Agiloft

Installation Guide

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Installation Guide

The Agiloft installation package includes everything necessary for installation on 64-bit Windows and Linux servers, including a web-server and a MySQL database if you do not have one installed already. Installation, upgrades and uninstallation are all managed through the installer wizard.

The Agiloft installation process consists of two stages: initial installation and setup. During initial installation you will run the downloaded executable file, and the installer will ask basic questions, like where to install the software. Next, run the Agiloft configuration utility called Setup to complete setup and installation. The setup utility is accessed via a web browser, and can be run at any time after installation to manage web server settings, backups, mail settings and other functions.

> ⚠ The installation bundle includes a *servlet container*. This is a specialized web server for providing the dynamic web pages that make up the Agiloft interface. This servlet container is usually installed on port 8080 and will not interfere with the regular web server. The installer can automatically configure web servers such as Nginx to redirect Agiloft traffic to another port on the container. This allows Agiloft to be accessed by users on port 443, just like the rest of the website.
>
> It is possible to install Agiloft under Windows with IIS7, for example on Windows 2008 Server. The installer will find the working IIS7 and automatically integrate with it.

System Requirements

Please visit our system requirements page for the most detailed, up-to-date information.

Server Requirements

- Windows 64-bit: Windows Server 2012R2, 2016, or 2019.

or

- Linux 64-bit: All recent major releases, including Suse, RedHat, Debian, Fedora, CentOS, and AWS AMI.

Hardware

The recommended minimum hardware should have at least 2 processors, a 64-bit operating system and a minimum of 12 GB of RAM and RAID 10 hard drives. The software will not run with less than 4 GB of RAM.

Browser Support

Agiloft is compatible with Firefox and Chrome. You can also use Edge on Windows, and Safari on a Mac.

Optional Software

Microsoft Word 2010 or higher to enable Integration with Hosted Word API Services.

IIS Integration

If your instance of Agiloft is integrated with an IIS web server rather than Nginx, you might need to download the Tomcat extension ("**isapi_redirect.dll**") that is best suited for your operating system and replace the one that is currently installed at `c:\Agiloft\iis\isapi_redirect.dll` with one of the following:

- For Windows 2016 and above: Download from https://archive.apache.org/dist/tomcat/tomcat-connectors/jk /binaries/win64/jk-1.2.31/amd64/isapi_redirect-1.2.31.dll
- For Windows 2012 and older OS: Download from https://archive.apache.org/dist/tomcat/tomcat-connectors/jk /binaries/win64/jk-1.2.14/isapi_redirect-1.2.14-x64.dll

Default Installation Directories

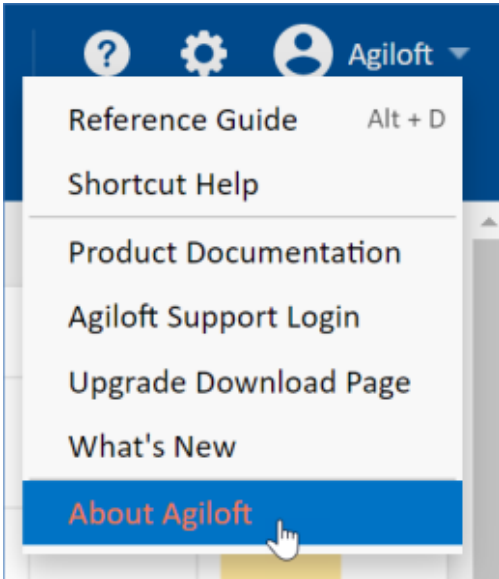By default Agiloft is installed in these locations:

- **Windows default directory:** <System Drive>:\Agiloft
- **Linux default directory:** /usr/local//Agiloft

Default Login Details

After installation, the knowledgebase can be accessed at http://<server-name>.com/gui2, with the username: `admin` and the password saved in the C:\EnterpriseWizardConfig.xml file in Windows and /etc/EnterpriseWizardConfig. xml in Linux with the following syntax: `<ewimpexAdminConsolePassword>PASSWORD< /ewimpexAdminConsolePassword>`. This password should be changed immediately.

Release Version Numbering

The release version of the current Agiloft server can be found from **Help > About Agiloft,** in the knowledgebase or the admin console.

The dialog that opens will have wording similar to the following:

```
Release release_22-26609-1145-r216211 2021/02/20 02:38
```

The release version can also be identified from the name of the Agiloft installer file. For instance:

```
Agiloft-Release_22-26609-windows-64bit-setup
```

The key parts of the file name or release version name are the first three numbers:

22-26609

The first number identifies the official point version - e.g. 22. On older releases, this version has two parts, such as 2018_01. The last number identifies the branch of the version. Therefore:

- `2018_01-18374` is older than `2018_01-84159`
- `22-21319` is older than `22-26609`

Initial Installation in Windows

The latest Agiloft software release can be found at http://www.agiloft.com/ewdownload. Choose the Windows operating system. The installer file name will be in this form:

- Agiloft-<Release date>-windows-64bit-setup.exe

Windows Installation

The Windows installer uses a series of dialog boxes and progress indicators to guide you through the installation process. You will be led through the following installation steps:

Begin installation

To launch the installation wizard, run the downloaded file as an administrator.

Installer language

Select your preferred language and click OK.

License agreement

You must accept the terms of the Agiloft license agreement to install and use the software. You may review the terms of the License Agreement at any time by visiting our website. Once you read and accept the terms of the agreement, click Next.

Welcome dialog

The installer prompts you to close other programs. Click Next to continue.

Select directory

The default installation directory for Windows is <system drive>:\ Agiloft. To change the destination directory enter a new file path and then click Next.

Antivirus warning

The installer prompts you with recommendations for configuring any antivirus software running on your system. When you are finished, click Next.

Project restore

If you have any previous knowledgebases backed up, select Yes to perform a restore from those files. See: Set Up Knowledgebase Backups for more information about creating backups.
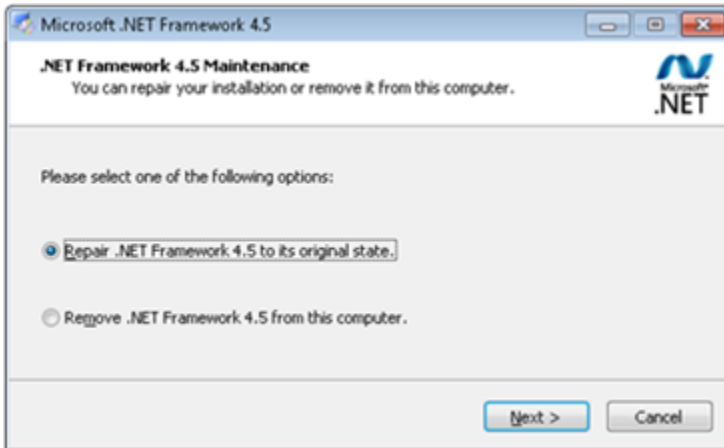
If you select this option, you can choose to:

- Restore all knowledgebases
- Restore the most recent version of each knowledgebase
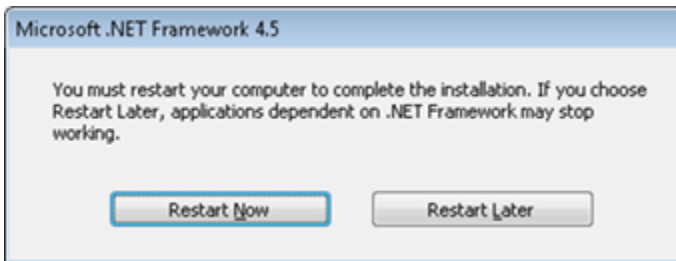- Restore from the periodic backups directory

Select the directory where the backup files are located and click Next.

Word API Integration

If all prerequisite software is already installed on the server, you may skip the installation of MS executables. You may also skip this step if you do not plan to use the Word API features like document comparison. Select the option to proceed to install the MS executables. Click Next to launch the installation wizard for MS .NET 4.5. If the installer detects Microsoft .NET framework 4.5 already present on the Windows server, it will display a prompt with options to repair or remove .NET Framework, as shown below. Click **Cancel** to skip any changes to .NET Framework 4.5. MS office.

1. Once MS .NET Framework is installed, you are prompted to restart your computer. Choose Restart Later.
2. Next, the MS Primary Interop Assemblies Redistributable is automatically installed.

For more information, see Microsoft Word Services Integration.

Static HTML pages

Select Yes to add the capability to access static HTML pages, such as a custom login page, exit page, and so on – recommended. If this option is not enabled and you do not have an integrated web server such as IIS already configured, then any HTML pages stored on the server cannot be launched. If you choose Yes, define a directory to define the context for static HTML pages.

Extracting files

Next, the installer extracts files into the installation directory. A progress bar is shown while the extraction runs.

Information

This completes the initial installation steps. When you are ready to continue with Setup, click Next and a browser window will open automatically. Click Cancel to exit the installation wizard. You may launch Setup again later. For more information on the Word API, see Enable Word API Features in Windows.

For the next steps in your installation, see Work with the Setup Menu.

Initial Installation in Linux

The latest Agiloft software release can be found at http://www.agiloft.com/ewdownload. Agiloft installers are native executable files for each OS. The Linux installer file name will be in this form:

- Agiloft-<Release date>-linux-64bit-setup.sh

The installation requires a user named Agiloft who owns the installation files. Normally the installer creates an appropriate local user automatically. If user IDs are managed centrally in your environment e.g., NIS, or you wish to control the creation of the user, you may create the Agiloft user beforehand and choose the appropriate option during installation. The Linux installer may be run in three modes, controlled by command line options.

- **GUI mode:** Use defaults, or no command line options. The installer runs as a Java GUI application, presenting dialog boxes and progress indicators. Next, it runs Setup in web mode. You should have X-windows installed on the machine where Agiloft is installed, and you will need good bandwidth if your X-server works on a remote machine.
- **Console mode:** Use –c option. The installer starts as console application, showing prompts and progress in a Unix terminal window. Then select how to run Setup: in web mode or in console mode, accepting all defaults.
- **Unattended mode:** Use –q option. The installer starts as console application, but uses default values and does not prompt the user for input. Setup then runs in console mode.

