Deployment instruction for Matthews Case Scheduler, Case API and Case MQTT service

by ComData

Installation instruction

Author	Description	Version	Date
Branislav Kurbalija	Source code reference to GitHub is added	1.1	05.09.2023.
Branislav Kurbalija	Initial document	1.0	01.09.2023.

Intro

This document is about how to deploy Matthews Case Manager (Scheduler) web application, Matthews Case API with database and Case MQTT background service to production server.

Here all prerequisites are mentioned.

For each application the configuration process is described and each property is explained.

Single Sign-On (SSO) is implemented with HMS Identity Server to support simple login. All setting is explained in details.

Beside on SSO, the additional protection is added by CORS to integrate applications. Also, the setting is described and explained bellow.

Finally, here is explained how to configure additional setting.

Deployment of Case API and Case MQTT background service

Case API is standard REST endpoint software which interacts with MSSQL database. Within this software the Case MQTT service is integrated as independent background service whose life cycle lasts from starting the Case API till the end of running.

Source code repository for Case API

Entire source code is posted in GitHub repo:
https://github.com/webfactory-team/matthews_app

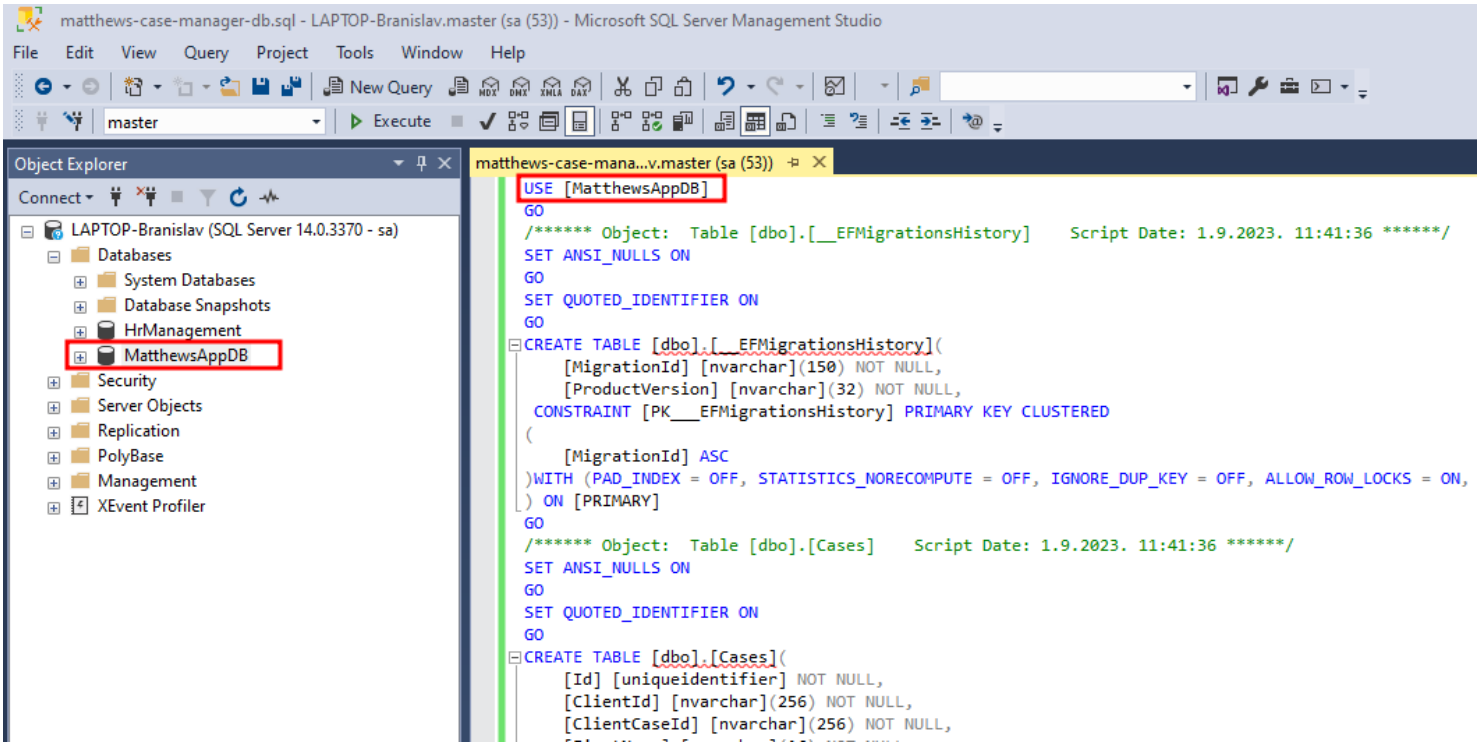
Once the source code is cloned, you may find Case API in the ***MatthewsApp.API*** folder. At any time the application can be published in Visual Studio 2022, for production deployment. However, ComData prepared for you the ***CaseAPI.ZIP*** file with the code which is already published.

