

# Alfabet

## Technical Requirements for Alfabet 11.9

Alfabet 11.9



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## System Overview

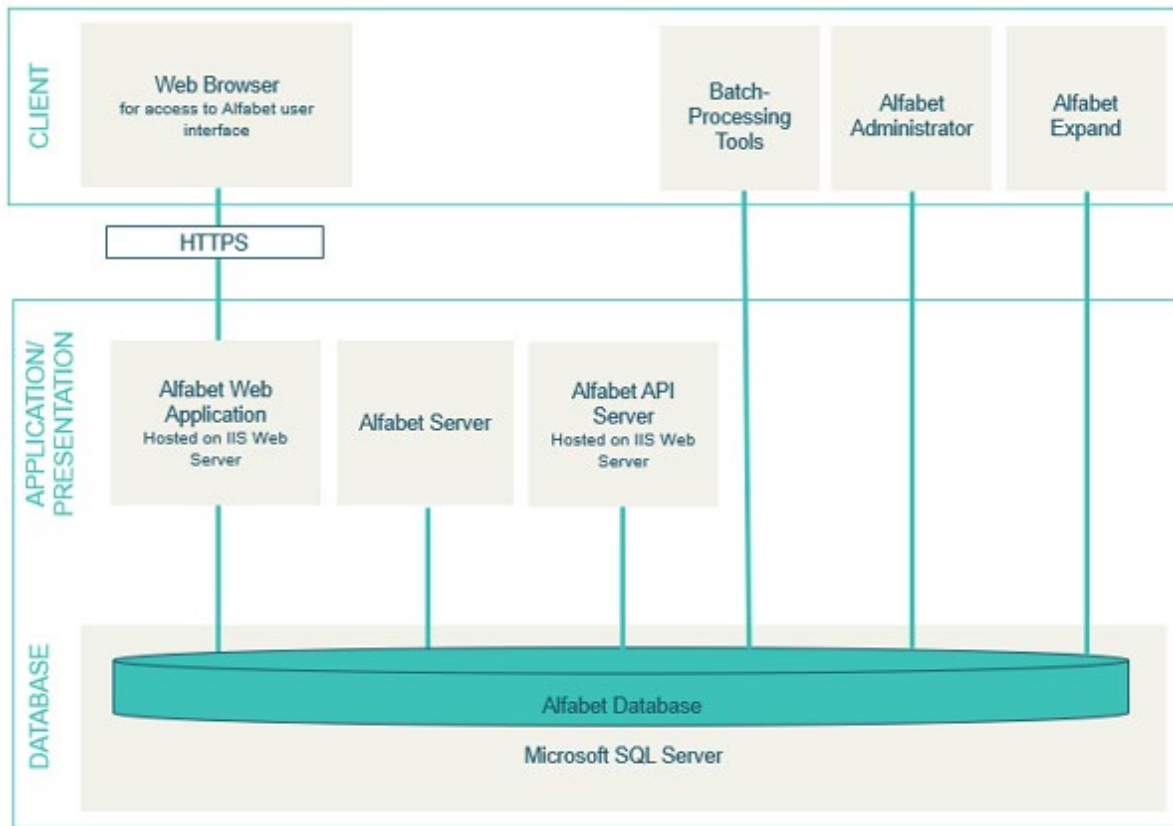


FIGURE: Alfabet components

An Alfabet installation on server side consists of two layers:

- Database layer: One or a cluster of database servers. An instance is based on a single Alfabet database.
- Solution/Presentation layer: 1 or multiple Web Servers running an Alfabet Web Application and a single running Alfabet Server.

For use of the Alfabet RESTful services one or multiple separate web applications Alfabet API Server running on the same or different Web Servers as the Alfabet Web Application.

If the server side components are installed on different host, all hosts must have the same server time.

Users can access Alfabet via a browser. In the following, the access via the browser is called Alfabet Web Client.

