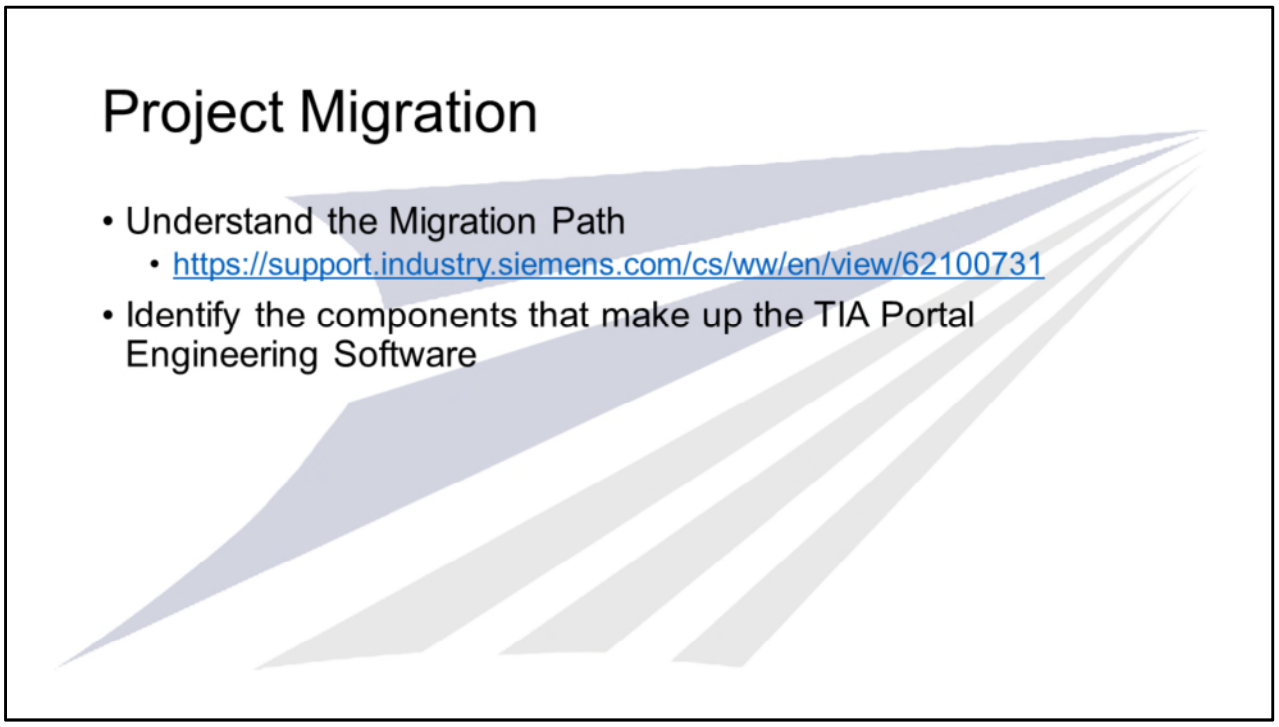
Project Migration / Management



Review the migration link to learn more about the restrictions and things to look out for when converting.

