ClearSCADA Mobile - Administration Guide

Schneider Electric™

Table of Contents

ClearSCADA Mobile Administration Guide

ClearSCADA Mobile
Administration Guide
Version 2.0

Schneider Electric

Make the most of your energy

Notes

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed. Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

Technical Support

Support related to any part of this documentation can be directed to one of the following support centers.

Technical Support: The Americas

Available Monday to Friday 8:00am – 6:30pm Eastern Time

Toll free within North America   1-888-226-6876

Direct Worldwide   +1-613-591-1943

Email   TechnicalSupport@controlmicrosystems.com

Technical Support: Europe

Available Monday to Friday 8:30am – 5:30pm Central European Time

Direct Worldwide   +31 (71) 597-1655

Email   euro-support@controlmicrosystems.com

Technical Support: Asia

Available Monday to Friday 8:00am – 6:30pm Eastern Time (North America)

Direct Worldwide   +1-613-591-1943

Email   TechnicalSupport@controlmicrosystems.com

Technical Support: Australia

Available Monday to Friday 7:30am – 7:00pm Australia Eastern Standard Time

Inside Australia   1300 369 233

Email   au.help@schneider-electric.com

Safety Information

Read these instructions carefully, and look at the equipment to become familiar with the StruxureWare SCADA Expert ClearSCADA and ClearSCADA Mobile before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

⚠	The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result** in death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in minor or moderate injury**.

CAUTION

CAUTION used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, **can result in** equipment damage.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved.

BEFORE YOU BEGIN

ClearSCADA is a Supervisory Control and Data Acquisition (SCADA) solution. It comprises software that is used to control and monitor various devices, applications and processes on your system. Due to ClearSCADA's central control and processing role, you must appropriately design, commission and thoroughly test your system's configuration for proper operation before placing it in service. Any further configuration changes made online (once ClearSCADA is commissioned, tested, and in service) must be thoroughly tested before being used in an operational setting.

⚠ **WARNING**

UNINTENDED EQUIPMENT OPERATION

The configuration of this product requires expertise in the design, configuration and programming of SCADA control systems. Only persons with such experience should be allowed to configure ClearSCADA. Only persons with the appropriate programming experience should be allowed to write any scripts, Logic programs, expressions, or SQL queries intended for use in ClearSCADA.

Follow all local and national safety codes and standards.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Introduction

What is *ClearSCADA Mobile*?

ClearSCADA Mobile is an Android™ based mobile client and server system for StruxureWare SCADA Expert ClearSCADA. It brings mobility to SCADA operations, allowing technical staff and managers alike to obtain real time information on the performance of the system, even while working in remote locations. A comprehensive feature set is tailored to the needs of mobile users, providing a convenient and powerful operational tool that adds value to your organization.

Communications between the ClearSCADA Mobile Server and the Android™ phones uses SSL to ensure appropriate encryption is used on transmitted data. As the system has been designed from the ground up as a mobile platform, display and data retrieval is achieved quickly, even for complicated trends or large event journal queries.

Workflow Assistance

Users are notified of new alarm conditions relevant to their area of responsibility, and can action those alarms using the built in alarm and event lists. The database browser provides detailed status information related to any database object to allow more in depth analysis. Trends provide users with the ability to review historic data to make operational decisions for the future and user favorites allow users to store the most commonly used views on their phone for easy retrieval.

Custom Queries

Users can get access to tabular data providing easy analysis and comparison. Overall system Key Performance Indicators for management, production summaries, system water flows, reservoir levels etc. can be easily added and made available to users.

ClearSCADA is a trademark of Control Microsystems Inc.

Android is a trademark of Google Inc. Use of this trademark is subject to Google Permissions.

System Requirements

Device Requirements

The following specifications are required for mobile device clients.

- Mobile device running Android™ 2.1 (or later) operating system

- Internet access to Google Play (to obtain & install phone application)

- Network access to the ClearSCADA Mobile server

ClearSCADA Mobile Server Requirements

The ClearSCADA Mobile Server operates on Personal Computer (PC) platforms using Microsoft Internet Information Server (IIS). The following specifications are required.

- Windows 7 (32- or 64-bit editions), Windows Server 2008 (32- or 64-bit editions), or Windows Server 2008 R2 (32- or 64-bit editions)

- Internet Information Server (IIS) 7 (or later) installed with ASP.NET 4.0

- .NET Framework 4.0 Full or later

- Minimum 1GHz processor

- Minimum 512MB RAM

- Minimum 1GB disk space (32-bit version) (includes allowance for .NET framework)

- Minimum 2GB disk space (64-bit version) (includes allowance for .NET framework)

- Access to Internet or Wireless Virtual Private Network (VPN) for the mobile devices.

- Network access to ClearSCADA Mobile Companion(s).

ClearSCADA Requirements

There are some requirements on the ClearSCADA system(s) that you will be communicating with. These are described below.

Licensing

ClearSCADA Mobile requires a *Data Access Client* licence on each server in order to operate. If an available licence is not available then you should contact your vendor for an additional licence.

Historic Views

ClearSCADA Mobile makes use of two Historic Views in order to draw historic trends correctly. These can be found in ClearSCADA's Server Configuration tool in section SQL Query Configuration -> Historic Views (shown below).

The two views used are:

- HisDailyAverage

- HisHourlyAverage

These views are installed (by default) by the ClearSCADA installation. If these have been deleted from the server they will need to be added as per the settings shown in the image above.

Metadata

To allow controls via ClearSCADA Mobile you will need to configure a metadata field on the ClearSCADA Server(s) as part of initial ClearSCADA Mobile installation.

See ClearSCADA Metadata for details.

ClearSCADA Mobile Server Installation

Follow these steps to deploy ClearSCADA Mobile Server:

1. Setup IIS

2. Install the ClearSCADA Mobile Server application

3. Configure the ClearSCADA Mobile Server Application

IIS Setup

This sections details actions that must be completed *before* running the ClearSCADA Mobile Server installer.

IIS Setup is completed using Microsoft's Internet Information Server (IIS) Manager application (shown below).
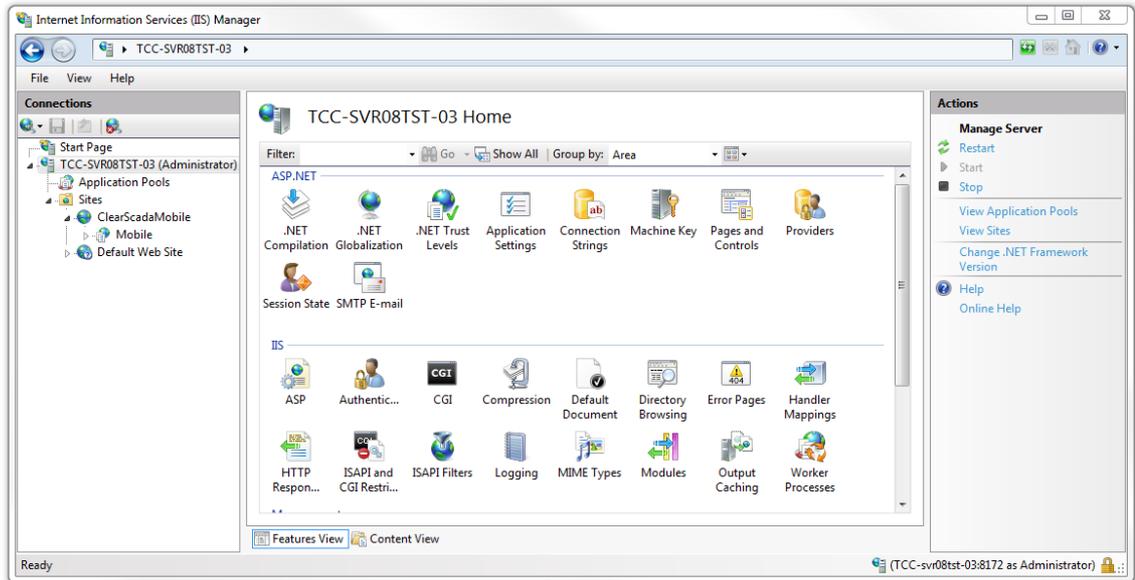
The IIS Manager application can be started from the *Start/All Programs/Administrative Tools* menu.

The ClearSCADA Mobile Server installation will automatically create a new website named 'ClearScadaMobile' in IIS. If any websites exist with this name you will be prompted to overwrite them during the installation sequence. Once the installation is complete you may modify any available configuration setting (excluding the website name) through the IIS Manager application. This website will be removed during the uninstall process.

