

Mirasys Reporting Grafana User Guide



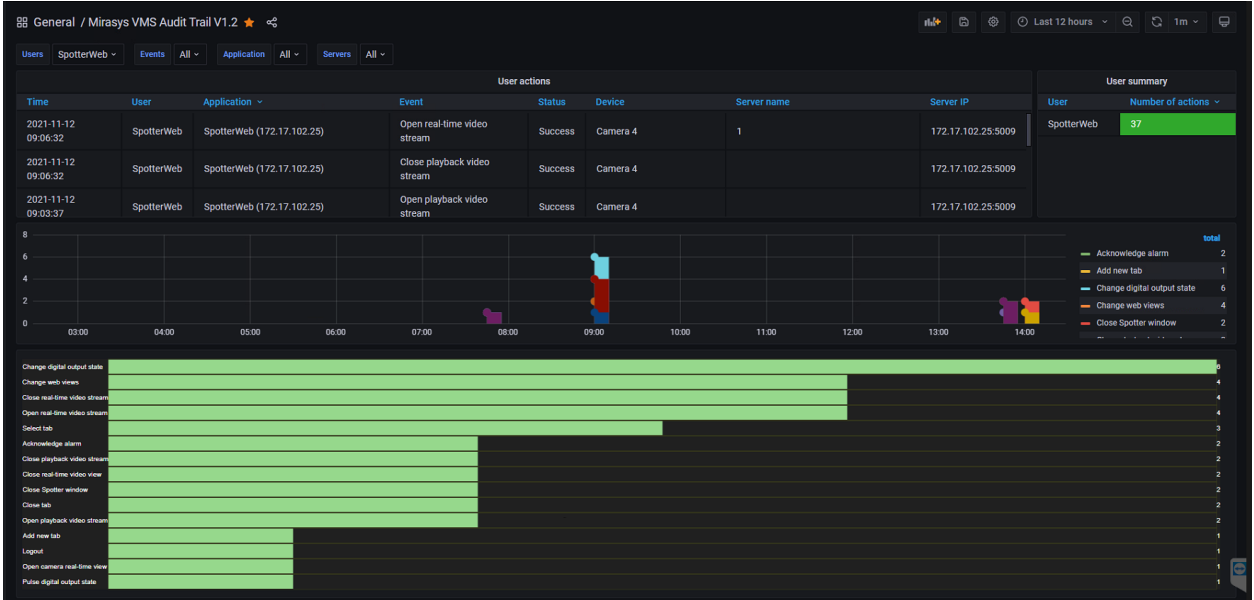
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1. Mirasys Reporting Grafana



Mirasys Reporting Grafana User Guide

1.1. Introduction

Grafana reporting tool is used as a user interface to create reports from Mirasys VMS database.

Basic reports are created from the **Audit Trail** database and **VMS Alarms** database.

Grafana user interface is browser-based, so it can be run in any modern browser (like Chrome, Edge, Firefox) and also inside Mirasys Spotter using the Spotter Web browser plugin

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1.2. Requirements

- Mirasys VMS V7.6.1 or newer
- Microsoft SQL Express 2014 or newer
- Grafana 6.4.4 or newer
- Grafana plugins; Multistat and Grafana Image Renderer

<https://grafana.com/grafana/plugins/michaeldmoore-multistat-panel>

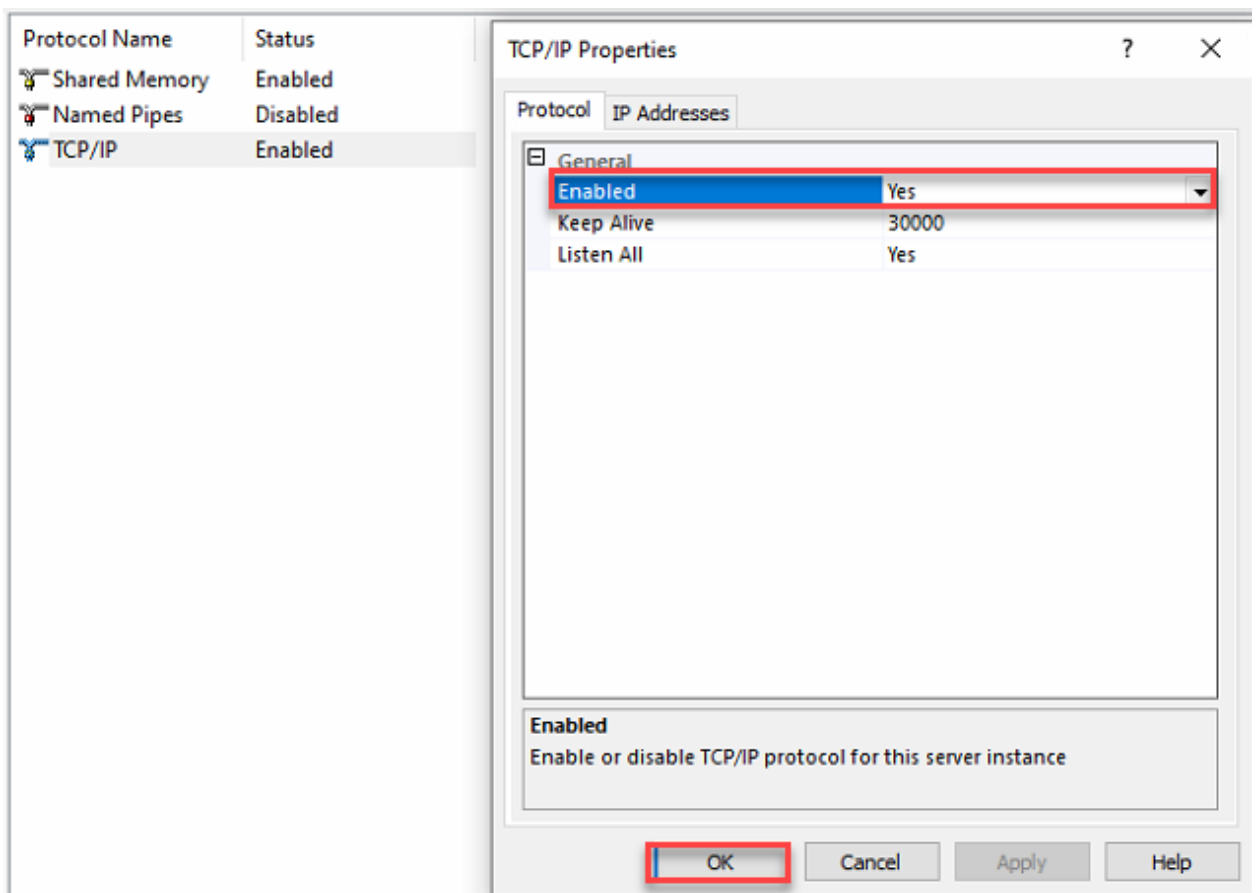
<https://grafana.com/grafana/plugins/grafana-image-renderer>

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1.3. MICROSOFT SQL Configuration Manager

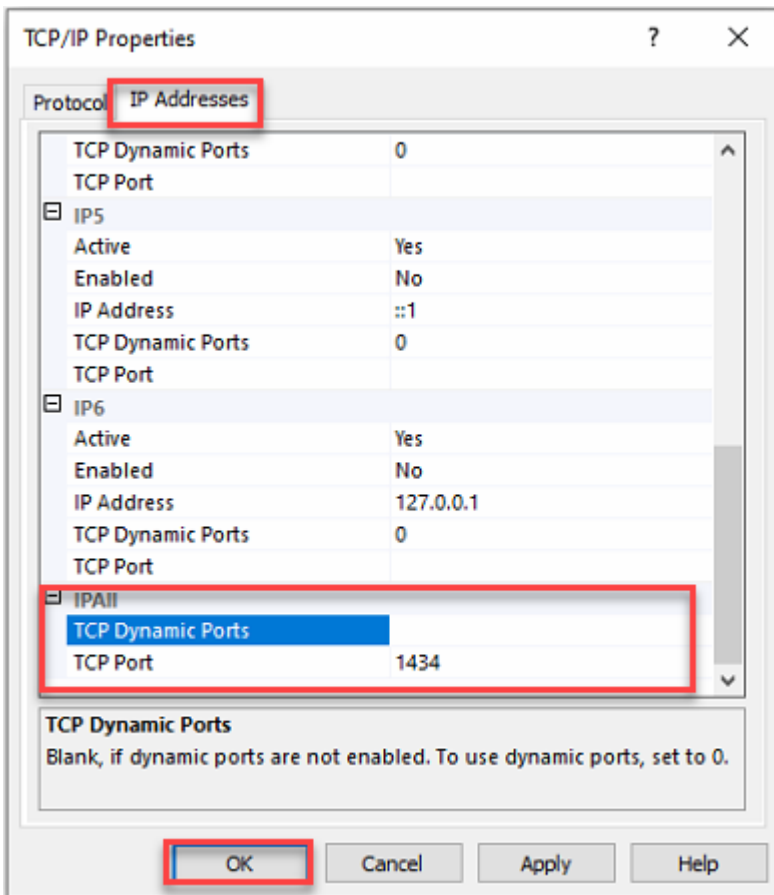
You can check this opening SQL Server Configuration Manager; this program can be found in Start-menu.