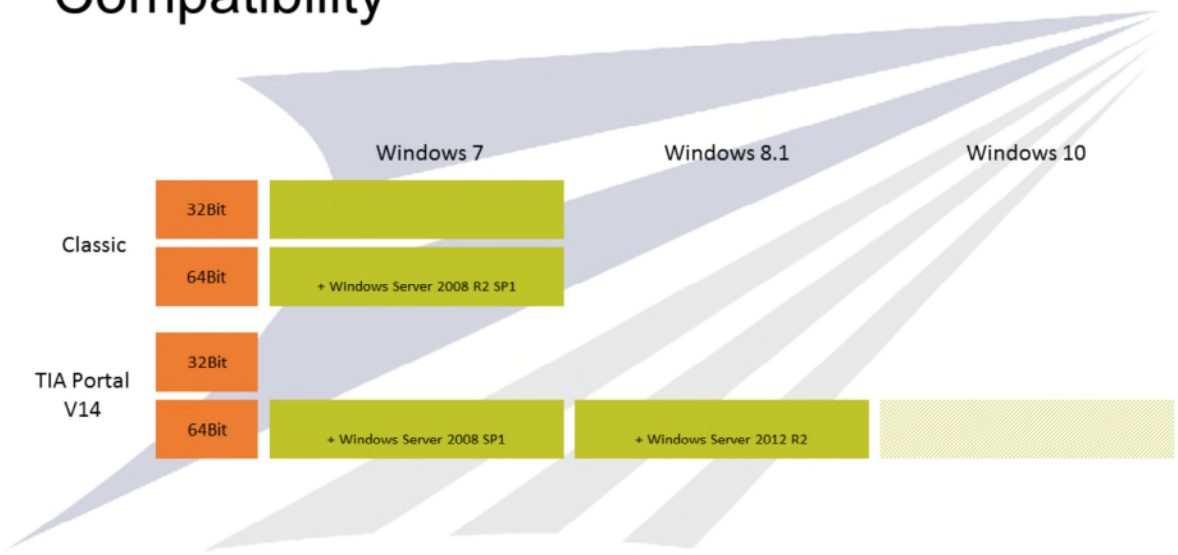
Migration Path

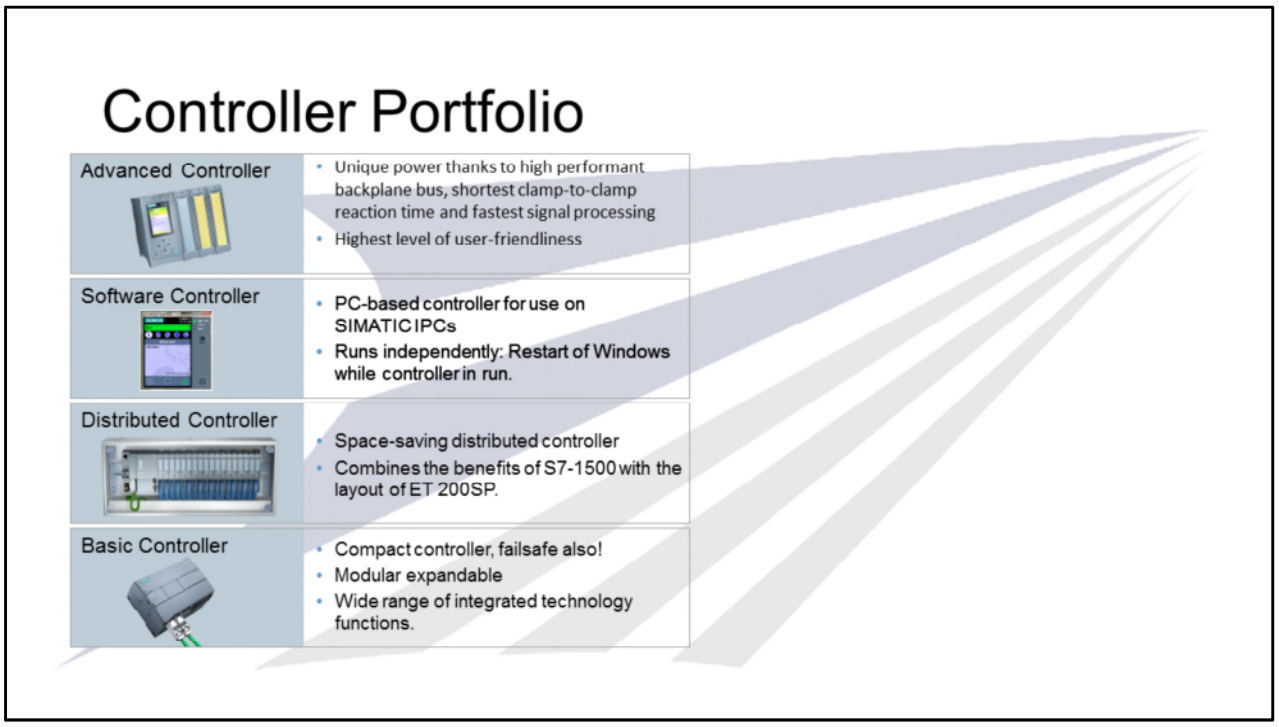
- S7-200 phased-out October 1, 2013
  - Replaced by S7-1200
- S7-300 & S7-400 after 2020
  - Replaced by S7-1500

Major software development has stopped on Step 7 Classic.