Server Certificates

A Server Certificate is required in order to bind the ClearSCADA Mobile web site to HTTPS protocol. The Microsoft IIS Manager enables administrators to request or install a certificate into IIS 7. Server Certificates are managed at the Server level in IIS Manager, so select the top level in the *Connections* pane in order to show the *Server Certificates* icon (as shown below).
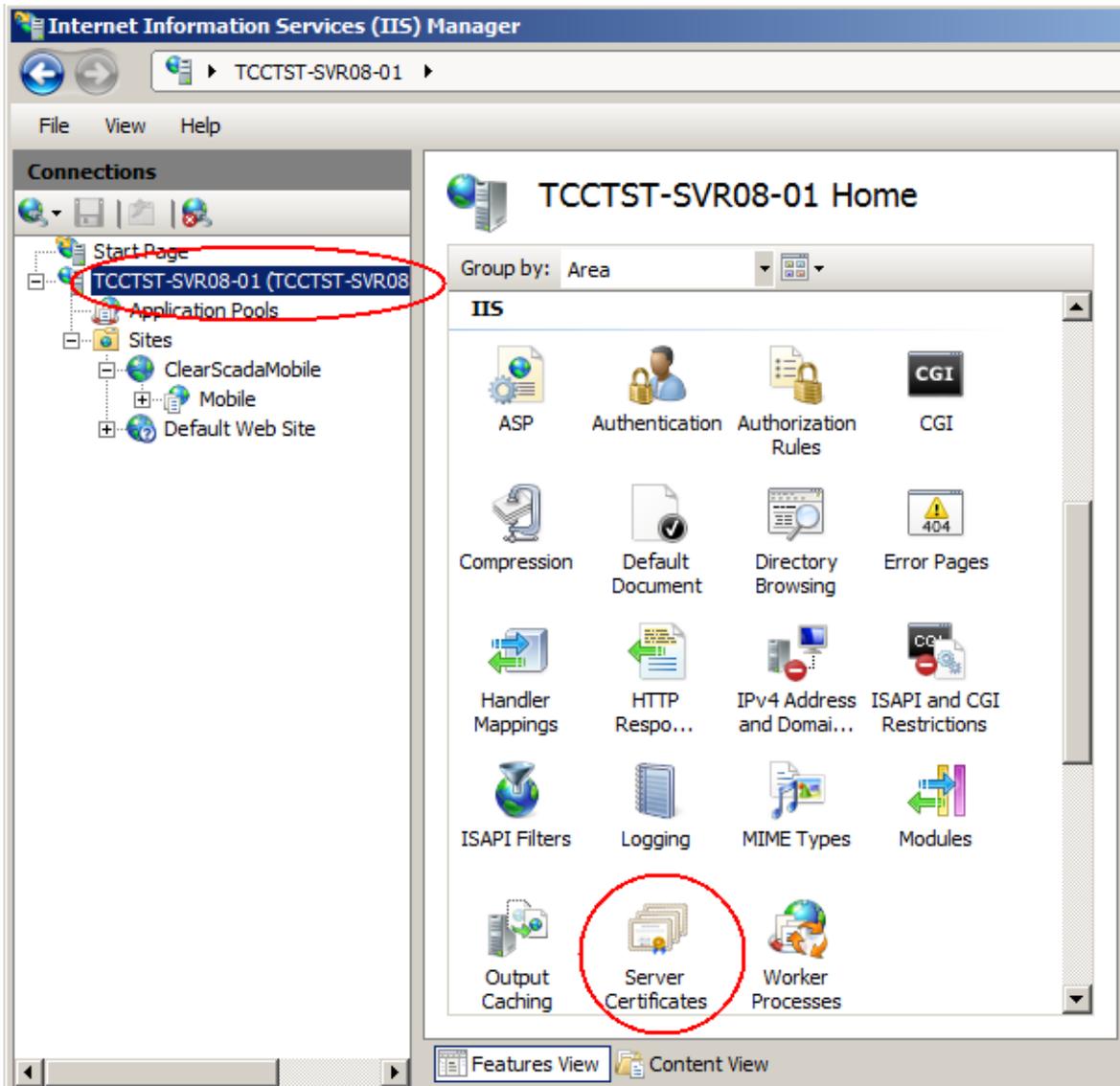
Select the *Server Certificates* icon to display the *Server Certificates* page.
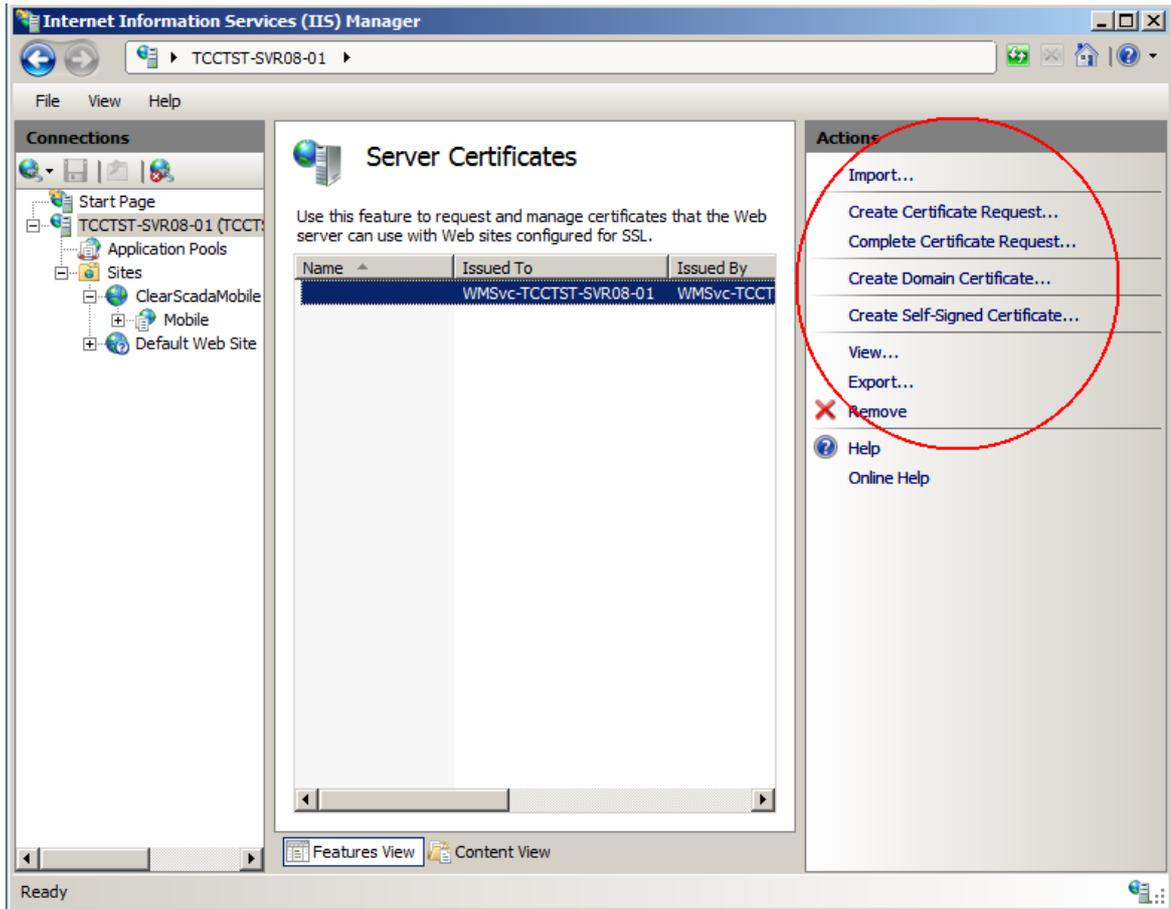
The menu items on the *Actions* pane (as shown above) allow the server administrator to import a certificate from an existing file, launch the Request Certificate wizard or create a self-signed certificate. Creating a certificate that is signed by a third-party Certification Authority (CA) is a two stage process that requires creating a certificate request file to send to the CA and then selecting the *Complete Certificate Request* dialog box to install the certificates that you receive back from your CA.

Selecting the *Create Self-Signed Certificate* menu item allows the administrator to create your own certificates. These are useful in server testing environments and are permitted by the ClearSCADA Mobile server, but are **not recommended** for production use as they are not from a trusted certification authority (CA) source.

The IIS Manager help documentation has a chapter covering Server Certificates and is recommended reading.

Installation

The ClearSCADA Mobile Server operates on Windows platforms using Microsoft Internet Information Server (IIS). The Server installer will not complete if the requirements detailed in the System Requirements section are not met.

The installer can be launched from the *ClearSCADA Mobile* option on the ClearSCADA installation CD.

NOTE: *Before running the installer ensure you have created or imported an appropriate Server Certificate for use with the ClearSCADA Mobile Server website. You will be prompted to select this certificate during installation.*

The ClearSCADA Mobile Server installation will automatically create a new website named *'ClearScadaMobile'* in IIS. If there any existing websites with this name you will be prompted to overwrite them during the installation sequence.

Administrator privileges are required to install the server. If the ClearSCADA Mobile Server requirements are met (see ClearSCADA Mobile Requirements), then the "Welcome" dialog is displayed as shown below:

