

AVLYTICS

artificial intelligence for video surveillance



The Most Cost Effective
Artificial Intelligence for Surveillance Solutions

CONTROL ROOM GUIDE

Version 1.0

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1. Welcome to the Control Room Troubleshooting Guide

Explanation

Platforms Available

- Telegram Alerts
- Telegram Maintenance
- AVLYTICS 2020 Server
- AVLYTICS 2020 Client
- AVLYTICS Comms
- AVLYTICS Client 2021-AIO
- Chrome Maintenance Manager
- Grafana Metrics

2. Platforms

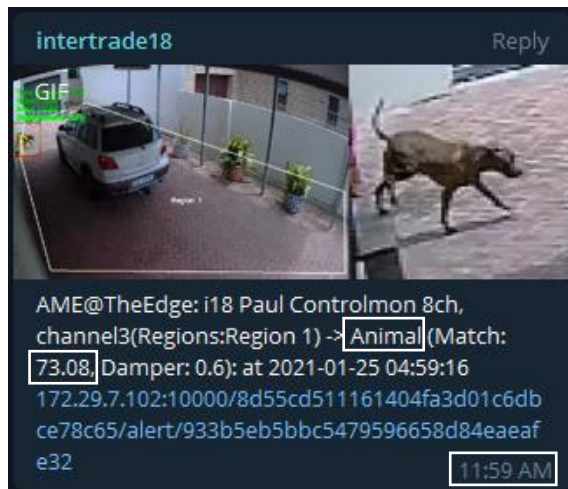
2.1 Telegram

Telegram is a backup notification application. It allows the control room to get alerts from devices even if the devices are not connected to the VPN infrastructure.

Each Device has two groups on Telegram, The Alert Group and the Maintenance Group.

2.1.1 The Alert Group

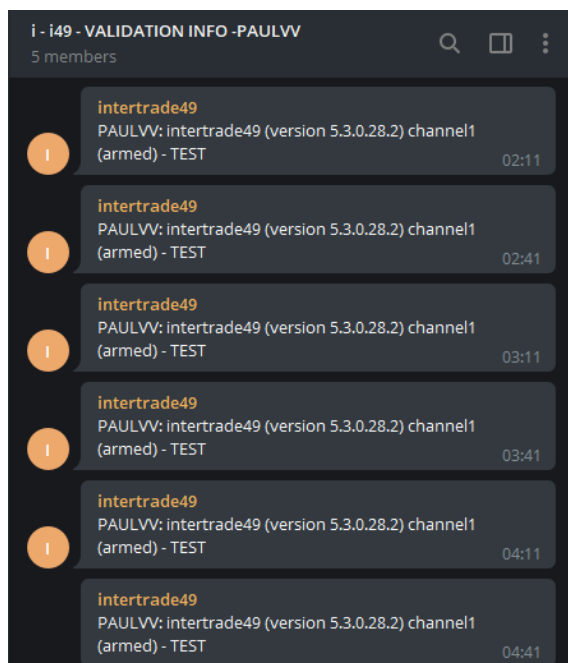
The Alert Group receives GIF clips of incidents that happen on site, the alert includes the **Time** of the event, the **Prediction** on based on the object detection, and how **Confident** the algorithm is that the object is what was predicted.



2.1.2 The Maintenance Group

In this group, the device will send basic maintenance notification messages to inform the installer when something goes wrong, for example if the device is Offline, or if the device has any conditions that require intervention.

The maintenance Group has the device's Maintenance Bot on it, this bot enables two way communication to the device. Please refer to the Telegram Bot Manual for more Information.

