

Automation Engine 21

AE Server Management

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1. The AE Server CONFIG web page

Concept

This web page serves to administer only very specific parts of the configuration.



Attention: This page can only be accessed from a browser on the Automation Engine server computer itself.

Q: Why is this a separate tool than the [other Server Admin web page](#)?

- A: The signing in to a server admin page requires you to have credentials that correspond to a Windows user on your AE server computer that has administrative rights. The main reason for this is that even when the AE server software is down, you still need to be able to administer some of that server software.

There are 2 ways to open the Server Config web page. On the AE server computer,

- either type this URL in the browser: `http://localhost:9897/`
- or go to **Start > (Programs) > Esko > Automation Engine Server Config** (which also opens a browser tab to that page).

Note: When you open this page at a moment when there is no administrator account yet on that Automation Engine (typically right after a first installation), then the [Get Started page](#) is presented first. This page serves to create that initial administrator account.

This page offers 2 sections:

- [Server Config](#) (unique in this tool)
- [Server Admin](#) (same content as the separate web pages).

1.1. The Get Started page

You need an administrator account to start working with Automation Engine. But, typically after a first installation, Automation Engine has no (administrator) user accounts at all.

When no administrator account is present and when you open this Server Config tool, you will first see this 'Get Started' page.

This page enables you to create such an administrator account and get started.

- Fill in these fields (all are required): **User Name**, **Full Name**, **E-mail Address**, **Password**, **Confirm Password**.
- Then click **Create Account**. The user account will be created and the [Server Config page](#) will be shown.

1.2. Server Config section

Tab 'Identity Providers'

Learn the basics about Automation Engine's user model in [Accounts Views](#) and more technical detail on the page [Users and Groups](#).

- **LDAP:** Select **LDAP authentication** when you want to have LDAP accounts able to sign in to Automation Engine.



Attention: In this version, the support for LDAP is still in pre-release.



Attention: Having the LDAP server behind a proxy is not supported.

An example:

LDAP

LDAP authentication

LDAP Server

System User Name

System User Password

User Distinguished Name (DN)

Required Group Membership

Use secure connection (LDAPS)

- **LDAP Server:** LDAP server name.
- **System user Name:** System user name of the LDAP server.
- **System user Password:** System password of the LDAP server.
- **User Distinguished Name (DN):** A comma separated list.
- **Required Group Membership:** Because it could be that not all users in the Active Directory are allowed to use Esko applications, or the Pilot in particular. In such case, all the users that are allowed to work with the Pilot, could be assigned membership to an Active Directory group named, for example, *Group_AE_Users*. Then enter this group name *Group_AE_Users* in this field. This will enforce that only members of that Active Directory Group can use the Pilot.

When you here enter multiple groups, it needs to be a comma separated list.

This field is optional. When left empty, membership of any group is allowed.



Attention: Nested groups are not supported! In Active Directory, you can set up a complex structure of groups within groups. However, this tool does not support nested groups! An example:

- Members that should use Automation Engine could be assigned membership to the AD group *Group_AE_Users*, and that group *Group_AE_Users* could be inside a group *Group_Production*.
- In case you here only enter the larger group *Group_Production*, and a member of *Group_AE_Users* tries to sign in, Automation Engine will not detect that this member is a also a member of *Group_Production*, which in theory means he should be allowed access.
- Conclusion: The user trying to sign-in must be a direct member of one of the here specified groups (being a member of one of the sub-groups of the specified group(s) is not enough).

- **Use Secure Connection (LDAPS):** Select this when this is the case.



Attention: Users will not show up in the Pilot interface until they have signed in the first time.

This is because there is no automatic 'import' action of Active Directory users: it is not the case that for every user in the Active Directory, a user entry is created in the AE database.

It is only when such an LDAP user signs in for the first time (i.e has given a valid account name and password), that an entry is created in the AE database. And once an entry is created in the AE database, only then you can start setting AE permissions for it.

That is why, when a new entry is created, it does not necessarily mean that that user may or can already use Automation Engine.



Attention: To avoid seeing an error the first time a user tries to sign in, you should first configure and assign roles to give users in those groups the 'user access right' to sign in to the Pilot.

Remember: a user can obtain a certain access right because he is assigned a role that includes that right OR because he is member of a group that was assigned a role that includes that right.

Note: To avoid that an administrator has to do all this for every user that complains that his first sign-in did not succeed, we advise a one-on-one mapping between group names in the Identity Provider (for example Active Directory) and group names in the AE database.

In short: we advise that users as defined in the Active Directory should be assigned membership to an IDP (Active Directory) group that has the same name as a group that is prepared/created on the AE database side.

The result is then that, at their first successful sign in attempt,

- their entry in the AE users database is created
- AND they immediately gain membership of some AE group with the same name,
 - which means they get such and such role/right/etc.
 - which then means that, at this first sign-in attempt, they are allowed to sign in to the Pilot.

- **Internal:** The default identity provider (IdP), internally in Automation Engine.
- **Enforce complex passwords:** Select this when you require the Automation Engine internal users to have complex passwords. It then sets these password requirements:
 - at least 8 characters
 - at least 1 digit
 - at least 1 uppercase character
 - at least 1 special character ! @ # \$ % ^ & * () _ +
 - excluding spaces

When signing in, the enabled authentication methods will be used in this order: LDAP, Internal and Windows.

- **Windows**
 - **Windows Authentication:** Select this when you still want to use local Windows users in Automation Engine.



Attention: Windows based authentication will become obsolete in a next major version.

Tab 'Browser Client'

- **Enable Browser Client**
 - **Protocol**
 - HTTP
 - **HTTP Port.** Default is 9000. When changing this number, you will be asked to confirm.



Attention: Do not change this port number when tasks are running on the server.

- HTTPS
 - **HTTPS Port:** Default is 9443. When changing this number, you will be asked to confirm.



Attention: Do not change this port number when tasks are running on the server.

- **SSL Certificate Port:** By default, a self-signed certificate will be used. The browser will show a warning when accessing the browser client. The actual message depends on the used browser and its version.

You can add a certificate to the list by installing an SSL certificate on the server using Window Certificate Manager. It should be installed in the Personal store for the System Account <servername>\BGSYSTEM. Select

- **Redirect HTTP to HTTPS:** When selected, type in the **HTTP Port**. The default HTTP port is 9000. When changing this number, you will be asked to confirm.



Attention: Do not change this port number when tasks are running on the server.

- **Disable Browser Client:** When disabling this button, the browser client can no longer be accessed on the LAN.

When applying any changes, you will be asked to confirm.



Attention: Do not make these changes when tasks are running on the server.

1.3. Server Admin section

These are the same tools as in the [The AE Server ADMIN web page](#) on page 8.

2. The AE Server ADMIN web page

The **Automation Engine Server Admin** web page allows you to administer and diagnose your server.

Open the Automation Engine Server Admin page by entering `http://<name of your server>:9999` in the address field of your browser.

You have to be an Administrator or a member of the BGADMIN user group of this server to sign in.