1. Start Microsoft SQL Server Configuration Manager
2. Select **Protocols for SQLEXPRESS**
3. Double-click top of the **TCP/IP**
4. Check that **TCP/IP** is enabled
5. Click **OK**

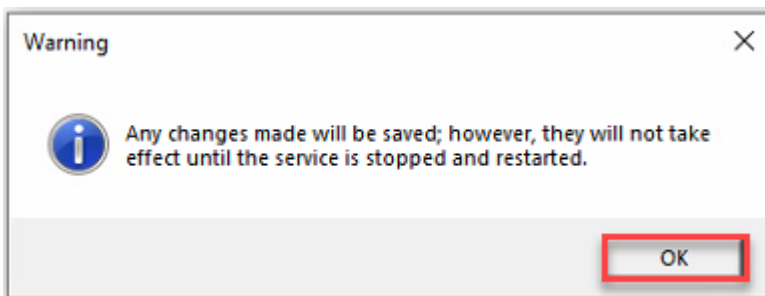


6. Open **IP addresses** tab
7. Find **IPALL**
8. Remove all numbers **TCP Dynamic Ports** field
9. When this is done, press **OK**

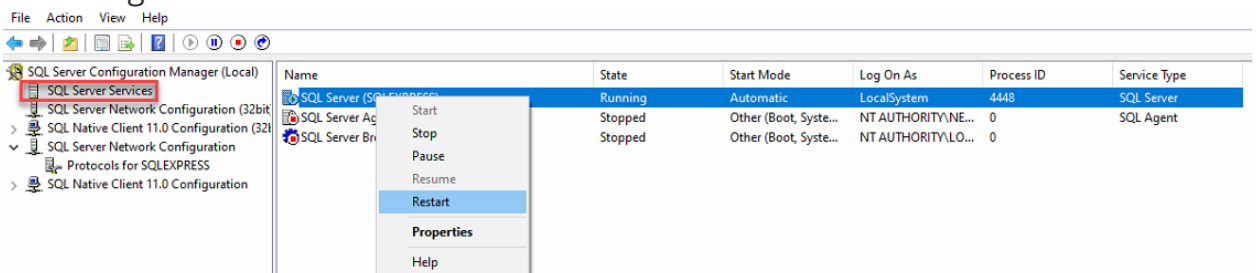
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and you should see the Warning message what is saying that you need to restart the SQL service.



1. Select SQL Server Services
2. Right mouse click and select **Restart**



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1.4. MICROSOFT SQL Server Management Studio

There is also an option that you want to create your own user account in Microsoft SQL which is used for reading database information.

You may need your own account if you want to example make the connection more secure.

When you have installed VMS using the Full Installer package this normally use only Windows Authentication.

This means that you need to enable Mixed Mode in Microsoft SQL which allow using your own account for database login.

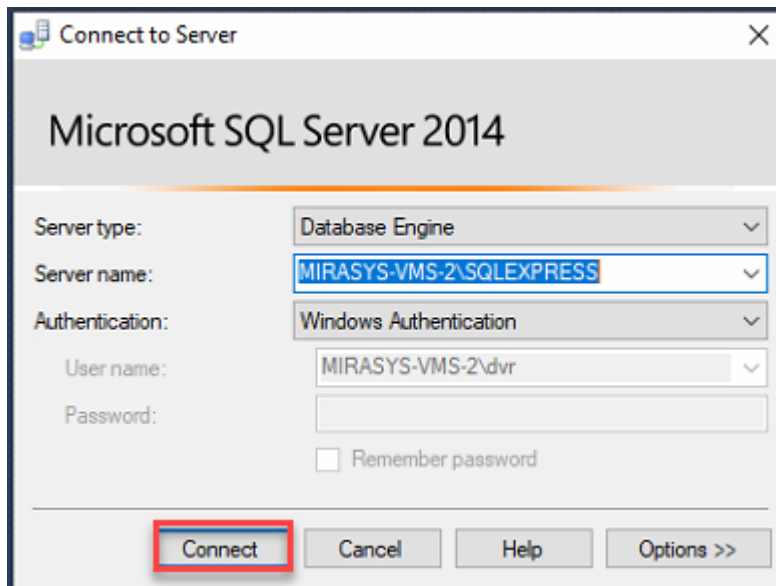
All needed changes and configuration for own user account can be done in Microsoft SQL Server Management Studio.

This program can be found in Start Menu.

1.4.1. MICROSOFT SQL account for the GRAFANA

Server Authentication

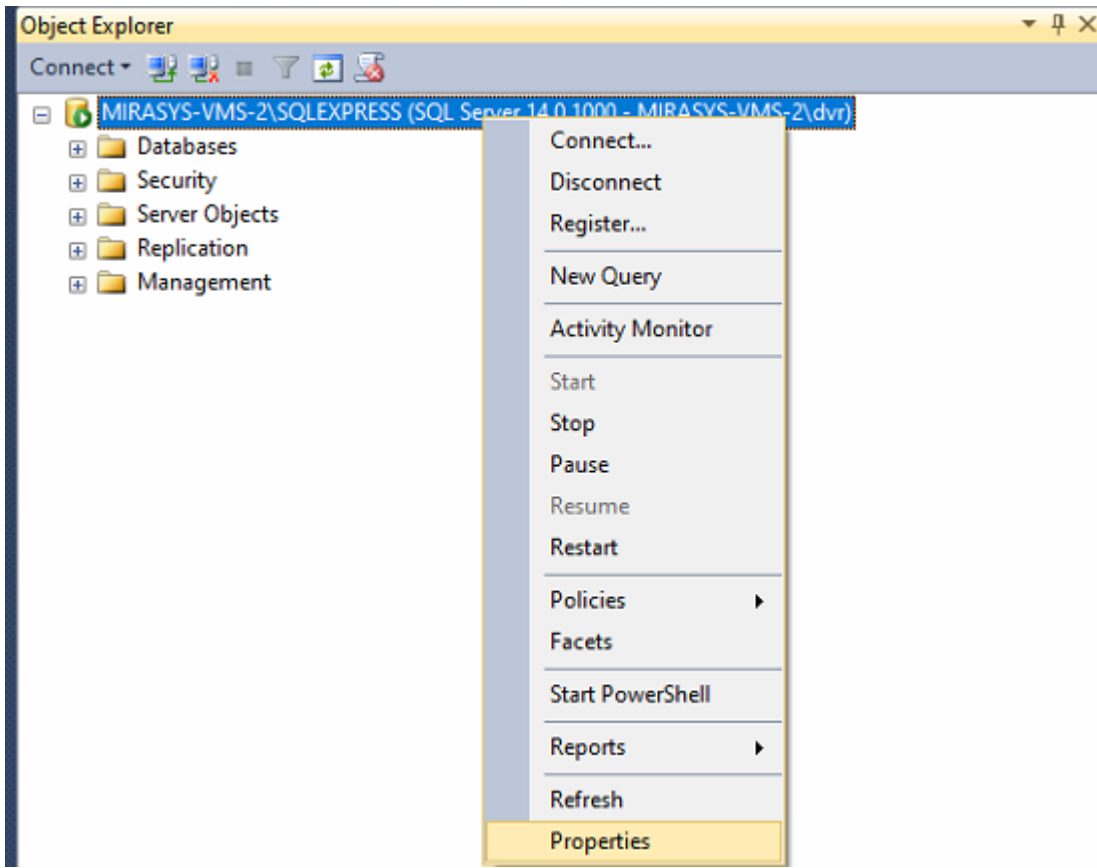
1. Start Microsoft SQL Server Management Studio
2. Click **Connect**



3. Select SQL Server and right-click
4. Select **Properties**



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5. Select **SQL Server and Windows Authentication mode**
6. Click **OK**



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Login - New

Select a page

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

Connection

Server: MIRASYS-VMS-2\SQLEXPRESS

Connection: MIRASYS-VMS-2\dvr

[View connection properties](#)

Progress

Ready

Script Help

Login name: GrafanaUser Search...

Windows authentication

SQL Server authentication

Password:

Confirm password:

Specify old password

Old password:

Enforce password policy

Enforce password expiration

User must change password at next login

Mapped to certificate

Mapped to asymmetric key

Map to Credential

Mapped Credentials

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

Add

Remove

Default database: master

Default language: <default>

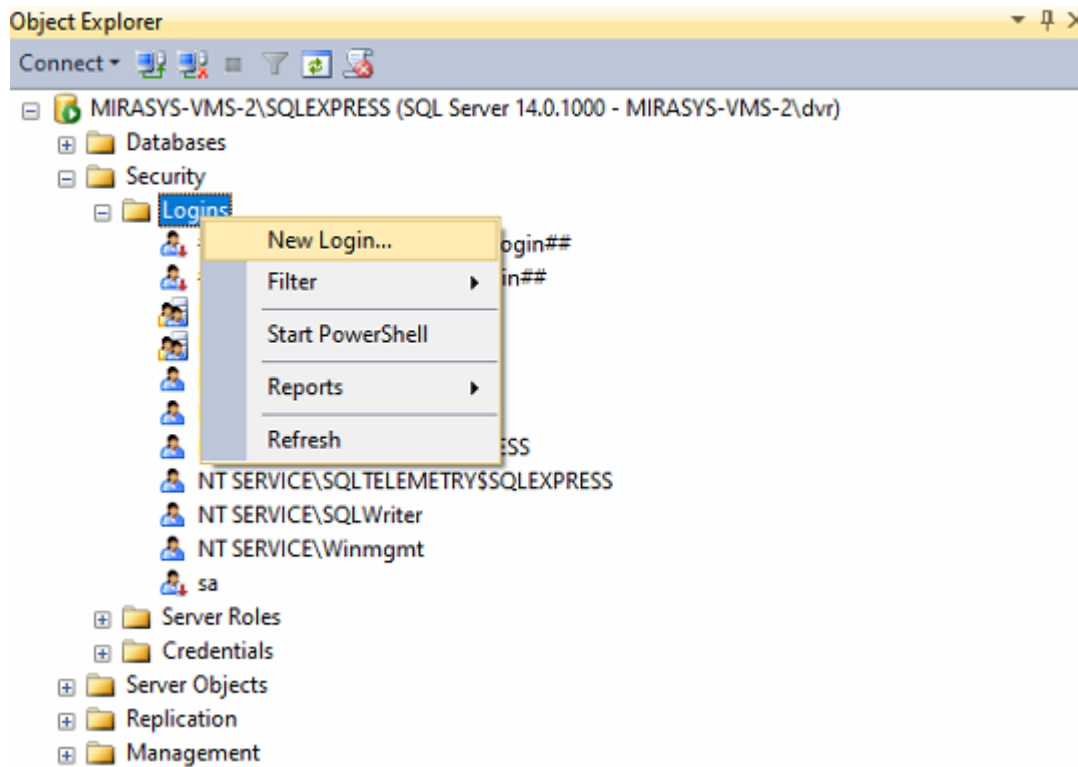
OK Cancel

Adding new user

1. Select **SecurityLogins**
2. Right-click top of the **Logins**
3. Select **New Login**



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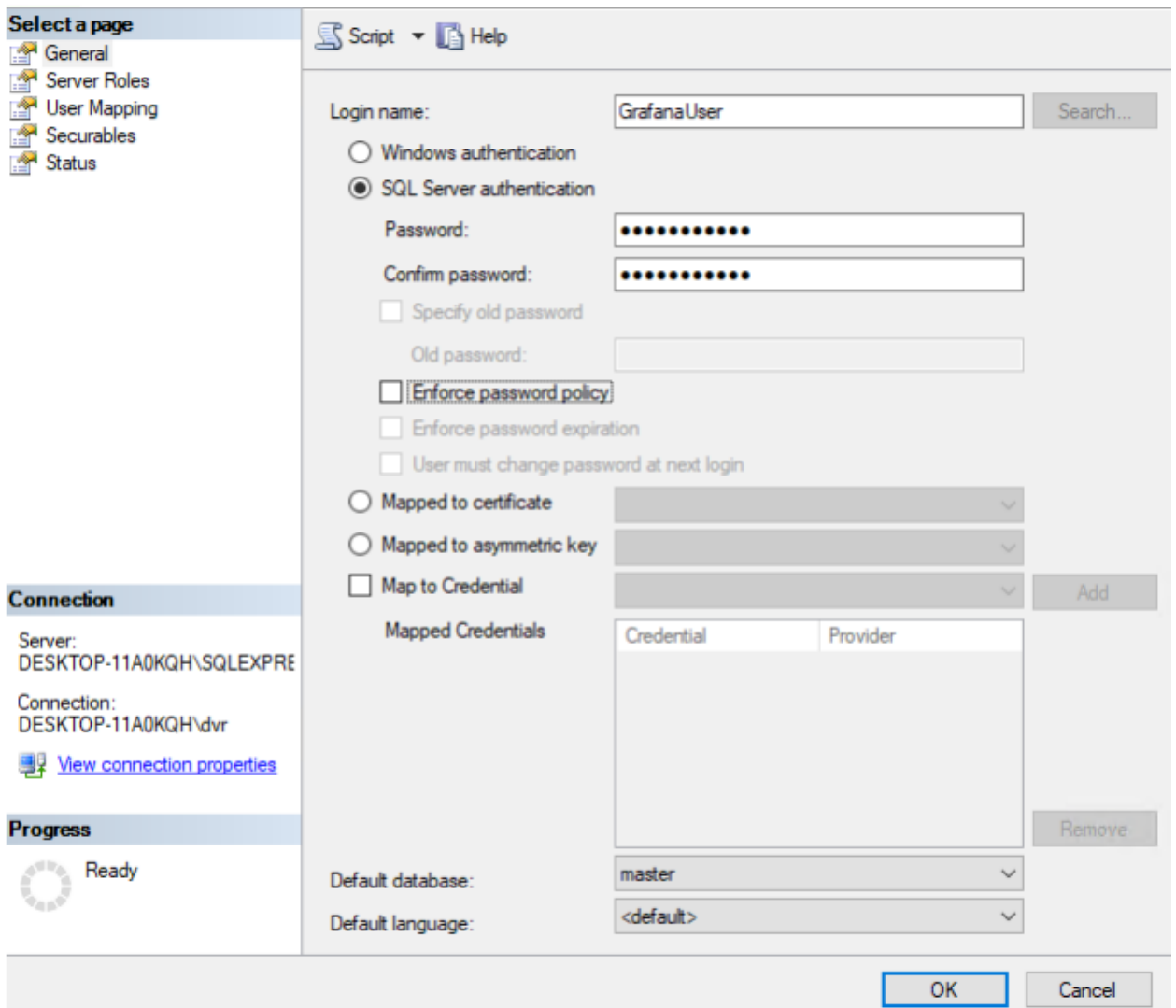


This will open a new window where you can fill in information for this new user.

Example

- Login name: GrafanaUser
 - SQL Server authentication
 - Password: GrafanaUser
 - Default database: master
4. Enter Login name
 5. Set **SQL Server Authentication**
 6. Enter **Password**
 7. Remove **Enforce password policy**
 8. Click **OK**

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Script Help

Select a page

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

Connection

Server: DESKTOP-11A0KQH\SQLEXPRES

Connection: DESKTOP-11A0KQH\dvr

[View connection properties](#)

Progress

Ready

Login name: GrafanaUser Search...

Windows authentication
 SQL Server authentication

Password:

Confirm password:

Specify old password
 Old password:

Enforce password policy
 Enforce password expiration
 User must change password at next login

Mapped to certificate
 Mapped to asymmetric key
 Map to Credential

Mapped Credentials

Credential	Provider

Default database: master

Default language: <default>

OK Cancel

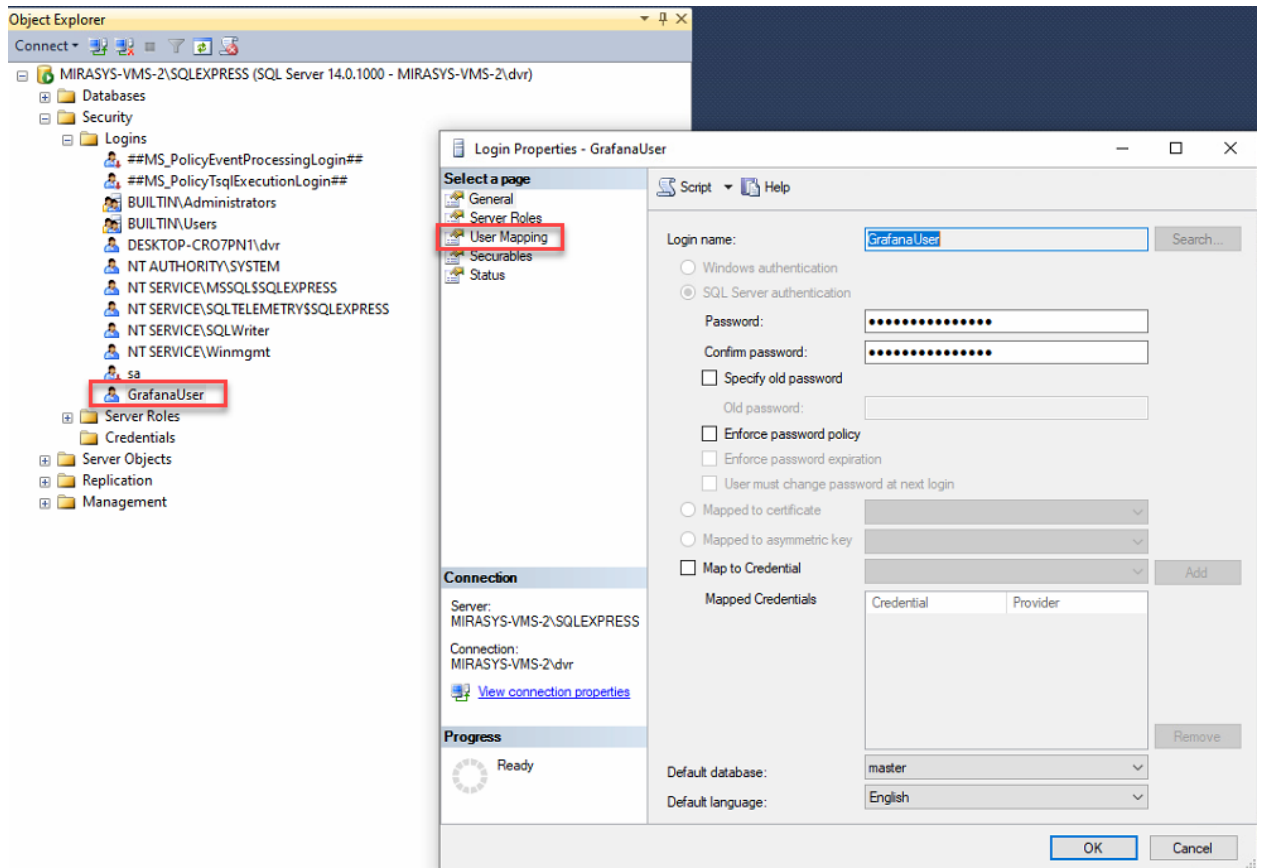
Giving access to the Mirasys VMS database

After this, you need to give rights for this user that they can access VMS databases.

1. Go to the User Mapping page



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2. Map
 - a. DvmsData
 - b. RecorderDB
 - c. WdContext
3. Give **db_datareader** role for each of these databases.
4. When you have done this you can click **OK**.



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Users mapped to this login:

Map	Database	User	Default Schema
<input type="checkbox"/>	Anpr		
<input type="checkbox"/>	ConfigurationDatabase		
<input checked="" type="checkbox"/>	DvmsData	GrafanaUser	...
<input type="checkbox"/>	Export		
<input type="checkbox"/>	IncidentReporting		
<input type="checkbox"/>	master		
<input type="checkbox"/>	model		
<input type="checkbox"/>	msdb		
<input checked="" type="checkbox"/>	RecorderDB	GrafanaUser	...
<input type="checkbox"/>	StorageLocker		
<input type="checkbox"/>	tempdb		
<input checked="" type="checkbox"/>	WdContext	GrafanaUser	...

