ASAP

Start a Program as Administrator

Very often, users "have to be" added to the local Administrators group on a client PC or server in order to enable them to run programs that require administrative permissions. ASAP makes this obsolete.

Local admin rights on PCs are in times of more and more increasing percentage of notebooks and mobile devices a subject of controversial discussion: Local admin rights always represent a security vulnerability and public security institutions recommend to use them for installations only. **The daily work at the PC should be done with normal user rights.**

Unfortunately this cannot always be realized. **Often, a program requires administrative permissions to be able to access resources and prompts for administrative user credentials.** Thus, Windows operating systems have been deployed with the "RunAs" command and the Windows Explorer option "Run as different user".

Improved "RunAs" Command

In general, the Windows-integrated "RunAs" command is a good thing: A program can be started with alternative (usually administrative) user credentials.

Disadvantage: The user has to know those credentials and may disabuse them to log on or to start other applications.

With ASAP you can start a program with alternate, administrative credentials that can be provided either locally or centrally. The use of ASAP is secure due to encrypted credentials and the use of check sums over the defined program.

ASAP Functionality

ASAP uses Windows shortcuts with the ending .eLnk („encrypted link") and adds encrypted user credentials as well as a check sum over the program that will be run.

You can use your implemented software distribution mechanisms to deploy ASAP links to your users. When double-clicked with normal user rights, the defined programs will be started with administrative credentials.
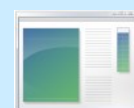
Double-click with normal user rights

Shortcut: „application.eLnk"

ASAP starts your application with predefined user credentials

ASAP .eLnk shortcut (centrally manageable)**:**
- Program path and (optional) startup parameters
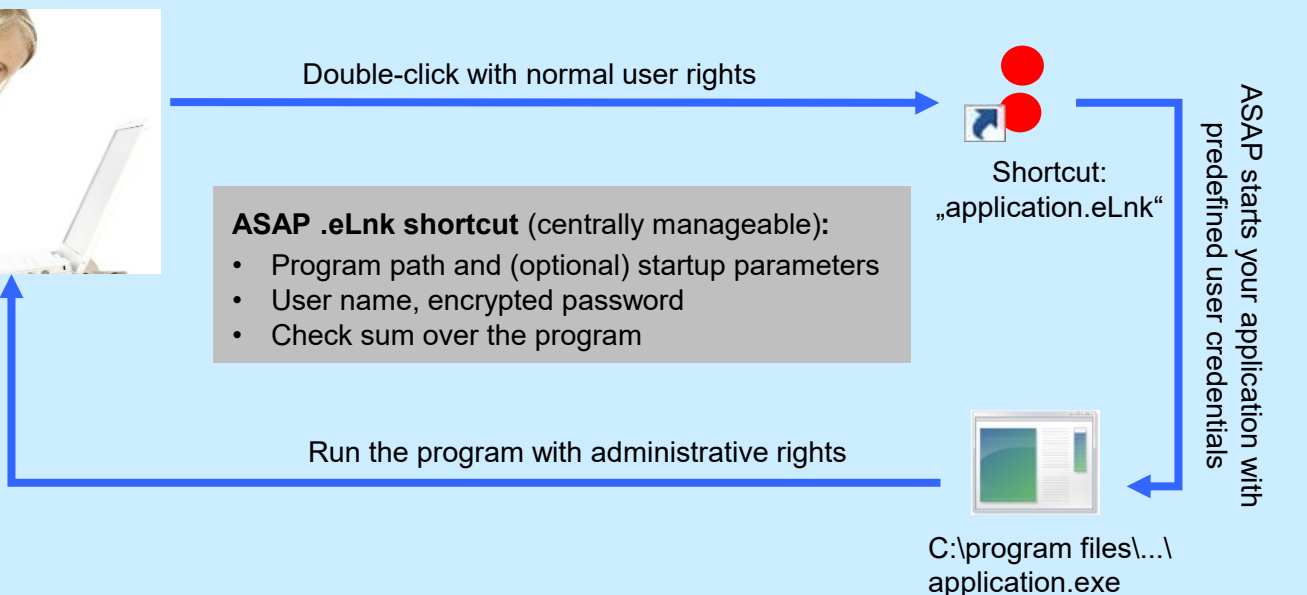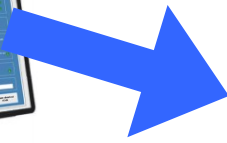- User name, encrypted password
- Check sum over the program

Run the program with administrative rights

C:\program files\...\ application.exe

Create .eLnk Files

ASAP Link Configurator - Summary

Creating an ASAP link file is as easy as creating a shortcut to an application in Windows:
1. Select the application that you want to start (including path), optionally specify parameters for the command line.
2. Specify the domain account or the local account that should be used to start the application.
3. If applicable, specify advanced options, e.g. security settings.
4. Specify, where the new shortcut should be stored.

