



IOT Vega TimeCorrector

Manual



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IOT Vega TimeCorrector Description

IOT Vega TimeCorrector is a tool for automatically adjusting time on the end devices connected to IOT Vega Server. IOT Vega TimeCorrector is in touch with IOT Vega Server via WebSocket API.

End devices send a packet once a week asking for time adjustments. Receiving this packet, the program compares the time of the end device with its own and sends time adjustment packet to the device in case of significant deviations.

Features

- Supporting any LoRaWAN end devices with version is 1.0.3 and above which operating through Vega protocol
- Supporting the class A and C end devices
- Automatic time correction on the end devices
- Connection with **IOT Vega Server** through WebSocket API
- Open initial code

Installing

For IoT Vega TimeCorrector operation the free software is needed: **Node.js** and **Git**.

Links to download and install those applications:

<https://git-scm.com/>

<https://nodejs.org/ru/>

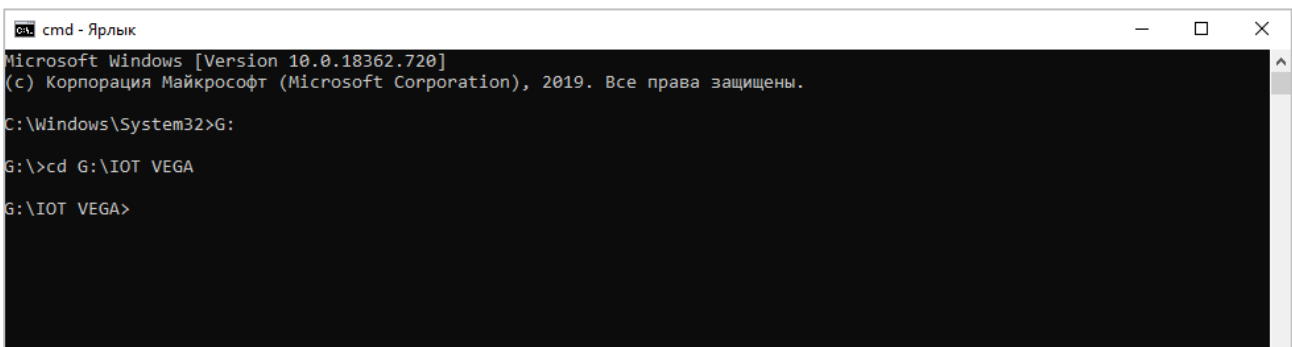
After successful installing Node.js and Git you must doing the next steps:

1. Open command line from administrator name and go to the directory where TimeCorrector will be placed.

Command

```
cd C:\...
```

If the directory is located on the other disk you must previously switch to it by the command **G:** (or other disk letter)

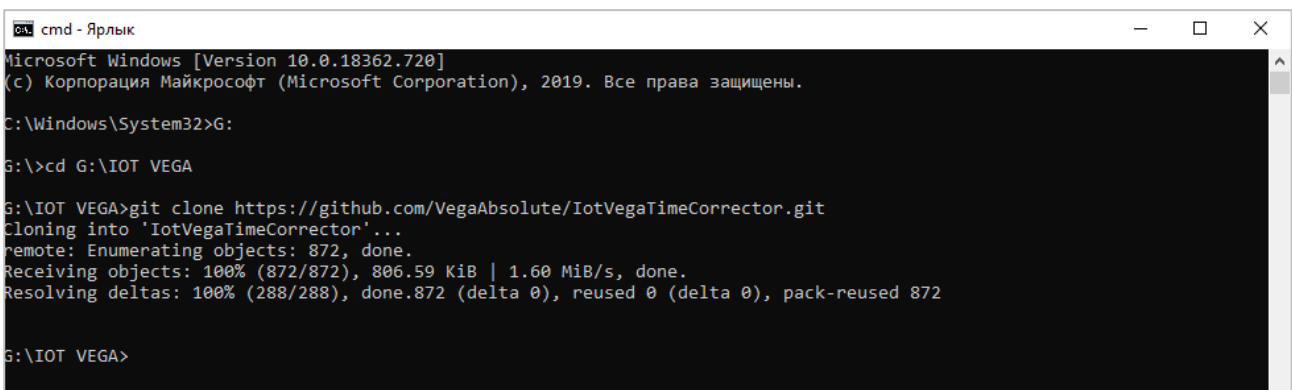


```
cmd - Ярлык
Microsoft Windows [Version 10.0.18362.720]
(c) Корпорация Майкрософт (Microsoft Corporation), 2019. Все права защищены.

C:\Windows\System32>G:
G:\>cd G:\IOT VEGA
G:\IOT VEGA>
```