Guest account enabled for: WdContext

Database role membership for: WdContext

- db_accessadmin
- db_backupoperator
- db_datareader
- db_datawriter
- db_ddladmin
- db_denydatareader
- db_denydatawriter
- db_owner
- db_securityadmin
- public

Enable ds_datareader and public to each

Server: MIRASYS-VMS-2\SQLEXPRESS
Connection: MIRASYS-VMS-2\dvr
[View connection properties](#)

Ready

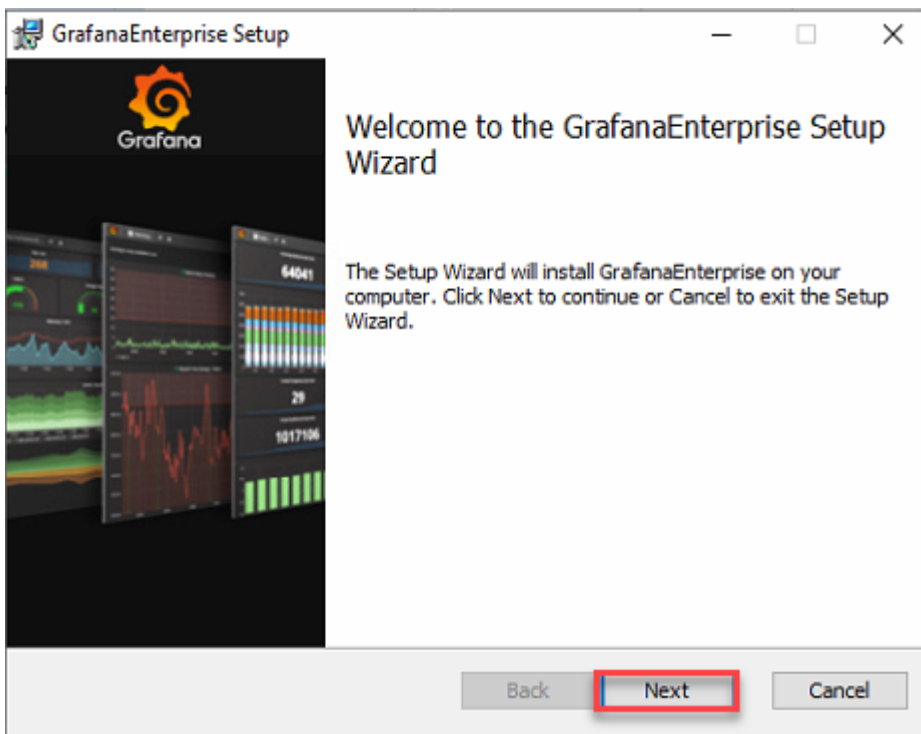
OK Cancel

1.5. Mirasys Reporting Grafana

1. Download package from Mirasys Extranet. The current version is 1.0.3
2. Extract downloaded package
3. Browse to the **Installation** folder
4. Start the installation by clicking the installation package

Name	Date modified	Type	Size
DvmsData.yaml	12.11.2021 9.25	YAML File	1 KB
grafana-enterprise-8.1.2.windows-amd64.msi	12.11.2021 9.25	Windows Installer ...	59 193 KB
grafana-image-renderer-3.0.1.windows-amd64.zip	12.11.2021 9.25	Compressed (zipp...	165 209 KB
michaeldmoore-multistat-panel-1.7.2.zip	12.11.2021 9.25	Compressed (zipp...	140 KB
SQLEXPRESS-openport.ps1	12.11.2021 9.25	Windows PowerS...	1 KB

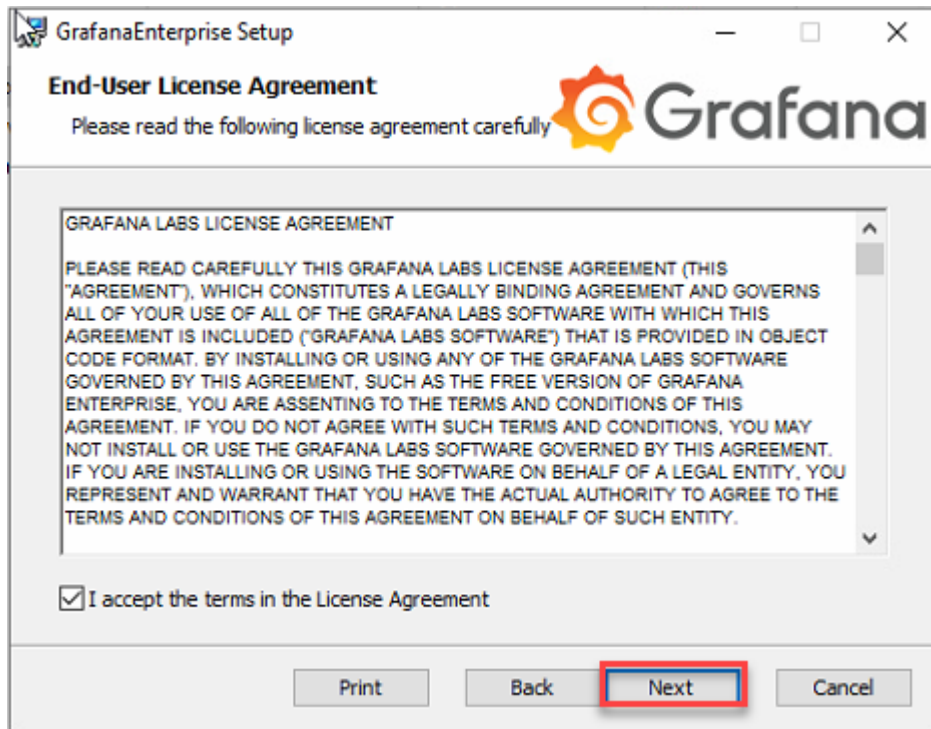
5. Click **Next**



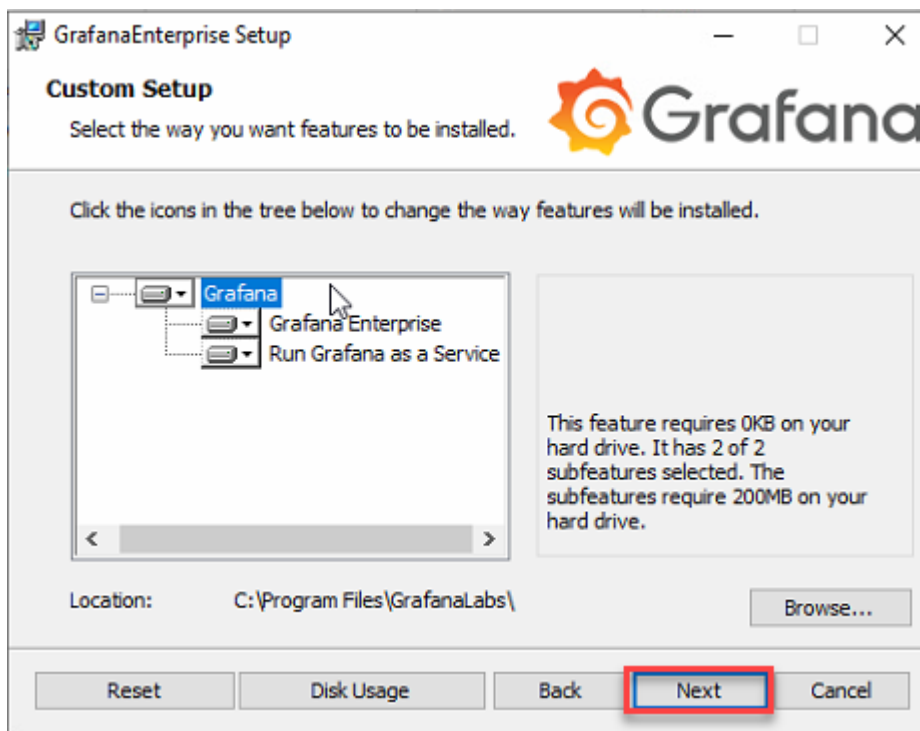
6. Accept the License Agreement and click **Next**



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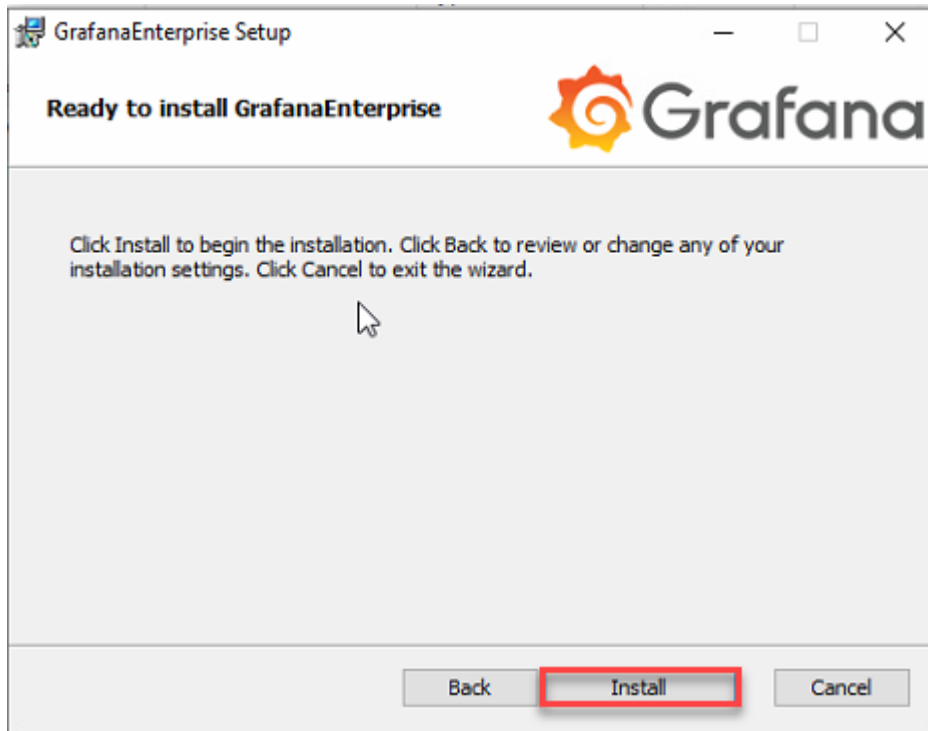
7. Use all default settings and click **Next**