Select *Next* to advance to the End User Licence Agreement
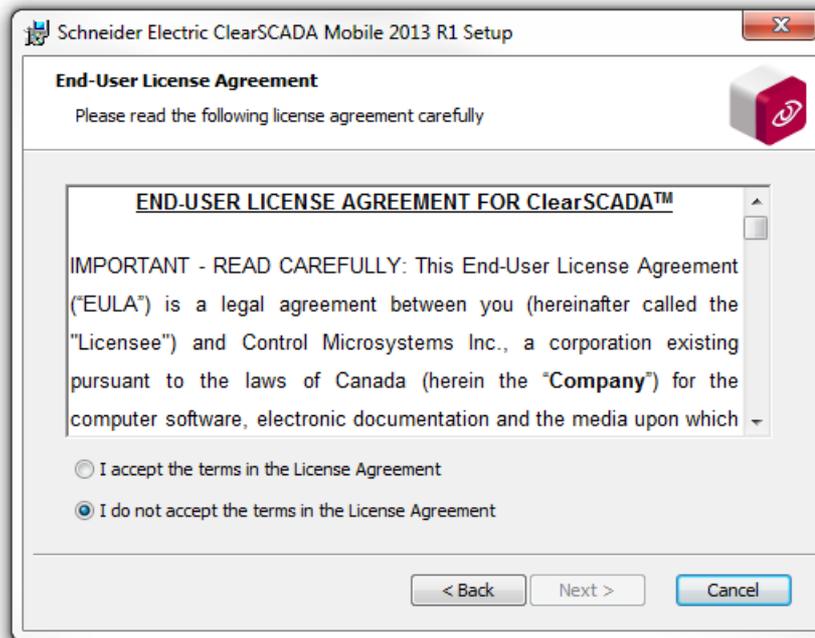
Select the option to accept the terms of the Licence Agreement and choose *Next* to advance. If you don't accept the Licence Agreement, then you will not be able to continue with the installation.
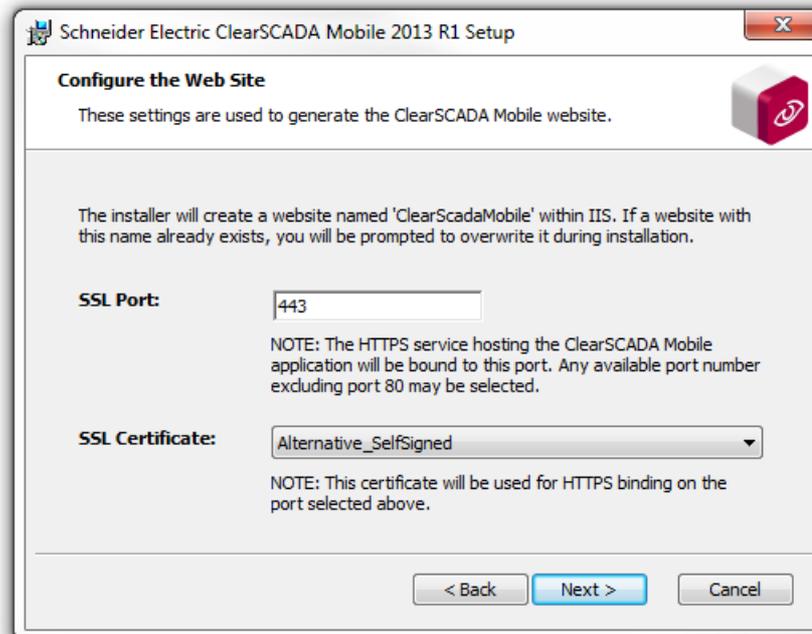
Select an available port number for the HTTPS service and an appropriate Server Certificate from those available on the system. Then press *Next*.
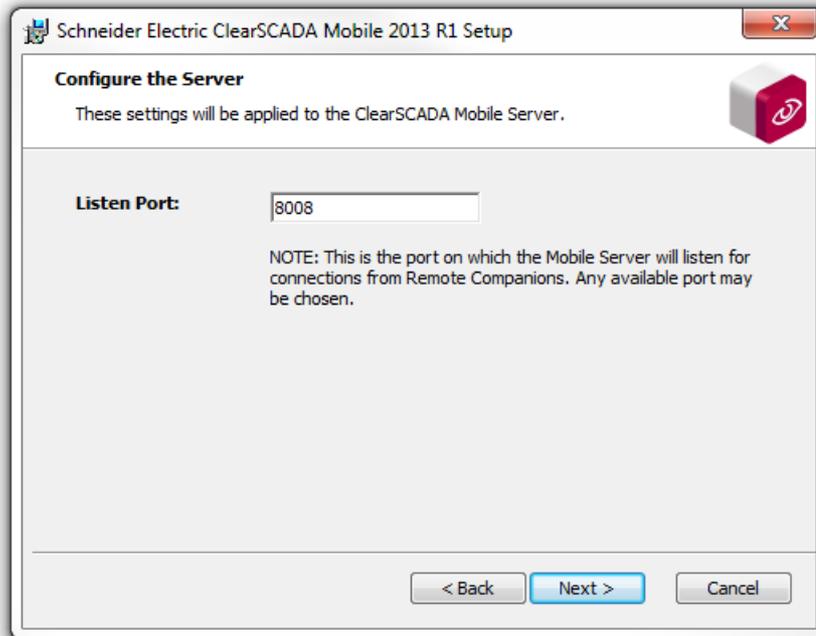
Configure the available port on which the server will listen for connections from Remote Companions. The port must not be in use. Then press *Next*.

NOTE: *If you are using a firewall, you will need to reconfigure it so that the ClearSCADA Mobile Server can accept inbound connections on the Listen Port from the ClearSCADA Mobile Companions on your ClearSCADA servers.*
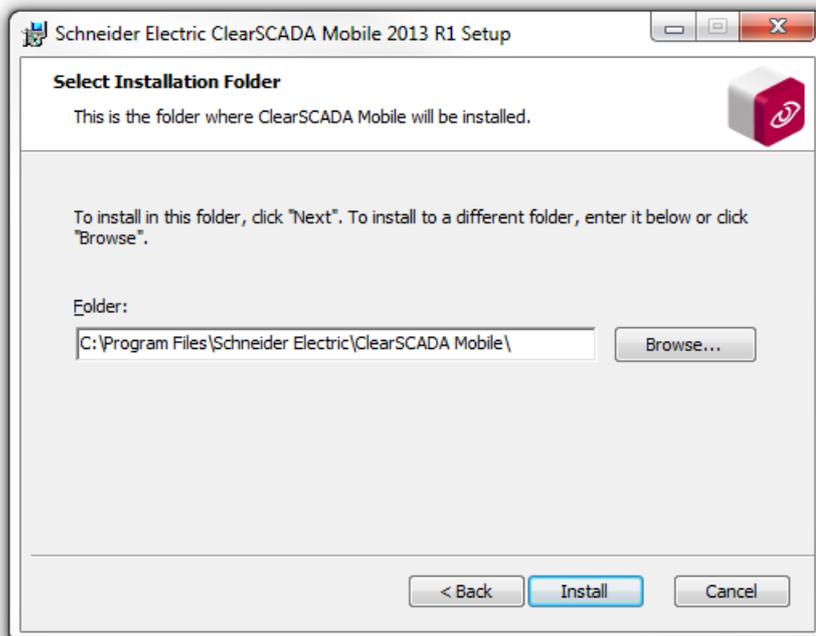
This page allows selections of the installation folder. If you choose a different folder path, take care to ensure the chosen folder has sufficient permissions for IIS services to access.

Select *Install* to commence the installation. If you choose Cancel at this point, then the installer will close without modifying your system. When the installation is completed successfully, the following dialog is displayed.
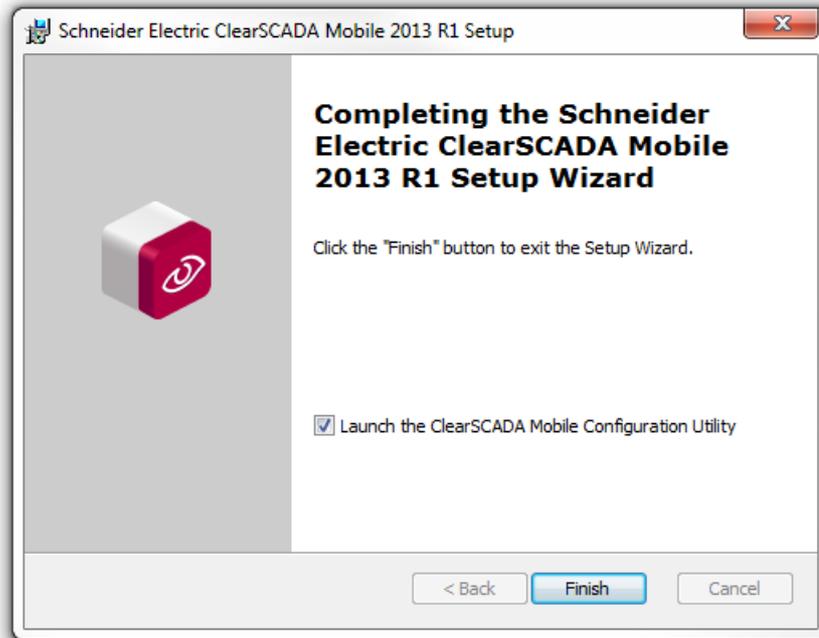
Select *Finish* to complete the installation and dismiss the ClearSCADA Mobile installer.

Checking the 'Launch ClearSCADA Mobile Configurator' box will allow you to configure your new installation.

See the section on Configuration for instructions.

ClearSCADA Mobile Server Configuration

After installation of ClearSCADA Mobile Server you may configure the application using the ClearSCADA Mobile Configurator.

The Configurator is accessed from the Start Menu under the Programs » Schneider Electric ClearSCADA Mobile directory.
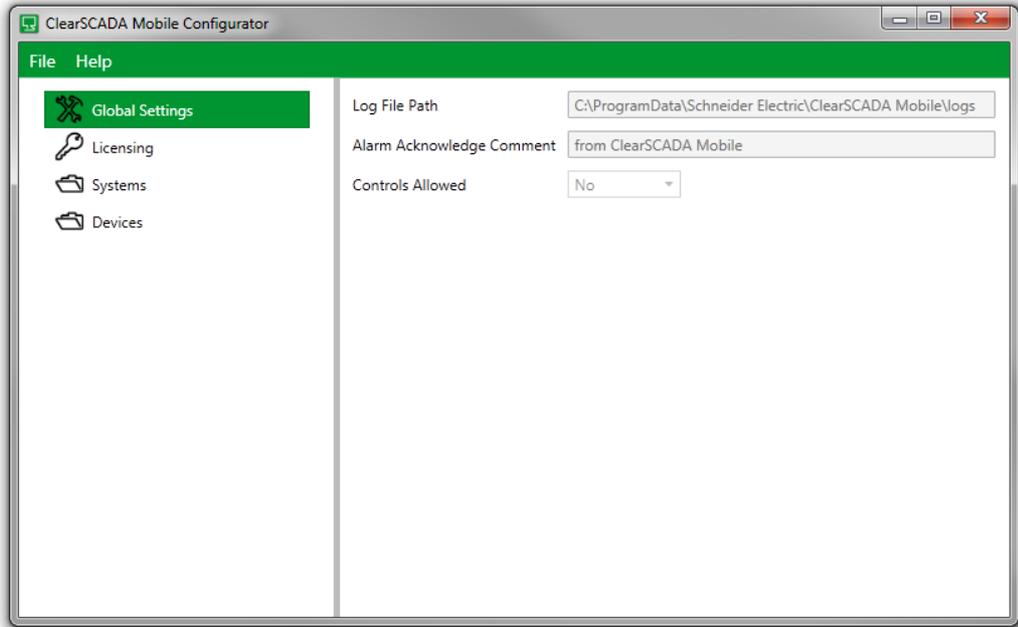
Different sections are accessible through the navigation tabs on the left hand side of the application.

