

Remote Engineering and Multi-User Collaborative Development

Remote Engineering and Multi-User Collaborative Development is a powerful tool that helps shorten a project's development time. By utilizing this feature, a project development team can work together at the same time on the same project without the need to do any sort of merging, importing, etc. In addition, this feature can also be used to centralize projects in a server and edit projects remotely.

[Quick video tutorial](#) (no audio)

System Requirements

To use this feature, the following system requirements need to be met:

- A WebServer (*TWebServer* or *IIS*) must be running on the server
- The **same** product version must be installed on all computers using this feature
- The server computer must contain a license that enables multi-users

How to Use

Engineering users can configure the server project by using workstations, which are attached to the network, instead of having to work on the server itself.

To use this feature on all computers connected to the same network, the following configurations are required:

Server Computer

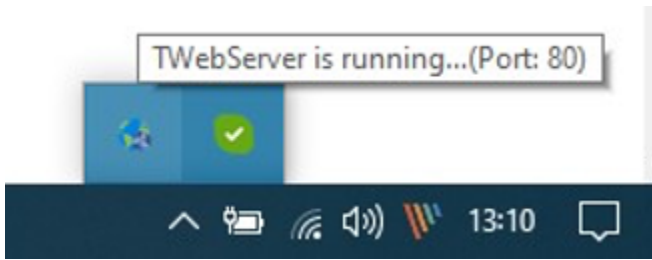
Open the welcome screen and navigate to the *License* tab. You should see a square box with information on engineering.

Under the *Engineering User* field, you will find the amount of concurrent engineering users that are supported by the current license.

The screenshot shows the 'License' tab of a software interface. It is divided into three main sections: 'Projects', 'Server', and 'License'. The 'License' section contains the following information:

- License Media:** Softkey (with a 'Refresh' button)
- License Type:** Eng_Run (with a note 'License expires in 22 days')
- Product Version:** fs-8.1
- Product Family:** Enterprise
- Product Model:** Unlimited
- Serial Number:** 4729 [10 Remote licenses allowed]
- Engineering:** Engineering Users: 10 (highlighted with a red box)
- Communication Points:** Unlimited
- Standard Protocols:** PI, DNP, IEC-61850, DNP3s, Bacnet, Bailey, WITS0, WITSXML, IEC-60870-5-101, IEC-60870-5-104, IEC-60870-5-104S, IEC-60870-5-101S
- Runtime clients:**
 - Desktop Clients (.NET or Web): 10
 - Mobile Clients (iOS or Web): 10
- Offline Activation:** (with a help icon) containing buttons for 'Get site code' and 'Load license key'.
- Online Activation:** containing buttons for 'Activate' and 'Deactivate'.

Make sure you have the *TWebServer* (or *IIS with services installed*) running and make notice of which port it is running on. This information is available in the icon tray.



A project cannot be opened local and remote simultaneously. If this occurs, anyone that remotely connects to the project will view the project as ReadOnly.

For multiple engineering users to edit the same project, the project server must also be connected to itself.

Projects	Server	License
<div>Connected Server: http://localhost/ running version fs-8.1, </div> <div>Runtime autostart: <input type="text"/> <button>Settings...</button></div> <div>Project Server:</div> <div><input type="radio"/> Localhost IPs: 192.168.56.1, 192.168.15.25 - Running services: ProjectServer and iDataPanelService (Port: 80)</div> <div><input checked="" type="radio"/> Remote: <input type="text" value="http://localhost/"/> <button>Connect</button></div> <div>Virtual path: <input type="text"/></div> <div><button>Upload Project</button> <button>Active Users...</button></div>		
Project Server: http://localhost/ fs-8.1.0 pm4729		

Client Computer

Open the welcome screen and navigate to the *Server* tab. Under *Project Server*, click on *Remote* and insert the remote server's IP address and *TWebServer* port number using the following syntax:

```
http://<Server IP Address>:<Port Number>/
```

Projects	Server	License
<div>Connected Server: http://192.168.15.25:80/ running version fs-8.1, fs-9.1</div> <div>Runtime autostart: <input type="text"/> <button>Settings...</button></div> <div>Project Server:</div> <div><input type="radio"/> Localhost IPs: 192.168.56.1, 192.168.15.25 - Running services: <none></div> <div><input checked="" type="radio"/> Remote: <input type="text" value="http://192.168.15.25:80/"/> <button>Connect</button></div> <div>Virtual path: <input type="text"/></div> <div><button>Upload Project</button></div>		
Project Server: http://192.168.15.25:80/ fs-8.1.0 pm4729		

Once the connection is established, navigate to the *Projects* tab to see the projects that are on the server computer.