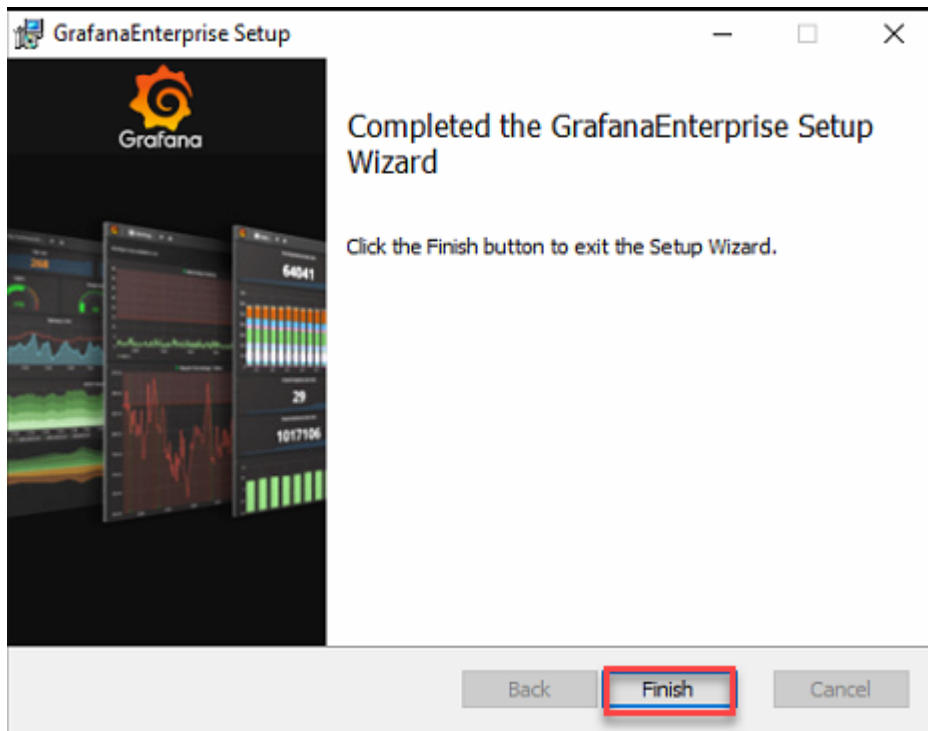
8. Click **Install**



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9. Click **Finish**



After the installation check that Grafana service is running

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Services		Name	Description	Status	Startup Type	Log On As
Grafana		GameDVR and Broadcast User Service_ac1cd	This user ser...		Manual	Local System
Stop the service		Geolocation Service	This service ...		Manual (Trig...	Local System
Pause the service		Grafana	Grafana by ...	Running	Automatic	Local System
Restart the service		GraphicsPerfSvc	Graphics pe...		Manual (Trig...	Local System
Description:		Group Policy Client	The service i...		Automatic (T...	Local System
Grafana by Grafana Labs		HP CASL Framework Service			Manual	Local System
		HP Support Solutions Framework Service	This service ...	Running	Automatic (...)	Local System

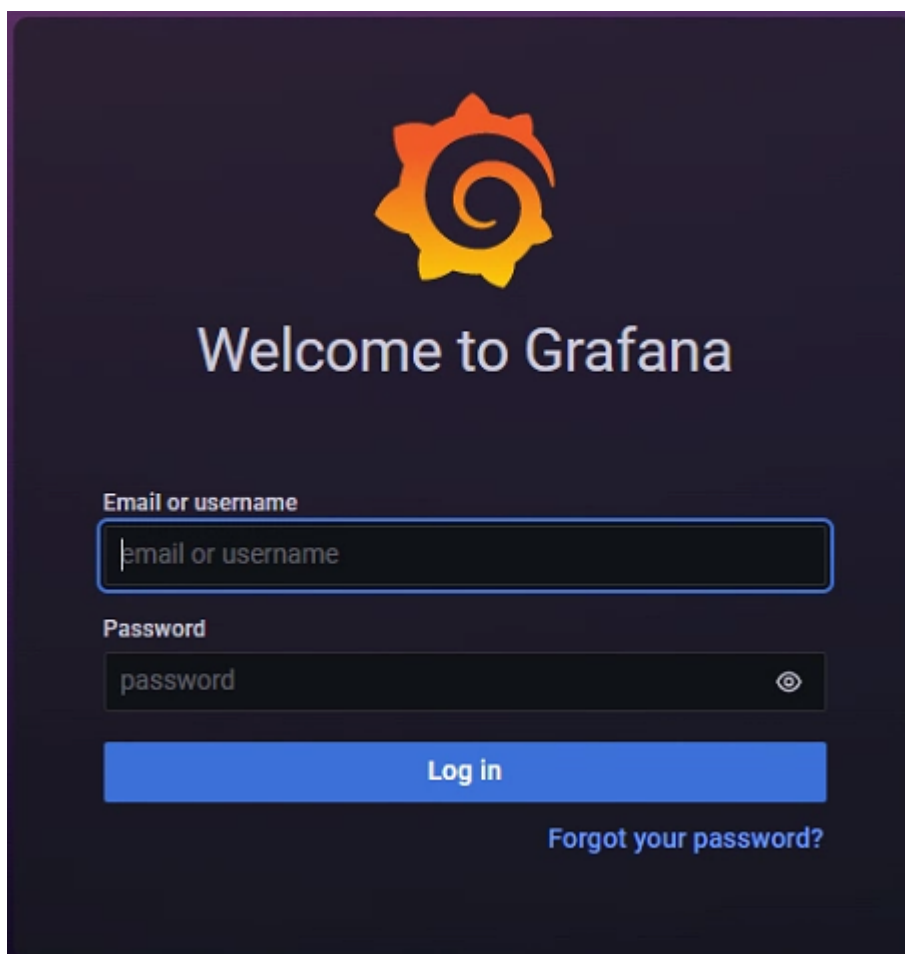
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1.6. Login Grafana

If the service is running, then open the browser on the master server and enter an address **http://127.0.0.1:3000**.

If you run the browser on some other machine, please enter the master server IP address instead of 127.0.0.1

The default username is **admin** and password **admin**. It is recommended to change the default password as soon as possible.



Set a new password for the admin user



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New password

Confirm new password

Submit

[Skip](#)



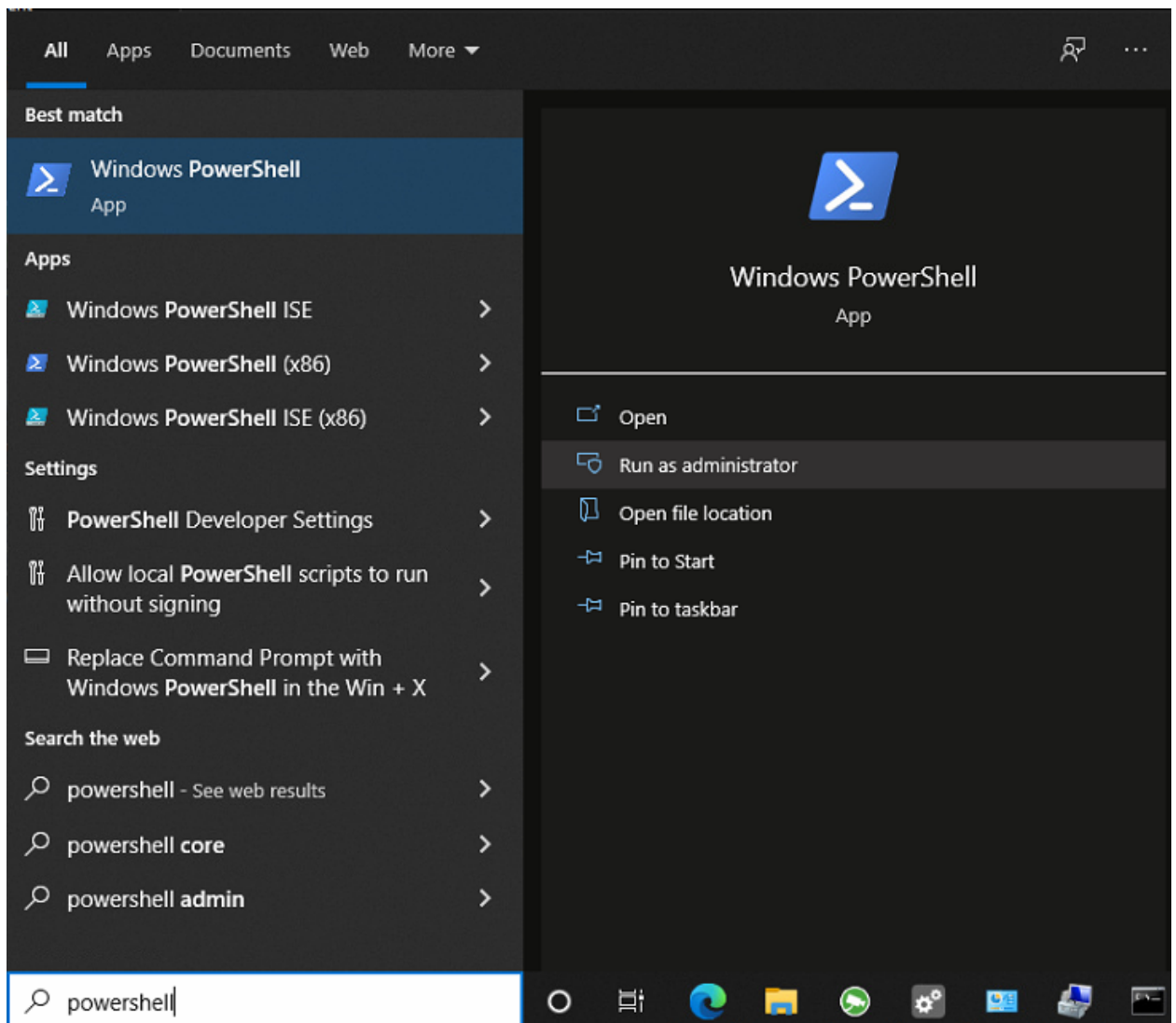
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1.7. Database configuration

Grafana will need access to the VMS DvmsData database running on the Master server.

