Fleet route planner

MFRouter

User guide

Version 1.00

1 ABOUT MFROUTER

The MFRouter application and is intended for selecting the optimal sequence of vehicle visits to points on the route.

For the convenience of the fleet manager, the application allows:

- Import a list of possible visit points from an Excel file to the MFRouter database;
- Quickly form a list of points to be calculated in the Mission window;
- Displays the approximate travel time on the route, including between points;
- Saves the mission in a file for integration with fleet management systems.

This is a freeware. Calculation of the optimal route is carried out by free routing service “openrouteservice.org”. ZAO "Mechatronics" is not responsible neigher for the accuracy of the results, nor possible losses associated with the results of the Application.

2 MFROUTER INSTALLATION

2.1 SYSTEM REQUIREMENTS

The hardware requirements for running the MFRouter application are the same as those for running Microsoft SQL Server 2012.

Supported operating systems: Windows 10; Windows 7; Windows 7 Service Pack 1; Windows 8; Windows 8.1; Windows Server 2008 R2; Windows Server 2008 R2 SP1; Windows Server 2012; Windows Server 2012 R2; Windows Server 2016

Intel-compatible processor, 1 GHz or faster

RAM Minimum 512MB for SQL Server Express with tools and SQL Server Express with additional services, and 4GB for Reporting Services, which is installed with SQL Server Express with additional services

Hard Drive Space - 4.2 GB of hard drive space

Software Requirements : Microsoft® SQL Server® 2012 Express with SQL Management Studio package (or newer) included.

2.2 SQL SERVER 2012 EXPRESS AND SQL MANAGEMENT STUDIO

Download and install this software

https://www.microsoft.com/en-us/download/details.aspx?id=56042.

2.3 MFROUTER INSTALLATION

Download using MFRouter

https://files.eurosenstelematics.com/files/mfrouter-install and unpack files.

2.4 Obtaining a token on a routing service

At first you need to register on the routing service openrouteservice.org and receive a token. Enter your email (fig. 1, 2).

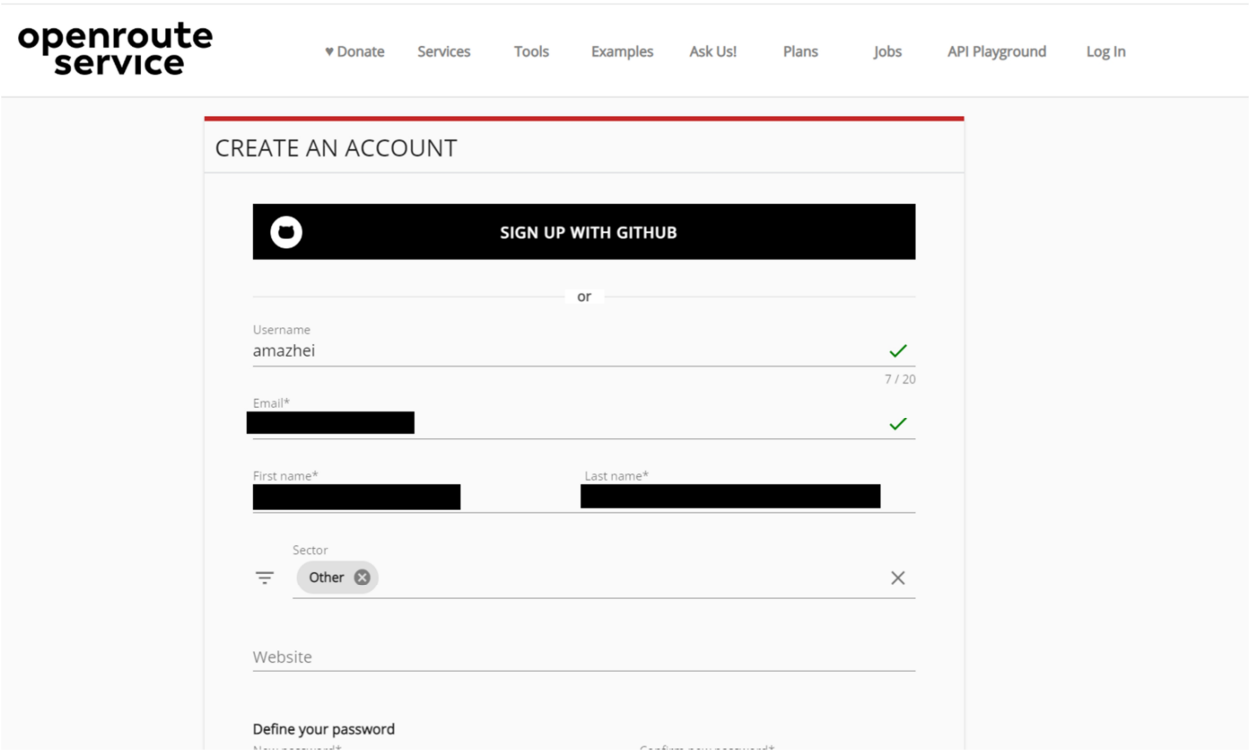

Fig. 1

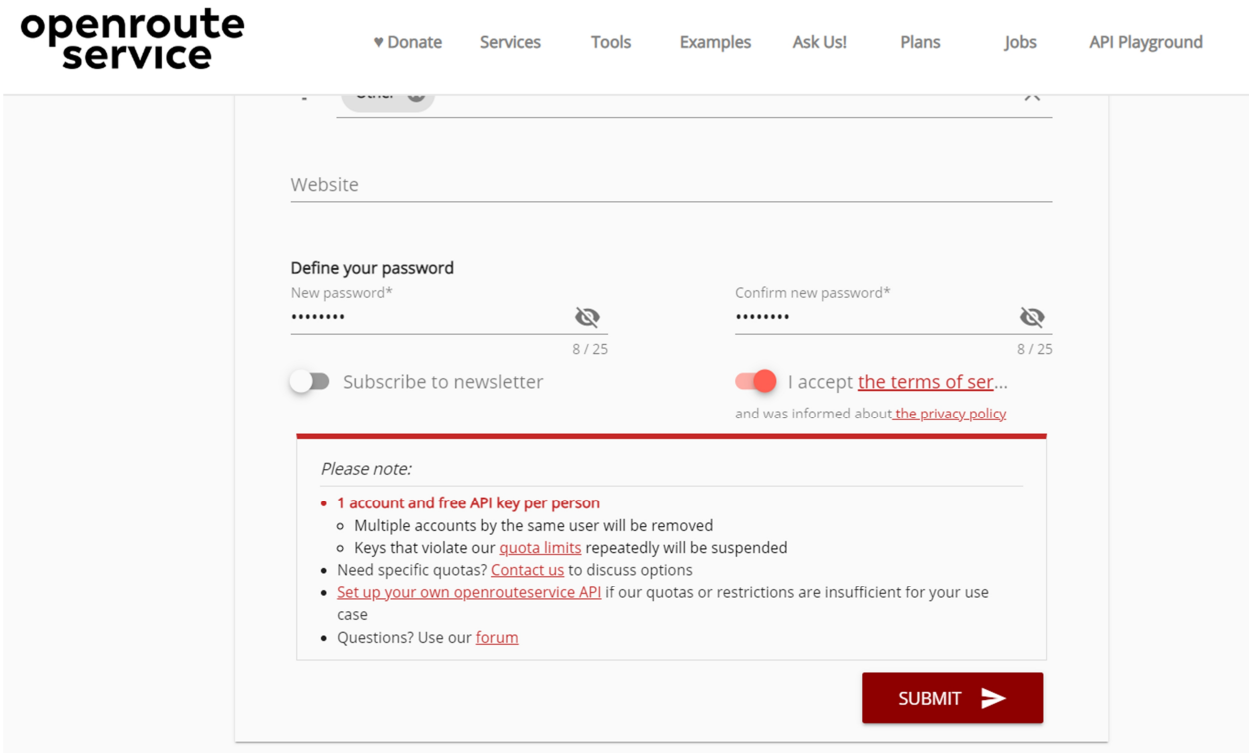

Fig. 2

After confirming your registration by email, you must create a token and come up with a name for it (Fig. 3).

