

California.pro: Hardware and software requirements

This document lists the minimum hardware and software requirements to install and run **California.pro** on the Windows operating system.

Single workstation with SQL Server

Processor	<p>Processor type: x64 processor: AMD Opteron, AMD Athlon 64, Intel processor with EM64T-support</p> <p>Processor speed: Minimum: 1.4 GHz with 2 or more cores Recommended: 2 GHz or faster with 4 or more cores</p>
Operating system	Windows 10 1507 or later Windows 11 H22 from California.pro V14
.NET framework	The minimum required operating systems include the minimum required version of .NET Framework.
Network software	The supported operating systems for California.pro have integrated network software. The following SQL Server network protocols are supported: TCP/IP and Named Pipes
SQL Server	MS SQL Server 2014 SP1 Express Edition
Memory	<p>Minimum: 2 GB Recommended: Minimum 4 GB, 8 GB when using the BIM module. As the database size increases, the memory should also be expanded to ensure optimal performance</p>
Hard disk	<p>California.pro requires at least 8 GB of available hard drive space. The required free hard disk space depends on the number and size of the projects or documents.</p>
Drive	A DVD drive is required if the installation is performed using DVD media.
Monitor	California.pro requires a graphics card with a minimum resolution of 1280x1024 pixels.
Authorization	Administrative rights on the PC are required at the time of installation.
Virtualization	California.pro runs slower on a VM than in a native environment due to the additional virtualization effort.
Internet	Internet access is required to use the Internet (e.g. access to tender platform, mobile offer, mobile measurement, online help).

Workstation connected to external SQL Server (Rich Client)

Processor	Processor type: x64-processor: AMD Opteron, AMD Athlon 64, Intel processor with Intel EM64T-support Processor speed: Minimum: 1.4 GHz Recommended: 2 GHz or faster
Operating system	Windows 10 1507 or higher Windows Server 2016 or higher Windows 11 22H2 California.pro V14
.NET Framework	The minimum required operating systems include the minimum required version of .NET Framework.
Network software	The supported operating systems for California.pro have integrated network software. The following SQL Server network protocols are supported: TCP/IP and Named Pipes
Memory	Minimum: 1 GB Recommended: At least 4 GB
Monitor	California.pro requires a graphics card with a minimum resolution of 1280x1024 pixels.
Data backup	Not required at the workstation. The California.pro database is regularly backed up by you on the SQL Server.
Authorization	Administrative rights on the PC are required <u>at the time of installation</u> .
Internet	Internet access is required to use the Internet (e.g. access to tender platform, mobile offer, mobile measurement, online help).

Remote workstation (Terminal Services Client)

Operating system	Any operating system on which the remote desktop connection is running, e.g. Windows 11 , Windows 10, Windows 8 / 8.1, Windows 7, Windows Vista, Linux, Mac OS X
Monitor	California.pro requires a graphics card with a minimum resolution of 1280x1024 pixels.

Database Server (SQL Server)

SQL Server 2014 Express is a free, easy-to-install, limited edition of SQL Server 2014. It is usually sufficient for up to five **California.pro** workstations if the number and size of the projects and documents are not too large. A database can be a maximum of **10 GB in size**. It uses a maximum of **1 GB** of working memory. Only **one processor** is used.

With more than five users of **California.pro**, a higher data volume, or use the BIM module, an SQL Server Standard Edition licence is recommended. This Standard Edition is not included in the **California.pro** licence, but can be purchased from **G&W Software AG** as a cost-effective runtime version.

Processor	Processor type: x64 processor: AMD Opteron, AMD Athlon 64, Intel processor with Intel EM64T-support Processor speed: Minimum: 1.4 GHz Recommended: 2 GHz or faster
Operating system	Windows 10 1507 or higher Windows Server 2016 or higher Windows 11 22H2 from California.pro V11
.NET framework	The minimum required operating systems include the minimum required version of .NET Framework.
Network software	The supported operating systems for California.pro have integrated network software. The following SQL Server network protocols are supported for remote workstations: TCP/IP and Named Pipes.
SQL Server	Supplied: MS SQL Server 2014 SP1 Express Edition Minimum: MS SQL Server 2008 Recommended: MS SQL Server 2022
Memory	Minimum: 2 GB Recommended: Minimum 4 GB, 8 GB when using the BIM module. As the database size increases, the memory should be expanded for optimal performance.
Hard disk	SQL Server requires at least 8 GB of available hard drive space. The required free hard disk space depends on the number and size of the projects or documents.
Drive	A DVD drive is required if the installation is performed using DVD media.
Data backup	e.g. streamers, backup software that can backup running SQL Server databases.
Authorization	Administrative rights on the PC are required <u>at the time of installation</u> .
Virtualization	SQL Server runs slower on a VM than in a native environment due to the additional virtualization effort.

For Oracle installations:

Workstation connected to external Oracle database server

Processor	<p>Processor type: x64 processor: AMD Opteron, AMD Athlon 64, Intel processor with Intel EM64T support</p> <p>Processor speed: Minimum: 1.4 GHz with 2 or more cores Recommended: 2 GHz or faster with 4 or more cores</p>
Operating system	<p>Windows 10 1507 or higher Windows Server 2016 or higher Windows 10 22H2 from California.pro V14</p>
.NET framework	The minimum required operating systems include the minimum required version of .NET Framework.
Network software	The supported operating systems for California.pro have integrated network software. The following Oracle network protocol is supported: TCP/IP.
System software	A separate Oracle client is not required.
Memory	<p>Minimum: 1 GB Recommended: At least 4 GB</p>
Monitor	California.pro requires a graphics card with a minimum resolution of 1280x1024 pixels.
Data backup	<p>Not required at the workstation. The California.pro database is regularly backed up by you on the Oracle database server.</p>
Authorization	Administrative rights on the PC are required at the time of installation.
Internet	Internet access is required to use the Internet (e.g. access to tender platform, mobile offer, mobile measurement, online help).

Oracle database server

California.pro Enterprise supports Oracle database servers from version 11.2.01 (**version 19.3 recommended**). The database server should already exist and run as a separate instance before **California.pro** is installed. The single-byte character set **WE8MSWIN1252** or the multi-byte character set **AL32UTF8** is recommended. The Oracle feature Continuous Query Notification is required for multi-user operation.

An Oracle connection for **California.pro** installations with fewer than five workstations is not recommended.

Operating system	Any 64-bit operating system that supports at least Oracle database version 11.2.01.
Network software	The supported operating systems for Oracle have integrated network software. The following Oracle network protocol is supported: TCP/IP.
Memory	Minimum: 2 GB Recommended: Minimum 4 GB, 8 GB when using the BIM module. As the database size increases, the memory should be expanded for optimal performance.
Hard disk	Oracle requires at least 10 GB of available disk space. The required free hard disk space depends on the number and size of the projects or documents. RAID 10 is recommended.
Drive	A DVD drive is required if the installation is performed using DVD media.
Data backup	e.g. streamers, backup software that can backup running Oracle databases.
Authorization	Administrative rights on the PC are required at the time of installation. During initial installation, the password of the Oracle user's SYSTEM must be known to the administrator.

Further recommendations:

- Name of the tablespace: CALIFORNIA_TS (minimum size 16 GB)
- TNSPING < 10 ms