Users should be planning for migration at this time.

Compatibility





Advanced Controllers – what we normally consider when discussing PLCs

Software Controllers – referred to as soft controllers, are installed on PC har.dware. The user program is written and downloaded just like a traditional PLC.

Distributed Controllers – Lower end CPUs that attach directly to distributed IO. These are programmed like a traditional PLC.

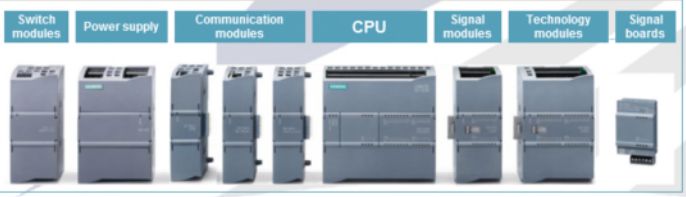
Basic Controllers – Simple controllers with limited instruction set. Programmed like a traditional PLC but are the bridge between “relay replacer” PLCs (Siemens LOGO!) and other controllers.

Controller Portfolio

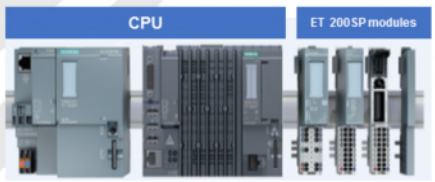
Advanced Controller (S7-1500)

Software Controller S7-1500

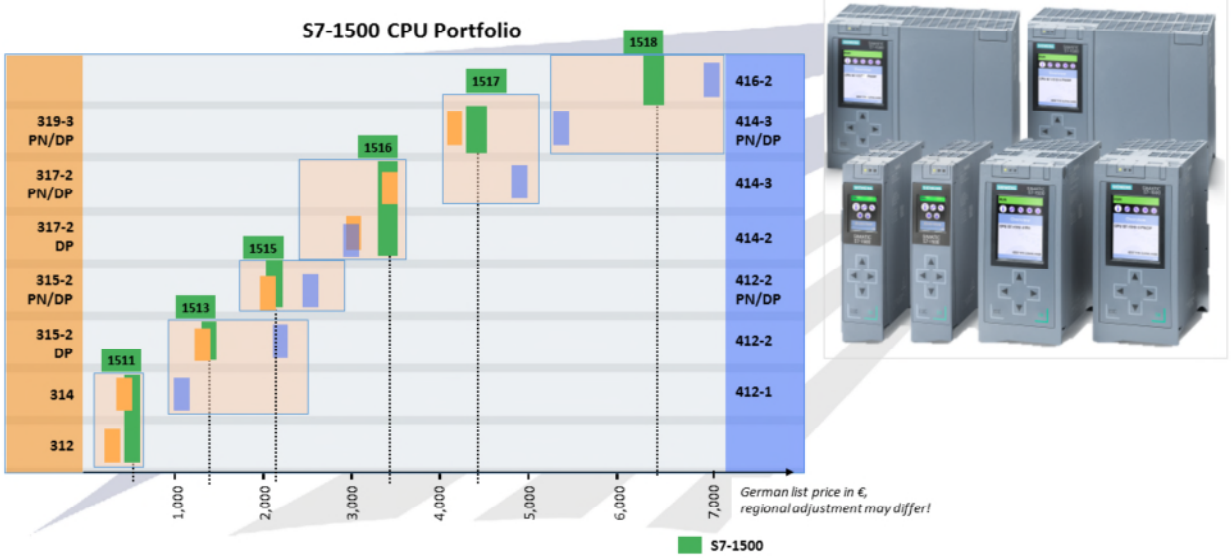
Basic Controller (S7-1200)