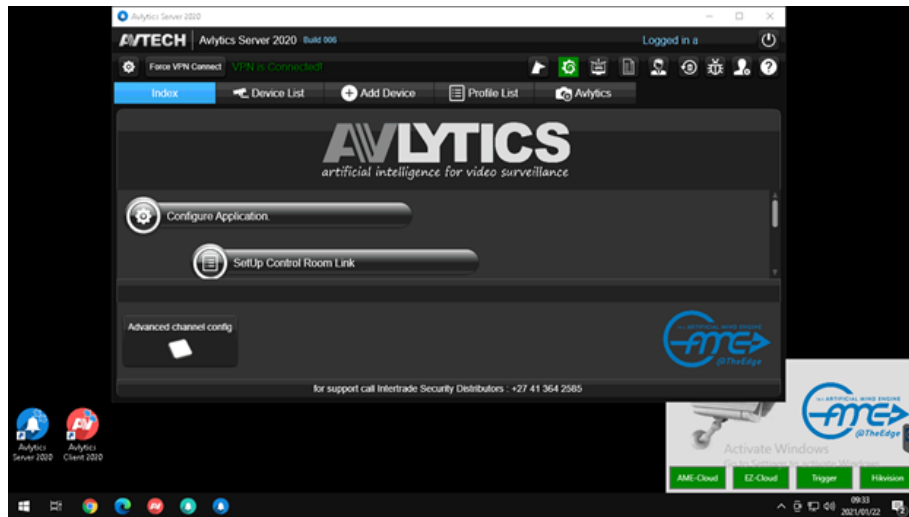


2.2 AVLYTICS

2.2.1 AVLYTICS 2020 Server

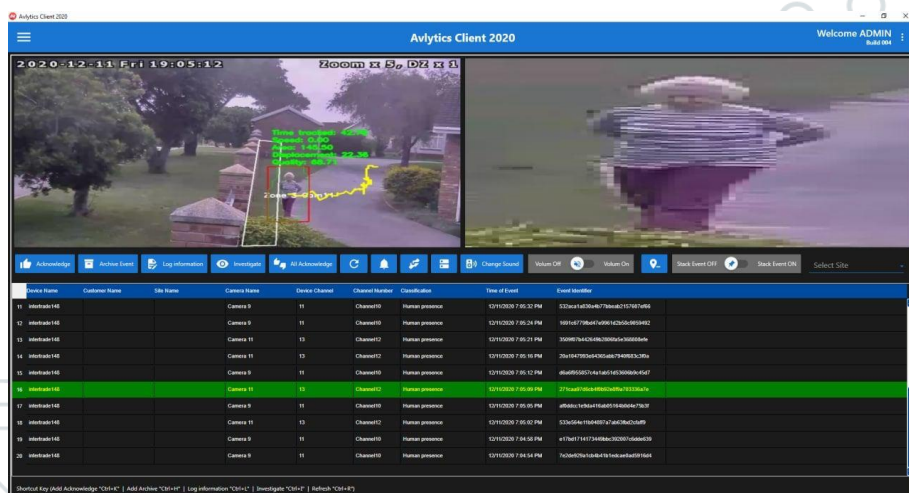
AVLYTICS Server is the first version of AME device integration into control room software. The server software allows the monitoring company to add devices to the software to enable them to communicate directly into control room packages. The software also allows AVTECH products to send maintenance signals to the control room.

Due to the AVLYTICS Server 2020 software being limited to only allowing control room integration with devices that are connected to AVTECH products, the software has been upgraded to AVLYTICS Comms 2021. The newer version removes this limitation and enables integration with control room software and any CCTV products on the market. Please contact us to upgrade you to AVLYTICS Comms 2021 if you are still operating the older version.



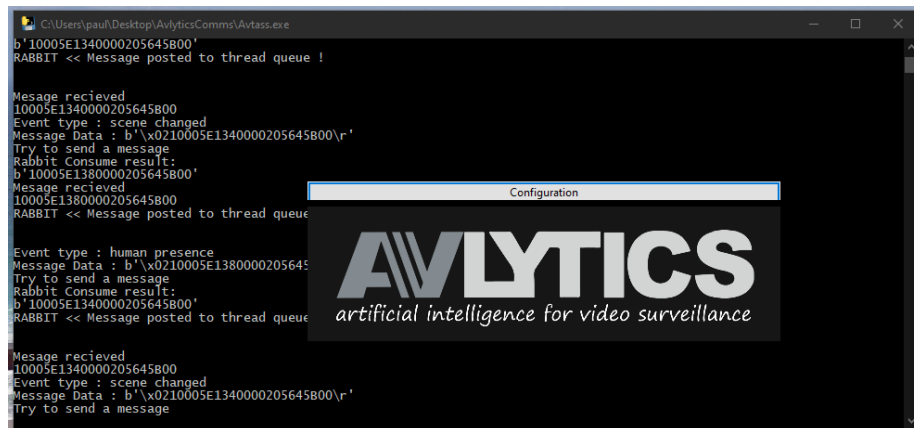
2.2.2 AVLYTICS 2020 Client

AVLYTICS Client is the first version of our Interface to visually display the Alerts received from the AVLYTICS hardware in the field. This software package is dependent on AVLYTICS Server 2020. The server software receives the alerts and writes the data onto a local database, on the client's server computer. The client software reads this data and displays the information in an easy to read and understandable format.



