

HORUS VIEW & EXPLORE

TECHNICAL DOCUMENTATION

Media Server Manual

Horus View & Explore
info@horus.nu

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Contents

- 1 Horus Webservices: System Architecture** **2**
- 1.1 System Architecture 2

- 2 Horus Webservices: Installation** **4**
- 2.1 Introduction: Installation 4
- 2.2 Installing the Media Server 4

1 Horus Webservices: System Architecture

1.1 System Architecture

The system architecture of the Horus Webservices can be divided into three main sections as seen in figure 1

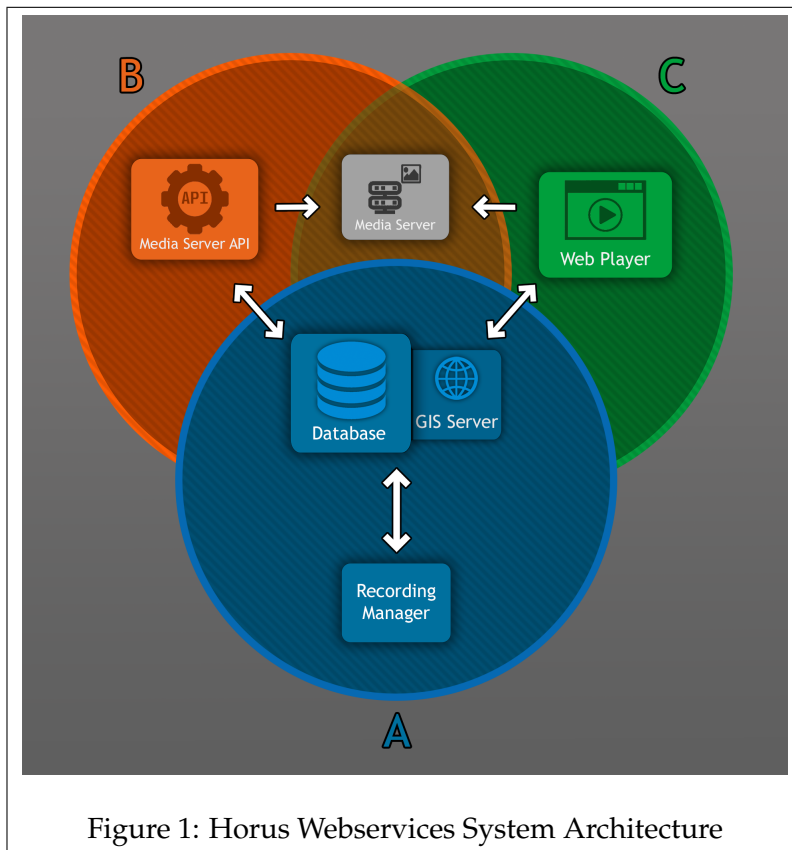


Figure 1: Horus Webservices System Architecture

A - The Recording Database

Section A is comprised of the Recording Manager (RM) and the Database (DB).

The Database contains information on the available recordings, this includes metadata such as: the length of the video, and the time and location of recording.

The Recording Manager acts as a link between the Database and the physical recordings. It ensures that the data on the DB is up to date with that of the physical recordings.

For the Horus Webservices to function correctly, a running section A is always required.

B - Media Server API

Section B contains the Media Server API (**MS API**), and the Media Server (**MS**).

If you wish to render images from the recordings that are stored in the Database, then you would use the Media Server API.

The API acts as a facilitator between the Media Server and section A. The API contains a set of arguments which can be used to render images along specific parameters.

Some of these arguments are: The location, the field of view, the rendering mode, and the min-max angle of the defined location to the recording frame that is allowed to be rendered.

C - Web Player

Section C contains the Web Player (**WP**) and the Media Server.

This section is used when you want to playback a video that is available in the Database through the Web Player.

How does the Horus Webservices work?

The primary function of the Horus Webservices is to allow you to request images from recordings and have them rendered by a set of parameters.

You can request images from the Recording Database through either the Media Server API, or the Web Player.

The user can request images from recordings stored in the Recording Database through either the API or the WP. These requests contain various parameters to determine which recording/frame to use, and how to render it.

The Recording Database then replies with the requested data, and the API or WP then forwards this to the Media Server. The Media Server then renders the image based on the specified parameters.