> Note: bet best way to have the last version of the software is to clone/pull it from GitHub repository.

Deployment of database

At MSSQL server create empty database with default setting. The name of database may differ but note it down somewhere.

In order to make DB structure, open the SQL script from the ***matthews-case-manager-db.sql*** file in to the SQL manager.

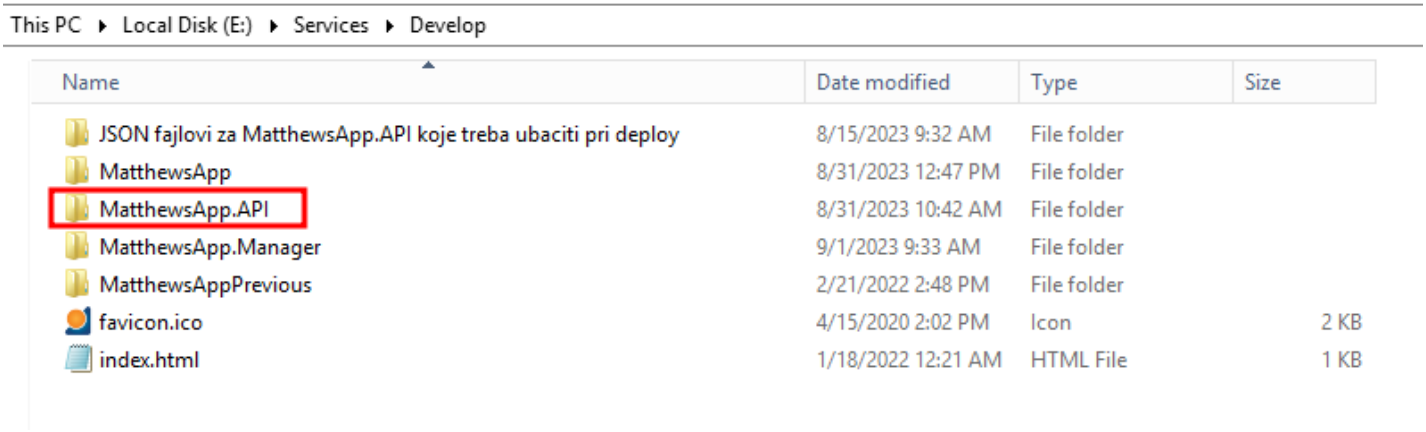


Before starting the script, change the DB name in file to be identical with the name of previously created DB. Now run the script.

