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Supervision and control XML-based  
from Windows to Windows CE

# **Web Client**

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Version 11.6- Ed. oct. 2019



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# 1. Web Client

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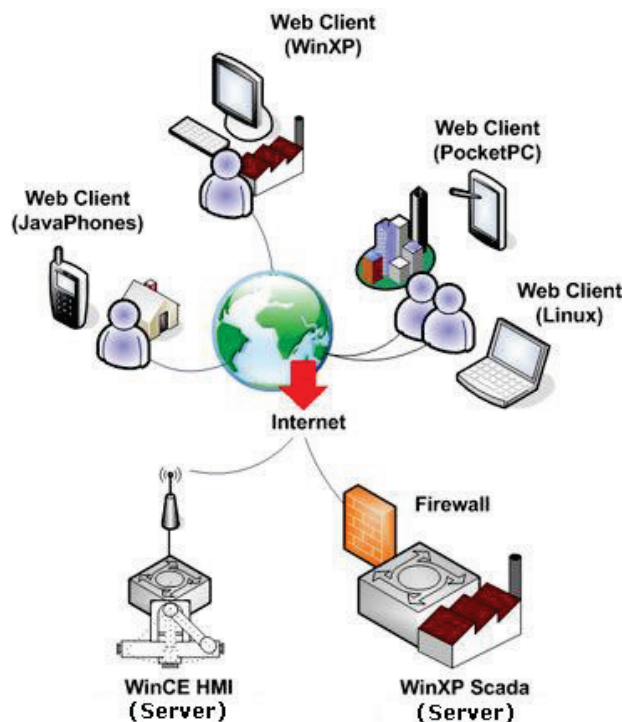
## 1.1. Introduction to the Web Client

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**Web Client is the Internet Solution for accessing the Movicon Server by using the browser.**

To be able to provide factory information in real time where and whenever needed is an essential factor which every production company well knows. It is for this reason that Progea has purposely developed Movicon Web Client© an innovative software solution based on all the modern Java Thin Client technologies to share real-time data on Internet or Intranet network architectures.

Thanks to the Movicon® and Movicon Web Client© technology you can view and control any Movicon supervision station by also using an ordinary browser on the client, to drastically cut management, maintenance and licensing costs and increase your company's productivity at the same time.



### Web Architecture

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The Movicon Web Client© lets you visualize or control your automation system from any client station within a local or geographical network. The Movicon Web Client© is based on two types of architecture: the Java Thin Client by means of the Java Applet that uses Web Services communications and HTML5 by means of the Server Websocket integrated in Movicon.

The Web Client solution has been designed by Progea offering the advantage of not needing you to install or configure a thing on the Server. This will save you from carrying out complicated installation procedures while at the same time ensuring clients with multi-usersness, bidirectionality and security. You can use the Java Runtime engine on the Client side to run the Java Applet directly and there is no need to install additional modules for HTML5 Clients.

If you use the Java Applet technology, you will be able to use a Web Server on the Server side (e.g. Windows 32/64 bit include IIS - Internet Information Services), to consent Web Clients access by using Browsers that support the Java technology (e.g. Internet Explorer supports the NPAPI architecture, which is technology needed to run Java applets) with complete transparency when the applet is automatically downloaded upon accessing for the first time.

If you use the HTML5 technology, you won't need to install any third party Web Servers. However, the Browsers must be able to support the "Canvas" elements (Note: Internet Explorer does not support HTML5).

If the Server is a station based on the WinCE platform, Clients will be able to access by means of using the Java Applet directly or by starting up the applet using the Java Machine with a Browser

that supports Java (support to the NPAPI architecture) by means of configuring the Web Server which is available in the Windows CE image.

The Server stations used within your plant system can therefore be SCADA stations based on Movicon for Win32 versions and HMI stations based on Movicon for WinCE versions.

Movicon Web Client© is very light and can be run with any browser in any operation system as it supports multi-platform JAVA and HTML5.

When using HTML pages, the Movicon Web Client© will permit you to visualize your production process from anywhere in the world using a normal browser with the benefit of drastically reducing costs without excluding any potentiality.

Movicon Web Client© has been designed to connect to the IP address of any Movicon Server station by simply using the Internet or Intranet architectures.

The innovative advantages of Movicon Web Client© will allow you to monitor and optimise your productivity, no matter where your plant is situated, at a low cost. You will be able to visualize and control your automation system or machine and beat system licensing, development and maintenance costs. Any changes made to the Server project are immediately available to all Clients. Movicon Web Client© is based on the most modern Information Technology (IT) to visualize and interact with Movicon® server applications. JAVA, XML, SOAP, Web Services and Websocket form the basis of Progea's Web Client technology.

## Multi-platform Solutions

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Movicon Web Client© is based on Java technology (J2SE e J2ME) and HTML5. This means that Movicon Web Client can be run in any browser in any platform used. Accessing your plant's data can be done not just with the Microsoft platform but also from Linux, Linus, Unix and Palm stations or any other "Java-Enabled" and HTML5 compliant platform.

In addition, the Movicon Web Client is available for iOS and Android platforms in mobile phones and tablet!



Movicon Web Client cannot be currently run on the WinCE Platform due to tests showing that the Java Runtime Machine available for WinCE is not reliable. Furthermore, the WinCE platform does not currently have a HTML5 compatible system browser.

### **Movicon Web Client offers the possibility to access plant system data using the Internet/Intranet architectures.**

The advantages you get when using Movicon Web Client are:

- Information distribution and data access within a web-enabled architecture.
- Maximum security thanks to JAVA technology, Web Services and Websocket (HTML5) (no ActiveX in clients).
- System server in Windows 32/64 bit and WinCE.
- All Server display and control functions available on Client.
- Software centralization. One only project application that resides on server and used in client architectures.
- No need to install and configure Web Servers in your plant's system.
- Communication based on SOAP technology, Web Services and Websocket with performances and "firewall friendly" security.
- Bidirectionality, performances with automatic data refresh, historical analysis, data settings, command access, passwords and multi-users.
- Clients also for mobile telephony using iOS and Android Apps and HTML5-enabled Browsers.
- No license needed on Client side, no installation and maintenance required, no ActiveX needed.



Projects managed by remote control with Web Client technology may present some restrictions that depend on certain web architecture limitations. Before going ahead with editing procedures, we recommend that you select the Client destination platform from those offered in the property group's selection in the project's General Properties. Please be reminded that Movicon also admits multiple selections in which case the most powerful platforms are offered for selection.

## 1.2. General Concepts

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Thanks to the Web Client technology, the Movicon projects can be centralized on the server, where they are run but can be accessed by remote control from a heterogeneous variety of Client station .

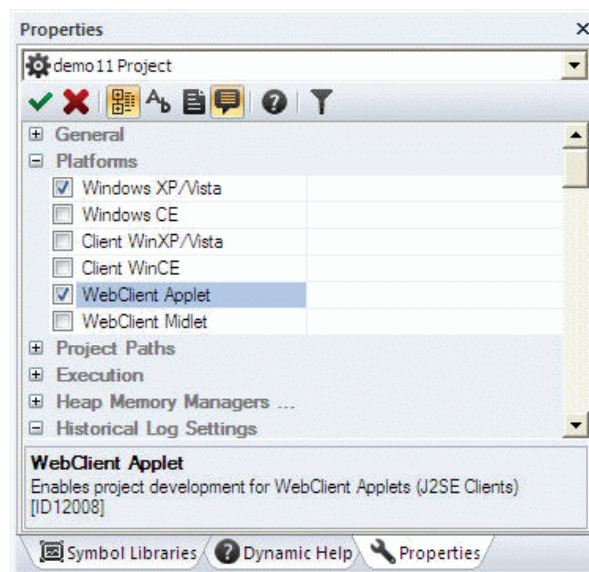
The advantage of centralizing information, which will be processed and managed by the server, is that it can be distributed to the various clients. The Web Client technology allows the client to access the server without needing local installation, and to display information for plant monitoring and interactivity. The Web Client does not process anything locally by consenting access from even the most limited devices, such as PDA or JavaPhones mobile phones.

This technology, even though very advantageous for certain aspects, does have a few functionality restrictions where the client side is concerned.

This must be kept in mind when planning Movicon applications in order to avoid using those functions on the server which are not available on the client.

It can actually be specified in the project's General Properties, in editing mode, whether the project is to be managed by the Web Client or not. It would be helpful for the programmer during the editing phase not to have the unsupported and not available system functions on the client side.

Any Movicon project can be accessed via Web Client. If functions not supported on the Client side are used, this will not influence the client's accessibility to the project in any way. The unsupported functions will simply not be accessible or visible on the client side. To avoid that any of this happens **you should select the Platform-client in the configuration of the project's properties. By doing this the programmer can plan only what the Client platform is capable of supporting.**



Tip: when having to plan exclusively for clients, **make sure you select the option relating to the client type desired.** When platform multi-selecting, Movicon will assume that you intend to also plan for different platforms, then the editor will be always predisposed for the most complete platform.

