Advanced EVA Analytics

Quick Start Guide

(beta)

3 Jul 2024

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!N.B. PLEASE, CONSIDER THAT YOU ARE USING THE BETA VERSION OF THIS FEATURE. WE CAN'T GUARANTEE ITS STABILITY. ALTHOUGH WE ARE HAPPY TO RECEIVE YOUR FEEDBACK THROUGH OUR SUPPORT ENGINEERS, SOME ISSUES MAY BE RESOLVED ONLY WITH THE NEXT RELEASES.

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1. System Installation and First Start

General

The Luxriot EVO is a highly sophisticated and, at the same time, user-friendly Video and Data Monitoring Software. We constantly enhance its functionality and provide options for 3rd-party software integrations with our Luxriot EVO Monitor interface. The Luxriot EVO consists of three main modules:

- The **Luxriot EVO Server**: Stands behind all the backend processes, such as streaming and recording capabilities.
- The **Luxriot EVO Console**: Allows to configure Luxriot EVO and is meant for administration purposes.
- The **Luxriot EVO Monitor**: Displays preconfigured video and data channels, allowing the person and the connected analytics software to review and analyze those channels.

In the age of rising AI, you can't ignore additional capabilities provided by external AI tools, and Luxriot EVO allows you to include those tools into the existing workflow seamlessly.

However, this document focuses on EVA Advanced, an external analytical module that provides enhanced capabilities. EVA Advanced functions as an external service and integrates with Luxriot EVO to offer advanced analytics beyond the basic built-in features. The integration follows a specific architecture where the EVA Advanced module operates independently but communicates with Luxriot EVO to deliver sophisticated analytical insights.

To summarize, here is the architecture breakdown:

- **EVA Basic**: Built-in analytics with core functionalities (refer to the EVA Basic guide for details).
- **EVA Advanced**: External service providing advanced analytics, integrated into the Luxriot EVO workflow as an independent module (covered in this guide).

This document contains step-by-step quick-start guidance for the installation and primary configuration of the Luxriot EVA Advanced analytics system.

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2. Single PC System Installation

Use this step-by-step guide to learn the process of the system components installation for a single server on Windows OS.

Requirements

- Make sure you have administrator rights to make changes to the system.
- If you have an NVIDIA graphics card, make sure that the installed driver is version 471.41 or higher.
- MySQL/PostgreSQL/MSSQL should be installed and configured before the analytics system installation for further connection to the server.
- Software installation does not require an internet connection.

Download the archive containing the installation files. Copy the files to the desired directory, unpack the archive, and open the installation files folder.

!N.B. If you have already installed EVA 23.2 and want to update it to the 23.3 version while preserving the data, you will need to take a few extra steps:

1. Uninstall your current version via *add/remove programs*.
2. Manually delete folders:
    a. *c:\programdata\eva\process-runner*
    b. *c:\programdata\eva\middleware-core\core_plugins*
3. Inside the folder, *c:\programdata\eva\middleware-core\plugins*, delete all files except **luxriot_config.json**.
4. Inside the folder, *c:\programdata\eva\middleware-core*, find file config.json and rename it to the **config.json.bak**
5. Run **luxriot-eva-install-x64.exe** and install it in the same folder (by default - *c:\ProgramData\EVA*). Use the same database configuration as the previous (23.2) installation (by default, its type is internal).
6. After installation is completed, open EVA in the web interface or use Luxriot EVO Monitor *crosslinks* to install all the necessary plugins.

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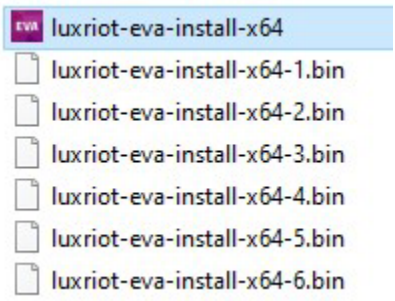
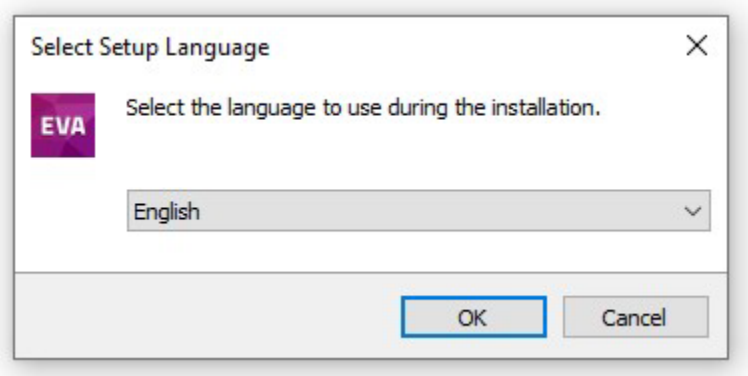
If data preservation is not your priority, simply delete the *c:\ProgramData\EVA* folder and install EVA 23.3 as a new installation.

System Installation

1. Run the *luxriot-eva-install-x64.exe* file by double-clicking it.



2. Choose the desired language and press the *OK* button.



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3. Check the setup information and click the *Next* button. If the system is busy with other tasks, Windows updates are pending, or the system does not have a stable power supply, click *Cancel* to terminate the installation. Solve the issues, and run the wizard again later.

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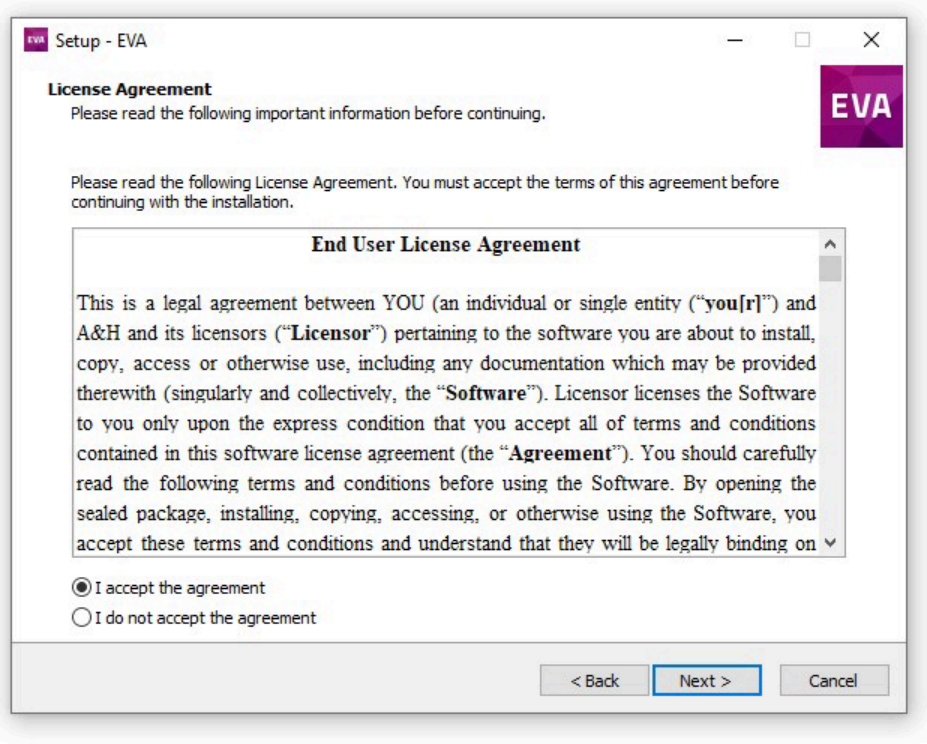
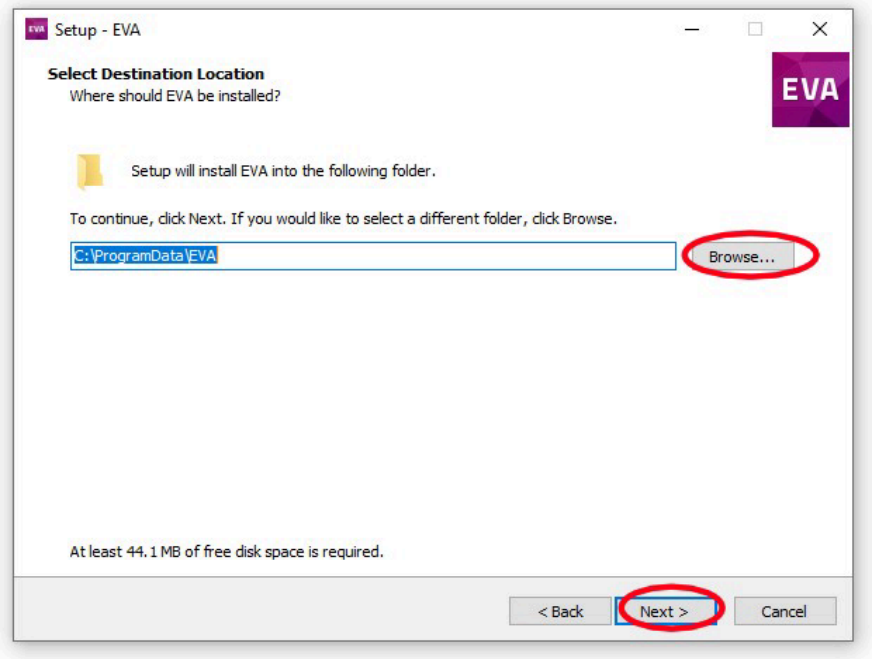
4. Read and accept the *License agreement*.



