

Steps to Install and Run the HMI System

Pablo Campero, Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, Marc McMullen, and Amrit Yegneswaran
Physics Division, Thomas Jefferson National Accelerator Facility, Newport News, VA 23606
 June 8, 2020

This note provides the procedure on how to install and run Allen Bradley PLC's Human Machine Interface (HMI) System.

To install and run the HMI System, the following procedure is used.

1. Review operating system requirements. FactoryTalk View Site Edition (SE) runs on either 32-bit or 64-bit Windows 10 Enterprise or Windows 10 Professional. Information about the computer operating system is available at Control Panel\All Control Panel Items\System.
2. Ensure the client and server computers that will be part of the HMI system are on the same network, have the same domain, and have proper host names assigned. The client and server could run in the same computer depending on the HMI system selected. FactoryTalk View SE has three types of HMI applications:
 - Local Station: Contains one HMI server, one data server, and one alarm and event server. All application components, as well as the client, are on a single computer.
 - Network Station: Contains one HMI server, one or more data servers, and one or more alarm and event servers. The HMI server and client must be located in one single computer.
 - Network Distributed: Contains more than one HMI server (up to ten), the HMI clients, and the data servers, located on different computers on the same network. Multiple clients can connect to the application simultaneously.
3. Ensure that the user installing the software has administrative rights on the computer/s.
4. Install FactoryTalk View Studio Enterprise on the server computer. Its serial number should be on original packaging, though the software can be downloaded from Rockwell Automation's official website in the product download section. Verify that the following software was installed.
 - FactoryTalk View Studio
 - FactoryTalk Site Edition Client
 - FactoryTalk View Site Edition Server
 - FactoryTalk ViewPoint SE
 - FactoryTalk Services Platform
 - FactoryTalk Activation Manager
 - FactoryTalk Alarms and Events
 - FactoryTalk Linx
 - FactoryTalk Network Directory
5. Install RSLinx Classic server (or some other OPC data server) on the server computer.
6. Install FactoryTalk Site Edition Client on each client computer. Verify that the following software was installed.
 - FactoryTalk Site Edition Client
 - FactoryTalk Services Platform
 - FactoryTalk Activation Manager
 - FactoryTalk Alarms and Events
7. Using the FactoryTalk Activation Manager software previously installed in step 6, ensure that all required licenses are validated.
 - If using a local license, check activation files, license numbers, key product numbers.
 - If using a network license (running from a server), make sure it can connect to the server license.
 - If the license is not properly validated, the application will run in grace period.
 - For further assistance, contact Rockwell tech support.
8. Open FactoryTalk View Studio on the server computer and select the application type, as listed in step 2.
9. For a network distributed application, once the application is generated, create the HMI server using FactoryTalk View Studio.
 - The diagnostic list bar will show the available license for the HMI server and clients.
 - Provide the license for the HMI server and the number of future displays to be developed, which varies based on the type of server license (25, 100, 250 or unlimited displays).
10. After creation of the HMI server, the entire structure for the HMI project is generated.
 - Includes all tools needed for development of displays.
 - The HMI project is saved as an .Sed file, which contains the HMI project with the graphic displays, data log models, HMI tags, and other services.
 - An HMI project is created when the new HMI server is added.
11. Use FactoryTalk Linx to set up communication between the HMI server and the PLC controller. Direct access to FactoryTalk Linx is on the FactoryTalk View Studio's Explorer bar menu as part of the HMI project components.
12. Develop displays using available tools and resources.
13. If required, a data archiving model and an alarm system are available using FactoryTalk View Studio and FactoryTalk Alarms and Events, respectively.
14. Once the application has been developed, displays can be tested.
 - Launch FactoryTalk SE Client from the FactoryTalk View Studio's toolbar.
 - Use the option to create a FactoryTalk SE Client configuration file, which allows configuration of the HMI

server and the displays to launch so the client/s can operate and interact (monitor and control) with the developed displays.

- Limited testing of displays can be done by clicking the play button on the FactoryTalk Studio toolbar. Some features cannot be tested, such as the navigation button in a display.
15. Test the FactoryTalk SE Client configuration file by opening the configuration file on the client computers. If application was created correctly, controls, monitoring, and navigation options generated will be available for the users/clients.