This tool offers 2 sections:

- the section **Server Admin** offers the features to manage your Automation Engine server. Its sub-pages are documented below.
- the section **Server Checks**. Also see below.



Attention: When you come to this page right after doing a fresh install where you choose a *Special* installation (one that does not install the default MS SQL Server Express), you will be prompted to first create all the Automation Engine databases. Alternatively, you can also continue using the "Embedded" database (for test-purposes only). Learn more below in [When No Databases were Installed Yet](#) on page 25.

2.1. Status Overview

- **Server Status:**
 - Use the **Stop/Start Server** button to stop or start the Automation Engine server software. You will be asked to confirm. Starting or stopping the Automation Engine server software can take several minutes. This page will indicate the status during this process. You can refresh manually and visit other pages while it is processing.
 - **Activate Server** also restarts the software but adds extra processes. You will be asked to confirm. A window will describe this activation progress. We recommend to only use this when so advised by Esko specialists.
 - Click **Download Log Files** to save a ZIP file to your local computer. This file (aesrvlogs.zip) contains the main bgmd* log files, many installation log files, etc.
- The pane below shows
 - the number of **Connected Clients** and **Executing Tasks**. See more details in the page [Server Activity](#) on page 9.
 - the **Server version**. Learn more about the installed software in the page [About](#).
 - The server's **Current Role**. Learn more about Master and Assistant servers in the page [Server Setup](#) on page 9.
- Click **Restart Web Server** to restart the Automation Engine web service. This web server is used for HTTP based integration with external systems and is also used to run these admin web pages. This page is automatically refreshed when the web server is restarted.

Click **Download Log Files** to save a ZIP file to your local computer containing the log files of the web server and of these **Server Admin** pages.

Note: Log files of client applications are not shown in **Server Admin** pages because they are executed on the client computer.

2.2. Server Activity

SERVER ACTIVITY

CONNECTED CLIENTS (2)

COMPUTER	USER	APPLICATION
10.31.148.226	kvdh	Automation Engine Pilot
10.31.148.226	wde@rdvmaedoc02	Automation Engine Browser Client

EXECUTING TASKS (1)

TASK	USER	FILE
Export PDF Info	wde	giraffe.pdf

Connected Clients and **Executing Tasks:**

- In both topics, this info is updated live.
- When viewed on an Automation Engine Assistant, only the number of connected clients or tasks (on the master) is shown, no further details (note that it is not possible to sign in to an Assistant).

2.3. Server Setup

- The **Role** of an Automation Engine server can be '**Master**', '**Assistant**' or '**Idle**'.
- **Master:** The computer that runs the main server software. The AE software is installed and fully enabled (according its licensing).

- **Assistant:** A computer where AE software is installed but that only executes specific tasks when so requested by the Master server.

Note: An Assistant needs to be of the exact same software version as the Master (major version, minor version and the build number must match).

Note: Changing a server's role to Master will perform an 'activate server'.

- **Idle:** A computer where AE software is installed but where the 'server' service (BGMD) runs as 'Idle' (i.e. the software doesn't really do anything ; the term 'idle' refers more to its status than its role). There are 2 main use cases:
 - This is a computer that serves as a Central Resource server.
 - Or it could be a server that should run the software but that encountered some problem to start it further up ; typically an issue with licensing.

Learn more below in [Server Roles](#) on page 10.

- **Central Resource Server:**

By default, the Master server uses the locally installed resources.

When you open this page on the Master server, you can redirect these resources to another computer. To do this, just type the name of the other computer where these other resources are.



Attention: However, for performance reasons, Esko advises to keep these resources on the Master server.

These resources are distributed over these folders:

- bg_data_cms_v010. Color Engine database
- bg_data_custom_v01. Various resources like action lists, layout templates, notification templates, CAD mappings, etc.
- bg_data_dgc_v010. The Curve Pilot database: icpro files, dot gain curves, etc.
- bg_data_fonts_v040. Central fonts repository.
- bg_data_ipldata_v010. Ink planner data.
- bg_data_marks_v010. Your SmartMarks.
- bg_data_screens_v020. The Imaging Engine screens.

Note: You can not redirect only a selection of these resource folders.

2.3.1. Server Roles

You can configure an Automation Engine server installation as Automation Engine **Master**, **Assistant** or as **Idle** (used as Central Resource server, storing color data, curves, fonts, etc).

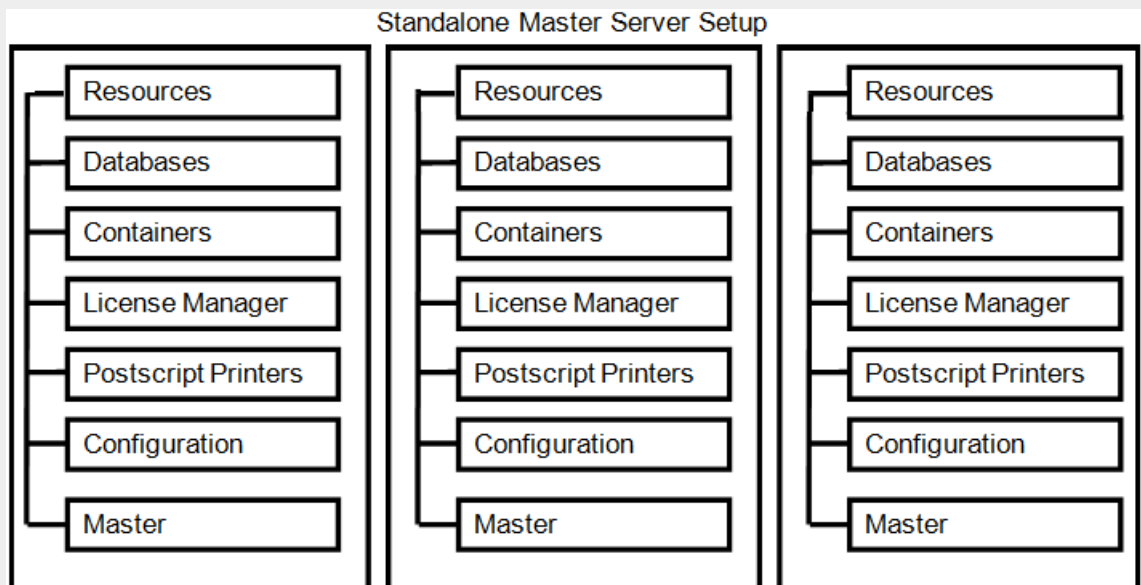
These multi-server setups act as a set of co-operating servers to distribute the workload and provide recovery when one of them goes down. These configurations are all within one same LAN.

Automation Engine standalone setup

A standalone Automation Engine server is the simplest setup. You have one server and that one is the Master.

Note: However, One same organization could have a configuration with more than one standalone server. In this setup,

- each system has its own set of resources (such as Color Engine data, DGC data, font data, custom data, marks data, ink planner data, task history database). Each system functions independently without sharing the workload.
- each system has its own local license management.
- you can create Containers on shares of other systems.

