



6SS LPR

Administrator Guide



6SS

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1. INTRODUCTION

License plate recognition (LPR) has numerous applications in everyday life, besides the ones that drivers know from relation with the state. There are many areas where automatic license plate recognition can be used successfully, and all of them rely on the two most important values a LPR system brings: automation and greater security.

6SSLPR software is meant to fix problems in parking, security, retail, and comes with extra advantages of management and reports. It can also be integrated in a state institution parking, a private company, universities, a transport company, a real estate, retail, traffic management, bus lane enforcement, toll stations.

The main element is the 6SSLPR Smart Client Interface. Vehicles recordings, receipts, reports and statistics are accessible in this program and can be accessed from any Smart Client with valid authentication.

6SSLPR enable the user to set different actions to be executed when a license plate from the database is recognized: can open a barrier, can change a traffic light or can send an e-mail, popup on screen. It can thus be used for a more efficient management of a parking, office buildings, residential area of any size. For example, when entering a parking the plate is scanned and the time is recorded. When exiting, depending on time spent inside, a cost can be calculated.

In addition, 6SSLPR have also the option to save plate numbers as blacklist/whitelist that can be used to trigger actions like close/open barrier, fire siren alarm sound, etc...

6SS LPR Main Features

- Fully integrated with All Milestone XProtect versions
- Supports all cameras supported by Milestone VMS (approximately 6700 camera types)
- Filter through history based on various criteria
- One click data Excel Export
- Scheduled reports (Daily, Weekly, Monthly)
- Auto data retention period handling
- Alarming capabilities (Email, SMS)

2. GETTING STARTED

2.1. System Requirements

- Windows OS 7 or above
- Milestone Smart Client (2016 or above)
- 6SS-LPR Management (V5.1.5 or above)
- ARH Carmen FreeFlow (version 7.3.11 or above)

2.2. Quick Start

- Unpack the Recognition Server Folder on your drive.
- Start the installation process by opening the “Setup.exe”.
- Choose the installation folder of the recognition server.
- Finalize installation to the PC.
- Once the process completes, the Recognition Server Plugin will be ready to use.

2.3. System Introduction

The server part of the system consists of 2 main components: Management and Recognition. Each LPR system contains only one Management server, and one or more Recognition servers, depending on the project size and the system’s distributed architecture. Both processes can be installed and ran on the same server, but each with its own configuration. The machine has to be licensed first before doing anything on the LPR system after the installation.

Below is a figure describing the architecture of the system.

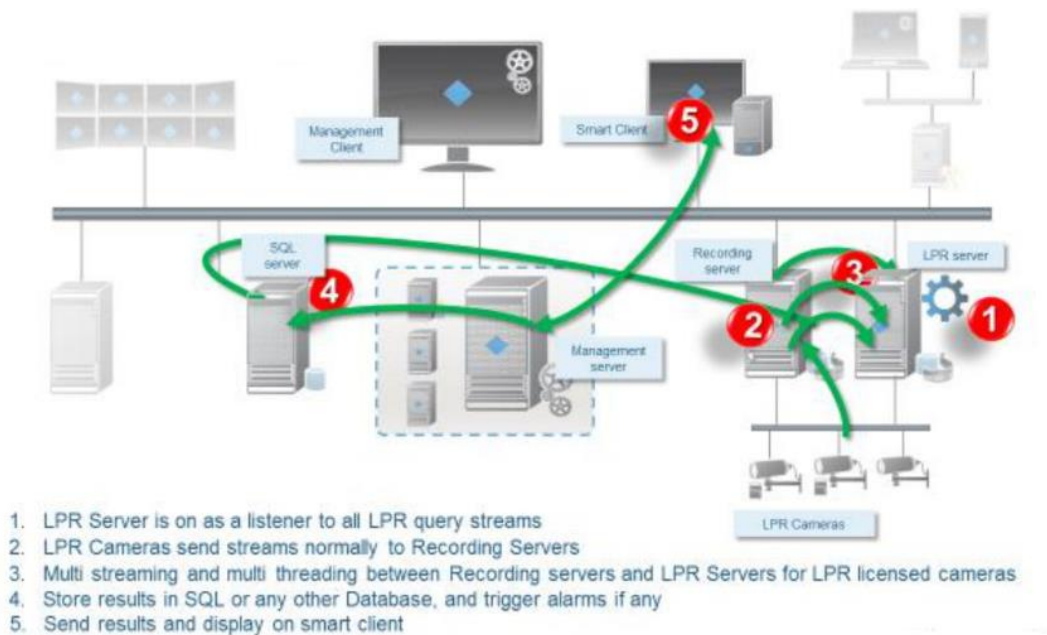


FIGURE 1: 6SS LPR ARCHITECTURE

3. 6SS LPR INSTALLATION

3.1. SQL Server Configuration

The configuration for the 6SS LPR database needs to be done on the server where Microsoft SQL server is installed.

3.1.1. Database Creation

Double click the given SQL script in order to create 6SS Database and click the execute button to run the query.

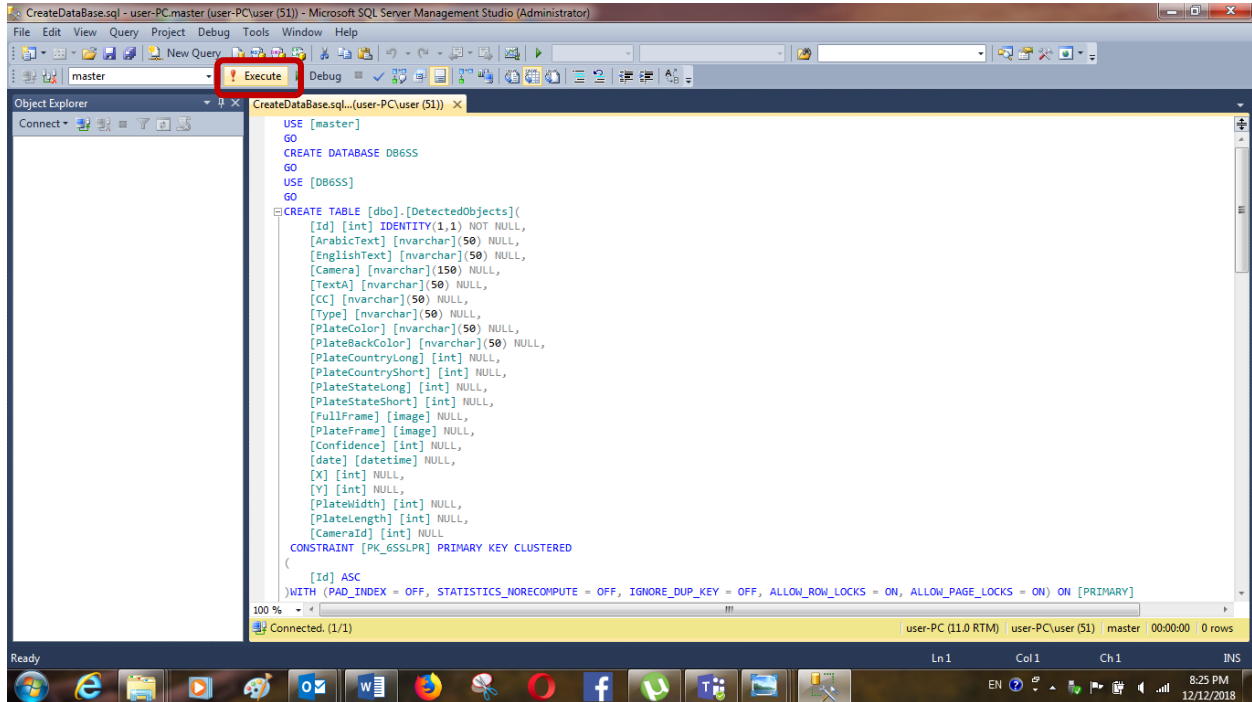


FIGURE 2: CREATE 6SS DATABASE USING SQL QUERY

DB6SS database is created and appears in SQL server as shown below:

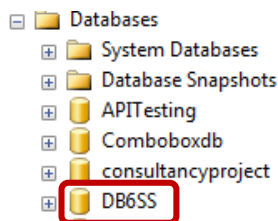


FIGURE 3: DATABASE CREATED

3.1.2. User Creation and Authentication

Open the “Security” tab, right-click on Logins and select “New Login”.