2 Horus Webservices: Installation

2.1 Introduction: Installation

This chapter describes the process of installing the Recording Database (A) on your system.

For the installation of the Media Server you require the following :

- Horus Web Player installer
- PostgreSQL 12 installer
- PgAdmin 4 installer
- Horus License Key for Media Server
- Firewall Exception Script (*add_firewall_exception.vbs*)

During the installation of PostgreSQL and the Horus Web Player, only the settings that require changes are described, otherwise use the default settings of the installer.

2.2 Installing the Media Server

Step 1

Begin the installation process by opening the PostgreSQL installer.



Follow the instructions, till you come to the screen as seen in figure 3. Enter a password, this will determine the password of the database.



Figure 3: Enter Web Player Password

Then continue the steps, until it starts installing PostgreSQL.

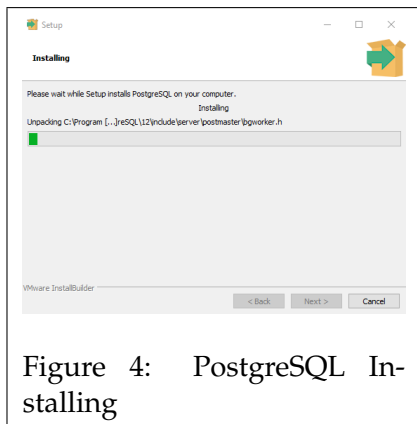


Figure 4: PostgreSQL Installing

Once the installation process finishes, you will be forwarded to the screen seen in figure 5.



Figure 5: PostgreSQL Complete Installation

Before continuing, check the option to install Stack Builder and then continue the installation with the "Stack Builder" wizard. The Stack Builder utility is used to install additional modules to PostgreSQL.

Step 2

Once the PostgreSQL installer closes, the Stack Builder setup will open.

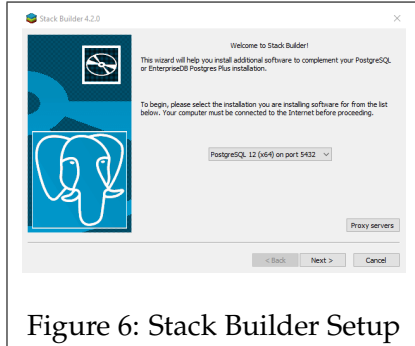


Figure 6: Stack Builder Setup

In the first window, select the PostgreSQL server, and press *next* to continue.

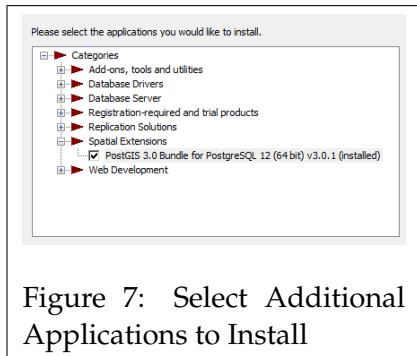


Figure 7: Select Additional Applications to Install

In the page that follows, enable "PostGIS 3.0 Bundle for PostgreSQL" found under "Spatial Extensions", and press *next* to continue.

Continue till you get to the window from figure 8. Check the box for the 'Spatial Database' and press *next* to continue.

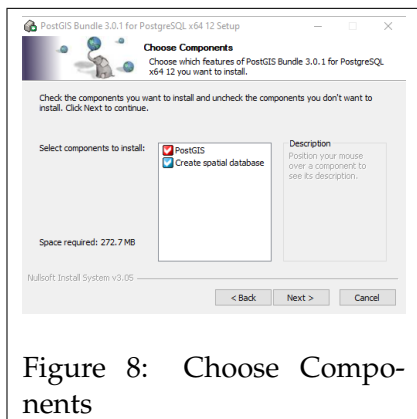


Figure 8: Choose Components

After going through the next couple of windows, a window will open asking for your 'Database Connection Information'. Enter the password that you entered in the first step.

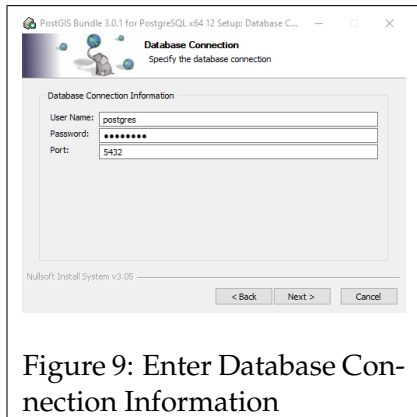


Figure 9: Enter Database Connection Information

Continue and the installation should start. During the installation, you may have a number of pop-up windows, press *Yes* to allow them.

