

Data Visualization Engine by AutoMonX

Date	Change	Author
12.04.22	Initial Release	AutoMonX
01.05.22	Every sensor now has its unique host	AutoMonX
02.05.22	Option to import historical data from PRTG	AutoMonX
10.05.22	Sensors are now Imported From CSV	AutoMonX
15.05.22	Host and channel Name are now unique by concatenating their respective ID's	AutoMonX
22.05.22	Reading Sensors is done now from non-local PRTG API Call via a specific group name.	AutoMonX
14.06.22	Reading Sensors is done now from non-local PRTG API Call via a PRTG tag\group\device name or a list of sensors ID's.	AutoMonX
14.07.22	Optimized PRTG API calls for faster runtimes.	AutoMonX
26.07.22	Added Blacklist functionality	AutoMonX
07.09.22	Added Whitelist functionality	AutoMonX
13.10.22	Logs are now centralized under Logs Folder	AutoMonX
16.10.22	The application and its service are optimized to run constantly with constant timeout	AutoMonX
15.12.22	The application now shows the Interface name in the dashboard panel instead of interface device name	AutoMonX
22.01.23	You can now trim any repeating display name in the Grafana panels	AutoMonX
10.04.23	Added Option to Refresh Sensors	AutoMonX
07.07.23	Documentation refresh	AutoMonX
26.08.2023	Multiple changes in the Installer functionality: Grafana install path is now selectable, automated opening documentation and Grafana URL now possible after config wizard. Added Self-Monitoring Dashboard, Added links from Dashboards graphs to PRTG sensor	AutoMonX
27.11.23	Added DataDog Support	AutoMonX

14.12.23	Added Page for DataDog Configuration in Configuration Wizard, Added optional DataDog Dashboards.	AutoMonX
24.12.23	DataDog Tags are Fixed, Added Log Rotation (AutoMonX_DVE.log) if bigger than 100MB, InfluxDB Connection Changes	AutoMonX
14.1.24	Added Alarms History Dashboard	AutoMonX
06.02.2024	Added Central/Distributed Installations for PRTG Multi-Core Support	AutoMonX
07.02.2024	Added Support for PRTG API Keys	AutoMonX
18.04.2024	Many bugfixes, Datadog improvement, Node Troubleshooting Dashboard, Automatic evaluation license, Group status dashboard, Upgrade procedure with backup support.	AutoMonX
29.04.2025	Improvements to Backup and Restore functionalities	AutoMonX

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1 Purpose

The purpose of this document is to provide a detailed explanation of the AutoMonX Data Visualization Engine and how to deploy it.

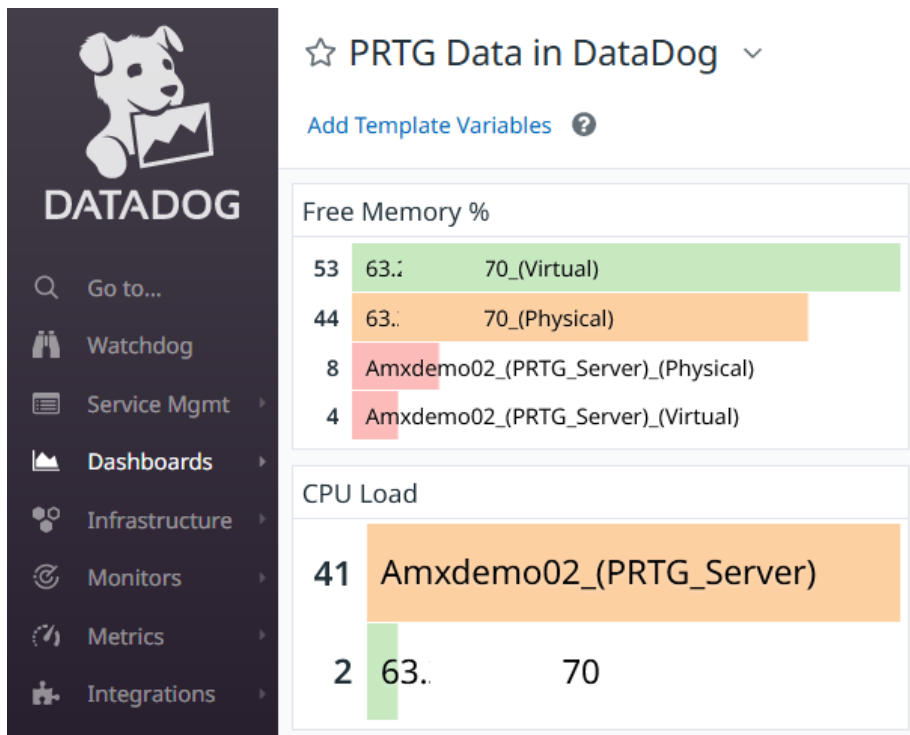
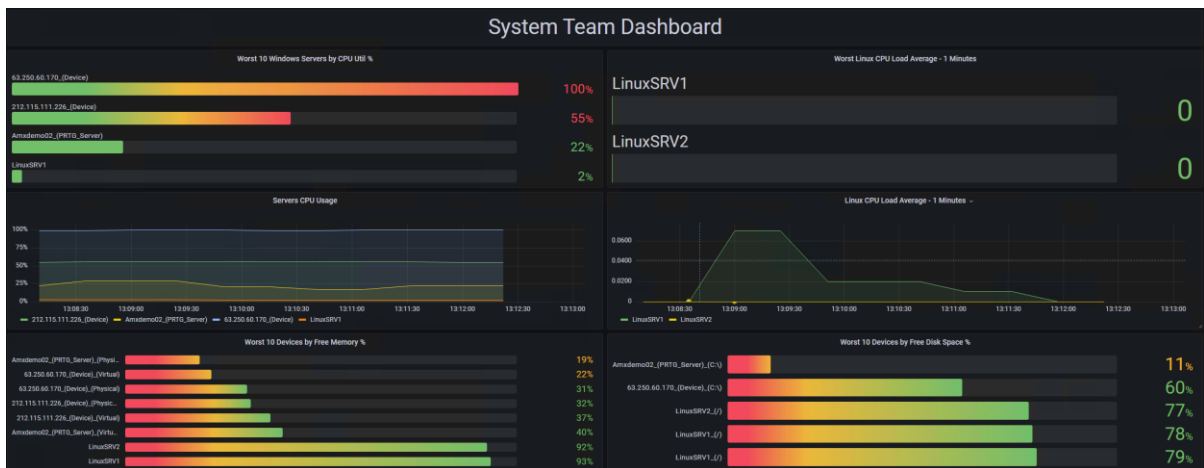
2 Data Visualization Engine Overview

AutoMonX has developed the Data Visualization Engine (DVE) to provide an easy and scalable way to display data collected by monitoring software such as PRTG in other via the popular user interfaces and monitoring platforms. The Data Visualization Engine can export any PRTG metric sensor, import into InfluxDB and display it in Grafana. DVE also supports integrating data from several PRTG Cores into a single dashboard view. Additionally, AutoMonX DVE can import PRTG metric sensors into the DataDog observability platform.

3 How does it work?

The AutoMonX Data Visualization Engine connects via REST API to the PRTG Core server and collects sensors that the user has chosen to display in Grafana. DVE collects the latest sensor values as seen in PRTG. The gathered information is pushed into an InfluxDB database. Grafana then reads the collected data from InfluxDB and displays it via pre-installed dashboards. Additionally, same collection process allows to push the PRTG sensor data into the DataDog platform and convert the PRTG sensors into DataDog custom metrics for monitoring and display in custom dashboards.

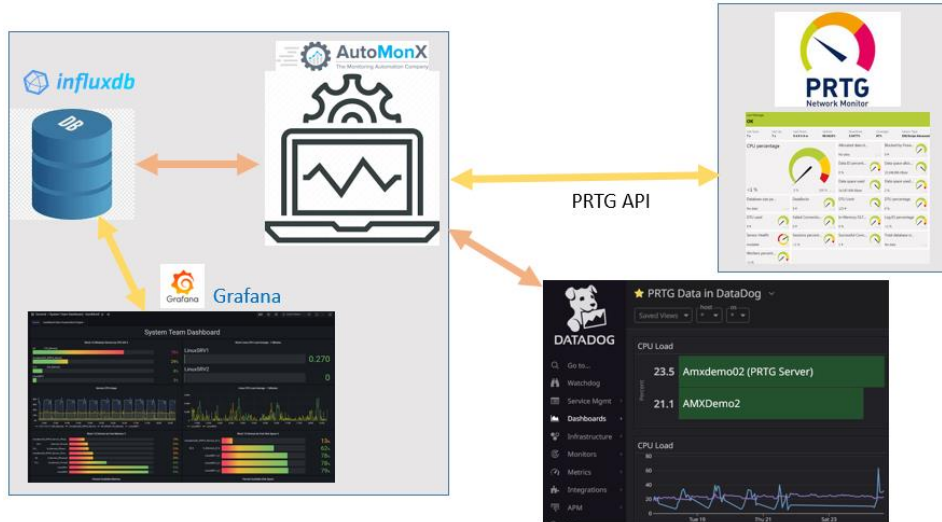
DVE allows PRTG administrators to rapidly deploy user-friendly dashboards and publish the PRTG monitoring data to other teams in the organization for quick troubleshooting and better observability of their IT estate.



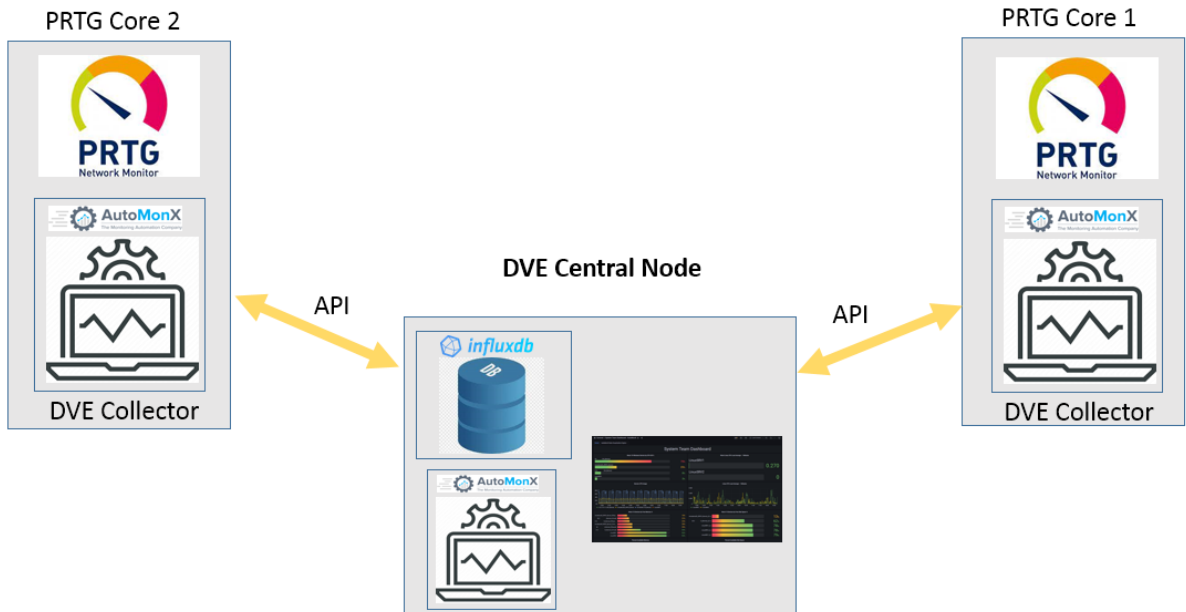
3.1 DVE Architecture

The AutoMonX Data Visualization Engine can be deployed in various flexible ways. It can work on a single node (DVE Central Node) with all the required components automatically pre-installed or in a fully distributed architecture when some or all of the components are hosted on different machines or service providers such as Grafana Cloud and Hosted PRTG. The DVE Collector can be installed on top of several PRTG Core CPU servers and report their data in to the database located on the DVE Central Node. Hosted InfluxDB or InfluxDB Enterprise Edition are not supported at this time.

DVE – Architecture – Single Node



DVE – Multiple PRTG Cores



4 Using the Data Visualization Engine

The AutoMonX Data Visualization Engine has several pre-defined Dashboards that are automatically loaded into Grafana. These are the current default dashboard types:

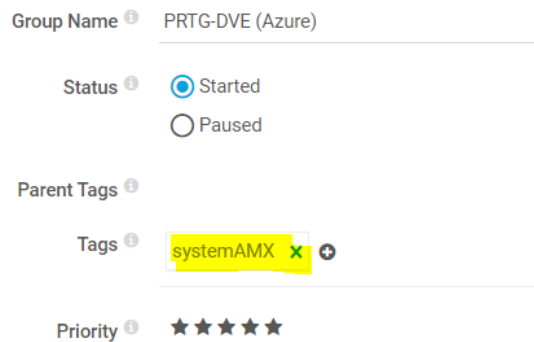
- **System Team Dashboard** – Displays the top 10 servers and their metrics (CPU, Memory, Disk space and Network interfaces)
- **Network Team Dashboard** – Displays the top 10 network devices and their metrics (CPU, Memory, Network interfaces)
- **Top 10 Interfaces Dashboard** – Displays the top 10 network interfaces (Network Interfaces by Utilization, Interface errors)
- **Generic Dashboard** – Allows to quickly create a dashboard with few basic panels for custom dashboards

4.1 Assigning the Default PRTG Tags

In order to see PRTG data in the default dashboards, you must add one of the default tags to PRTG group(s) or devices prior to running DVE installation. For scalability and ease of use purposes, it is recommended to add tags on the PRTG Group levels. These are the default tags DVE expects to find:

- systemAMX
- networkAMX

Basic Group Settings



Group Name ⓘ PRTG-DVE (Azure)

Status ⓘ Started
 Paused

Parent Tags ⓘ

Tags ⓘ systemAMX x +

Priority ⓘ ★★★★★

Usage of custom Tags in PRTG is also supported, make sure to add those during the Configuration Wizard phase of the installation.

4.2 Accessing the Default Dashboards

As soon as the installation and configuration wizard have been completed, the AutoMonX DVE would start obtaining data from PRTG and pushing it into InfluxDB.

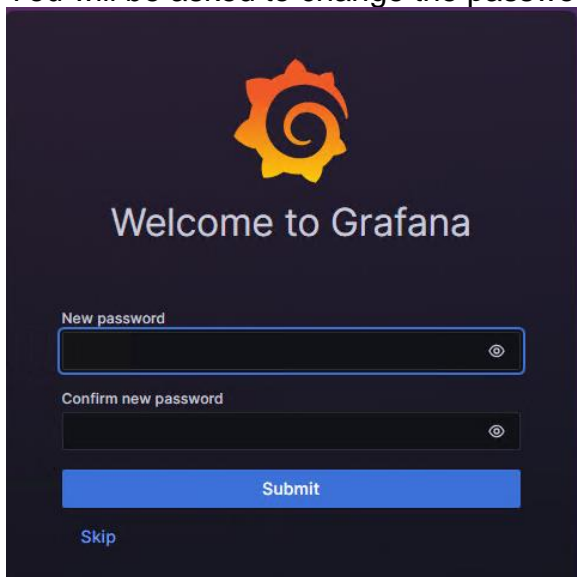
To see the data in Grafana, you need to connect to the Grafana interface by using any supporting web browser:

<http://<the hostname of the machine>:3000>

The default username: admin

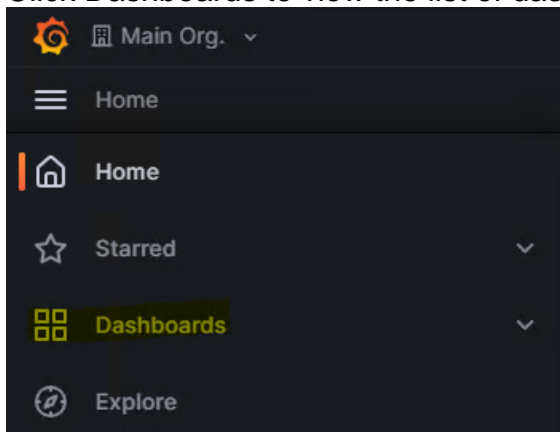
The default password: admin

You will be asked to change the password, it is not mandatory, but recommended



Press “Skip” if you wish to leave the existing credentials.

Click Dashboards to view the list of dashboard folders

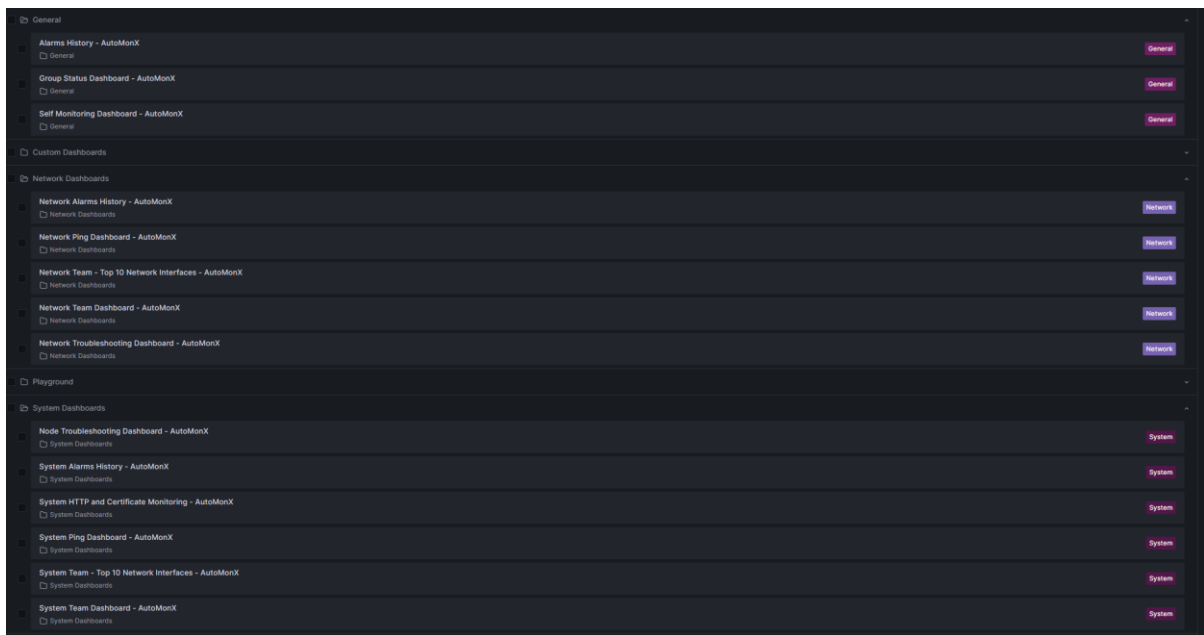


Expand the General Folder to see the list of the pre-installed dashboards:

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Web : <https://www.automonx.com>

Email : support@automonx.com



Here are the dashboards that we offer:

General

- Alarms History - AutoMonX
- Group Status Dashboard - AutoMonX
- Self-Monitoring Dashboard - AutoMonX

Custom Dashboards → Network Dashboards

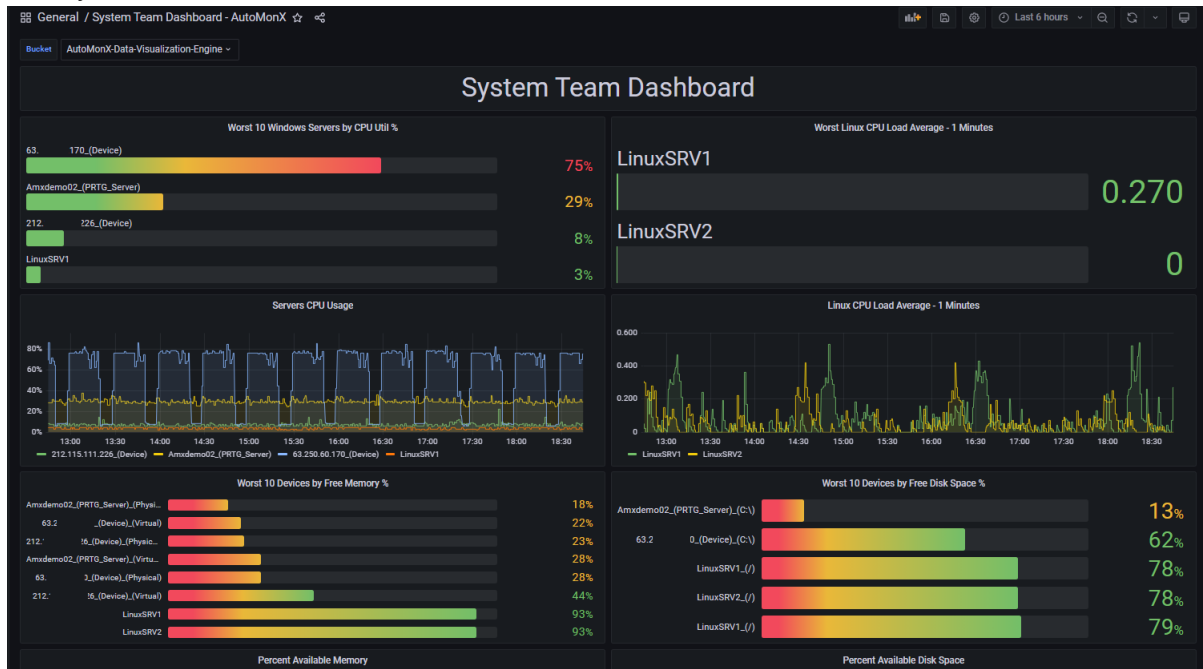
- Network Alarms History - AutoMonX
- Network Ping Dashboard - AutoMonX
- Network Team - Top 10 Network Interfaces - AutoMonX
- Network Team Dashboard - AutoMonX
- Network Troubleshooting Dashboard - AutoMonX

Playground → System Dashboards

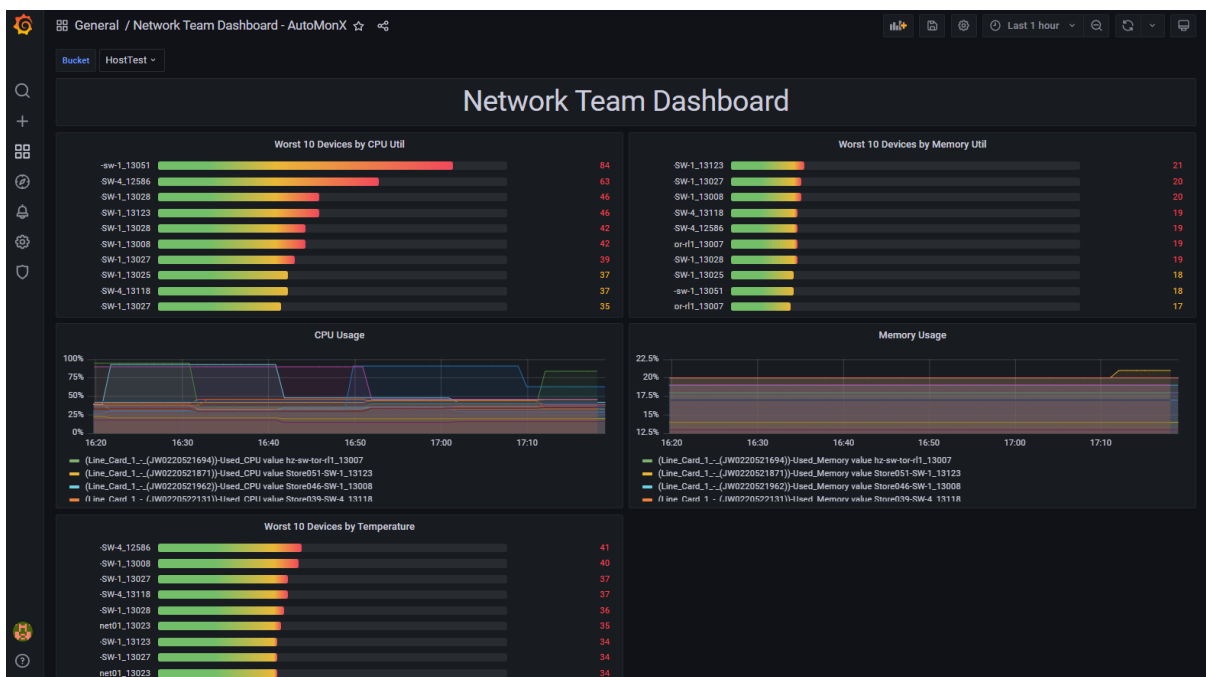
- Node Troubleshooting Dashboard - AutoMonX
- System Alarms History - AutoMonX
- System NTP and Certificate Monitoring - AutoMonX
- System Ping Dashboard - AutoMonX
- System Team - Top 10 Network Interfaces - AutoMonX
- System Team Dashboard - AutoMonX

Below are some examples of the pre-installed dashboards:

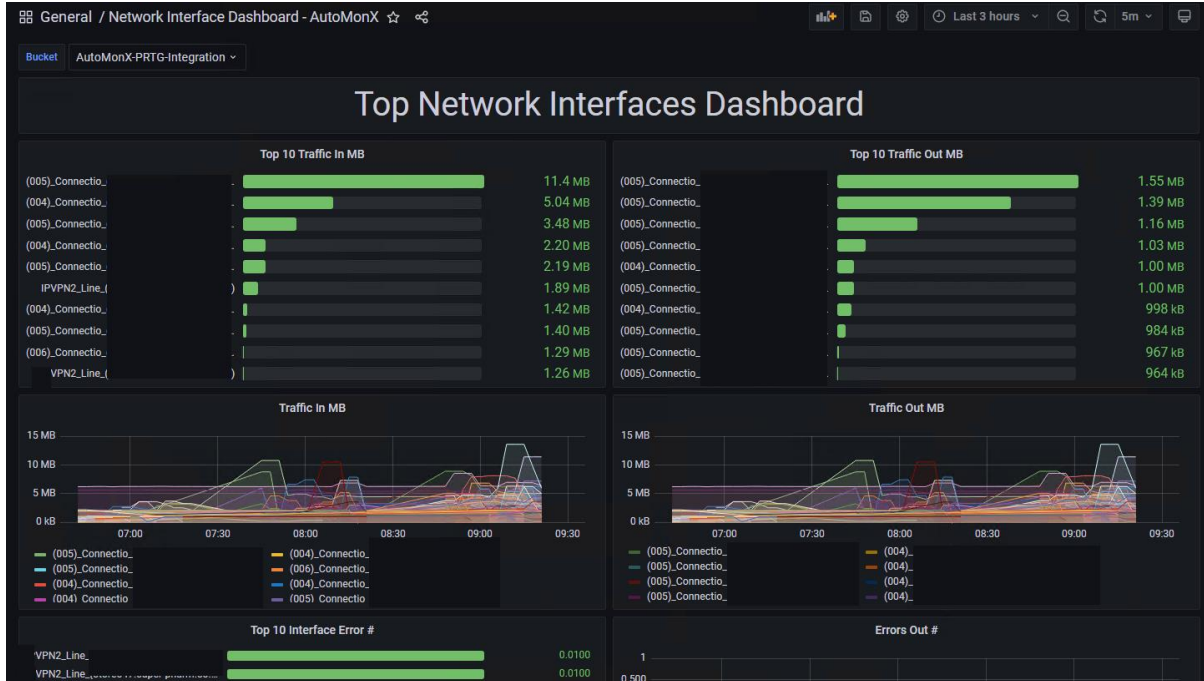
- System Team Dashboard



- Network Team Dashboard

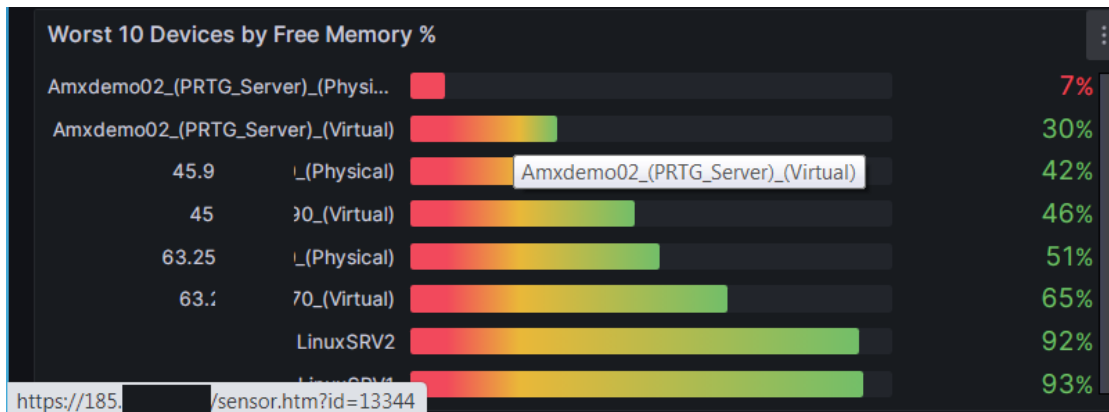


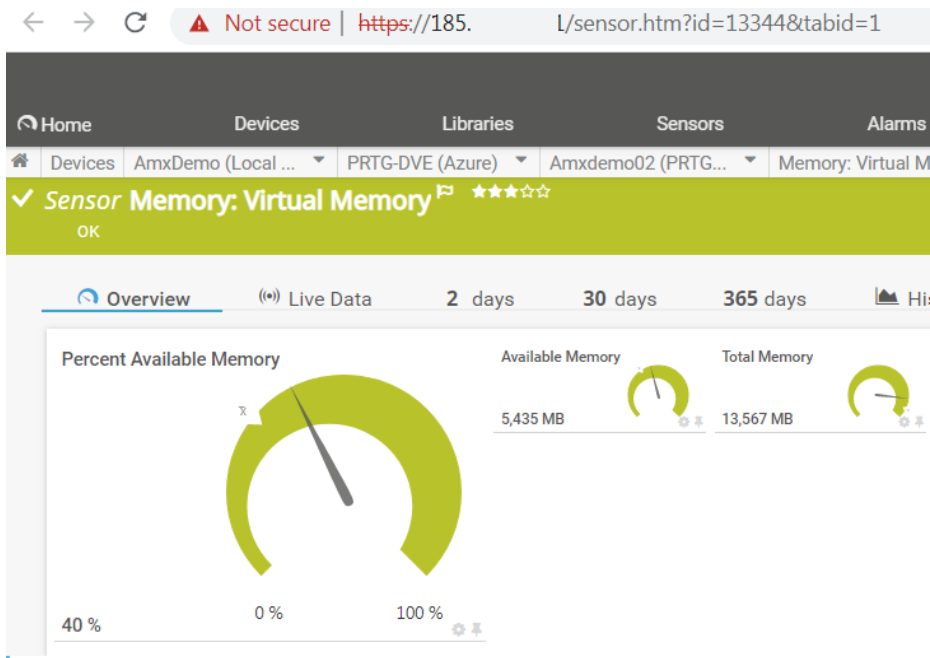
- Top 10 Network Interfaces Dashboard



4.3 Accessing the original sensor data in PRTG

Thanks to the built-in backsync integration with PRTG, you can quickly access the original data in PRTR of any sensor that appears in the default dashboards by clicking on a Top 10 graph.





