



Getting started

*Creating a Web Server application and
Java Web Client interface*

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Sielco Sistemi srl
via Roma, 24
I-22070 Guanzate (CO)
<http://www.sielcosistemi.com>

1. Introduction

In this guide we propose, as an example, the design of a simple Web Server supervision application with a Java Client interface; this example is a little step towards the design of more complex SCADA applications, but it can be useful for anybody who approaches for the first time to a SCADA, and in particular to Winlog Pro software, to quickly understand the potential related to Client/Server structures over intranet and internet networks.

Below you will see the windows regarding the main steps to be taken to build the proposed application. When creating the application, click on the Help buttons to get more specific details about the various options.

Suppose that you want to realize a Client application that can be reached directly using an internet standard browser and replies the supervision interface of a previously created Server application that is connected to its field devices using any supported protocol.

Let's start using one of the example applications described in the following guides:

- Getting started - Creating a simple Siemens Modbus protocol application
- Getting started - Creating a simple Siemens Omron SYSMAC protocol application
- Getting started - Creating a simple Siemens PPI protocol application
- Getting started - Creating a simple Siemens MPI protocol application

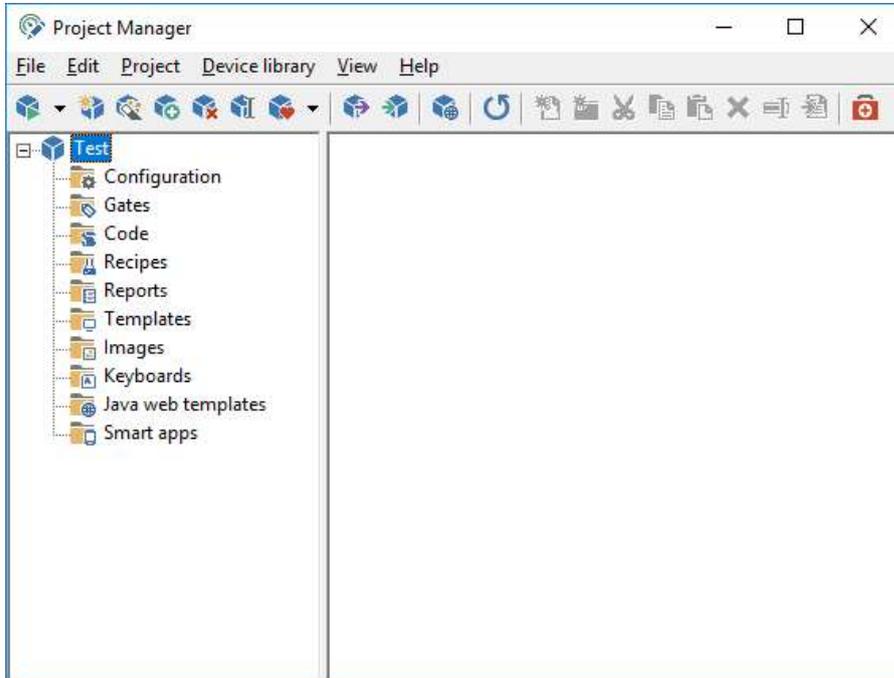
We will use one of these examples as Web Server

2. Server application configuration

To modify an existing supervision project, it is necessary to use **Project Manager**, the Winlog Pro integrated development environment that provides different tools (**Gate Builder**, **Template Builder**, **Code Builder**).

Run **Project Manager** by selecting the proper icon from *Windows Start Menu* or *Desktop*.

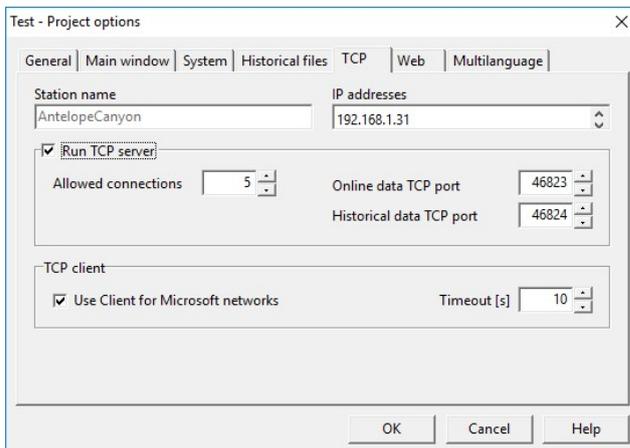
Create *Test* project as described in the previous guides.