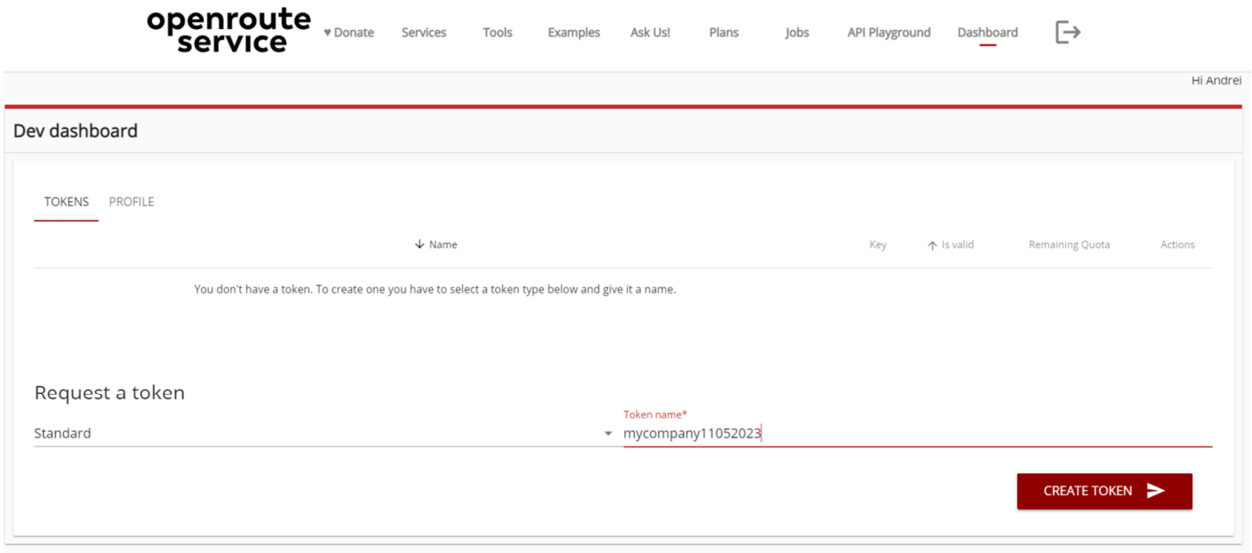

Fig. 3

Your token is in the **Key** field (fig. 4).

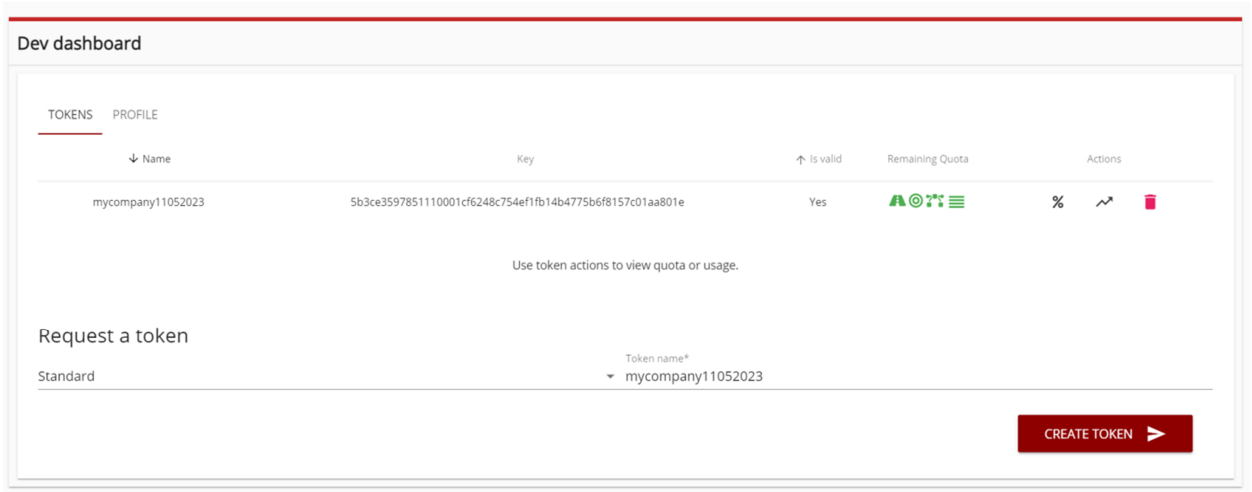

Fig. 4

2.5 EMPTY DATABASE CONNECTION

Run SQL Management Studio. In the **Object Explorer** we can find **Databases** (Fig. 5).

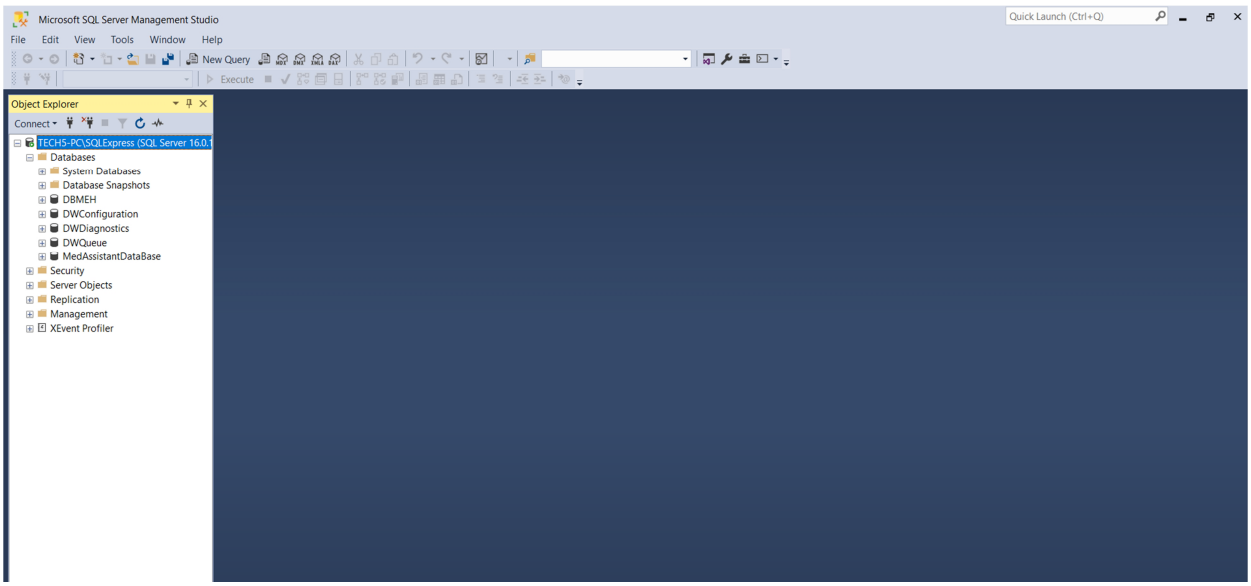

Fig. 5.

By right-clicking on the **Databases** line in the context menu, select the Attach item (Fig. 6).