5 Getting Started with Data Visualization Engine

5.1 Supported Software versions

The Data Visualization Engine has been tested to support the following software:

Software Type	Versions	Comments
Windows OS Server	2016, 2019, 2022	Administrative user is needed for installation process.
Virtual Infrastructure	VMWare, Azure, AWS or on-prem	
PRTG Core and Probe deployments	21.x, 22.x,23.x,24.x	All On-Prem PRTG license types supported
PRTG Hosted		All Hosted PRTG license types supported. * Administrative user is advised.
InfluxDB (On-prem or cloud)	2.0.9	OSS edition only
Grafana (On-prem or cloud)	9.5	OSS or Enterprise editions

5.2 Data Visualization Engine - Port requirements

The Data Visualization Engine requires the following ports to be open for it to function correctly. Make sure that the local firewall / anti-virus and the external firewalls are configured correctly to allow the Data Visualization Engine to function correctly.

Port / URL	Purpose	Direction
TCP 443, 80	Connect to PRTG API	From the Machine that runs the DVE to PRTG Core server
TCP and UDP 8086	Connect to InfluxDB	From Data Visualization Engine to InfluxDB and From Grafana to InfluxDB
TCP and UDP 3000	Connect to Grafana	Bi-directional: From InfluxDB to Grafana and vice versa
TCP 443	Connect to DataDog API	From the DVE server to the regional DataDog URL i.e.:

		https://app.datadoghq.com https://app.datadogeu.com
TCP and UDP 56492		AutoMonX automatic license evaluation request port

6 Installation of AutoMonX DVE

6.1 Installation Summary

Below are the steps that you need to perform to install the AutoMonX Data Visualization Engine:

1. Download the Data Visualization Engine installer.
2. Start the installation of Data Visualization Engine which would install and configure Grafana and InfluxDB for you.

6.2 Downloading the Required Software

To obtain the AutoMonX Data Visualization Engine go to:

<https://www.automonx.com/downloads>

Download the DVE installer as it contains all the required components.

7 Installing the AutoMonX Data Visualization Engine

In this chapter you will install the AutoMonX Data Visualization Engine.

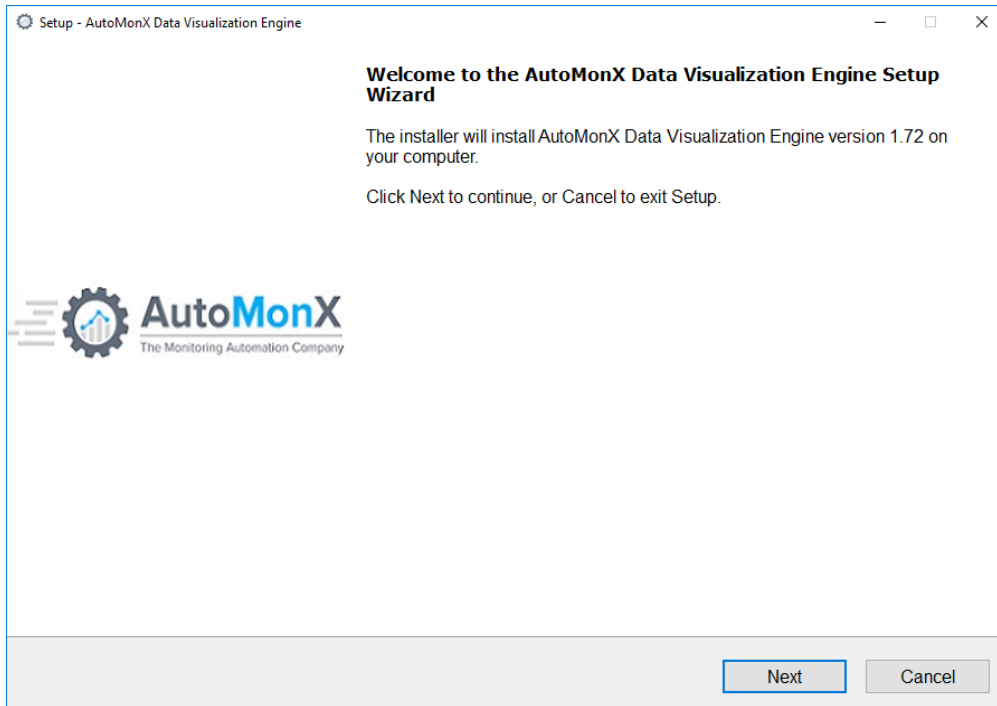
Important:

Before proceeding to the installation process, we recommend disabling temporarily all Anti-Virus (or equivalent) programs running on the server for proper installation, otherwise the installation might be corrupt.

7.1 Installing Data Visualization Engine

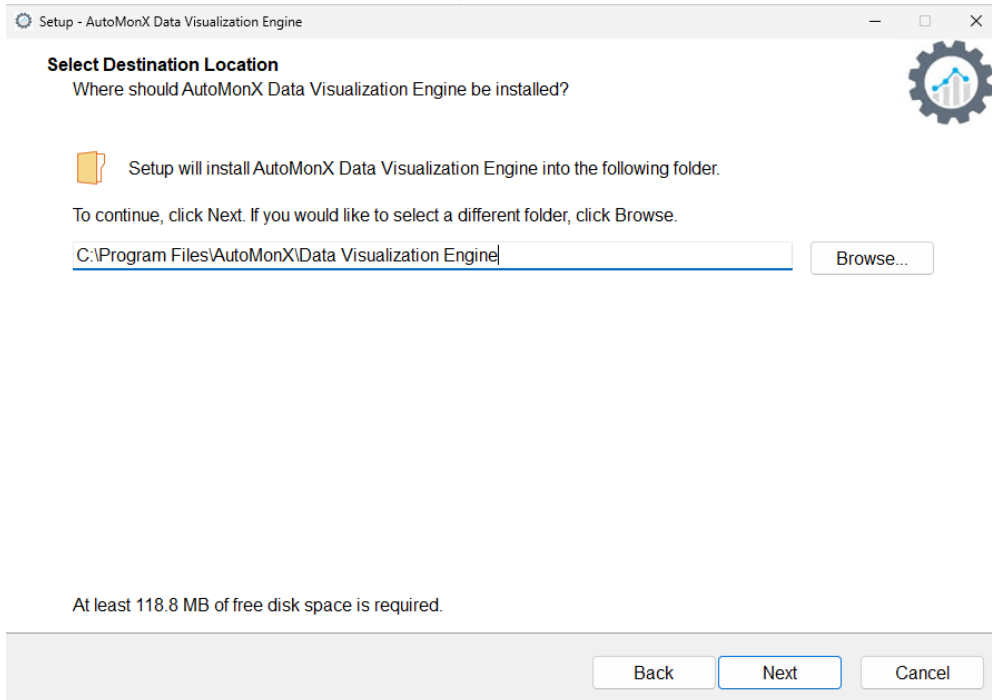
Locate the downloaded EXE installer and run it as Administrator. Follow the Installation wizard to customize the DVE deployment.





7.1.1 Choose the Installation path

Choose the path to install the Data Visualization Engine and click Next



We recommend the following location:

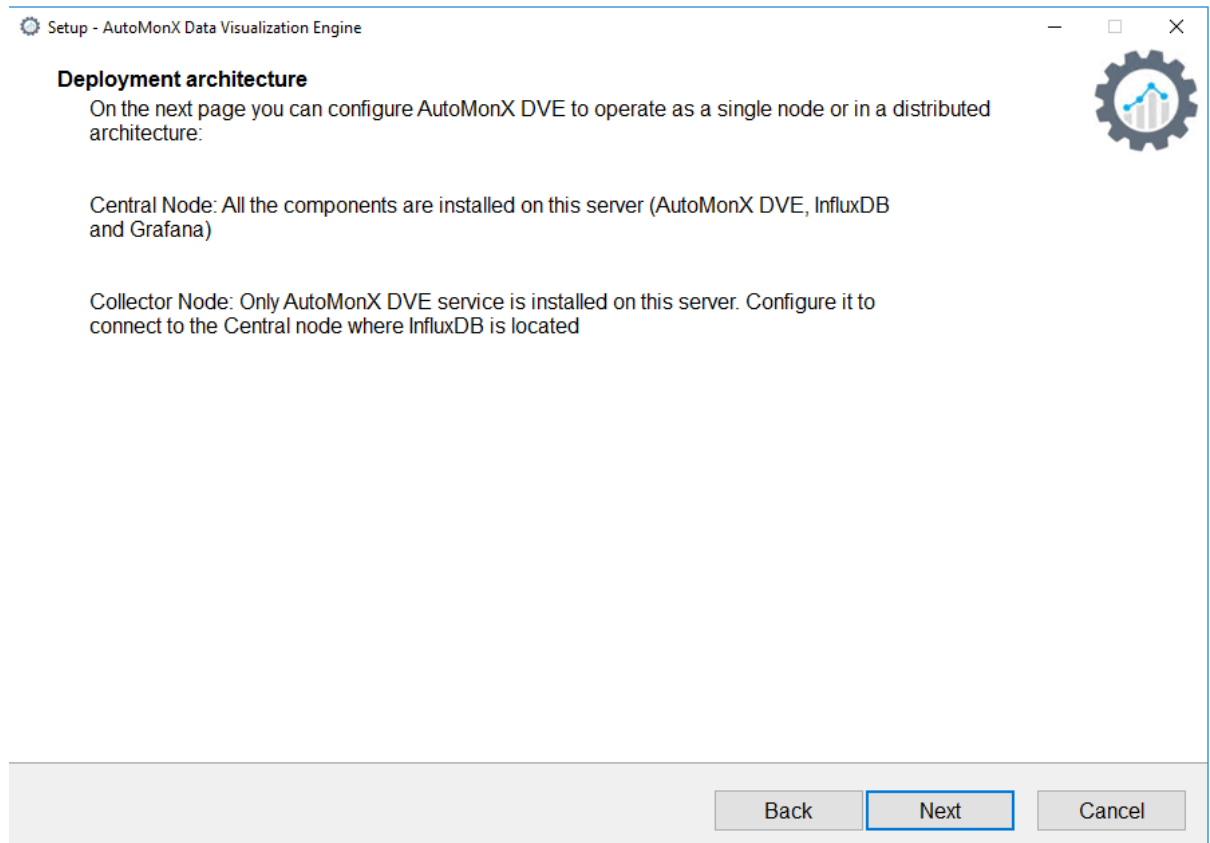
<Drive>:\Program Files\AutoMonX\Data Visualization Engine

7.1.2 Choosing the DVE Deployment Type (Central or Distributed)

When installing DVE you can choose from two types of deployments:

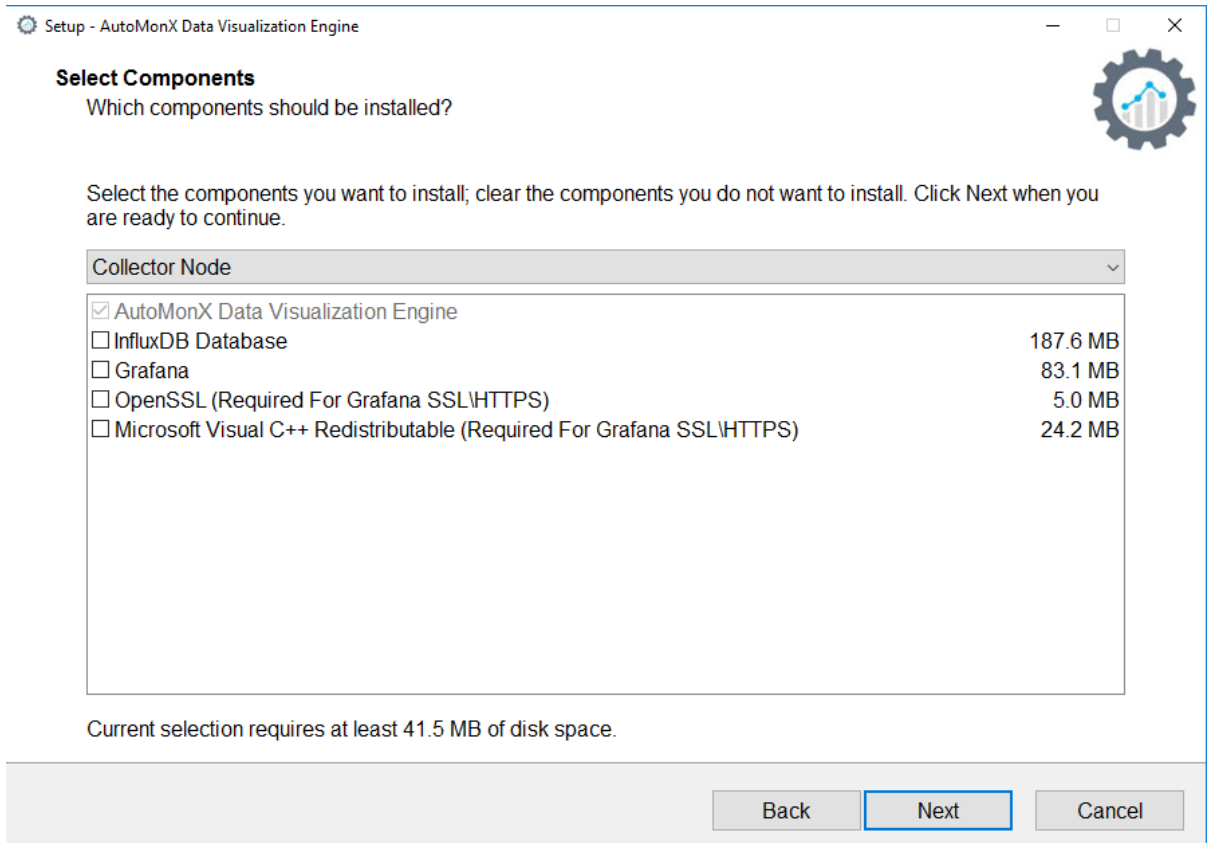
1. **Central Node:** All the components are installed on the main\single server (AutoMonX DVE, InfluxDB and Grafana)

2. **Collector Node:** Only AutoMonX DVE service is installed on the server. Configure it to connect to the DVE Central node where InfluxDB is located.



7.1.3 Installing The Collector Node

When choosing to install the Collector Node, only the AutoMonX DVE service will be installed. The Collector Node would process all data from a PRTG Core where it is installed on and would send the data to the DVE Central Node.



After Clicking "Next" you would be transferred to the "Install" [page](#).

Note: When configuring the [InfluxDB Connection](#) in the Configuration Wizard be sure to specify the details of the central node.

7.1.4 Installing a DVE Central Node\Single Node

The DVE Central Node is a server that has all the components needed for the AutoMonX DVE to fully function. It can operate as a single node or as a DVE Central node.

The installer automatically installs InfluxDB and Grafana with just a few clicks. If you don't have InfluxDB or Grafana already, you can proceed with the installation below.

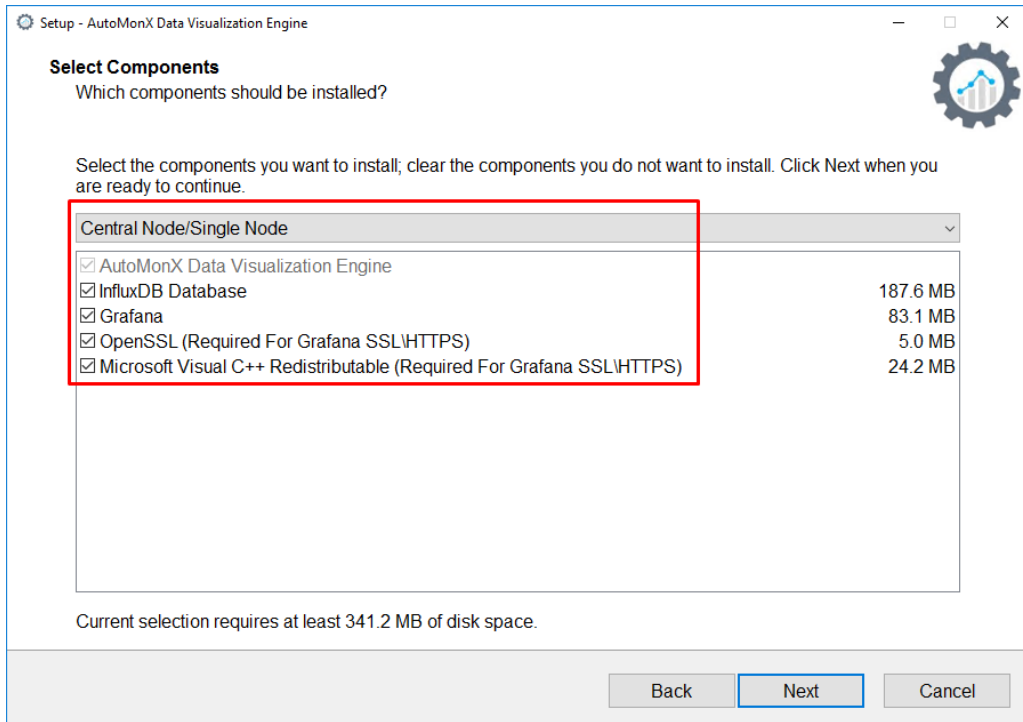
- When selecting "InfluxDB Database" you can customize:
 - The installation location of InfluxDB.
 - The administrator username and password, organization name and database bucket.
- When selecting "Grafana", the installer would run the silent installation of Grafana and configure it.

Notes:

If you already have InfluxDB, you can skip this step by unchecking "InfluxDB Database" in the setup menu.

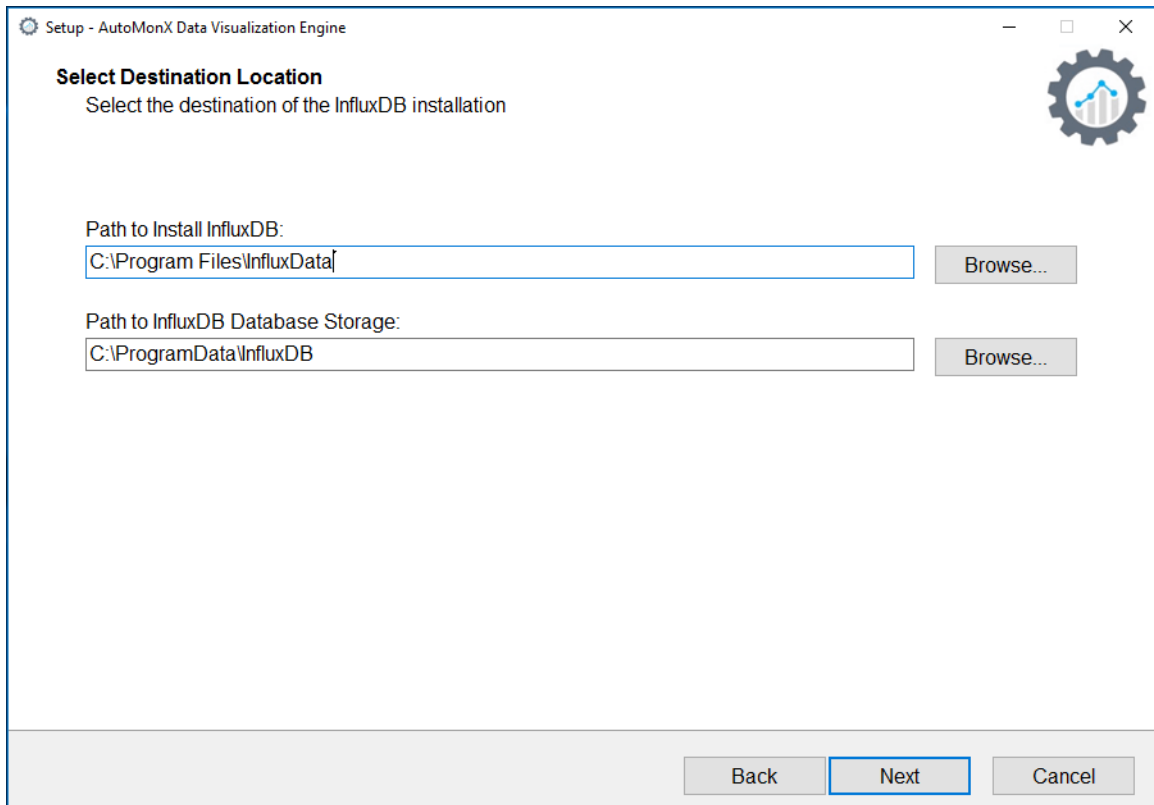
If you already have Grafana Installed, uncheck the "Grafana" configuration and review [Appendix H](#) on how to Upload our Default Dashboards.

To enable SSL for Grafana, OpenSSL and Microsoft Visual C++ Redistributable are required for installation. Their installers will run during the installation process.

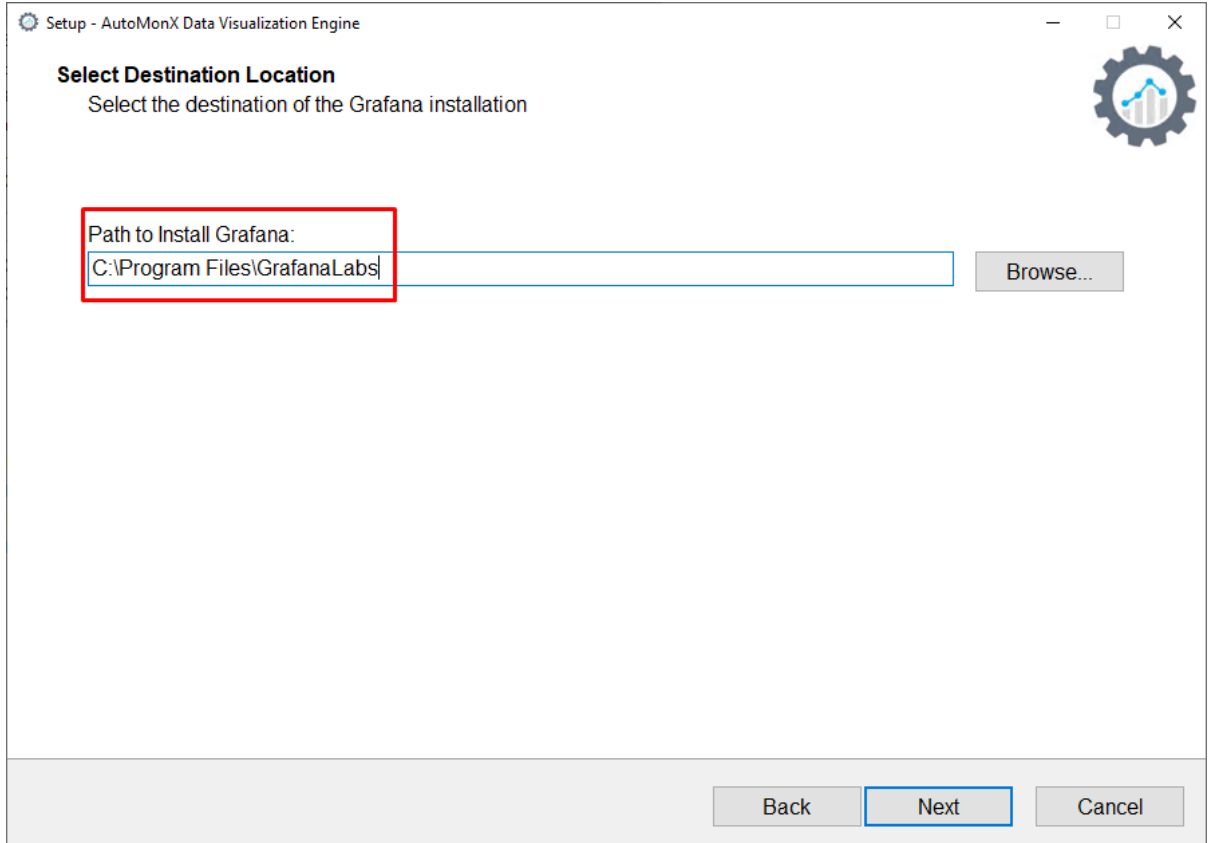


When ready click Next.

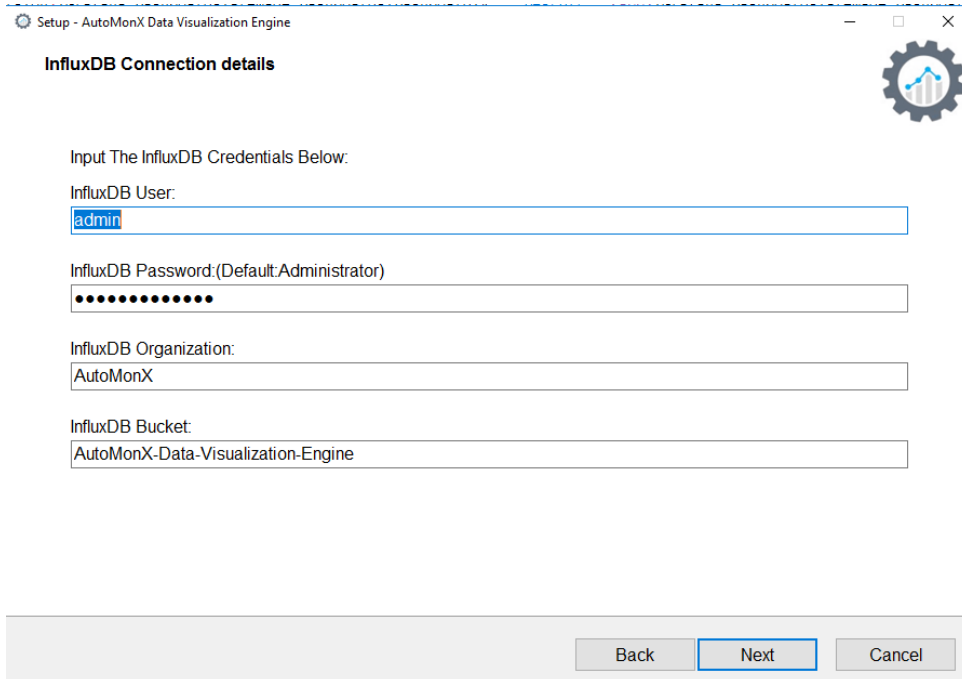
Here you can modify the InfluxDB Installation Path and where InfluxDB Stores its Database files:



Next you would need to choose the Installation path for Grafana, the default path is:



You need to provide the connection details that would be used to deploy and configured InfluxDB.



Setup - AutoMonX Data Visualization Engine

InfluxDB Connection details

Input The InfluxDB Credentials Below:

InfluxDB User:

InfluxDB Password:(Default:Administrator)

InfluxDB Organization:

InfluxDB Bucket:

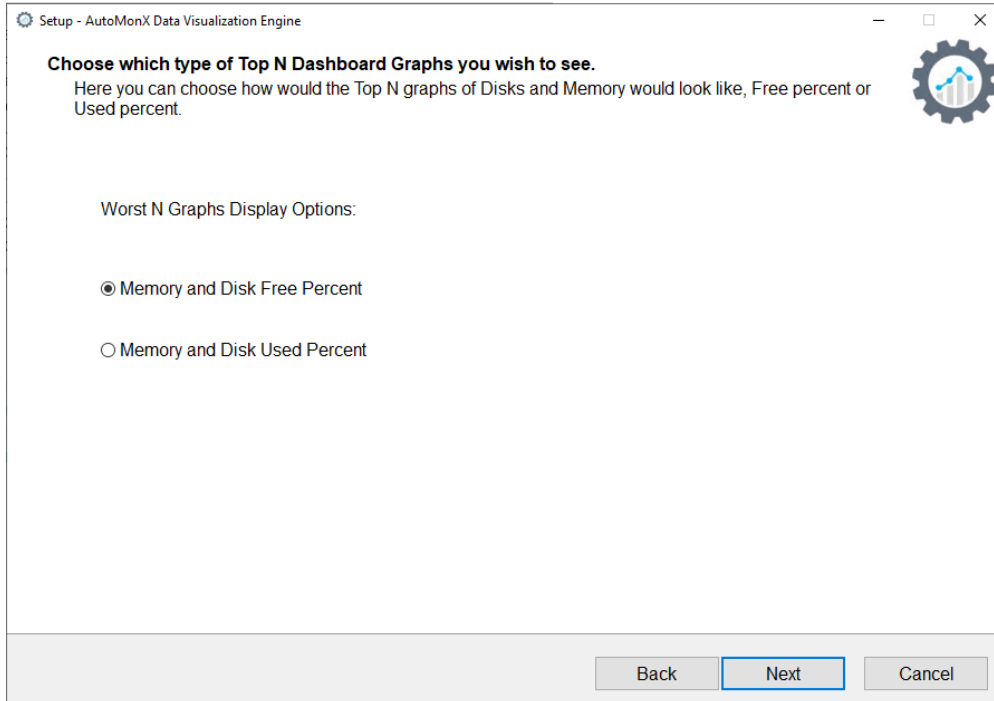
Back Next Cancel

Important: There is no need to modify these fields, unless you wish to modify the default settings. You can press Next to continue, and defaults will be used.

- **InfluxDB User:** The InfluxDB username that has admin privileges.
- **InfluxDB Administrator Password:** The password of the administrative user. The password must be at least 8 characters. The default password is: Administrator
- **InfluxDB Organization:** The default value is: AutoMonX
- **InfluxDB Bucket:** The default value is "AutoMonX-Data-Visualization-Engine".

When Ready click "Next".

On the next screen you can choose how to view Top N View:



Setup - AutoMonX Data Visualization Engine

Choose which type of Top N Dashboard Graphs you wish to see.
Here you can choose how would the Top N graphs of Disks and Memory would look like, Free percent or Used percent.