The same steps are executed whether you are in GUI or console mode. Below is an installation session run in console mode, with comments.

> ⓘ In order to install Agiloft successfully, you need to have libncurses.so.5 in the path. You can install the ncurses-compat-libs package to get libncurses.so.5.

Begin installation

The Linux installer is run as `.sh <installer file name>`. If you choose the `-c` option, the installer runs in console mode. It prints a welcome message and recommends closing all other applications – this is optional. Press Enter to continue.

Note: If you want to specify the MySQL directory, use the parameter `-mysqldir <location>`. For example, `installer_file.sh -mysqldir /home/admin/custommysqldir`.

```
root# sh Agiloft-summer-2014-release-20387-linux-64bit-setup.sh -c
Unpacking JRE ...
Starting Installer ...
Autodetected configuration file: /etc/EnterpriseWizardConfig.xml
This will install Agiloft on your computer.

It is recommended that you close all other applications before continuing.
OK [o, Enter], Cancel [c]
```

License agreement
You must accept the terms of the Agiloft license agreement to install and use the software. You may review the terms of the License Agreement at any time by visiting our website. Enter 1 to accept the agreement.

Destination directory

To accept the default directory location, at /usr/local/ Agiloft for Linux, press Enter. To install Agiloft in a non-default directory, use the additional command line option: -dir, followed by the new installation directory name. You may also use the –dir command line option to change the default when running the installer in unattended mode.

Antivirus warning

Next, you are prompted to configure any antivirus software running on your system. When you are finished, press Enter.

Calculate disk space

A minimum of 8 GB is required for new installations of Agiloft. The installer automatically detects free disk space and will exit if the disk has insufficient space.

Project restore

The installer gives you the option to import existing knowledgebases.

```
Perform or not project restore
Would you like to import existing knowledge bases that were backed up from a
previous install?
No [1, Enter], Yes [2]
2
```

1. Select No [1, Enter] to create a simple Demo KnowledgeBase during installation.
2. To restore or import a KB from a previous backup, select Yes [2] and enter a path to an existing saved project. Click Next to continue.

```
Restore projects from directory
Import from directory (no spaces allowed in directory name):
[/usr/local]
/a/path/to/directory/with/saved/knowlegebases
```

Extracting files

Next, the installer extracts files into the installation directory. In console mode you will see a long line sequence displayed. In GUI mode, a progress bar is shown while the extraction runs.

```
Extracting files...
    bin/
    bin/ewdumps.sh
    bin/ant
    bin/ewimpex
    bin/ewupdate
    lib/
    lib/ewsetuptools.jar
    lib/i18n/
    lib/i18n/locales.xml

... many lines here ...

    ./include/jdwpTransport.h
    ./include/classfile_constants.h
    ./COPYRIGHT
```

Product configuration

You must decide how to run the Setup utility: either in Fully automatic mode [1, Enter] or with Customized setup [2].

1. Press [1, Enter] to run Setup in console mode, applying all default selections.
2. Press [2] to run Setup in web mode.

```
Please choose a product configuration method
Fully automatic setup will install and configure Agiloft without any configuration
questions and is the ideal choice for non-expert users.

Customized setup allows you to configure system parameters such as port numbers,
etc that require a fairly deep knowledge of the target system.
Accepting all the defaults, however, will produce the same result as fully
automatic setup.
Fully automatic setup (highly recommended) [1, Enter], Customized setup using a web
interface (for expert users) [2]
1
```

When running Setup in fully automatic mode, a list of messages similar to the example below will appear. The URLs it generates will differ for each individual installation. If the user has opted to restore projects, the message with the form "Restore projects from /a/path/to/directory/with/saved/knowlegebases folder" will appear. If the user has opted not to restore projects, then the message "Creating Demo project" will appear instead.

```
Reading configuration from file /etc/EnterpriseWizardConfig.xml
Total RAM detected: 3.859127 Gb
Setting installation directory: /usr/local/Agiloft
Unix user enterprisewizard already exists
Unpacking resources
Changing owner of installed files
Installing software
Installing database server
Registering database server
Starting database server
Database connection checking
Installing application server
Registering application server
Creating database space
Configuring web server
Set owner and permissions
Start application server
Restore projects from /a/path/to/directory/with/saved/knowledgebases folder
Agiloft is now installed and configured. System is now accessible from one of the
following URLs:
http://172.16.55.1:8080/gui2
http://192.168.0.112:8080/gui2
http://192.168.81.1:8080/gui2
http://localhost:8080/gui2
Note that some URLs may only be accessible from the local network or from this
computer.
Please login to port 80 on the computer to confirm that the connection between the
Tomcat JSP server and the web server is working.
If you cannot access Agiloft on port 80, please try restarting the web server and
/or access Tomcat directly on port 8080.
Please contact your system administrator for more details.

Setup is complete.
[Enter]
Finishing installation...
root#
```

NGINX Setup

NGINX is installed by default in Linux. NGINX should not be configured on the server after installation, as upgrading the Agiloft version will overwrite any customizations. Instead, any custom domains or certificates for NGINX must always be done in the Setup Assistant. In the Web Server section of the Setup Assistant, you can add the SSL certificates for NGINX, which are required for an HTTPS installation. The steps to create the "crt" and "key" files are described here.

The files may be placed anywhere on the server. For example:
data\MyCerts\multidoc.crt

data\MyCerts\multidoc.key

GLIBC

Starting from release version 2017_02, Agiloft does not support versions of glibc below 2.14.

Installation with Custom Databases

Agiloft can integrate with an external MySQL or MS SQL installation through the standard TCP/IP connection. By default, these custom database installations may not have some of the services/protocols enabled.
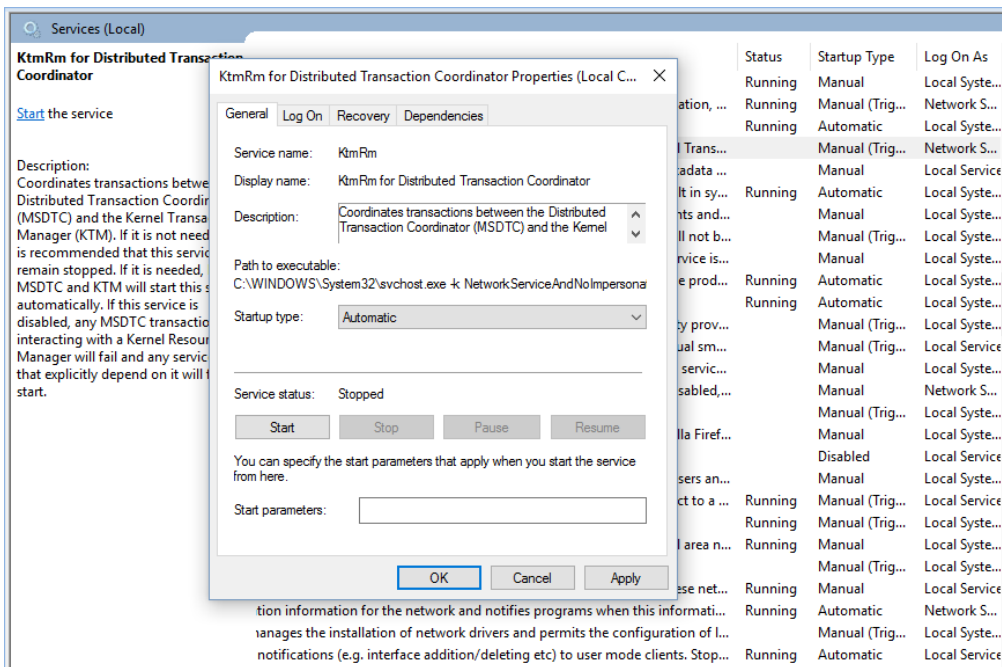
MS SQL Installation

Here are some of the recommendations by our developers to assist the database administrator in setting up the MS SQL server for optimized integration with Agiloft.

> ⚠ If the MS SQL database takes part in mirroring or AlwaysOn Availability Groups, the database administrator must set the READ_COMMITTED_SNAPSHOT or "Is Read Committed Snapshot On" database option to ON or "True" before Agiloft is installed.
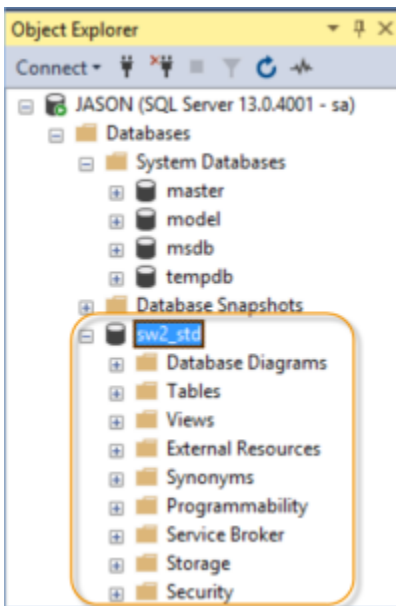
Prerequisites

- The TCP/IP connection must be set to a static port. See Microsoft help for more information.
- The Microsoft Distributed Transaction Coordinator (MS DTC) service should be marked Automatic in Service Manager to make sure that it is running when the SQL Server service is started.

Follow these steps

1. Install MS SQL.

2. During installation, select Mixed Authentication.
3. Create the required databases. Do not use System Databases for the Agiloft installation. See more about SQL databases from Microsoft.