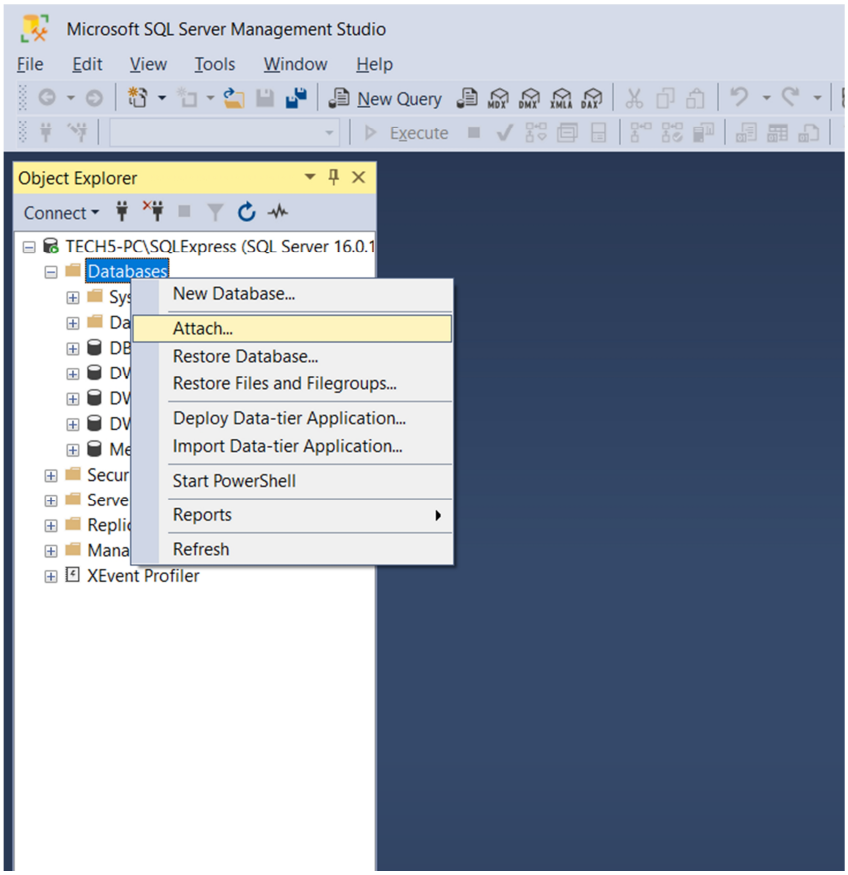

Fig. 6.

Navitate to the folder with unpacked Mfrouter and choose the **DBMFrouter.mdf file**. Then click OK(Fig. 7).

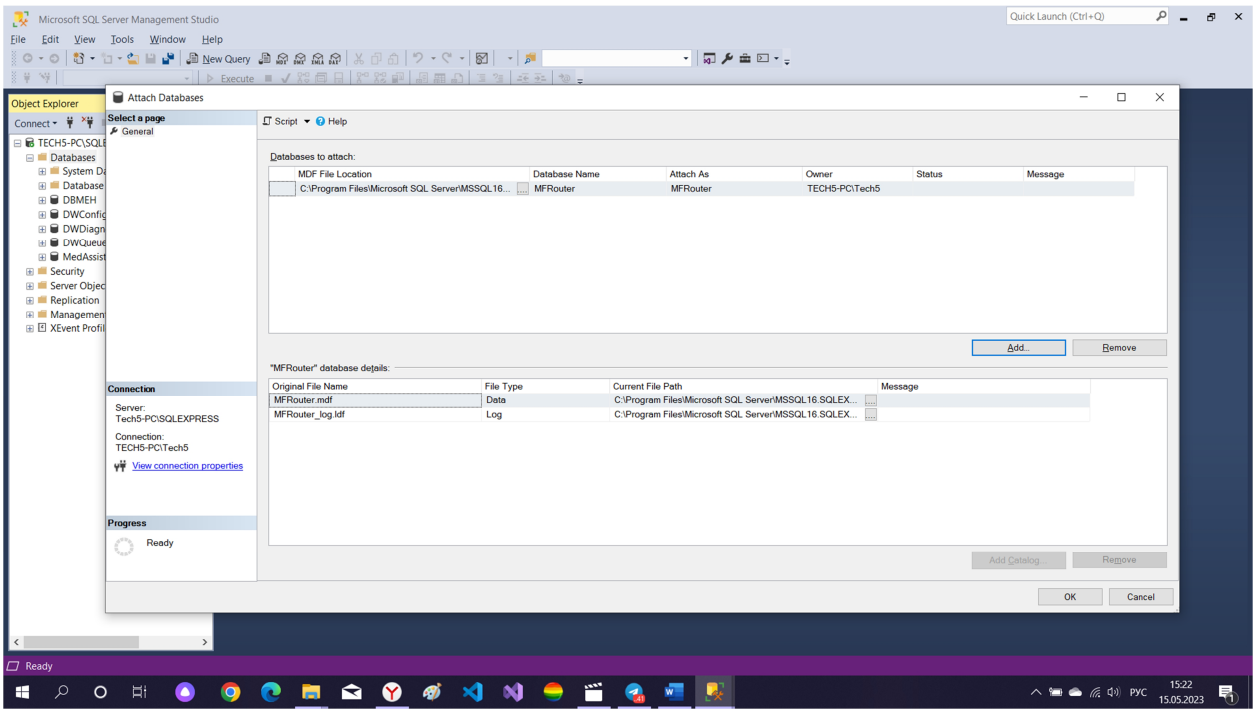

Fig. 7.

If error occurs you need to change the file properties and allow full access to database files (*.mdf, *.log) for all software users (Fig. 8).

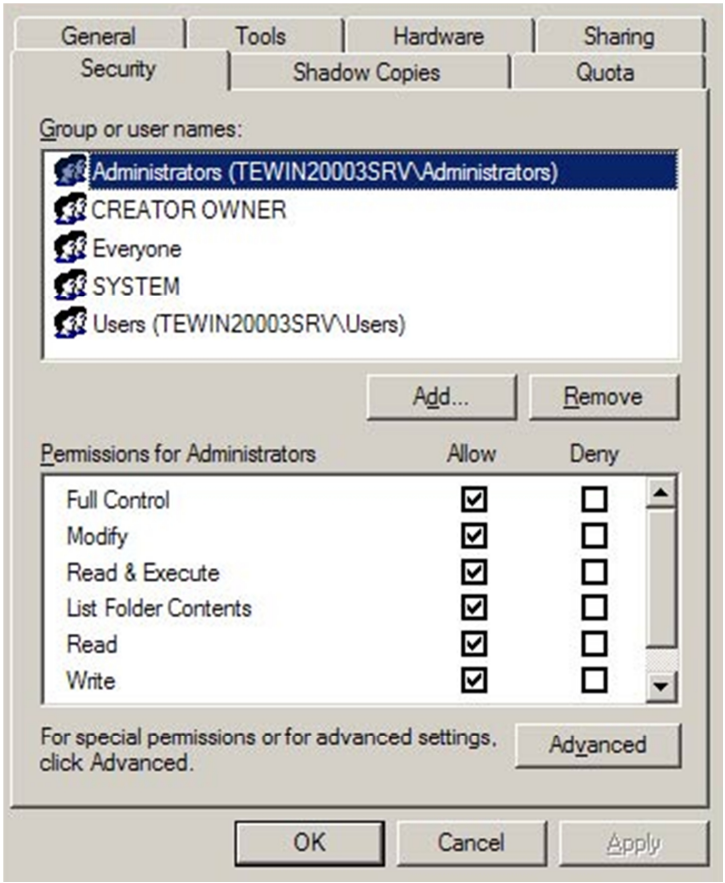

Fig. 8.