Worst N Graphs Display Options:

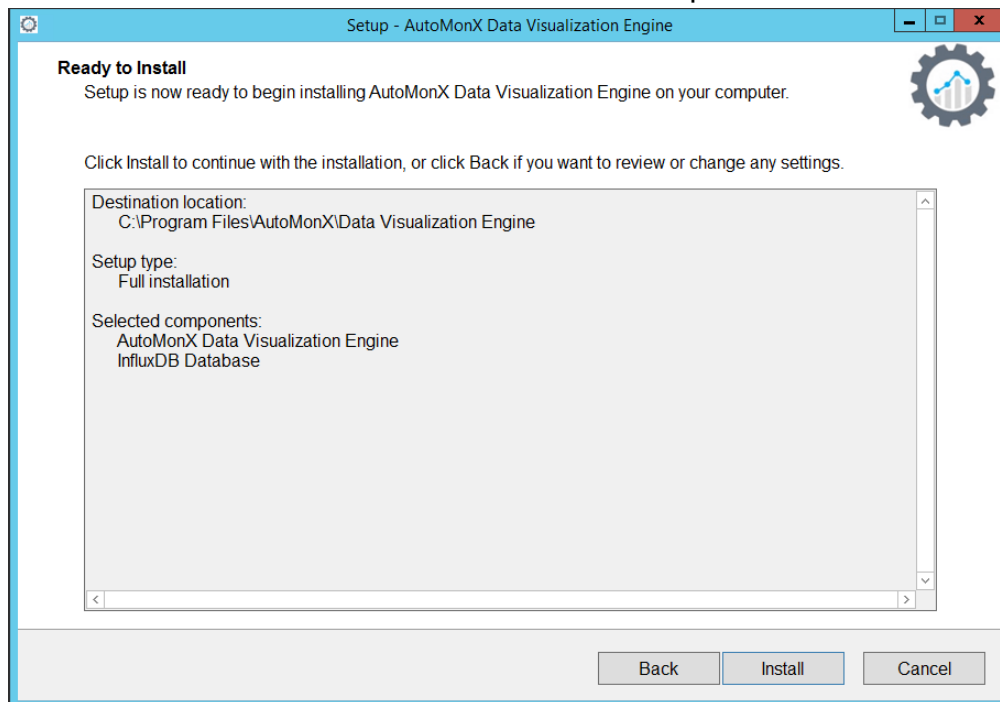
Memory and Disk Free Percent

Memory and Disk Used Percent

Back Next Cancel

7.1.5 Perform the installation

Click on the Install button and let the Installer perform the Installation.



7.1.6 DVE Automatic Backup on Version Upgrade

When installing a new version of DVE you automatically perform a backup if an older version is detected, which would save all files and settings of:

- DVE – all files under {Install Directory}\Data Visualization Engine and all configuration done previously
- Grafana - all Grafana files and configuration
- InfluxDB – all Files , configurations and Database

For the backup to work properly make sure that the INI file {Install Directory}\Data Visualization Engine\Backend\DVE.ini has the following information(example provided):

[Grafana]

grafana_url=https://127.0.0.1:3000

grafana_userToken=glsa_SK4rm4QNM2UcTD111VMEEx57kcG3vVH0z_1f9e
fc2b

grafana_install_path=C:\Program Files\GrafanaLabs

[influxdb]

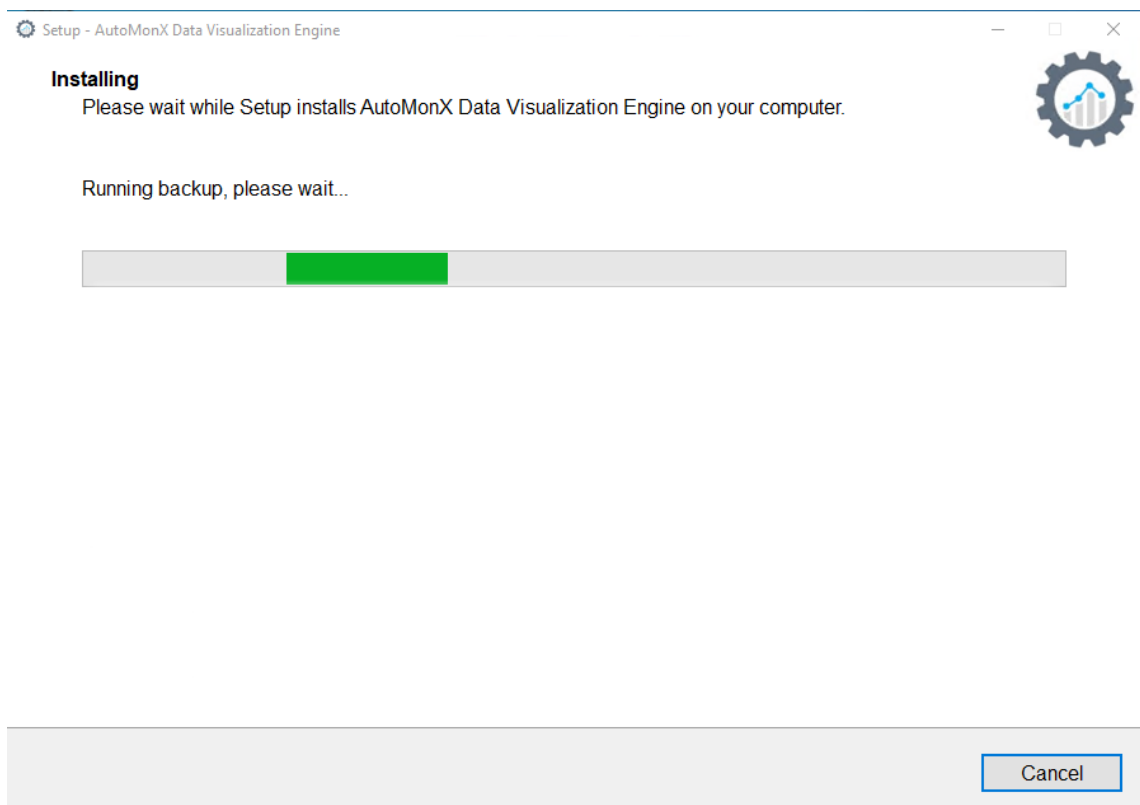
influxdb_storage_and_config_location=C:\ProgramData\InfluxDB

influxdb_binaries_location=C:\Program Files\InfluxData

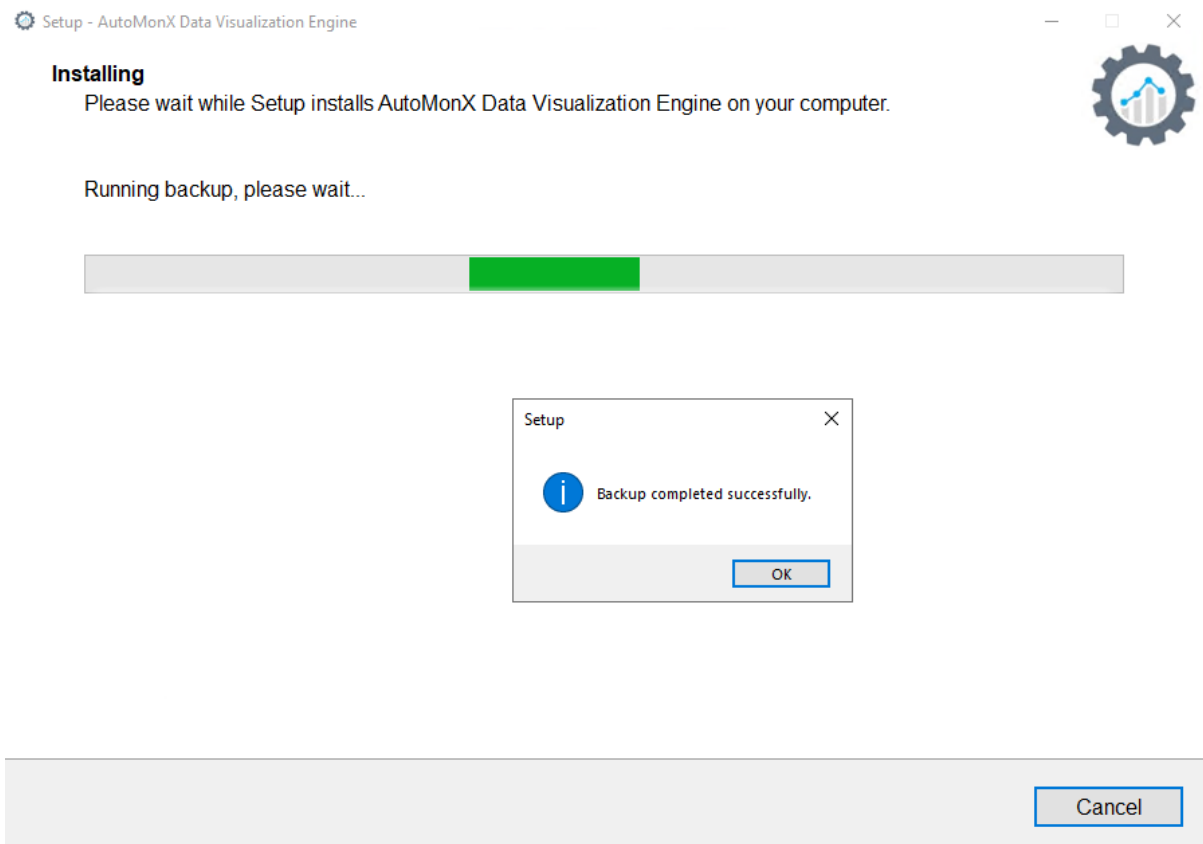
[ProgramParams]

INSTALL_DIRECTORY=C:\Program Files\AutoMonX\Data Visualization
Engine

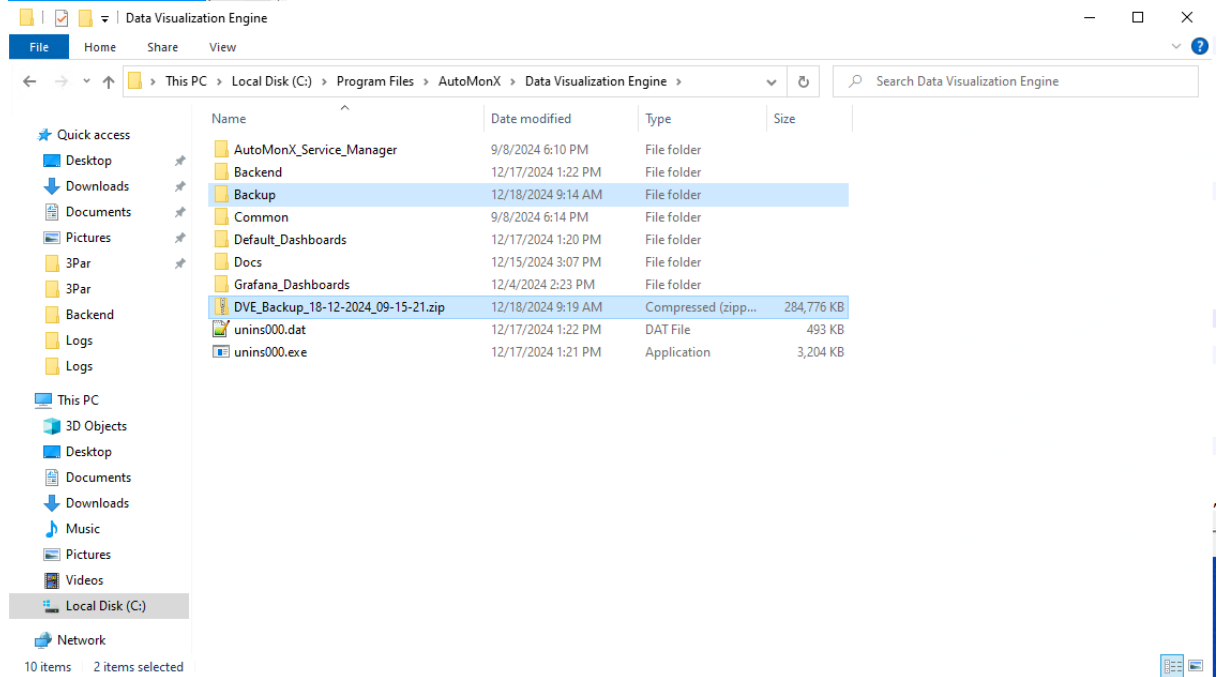
After making sure that DVE.ini has all needed information for the backup, the backup would start:



When the backup is complete you will see a prompt telling you so:

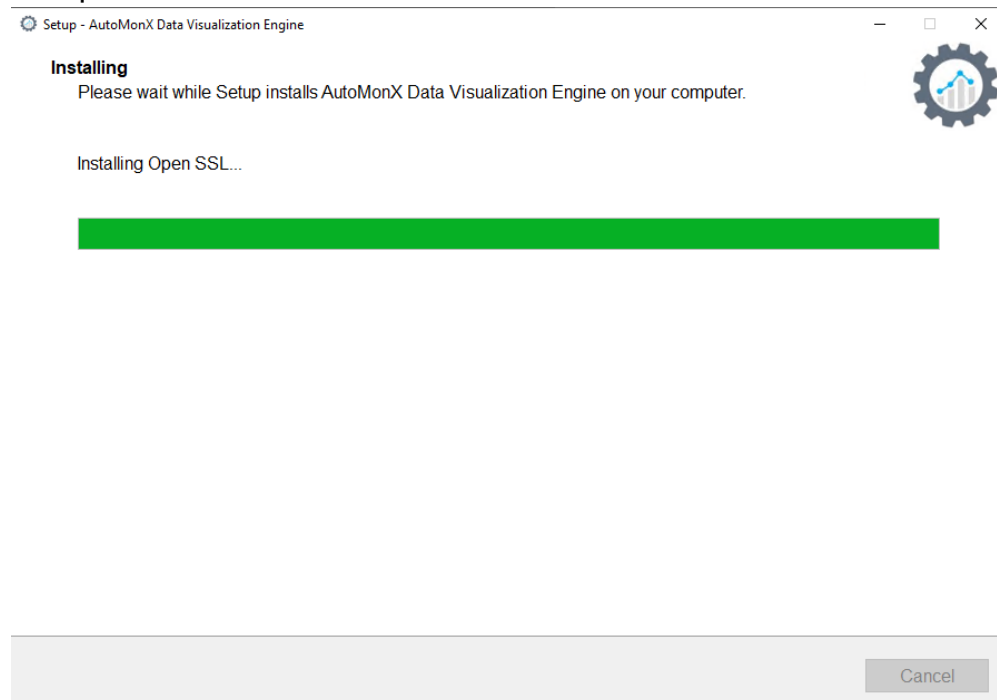


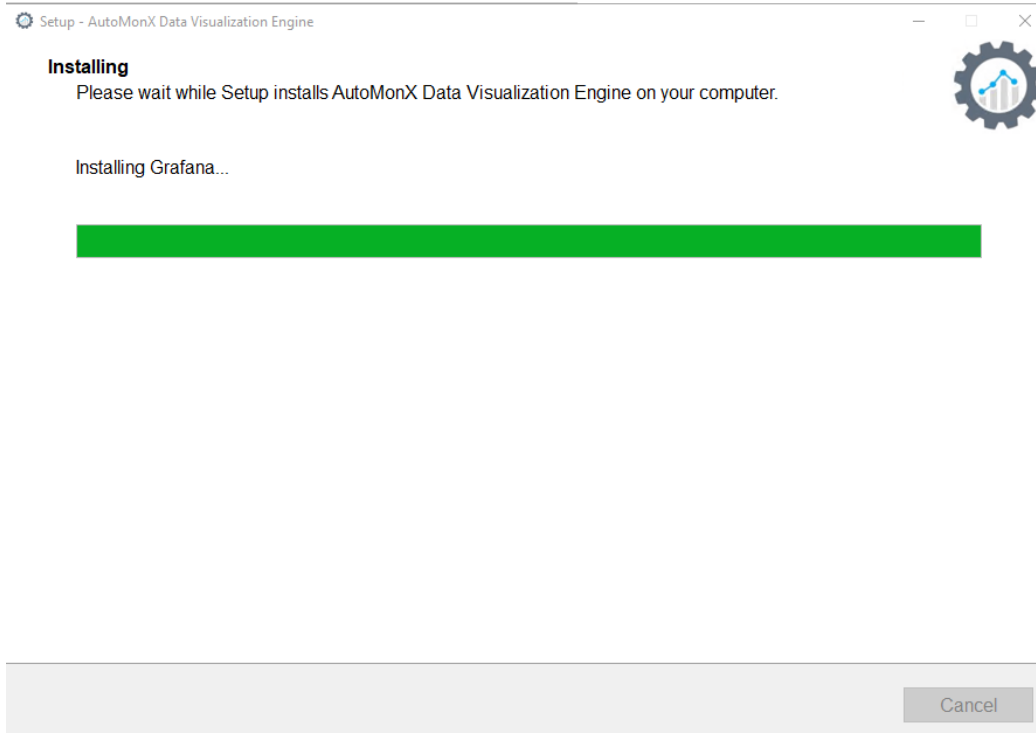
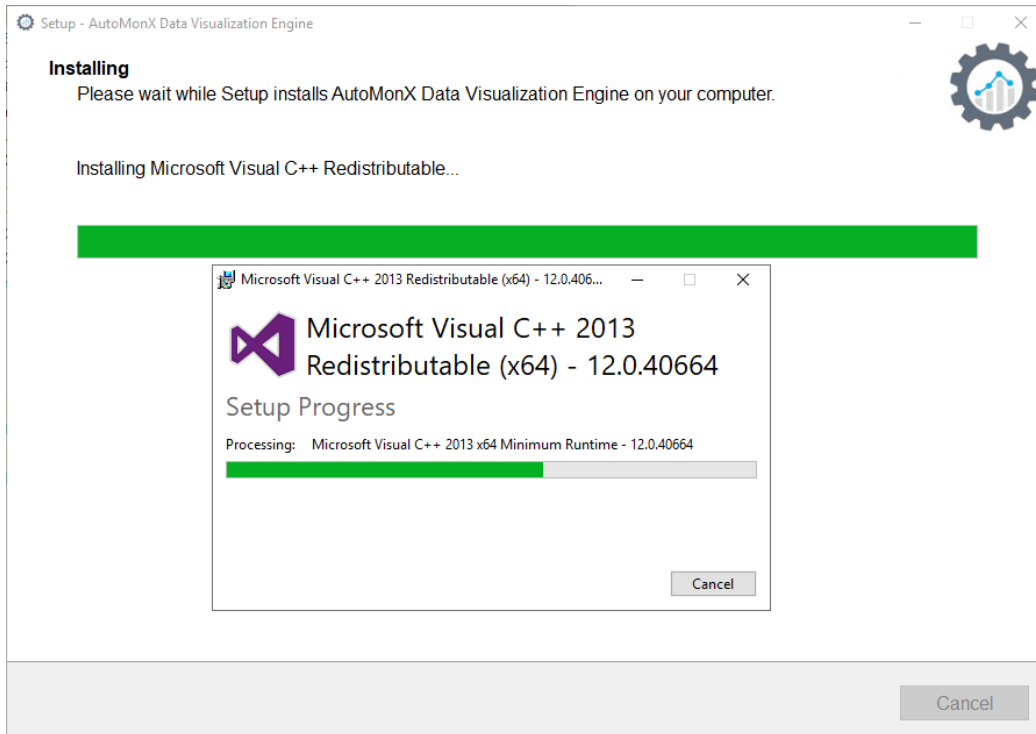
The files are backed up at {Install Directory}\Data Visualization Engine\Backup and a Zip file under {Install Directory}\Data Visualization Engine\DVE_Backup.zip is created containing the backup as well:



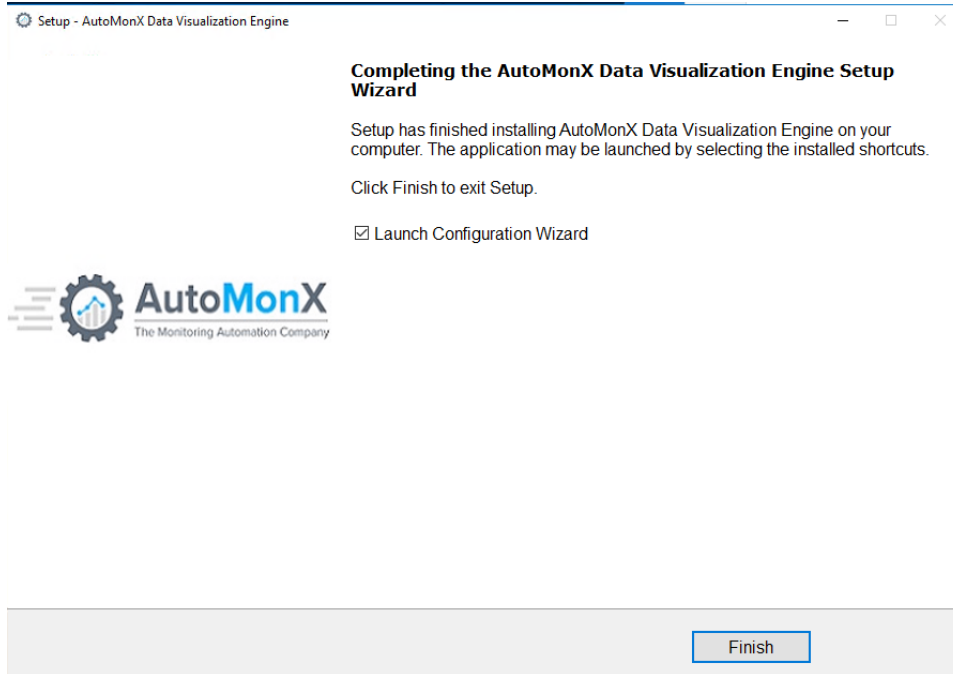
After the backup you can continue installation:

Components Installation:





After the installation has completed, you would be asked to use the Configuration Wizard to configure various settings of the application including licenses for the application which is mandatory for the application to run – do so, as if the configuration wizard is not going to run after setup the application would not work.



8 Configuration Wizard

As soon as the installation completes, the configuration wizard is launched. The configuration wizard provides an easy and effective way to perform various configuration tasks of the DVE such as:

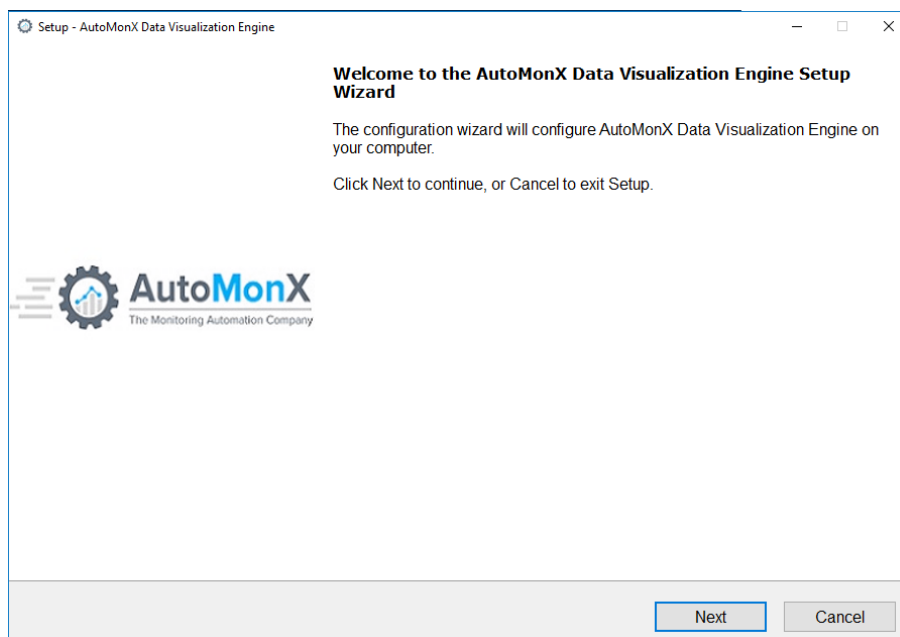
1. Configure Grafana if not configured.
2. Add more objects (Groups, Devices, sensors) to the DVE
3. Quickly add dashboards for different IT Silos
For instance use one of the default dashboards (System, Network and Network Interface) to create a dashboard for one of the IT teams with just a few clicks.
4. Update the license for the Data Visualization Engine.
5. Change PRTG, InfluxDB and Grafana connection details.
6. Refresh Sensor Main Channel Names

To start the Configuration Wizard manually, Launch the Following Executable:
<DVE Install Path>\Backend\AutoMonX_DVE_ConfigWizard.exe

Note: All the steps in the configuration wizard are completely optional, empty fields would not change anything, and are safe to leave empty.

8.1 Adding More Dashboards to Grafana

This screen allows you to add more dashboards to Grafana to allow various IT silos see their assets in a focused dashboard. Upon opening the configuration wizard, you will be greeted with the message:

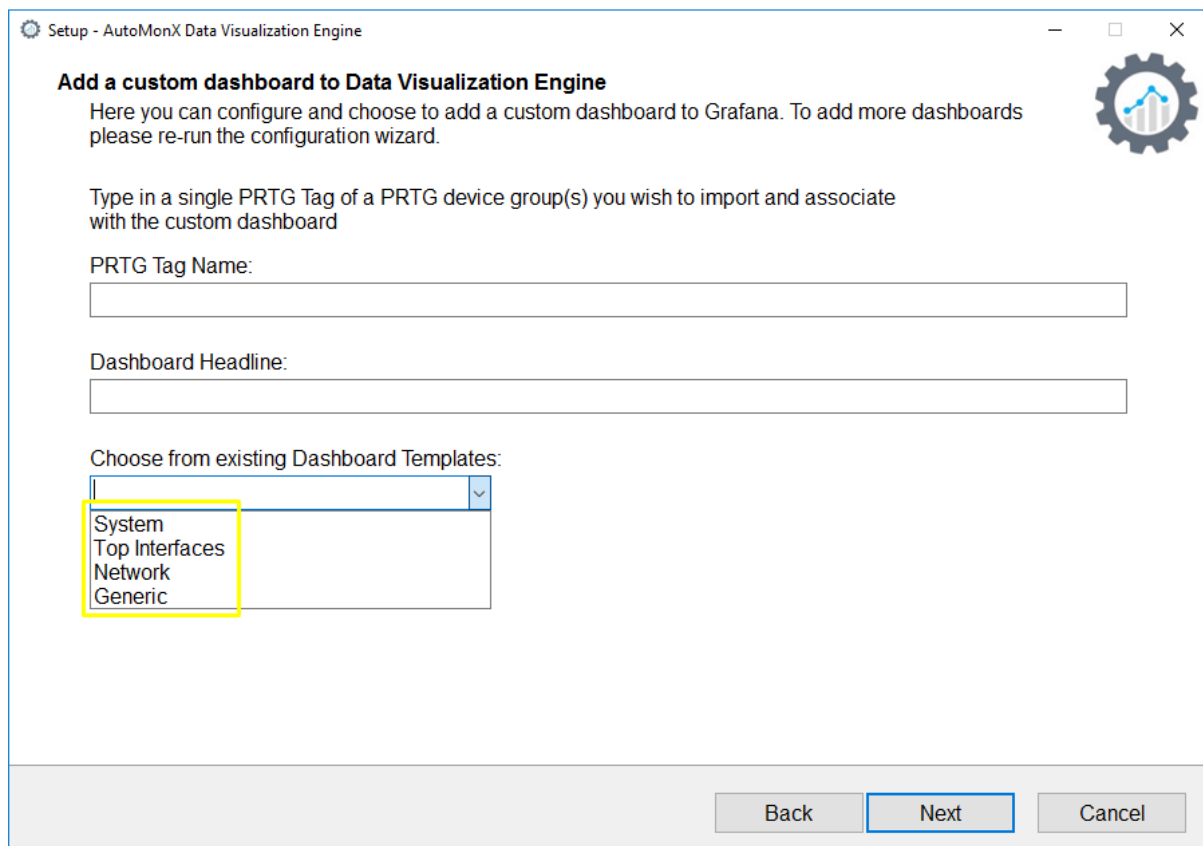


Click Next to continue.

If you have an external Grafana that was not installed by our installer, before proceeding to add new Dashboards, **make sure that you have a valid (non - expired) Grafana API (Service Account) key** since adding dashboards requires an active Grafana API key.

You can edit the <DVE Install Path>\Backend\DVE.ini section [grafana] to have the correct API Key under the "grafana_userToken" key.

To get Grafana API Key, you can use [Appendix G](#).



PRTG Tag Name (1) - specify a single tag that already exists in PRTG. The tag would be used to import all the Devices and their sensors that have been assigned the provided tag name. Below is an example where to find the PRTG tags (PRTG Settings tab of a group)

Basic Group Settings

Group Name ⓘ DVE Demo (Azure)

Status ⓘ Started
 Paused

Parent Tags ⓘ

Tags ⓘ IntegrationAMX x +

Priority ⓘ ★★★★★

Dashboard Headline: Fill in the text that would be used as the headline of the dashboard.

Choose from existing Dashboard templates: choose the dashboard template to clone from.

These are the default dashboard templates:

- **System** – Dashboard that shows Top Windows and Linux Servers and their performance metrics.
- **Top Interfaces** - Dashboard that shows Top interface performance metrics.
- **Network** - Dashboard that shows Top network devices performance metrics.
- **Generic** - Dashboard that shows 2 Generic Panels (Top 10 and History Graphs)

When finished click Next.