Server Project

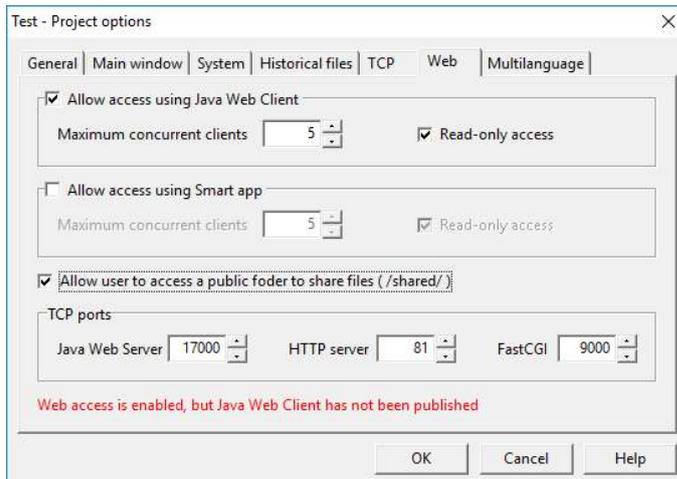
In “*Configuration*” folder select “*Options*”.

In “*TCP*” Tab select “*Run TCP server*”.



TCP/IP Server configuration

This application must be installed and executed on the Server station (es. SERVER - IP Address: 192.168.1.10)



Web Server configuration

In “*Web*” Tab check the “*Allow access using Java Web Client*” checkbox and set the Java web server TCP ports through which Web Server waits for instances (17000). These ports should have to be reachable from internet. Set also the port through which HTTP Server is reachable (81). This port should have to be reachable from internet.

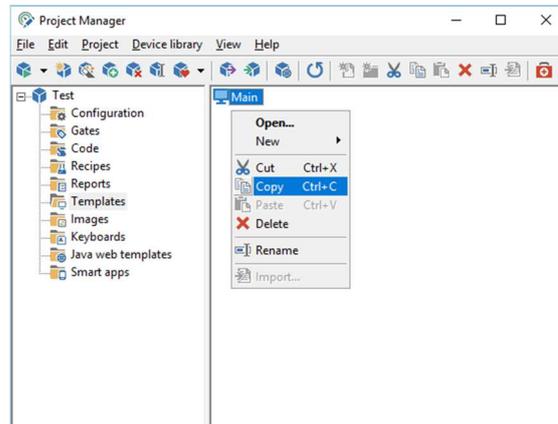
3. Web Template creation

In order to create a Web application, it is necessary to build the pages (Web Template) that will be consulted by remote users (clients). It is necessary to build new templates for the following reasons:

- not every standard templates objects are available for Web Server applications
- may be necessary to provide different and customized screens for remote users

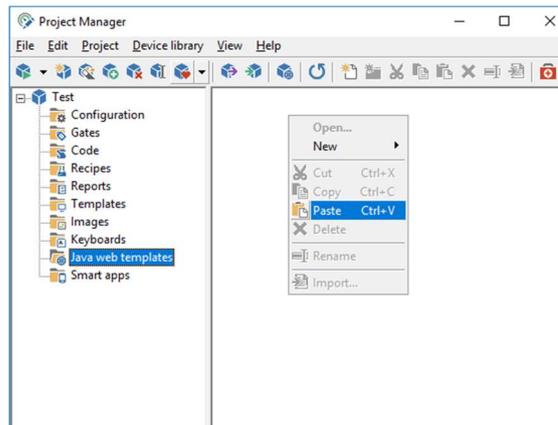
Let's create a simple template starting from the previously created in the various examples of traditional applications (Test application).

Select “*Template*” folder from “*Test*” project and copy “*Main*” template.



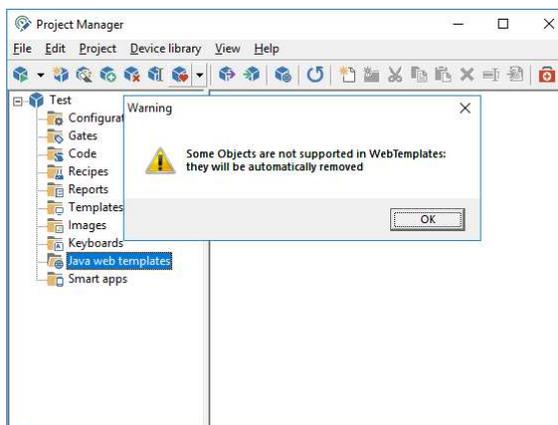
Main template copy from Templates folder

Paste it in “*Java Web Templates*” folder.



