

Ground Yourself with a Properly Implemented Electrical: Implementing Autodesk® AutoCAD® Electrical

Eric France

Solutions Consultant

@IMAGINiT_EricF



Class summary

Do you work collaboratively or independently in AutoCAD Electrical software? If you have more than one user at your company creating drawings with AutoCAD Electrical, this class helps you understand all the ways you can reference common, shared files effectively. The class covers how to install, configure, and organize those files so that drawings easily follow established standards and appear consistent from project to project and user to user. The class digs into some key ways AutoCAD Electrical promotes standardization and shows you an effective way to implement AutoCAD Electrical that allows users to work productively and consistently from a common set of files.

Key learning objectives

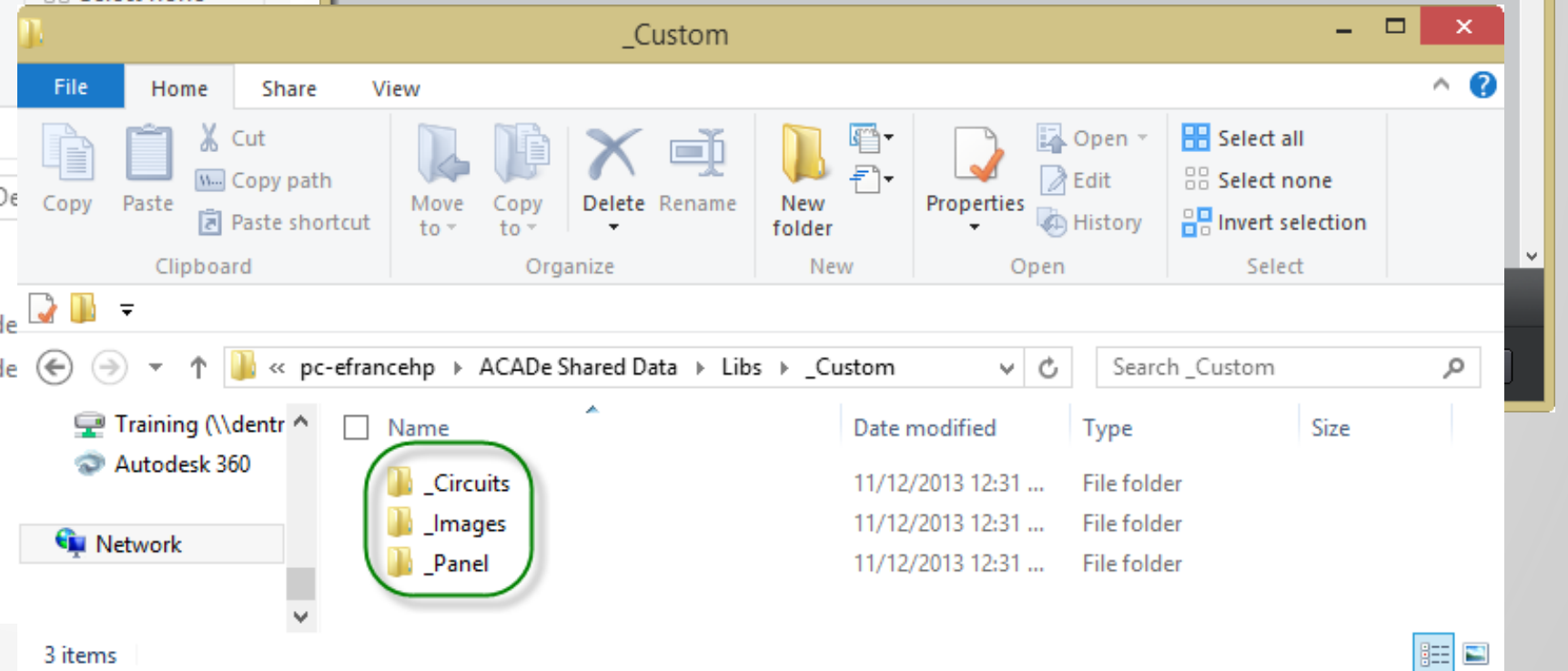
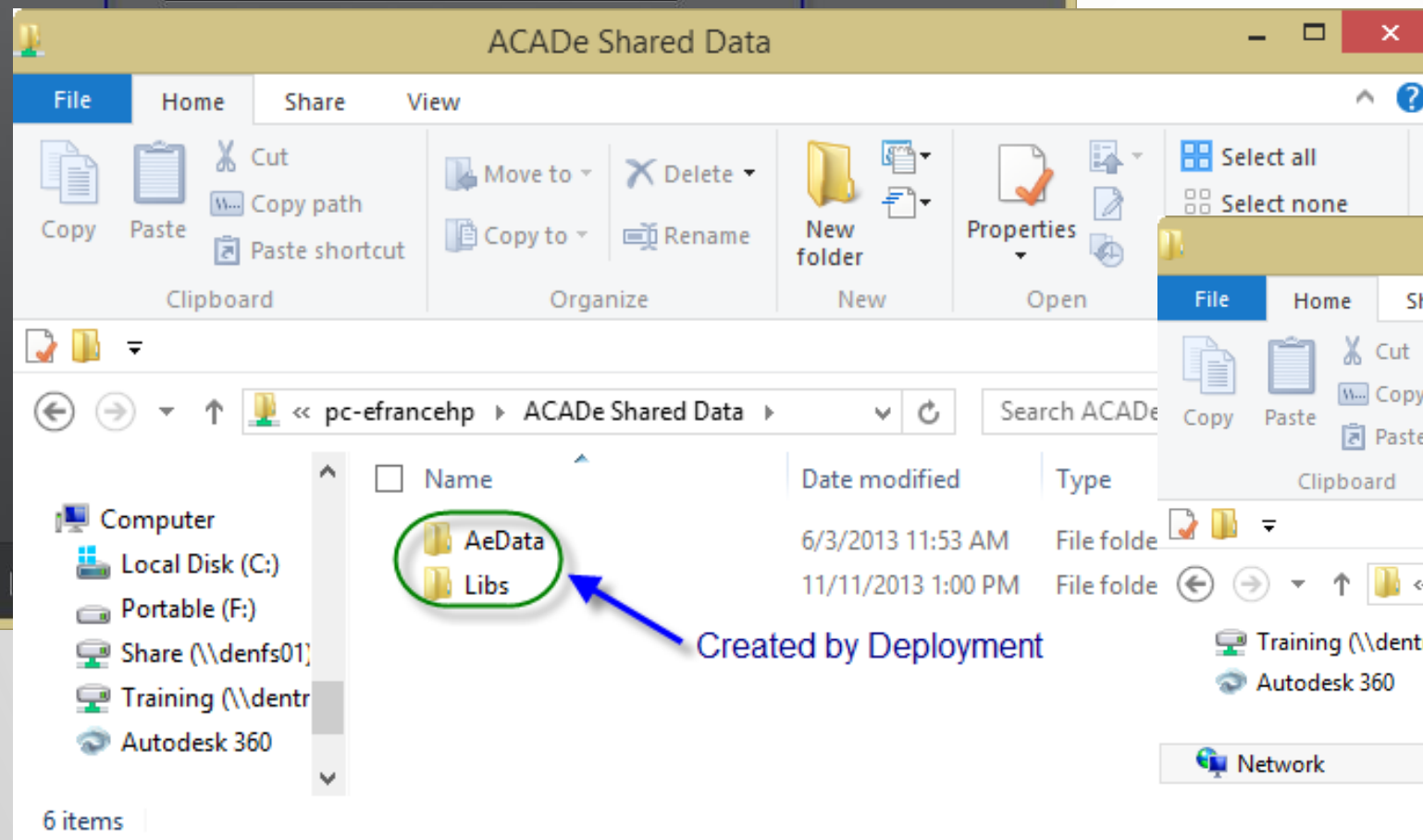
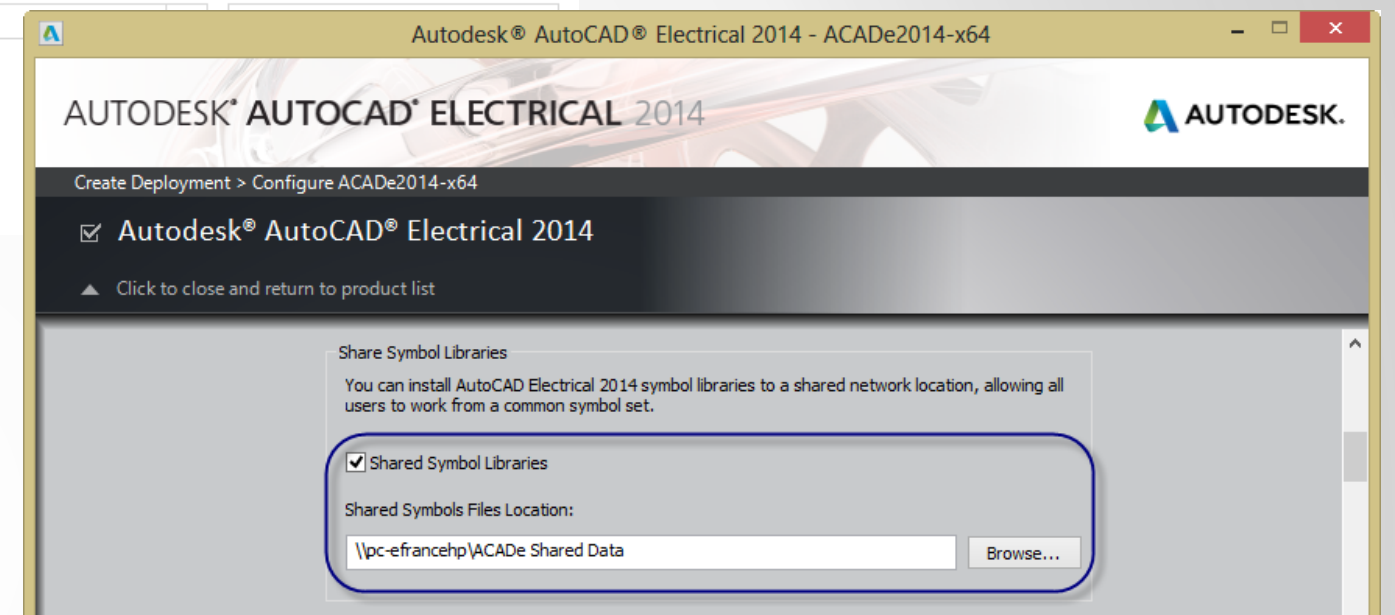
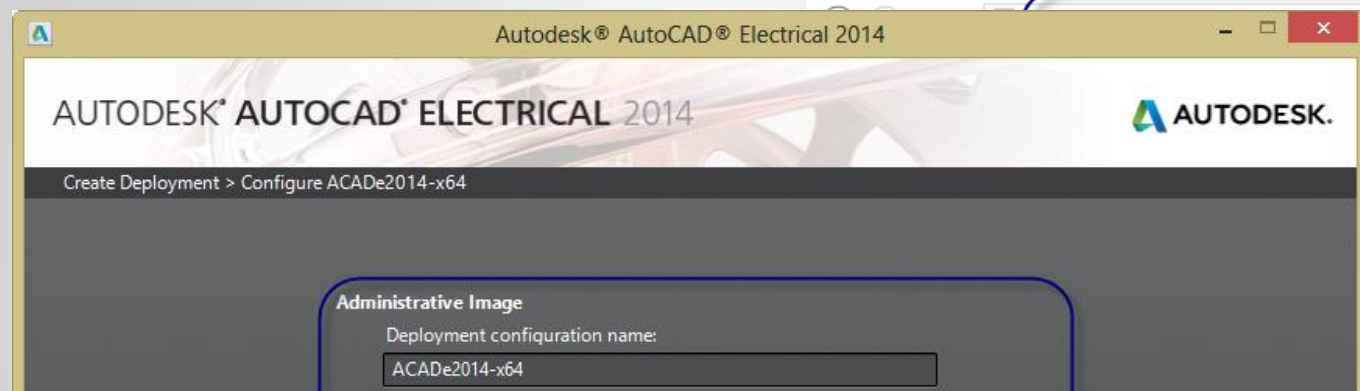
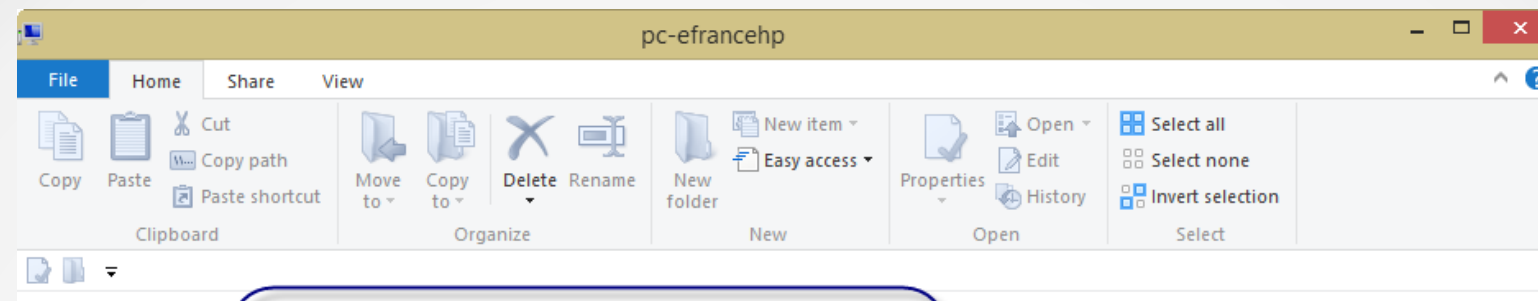
At the end of this class, you will be able to:

- Share common libraries, databases, and other reference files effectively
- Configure the environment file to access shared locations first
- Organize your shared locations for convenient access and maintenance
- Use standard reference files to share data among users and between projects

Share common libraries, databases, and other reference files effectively

Establish Shared Locations

- By creating a Deployment, you can specify where on the network users will access shared databases and symbol libraries from by default.
- These folders will be populated during the creation of the deployment and help standardize what content all users work with in AutoCAD Electrical.
- This also reduces the duplication of content on multiple users machines.



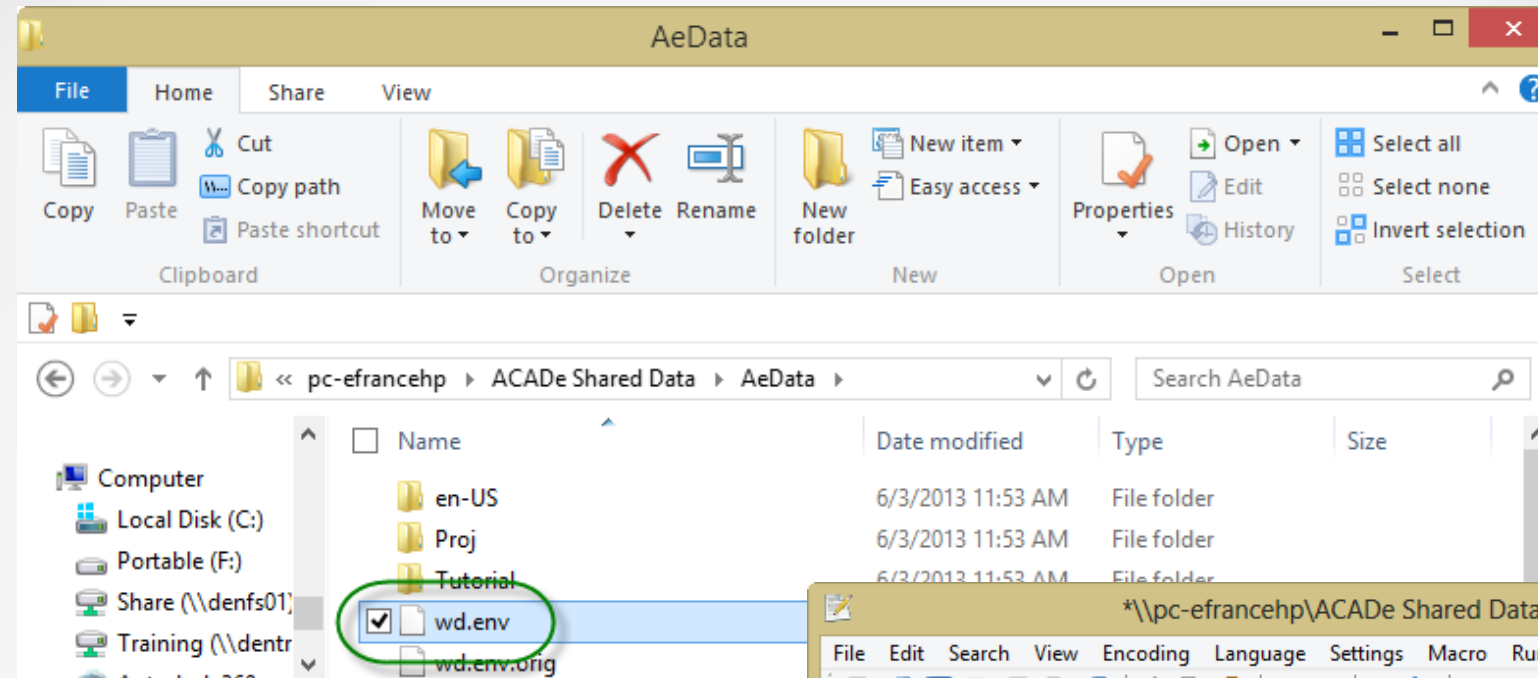
Shared Locations Summary

- Create Network Shares
- Configure the Deployment
- Create the Deployment
- Add Company Library Folders

Configure the environment file to access shared locations first

Easily Direct Users

- The wd.env file is used by AutoCAD Electrical to identify which search paths it uses for many of the tools used to produce a Electrical drawing set.
- By adjusting the paths here, users are provided the correct location to find their company's standard content with minimal time spent searching for it.
- It also can be used to force AutoCAD Electrical to search company-specific content first as well.



```

\\pc-efrancehp\ACADE Shared Data\AeData\wd.env - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
wd.env
1 * AutoCAD Electrical - project environment settings
2 * Format is: env code, setting, description (separated by commas) 2
3 * The setting value, if a path, can be fully hard-coded or can include one
4 * of the following aliases:
5 *
6 * %PF_DIR% = base executable install folder
7 * (example: "C:\Program Files\Autodesk\AutoCAD 2014\Acade\")
8 * 1 (corresponds with global GBL_WD_BASEINSTALL)
9 *
10 * %DS_DIR% = base "Documents and Settings" folder
11 * (example: "C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD
12 * Electrical 2014\R19.1\enu\Support\")
13 * (corresponds with global GBL_WD_DOCSETBASE)
14 *
15 * %WD_DIR% = base folder where "wd.env" is located
16 * (example: "C:\Users\{username}\Documents\Acade
17 * 2014\AeData\")
18 * (corresponds with global GBL_WD_DOCSETWDBASE)
19 *
20 * %SL_DIR% = base folder for "Libs" symbol library subfolder
21 * (example "C:\Users\Public\Documents\Autodesk\Acade 2014\Libs\")
22 * 3 (corresponds with global GBL_WD_BASELIBS)