5. Use the *Browse* button to change the installation folder or continue with the default installation path. When done, click the *Next* button to proceed.



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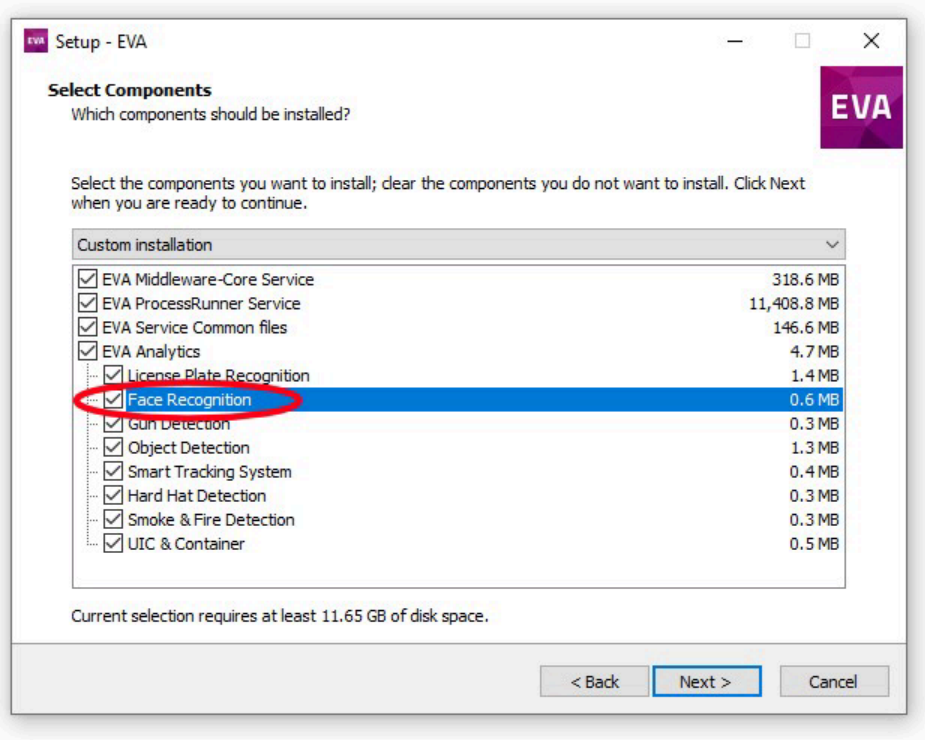
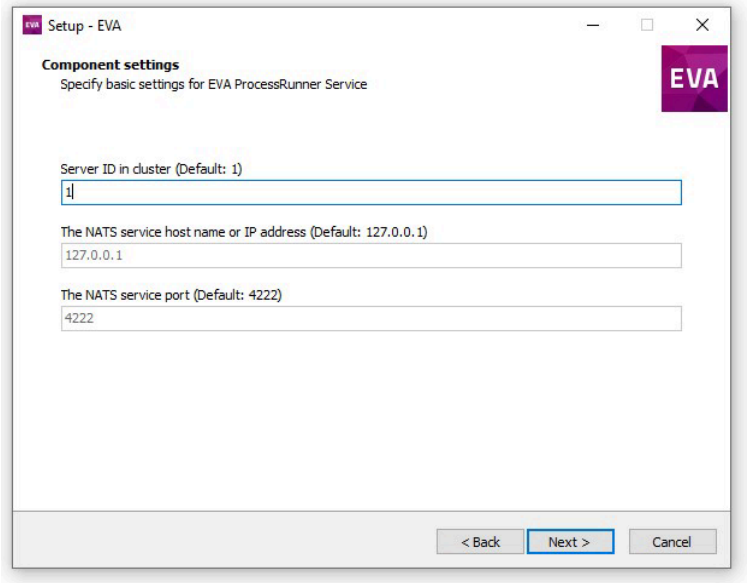
6. Select Full Installation from the drop-down menu to choose all system elements. We recommend marking all the components, including **Face Recognition**; it does not take any resources but will make it easier to expand the configuration later, if necessary.



7. The only available *Component setting* is *Server ID in Cluster*. Use the Default value (1) for the single server installation setup.



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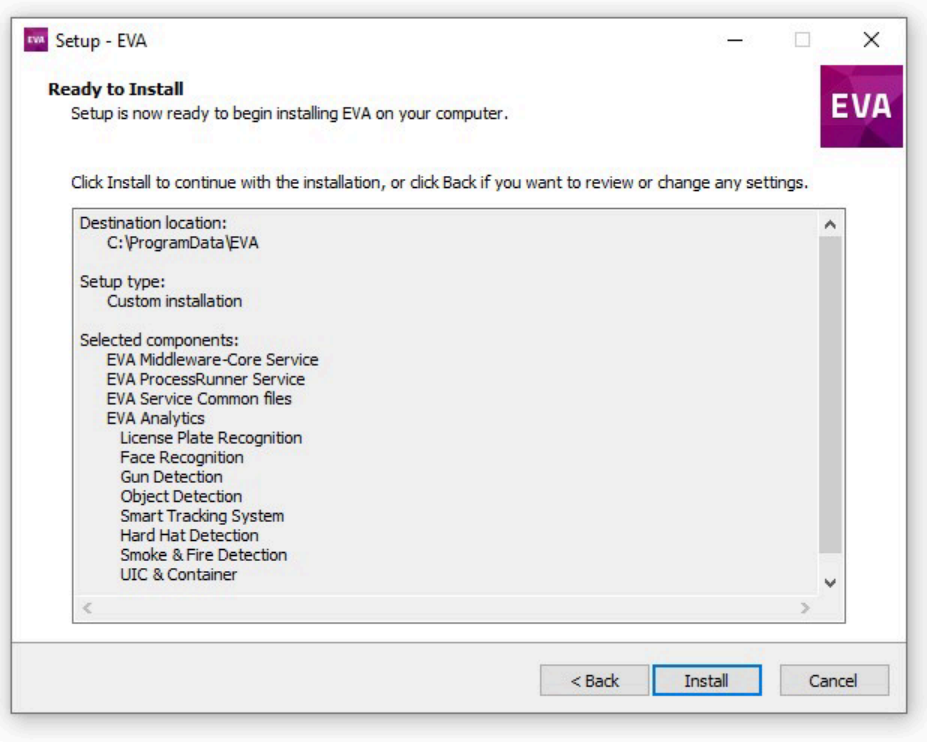
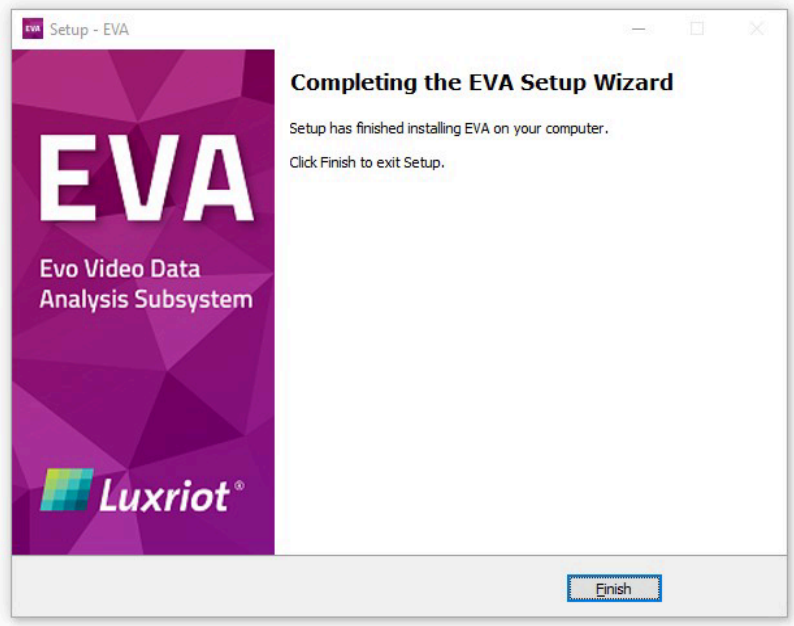
8. Review the pre-installation summary and click the *Install* button. The installation wizard will extract the files and complete the installation; wait for the installation to complete. The wizard will install additional OS components, if necessary too.