Please refer to the following sections for the initial setup process.

NOTE: Configuration information is stored in the file C:\ProgramData\Schneider Electric\ClearSCADA Mobile\MobileConfig.sdf. This file should be backed-up regularly.

Task 1 - Licensing

The first thing you will need to do is provide a valid licence. You can do this by clicking on the Licensing tab.

See the Server Licensing topic for details.

Task 2 - Configure Global Properties

The next thing you need to do is set up any system wide configuration settings. These are shown under the 'Global Settings' tab.

See the Global Properties topic for details.

Task 3 - Configure Systems

The next thing you need to do is set up the ClearSCADA system(s) that you will be providing mobile access for. This is managed through the 'Systems' tab.

See the Managing Systems topic for details.

Task 4 - Configure Devices and Users

The final thing you need to do is allow some mobile devices and operators access to the system(s). These settings are managed from the 'Devices' tab.

See the Managing Devices and Users topic for details.

Server Licensing

ClearSCADA Mobile server is a licensed application that is tied to the server hardware to which the licence was issued. Obtaining a licence key is required for the server to function.

A valid licence needs to be configured through the Licensing tab before other components of the ClearSCADA Mobile Configurator can be modified.

An example of the licensing tab prior to licence configuration is shown below:
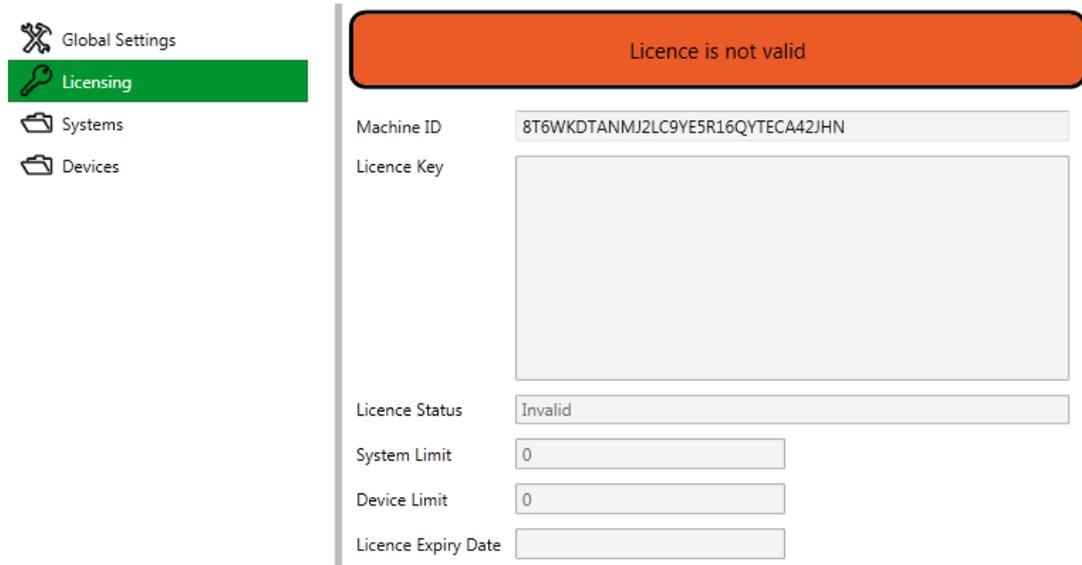
The Licensing page displays the Machine ID for your system.

NOTE: The Machine ID for ClearSCADA Mobile is different to the Machine ID for ClearSCADA.

A valid Licence Key needs to be entered before ClearSCADA Mobile Server will work. The easiest way to do this is to do the following:

1. Copy & Paste the contents of the *Machine ID* field into the body of an email message.

2. Send the email along with your name & company to your local ClearSCADA Licensing representative.

When you receive a Licence Key, you can update the license by right-clicking on the 'Licensing' tab and selecting 'Update License':
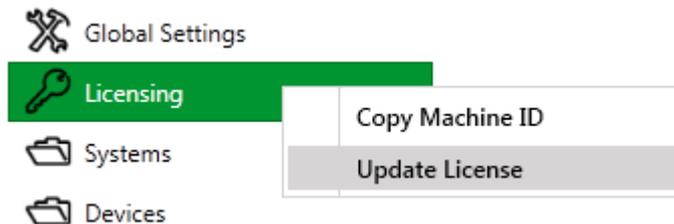
This will open the 'Update Licence' dialog.

Copy the licence key string into the 'Licence Key' field then clicking the 'Validate Licence' will update the Licence Status, System Limit, Device Limit and Licence Expiry Date fields with the details of your licence:

The *System Limit* field shows the maximum no. of ClearSCADA systems that ClearSCADA Mobile server is permitted to connect to.

The *Device Limit* field displays the maximum permitted number of mobile clients.

If the issued licence has an expiry date (in the case of temporary licenses) then the *Licence Expiry Date* is shown. The server will cease to operate past this point in time.

Global Properties

The global settings are accessed by clicking on the 'Global Settings' tab. An example configuration from a typical installation is shown below:

To modify settings on this page, right-click on the 'Global Settings' tab and select 'Update Settings':
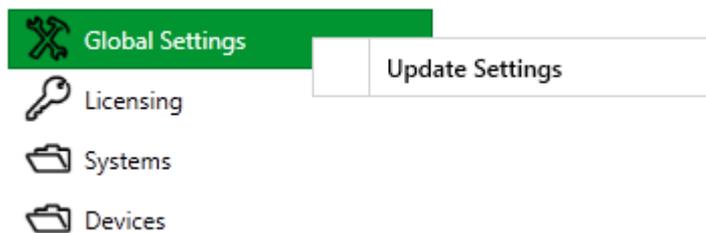
This will open the 'Update Settings' dialog from which settings can be modified:
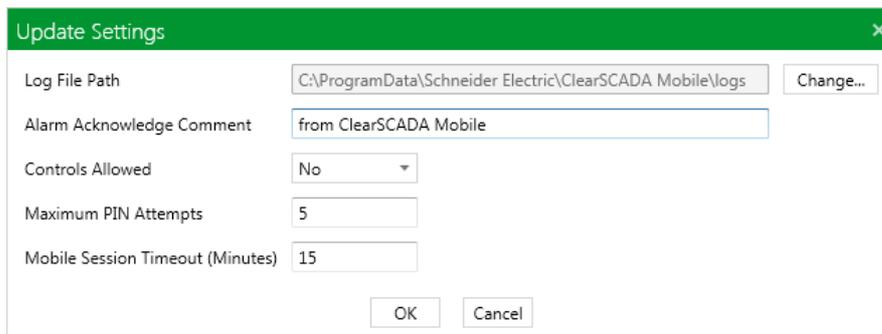
Log File Path

The *Log File Path* is the location of where ClearSCADA Mobile will write its logs files. The "Change" button allows browsing to select a different folder. The server will create a log file named "WebServer. log". When this file reaches 1MB in size, it will be automatically renamed and copied to an "archive" folder name. A new log file will then be created.

The ClearSCADA Mobile server may also create a second log file named "DeviceExceptions.log". This log file will be created/updated if the application running on the mobile device detects that an error has occurred and reports it to the ClearSCADA Mobile server. This file may be requested by a customer support representative.

Alarm Acknowledge Comment

The *Alarm Acknowledge Comment* is a string that will be appended to any Alarm comment that is acknowledged from a mobile device. Setting this string to empty will result in no string being appended to the Alarm acknowledgement comment.

Controls Allowed

The *Controls Allowed* setting gives operators with mobile devices the ability to control specific points in the ClearSCADA database.

⚠ **WARNING**

UNINTENDED EQUIPMENT OPERATION

Use the control functionality with care. Before using this functionality, we strongly recommend that you perform a risk analysis to help to ensure that performing such controls will not pose a danger to people or equipment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

A number of conditions must be met in order for the mobile operator to invoke a control in the ClearSCADA database:

1. The Controls Allowed setting must be set to true, and

2. The operator of the mobile device must have sufficient security permissions in the ClearSCADA database to perform controls on the selected point/variable, and

3. The selected point/variable must contain a Boolean metadata field called "*MobileControlsAllowed*" and the value of that field must be true, and

4. The operator of the mobile device must enter their current password at the time of the control

Maximum PIN Attempts

The *Maximum PIN Attempts* setting configures the number of incorrect PIN attempts that are possible before the device is locked out. If a user enters the correct PIN, the user will then have another *Maximum PIN Attempts* before the device is locked out.

If a user is locked out due to too many PIN attempts, you can reset their PIN from this utility. See Managing Devices and Users for more information.

Mobile Session Timeout

The *Mobile Session Timeout* setting specifies the period of inactivity, in minutes, before a user must enter their PIN number on their mobile device again. The mobile device retrieves this setting only when adding a new system to their mobile device or when system settings are updated from the mobile device.

Managing Systems

The systems tab displays a list of systems which may communicate with ClearSCADA Mobile Server.

System	Disable Alarms	
Alpha	Not Allowed (Always Enabled)	
Beta	Not Allowed (Always Enabled)	

Adding a New System

The *Add System* option will be available as long as you have not reached your licensed system count.