```

```

*\\pc-efrancehp\ACADE Shared Data\AeData\wd.env - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
wd.env
49 *****
50 * Symbol Insertion and Library Paths
51 *****
52 WD_LIB,%SL_DIR%/Custom;%SL_DIR%/nfpa;%SL_DIR%/nfpa/1-;%SL_DIR%/pneu_iso125;%SL_DIR%/pid;%SL_DIR%/hyd
53 _iso125, schem, 1-line, and pneumatic/pid/hydraulic default paths
54 WD_PNL,%SL_DIR%/Custom/Panel;%SL_DIR%/panel, panel layout symbol library base folder
55 WD_CIRCBUILDER_FNAME,"ace_circuit_builder.xls",Circuit Builder spreadsheet file name
56 WD_INSCOMPDLG,%SL_DIR%/Custom/,to override starting path for INS SCHEM COMP browse button
57 WD_INSFPDLG,%SL_DIR%/Custom/Panel,to override starting path for INS PNL COMP browse button
58 WD_INSCKTDLG,%SL_DIR%/Custom/Circuits/,to override starting path for INS CKT file selection dialog
59 WD_WBLOCKDLG,%SL_DIR%/Custom/,to override starting subdir for Black Box Bldr WBlock option
60 *WD_PICKLIST,%WD_DIR%/WD_LANG%/catalogs/wd_picklist.mdb,ins component from catalog list file
61 WD_USERCKTDIR,%SL_DIR%/Custom/Circuits/,default folder for "USER CKTS"
62 *PLC_ADDRESS_FORMAT,I:00%10%2;I:%1%2/00;--;O:00%10%2;O:%1%2/00;--;,default PLC address formats for
63 "Quick pick"
64 *****
65 * Catalog Parts Database Path
66 *****
67 WD_CAT,%WD_DIR%/WD_LANG%/catalogs/AE catalog file path
68 *WD_XCAT,x:/some path/wd_xcat.lsp,to override catalog look-up and call user's external routine
69 *****
70 * Project and drawing-related paths and settings

