



Bizzdesign

Technical Requirements for Alfabet 11.13



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System Overview

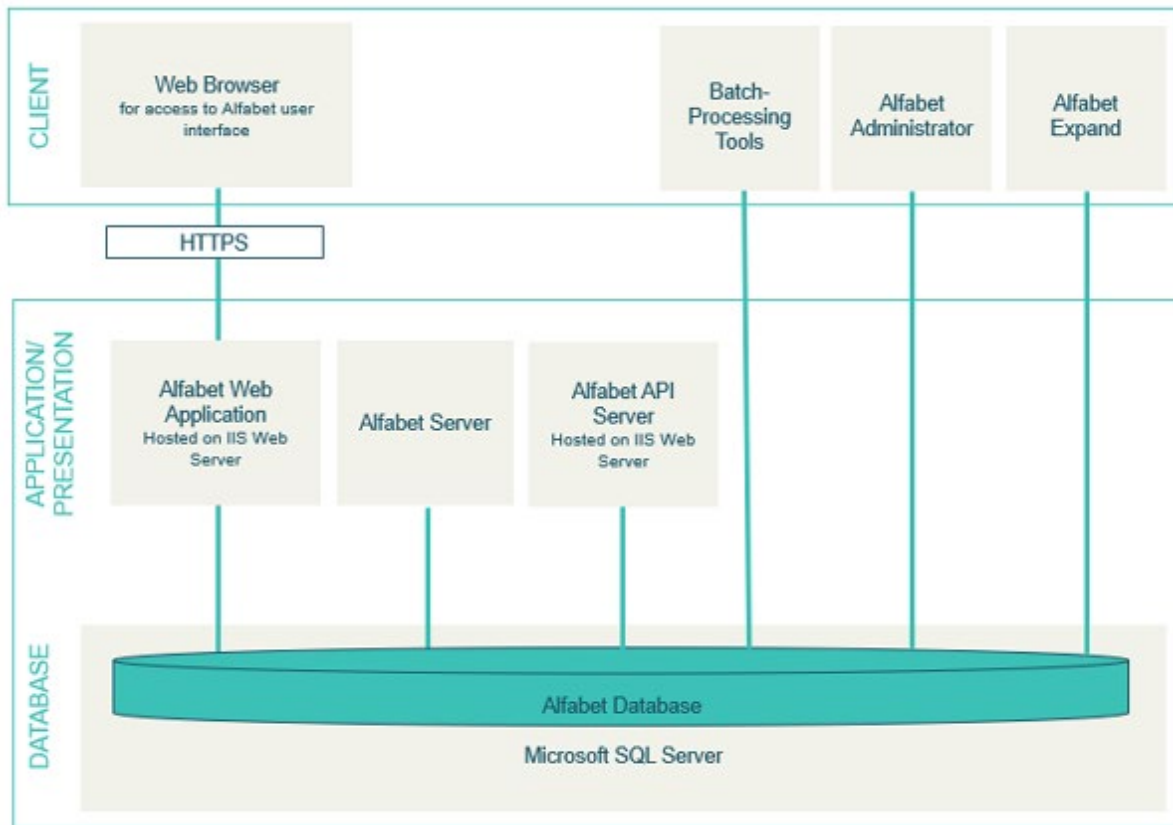


FIGURE: Alfabet components

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	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
Server Platform	Dependent on database server.	Windows Server 2022 or Windows Server 2025 with Microsoft® IIS 10.0 and ASP.NET ("Application Server")	Windows Server 2022 or Windows Server 2025 with Microsoft® IIS 10.0 and ASP.NET ("Application Server")	Windows Server 2022 WindowsServer 2025	Windows® 10 Windows Server 2022 WindowsServer 2025	Windows® 10 Windows Server 2022 WindowsServer 2025	Any platform on which one of the supported browsers can be run. System performance 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	

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
Memory	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	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
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	
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

Requirement	Alfabet database	Alfabet Web Application	Alfabet API Server	Alfabet Server	Alfabet Expand	Alfabet Administrator	Alfabet Web Client
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			
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