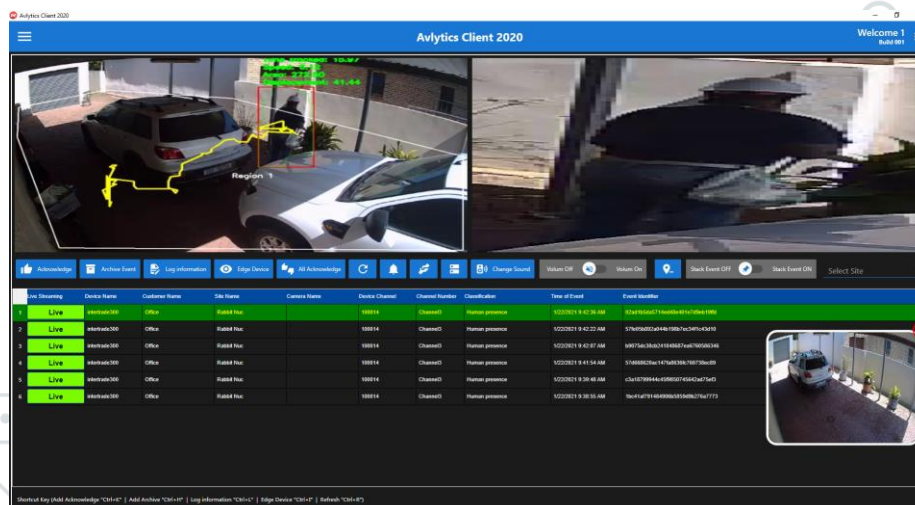
2.2.3 AVLYTICS Comms 2021

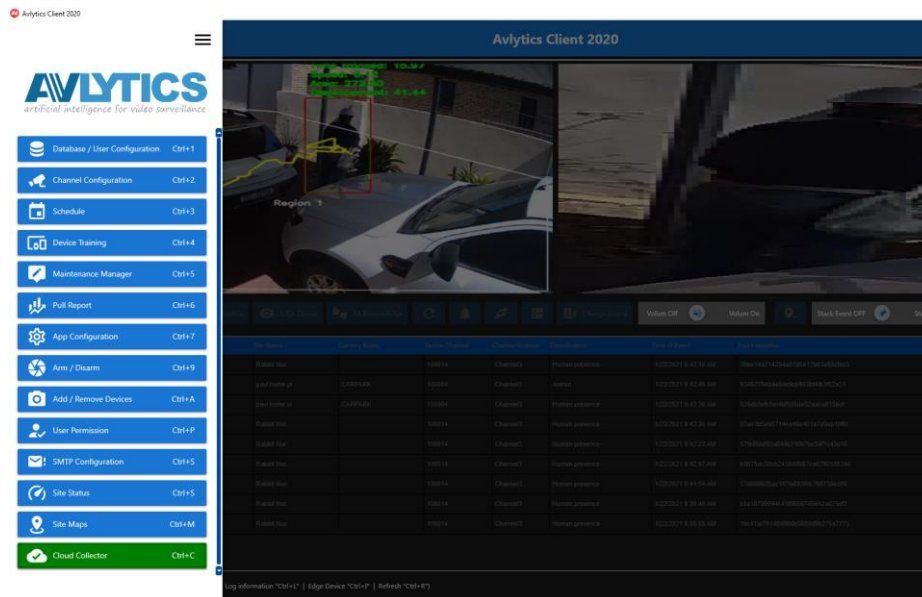
AVLYTICS Comms 2021 is a new addition to the software suite. This software is required to integrate alerts from any CCTV product through the AVLYTICS BRT and NUCS to the control room software. This software has no local database and is a lightweight application that provides a conduit between the AVLYTICS Hardware on site and the Control room Monitoring software. The software runs as a background service on one of the Control Room computers. There is minimal configuration for this software, all that is required is the Control Room Software Comms machine's IP address and Port Number, The AVLYTICS Client ID, and the platform to which the software will communicate. AVLYTICS Comms requires only a VPN connection to receive events, and all device configuration is performed at the *Edge* on the AVLYTICS field hardware.



2.2.4 AVLYTICS Client 2021-AIO

AVLYTICS Client 2021 is the latest All-in-One software package for AVLYTICS monitoring. The software alone does not integrate into the control room, but may be installed, side by side, with the AVLYTICS Comms Software, which will provide this functionality. The Client 2021 AIO software provides the ability to receive alerts from the AVLYTICS Field hardware and displays the events as static snapshots on the Alarm Manager Stack. The software relies on a Database, VPN Connection to the Cloud, and the AVLYTICS Cloud collector, to receives the alerts. The field hardware communicates events to the Software through the VPN connection and this ensures end-to-end security.





2.3 Maintenance and Monitoring

2.3.1 Google Chrome Maintenance Manager

The AVLYTICS EcoSystem offers a number of optional platforms which ensure ease of access and information at your fingertips. One of the Optional add-ons is the Device Maintenance Manager: <http://isd.dyndns.org:8001>

This platform displays the basic information about the devices installed in the field.