To add a system, right-click on the 'Systems' tab and select 'Add System' as shown below:
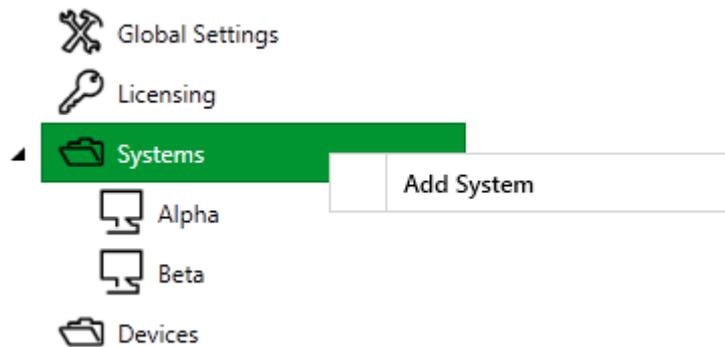
The following dialog will be shown:

Each configuration option is described below:

System Name

You should enter the *System Name* which must be unique to this installation. Ideally this would be the same of the ClearSCADA system.

The *System Name* must be identical (case-sensitive) to the name configured in the Remote Companion. See section *Companion Configuration*.

The name is restricted to the following characters:

- Alphanumeric (a-z, A-Z, 0-9)

- Space, hyphen (-) and underscore (_)

Disable Alarms

The Option, Duration and Maximum Duration settings control how the ClearSCADA server's Disable Alarms feature works. The settings for these fields should be copied from the *Server Configuration* application on the target ClearSCADA server. The settings appear under the "System Configuration/ Alarms" folder (as shown below).
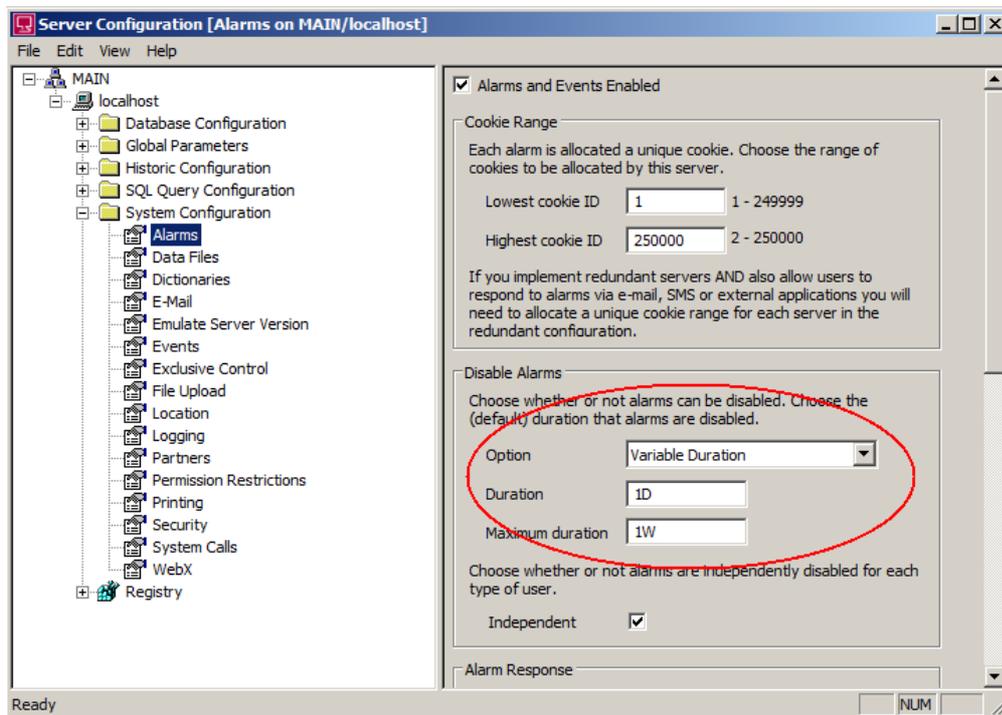
Update/Modify a System

System properties may be inspected by selecting the system from list of available systems under the 'Systems' tab.
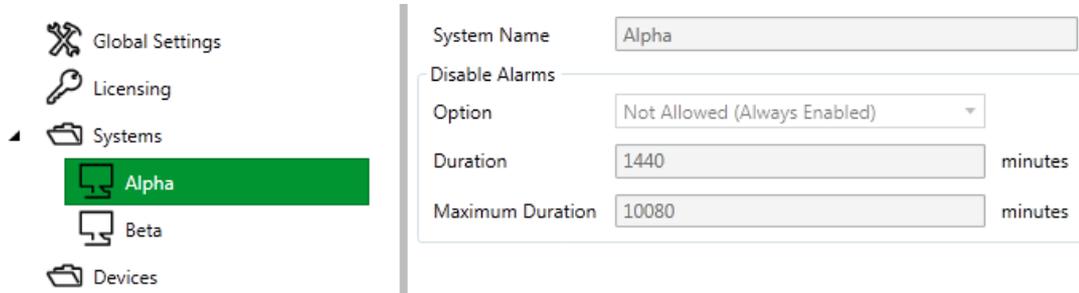
To update a system, right-click its entry under the 'Systems' tab and select 'Update System':
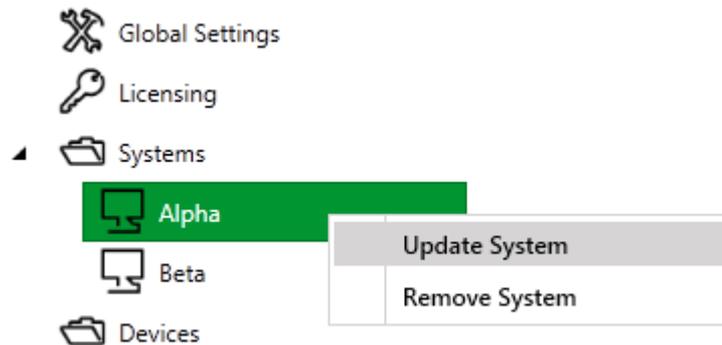
A similar dialog to that presented in the previous section on adding systems is shown.

Removing a System

Removal of a system should only be performed if you are absolutely sure you want to remove the system from ClearSCADA Mobile. Operators with mobile devices will no longer be able to access the system once you remove it (unless you add it again later).

NOTE: *Removing a system from ClearSCADA Mobile will not make any changes to the ClearSCADA system.*

To remove a specific system, right-click its entry under the 'Systems' tab and select 'Remove System'.

You will be prompted to confirm deletion when you select the *Remove System* option.

Managing Devices and Users

The devices tab contains a list of devices which have access to the ClearSCADA Mobile Server.
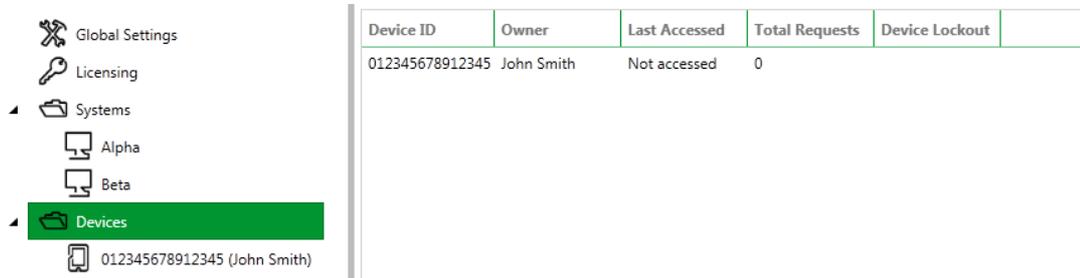
Allowing a New Device

Before a mobile device can use ClearSCADA Mobile it must be added to the configured devices list.

The *Allow New Device* action is not available if you have reached your licensed device count.

To allow a new device, right-click the 'Devices' tab and select 'Allow New Device':
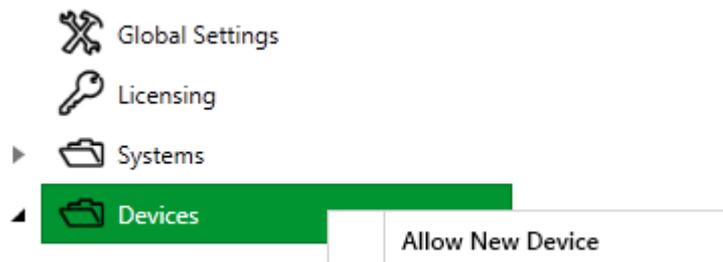
The following dialog will be shown:
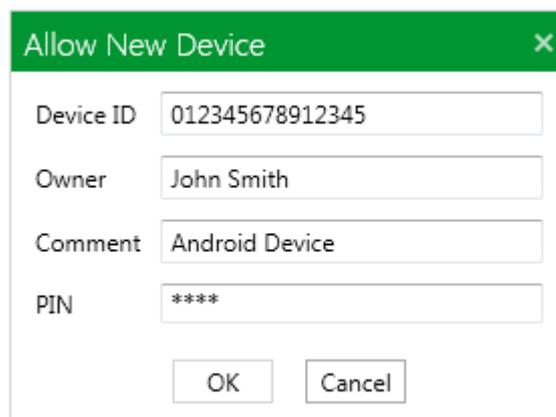
The *Device ID* is shown on the **mobile device** when adding a new system.

The *Owner* and *Comment* fields are convenient fields for storing information about the device and its user. It may be useful to store the make/model of the phone in the *Comment* field.

The *PIN* field controls the code which must be entered by the user to access the device.