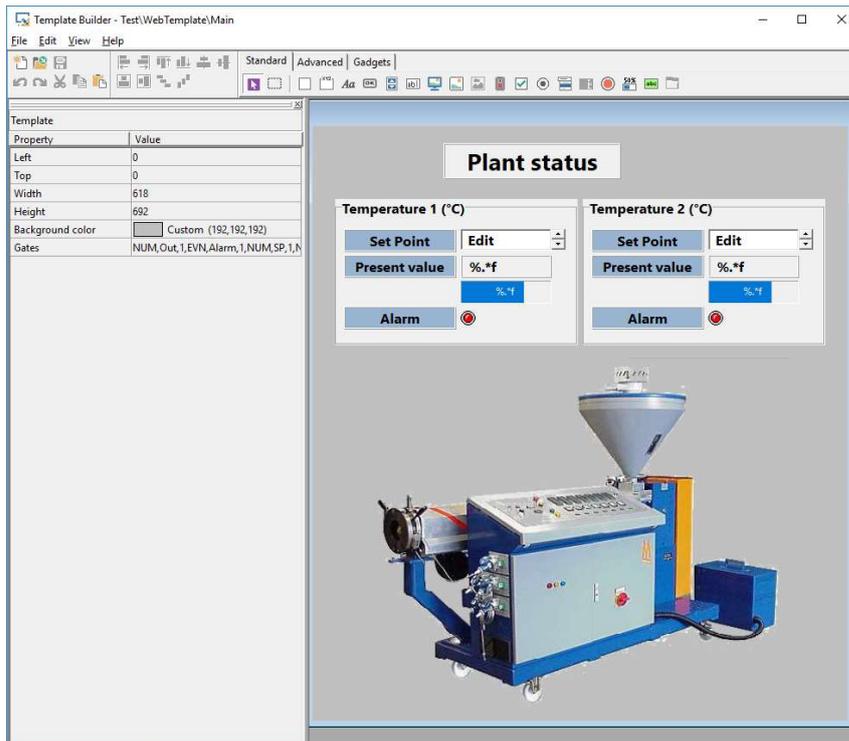
Main template pasted in Java Web Templates folder

A warning message will appear indicating that some objects are not supported in Java Web Templates.



Warning – some objects are not supported in Java Web Templates

Double-clicking on created template; a specific web applications **Template Builder** start in order to build the graphic page.

