

What is yEd Graphics?

Micro Learning Module MLM-021-A

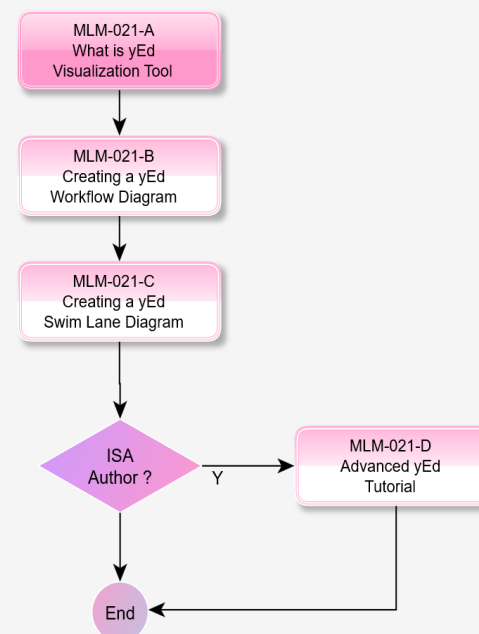
Industry	— All
Principal Role	— All
Professional Role	— All
Enterprise Phase	— All



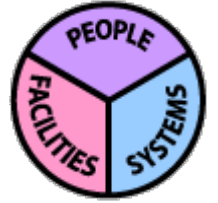
Turn on your audio and
click start to begin video

START

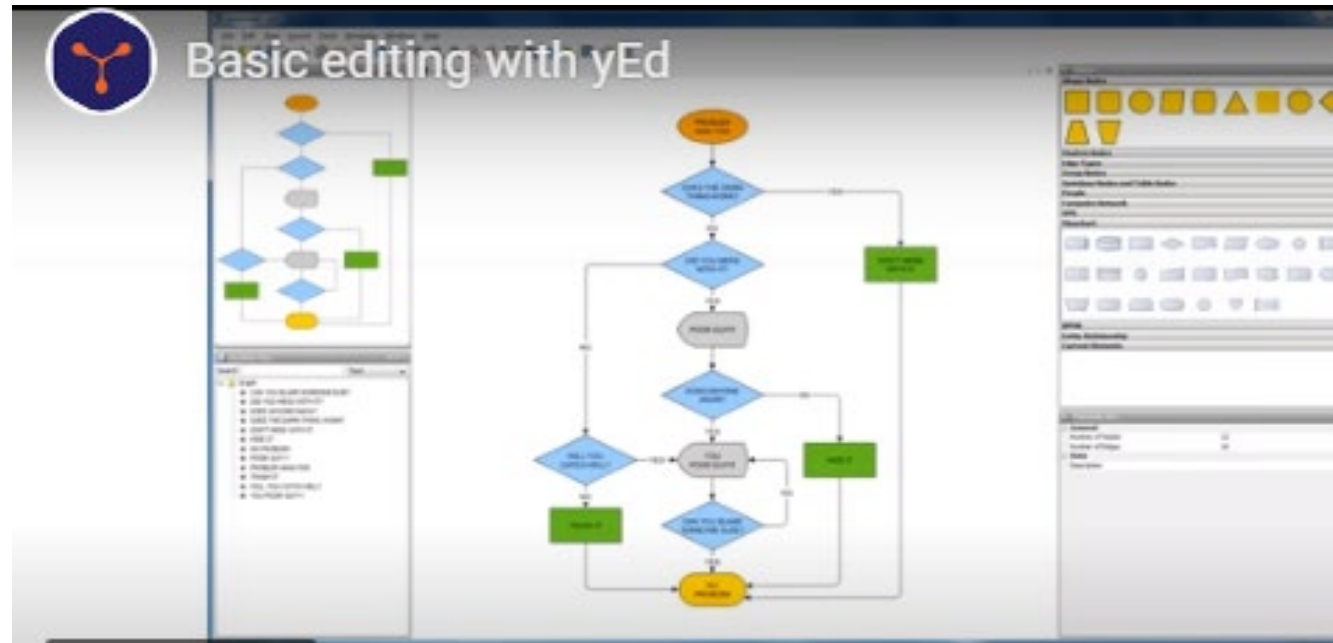
Learning Map for yEd Graphics



What is yEd ?