> **NOTE:** *The user of the mobile device will be prompted to change their PIN number then next time they launch the ClearSCADA Mobile client application on their mobile device.*

Device Options

To view the options for a device, right-click its entry under the 'Devices' tab:
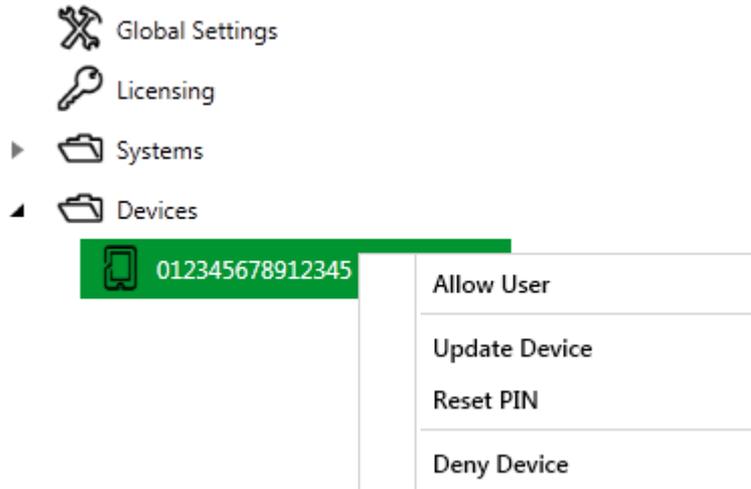
Allow User

Selecting this option adds a new user for the device. See the section on allowing new users below.

Update Device

This option allows you to modify the properties of an existing device. A similar dialog to that presented in the previous section on adding devices is shown.

Reset PIN

Select this option to change the PIN issued for a device.

> **NOTE:** *The user of the mobile device will be prompted to change their PIN number then next time they launch the ClearSCADA Mobile client application on their mobile device.*

Deny Device

This option removes the device from the set of allowed devices.

Denying a device should only be performed if you are absolutely sure you want to deny the device. Operators using the mobile device with that ID will no longer be able to access the system once you remove it (unless you add it again later).

You will be prompted to confirm deletion when you select the *Deny Device* action.

Allowing a New User

Users are allowed access to a systems on per-device basis. To allow a new user on a device, you must first right-click the device under the 'Devices' tab and select the 'Allow User' option as described in the section on 'Device Options'.
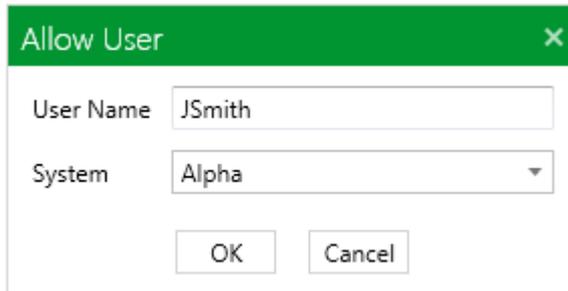
Enter the ClearSCADA username of the user for a selected ClearSCADA system.

Update/Modify a User

Once uses have been allowed on a device they will appear under the Device in the menu.

Selecting a user from the tree will show the user details:
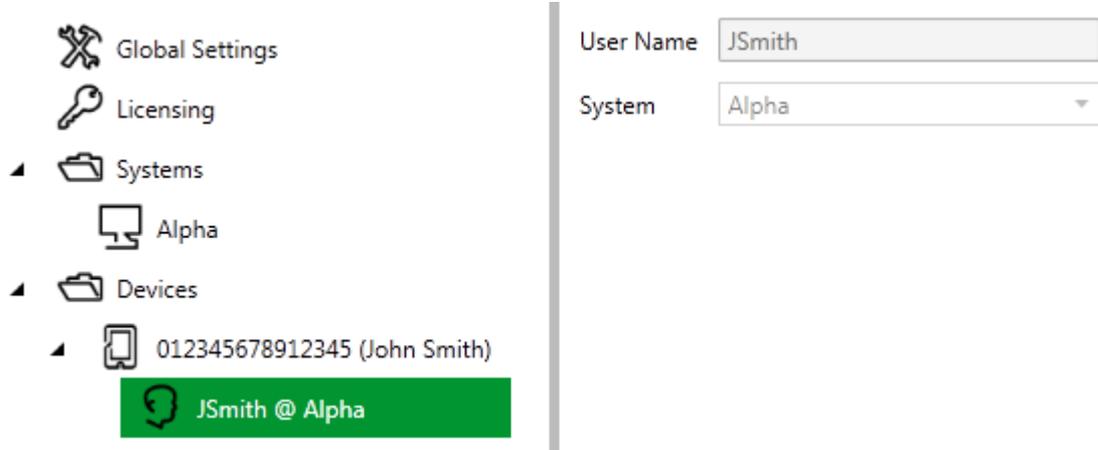
To update a user, right-click its entry under the Device tab and select 'Update User':
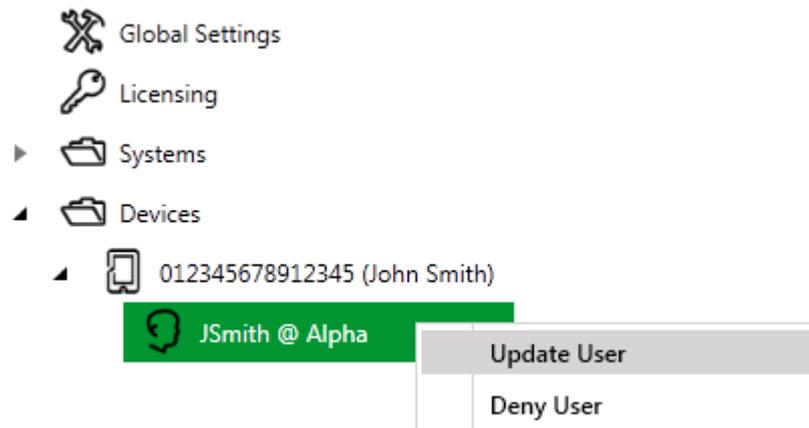
A similar dialog to that shown when adding a user will be displayed.

Denying a User

Denying a user should only be performed if you are absolutely sure you want to remove the user. The user/operator will no longer be able to access the system once you remove them (unless you add them again later).

To deny a user, right-click its entry under the Device tab and select 'Deny User'.

You will be prompted to confirm deletion when you select the *Deny User* option.

Diagnostics

The default directory for log files is:

C:\ProgramData\Schneider Electric\ClearSCADA Mobile\Logs

This path may be modified by changing Global Properties within the ClearSCADA Mobile Server Configurator.

NOTE: *The "C:\ProgramData" folder may be hidden in Windows Explorer. You can still access the folder by typing "C:\ProgramData" into the address bar.*

The ClearSCADA Mobile Server can generate the following files:

- WebServer.log

- MobileServer.log

- DeviceExceptions.log

NOTE: *If you have installed ClearSCADA Mobile Remote Companion on the same machine then you may also see a file called "RemoteCompanion.log". This is described in section Remote Companion Diagnostics.*

WebServer.log

The WebServer.log file contains information about the requests received from mobile devices. Any unauthorized attempt to access the ClearSCADA Mobile Web Service will be logged here.

MobileServer.log

The MobileServer.log file contains diagnostic information relating to the connection between the ClearSCADA Mobile Server and any ClearSCADA Mobile Remote Companions. It can be useful in diagnosing connection issues.

DeviceExceptions.log

This log file will be created/updated if the application running on the mobile device detects that an error has occurred and reports it to the ClearSCADA Mobile server. This file may be requested by a customer support representative.

NOTE: *Log files are numbered in ascending numerical order but the most recent log file will have the name specified above (i.e. not numbered).*

ClearSCADA Mobile Companions

The ClearSCADA Mobile Companion service provides access to one or more ClearSCADA databases on a ClearSCADA Server to the central ClearSCADA Mobile Server.

Follow these steps to enable ClearSCADA Mobile Companion functionality on each ClearSCADA database:

1. Configure ClearSCADA Mobile functionality within the Server Configuration Tool

2. Configure the required ClearSCADA Metadata Fields

ClearSCADA Server Configuration

The ClearSCADA Mobile Companion service configuration is managed through the ClearSCADA Server Configuration Tool.

You may refer to the ClearSCADA help guide for details on accessing the tool and general usage.

Configuration of a ClearSCADA Mobile Companion

ClearSCADA Mobile settings are located under "System Configuration" in the "Mobile" section.
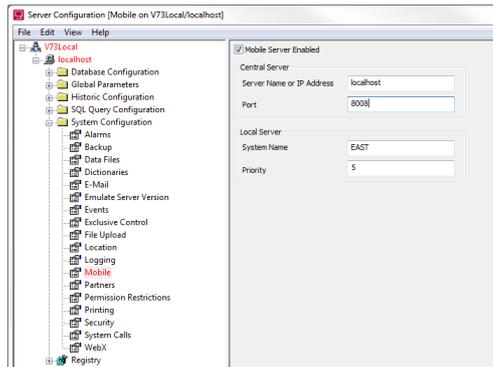
The following settings are available in the "Mobile" section:

Mobile Server Enabled
This setting controls whether ClearSCADA Mobile functionality will be enabled for this system. Ticking the box enables the system for communication with the ClearSCADA Mobile Server.

Server Name or IP Address
This field is used to specify the IP address or host-name of the ClearSCADA Mobile Server to which this Companion should connect.

Port
The port on which to connect. This setting should match the 'Listen Port' specified on the ClearSCADA Mobile Server.

NOTE: *If you are using a firewall, you will need to reconfigure it so that the ClearSCADA Mobile Companion can initiate an outbound connection to the ClearSCADA Mobile Server on the configured port.*

System Name
The system to which the server belongs. This must be identical (case-sensitive) to the name of the system configured on the ClearSCADA Mobile Server.

