Kepware Server Access Through API Client

Software User Manual

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1. After Unzipping the Files

After safely unzipping the files into your computer, open the folder containing the software. This is the only folder that has all the files to keep our program running. Do not delete or modify any files you see.

2. How to Start The Program

Double click on the .exe file provided to you within the folder. Depending on if it is your first installation or not, you may see a password protection screen. If you see this, it means someone else used this on the computer before and has set a password. You may use the program without user credentials by simply clicking on "view as guest" button right below the password text field.

3. Password Settings

The program doesn't have the password protection activated by default. This means when you first install it, it will give you access without any limitations. If you would like to enable the password protection, look for the navigation bar on top of the window. Make sure you are on the welcome screen (the first screen that will come up when you enter the program). On the navbar, select "Settings" and then click on "Security Settings". A new window will pop-up. You will see a toggle button. It is a on/off button for you to either enable or disable the password protection. If you decide to enable the password protection for the first time, make sure to visit "Settings -> Change Application Password" to set up a new password. Your default username and password will be both "admin". Remember to write down your new username and password as there is no way of restoring them without calling our support team.

4. Guest Mode vs. User Mode

Our program has two different user modes. This only gets activated once you enable the password protection. When the program is password protected, people who don't know the user credentials can still have limited access to the software simply by clicking on the "View as guest" button on the

password screen. Remember that guest mode has no access to changing values of any kind in KepServerEX besides having no access to our app settings.

The user mode is when you enter via your username and password. This mode is the same as having no password protection enabled. This means the user has full access to our software with everything enabled.

5. Welcome Screen

The welcome screen is the home screen that will pop-up when you enter a correct username and password (or the first window if password is not enabled). This screen is where you can navigate to other parts of the software by using the navbar or buttons on the screen. This screen will be different depending on the mode you sign-in with. Your navbar will have "Pages","Settings","Manual","About".

The "Manual" and "About" pages are self-explanatory. Pages on the other hand has two different sections. These are the ones you will use the most. First one is called "Kepware Server API Access" and the second one is called "IoT Gateway REST API Access". The first one is for an easy access to KepServerEX's configuration settings. The second page is where you connect to the IoT Gateway tags to read and write values into your IoT Gateway tags.

6. REST API Client

Before using this page of our software, make sure your IoT Gateway's REST Server is running and enabled for a connection from a third-party. REST API Client or as it is written in the navbar, "IoT Gateway REST API Access" is the section of our program where you connect to an IP address that ends with "/iotgateway/". An example URL is the placeholder in the corresponding text field when you access the REST client. Make sure to put the last "/" and see the example URL format before entering yours. After clicking on the "Connect to this IP" button, our software will try to access to the given IP and Port via making an Http Request. The status of the request will be printed out to you in the textbox below the connect button. If the connection is successfully established, the grayed-out areas of the window will become available to you. This means now you can enter your tag name and read it's values simply by clicking a single button. If you are going to be clicking on read a lot to see every update on the value of your tag, you can automate it by the window's navbar, selecting "Options" and then "Auto-Read". You can turn this off by click on the same button in the future.

If you would like to get a complete list of tags in your KepServer's IoT Gateway, simply go to "Options -> Show List of Tags" and a drop-down containing all your tags will appear on your screen. You can select

and read values this way too. A textbox containing your tag names will also be visible at the bottom of the window.

You may have realized by now that there is still a grayed-out area on the window. That area is the writing area which allows you to change the tag values with just the click of a button. In order to enable this ability, visit, "Options-> Enable Writing". If you want an extra measure of security, you can turn-on "Enable confirmation prompts" from the options menu.

For this section, you can either select your tag from the previous drop-down that appeared ,

or by entering the tag name yourself, or copy-pasting from the list of tags on the bottom of your screen.

You can simply enter the new value for the tag and click "Write". Result of the request will be printed out to you on the status box related to your operation area. To see if it has changed the value of your IoT Gateway tag, besides going into KepServerEX and checking manually, you can click on "Read" again and see if it has changed. Sometimes it takes longer than usual to complete the write operation.

7. Configuration API Client

Before using this page of our software, make sure your KepServerEX accepts requests from third-party software to it's Configuration API Server. This page of our software is dedicated to letting you modify your KepServer project fundementals faster. You first need to enter the IP and Port of your configuration server by entering into the right text fields. An example IP is set as the placeholder in the corresponding text field when you access the configuration API client. Make sure to fit that format. Same applies for your username and password. If your configuration server doesn't have a password, you should leave the password field blank. When you click "Connect", the connection status will appear in the related status box. Depending on your connection status, the grayed-out areas will start to become visible. **When you select a channel, make sure to select it twice, as it may not add your devices into the next drop-down correctly.**

After selecting your channel, select your device inside that channel. Related information for your selections will automatically appear in their related fields located within the window. After selecting a tag from the related drop-down, some features will become available. These are features regarding your tags. You can see them by visiting "Tag Options" on the navbar. Be careful using these, as they will **permanently change** your KepServer project. As in the REST client, we also have the option to enable approval popups. This can be found under the "Tag Options" too. Once turned on, it will ask your approval in each modification. If you select "Create Tag" or "Change Tag Details", these have their own internal frames that will become visible once you select them. All the tag operations are for the current tag that you have selected in the drop-down. Simply enter your desired changes and click on action buttons below them. The status of your change requests will be visible inside a bigger status box within the window as you take actions. Remember that the logs section will disappear when you activate any of the tag operations. To take it to a separate window, click on "Extend" button before making the logs section hidden. This will let you view the logs on a separate window. You can save your logs for the current session into a text file by clicking on the related button. This will create and put all your session

logs into a text file titled with your computer's current timestamp. **Remember that these logs are not KepServer's logs** and logs of our software.

On the navbar, your have the "Main Options" section. Inside, you will have several custom selections. If you turn on the safe mode, new tag modifications will be disabled for the session. If you click on "Hide Console Log Messages", the log section will disappear. If you click on "Reconnect to API", it will refresh the window, cutting off your connection, for you to start a new connection. The "Always Reconnect After a Tag Modify Action" makes sure the current connection ends and a new window will appear for you to make a new connection or make new changed. **Reconnect does not mean reconnecting to the previous IP/PORT and means a "refresh" action or "reset" action for the configuration API client section of our software.**

8. Adding Multiple Credentials and Saving Them

Creating a collection of credentials is possible for repeated use. On the welcome screen, go to the "Settings" located inside your navbar. Select "Save Multiple KepServer Configs", and a new window will pop-up. This window stores your information in an excel file. You can either change them from the excel file or via our pop-up window. Remember to import your excel data into the session by heading to the navbar of the pop-up and select "import" from the menu. This will import your credentials into the current session of our program and will automatically place them into the drop-downs placed in both REST API Client of ours and the configuration API. This means you will find your username and password waiting for you in a drop-down when you decide to do a task in the configuration client. This applies to the REST client as well. Our software automatically differentiates which credential in the excel file is for which section automatically. We do this by checking the username and password columns in your table. If our program finds these field non-empty, it will automatically assume that it is for the configuration API and put it in it's drop-down when your run the section. The same applies for our REST client which assumes it is a URL for a connection to IoT Gateway's REST Server by checking the username box, as the REST Server of KepServer doesn't have a username password option available. When you are modifying the Excel file (.csv) both outside our program and inside our editor, **make sure to manually open the Excel file in the installation folder and click on "Save" before clicking on "import" in our pop-up.**