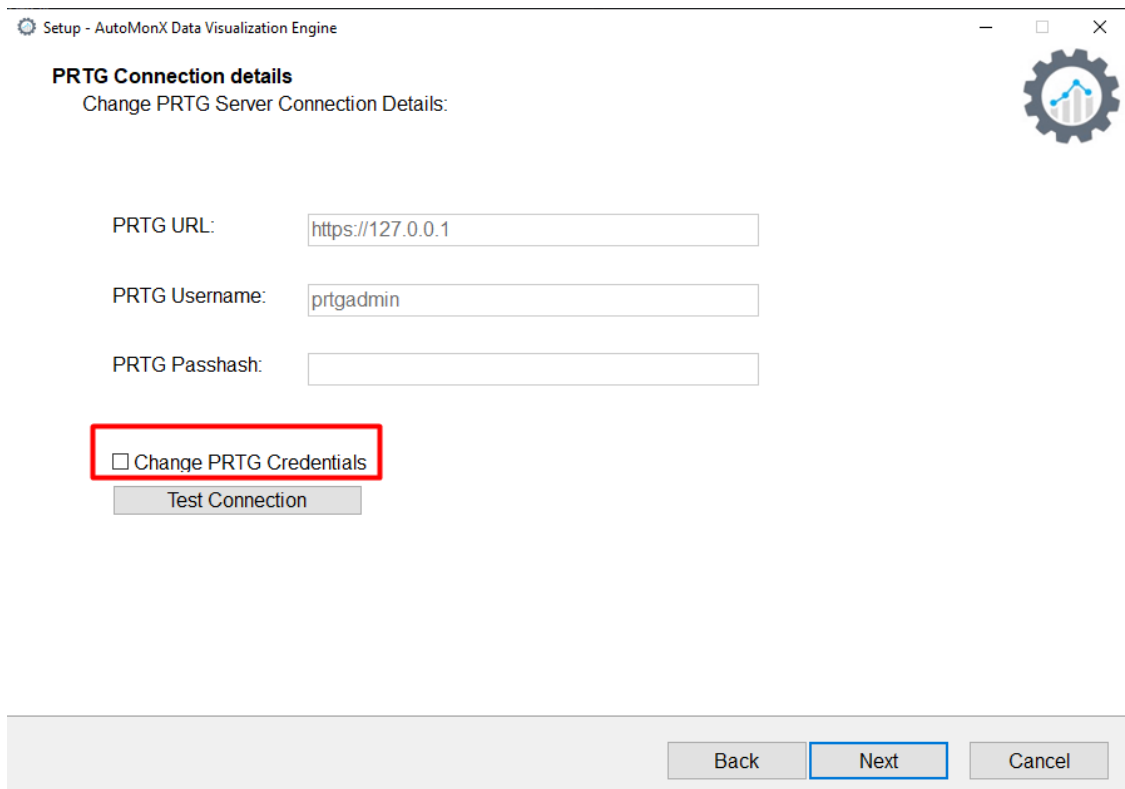
8.2 Changing the PRTG Connection Details and Refreshing Sensors

In this screen you can modify the PRTG credentials that DVE uses to pull information from PRTG, refresh the Sensors' main channel name.

To modify the PRTG credentials check the "Change PRTG Credentials" checkbox.

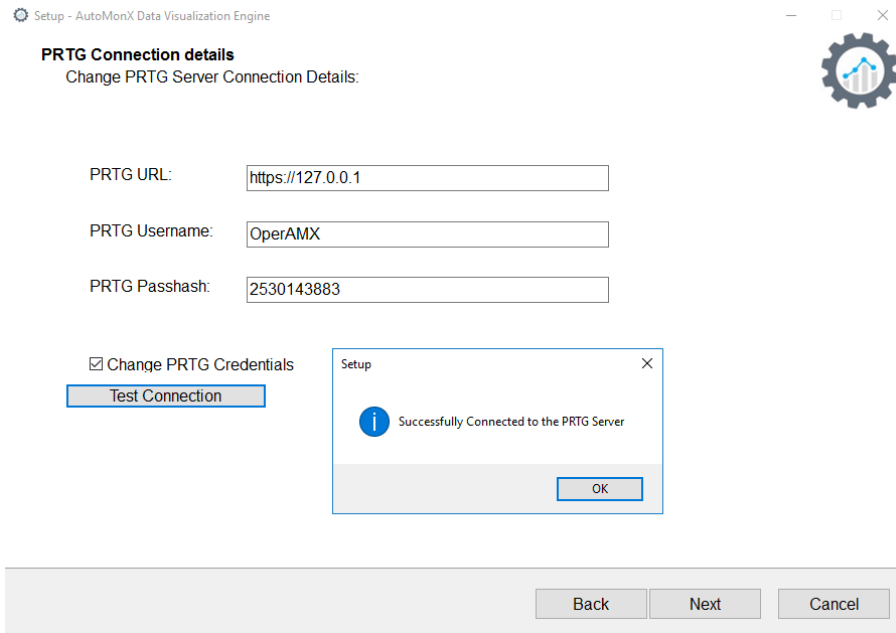
1. **PRTG URL:** Should look like this: <https://xxx.xxx.xxx.xxx> or <https://prtgservername> (http is also supported)
2. **PRTG Username:** the username that the Data Visualization Engine will use when pulling the data from PRTG (i.e. prtgadmin). The username can be read-only
3. **PRTG Passhash:** the [PRTG Passhash](#) that PRTG generated for the username
4. **PRTG API Key:** Currently the PRTG API Key could be manually setup via the {Application Install Directory}\Backend\DVE.ini under the [credentials] section and the "api_key" key.

To Generate an API Key that corresponds to PRTG user use [Appendix O](#).

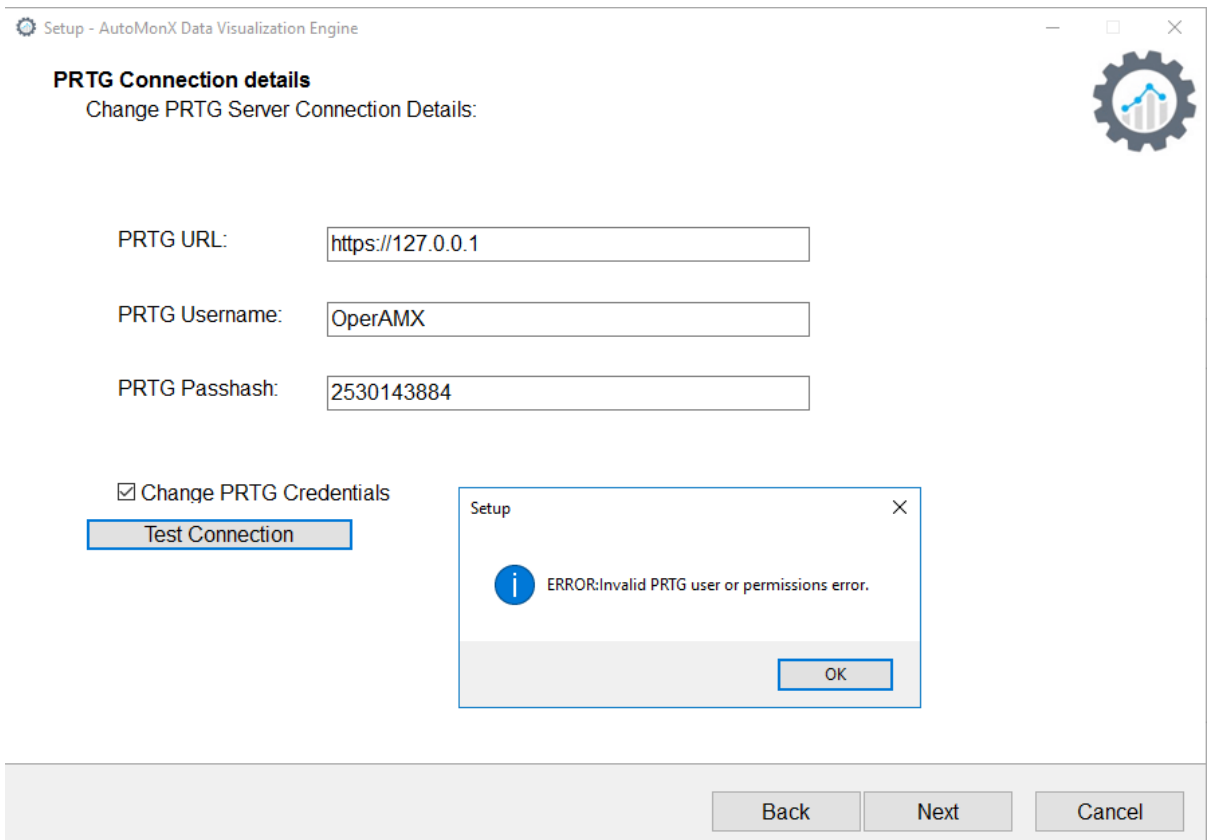


When Clicking on "Test Connection" you would be prompted whether the connection to PRTG is successful or not. When the connection is established the following message would pop up:

"Successfully Connected to the PRTG Server".



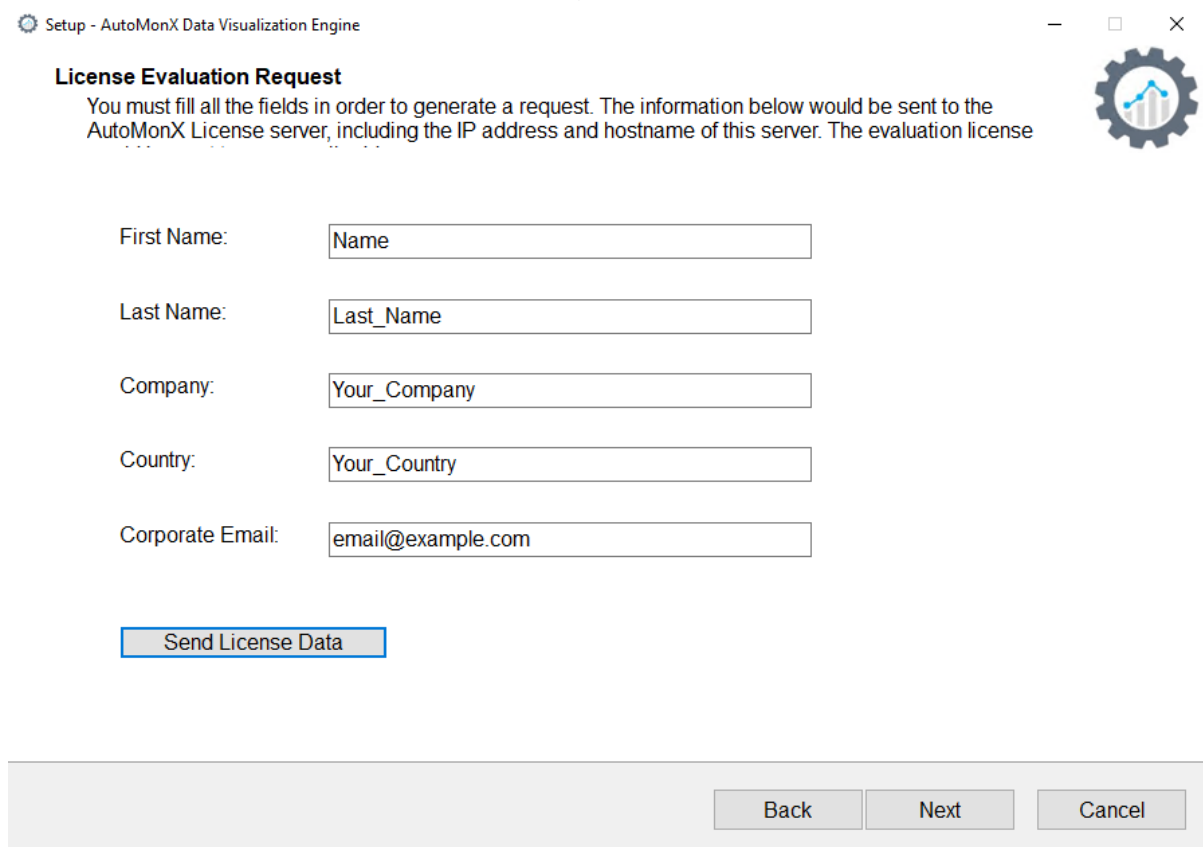
When there is a problem to access PRTG, an error message would pop up, for example:



When finished filling the correct credentials, click Next.

8.3 Requesting an evaluation license

You can request an evaluation license which would automatically activate the product for a trial period of 30 days using this screen:



The screenshot shows a window titled "Setup - AutoMonX Data Visualization Engine". Inside, there is a section titled "License Evaluation Request" with a sub-header "License Evaluation Request". Below this, a paragraph states: "You must fill all the fields in order to generate a request. The information below would be sent to the AutoMonX License server, including the IP address and hostname of this server. The evaluation license".

The form contains the following fields:

- First Name:
- Last Name:
- Company:
- Country:
- Corporate Email:

Below the fields is a button labeled "Send License Data". At the bottom of the window are three buttons: "Back", "Next", and "Cancel".

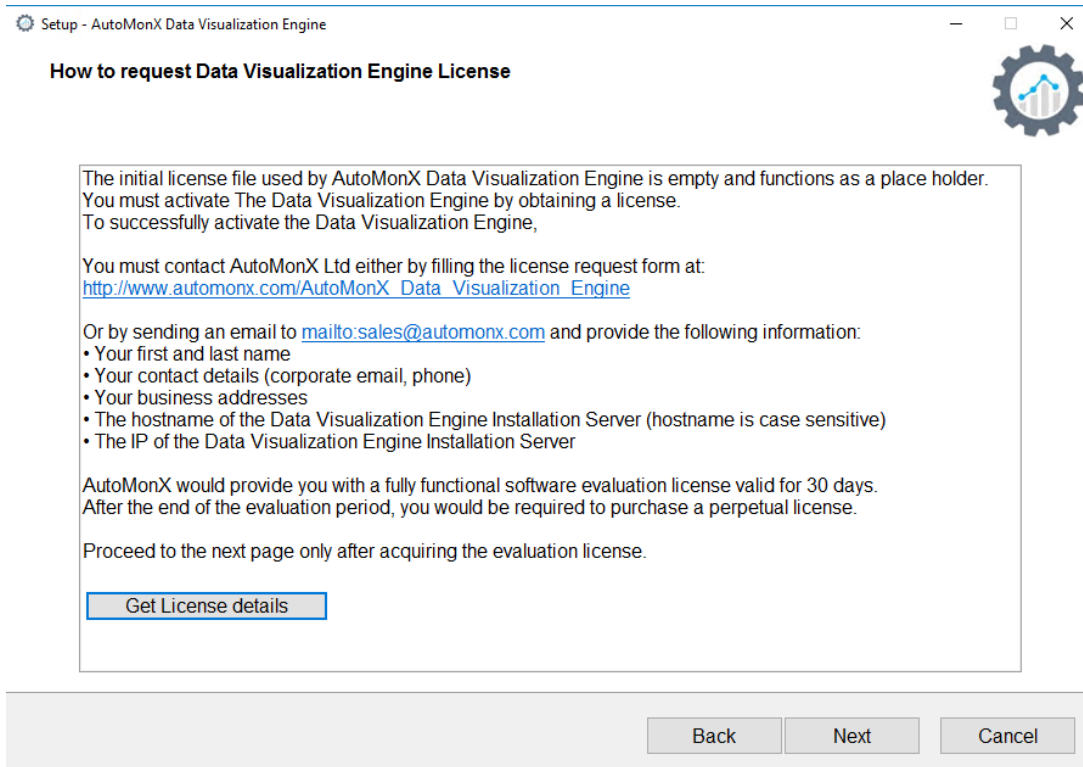
Filling all fields is mandatory.

Fill all fields as shown and click on "Send License Data" after a few seconds the DVELic.dat file would be updated with the evaluation license, and you can proceed further with the configuration wizard while skipping (clicking next) on the manual license string screen.

You can also request the license string manually via email:

To successfully activate the Data Visualization Engine, you must contact AutoMonX either by filling the license request form at <http://www.automonx.com/dve> or by sending an email to sales@automonx.com and provide the following information:

- Your first and last name
- Your contact details (email, phone)
- Your business addresses.
- The hostname of the Data Visualization Engine Server Machine
- The IP address of the Data Visualization Engine Server Machine



Click on “Get License details” button to display all the required information required by the AutoMonX sales team to generate an evaluation or perpetual licenses.

Important: The hostname is case sensitive. Please use the information from the Configuration Wizard or the <DVEInstallPath>\Common\LicDetailsLocator.exe (running as Administrator) utility to obtain the hostname and IP address

Setup - AutoMonX Data Visualization Engine

How to request Data Visualization Engine License

The initial license file used by AutoMonX Data Visualization Engine is empty and functions as a place holder. You must activate The Data Visualization Engine by obtaining a license. To successfully activate the Data Visualization Engine,

You must contact AutoMonX Ltd either by filling the license request form at: http://www.automonx.com/AutoMonX_Data_Visualization_Engine

Or by sending an email to <mailto:sales@automonx.com>

- Your first and last name
- Your contact details (corporate email, phone)
- Your business addresses
- The hostname of the Data Visualization Engine
- The IP of the Data Visualization Engine Instance

AutoMonX would provide you with a fully functional software evaluation license. After the end of the evaluation period, you would need to purchase a license to continue using the AutoMonX Data Visualization Engine.

Proceed to the next page only after acquiring the evaluation license.

[Get License details](#)

Setup

i The host name for the machine is:
The IP address for the machine is:
The MAC address for this machine is:

OK

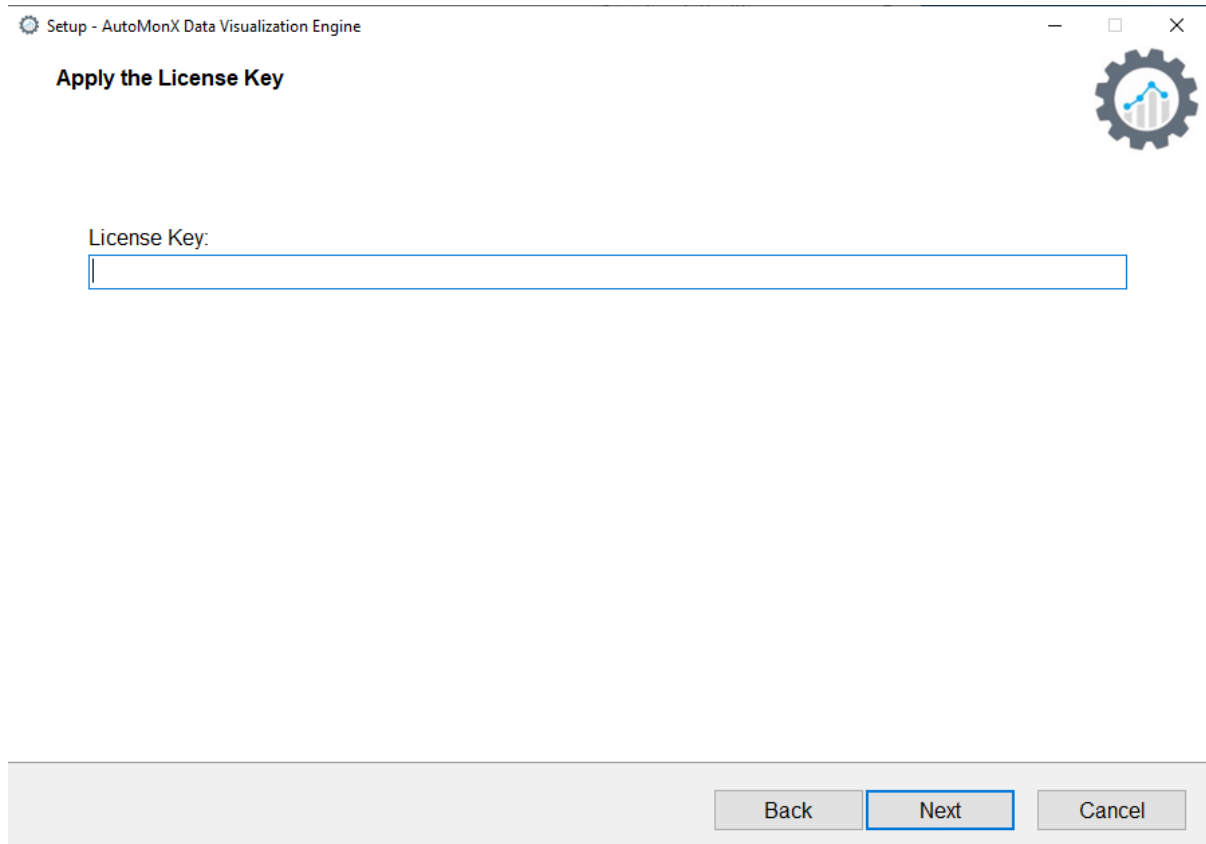
Back Next Cancel

AutoMonX would provide you with a fully functional software evaluation license valid for 30 days.

At the end of the evaluation period, you would need to purchase a license to continue using the AutoMonX Data Visualization Engine.

8.4 Applying a License

Apply the provided license string you have received from AutoMonX sales team:



The screenshot shows a window titled "Setup - AutoMonX Data Visualization Engine". The main heading is "Apply the License Key". There is a text input field labeled "License Key:" which is currently empty. At the bottom of the window, there are three buttons: "Back", "Next", and "Cancel". The "Next" button is highlighted with a blue border.

When ready click Next and after that click on install, this would apply the configuration wizard changes.

Note: The application would work only with valid licenses.

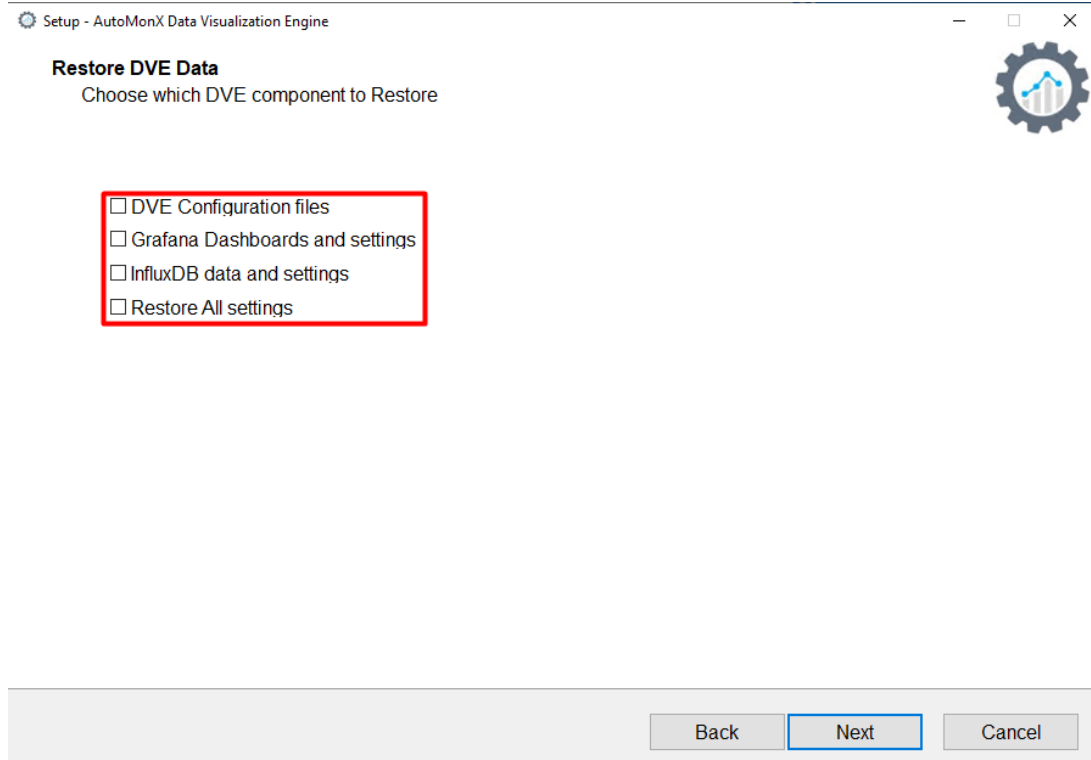
8.5 Manually Activating the DVE License

You can activate the Data Visualization Engine by editing the "DVELic.dat" file via Notepad, pasting the relevant license string you have received via email and saving the file.

Important: After applying the licenses excluding the first time you would need to restart the "AutoMonX_Data_Visualization_Engine" windows service.

8.6 Restoring a DVE Backup

When configuring DVE you can also perform a restore of your data, in case you updated the DVE version or migrated to a new server, simple select one of These options:



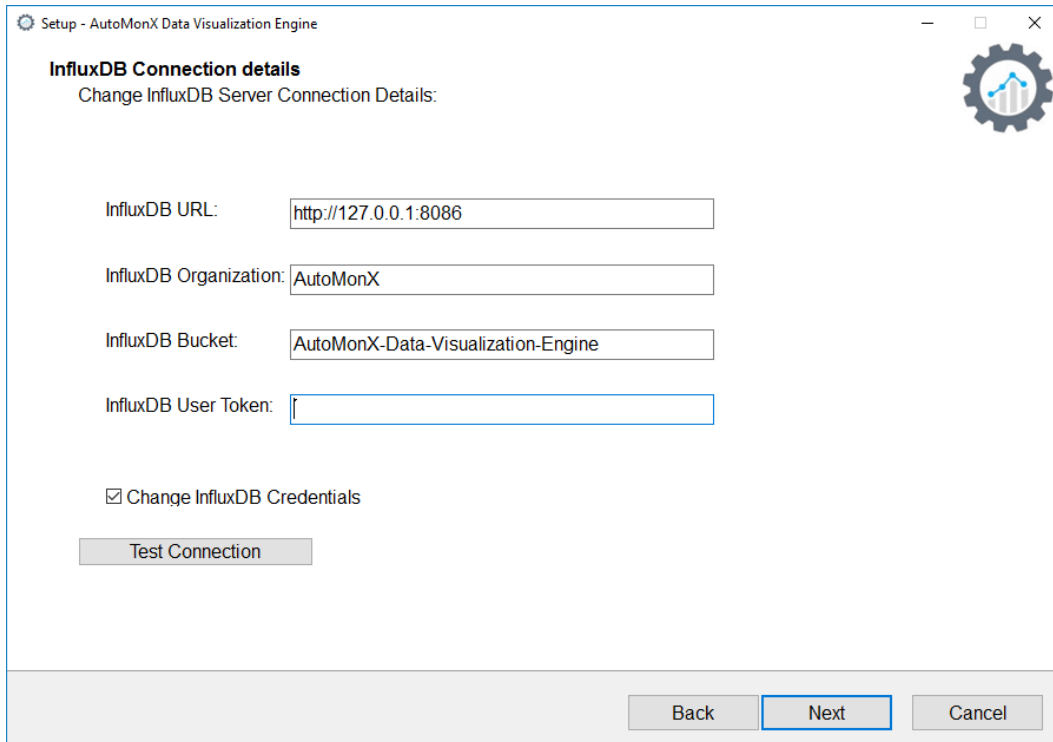
And the Configuration wizard would restore the requested component(s).

8.7 Changing InfluxDB Connection Details

In this screen you can modify the InfluxDB Credentials that Data Visualization Engine uses to upload the data to InfluxDB (all credentials can be acquired in [Section 7](#)), To change InfluxDB Credentials check the "Change InfluxDB Credentials" checkbox.

Note: By default, after the installation has completed, you do not need to modify the InfluxDB Credentials. Change these settings only if InfluxDB Configuration has changed.

1. **InfluxDB URL:** In the following format: <https://influxdbservername:8086>
2. **InfluxDB Organization:** Configured during the installation process by the installer.
3. **InfluxDB Bucket:** Configured during the installation process by the installer
4. **InfluxDB User Token:** The user token as recorded in [Appendix A](#).

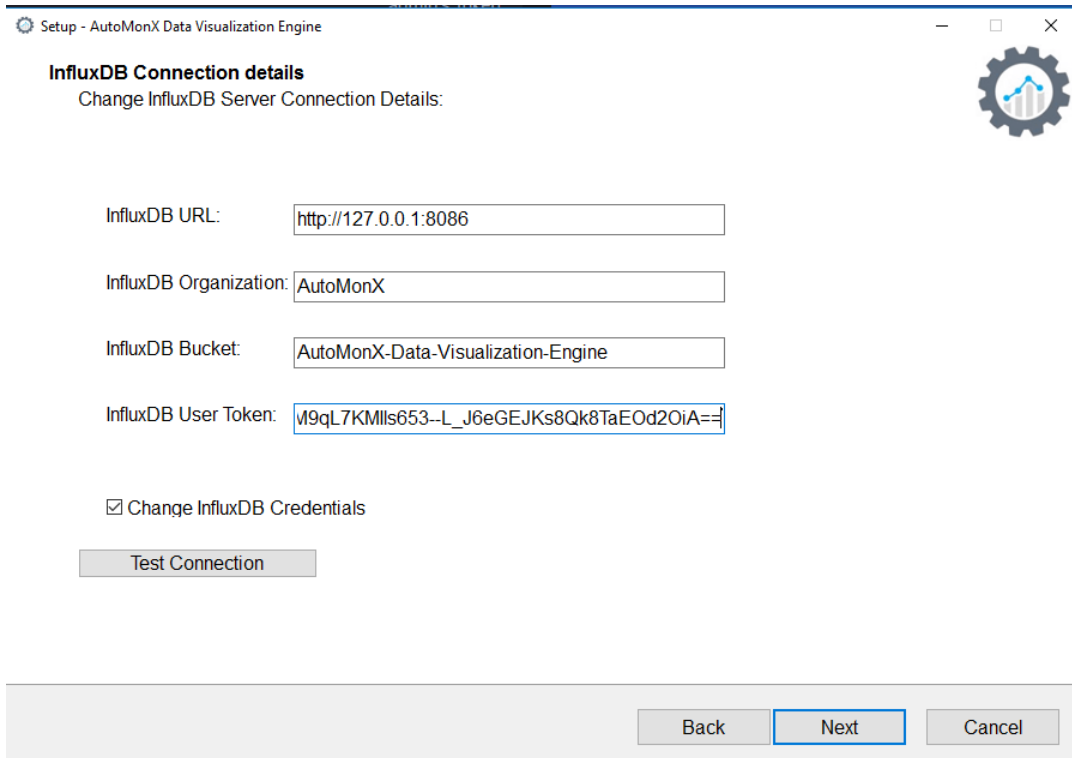


The screenshot shows a window titled "Setup - AutoMonX Data Visualization Engine". Inside, there is a section for "InfluxDB Connection details" with the instruction "Change InfluxDB Server Connection Details:". Below this are four input fields: "InfluxDB URL:" with the value "http://127.0.0.1:8086", "InfluxDB Organization:" with "AutoMonX", "InfluxDB Bucket:" with "AutoMonX-Data-Visualization-Engine", and "InfluxDB User Token:" which is empty. There is a checked checkbox for "Change InfluxDB Credentials" and a "Test Connection" button. At the bottom of the window are "Back", "Next", and "Cancel" buttons.

When clicking on "Test Connection" you would be prompted whether the connection to InfluxDB is successful or not. When a connection is established, the following message would pop up:

"Successfully Connected to the InfluxDB Server".

Note: If you installed the [Distributed Node](#) Installation, be sure to put the connection details of the Central Node InfluxDB Details.