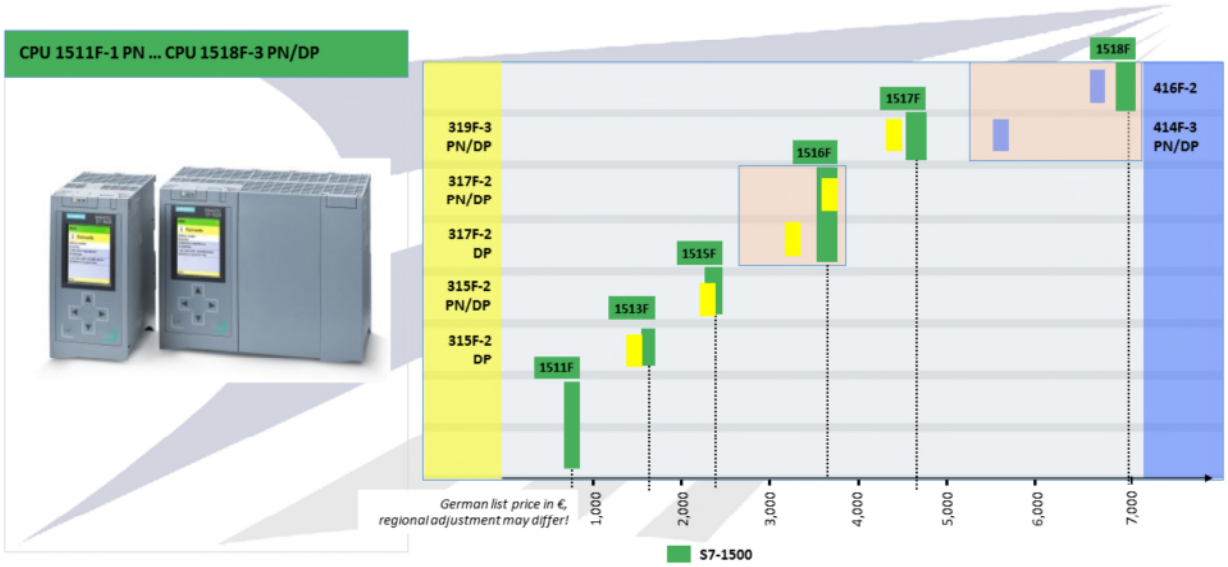
Distributed Controller (ET 200SP CPU)



