

tenfold

System Requirements

tenfold 2021 R3 (21.3)

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2 Introduction

These guidelines outline the basic steps that need to be taken prior to installing tenfold. For trial installations, please note the additional tips and information.

Remote support

Please note that we **only** use the latest version of “TeamViewer” for remote maintenance and support. **It is not necessary to pre-install the tool.** TeamViewer can be used on demand via the website.

To get started, go to <https://www.teamviewer.com/>¹ and choose the option “Download QuickSupport”

On-site

For on-site services, please provide an end device with access to the internal network and any necessary resources (servers, databases, applications, etc.).

3 System requirements

To install tenfold, a number of hardware and software system requirements must first be met. Enabling the integration of external software tools may require some additional preparations that will not be discussed here.

Application servers

tenfold requires a server to operate, whereby both physical and virtual servers are supported.

Hardware requirements:

Minimum requirements	tenfold Agent on separate server	tenfold Agent on same server
RAM	8 GB	16 GB
Hard disk space (for tenfold)	10 GB	20 GB
LAN connection to file server / Exchange server / SharePoint server	GBit	GBit

Other applications

For security reasons, it is prohibited to run any other applications on the application server besides tenfold. An installation of tenfold on the Active Directory® Domain Controller is not supported.

tenfold is compatible with the following operating systems:

- Microsoft Windows Server 2012®
- Microsoft Windows Server 2012 R2®
- Microsoft Windows Server 2016®

¹ <https://www.teamviewer.com/de/>

- Microsoft Windows Server 2019®
- Microsoft Windows Server 2022®

Java® (Java Development Kit - JDK)

The application server requires Java® Runtime Environment to be installed. Since tenfold 2018 Update 2, Java Runtime Environment is installed automatically by the installer and also updated to the latest version as soon as an update is available. For compatibility reasons, no other version of JDK or JRE should be installed on the same system. tenfold uses the implementation "Amazon Corretto" to avoid the license restrictions of Oracle's® JDK/JRE.

Warning: Port activation tenfold Marketplace

To ensure a secure installation and operation of tenfold, it must be ensured that the plugins in use can be updated at any time. Updates are retrieved using an HTTPS internet connection. The tenfold application server must therefore be able to build an HTTPS connection to **marketplace.tenfold-security.com**. It may be necessary to set an exception for this purpose in your firewall. If you do not allow this connection, plugins have to be kept up to date manually by you.

3.1 Database

Saving settings and user/permission data requires a database. This database does not have to be located in the same place as the tenfold application. It is enough to set up a new database (new user or scheme) inside an existing database instance (on a database server).

tenfold is compatible with the following database systems:

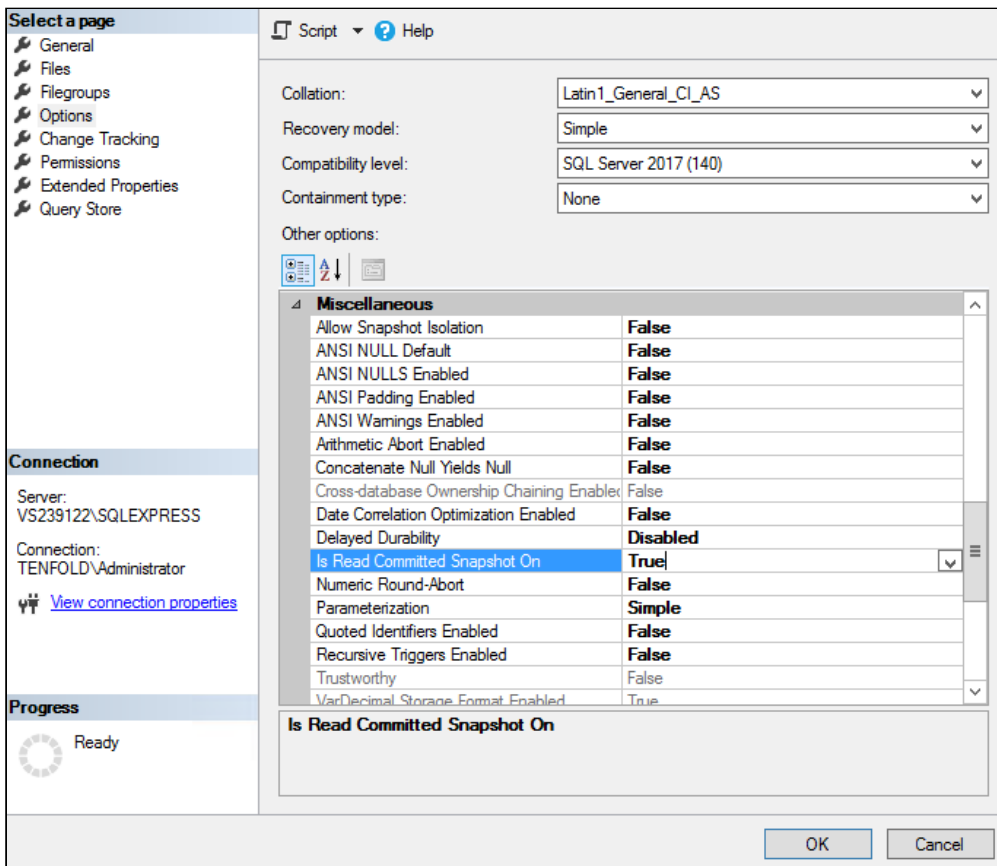
- Microsoft SQL Server 2012® Service Pack 4
- Microsoft SQL Server 2014® Service Pack 3
- Microsoft SQL Server 2016® Service Pack 2
- Microsoft SQL Server 2017®
- Microsoft SQL Server 2019®
- Oracle® Database 12.1
- Oracle® Database 12.2
- Oracle® Database 18c
- Oracle® Database 19c