4. Enable MS DTC for XA transactions.
5. Configure the JDBC Distributed Transaction Components.
6. If MS SQL is installed on a different computer than the machine where Agiloft is being installed, the `RegexEvaluator.exe` file must be located on the computer with the MSSQL server. For example, if you were installing Agiloft at C:\Agiloft, `RegexEvaluator.exe` should be installed on the computer with the MS SQL server in the directory with this path: `C:\Agiloft\resources\java\resources\sql\mssql\RegexEvaluator.exe`.
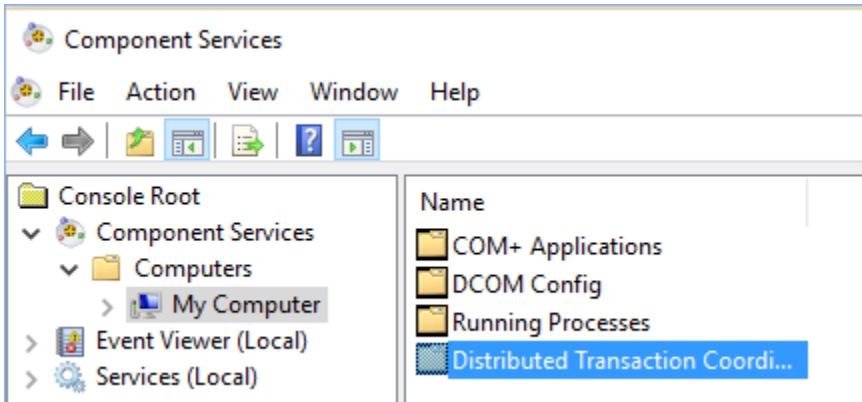
> ✅ If MS SQL is already installed with a different authentication method, you can follow these steps to change to Mixed authentication.

Enable MS DTC for XA transactions

In Windows 7, Windows 10, Windows Server 2008 R2 or Windows Server 2012 or later:

1. Select **Control Panel > Administrative Tools > Component Services**.

2. In Component Services, double click Computers, double click My Computer and select Distributed Transaction Coordinator .

3. Right-click Local DTC and then select Properties.
4. Click the Security tab in the Local DTC Properties window.
5. Select the Enable XA Transactions check box, click OK. This will restart the MS DTC service.
6. Click OK again to close the Properties window, and then close Component Services.
7. Restart SQL Server to ensure that it syncs up with the MS DTC changes.

Configure the JDBC Distributed Transaction Components

1. While the Agiloft installer is running, and at the stage of asking for the MS SQL credentials, navigate to the `Agiloft\resources\resources.zip\resources\java\lib\mssqlxa` directory and open the files inside your zip viewer.

   a. Copy the `sqljdbc_xa.dll` file from the directory to the Binn directory of the SQL Server computer.

   Note: For a default SQL Server install, the location is `C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSERVER\MSSQL\Binn` .

   b. Run the `xa_install.sql` database script from the directory:

   c. In the command prompt, enter `sqlcmd -i xa_install.sql`. This script installs the extended stored procedures that are called by `sqljdbc_xa.dll` . These extended stored procedures implement distributed transaction and XA support for the Microsoft SQL Server JDBC Driver. You will need to run this script as an administrator of the SQL Server instance. You can ignore errors about being unable to drop procedures that don't exist.

2. Change the password and database name (sw2_std) if needed in the `aluser.sql` script and run it the same way as `xa_install.sql`. The script creates an Agiloft user with SysAdmin role and the ability to use XA Transactions. For best results, do not revoke the SysAdmin role for this user.

3. Close the SQL Server Management Studio. If this is not closed, the Agiloft installer will not be able to get an exclusive lock to set the database options, and will wait forever.
4. Continue with the Agiloft installation.

MySQL Installation

Here are some of the recommendations by our developers to assist the database administrator in setting up the MySQL server for optimized integration with Agiloft.

Prerequisites

- The MySQL version should be verified to work with Agiloft. See System Requirements for more information.
- The TCP/IP connection must be set to a static port. See the relevant documentation for your distribution.

Follow these steps

1. Download the latest MySQL version, and use the steps at the MySQL Installation Guide to install it to your server.
2. Verify that the database user has sufficient privileges to run custom scripts. The user will need System Administrator privileges at least.
   a. To create a new database user with system administrator privileges to integrate with Agiloft, the following script format can be used:

   Create sysadmin user

   ```
   create login aluser with password='Qwerty1';
   go
   create user aluser for login aluser;
   go
   exec sp_addsrvrolemember 'aluser', 'sysadmin';
   go
   ```

3. In MySQL, create a custom database named sw2_std, specifying UTF8 character set. You can use the following commands to do this:

```
create        # or alter
database sw2_std DEFAULT CHARACTER SET utf8;
mysql> use sw2_std;
Database changed
mysql> SHOW VARIABLES LIKE 'character_set%';
```

This will return something like the following:

```
+-------------------------+----------------------------+
| Variable_name | Value |
+-------------------------+----------------------------+
| character_set_client | utf8 |
| character_set_connection | utf8 |
| character_set_database | utf8 |
| character_set_filesystem | binary |
| character_set_results | utf8 |
| character_set_server | utf8 |
| character_set_system | utf8 |
| character_sets_dir | /usr/share/mysql/charsets/ |
+-------------------------+----------------------------+
 8 rows in set (0,00 sec)
```

4. Configure InnoDB. The following parameters are recommended for the `my.cnf` configuration file. Pay attention to the comments, as some of these values can vary depending on your environment. At a minimum, the **max_allowed_packet** must be set to 16M. For more information, see InnoDB Configuration:

```
[mysqld]
#================mandatory values===============
port = 3306  # This value can be changed. Ask your admin.
bind-address = 0.0.0.0  # This value can be changed. Ask your admin.
character-set-server = utf8
collation-server = utf8_general_ci
explicit_defaults_for_timestamp = 1
innodb_locks_unsafe_for_binlog = 1
innodb_strict_mode = 0
sql-mode = NO_AUTO_VALUE_ON_ZERO
innodb_file_format = Barracuda
innodb_flush_log_at_trx_commit = 0
default-storage-engine = InnoDB
innodb_file_per_table = 1
#================recomended minimum values=============
max_connections = 384
max_allowed_packet = 96M
query_cache_type = 1
slow_query_log = 1
slow_query_log_file = <SLOW_QUERY_LOG>
log_error = <MYSQL_ERROR_LOG>
#================optional values===============
tmp_table_size = 64M
key_buffer_size = 48M
query_cache_size = 64M
net_read_timeout = 1000
table_open_cache = 2048
connect_timeout = 20
innodb_lock_wait_timeout = 150
innodb_log_files_in_group = 3
innodb_flush_method = O_DIRECT
net_write_timeout = 1000
user = enterprisewizard
innodb_file_io_threads = 4
innodb_log_buffer_size = 16M
innodb_mirrored_log_groups = 1
innodb_log_file_size=<INNODB_LOG_SIZE>
tmpdir = <AGILOFT_TMPDIR>
innodb_buffer_pool_size = 14000M
innodb_additional_mem_pool_size = 100M
sort_buffer_size = 5M
query_cache_limit = 5M
read_buffer_size = 1M
join_buffer_size = 5M
basedir = <MYSQL_DIR>
innodb_data_home_dir = <MYSQL INNODB DIR>
innodb_log_group_home_dir = <MYSQL_LOG_DIR>
```

5. In Linux, load the MySQL time zone table using the following command on the server where MySQL is installed:

```
mysql_tzinfo_to_sql /usr/share/zoneinfo | mysql --host=127.0.0.1 --port=3306 -
u root -p <password> mysql;
```

6. Add the default-time-zone entry to the `my.cnf` file. This file is usually located under `/etc/my.cnf`.
7. Set the time zone value to match the server time zone. For example, if the server uses the Pacific time zone, set: `default-time-zone=America/Los_Angeles,`
8. Restart the MySQL service.

Work with the Setup Menu

To finish configuring and installing the software, or to access advanced server settings at any time after installation, run the Agiloft configuration utility Setup. To run Setup, open the file located in your Agiloft installation directory.

For initial installations on Windows, you will be prompted to run Setup once the initial installation steps are complete. For Linux installations, you may run Setup in console mode by accepting all defaults or in web mode by selecting Customized setup.
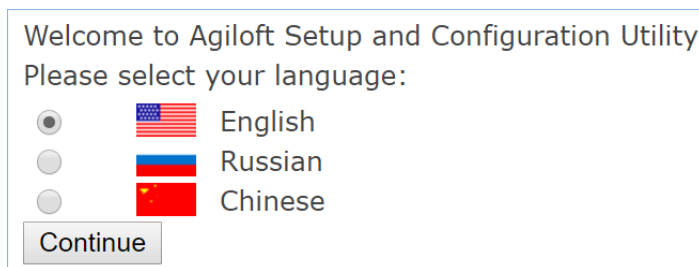
If you run the installer in GUI mode, or if you selected the custom setup option when running the installer in console mode, the embedded web server starts. You will be asked how to connect to it and in the case of local installation a web browser opens.

Agiloft Setup Assistant

After initial installation is complete, the Setup utility will guide you through a series of configuration steps.

Language selection

Setup currently supports English, Russian and Chinese. The language selection page is displayed each time Setup is run. Select your language and click Continue.
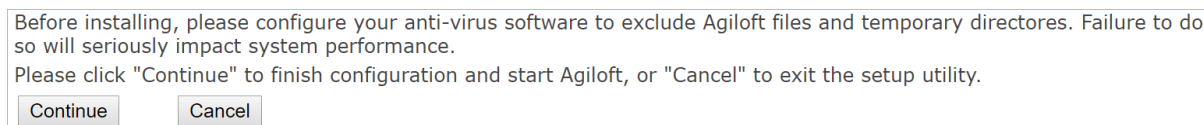

Antivirus warning

You will be prompted to configure any antivirus software running on your system to exclude the Agiloft directory. After installation, the following paths must be excluded from your antivirus software:

- `AL_HOME/tmp/*.tmp*`
- `AL_HOME/tmp/#sql*`
- `AL_HOME/wildfly/standalone/log`
- `AL_HOME/logs/*log`

When you are finished, click Continue.