Whatever happens **Web Client will ignore the functions not supported**, therefore the project, even when created for Windows 32/64 bit, will be run by the client device.

## The difference between Client and Web Client

When faced with the 'distributed' architecture configuration, the programmer must choose the type of client architecture is to be used on a ethernet network. There are two fundamental architectures which can be used and which give you similar results:

1. Client/Server Architecture
2. Web Client Architecture

In this paragraph we will analyze the differences between the two solutions, where the user can have one or more Server stations on both which can be accessed by one or more Client stations.

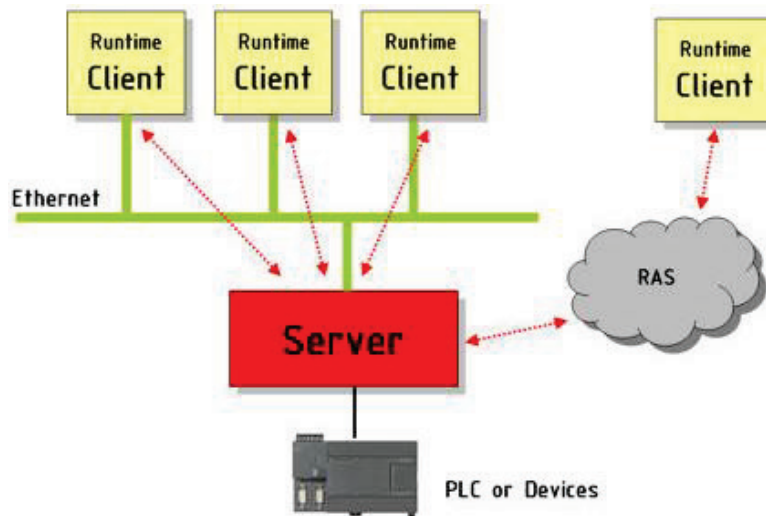
### Client/Server Architecture

The Client settings will be based on the locally run Movicon application with this type of architecture. This means that the Client must be installed with the Movicon runtime engine, which put into execution the applied project run locally.

This project can be distributed, or in other words it can provide local resources (eg. Tags Database) or provide decentralized resources on other stations (for example, it might be a "tagless" project, which is a project without local variables, but with direct access to variables or other databases).

In any case, we are talking about one Client station which processes a Movicon project locally, which is connected in net to other stations (Server or Client) to share information.

The Client's potentialities are increased with this architecture where it is capable of processing information locally, creating local alarms, take decisions, record historical files locally or in distributed mode, etc, etc,. There are not limits to the techniques of the Client's potentiality. The only snag is that you need to install and license Movicon on each Client station.



### Web Client Architecture

The Client settings are based on the Web technology with this type of architecture. Practically, the Client, in a web like architecture, can get access from any place in any part of the world. This is done by using a normal Internet Browser to access the plant and does not require the Client to have any particular installation or local configurations.

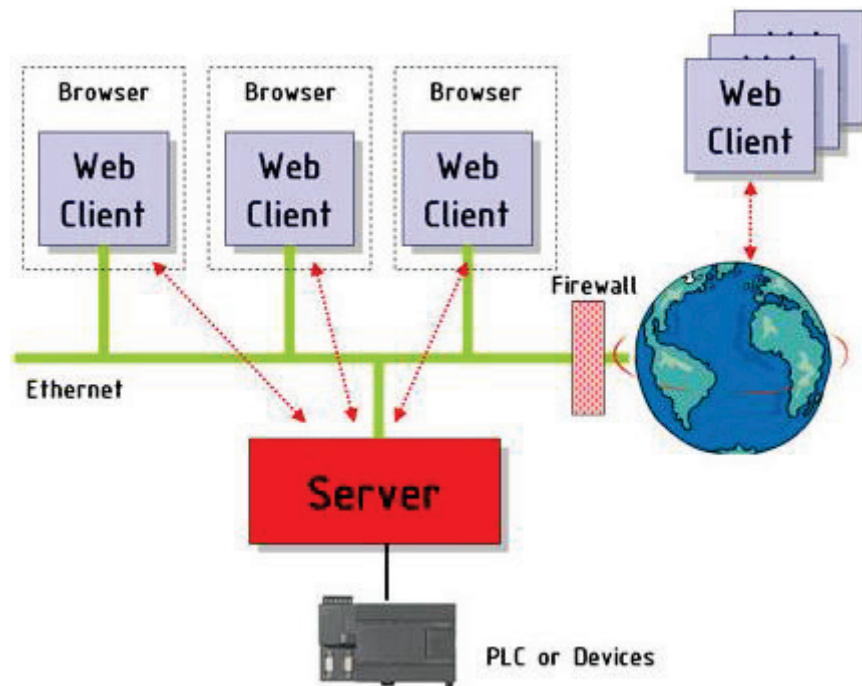
Movicon Web Client is based on Java technology. The server provides access to its clients through HTML pages. All the dynamic page update functions, security, log-in, interactivity, are guaranteed by a Java applet (around 350 kb) which the Client can automatically upload from the Server upon the first connection.

The Client can therefore get access to the Server from any part of the world by simply using the Browser.

There is no need to install Movicon on the Client or do any configuring or have a license or any authorization.

The advantage gained, by using this type of architecture, is that all the information residing on the server and any changes made are also available to clients.

The only snag is that Clients cannot process locally. The Java applet provides the Server with vision and communication which also includes notifying the client of any changes. As a consequence, the client cannot process logic and functions or log information or take decisions. In addition to this, not all the Server's functions are available to the client.



#### Before project planning

Before planning your project for a "Web Client" device you should consider that projects are usually created with the capacity and possibilities of the Client device, being used, in mind.

The Web technology has advantages but at the same time it also has some restrictions which must be taken into account on all sides. Based on the technique requirements on the client side, you will need to decide whether to use the Web Client technology or the traditional technology of the Movicon Client/Server.

We therefore it would be to your best interest to carefully consider the suggestions made in this guide.

## 1.3. Supported Systems

The Movicon Web Client is based on the Java and HTML5 technology and therefore can be run with the Java applet or in HTML5 on any platform or operating system that supports Java (Java Virtual Machine) and/or HTML5.

When you wish to make your system accessible by Web, you will need to consider from which Client you wish access to be made and which type of operations you wish to allow the user to execute.

The below list of operating systems is only a reference to products tested directly by Progea. There are many other devices with operating systems supporting Java and HTML5 on the market and whose compatibility have been tested directly by the makers or clients of these products.

#### Clients in PC architectures (J2SE, Java)

- Windows 32/64 bit (also embedded versions)
- WinCE 5.0/6.0/7.0 (depending on the JVM)
- Linux
- Unix

#### Clients in Mobile Telephony architectures using Apps and HTML5 (iOS, Android):

- SmartPhones
- Tablets



Web Client access in HTML5 is done by using the integrated Browsers in devices that support the "Canvas" elements.

For any further details on the type of device you are using or if you need to run a compatibility test, please contact Progea or your local dealer.

## 1.4. Licence Policy

One of the advantages of using the Web Client technology is that there is no licence required for the Client. The licence resides only on the server, and always refers to **the number of Client users connected at the same time**.

### License Management

When purchasing the license for Movicon, the user can order Web Client function for the runtime license (typically Server, but can be a Client runtime license), by specifying the number of users connectable at the same time (the number of Users should concord with the list in force).

The maximum number of Web users which can be acquired has been fixed at 100 by Progea: this means 100 users connected to the server at the same time. This is a trading limit and in order to manage up to 100 connections at the same time you need a server with an adequate calculation potentiality to cope with this kind of capacity which is quite rare to find. Nevertheless this trading limit can be changed on client request.

- Server licences are referred to the "Contemporary Users". For example, if a Movicon runtime license enabled nr. 1 Web Client User, this means that an unlimited number of users can access the plant but only one user at a time can access it, and not more than one at the same time
- The server provides an automatic Web Client disconnection after a certain inactivity time has elapsed (time can be set), freeing access for others



The Movicon CE runtime license provides a maximum limit of two users, which is the capacity limit of a server based on Windows CE.

When a Web Client fails to connect to a Server for license reasons (no Web client users enabled on license), the following message will appear on the Web client:

**"No more licenses available on the server ! Please try later or contact your server administrator"**



Licenses for the HTML5 resource are managed in the same way as those for the Java Applet.

## 1.5. Web Client Restrictions

When planning applications for Web Client devices it would be for your benefit to consider that some functions are not supported by the Client device.

- **The difference between function supported in a Web Client architecture and a traditional Runtime Client have been indicated in the table below.**



### WinCE support

On the Windows CE platform, you can not use the System Browser to run HTML5 pages because it does not have support for "Canvas" elements. It is still possible to verify the support of the third-party Browser HTML5.