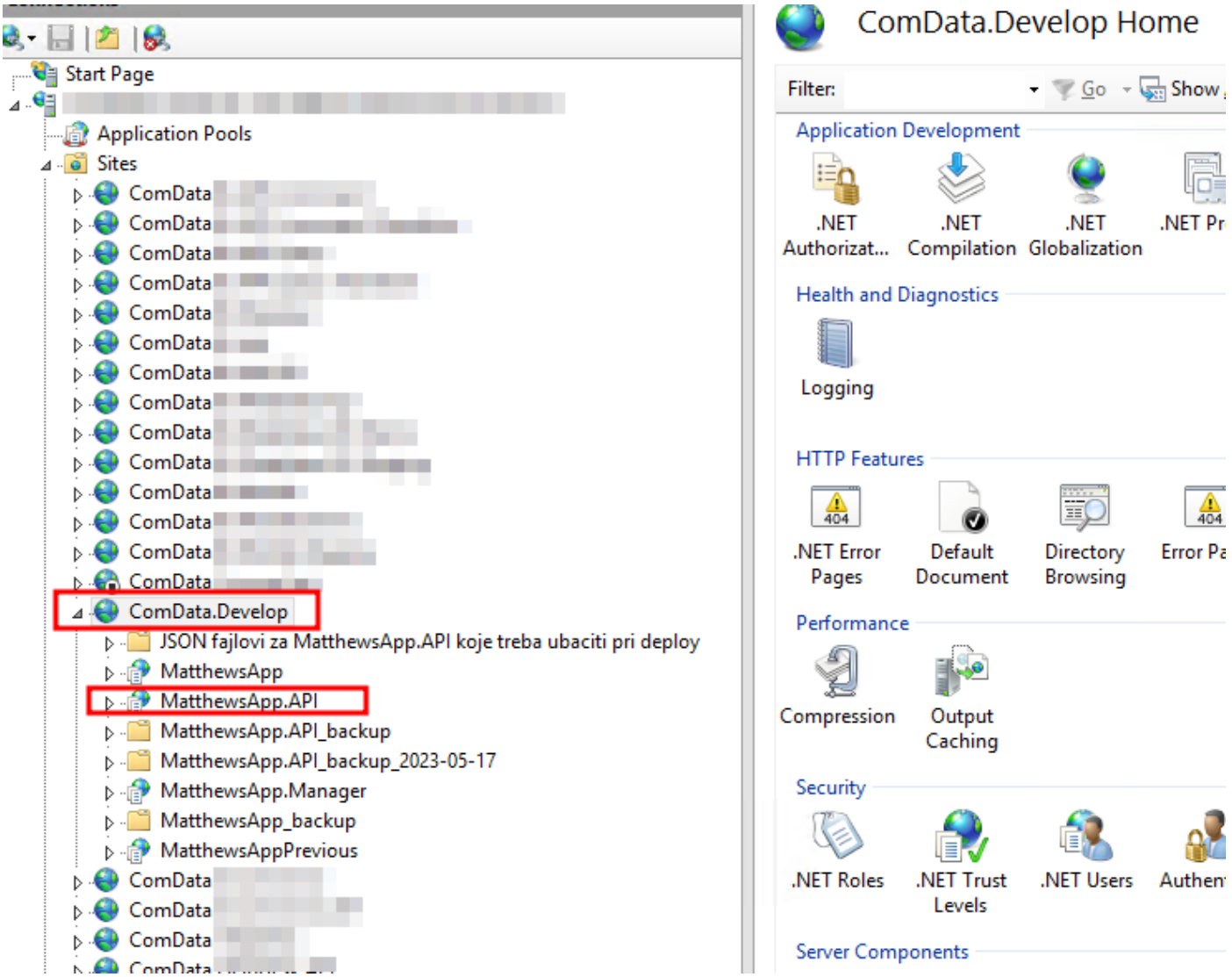
Deployment of Case API

Here is step by step deployment information:

1. Unzip the ***CaseAPI.zip*** file to prepared folder for IIS application. Let's the name be "MatthewApp.API" but be free to name it by your choice.



2. On IIS make the application from that folder. This application can be added to dedicated application pool which will have unique domain URL. It's on you.



3. In “Matthews.API” folder find the ***appsetting.json*** file to do changes. (see section below)

Do changes on appsetting.json

The ***appsetting.json*** file is the place for configuring the CaseAPI, connection string to DB, communication with HMS Identity Server, HMS i4connection API and other.
In order to configure the service please use your favorite text editor and do changes on the following:

appsetting.json

```
1  {
2    "Logging": {
3      "LogLevel": {
4        "Default": "Information",
5        "Microsoft": "Warning",
6        "Microsoft.Hosting.Lifetime": "Warning"
7      }
8    },
9    "Serilog": {
10     "WriteTo": [
11       {
12         "Name": "File",
13         "Args": {
14           "path": "C:/Logs/Matthews/log.txt",
15           "rollingInterval": "Day"
16         }
17       }
18     ]
19   },
20   "AllowedOrigins": "http://localhost:4200;https://develop.comdata.rs/MatthewsApp.API
     ;http://localhost:8100;https://com.matthews.app",
21   "connectionStrings": {
22     "MatthewsAppDBConnectionString":
       "Server=LAPTOP-Branislav;Database=MatthewsAppDB;User
       Id=sa;Password=ComData21;Encrypt=False;TrustServerCertificate=true"
23   },
24   "Swagger": {
25     "Authority": "https://matthewscremation.i4connected.cloud/identity"
26   },
27   "OAuth2Introspection": {
28     "Authority": "https://matthewscremation.i4connected.cloud/identity",
29     "Scope": "openid profile email api matthews.api",
30     "UserName": "branislav@comdata.rs",
31     "Password": "mv)AlkS2",
32     "ClientId": "i4connected.cremator"
33   },
34   "i4connectedApiUrl": "https://matthewscremation.i4connected.cloud/api",
35   "deviceListRefrechIntervalInMinutes": 1
36 }
37
```

Set the “**Logging**” section (rows 2-8) by “Microsoft.Extensions.Logging” rules. It’s about logging severity.