2. Reload TimeCorrector by the command:

```
git clone https://github.com/VegaAbsolute/IotVegaTimeCorrector.git
```



```
cmd - Ярлык
Microsoft Windows [Version 10.0.18362.720]
(c) Корпорация Майкрософт (Microsoft Corporation), 2019. Все права защищены.

C:\Windows\System32>G:
G:\>cd G:\IOT VEGA
G:\IOT VEGA>git clone https://github.com/VegaAbsolute/IotVegaTimeCorrector.git
Cloning into 'IotVegaTimeCorrector'...
remote: Enumerating objects: 872, done.
Receiving objects: 100% (872/872), 806.59 KiB | 1.60 MiB/s, done.
Resolving deltas: 100% (288/288), done.872 (delta 0), reused 0 (delta 0), pack-reused 872

G:\IOT VEGA>
```

3. Go to the created directory and execute:

npm install

```

cmd - Ярлык
G:\IOT VEGA>cd G:\IOT VEGA\IotVegaTimeCorrector
G:\IOT VEGA\IotVegaTimeCorrector>npm install
npm notice created a lockfile as package-lock.json. You should commit this file.
added 42 packages from 34 contributors and audited 77 packages in 7.491s
found 13 vulnerabilities (4 low, 2 moderate, 7 high)
  run `npm audit fix` to fix them, or `npm audit` for details
G:\IOT VEGA\IotVegaTimeCorrector>
    
```

4. Open **Config.ini** file in the TimeCorrector directory.

.git	18.03.2020 7:53	Папка с файлами	
daemon	18.03.2020 8:05	Папка с файлами	
libs	18.03.2020 7:53	Папка с файлами	
node_modules	18.03.2020 7:54	Папка с файлами	
.gitignore	18.03.2020 7:53	Текстовый докум...	1 КБ
config	18.03.2020 7:56	Параметры конф...	1 КБ
index	18.03.2020 7:53	файл JavaScript	1 КБ
LICENSE	18.03.2020 7:53	Файл	2 КБ
package	18.03.2020 7:53	Файл "JSON"	1 КБ
package-lock	18.03.2020 7:54	Файл "JSON"	11 КБ
README.md	18.03.2020 7:53	Файл "MD"	1 КБ

5. Change server address, server port, login and password on yours.

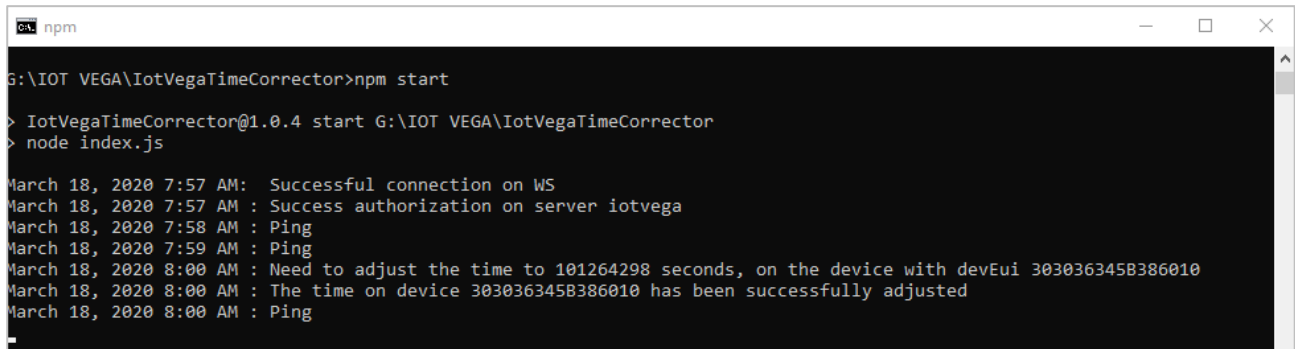
```

*config - Блокнот
Файл Правка Формат Вид Справка
#config.js version 1.0.0
[ws]
  #The address of the server WebSocket IotVega
address=ws://192.168.0.182:8002
  #The user of the server WebSocket IotVega
user=root
  #The user password
password=123
  #.....
#Other app settings
#.....
[other]
  #debug mode
debug_enabled=true
    
```

6. Launch TimeCorrector by the command:

```
npm start
```

At this stage, you need to check whether everything is working correctly. A positive result is shown in the screenshot.



