



Version 7.14.0+ / 7.15.1

Status: February 2020

More features in the program also increase the demands on the computers. Because the requirements are ever changing we recommend asking for the newest specifications before installing the new Klaes software. Not only before the first installation of a Klaes solution, but also before updating an older Klaes version, should you check the equipment of your computers. More functionalities in the program also increase the demands on the individual workstations or workstations. Only in terminal server networks can workstations that work as pure terminal server clients be used. This is one of the many advantages of these networks: Only the server needs to be up to date.

Please note for all following configurations of single computer / network / terminal server:

The listed hardware requirements are the **minimal basics** only. For a faster work we suggest outperforming components. We suggest to run Klaes 7 on the 64 Bit editions of the approved operating systems.

Klaes 7 doesn't run on:

- Windows 95/98/Millennium/XP/Vista/Windows 7/Windows 8.0
- Windows 2003/2000/NT4/2008/2008R2

Klaes 7 only works in conjunction with:

- Microsoft SQL Server 2012-2016. SQL Server 2019 is supported from version 7.15.1.
- The SQL Server 2005/2008/2008R2 are no longer supported.

The Klaes setup for local one-user versions installs automatically SQL Server Express 2014 or 2016 if needed (depending on the Windows operating system).

- You cannot restore backups from newer to older SQL Server versions. If you are using the SQL Server 2014 and want to transfer a complete backup of a Klaes mandator to partner companies or window traders, they must use a Klaes version with SQL Server 2014 or 2016.
- Klaes Trade data packages can be imported by older SQL instances.

Microsoft Excel: Klaes 7 creates detailed calculation reports for Excel so that Microsoft Excel 2010, 2013 or 2016 should be installed.

E-mail: To be able to send Klaes documents as e-mail, a MAPI-compatible 32-bit e-mail software such as Microsoft Outlook is required.

Telephony: In order for the Klaes program to dial with your telephone, your telephone software must be compatible with TAPI 32 bit and, if necessary, suitable for terminal servers (selection and assignment of lines)



Single Computer:

At least a Core i3 CPU with 2.4 GHz, 4 GB RAM, 10 GB free on the hard disk and at least 6 GB free on the system partition (where Windows is located). DVD drive required!

Operating system¹: Windows 8.1, Windows 10

Network:

In addition to the hardware (file servers, workstations, network cards and networking), the configuration of the operating system plays also an important role.

Network topology: We recommend Fast- or better Gigabit Ethernet for the network topology. The network installation should be made from a specialist to guarantee a stable, secure and efficient IT infrastructure.

Database: In a network environment, the SQL Server software "Microsoft SQL Server Standard Edition 2012/2014 or 2016" (2019 from 7.15.1) must be installed and purchased separately. If the "SQL Server Standard Edition" is not installed on your system, you can buy SQL Server 2016 from us in two versions (runtime and full version) at very reasonable prices. If you already use a Microsoft SQL Server 2012/2014/2016 with sufficient licenses, you can use it. However, you must install an additional instance of it called "KLAES" according to our documentation.

File Server: For the SQL server alone, 4 GB RAM is useful, so the server should have at least 8 GB RAM. At least Intel XEON with 2 physical cores or comparable, 30 GB free disk space. Please note that the processor cores should be clocked as high as possible (> 3.0 GHz) and the mass memory also delivers the data quickly. Here preferably SAS hard disks with 10000 rpm or SSD memory. Supported operating systems: Windows 2012, Windows 2012 R2, Windows 2016, Windows 2019 (exception: file system ReFS is not supported), DVD drive required.

Terminal Server: Basically, the same requirements as described for the file server, but it's important to have enough RAM depending on the number of clients: Number of clients x 2 GB + 4 GB for the server + 4 GB for the SQL-Server.

For instance, a calculation for 4 Terminal Server clients: $4 \times 2 \text{ GB} + 4 \text{ GB} + 4 \text{ GB} = 16 \text{ GB RAM}$ recommended. To use this large memory a 64-Bit operating system is required.

Operating system: Windows 2012, Windows 2012 R2, Windows 2016, Windows 2019 (but the file system ReFS is not supported)

Network-Clients: At least a Core i3 CPU with 2.4 GHz, 2 GB RAM (better 4GB RAM), 3 GB free space on the hard disk drive.

Operating system: Windows 8.1, Windows 10.

If you work on a Terminal Server, you can use older operating systems also for the Terminal Clients.

¹ with 32-bit variants of these operating systems only SQL Server 2014 can be installed.



Tip: For a network we recommend a Windows Terminal. This operating mode has unique benefits compared to traditional network systems. In particular, the high performance and the worldwide accessibility are big advantages. But great requirements are demanded on the configuration and installation of the hard- and software. Especially the high computing speed and the worldwide access possibilities of the terminal server are worth mentioning. So, if you are interested in using this technology in your company, you should contact us.

It would give us great pleasure to advise you in optimizing your IT infrastructure with our solutions, additionally in the usage of the cloud server solutions in our German data centers.

- Phone: +49 (2641) 909-2460 (Frank Mies)
- Phone: +49 (2641) 909-1510 (David Nelles)
- Phone: +49 (2641) 909 1270 (Elke Sistig)
- Phone: +49 (2641) 909-1550 (Markus Schmitt)