Installation method selection

Select Fully automatic setup to accept all defaults, and continue with the installation, summary or select Customized setup to control all configuration parameters. If you select Abort installer, you can run Setup and resume configuration later. The automatic setup does not allow you to define elements such as a custom SQL server

Please click a link to select one of the following options:

Fully automatic setup
Recommended for non-expert users. The Installer will automatically install and configure all components with their default options.

Customized setup
Recommended for expert users. Allows custom configuration of each individual component.

Abort Installer
Click this link to abort the installation process and quit. You can continue later, by running the Setup application located in your installation directory.

Sample KB configuration

The installer offers two knowledgebase configurations:

1. CRM/Helpdesk/BPM - this offers a standard set of tables and features for most business purposes, that can be selected as required. For more information, see Standard System.
2. ITIL/ITSM/BPM - this template is optimized for ITIL-compliant business environments.

Licenses

If you are using the Agiloft Free Edition, fill out the form with your information and Agiloft will send you an email with licensing information. Both Free Edition and regular customer licenses must be installed after installation is complete. For more information, see Licensing.

Database Server

The server page allows you to define the server options, including the SQL database, and the Python, Perl and Nmap distributive locations.

SQL Installation

Agiloft can work with several database server types:

- An **embedded MySQL server** - this is the default, and included with Agiloft installations
- An **external MySQL server**
- An **external Microsoft SQL server**

Note that the last three are only available in the Customized Setup. Select which one to use on this page. For more information, see Installation with Custom Databases.

Database Server

Please select the database server to use with Agiloft:

- ● MySQL 5.6.32
  - ● Download MySQL5.6 distributive — `http://database-download.com/thirdpartysoftware/pool/mysql-5.6.32-winx64`
  - ○ Use downloaded MySQL5.6 distributive file
  - ○ Use existing MySQL5.6 server

  - ● Download MySQL JDBC driver distributive — `http://database-download.com/thirdpartysoftware/pool/mysql-connector-java`
  - ○ Use downloaded MySQL JDBC driver distributive file

- ● PYTHON
  - ● Download PYTHON distributive — `http://database-download.com/thirdpartysoftware/pool/python.zip`
  - ○ Use downloaded PYTHON distributive file

- ● PERL
  - ● Download Perl distributive — `http://database-download.com/thirdpartysoftware/pool/pxperl-5.8.7.6.zip`
  - ○ Use downloaded PERL distributive file

☐ Install attached file virus scanner (more info)

☐ Install Nmap
- ○ Download NMAP distributive — `http://database-download.com/thirdpartysoftware/pool/nmap.zip`
- ○ Use downloaded NMAP distributive file
- ○ Microsoft SQL Server
- ○ Oracle

[< Back] [Next >]

1. **Embedded MySQL server:** To use the embedded MySQL server, select MySQL and Download MySQL distributive; or select Use downloaded MySQLx.x distributive file and enter the file path. The default MySQL server requires almost no configuration. All you need to do is set a password for a database user with read-only access to Agiloft data, which Setup will create automatically. Click Next to view the auto-generated password. You will need to write it down.

Database Server Settings

Provide necessary information for the selected SQL server here, so the Setup Assistant can configure it for Agiloft.

The built-in SQL server does not require any configuration and will be installed automatically.

Write down the autogenerated password or set your own password for the database user named **ewreader**. This account has read-only access to the database and can be used to examine the data: `tkZ2BZxG`

Use the InnoDB plug-in or the embedded InnoDB engine?   ☑

In order to avoid the row limitation of 8KB with the InnoDB engine, which can be reached in the case of many fields, especially variable length fields, the InnoDB plug-in can be used. The InnoDB plug-in has additional benefits including performance improvements and optimized disk space usage, however, it increases the number of files in the MYSQL server data directory. Selecting the InnoDB plug-in option results in the Barracuda file format being used with dynamic row formatting.

If you uncheck this box then the embedded MySQL server will be configured to use the embedded InnoDB engine.

`< Back`   `Next >`

2. **External MySQL server:** To use an external MySQL server, select MySQL and Use existing MySQLx.x server. Click Next to enter the database server settings on the following page. Enter valid values for all fields. The MySQL user needs administrator access rights in the database.

Database Server Settings

Provide necessary information for the selected SQL server here, so the Setup Assistant can configure it for Agiloft.

You have chosen to use your own MySQL server. Before continuing, please ensure that your server meets the following requirements:

- InnoDB support must be turned on.
- InnoDB storage must be initialized with at least 400 megabytes of initial capacity, and the auto-increment attribute enabled.
- The following MySQL system variables must be set in the MySQL config file before it is started:

  - **max_packet_size** must be set to value **16M** or higher
  - **default-character-set** must be set to **utf8**
  - **default-collation** must be set to **utf8_general_ci**

MySQL Server Address	`127.0.0.1`
MySQL port	`3306`
	If your server uses a non-standard port number, please change it here, otherwise leave this field as is.
Database Name	`sw2_std`
	Specify the name of the database to use with Agiloft. Note that the database must already exist.
MySQL User Login	`aluser`
MySQL Password	`••••••••`

If your MySQL server is configured to use InnoDB plug-in version 1.0.17 or later then checking this box allows to avoid limitation of length of a single table record.   ☑

`< Back`   `Next >`

3. **External MS SQL server:** To use an external MS SQL server, select Microsoft SQL server. Enter the connection settings on the following page.

Database Server Settings

Provide necessary information for the selected SQL server here, so the Setup Assistant can configure it for Agiloft.

MS SQL Server Address: `127.0.0.1`

MS SQL port: `1433`

If your server uses a non-standard port number, please change it here, otherwise leave this field as is. You can determine the port used by your server instance in the Server Network Utility (found in the Microsoft SQL Server program group on the Windows server where your database resides). Select the instance name from the drop down list and select TCP/IP from the list of enabled protocols. Then click the Properties button and note the listed port number.

Database Name: `sw2_std`

Specify the name of the database to use with Agiloft. Note that the database must already exist.

MS SQL User Login: `aluser`

MS SQL Password: `••••••••••`

< Back   Next >

Python, Perl, Nmap and Virus Scanner

To select the Python, Perl and Nmap files, either use the default supplied distributives, or enter the location of a downloaded file in .zip format.

If you select Install attached file virus scanner, the installer will include ClamAV toolkit, which will scan any attached files for viruses. ClamAV can also use either the default supplied file, or a downloaded local file location. When implemented, the antivirus protection only scans attached files and has no effect on the rest of the operating system. For more information, see www.clamav.net.

Web Server Settings and Integration

Agiloft uses a built-in web server, Apache Tomcat, which can work with an external web server installed on the same machine. This means that requests to the web server will be redirected to Agiloft. You may set various configuration options for Apache Tomcat. Agiloft supports integration with Apache 2* for all platforms and Information Information Services (IIS) for Windows.

Web Server

The Web server is used to display a graphical interface to Agiloft for your staff and end users. Agiloft uses a built-in NGINX web server.

Please edit the web server configuration options below to fit your needs:

Enable https for NGINX HTTP server. ☐

Open HTTP port for outside access ☑
This enables access to the HTTP port (default is port 8080) from any IP-address. If outside access to the HTTP port is closed, then access will only be granted from the localhost (this machine).

Main HTTP port `80`
*This is the main HTTP port used by the web server. For example if you enter **8080** here, Agiloft will be accessible by the following URL: **http://yourdomain.name:8080/gui2***
If you do not run any other web server on this machine you can set this value to 80, otherwise set it to any other unused port.

Enable HTTPS port ☐ `443`
Enable the HTTPS port if you wish to use a secure protocol to connect to Agiloft. You may change the Apache Tomcat HTTPS port from the default value (8433) to any other unused port.

Keystore File
If you want to use an existing keystore to establish a secure connection, enter the full name of your keystore file here. If this field is left empty, a dummy certificate will be generated for you.

Keystore Password
If you are using your own existing keystore, enter the access password here. Otherwise leave this field unchanged.

Enable https for NTINX HTTP server: NGINX is installed by default on Linux, but not in Windows. If you are supplying server certificates, then HTTPS should be enabled; otherwise, only the HTTP port is needed. For more information, see: NGINX Setup.

Open HTTP port for outside access, Main HTTP port: Apache Tomcat always listens on the port. On this page you may change the number of this port and open or close access from outside the local machine where Agiloft is installed.

Enable HTTPS port, Keystore File, Keystore Password: You may open Apache Tomcat's HTTPS port for listening. This allows you to have a trusted and secure connection with Agiloft. The standard HTTPS port is 443, but Apache Tomcat uses port 8443 for HTTPS connections by default.

Note: To enable HTTPS you will need a keystore file to keep track of your secure certificate(s). You may use your own keystore or have a dummy keystore certificate auto-generated on installation. To use your own keystore, enter the file name and passwords in the Keystore File and Keystore Password fields. To automatically generate a dummy keystore, leave the fields unchanged.

Integration with Other Servers

Here you decide whether or not to integrate Agiloft with an external web server, and if so, what type of server.

Web Server Integration

The built-in web server is configured automatically and no user input is required.
Please click "Next" to continue.

[< Back]   [Next >]

a. No integration: If you choose not to integrate with an external web server, Apache Tomcat will be configured automatically. Click Next to continue.

b. Integration with IIS: If you select integration with IIS, then no further configuration is needed. Click Next to continue.

Web Server Integration

Microsoft IIS environment was detected on this machine.
Setup assistant will now perform any necessary configuration. Please click "Next" to continue.

[< Back]   [Next >]

c. **Integration with Apache**: If you select integration with Apache, Setup will automatically look for the Apache main configuration file. If no file is found, you can enter the full file path.

Web Server Integration

Please specify additional parameters for your Apache 2 web server:

Apache 2 main config file. Please specify the full file path if it isn't detected automatically.