Windows PowerShell

1. Create folder Grafana to the root of the C:
2. Browse to the extracted Grafana package Installation folder
3. Copy script file "**SQLEXPRESS-openport**" to the C:\Grafana
4. Open search and type PowerShell
5. Select **Windows PowerShell** and click **Run as administrator**



6. Browse to the C:\Grafana
7. Type **SQLEXPRESS-openport.ps1** and press **Enter**



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8. Close PowerShell

```
PS C:\> cd .\Grafana\  
PS C:\Grafana> dir  
  
Directory: C:\Grafana  
  
Mode                LastWriteTime         Length Name  
----                -  
-a----             11.6.2020      13.50           578 SQLEXPRESS-openport.ps1  
  
PS C:\Grafana> .\SQLEXPRESS-openport.ps1
```

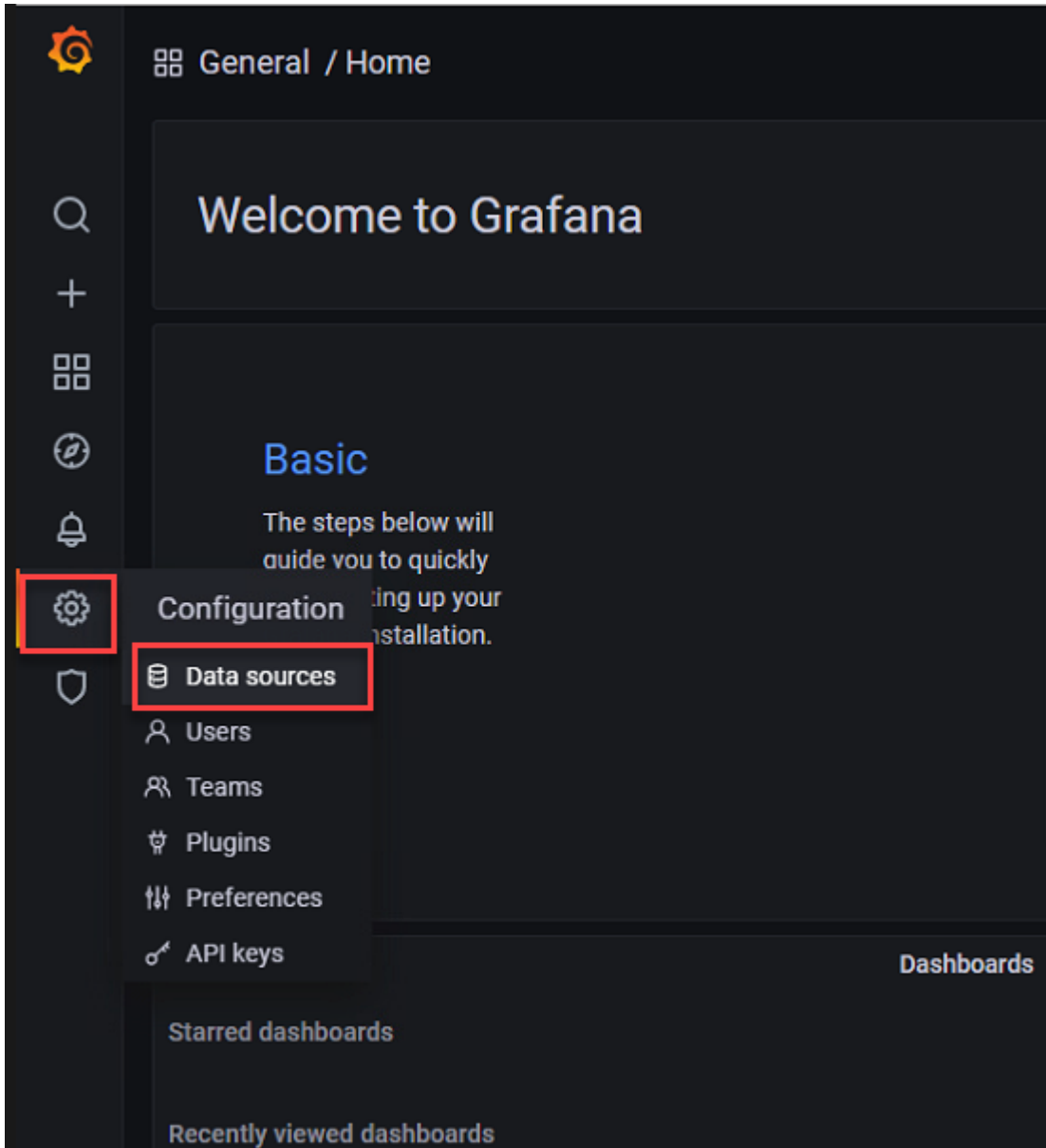
Database credentials

As default **DvmsData.DB** uses credentials **dvr** and password **32dvr**

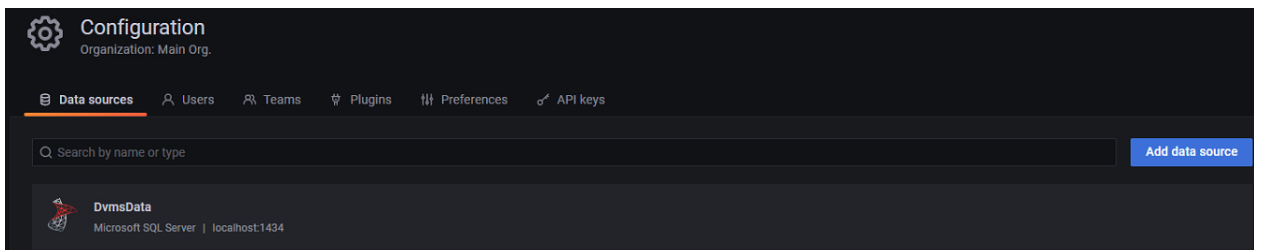
1. Open **Configuration**
2. Click **Data sources**



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DvmsData should be found from the **Data sources** list



Changing database credentials

1. Click **DvmsData**
2. Change username and password, if needed

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Provisioned data source
This data source was added by config and cannot be modified using the UI. Please contact your server admin to update this data source.

Name: DvmsData Default

MS SQL connection

Host: localhost:1434
Database: DvmsData
Authentication: SQL Server Authentication

User: .\dvr Password: configured Reset

Encrypt: false

Connection limits

Max open: 0
Max idle: 2
Max lifetime: 14400

MS SQL details

Min time interval: 1m

Testing database connection

Click **Test**

User Permission

The database user should only be granted SELECT permissions on the specified database and tables you want to query. Grafana does not validate that queries are safe so queries can contain any SQL statement. For example, statements like `USE otherdb;` and `DROP TABLE user;` would be executed. To protect against this we highly recommend you create a specific MS SQL user with restricted permissions.

Back Delete Test

If credentials and connection to the database are okay, you will see the **Database Connection OK** message

User Permission

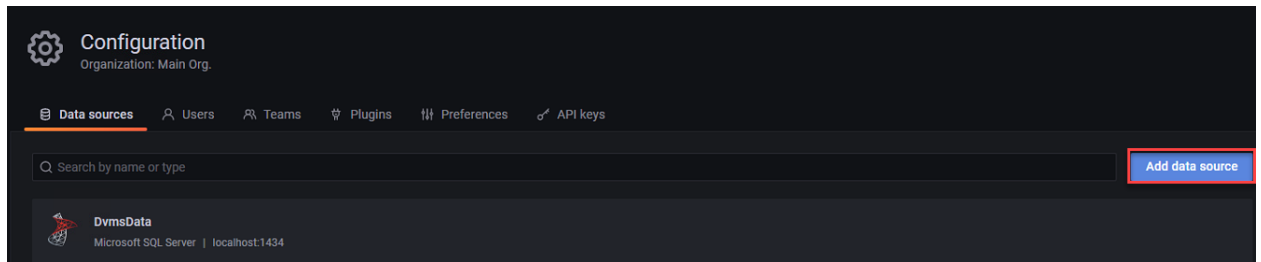
The database user should only be granted SELECT permissions on the specified database and tables you want to query. Grafana does not validate that queries are safe so queries can contain any SQL statement. For example, statements like `USE otherdb;` and `DROP TABLE user;` would be executed. To protect against this we highly recommend you create a specific MS SQL user with restricted permissions.