The browser will display each device in one of four different conditions: Fully Armed (green), Fully Disarmed (blue), Partially Armed (orange), Offline (red). The colour coding for the status of devices assists with speedy identification of the status of a device and problem devices.

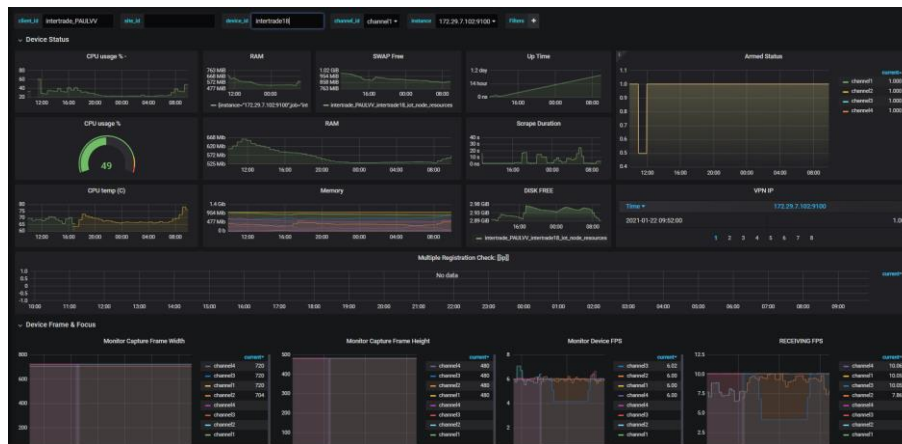
intertrade18 Paul Home 22/01/2021 07:30:02 Fully Armed 172.29.7.102 Edge	intertrade18 Paul Home 22/01/2021 08:13:32 Fully Disarmed 172.29.7.102 Edge
intertrade18 Paul Home 22/01/2021 08:14:13 Some channels disarmed 172.29.7.102 Edge	intertrade18 Paul Home 22/01/2021 01:21:13 Offline !!! 172.29.7.102 Edge

The Offline condition illustrate that the device has not reported to the maintenance manager within the last hour. This is usually an indication that the device has been without internet connectivity or power for over one hour. Please check the Maintenance Telegram group and query the device to troubleshoot why it is not reporting.

2.3.2 Grafana Metrics

Grafana is an Advanced Metric web scraping tool which provides a vast set of metrics for detailed reporting on a device's status in the field. This tool is used by advanced users and should be administered by a trained technician. The tool will display information

such as *Hardware Operating Statistics*, *Detection Related Feedback*, *Network Statistics*, and a host of other useful information. Please refer to the Grafana user Guide for more information.



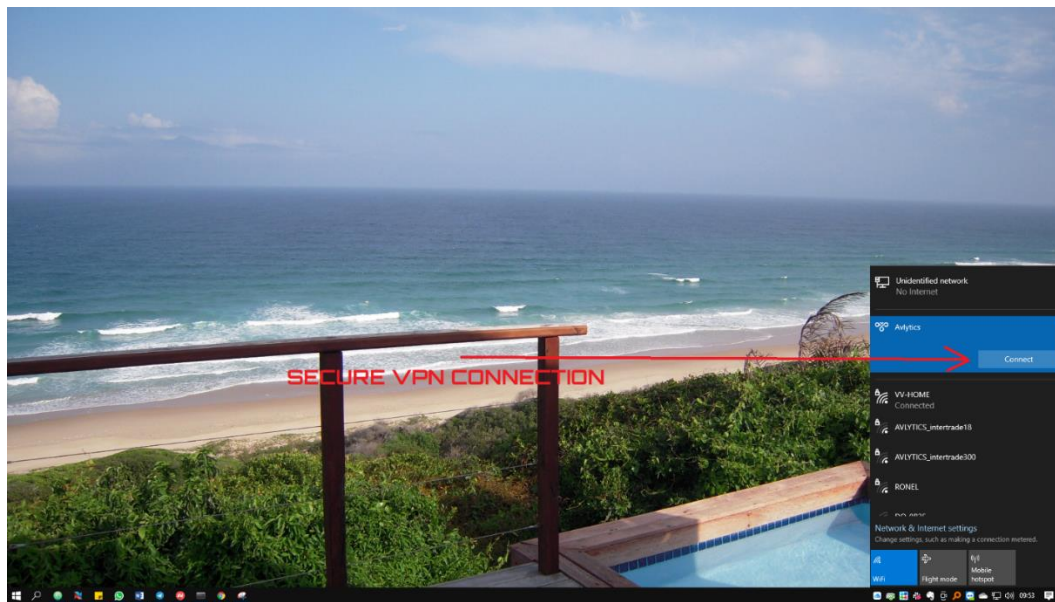
3. Troubleshooting

3.1 Cloud Communication

The AVLYTICS software connects to the cloud server by means of secure VPN tunnels. The Cloud holds a paths to each of the Edge/ Field devices through the use of AMQP Messaging Technology. AMQP is an Asynchronised Message Queuing Protocol. This technology receives messages and queues the messages in a 'first-in-first-out' approach. Each of the Edge devices sends a messages to the Cloud on what we call a Control Queue. AVLYTICS Software binds this message to the Queue associated with your Client ID, through the VPN. The software needs to be connected to the VPN in order push the queue from the Edge devices. This is an automatic process provided that the AVLYTICS Software is connected to the Cloud.