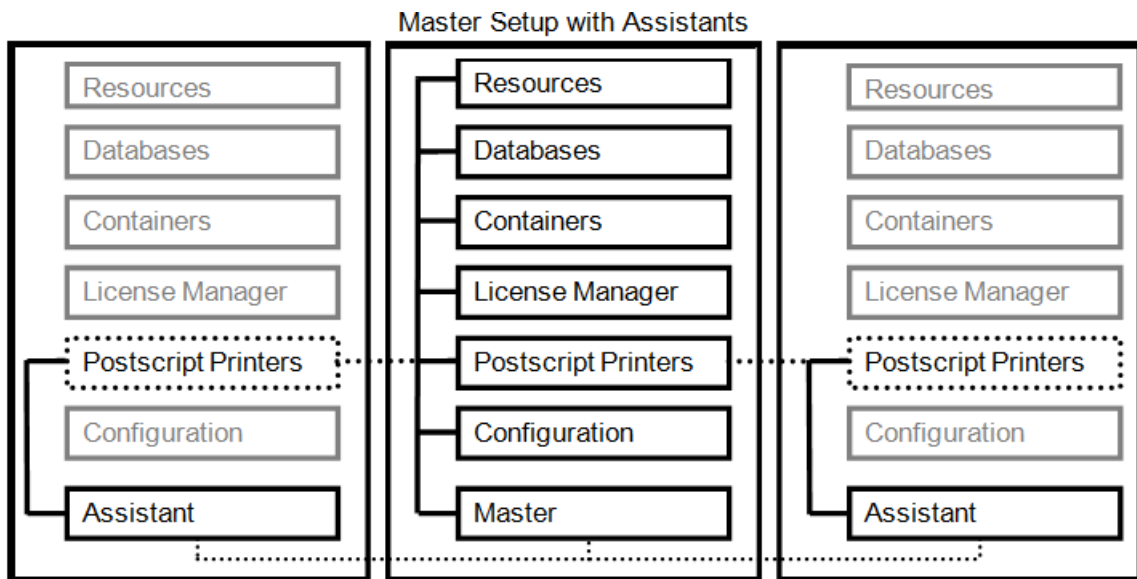


Automation Engine server setup with Assistant system(s)

This consists of an Automation Engine Master server and one or more Automation Engine Assistant systems. In this setup,

- the Assistants execute tasks. They use AE's central resource files from the Master.
- Automation Engine clients (Pilot, browser client) connect to the Master computer, not to the Assistants.
- the workload on these systems is allocated to the system with the smallest load, preferably another Assistant. If one of the Assistant systems goes down, it is automatically removed from the configuration and the other systems take over the workload.

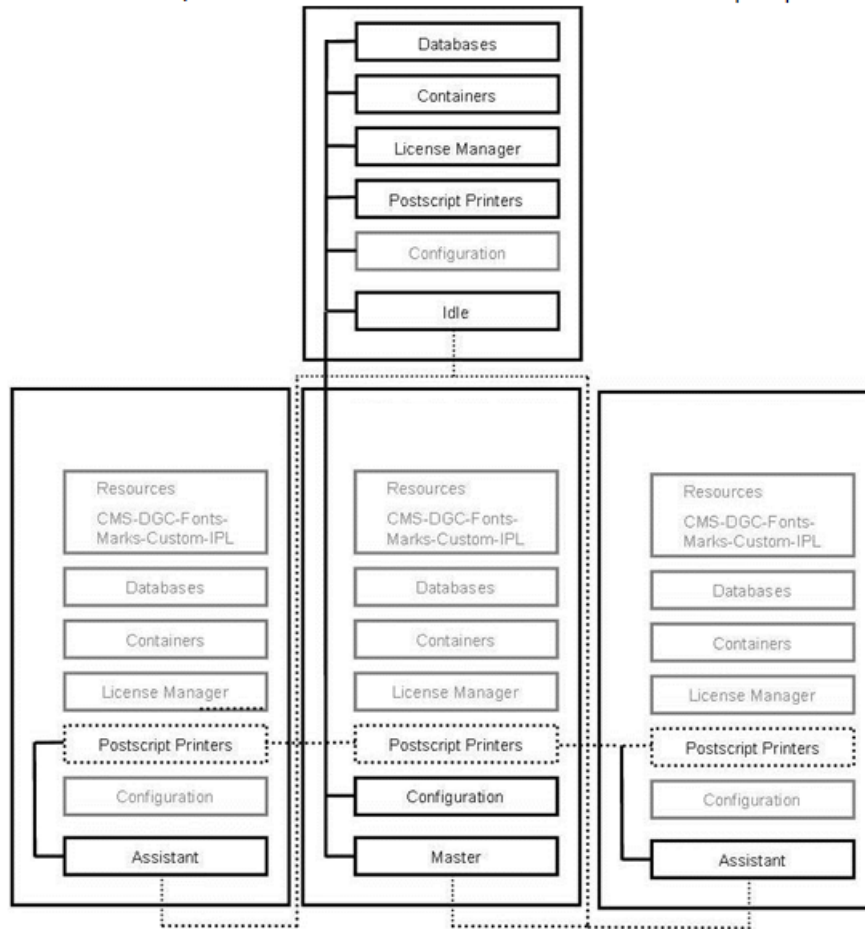
If the Master system goes down, the complete configuration will be down. But after one of the Assistants has been promoted to Master, the system can be restarted. This is why a recent backup of the Master is always to be stored on another computer.



Automation Engine server setup with Assistant system(s) and Central Resource server

You can configure an Automation Engine Central Resource server (role: "Idle") which can be accessed when the Master goes down along with the Assistants. A Central Resource server can be set up for all the resources required to facilitate the take over of the Master role by one of the Assistant systems.

Master Setup with Assistants and Central Resource server (Idle)



Note: When you use the **Print Task** to output on PostScript printers, you should define and configure the PostScript printers on all the systems (Master and Assistant).

We recommend installing the PostScript printers

- locally on the Master system (in Master-Assistant Setups)
- or locally on the Central Resource server (Central Resource server - Assistant server setups).

Configure them on the network so that you can access them on all other systems as network printer.

2.4. Processing Capabilities

What do you allow this server to do?

Note: When editing fields are disabled, click the lock icon top right to enable them. Depending on your current user rights, you may be asked to sign in again with a user who has privileges to make these changes.

Note: The settings can only be viewed or changed when the Automation Engine server is up and running.

Note:

- Settings can be changed when the user unlocks the page.
- When 1 or more settings are changed, they can be applied or reverted again to the original values. Applying is only possible when the new values are valid.
- When the user locks the page without applying, the settings are automatically reverted.

Tasks

- **Server can run tasks:** Select this option to allow this server to execute tasks.

If you have a Master server with (several) Assistants and the Master is heavily loaded, you can disable this option for the Master server, and so allocate all workload related to tasks to the Assistant server(s).

Even when you disable the Master server from running tasks, many types of lightweight tasks will still run on the Master server.