9. Click the *Finish* button to close the setup window.



The Luxriot EVA system installation is complete.

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3. Initial Server Launch

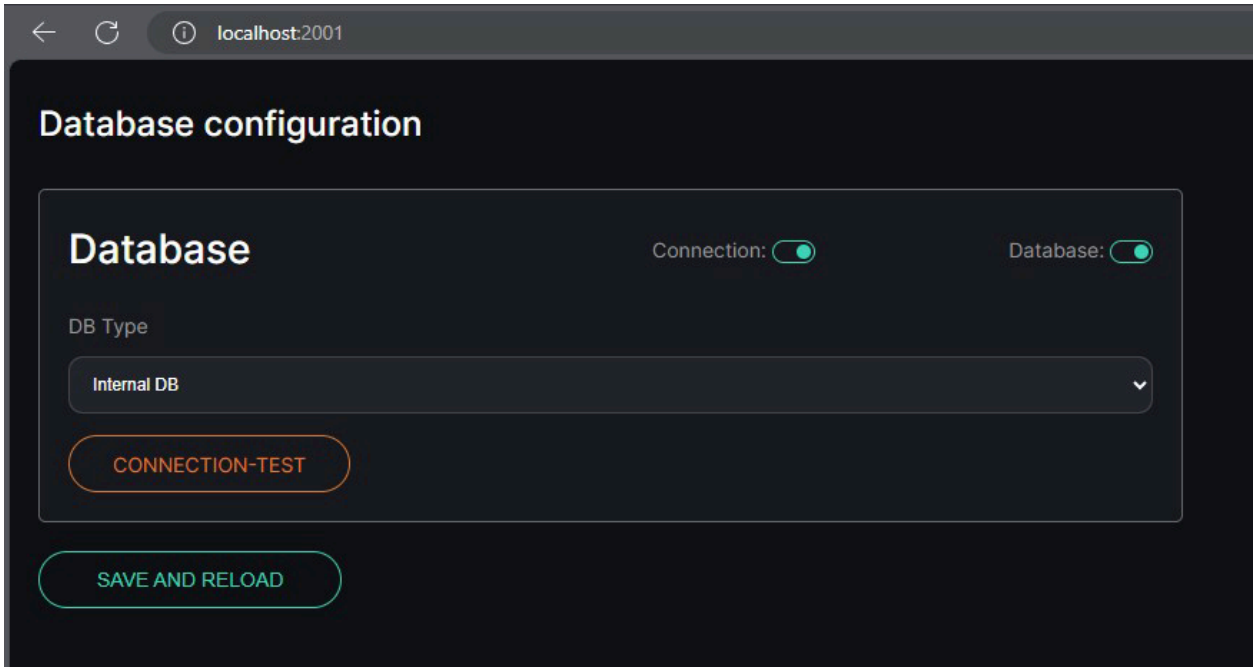
The Luxriot EVA analytics system runs silently as a set Windows service. You can manage Luxriot EVA via the Web interface; the service is reachable via **HTTP port 2001**.

After installing Luxriot EVA, you need to initialize the system to prepare it for work.

Open the service URL in your browser:

- **http://localhost:2001/** for local access (if the system was installed on the current PC), or
- **http://*IP*:2001/** where *IP* is the IP Address of the server (if the system was installed on a remote PC)

In the *Database* block:



!N.B. You can't switch the Database type (*internal/ MySQL/PostgreSQL/MSSQL*) after the installation is complete!

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- Select the *DB type* from the drop-down list:
    - Leave *Internal DB* for small projects with up to 20 analytics with low server load (suitable for demo installations)
    - Choose *MySQL/PostgreSQL/MSSQL* for bigger projects over 20 analytics
- Fill in the *DB connection* fields (only for *MySQL/PostgreSQL/MSSQL* type):
    - **Host** (IP address of the server with your pre-installed and pre-configured DB)
    - **DB Login**
    - **DB Password**
- Click the *Connection Test* button to check the *DB connection* (the Connection toggle will turn green if the connection has been successfully established) and create the database (corresponding green *Database* toggle for the *Internal DB* type)

!N.B.

- *MySQL* is preferable to choose from if you plan to expand the system to a server cluster in the future, or you already have 20+ analytics channels.
- Root *Login* and *Password* are used only once to create a limited internal user to work with MySQL.

Skip the NATS block at this point. Click the *Save and Reload* button to save the settings and restart the service.

Wait while the system completes the plugin checks.

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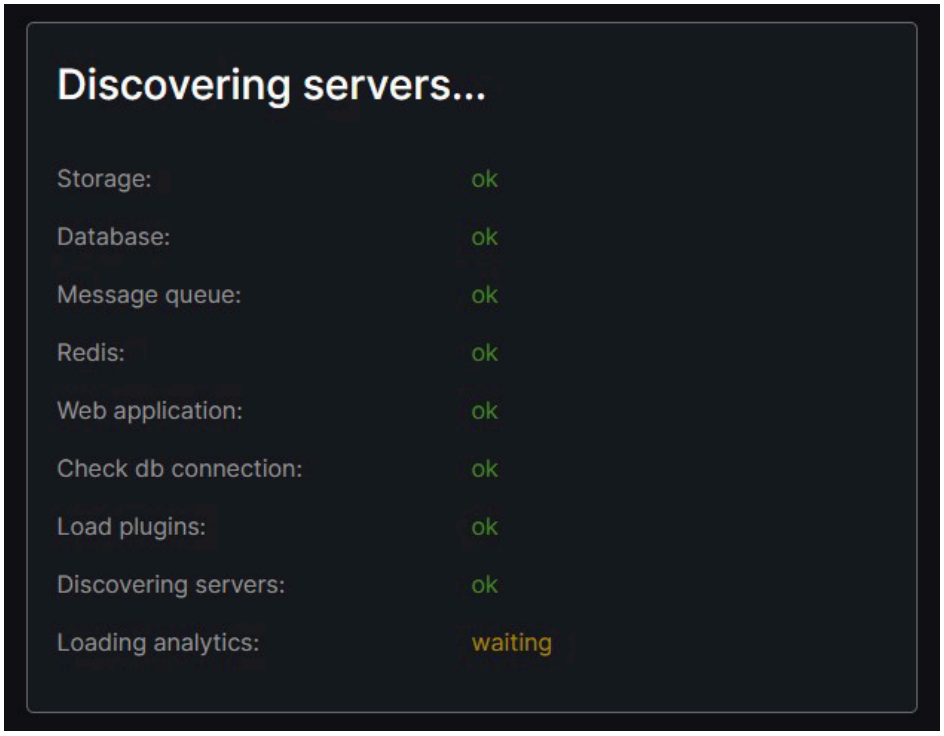

The initial system setup is now finished. Refresh the page and enter the system using the following default user credentials:

- **Login**: admin
- **Password**: admin

!N.B. By default (from the start), the system is reachable via **port 2001**, with the default user profile **admin/admin**.