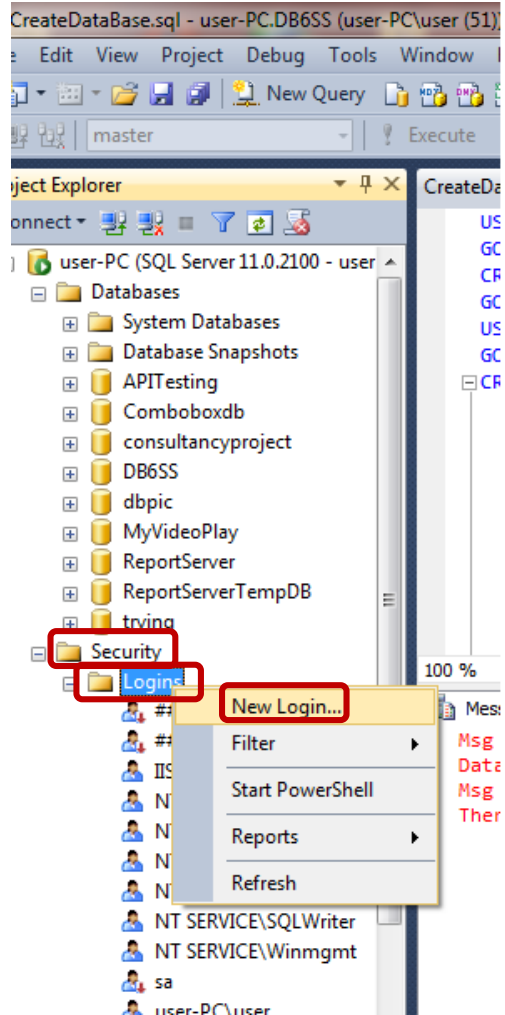
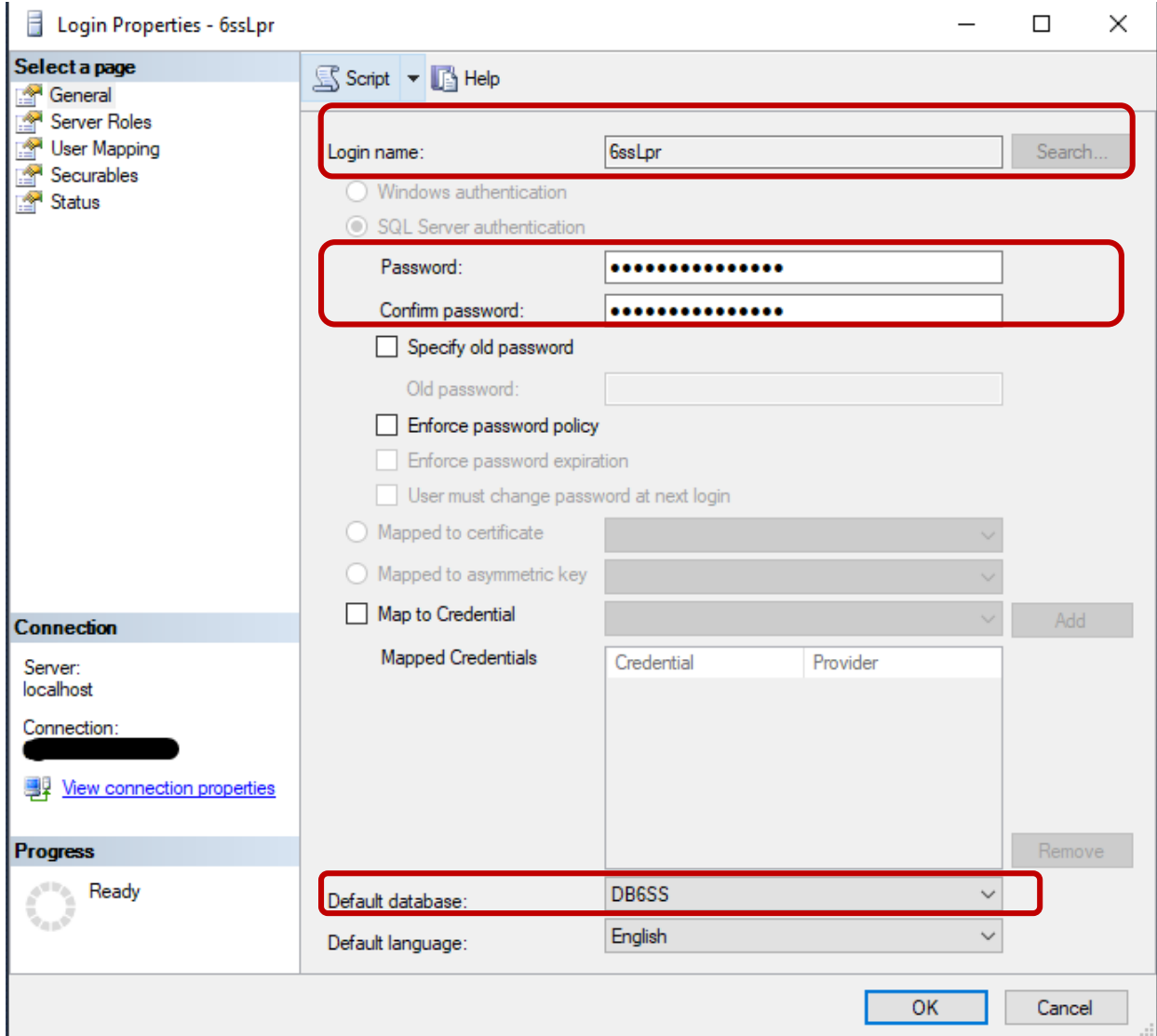


FIGURE 4: ADD NEW LOGIN

In the Login window:

- Click General tab on the left side
- Set Login Name “6ssLpr” and Password “6ssLpr”
- Select DB6SS as Default Database



Login Properties - 6ssLpr

Select a page

- General
- Server Roles
- User Mapping
- Securables
- Status

Script Help

Login name: 6ssLpr Search...

Windows authentication

SQL Server authentication

Password:

Confirm password:

Specify old password

Old password:

Enforce password policy

Enforce password expiration

User must change password at next login

Mapped to certificate

Mapped to asymmetric key

Map to Credential

Mapped Credentials

Credential	Provider
------------	----------

Default database: DB6SS

Default language: English

OK Cancel

FIGURE 5: FILL THE FIELDS TO ADD NEW LOGIN

In User Mapping, check DB6SS, db_owner and public checkboxes as shown in Figure 6.