### Graphical Restrictions

Function	Client	Web Client
Background images	✓	✓
Symbol Libraries	✓	✓
Vectorial Drawings	✓	✓
Coloring Animations	✓	✓

Moving Animations	✓	✓
Value Editing	✓	✓ (Edit Box locale)
Touch Screen Commands	✓	
Hot Regions	✓	✓
3D Look buttons	✓	✓
Menu	✓	
Accelerators	✓	
Embedded Screens	✓	✓
Alarm Windows	✓	✓
Historical Log Windows	✓	✓
Modal/Frame Windows	✓	
Auto-adaption to screen resolution	✓	✓
ActiveX in screens	✓	-

### Other graphical restrictions

The Client can get access to the Server's screens by pointing to the corresponding HTML page (created in programming mode) or using the change page command predisposed in the project. You must also consider that:

- **Modal Windows/Frame:** The Web Client does not support modal window management, on the Client side. Therefore any modal windows or frame window on the Server will be displayed with a full screen on the Client
- **Script Dialog Boxes:** are not supported on the Client side. You need to keep this mind when planning your project
- **System Windows** (eg. NumericPad for Touch Screens): not supported on Client



When using Windows CE as Web Server, please consider the platform's limitations described in topic on Movicon "Limitations" for Windows CE.

### Alarm Restrictions

The Web Client allows the displaying of alarms and actions carried out to them. The only restrictions are those concerning the notification and statistical analysis management due to the fact that Web Client does not process anything locally and remain the task of the server.

Function	Client	Web Client
Alarm Viewers	✓	✓
Action Commands on Alarms	✓	✓
Send SMS	✓	
Send Voice	✓	
Send Fax	✓	
Send E-mails	✓	
Historical Log	✓	Only for Viewing
Alarm Statistics (Report)	✓	

### DataLogger/Recipe/Report Restrictions

The Data Loggers are run on the Server. The Web client only consents access for viewing the historical files, as predisposed on the Server.



It needs to be pointed out that when using a tradition Client Runtime architecture, it is technically possible to execute Data Logger recordings on the Client as well when the Client is capable of processing a local project.

The Crystal Report engine is not supported in Windows CE.

Function	Client	Web Client
Data Loggers	✓	For Viewing Only

DB Trace	✓	For Viewing Only
Recipes	✓	✓
Crystal Report Engine	✓	

## WinWrap Basic Functions Restrictions

The Web Client allows any VBA script code to run at startup on the Server. You must remember, above all else, that the code is run on the Server and never on the Web Client.



In addition to this you must take into account, while in project developing mode, that the actions which have gone into effect, by means of codes on the user interface, may differ on the Client side. For example, the Web Client does not support the displaying of VBA Script Dialog Boxes.

**The "UIInterface" interface is also actually loaded for those objects and screens which are displayed in a WebClient session. This allows some of the commands, such as OpenSynoptic, OperSynopticEx, OpenSynopticParameter, OpenSynopticModal, ExecuteCommand to be managed from the WebClient. However, it is important to take in to account that some of these methods interact with the Server's UI. In order not to block these methods, which may be needed, the project developer should not recall certain functions when dealing with WebClient sessions. In addition to this, these methods only have meaning when used in the screen's internal due to the fact that there are no links between a script executed as resource and a WebClient session.**

## IL Logic Restrictions

The IL Logic is run on the Server only.

## Password Restrictions

The passwords are also managed on the Web Client side. The system will request Log on based on the restrictions setup by the project developer on the Server. The Server will record all the accesses on Log, by indicating the user and the Web Client station connected.



New user password entries are not supported on the Web Client side

# 1.6. Tips

This section will supply you with a series of tips to be kept into consideration before you start developing projects for Server projects which are to be managed by remote through the Web Client.



Movicon is a platform which allows you plan projects for both plants and small HMI devices. However, it is left to the project planner's discretion to take into account the hardware features (processor potentiality, memory capacity) of the Client device being used and that they are adequate for the user on the Client side.

In the world of Web Clients there are many ways in which you can access by using various device types, with differing hardware features, working together in a heterogeneous environment (eg. from normal PCs to mobile phone systems).

However you may find that same Movicon project can be run from the Web Client side with satisfactory performances on one device but and with unsatisfactory performances on another.

In addition to this, you need to remember that the performances on the Client also depend on the band capacity available. A Web Client connection with a Server on GPRS with a 9600 baud rate will give performances very different to that of a connection on a local network with 100Mb!!

## Graphics

In general you should take into consideration the restrictions stipulated in this manual. As a good rule of the thumb, it would be best to provide the Web Client with "light" screens, without any complex animations or functionalities, based on the Client's capacity and the band provided for the connection. It is also important to consider the graphic resolution used on the server compared with those of the Clients'.

Finally, you should remember the Modal/Frame window types not supported by Clients which include the script dialog boxes.

### Alarms

The alarms are fully supported on the Web Client side. You only need to remember that you can not get 'Help' on the Client and to use adapted fonts and short texts when space on the Client is graphically little.

### Historical Log

The alarm historicals (Log) are fully supported on the Web Client side. You only need to remember that any filters and queries have to be managed appropriated and that you cannot not get statistical reports on the Client.

### Data Loggers - Recipes

The project historicals (Data Loggers) are fully supported for viewing on the Web Client side. You only need to remember that any filters and queries have to be appropriately managed and the you cannot get statistical reports on the Client.

The recipes are fully operative on the Web Client.

### Trends

The project historicals (Trends) are fully supported for viewing on the Web Client side. You only need to remember that any filters and queries have to be appropriately managed and the you cannot get statistical reports on the Client.

### Reports

The reports are not supported. However, you can use the advances Crystal Report functions which allow produced report distribution via Web. In order to do this, pleas refer to the Crystal Report product documentation.

### Touch Screens

Movicon Web Client does not support modal windows, therefore all the commands which need to be typed out on virtual Alph and NumPad system windows are not supported. If the Web Client is a keyboard device (touch screen only), you will need to provide graphic objects (meters, sliders, etc,) for entering data.

### Passwords

Passwords are also managed on the Web Client side. A system window, dedicated for this purpose, is used for entering your User name and password (does not support touch screens).



**New User Passwords cannot be entered or changed on the Web client side.**

If asked to enter user name and password as authentication when connecting to the Server with a Web Client, means that the User managment has been enabled in the Server project. When authentication is not accepted by the Server (even when user name and password are correct), or in cases where authentication is still requested even when the User management has been disabled in the Server project, the reasons for this may be:

- The Server project license has not been enabled with WebClient users (WebClient Users = 0)
- The Server project contains child projects with the "Network Server" option enabled and the same parent project TCP port is in listening mode
- No Web Server has been installed (such as Internet Information Services) or the virtual directory has not been published correctly and does not consent access to the Web Client



After the first authentication, if an object needs to be used but has a higher password access level to the one of the user logged in, instead of requesting a new login the user will simply be banned from interacting with that object. Therefore it will be necessary to request access to the Server with a user level equal to the one requested by the object. This can be done by simply restarting the Web client session, i.e. by refreshing the html page (or by using the "Log in as different User..." command if using a Midlet).

### HTML5 - Hide Startup Screen name

To remove the Startup Screen name on the HTML page loaded in the Browser on the Web Client side, simply edit the "WebClient.html" file in the "WebClientPages" subfolder of the Movicon 11 installation path and comment the following line:

```
<td><span id="screenname" /></td>
```

for example in:

<!-- <td><span id="screenname" /></td> -->

## 1.7. Web Client Applet Java

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### 1.7.1. Design

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## 1.8. Historicals

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Historical displays are supported by the Web Client. The server will record the historical files by means of the ODBC on Relational DBs. The Web Client will be able to access the historicals (Historical Log, DB Trace, Data Loggers) by means of using the "Log Window" provided by Movicon. The displayed data will be contained in files, represented in table forms in the appropriated windows. The historical files are:

- Historical Log
- DB Trace
- Data Logger



Access to the project's historicals via Web Client should be done by using the appropriate display window objects predisposed in the Server project for this purpose.

In cases where the Web Client is needed to produce filters, analysis, queries, etc, the server should be preset appropriately for these purposes. In short, the Server project must manage (through VBA scripts) access to files and manage queries. The Web Client will be able to run these scripts, whose results should be managed in the appropriate Movicon window objects.

Example: If you also wish to filter the log file for a certain time period on the Client side: the project developer should predispose the composition of the access query to the Log file, making sure that the vectorial objects are used for the user interface with the operator. The query parameters will then be used by one script, for example started from a push-button, which determines the filter in the "Log Window". The Log Window will also be available on the Web Client.

- The commands needed for creating reports on the historicals (Crystal Report Engine) are not supported on the Client

## 1.9. Alarm Management

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The Web Client fully supports active alarm displays. The screens displayed on the Client, containing the Alarm Viewer object, provide the same information which the Server has. The Reset and Acknowledge commands are also supported.