Table: Lightweight tasks that will only run on the Master server

Create Job Report	Manage Milestone
Interact with SAP	Send to Odystar
Publish on WebCenter	Proof for Content Approval
Submit to Plate Merger	Add to Products
Add to Pages View	Create PDF File from RunList
Print on Digital Press	LabelFillTask (Labels workspace)
Manage Product Status	Submit to CDI
Image to Unscreened Separations	Wait for Product Status
Calculate Ink Key Settings (CIP3)	Remove Product
Create RunList from PDF	Link Product to Job
Assign PDF Pages to RunList	Image to Screened Separations
Export Imposition to PDF File	Image to Unscreened Proof
Image to Content Proof (RGB)	Run Script
Mark File	Submit to Kongsberg Table
Submit XML to Plate Merger	Export Kongsberg Cutting History
Upload to SFTP	Print on Digital Press (PPML)
Convert Selection	Upload to Cloud Storage
Submit to Esko DFE	Proof for Contract Approval
Wait for Files	Integrate via External Hot Folder
Create RunList	Create Imposition from JDF Layout

Apply Creep	Export Imposition to JDF Layout
Import Substrate Sizes from XML	Wait
Publish Imposition on WebCenter	Wait for Files (via JDF)
Mark as Proof	Preflight via External Application
Add Marks to Imposition	Create Job
Change Imposition Layout	Send RunList to WebCenter
Submit to HP SmartStream Production Pro Print Server	Map Data
Wait for Action (Checkpoint)	merge
Create Imposition from RunList	ImportDieTask

Note: When changing this setting, it is not necessary to restart the Automation Engine server.

- **Limit Concurrent Inspecting:** If you use the [GlobalVision inspection tasks](#), indicate here how many you want to allow being executed at the same time. Warning messages tailored to your setup will be shown when you set this to more than 2.

Note: These tasks are run in a separate CPU queue named "CPU_GV". Learn more in [Queue Monitor](#).

Viewing Files

- Select **Server can prepare and view files** to allow this server to run file streaming sessions for the Automation Engine Viewer.

This is also required to view files that were already prepared for viewing. In those cases the server might need to enable a deeper zoom than prepared for, i.e. with a resolution that is higher than the one of the prepared view data.

Note: In the server's Windows Task Manager, these processes are named **sdbserver.exe**.

- The **Maximum number of files that can be viewed simultaneously** is important when your server also needs to run other tasks. Learn more about when such sessions automatically close in [Limiting How Many Files you can Open](#).



Caution: We strongly recommend that only experienced system administrators or Esko support staff modify this setting.

Gang Run Printing

- **Server can calculate layouts**

Select this option to allow this server to calculate layouts for [Gang Run Printing](#).

The Gang Run Printing tools use a nesting software that starts processes that calculate optimal nested layouts (PDFPLA) for Gang Run jobs. It does this for one particular substrate queue at the time. These calculations can be time consuming. You could have these done on an Assistant for example.

- **Limit Concurrent Calculating**

You here define how many layouts the substrate queues are allowed to calculate simultaneously.



Caution: The default maximum number is 1. Increasing this number may lead to the Automation Engine server slowing down.

Task Queues

Note: Below settings are only available on a Master server.

- **Dynamic Mode.**

In dynamic mode, the server load is balanced dynamically: According to the mix of "light" and "heavy" tasks, there will be more or less tasks running concurrently. This means that there is no hard limit on the number of tasks that will run concurrently. This mode so prevents becoming overloaded ; it results in a more stable system.

When dynamic mode is enabled, the following applies:

- Task queue settings are no longer relevant and are not available.
- The number of reserved channels is also not relevant and is not available,
- The number of processing channels is equal to the number of licensed channels (and will be shown as such

- **CPU Queue Maximum and CPU LIGHT Queue Maximum:**

When the dynamic mode is not selected (the "static" mode), you have some control over these 2 [CPU queues](#). Their minimum value is 1. Changed values will be only applied after you click **Apply**.

The number you enter here is the maximum amount of regular tasks that will be executed concurrently on this CPU queue. In a cluster setup, it will be that value MINUS the number of reserved channels (learn more below).

- The maximum value for the CPU queue = the number of *licensed* channels (in a cluster setup minus the number of reserved channels). The number of processing channels will be set equal to this CPU queue maximum.
- The maximum value for the CPU_LIGHT queue = the number of *processing* channels (in a cluster setup minus the number of reserved channels). The maximum recommended value is 5. When set higher, a warning will be shown.

Note: Error messages will be shown when you set non supported values.

Note: The queue for the GlobalVision Inspection tasks is not part of this function. Learn more in [Limit Concurrent Inspecting](#).

Cluster Setup

- **Processing Channels:** This field shows you the number of processing channels on this master server.

- If it is equal to the number of licensed channels, only 1 value is shown (" x licensed channels"). This is always the case when dynamic mode is enabled.
- If it is less than the number of licensed channels, both values are shown ("y of x licensed channels"), together with a message that the number has been reduced to meet the system's capabilities.
- Remark that the number of processing channels is equal to the value in **CPU queue maximum** .

- **Reserved Channels:** To guarantee its constant working, you can here reserve a number of channels of the CPU queue to be used by a synchronous [Web Service Access Point](#).

2.5. System Account

Automation Engine needs a so called 'system account'. This system account is a Windows user account that is used to run Automation Engine's services (for example BGMD) and to connect to other network components (for example to access files on a remote file server).

When Automation Engine is first installed, a user is asked to define what the system account will be. This can either be

- a new user account created by the installer:
Enter a user name (default 'BGSYSTEM') and password. Note that the password for this user must meet the complexity requirements of the operating system it is installed on.
- an existing user account:
Enter the credentials of a local or domain user account that has administrative privileges on the computer it is installed on.

Find more details in the chapter 'Pre-Install IT requirements', on the page [Automation Engine System Account](#).

Esko strongly advises to set and manage a secure custom password for this account.

Note: Learn more in [this KB article](#).

Changing the Password of the System Account of Automation Engine



Warning: When your initial Automation Engine installation was a version before version 20, do check if you are still using a default password that was till then still established during a new installation. For IT security reasons, Esko strongly advises to change this password to a different one.

Type in the **Old Password**, then the **New Password** and the **Confirm** your new password.

Note: This function is available both on an Automation Engine Master and an Automation Engine Assistant. However, if you change the password on an Assistant, the change will not be synchronized to any other Automation engine Master/Assistant.

Changing the System Account of Automation Engine

You can change the system account from the default account BGSYSTEM to another existing Windows user. This user should be a member of the Windows Administrators group on the Automation Engine master server computer.

You can use either a local or domain user account.

Note: In a Master/Assistant setup, when you change the system account to a local user on the Master server, changing the user on the Assistant will fail because the local Master user can not be known on the Assistant. You then need to use a domain user or manually change the Assistant system account.

Note: Modifying the system account via this tool will modify the service account of both the Automation Engine server service (BGMD) and of the Automation Engine web services

- If you have configured a Container or resource folder on a computer that does not have the *Role* of Master, Assistant or Central Resource server, you will, on that computer, have to modify the system account manually.
- If you have configured an Imaging Engine on a computer that does not have the *Role* of Master, Assistant or Central Resource server, then the modification of the system account will be pushed to the Imaging Engine computer.