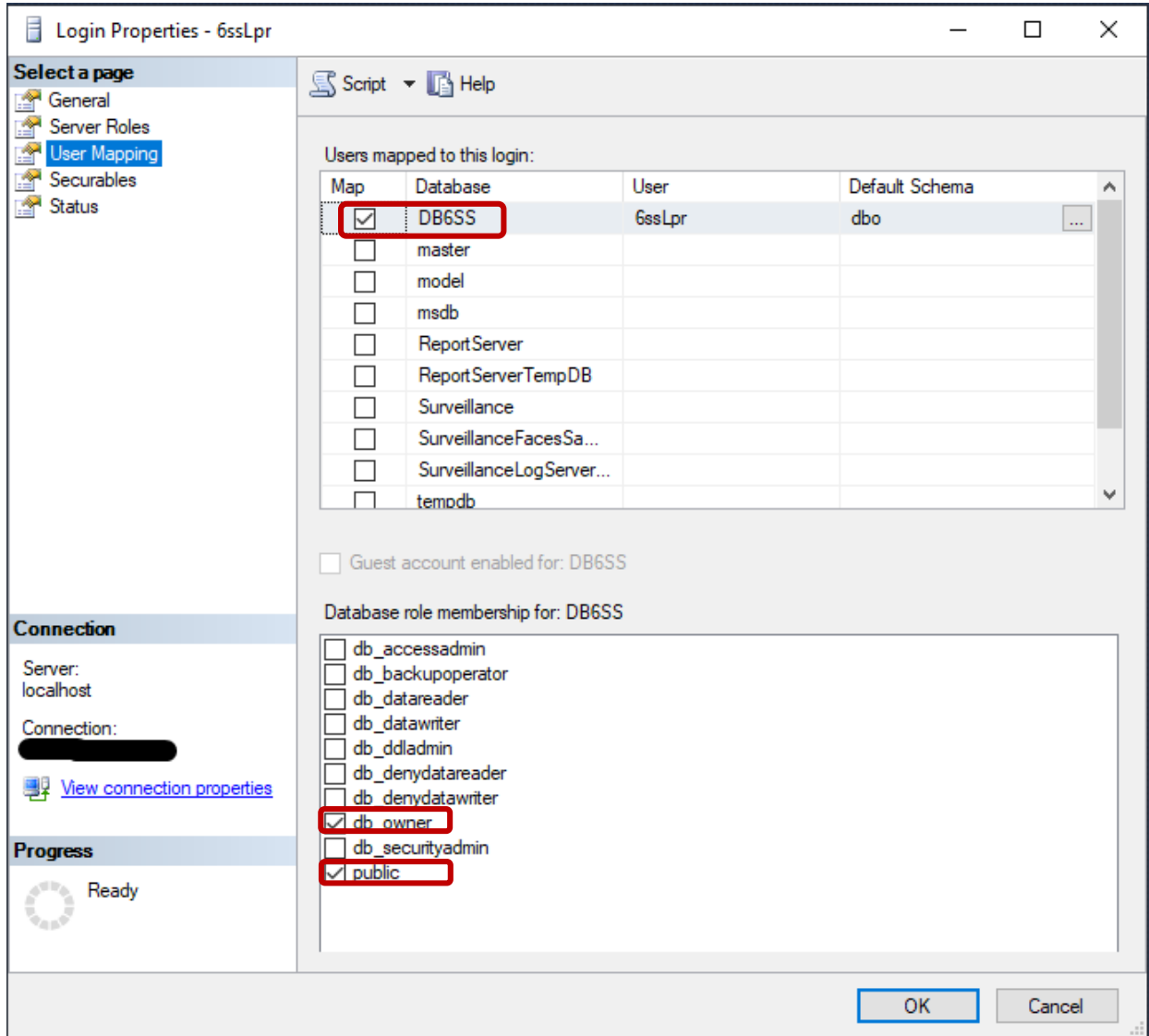


FIGURE 6: USER MAPPING

Click ok when finish and notice the 6ssLpr login appears under Security - Logins.

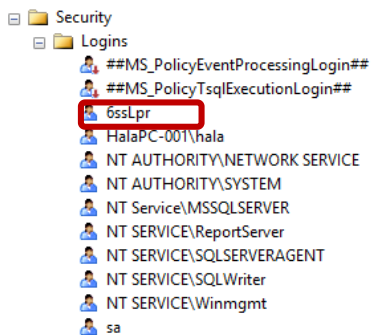


FIGURE 7: ADDED LOGIN

3.1.3. Server Authentication

Right click on the server and select Properties, select security tab and choose SQL Server and Windows Authentication mode.

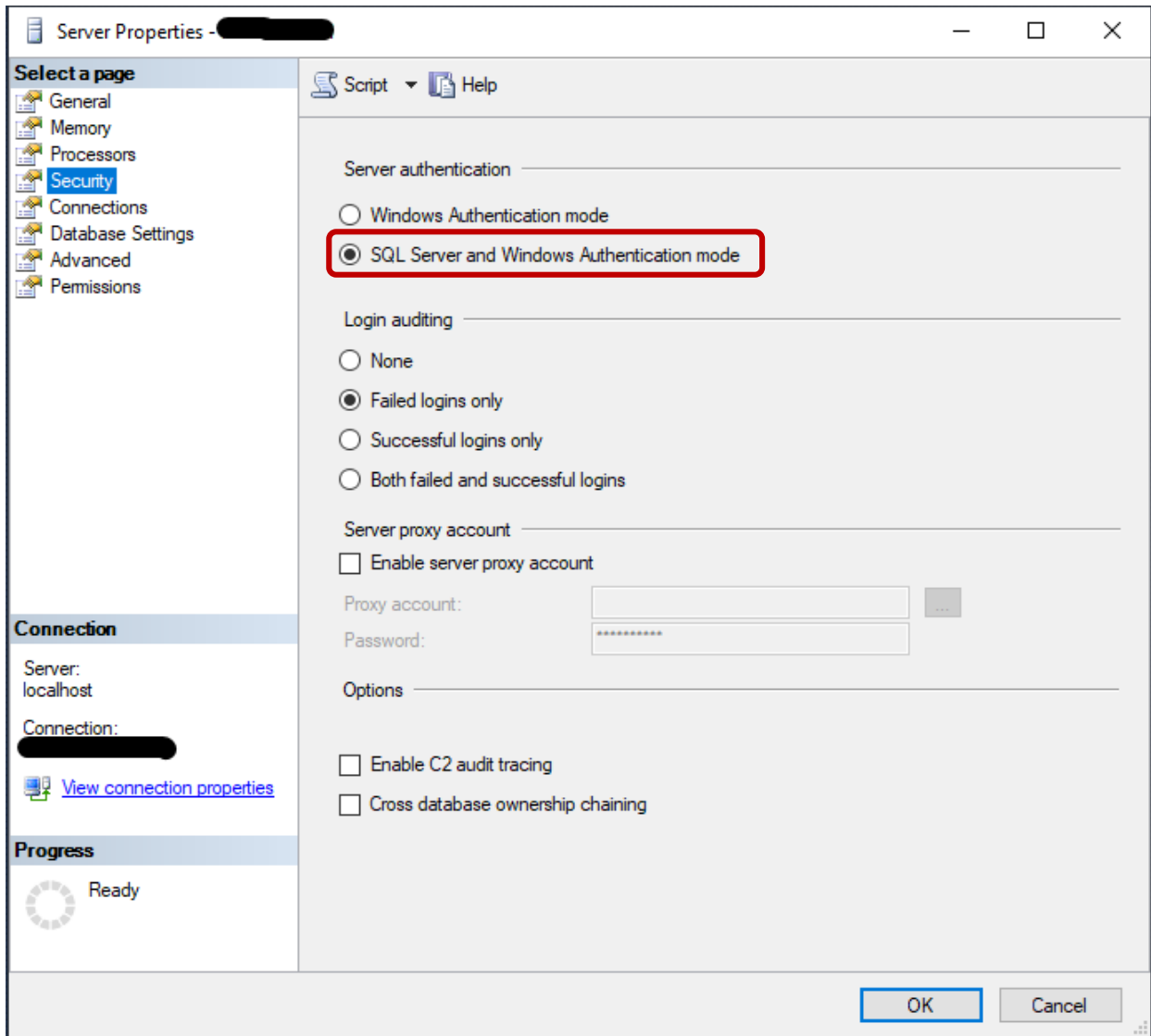


FIGURE 8: SERVER AUTHENTICATION

A restart must be done for SQL Server and SQL Server Agent instances as shown in the below figure.

