INSTRUCTIONS
WEB TREND CONTROL FOR EDGE HMI

Technologies:

- JavaScript
- NodeJS
- HTML, CSS.

Programs:

- ITEH v8.1 InTouch Edge HMI NodeJS
- Microsoft SQL server 2019.
- Microsoft SQL tools 18.

Source Code:

- The Source Code can be opened in any text editor such as notepad or блокнот. It can also be opened in any IDE for JavaScript, CSS and HTML.

Connection to Data Base:

- Access Microsoft SQL Server Management Studio and connect to the database introducing the corresponding values for server, user and password accordingly:

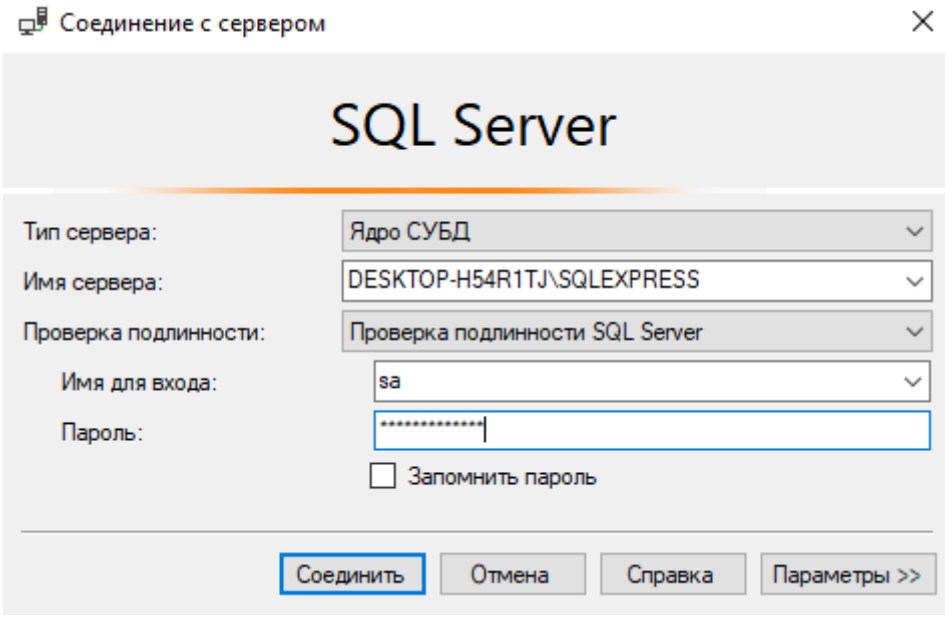


Figure1: Data for Connection to the DataBase

- Configure the TCP/IP ports. To do this follow the instructions in the following video from minute **3:40** until minute **6:30**. Link of the video:

  https://www.youtube.com/watch?v=MLcXfRH1YzE

- Configure the port for remote connections. Follow the instructions of the following link:

  https://www.eukhost.com/kb/how-to-set-the-custom-port-for-mssql-remote-access/

Once that all of this is done, the next step is to go to configuration.

Configuration:

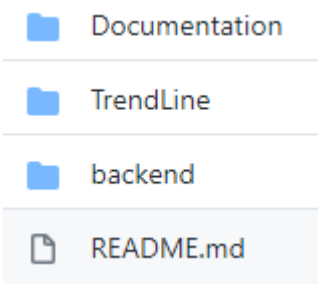
1. Install NodeJS in the computer. Link Below for the installation:

   https://nodejs.org/en/download/

2. Download or clone the project from GitHub. Link to Repository:

   https://github.com/Robertron90/ProjectThirdYear

   The description on the files is as follows:



- TrendLine is the Custom Widget (CW) itself. It is the frontend of the application. To understand how the CW works internally, watch the following video: https://www.youtube.com/watch?v=N1I2M2zNvUk
- Backend is the backend of the application. Inside backend there are mainly two files: data.js – it's the file where connection is stablished with the database and the data retrieval is done. Index.js – it's the file where the endpoints are generated to receive and send data from the backend to the frontend ad vice versa.
- Documentation is the directory where there are the instructions and an additional file to check how to work with Custom Widgets (*Edit the web files for a custom widget.docx*).

3. Inside the file *./backend/data.js*, change the values of ***user***, ***password*** and ***server*** according to the credentials of the database in the computer where the application runs.