Important: This requires that the new user was added as a member of the Windows Administrators group of the Imaging Engine host. When that is done, also a stop/start of Imaging Engine is required (see **Automation Engine Pilot > Configure > Imaging Engine**).

2.6. Maintenance

Database indexes are used to quickly locate data without having to search every row in a database table every time a database table is accessed.

Heavily fragmented indexes can cause Automation Engine to respond slowly. You can remedy index fragmentation by reorganizing or rebuilding a database index.

Click on **Start Maintenance Now**, select the databases you want to rebuild and click **OK**.

Please mind the dialog's disclaimer at the bottom.

Start Maintenance Now
×

Rebuild database indexes of

- Jobs
- Tasks
- Task History
- JDF
- Devices
- Gang Run Printing
- Application Server
- Printing Conditions

Please only do this when production is low or down and avoid making a backup at the same time.

Database performance could be affected while rebuilding indexes.

It might take several minutes to complete the maintenance.

Close
Start

Note: The **Application Server** database index cannot be rebuild when the database is not running.

Scheduling Maintenance

Click **Add Maintenance Schedule** to schedule this maintenance to happen later.

Select the databases, frequency and start time. Click **OK**. Please mind the dialog's disclaimer.

2.7. Backup

A backup is a folder containing a backup report, subfolders, ZIP and other files. The actual content depends on the chosen backup mode.

A backup does not include job data files and does not include any Automation Engine software.

A full backup contains your server's **Configuration, Resources** and **Databases**.

The screenshot shows the 'BACKUP' configuration page in the Automation Engine Server interface. The top navigation bar includes 'AUTOMATION ENGINE SERVER - RDVMAEDOC02', 'SERVER ADMIN', 'SERVER CHECKS', and a user profile 'wde'. The left sidebar lists various system management options, with 'BACKUP' currently selected. The main content area is titled 'BACKUP' and features a 'FOLDER' field with the path 'E:@rdvmaedoc02 > Esko > AEBackup'. Below this is a 'SCHEDULES' table with the following data:

FREQUENCY	START TIME	CONTENT	ACTIONS
Every week on Saturday	2:00 AM	Configuration, Resources, Databases	[Edit] [Delete]

At the bottom of the main area, there are two buttons: 'Add Backup Schedule' and 'Make Backup Now'. The footer of the interface shows 'Server: RDVMAEDOC02' with a green status indicator and the text 'Running'.

- **Folder:**

Define the root folder where backups should be created. Each backup is then created in a subfolder named `Backup__yyyy-MM-dd-HHMM`. A full backup is named `FullBackup__ . . .`

Tip: It is always a good idea to write the backup on a different computer than where the data originally are. You can of course keep a local path as destination and then for example copy the backup data onto an external disk or medium.

Tip: You can use a UNC path as location. Just make sure that the corresponding share is accessible.

- **Schedules:**

You can schedule a backup or run it instantly.

Note: Yes you can make a backup while Automation Engine is running. You can also make backups when the server software is not running.

- When choosing **Make Backup Now**, you will first be asked which data set you want.
 - The **Configuration** is always included. These are the task tickets, workflows, SmartNames, configuration settings, etc. In detail:
 - A backup **report**
 - a text file with details of all folders and file names that have been backed up and any warnings or errors were encountered during backup process.
 - The folder **Users**, with user info regarding the BG and Database systems.
 - The folder **bg_data_fastserver_v100**, with all the Config Server (CFS) information, including:
 - SmartNames
 - Containers
 - Registered RIPs/Imaging Engines
 - Registered Devices (CDI, Kongsberg)
 - 'TaskManager' queues
 - Tickets/Workflows
 - Hot Folders
 - Scripts for ScriptRunner
 - Templates for Notification
 - Information about users belonging to the local groups BGUsers and BGAdmin.
 - The folder **bg_data_custom_v010**, with info of all its non-empty subfolders, except 'dat \bs'.
 - **Resources:** all files relates to
 - DGC
 - CMS (writable files)
 - Fonts
 - Ink planner

- Marks
- Screens
- **Databases:** A backup of each database used by Automation Engine: Devices, Tasks, JDF, Gang Run Printing, Task History, Application Server, Jobs, Printing Conditions. These databases includes these items:
 - AE Jobs
 - To Do list items
 - Access Points
 - Tasks / Task History
 - Gang Run Queues / Orders / Sheets
 - Plate Merger Queues / Merged Plates / Press Plates
 - Customers
 - Products
 - and some more

Note: A backup of the databases is also called a **Restore Point**. When you plan an upgrade, make sure to consult the chapter with the [Installation Guide](#).

- Click **Add Backup Schedule** to automate this. You can define the **Frequency**, what to backup and also how many backups you want to keep.

Important: Backups of large databases will also be large. Use the setting **Keep only last 'x' backups** to avoid filling up the disk where you keep the backups.

To restore a backup, see the page [Restore](#) on page 21 .

2.8. Restore

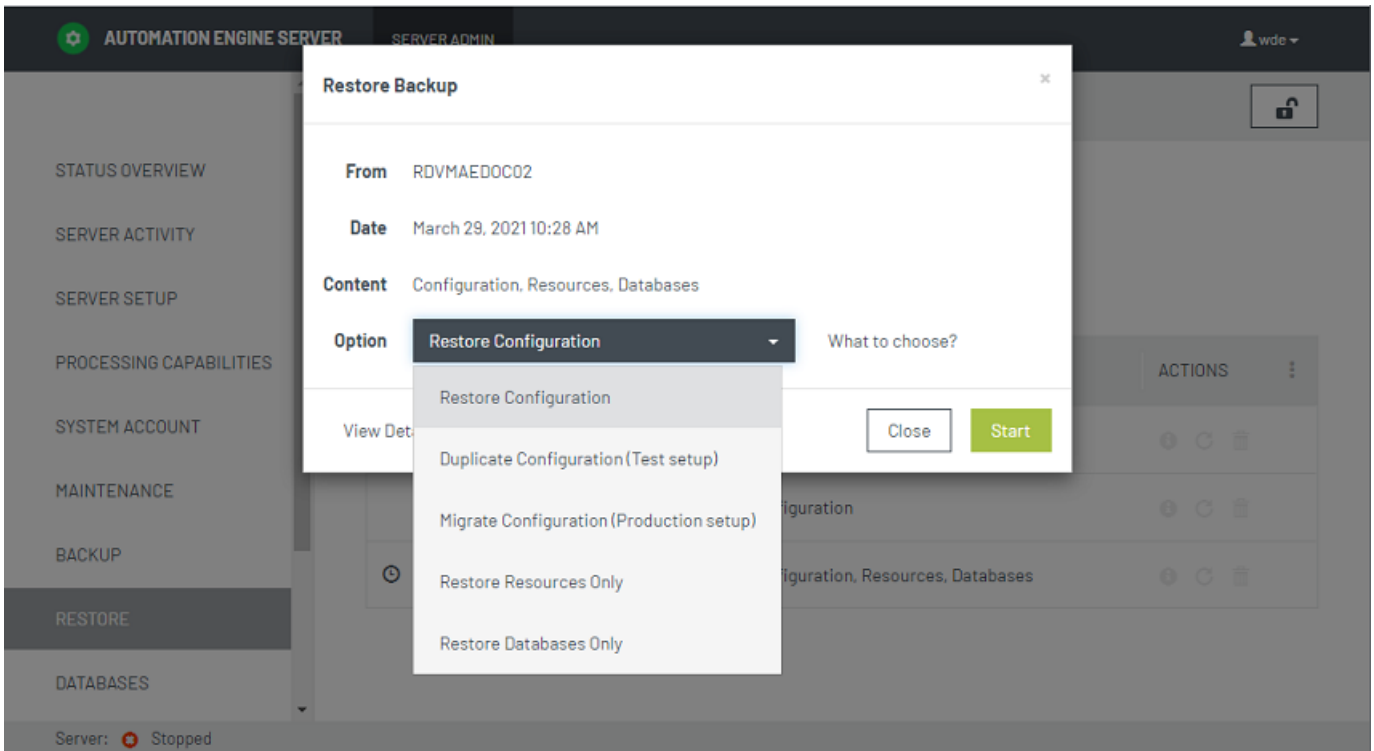
You can only restore a backup when the Automation Engine server software is stopped.

