



COPADATA
do it your way

zenon manual

Everywhere Server by zenon

v.7.11





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1. Welcome to COPA-DATA help

GENERAL HELP

If you cannot find any information you require in this help chapter or can think of anything that you would like added, please send an email to documentation@copadata.com (<mailto:documentation@copadata.com>).

PROJECT SUPPORT

You can receive support for any real project you may have from our Support Team, who you can contact via email at support@copadata.com (<mailto:support@copadata.com>).

LICENSES AND MODULES

If you find that you need other modules or licenses, our staff will be happy to help you. Email sales@copadata.com (<mailto:sales@copadata.com>).

2. Everywhere Server by zenon

The **Everywhere Server** by zenon is for visualization of real-time data of a zenon project configuration on smartphones.

Available are:

- ▶ Real-time display of values of a zenon project
- ▶ Authentication with the zenon user interface

- ▶ Selection of the equipment model of the active project
- ▶ Individual variables can be activated
- ▶ Display of values in lists ...
 - a) ... with graphic progress bars
 - b) ... with dynamic pointer instruments
 - c) ... Alarm message with occurrence time

License information

*The **Everywhere Server by zenon** must be licensed.*

As a client, mobile apps for the iPhone and Windows Mobile are used. These apps are available for free in the respective app stores.

3. Licensing

EVERYWHERE SERVER BY ZENON

The **everywhere server** gets the license from the Runtime license and does not need its own license. The Everywhere Server can not be used, if the Runtime does not have a corresponding license.

For this reason, it may happen that the Runtime is running, but the Everywhere Server can not be started because of missing license rights. Please use in this case the license tool in order to receive a corresponding license.

4. Technical requirements

To use the server for the use of the Everywhere app, the following requirements must be met:

- ▶ On the computer on which the **Everywhere Server by zenon** is running, zenon Runtime must also be running

- ▶ This computer/server must be reachable on the internet. It must therefore have a public IP address
Caution: 192.168.nn.nn is not a public address!
- ▶ The corresponding port must be enabled accordingly:
 - HTTPS port: 8050

5. Installation server

The **Everywhere Server** by zenon is automatically installed with each installation of zenon. It runs in the context of zenon Runtime. There is thus no separate program that needs to be started.

The following programs are available for the configuration of the **Everywhere Server** :

- ▶ `Everywhere.Config.exe` (on page 7) :
Configuration dialog of the **Everywhere Server** by zenon
- ▶ `Everywhere.CertificateCreator.exe` (on page 9) :
Is used for the creation of certificates for communication via HTTPS

6. Server startup

The server starts at the same time as COPA-DATA Runtime. The requirement for this is that the checkbox `Enable Everywhere Server` has been activated via the `Everywhere.Config.exe` program. It is only started when Runtime is started if this checkbox is active.

Attention

If Runtime is closed, **Everywhere Server** is also stopped!

DISPLAY IN THE TASK BAR

If the server is running, an icon is shown in the task bar.



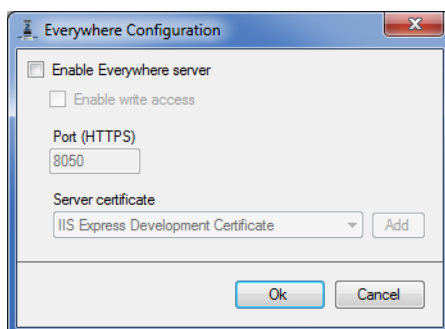
6.1 Server configuration

The **Everywhere Server** is configured using the program `Everywhere.Config.exe`. You can find this program in the folder `C:\Program Files (x86)\Common Files\COPA-DATA\STARTUP`.

Information

The program `Everywhere.Config.exe` is only available in English.