The data that should be entered here must be the same data that is input in figure 1. For ***server*** there must be an extra "\" as it is shown in the figure2:

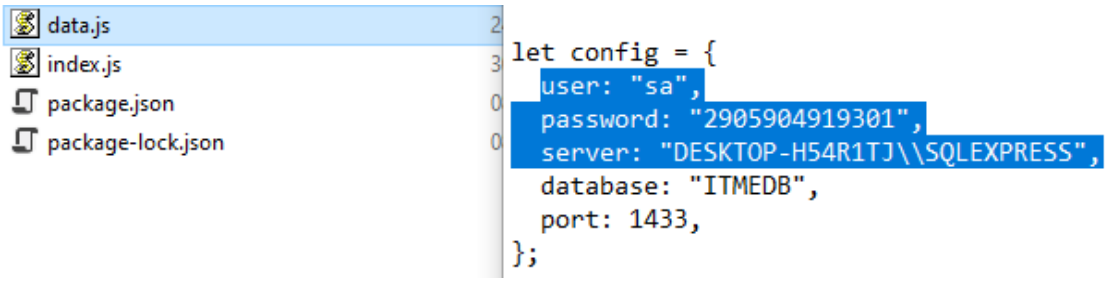
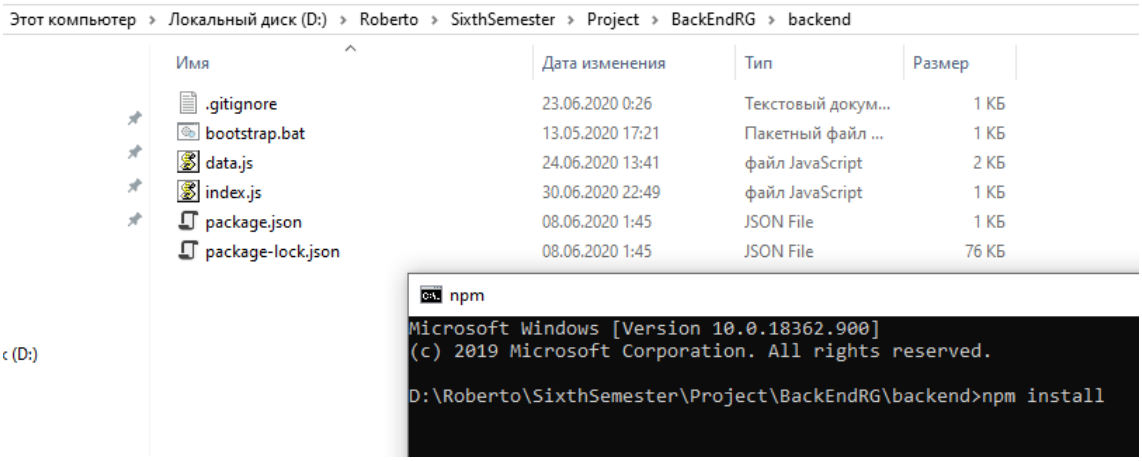
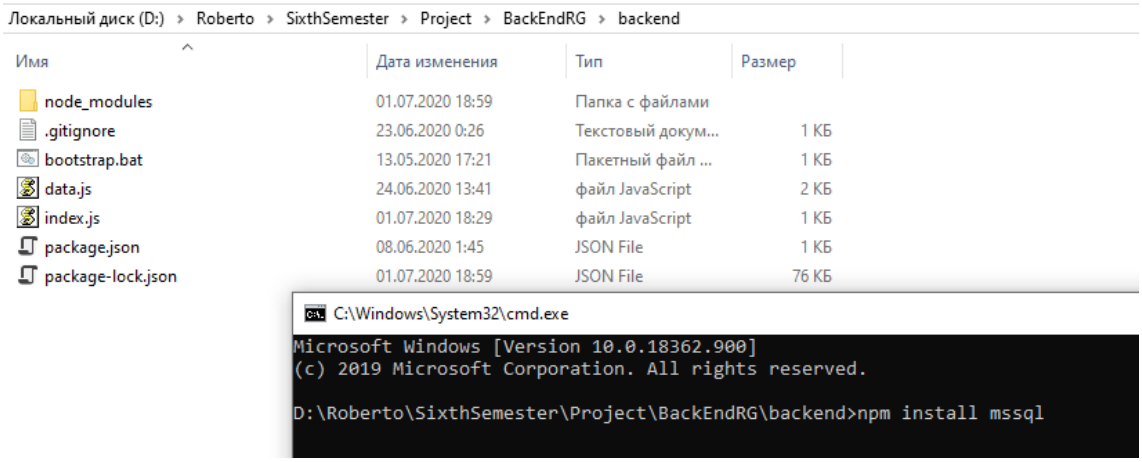