Note: A backup can be restored on an Automation Engine master server with the same or higher version as the master server where the backup was made from.

Select a backup from the **Backup History** and click the action .

The **Restore Backup** dialog shows details of that backup.

In **Option**, select what you want to restore:



- **Restore Configuration:** This restores everything from the selected backup. This is used to go back in time, probably to correct some mistakes, for example when you deleted too many workflow tickets.

Note: This option is only valid when you restore on the same server as from where the backup was taken.

- **Duplicate Configuration (Test):** This is used when building test setups, for example to test pre-release software or to set up a shadow production server. The goal here is to obtain an Automation Engine master that is very similar as the production server (same Tickets/Workflows, same SmartNames, same Users) but that does not interfere with the production server (different Containers, different Hot folders, different Databases (Jobs, Access Points ...), different Resources)



Attention:

- This function **does not restore:** Central Resources, Databases, Container setups, Customers, Hot Folders, etc. These data are not taken over from the backup and are so left untouched. Mind that the data inside Containers was not part of the backup.
- This function **always restores** (if available in the backup): (workflow) Tickets, SmartNames, Users, DFS information and all data related to the folder `bg_data_custom_v010`.

Note: To build a test setup, you first need to install a full Automation Engine server on the testing computer. This will also require a separate set of licenses. And then you can use this mode to restore the configuration on that testing computer.

Note: When restoring on a server with a license for AE SaaS, Windows Users are not restored.

- **Migrate Configuration (Production):** This is used when you plan to move your server to another computer or when you upgrade onto a separate computer.

Note: To do this, you first need to install a full Automation Engine server on the new computer. You then use this option to restore the old/previous production settings onto the new computer.

You can also use this option to give the Master's configuration to an Assistant when the Master goes down.

Note: The Master backup can be found on the Assistant computer (by default on C:\Esko\AEBackup).

Note: When restoring on a server with a license for AE SaaS, Windows Users are not restored.

- **Restore Databases Only:** Select which databases you want to restore: **Jobs** (also includes Customers, Access Points...), **Tasks**, **Task History**, **JDF**, **Devices**, **Gang Run Printing**, **Application Server** (page workflows), **Printing Conditions** and **WFMgr** (internal).
- **Restore Resources Only:** Select which databases you want to restore: **DGCs**, **Marks**, **Fonts**, **CMS**, **Screens**, **Custom**.

2.9. Databases

In the **Databases** page you can manage all databases that are on any accessible **SQL server** in your network. Depending on the permissions on the selected SQL **Instance**, you can:

- View the SQL server status.
- View the properties and status for each database.
- Backup or Restore databases.
- Repair databases (for example to repair access rights.)
- Move databases.
- Create or remove databases.

Note: Even when you are signed in to the **Server Admin** pages, you also need to log in to the SQL Server instance separately. For example via the user `sa`.

The screenshot displays the 'DATABASIS' section of the Automation Engine Server. At the top, it shows the server name 'RDVMAEDOC02' and the instance 'MSSQLSERVER'. A list of databases is shown on the left, with 'BSJobs' selected. The details for 'BSJobs' are shown on the right, including its name, creation date (2018-10-03 16:52:38.64), size (23.00 MB), and used space (3736 KB). The status is 'ONLINE'. Below the details are buttons for 'Backup', 'Restore', 'Repair', and 'Move'. The bottom status bar indicates the server is 'Running'.

Note: When you use **Gang Run Printing**, it is possible to have a setup where this mode uses its own database, separated from the BSJobs database. You can then see it here listed as a separate database named GangRunPrinting.

The database **Status** can be any of these:

- **Online:** The SQL Server instance where the server database is located is running. This also implies that the user name and password used to login to the SQL Server instance are correct. The server database is online and available for access.
- **Not Accessible:** The SQL Server instance where the server database is located is running. Valid credentials (user name and password) are used. But the server database on the SQL Server instance is not accessible.
- **Not Found:** The SQL Server instance where the server database should be located is running and the credentials used to login to the SQL Server instance are valid. But the server database could not be found on the SQL Server instance.
- **Login Failed:** The SQL Server instance where the server database should be located is running. The server database is not available because the credentials used to login to the SQL Server instance are invalid.
- **Offline:** The server database is not available because the SQL Server instance where it is located is currently not running.
- **Unknown:** The status of the server database on the SQL Server instance is unknown.

2.9.1. Creating a Database

These are cases when this tool is useful:

- Some customers want to run the Automation Engine databases on an own full SQL Server that they are already using. They then use this tool to create the necessary databases. It also creates the required users and sets the required user rights.
- When your (default) SQL Server Express edition is having trouble with one or more too large databases, Esko advises to upgrade to a full SQL Server. In case you do not do this, it is possible to use this tool to create multiple smaller databases. For example customers who heavily use both the Jobs tool and the Gang Run Printing tool. In this case they can create an extra database for the gang run printing and indicate that one in **Configure > Automation Engine Database**.

Note: This function is available both on an Automation Engine Master and an Assistant.

Follow these steps to create a database for Automation Engine:

1. Click on **+** (below left) to open the **Create database** dialog.
2. Fill in a **Database name** that is currently not used.
3. In **Use data**, choose which database you want to create: A new empty database (**No (empty database)**) or **From a backup** or **From existing database files**.
4. When they do not appear automatically, enter the location and the file name for the **Master database file** and the **Transaction log file**. Alternatively, **Browse** to set a specific location for these files.

Note: The file names can be either a local or a UNC path.

Note: If the selected SQL Server is not the local SQL Server, then the browse button will be disabled. In such cases, fill in the UNC path.

5. Click **OK** to create the database.

2.9.2. When No Databases were Installed Yet

When you first come to the **Server Admin** page after doing a fresh install where you choose a *Special* installation (one that does not install the default MS SQL Server Express), you will be prompted to first create all the required Automation Engine databases.