Standard S7-1500 CPU

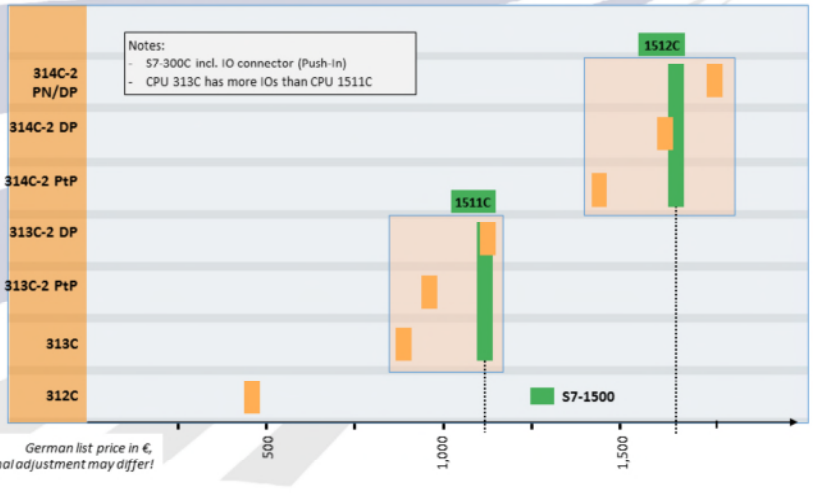


Failsafe S7-1500 CPU



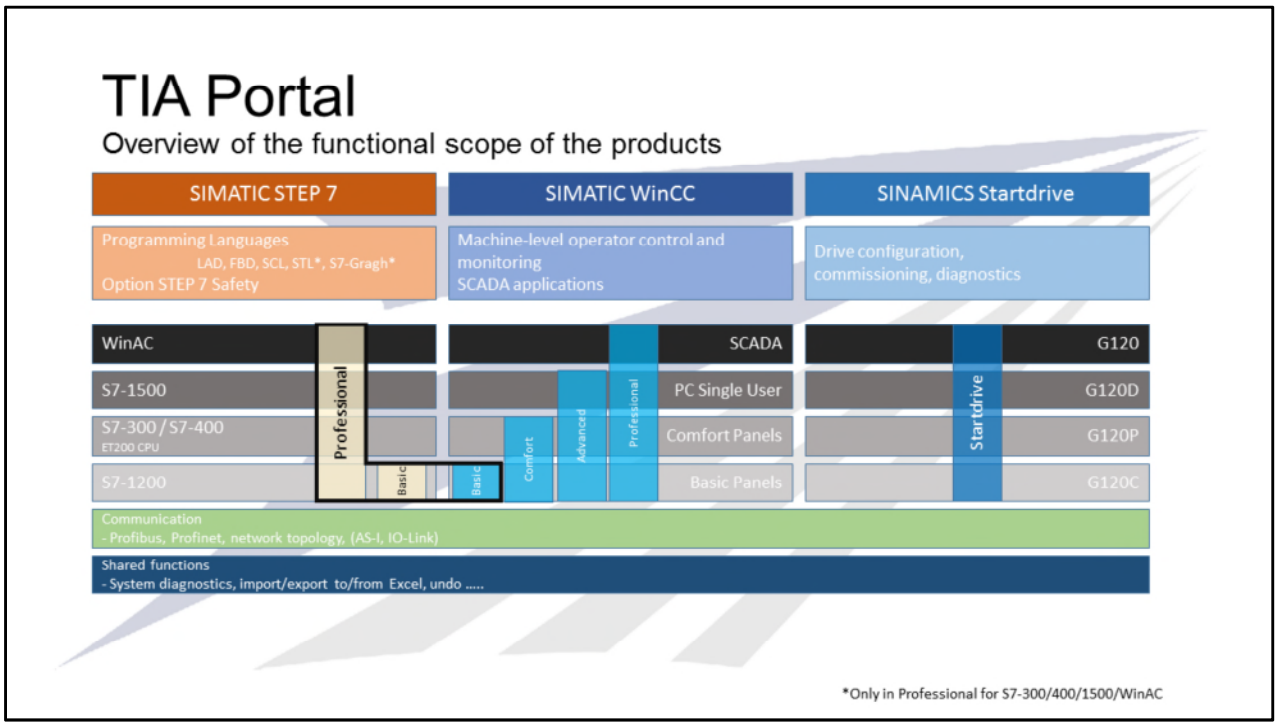
Compact S7-1500 CPU

SIMATIC CPU 1511C-1 PN / 1512C-1 PN



Distributed Controllers ET200SP

CPU 1510SP-1 PN / CPU 1510SP F-1 PN CPU 1512SP-1 PN / CPU 1512SP F-1 PN



The TIA Portal is an engineering framework that combines PLC and HMI engineering into a single package. The three components of the TIA Portal are the PLC engineering software STEP7, the HMI engineering software WinCC, and the Drives engineering software Startdrive.

Step 7 – Engineering software for 1200, 1500 and WinAC. Additionally 300 and 400 can be programmed.