After successful appending we can see our database in SQL Management Studio (Fig. 9).

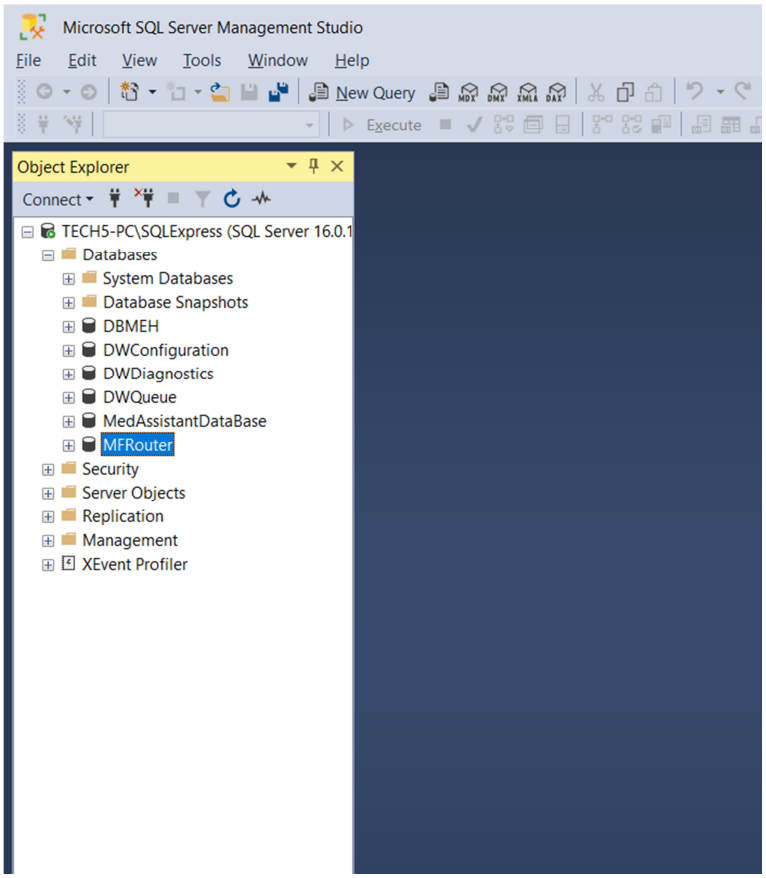

Fig. 9

Start MFRouter.exe. At the first startup, you will be prompted to create a settings file (Fig. 10).

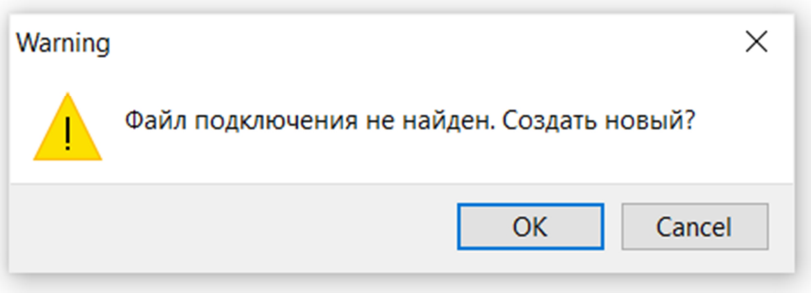

Fig. 10

Enter server name from SQL Management Studio (Fig. 11) and database name – Mfrouter.

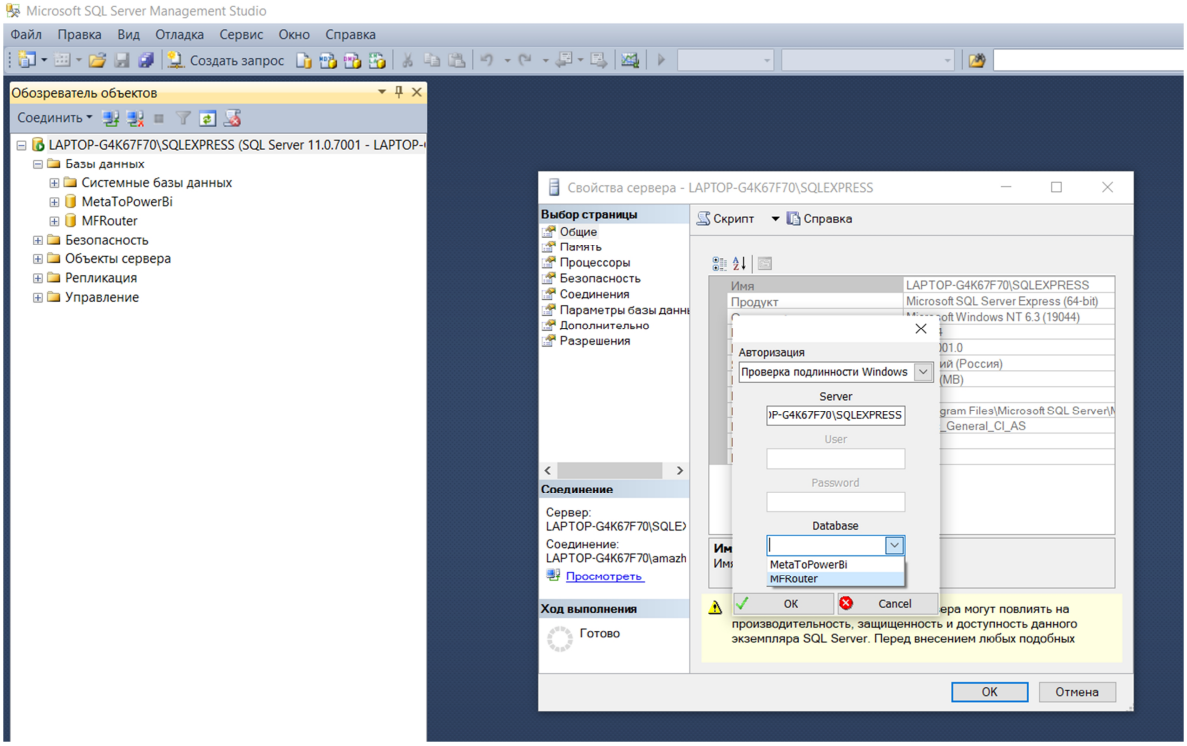

Fig. 11

Also, when the router starts for the first time, it will ask you to fill out a user registration form (Fig. 12-13).

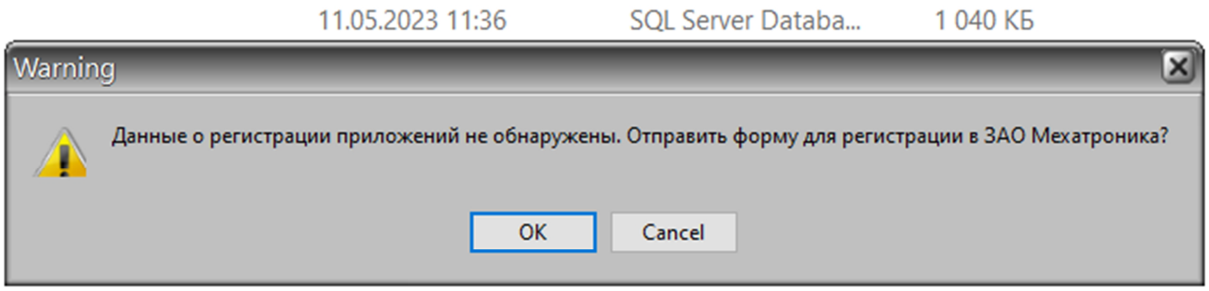

Fig. 12

Fill your email, mobile phone and name of your company.