- Alarm Help is not supported
- The commands for creating statistical reports on the alarms are not supported

## 1.10. The Graphics

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The user, on the Web Client side, has access to the Server's screens, and in function with how the screens have been designed, can display and interact with the system for almost all the graphic functions. Nevertheless, it is always in the users best interest to pay particular attention to the project's graphics. The main points to be taken into consideration are as follows:

### Graphic Resolutions

When the sizing the window on the Web Client side, the screens allocated on the Server side will resize with the sizes requested by the WebClient without controlling any max limits. This might cause

problems for other platforms, especially WinCE where memory is limited and for Windows 32/64 bit, risking memory saturation on the on Server when left uncontrolled. Therefore, four properties have been added to each screen allowing users to choose maximum screen sizes on Web Client side and sizes of dispatched packets. By keeping packets sized with low values, they will be small and therefore optimal enough for reduced broadband when dispatched.

- **Max WebClient Width:** this property is used for setting the maximum screen width size when displayed on the WebClient. No size limit will be imposed when left at zero
- **Max WebClient Height:** this property is used for setting the maximum screen height size when displayed on the WebClient. No size limit will be imposed when left at zero
- **Max WebClient Packet Width:** this property is used for setting the maximum width size of packets dispatched to the WebClient. No size limit will be imposed when left at zero
- **Max WebClient Packet Height:** this property is used for setting the maximum height size of packets dispatched to the WebClient. No size limit will be imposed when left at zero

Movicon Web Client fits the graphics to the size of the video screen, but if sizes, much bigger than those of the device, are used the graphics will lose their quality.

We advice you to keep to the video screen resolution or the screen sizes as near to those of the device's.

### Non supported Objects

Movicon is based on SVG (Scalable vectorial Graphics), indicated particularly for web architecture. All the graphic objects and symbols are supported on the Client, except:

- Templates that use Dialog Boxes with VBA script
- ActiveX Objects

### Windows

The Client can have access to the server's screens, whether pointing to the corresponding HTML pages (created in the programming phase), or by using the change page commands in the project.

However, the following points must be considered:

- **Modal Windows:** Web Client does not support the modal or frame window management on the client side. Therefore any modal windows on the Server will be displayed at full screen size on the Client
- **Script Dialog Boxes:** are not supported on the Client side. You need to keep this in mind when designing your project
- **System Windows** (eg. NumericPad for Touch Screens): not supported on the Client

### Change Page

All the screen change page commands are also available on the Client. As a consequence the Client user can use all the buttons needed for navigating (total or part of, according to those predisposed by the programmer) from the start page.

The performances inherent to the change page on the Client side may depend on different factors. In general, the change page time is influenced by:

1. Quantity of objects and components there are
2. The resource capacity and those being used on the Server

To get the best out of the performance you need to distribute information in the best way possible by dividing it on more screens.

### Using images

Image usage usually require you to memory resources and a quantity of data to upload onto the Client. The Client will take longer to open when pages with very big background images are being used in function with the band quantity available on the net.

Movicon, however, only transmits the part of the image which changes in order to optimize the traffic of graphic information as much as possible.

### Graphics on Client systems based on mobile phones

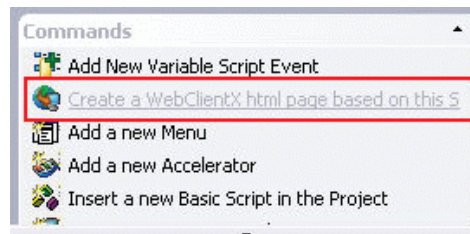
The Web Client midlet, with UMTS technology, for mobile phones has been created so that the user can access the plant Server via telephone without having to display the graphics. After access is gained a menu window appears to allow the user to choose what to display on the telephone, whether to open screens, display alarms, variables or historical logs.

When displaying screens, you need to take into account the limited sizes of the mobile phone's video screen, their low process capacity and bands (such as with GPRS).

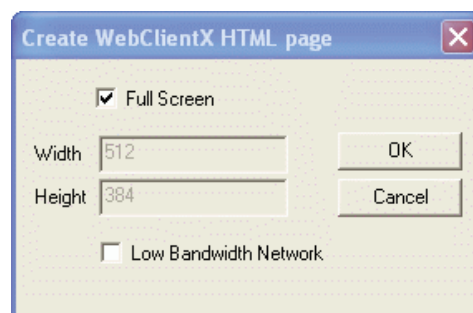
## 1.11. Creating Web Client pages

The Movicon Web Client technology permits access to plant information, residing on the Movicon Server, through a normal internet browser, or through JavaPhones mobile phones. The browser should point to a HTML page, appropriately preset and created in automatic, based on one or more screens existing in the Movicon project.

Therefore the project screen desired for the HTML needs to be singled out. Just select the screen desired from the Movicon design environment, then use the "Create Web HTML page..." Wizard command from the Project Window's command panel or use the "Create a WebClientX html page based on this Screen" command made available when right clicking on the screen name.

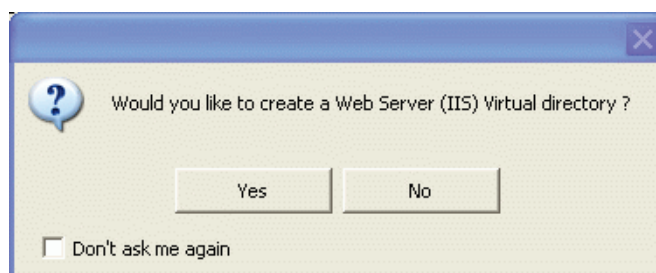


When executing this command a window will display for setting the size of the screen in the browser. It would be best to select the size (Width, Height) in pixels in function with the client stations which have access to the plant. You can however enable the "Full Screen" option. This will allow you to have a html page which resizes the applet according to the sizes of the window in the internet browser.



You can also select the "Low Band Network" box, in cases where the access connection to the server has a low band to allow Movicon to optimize as much as possible the Web Server management to improve performances.

When confirming the above actions a window will display for enabling the creation of a virtual directory for the Web Server:



When confirming the virtual directory creation the following window will appear if you are using Windows XP only and not Windows 10/8/7:

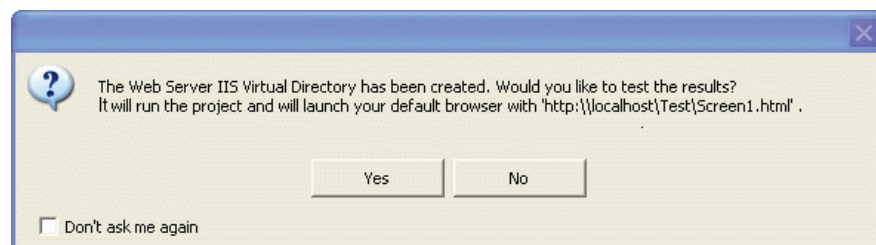


This window is the operating system's and is the same one that appears when running an application using the "Run as..." command. By doing this, the application will be run using the user specified and not the one active in the operating system at that current moment. Then select the user with which the directory must be created making sure the user has administrator rights.



**CAUTION! You must disable the 'Protect my computer and data from unauthorized program activity' option if you want Movicon to create the directory automatically.** If you leave this option checked the directory will not get created and you will need to do it manually using the IIS. This is due to the fact that the application is run with user right restrictions making it impossible to create the virtual directory. Therefore, the option is left unchecked or checked specifying the user with which to run the application by selecting the "The following user:" option.

Once confirming this operation, Movicon will ask you if you want to run a test.



When receiving confirmation of the executed procedure, Movicon will ask whether you would like to run a test.

When answering with YES, the project will automatically run and the system's default browser will open with URL specified in function with the local path for pointing to the screen (HTML page) created. When answering with NO, the demo can be done at another time.

At this point, if the browser access to the screen page has been verified as working correctly, it will be possible to point to the same HTML page from any other browser by substituting the "Http://localhost" with the IP address or the name of the server acknowledged on the net.

## HTML page settings

Some of the HTML page parameters created by Movicon can be modified to suit specific needs. This, however, should be done by an expert programmer with know-how on HTML file structures and meanings of the tags they contain. It may be useful to modify the following parameters:

### Parameter File

In the HTML page loaded from the browser you can also set the parameter file, in the "Synoptic" parameter, to be used for opening the specified screen. This file is inserted after the screen name followed by a semi-colon.

Example:

```
...
<PARAM NAME = "Synoptic" VALUE = "ScreenMotors;Motor1.movpar">
```

...

The parameter file extension is optional and the one for default for that resource type will be used.

### Screen colors

In the HTML page loaded from the browser you can set the number of colors in the "NumColors" parameter that the Server is to manage for refreshing the page on the Web Client.

Example:

```
...
<PARAM NAME = "NumColors" VALUE = "0">
...
```

The values you can use are:

- 0: the "Screen Colors type" setting is used and which is defined in the properties of the screens which are loaded
- 1: the use of black and white is forced. This consents to greatly reducing data traffic in the communication channels used for the Web Client. This however will degrade graphic quality a bit

### Users and Passwords

In the HTML page loaded by the browser you can set, in the "UserName" and "Password" parameters, the user name and password to be used for logging on. By doing this, logging on to the Server will be automatic using these values. This will obviously make Server access possible to any operator accessing through this HTML page.