The Software has a built in mechanism to reestablish broken connections to the VPN server. This is required in instances where a dip in internet communication in the Control Room may occur, which will cause the VPN connection to be lost. The software will attempt to re-establish the connection and continue to operate as usual. Where the dip in internet connectivity may occur for an extended period of time, the software will generate a reconnecting loop.

In these cases closing the software and manually reconnecting the VPN connection will resolve the issue.



3.2 Database Software

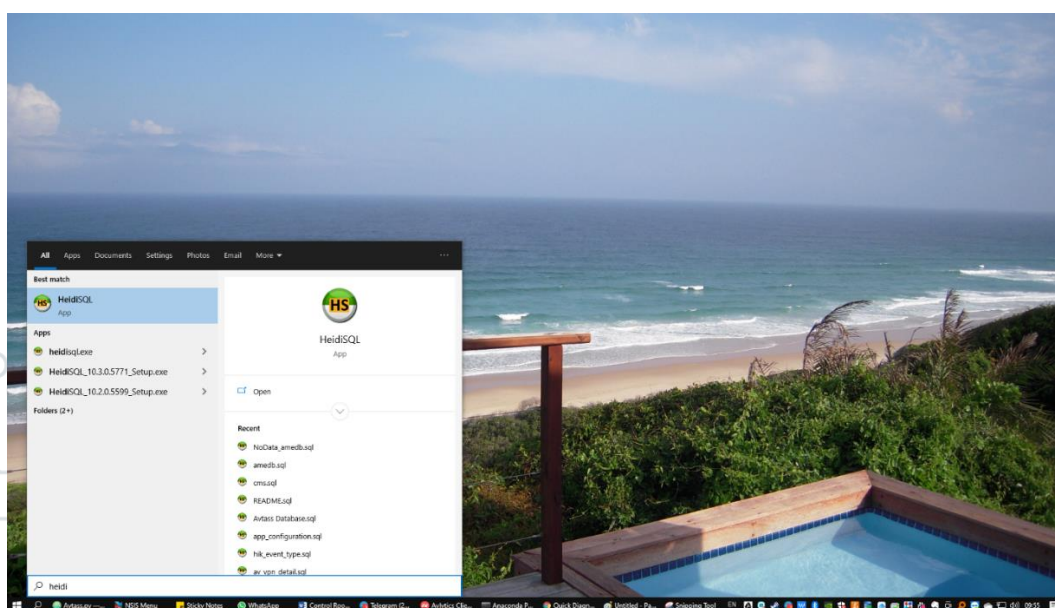
The AVLYTICS software makes use of a MySQL database engine.

The software collects events from the field devices through the use of Cloud services and writes the events into the Control Room's local AVLYTICS Database. The events displayed in the software are all recorded and accessed from this Local Database.

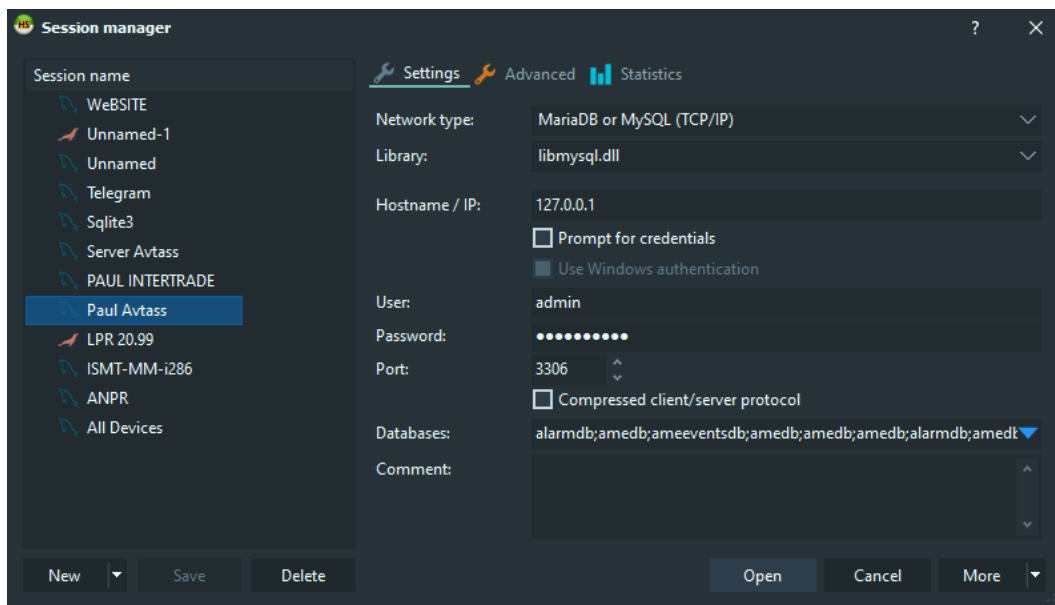
Databases are a key element in storing information but are highly susceptible to corruption in instances where power is lost. To mitigate this issue, we recommend that all Control Rooms make use of a Power Protection and Backup UPS (Uninterruptable Power Supply) .

