KOENIG & BAUER

Kyana Connect Manual – Edge Onboarding

Inhalt

1. Introduction

This document is a step-by-step guide that instructs the user on how to properly set up an edge hardware device (Dell Edge Gateway 5200), prepare it for edge software installation, and properly install the Kyana Connect software on the edge device for the first time.

Please read the "Kyana Connect Manual – Edge Onboarding" to understand how to navigate the Kyana Connect web application interface.

2. Edge Gateway configuration requirements

This section details the minimum recommended configurations for an edge gateway to ensure optimum performance and experience of the Kyana Connect solution.

2.1. Configuration requirements for Linux operating systems

1. Linux based OS such as Ubuntu server 20 LTS and onwards
2. RAM storage of 16 GB (1GB for ubuntu, 2 GB for C-Iota container and docker host)
3. Minimum disk space of 16 GB (2 GB for docker images, 2.5 GB for Ubuntu OS, 2 GB for C-Iota configurations and log files, the rest for maintaining data buffer and SMB/FTP data files)
4. Processing speed of 2 GHz or better
5. Support for Docker

2.2. Configuration requirements for Windows operating systems

1. Windows OS versions Windows 11, Windows 10 version 1903 or higher (x64 systems), Windows 10 version 2004 or higher (ARM64 systems), Windows Server 2022

2. RAM storage of 16 GB (4 GB for Windows, 2 GB for C-IoTA container and docker host)

3. Minimum disk space of 64 GB as specified by Microsoft for smooth functioning of windows system (2 GB for docker images, 2 GB for C-IoTA configurations and log files, the rest for maintaining data buffer and SMB/FTP data files)

4. Processor x64, ARM64 with processing speed of 2 GHz with 2 cores or better

5. Support for WSL2

6. Support for Docker

7. Virtualisation needs to be activated (https://support.microsoft.com/en-us/windows/enable-virtualization-on-windows-c5578302-6e43-4b4b-a449-8ced115f58e1)

Note: The configurations are recommended for optimal performance of Kyana Connect for one Edge - multiple connections to data sources of all types (FTP, SMB, OPC UA, MDC).

2.3. Network configuration

The network configuration for connecting Kyana Connect to a machine or to LogoTronic and the

Koenig & Bauer Cloud varies according to the Embedded or Scale option used.

To ensure optimum performance of Kyana Connect, two different variants are available:

- Scale: With this installation option Kyana Connect is installed on a virtual machine, server or other hardware in your network. This allows multiple machines, including third-party machines, to be connected to a single Kyana Connect instance.

- Embedded: With this installation option, Kyana Connect is installed on physical hardware directly on the machine. This requires the purchase and installation of additional hardware and a separate instance of Kyana Connect per machine.

For the initial installation, Kyana Connect needs to be able to update and download various packages such as gCloud or Docker via the public internet. After the initial installation, this access can be closed and only the 'Network Configuration Embed operation' or 'Network Configuration Scale operation' is required.

2.3.1 Scale network configuration

The network must be configured according to the data to be securely transferred to the cloud. Kyana Connect must be connected to both the Koenig & Bauer Cloud and the machine(s).

Example:
If a Rapida machine is to be connected, port 445 between Kyana Connect and the machine (Rapida) must be opened in the network (as well as in the firewalls, which normally already allow the traffic or have been prepared by the Koenig & Bauer service). Kyana Connect must also be able to communicate with the Koenig & Bauer Cloud. If no other data packets or machines are to be connected, this is the only relevant configuration.

	Target system	Data source	Protocol	Port(s)	URL / IP
Kyana Connect	Koenig & Bauer Cloud	–	HTTPS	443	mykyana.koenig-bauer.com
Kyana Connect	Koenig & Bauer Cloud	–	MQTTS	8883	kyana-connect.koenig-bauer.com
Kyana Connect	Rapida	Log	SMB	445	IP of the machine
Kyana Connect	LogoTronic	Production	FTP	21, 65000- 65001	IP of the machine
Kyana Connect	RotaJET	Live	TCP	1623	IP of the machine
Kyana Connect	RotaJET	Reports	FTP	21, 65000-65001	IP of the machine
Kyana Connect	Google Cloud	-	HTTPS	443	storage.googleapis.com
Kyana Connect	Google Cloud	-	HTTPS	443	europe-west3-docker.pkg.dev
Kyana Connect	Google Cloud	-	HTTPS	443	download.docker.com

2.3.2 Embedded network configuration

With this option, Kyana Connect is integrated into the machine. The network configuration between the machine and Kyana Connect must therefore be the same.