Click 'Create configuration link' to create the file.

1. Select application, path and parameters:
Path to Application.exe and parameters

Application: `<path to application.exe>`

Parameters: `<parameters>`

Options
- ☑ Expand %environment variables% in parameters at runtime
- ☐ Don't check if the app is present on this system

2. Enter credentials used to start the application:
Domain: `<Domain>|<.>|<PC>`   Username: `<Username>`   Password: •••••••••   Repeat Password: •••••••••   ☐ Don't hide characters

3. Advanced options and security settings:
- ☑ Use a checksum to to prohibit easy application spoofing (recommended)
  Size: 0   Version: Company:
- ☐ Restrict access to this eLnk file to certain users / groups:
- ☐ Convert the application startup path to be a relative path (relative to the shortcut location, e.g. ..\app.exe)
- ☐ Execute this shortcut only once per computer (e.g. for an initial configuration)

4. Specify where the new shortcut should be stored:
Path to Configuration Link File (.ecf / .elnk)
`<Path to configuration link file.eLnk>`

5. Description
Enter a short description for this eLnk (max. 100 characters)
`<Description>`

[Licensed]

ask:us   ?   cancel   create shortcut eLnk

1. Run "ASAP Link Configurator"

2. Add parameters:
   - Program parameters
   - User credentials
   - Check sum

3. Save .eLnk file

4. FINISHED!

To be able to run .eLnk files, you have to install **ASAP.exe** in advance.

Components & Requirements

ASAP Components

- **ASAP Link Configurator:**
  Creation of .eLnk files

- **ASAP.exe & ASAP Wrapper:**
  Run the program that has been defined in .eLnk file

- **ASAP GUI:**
  Supports centralized .eLnk deployment in companies

System Requirements

- ASAP can be used on clients or servers

- Windows operating system with
  - Windows Vista (*or later*)
  - Windows Server 2008 (*or later*)

- .Net Framework 4 (*or later*)

Licensing

- ASAP for Local Use:
  The use of ASAP is free, if a program will be started with the credentials of a local user account (no domain user).

- ASAP for Enterprise:
  If used with Active Directory domain user accounts, ASAP will be licensed per operating system where it is run: According to the number of required licenses, the price per license will be between 3 € and 5 €.

  Software assurance and support are available.

ASAP is part of the GARDEN suite that has been developed to manage and reduce local admin rights in company networks.

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4   ASAP FAQ - Frequently Asked Questions

Below we have listed some frequently asked questions and answers, some are decisive for the purchase, others may come up during operation.

1. [Does the account specified in ASAP Configurator necessarily have local admin rights?](#)
2. [Does the account specified in the ASAP Configurator have to be a Domain Administrator?](#)
3. [Must the file extension .eLnk be registered by the system, or can ASAP also be used with the command line?](#)
4. [Can all applications be started with ASAP administrative credentials?](#)
5. [Can ASAP also be installed on a Terminal Server?](#)
6. [Can ASAP start applications directly from a network drive?](#)
7. [Why do I get a security warning when I start an application from a network drive via ASAP?](#)
8. [Can ASAP itself, i.e. ASAP Configurator, be started from a file share?](#)
9. [Can ASAP .eLnk files (administrative links) be run from a file share?](#)
10. [How does ASAP transfer the administrative credentials transfer to Windows, is it using a service?](#)
11. [What are the ASAP components, and how do they work together?](#)
12. [What has changed in ASAP versions? (change history)](#)

1. QUESTION: Does the account specified in ASAP Configurator necessarily have local admin rights?

ANSWER:

Yes. The purpose of the tool is to provide an admin account (ASAP = Automatic and Secure Admin-Credentials Provider).