Ports to Activate for Communication Between Components

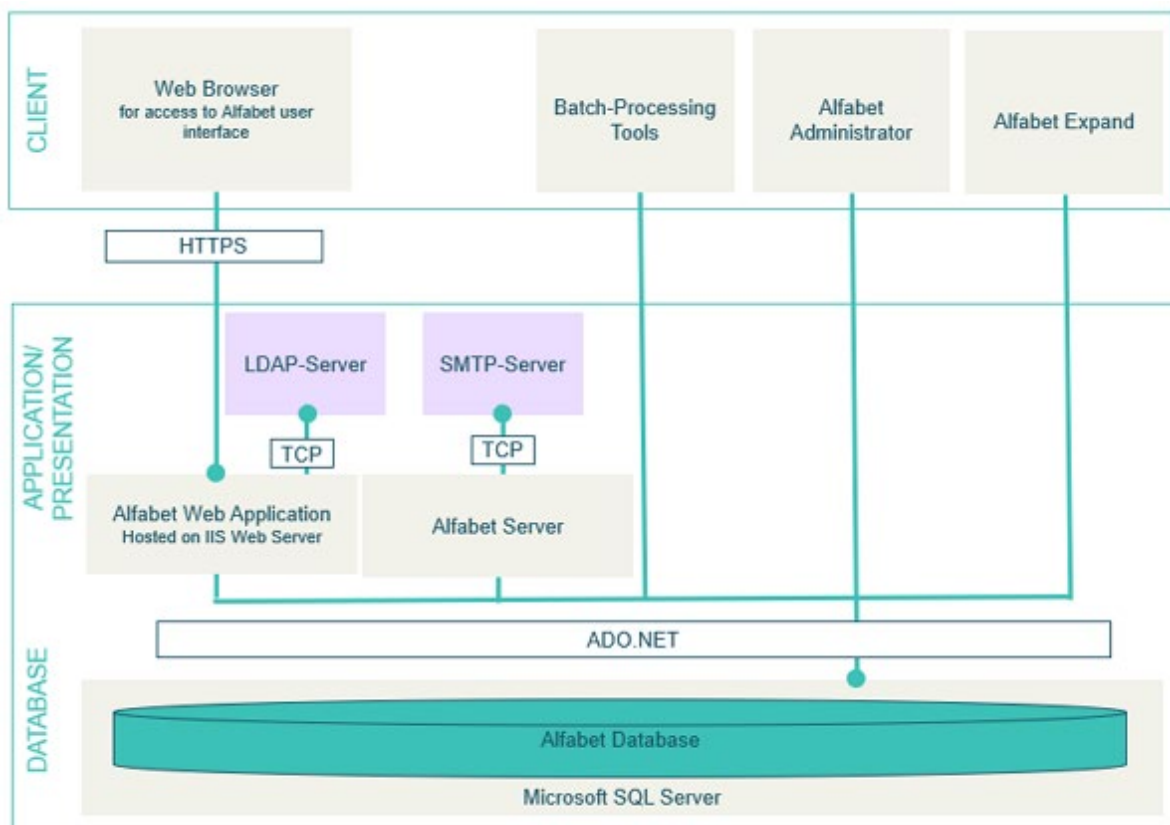


FIGURE: Communication between Alfabet components

For	From	To	Ports
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Basic Communication Between Components	Web Server hosting the Alfabet Web Application, Alfabet Expand, , Alfabet Administrator, Alfabet Server, batch processing tools	Database server hosting the Alfabet database	Ports to be configured on the database server (for a Microsoft® SQL Server® default instance: TCP and UDP Ports 1433 and 1434)
	Browser	Web server hosting the Alfabet Web Application	HTTPS Port configurable in IIS
OPTIONAL			
E-Mail Delivery	Web Server hosting the Alfabet Web Application / Alfabet Server	SMTP server	Port configured on SMTP server side. Default: TCP Port 25
LDAP Requests	Web Server hosting the Alfabet Web Application	LDAP Server	A single TCP Port, typically 389
Enterprise Authentication	Web Server hosting the Alfabet Web Application	Domain controller	All ports for Windows® authentication
Remote Control	Administrative workstation	Web Server hosting the Alfabet Web Application	Depends on remote control software

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

Implementing Anti-Virus Software with Alfabet

The performance and stability of the Alfabet application may be affected by anti-virus software. Therefore, it is recommended that you deactivate the **On Access Scan** option for all directories that the Alfabet components use to read or write data for virus scanners installed on Windows® servers hosting Alfabet components. If this is not done, the performance of the access to Alfabet may be decreased by a factor of 10.

Alfabet components write data to the following directories:

Component	Directories Used on Component Host
Web Server hosting the Alfabet Web Application	AlfabetWebApplication\wwwroot(AlfabetWebApplication is the physical directory of the Alfabet Web Application) and

	a virtual directory <code>alfabetRoot</code> in the web server under the virtual directory of the Alfabet Web Application.
Alfabet Server	<User temp directory of the service account>\alfabet\<serveralias>

Alfabet components read data from all directories specified during the installation process.

Recommendations for the settings concerning the database server are not included in the overview because they are the responsibility of the database manager and are independent of the applications accessing the database.

Third-Party Components

The product uses third-party software components to provide specific functionality and support its overall operation.

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>.

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.

Service and Support

Please open a ticket for any service request as well as all non-standard support incidents such as training requests, scripting, or data integration:

[Alfabet Support](#)

When you submit a ticket for a service request, you should include the main release number and patch version of your Alfabet product. This information can be accessed by clicking **Help < About Alfabet**.