

Xesar

Installation instructions Server with Ubuntu 22.04

Imprint

Product code: I.X.3-2-UBUN.AN.INST.SEN.LN | 24R1

Version: Xesar 3.2 | 3.2.x

Edition: 04/2024 UK

The original operating manual was written in German.

Publisher

EVVA Sicherheitstechnologie GmbH

Responsible for content

EVVA Sicherheitstechnologie GmbH

This edition shall not longer be valid upon publication of a new system manual.

You can find the latest edition in the EVVA download area:



<https://www.evva.com/uk-en/service/downloads/>

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1 Introduction

This document is an excerpt from the Xesar 3.1 system manual.

The products and/or systems described in the Xesar system manual must exclusively be operated by persons that have been adequately qualified for the corresponding task. Qualified personnel is able to identify risks when handling products/systems and prevent potential hazards on the basis of their expertise.

1.1 General legal notes

EVVA shall conclude the contract for the use of Xesar on the basis of the EVVA GTC (General Terms and Conditions) and EVVA GTC (General Terms and Conditions) for the software for the product.

You can call up the EVVA General Terms and Conditions and EVVA General Terms and Conditions:

 <https://www.evva.com/uk-en/legal-notice/>



Please note that the use of the Xesar locking system may trigger legal obligations, in particular data protection authorisation, reporting and registration obligations (e.g. when setting up an information network system), as well as employee co-determination rights when used in companies. The user shall bear the responsibility for the legally compliant use of the product.



The above information must be observed in accordance with the manufacturer's liability for its products as defined in the Product Liability Act and must be communicated to operators and users. Non-compliance releases EVVA from any liability.

Unauthorised use, repair work or modifications not authorised by EVVA and improper service may lead to malfunctions and must therefore be avoided. Changes not expressly approved by EVVA will result in the loss of liability, warranty and separately agreed guarantee claims.



Keep the system components away from small children and pets. Risk of suffocation due to small parts that can be swallowed.



EVVA provides **architects and consulting institutions** with all the product information they need to comply with their information and instruction obligations under the Product Liability Act.

Specialist retailers and installers must comply with the information in EVVA documentation and they must pass on such information to customers, where applicable.

Additional information can be found in the Xesar product catalogue:



<https://www.evva.com/uk-en/xesar>

1.2 EVVA Support

With Xesar, you have a sophisticated and tested locking system at your disposal. If you require additional support, please contact your EVVA partner directly.

You can access the list of certified EVVA Partners here:



<https://www.evva.com/uk-en/retailer-search/>

Activate the “Electronics Partner” filter option to search specifically for EVVA partners who sell electronic EVVA locking systems and have qualified specialist knowledge.



<http://support.evva.at/xesar/en/>

General information on Xesar can be found here:



<https://www.evva.com/uk-en/xesar>

1.3 Explanation of symbols

The following symbols are used in the system manual to support illustration:

Symbol	Meaning
	Attention, risk of material damage in the event of non-compliance with the corresponding safety measures
	Notices and additional information
	Hints and recommendations
	Avoidance of errors or error messages
	Options
	Links
	Steps with instructions for action

2 Installation instructions for server with Ubuntu 22.04

The following provides information on preparing the Xesar 3.2 installation on a server that uses the Ubuntu 22.04 operating system.



The creation of the necessary IT and server environment is not part of these installation instructions. It must be provided by the customer and is not the responsibility of EVVA.

- » Check the system requirements for Xesar 3.2. **Before installation, you must confirm that the system requirements for Xesar 3.2 are met in accordance with the project checklist and system manual.**

Follow the current project checklist from EVVA:



<https://www.evva.com/uk-en/xesar/>



We strongly recommend that you only carry out the Xesar 3.2 installation in close cooperation with the customer's responsible IT administrator.