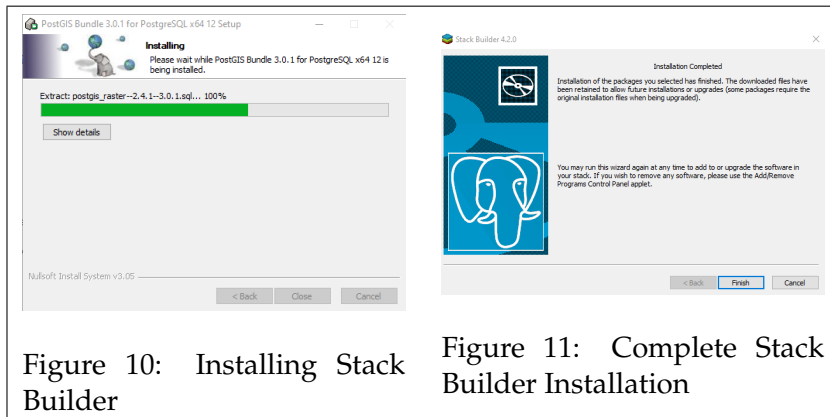


Figure 10: Installing Stack Builder

Figure 11: Complete Stack Builder Installation

Once the installation has finished, you will have installed the Database software on your PC.

Step 3

The next step is to install the Horus Web Player software.

Start the installer for the Horus Web Player.

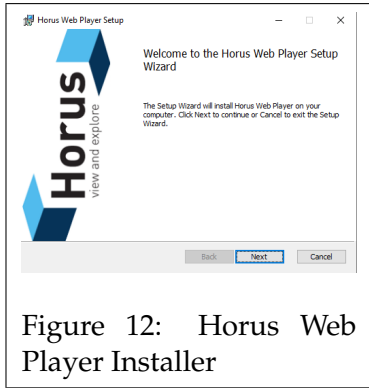


Figure 12: Horus Web Player Installer

Click on next till the installation starts.

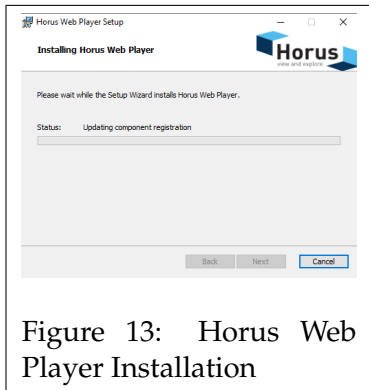


Figure 13: Horus Web Player Installation

During the installation, you will be prompted to enter a license key. If you do not have a license key yet, contact support@horus.nu, and send us your 'Machine key'.

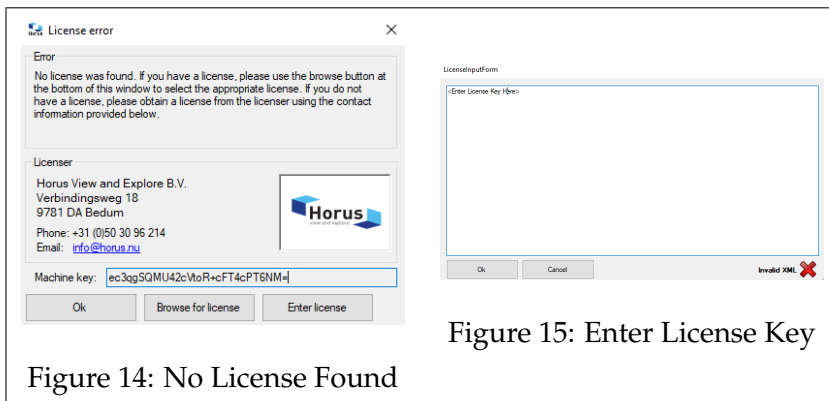


Figure 14: No License Found

Figure 15: Enter License Key

Browse for license, in the explorer window that opens, select the license file (.lic) to add the license.

Enter license, paste the license code into the input field, and click on 'Ok' to add the license key.

The Horus Web Player software is now installed on your PC.

Step 4

The following step is to check and edit a configuration file of the Horus software.