Forward both HTTP and HTTPS requests from the main web server to Tomcat's HTTP port. If unchecked then both HTTP and HTTPS requests from the main web server will be forwarded to Tomcat's secure HTTPS port instead.

The Setup assistant will now check your Apache 2 setup and perform any necessary configuration.

[< Back]

Note: Based on your earlier selections, you will have either HTTP or HTTPS redirection, but not both. If you use HTTPS redirection, for example, all HTTP requests will be redirected to HTTPS also.

Apache HTTPS (SSL) must be properly configured before you select this option.

Apache Tomcat's HTTPS port should be opened for listening.

Hotlink root server: You should change the default "localhost" server name used in hotlinks and emails automatically generated by Agiloft to the hostname that is accessible to users through a standard URL, e.g. https://support.agiloft.com. This setting can also be changed later from the admin console once installation is complete.

Hotlink root server

Server name as it will appear in automatically generated emails etc, it may be overwritten on a KB level using "hotlinkServerRoot" global variable   http://localhost

[< Back]   [Next >]

Installation summary

Setup is now ready to complete the installation and configuration. Click Next when you are ready to continue. Installation can take 10-30 minutes depending on the computer. When Setup is finished, you will be redirected to the Setup main menu.

Setup Wizard

Total RAM detected: 5.757053 Gb

Setting installation directory: /usr/local/Agiloft

Unpacking resources

[Click here if this page does not refresh automatically]

You can now access and begin using your system.

If Something Goes Wrong

If an error occurs during installation an error message is displayed in the progress page. There are two options after an error: you can either leave all installed files 'as is' while you determine the cause of the error, or you can completely uninstall Agiloft from the computer and save the installation logs for later debugging.

Ignoring Import Errors

In some cases imported data when installing or importing may be corrupted and cannot be properly imported. You may wish to set a special import mode when SQL import errors produce warnings that are not fatal errors. We recommend that you do not use this option unless instructed to do so by a support or implementation specialist. Ignoring errors may result in a corrupted database.

Setting ignore SQL errors mode in Unix

Set the environment variable `ew.import.ignore.sql.errors` to the value true, then restart the application server. You must be logged in as the Unix root user to do this.

```
# ew.import.ignore.sql.errors=true
# export ew.import.ignore.sql.errors
# /etc/init.d/ew-server restart
```

This example is given for bash shell. If you use a different shell, consult its documentation on how to set and export environment variables. If you want to make this mode permanent, edit the /etc/profile Linux/Unix file, and add the following lines:

```
ew.import.ignore.sql.errors=true
export ew.import.ignore.sql.errors
```

Re-enter the Unix console session. To check if the environment variable is set correctly, execute the following command:

```
# export | grep ew.import.ignore.sql.errors
```

Setting ignore SQL errors mode in Windows

Set the environment variable `ew.import.ignore.sql.errors` to true, and then restart the application server.

1. Click **Start > (My) Computer > [*Right-click*] > Properties > Advanced > Environment Variables > System Variables > New**.

2. Enter the variable name `ew.import.ignore.sql.errors` and set the variable value to true. Press **OK**.

3. Run command line window by clicking **Start > Run**… Then type cmd in the Open field and press OK.
   Restart the application server:

```
C:\> net stop ewserver
C:\> net start ewserver
```

Download Errors

If a download of external software fails in the installer, the error message will provide detailed information for troubleshooting. Depending on the context of the reason for the download failure, the error dialog will either report this message:

The installer could not download the file from the external source, possibly due to inadequate permissions. Please download the software manually and add it via the Use Downloaded Distribute File option when reinstalling.

Or something similar to this message:

Installation of database server failed due to a problem downloading http://database-download.com /thirdpartysoftware/pool/mysql-connector-java-5.1.26.tar.gz88. We tried four times for 160 seconds in total. The error message is: Can't get http://database-download.com/thirdpartysoftware/pool/mysql-connector-java-5.1.26.tar. gz88 to /usr/local/Agiloft/software/archives/mysql-connector-java-5.1.26.tar.gz. You can manually download the file from ftp://www.agiloft.com/thirdpartysoftware/pool, save it on your computer, and use the "File Already Downloaded" option.

Optimizing Tables

In the bin directory there is a script named `optimize_tables`.

This script performs the mass execution of an optimize table SQL statement against a set of SQL tables. Running the script can often increase performance if tables have become unoptimized.

Add a Static Login Page

If you want to add a custom HTML page for logins, you need to add a static context inside the Agiloft Setup module. This topic describes the steps to do this.

> ⓘ **Prerequisites**
>
> - You should already have created the HTML login page and all associated graphics. This topic only describes the steps to configure this page as the default login.
> - Stop the EWDatabase and EWServer services in the Task Manager or equivalent before making these changes.
> - NGINX must be enabled for your installation. For more information, see Initial Installation in Linux.

Add the Static Login Path

1. Add a Login Page Folder.
   a. In the installation directory, add a new folder where you will keep the login page files. For example, `C:\Agiloft\www\htdocs\logins`.
   b. Add all of the necessary HTML pages, files and graphics.
   c. If the default login page is index.html, you can login via the directory path. For example in the \logins folder above, you could rename the login-page.html file to index.html. Now the URL to launch your custom login page would look like `http://servername/logins/`.
2. Open the Web Server Settings menu.
   a. Double click Setup.exe in the installation folder to open the Setup menu.
   b. Navigate to the main menu then click Web server to open the Web Server Settings.

3. Add a path and a directory.
   a. In the Web Server Settings menu, the Path refers to the URL relative path and must be prepended with a forward slash - for example, `/logins`. The Directory refers to the physical path of the folder on the server, for example, `C:\Agiloft\www\htdocs\logins`.
   b. Add the Path and Directory based on the login page folder.
   c. Click the Change web server settings button.

   d. The application servers will restart with the new static context added.

4. At this point, you will be able to log in to the system by navigating to `http://servername/context path/login-page.html` or `http://servername/context path`.

> ✅ Instruct your users to bookmark the login page for easy access.

Directory Structure

The following tables contains the   Agiloft directory structure with a description of each directory's or file's purpose. The table also indicates whether a directory or file is required to maintain on a replicated copy in order to restore a backup of the system.

Release 2019_01 (June 2019 / Version 6 R10.4) or newer

Path	Description	Req Bac /Re
On Linux: /etc /EnterpriseWizardConfig. xml On Windows: C: \EnterpriseWizardConfig. xml	Main Agiloft configuration file. It contains all the parameters of the instance and is used by the installer for upgrades and reconfiguration.	Yes
AGILOFT_HOME	Root directory of the Agiloft instance.	Yes
All paths below are relative to AGILOFT_HOME.		
data	Main directory for non-database data.	No
data/backups	Contains backups made by Agiloft on a knowledgebase level. It contains a directory for each knowledgebase on the server. The directory names match the knowledgebase names.	No
data/<KB NAME>/scripts	Contains external scripts used by rules.	Yes
data/<KB NAME> /largeObjects	Contains the content of attached files in a knowledgebase. Metadata is stored in a database, so if an OS-level backup of the database is done, the directories for each knowledgebase must also be stored.	Yes
data/<KB NAME>/reports	Contains the results of scheduled reports that have been executed.	No
data/<KB NAME>/wallet	Contains the private key used to decrypt knowledgebase data if the encrypt/decrypt feature is used.	No
data/<KB NAME>/keystore	Contains a backup of the knowledgebase's private key.	Yes
jre	Directory for the Java Runtime Environment shipped with Agiloft. It's used to avoid possible compatibility issues if Java is already installed on the server.	Yes

`wildfly`	Root directory of the Wildfly Application Server. It contains the server itself and the deployed Agiloft code. The Agiloft configuration is stored in the wildfly/standalone/configuration/ directory.	Yes
`wildfly/standalone/log`	Contains wildfly logs. Can be excluded from any backups.	No
`wildfly/standalone/tmp`	Contains application temporary data and should be excluded from any backups.	No
`logs`	Directory for log files of installation, upgrade, and configuration modifications.	No
`software`	Directory for downloaded third-party software that is not included with the Agiloft distribution.	No
`spool`	Directory for temporarily storing incoming and outgoing emails used by the Agiloft email subsystem.	No
`resources`	Directory for all project information, scripts, and nginx-related items.	Yes
`alWinProperty.properties`	Contains build and software update properties.	Yes
`bin`	Directory for Agiloft internal executables, including installer utilities, start and stop scripts, diagnostics, and other management tools.	Yes
`issue/amd64-windows.xml /linux.xml`	Contains the configuration of all software details and versions.	Yes
`lib`	Directory for project-related jar files.	Yes
`htdocs`	Directory for knowledgebase-specific login pages.	Yes
`EnvironmentVars`	File used to set environment variables, such as "EW_STARTUPCHECKER_SKIP_CHECKS_UNLESS_PATCHED=true," and should move with the installation between servers if the Agiloft application is moved. If any environment variables are set when the application is installed, this file is used.	Yes
`Setup.exe`	Utility for setting different configuration settings, such as Wildly and database configuration, web server integration, Agiloft services control, software updates, backups and restores, snapshots, mail settings, etc.	Yes
`uninstall.exe`	Utility for uninstalling the Agiloft application.	Yes
`clamav`	Root directory for ClamAv antivirus.	No
`Python`	Python installation shipped with Agiloft and used by custom script actions.	No
`update/current/`	Directory used when upgrading that keeps a backup of the current system's configuration files and the latest installer resources. In case of an upgrade failure, the configuration files are restored to help rollback the application to its last working state. With a successful upgrade, the backup files and installer resources are removed from this folder.	No

license	Directory for storing html files that describe the terms and conditions of Agiloft's End-user License Agreement.	No
tmp	Directory for storing temporary files that are required during installation or when upgrading. Files in this directory are generally deleted after usage.	No
build.xml	Ant build file with target actions that deploy configuration files and unzip the dependent software resources required to run Agiloft.	No
conf	Directory storing the samplekbconf.xml file, which contains the knowledgebase's configuration of tables and features supported in the system.	No
mysql	MySQL DB root directory.	Yes