The configuration dialog starts by double-clicking on the program:



Parameters	Description
Enable Everywhere Server	<p>If the checkbox is active, Everywhere Server starts when zenon Runtime is started.</p> <p>Default: <code>inactive</code></p> <p>Note: If this checkbox is not active, all other settings are also inactive and grayed out.</p>
Enable Everywhere write access	<p>Activates writing of variable values in the Alarm Message List.</p> <p>0 : read access only</p> <p>1 : Writing to variables and acknowledgment of alarms possible</p> <p>Default: 0</p>
HTTPS port:	<p>HTTPS port that is used by the Everywhere Server .</p> <p>Default: 8050</p>
Server certificate	<p>Server certificate for HTTPS communication. This can be selected in the drop-down list.</p> <p>This drop-down list contains all available certificates.</p> <p>Note: The certificate must contain a private key. Certificates can be created with the <code>Everywhere.CertificateCreator.exe</code> tool.</p>
Add	<p>The <code>Everywhere.CertificateCreator.exe</code> (on page 9) program is opened by clicking on the button. This program is used for the creation of separate server certificates.</p>
OK	<p>Applies settings and closes the dialog.</p>
Cancel	<p>Discards all changes and closes the dialog.</p>

Note: These configurations are also saved in `zenon6.ini`.

You can find further information about these `.ini` entries in the file structure manual in the Configuration of zenon Everywhere Server via `zenon6.ini` chapter



Attention

The configuration is also applicable for all zenon installations on one computer.

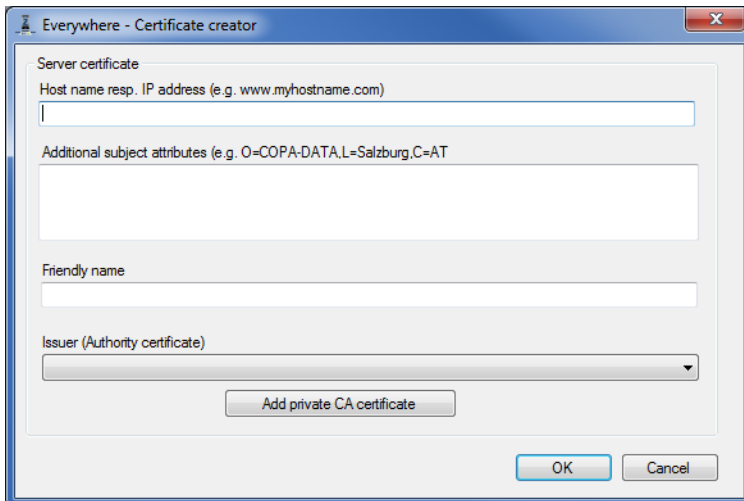
7. Saved communication

Secure data transfer and the identity of the server is maintained with the use of TLS (HTTPS).

7.1 Everywhere - Certificate creator

The **Everywhere - Certificate creator** is used to create new server certificates. You can find this program in the folder `C:\Program Files (x86)\Common Files\COPA-DATA\STARTUP.`

To start the program, double-click on `Everywhere.CertificateCreator.exe`. The configuration dialog opens:



Everywhere - Certificate creator

Server certificate

Host name resp. IP address (e.g. www.myhostname.com)

Additional subject attributes (e.g. O=COPA-DATA,L=Salzburg,C=AT)

Friendly name

Issuer (Authority certificate)

Add private CA certificate

OK Cancel

Parameters	Description
Server certificate	
Host name resp. IP address (e.g. O=COPA-DATA, L=Salzburg, C=AT)	Name or IP address via which the Everywhere Server is accessed by the clients. This is either the IP address or the name of the computer on which the service is running, or the address/name of the firewall/router that connects the computer to the internet
Friendly name	Name for the display (optional)
Issuer (Authority certificate)	Issuer certificate that is to be used to verify the server certificate. The certificates present are shown in the drop-down list.
Add private CA certificate	Opens dialog to configure the root certificate (on page 10).
OK	Applies settings and closes the dialog.
Cancel	Discards all changes and closes the dialog.



Attention

Administrator rights are required to execute this program.

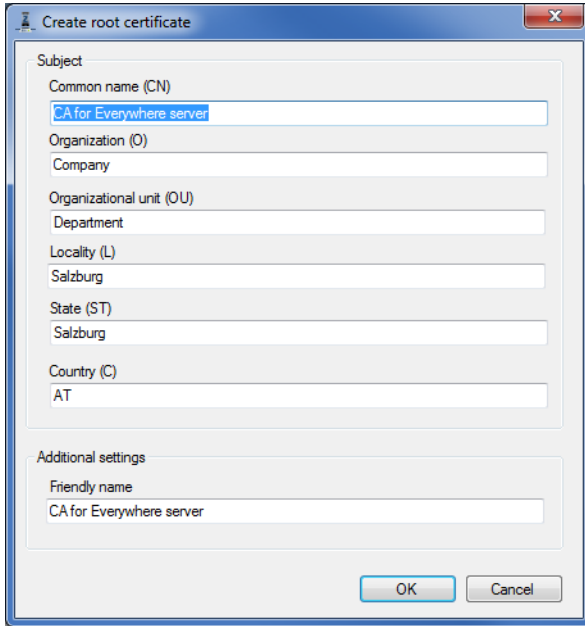
7.2 Create root certificate

A root certificate is used on the mobile device for secure communication between the server and mobile devices (iPhone, Windows-Phone). This ensures that the end device is also actually connected to the given server.