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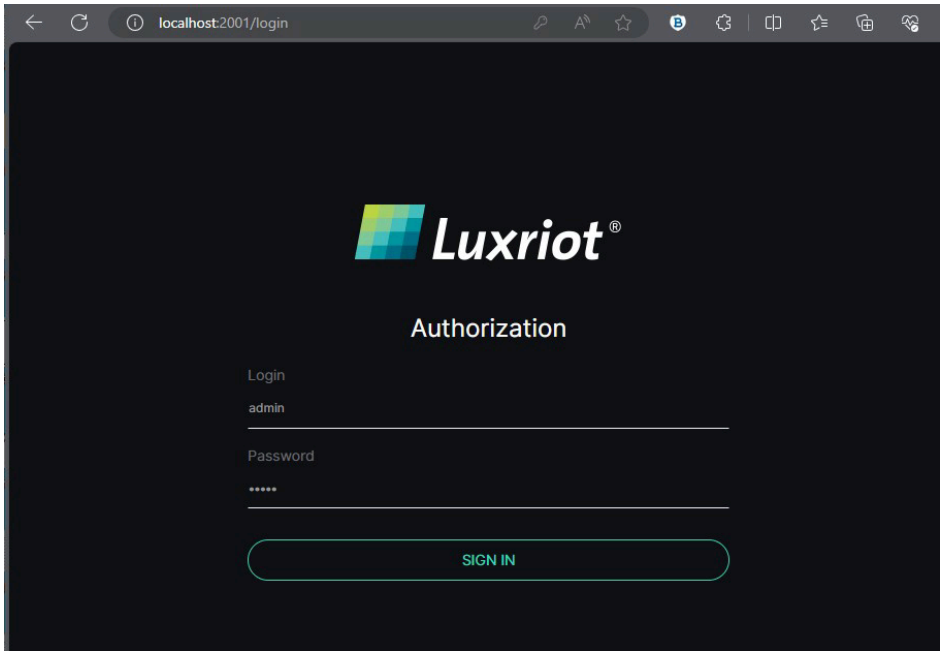
Enter the credentials and click the *Sign In* button.



You can now proceed with the analytics configuration.

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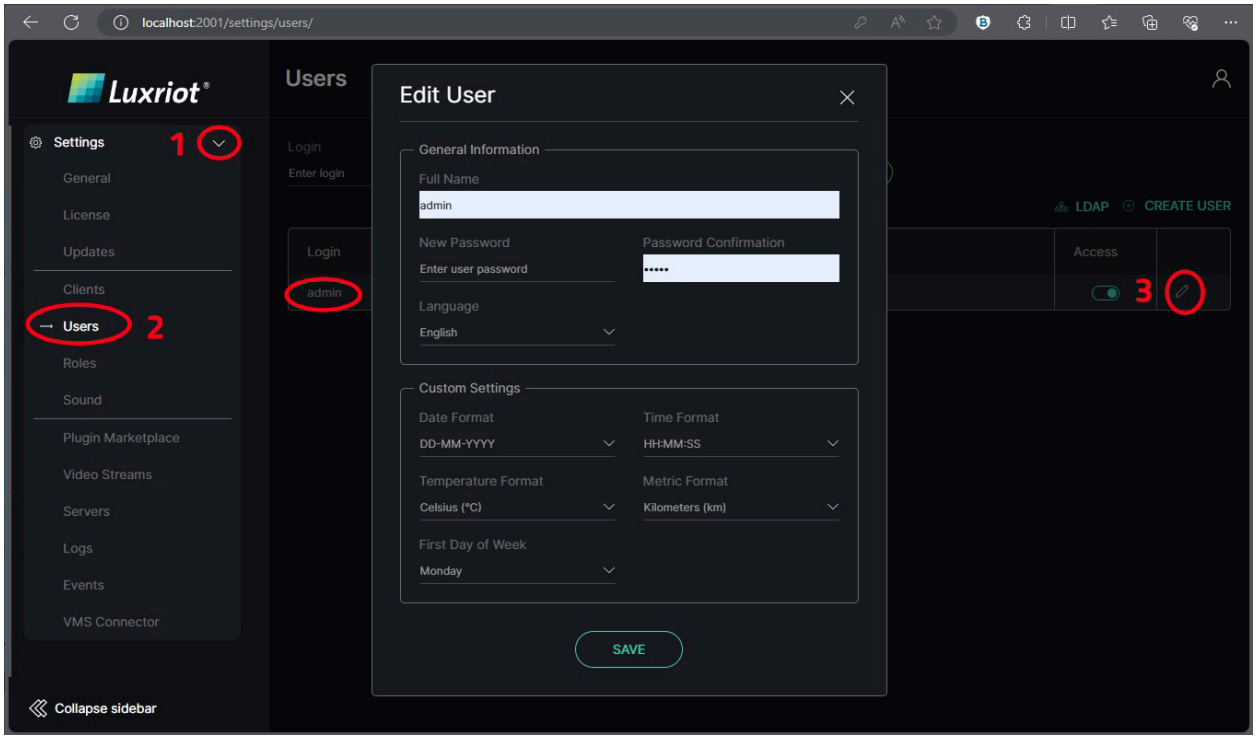
4. Initial Luxriot EVA settings

Initial setup

It is recommended that you change the Administrator password to a secure one before connecting any plugins, especially cameras. You can access the corresponding user's profile via the main menu *Settings -> Users -> admin*.



System Setup

To start using the system, the following minimal configuration is mandatory:

1. Update **Middleware-Core** to the latest version
2. Apply the license
3. Add desired plugin(s)
4. Connect Luxriot EVO and add video streams
5. Enable analytics processing
6. Enable results reception on the Luxriot EVO side

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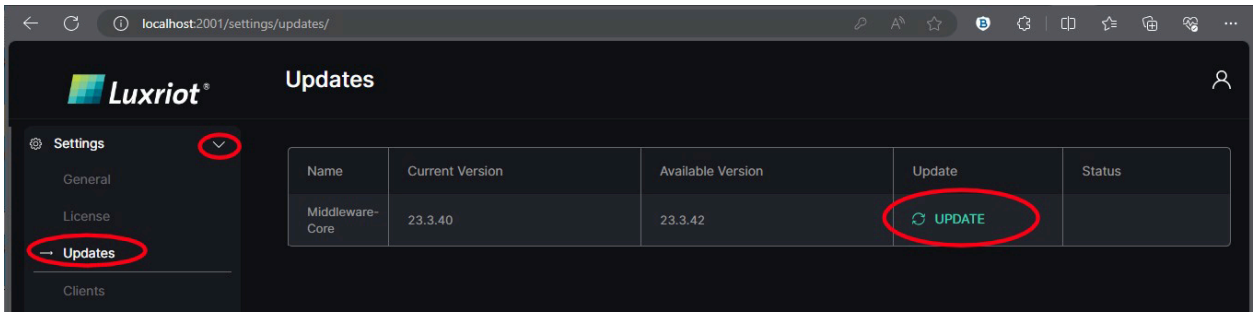
Steps 1-6 are briefly explained below. For more details on each menu item, see detailed topics.

1. Middleware-Core Update

It is highly recommended that you update the **Middleware-Core** component before taking any other action. After installing Luxriot EVA and logging in, go to *Settings* -> *Updates* and click the *UPDATE* button.



2. License Activation

If this is the first Luxriot EVA installation on the particular hardware, you will have a trial license by default with one video stream for each analytic already activated. The trial license is valid for 30 days, or unless you reinstall Luxriot EVA.

> **!N.B.** The trial license provides only one analytics running at a time. To test different plugins with the default trial license, turn off already running analytics and only then add a new stream to the chosen plugin.

