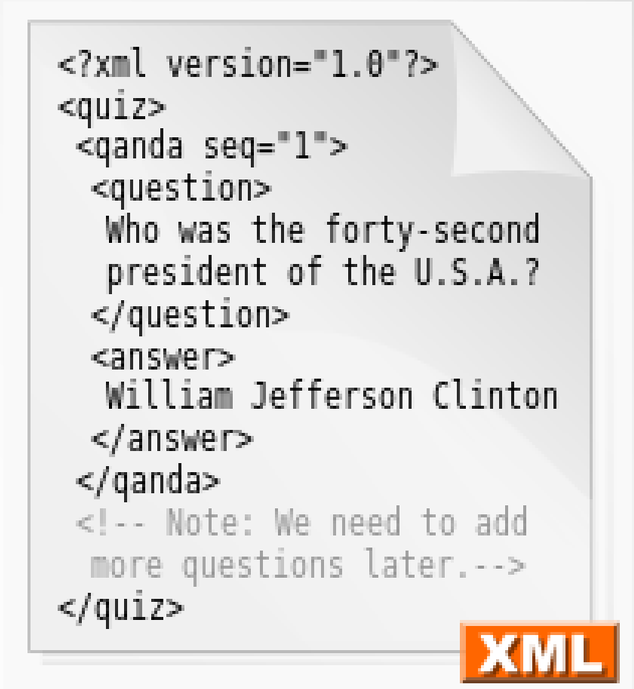


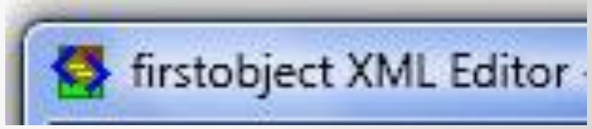




Text Editors

- XML markup language
  - Hard to read as text
  - Code highlighting
- Editors
  - foxe
  - Notepad++
  - Visual Studio Code





Example 6: Integrate the INSTRUMENT spec

- Open the AU-Example06 iso style
- Tasks
  - Open Project Setup
    - Create new 2D iso symbol named AU-Instrument
  - Open IsoSkeyAcadBlockMap.xml
    - Create mapping for AU?? with instrument symbols
  - Open the IsoConfig.xml
    - Create AggregatedList Group to display BOM entries
    - Suppress spec breaks for INSTRUMENT components

Example 7: Custom Drawing and File Names

- Browse to the AU-Example07 iso style
- Tasks
  - Open the IsoConfig.xml
  - Open the Iso.atr file
  - Locate the FileNameFormat element
    - Service-LineNo-Sheet-Revision
  - Locate the DrawingNameFormat element
    - Service-LineNo-Sheet

Example 8: Display Insulation AND Tracing

- Browse to the AU-Example08 iso style
- Tasks
  - Open the IsoConfig.xml
  - Locate the Insulation element
  - Modify the UseDoubleLineInsulation attribute

Example 9: Custom Line Callouts

- Browse to the AU-Example09 iso style
- Tasks
  - Open the IsoConfig.xml
  - Locate the LineNumberScheme element
  - Simple - All attributes in order
    - Size-Spec-Service-LineNumber
  - Advanced
    - Size-LineNumber-Spec-Service
    - Create new PLANTDEFINECALCPROPERTIES property, LineSuffix
    - Update Iso.atr

Example 10: Customize Flange, Gasket, Bolt callouts

- Browse to the AU-Example10 iso style
- Tasks
  - Open Project Setup
  - Edit Isometric Symbols
    - Add a new block – AnnoGroupThreeSquare
  - Close Project Setup, then open the IsoConfig.xml
  - Create new AnnotationStyle named ThreeSquare
  - Enable FlangeGroupMulti, disable FlangeGroup
  - Edit FlangeGroupMulti to use new annotation style