Microsoft SQL Server

tenfold supports the Microsoft SQL Server® Express Edition. Due to performance and size limitations, however, we strongly advise that you contact your tenfold consultant prior to use to rule out any problems that may occur.

Attention: The authentication type "Windows authentication" is not supported by Microsoft SQL Server® with always-on-clusters.

The Microsoft SQL Server setting "Is Read Committed Snapshot On" for the database must be set to "True", otherwise tenfold might not operate properly. See screenshot below:



Oracle

tenfold supports the Oracle® Express Edition. Due to performance and size limitations, however, we strongly advise you to contact your tenfold consultant prior to use to rule out any problems that may occur.

Attention: the character set "UTF8" is mandatory. Other character sets are not supported.

3.2 tenfold Agent

The tenfold agent provides functions for reading and setting permissions on NTFS file servers, Microsoft Exchange® and Microsoft SharePoint®. File servers require one agent to be installed per location (locations where file servers have fast network connections to the tenfold application server (minimum: gigabit) do not require a separate installation). Each separate Microsoft Exchange® Organization and each separate Microsoft SharePoint® Farm requires a separate agent to be installed.

Hardware requirements for tenfold Agent:

	Minimum requirements
RAM	8 GB
Hard disk space	10 GB
LAN	GBit

The tenfold Agent is compatible with the following operating systems:

- Microsoft Windows Server 2012®
- Microsoft Windows Server 2012R2®
- Microsoft Windows Server 2016®
- Microsoft Windows Server 2019®
- Microsoft Windows Server 2022®

.NET for MSIA

The tenfold Agent requires the 64-Bit version of Microsoft .NET Framework, version 4.5 or higher.

3.3 Tools

The following points describe some useful (and often necessary) tools that help to integrate common systems.

3.4 Database

It may sometimes be required to access the database via SQL, for example to monitor and control data transfers from external systems. To do this, customers must install the relevant database tools (provided by the chosen database producer) on the tenfold application server (or on another system that can be accessed remotely):

- for Microsoft SQL Server®: Microsoft SQL Server Management Studio®
- for Oracle Database®: Oracle SQL Developer®

3.5 Active Directory®

Please check whether the “Active Directory Users and Computers” snap-in is available to verify that Active Directory® is properly connected.

3.6 SAP ERP®

Please ensure the SAP-GUI is available to verify that SAP® is properly connected.

3.7 Other applications

To integrate other target systems, it may be necessary to install the relevant tools provided by the respective producers. Usually, these tools include:

- Database drivers
- Application clients
- Web administration tools

If you are uncertain about any of these points, please contact your consultant for further guidance.

4 Setting up service accounts

Prior to installing tenfold, the following service accounts must be installed:

Description	Used for	Required privileges
tenfold Application User	Service account for running application	Default privileges; read-access for tenfold installation directory;

Description	Used for	Required privileges
		write-access for log and data directories; read-access for key stores
tenfold Active Directory User	User and access management in Active Directory	Read and write access for Active Directory for creating users, setting privileges, etc.
tenfold File Server Admin	Access management for file servers	Read and write access for file server directories for reading and setting NTFS permissions.
tenfold Exchange Admin	Access management for Microsoft Exchange	Read and write access for Exchange server for reading and setting Exchange permissions. Requires a mailbox to read public folders. Must have Exchange role "Application Impersonation" and be member of Active Directory group "Organization Management".
		<div style="border: 1px solid black; padding: 5px;"> <p>Note</p> <p>Please note that, depending on the infrastructure and version of Exchange, replicating Exchange permissions may take up to a whole day.</p> </div>
tenfold SharePoint Admin	Access management for Microsoft SharePoint	Read and write access for SharePoint server for reading and setting SharePoint permissions. Must be Farm administrator.

5 Port activation

For tenfold to operate correctly, the various components must be able to communicate with one another. To enable communication requires the activation of specific ports, in case the systems are protected by firewalls or port-filters. The following ports must be activated:

Source system	Target system	Port	Comment
End user (browser)	tenfold application server	8080	Default settings (customizable)

Source system	Target system	Port	Comment
tenfold application server	tenfold Agent	8000	Default settings (customizable). Every tenfold Agent requires this port.
tenfold application server	Mail server	25	To send emails, tenfold must have access to an internal SMTP server.
tenfold application server	Database server	1433 (SQL Server) 1521 (Oracle)	This port is needed for tenfold to access the database system. The connections specified are default ports recommended by the manufacturers. If you choose to change the default settings, you must activate the actual ports of choice, not the ones listed here.
tenfold application server	tenfold marketplace	HTTPS	This connection is required to install and update any plugins used.