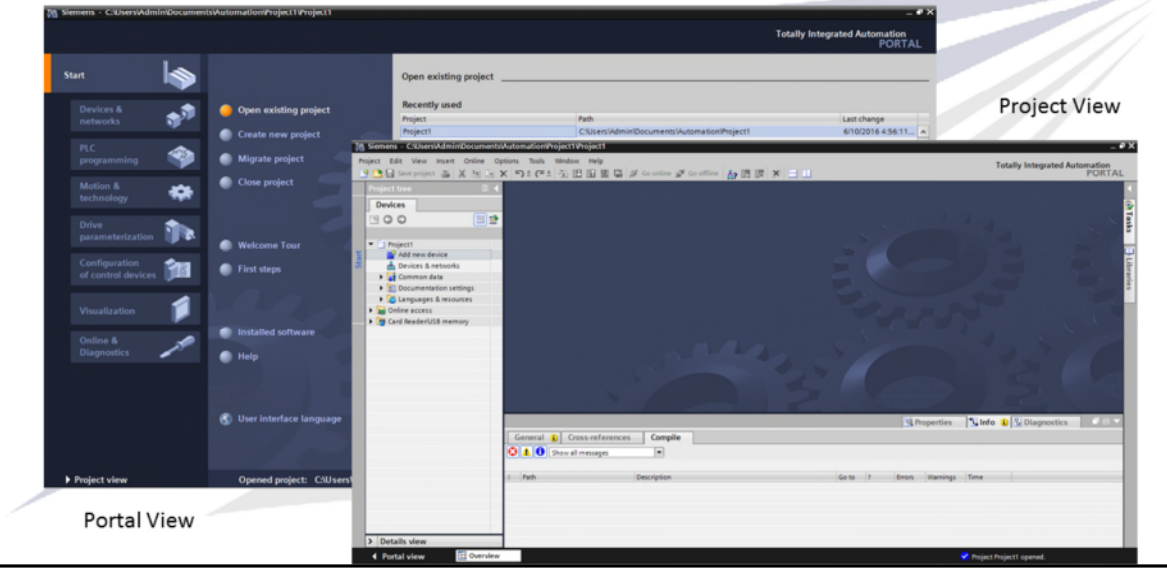
- Basic – A master disk licensed product programs the 1200. LAD FBD SCL
- Professional – several licenses are available for the different version and packages. Used to program 1200, 1500, WinAC, 300 and 400. Additionally STL and S7-Graph

WinCC – Engineering Software for all levels of HMI.

- Basic – For use with Basic Panels. Master Disk License. License included with both Step7 License levels.
- Comfort – Adds support for Comfort Panels
- Advanced – Adds PC Runtime development
- Professional – includes all other devices and full SCADA HMI solutions.

Startdrive – Engineering of Siemens drives. As of V13 G110, and G120 supported. S120 Planned for V14.

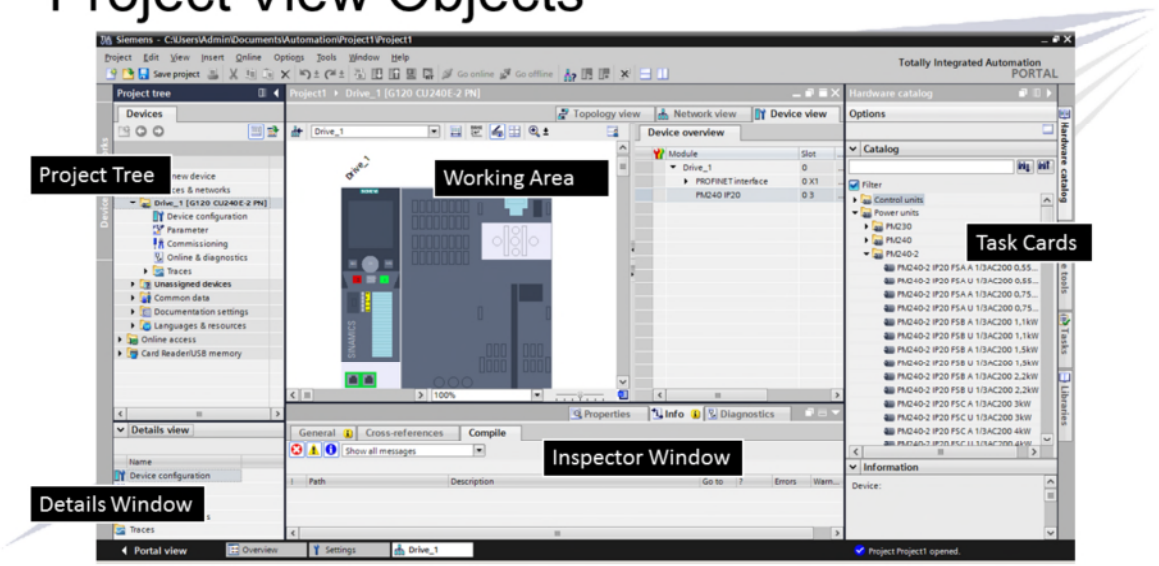
Portal and Project View



Switching between views can be done with the link in the lower left corner.