	Target system	Data source	Protocol	Port(s)	URL / IP
Kyana Connect / Maschine	Koenig & Bauer Cloud	–	HTTPS	443	mykyana.koenig-bauer.com
Kyana Connect / Maschine	Koenig & Bauer Cloud	–	MQTTS	8883	kyana-connect.koenig-bauer.com

3. Installation of the Edge software

An installation script (Linux operating system) or an installation file (Windows operating system) will be sent to you by e-mail from your Koenig & Bauer contact at:
digitalisation@koenig-bauer.com

3.1. First time installation for Linux

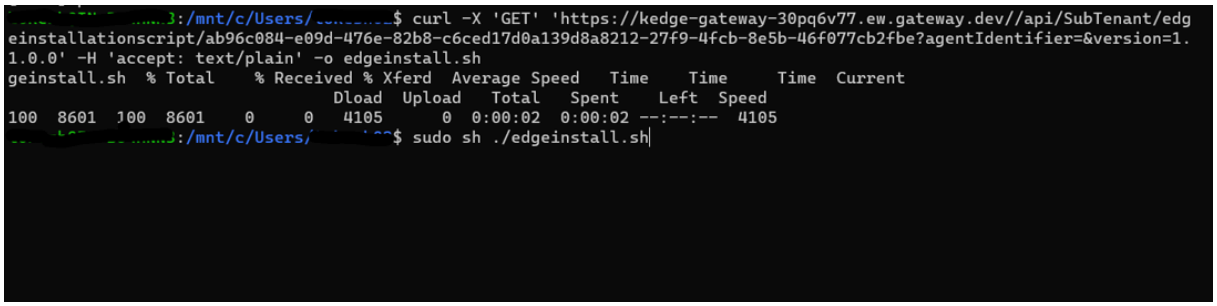

Figure 1: Automated script in Edge terminal

1. Insert the script created in Section 11 into the Edge terminal registered in Section 5 and run it (see Figure 1).

2. All further steps will be carried out automatically by the script.

3. Please contact your Koenig & Bauer representative so that your Kyana Connect can be authorised immediately.

4. Optional: To verify the installation, you can view your Edge Agent Identifier as shown in Figure 2. If the file and identifier are present, the installation was successful.

```
cat /home/ubuntu/ciota/config/edge_installer_config.json
```

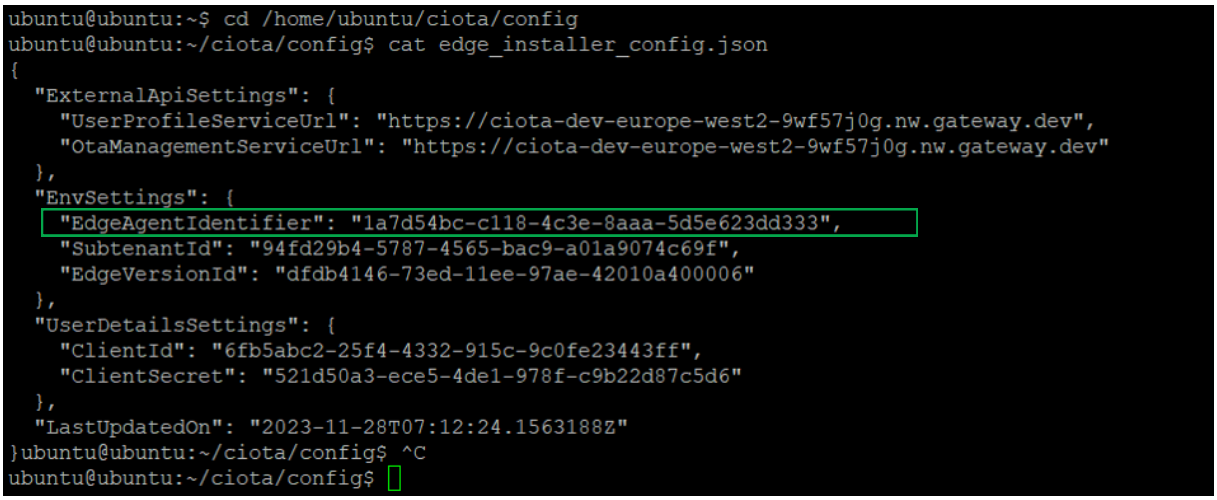

Figure 2: Edge Gateway ID on Edge Terminal

3.2. First time installation for Windows

1. Run the installation file with administrator privileges and wait 10-15 minutes for the installation to complete.

2. All further steps will be carried out automatically by the script.

3. Please contact your Koenig & Bauer representative so that your Kyana Connect can be authorised immediately.

Congratulations, you are online!