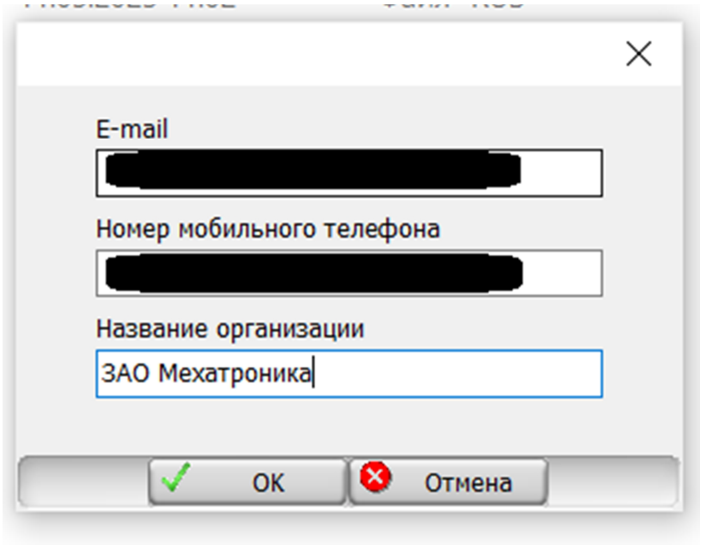

Fig. 13

Enter settings menu and change language to English (Fig. 14).

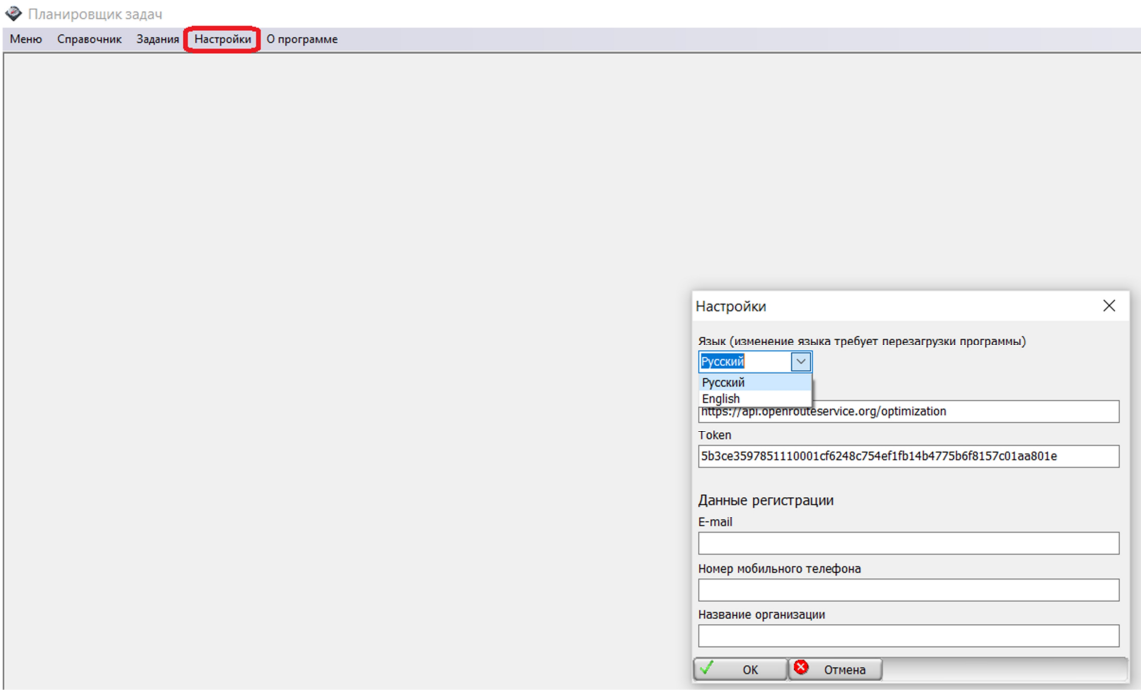

Fig. 14

Immediately after filling out the form, the main menu of the scheduler appears. The Database menu contains points and vehicles (Fig. 15).

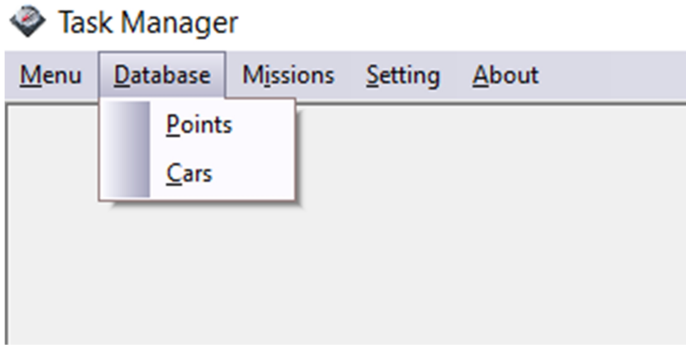

Fig. 15.

The **Points** database contains information about all possible points to visit (Fig. 16). The fields **Longitude** and **Latitude** are obligatory for the planner operation. The **Geofence** field allows you to link the results of the planner to the GPS tracking system.