- *In addition, the account must have the rights that it needs to execute the specified program. Usually. however, local admin rights are sufficient here.*

- *Due to the functionality of the tool, the account specified in ASAP Configurator will start another process with alternative rights ("impersonation"). For this, the Windows operating system requires elevated rights, which are per se available for admin accounts.*

- *Theoretically, it would be possible to assign the corresponding set of rights to a "normal" user, but this is very complex and against the Windows security model. As a result, the account used in ASAP Configurator must have local admin rights.*

2. QUESTION: Does the account specified in the ASAP Configurator have to be a Domain Administrator?

ANSWER:

No. It is sufficient to use an account who has local admin rights.

- *However, one conceivable exception would be if the application itself, that is started via ASAP, requires domain admin rights.*

3. QUESTION: Must the file extension .eLnk be registered by the system, or can ASAP also be used with the command line?

ANSWER:

ASAP can also be used without the file extension. It's just more comfortable.

- *The link only extends the "knowledge" of Windows how to open an .eLnk file.*
- *To run ASAP manually, just add the following parameters: (please replace information in <…>)*
  <Path to ASAP.exe>\asap.exe <Path to .eLnk file>\<FileName>.eLnk

4. QUESTION: Can all applications be started with ASAP administrative credentials?

ANSWER:

As good as all of them. ASAP Configurator expects an .EXE file as application. But with the "Parameters" option, applications such as .MSI, .BAT, .CMD, .PS1, .VBS, .MSC and others can be easily started (see case studies in chapter 2.5).

- *However, applications that rely on the ability to write information to the profile of the currently logged-on user cannot be run via ASAP. They would write the information to the wrong profile, namely the profile of the administrative account stored in the .eLnk file. In those rare cases, ASAP will unfortunately not work.*

5. QUESTION: Can ASAP also be installed on a Terminal Server?

ANSWER:

Yes. You can also use ASAP on a Terminal Server. In this case, you need one ASAP license per Terminal Server CAL.

6. QUESTION: Can ASAP start applications directly from a network drive?

ANSWER:

Yes. ASAP can also start applications over the network. However, you should use UNC paths to run an .EXE from a network drive, e.g. \\MyServer.fqdn\Apps\MyApp.exe. If possible, do not use drive letters.

- *How to add an application with UNC path to ASAP Configurator:*
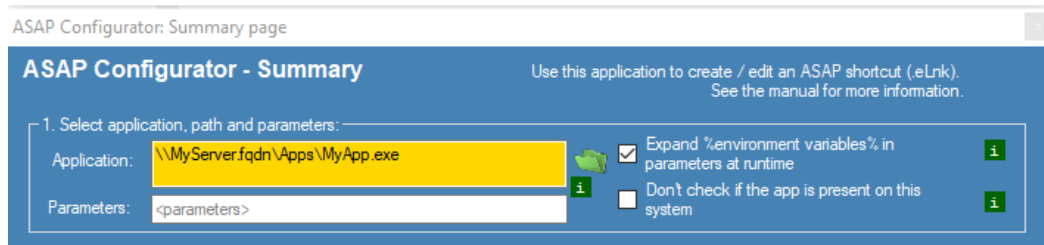
- *Please remember that the user account stored in the ASAP .eLnk file requires appropriate access rights to the specified application, including its path. In an enterprise environment, this will be a domain user (requires ASAP for Enterprise).*

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- *If you want to test whether the application can generally be started with the user account specified in ASAP, you can do this e.g. with the help of the PowerShell: Either log in as this user or execute powershell.exe via the RunAs command, providing the credentials of this user.*

  Start the application via PowerShell. If this command works, the application can also be executed over the network using ASAP:

- *If an application absolutely needs a drive letter, you must use a script, which first connects the file share to the desired letter, and afterwards starts the application from this drive. The background to this is that any drive letter is permanently associated with the user's credentials. Thus, you must first make the drive available to the user who is stored in the ASAP .eLnk.*

  If you want to know how to execute scripts via ASAP, you can find various case examples in chapter 2.5 of this manual. But note: It is important that you protect your scripts against unauthorized changes, granting appropriate permissions.

7. **QUESTION: Why do I get a security warning when I start an application from a network drive via ASAP?**

   ANSWER:

   Windows Security may block the execution of an application from the network drive. This has nothing to do with ASAP but with Windows. Allow Windows to run this application:

   - *Control Panel / Internet Options / Local Intranet / Sites / Advanced / Add and / or*
   - *Add Windows Defender exception for the network drive (UNC path or drive letter AND UNC path)*

8. **QUESTION: Can ASAP itself, i.e. ASAP Configurator, be started from a file share?**

   ANSWER:

   Unfortunately, no. ASAP requires a local installation.