InfluxDB Connection details
Change InfluxDB Server Connection Details:

InfluxDB URL:

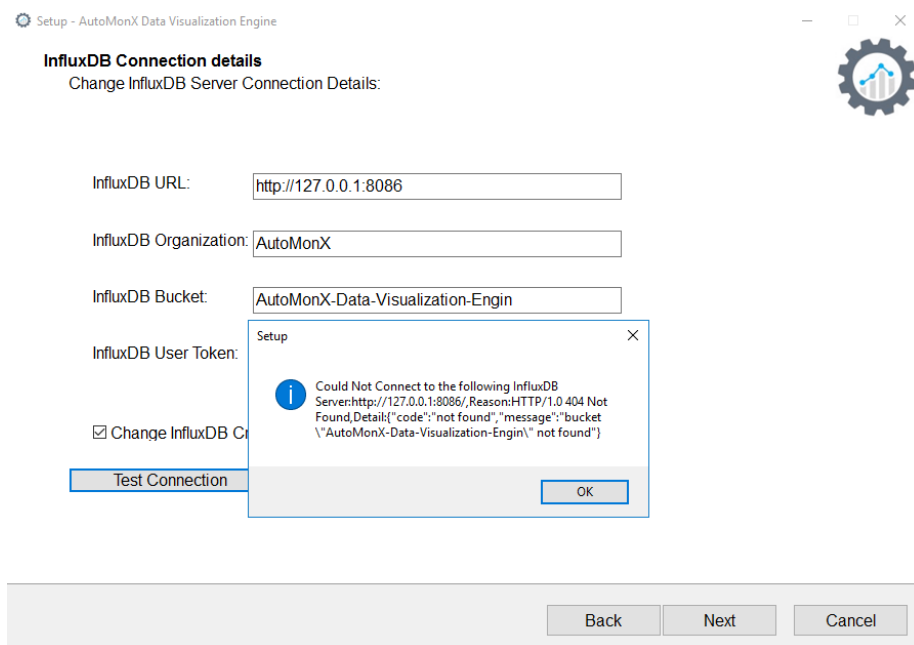
InfluxDB Organization:

InfluxDB Bucket:

InfluxDB User Token:

Change InfluxDB Credentials

In case of a connection issue, an error message would pop up, for example (Bucket does not exist):



InfluxDB Connection details
Change InfluxDB Server Connection Details:

InfluxDB URL:

InfluxDB Organization:

InfluxDB Bucket:

InfluxDB User Token:

Change InfluxDB Credentials

When finished filling the correct credentials, click Next.

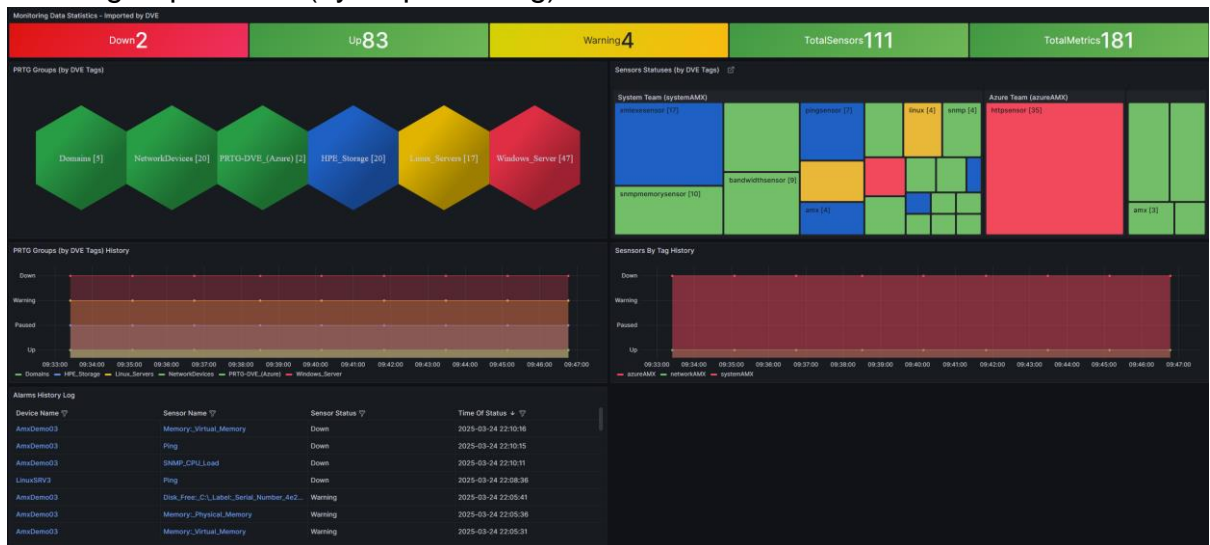
9 Grafana dashboards by AutoMonX DVE

In this section of the document, we will detail each of our dashboards.

General Dashboards:

Group Status Dashboard

The Group Status Dashboard allows you to view immediately your preferred PRTG groups status (by a specific tag):



Use [chapter 4.1](#) to define tags to the desired groups, this would give you an overview of:

- All tagged sensors statuses including total Sensors polled and total metrics collected.
- Polystat of each tagged group status by the worst sensor (Including a history graph)
- Treemap of all tagged sensors distributed by status and tag (including a history graph)
- Log that presents the history of tagged sensor alarms on prtg

Alarms History Dashboards

The Alarms History Dashboard offers a solution for professionals seeking to enhance their system's health monitoring capabilities. This dashboard doesn't just present data, it transforms it into actionable insights, ensuring that alert, trend, and anomalies are not just recorded, but also understood in the context of your business:

The Alarms Dashboards allows you to:

Pinpoint Problem Sources with Top List Sorting: Discover the primary sources of alarms in your network. Our sorting mechanism highlights the most frequent devices, allowing you to swiftly identify and address the devices affecting your infrastructure stability.

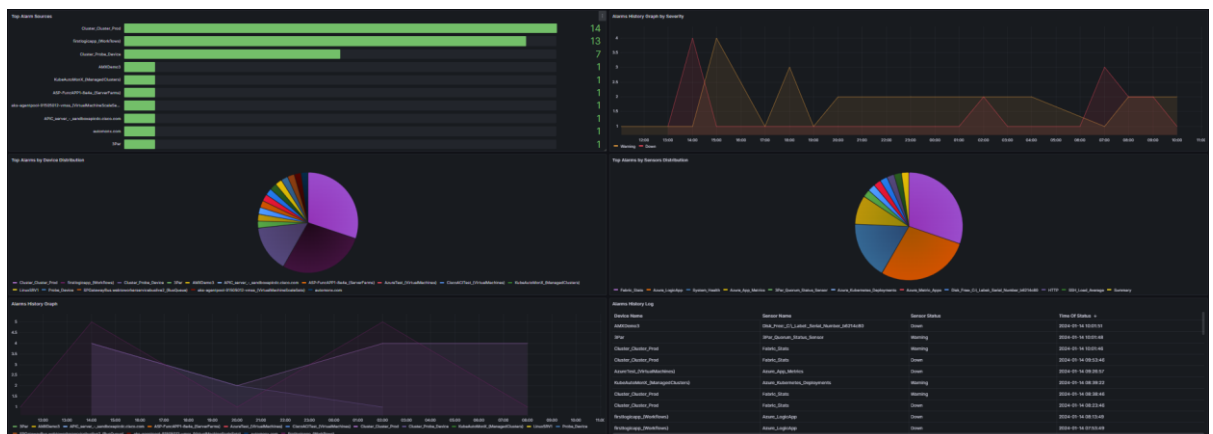
Track Alarm Severity with History Graphs: This Panel counts both warning and down state alarms, providing a glance view map of your system's issues, and enabling you to preempt potential issues before they escalate.

Assess Device and Sensor Impact with Pie Charts: Gain view of which devices or sensors are most frequently alerting. Our intuitive pie charts instantly reveal the distribution of alerts across your network, guiding you towards focused maintenance.

View Host Histories: Explore the historical performance of each host with our time series panel. This detailed view is useful for diagnosing issues and fortifying your system against similar future disruptions.

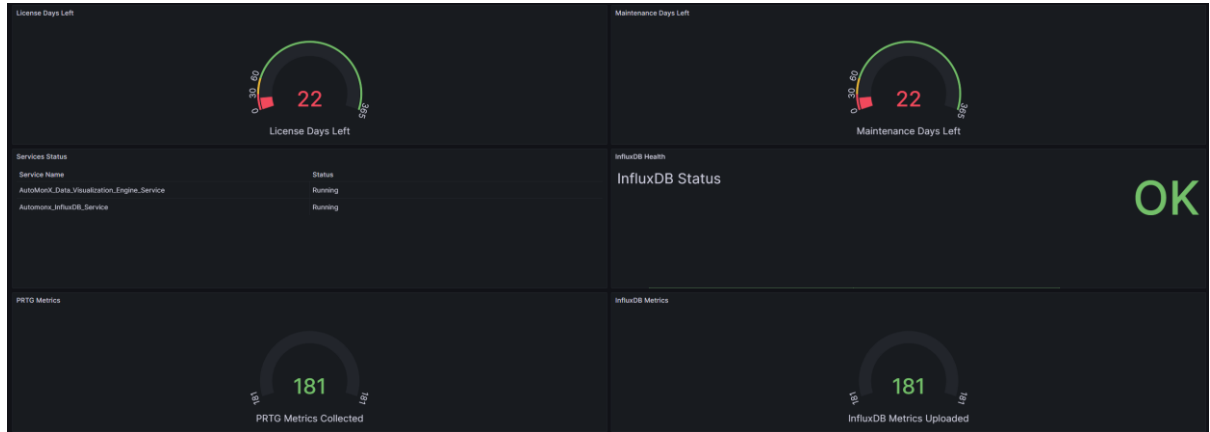
View Alarm Logs for In-Depth Analysis: The last panel of the "Alarm History Dashboard" allows you to view in detail each entry, complete with Device Name, Sensor Name, Sensor Status, and the time of the event.

This dashboard is also available in the Network\System Dashboards folder.



Self-Monitoring Dashboard

The Self-Monitoring Dashboard allows you to quickly understand the AutoMonX DVE Operational status:

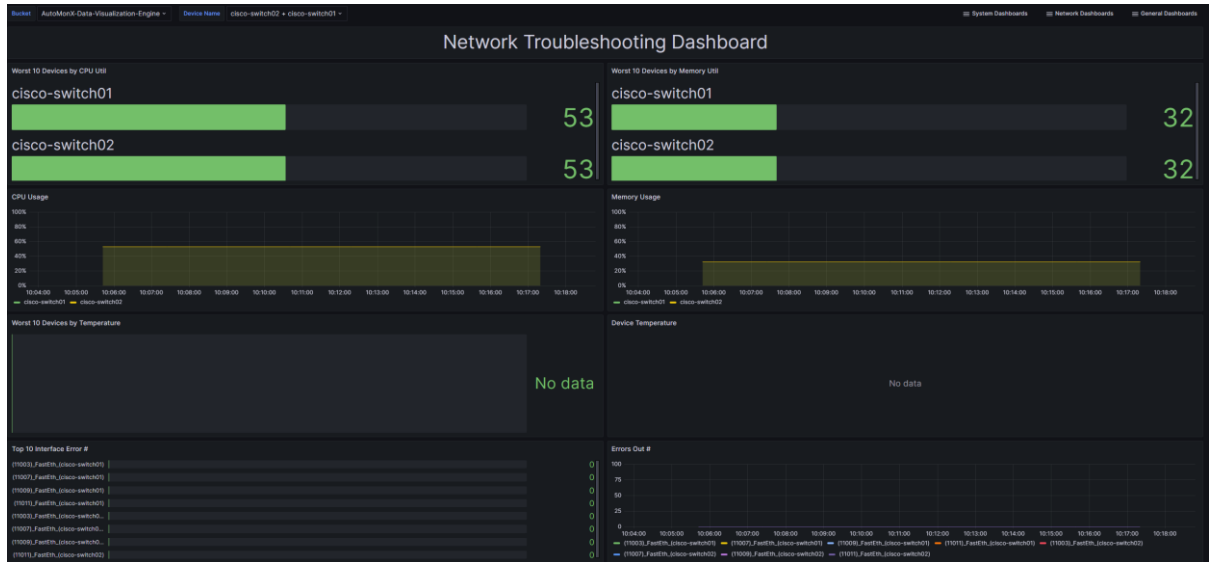


- License days left
- Maintenance days left
- Services status (Backend + InfluxDB Database)
- InfluxDB Status
- PRTG pulled metric count
- InfluxDB uploaded metric count

Network Dashboards:

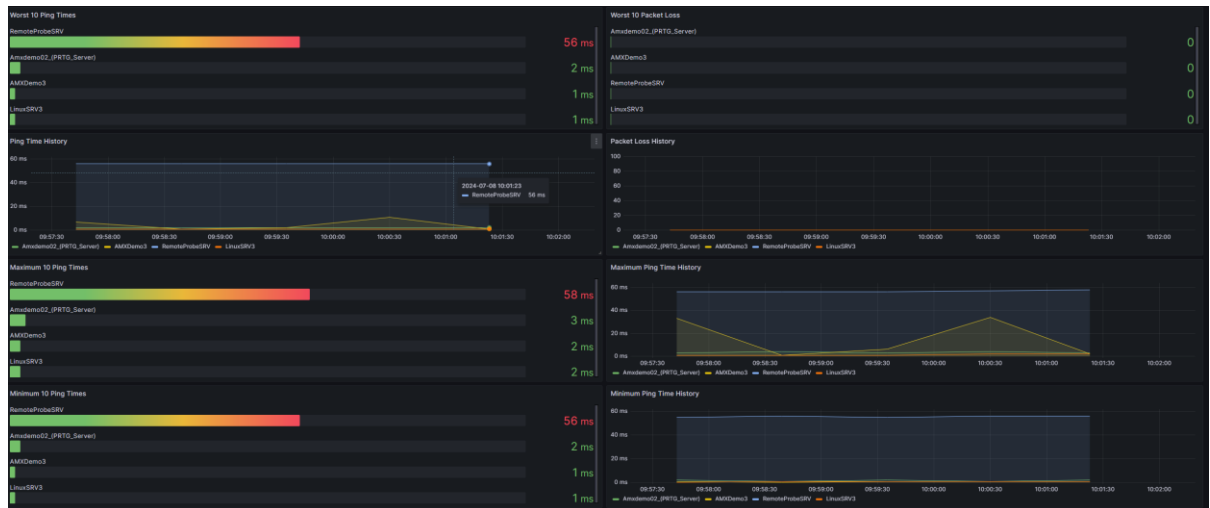
Network Troubleshooting Dashboard

Allow you to troubleshoot any specific device by CPU\Memory\Temperature or interface errors:



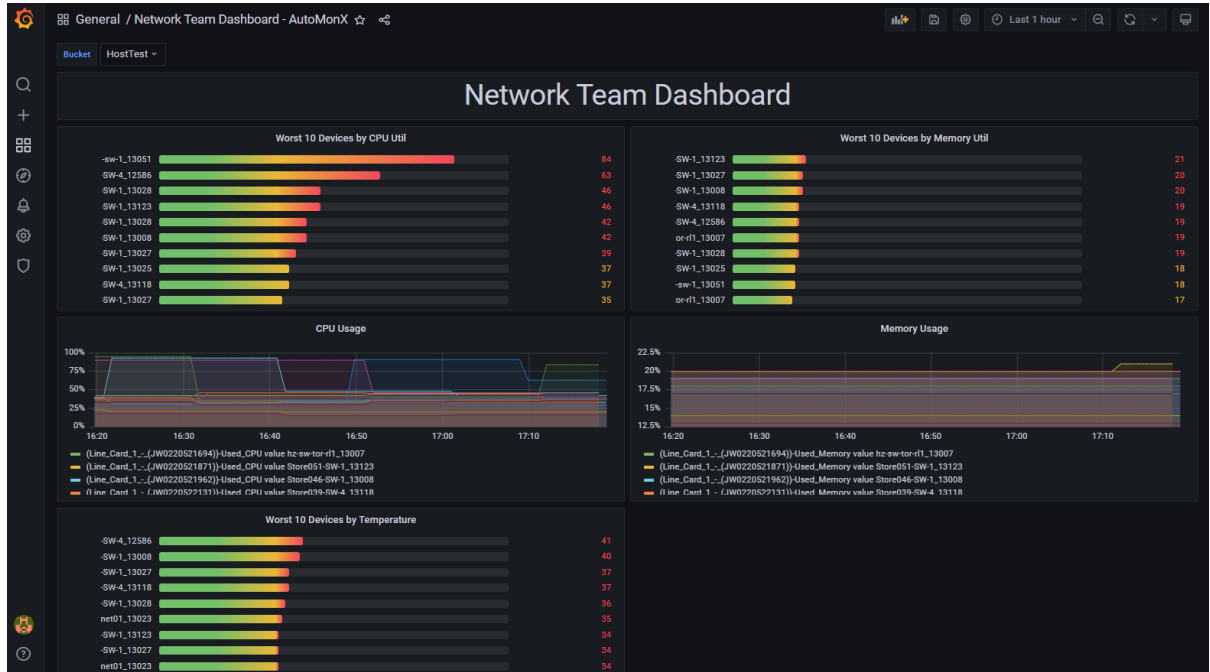
Network Ping Dashboard

The ping dashboard allows you to easily see the Top 10 ping times, packet loss, maximum and minimum ping times for your PRTG deployment.



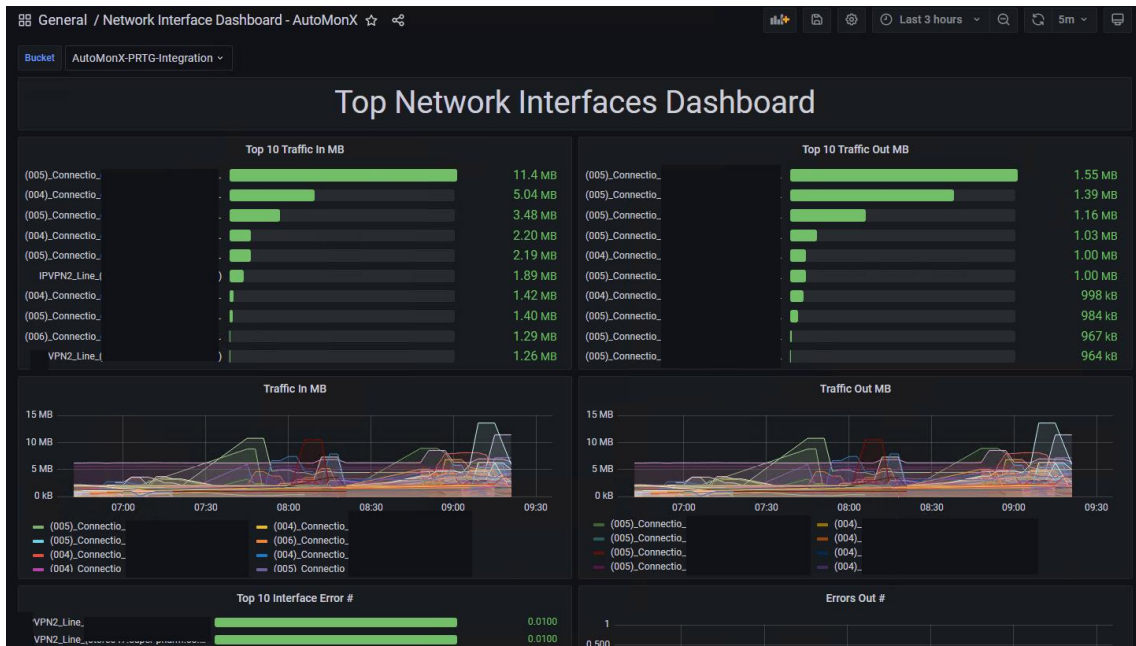
Network Team Dashboard

This dashboard allows you to quickly see the worst performing network devices by CPU\Memory\Temperature and interface errors.



Network Team - Top 10 Network Interfaces

This dashboard allows you to quickly see the peak network devices by Traffic or

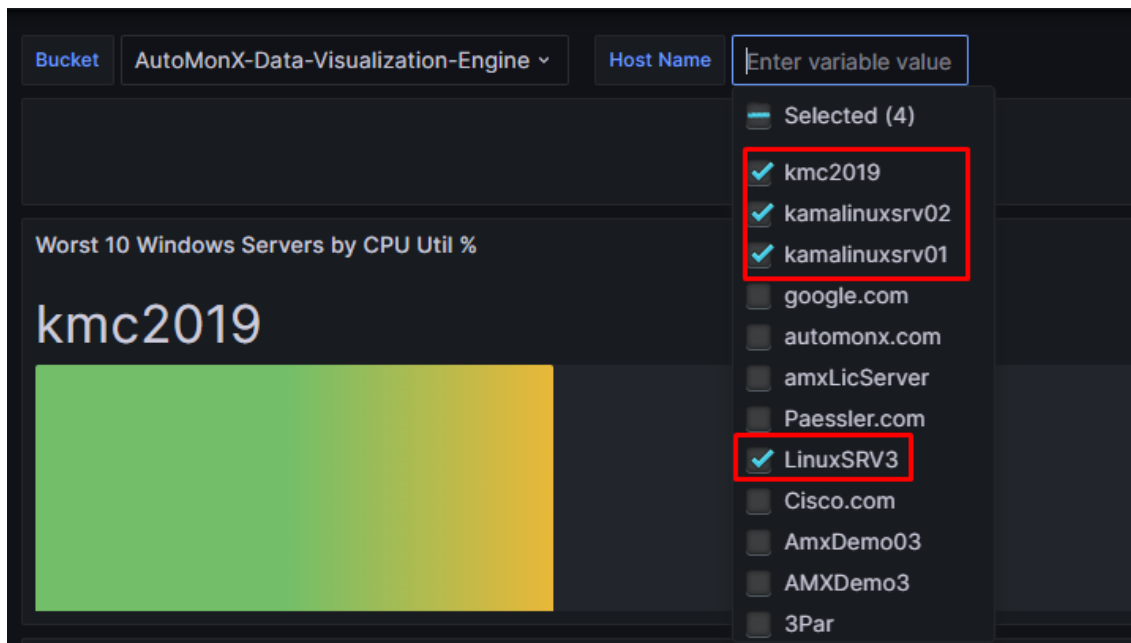


System Dashboards:

Node Troubleshooting Dashboard

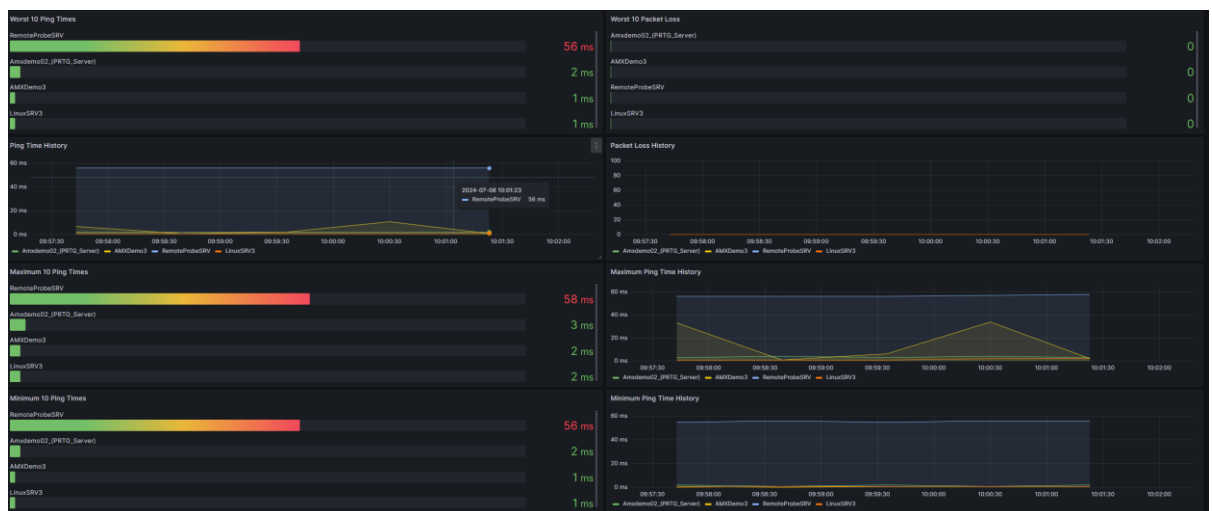
The Node Troubleshooting Dashboard allows you to pick one or more nodes\devices and troubleshoot them closely in any given time range:

Very simply pick the nodes\devices via the menu at the top:

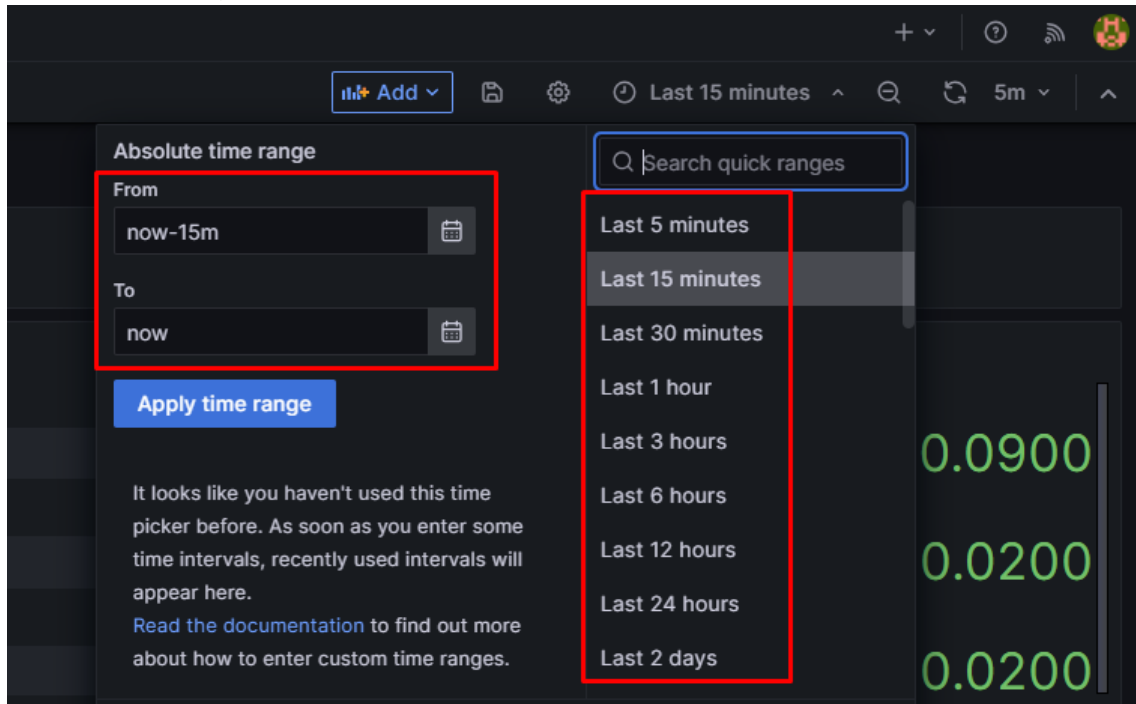


System Ping Dashboard

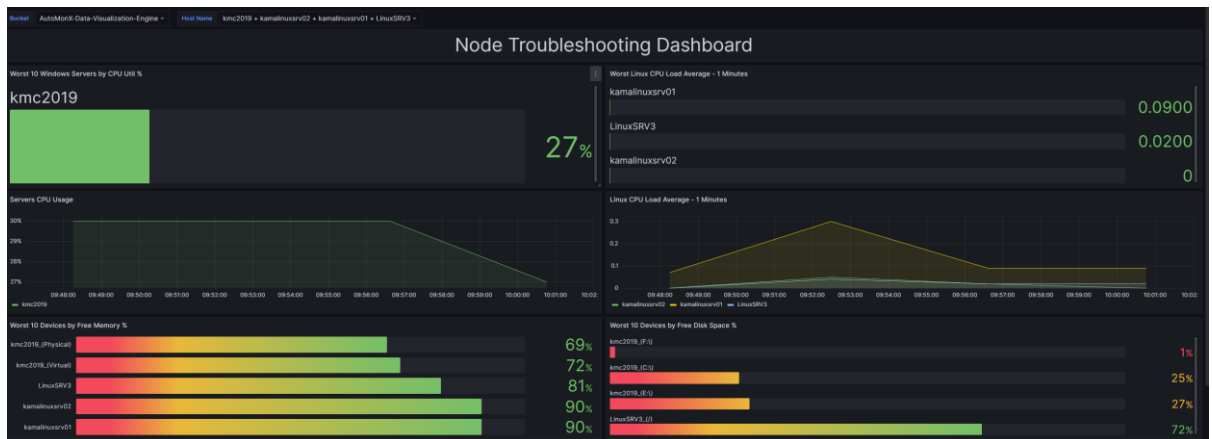
The ping dashboard allows you to easily see the Top 10 ping times, packet loss, maximum and minimum ping times for your PRTG deployment.