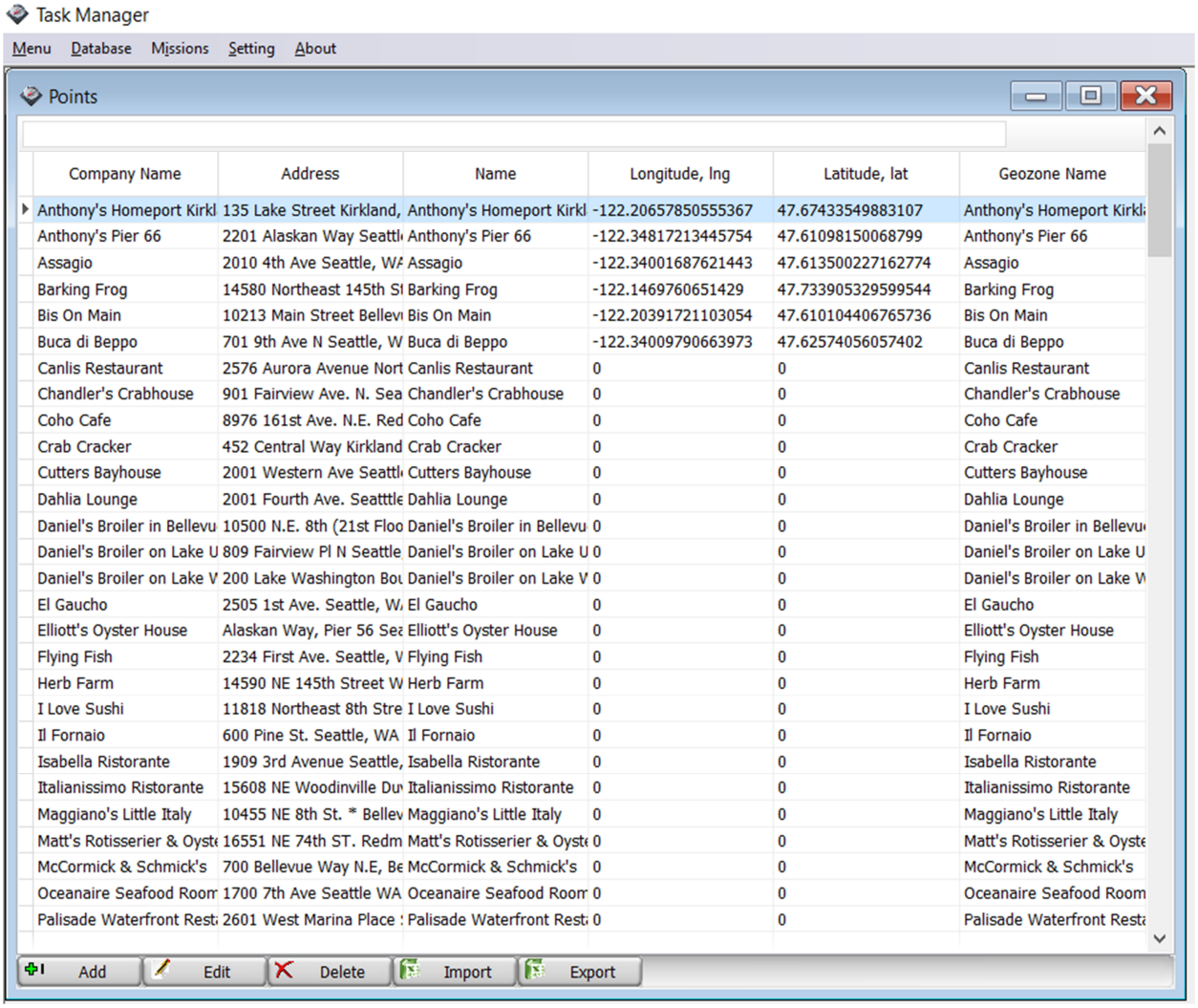

Fig. 16

You can import the sample Excel file (MF Router Base EN.xlsx). When editing an organization, a window opens (Fig. 17).

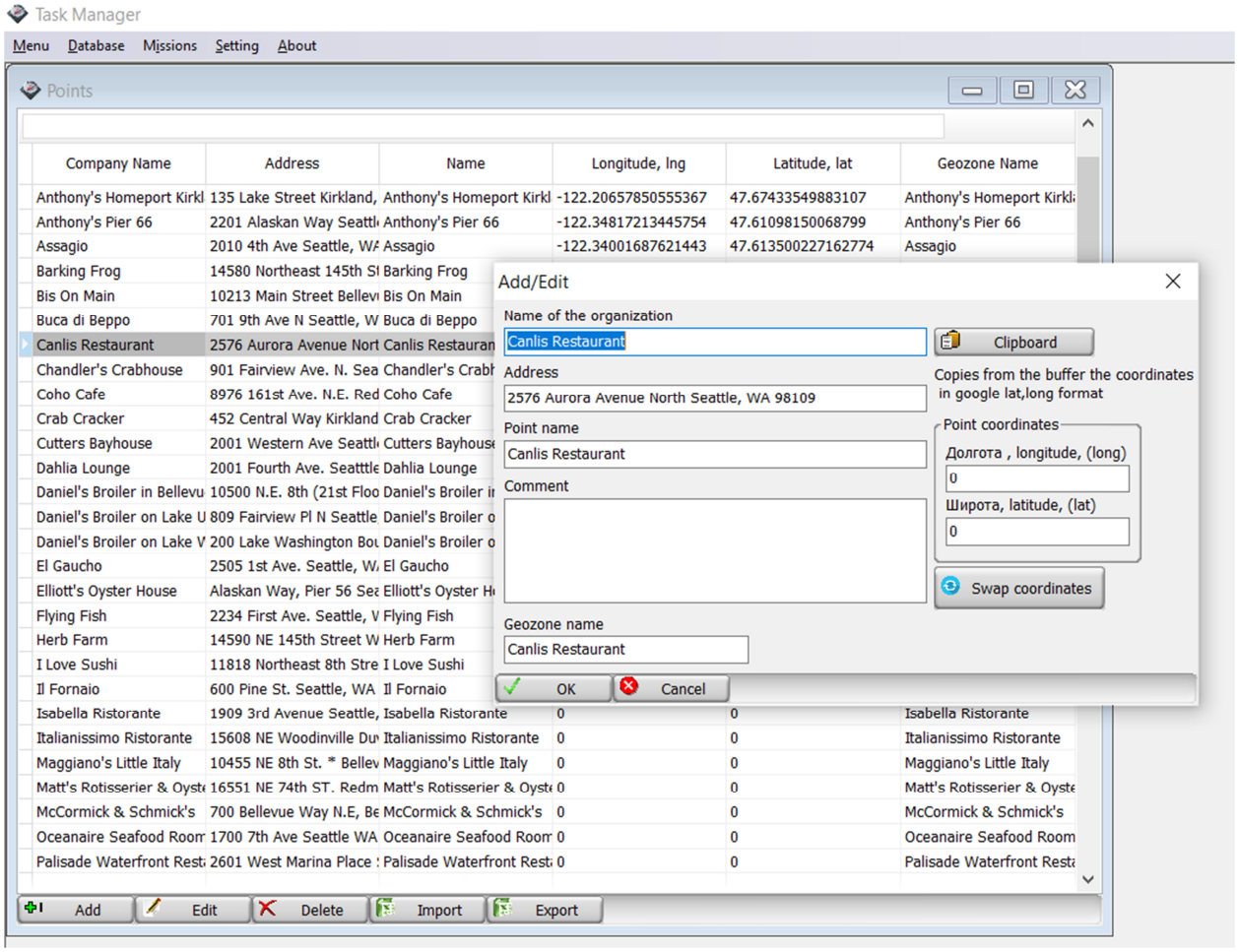

Fig. 17.

To add the latitude and longitude coordinates : Open this item on the Google Maps. Then copy the coordinates to the clipboard (Fig. 18).

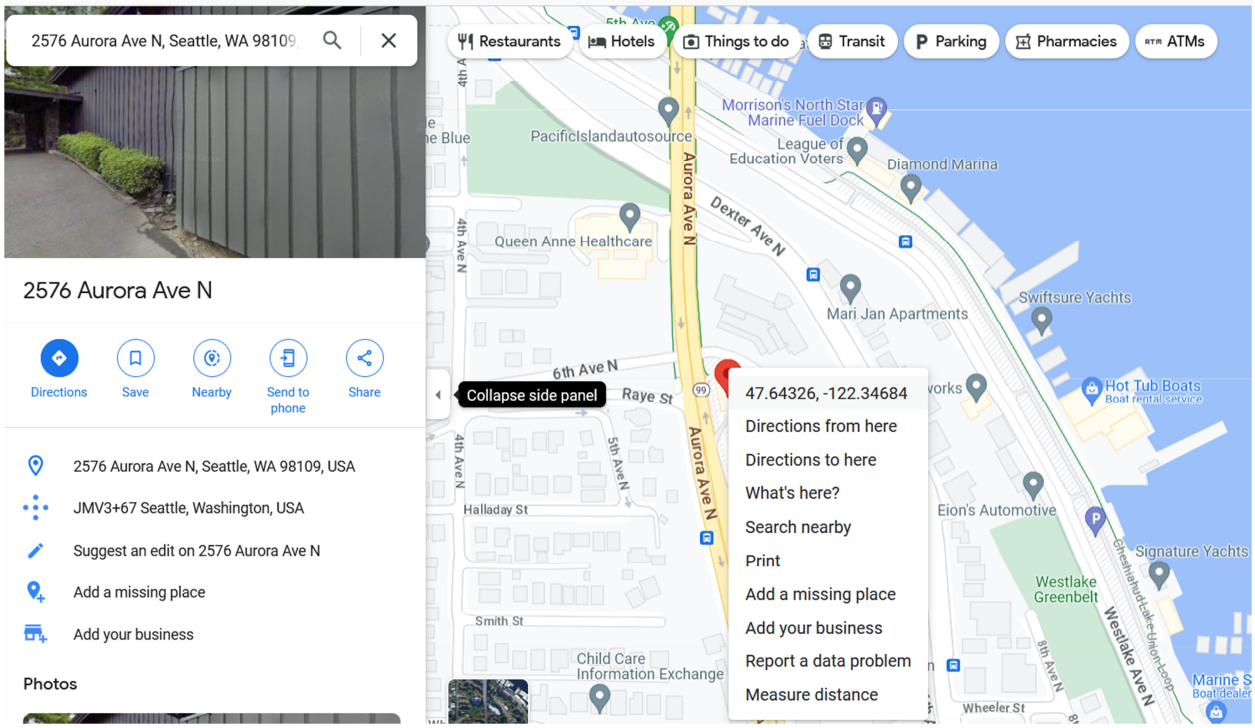

Fig. 18

Then press the "**Clipboard**" buttin. (Fig. 19).