Priority
The priority of this server relative to other servers in the system. Servers are accessed in ascending priority order.

I.e. A server with priority '1' will be preferred to a server of priority '2'.

NOTE: *After making changes to the ClearSCADA Mobile Companion configuration you need to restart the corresponding Windows Service for changes to take effect.*

The name of the Windows service used by the ClearSCADA Mobile Companion is "ClearSCADA Mobile Companion".

ClearSCADA Metadata

ClearSCADA Mobile makes use of ClearSCADA metadata fields which need to be configured before dependant features can work.

This topic details the fields which may be configured.

> **NOTE:** *You may need to adjust the Row and Column settings of each field to suit your database. Consult the ClearSCADA manual for details on configuring metadata fields.*

Mobile Controls Allowed Field

ClearSCADA Mobile allows for the control of database objects from a Mobile Device provided a number of security criteria are met. One such criterion is that controls be explicitly allowed on an object through the setting of a specific boolean metadata field.

⚠ **WARNING**

UNINTENDED EQUIPMENT OPERATION

Use the control functionality with care. Before using this functionality, we strongly recommend that you perform a risk analysis to ensure that performing such controls will not pose a danger to people or equipment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

> **NOTE:** *If you do not wish to allow controls from a mobile device then you can skip this step.*

The name of the field must be ***MobileControlsAllowed*** and the details are shown below.

Example configuration of the Mobile Controls Allowed Data Field

You should also configure a corresponding label for the field:

Example configuration of the Mobile Controls Allowed Label

Diagnostics

ClearSCADA Mobile Companion service diagnostics are saved to the 'MobileCompanion.log' file in the ClearSCADA server 'Logs' directory.

For a typical installation this results in logs at the following path:

C:\ProgramData\Schneider Electric\ClearSCADA\Logs\MobileCompanion.log

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NOTE: *The "C:\ProgramData" folder may be hidden in Windows Explorer. You can still access the folder by typing "C:\ProgramData" into the address bar.*

MobileCompanion.log

The Mobile.log file contains information about communications to the ClearSCADA Mobile Server and to the local ClearSCADA system. This can be useful in diagnosing communication issues.

NOTE: *Log files are numbered in ascending numerical order but the most recent log file will have the name "MobileCompanion.log".*

Using Mobile Displays

ClearSCADA Mobile allows for a collection of process values to be collected from a ClearSCADA system and presented in a user friendly and configurable format through the use of Mobile Displays.

Displays are analogous in function to ClearSCADA Mimics with the distinction that they target presentation on a Mobile device.

Displays can be linked in a similar manner to *Alarm Views* or *Help Views* within ClearSCADA in that they can be set at the group level (to provide a "base" Display) and overridden on a per-object basis to provide a specific Display for each object when required.

The following topics cover details relevant to the usage of Mobile Displays on a ClearSCADA system:

- Configuring a Mobile Display

- Configuring a Help View

Configuring a Mobile Display

To create a new Mobile Display object, right-click the target location in the ViewX database explorer, then select: New » Other » Mobile Display.
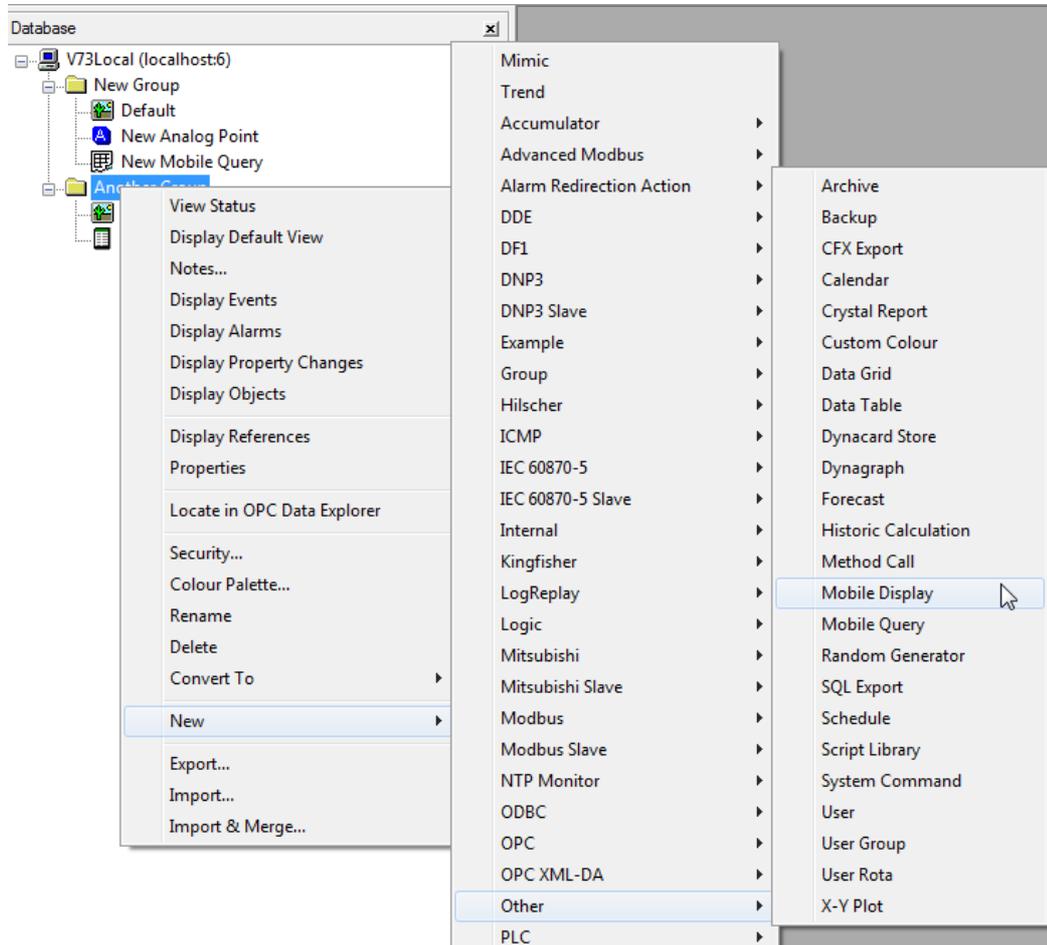
Example: Creating a new Mobile Display object

The Mobile Display object can be configured by opening its Properties and navigating to the 'Display' tab.
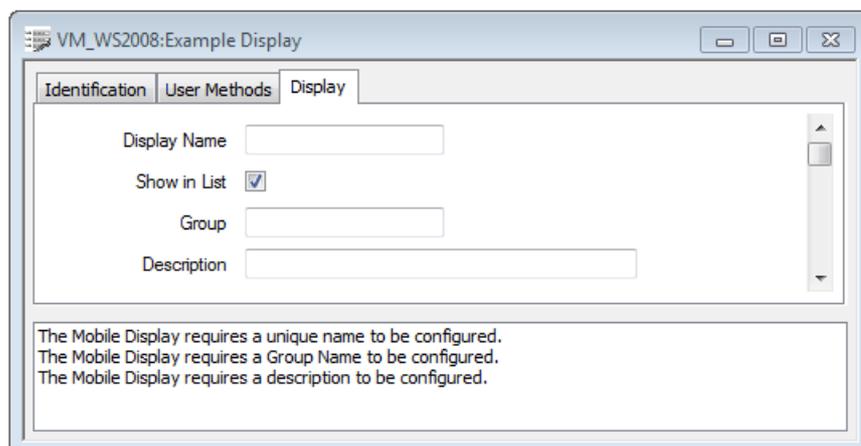
Example: Initial (blank) configuration of a Mobile Display object

The image above shows the 'Display' property tab of a newly created object. The following fields need to be configured to use the display:

Display Name   This is the name used to uniquely identify this Mobile Display in the system.

Show in List   This checkbox determines whether the Mobile Display should appear within the Displays list on a Mobile device. This box should remain ticked for general purpose mimics. Listing may be disabled on Help Views or displays navigated to from other displays as they are only relevant in a specific context.

Group   The group within which this Mobile Display should appear. Groups provide a way to list collections of displays in a logical manner.

Description   A description for the Mobile Display. This is shown immediately below the display name on the mobile device.

Once the core configuration has been specified for the display you may add up to 10 different items to the Display. The example below shows the configuration of two items, one to display the current value of a digital point and the other to provide a link to its event list:

Example items configured to display an OPC Tag value and Event List

Each item has the following properties. The properties that need to be configured are based on the selected Item Type:

Item Type   The type of item to be displayed. This may be one of the following:

OPC Tag: Displays the value of the OPC Tag specified in the item's 'OPC Tag Reference' field.

Navigate to Event List: Navigates to the event list of the object specified in 'Object Reference' field.

Navigate to Alarm List: Navigates to the alarm list of the object specified in the 'Object Reference' field.

Navigate to Historic Trend: Navigates to the historic trend of the object specified in the 'Object Reference' field.

Navigate to Point Control: Navigates to the point control dialog for the object specified in the 'Object Reference' field.

> *NOTE: The object must have Controls enabled for this item to appear on the Display.*

Navigate to Status View: Navigates to the status view for the object specified in the 'Object Reference' field.

Navigate to Group in Database: Navigates to the group specified in the 'Object Reference' field.

Navigate to Mobile Display: Navigates to the display specified in the 'Object Reference' field.

Selecting an object type of '*None*' will result in the item being omitted from display.

Item Label   A label to be shown for the item on the Mobile display.

Object Reference   The full path to the object being referenced for a given item type.

OPC Tag Reference   The full path of the OPC Tag.

You may specify this value through either manual entry in the text field or by clicking the '...' button and navigating to the Tag with the OPC explorer.