Set the “**Serilog**”. Serilog is logging library for .NET Core. The logging is sink to file (row 12), where the absolute *file path* and *file name* is set in row 14. The “*rollingInterval*” (row 15) by Day is to make log file for each day.

Set the “**AllowedOrigins**”. The CORS is checking origin domain in HTTP requests from client applications (web and mob). Here you must enter URL of Case Web Manager client application. The “*https://com.matthews.app*” is must and it is related with mobile application because mobile application is set to use this domain. You must use “;” as delimiter between URLs, but not at the end of the string.

Set the “**connectionStrings**”. In the “MatthewsAppDBConnectionString” (row 22) write the connection string to your DB.

Set the “**Swagger**”. The Swagger will not be sown in the production mode so it is no matter. However if you need to be show please contact ComData to change the source code.

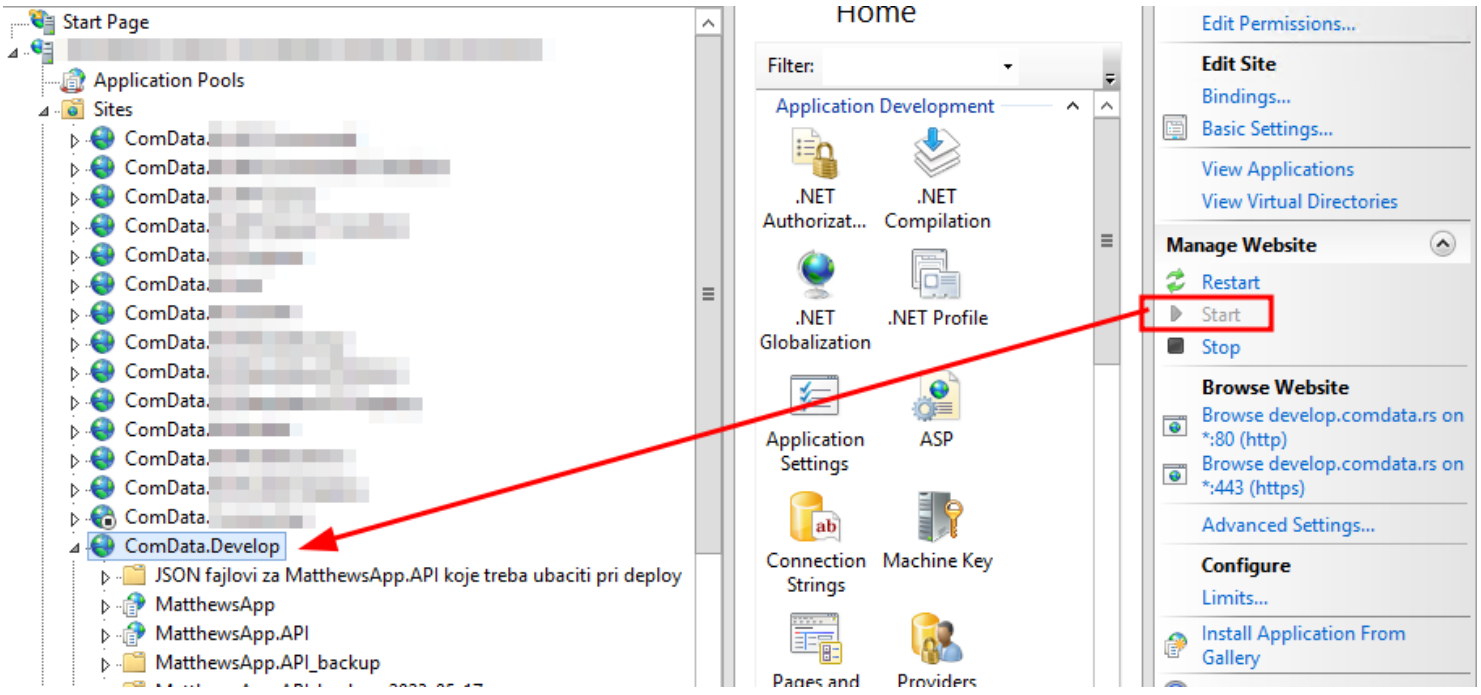
Set the “**OAuth2Introspection**”. Setting the communication with HMS Identity Server. The best practice is to create new user (rows 30 and 31) for log in to Identity Server. Please, do not change “*Scope*" and “ClientId” if you are not sure what are you doing. The scope must contains api and matthews.api