A number of tools are available for the administration and configuration of Alfabet that can connect to the Alfabet database in parallel to the Alfabet Web Application and the Alfabet Server:

Configuration Tool	Functionality
<b>Alfabet Administrator</b>	Edit the configuration files of the Alfabet Web Application and the other tools for configuration and administration and manage the Alfabet database. Configure access permissions to Alfabet and track Alfabet usage and audit history.
<b>Alfabet Expand</b>	Configure the Alfabet solution. Many Alfabet functionalities as well as administrative tasks are based on a specific solution configuration defined in Alfabet Expand.

## Platform Requirements and Third-Party Components

### NOTE

- If the Alfabet components are installed on the same host, the requirements of the component with the highest requirements apply. For example, if the Alfabet Server and the Alfabet Web Application, both requiring 16 GB memory, are located on the same server host, the memory requirement is 16 GB for this host.
- The requirements are listed for use by up to 200 users. It is recommended to double the memory and CPU requirements if more than 5000 users are working with Alfabet. Please note in this context that load balancing for distribution of users among active installations is not supported. Load balancing is used to failover scenarios. You can use the active-passive loadbalancing mode to activate a fallback installation if the main installation fails.

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
<b>Server Platform</b>	Dependent on database server.	Windows Server 2022 with Microsoft® IIS 10.0 and ASP.NET ("Application Server")	Windows Server 2022 with Microsoft® IIS 10.0 and ASP.NET ("Application Server")	Windows Server 2022	Windows® 10 Windows Server 2022	Windows® 10 Windows Server 2022	Any platform on which one of the supported browsers can be run. System performance must meet current standards.

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
Processors	4 (minimum 2) Generation Intel® Xeon® Platinum 8370C processors up to 3.5GHz	4 (minimum 2) Generation Intel® Xeon® Platinum 8370C processors up to 3.5GHz	4 (minimum 2) Generation Intel® Xeon® Platinum 8370C processors up to 3.5GHz	4 (minimum 2) Generation Intel® Xeon® Platinum 8370C processors up to 3.5GHz	Intel® or compatible Minimum 2 GHz; recommended Intel Pentium IV with 3.0 GHz	Intel® or compatible Minimum 2 GHz; recommended Intel Pentium IV with 3.0 GHz	

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
<b>Memory</b>	16 (minimum 8) GB RAM or more	16 (minimum 8) GB RAM or more If Alfabet is configured to evaluate access permissions to objects via right rules, 1 MB of additional memory is typically required per concurrent user.	16 (minimum 8) GB RAM or more If Alfabet is configured to evaluate access permissions to objects via right rules, 1 MB of additional memory is typically required per concurrent user.	16 (minimum 8) GB RAM or more	16 GB RAM or more; recommended: 8 GB RAM free memory not allocated to other processes	8 GB RAM or more	



Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
<b>Disc space</b>	Initial database size: < 1 GB Database increase: 700 MB/year (typical usage)	Approx. 1 GB	Approx. 650 MB	Approx. 720 MB 1 GB free space in the system temporary files directory (typical setup)	720 MB disc space for installation 100 MB free space in the user's temporary files directory	720 MB disc space for installation 100 MB free space in the user's temporary files directory	
<b>Required Third-Party Components</b>	Microsoft® SQL Server® 2019 or 2022 or Azure®SQLServer.	.NET Framework 8.0 Microsoft Internet Information Services® 10.0 and NET Core 6 runtimes	.NET Framework 8.0 Microsoft Internet Information Services® 10.0 and NET Core 8 runtimes	.NET Framework 8.0	.NET Framework 8.0	.NET Framework 8.0	HTML 5 compliant browser: Microsoft® Edge® Google Chrome® 37.0 or higher Mozilla® Firefox® 24.0 or higher Apple® Safari® 7.0 or higher
<b>Network Controler</b>	Minimum: 1 GB/s 10 GB/s for best performance	Minimum: 1 GB/s 10 GB/s for best performance	Minimum: 1 GB/s 10 GB/s for best performance	Minimum: 1 GB/s 10 GB/s for best performance			