Select timerange:

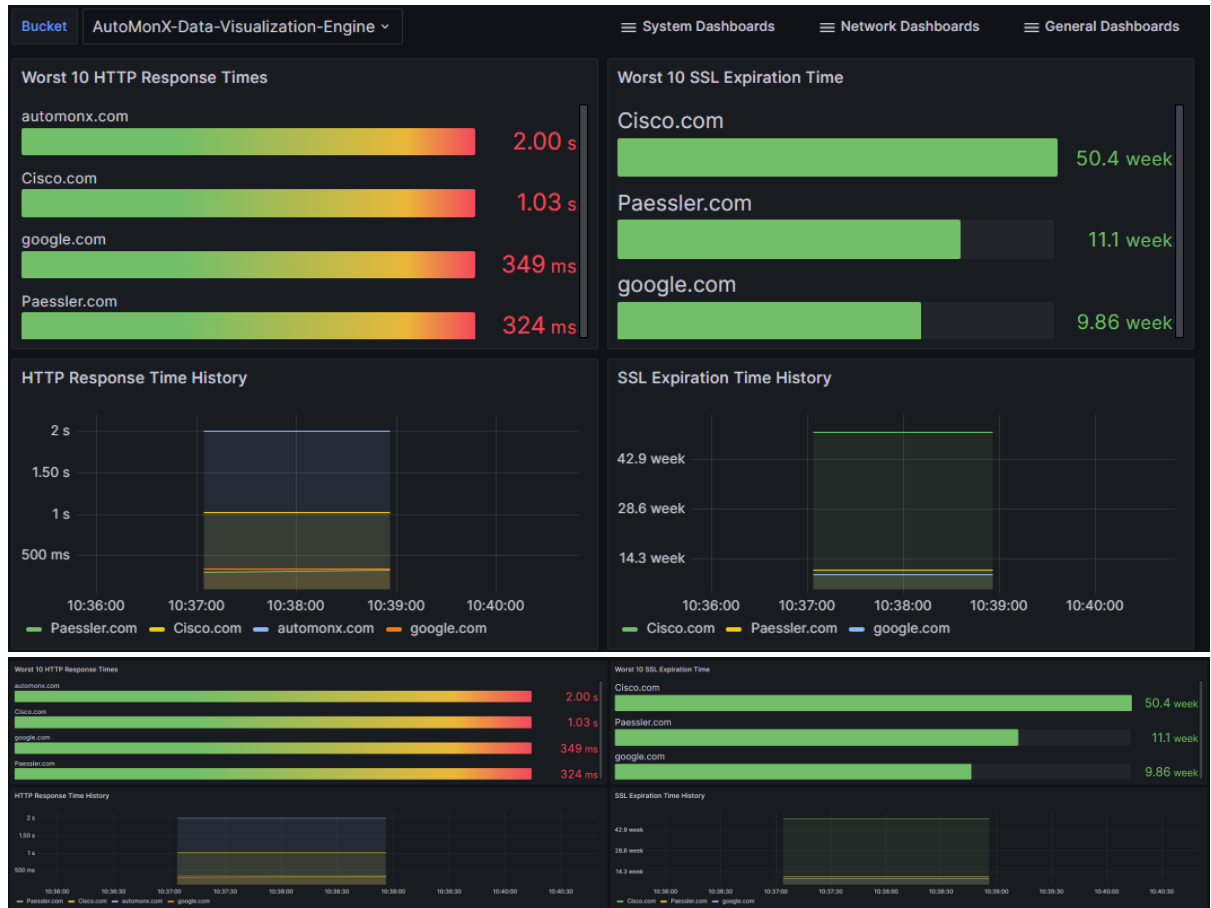


After selecting the time range and nodes/devices via the selector at the top you will see that all the node panels have only information relevant for the selected nodes:



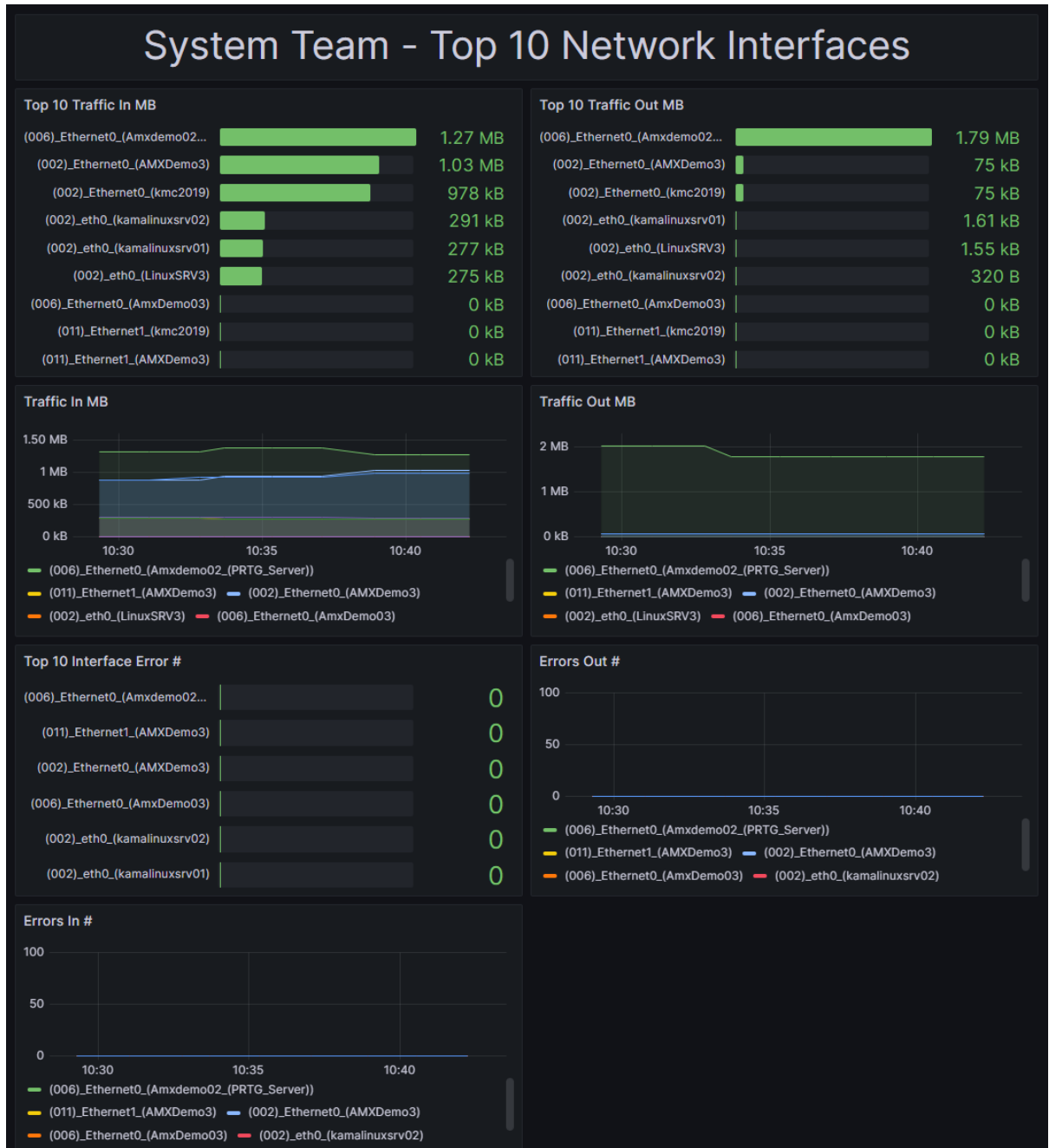
System HTTP and Certificate Dashboard

Allows you to quickly see the worst HTTP response times of sensors and the worst SSL Certificates expiration date:



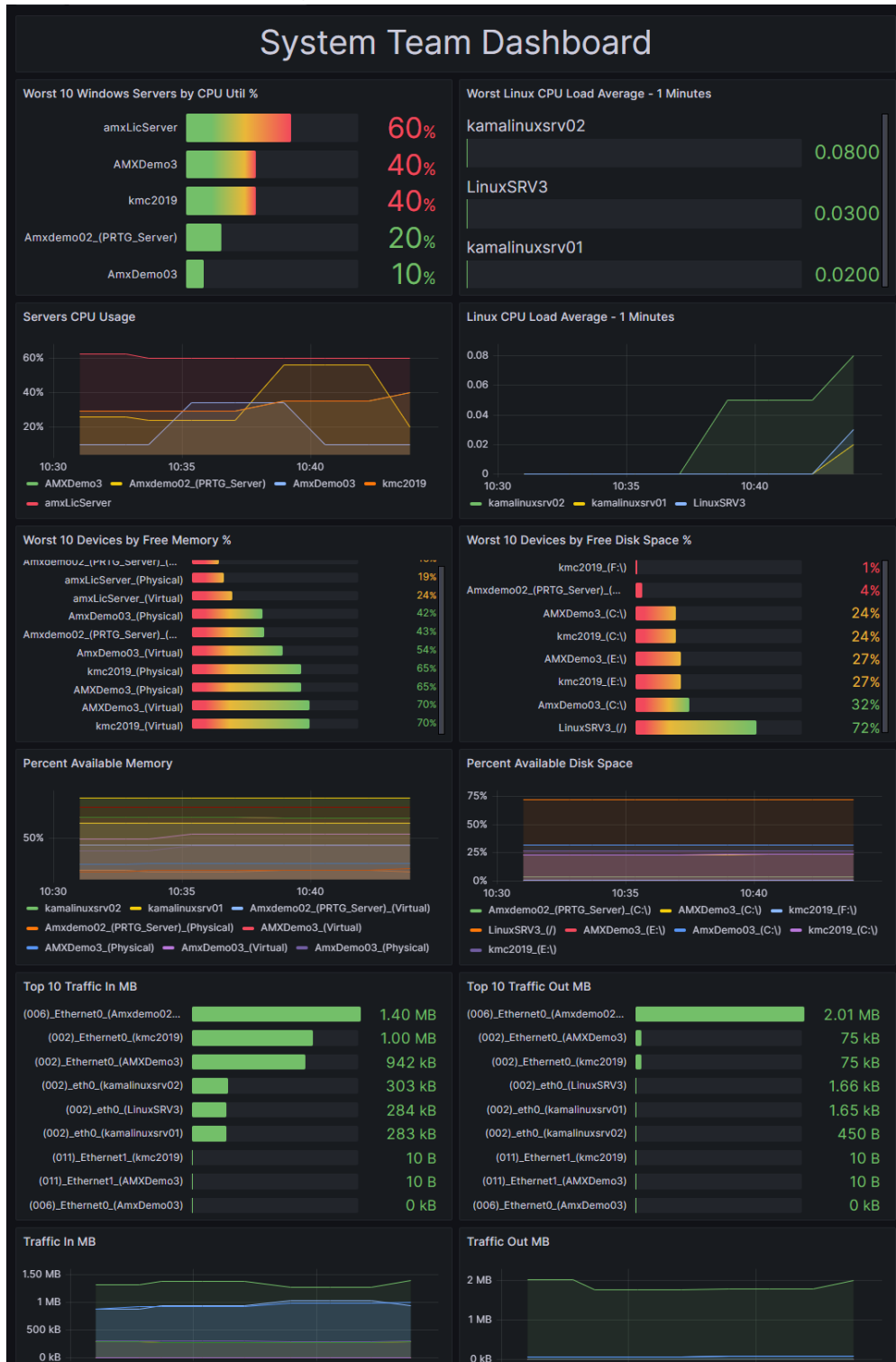
System Team - Top 10 Network Interfaces

This dashboard allows you to quickly see the peak System devices by Traffic or Interface errors



System Team - Top 10 Network Interfaces

This dashboard allows you to inspect the worst performing dashboards by CPU Utilization\ Load Average\ Memory\ Disk Space for Windows or Linux servers.

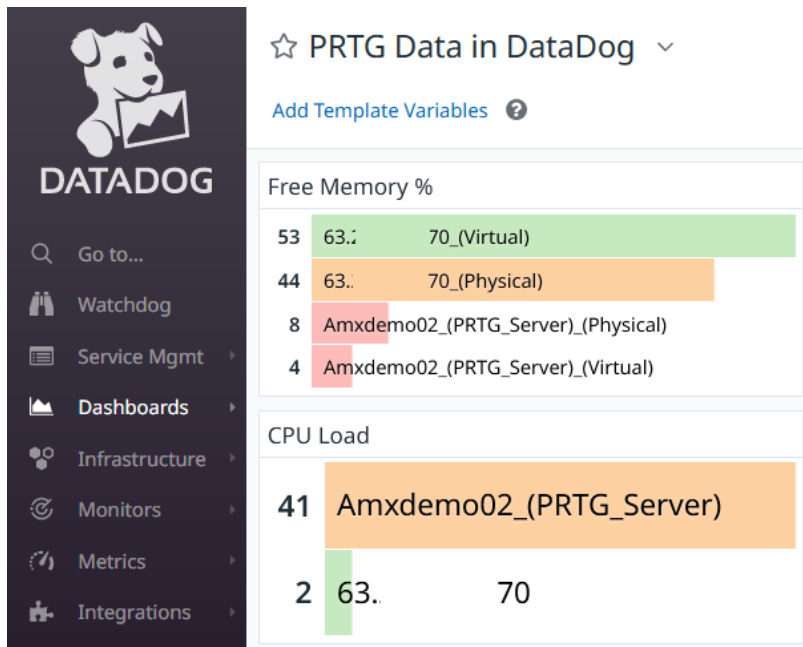


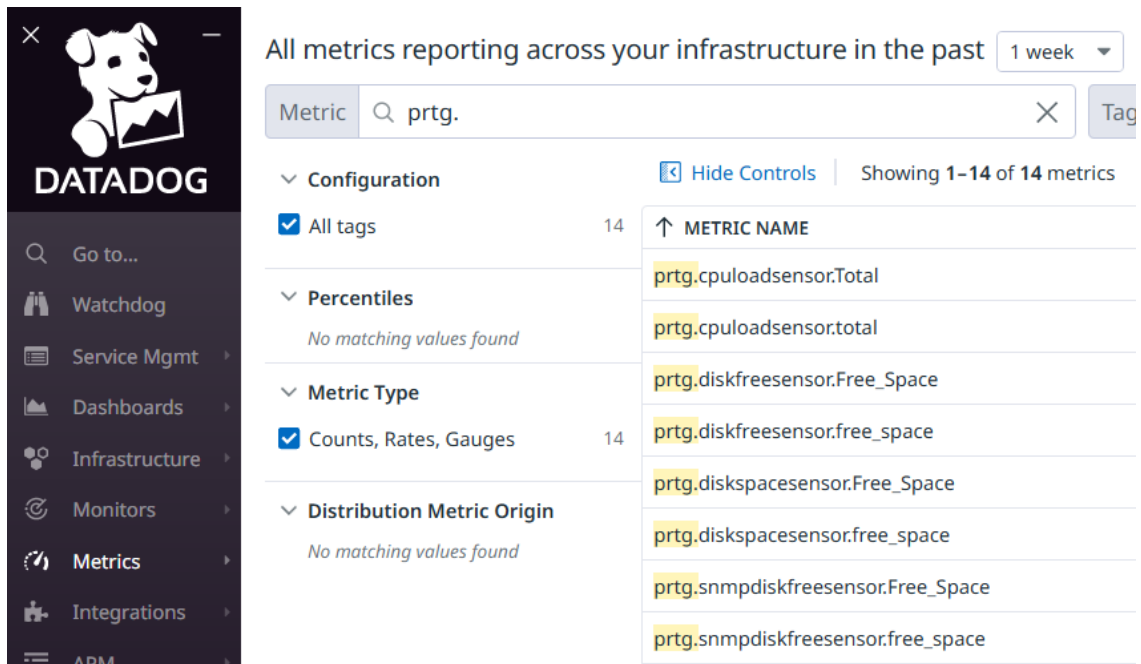
10 DataDog Integration

10.1 DataDog Integration Features

The AutoMonX DVE integration of PRTG data into DataDog has the following features:

- Seamless push of PRTG sensor metrics into DataDog by only providing its region, API and App Keys.
- Automatic inclusion of metrics you wish to see in DataDog by using the whitelist mechanism.
- Automatic detection and conversion of PRTG tags into DataDog Tags.
- Creating DataDog Dashboards from PRTG metrics with ease.





10.2 Setting up the DataDog Integration

AutoMonX DVE supports importing the PRTG metrics into the DataDog observability platform. To configure DVE to upload metrics to DataDog you would need to edit the DVE.ini file.

Use the following configuration file in {DVE Install Path}\Backend\DVE.ini, and configure the following configuration keys:

Key Name	Default Value	Additional Info
PUSH_METRICS_TO_DATADOG	FALSE	Choose if you would like to upload metrics to DataDog or not. Change to "TRUE" for enabling the push of PRTG metrics into DataDog.
DATADOG_SITE	EU	Configure the geographic region where your DataDog instance is deployed
APP_KEY	Empty	Specify here the DataDog Application Key you have created in DataDog. See Appendix N for more details

API_KEY	Empty	Specify here the DataDog API Key you have created in DataDog. See Appendix N for more details
---------	-------	---

After Setting and providing all the correct values of DataDog Site, Application Key and API Key and setting PUSH_METRICS_TO_DATADOG to "TRUE" you are good to go and DVE would start sending events to DataDog.

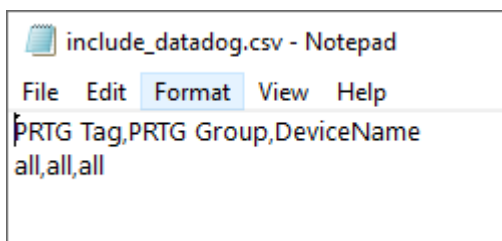
If there are any issues, DVE would let you know of that in the log file which could be found at: {DVE Install Location}\Backend\Logs\AutoMonX_DVE.log

10.3 DataDog Integration Whitelist

The DataDog Integration whitelist is used to decide which PRTG metrics are sent to DataDog and is identical in functionality to the original whitelist which can viewed at [Appendix 13.1](#).

Specify any PRTG metrics you want to push into DataDog in the second line of the {DVE Install Dir}\Backend\include_datadog.csv:
all,all,all

This is the default setting and it will push all the metrics from PRTG to DataDog.



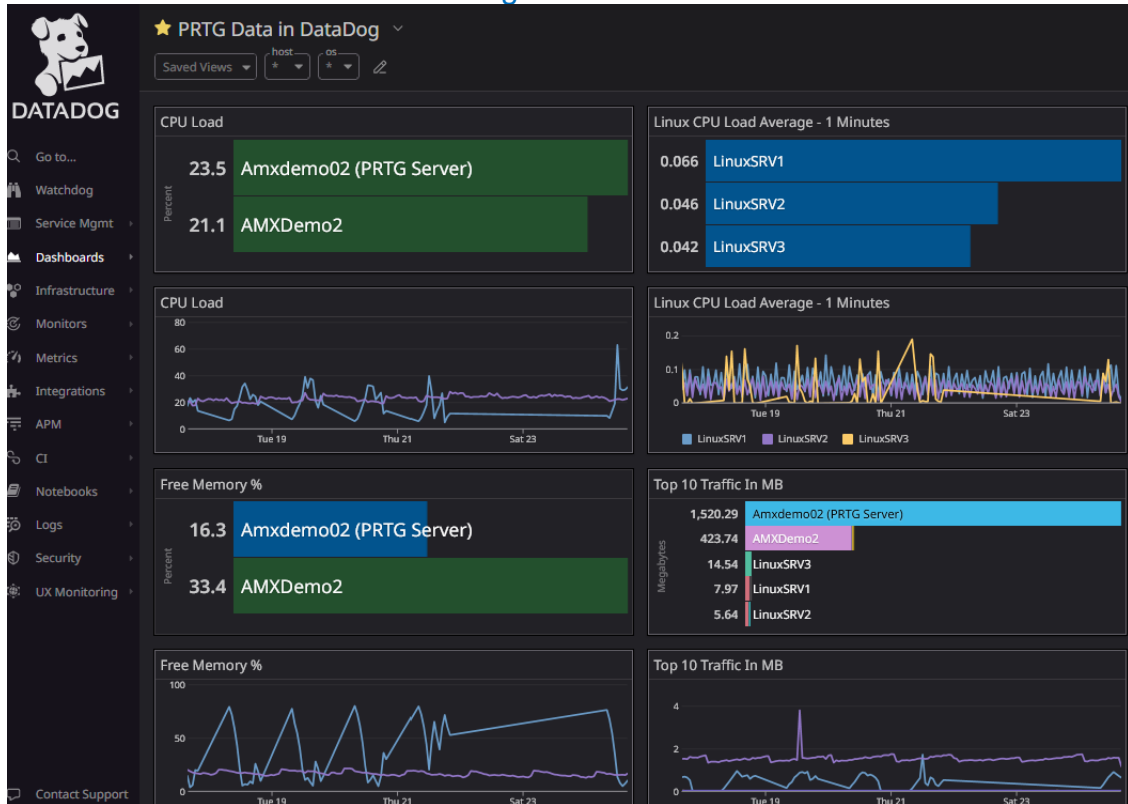
```
include_datadog.csv - Notepad
File Edit Format View Help
PRTG Tag,PRTG Group,DeviceName
all,all,all
```

For additional filtering options see [Appendix 13.1](#).

10.4 Importing DataDog Pre-Made Dashboards

AutoMonX provides two pre-made DataDog dashboards

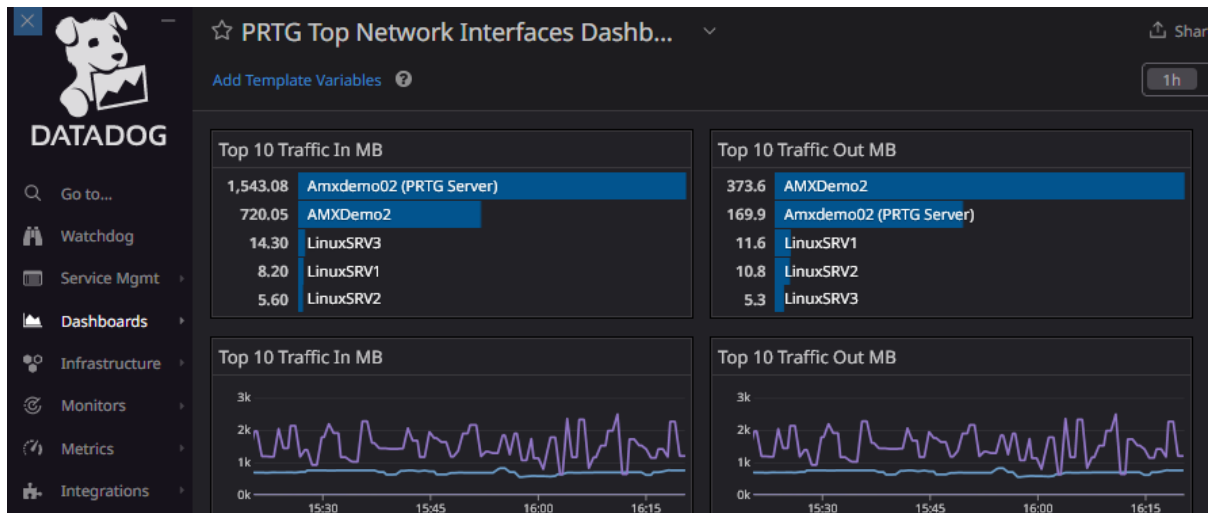
10.4.1 PRTG Data in DataDog Dashboard



This dashboard provides the Top 10 Lists and graphs of various metrics such as CPU, Memory, Disks etc.

10.4.2 PRTG Top Network Interfaces Dashboard

This dashboard provides various metrics of your network interfaces as monitored by PRTG such as Bytes In, Bytes Out and Errors



10.4.3 Importing the pre-made dashboards

In order to import the pre-made dashboards, do the following:

1. Log into your DataDog Tenant as administrator
2. Click on "Dashboards" on the Left-hand side hamburger menu.
3. Click on "New Dashboard" blue button in the top right corner.
4. On the "Create A Dashboard" dialog box click on "New Dashboard" (you do not need to fill anything in this dialog box).
5. Click on "Configure" on the right-hand side of the webpage and then on the right side a new menu should appear - click on "Import Dashboard JSON".
6. Drop in the JSON file in {DVEInstallerDir}\Contrib\ DataDog Dashboards into the box on screen Or use the file explorer to select one of the dashboards.
7. Now the dashboard is imported – Repeat steps 1-7 for the second dashboard.

11 Review of the DVE Application Files and Directories

This chapter covers the various DVE files that were extracted and copied to their folders during installation and their purpose.

Backend Folder:

Filename	Purpose
DVE.ini	Configuration file that stores all information that is required for the Data Visualization Engine to run
DVELic.dat	Licensing Information for Data Visualization Engine.
AutoMonX_ReqFetch.dll libcrypto-1_1-x64.dll libgcc_s_seh-1.dll libssl-1_1-x64.dll libstdc++-6.dll libwinpthread-1.dll zlib1.dll	Required DLLs for the application
AutoMonX_DVE_ConfigWizard.exe	The Application Configuration Wizard
AutoMonX_Data_Visualization_Engine.exe	The Core Executable
AutoMonX_Data_Visualization_Engine_Service.exe	The Windows Service Executable
configWizardHelper.exe	Application Configuration Wizard Helper
exclude_sensors.csv	This file contains exclusions (blacklist)
include_sensors.csv	This file contains inclusions (whitelist)

/Backend/Logs Folder:

Filename	Purpose
AutoMonX_DVE.log	General Purpose log that contains the main events the happening in an execution on the application
DVE_Service.log	Logs the Application Windows Service Essential Operation
sensorIDToChName.dat	Contains a Map that Translates Sensor ID to Main Channel Name\Sensor Name.

Common Folder:

Filename	Purpose
Common/LicDetailsLocator.exe	Utility to gather the required details for license generation.

12 Manually Adding Tags for Importing to DVE

To manually add new tags for importing new PRTG sensor data to DVE, whether they are PRTG built-in tags or user-created tags, follow these steps. It is recommended to use the Configuration Wizard for this purpose.

1. Navigate to the <DVE Application Path>\Backend directory.
2. Open a file named DVE.ini.
3. Locate the [priority] section and find the PRTG_TOP_N_TAGS key.
4. Add your desired tag(s), separated by commas and save.
5. Restart the DVE Service.

To find tags in PRTG, follow these steps:

1. Open the settings for any sensor within PRTG.
2. Look for the word "Tags" at the top of the page. These are the sensor tags.

13 Advanced Configuration

14 Adding Text-Based (String) Sensors or Channels

DVE can automatically upload sensors that give **text-based (non-numeric)** information for the following tags:

- **snmpcustomsrtingsensor**
- **wmicustomstring**
- **snmpservicesensor**

If you need to add a sensor or channel that provides **text information** (instead of a numeric value) and isn't covered by these tags, just add the tag **amx_string_sensor** to the sensor tags under the sensor settings:

Sensor Name ⓘ System Health Power Supplies

Parent Tags ⓘ networkAMX

Tags ⓘ amx_string_sensor X +

Priority ⓘ ★★☆☆☆

You can use this tag with **amx_add_all_channels** anytime you want to include all channels with of a given sensor:

Sensor Name ⓘ System Health Power Supplies

Parent Tags ⓘ networkAMX

Tags ⓘ amx_add_all_channels X amx_string_sensor X +

Priority ⓘ ★★☆☆☆

14.1 Including Sensors – Whitelist (include_sensors.csv)

An include_sensors.csv file is where you can define the include filters (whitelist), thus configuring which sensor types **would be** imported into InfluxDB and the Grafana Interface.

Note: All other sensors and/or their channels that don't pass the filters in the whitelist file would not be imported.

14.1.1 Using include_sensors.csv

1. Navigate into the DVE application installation path and browse the *Backend* folder.
2. Open via Notepad or Notepad++ a file named "*include_sensors.csv*". Before you modify the "include_sensors.csv" file, make sure to read the next paragraphs to better understand how this functionality works

14.1.2 The include_sensors.csv file structure

The whitelist filter file is structured of 4 columns:

- **PRTG Tag** – The PRTG Tags Name you wish to import.
- **PRTG Group** - The PRTG Group Name you wish to import.
- **DeviceName** – The PRTG Device Name you wish to import.
- **ChannelsWhitelist** - The PRTG Channel Name wish to import.

14.1.3 The Whitelist/Include Filters Logic:

Each line in the include file consists of an include filter that contains four objects separated by a comma. The DVE import algorithm compares these filters (line by line) to the data exported from PRTG and pushes only the sensors that pass the whitelist filters into the InfluxDB. The best way to explain this would be by providing some examples.

Important: Each filter line can have one element in each column however, you can duplicate any filter line and change a specific column to the required values

- Usage Examples:

Sensors and Channels to Import	White list configuration
Sensors with a Channel named Total (any group, device or sensor type)	any,any,any,Total
Sensors with Total and Free Space channel names (any group, device or sensor type)	any,any,any,Total any,any,any,Free_Space
Sensors with Total and Free Space channel names with a PRTG tag snmpdiskfreesensor, from PRTG Group "Servers" with any device name.	snmpdiskfreesensor,Servers,any,Total snmpdiskfreesensor,Servers,any,Free_Space
Sensors with Total and Free Space Channels in PRTG group "Servers"	any, Servers,any,Total any, Servers,any,Free_Space
Sensors with Total and Free Space Channel in group "Servers" for a device named "sqlSRV1"	any, Servers, sqlSRV1,Total any, Servers, sqlSRV1,Free_Space

14.2 Excluding sensors - Blacklist ([exclude_sensors.csv](#))

A Blacklist is a filter file where you can define which sensors **would not be** uploaded into InfluxDB. Blacklist filters are considered by the DVE algorithm after the Whitelist (include) filters, thus allow you to even better filter the sensors and channels you want to import. Its structure is very similar to the whitelist filters file.

14.2.1 Using Blacklists ([exclude_sensors.csv](#))

1. Go into the application install path and browse the *Backend* folder.
2. Open via Notepad or Notepad++ a file named "*exclude_sensors.csv*". Before you modify the "exclude_sensors.csv", file make sure to read the next paragraphs to better understand how this functionality works

Note: All other sensors\channels would be upload to InfluxDB\Grafana.

14.2.2 The Blacklist filter file structure

The blacklist filter file is structured of 4 columns:

- **PRTG Group** - The PRTG Group Name you wish to exclude.
- **DeviceName** – The PRTG Device Name you wish to exclude.
- **Sensor Tags** – The PRTG Tags Name you wish to exclude.
- **Channels** - The PRTG Channel Name you wish to exclude.

14.2.3 The Blacklist Filters Logic:

Each line in the exclude file consists of an exclude filter that contains four objects separated by a comma. The DVE import algorithm compares these filters (line by line) to the data exported from PRTG and pushes only the sensors that **don't pass** the exclude filters into the InfluxDB. The best way to explain this would be by providing some examples.