In the unfortunate event of a Control Room experiencing a power outage or PC crash, there is a very high likelihood that the Database will experience some data corruption. The AVLYTICS software suite includes a Database Management and Maintenance Software - HeidiSql. This software can be used to quickly detect and repair any Database corruption experienced.

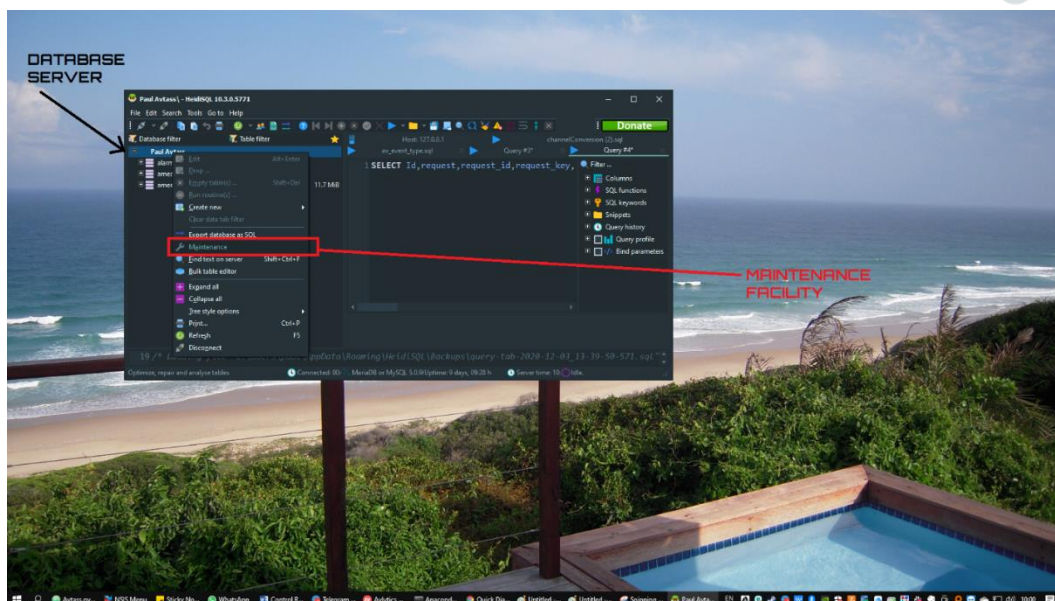
To use this software, press the Windows Key on the keyboard connected to the server and type 'Heidi'. The HeidiSql software icon will appear, click on the icon to open the software.



Click open to open the database engine.



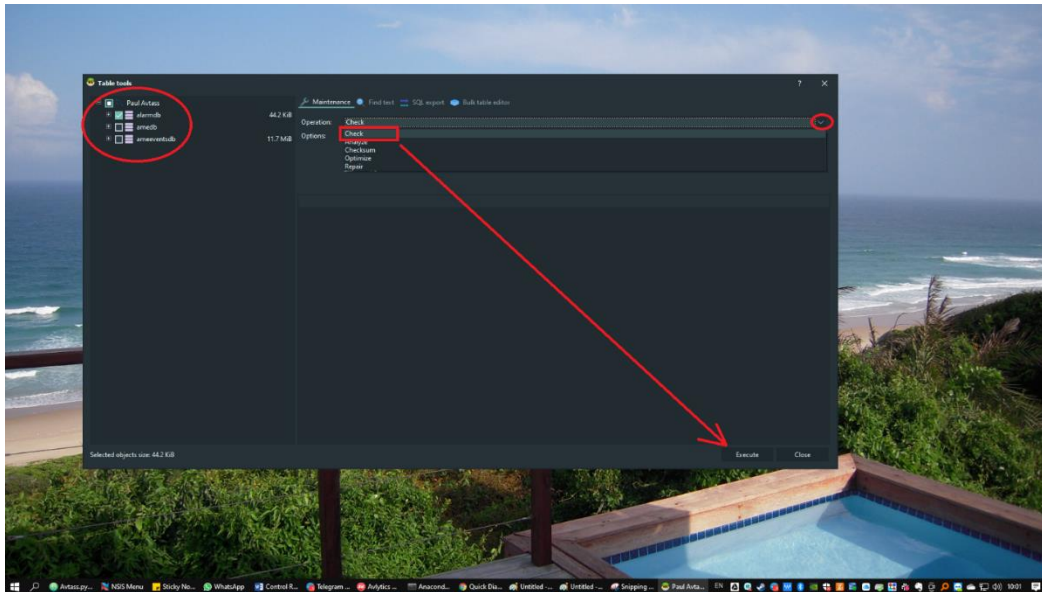
Right click on the Main Server top left and click on Maintenance.