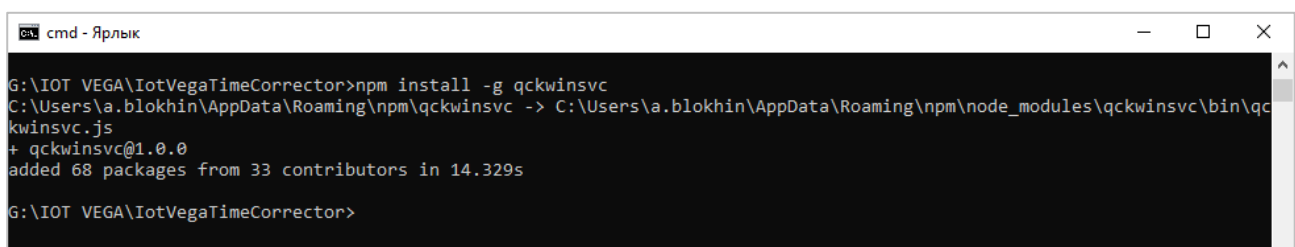
```
ca: npm
G:\IOT VEGA\IotVegaTimeCorrector>npm start
> IotVegaTimeCorrector@1.0.4 start G:\IOT VEGA\IotVegaTimeCorrector
> node index.js
March 18, 2020 7:57 AM: Successful connection on WS
March 18, 2020 7:57 AM : Success authorization on server iotvega
March 18, 2020 7:58 AM : Ping
March 18, 2020 7:59 AM : Ping
March 18, 2020 8:00 AM : Need to adjust the time to 101264298 seconds, on the device with devEui 303036345B386010
March 18, 2020 8:00 AM : The time on device 303036345B386010 has been successfully adjusted
March 18, 2020 8:00 AM : Ping
```

ATTENTION! With this method of launching the application, it will be active only while the console is open. Launching the application as a Windows service with the ability to autostart at system startup is described below.

7. If you continue to follow this instruction so you need to stop application by the pressing **Ctrl+C** and then **Y** buttons.

8. Next, enter the command:

```
npm install -g qckwinsvc
```

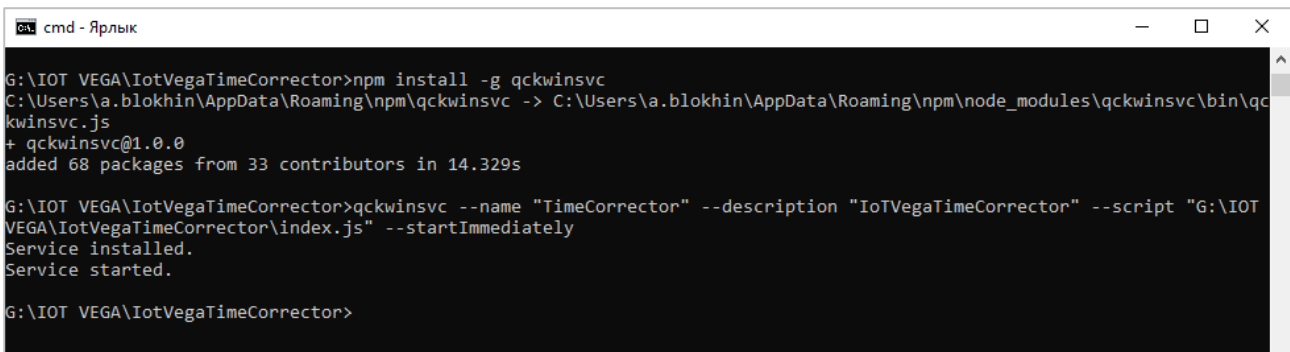


```
cmd - Ярлык
G:\IOT VEGA\IotVegaTimeCorrector>npm install -g qckwinsvc
C:\Users\a.blokhin\AppData\Roaming\npm\qckwinsvc -> C:\Users\a.blokhin\AppData\Roaming\npm\node_modules\qckwinsvc\bin\qckwinsvc.js
+ qckwinsvc@1.0.0
added 68 packages from 33 contributors in 14.329s
G:\IOT VEGA\IotVegaTimeCorrector>
```