Switching permanently between views can be done;
Options → Settings → General → General → Start View

Project View Objects



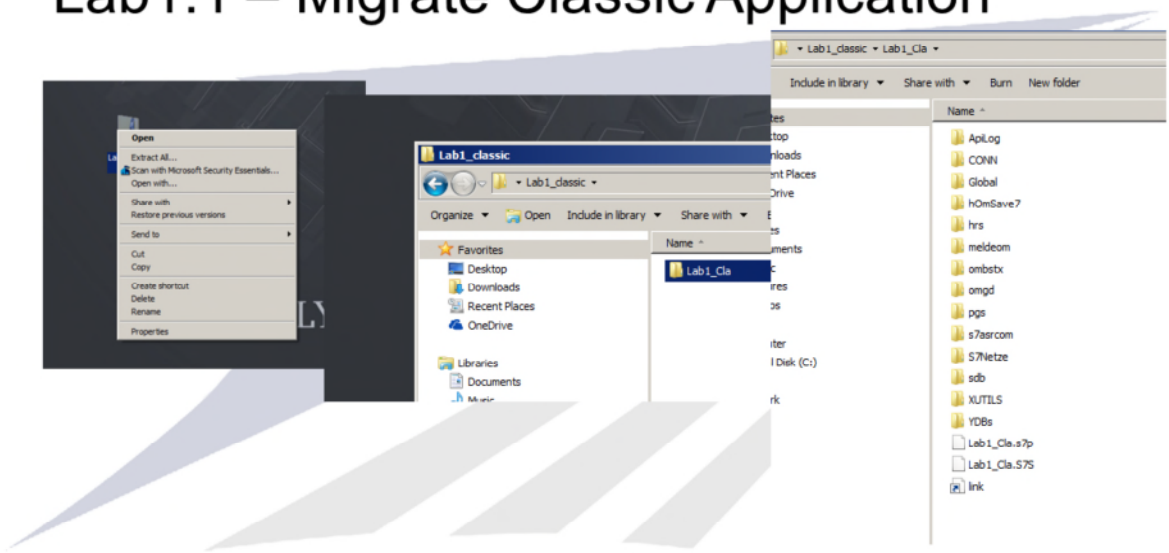
Project Tree – Blocks, devices, traces and connectivity are found in the project tree

All other areas change based on what is selected on the screen.
Detail Window - Shows details regarding the selected item
Working Area – Area where hardware is assembled, code is written
Inspector Window – most parameterization is done is this area.
Task Cards – These are hardware libraries, instruction libraries and user developed faceplates, to name a few.

All windows can be floated, docked hidden, and minimized.