```

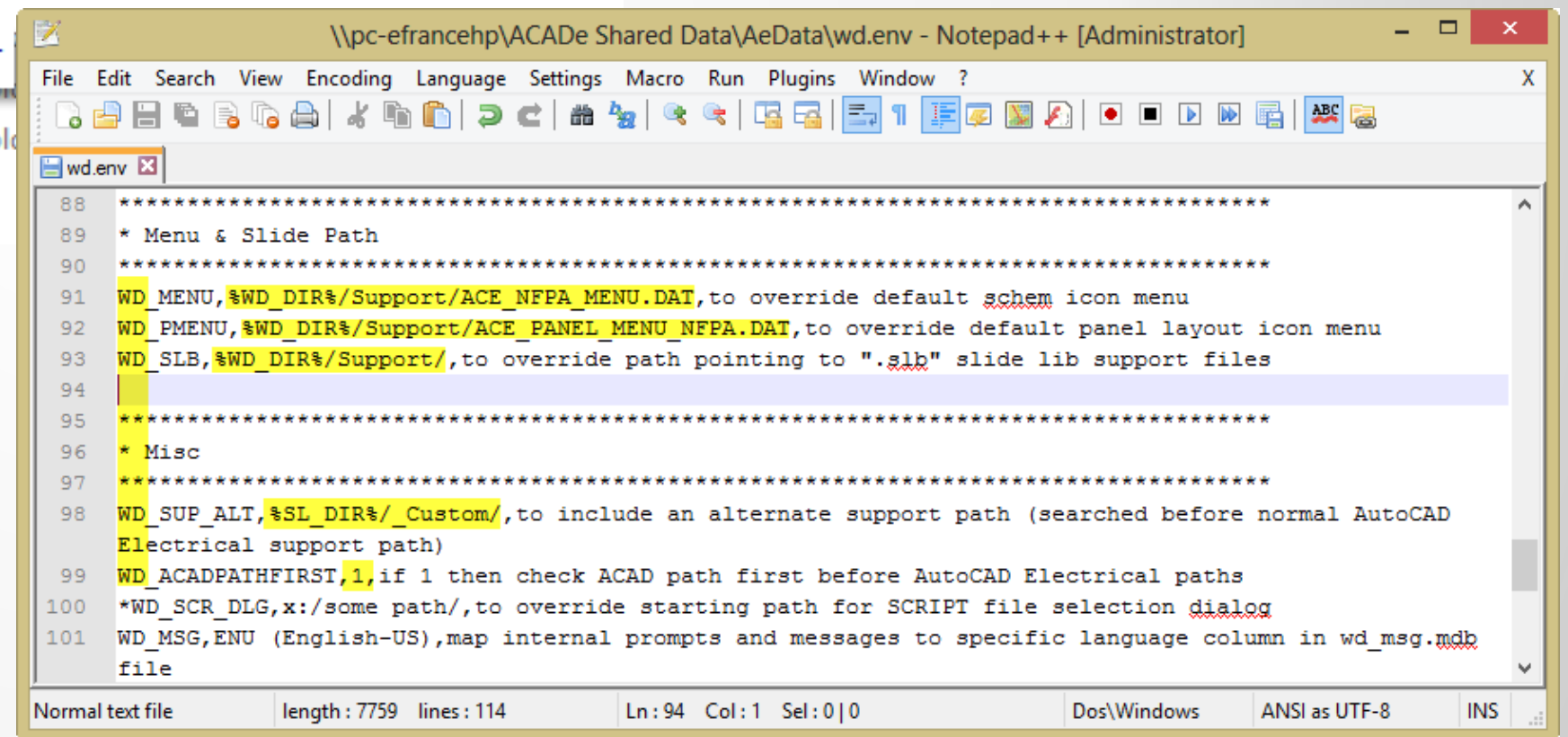
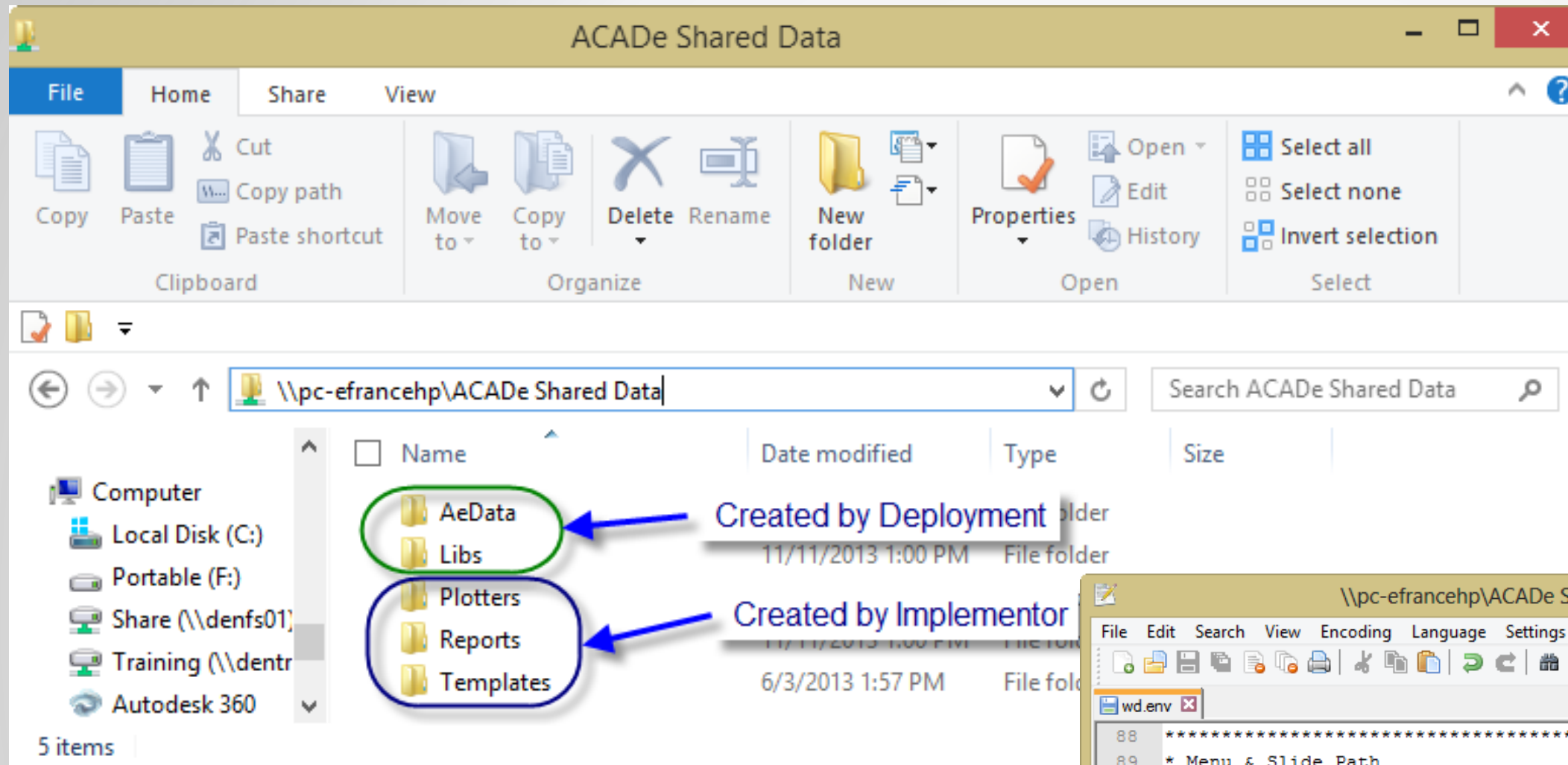
Configure Environment File Summary

- Configure the wd.env File
- Configure Library Paths

Organize your shared locations for
convenient access and maintenance

Share Standard Content

- Using the locations established in the deployment as a basis, additional folders can be created to store other standard content.
- Placing Company Templates, Plotter Configurations, Report Formats and Groups, and common Support files here helps standardize drawing sets as well.
- This becomes the “go-to” place for everything AutoCAD Electrical and is easily archived as a backup.