Set the “**i4connectedApiUrl**”. Case API application is using the HMS API. Here is the URL address. (Row 34)

Set the “**deviceListRefreshIntervalInMinutes**”. The Case MQTT background service needs to check the list of devices/cremators to be able to set mqtt connection and subscribe to topics. At any moment new device may be added in cloud and what’s why service is refreshing its list of devices in particular time period.

Running the IIS application pool

Once you start the pool, all applications will be started. The MQTT service will establish connection with all MQTT brokers and start sending initial data and list of 20 cases.



Deployment of Matthews Case Manager web application

The web application is developed in Microsoft Visual Studio Code IDE. It's free tool to download and use.

Source code repository for Matthews Case Scheduler web application

Entire source code is posted in GitHub repo:

https://github.com/webfactory-team/matthews_app

Once the source code is cloned, you may find Scheduler web app in the ***matthews-case-management*** folder. At any time the application can be built in Visual Studio Code, for production deployment. *(described in step by step section)*

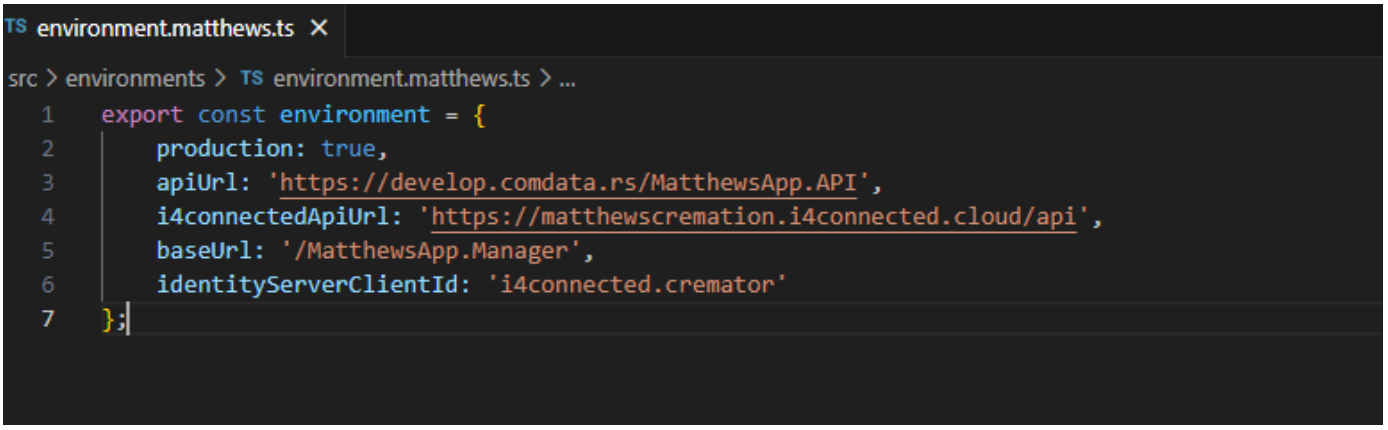
> Note: bet best way to have the last version of the software is to clone/pull it from GitHub repository.

In order to deploy the web app, you must open source code with Visual Studio Code, to build it with specific configuration and finally copy to IIS server.

Step by step

Here are is step by step instruction:

1. If it is not installed, please install node.js (https://nodejs.org/en) on you computer
2. Unzip the "**matthews-case-management.zip**" (or pull it from GitHub) and open the folder in Visual Studio Code (VSC)
3. In terminal window of the VSC type "`npm install`"
4. Next, configure the app in the ***environment.matthews.ts*** file