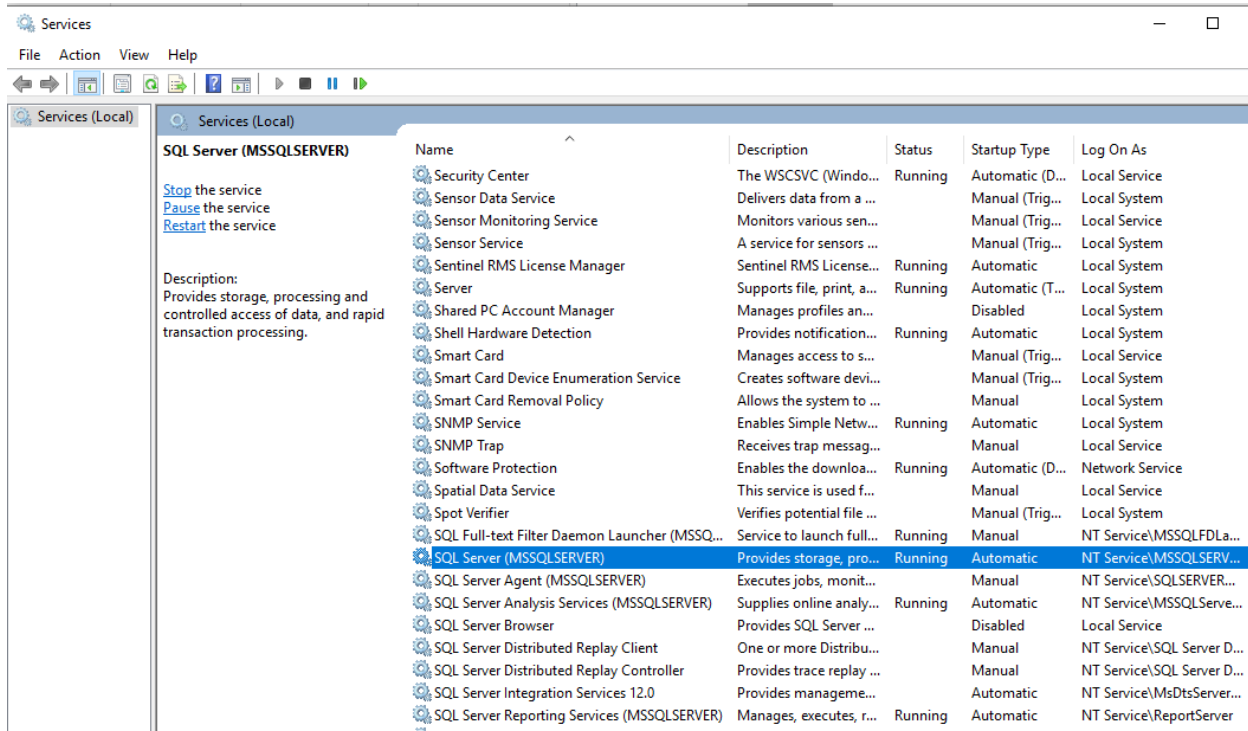


FIGURE 9: RESTART SQL SERVER INSTANCES

3.2. Carmen FreeFlow Installation

3.2.1. Setup Wizard

Navigate to Carmen FreeFlow setup folder and run setup as shown in **Figure 10**.

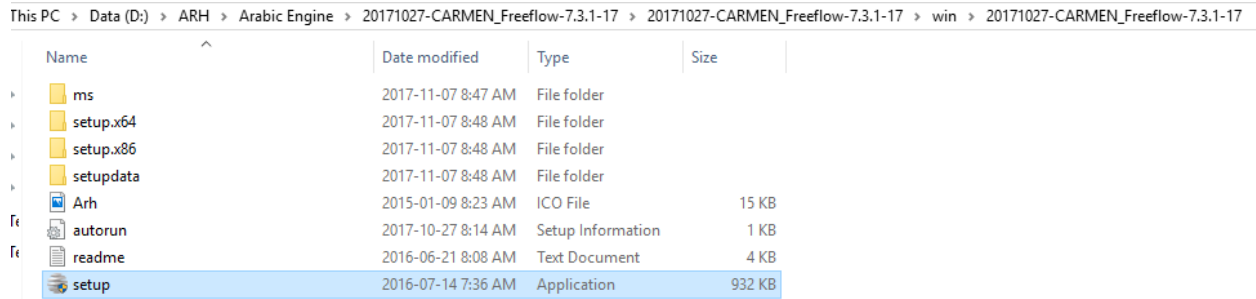


FIGURE 10: CARMEN FREEFLOW SETUP

Select the 3rd option “CARMEN Full” for full installation package and click on **Next**.

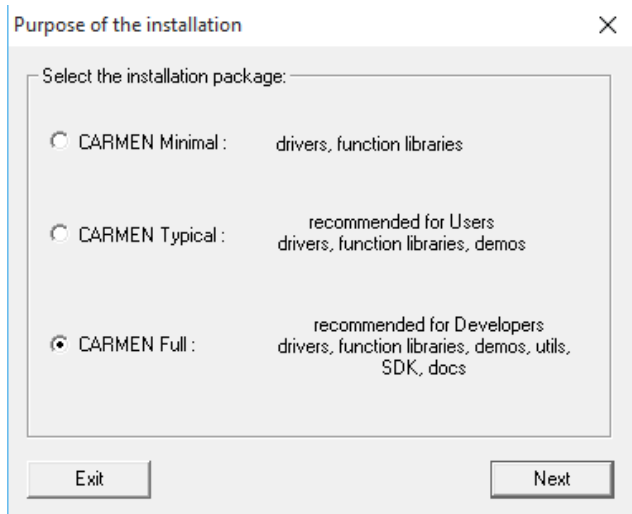


FIGURE 11: CARMEN INSTALLATION PURPOSE

You will be presented by the Carmen FreeFlow Software window with installation progress. Click ok once the installation is completed.



FIGURE 12: CARMEN FREEFLOW SOFTWARE INSTALLATION

3.2.2. Engine Manager

Search for Engine Manager and click to open.