Release 2018_02 (November 2018 / Version 6 R10.3) / or older

Path	Description	Re for Ba
On Linux: /etc /EnterpriseWizardConfig. xml On Windows: C: \EnterpriseWizardConfig. xml	Main Agiloft configuration file. It contains all the parameters of the instance and is used by the installer for upgrades and reconfiguration.	Yes
AGILOFT_HOME	Root directory of the Agiloft instance.	Yes
All paths below are relative to AGILOFT_HOME.		
data	Main directory for non-database data.	No
data/backups	Contains backups made by Agiloft on a knowledgebase level. It contains a directory for each knowledgebase on the server. The directory names match the knowledgebase names.	No
data/<KB NAME>/scripts	Contains external scripts used by rules.	Yes
data/<KB NAME> /largeObjects	Contains the content of attached files in a knowledgebase. Metadata is stored in a database, so if an OS-level backup of the database is done, the directories for each knowledgebase must also be stored.	Yes
data/<KB NAME>/reports	Contains the results of scheduled reports that have been executed.	No

`data/<KB NAME>/wallet`	Contains the private key used to decrypt knowledgebase data if the encrypt/decrypt feature is used.	No
`data/<KB NAME>/keystore`	Contains a backup of the knowledgebase's private key.	Yes
`jre`	Directory for the Java Runtime Environment shipped with Agiloft. It's used to avoid possible compatibility issues if Java is already installed on the server.	Yes
`jboss`	Root directory of the Jboss Application Server. It contains the server itself and the deployed Agiloft code. The Agiloft configuration and code is stored in the `jboss/server/sw` directory.	Yes
`jboss/server/sw/log`	Contains jboss logs. Can be excluded from any backups.	No
`jboss/server/sw/tmp`	Contains application temporary data and should be excluded from any backups.	No
`jboss/server/sw/work`	Contains application temporary data and should be excluded from any backups.	No
`logs`	Directory for log files of installation, upgrade, and configuration modifications.	No
`software`	Directory for downloaded third-party software that is not included with the Agiloft distribution.	No
`spool`	Directory for temporarily storing incoming and outgoing emails used by the Agiloft email subsystem.	No
`resources`	Directory for all project information, scripts, and nginx-related items.	Yes
`alWinProperty.properties`	Contains build and software update properties.	Yes
`bin`	Directory for Agiloft internal executables, including installer utilities, start and stop scripts, diagnostics, and other management tools.	Yes
`issue/amd64-windows.xml /linux.xml`	Contains the configuration of all software details and versions.	Yes
`lib`	Directory for project-related jar files.	Yes
`htdocs`	Directory for knowledgebase-specific login pages.	Yes
`EnvironmentVars`	File used to set environment variables, such as "EW_STARTUPCHECKER_SKIP_CHECKS_UNLESS_PATCHED=true," and should move with the installation between servers if the Agiloft application is moved. If any environment variables are set when the application is installed, this file is used.	Yes
`Setup.exe`	Utility for setting different configuration settings, such as Jboss and database configuration, web server integration, Agiloft services control, software updates, backups and restores, snapshots, mail settings, etc.	Yes
`uninstall.exe`	Utility for uninstalling the Agiloft application.	Yes

clamav	Root directory for ClamAv antivirus.	No
Python	Python installation shipped with Agiloft and used by custom script actions.	No
update/current/	Directory used when upgrading that keeps a backup of the current system's configuration files and the latest installer resources. In case of an upgrade failure, the configuration files are restored to help rollback the application to its last working state. With a successful upgrade, the backup files and installer resources are removed from this folder.	No
license	Directory for storing html files that describe the terms and conditions of Agiloft's End-user License Agreement.	No
tmp	Directory for storing temporary files that are required during installation or when upgrading. Files in this directory are generally deleted after usage.	No
build.xml	Ant build file with target actions that deploy configuration files and unzip the dependent software resources required to run Agiloft.	No
conf	Directory storing the samplekbconf.xml file, which contains the knowledgebase's configuration of tables and features supported in the system.	No
mysql	MySQL DB root directory.	Yes

Upgrading In-House Systems

The typical sequence for upgrading Agiloft is to:

1. Create a backup

2. Perform the upgrade

It is very rare that problems arise during an upgrade, but if they do, one can always roll back to the backup. For moderately sized KBs, the process is simple because the Agiloft installer includes an option to create a full backup and automatically executes a set of integrity checks after the upgrade. Then, if there are any issues, the installer can automatically roll back. The entire process can take less than 15 minutes and a handful of mouse clicks to complete.

Upgrading Large KBs

With large KBs, the upgrade itself is still fast and typically takes less than an hour, even when the KB includes terabytes of data. However, creating the backup can take a long time if the native Agiloft facility is used because it has to read the database using SQL queries and export it.

The solution is to use native OS and database backup facilities. For example, the Agiloft hosting service uses CephFS snapshots to create a backup of the file system. Because these snapshots use Copy on Write technology, creating the backup only takes a minute or so, even when there are terabytes of data. This is implemented outside of Agiloft because the application does not have access to these native OS-level facilities.

At customer sites, the infrastructure varies widely. Agiloft may be hosted on a bare metal of virtual infrastructure, running against Linux and MySQL, or Windows and SQL Server. In some cases, the database is replicated across multiple servers; in others, the database is on the same machine as the application server. And the file system may be native or SAN-based. However, the basic process for upgrading large KBs is still the same:

1. Create a backup, *using native database facilities to create a backup of the database and native OS-level facilities to create a backup of the filesystem*
2. Perform the upgrade, *with options selected not to create an OS or KB level backup*

Or, you may use the following process with additional steps indicated in blue. These steps allow you to manually ensure that the backups are good and that the production upgrade goes smoothly.

1. Create a backup, *using native database facilities to create a backup of the database and native OS-level facilities to create a backup of the filesystem*
2. Restore the backup onto a server with firewall settings that prevent it from connecting to other systems or sending email
3. Upgrade the backup, *with options selected not to create an OS or KB level backup*
4. Login to the upgraded backup and confirm that everything is working properly
5. Create a new backup of the original Agiloft instance, *using native database facilities to create a backup of the database and native OS-level facilities to create a backup of the filesystem*
6. Perform the upgrade, *with options selected not to create an OS or KB level backup*

The additional advantages of this process is that steps 2 through 4 can be executed at any time without interfering with production use, and since the backup is a copy of the original KB, any upgrade issues will be found when upgrading the backup.

In order to assist in-house customers with the filesystem backup, we have documented the Agiloft directory structure here.

⚠️ For customers who want to deploy in-house without dealing with the complexity of using native database facilities to create a backup of the database, we recommend installing on Linux using the default installation parameters.

This results in MySQL being installed on the same machine as the WildFly application server, so the installer can create a backup of the file system and database by simply shutting down the database and creating a .tar file. This takes longer than a snapshot, but much less time than a KB-level export. Having the database and application server on the same machine also significantly improves performance. Security is also maintained because the database is automatically configured to only listen to connections from localhost.

Agiloft High Availability Configuration

This article describes a high availability (HA) configuration for those who want to host Agiloft internally. A simple HA configuration features a pair of synced machines with an Nginx Proxy.

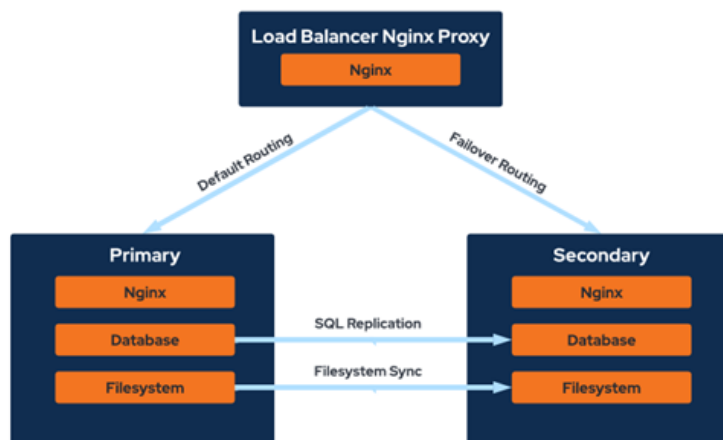> ⚠ The Nginx Proxy discussed here is not provided nor maintained by Agiloft. It is included in this example configuration for clarity only, as an example of how you might configure your own setup if you host Agiloft internally.

In this configuration, a primary server runs Agiloft as the default source. When all systems are working, it answers all queries and receives all traffic.

This server uses SQL Replication (E.g. MS SQL Replication or MySQL Replication) and a filesystem sync (e.g. MS Robocopy on Windows or lsyncd on Linux) to synchronize data from the database and attached files respectively to a secondary replica server. The secondary should be in a different physical location from the primary so that events like earthquakes, fires, or other disasters don't destroy both servers.

A third server acts as a proxy to direct traffic to the appropriate server, the primary by default and the replica when the primary is not available.

Scope

This setup will protect against failure cases where the primary server is rendered inoperable, such as:

- Hardware Failure
- Network issues, internet connectivity or ISP issues
- Earthquakes, flooding or other natural disasters
- Scheduled maintenance where downtime isn't a possibility

Of course, this doesn't protect against data loss due to human error, so this solution should be used in conjunction with a backup system, such as snapshots, database and file system backups, or the Agiloft built-in KB backup system.

Failover and Restoration

A script on the proxy server monitors the primary server for unscheduled downtime. If unscheduled downtime is detected, it triggers a failover condition where the script performs the following actions:

- Agiloft application is started on the secondary server
- Incoming traffic from clients is redirected to the secondary server
- Replication is halted

What constitutes unscheduled downtime could be if the primary server is not accessible over https for five minutes and isn't in a planned downtime state (such as for scheduled maintenance), but this should be fine-tuned for your needs.