Organizing Shared Locations Summary

- Add Company Content Folders
- Combine Support Folders
- Configure Support File Usage

Use standard reference files to share data
among users and between projects

Share Standard Content

- Finally, AutoCAD Electrical has around two dozen reference files that are available for use and standardization of information contained in your drawing sets. Leveraging files that contain standard descriptions, location codes, line labels, and rating values saves time and delivers a consistent product.
- Why type the same values over and over again (or incorrectly), when you can simply pick it from a list?

Database Description	Filename	Access From...
Catalog Lookup Database	default_cat.mdb	Lookup button in Insert/Edit Component dialog
Footprint Lookup Database	footprint_lookup.mdb	Panel tab > Other Tools panel (expanded)
Schematic Lookup Database	schematic_lookup.mdb	Schematic tab > Other Tools panel (expanded)
PLC Database	ace_plc.mdb	Schematic tab > Other Tools panel (expanded)
Pin List Database	default_cat.mdb	Schematic tab > Other Tools panel (expanded)
Terminal Properties Database	default_cat.mdb	Schematic tab > Other Tools panel (expanded)
Electrical Standards Database	ace_electrical_standards.mdb	Schematic tab > Other Tools panel (expanded)
Language Conversion Database	wd_lang1.mdb	Project tab > Other Tools panel

Content File Description	Filename	Access From...
Default Descriptions	<u>wd_desc.wdd</u>	"Defaults" button on Insert / Edit Component dialog
Default Ratings	<u>wd_ratings.wdr</u>	From "Show All Ratings" button > "Defaults" button in View/Edit Rating dialog
Default Location Codes	<u>default.loc</u>	From Location code "Project" button, check the "Include external list" checkbox
Default Installation Codes	<u>default.inst</u>	From Installation code "Project" button, check the "Include external list" checkbox
Default Component Tags	<u>default.wdx</u>	From Component Tag > "External List" button
Source/Destination Arrow Default Descriptions	<u>wdsrcdst.wdd</u>	"Defaults" button in Source or Destination Arrow dialogs
Generic Wire Color/ID Abbreviations	cblcolor.dat	"Generic" button on Insert / Edit Cable Marker dialog
Default Wire Color/Gauge Labels	<u>default.wdw</u>	"Setup" button on Insert Wire Color/Gauge Labels dialog
Default Terminal Number Audit Filter	<u>default.wdn</u>	Lists Terminal Numbers to be ignored in an Electrical Audit
User-Defined Attribute List	<u>default.wda</u>	Used by report tools to determine which additional attributes are listed in reports

Look in: Support

Name

Date modified

Profiles

11/12/2013 5:25 PM

RegisteredTools

11/12/2013 5:25 PM

ToolPalette

11/12/2013 5:25 PM

User

11/13/2013 4:25 PM

WelcomeScreen

11/12/2013 5:23 PM

☒ default.wdx

11/13/2013 6:14 PM

File name:

default.wdx

Open

Files of type:

*.wdx

Cancel

Locate

Find File...

File name:

default.wdx

Open

Files of type:

*.wdx

Cancel

Locate

Find File...

Wire Line Layers - Color/Gauge Label Mapping

File: C:\Users\efrance\...\Support\User\default.wdw

Wire Layer Name

Color/Gauge label

YEL_14_THHN

#14AWG YEL

BLK_12_THHN

#12AWG BLK

RED_14_THHN

#14AWG RED

WHT_12_THHN

#12AWG WHT

WIRES

RED_14AWG

BLU_14AWG

To add/modify the default color/gauge text string, select the layer name from the list above.

To add new wire layer names, select Wires > Create/Edit Wire Type

Leader

0.180

Text Size

Arrow Type

0.180

Arrow Size

Closed Filled

0.090

Leader/Gap size

Closed Blank

Text size follows DIMTXT

Closed

Arrow size follows DIMASZ

Dot

Architectural Tick

Oblique

Leader layer

SYMS

Text layer

MISC

OK

Cancel

Insert / Edit Component

Tag

☐ fixed

PLC Address

Schematic

Panel

Description

Line 1: MAIN BREAKER

Line 2:

Line 3:

List: Drawing Project **Defaults** Pick

Cross-Reference

☐ Component override

Setup

Reference NO: 203.203

Reference NC:

Installation code

Drawing Project

Location code

MCAB5

Drawing Project

Pins

1

2

X

Multiple Catalog

Catalog Check

Ratings

Rating: 15A

Show All Ratings

Wire label color/gauge setup

Wire Line Layers - Color/Gauge Label Mapping

File: C:\Users\efrance\...\Support\User\default.wdw

Wire Layer Name

Color/Gauge label

YEL_14_THHN

#14AWG YEL

BLK_12_THHN

#12AWG BLK

RED_14_THHN

#14AWG RED

WHT_12_THHN

#12AWG WHT

WIRES

RED_14AWG

BLU_14AWG

To add/modify the default color/gauge text string, select the layer name from the list above.