2.1 Requirements

The following requirements must be met for successful installation of Xesar 3.2 on a server with the Ubuntu 22.04 LTS Server operating system:

- Xesar Admin PC now called "Windows Admin Client" WIN 10/11 PRO with Installation Manager
- Server with Ubuntu 22.04
- Xesar 3.2 system requirements are met
- Supported hypervisor for virtualisation: VMWare and Windows Server from 2016. Nested virtualisation is not supported here.

2.2 Installing Ubuntu

The following instructions apply to 22.04

- » Download Ubuntu 22.04



<http://releases.ubuntu.com/>



Tutorial for Ubuntu installation



<https://tutorials.ubuntu.com/tutorial/tutorial-install-ubuntu-server#0>

Bootable USB stick



<https://tutorials.ubuntu.com/tutorial/tutorial-create-a-usb-stick-on-windows#0>

- » Follow the instructions during the installation
- » While installing Ubuntu, select **open ssh server** during the final installation step.



If this option is not available, it can be installed afterwards in the Linux Console with the command **sudo apt install openssh-server**. If "sudo without password" (see below) has not yet been configured, then the user password will be requested.

- » To set up sudo without a password, enter the following commands into the Linux Console:
 - » Enter the command **sudo visudo** for the password prompt for sudo (Password is requested and the file /sudoers.d will open)
 - » Scroll to the end of the opened file and type the command **username ALL=(ALL) NOPASSWD: ALL** below the final line:

```
@includedir /etc/sudoers.d
shqadmin ALL=(ALL) NOPASSWD: ALL
```

- » Save file (Ctrl+O and then ENTER)
- » Close file (Ctrl+X)
- » Check that the command **sudo visudo** now works without a password.

- » In the Linux console, create an **SSH keypair** using the command **ssh-keygen -t ed25519**.

```
shqadmin@test:~$ ssh-keygen -t ed25519
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/shqadmin/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/shqadmin/.ssh/id_ed25519
Your public key has been saved in /home/shqadmin/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:/gxqd3yA/mdFKVLce154ADdkzQ07+FcIVT6Za2BkYxk shqadmin@test
The key's randomart image is:
+--[ED25519 256]--+
  .=EB=...|
  .+*+=+00|
  o.= 0X0|
  ....=.*|
  S. ..0.+|
  .. . . .|
  .0. . .|
  ..0+0 +|
  ... 0++|
+-----[SHA256]-----+
```

The ssh key is stored by default at `/home/user/.ssh` on the Linux server. In our example, the user is **shqadmin**, which we created when setting the Linux installation.

In the next step, you need to add the public key (.pub) in the Linux console of the key pair created to the authorised keys on the Linux server.

- » Using the first command line, go to the previously created directory
- » Using the second line, add the key:

- » **cd /home/user/.ssh**
- » **cat id_ed25519.pub > authorized_keys**

```
shqadmin@test:~$ cd /home/shqadmin/.ssh
shqadmin@test:~/.ssh$ cat id_ed25519.pub > authorized_keys
```

- » Install Docker:
 - » **sudo apt install docker.io**
- » Install a program (e.g. putty or WINSOCP) on the Windows Admin Client to transfer data securely from the client to the server and vice versa. In our example, WINSOCP is used.



Freeware program



<https://winscp.net/eng/download.php>

» Log in using WINSCP on the server

Transfer protocol **1** is SFTP

Computer name **2** is the IP address of the server (can be found in the Linux console with the command **ifconfig**)

Port **3** is 22 (standard)

User and password **4** correspond to the user and their password on the Linux server

```

shqadmin@test:~$ ifconfig
docker0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255
    ether 02:42:13:b6:29:de txqueuelen 0 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.8.145 netmask 255.255.255.0 broadcast 192.168.8.255
    inet6 fe80::215:5dff:fe14:ca15 prefixlen 64 scopeid 0x20<link>
    ether 00:15:5d:14:ca:15 txqueuelen 1000 (Ethernet)
    RX packets 1234 bytes 612765 (612.7 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 140 bytes 12653 (12.6 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    
```