For the creation of a separate root certificate:

- Click, in the **Everywhere - Certificate creator** (on page 9), the **Add private CA certificate** button.

- ▶ The configuration dialog opens:



Parameters	Description
Subject	
Common name (CN)	General name Default: CA for Everywhere Server
Organization (O)	Company name Default: Company
Organizational unit (OU)	Name of the organizational unit (department name) Default: Department
Locality (L)	Locality name Default: Salzburg
State (ST)	State or district name Default: Salzburg
Country (C)	Country name Default: AT
Additional settings	Additional information Default: CA for Everywhere Server
Friendly name	Short name Default: CA for Everywhere Server
OK	Applies all changes and opens the save dialog.
Cancel	Discards all changes and closes the dialog.



Information

This root certificate can also be used by a third-party provider.

7.3 Certificate on the client

The certificate is checked on Windows Phone. If this certificate is not created by a root certificate of a generally-known authority, the certificate used must be installed on the smartphone.

 **Attention**

The iPhone does not check the certificate. Any desired certificate is accepted.

INSTALLATION OF A CERTIFICATE ON WINDOWS PHONES

Unverified certificates must be installed on Windows phones in order for them to be accepted.

Carry out the following steps for the installation:

- ▶ Put the exported certificate (.cer file) on a web server/FTP server and open it in the Windows Phone using the browser.
- ▶ Alternatively, it can also be sent as an email attachment and opened on the phone.

8. CEL entries

When logging into the Everywhere Server, a CEL entry is created if

- ▶ The login data sent was checked via Runtime.

This happens:

- On the first request of a session
- Every 5 minutes after that
- Always before a write request if more than a second has passed since the last check.

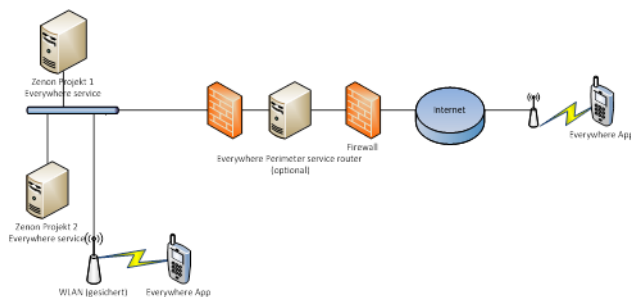
For variables that are not signed in, alarms and CEL entries are supported by an incremental transfer of value changes.

LOG ENTRIES

Parameters	Description
Level Error	<p>Errors that occurs during the execution of the Everywhere Server.</p> <p>However not an error that has something to do with the execution of client requests.</p>
Level Warning	<p>Errors that occur during the execution of the Everywhere server.</p> <p>However not an error that has something to do with the execution of client requests.</p>
Level Success	<p>Successfully-executed client requests that lead to a change of the internal status of the Everywhere Servers or zenon Runtime.</p>
Level Failed	<ul style="list-style-type: none"> ▶ Error in the execution of client requests ▶ Error in the checking of credentials
Level Msg	<p>Status of the Everywhere Server:</p> <ul style="list-style-type: none"> ▶ Start/Stop ▶ Successful creation of sessions ▶ Ending of sessions
Level Debug	<p>Incoming and outgoing requests with</p> <ul style="list-style-type: none"> ▶ SessionID, ▶ URI, ▶ Method and status
Level Deep debug	<p>Like level debug + message body</p>

9. Perimeter Service Router

As an option, a perimeter service router can be used for the Everywhere Server by zenon.



In doing so, the service port of the Everywhere services is either made publicly accessible or all connections from outside are processed via the router.

POSSIBILITIES FOR USE:

In addition to the security aspects, the router also allows connections to be routed via an address and a "well-known port" to different Runtime computers.