To add new wire layer names, select Wires > Create/Edit Wire Type

Leader

0.180

Text Size

Arrow Type

0.180

Arrow Size

Closed Filled

0.090

Leader/Gap size

Closed Blank

Text size follows DIMTXT

Closed

Arrow size follows DIMASZ

Dot

Architectural Tick

Oblique

Leader layer

SYMS

Text layer

MISC

OK

Cancel

External List

Options

Catalog Data

Manufacturer: EATON

Catalog: EGH3015FFG

Assembly:

Item: Count:

Next>> 31

Lookup Previous

Drawing Project

Multiple Catalog

Catalog Check

Ratings

Rating: 15A

Show All Ratings

Descriptions (general): c:/users/efrance/appdata/ro.../r19.1/enu/support/wd_desc.wdd

Generic description file WD_DESC.WDD. Create project-specific description files using project name with ".WDD" extension. This file is accessed from the "Defaults" radio button under EDIT or INSERT component "List Descriptions" when project-specific WDD file is not found. Use the "T" character to show the break point for a second line. Anything after ";" character is ignored

Generic descriptions for RELAYS
MASTER CONTROIRELAY
SYSTEMENABLED

Generic descriptions for PUSH BUTTONS
START
STOP
RESET
SYSTEMRESET
EMERGENCYSTOP
RUN
JOG
OPEN
CLOSE

Generic descriptions for SWITCHES

Highlight entry above and pick OK, or select Pick File to select a different file and description list.

Pick File Language Project Family General Add/Edit

OK->Description 1 OK->Description 2 OK->Description 3 OK Cancel Help

All Installations - Project

JBOX
MACH
PANEL

☒ Include external list

OK Cancel

Default Descriptions

wd_desc.wdd

"Defaults" button on Insert / Edit Component dialog

Default Ratings

wd_ratings.wdr

From "Show All Ratings" button > "Defaults" button in View/Edit Rating dialog

Default Location Codes

default.loc

From Location code "Project" button, check the "Include external list" checkbox

Default Installation Codes

default.inst

From Installation code "Project" button, check the "Include external list" checkbox

Default Component Tags

default.wdx

From Component Tag > "External List" button

Source/Destination Arrow Default Descriptions

wdsrcdst.wdd

"Defaults" button in Source or Destination Arrow dialogs

Generic Wire Color/ID Abbreviations

cblcolor.dat

"Generic" button on Insert / Edit Cable Marker dialog

Default Wire Color/Gauge Labels

default.wdw

"Setup" button on Insert Wire Color/Gauge Labels dialog

Default Terminal Number Audit Filter

default.wdn

Lists Terminal Numbers to be ignored in an Electrical Audit

User-Defined Attribute List

default.wda

Used by report tools to determine which additional attributes are listed in reports

RATINGS defaults (general): C:/Users/efrance/AppData/.../enu/S...

Generic: "ratings" file WD_RATINGS.WDR. Create project-specific ratings files using project name with ".WDR" extension. This file is accessed from the "Def" radio button under "Show All Ratings" subdialog. Use the "T" character to show the break point for subsequent RATINGS values. For example, 30HP/28FL/1750RPM, if picked from the file, will insert the three values into three consecutive RATINGx attrib values on the edited component. Note: anything after ";" character is ignored (i.e. a "comment")

100 ;THIS IS A COMMENT
200
30A/60A
20A/60A

Highlight entry above and pick OK, or select Pick File to select a different file and description list.

Pick File Project Family Generic Add/Edit

OK Cancel Help

All Locations - Project

CP
DRIVER SEAT
FLOOR
JBOX1
JBOX2
MACH2
MACHINE
MCAB4
MCAB5
OPSTA3
OPSTA4
PASSENGER SEAT
JBOX
MACH

☒ Include external list

OK Cancel

Spreadsheet to PLC I/O Utility

Settings: Browse... Setup

Spreadsheet to PLC I/O Utility Setup

Ladder

Origin: Orientation: Module

PLC graphical style:

1

1.000

1.000

19

1.000

1.000

1.000

1.000

250

750

Save Settings

Save in: Support

Name

Date modified

Profiles

11/12/2013 5:25 PM

RegisteredTools

11/12/2013 5:25 PM

ToolPalette

11/12/2013 5:25 PM

User

11/13/2013 4:25 PM

WelcomeScreen

11/12/2013 5:23 PM

☒ default_plc.wdi

4/14/2010 4:09 AM

File name:

default_plc.wdi

Save

Save as type:

*.wdi

Cancel

IMAGINT Template

Browse...

\\PC-EFRANCEHP\ACADE Shared Data\Templates\

Signal arrow style:

2

4

Save

OK Help



Standard Content Summary

- Reference Company Databases
- Manage Project Information
- Reference Standard Component Content
- Reference Standard Settings

Class Summary

In this class, you learned how to:

- Share common libraries, databases, and other reference files effectively
- Configure the environment file to access shared locations first
- Organize your shared locations for convenient access and maintenance
- Use standard reference files to share data among users and between projects