✓ Database Connection OK

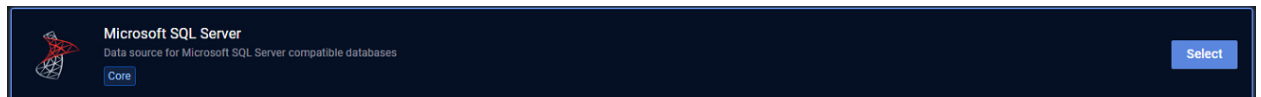
Adding a new data source

RecorderDB

1. Click **Add data source**



2. Find **Microsoft SQL Server** and click **Select**



3. Set **Name: RecorderDB**
4. Set **Host: localhost:1434**
5. Set **Database: RecorderDB**
6. **Authentication: SQL Server Authentication**
7. Set **user and password**
8. Click **Save & Test**



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Name Default

MS SQL connection

Host

Database

Authentication

User Password Reset

Encrypt

Connection limits

Max open

Max idle

Max lifetime

MS SQL details

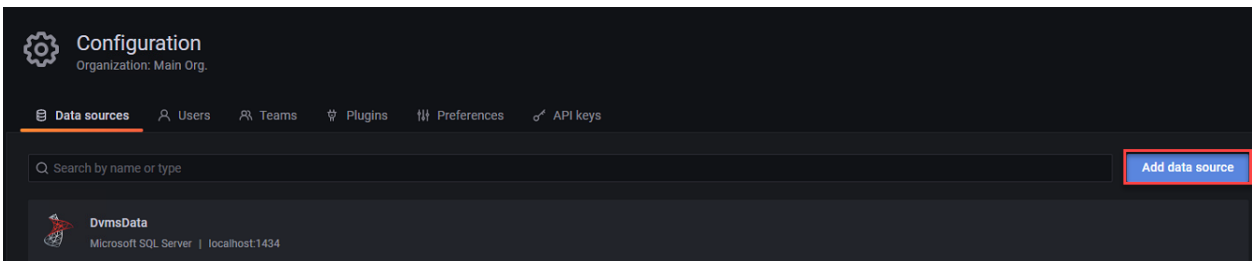
Min time interval

When Grafana is connected to the database, you will see the message **Database Connection OK**

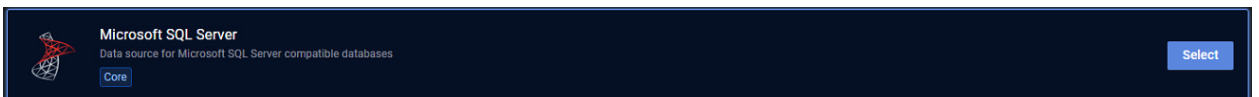


WDContext.DB

1. Click **Add data source**

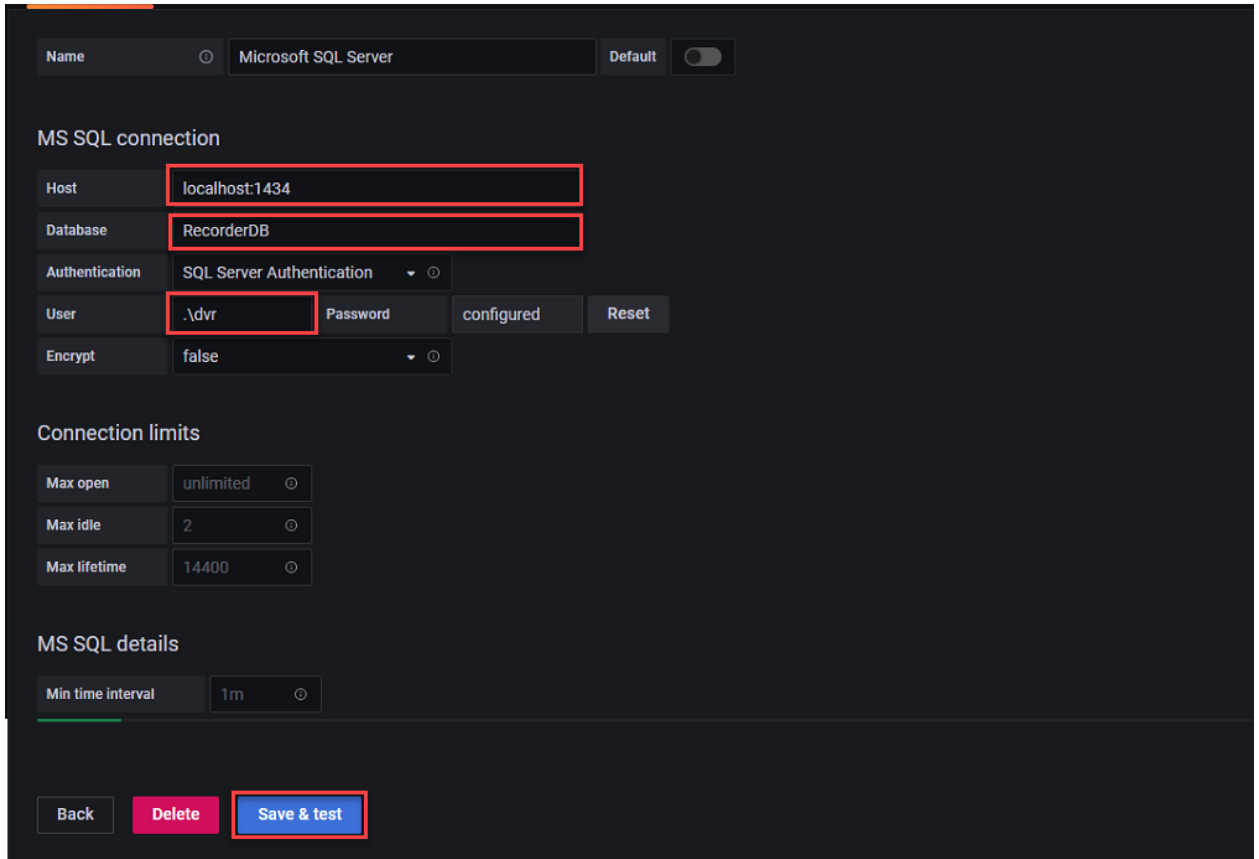


2. Find **Microsoft SQL Server** and click **Select**



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3. Set **Name: WDContext**
4. Set **Host: localhost:1434**
5. Set **Database: WDContext**
6. **Authentication: SQL Server Authentication**
7. Set **user and password**(please set .\ before of the username, if Windows credentials is used)
8. Click **Save & Test**



Name Default

MS SQL connection

Host

Database

Authentication

User Password Reset

Encrypt

Connection limits

Max open

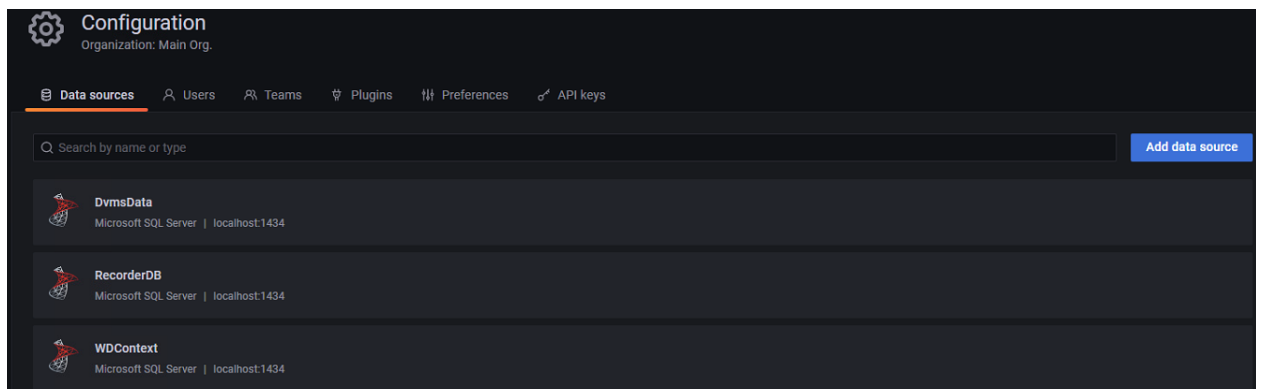
Max idle

Max lifetime

MS SQL details

Min time interval

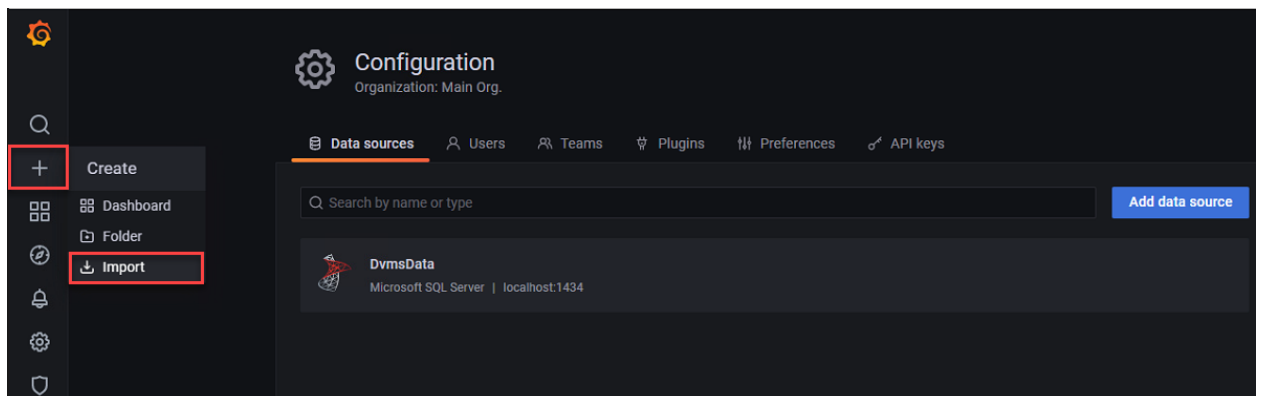
Data sources should look like below



1.8. Importing dashboards

The next step is to import Mirasys VMS Audit Trail and VMS Alarms dashboards into the Grafana tool