For the production license, there are two license activation scenarios:

1. Internet
2. and manual activation.

If your system is not isolated, **we recommend using Internet activation**. Go to: *Settings* -> *License* -> *Activate License*, provide your **activation key,** and confirm it using the *Activate License* button. This will activate your license instantly.

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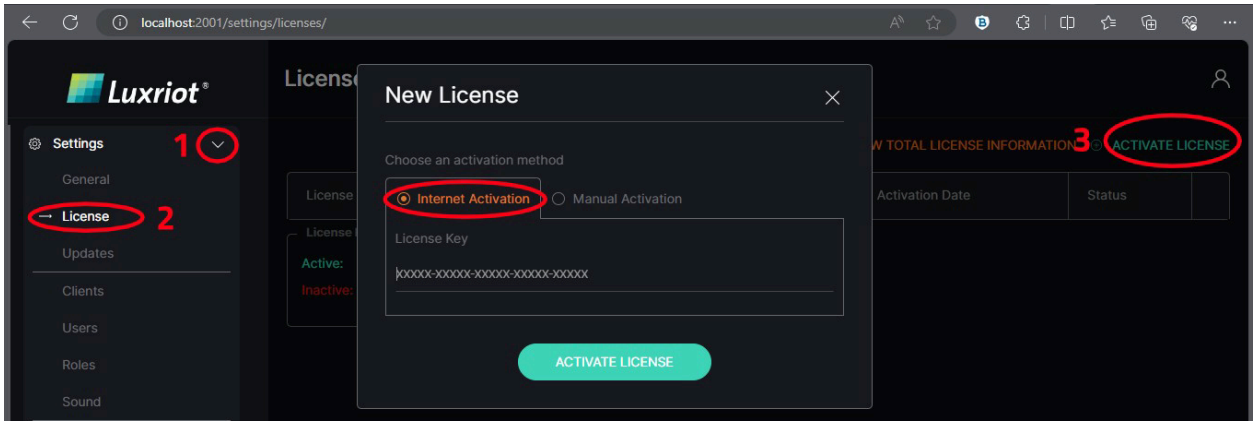
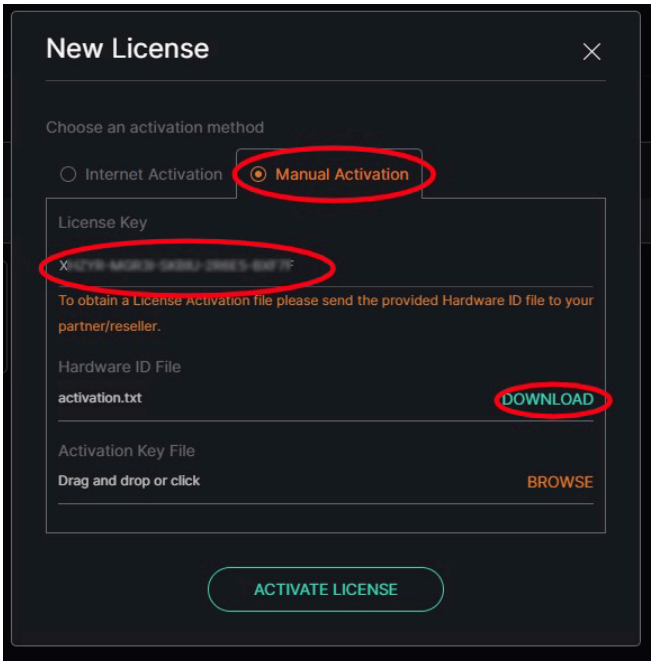


If your security requirements do not allow direct access to the Internet, you can activate the license manually. Select the *Manual Activation tab* inside the *License* popup window, fill in the *License key* field with your license key, and download the generated *Hardware ID* file. Then, contact our support team via email: support@luxriot.com (support responds only during working hours) and send us your license key and hardware *ID* file.

The review process is not instantaneous, and support replies may take up to 24 hours, yet in most cases, you will get an activation key file in 1-2 hours or even faster. After receiving the *Activation key* file from support, bring it to your off-line system and drag and drop it into the *Activation key* file field. Confirm your license information using the *ACTIVATE LICENSE* button.



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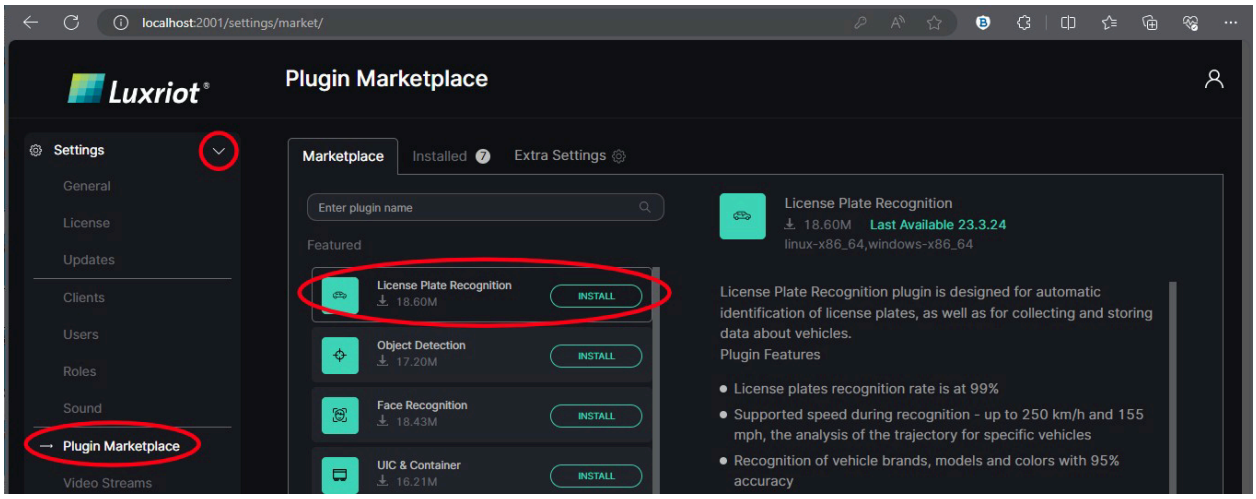
3. Plugin Installation

Analytics plugins are installed separately for each analytic type. For example, there are different engines that identify containers and license plates. For LPR and FR, the main components must be selected during installation and plugins must be installed from the marketplace.

To install any desired plugin:

1. Click the *Plugin Marketplace* menu item: the *Marketplace* tab will be opened in the main area
2. Locate the required plugin in the list
3. Click *Install* to add the plugin



Once you install a plugin, it will be marked as *Installed* in the *Marketplace* tab, and it will also appear in the second tab named *Installed*, which contains only your installed plugins.

Learn more about plugin management here: Plugin Marketplace.

4.1. Add Luxriot EVO Connection

The plugin(s) will need a video stream to work with. To retrieve the video from Luxriot EVO, set up the *Connection* to the target Luxriot EVO server. It may be a Luxriot EVO S or a Luxriot EVO Global system. In order to work with multiple Luxriot EVO servers at once, you must have a Luxriot EVO Global system, as it provides a single point of entry (IP) for Luxriot EVA.

To enter the Luxriot EVO server properties, locate the *VMS Connector* menu item under *Settings* (you may have to scroll down to locate it) and open its *General* tab in the main page area.