Example:

```
...
<PARAM NAME = "UserName" VALUE = "Movicon">
<PARAM NAME = "Password" VALUE = "111111">
...
```

### Status Bar

In cases where heavy pages are being loaded, a progress bar will show above the status bar showing the user which loading operations have not yet terminated. This bar can be hidden by setting the "ShowStatusBar" attribute to "false" in the html page:

Example:

```
...
<PARAM NAME = "ShowStatusBar" VALUE = "false">
```

### PlaySoundOnAlarm

The "PlaySoundOnAlarm" parameter shows as a check box in the dialog window used by Movicon when a html page is published in IIS for asking user whether to activate alarm sound (default "true") on Web Client. For further information refer to the part relating to the "Webclient" in the "Alarm Sound Management" section.

Example:

```
...
<PARAM NAME = "PlaySoundOnAlarm" VALUE = "true">
...
```

### FileToPlayOnAlarm

When opting to set the "FileToPlayOnAlarm" parameter you can actually customize the alarm sound (this parameter must however be inserted manually). For further information refer to the part relating to the "Webclient" in the "Alarm Sound Management" section.

Example:

```
...
<PARAM NAME = "FileToPlayOnAlarm" VALUE = "tada.wav">
```

## 1.12. Trends

---

The Web Client supports Trends displays. The Web Client displays the Trend Window object and the curves contained in it, whether as real-time values or as historical values.

The server samples and records trend data. The historical files are managed through the Data Logger ODBC on Relational DBs. The Web Client can get access to the historicals (Historical Log, DB Trace, Data Loggers) by using the command objects provided by Movicon.



**Attention: by putting the Trend in pause, its historical will be displayed on the Web Client. However, the template commands which use Dialog Boxes for data requests are not supported.**

**You need to consider that not all the Trend objects, such as Templates, are not entirely available, but there are functions, nevertheless rather limited, which can be used for analysing historical data. Accessing the project's historicals through the Web client is therefore done, according to how the Server project has been predisposed, by using the appropriate vectorial viewer window objects.**

The server can be purposely setup in cases where the Web Client has to produce filters, analysis or queries on the Trend. In short, the Server project should manage (by means of VBA scripts) access to files and manage queries. The Web Client will be able to run these scripts, whose results should be managed in the appropriate Movicon vectorial window objects.

Example: If you wish to filter the Trend file for a certain time period on the Web Client side as well: the project developer must predispose the access query composition to the Log file, making sure that the vectorial objects, for the user interface with the operator, are used. The query parameters will then be used by one script, for example push-button, to start the filter on the "Log window". The Log window contents will then also be available on the Web Client.

## 1.13. General Information

---

When creating projects with access via Web Client, you need to take into account the inevitable restrictions the user will have on the Client side.

As previously indicated, the Web Client technology may be to your advantage or not in respect to the similar Runtime Client technology, where the Client processes its own project by itself. However, in the Web Client architecture, however, the Client does not process anything locally.

You also need to consider whether the Web Client is destined to have a PC platform (J2SE) or a mobile phone (J2ME).

In general, the project designer who develops the Server Project with Web Client access, must consider the following guide lines:

1. The Server processes the information for its Clients, always guaranteeing priority to local executions in respect to those by remote management
2. The hardware resource for the Server must always be proportioned to the amount of resources to be put into use for both the application being run and by the quantity of Clients which can connect at the same time
3. The quantity and complexity of the screen graphic information which can be accessed via Web Client must be in proportion to the Client's capacity
4. You need to consider that the Client can access to screen pages not necessarily displayed on the Server
5. The security on the Client side depends on the preset project configuration on the Server
6. Each Client user has independent and autonomous access to the Server, whether form other Clients and Servers
7. In cases where the Servers is based on Window CE, you should always consider the resources provided on the Server, which are generally scarce in number. We suggest you keep this in mind when creating screen pages which can be accessed via Web
8. Access to the Server via Movicon Web Client technology is also possible on stations without the Web Server

### Web Server

---

Generally, a typical plant configuration provides a Server based on Windows 32/64 bit. These operating systems have an Internet Information Services (IIS), which is a web server installed on the Operating System.

This type of configuration does not require any configuring by the project designer, whether on the Client side or on the Server side. Movicon actually has a command for creating the HTML page and for configuring the Web Server IIS appropriately.

In addition to this, your system can be customized by using other kinds of Web Servers which are not IIS (eg. Apache). In this case, it is the system administrator's job to configure the chosen Web Server

so that the Clients can upload the Applet when needed and that the browsers can use the Applet correctly.

If the Server is not equipped with the Web Server services, you can access to the server by launching the Movicon Web Client Applet without using a browser if the Client has been installed with the Java Virtual Machine (JVM). In this case, you just have to execute the right command line for launching the Applet. In addition to this, you can use the Applet within a self created application, by using a language or a platform capable of manipulating a Java applet.

You can get further details from the appropriate chapters included in this manual.

## Folder Paths

By using the project's "Project Paths" you can setup the project's working folders.

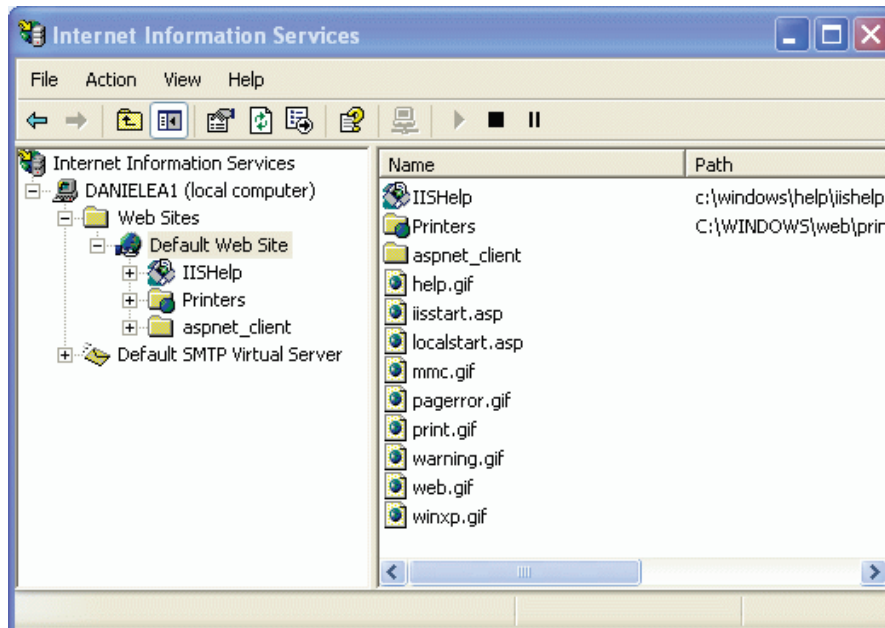
Normally, the Java Applet and the screen HTML pages reside in the Project folder's "Resources" folder.

### 1.13.1. IIS (Internet Information Services)

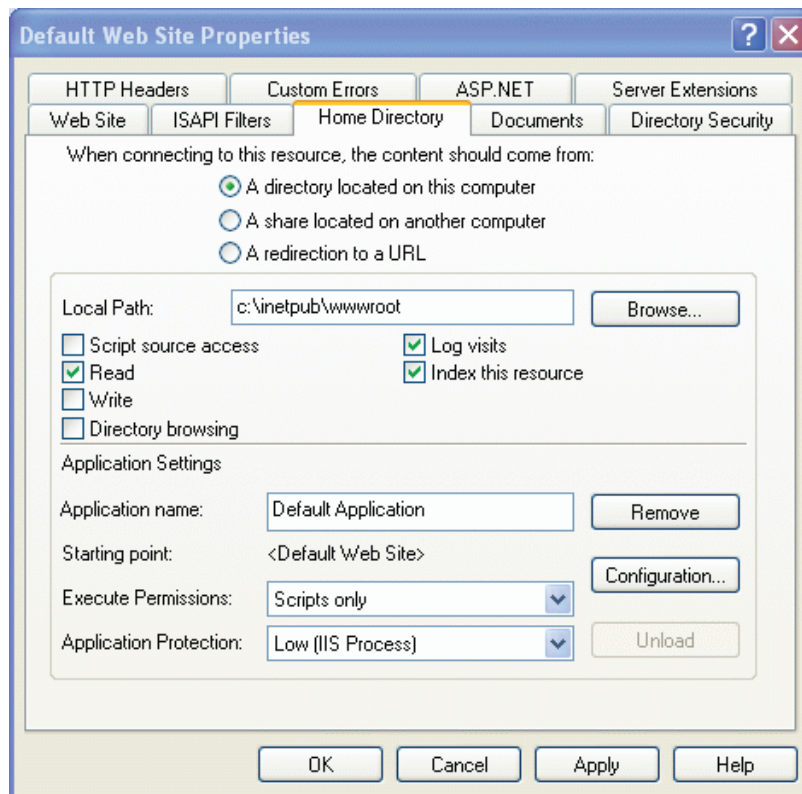
IIS (Internet Information Services) is the Web Server service available in Windows (IIS6 in Windows XP, IIS7 in Windows 10/8/7). This service should be installed using the Windows component custom setting function.