Creating the databases is what you want when you decided to use a MS (full) SQL Server from the beginning. Alternatively, in stead of creating new databases, you can here also choose to continue using the "embedded" databases (for test-purposes only). Both cases are described below:

In the case as described above, the **Server Admin** page will first present you the **Create Automation Engine Databases** dialog:

» CREATE AUTOMATION ENGINE DATABASES

You chose to use an already existing SQL Server to host the Automation Engine databases. Please fill in the details below to create the databases.

SQL server [» Select another SQL Server](#)

Instance ● running 

User name

Password

Database folder

[» Continue using embedded databases](#)

Creating new databases on a MS SQL Server

- Select the (remote) **SQL Server** and **Instance** where you want to create the Automation Engine databases.
 - When the SQL Server you want to use is not in the list, you can add it by clicking '**Select another SQL Server**'. In the dialog, fill in a valid server and click **OK**.
 - When the running instances on the selected SQL Server can not be detected (because for example the SQL Server Browser is not running on that host), you can then still choose an instance by typing its port number in the **Instance** field.
- Provide a **user name** and **password** with sufficient privileges, typically the user 'sa'.
- Fill in the local path to the **folder** on the (remote) SQL Server host in which the database files should be stored.
- Click **Create** to start the creation process. When the creation process was successful, you will be asked to restart the server.

Continue using the embedded databases

Click **Continue using embedded databases** to skip creating databases.

Choose this option

- when you want a custom setup, for example one where the databases are spread out over multiple instances. To configure such a custom setup, go to the [Automation Engine Database](#) section in the Pilot's [Configure](#) tool.
- when Esko support staff advises this. For example as part of a solution for a database problem.

In both cases, you will see a warning that embedded databases are not at all fit to use in production environment. Learn more in the page describing options in the **Configure** panel: [Generic setting \(Setup tab\): DBMS Type](#).

Choosing this option still allows you to cancel.

2.9.3. Deleting a Database

You can only delete a database if it is not used by Automation Engine. If it is running, trying to delete it will trigger a warning.

1. Select a database from the list and click the - button (below left).
2. In the confirmation dialog, choose either or both of the options:
 - **Delete database files from disk**
 - **Close existing connections**
3. Click **OK** to confirm.

2.9.4. Database Backup

- Select a database and click **Backup**. The **Backup database** dialog will open.
- Enter the location and the file name for the **Backup file** or browse to choose an existing backup file.

Note: The file names can be either a local or UNC path. If the selected SQL Server is not the local SQL Server, the browse icon will be disabled. In such cases, fill in the UNC path.

- Click **OK**.

If the selected SQL Server does not have access to the UNC path you entered, you will get this warning: "Backup file for database X could not be created. Please make sure the path for the backup file is correct."

You can ensure access to the UNC path (share) by following this procedure:

1. In Windows Explorer, right-click the shared folder and then click **Properties**.
2. Select the tab **Security**.
3. Click **Advanced**. The **Advanced Security Settings** dialog opens.
4. Under the **Permissions** tab, click **Change Permissions**.
5. Click **Add**.
6. Click **Object Types** and make sure the **Computers** check-box is checked. Click **OK**.
7. In the text field, enter the name of the SQL Server computer name for which you want to add permissions. Click **Check Names**. Click **OK**. The **Permission Entry** dialog opens.
8. Make sure the **Allow** check-box next to **Create files / write data** is checked. Click **OK**.
9. Click **OK** and close the open dialogs.

2.9.5. Restoring a Database

Select the database and click **Restore**. Browse to the location and file name and click **OK**.

When you want to restore a database that does not exist (any more) in the list of SQL Server Instance databases, then click on **+** to create a database from a backup file or from existing database files. Learn more in [Creating a Database](#) on page 25.

Note: If the database you are trying to restore is used by Automation Engine and the Automation Engine server is running, it will not be possible to restore the database and you will get a warning.

2.9.6. Moving or Renaming a Database

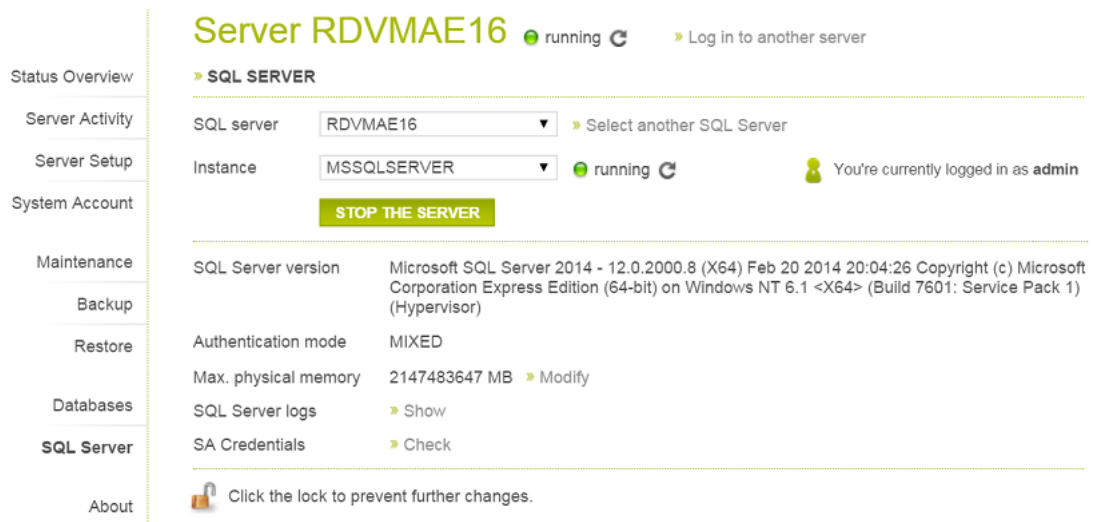
1. Select the database from the list and click **Move**. The **Move database** dialog will open.
2. Enter the (new) location and the (new) file name for the **Master database file** and for the **Transaction log file** or browse to select to them.


Note: The file names can be either a local or UNC path. If the selected SQL Server is not the local SQL Server, the browse button will be disabled. In such cases, fill in the UNC path.

3. Decide if you want to **Close existing connections**.
4. Click **OK** to move/rename the database.

2.10. SQL Server



This page allows you to manage SQL Server instances.



Server RDVMAE16 ● running  [Log in to another server](#)

SQL SERVER

SQL server: [Select another SQL Server](#)

Instance: ● running   You're currently logged in as **admin**

STOP THE SERVER


SQL Server version: Microsoft SQL Server 2014 - 12.0.2000.8 (X64) Feb 20 2014 20:04:26 Copyright (c) Microsoft Corporation Express Edition (64-bit) on Windows NT 6.1 <X64> (Build 7601: Service Pack 1) (Hypervisor)


Authentication mode: MIXED

Max. physical memory: 2147483647 MB [Modify](#)

SQL Server logs: [Show](#)

SA Credentials: [Check](#)

 Click the lock to prevent further changes.