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
Failover cluster capability	-	No	No	No	-	-	-

## Database

<b>Type</b>	Relational
<b>Data integrity</b>	Verification of primary keys; physical integrity ensured by database architecture
<b>Database storage (backup)</b>	Manual and batch-driven
<b>Maximum number of indices in a database table</b>	Limited by database
<b>Data model</b>	Included in Alfabet database

## Alfabet Web Client

<b>Screen size</b>	Alfabet is suitable for use on tablets, laptop computers or desktop computers. The default user interface configuration is optimized for a Full HD screen size of 1920 x 1080 pixels at 96 dpi. Users with significantly different screen sizes can adjust the visualization to their needs by either using the (un-)zooming functionality of the browser or by moving and resizing content items to satisfy their needs.
<b>Browser</b>	Microsoft® Edge® Google Chrome® 37.0 or higher Mozilla® Firefox® 24.0 or higher Apple® Safari® 7.0 or higher
<b>Browser plug-ins</b>	Not necessary
<b>Minimal encryption length for SSL/TLS</b>	None
<b>Java® applets</b>	Not necessary
<b>Sun® Java® plug-in</b>	Not necessary
<b>Session cookies</b>	Required

<b>Persistent (tracking) cookies</b>	None
<b>JavaScript®</b>	Must be enabled for the Web browser.
<b>Image content</b>	Must be enabled for the Web browser.

## Network and Communication Between Components

Regarding security mechanisms for communication channels, see the section *Security*.

<b>Network bandwidth</b>	Minimum 10 MBit/s; recommended: 1 GBit/s free bandwidth for connections between server components and for each concurrent Client/Server connection
<b>Network bandwidth</b>	Minimum 10 MBit/s; recommended: 1 GBit/s free bandwidth for connections between server components and for each concurrent Client/Server connection
<b>Round Trip Delay</b>	Required < 5 ms; recommended < 1 ms
<b>Internet Protocol Compatibility</b>	IPv4, IPv6

## Security

<b>Authentication of users</b>	<ul style="list-style-type: none"> <li>• Standard login with user name and password</li> <li>• Windows authentication</li> <li>• SAML</li> <li>• OAuth/OpenID</li> <li>• LDAP</li> </ul>
<b>Authentication of users</b>	<ul style="list-style-type: none"> <li>• Standard login with user name and password</li> <li>• Windows authentication</li> <li>• SAML</li> <li>• OAuth/OpenID</li> <li>• LDAP</li> </ul>
<b>Other authentication mechanisms</b>	On request

<b>Data encryption</b>	User passwords are encrypted during storage (non-symmetric SHA-1 encryption) and transmission (symmetric encryption using the Rijndael algorithm). Server variables are encrypted during storage and transmission (256-bit Advanced Encryption Standard (AES) with a unique salt value for every variable ). Both encryption mechanisms are compliant with FIPS.
<b>Password policies</b>	Configurable

## Sending Emails via SMTP Server

Alfabet supports the generation of e-mails for a variety of purposes. To successfully send e-mails, an SMTP server is required. An existing enterprise SMTP server can be used, or a local SMTP server can be installed on the web server host. The SMTP server must be configured to accept e-mails originating from the Alfabet Server without authentication. The address of the web server must be specified in the server alias configuration used for the Alfabet Server and the Alfabet components must be configured to send emails.

## Data Exchange with Microsoft Office Formats

For interactions involving the export or publication to or import from Microsoft® Word, PowerPoint®, or Excel® files, Microsoft Office products 2003, 2007, 2010, 2013, and 2016 are supported.

If sensitivity labels are used, the sensitivity label of the documents must be `Public` to upload a document or import data from a document.

## Third-Party Code Used in Alfabet

This software includes software code owned or provided by third-party licensors. A complete list of third-party components is provided in Empower under <https://www.alfabet.com/licenses>. Login to Empower is required to access this link.