Example 11: Property Breaker for Tracing

- Browse to the AU-Example11 iso style
- Tasks
  - Open Project Setup and verify the name of the property
  - Close Project Setup, then open the IsoConfig.xml
  - Create a new PropertyBreakerScheme element named TraceBreaker
  - Set Field attribute to property name
  - Open iso.atr and add the TracingType property
  - Verify that data appears in the PCF file

Example 12: Create a Spool Drawing Iso Style

- Start with the AU-SpoolExample Iso Style
  - Note that the ‘Spool format’ box is checked
- Configuration Tasks
  - Set Breakup and Naming to pull from model
  - Modify title block
    - Add Cut list and BOM tables
    - Set Draw and No-Draw areas
  - Open the IsoConfig.xml
    - Configure the SpoolNameFormat

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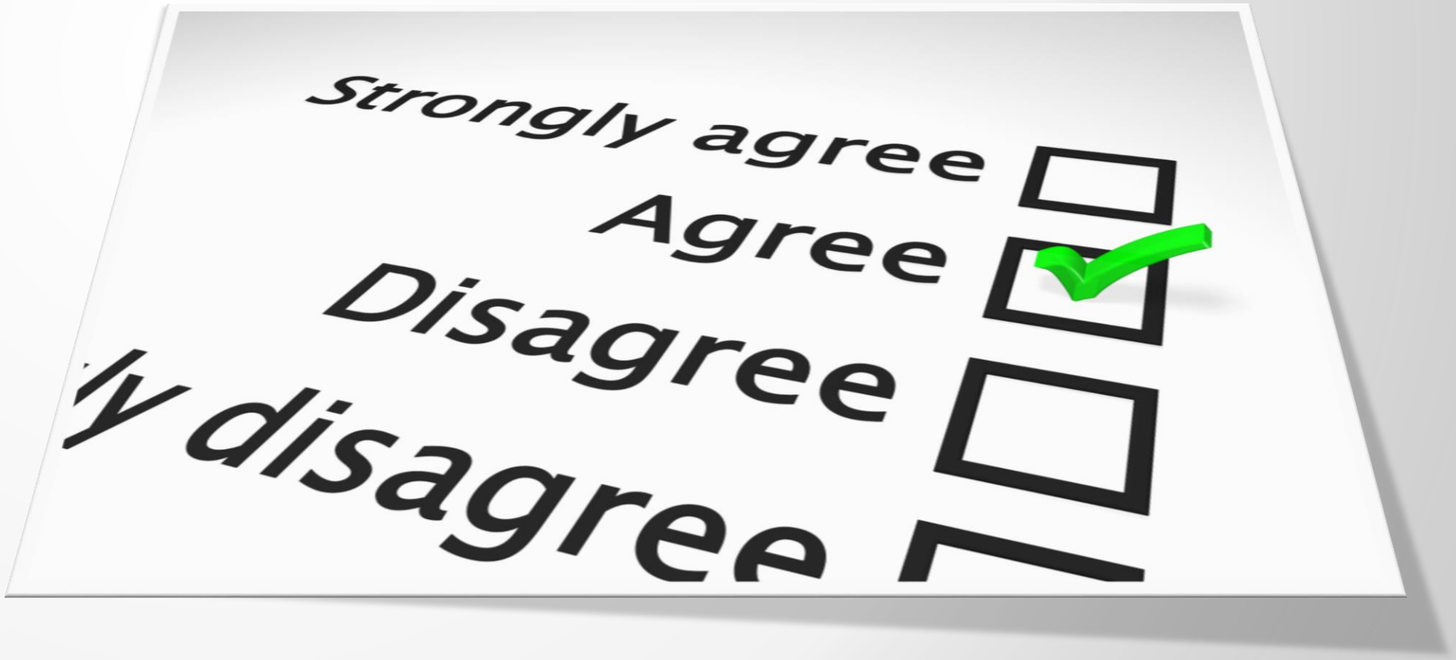

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