Connected users will notice a brief interruption while Agiloft starts, and they will need to re-enter unsaved data.

During this time, system administrators can work on fixing or replacing the primary server or restoring network connectivity.

Once the primary server is restored, the SQL replication and filesystem sync must be reconfigured to replicate in reverse, with data from the secondary server being synced to the primary server as to not lose work.

Once the primary server has caught up, there are two options:

1. Leave the servers as they are, with the roles reversed. The secondary server becomes the primary and the former primary becomes the new secondary server.
2. Schedule a brief downtime to simulate another failover to return to having the primary server as the active version.

Configuration Steps

Setting up this configuration involves the following considerations.

Licenses & SSO

The Agiloft installation on the primary server must include license keys for both the primary and replica servers. Agiloft will automatically activate and use the licenses for the URL and IP Address it is active on. When the primary server is being accessed, that set of licenses is active; when the primary server is inaccessible and traffic is routed to the secondary server, the second set of licenses becomes active automatically.

Likewise SSO has to be configured to work for either IP address. Any external connections such as an SFTP server or will have similar requirements.

Filesystem Sync & SQL Replication

The filesystem of the Agiloft installation should be synchronized from the primary server to the secondary, but it is not necessary to synchronize the operating system itself. Directory Structure details what parts of the directory structure are required for replication.

The filesystem sync should be monitored to make sure that is not falling behind due to bandwidth or other issues. For SQL replication, MS Replication Monitor can be used to warn of sync issues with a MS SQL database; for a MySQL database, monitoring the field "Seconds behind master" within MySQL replication can warn of sync issues.

Nginx Proxy

In order to properly route traffic, clients will hit a proxy that is running another separate instance of Nginx. This redirects clients to the appropriate server depending on the status of the primary server. A separate Nginx instance also provides other benefits, such as being able to display a notice when maintenance is being performed. The Nginx proxy can itself be clustered for further failure resilience.

Upgrade Guide

This article describes how to update Agiloft to a newer version. To identify the versions of the application being upgraded, see Release Version Numbering.

> ⚠ If you are running a version of Agiloft with a release date prior to 2017_01 or 2019_01, you must install a minimum required version of Agiloft before you can upgrade to the current version.

Process Overview

In general, the update process has the following steps:

1. Back up everything that should be backed up. This might include KBs, software code, database files, etc., depending on what is to be updated.
2. Obtain new licenses for the new release, if it is a major upgrade with a new main version number.
3. Perform the upgrade.

For moderately sized KBs, the process is simple because the installer includes an option to create a full backup, and it automatically executes a set of integrity checks after the upgrade. In the rare case that something goes wrong and the system can't repair itself, it automatically rolls back to the pre-update state using the backup.

Regardless of KB size, the upgrade itself is typically quick. In larger KBs, the overall process can take a long time due to the time required to create a backup.

> ✅ For in-house systems, and for more information about creating backups more easily for large KBs, see Upgrading In-House Systems.

Update Methods

There are three ways to run the update process:

- Online Update. This uses an online connection to download and install the newest version of Agiloft. This is the simplest method, provided you have a stable internet connection.
- Manual Update. You download the installation files and install them locally. This option is preferred if your connection is unstable, or if you want to minimize the potential for errors.
- EWUpdate Command Line Utility. This option is generally not necessary, but it can be useful for advanced functions, or in situations where the online and manual methods are unsuccessful.

Preparing to Upgrade

Before you upgrade on a Windows server:

- Open the command prompt as an Administrator and restart the Agiloft services. This clears up any long-waiting threads in the application or database process that might affect the upgrade. Here is an example of the command to use: `C:\Agiloft\bin\ew-control.exe -a restart`
- Sign all other users out of that Windows server, aside from the user that runs the upgrade. This prevents other Windows users from interfering with the upgrade process, particularly while restarting services or accessing files and folders.

Minimum Required Versions

If you don't install every new version as it's released, you might need to upgrade to a minimum required version before proceeding to the current version of Agiloft. Review the list below and start by installing the earliest version of Agiloft that you don't yet have. You might need to install multiple minimum versions before you can upgrade to the current version of Agiloft. For example, if you're running version 2016_02 and want to upgrade to 2019_02, you must first install the minimum required version 2017_01, then the next minimum required version 2019_01, before finally upgrading to 2019_02.

Version 2019_01

If you're running a version of Agiloft with a release date prior to 2019_01, you must upgrade to the 2019_01 release before installing a later version.

1. Download the 2019_01 installer package from https://www.agiloft.com/ewdownload/upgrade/.

    ⚠️ You cannot upgrade to version 2019_01 using the in-system Software Update option. You must download and run the installer package to upgrade to 2019_01.

2. Stop and disable the DHCP Client and Windows Event Log services, using the Services program or the Services tab of Task Manager. Make sure to disable them, not just stop them, so that they don't start running again during the upgrade.
3. Upgrade your system to 2019_01.
4. After the successful upgrade, upgrade to the current version of Agiloft, releases 2019_02 and later. You can enable the DHCP Client and Windows Event Log services at this point.

Version 2017_01

If you're running a version of Agiloft with a release date prior to 2017_01, you must upgrade to the 2017_01 release before installing a later version.

1. Download the 2017_01 installer package from https://www.agiloft.com/ewdownload/archive/2017_01/.
2. Stop and disable the DHCP Client and Windows Event Log services, using the Services program or the Services tab of Task Manager. Make sure to disable them, not just stop them, so that they don't start running again during the upgrade.
3. Upgrade your system to 2017_01.
4. After the successful upgrade, upgrade to the next minimum version of Agiloft, version 2019_01. You can enable the DHCP Client and Windows Event Log services at this point.

Online Update

The online update option is the simplest method.

1. Stop and disable the DHCP Client and Windows Event Log services, using the Services program or the Services tab of Task Manager. Make sure to disable them, not just stop them, so that they don't start running again during the upgrade.

2. Run the Setup Assistant in your installation directory and select Software Update from the main menu, then click Check for updates online.

Agiloft Sofware Update

Software update helps you keep your copy of Agiloft up to date.

Please select how you wish to update the product:

Check for updates online
This is ideal if you have a medium or high-speed Internet connection. The Setup Wizard will check the Agiloft website and download any updates available there.

Manual update
You can also download new Agiloft versions manually. If so, just run installer to perform the update.

3.

4. Setup automatically checks for a new version of Agiloft. If a new version is available, the Setup Assistant downloads it and starts the update.
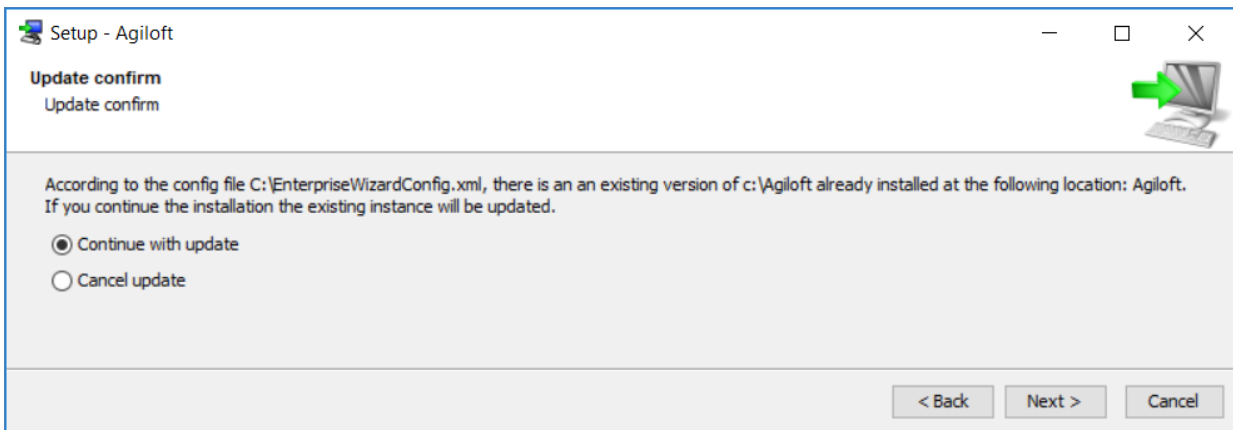
Checking for available updates at www.agiloft.com

Downloading: 1% complete

5. The user can monitor and set update options using the web interface.

Manual Update

If you aren't installing Agiloft for the first time, you can update the software by simply downloading and installing the latest version. The latest official release of Agiloft can be found at https://www.agiloft.com/ewdownload/.

1. Stop and disable the DHCP Client and Windows Event Log services, using the Services program or the Services tab of Task Manager. Make sure to disable them, not just stop them, so that they don't start running again during the upgrade.
2. Run the downloaded installer. The installer detects an existing Agiloft instance and prompts the user about a possible update.

3. Confirm the selections on the Update Options screen. These options include whether to run a backup; whether to delete backup files after the update; and whether to preserve modified MySQL parameters. The update options are explained in more detail in Command Line Options. If you aren't familiar with the commands, be cautious in changing the default selections, particularly if you are working with a live system.
4. Follow the steps in the installer to complete the upgrade.

EWUpdate Command Line Utility

The EWUpdate utility works the same way as the manual installer, but runs from the command line. If you run the utility with no options, it performs an update with all default options selected. If you need to change the options for the utility, use the command line options listed below.

> ✅ Use the `–help` option (`ewupdate --help`) to see all the commands you can use with the utility.

Command Line Options

These options are available in the manual installer and in the EWUpdate command line utility. Default options can be changed using the command-line options listed, which correspond to the options presented in the installer. The list below consists of the most commonly recommended options.