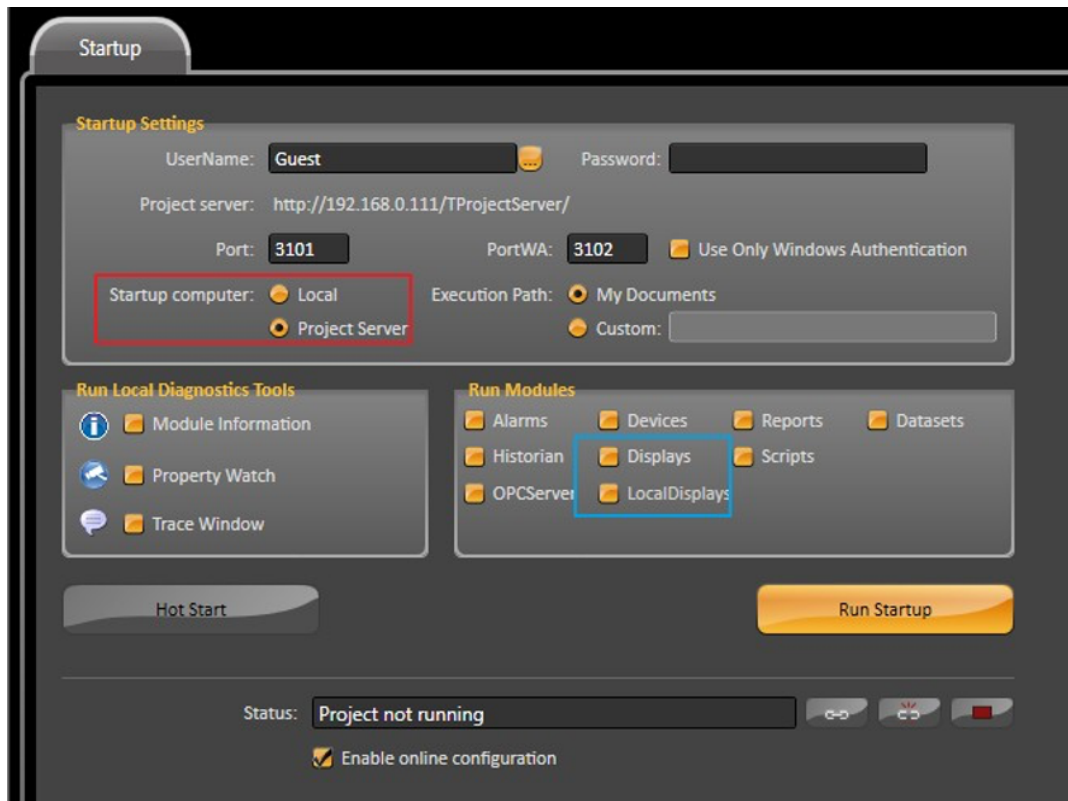
Launching a project

After a project is opened and edited, it can be executed using a few different settings. In *Run-Startup*, the *Startup Computer* can be configured either as *Local* or *Project Server*.

- **Local:** The *TStartup* (project) is launched locally on the client PC
- **Project Server:** The *TStartup* (project) is launched on the server PC

In *Run-Modules*, you should see two options regarding the displays:

- If *Displays* is selected - A RichClient is opened on the project server when the project is started
- If *LocalDisplays* is selected - A RichClient is opened on local PC when the project is started



The diagnostic tools (Property Watch, Trace Window and Module Information) can be accessed through the *TStartup* buttons or through the command line (Server Domain).

Editing a project

Table configurations for elements like Tags, Alarm, Dataset, etc are accessed without any semaphore or lock control. The current, valid configuration will be whatever configuration was applied by the last user.

Around every 10 seconds, the system will synchronize any modified configurations with every other client. For example, if someone creates a tag, this tag will be available for every other remote user after a few seconds. This will also happen with any other sort of spreadsheet configuration.

In documents like Displays, Scripts, and Reports, there is a LockState and LockOwner property that shows if the page is locked and who it is locked by. Only one user can edit these types of documents at a time. There will be an indicator at the top right whenever someone is editing a document.



In the display, scripts and reports sections, the user can see the LockState and LockOwner, including the remote computer where the document is already opened.

If a document is locked and you cannot edit it, you can force the document to be unlocked. In FactoryStudio's Welcome display, you can close the current editors connection with the server by clicking on the drop connection button.