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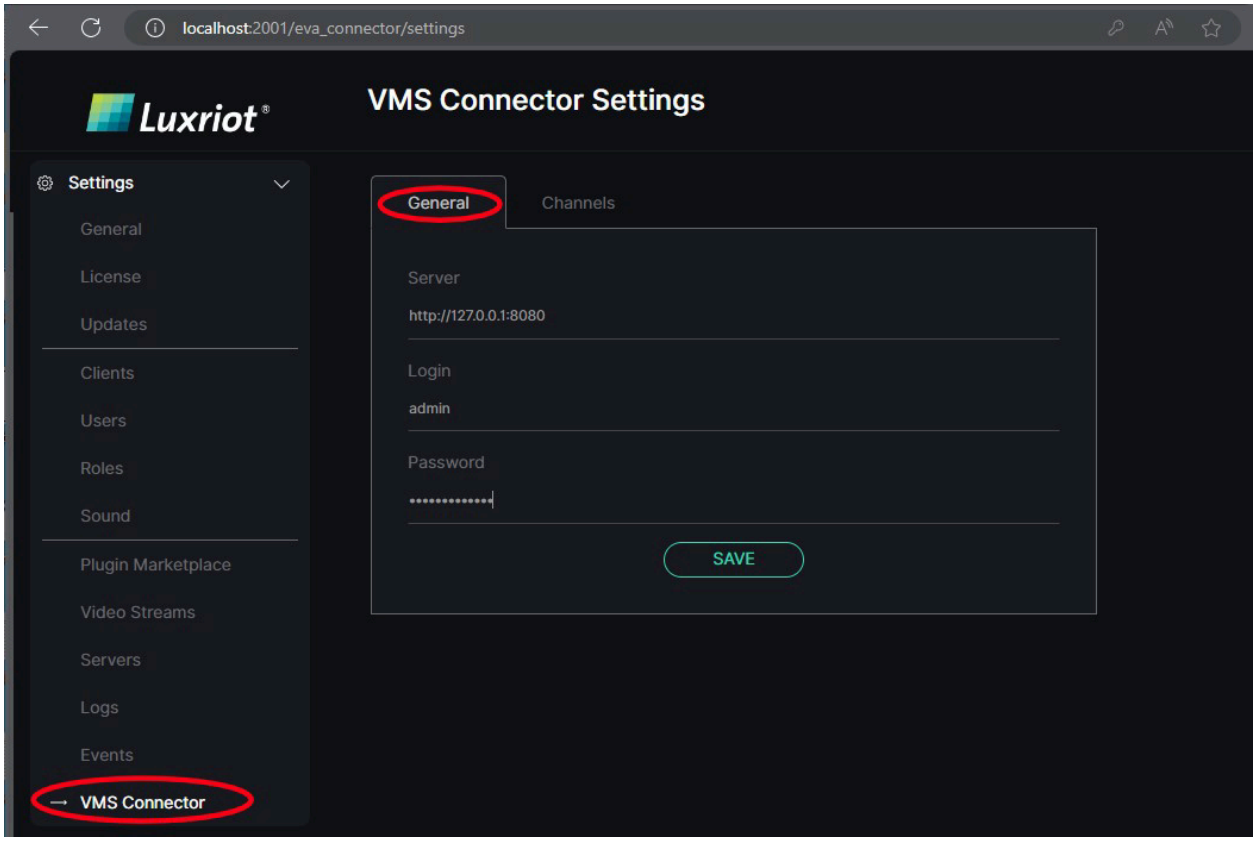
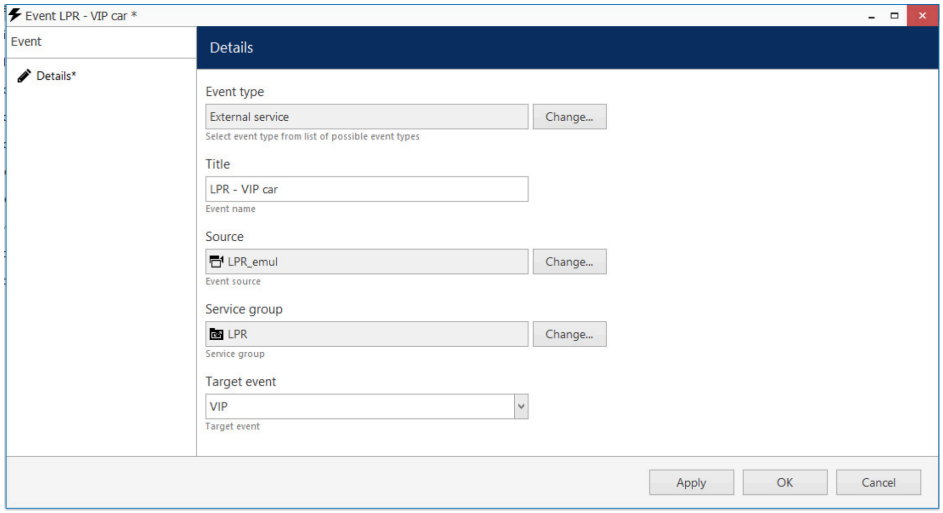


To add the Luxriot EVO server:

1. Open the *VMS Connector* menu item and open the *General* tab
2. Enter the Luxriot EVO server **IP address** and **HTTP port** (default port: 8080)
3. Enter *Credentials* for the Luxriot EVO user.



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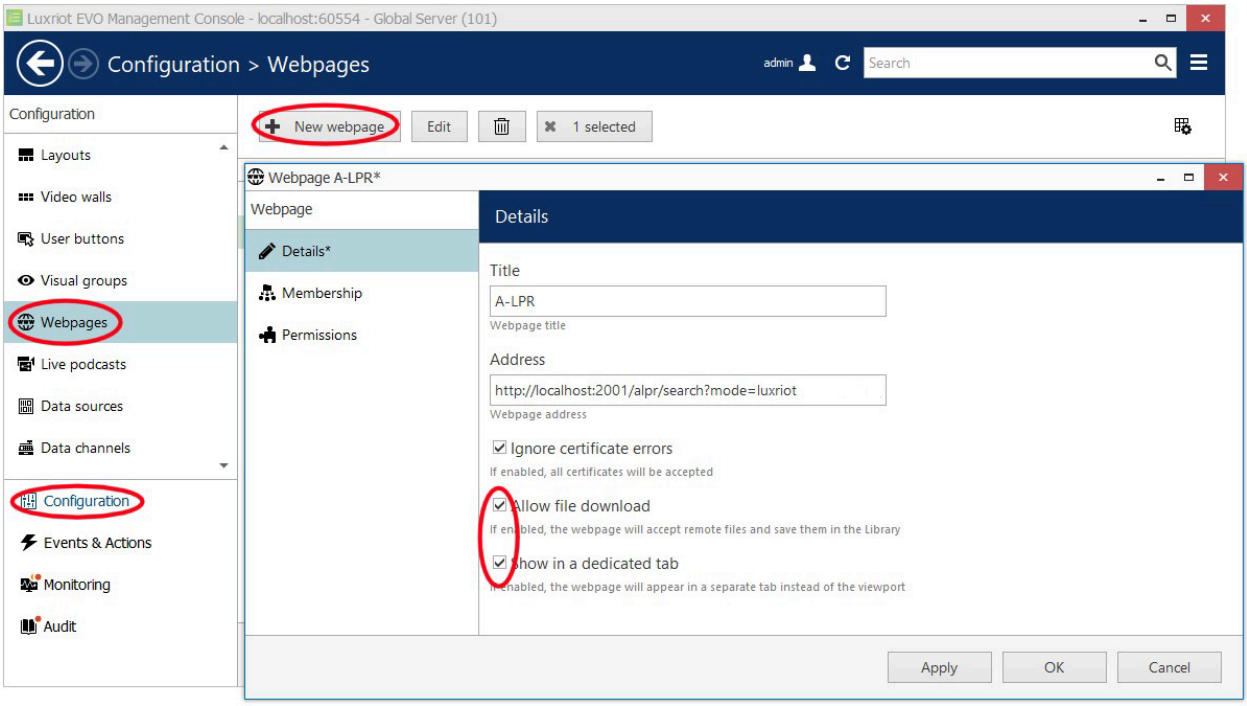
5. Connect EVO with EVA

Creating the Dedicated Crosslink tab in the Luxriot EVO Console

To create the Dedicated *Crosslink* tab and connect it with the preinstalled plugin, go to:

1. *Luxriot EVO Console -> Configuration -> Crosslinks*
2. Click on the *+New Crosslink* button to bring up the *Crosslink* pop-up window
3. Inside the *Details* tab, fill in the *Title* field with the name you want to see inside the Luxriot EVO Monitor as the plugin tab name
4. Fill in the *Address* field with the link to your web-based interface connection details: *http://localhost:2001/?mode=normal*
5. Mark the checkbox Show in a Dedicated tab, and confirm with the *Apply* and *OK* buttons.