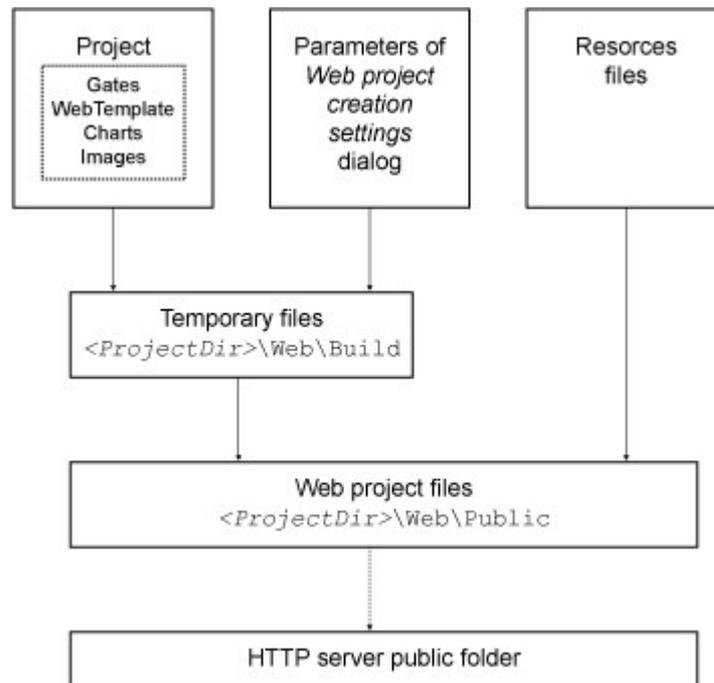


Imported template

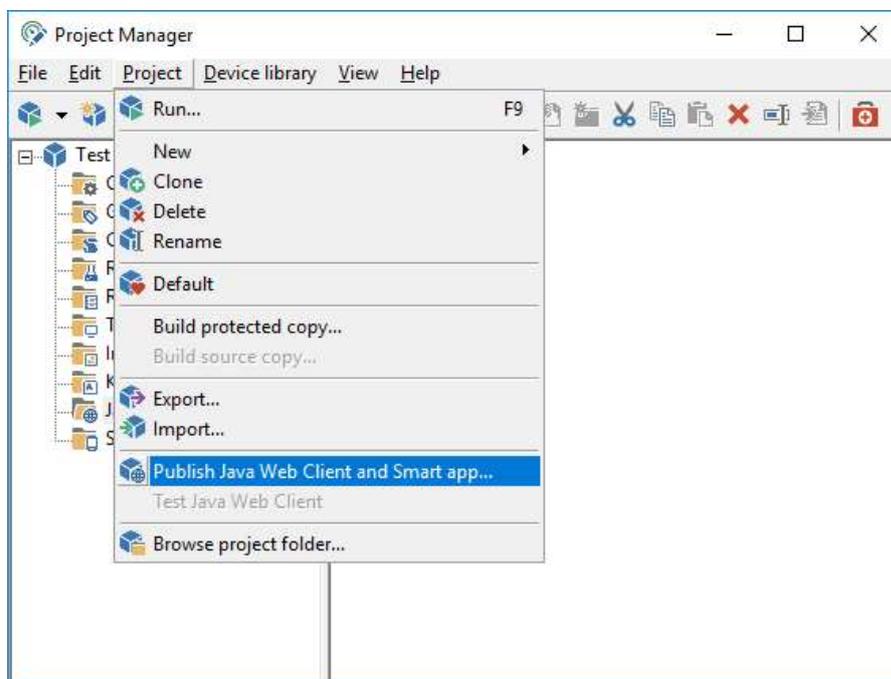
Our Java Web template now is ready. Let us now convert the entire application in a Java Web project.

4. Web Server application - Creation and Configuration

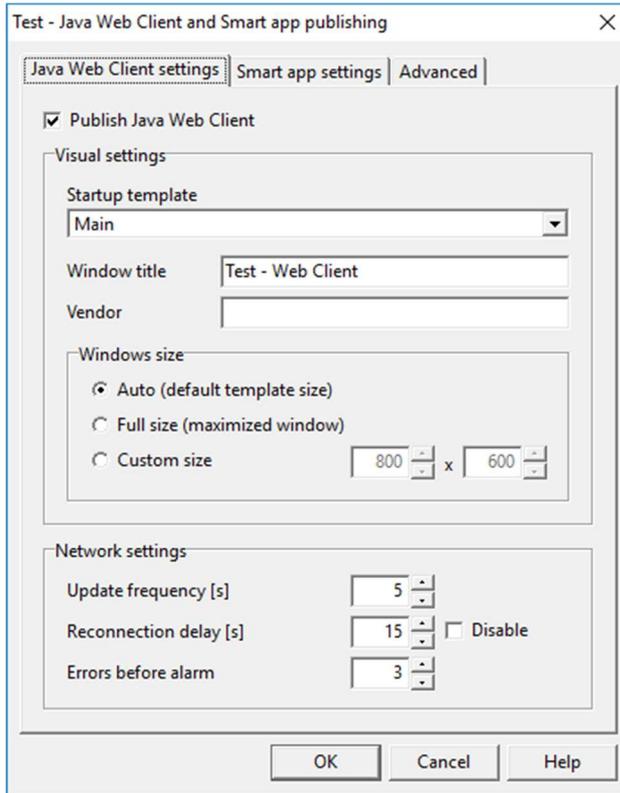
Java Web project creation procedure produces some files required to run a web project. These files are created from original project elements (gates, templates, images, ...) and using settings specified in this dialog.



From **Project Manager** select “*Publish Java Web Client and Smart app...*” menu item.