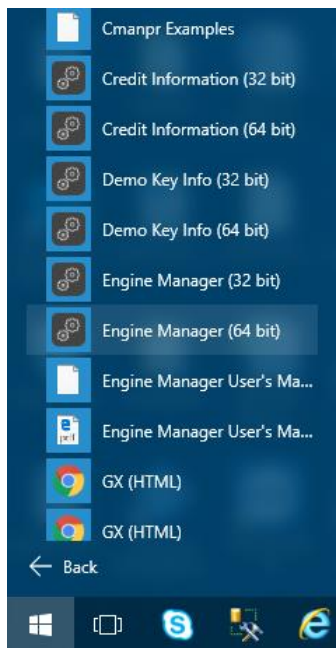


FIGURE 13: ENGINE MANAGER

Click on **Browse** (1) and navigate to the Arabic engine folder and choose either “cmanpr-arab-7.3.10.175_19Q1-x64” or “cmanpr-arab-7.3.10.175_19Q1-x86” depending on your platform. Then click **Install engines** (2) and select the downloaded Arabic engine from the **Installed engines** (3) and click on **Change** (4) to set it as default engine, you will be notified that the “Default engine has been set successfully” as shown in **Figure 14**, click on **OK** (5).

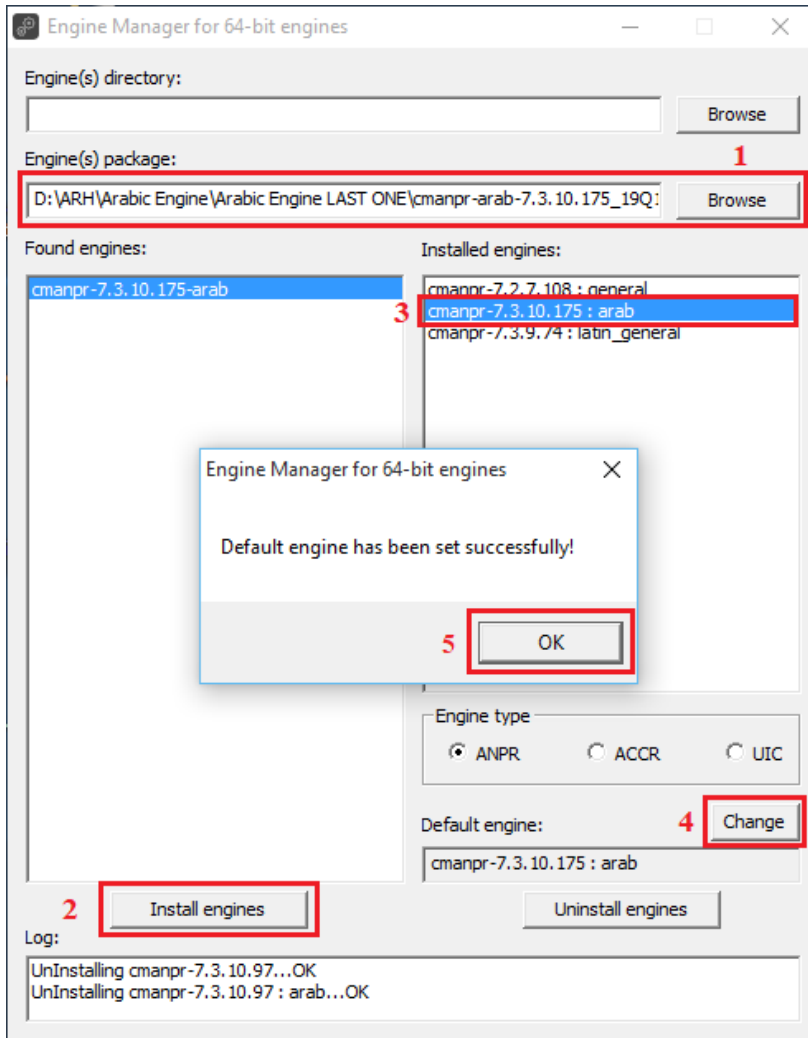


FIGURE 14: INSTALL ARABIC ENGINE

3.3. Recognition Server

3.3.1. Setup Wizard

First open the copied Recognition Server Folder > Setup > Debug and double click on Setup. The setup wizard opens, click Next to continue.

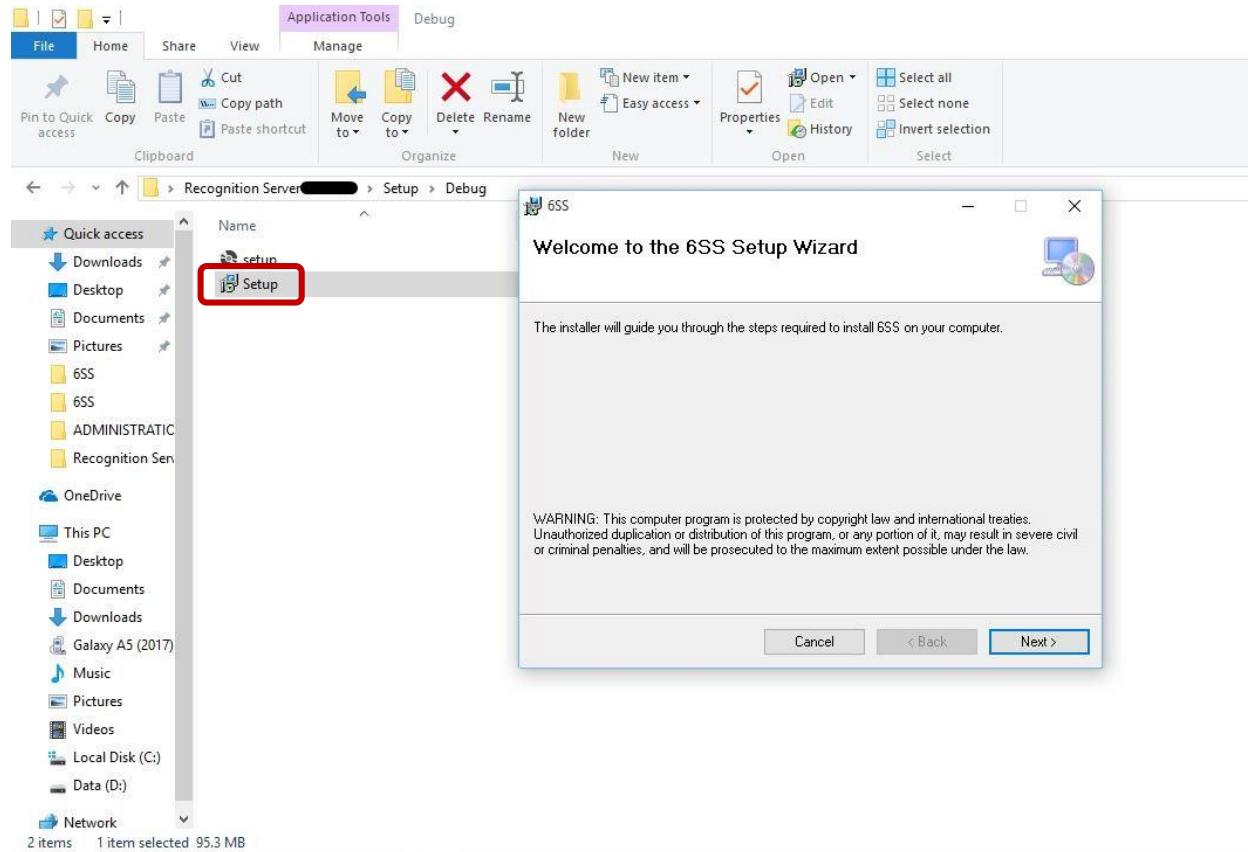


FIGURE 15: RECOGNITION SERVER SETUP WIZARD

The installation folder windows let you specify the path to where the recognition server folder will be created as shown in **Figure 16**. In this folder you will find the Recognition Server setup application along with the DLL used. Click next to continue and the setup will be installed as shown in **Figure 17**.