Navigate to the directory down below, and open the *config.json* file in Notepad.

```
C:\ProgramData\Horus View and Explore\HorusWebPlayer\config.json
```

In the config file edit the following lines:

- **Password**
Under the "Database" section, the password should be identical to the one entered during the PostgreSQL installation from step 1.
- **Host**
Ensure that this is: "*localhost*"
- **Recordings**
This determines the directory that the database uses to look for recordings
Default is: "*D:\Recordings*"

Once the changes are made, save and close the file.

Step 5

For the Media Server to function correctly, an exception to the firewall is required.

To add the exception open the included file.

```
"add_firewall_exception.vbs"
```

This file will automatically create the exception, and notify if it was successful.



Step 6

the next step is to initialize the Recordings Manager.

Open a command prompt as admin.

Navigate to the Recordings Manager folder in the installation directory of the Horus Web Player. The default location is:

```
C:\Program Files\Horus View and Explore\HorusWebPlayer\RecordingsManager
```

When you are in the correct directory enter the following command:

```
Horus.WebPlayer.RecordingsManager.exe --config --migrate
```

This will load the data from the config.json to the Recordings Manager.

```
Microsoft Windows [Version 10.0.18363.900]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>cd\

C:\>cd Program Files\Horus View and Explore\HorusWebPlayer\RecordingsManager

C:\Program Files\Horus View and Explore\HorusWebPlayer\RecordingsManager>Horus.WebPlayer.RecordingsManager.exe --config --migrate
C:\ProgramData\Horus View and Explore\HorusWebPlayer\Data\Logs\RecordingsManager.log
Starting Horus.WebPlayer.RecordingsManager version 1.5.23
Changed geometry type from 'LINESTRING' to 'GEOMETRY'
Any key to quit
5
C:\Program Files\Horus View and Explore\HorusWebPlayer\RecordingsManager>
```

Figure 17: Loading the Config.Json to the Recordings Manager

Then the Recordings Manager can be started with the following command:

```
Horus.WebPlayer.RecordingsManager.exe
```

```
C:\Program Files\Horus View and Explore\HorusWebPlayer\RecordingsManager\Horus.WebPlayer.RecordingsManager.exe
C:\ProgramData\Horus View and Explore\HorusWebPlayer\Data\Logs\RecordingsManager.Log
Starting Horus.WebPlayer.RecordingsManager version 1.5.23
Any key to quit
RecordingsManager Start: 11:24:28
Inserting D:\Recordings\GoPro\test 2\Recording2020-03-02_09-11-28 of format ProtobufRecording
Importing setup file
Bounding box for 1: 'BOX(6.794413 52.9274494,6.794413 52.9274494)'
Inserting D:\Recordings\recording_16_06_20\360\Recording_16-07-2015_13-38-39 of format ProtobufRecording
Importing setup file
Bounding box for 2: 'BOX(6.601468337 53.299891,6.606536999 53.300570955)'
Inserting D:\Recordings\recording_16_06_20\Hr\Recording_16-07-2015_13-38-39 of format ProtobufRecording
Importing setup file
Bounding box for 3: 'BOX(6.601468337 53.299891,6.606536999 53.300570955)'
Skipping GoPro\name_05-06-2020_15-13-01 because this branch contains no recordings
Skipping GoPro\test 2\name_05-06-2020_16-15-30 because this branch contains no recordings
Skipping HSS\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_00_38\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_00_49\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_00_59\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_01_09\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_01_20\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_01_30\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_01_40\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_01_50\ because this branch contains no recordings
Skipping HSS\2020_01_22_21_02_00\ because this branch contains no recordings
Skipping recording_16_06_20\Gps\ because this branch contains no recordings
Skipping recording_16_06_20\Gps\Export\ because this branch contains no recordings
Skipping recording_16_06_20\Gps\Gps_1jken\ because this branch contains no recordings
Skipping test\ because this branch contains no recordings
Skipping test\2020_03_10_14_38_05\ because this branch contains no recordings
Skipping test\2020_03_10_14_38_15\ because this branch contains no recordings
Skipping test\2020_03_10_14_40_51\ because this branch contains no recordings
Skipping test\2020_03_10_14_40_51\Insert Recording name here_05-06-2020_15-12-52\ because this branch contains no recordings
RecordingsManager Stop: 11:24:29
```