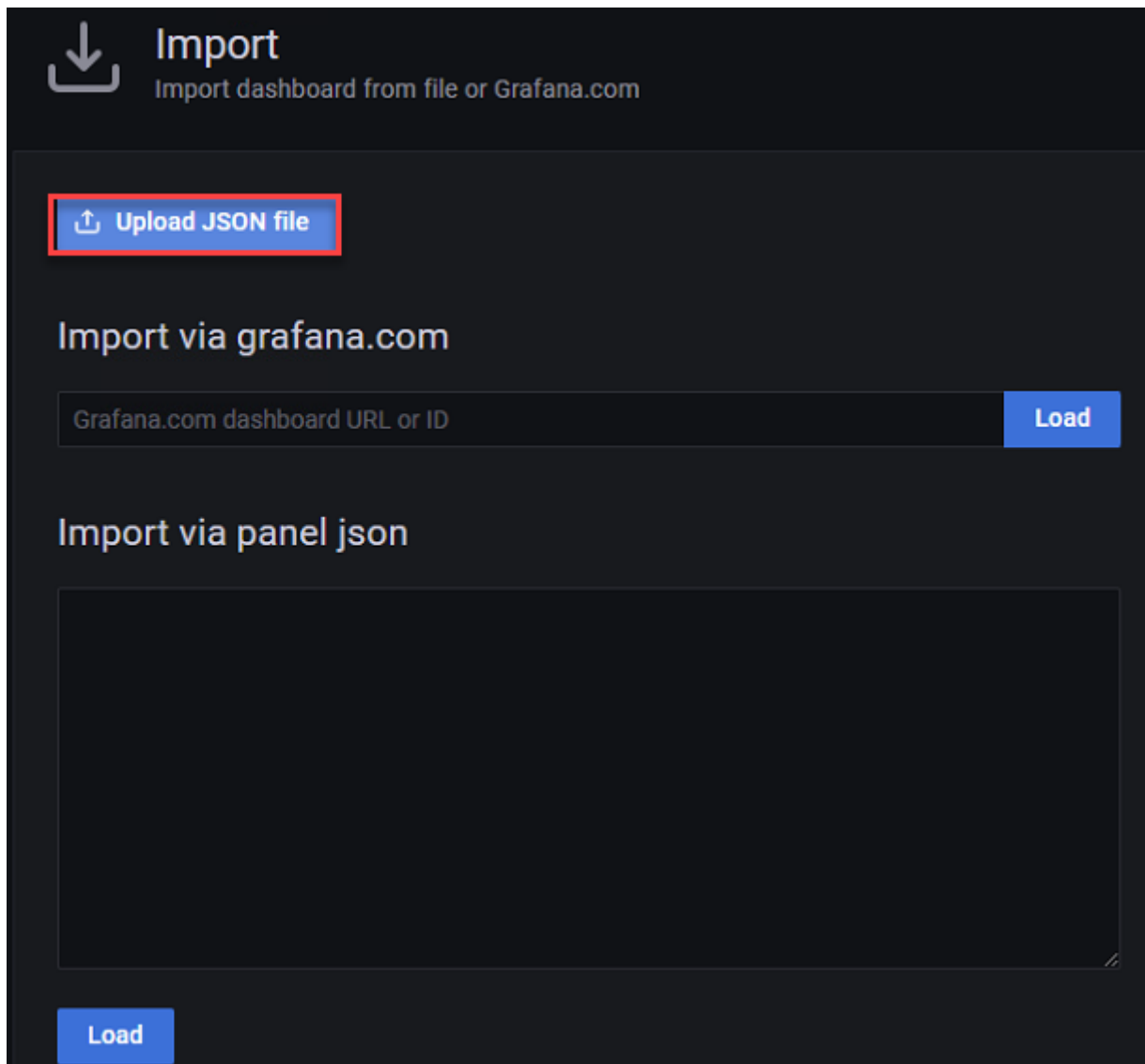
1. Browse to extracted Grafana package
2. Copy **Dashboards** folder to the **C:\Grafana**
3. Hover over the “+” sign (left upper corner) and select+click “Import” menu item



4. Click **Upload JSON file**



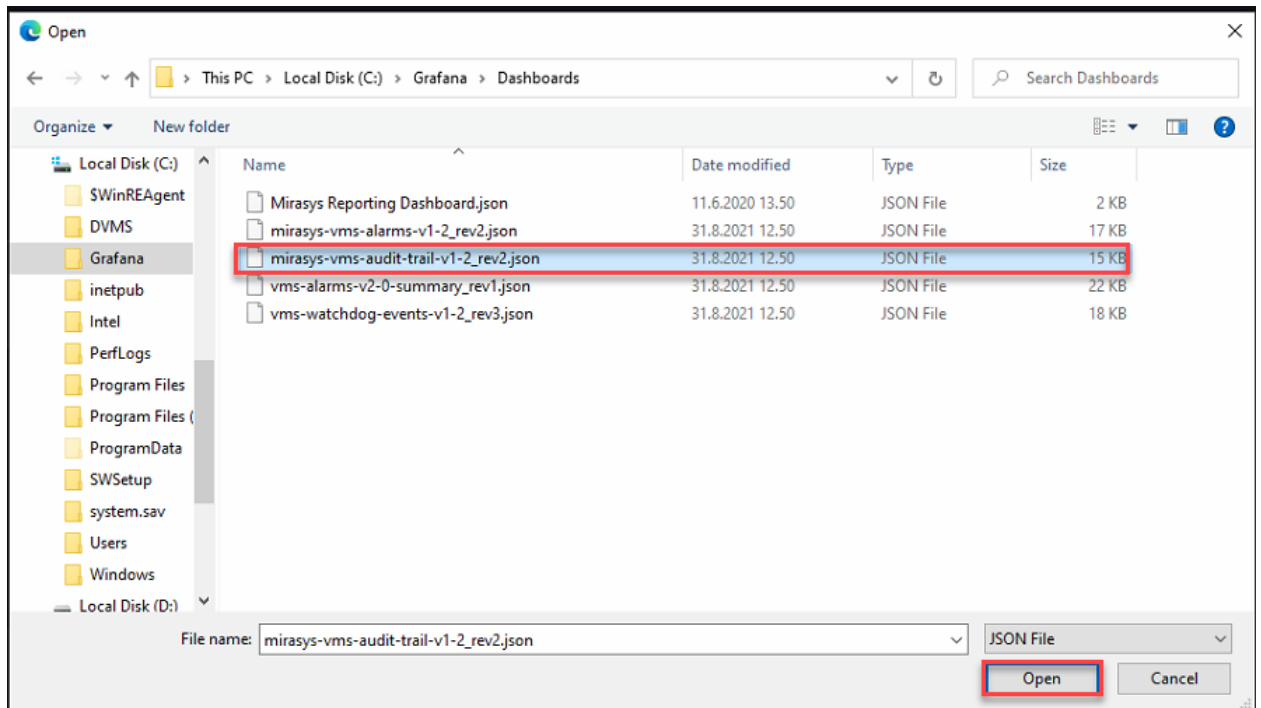
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5. Select file "mirasys-vms auditTrail-v1-2_rev2.json"
6. Click **Open**



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7. Select **DvmsData** from the Microsoft SQL Server data source dropdown box
8. Click **Import**

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Import
Import dashboard from file or Grafana.com

Options

Name
Mirasys VMS Audit Trail V1.2

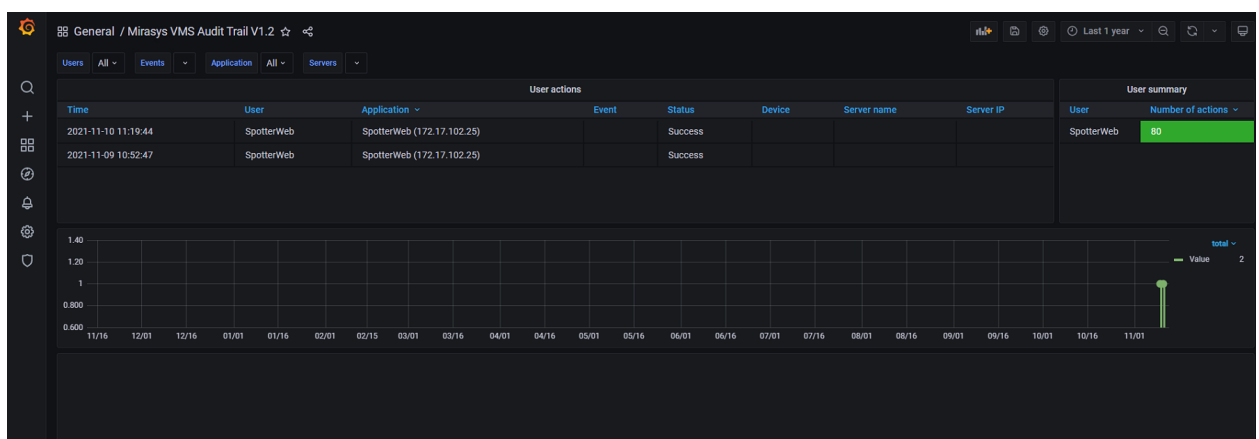
Folder
General

Unique identifier (UID)
The unique identifier (UID) of a dashboard can be used for uniquely identify a dashboard between multiple Grafana installs. The UID allows having consistent URLs for accessing dashboards so changing the title of a dashboard will not break any bookmarked links to that dashboard.
bzWCt0Vnk Change uid

DvmsData
DvmsData

Import Cancel

When template import is done, Grafana will automatically run the report and show results:



Before starting to use reports, repeat template import for all "DVMS*.json" files in this order:

- VMS Audit Trail

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- VMS Alarms
- VMS Watchdog Events