   - *The background is that the ASAP wrapper is started by the ASAP.exe with alternative credentials. This leads to a second connection between the PC and the server with additional credentials. Unfortunately, LAN Manager / Windows network cannot handle this.*

   - *The following test shows that it is not possible (by design of Windows):*

9. **QUESTION: Can ASAP .eLnk files (administrative links) be run from a file share?**

   ANSWER:

   Yes. .eLnk files can be run from any path.

   - *Storage on a file share has the advantage that the links can be managed at a central location.*

   - *However, the installation on a file share has the disadvantage that the security function of the local checksum cannot be used, because usually locally installed programs are executed.*

   - *This disadvantage can be compensated by granting the users read-only permissions to the file share.*

10. **QUESTION: How does ASAP transfer the administrative credentials transfer to Windows, is it using a service?**

    ANSWER:

    ASAP does not contain any constantly active components, that is, no service, no tool in the system tray or other, constantly running applications. The credentials are - according to the current state of the art - encrypted with .NET mechanisms using 256-bit algorithms and saved in the .eLnk shortcut. They are only used when ASAP is started to run the external application.

    The ASAP functionality can be compared to a Windows shortcut (.lnk / shortcut):

    - *A Windows Shortcut (.lnk) contains the path and the name of the application to be started as well as the parameters to be used for the start. Optional parameters for Windows compatibility, screen resolution, etc. supplement the basic information. Windows shortcuts can be read with a text editor.*

    - *With ASAP Shortcuts (.eLnk - [e stands for encrypted]), the basic information (name, path, parameters) is also included. In addition, it contains information concerning the administrative account that is used for the start of an application, including username and password, as well as information who can use this shortcut, and some security information such as checksums, etc. However, the content of the .eLnk file is encrypted and cannot be read with a simple text editor.*

    - *Double-clicking an ASAP .eLnk shortcut automatically starts ASAP.exe, which decrypts the content, checks whether the logged-in user has permissions to use the shortcut, and then starts the application with the alternative rights, taking the UAC into account.*

    - *The decrypted credentials will be loaded to the computer's main memory at the start of ASAP and removed as soon as ASAP terminates (after ca. 10 seconds).*

11. QUESTION: What are the ASAP components, and how do they work together?

ANSWER:

Good ;-) The following picture illustrates the interaction of the ASAP components:
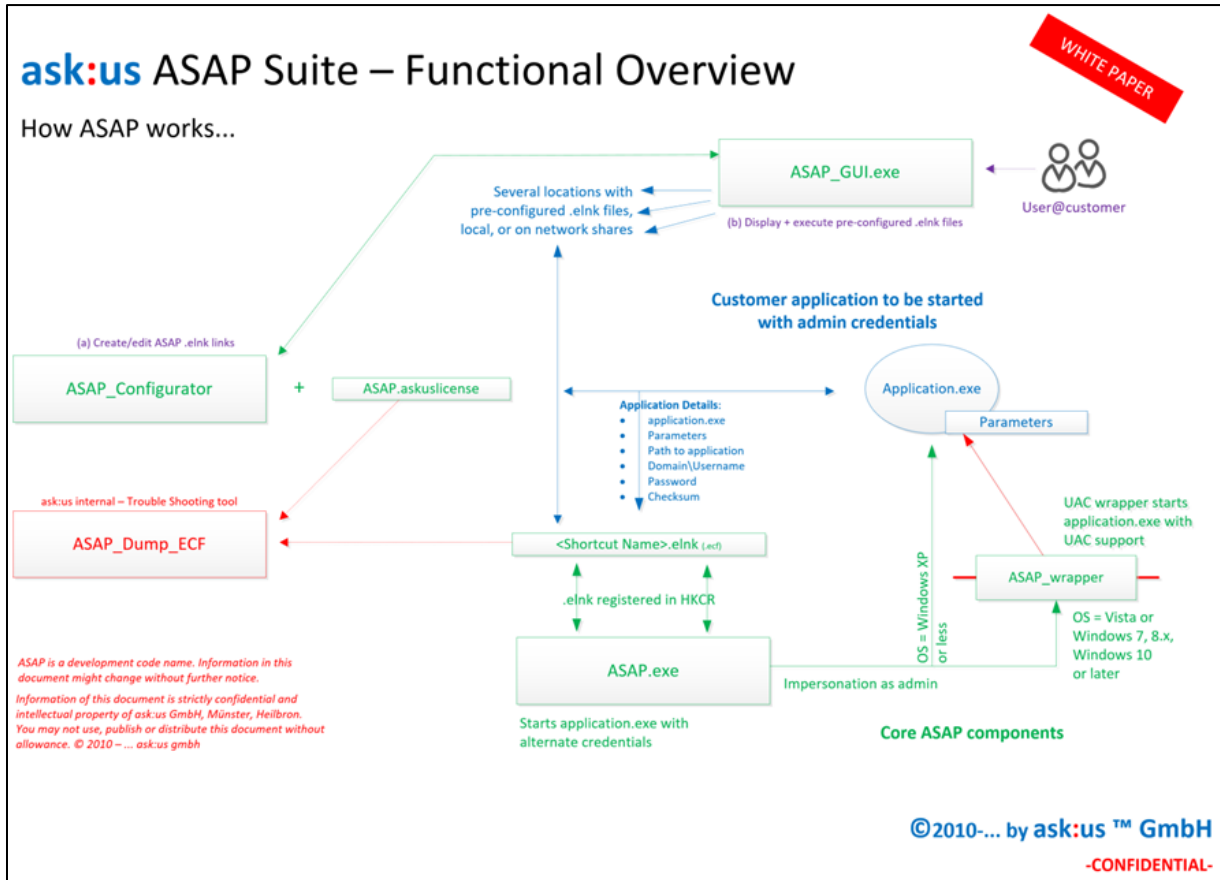
12. QUESTION: What has changed in ASAP versions? (change history)