Important: Each filter line can have one element in each column, but you can duplicate any filter line and change a specific column to the required values

- Usage Examples:

Sensors and Channels to Exclude	Exclude (Blacklist) configuration
Exclude Sensors with a Channel named Total (any group, device or sensor type)	any,any,any,Total
Exclude Sensors with Total and Free Space channel names (any group, device or sensor type)	any,any,any,Total any,any,any,Free_Space
Exclude Sensors with Total and Free Space channel names with a PRTG tag snmpdiskfreesensor, from PRTG Group "Servers" with any device name.	snmpdiskfreesensor, Servers,Total,any, snmpdiskfreesensor,Servers,Free_Space
Sensors with Total and Free Space Channels in PRTG group "Servers"	any, Servers,any,Total any, Servers,any,Free_Space
Sensors with Total and Free Space Channel in group "Servers" for a device named "sqlSRV1"	any, Servers, sqlSRV1,Total any, Servers, sqlSRV1,Free_Space

- If you only want to see **Sensors with Total and Free Space Channel with tag name snmpdiskfreesensor (Can be copied with other tag names)** the "include_sensors.csv" would look as below:
PRTG Group,Device Name,Sensor Tags,Channels any, Servers,
snmpdiskfreesensor ,Total
any, Servers, **snmpdiskfreesensor**,Free_Space
- If you only want to see **Sensors with Total and Free Space Channel in group "Servers" (Applicable to any group name)** the " exclude _sensors.csv" would look like this:
PRTG Group,Device Name,Sensor Tags,Channels
Servers, any,any,Total
Servers, any,any,Free_Space
- If you only want to see **Sensors with Total and Free Space Channel in group "Servers" under device "sqlSRV1" (Can be copied with other Device names)** the " exclude _sensors.csv" would look like this:
PRTG Group,Device Name,Sensor Tags,Channels
Servers, **sqlSRV1**,any ,Total
Servers, **sqlSRV1**,any,Free_Space

Note: It is important to remember that each line can have one element in each column, but you can always duplicate any row and change a specific column similar to the first two examples

15 Configuration File Customization

In this section all Data Visualization Engine Configuration settings would be explained. The *DVE.ini* configuration file is in the *Backend* folder.

Credentials Section:

Variable Name	Default Value	Description
passhash	Defined and explained in Setup Process	Input the PRTG Passhash
prtgURL	Defined and explained in Setup Process	Input the PRTG URL
username	Defined and explained in Setup Process	Input the PRTG Username
api_key	Empty	Input the user PRTG API Key

InfluxDB Section:

Variable Name	Default Value	Description
influxdb_bucket	Defined and explained in Setup Process	Input The InfluxDB Bucket
influxdb_organization	Defined and explained in Setup Process	Input The InfluxDB Organization
influxdb_url	Defined and explained in Setup Process	Input The InfluxDB URL

ProgramParams Section:

Variable Name	Default Value	Description
IMPORT_DATA_FROM_PRTG	60 (Seconds)	The delay in seconds between Each Cycle of the PRTG Data probing and upload to InfluxDB\Grafana

InfluxDB Section:

Variable Name	Default Value	Description
---------------	---------------	-------------

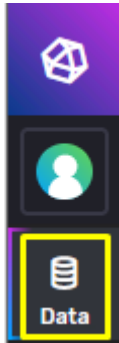


TRIM_FROM_DEVICE_NAME	Empty	The expression to Trip from the Device name in Grafana Interface
SENSOR_NAME_MAX_LENGTH	15	Max length of name for a sensor

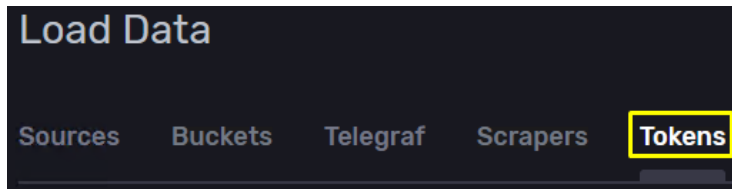
16 Appendix A – Configuring InfluxDB

InfluxDB is automatically configured by the Installer. To retrieve the InfluxDB API token follow the steps below:

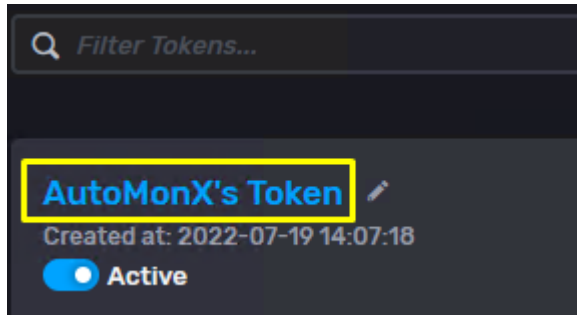
1. Click on "Data" in the leftmost panel:



- a. Under "Load Data" click on "Tokens":



- b. Under Token you will see the Token for the user you created in step b:



- c. Click on the blue writing and the Token will appear on the screen.
Note to write down the Token since you will use it later.

2. Make sure that the following information is at hand for later use:
 - a. InfluxDB URL (<http://127.0.0.1:8086>)
 - b. InfluxDB Username.
 - c. InfluxDB Organization.
 - d. InfluxDB Bucket.
 - e. InfluxDB Token.

17 Appendix B – User Management and Permissions in Grafana

In order to manage permissions in Grafana Dashboards you would need to perform the steps below.

17.1 Create a User in Grafana

- Navigate to Grafana main page and hover over the “shield”-shaped icon on the middle right of the page.
- Click on User on the context menu.
- Click on the blue button "New User" towards the upper right side of the screen.
- Choose Name, Email, Username, Password.

17.2 Create a Team in Grafana

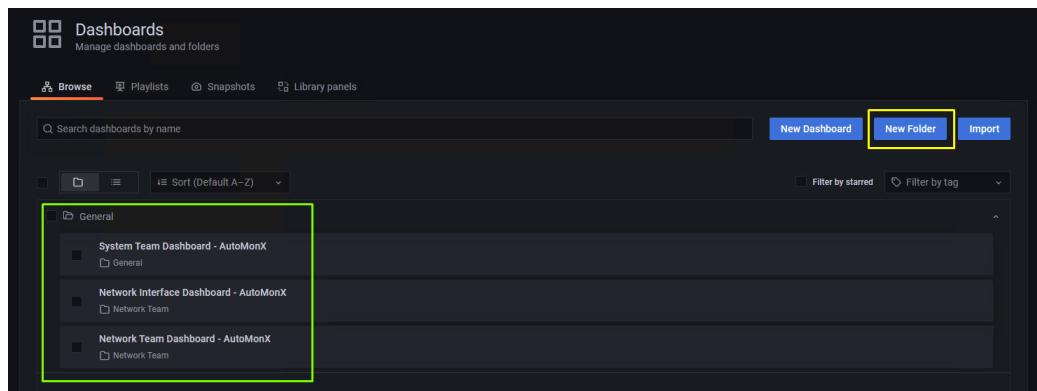
Teams in Grafana are like a like groups in Active Directory, this is the one of the methods to manage user access to dashboards.

- Navigate to Grafana main page and hover over the cog Icon middle right of the page.
- Click on Teams in the Context menu.
- Click on Blue Button "New Team" in the middle of the screen.
- Choose a name for the team (The Email is not mandatory) and click "Create"
- When the group is created you can add users using the blue button "Add Member"
- To Add more groups or users to a group use the same steps.

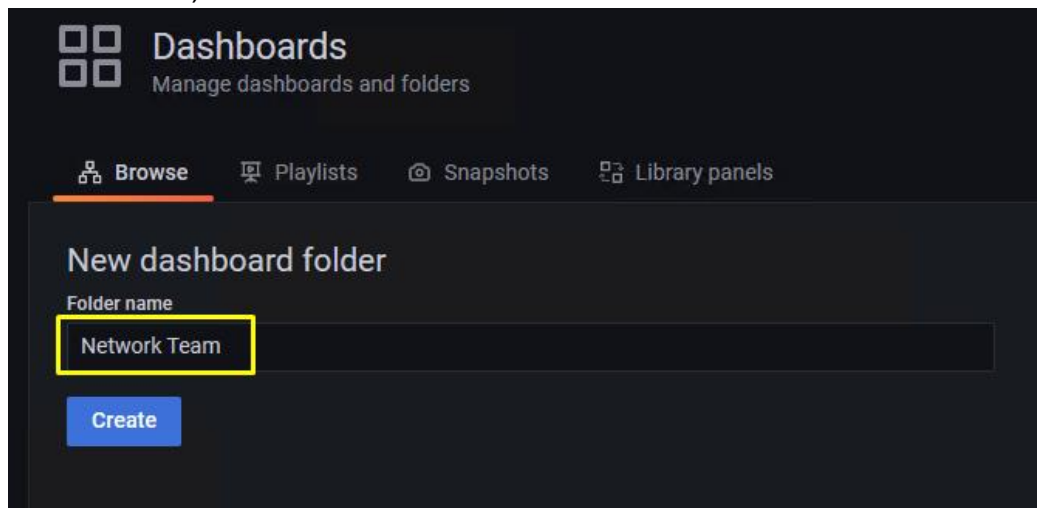
17.3 Create A Folder in Grafana

To manage user in Grafana you would need to create a Folder since the permissions of the default folder called "General" cannot be modified. To create a folder, perform the following steps:

- Go into Grafana main page and hover over the dashboard Icon on the middle right of the page.
- Click on Browse.
- Inside the "Browse Dashboards" page click on "New Folder":
In Green these are AutoMonX Default Dashboards.



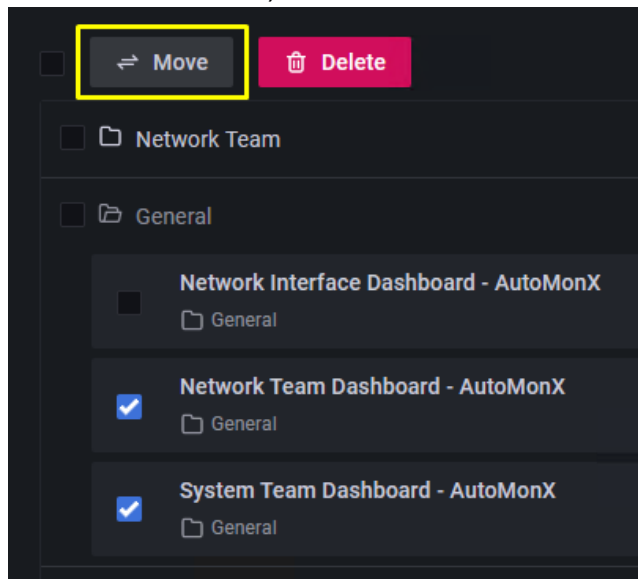
- Pick a name for the Folder (In our example we would use a "Network Team" folder) and Click "Create":



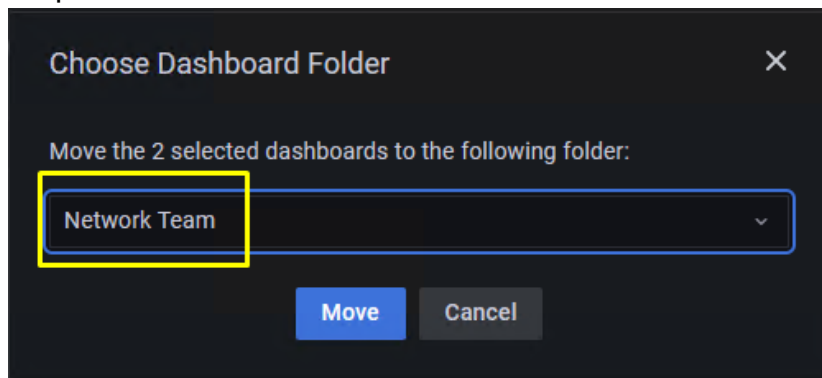
17.4 Move a Dashboard to a User Created Folder

To move the Dashboard into the Newly created Folder use the following steps

- Go into Grafana main page and hover over the dashboard Icon on the middle right of the page.
- Click on Browse.
- Tick the Dashboards that you would like to permission manage (In our example we would tick " Network Interface Dashboard" and "Network Team Dashboard") and Click on "Move":



- Select The newly created folder (in our case "Network Team") in the drop down menu and click on "Move" when done:



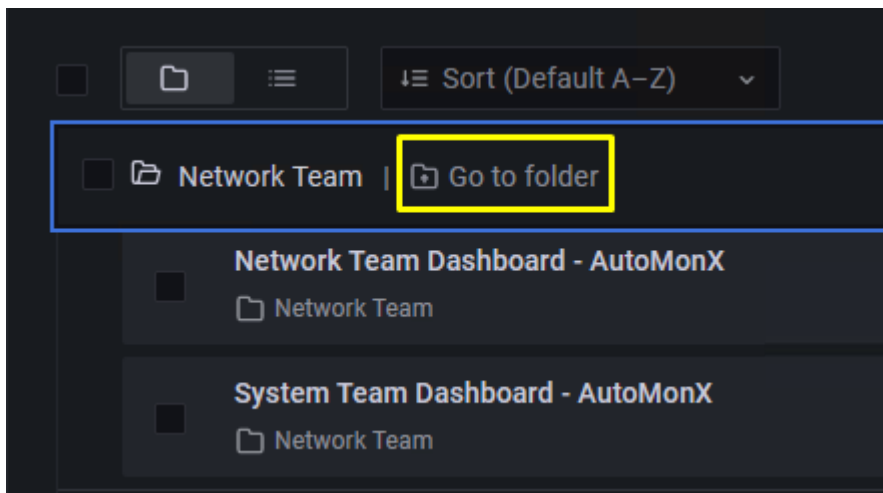
17.5 Manage the Permissions of a User-Created Folder

Folder Permissions can be Managed either with a Grafana Team ([Create a Team in Grafana](#))

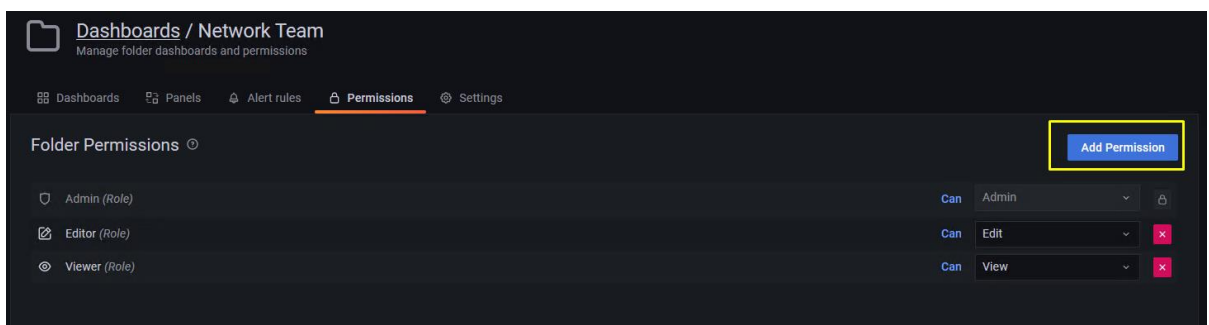
Or with a [specific user](#) (not recommended).

To Manage permissions of a folder do the following:

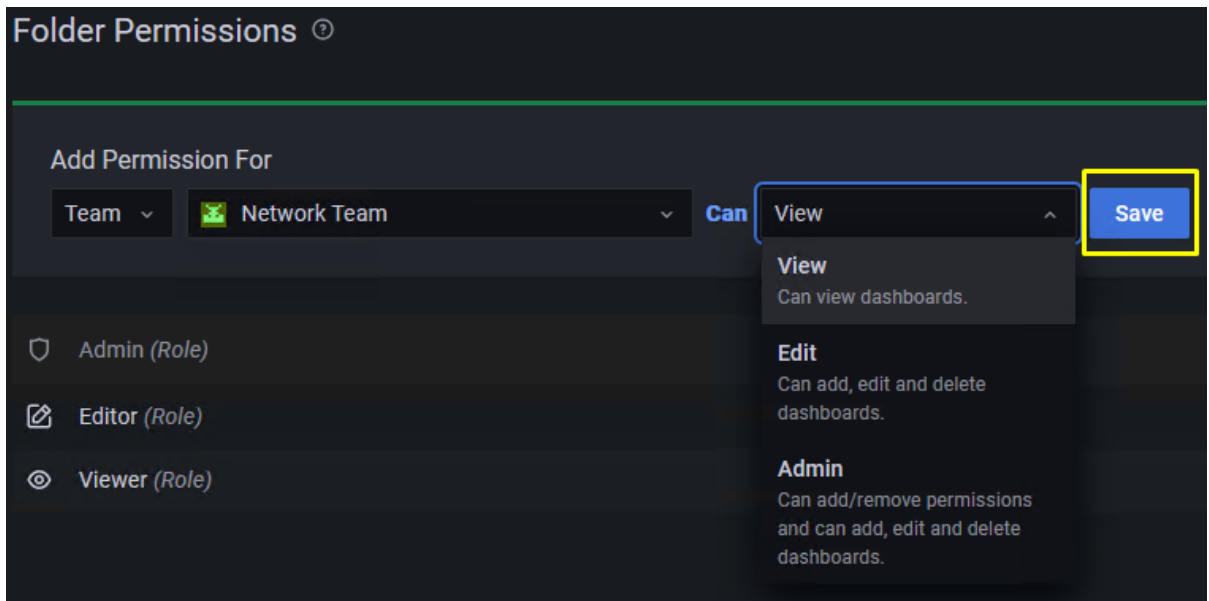
- Go into Grafana main page and hover over the dashboard Icon on the middle right of the page.
- Click on Browse.
- Hover with your mouse over the new folder (in our example "Network Team") and Click on "Go to folder":



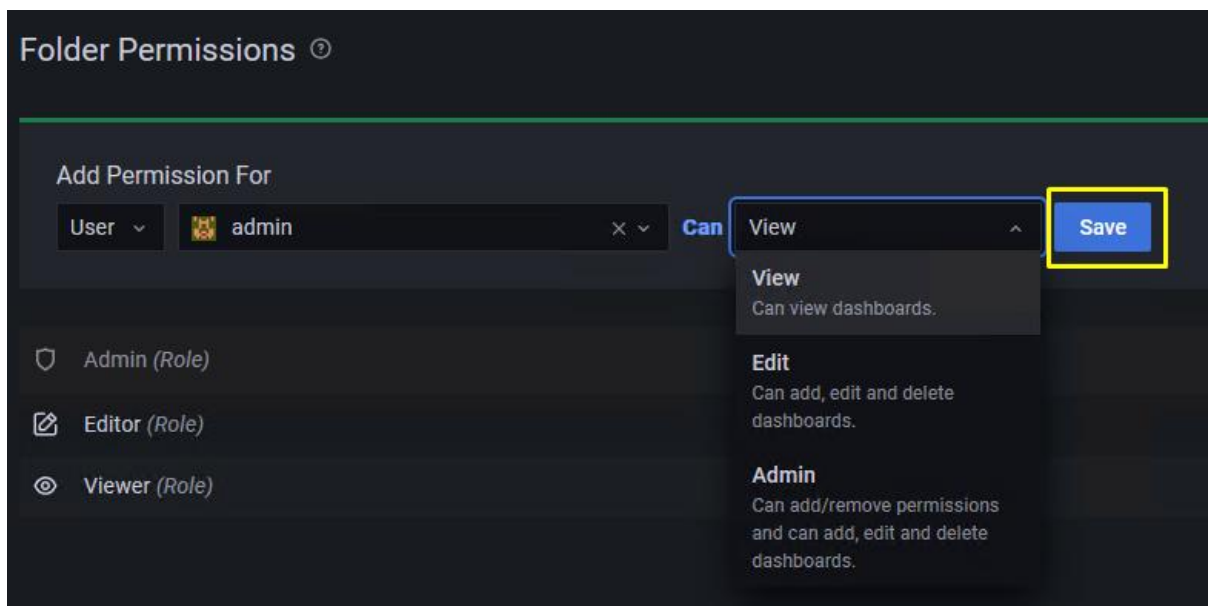
- Click on Permissions and then Click on "Add Permission":



- Now you can add a permission based on a [Team](#) (Recommended) or a [User](#) (Not Recommended):
- **Adding a [Team](#):**
- Choose Team in the Drop-down menu.
- Choose the Team you want to add permissions to.
- Choose what this Team can do and click Save.



- **Adding a [User](#):**
- Choose User in the Drop-down menu.
- Choose the User you want to add permissions to.
- Choose what this User can do and click Save.



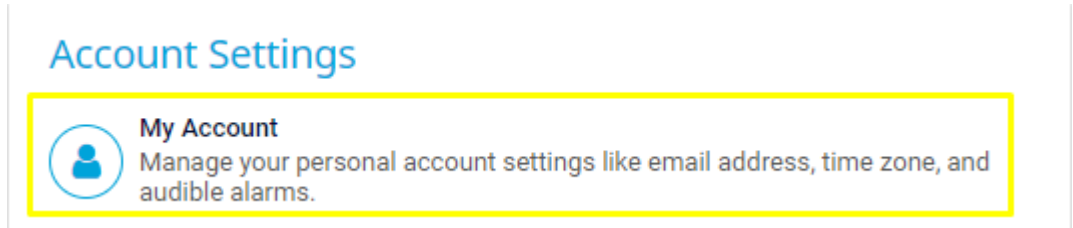
18 Appendix C – Acquiring PRTG Passhash

The PRTG passhash can be obtained from your PRTG installation in the following way:

- Log into your PRTG.
- Look at the Top Bar in the middle portion of the screen and locate Setup and click on it:



- Under Account Settings Click on "My Account"



- Under "User Account Settings" click "Show Passhash"
- Write Down the Passhash as you would need to use it later.

19 Appendix D – Changing How Network Interfaces are Displayed

In order to improve the way network interfaces are displayed in Grafana, use the settings available in PRTG as explained below. Changing the default settings will display the interface names as seen in the actual network device.

1. Go to Devices (All Devices)
2. Go to Settings.
3. Scroll down to "SNMP compatibility options".
4. Modify the configuration as shown below and save:

Port Name Template ⓘ [ifname] [ifalias] ([port])

Port Name Update ⓘ Keep port names (use this if you edit the names in PRTG)
 Automatically update sensor names if port names change in the device

Port Identification ⓘ Automatic identification (recommended)
 Use ifAlias
 Use ifDescr
 Use ifName
 Do not update ports

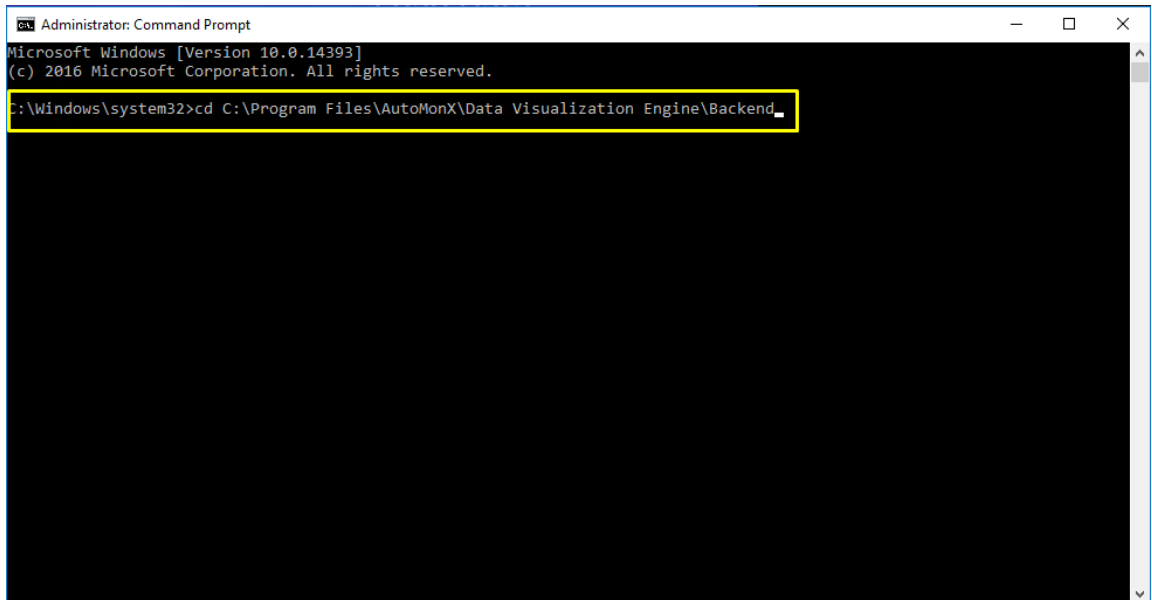
20 Appendix E – How to Wipe InfluxDB Data (Bucket)

Wiping the InfluxDB bucket would wipe all InfluxDB bucket data that is configured with the DVE.

This could be useful when you are in a testing phase of the application.

To delete the InfluxDB Data (Bucket) do the following.

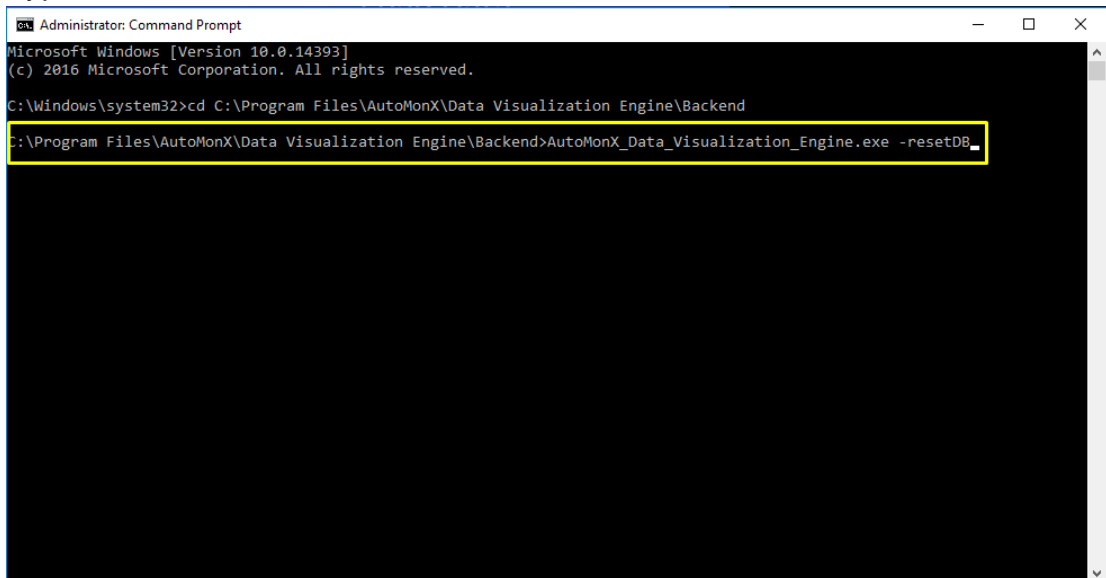
1. Open CMD with Administrator privileges and cd into the \Backend folder of the DVE:



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\Program Files\AutoMonX\Data Visualization Engine\Backend_
```

2. Type " AutoMonX_PRTG_Grafana.exe -resetDB ":



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\Program Files\AutoMonX\Data Visualization Engine\Backend
C:\Program Files\AutoMonX\Data Visualization Engine\Backend>AutoMonX_Data_Visualization_Engine.exe -resetDB_
```

3. Push Enter and wait until the message: "Successfully Wiped Bucket [Bucket Name]in [Organization Name] "

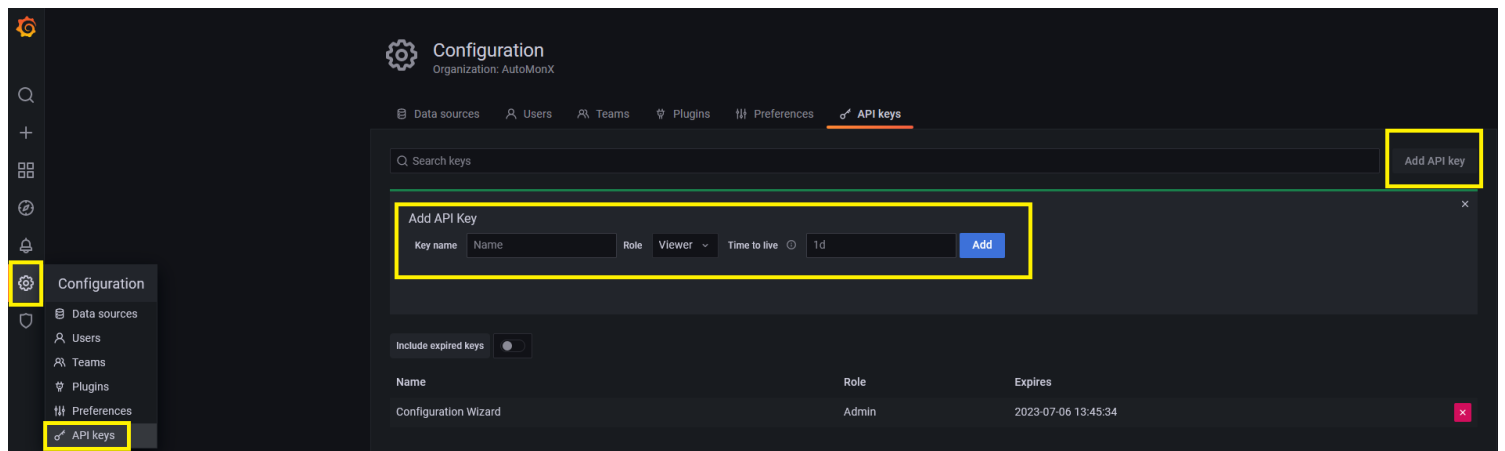
21 Appendix F – Configuring Grafana to work with HTTPs Protocol

By default, the Grafana server is installed with unsecure http. Follow the next steps to run Grafana with https.

1. Run the file <Application Directory>\3rdParty_Installations\vcredist_x64.exe Installer.
2. Run the file <Application Directory>\3rdParty_Installations\Win64OpenSSL_Light-3_0_1.msi Installer.
3. Open cmd as administrator and change directory (cd) to C:\Program Files\OpenSSL-Win64\bin
4. Run the command: *openssl.exe req -x509 -newkey rsa:4096 -keyout privatekey.key -out certificate.crt -days 20000*
5. Accept all defaults
6. Move the 2 files created into C:\Program Files\GrafanaLabs\grafana\conf\cert (create the cert folder if necessary).
7. Open the file C:\Program Files\GrafanaLabs\grafana\conf\defaults.ini
8. Change row 32 from http to https
9. Add to row 63 C:\Program Files\GrafanaLabs\grafana\conf\cert\certificate.crt
10. Add to row 64 C:\Program Files\GrafanaLabs\grafana\conf\cert\privatekey.key
11. Restart the Grafana service.

22 Appendix G – Create a Grafana API Key

1. Login to your Grafana Instance and hover with your mouse over the "Configuration" Icon left menu of the interface.
2. Click on API Keys.
3. Click on Add API Key.
4. Choose a name (DVE) for example, set the role as Admin (Creating Dashboard requires high privilege via API for example) and we recommend leaving the "Time to live" property empty, since you might want to configure additional dashboards in the future.
5. When you are finished, click "Add".