Movicon used this service for default to create a virtual directory for publishing project HTML pages to be displayed through the Web Client. If you can't connect to the Server from a Web client station, after having created HTML page, as guided, (see section "Creating Web Client pages") you will need to check that all the conditions listed in the "Browser Accessing" section have been set correctly. If connection problems still persist, check the IIS settings as follows:

1. The Windows user must be System Administrator
2. Go to the "Control Panel - Administrative Tools - Internet Information Services" and open the IIS service. Open the "Default Web Site" properties. Change these properties, after which they will be propagated to all sub sites and new ones that will be created.

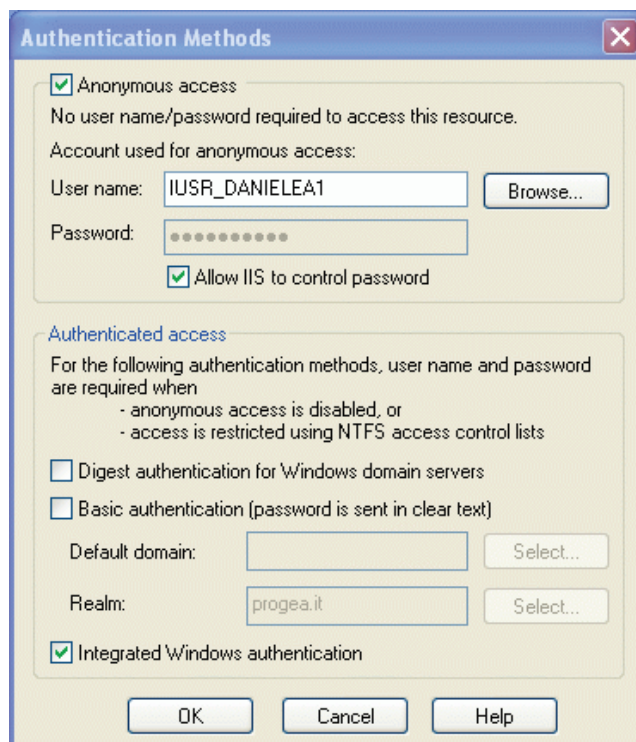


3. Now select the "Home Directory" tab from the "Default Web Site" properties and enable the "Read" item.

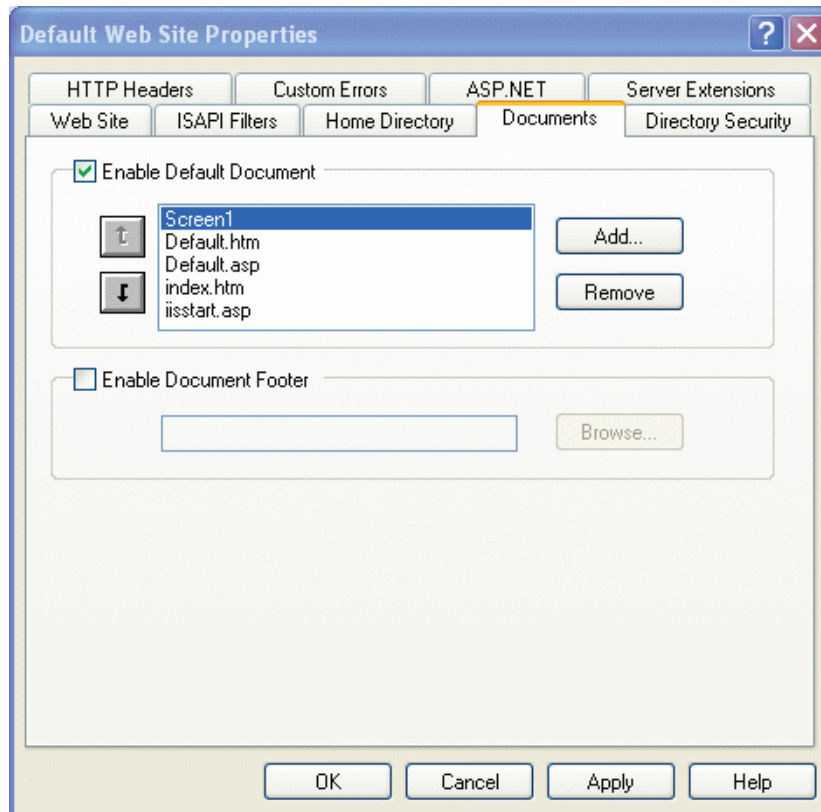


4. Select the "Directory Security" tab and click on the "Edit" button from the "Anonymous access and Authentication control" group to open the "Authentication Methods" dialog window below as follows:

- Enable "Anonymous Access"
- Enable "Allow IIS to control password"
- Enable "Integrated Windows authentication"

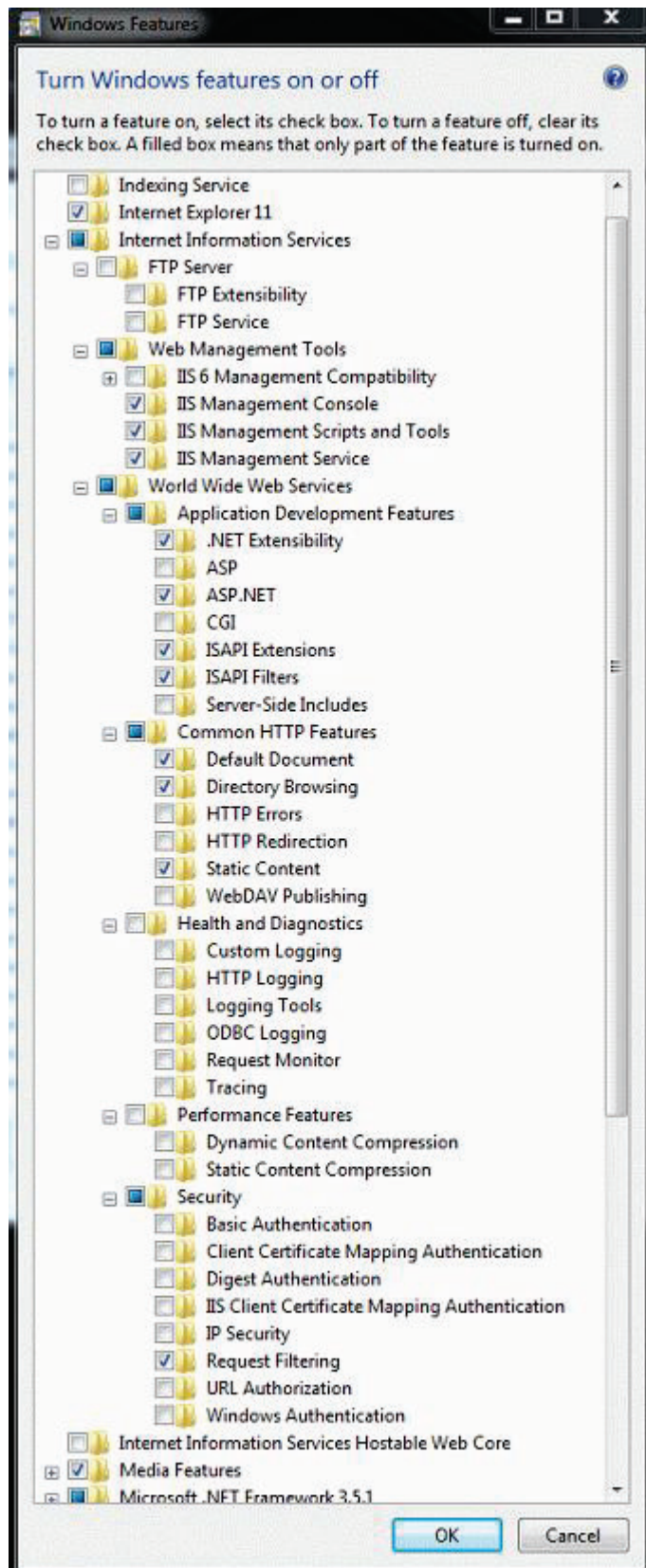


5. Select the "Documents" tab from the "Default Web Site Properties". When enabling the "Enable Default Document" property, the IIS may not be able to find the screen's html page, therefore insert the list then move the name of screen's html page to be opened to the top.



6. Close the "Default Web Site" property window, stop the service execution using the "Stop" command from the "Action" menu and the restart it using the "Start" command from the "Action" menu.

The screenshot below shows which Windows components must be installed in 7 (IIS 7.5):



## 1.14. Setting Client as Read Only

---

Movicon allows you to generate HTML page automatically, to let the user access to the server through a Web Browser, offering by default the full interoperability for settings data and commands, even through the browser. Of course, the sever can be configured to require the User Log On to enabling commands.

- **Furthermore is possible to setting the Web Interface in order to let the user to Read Only the information, without the capabilities to set commands independently from the User Log On.**

To obtain this, you have to modify the Java Applet parameters for the Web Client within the HTML code related to the screen access via web, as generated automatically by Movicon on the server.