» Copy the private key **id_ed25519** to the Windows Admin Client using WINSCP. (In our example from `/home/shqadmin/.ssh` **5** on the server to `C:/Program Files\EVVA\Xesar3 Installation Manager 2.0/runtime/bin` **6** to the Windows Admin Client

» Open the Windows Console

(with **cmd** in search, right-click as Admin)

- » Use the command **cd C:/Program Files\EVVA\Xesar3 Installation Manager 2.0\runtime\bin** in the Windows Console to change the directory where the private key id_ed25519 was stored

2.3 Create Docker Machine

- » Enter the command to create the Docker Machine in the Windows Console (also from the directory in which the private key is located)

```
C:\Users\Administrator>cd C:\Program Files\EVVA\Xesar3 Installation Manager 2.0\runtime\bin
C:\Program Files\EVVA\Xesar3 Installation Manager 2.0\runtime\bin>docker-machine --debug create --driver generic
--generic-ip-address 192.168.8.10 --generic-ssh-key id_ed25519 --generic-ssh-user shqadmin hostname
```

The general command is:

docker-machine create --driver generic --generic-ip-address (IP server address) --generic-ssh-key (name of the public key) --generic-ssh-user (name of the user for whom the Ubuntu server was created) (name of the Docker Machine)

Command part	Explanation
docker-machine create	is the general command to create a Docker Machine
--driver generic	is the generic driver for installing Docker on the server
--generic-ip-address	is the IP address of the server
--generic-ssh-key	is the description of the private key used. (If executed from the directory in which it is stored. For a different directory, the entire path must be entered.)
--generic-ssh-user	is the description of the ssh user ("shqadmin" in our example). After a space, this is followed by the name of the Docker Machine (xs3ubuntu1804 in our example).



The whole docker-machine create process takes approx. 2 to 10 minutes, depending on the computer.



If an unexpected error message occurs, you can cancel the process by exiting the Windows Console.

Then reopen the Windows Console and delete the incorrectly set up Docker Machine with the command `docker-machine rm „name“` (name is the assigned name).

Example: `docker-machine rm xs3ubuntu1804`

- » Then enter the command **`docker-machine --debug create --driver generic --generic-ip-address (IP address of the server) --generic-ssh-key (name of the public key) --generic-ssh-user (name of the user for whom the Ubuntu Server is created) (name of the docker machine)`**. Use the extension `--debug` to obtain a precise error report.

If an error message relates to the **ssh connection**, check the user again with **sudo** without password or check the storing of the **ssh-keys**.

Another source of error with regard to ssh is the folder `C:\Windows\System32\OpenSSH`. In the event of an error (ssh exit status), rename it to `...\oldOpenSSH`.

- » After successfully creating the Docker Machine, use the command **`docker-machine ls`** in the Windows Console to check whether the Docker Machine is running.

```
C:\Users\Test10>docker-machine ls
NAME      ACTIVE DRIVER  STATE  URL                SWARM   DOCKER  ERRORS
Xesar3    -      generic Running tcp://192.168.8.101:2376   -       v18.09.8
xs3photon2 -      generic Running tcp://192.168.8.136:2376   -       v18.06.2-ce
xs3ubnt18044 -      generic Timeout -                         -       -
C:\Users\Test10>
```

2.4 Xesar 3.2 installation

» Download the latest Xesar 3.2 software

» <https://www.evva.com/uk-en/products/electroniclockingsystem-saccesscontrolsystems/xesar/download-xesar-software/>