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6. Plugin Marketplace

Overview

Currently, there are two types of plugins represented inside the *Plugin Marketplace*:

1. Analytics
2. Event Managing.

Each type of Analytics and Event managers are represented by its own plugin. Each plugin may be installed, updated or removed from the system separately. Inside the marketplace you also will find a **VMS connector** that stands out from all other plugins - it connects standalone Luxriot EVA with the Luxriot EVO server.

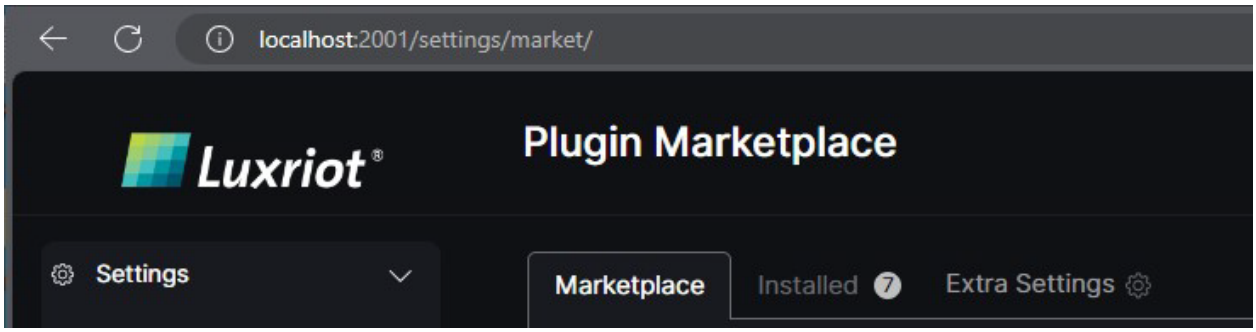
Plugin Marketplace

To access *Plugin Marketplace* go to:

Settings -> Plugin Marketplace.

Plugin Marketplace space consists of three tabs:

1. **Marketplace tab**: here you can find every accessible plugin, a brief description of its functionality, and install each plugin separately.
2. **Installed tab**: contains already installed plugins. Here you can update, disable, or enable each plugin separately or in bulk.
3. **Extra settings:** in case your system has limited internet access, you can add a new plugin from a hard copy. You also can manage here your installed plugins in bulk.



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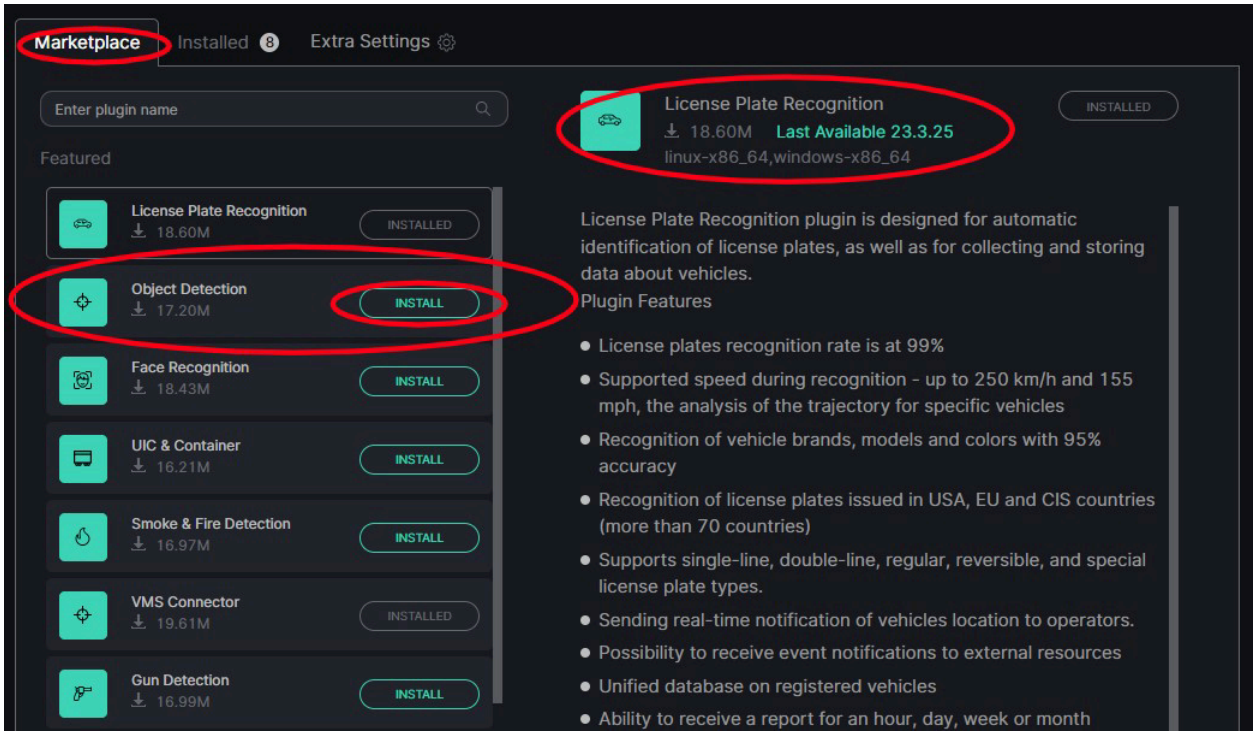
Marketplace tab

Before installation, you can review the particular plugin by clicking it in the left part of the *Marketplace* tab. All the plugins have information about the latest version available and the operating systems they can use. Analytics plugins will also have a brief description of their functionality.

To install a particular plugin, click the *Install* button on the right side of the *Plugin* name. After installation is completed, the *Install* button will become grayed out; from now on, your plugin is ready to run.



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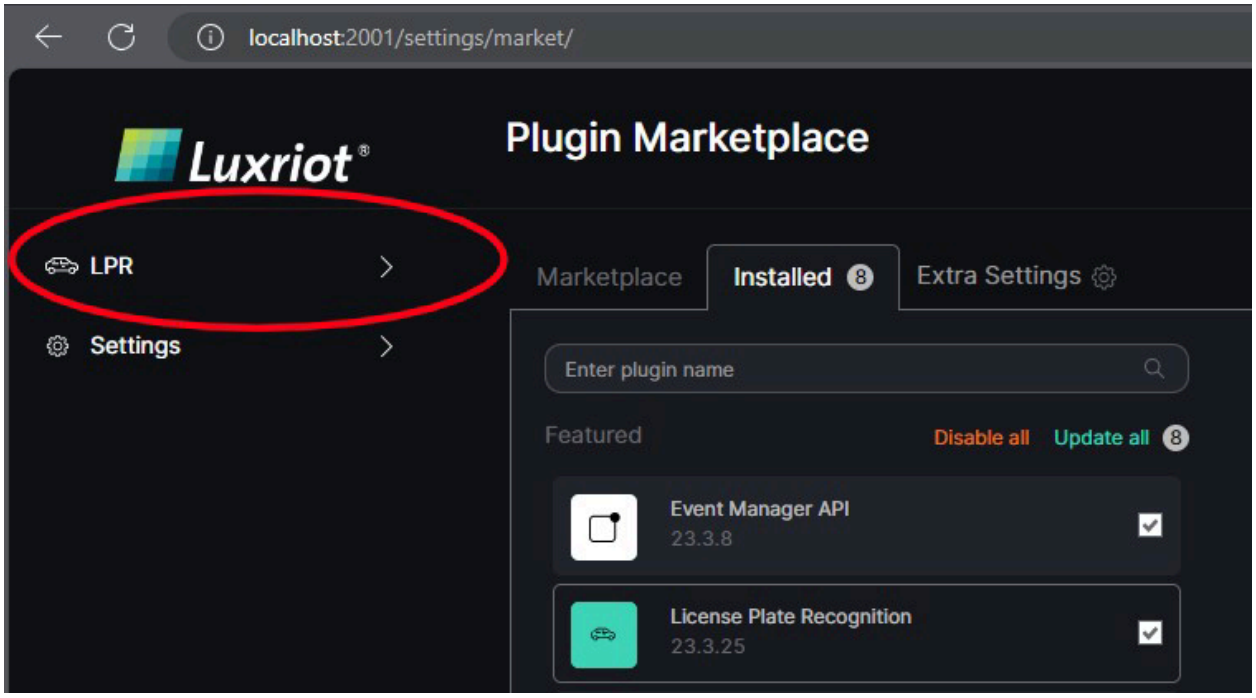
After the installation is completed, your *Analytics* will appear in the top part of the *Main menu*:



!N.B. Before installing any plugins, ensure the Middleware-Core is updated to the latest version. To check for the latest **Middleware-Core** version, go to the *Main menu -> Settings -> updates* and check if the current version matches the latest available version. If not, run the update and only then continue with the plugin installation.