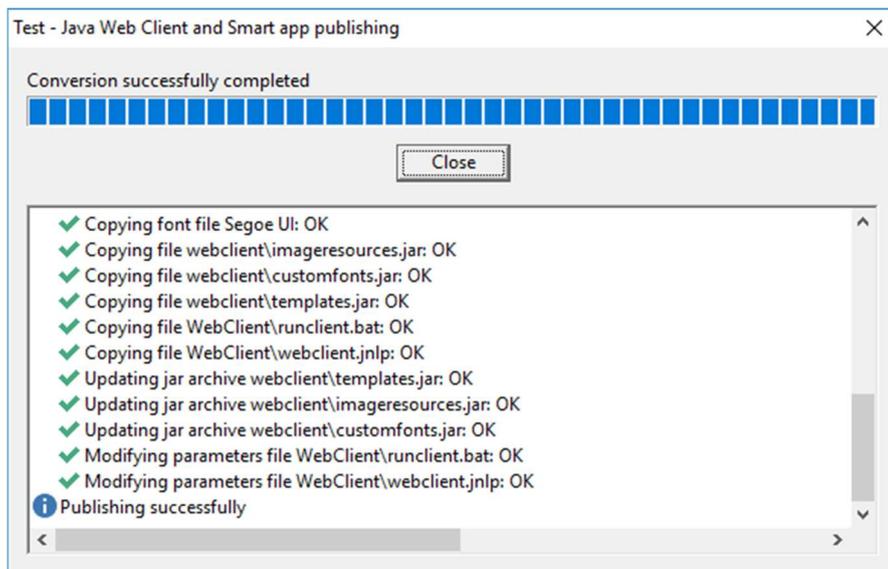
Select from the list which templates you want to convert and publish. Displayed templates are those available in project “Java Web Templates” folder. In our example only Main template.



Web project – Java Web Client settings

In our example we will use TCP 81 and 17000 ports. Press OK and our web application will be finished

Then you must configure your router (or your xDSL modem) to redirect requests on port 81 and port 17000 to the PC running HTTP server and Web Server. To perform this procedure you have to define two "virtual servers" (or "port forwarding").



Web project – Creating a project

Our example is complete.

Wire devices to the serial port; to run the project, in **Project Manager** select “Execute”... from Project menu.

5 Router Configuration

The broadband router's NAT (Network Address Translation) firewall filters out unrecognized packets to protect your intranet. All hosts behind this firewall are invisible externally. Enabling the Virtual Server Mapping will make some of the host's ports accessible.

A virtual server is defined as a Service Port. All requests to this port will be redirected to the PC that is specified by the Server IP.

Port forwarding sets up public services on your network. When Internet users make requests on your network, the broadband router will forward those requests to the appropriate computer. The broadband router's DHCP function must be disabled to use port forwarding. Port forwarding is generally used to set up a web server, ftp server, or e-mail server on your network.

To add a server using Forwarding, perform the following steps:

1. Enter the port number and the IP Address of the server that you want to allow Internet users to access.
2. Configure as many entries as desired until all the entries are filled in.
3. Click Apply in order to save the settings.

Suppose that this is your configuration:

- HTTP server LAN network address: 192.168.1.10
- HTTP server LAN TCP port: 81
- HTTP server WAN TCP port: 81
- Web Server TCP port: 17000

To configure your router to allow Winlog Pro Web Server to be reachable, you need to specify the following virtual server mapping table:

[Virtual Server]

Virtual Servers currently created:

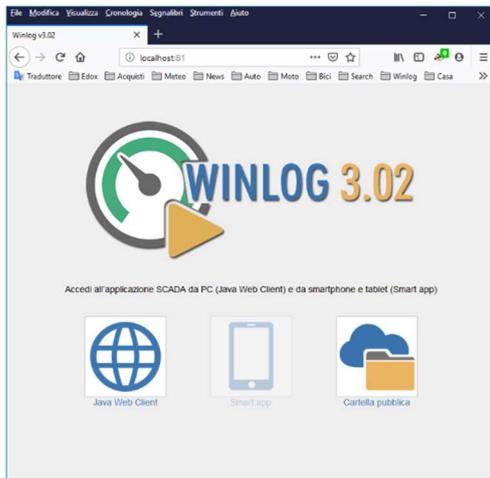
PVC Name	External Packet		Internal Host		Modify	Delete
	Protocol	Port	IP Address	Port		
ppp-0	TCP	17000 (User Define)	192.168.1.10	17000	Modify	Delete
ppp-0	TCP	81 (User Define)	192.168.1.10	81	Modify	Delete

Create a new server

Router configuration

6 Client Connection

To run Winlog Java Web Client go to "http://www.my-domain.com" using your internet browser ("http://www.my-domain.com" is your HTTP server WAN network address) .



Start page (Web Page)



Java Client application