4. Problems with the installation?

4.1. Commands for network debugging

If problems occur during installation, a structured approach to analysing them is provided here. There are two basic commands that are useful for analysing networks. The following "ping-command" can be used to check if a connection can be established, where 'IP_ADDRESS' has to be replaced by the target IP address.

```
ping IP_ADDRESS
```

A connection can be established for the ping if you receive a response like the one shown here, modified with the destination IP address.

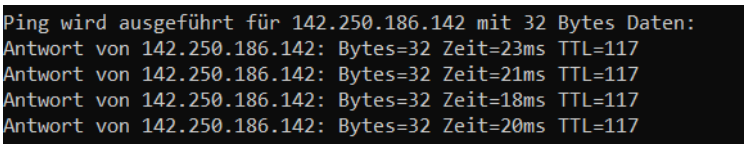

Figure 3: Response signalling that a ping connection can be established

If the response is as shown in the figure below, there is a problem with the ping connection and further analysis must be carried out, as explained below.

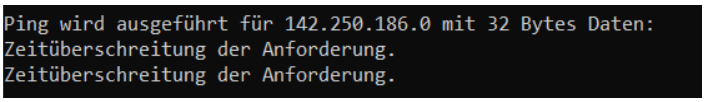

Figure 4: Response signalling that a ping connection cannot be established due to a problem

Based on this, a 'Telnet connection' to the destination IP address can be checked for specific ports, analogue to the protocols used, using the following command. Replace IP_ADDRESS with the destination IP address. Replace PORT with the port number. The relevant ports are listed in the table above.

```
telnet IP_ADDRESS PORT
```

For example, the command to check the 'HTTPS port' is PORT = 443 to the IP_ADDRESS = 142.250.186.142 of google.com:

```
telnet 142.250.186.142 443
```

If a connection can be made, a black terminal appears.

If a connection is not possible, a timeout "Could not connect to host,..." will appear after some time. If this response appears, there is a problem with the connection and further analysis is required.

4.2. Analysing the connections

To analyse the connections, please ensure that the following information is available and that the contact person is available to activate the network, e.g. via a firewall:

IP_ADDRESS_MYKYANA
IP_ADDRESS_MACHINE

4.2.1 Kyana Connect - myKyana

The first step is to check the connection between the Kyana Connect system, the system on which Kyana Connect is installed and the Koenig & Bauer Cloud. This is done by first running the ping command

```
PING IP_ADDRESS_MYKYANA
```

Make a note of the result.
Then run the Telnet command with PORT = 443 (HTTPS) and note the result.

```
TELNET IP_ADDRESS_MYKYANA 443
```

Then run the Telnet command with PORT = 8883 (MQTTS) and note the result.

```
TELNET IP_ADDRESS_MYKYANA 8883
```

If all tests are successful, you can proceed to the next step. If the Telnet command succeeds and the Ping command fails, you can continue in the same way. Ping commands can be blocked on the network, which is generally not a problem for the connection, but the test is still a good indicator.

If any of the Telnet commands are unsuccessful, please check with your network contact if there is a firewall rule allowing outgoing traffic (from your network to a website/IP) on the relevant port, please authorise it and perform the test again.

4.2.2 Kyana Connect - Machine

The second step is to check the connection between the Kyana Connect system, the system on which Kyana Connect is installed and your machine. This is done by first running the ping command.

```
PING IP_ADDRESS_MACHINE
```

Make a note of the result.
Depending on the machine, please carry out the following tests for all relevant ports according to the table above and make a note of the results.

```
TELNET IP_ADDRESS_MACHINE PORT
```

If all tests are successful, or if the Telnet command is successful and the Ping command is unsuccessful, then the network settings in the system are correct. If you continue to experience problems, please contact your Koenig & Bauer representative for the best assistance.

If any of the Telnet commands are unsuccessful, please check with your network contact to see if there is a firewall rule authorising outgoing traffic (from your network to a website/IP) on the relevant port, authorise it and try again. If you continue to experience problems, please contact our experts to ensure you receive the best possible assistance.