ANSWER:

The respective changes are documented in the change history.

v2.9.0.x
+ Remove bug when .eLnk file information is empty (e.g. due to missing rights)
+ Convert ASAP_UACWrapper to c# and use named parameters
+ Add a class to support named parameters + mnew Syntax command line in ASAP Configurator: -file <> | -? | -skipwizard
+ Starting ASAP_Configurator with -SkipWizard option only opens a empty summary page
+ Use named parameters in ASAP GUI
+ Review GUI design in Configurator and GUI
+ Remove ASAP Dump ECF from ASAP Suite
+ Adjusted name of class to ASAP_SUITE (instead of ASAPSUITE) in all apps
+ .elnk files have an additional line: WorkDir, and the worksdir is supported in all ASAP components
+ Adjusted number of lines for versions 2.8 and earlier and 2.9 to provide compatibility for legacy elnk files: v2.9 can open v2.8 and older, but older versions cannot open new files
+ No change in license handling: Also v2.9 cannot be restricted to just one version
+ Add a field for working directory in elnk, and support for working directories in all components
+ Check if re-opening an eLnk file with restrictions to a username and then disabling the restriction also deletes the Username restriction (Test OK am 21.1.)
+ Preparations for ASAP v3
  (+) remove all references to ASAP_Config.ecf completely (comment only => the idea is the basic stock for GPO support)
+ Removed time wait after "press any key" in ASAP.exe and shortened to 5 secs
+ Removed ASAP.exe /silent and -silent parameters, as well as -help /help /? and updated help text

v2.8.5.0
General / all executables
+ Added code to be able to encrypt / decrypt empty and NULL strings into the elnk file
+ Added Change Log (this file)
+ Added structure for license data
+ Completely revised Decryption algorithm
+ Integrated GARDEN _classes for Client, server, rules, request and license
+ Minor corrections in spelling
+ Removed 'old' code signing certificate
+ Added version display and license hint in ASAP
ASAP_CONFIGURATOR
+ added option to load a file at startup (but start with wizard anyways)
+ added switch -SkipWizard
  ⇒ Command line possible: ASAP_CONFIGURATOR.EXE -SKIPWIZARD "Filename to open.elnk"
  ⇒ New command line switch allows right-click on .eLnk file: "Import in ASAP Configurator" when the latest MSI Installer I used

v2.8.4.0

+ Change log has been restarted after the first official release of ASAP on the home page
+ For previous entries, please contact the developer team
  'Version History
  'v1.0.0.0 first version, working
  'v2.1.0.0 new version to homogenize ASAP versioning (Sep 2011), changed key
  'v2.2.0.0 new key, homogenized versioning, GUI updates
  'v2.7.1.0 Modified ASAP Dump ECF to include Keys to decrypt GARDEN
  'v2.8.0.0 New certificate valid until 2018

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