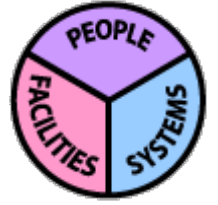


- A multi-purpose diagramming program developed at Stanford University.



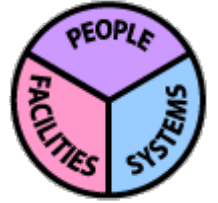
- yEd is based on the open [GraphML](#) standard
- It is a free Java application that runs on Windows, iOS, and Linux.

Why Use yEd for PERA Diagrams ?

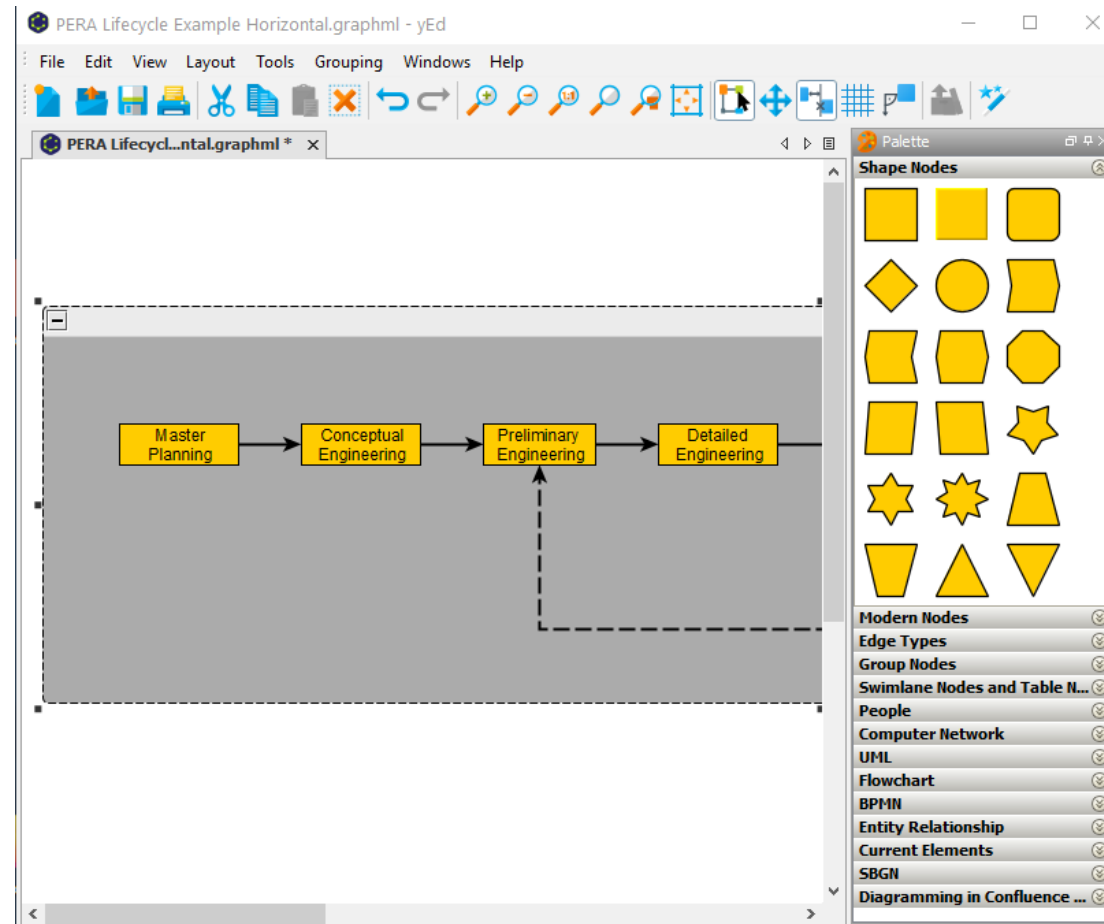


- 1) yEd creates diagrams either:
 - a) manually using “Drag & Drop” from a Palette, or
 - b) from Tabular Data (Excel & many other formats).