» Connect coding station

» Start the Installation Manager

» Select Manage Xesar installations on server → Manage installations

» Select the tab Admin Card

» Select the required card reader ⑦

» Load the Admin Card ⑧

» Click on the button ⑨ to read in the number of the Admin Card

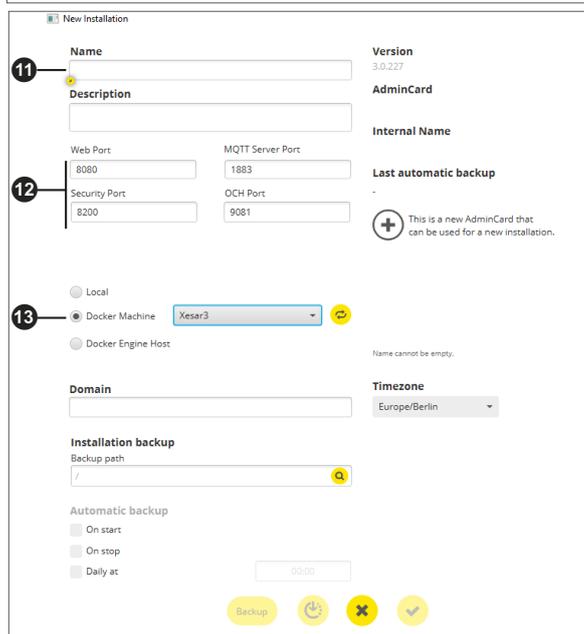
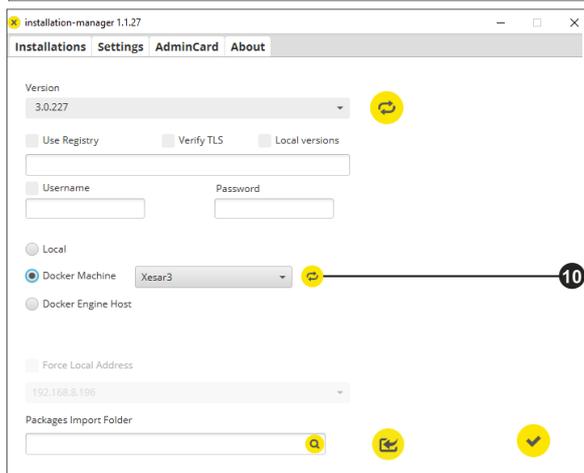
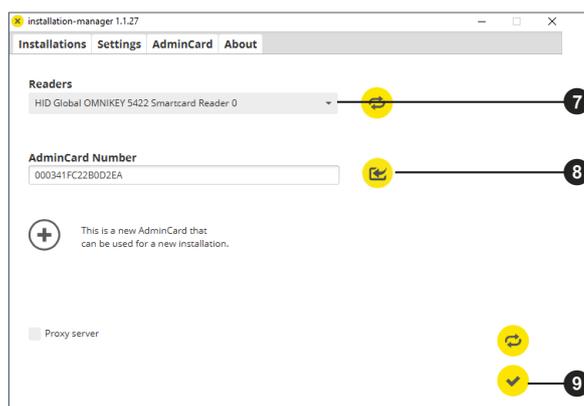
» Select the tab Configuration

» Select the Docker Machine ⑩

» Select the tab **Installations**

» Using the “+” button, add a new system

» Select the name ⑪, the port ⑫ and the Docker Machine ⑬





If you are updating Xesar 2.2, enter the database path for the import. After creating the system, you can start and commission the system (see system manual).

2.5 Data backup

The following data must be saved:

- Backup from the Installation Manager (Installation → pen symbol → Backup)
- **Windows Admin Client**
[XesarUser] is a placeholder for the Windows user (e.g. admin) who performed the Xesar 3.2 installation
 - C:\System\Users\[XesarUser]\.xesar
 - C:\System\Users\[XesarUser]\.xesar-cs
 - C:\System\Users\[XesarUser]\.docker
 - ssh key



Manual and automatic data backups (backup) can be performed in the Installation Manager.

- **VM server**
 - Snapshot of the VM after each large or important change
 - Generally a mirroring of the whole partition, preferably the whole hard drive on which the Xesar VM (for example Ubuntu) is installed – as is usual with servers
 - ssh key
- **Physical server**
 - entire hard drive

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