Figure 18: Initializing the Recordings Manager

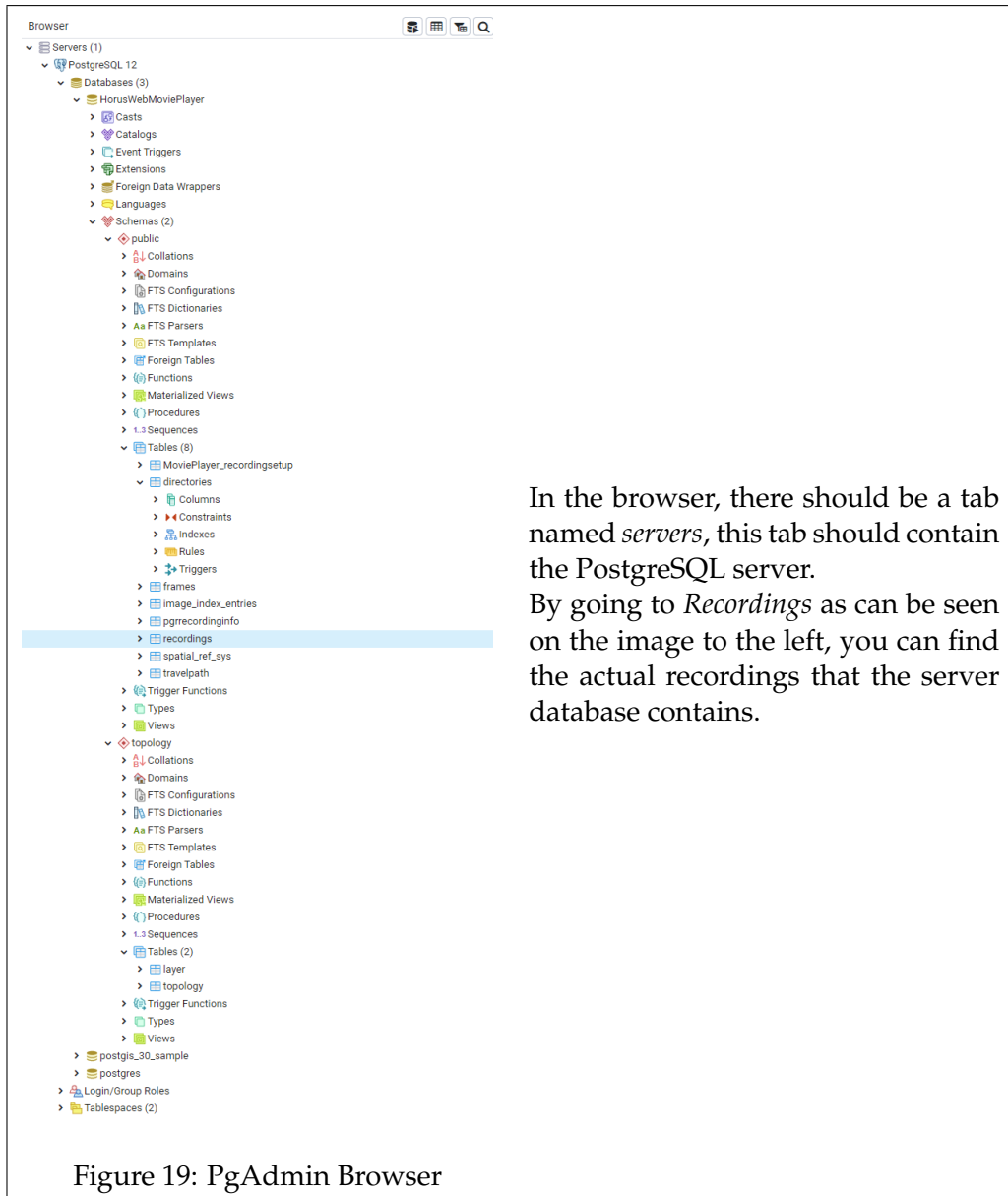
The Recordings Manager will start, and search through the recordings directory for any recordings. The database will only find recordings that have a *setup.hsf*.

The Media Server is now running and ready for use.

Step 6

This final step is to check if the Media Server is functioning correctly.

Install *PgAdmin*, and start the application. When prompted, the database password from step 1.



If you can find the server and it contains the videos from the recordings folder, then your Media Server is functioning correctly.