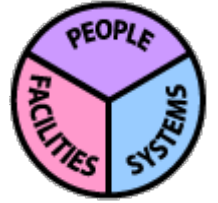
How to Create Diagrams



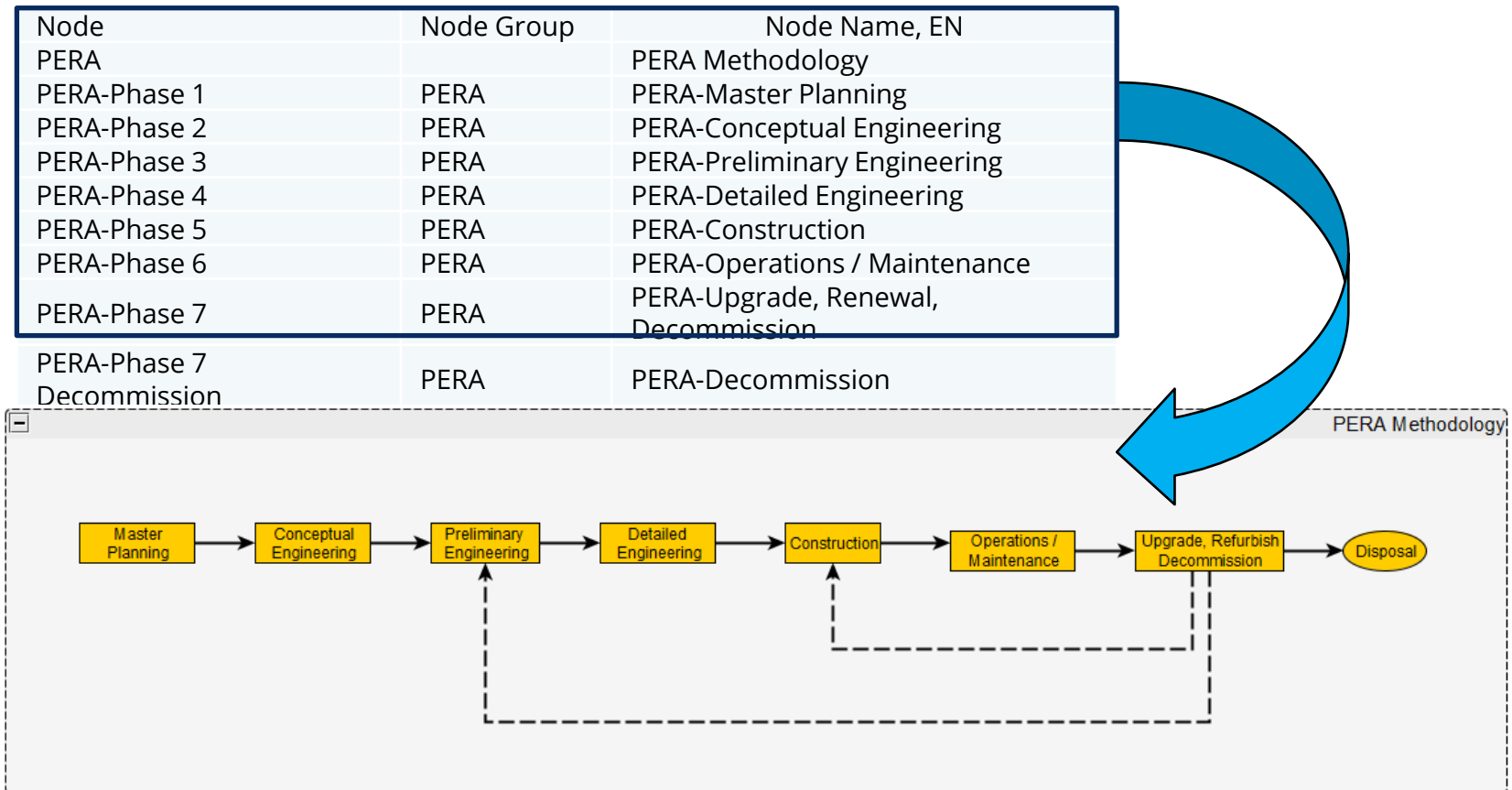
1) yEd quickly generates diagrams from a Palette.