Update option	Corresponding EWUpdate command-line option	Description
Backup database data using OS-level backup	-k,--skiposlevel	This command only applies if the built-in MySQL server is used. Under normal circumstances a full OS-level backup is made. Use this option to skip the default OS-level backup of the MySQL directory. No database restoration is possible if the upgrade fails.
Skip checkers unless any patchers were run	-p,--scup	When the application server starts, it performs data checks for consistency, which might take a long time. Use this option to skip data checking if no data was changed on update. This can speed the time taken to start the application server.
Skip project backup if possible	-K,--skipprjbckp	At the very beginning of the update process all existing projects are saved to the backup directory. If this option is set then no project backup is performed, if allowed. Some update modes require a project backup, in which case it isn't skipped.
Don't delete temporary files after update	-t,--keeptemp	During the update, temporary files are normally stored on the hard drive. These may include data backups, unpacked new code, etc. By default, temporary files are removed after an update. If this option is set, temporary files are left on the device. The temporary files are automatically deleted before the next update.

Don't backup temporary files - logs etc	-i,--backuptemp	If this option is set then no temporary files such as log files are backed up before the update. This saves used disk space and shortens the update time.

For additional update options, use the –help command to print a full list of commands.

```
Example: ewupdate --stable
 -s,--stable              Download stable release version (Offical Release)
 -d,--devel               Download development version (Alpha)
 -C,--custom <host>       Download from custom server
 -F,--file <file>         Upgrade from a distribution that has already been
downloaded to the local hard drive
 -f,--force               Unattended update, all prompts are answered 'yes'
 -c,--caution             Unattended update, all prompts are answered 'no'
 -k,--skiposlevel         Skip OS level backup (avoid using this when skipping
project backup)
 -K,--skipprjbckp         Skip project backups (avoid using this when skipping OS
level backup)
 -t,--keeptemp            Keep temp files
 -p,--scup                Skip checkers unless patchers were run
 -i,--backuptemp          Backup temporary files such as logs (when unattended mode)
 -r,--requiredspace <Gb>  Disk space (Gb) required for update (use with care)
 -w,--warn <MMM or MMM:NNN>  Displays a warning message to customers about an
impending update. Argument syntax is MMM or MMM:NNN, where MMM is the number of
minutes before update and NNN is the estimated update duration in minutes
 -A,--allowsameversion    Do update even if new version is same as old one
 -X,--forceincompat       Forces an upgrade between releases that should not be
compatible. Do not use this option.
 -v,--verbose             Print error details
 -h,--help                Prints this help
```

Rolling Back

If the upgrade fails, the system automatically troubleshoots problems and applies the proper fixes. If the upgrade still fails, the system prompts the user for input before rolling back to the pre-update version. All your settings are retained, and the logs are copied to <Agiloft-Home>\logs\ so you can use them to trace the cause of the failure and resolve it before trying the upgrade again.

Using the Setup Assistant

Once Agiloft is installed, the Setup Assistant can be accessed at any time. To access this menu, open the `Setup.exe` or `Setup.sh` file located in your Agiloft installation directory. A browser window will open and display the main menu.

Status
Settings
Web server
Service Control
Software Update
Backup
Restore
Product Reset
Snapshots
Mail settings
Uninstall

Quit Setup Wizard

Status

The Status window tells you whether Agiloft is currently running, and the landing pages to access it.

Agiloft System Admin Console
The product is installed and running, you can access it using the following URL's :
- http://[____]/gui2
- http://127.0.0.1/gui2

Please view our example html page that demonstrates how to embed Agiloft to your own website:
- http://[____]/gui2/1stpage/readme
- http://127.0.0.1/gui2/1stpage/readme

Settings

The Settings window allows you to manage the amount of RAM allocated for the database and application servers. Make sure the RAM is set to at least 50% the recommended amount.

In addition, you can add configuration options for the database and Jboss, and select the database connection type. To see a list of the available JBoss configuration options, click More... in the Jboss options text.

Agiloft Settings

General settings
Installation folder: c:\Agiloft
Total RAM: 15.95 Gb

Database server
Type: mysql
Host: 127.0.0.1:3333
Name: sw2_std
Type: mysql
RAM: (RAM recommended: 3828 MB)   3828   Reset

DB options   Reset
If needed, you can type any configuration option allowed in the
database configuration file; one per line, in the format of
"name=value". If this is done, options already existing in the
configuration file will be changed and new options will be added to
the existing ones. Only use this tool if you know exactly what it is
you are doing, otherwise, the system may not work properly.
DB connection mode   SOCKET/PIPE ▼   Reset

Application server:
Type: jboss
Home: c:\Agiloft\jboss
Deployment: c:\Agiloft\jboss\server\sw
RAM: (RAM recommended: 7239 MB)   7239   Reset

Jboss options   Reset
You may add or change the options of the jboss start command line.
Do this at your own risk as the system may become unresponsive.
Please change these options only if you know what you are doing.
More...

[Apply changes, Agiloft will be restarted]

Web Server

Web server settings are defined during initial installation, but can be changed later in the Web server section of the Setup menu. You may change all parameters related to external web server integration, as well as those for the built-in Apache Tomcat server. The input fields are described in more detail in the Database Server section of Agiloft Setup.

Service Control

The Service Control menu contains the settings for Agiloft services. These include:

- How the system should handle stop and restarting the database or JBoss server, and which service should be affected when a start/stop/restart happens
- Memory dumps
- Broadcast messages
- Start/stop timeouts
- Duration of inactivity value for the broadcast message during the outage
- How to monitor the services

Software Update

For more information on updating to a newer version of Agiloft, see Upgrade Guide.

Backup

The Backup window allows you to store all Agiloft projects in platform-independent format in a default or chosen directory. These files may be stored as backups, moved to another computer for restoring, etc. Agiloft services are unavailable during the backup process, which may be lengthy depending on the amount of data. For more information, see Set Up Knowledgebase Backups.

To create a backup...

1. Click Backup in the Setup Assistant.
2. Select a folder path - either the default, or a custom folder.
3. Click Perform backup.

Restore

The Restore window restores all projects stored in Agiloft format from a default or chosen directory. If the user selects "Purge the database before KnowledgeBases are loaded", all existing projects are deleted before restoration runs. In this case, the admin console KB stored in the file `admin.xml.ew` should be present in the backup directory. If no database cleaning is performed before restoration, then to avoid overwriting the active admin console KB, `admin.xml.ew` should not be in the directory.

Product Reset

Database resetting performs a low-level erase of the entire Agiloft database and returns the database to a new-install state. For obvious reasons, this option should be used with extreme caution.

Snapshots

A snapshot in Agiloft is a set of files for restoring Agiloft to some previous state of your knowledgebase. A snapshot consists of three parts:

1. Installer file.
2. Stored project files.
3. Agiloft configuration file.

If snapshot storing is enabled, project backups and configuration files from the 'old' installation are stored at the beginning of an update. The installer file from the 'new' installation is stored at the end of the update. Snapshot names contain the date the update was performed and part of the installer name. The number of snapshots to track is set by the user, but 1-3 snapshots are usually enough.

Snapshots

Max number of snapshots: [0]   [Change]

Existing snapshots

Restore	Delete	Date	Name	Config file	Data

[Restore from snapshot]
Click 'Restore from snapshot' to close this window and begin Snapshot restore. Follow the installer instructions. ATTENTION: Restoration from a Snapshot can NOT be reverted!

[Delete snapshot]
Completely delete Snapshot from harddrive.

Maximum number of snapshots: The default value for the maximum number of tracked snapshots is 0 - snapshots are not enabled. To enable snapshots, enter a non-zero value and click Change. If the user enters a number that is less than the number of already existing snapshots, the oldest snapshots are removed.

Delete snapshot: Snapshots can be deleted from the hard disk by selecting the radio button in the Delete column and then pressing the Delete snapshot button.

Restore from snapshot: Restoring from a snapshot installs Agiloft in a special mode and restores projects from stored data. To restore Agiloft from a snapshot, the user must select the Restore column radio button for the selected snapshot, then click Restore from snapshot.

> ⊘ This operation cannot be undone; the current Agiloft state - code, data, and configuration - will be overwritten.

Mail Settings

The Mail settings Setup page allows the user to configure the most common mail system properties. Agiloft processes both inbound and outbound mail. You can disable one or both of these processes by clearing the corresponding check box. For instance, it is typically necessary to turn off email processing before importing a knowledgebase onto a new server.

Disabling email processes is also useful for debugging. The option 'Add a prefix to the subject of all sent mail' can be used for debugging, or to label all emails sent from the server as belonging to a test server.

To disable outgoing or incoming email message processing...

1. Navigate to the Mail Settings page of the Setup utility.
2. To turn off outbound email, deselect the checkbox next to 'Enable automatic mail sending.'
3. To turn off inbound email processing, deselect the checkbox next to 'Enable automatic processing of incoming mail.'

When inbound or outbound mail processing is disabled, messages still waiting to be processed are stored in queues. When mail processing is re-enabled, these messages will be sent or delivered. In order to prevent this, clear the outbound or inbound mail queue before re-enabling email processing.

To clear email queues for the whole server...

1. From the Mail settings page, use the following buttons:
   a. Clear outgoing mail messages queue – this clears any outbound emails stored in the system but not sent.
   b. Clear incoming mail message queue – this clear any inbound emails received but not yet processed by the system.

Mail settings

Enable automatic mail sending   ☑

Enable automatic processing of incoming mail ☑

Add a prefix to the subject of all sent mail   [   ]

[Change mail settings]
[Clear outgoing mail messages queue]
[Clear incoming mail message queue]

Uninstall

To uninstall Agiloft, the user must run the uninstall utility from the Agiloft installation directory. There are two ways to do this.

- Run uninstall manually. For Linux users, the uninstall utility accepts the same command line arguments as the installer: no arguments to run it in GUI mode, -c option to run in console mode and –q option to run in unattended mode, with no prompts or confirmation messages, using all default options.

Or

- Run Setup, then choose Uninstall from the main menu.

After confirming that you really want to uninstall the software, the uninstaller removes the current instance of Agiloft. Backups will be saved in the the $AL_DIR/data/backups directory, so you can restore or re-import them later.