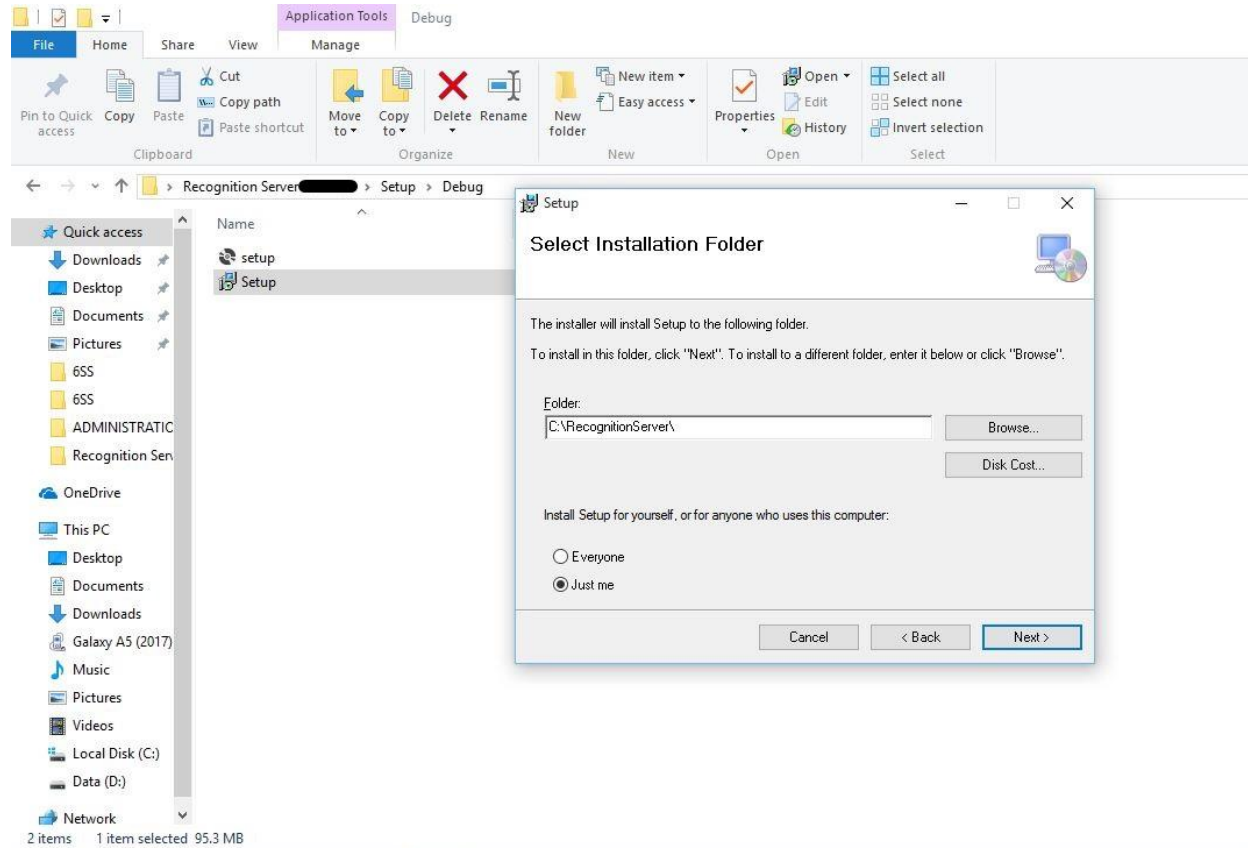


FIGURE 16: RECOGNITION SERVER INSTALLATION FOLDER

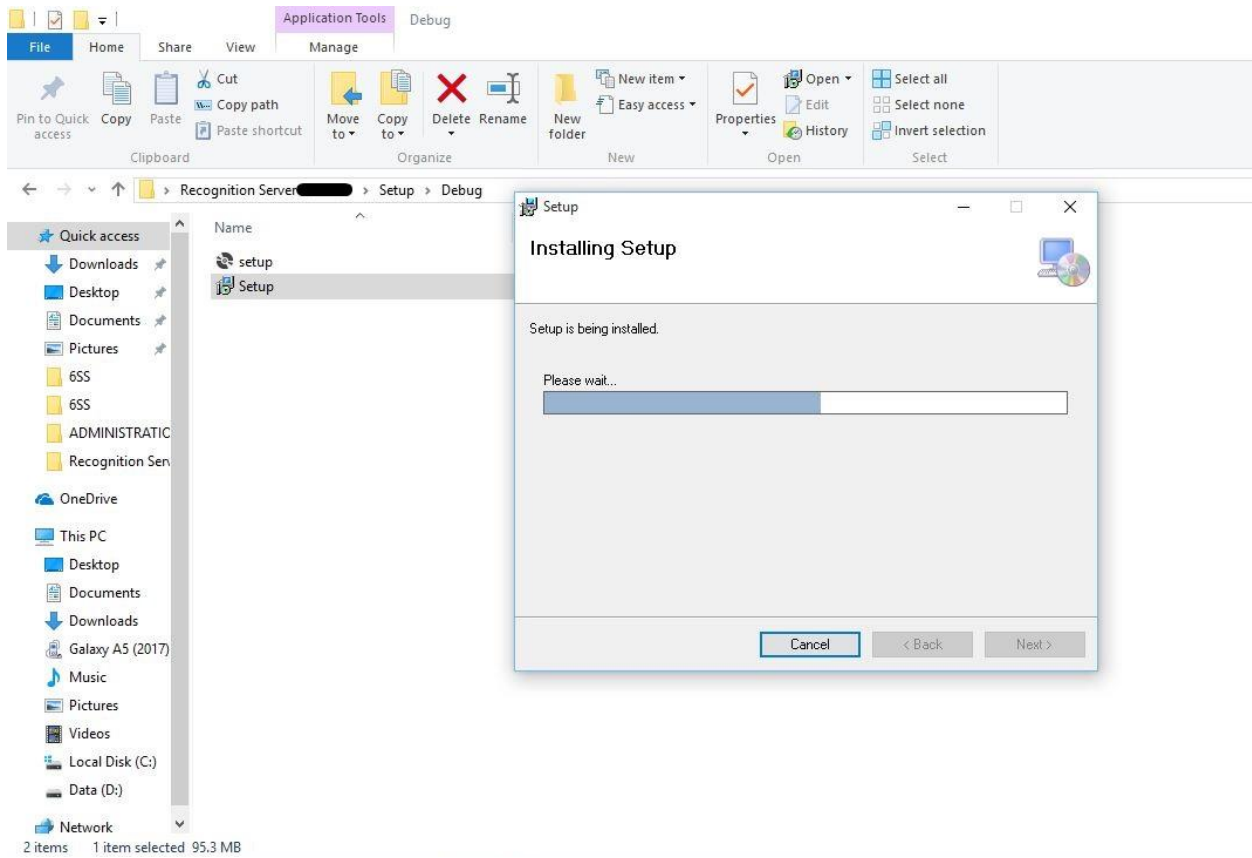


FIGURE 17: INSTALLATION SETUP

Once the recognition server setup is installed right click on “RecognitionServer” application found under the specified destination folder as shown below and choose copy to create a shortcut on your desktop.