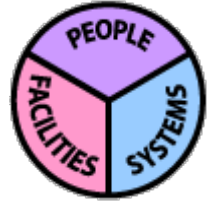
How to Create Diagrams



2) yEd also generates diagrams from Tabular Data (e.g. an Excel spreadsheet)



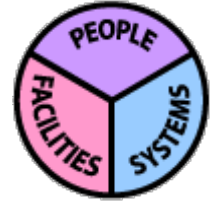
Why Use yEd for PERA Diagrams ?



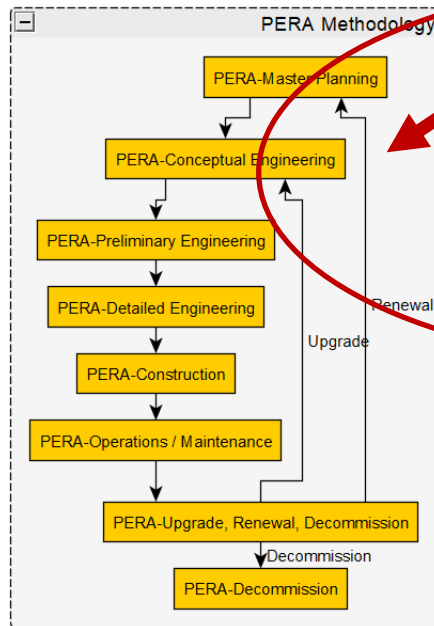
- 1) yEd creates diagrams either:
 - a) manually using “Drag & Drop” from a Palette, or
 - b) from Tabular Data (Excel & many other formats).

- 2) Once entered, the same data can be displayed in multiple different “visualizations” or “structures”

Same Data May Be Shown in Different Visualizations



Top-Down Hierarchical

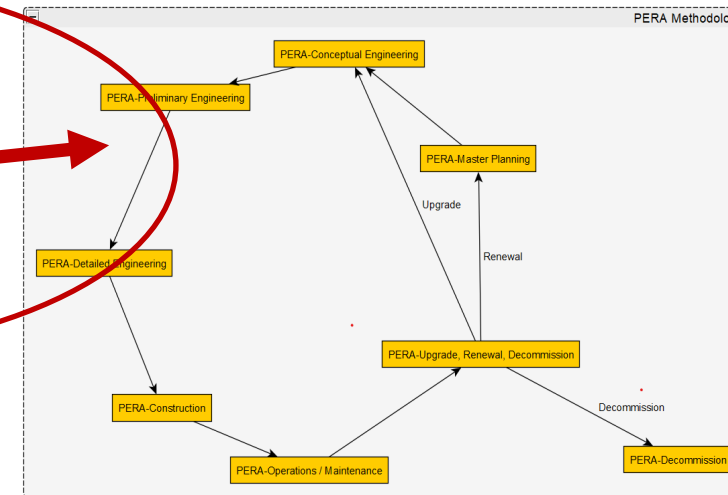


Visualization Options (Layout)

Layout	Tools	Grouping	Windows	Hi
Hierarchical	Alt+Shift+H			
Organic	Alt+Shift+G			
print document				
Circular	Alt+Shift+C			
Tree				
Radial	Alt+Shift+A			
Series Parallel				
Edge Routing				
Label Placement	Alt+Shift+L			
Selection (Partial)	Alt+Shift+P			
Components	Alt+Shift+M			
Random				
Swimlane				
Flowchart	Alt+Shift+F			
BPMN	Alt+Shift+B			
SBN				
Family Tree	Alt+Shift+Y			
Tree Map				
One-Click Layout				