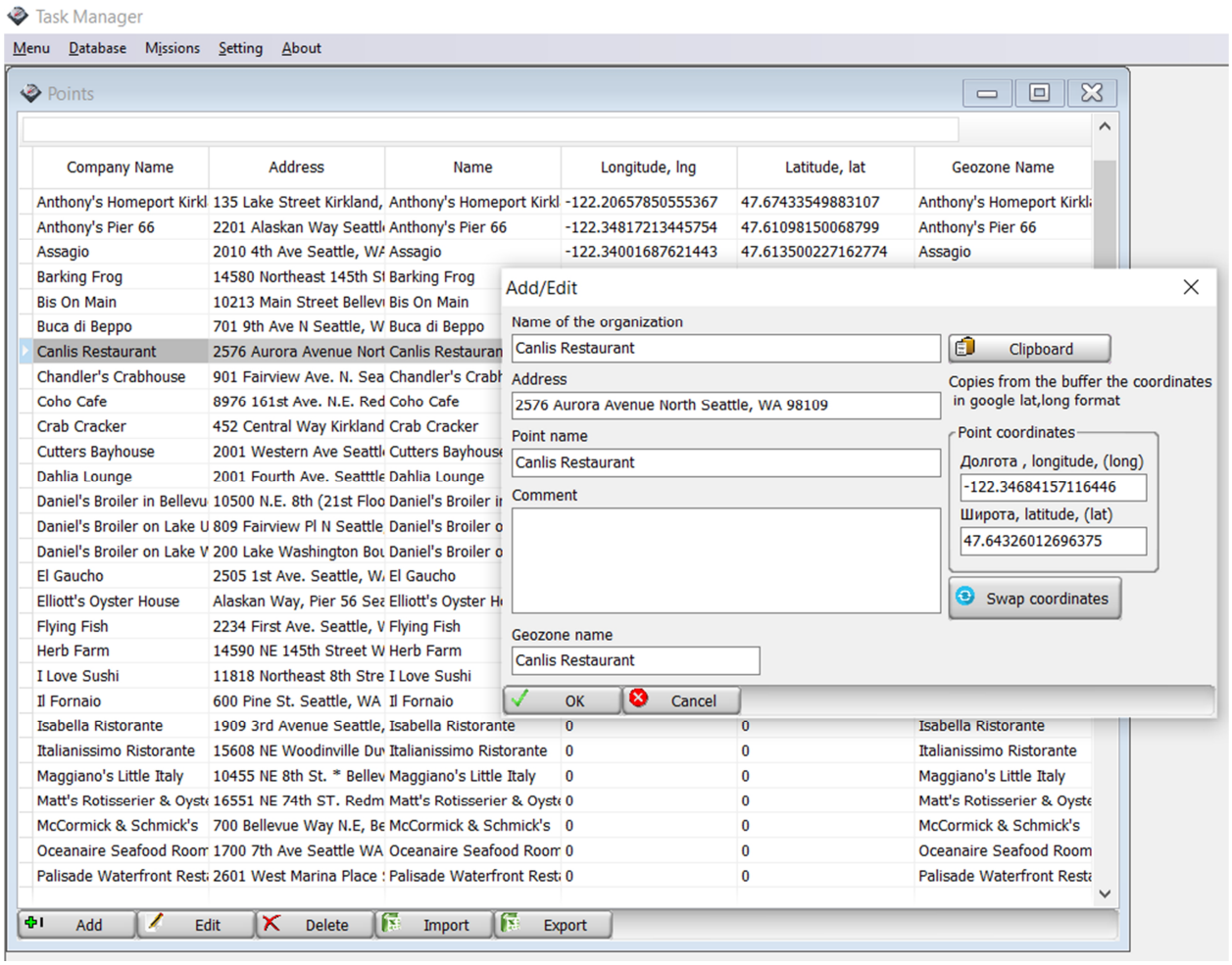

Fig. 19.

Database “Cars” contains an information about your cars and parking places. (Fig. 20).

The planner implies that each car has its own permanent parking place, that the execution of the route begins from the parking place (garage) and at the end of the route it is necessary to return to it.

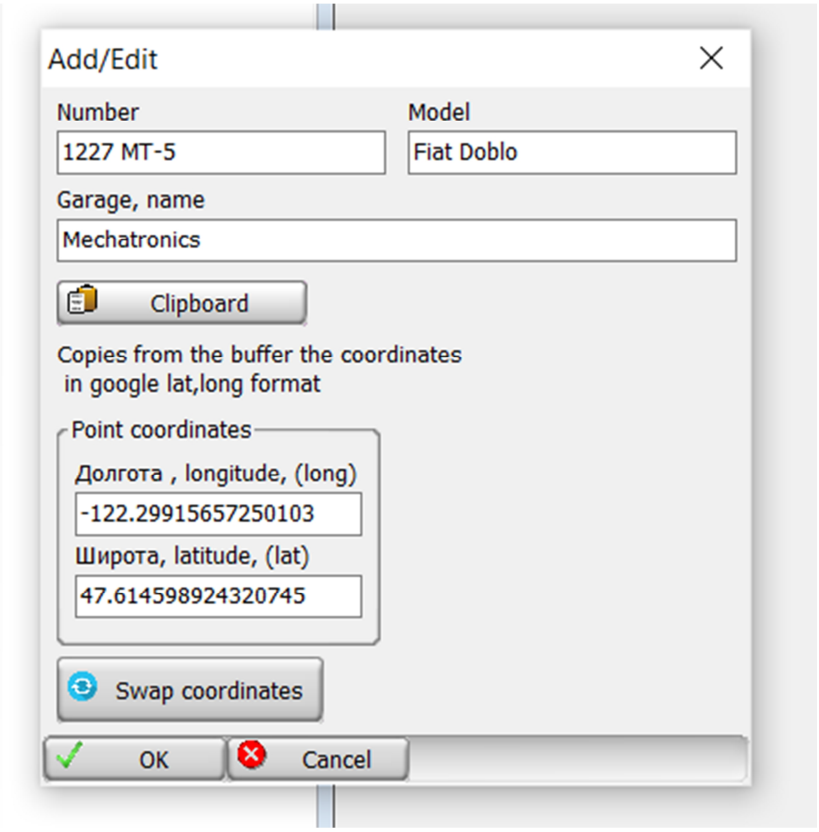

Fig. 20

After entering visit points and cars, you need to open the Settings menu and enter the previously obtained routing service token (Fig. 21).