This field value is relevant only for the "OPC Tag" item type will be ignored (and disabled) for other item types.

Once configuration is complete you should save the changes made to the modified Mobile Display object. The Mobile Display should now be available from your mobile device if you have sufficient privileges on this object.

See the User Manual of your Mobile application for details on the usage of Mobile Displays from the client-side.

Configuring a Help View

First create the Help View Display object, for details on this process see: Configuring a Mobile Display.

Once the Display has been configured, open the properties of the object to which you wish to associate a Help View and navigate to its '*Identification*' tab.

Clicking the '...' button on the '*Mobile Help View*' field brings up a dialog which lets you select an appropriate display from available ClearSCADA Mobile Displays on the server.
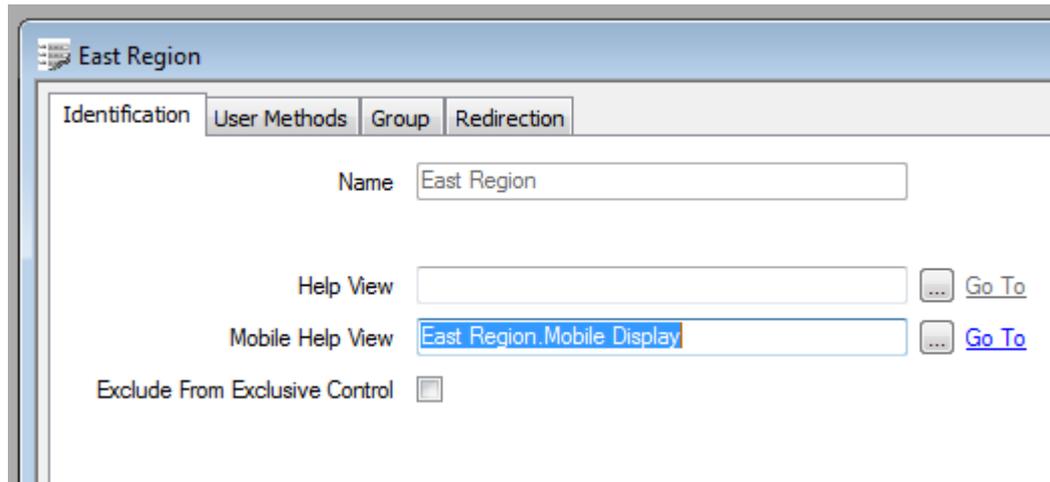
Example: Selecting a Help View Display object

Once selected, save property changes and the display will be associated as the Help View for the object on Mobile devices.

See the User Manual of your Mobile application for details relevant to the usage of Mobile Help View Displays on your device.

Using Mobile Queries

Mobile Queries provide the ability for users to retrieve tabular data for easy analysis and comparison. Typical uses of Mobile Queries are:

- Overall system Key Performance Indicators (KPIs) for management

- Production summaries

- System water flows

- Reservoir levels

See Configuring a Mobile Query for information on how to configure a Mobile Query object.

Configuring a Mobile Query

To create a new Mobile Query object, right-click the target location in the ViewX database explorer, then select: New » Other » Mobile Query.
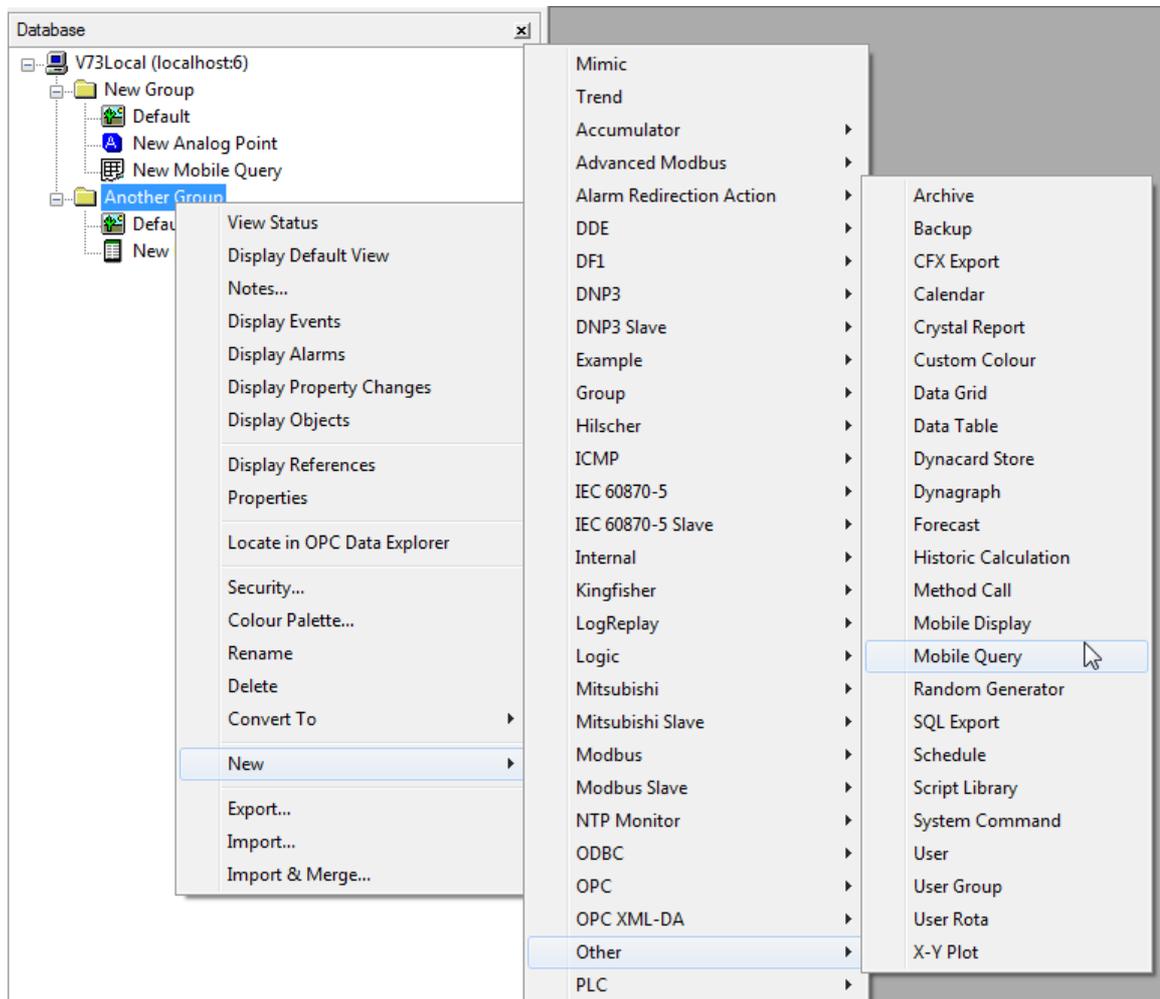
Example: Creating a new Mobile Query object

The Mobile Query object can be configured by opening its Properties and navigating to the 'Query' tab.
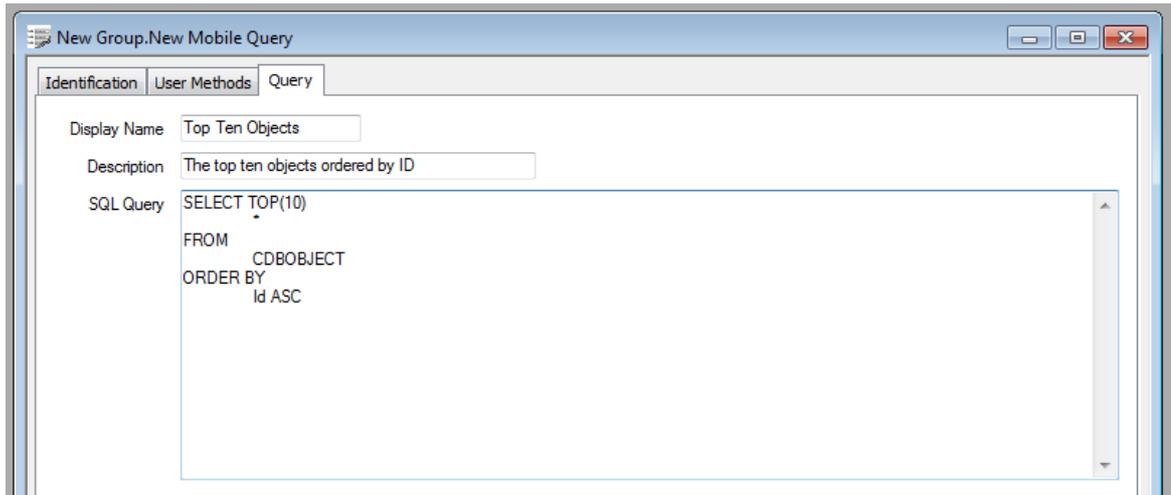
Example: Basic configuration of a Mobile Query object

The image above shows the 'Query' property tab of an object with a simple query configured. The following fields need to be configured to use the display:

Display Name   This is the name used to uniquely identify this Mobile Query in the system.

Description   A description for the Mobile Query. This is shown immediately below the display name on the mobile device.

SQL Query   The SQL query that will be performed when this Mobile Query is requested by the mobile device.

NOTE: You do not need to add a semicolon to the end of the SQL Query field.

NOTE: Queries will be truncated at 500 rows so it is advisable to use the "TOP" and "ORDER BY" syntax to restrict the number of rows returned.

Once configuration is complete you should save the changes made to the modified Mobile Query object. The Mobile Query should now be available from your mobile device if you have sufficient privileges on this object.

See the User Manual of your Mobile application for details on the usage of Mobile Queries from the client-side.