



Bizzdesign

Technical Requirements for Alfabet 11.12



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System Overview

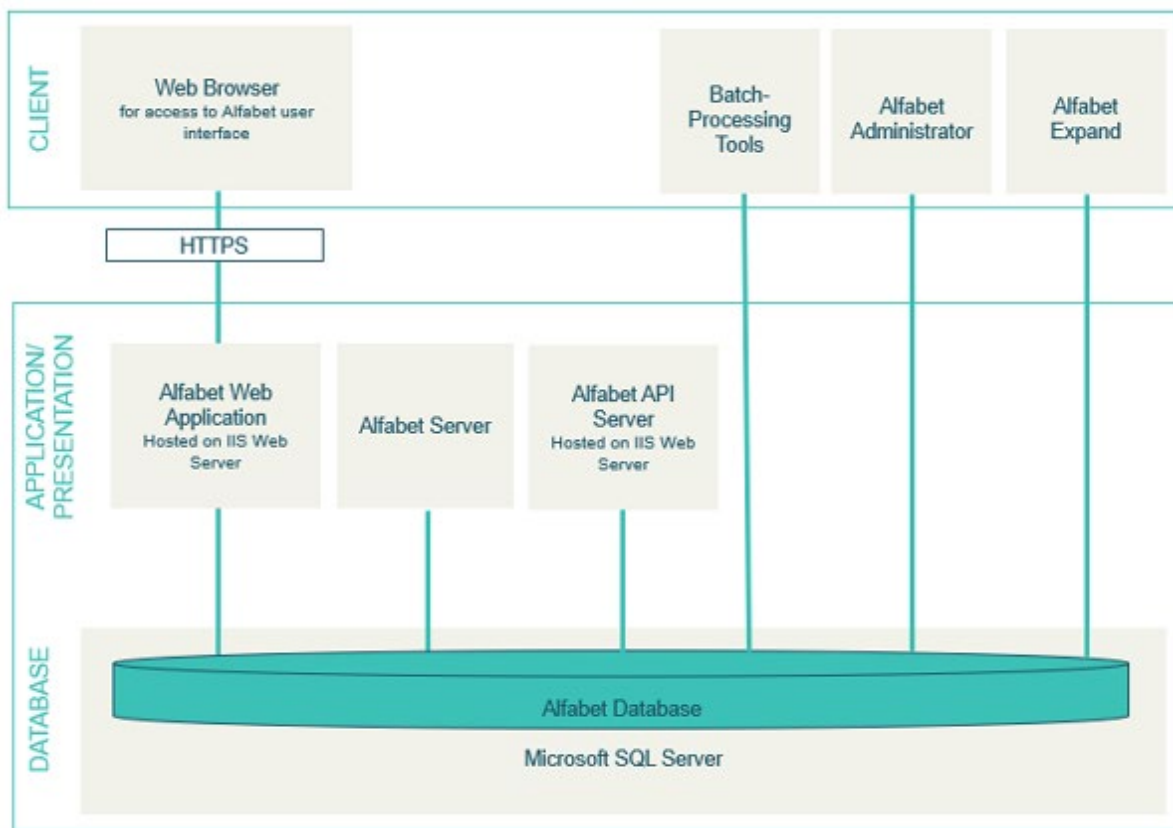


FIGURE: Alfabet components

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.

TIP

A failover connection management is available for the Alfabet Server. Multiple Alfabet Server (services) can connect to the same database, but only the first connected Alfabet Server will be used to execute services, like for example sending of emails, on the database. All other Alfabet Servers will remain inactive. If the active Alfabet Server service is either shut down or not available because of any issues, one of the other

connected Alfabet Servers will take over and execution of any events handled via the Alfabet Server is consistently ensured.

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
Alfabet Administrator	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.
Alfabet Expand	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 licensed Alfabet 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
Server Platform	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

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
							must meet current standards.
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	
Memory	16 (minimum 8) GB RAM or more	16 (minimum 8) GB RAM or more If Alfabet is configured to evaluate access permissions	16 (minimum 8) GB RAM or more If Alfabet is configured to evaluate access permissions	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
		to objects via right rules, 1 MB of additional memory is typically required per concurrent user.	to objects via right rules, 1 MB of additional memory is typically required per concurrent user.				
Disc space	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	

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server (Web Application for RESTful Services)	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
Required Third-Party Components	Microsoft® SQL Server® 2019 or 2022 or Azure®SQLServer.	.NET Framework 10.0 Microsoft Internet Information Services® 10.0 and NET Core 10 runtimes	.NET Framework 10.0 Microsoft Internet Information Services® 10.0 and NET Core 10 runtimes	.NET Framework 10.0	.NET Framework 10.0	.NET Framework 10.0	HTML 5 compliant browser: Microsoft® Edge® Google Chrome® 37.0 or higher Mozilla® Firefox® 24.0 or higher Apple® Safari® 15.4 or higher
Network Controler	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

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

Alfabet Web Client

Screen size	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.
Browser	Microsoft® Edge® Google Chrome® 37.0 or higher Mozilla® Firefox® 24.0 or higher Apple® Safari® 7.0 or higher
Browser plug-ins	Not necessary
Minimal encryption length for SSL/TLS	None
Java® applets	Not necessary
Sun® Java® plug-in	Not necessary
Session cookies	Required
Persistent (tracking) cookies	None
JavaScript®	Must be enabled for the Web browser.
Image content	Must be enabled for the Web browser.

Network and Communication Between Components

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

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

Security

Authentication of users	• Standard login with user name and password • Windows authentication • SAML • OAuth/OpenID • LDAP
Other authentication mechanisms	On request
Data encryption	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.
Password policies	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 under <https://bizzdesign.com/policy/licenses>.