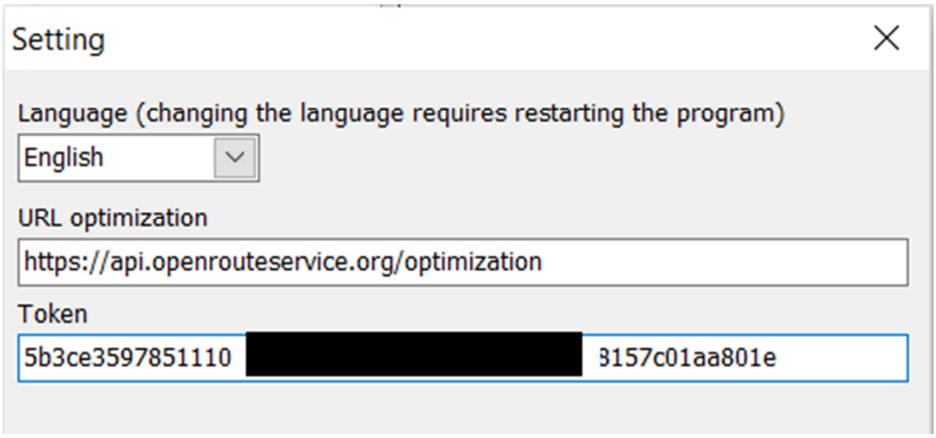

Fig. 21

4 CREATING THE MISSION

Menu Missions contains calendar navigation with saved missions (Fig. 22).

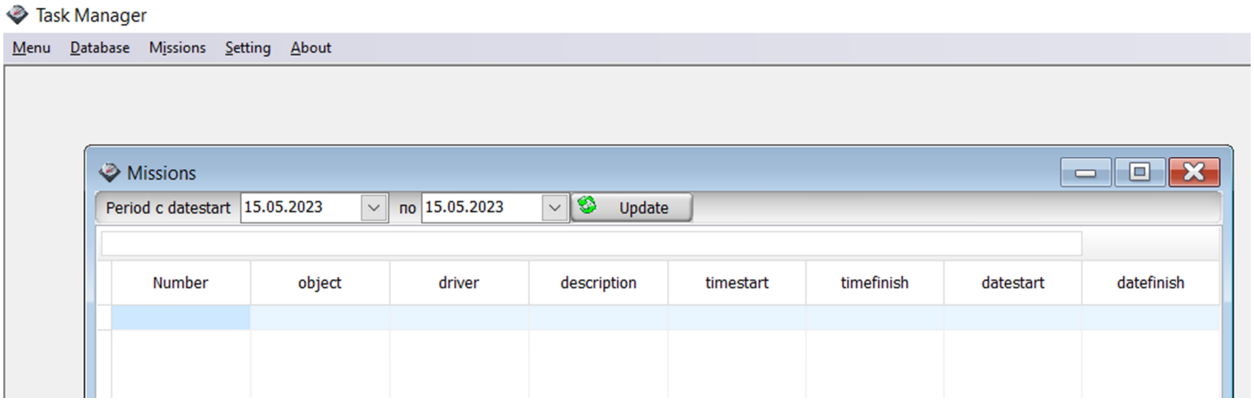

Fig. 22

To create a new mission, press the Add button and fill in the fields in the form that appears (Fig. 23).

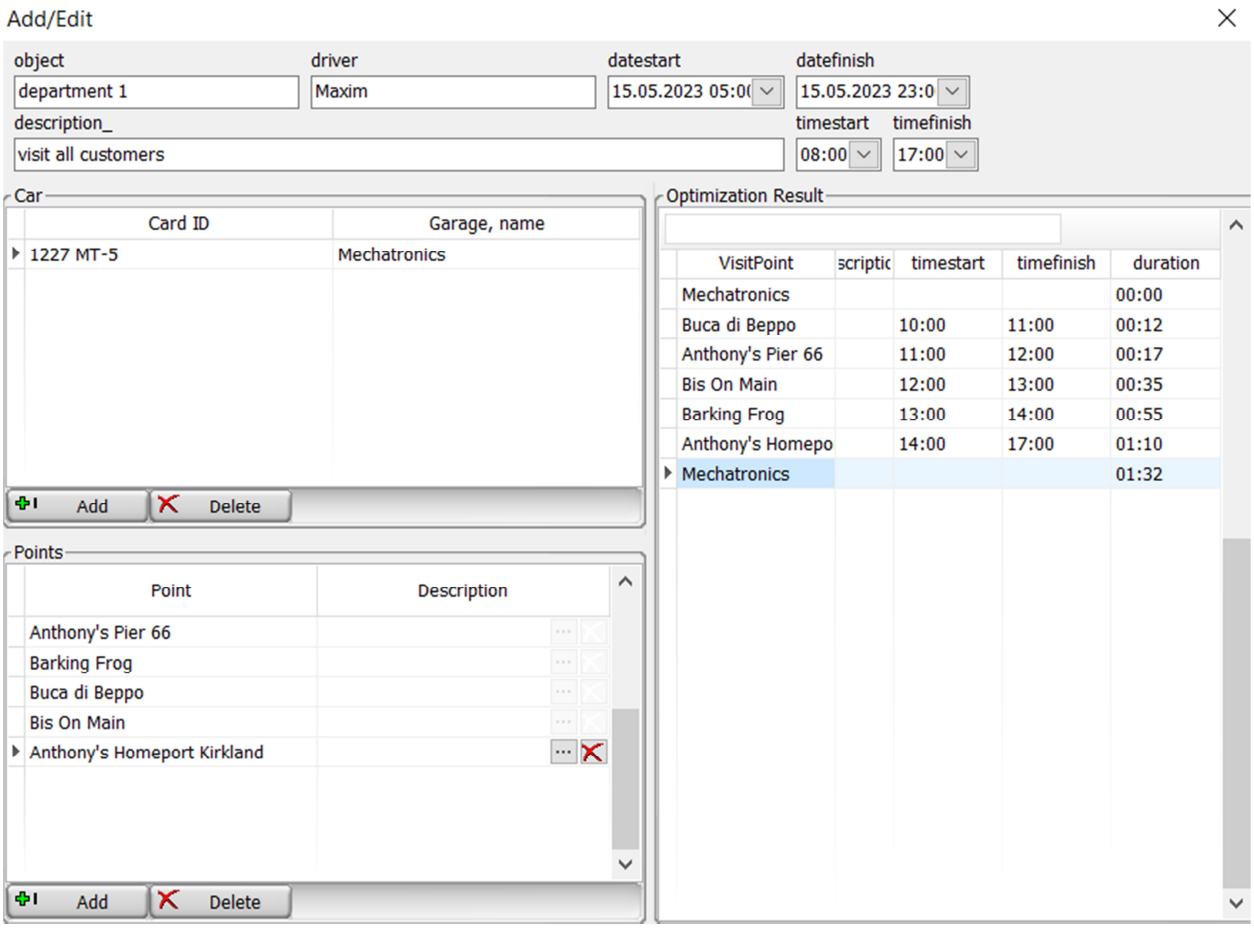

Fig. 23

In the "**Car**" window you select the car that will perform the mission. In the Object field you can fill some information about the mission. The Datestart and Datefinish fields define the start and end of the mission, the timestart and timefinish fields allow you to specify the start time of the task more accurately. It is not necessary to specify the exact time of day in these fields and is required only for generation of the mission file for the MetaFleet GPS tracking system. Enter the list of points to be visited by the driver in the "**Points**" window. Then click “Optimize” button.

The scheduler will contact the routing server and form the optimal sequence of their visits, as well as display the approximate time of movement (Fig. 23).

The "Save" button saves the task and the optimization results in the database, the task can be edited at any time.

Tasks are also exported to 2 files (KML format and XML format) for import into GPS tracking or fleet management systems.

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