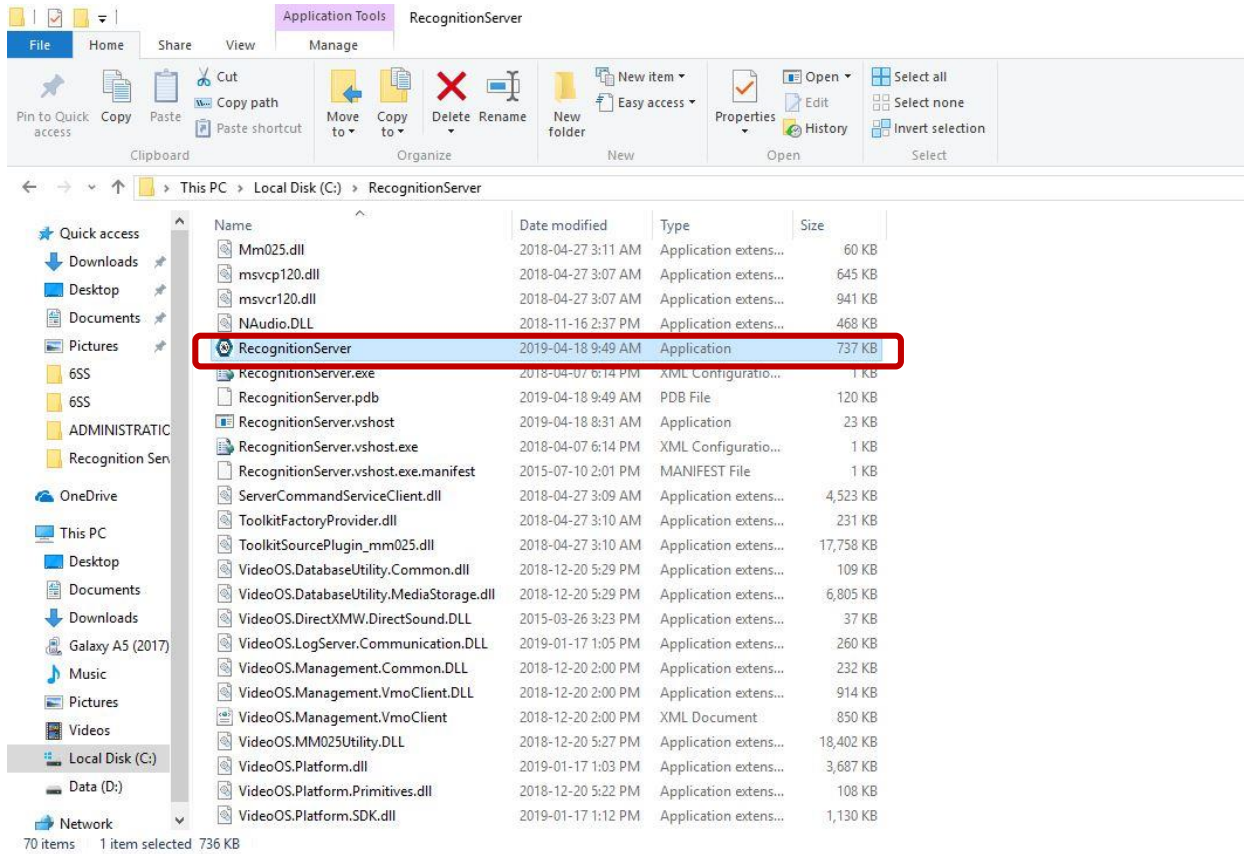


FIGURE 18: RECOGNITION SERVER FOLDER

Note that when you double click on the application previously launched a pop up message appears as showing below indicating that another instance is already running in the background if you still want to stop the application from running click on yes. This will stop the Recognition Server functionality of detecting license plates.

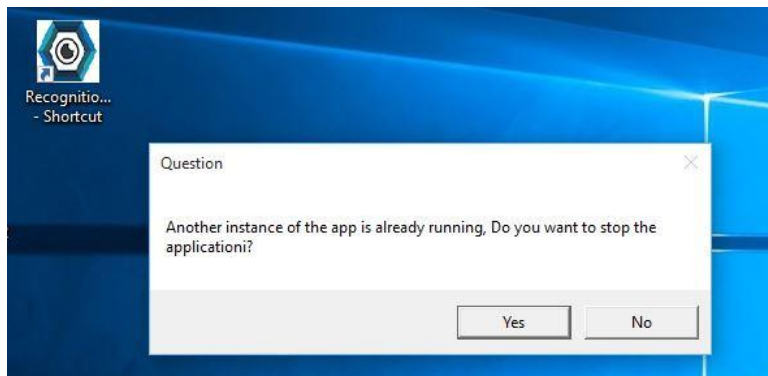


FIGURE 19: RECOGNITION SERVER INSTANCE

3.3.2. Recognition Server Interface

Running the application for first time use will prompt you to enter the management server’s IP address. Choose windows authentication mode and make sure to check “Auto-login” checkbox to reconnect directly to the server next time you launch the application.

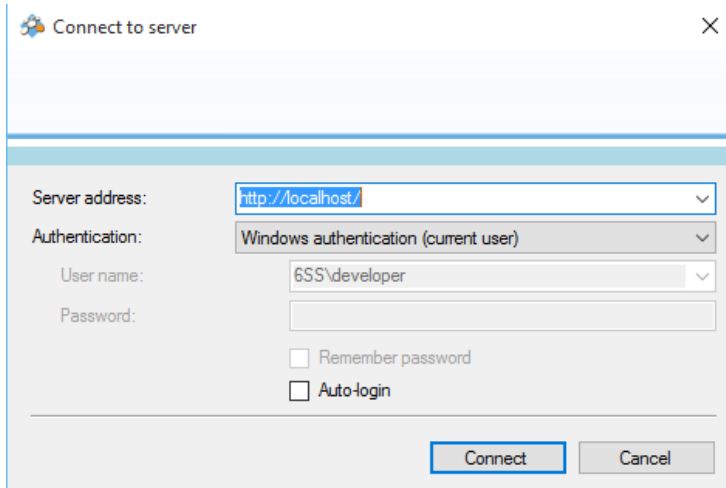


FIGURE 20: CONNECT TO MANAGEMENT SERVER

The first tab shown in **Figure 21** is LPR Recognition Server. Here you can specify from the list of cameras connected to the recording server (by clicking on the button Select Camera) the cameras you would like to be used for LPR detection.

You will notice after properly setting the required cameras and the SQL server name, a set of detected license plate number will be filled line by line listing the camera name that has captured the plate number along with its country, state, region, and the date when the plate number is recognized by the camera, in addition to the plate number color and its appropriate screenshot image.