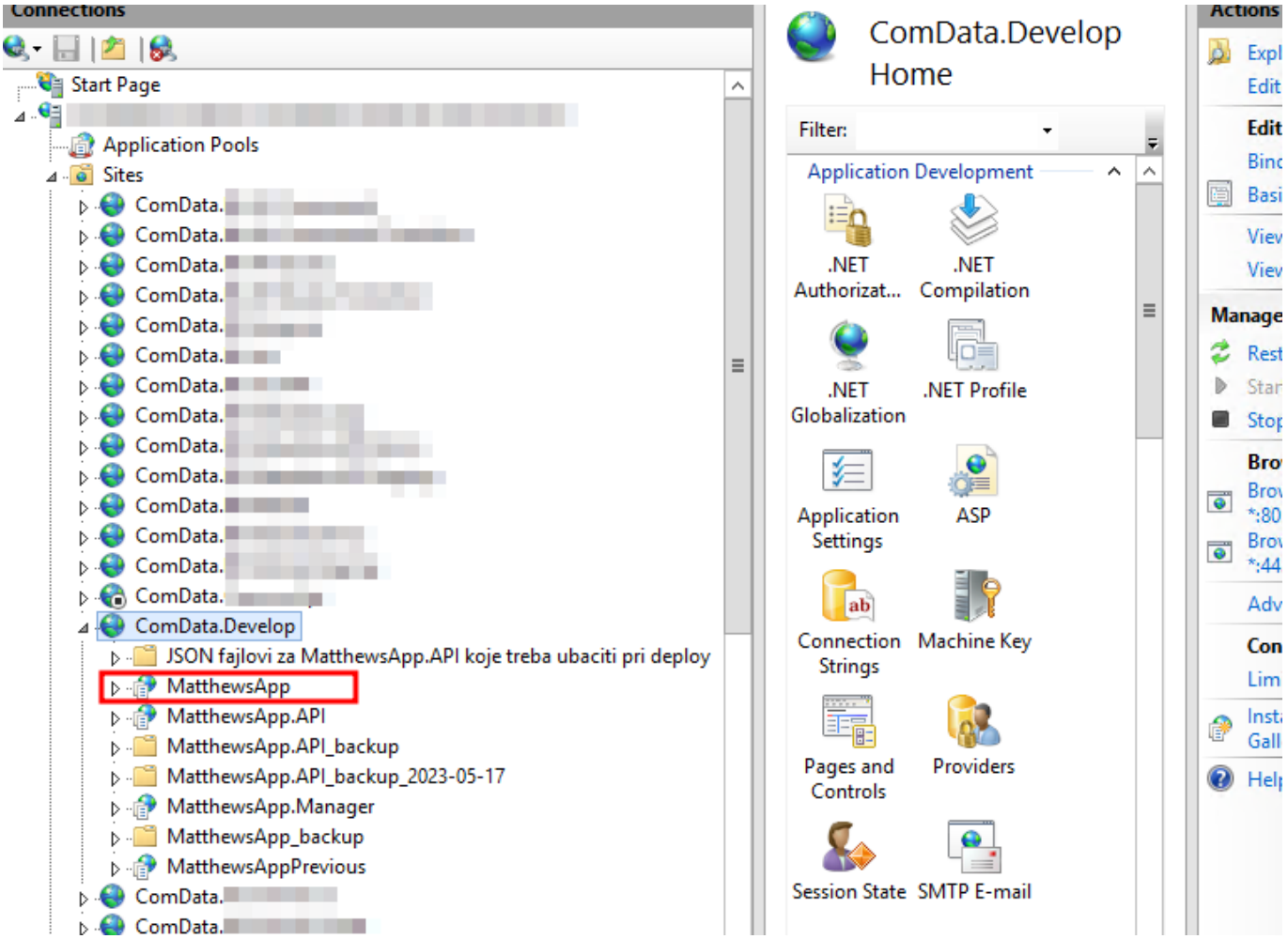
Set the "**apiUrl**" (row 3). This URL is for Case API application you set in the IIS.

Set the "**i4connectedApiUrl**" (row 4). This URL is for HMS cloud API.