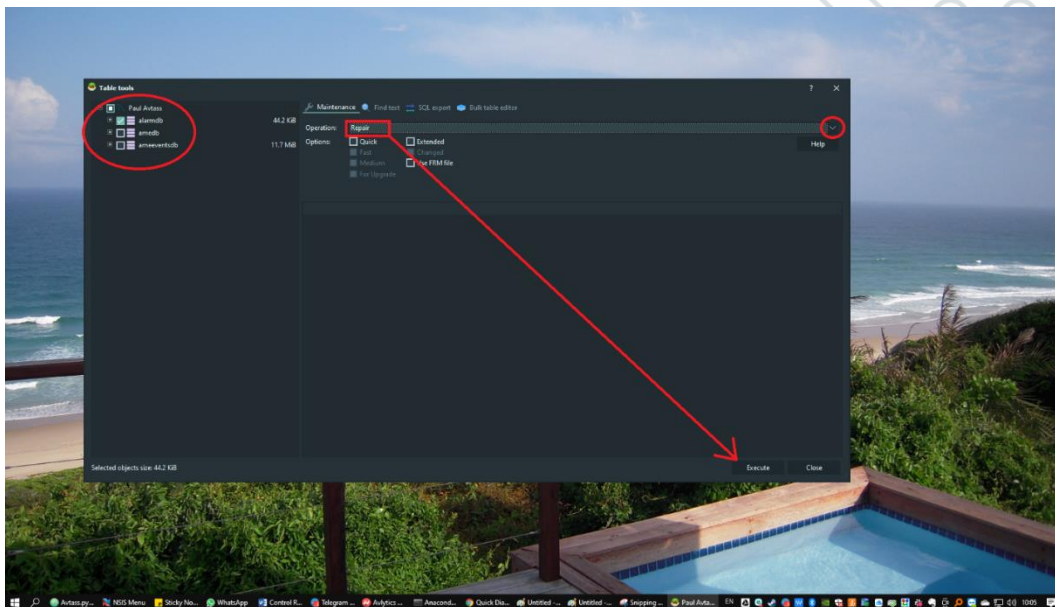
The maintenance tool will allow you to click on one of the databases on the left, and the tasks you can perform on the databases are on the right.

There are only two tasks that need to be performed in the case of data corruption.