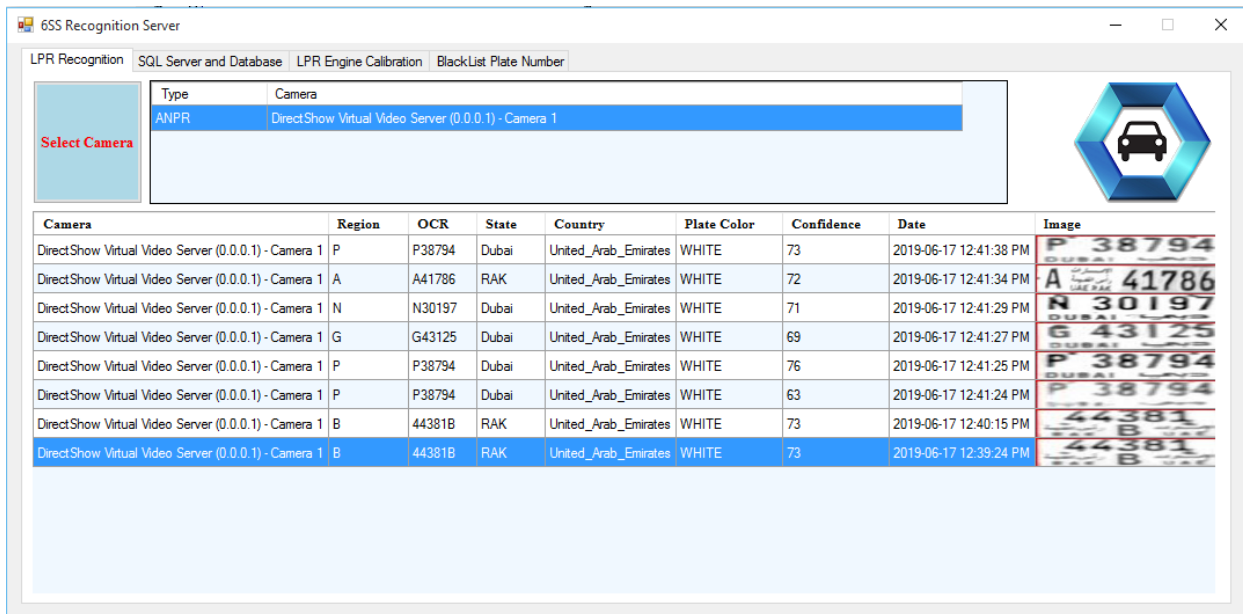


FIGURE 21: “LPR RECOGNITION” TAB

In the “SQL Server and Database” tab you need to specify the name of the SQL Server you want to connect to, as shown in the figure below.



FIGURE 22: “SQL SERVER AND DATABASE” TAB

For the engine calibration use the fields shown in **Figure 23** under “LPR Engine Calibration” tab to adjust/manipulate the parameters for better result and accuracy. Click “Save” button once finished to save the calibration parameters.

below is an example of calibration for the Arabic engine.

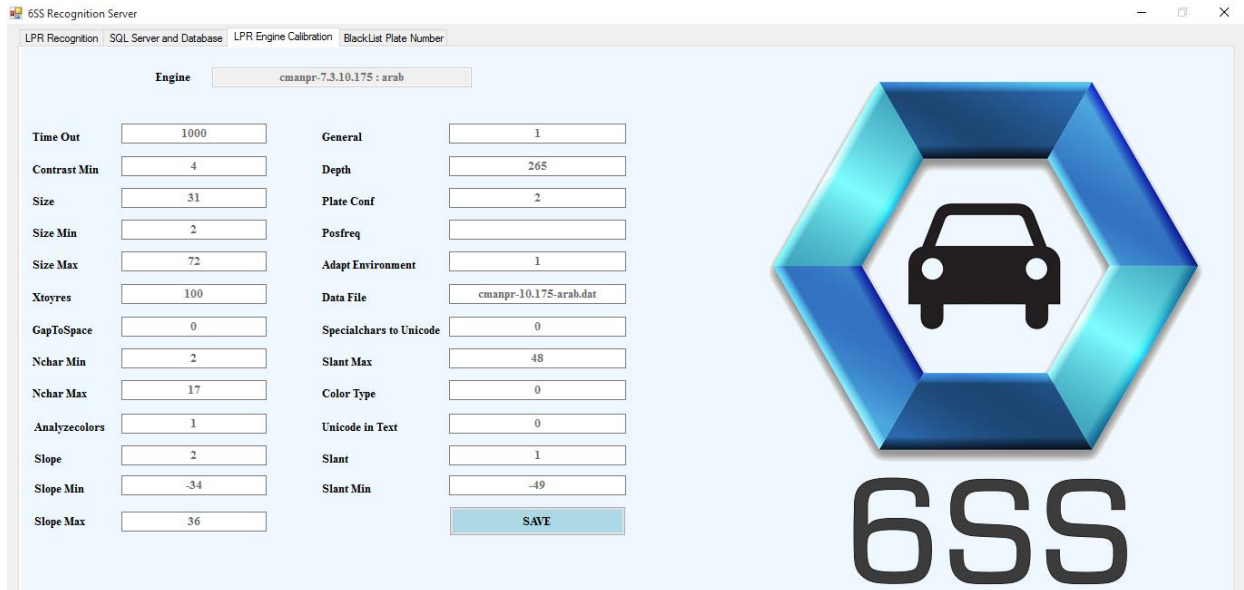


FIGURE 23: “LPR ENGINE CALIBRATION” TAB

A plate number can be listed as a blacklist or whitelist using the “Blacklist Plate Number” tab. Specify the plate number, type, status (enabled/disabled), and the event/action that may be attached to this plate number as shown in the below figure.

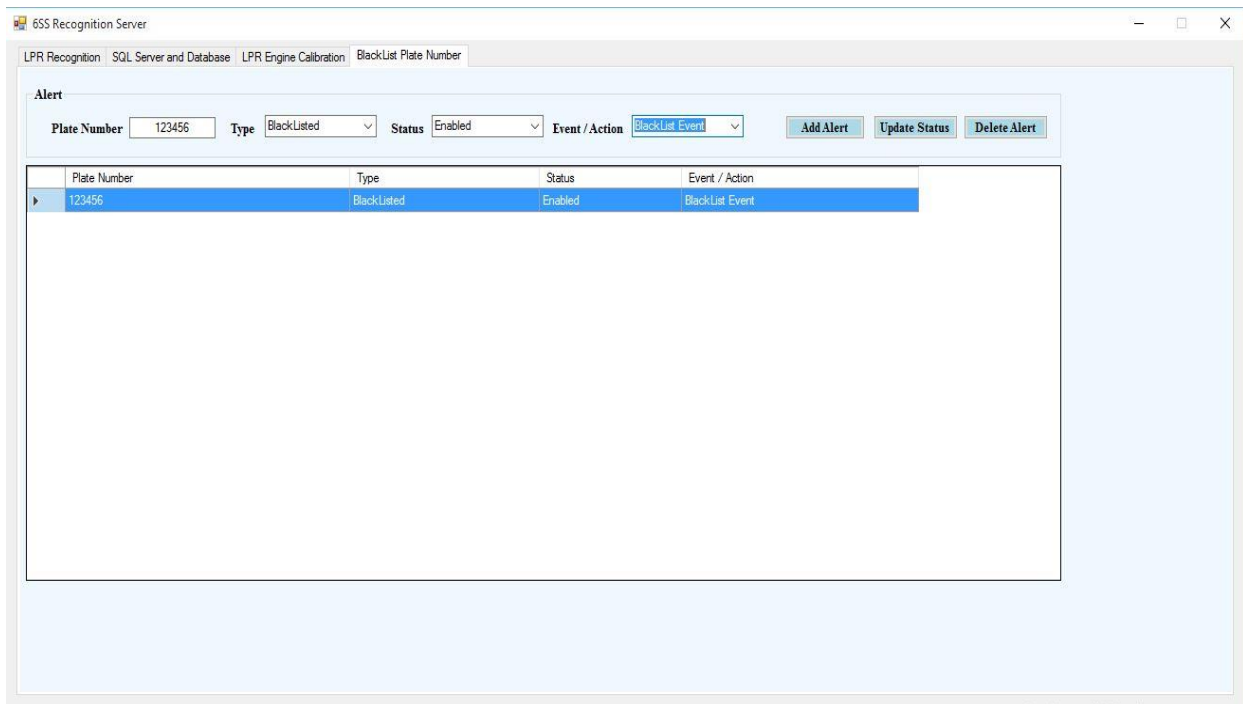


FIGURE 24: “BLACKLIST PLATE NUMBER” TAB