The parameter are setted by default as follow:

```
<PARAM NAME = "MouseMotion" VALUE = "true">
<PARAM NAME = "MouseClicks" VALUE = "true">
<PARAM NAME = "KeyEvents" VALUE = "true">
```

**By modifying the default value "true" with the "false" value instead, even for single parameter, you will obtain the disabling of the mouse command from the Web Client interface, creating a "Read-Only" web client interface.**

## 1.15. Recipes

---

The Recipe management (Data Logger/Recipes) is fully supported on the Web Client side. The recipes are effectively managed and filed on the Server, however the recipe user interface, being completely vectorial, is also fully supported on the Web Client side. The Web Client user can therefore insert, change or cancel plant production recipes according the how the Server screens have been predisposed.

### 1.15.1. Server Access

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## 1.16. Browser Accessing

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Web Client access to the Movicon Server can be done by using a normal browser (eg. Ms Internet Explorer) when the server is equipped with the Web Server service availability (ie. Internet Information Services).

The Web Server availability is integrated and automatic when the server used Windows 32/64 bit. However, you need to verify Web Server availability with configurations which use Windows CE or Windows 32/64 bit Embedded.

When the server comes equipped with the Web Server, you will not need to carry out any particular kind of configuration.

To access the Server, you need to type the path, to point to the desired HTML page on the server, in the browser's URL line:

**http://<ServerIPAddress>/<VirtualDirectory>/<SynopticName>.html**

The browser will display a screen page using the graphic resolution which was setup when the HTML page was created during the programming phase on the Server side.

The browser will display the HTML page, which was created and configured by Movicon on the server in programming mode. Any access errors may be due to:

1. The Server is not available: the address or the path are not correct or have changed
2. The server is not available: Movicon is not running on the Server
3. Access forbidden: The Client does not have the appropriate access rights needed for connecting to the Server (WebClient Users = 0 in license settings) or the maximum number of clients connected at the same time has been exceeded

4. Web Server has not been configured properly: more than likely that the Web Server's configuration parameters have been changed, for which we suggest you recreate the HTML page automatically from the Movicon Server: the configuration will be restored

If you have a server based on Windows CE, you will need to configure the web server on the device. In order to do this you should refer to the device documentation supplied by its manufacturers.

For example, The web server configuration for VIPA devices can be done in remote with the Internet Explorer by typing:

`http://<ServerIPAddress>/WebAdmin/`

In this case configuration page from the Web Server will open in the Internet Explorer page. You can configure all the security levels and add virtual directories with fixed paths in this page. A new virtual directory should always be created point to the folder in which html and the applet java files are kept.



When the Server is based on Windows CE, you need to pay special attention to the hardware resources available on the device. The amount of resources being used on the server is in proportion to the number of Web clients connected. To avoid problems due to resource scarcity, Movicon CE will reduce the maximum number of Web Client users, at the same, time to two.

When using Windows CE you need to create the html file before exporting the project to the device. In this way the project download will also copy the html and the applet java files on the CE device. The html file is created by using the appropriated commands found on the menu which appears after double-clicking the mouse on the screen, in the 'Project Explorer' window.

## 1.17. Accessing without a Browser

---

The Web Client can also access the Movicon Server without using a Browser if, for example, the plant server does not have Web Server services (as with WinCE or Windows Embedded). In this case the Client user can use the Movicon Web Client applet (that must however be present in the device) which is launched by using a command line. This is done by following this procedure:

1. Copy the Movicon Web Client applet file to the Client is not available. The file in question is:

**MovWebClientX.jar**

This file is found in the Movicon installation folder or on the installation DVD.

2. Launch Movicon Web Client using a command line by means of Windows "Start - Run" or by using the operating system's DOS command prompt available in the Client, or by using a ".bat" file (or a link to it) with the following command line:

**java [-noverify] -jar MovWebClientX.jar [Server] [Screen] [Width] [Height] [Port] [UserName] [UserPassword]**

Where:

- Server: Movicon Server PC name or IP address. This parameter is used by the applet to know which Server it must connect to. If not given the applet will display an input box at startup to enter the Server's name or IP address.
- Screen: name of the screen to display when the applet is opened. If no parameter is provided, the applet will display the screen set as the server project's startup screen.
- Width: Width in pixels of the window that is opened on "java" command. This parameter is optional.
- Height: Height in pixels of the window that is opened on "Java" command. This parameter is optional.

- Port: TCP port number that Server will use in listening mode and set in the Networking transport properties. This parameter optional. If not provided the "12233" default port will be used instead.

Example:

```
java -noverify -jar "C:\Program Files (x86)\Progea\Movicon11.6\MovWebClientX.jar"
192.168.0.33 Screen1 800 600
```

or

```
java -noverify -jar "C:\Program Files (x86)\Progea\Movicon11.6\MovWebClientX.jar"
192.168.0.33 Screen1 800 600 12233
```

or

```
java -noverify -jar "C:\Program Files (x86)\Progea\Movicon11.6\MovWebClientX.jar"
192.168.0.33 Screen1 800 600 12233 User Password
```



1. The Java Runtime Machine must be pre-installed in Client device
2. The applet window will open 400x320 in size if the "Length" and "Height" parameters are not used. This window can be resized afterwards adapting the internal screen.



The "java" command is only acknowledged when the Java Runtime installation folder path has been inserted in the variable within the ambient of the Windows "Path" ambient. Otherwise the whole java executable path will have to be specified. For instance, in a Windows 7 operating system the command line might result as:

```
"C:\Program Files (x86)\Java\jre6\bin\java.exe" -noverify -jar "C:\Program Files
(x86)\Progea\Movicon11.6\MovWebClientX.jar" 192.168.0.79 Screen1 800 600
```

## 1.18. Accessing by mobile phone

Web Client access to the Movicon Server can also be done by using your mobile phone. In order for you to do this you must be equipped with the following requirements:

1. the phone must have active access to internet
2. the phone must have the Java 2.o installed aboard

Internet access has already been configured on some telephones, but if this is not the case just contact your telephone dealer and ask for advice on how to do so. In certain cases an sms for auto-configuring the connection is sent directly by the dealer.

At this point you should load and install the Web Client's midlet on your phone:

1. connect to the internet and download the midlet from the [www.progea.com/midlet.htm](http://www.progea.com/midlet.htm)
2. once loaded you will be asked to install the application. The following message will also appear: "Movicon WebClient is not a reliable application. Do you want to continue?". Confirm and continue with the installation procedures

Once installation has terminated the "WebClient" icon will appear on the mobile phone's application page with which you can launch the application. The WebClient application must be configured with the address of the Server to connect to. by using the "Settings" menu item you can insert the Server's setting and also a list of Servers to select from when connecting. To add a Server to the list just fill in the displayed fields. The main field that need configuring are:

- **Configuration Name:** this is the name given to the Server to identify it on the list for selecting. This name can be chosen as pleased
- **Server Name or Address:** this is the Server's IP address or url to connect to. For example, "Server1.Project.it" or "192.168.0.48"
- **Server Port:** this is the network port used by the Server whose default value for Movicon is 12233

Once the Server's parameters have been inserted, it will be possible to save the values and add the server to the list using the "Add" command from the menu. When you wish to change the parameters

of a Server already on the list, you must first select the Server, change the parameters and then use the "Save" command from the menu. There is also a "Remove" command on the menu for deleting Servers from the list.

At this point it just remains to execute the WebClient connection using the "Connect" command. You will be asked to select a Server from the list to connect to. After having selected and confirmed a Server, you may have to execute the "Connect" command again. If your telephone is not connected to a WiFi network, you will be asked which access point to use. Select the one you normally use for connecting to internet. Once WebClient is connected to the Server you can open screens, set variables, etc., by using the commands provided.



Take note! No Server Screen will appear when the WebClient connects to it. Instead you will be provided with a menu with a list of commands to be executed among which you will find one to open the different screens.



According to tests carried out by Progea it has been discovered that not all the access points on the telephone (usually there are more than one) allow you to access the Server properly. Normally the email access point is the most reliable one to use in order to get a good connection response.



The "Get my Variable List" command in the midlet which generates a list of project variables is not available if the RealTimeDB contains Structure or/and Array type variables. In this case the command will return an error. However, you can still obtain array or structure variable values by selecting name or member name directly from the "Select Variable" menu (i.e. "\_SysVar\_:ActTimeString" or "myArray001[0]").

## 1.19. Authentication

---

Web Client access to the Movicon Server may require users to Log On according to how the project was configured on the Server side.

### Access without Log On:

Access without Logging On is possible by disabling the password management in the Server project. This will allow Web Clients to access directly without being asked to Log On beforehand.

### Access with Log On:

Accessing by Logging On is possible by enabling the password management in the server project. By doing this all Web Client accesses to the server will require a user password for identifying and recording all users who access.