9. Execute the command:

```
qckwinsvc --name "TimeCorrector" --description "IoTVegaTimeCorrector" --script "G:\IOT VEGA\IotVegaTimeCorrector\index.js" --startImmediately
```

where **name** – service name, **description** is some comment, **script** – the path to the application, **startImmediately** – start the service just after adding. In the **script** field necessarily change the path on yours. **Name** and **description** changing is optional

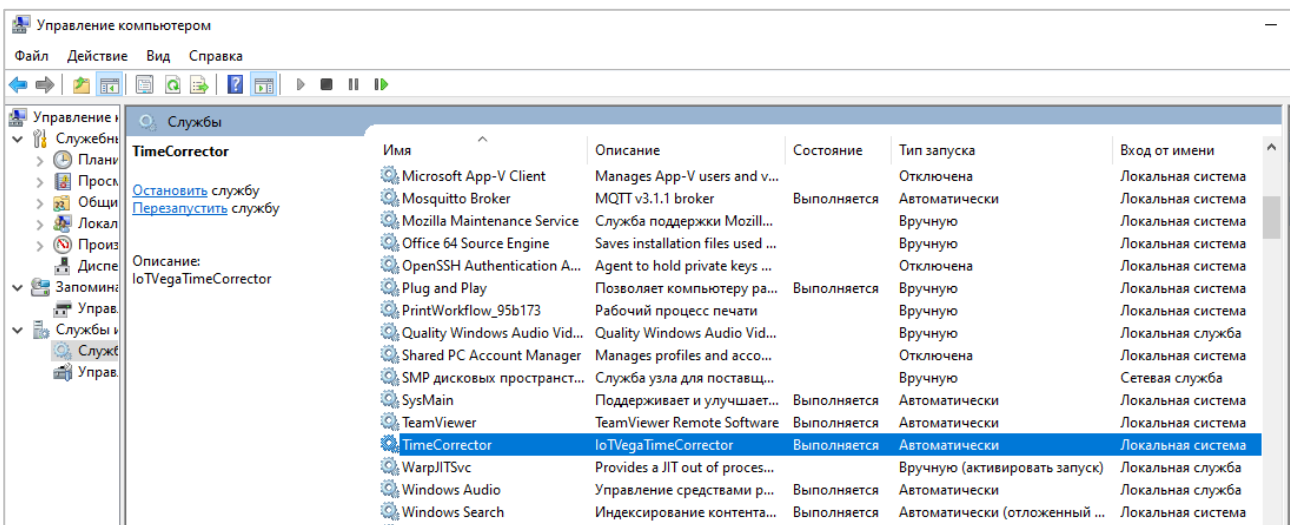


```
cmd - Ярлык
G:\IOT VEGA\IotVegaTimeCorrector>npm install -g qckwinsvc
C:\Users\A.blokhin\AppData\Roaming\npm\qckwinsvc -> C:\Users\A.blokhin\AppData\Roaming\npm\node_modules\qckwinsvc\bin\qckwinsvc.js
+ qckwinsvc@1.0.0
added 68 packages from 33 contributors in 14.329s

G:\IOT VEGA\IotVegaTimeCorrector>qckwinsvc --name "TimeCorrector" --description "IoTVegaTimeCorrector" --script "G:\IOT VEGA\IotVegaTimeCorrector\index.js" --startImmediately
Service installed.
Service started.

G:\IOT VEGA\IotVegaTimeCorrector>
```

The service is available for configuration by standard administration tools..



Document Information

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This document applies to the following products:

Product Name	Type Number
Software	IOT Vega TimeCorrector

Revision History

Revision	Date	Name	Comments
01	08.04.2020	KEV	Release Date



vega-absolute.ru

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