23 Appendix H – Importing Default Dashboards into Grafana

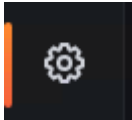
If you already have an instance of Grafana installed, or you are interested in restoring the default Dashboards, you can follow the instruction below:

1. Login to your existing Grafana instance.
2. Hover over the dashboards Icon on the left-hand side menu.
3. Click On "Browse"
4. Click On "Import"
5. Click on "Upload JSON File" and navigate to <DVE Install Directory>\Default_Dashboards and pick any of the default dashboards.
6. Click on import and the Dashboard should be Imported

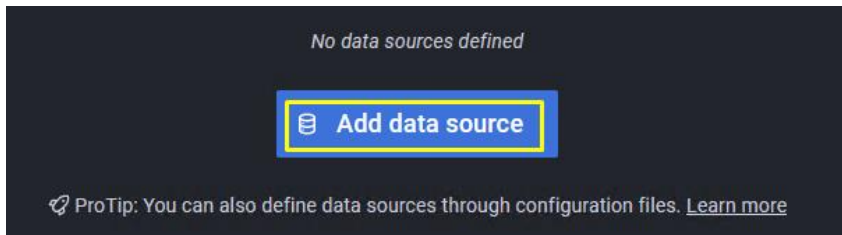
24 Appendix I – Creating the InfluxDB Data source in Grafana

If you already have an instance of Grafana installed, you can create the InfluxDB data source in the following way:

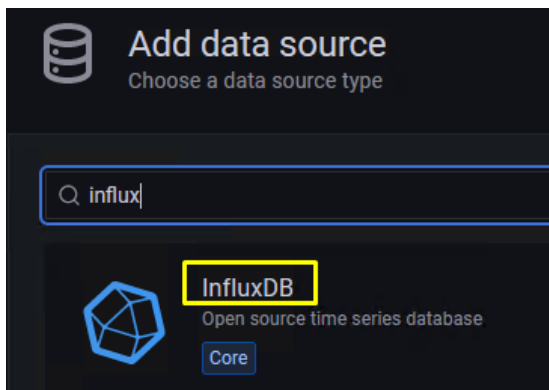
1. Click on the Cog icon in the leftmost panel:



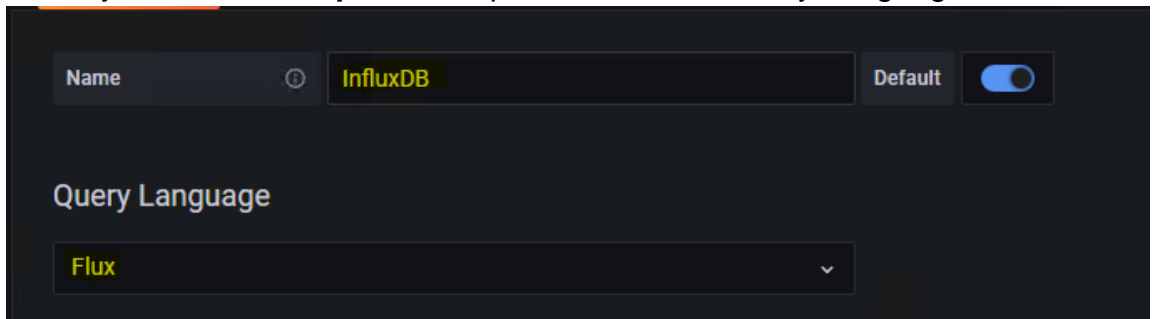
2. Click On Add data source:



3. Search for influx on the search bar and click on Influx:



4. Name your DB. It is important to pick Flux as the Query Language:



5. Enter the URL, toggle “Basic auth” and “With Credentials”:

HTTP

URL

Access Server (default) Help >

Allowed cookies

Timeout

Auth

Basic auth With Credentials

TLS Client Auth With CA Cert

Skip TLS Verify

Forward OAuth Identity

6. Enter the Username and Password you configured In Chapter 9.B in the InfluxDB User creation:

Basic Auth Details

User

Password

7. Enter the configured Initial Organization in the "Organization" field, Initial Bucket in the "Bucket" field, and Token in the "Token" field, leave everything else as is:

InfluxDB Details

Organization

Token Reset

Default Bucket

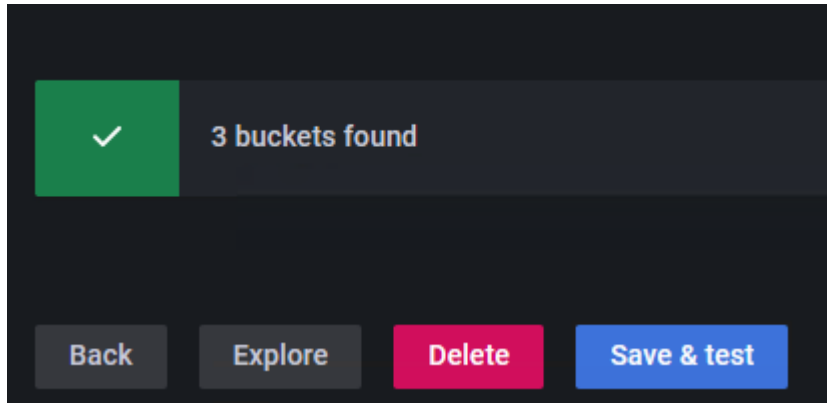
Min time interval

Max series

8. Press Save & test and make sure that the test is successful. If not, go over the information entered and correct any mistakes.

Back Explore Delete Save & test

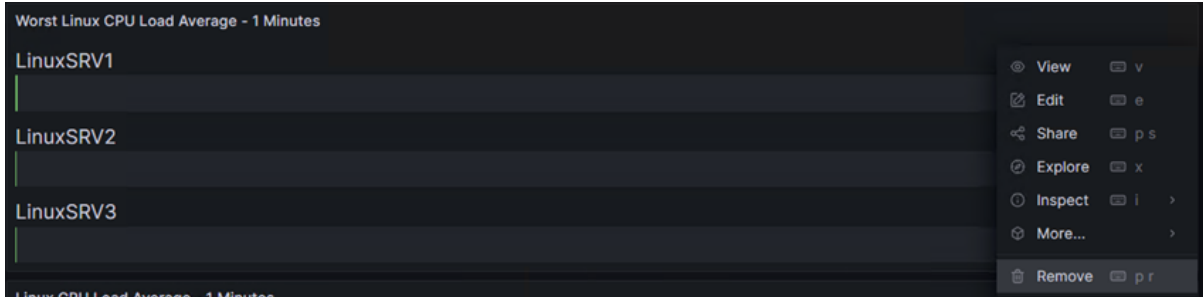
If Successful, you should get the number of buckets exist in an InfluxDB installation:



25 Appendix J – Deleting a panel in Grafana

Deleting a Grafana panel (Linux CPU Load for example) is very simple:

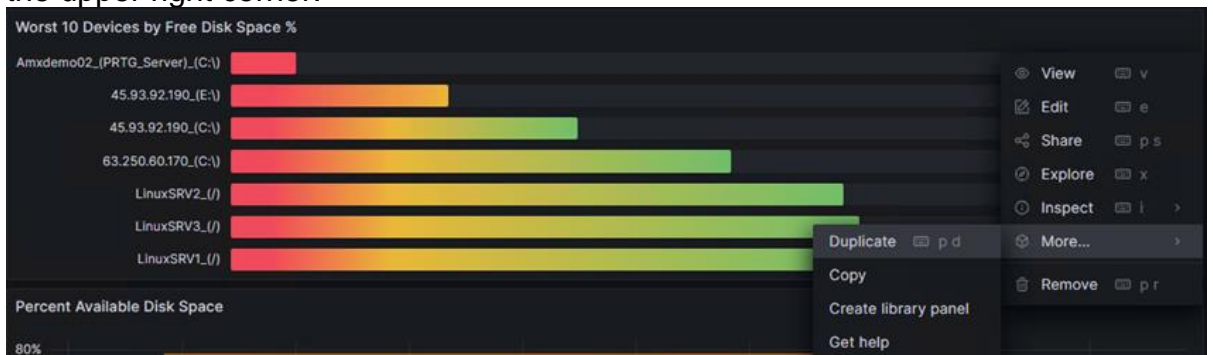
- Hover your mouse in the upper side of the Linux panel.
- Click on the three dots and then click on "Remove" as shown:
- Then save the dashboard for changes using the diskette on the upper right corner:



26 Appendix K - Duplicating a panel in Grafana

To duplicate a panel, it is very simple:

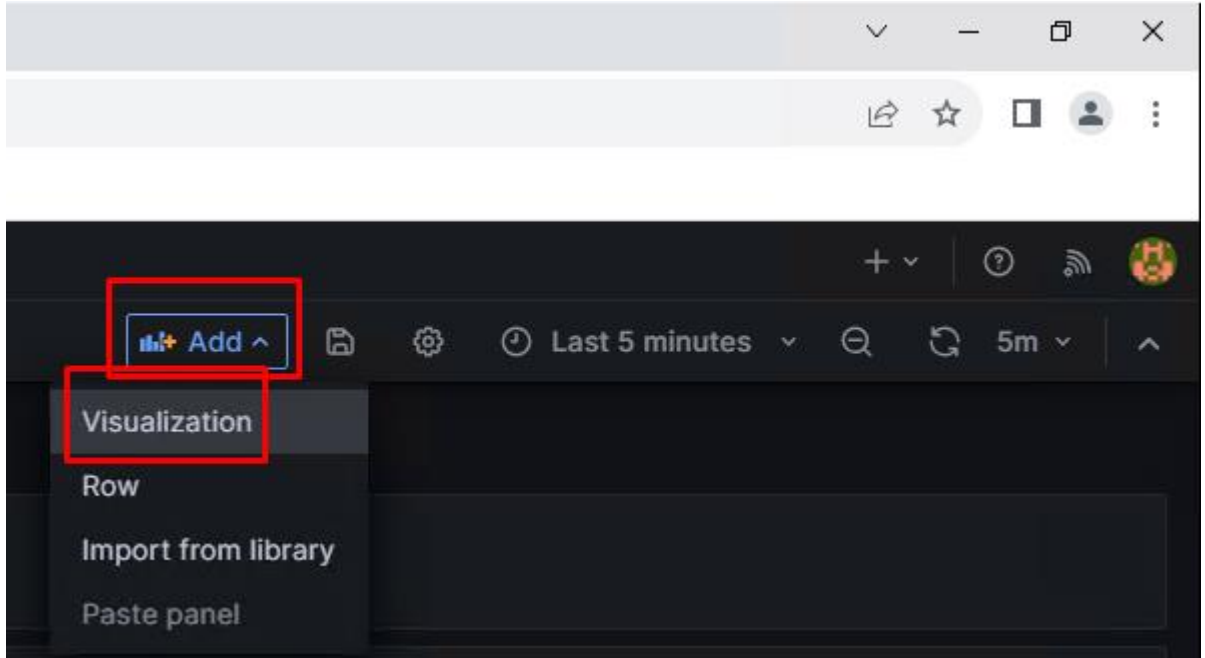
- Hover your mouse in the upper side of the Linux panel.
- Click on the "More...":
- Click on Duplicate:
- Don't forget to save changes after duplicating the panel using the diskette on the upper right corner.



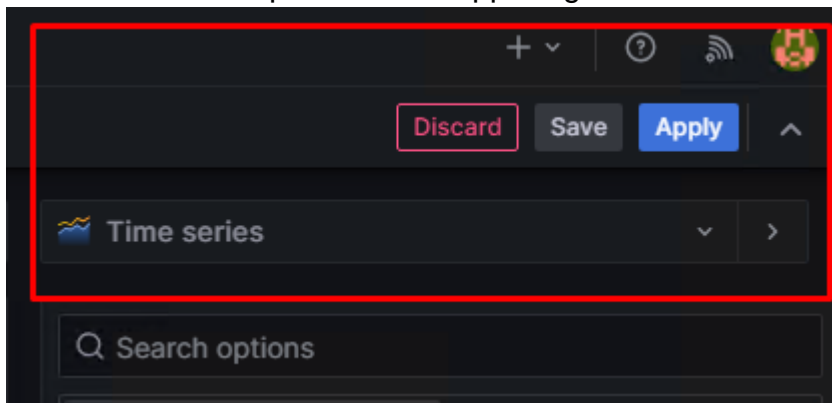
27 Appendix L – Editing\Creating a panel in Grafana

To create a new panel, do the following:

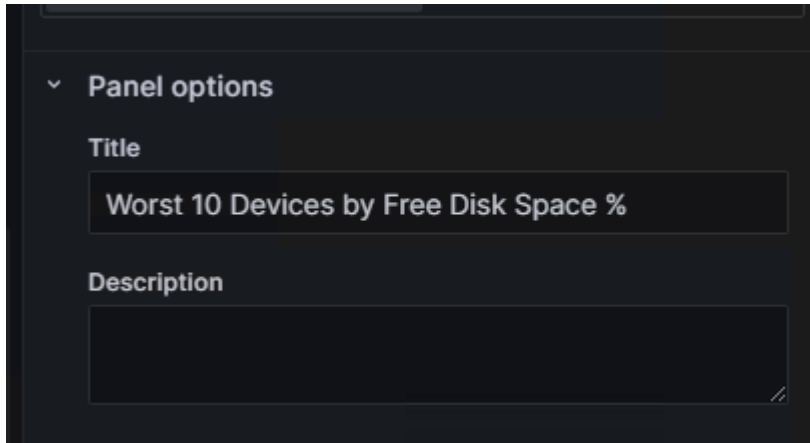
- Click on "Add"
- Click on Visualization:



- Then the panel is created.
- Select the wanted panel on the upper right corner of the webpage:



- Choose a name:



- Edit to your liking, and save this panel.

To edit a panel (and rename a panel), do the following:

- Duplicate a panel using [Appendix K](#)

Note: It is highly recommended to duplicate an existing panel as it is much easier to work on with working template and have a backup if something goes wrong. But you can also create a panel like shown above.

- Click on edit of the duplicated panel:



- Duplicate the query at the bottom (this would make it so much easier to have a working reference in case something goes wrong):



```

1 from(bucket: "${bucket}")
2   |> range(start: v.timeRangeStart, stop: v.timeRangeStop)
3   |> filter(fn: (r) => (r["_measurement"] == /disk/) and r["_measurement"] == /systemMK/)
4   |> filter(fn: (r) => r["_value"] > 0)
5   |> last(column: "_value")
6   |> group()
7   |> sort(columns: ["_value"], desc: false)
8   |> bottom(n: 10, columns: ["_value"])
9   |> keep(columns: ["host", "_measurement", "_value"])
  
```

- Then hide the duplicated query via the eye icon right next to the duplicate icon.
- Now you can modify the first query like this (We based this query on the EXCH server):

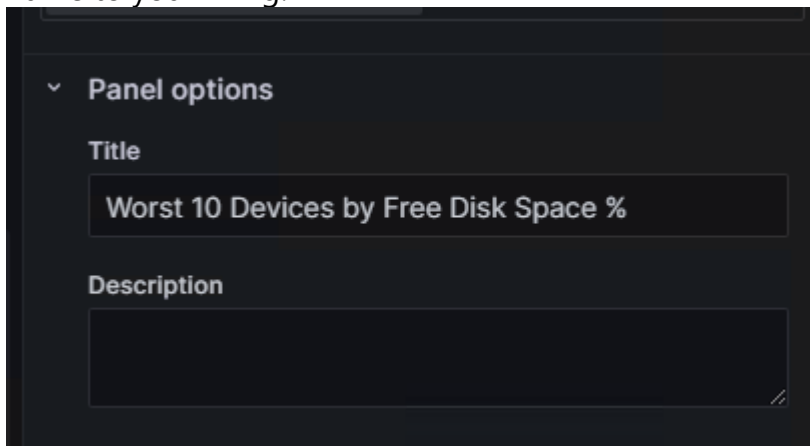
- Note: the /EXCH/ is a regular expression - meaning this would catch all server that hash EXCH in their name.
- For more customization you can reference the InfluxDB Flux query documentation

```

1 from(bucket: "${Bucket}")
2   |> range(start: v.timeRangeStart, stop: v.timeRangeStop)
3   |> filter(fn: (r) => (r["_measurement"] =~ /disk/) and r["host"] =~ /EXCH/ and r["_measurement"] =~ /systemAMX/)
4   |> filter(fn: (r) => r["_value"] > 0)
5   |> last(column: "_value")
6   |> group()
7   |> sort(columns: ["_value"], desc: false)
8   |> bottom(n:10, columns: ["_value"])
9   |> keep(columns:["host","_measurement","_value"])

```

- After that you should see only exchange server in the newly created disk space panel.
- To change the panel name go to the right side of the page and change to name to your liking:



28 Appendix M – Change the Display Name of a metric (Device\Sensor)

If you are not satisfied with the name of a specific metric.

For example you want to display the sensor name and the host name,

You can always configure this in the following way:

- Edit a panel using [Appendix K](#) (in this case we edit the Disk Space panels)
- Look at the lower section of the page where the query is located, and add the "sensorName" column like shown in the picture below:

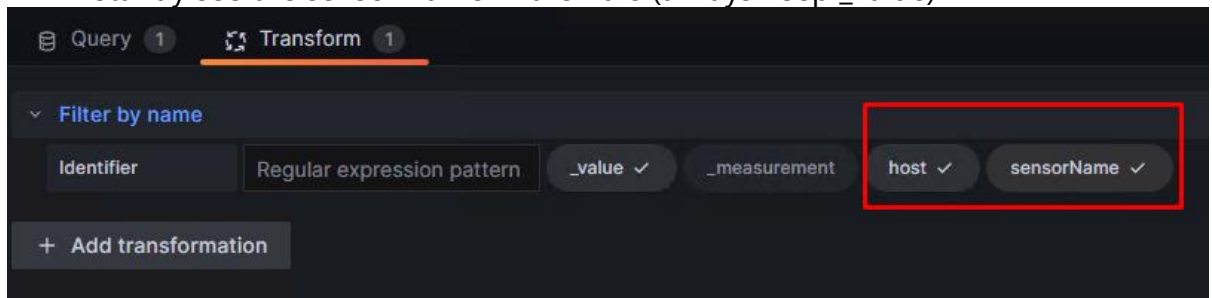


```

1 from(bucket: "${Bucket}")
2   |> range(start: v.timeRangeStart, stop: v.timeRangeStop)
3   |> filter(fn: (r) => (r["_measurement"] =~ /disk/) and r["_measurement"] =~ /systemAMX/)
4   |> filter(fn: (r) => r["_value"] > 0)
5   |> last(column: "_value")
6   |> group()
7   |> sort(columns: ["_value"], desc: false)
8   |> bottom(n:10, columns: ["_value"])
9   |> keep(columns:["host", "_measurement", "_value", "sensorName"])
  
```

And then under transform use the "Filter by Name" transform and keep these columns:

You will instantly see the sensor name in the Bars (always keep _value)



These are the available options for display names:

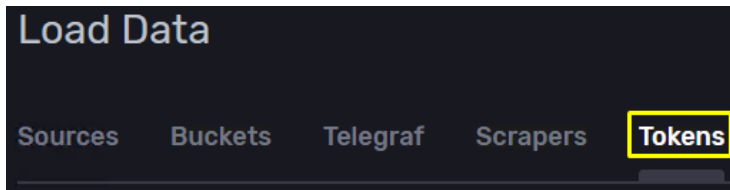
device, sensorName, channelName, sensorID and "component" (which are Sensor Tags).

Note: Always add to the keep() function like shown the needed columns, exactly as typed here, these are column names. Any combination of these columns is possible to display.

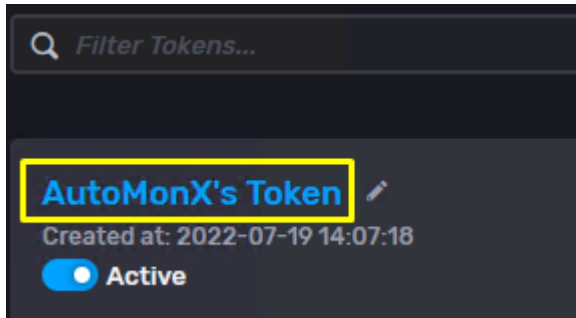
29 Appendix N - Getting InfluxDB Token

InfluxDB is being configured by the Installer on Central Core Installations, to retrieve the token for InfluxDB do the following steps:

1. Login into the Central Node InfluxDB <http://< Central Node InfluxDB>:8086> instance with the credentials defined in the Setup of DVE.
2. Click on "Data" in the leftmost panel.
3. Under "Load Data" click on "Tokens":



4. Under Token you will see the Token for the user you created in step b:



Click on the blue writing and the Token will appear on the screen.

30 Appendix M – Creating DataDog API Key and Application Keys

Before Creating API Key and Application Keys you would need to access the "Organization Settings" menu in DataDog in the following way:

1. Log in to your DataDog account.
2. Once logged in, locate the sidebar menu on the left side of the DataDog dashboard.
3. In this menu, hover over the last-bottom icon which should be the icon of your username.
4. When hovering over the last-bottom icon click on " Organization Settings".

Note: Before Proceeding make sure that your account have permissions to generate API Keys and Application Keys.

30.1 Creating an API Key

1. Click on the API keys tab.
2. Click the "New Key" button.
3. Enter a name for your key.
4. Click "Create key".
5. After creating the API Key click on the newly created API Key and click copy.
6. Paste the API Key in the DVE.ini file as explained in [Chapter 9](#).

Note: Do not copy "Key ID" as the API Key, because it is not the API Key, the API key is masked at the top of the table with the last 4 characters seen which also has the copy button.

30.2 Creating an Application Key

1. Click on the Application keys tab.
2. Click the "New Key" button.
3. Enter a name for your key.
4. Click "Create key".
5. After creating the Application Key click on the newly created Application Key and click copy.
6. Paste the Application Key in the DVE.ini file as explained in [Chapter 9](#).

Note: Do not copy "Key ID" as the Application Key, because it is not the Application Key, the Application key is masked at the top of the table with the last 4 characters seen which also has the copy button.

31 Appendix O – Creating and using PRTG API Keys

To create a PRTG API Key and import the API Key to DVE perform the following:

1. Login to PRTG.
2. On the top menu bar click on "Setup"
3. Under "Account Settings" click on "My Account"
4. Then click on "API Keys" under " Account Settings".
5. Click on the blue + sign and choose " Add New API Key".
6. Fill in the Name, description of your desire and access level.
7. Copy the API Key at the bottom of the dialog to {Application Install Directory}\Backend\DVE.ini under the [credentials] section and the "api_key" key.

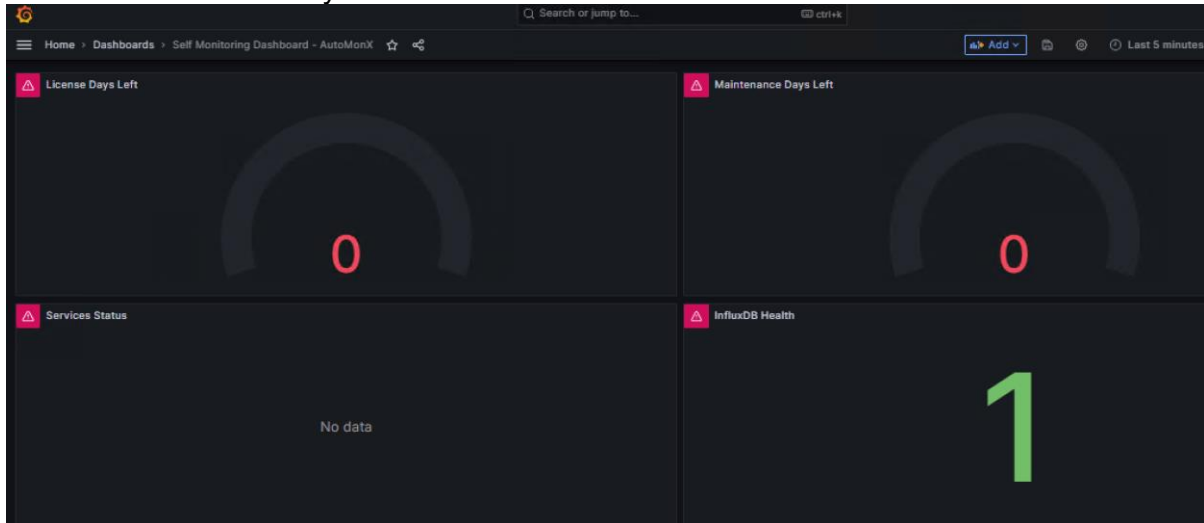
Note: PRTG allows you to create only API Keys from the logged on user.

32 Troubleshooting

In This section we will review some of the common issues and problems you may encounter during the usage of the DVE application.

32.1 Grafana Dashboards have issues.

If this is the issue that you encounter in the Grafana Dashboards:



You most likely would need to remove the UID from the JSON file that represents the specific dashboard:

1. Click on the cog icon (settings icon)
2. Click on JSON model at the bottom of the page.
3. Replace all instances of "mCmdBG6nz" or any other specific UID to ""(empty UID).

(you can do this easily with Ctrl+H in the browser)

Also check that the InfluxDB Data source is configured correctly as described in [Appendix I](#).

32.2 Grafana Dashboards Panels display "No Data".

When dashboard panels display a “No Data” message, This could happen if there is a problem connecting to InfluxDB when the data source already was configured correctly, or that for the given time (last 5 minutes for example) there was no data that came from InfluxDB.

- First let's inspect the log for failed uploads:
You can find the application logs in the following folder:
{Application install directory}\Backend\Logs\AutoMonX\DVE.log.

A valid output for each iteration should look like this:

```
[2023-08-06 07:32:05] Getting All Sensor Values
[2023-08-06 07:32:05] Finished Getting All Sensor Values
[2023-08-06 07:32:12] Extracted Top Sensors from PRTG(Dashboard:systemAMX) Sample:1
[2023-08-06 07:32:16] Extracted Top Network Channels from PRTG(Dashboard:systemAMX) Sample:1
[2023-08-06 07:32:22] Extracted Top Sensors from PRTG(Dashboard:networkAMX) Sample:1
[2023-08-06 07:32:23] Extracted Top Network Channels from PRTG(Dashboard:networkAMX) Sample:1
[2023-08-06 07:32:24] Total Non Network Channels to Upload to InfluxDB: 22
[2023-08-06 07:32:24] Wrote 22 sensors to Influx - Success(Dashboard:topNDashboards)
[2023-08-06 07:32:24] Total Network Channels to Upload to InfluxDB: 43
[2023-08-06 07:32:24] Wrote 43 sensors to Influx - Success(Dashboard:Network Sensors)
```

Where:

Total Non Network Channels to Upload to InfluxDB: N = Wrote N sensors to Influx

And

Total Network Channels to Upload to InfluxDB: K = Wrote K sensors to Influx

Upon error you would see something like this:

```
[2023-07-19 17:51:39] Could Not Upload Data To InfluxDB Server:http://127.0.0.1:8086,Reason:HTTP/1.0 400 Bad Request,Detail:{"code":"invalid", "message":"unable to parse '(diskspacesensor_smbdiskspacesensor_systemAMX)r-Free_Space(7130),host=IS-EXCH01,tag=diskspacesensor_smbdiskspacesensor_systemAMXr,sensorName=Disk_C:\\,channelName=Free_Space,sensorID=7130,hostURL=https://127.0.0.1:8443 value=28 1689 invalid tag format\nunable to parse '(diskspacesensor_smbdiskspacesensor_systemAMX)-Free_Space(7132),host=IS-EXCH01,tag=diskspacesensor_smbdiskspacesensor_systemAMX,sensorName=Disk_E:\\,channelName=Free_Space,sensorID=7132,hostURL=https://127.0.0.1:8443 value=33 16897 invalid tag format"}
```

```
[2023-07-19 17:51:39] Could Not Upload corrupted channels Data To InfluxDB Server:http://127.0.0.1:8086,Reason:HTTP/1.0 499 status code 499,Detail:{"code":"internal error", "message":"unable to read data: unexpected EOF"}
```

This indicate that there was a bad request to InfluxDB since there were special characters in the sensors name which the application cannot process, hence the upload failed.

Note: DVE uploads all PRTG metrics to InfluxDB in a bulk since this saves time, bandwidth, and network congestion. Because of this, there is also additional processes that upload again metrics that their upload has failed.

- Another possible reason for such failure is that the InfluxDB Windows Service is not running, or it is corrupted, Try to Start\Restart the InfluxDB Service.
- The third reason might be that the DVE license have expired, for a process to update the license go to [Chapter 9.1](#)

32.3 Specific sensors are not seen in Grafana.

This issue may happen since the core operation of DVE is to provide you with the top metrics collected by PRTG (i.e. Top CPUs, Top Disks etc)

If you still would like to see specific sensors, you can adjust the filtering criteria for the DVE to collect more metrics using the following way:

- Open the DVE.ini in {Application Directory}\Backend\DVE.ini.
- Edit the TopN value under [priority] section to a higher value. Default is TopN=100 (which tells the program to bring Top 100 worst metrics for each tag in PRTG)
- Try setting TopN=1000 (we do not recommend more than that) and save the DVE.ini file.
- Restart the AutoMonX_Data_Visualization Windows Service
- Check the results for the wanted sensor.

32.4 Grafana has failed to load Its application files.

This issue may happen if you are running an old version of your browser of choice.

We recommend trying the latest versions of Chrome\Firefox.

If using latest Chrome\Firefox did not work try the steps below:

If you're seeing this Grafana has failed to load its application files

1. This could be caused by your reverse proxy settings.
2. If you host grafana under subpath make sure your grafana.ini root_url setting includes subpath. If not using a reverse proxy make sure to set serve_from_sub_path to true.
3. If you have a local dev build make sure you build frontend using: yarn start, or yarn build
4. Sometimes restarting grafana-server can help
5. Check if you are using a non-supported browser. For more information, refer to the list of [supported browsers](#).

32.5 Different issues and logging from the installation process.

If you had any issues during installation, you can always view the detailed installer log located in C:\Users\\appdata\local\temp\2 and open the latest modified "Setup log <date>.txt"

32.6 The Grafana dashboards don't show up in Grafana

In case the AutoMonX default dashboards for Grafana could not be uploaded for any reason you can navigate to <DVE Install

Directory>\Grafana_Dashboards and there you can execute the PowerShell script GrafanaRestore.ps1 which would retry to upload the dashboards once again.

If the script encountered any issues, you would see them while the script executes.