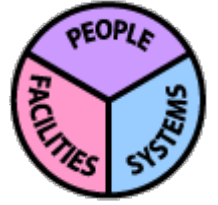
Circular

(One Click to change from Hierarchical to Circular)



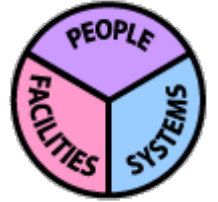
Drag objects to rearrange.
All connections will remain attached.

Why Use yEd for Diagrams ?

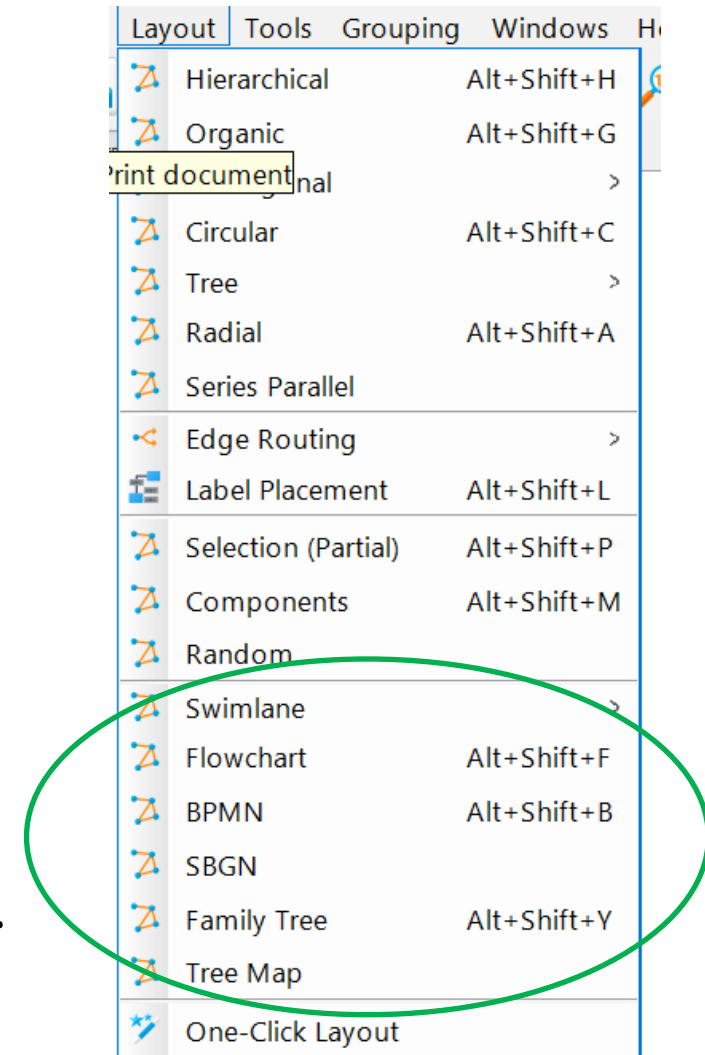


- 1) yEd quickly generates Visualizations either:
 - from Tabular Data (Excel and many other formats), or
 - manually using “Drag & Drop” from a Palette
- 2) Once entered, the same data can be displayed in multiple different visualizations.
- 3) Many standard graphic “templates” are provided in yEd and custom templates may be stored and reused.

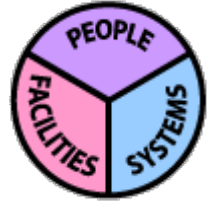
Many Standard Templates



- Logic Flowchart Diagrams
- Swim Lane Diagrams
- BPMN Workflow Diagrams
- UML Class Diagrams
- Fishbone Diagrams
- Entity Relationship Diagrams
- Network Topology Diagrams
- Failure Mode and Effects Analysis
- Mind Mapping
- Custom Diagrams can also be saved
- A Library of >50 User-defined Diagrams is available.