3.2.1 Database Check

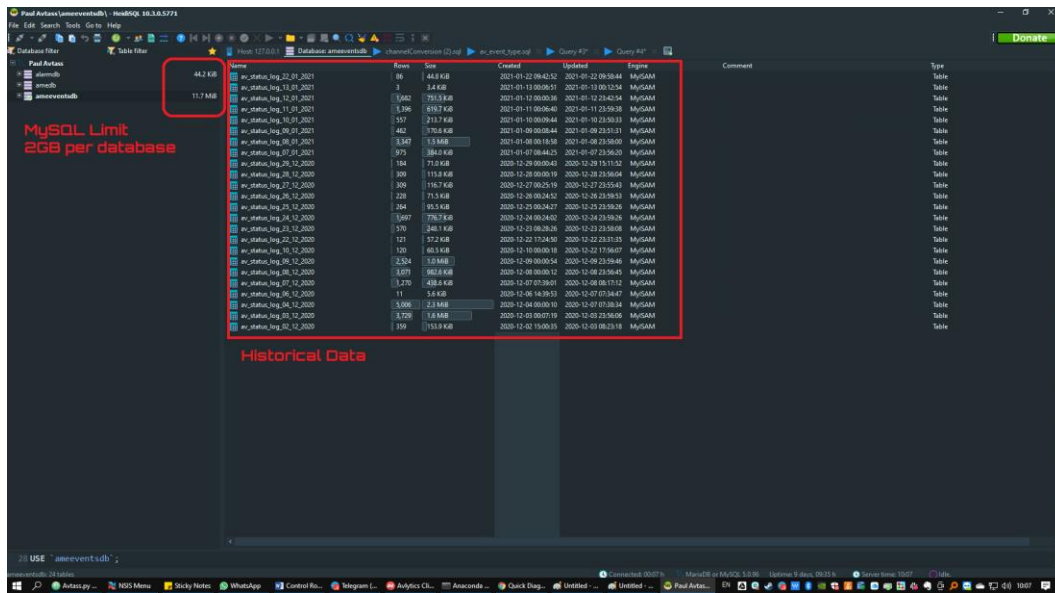


3.2.2 Data Base Repair



This will inspect the database for any corruption and then repair the corruption and the database will continue to operate as usual.

It is recommended that periodic database maintenance is carried out where old database tables from six months to a year old are removed as they are no longer required.



MySQL Limit 2GB per database

Name	Rows	Size	Created	Updated	Engine	Comment	Type
av_station_log_22_01_2021	86	44.8 KiB	2021-01-22 09:45:52	2021-01-22 09:50:44	MyISAM		Table
av_station_log_11_01_2021	3	3.4 KiB	2021-01-12 09:00:51	2021-01-12 09:12:54	MyISAM		Table
av_station_log_12_01_2021	1,042	791.5 KiB	2021-01-12 09:00:36	2021-01-12 23:43:54	MyISAM		Table
av_station_log_11_01_2021	5,196	619.7 KiB	2021-01-11 09:00:40	2021-01-11 23:39:38	MyISAM		Table
av_station_log_10_01_2021	1,157	213.7 KiB	2021-01-10 09:00:44	2021-01-10 23:39:33	MyISAM		Table
av_station_log_09_01_2021	462	370.8 KiB	2021-01-09 09:00:44	2021-01-09 23:31:31	MyISAM		Table
av_station_log_08_01_2021	3,347	1.5 MiB	2021-01-08 09:00:38	2021-01-08 23:30:00	MyISAM		Table
av_station_log_07_01_2021	979	384.8 KiB	2021-01-07 09:00:42	2021-01-07 23:30:20	MyISAM		Table
av_station_log_26_12_2020	184	71.0 KiB	2020-12-29 09:00:43	2020-12-29 15:11:52	MyISAM		Table
av_station_log_28_12_2020	309	111.8 KiB	2020-12-28 09:00:19	2020-12-28 23:36:04	MyISAM		Table
av_station_log_27_12_2020	309	116.7 KiB	2020-12-27 09:00:25	2020-12-27 23:35:43	MyISAM		Table
av_station_log_26_12_2020	228	71.5 KiB	2020-12-26 09:24:52	2020-12-26 23:39:53	MyISAM		Table
av_station_log_25_12_2020	264	95.5 KiB	2020-12-25 09:24:27	2020-12-25 23:39:26	MyISAM		Table
av_station_log_24_12_2020	3,997	782.9 KiB	2020-12-24 09:00:40	2020-12-24 23:39:26	MyISAM		Table
av_station_log_23_12_2020	570	245.1 KiB	2020-12-23 09:28:38	2020-12-23 23:39:08	MyISAM		Table
av_station_log_22_12_2020	121	57.2 KiB	2020-12-22 17:24:30	2020-12-22 23:31:35	MyISAM		Table
av_station_log_21_12_2020	120	60.3 KiB	2020-12-19 09:00:18	2020-12-21 17:00:07	MyISAM		Table
av_station_log_20_12_2020	2,524	1.5 MiB	2020-12-20 09:00:54	2020-12-20 23:39:46	MyISAM		Table
av_station_log_19_12_2020	3,071	982.8 KiB	2020-12-08 09:00:12	2020-12-08 23:36:45	MyISAM		Table
av_station_log_18_12_2020	3,270	438.8 KiB	2020-12-07 01:36:01	2020-12-08 08:18:12	MyISAM		Table
av_station_log_16_12_2020	11	5.6 KiB	2020-12-06 14:39:53	2020-12-07 01:34:47	MyISAM		Table
av_station_log_14_12_2020	5,006	2.1 MiB	2020-12-04 09:00:10	2020-12-07 01:38:34	MyISAM		Table
av_station_log_03_12_2020	3,708	1.6 MiB	2020-12-03 09:00:19	2020-12-03 23:36:08	MyISAM		Table
av_station_log_02_12_2020	139	114.9 KiB	2020-12-02 15:00:35	2020-12-03 08:33:18	MyISAM		Table

Historical Data

Thank you

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