Installed Tab

You can manage plugins that have already been installed from the *Installed* tab. Under the *search bar*, you will find the controls to *Disable* or *Update* all the installed plugins at once. You can also disable a particular plugin by un-marking the checkbox related to that plugin. Disabling the Analytics plugin will also remove it from the *Main menu*.

To uninstall the plugin completely, hover the mouse over the *Gear* icon in the top right corner of the description section of the *Installed* tab.

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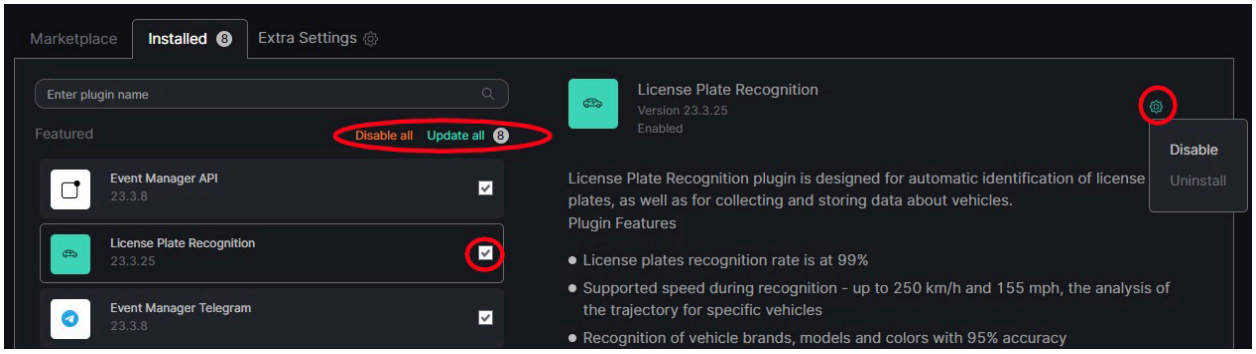
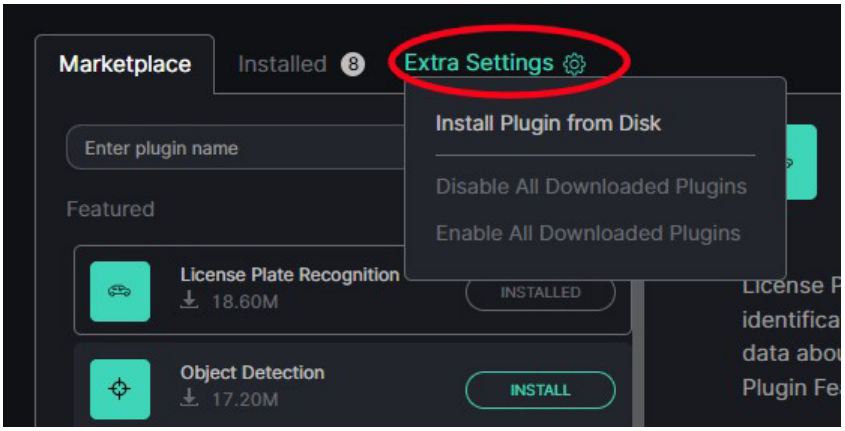


Extra Settings

Extra Settings provide additional control. Hover the mouse over it to bring the Dropdown menu. If there are reasons to keep your system isolated from access to the Internet, you can install the plugin from the hard copy. Hover your mouse over the *Extra Settings* tab, select the *Install Plugin from Disk*, provide the path to the plugin installation file, and confirm it with the *Open* button.

> **!N.B.** We do not recommend offline plugin installation, so make sure you have the correct version. If you have any questions, **please contact support before the installation process**.



You also may disable or enable all the plugins with one click by clicking on the corresponding menu item.

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EVA Advanced Troubleshooting Guide

Welcome to the troubleshooting section of the Luxriot EVA Quick Start Guide manual. As this software is currently in beta, you may encounter some issues that require troubleshooting. This section provides you with quick and effective solutions to common problems you might face while using the software. Our goal is to ensure you can swiftly resolve any issues and continue using EVA Advanced seamlessly. For further assistance, please refer to the detailed steps provided below or **contact our support team**.

1. Notification Panel Data Not Working

Issue: Problem with VMS Connector

Steps to Try:

- Restart *eva-vms-connector* service
- Restart *monitor*
- Check for incoming data

If Not Resolved:

- Check *external services* in monitoring. If everything is fine, proceed:
- Restart *eva-middleware-core* service
- Restart *eva-vms-connector* service
- Restart *monitor*

2. VMS Connector Import Error

Request Processing Timeout:

VMS Connector not working:

- Check its status in *services*, if necessary, restart it.

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VMS Connector Stream Import Error:

Check VMS network settings:

- Stream offline
- Encoding issues, ensure H.264 is used
- For online streams, toggle *Disable/Enable*, wait a few seconds after each
- VMS offline

3. EVA Infinite Loading

Steps:

- Restart *middleware-core*
- Test in different browsers

If Not Resolved:

Wait for 10-20 minutes. If the issue is not resolved, contact support, but first determine the cause. This is especially true for large setups (e.g., with many servers and channels).

4. DB Load Error

Possible Causes:

- No disk space
- Corrupted DB

Steps:

Retrieve *C:\ProgramData\EVA\middleware-core\videoanalytics.mv.db* from the client and contact support for a fix. **Make backups regularly for the important settings**.

5. All Analytics Processing

Issues and Steps:

- Insufficient memory. If memory is available, restart analytics.

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- If unresolved, restart *eva-process-runner* service, then *eva-middleware-core*.
- Ensure sufficient hardware or proper GPU for GPU analytics.

6. Missing Server in Servers

Steps:

- Check for antivirus blocking. This is often the issue.

7. Duplicate Recognitions in Monitor

Step:

Restart the e*va-vms-connector* and possibly the *monitor*.

8. Analytics Tabs Not Visible

Steps:

Check user permissions. If the user is admin and the issue persists, contact support for a potential install issue.

9. Plugins Not Installing Despite Internet Access

Steps:

Check for restricted connection rights. If so, advise checking access or performing offline plugin installation.

10. Search Error in Monitor for External Services

If the service is marked red inside the Luxriot EVO *Console -> Monitoring -> External Services*, the best solution is to delete all the EVA external services inside the *Console -> Configuration -> External Services* and restart the *middleware-core*.

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11. No Timestamps

Steps:

- Change camera codec from H.265 to H.264.
- Go to *Video Streams* -> *Camera* -> *Gear* icon -> *Edit Stream* -> *Save.*

12. Incorrect Stream Time Zone

Steps:

- Go to *Video Streams* -> *Camera* -> *Gear* icon -> *Edit Stream* -> *Update Time Zone* -> *Save*.

13. Missing Lists Data (LPR/FR)

Steps:

- Enable *internal notifications* in *Lists* (*plugin* subsection).

14. Hardware Mismatch Error in License

Steps:

- Check for hardware changes, even minor ones like memory changes.
- **Contact support with a screenshot** and key for resets or further actions.

15. List tags do not work inside the monitor

Steps:

- Check if lists are enabled for that particular plugin inside the *Plugin* -> *Lists.*

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