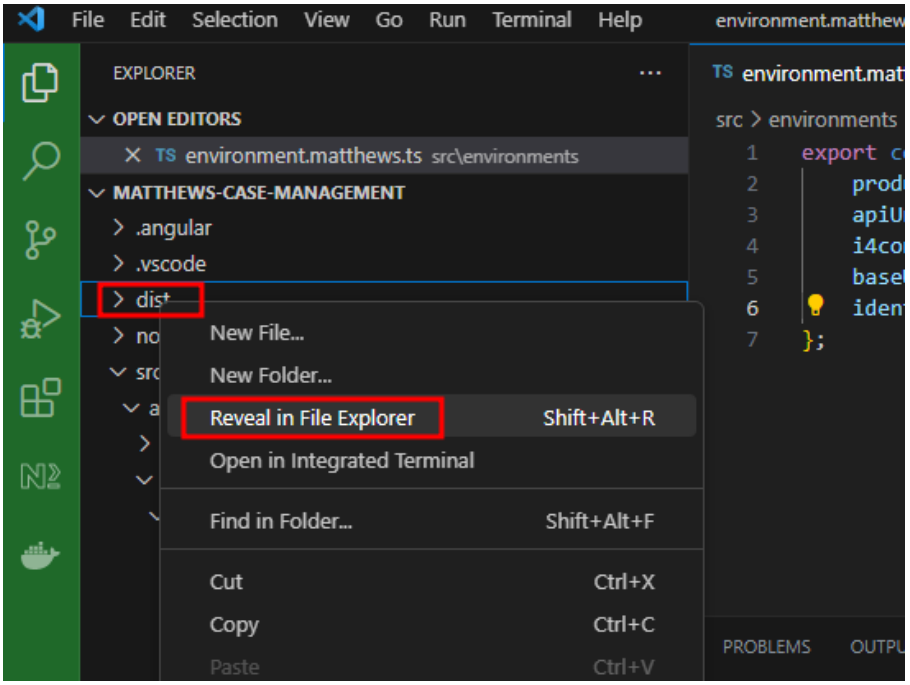
Set the "**baseUrl**" (row 5). It is the part of the URL pointing to IIS application name. For example, if we have URL "https://develop.comdata.rs/MatthewsApp.Manager/" the /Matthews.Manager is base url.

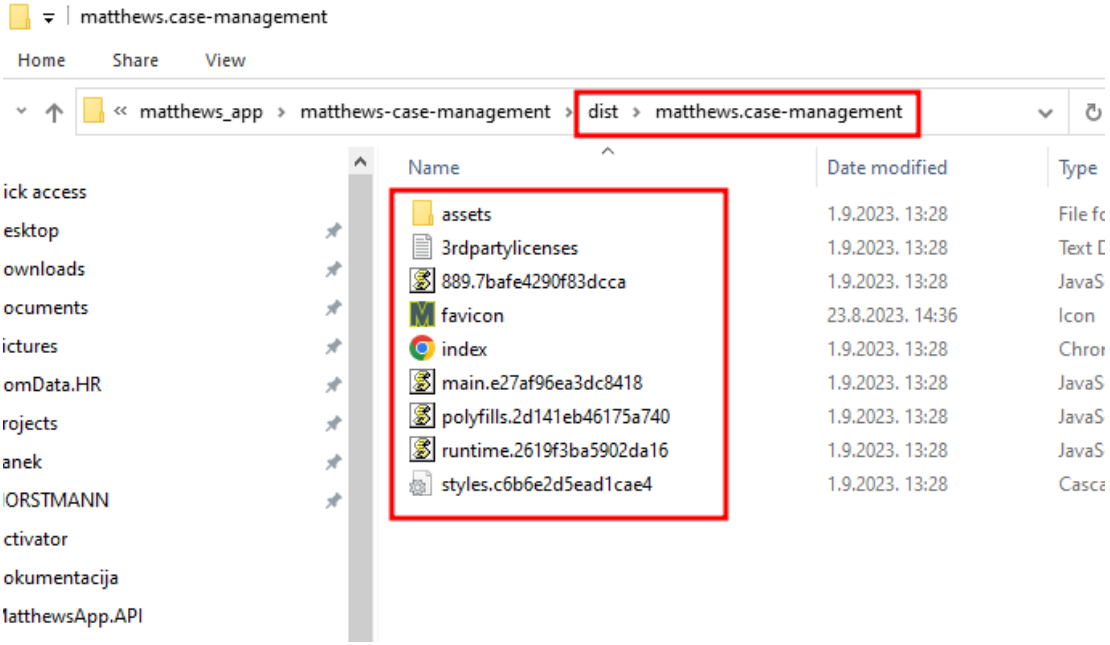
Set the "**identityServerClientId**". Do not change this if you are not sure what change will affect. The Identity Server already has this "*i4connected.cremator*" client.

5. Build web application. In terminal window type: "`ng build --configuration=matthews`"
6. Now at IIS service make new application. Let's call it "*MatthewApp*" or type any name you like.



7. Back now to VSC. Usually, the built code is in DIST folder. Go there to take the code and copy it to IIS MatthewsApp application folder.





8. Start or restart the IIS server