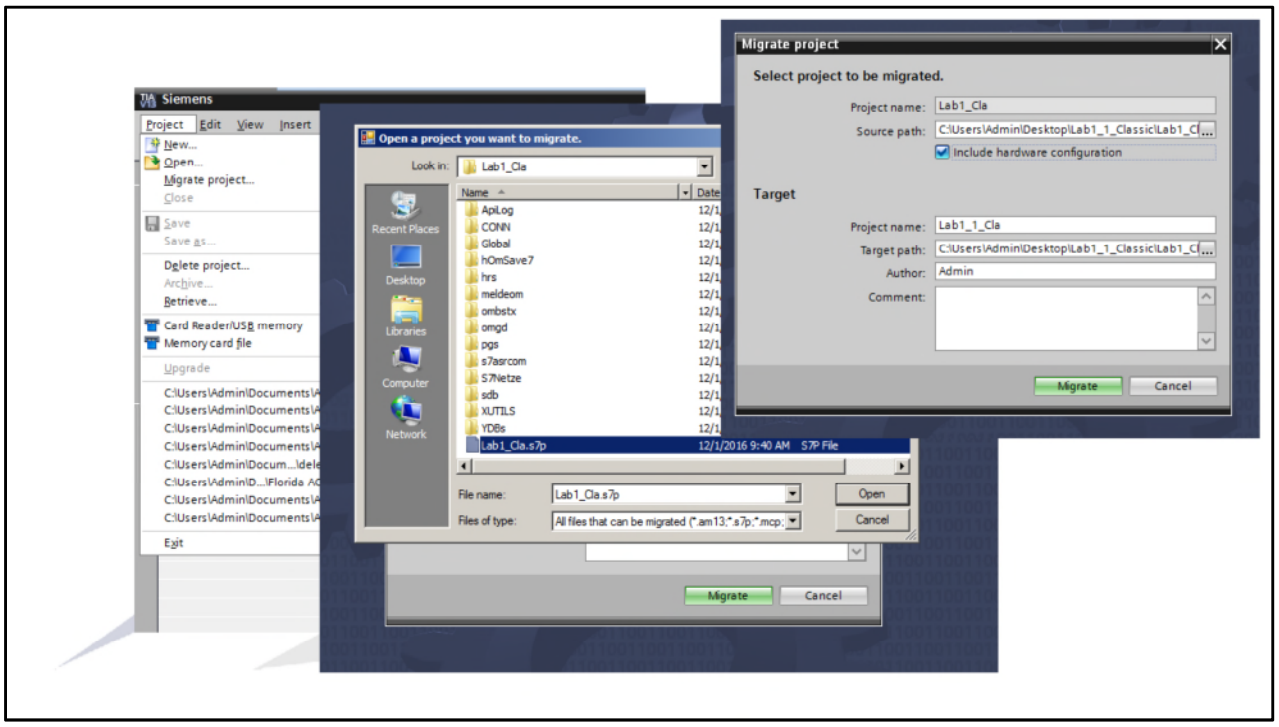

Lab Exercises

Lab1.1 – Migrate Classic Application



Extract the Classic Archive to the Desktop

Note the old file structure



Open Portal

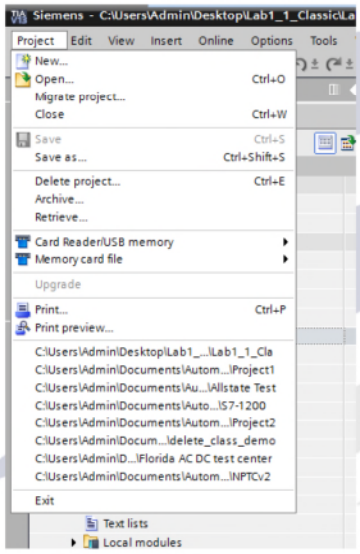
Click Project → Migrate Project

Find the classic application - *.s7p

Be sure to check to include hardware configuration

Click Migrate

Lab1.2 – Archive and Retrieve



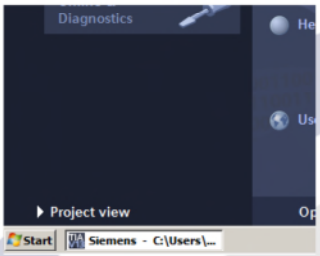
Archive the project
Click Project → Archive

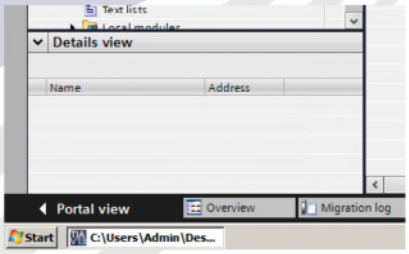
Archives despite the file extension are simply windows zip files.

Close the project
Click Project → Close

Retrieve the project
Click Project → Retrieve

Lab1.3 – Portal View / Project View

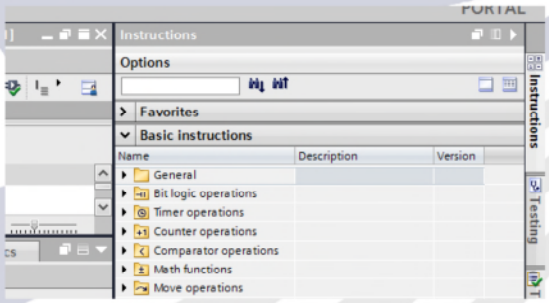




Note the difference between the Portal View and the Project view

Spend some time observing the differences.

Lab 1.4 – Float and Dock Windows



Float the work window, auto hide the task cards, and Inspector Windows

Discover how the windows behave.