Figure 2: Data to be configured

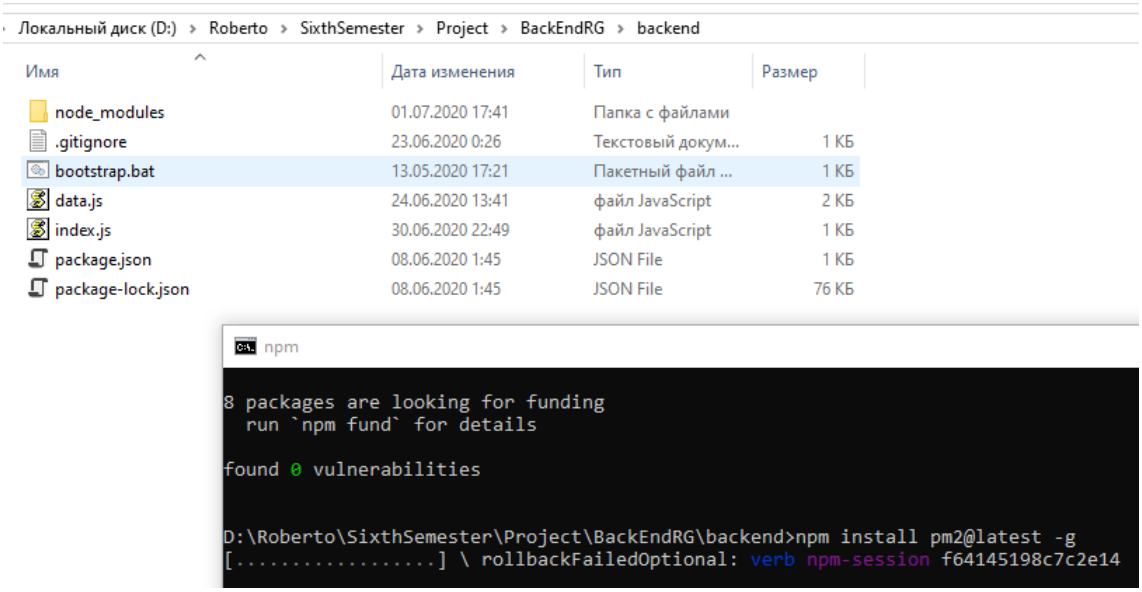
4. Delete the directory *./backend/node_modules* and open a command line in the directory *./backend*. Type **npm install**:



Then in this same directory install mssql with the command **npm install mssql**:



Then in this same directory install pm2 with the command **npm install pm2@latest -g**:

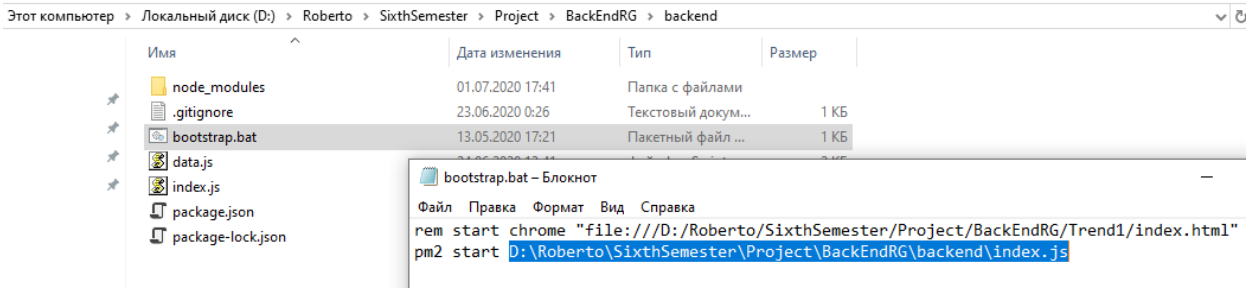


Pm2 References:
https://pm2.keymetrics.io/docs/usage/quick-start/

Npm References:
https://nodejs.org/en/knowledge/getting-started/npm/what-is-npm/

Mssql References:
https://www.npmjs.com/package/mssql

5. Open the file *./backend/bootstrap.bat* and change the path to ***./backend/index.js*** according to the path of the computer.



6. Configure the file *./backend/bootstrap.bat* to run automatically every time the windows operating system starts in the computer. To do this follow the instructions given in the following link:

   https://www.computerhope.com/issues/ch000322.htm

7. Restart the computer.

Run Application in ITEH v8.1 InTouch Edge HMI:

Finally, to create the custom widget, follow the instructions of the video below:

https://www.youtube.com/watch?v=xfxpQfLYiDg&feature=youtu.be