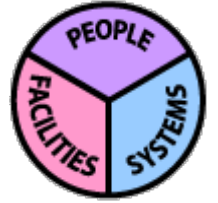


Why Use yEd for PERA Diagrams ?



- 1) yEd quickly generates Visualizations either:
 - from Tabular Data (Excel and many other formats), or
 - manually using “Drag and Drop” from a Palette
- 2) Once entered, the same data can be displayed in multiple different “structures”
- 3) Once created, Graphic objects may be rearranged with all connections retained
- 4) Many standard graphic “templates” are provided in yEd and custom templates may be stored and reused.
- 5) yEd imports and exports data in multiple formats

yEd Import Options

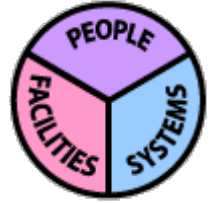


yEd quickly generates Visualizations from Tabular data input including:

- GraphML (*.graphml)
- GraphML (Compressed) (*.graphmlz)
- yFiles Binary Graph Format (*.ygf)
- Graph Modeling Language (*.gml)
- Graph Modeling Language XML (*.xgml)
- MS Excel 97/2000/XP (*.xls)
- MS Excel 2007 XML (*.xlsx)**
- Trivial Graph Format (*.tgf)
- GEDCOM Genealogical Data (*.ged)
- XML + XSL (*.*)
- All Graph Files (*.gml, *.graphml, *.graphmlz, *.tgf, ...)

Importing and exporting from Excel is very useful, particularly for simple diagrams.

Excel Import Benefits



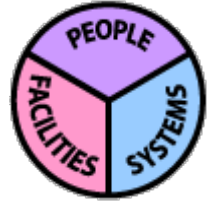
- **A key reason to use yEd is to ensure consistency between your data and your visualization, which you achieve using Excel**

The Import from Excel to yEd is very flexible and:

- Groups your nodes together
- Automatically arranges your objects and your notes together
- Facilitates creation of the same diagram in other languages

- **A second reason is to be able to add lots of descriptive text inside your Nodes and on the “Edges”**

Key “Take-away” Messages



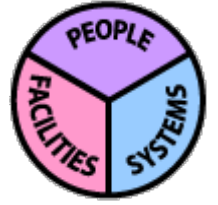
Why Use yEd ?

- Saves time and improves quality and consistency of diagrams
- Diagrams may be configured from a “Drag & Drop Menu, or auto-generated directly from data
- Many standard and custom templates are available
- Download yEd for free at <https://www.yworks.com/products/yed>

Key Definitions:

- GraphML - Standardized format for exchanging graphical data and structure.

More Reading



Related MLMs

- See MLM-021-B How yEd is used in PERA
- See MLM-021-C Creating yEd Swimlane Diagrams

References:

- Watch [yEd Video Introduction](#) in 90 seconds
- See [“Basic Editing with yEd”](#) on YouTube

Please click [here](#) to rate this learning module.



Author

Bill Bosler, P.E., is an Oil & Gas Business Development leader and enterprise -integration SME with 40+ years across upstream, pipelines, refining, petrochemicals, and major capital projects. He combines PERA master planning with ISA-95/IEC-62264 data models to help operators and EPCs turn strategy into measurable value and resilient supply chains.

Bill founded and led Texas Consultants, delivering programs in 30+ countries and partnering with national/international oil companies, pipeline consortia, and global integrators. His work includes the CPC pipeline Customer Management System, refinery and petrochemical optimization programs, and upstream collaboration centers. He has also negotiated greenfield/expansion projects and contributed to standards at API and ISA.

Notable outcomes include reducing an Arctic LNG concept's capital needs by ~\$5B with a 12% ROI lift; accelerating a client's automation benefits by \$4M/year; and saving ~\$0.20/bbl on gasoline blending through multi-vendor integration.

He has published widely and presented at AIChE, API, ISA, NPRA and others.