The password for web client connection may be requested but may not be accepted for the following reasons:

1. The Server does not have its WebClient option enabled on the runtime license
2. The Server has child projects with their "Network Server" enabled using the same TCP port for listening as used by the parent project
3. The IIS has not been installed in the server's operating system (Windows Professional version)

All Web Client accesses with log on will be recorded in the Server's system Log to identify the users connected.



After access has been gained and the user needs to interact with an object which has a password level higher than theirs, the user will not be requested to login again but will be banned from using object. Therefore it will be necessary to carry out Server access authentication procedures again but with a user that has a higher level to gain interaction access with this object. In order to do this, you will have to restart the Web Client session by, for example, doing a html page refresh ( or by using the "Log in as a different User..." command if using a Midlet).

## 1.20. Web Client HTML5

## 1.21. Overview

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As a cross-platform software, Movicon has a built-in Web Server based on the Websocket technology that permits you to access your supervision system by means of using a HTML5 Web Client session. Any Browser supporting the HTML5 canvas elements can be used to start a Web session by connecting to the Movicon Server using the Web Socket communication protocol to communicate. Once the "WebClient.html" HTML page residing in the Movicon installation path's "WebClientPages" folder has been loaded, a Java Script is run and which connects to the Movicon Web Server. All the computational part is done on the Server side, being Movicon, because the BMP images used in Screens or the section of Screens that need to be updated are transferred from the Server to the Web Client. The Movicon's built-in Web Server responds to port 8080 for default and sends the "WebClient.html" HTML page that then establishes a WebSocket connection using Java Script in port 8088 (default). Both the TCP/IP ports are parameterized by means of using the Project's Networking resource's "WebSocket Server" options.

Unlike the Web Client functionality based on the Java Applet technology, there is no need to install a Web Server and configure a Virtual Folder on the Movicon Server side and install a Java Virtual Machine in Client machines run as Web Clients. A condition that is necessary to Java Applet Web Clients.

For more information about the limitations of the HTML5 Web Client see the general chapter "web client limitations"

## 1.22. Web Client access via HTTP and HTTPS protocols

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### Web Client Access using HTTP protocol

To establish a Web Client session in HTTP (HyperText Transfer Protocol) mode towards the Movicon Websocket Server all you need to do is:

1. Edit the 'WebSocket Server' properties of the project's 'Networking' resource and verify:
  - The value set in the "Web Server Port" (Default '8080') property
  - Set the Access Screen via Web Client HTML5 in the 'Web Client Startup Screen' property
2. Launch project into Runtime
3. If you need to start up the Web Client session locally, open the Browser and enter the `http://localhost:8080` address.
4. If you need to start up the Web Client session from a network machine, make sure that the Movicon Server machine is reachable over the net (check Firewall, Antivirus, etc) open the Browser and enter the `http://<Server_Name>:8080` address, where <Server\_Name> is the Windows name of the machine where the Movicon Server is installed and '8080' is the Default value of the 'Web Server Port' property from the "Networking" resource's 'WebSocket Server' property group.



You can set the 'Web Server Port' (default '8080') with any value but you will need to make sure that the value you set does not come into conflict with other applications running in the system that use the same port value.

### Web Client Access using HTTPS protocol

It is possible to establish a Web Client session in **HTTPS** mode (HyperText Transfer Protocol over Secure Socket Layer) towards the Movicon Websocket Server for which an **SSL Certificate** (Security Socket Layer) is issued by an entity that acts as a Certification Authority (CA) that authenticates and ensures that the communication between the Web Client and Server is encrypted.

To configure Https access you need to:

1. Get a valid SSL Certificate issued by a CA entity, for example a **.CRT** file together with the **.KEY** Private Key file, and convert the **.CRT** file into a **".DER"** file (using a dedicated tool).
2. Activate the **"Secure Websocket"** option in the "Networking - Websocket Server" properties
3. Click the "Create Certificate" button to generate the "WebCfg.xml" file in the Project Folder
4. Edit the **"WebCfg.xml"** file setting the paths to reach the **"\*.DER"** and **"\*.KEY"** Certificates files
5. Web Client side open the page using, for example, the address: **https://url\_site:8080**

where "URL\_SITE" is the URL address which has been used to ask the CA for the SSL Certificate and 8080 is the value of the Default TCP port set in the Project's "Networking - Server Websocket" property.

Basically, the moment in which the Web Client accesses in Https mode to the site, this happens:

1. If Web Server Sends the Movicon Certificate set in the WebCfg.xml
2. If Web Client Reuest the CA for the Certificate in respect to the "Site Name" set in the Address Bar.
3. If Web Client Compares the two Certificates, that of the CA and that of the Movicon Server Websocket and evaluates its validity



The CA (Certificator Authority) may issue a SSL Certificate by means of a "\*.CER" file. Therefore, you will need to convert the "\*.CER" file to a "\*.DER" file using the appropriate conversion tool to then be able to set i in the "WebCfg.xml" file used by the Movicon Server Websocket.



SLL certificate acceptance while the Web Client is in execution with a Https connection may vary according to the Browser type used for which you should therefore check the Browser's SSL settings.

## 1.23. Quick Guide

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### Starting a HTML5 Web Client session

1. Launch project in Runtime (the Websocket Server is active for default).
2. To start a local Web Client session, open the Browser and enter this address: `http://localhost:8080`.
3. To start the Web Client session from a machine in the network, make sure that the Movicon Server machine is reachable over the net (check for Firewall, Antivirus, etc) open the Browser and enter this address: `http://<Server_Name>:8080`, where <Server\_Name> is the Windows name of the machine where the Movicon Server is installed.

### Starting HTML5 Web Client session as HTTPS type

1. Set the "Secure Websocket" property in the "Networking - Websocket Server" properties (the Websocket Server is active for default)
  2. Create a WebCfg.xml file in the Project Folder using the "Create Certificate" button.
  3. Open the WebCfg.xml file and set the path of the \*.der and \*.pem files of the certificates issued by the Certification Authority (CA)
  4. Launch project into Runtime.
- To start a local Web Client HTTPS session, open the Browser and enter this address: `https://localhost:8080`
  - To start a Web Client session from a machine in net, make sure that the Movicon Server machine is reachable over the net (check for Firewall, Antivirus, etc) then open the Browser and enter this address: `https://<Nome_Server>:8080`, where <Server\_Name> is the Windows name of the machine where the Movicon Server is installed.

### Starting a HTML5 Web Client session with Alarm Sound management

1. Launch Project in Runtime (the Websocket Server is active for default).
2. To start a local Web Client session with the Alarm Sound management, open the Browser and enter this address: `http://localhost:8080/?B=1`



NB: to disable the State Bar set the parameter with the '0' valore: `"?/B=0"`

3. To start the Web Client session from a machine in the network, make sure that the Movicon Server machine is reachable over the net (check for Firewall, Antivirus, etc) open the Browser and enter this address: `http://<Server_Name>:8080/?B=1`, where <Server\_Name> is the Windows name of the machine where the Movicon Server is installed.

4. If you wish to open a screen which is not the one set for default, enter the name of the desired screen in the Browser's Address Bar using the following syntax:

`http://localhost:8080/ScreenName?B=1`  
or  
`http://localhost:8080/ScreenName/?B=1`

or  
`https://localhost:8080/ScreenName?B=1`

where "ScreenName" is the name of the screen to be displayed on the Web Client page.

## 1.24. Sound Management for Project Alarms

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The alarm sound management can be enabled for alarms from the Web Client session by adding the "?/B=1" parameter to the http address to display the Status Bar where the 'Sound On' button appears in the Web Client page frame. This 'Sound On' button is used to enable the Sound in the presence of Alarms independently from the project page being displayed. The Sound management is disabled for default and is enabled by clicking this button.

For example, by setting the Browser with this address: "http://localhost/?B=1", the Status Bar will appear in the Web Client frame in which the 'Sound On' button is displayed.

In the browser, the sound reproduction follows the same logic used by the Movicon sound reproduction (see topic "Sound Management for Project Alarms" ).

Disabling or enabling the sound in Movicon projects will not have any influence on the disabling or enabling of Alarm sounds in the Web Client execution instance and viceversa.



When enabling the Status Bar, it is also possible to indicate a another screen in the address in the Browser, that is different to the one predefined in the "Networking - Websocket Server" Resource's 'Startup Screen' property, using this syntax:

`http://[Server Name]:[port number]/[screen name]?[parameter]`

The parameter may be B=1 or B=0.

For example:

`"http://localhost:8080/screen2?B=1"`

However, this syntax is also accepted:

`http://[Server Name]:[port number]/[screen name]/?[parameter]`

For example:

`"http://localhost:8080/screen2/?B=1"`



The Internet Explorer Browser does not support Web Audio API and, therefore, is not compatible with the Alarm Sound management.

## 1.25. Accessing from Smartphone or Tablet

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All types of Browsers supporting the Canvas elements are capable of running the Movicon HTML5 Web Client.

## 1.26. HTML5 Properties

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For further information on the "Networking - Websocket Server" resource properties, please refer to "Proprietà Websocket Server" in the Movicon 11 manual.





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