Note: When the SQL Server Database is installed on the same system as the Automation Engine server, the option **SA credentials** allows to check if the SA credentials used by Automation Engine are still in sync with that database. This option is not shown for other SQL databases. It is also not shown until you are logged in to the SQL server with the right credentials (click  to do so).

When the **Check** detects that the credentials are not in sync, a dialog asks to enter the current password for the SA user. Mind that this dialog does not allow you to specify a new password for SA, only to update the stored SA password used by AE.


2.10.1. How to Log in to an SQL Server Instance

- Select an SQL Server from the list of all SQL Servers that could be detected in your local network. When there is one, the local SQL Server will be selected as default.
- To choose one that is not in the list, click **Select another SQL Server**, enter the name of the SQL Server and click **OK**.


You can see the list of SQL Server Instances and their statuses beneath the SQL Server list. You can select the Server Instance on which you want to manage the databases.

Note: When the SQL Server Browser service is not running or when your access is blocked to the Server Service, the status of the Instance will be unknown.

Note: When the list of SQL Server Instances is not available, you can select an SQL Server Instance by entering its port number. The port number of the default SQL Server Instance will already be filled in.

- After selecting the SQL Server Instance, click the lock  and enter your credentials to login. You have to login to an SQL Server Instance to be able to manage its databases.

Note: All SQL instances configured with Automation Engine have two users by default: `sa` and `admin`. The `sa` user has all permissions to manage databases. The `admin` user has a limited set of permissions, you may get warnings while performing certain database actions.

- You can log out from the SQL Server Instance by clicking on the lock .
- You can view the databases installed on an SQL Server Instance by selecting it and logging in. The list of databases will load after logging in. Detailed database information will be available to the right of the selected database.

2.10.2. FAQ on SQL Server Instances

How to Start or Stop an SQL Server Instance?

Select the SQL Server Instance and click on **Start / Stop the server**.

Note: You are not required to login to the SQL Server Instance to start or stop the Server.

How to View the Properties of a SQL Server Instance?

The properties of an SQL Server Instance are shown automatically after you successfully logged in. Learn more in [How to Log in to an SQL Server Instance](#) on page 29.

How to Modify the Maximum Memory of an SQL Server Instance?

Click the **Modify** link next to the **Max. physical memory**. In the dialog, enter a value and click **OK**.

How to View SQL Server Logs?

Click the **Show** link next to **SQL Server logs**. You can see the SQL Server logs in the following dialog.

Note: When you have limited permissions, you will get a warning when you attempt to view the SQL Server logs.

2.11. My Workspace

The only item on this page is to define the **Upload Folder** for the browser client's workspace "My Workspace".

When users drop files on a drop zone in My Workspace, they are first uploaded to this folder and from there processed by the selected workflow. Unless the user works in a Job context, then the dropped files end up on the root folder of the Job Folder.

Note: Each upload session to a drop zone creates a temporary sub folder in this upload folder.



Attention: When the Drop File page is used a lot, make sure that these sub folders in this upload folder get cleaned up. All related temp subfolders and files will be deleted automatically when the tasks that created them are deleted (or moved to Task History).

Note: A changed setting requires that you click **Apply!**

Note: Learn about My Workspace in the chapter [NEW - Working with the Browser Client](#).

2.12. About

The **About** page shows detailed information about the Automation Engine server software version, updates and hotfixes that were installed on this server.

» ABOUT AUTOMATION ENGINE

Server version	14.1.0 - build 94
Installed on	Sep 15, 2014 4:26 PM

Hotfixes	Hotfix	Installed on
	Hotfix 1410001 for Automation Engine 14.1.0	Info Sep 16, 2014 12:12 PM

History	Action	Date
	Installed Hotfix 1410001 for Automation Engine 14.1.0	Info Sep 16, 2014 12:12 PM
	Installed Automation Engine 14.1.0 - build 94	Sep 15, 2014 4:26 PM

To learn more details about a hotfix, click its **Info** button. You will see its name, a description what it is for, on what version it should be installed and when it was created.

2.13. Server Checks

2.13.1. Databases Check



The **Databases** page checks

- if the database system of the database is up and running.
- if the database is online and accessible for the Automation Engine server.
- if the size of the database is not nearing its size limit.

Click the **Info** icon to see some more information like the database file name and the SQL Server and/or SQL Server instance where the database is located (if the database system is Microsoft SQL Server).

This function is available on the AE master server only.

Note: These databases are those that are configured in the Configure tool, in [Automation Engine Databases](#). Some of them depend on licenses.

 AUTOMATION ENGINE SERVER - RDVMAEDOC02 SERVER ADMIN SERVER CHECKS  wde

DATABASES CHECK

DATABASES CHECK

CONTAINERS CHECK

















DISKS CHECK

NETWORK CHECK



HEALTH CHECK

SCHEDULED CHECKS

SETTINGS

STATUS	DATABASE	DATABASE SYSTEM	DETAILS	ACTIONS
	Jobs	Microsoft SQL Server	Database is online and accessible.	 <small>Info</small>
	Tasks	Microsoft SQL Server	Database is online and accessible.	
	Task History	Microsoft SQL Server	Database is online and accessible.	
	JDF	Microsoft SQL Server	Database is online and accessible.	
	Devices	Microsoft SQL Server	Database is online and accessible.	
	Gang Run Printing	Microsoft SQL Server	Database is online and accessible.	
	Application Server	Microsoft SQL Server	Database is online and accessible.	
	Printing Conditions	Microsoft SQL Server	Database is online and accessible.	



The **Status** of the database can be one of these:

-  The database is online and accessible.
-  The database is online and accessible, but there are one or more warnings (for example the database is near its size limit or the connection speed is not sufficient).

Note: The connection speed is checked by this small test:

1. Start the timing
2. Connect to the specific database
3. Retrieve some data (db query of "select @@Version")
4. Stop the timing.

This test is repeated 10 times, and then an average is calculated. When that average speed exceeds 100 ms, the status is a warning.

-  The database is not online or is not accessible (for example no connection could be made to the database system, or the login failed).
-  The status of the database is unknown. This is the case when the DBMS type of your Application Server database is Oracle or when any of the other databases is an Embedded database. There are no tests available for these two types.

Note: When the Automation Engine server is not running, you can still check the status of its databases. In this case however, the **Database System** field will be empty.

2.13.2. Containers Check

The **Containers** page checks the status of each container configured on this Automation Engine server.

Status	Name	Details
●	ExampleJobContainer@loppem	Container "ExampleJobContainer@loppem" is online and accessible (157.3 GB available of 465.7 GB).
●	ExampleJobContainer@leupegem	Container "ExampleJobContainer@leupegem" is online and accessible (193.6 GB available of 465.7 GB).
●	DeskPackContainer@eaw12dd320	Container "DeskPackContainer@eaw12dd320" is online and accessible (217.9 GB available of 465.7 GB).
●	gdm_container@homer	Container "gdm_container@homer" on "\homer\gdm_container" is nearly full (82.7 GB available of 350 GB).
●	ExampleJobContainer@twister	Could not connect to Container "ExampleJobContainer@twister" on "file://twister/ExampleJobContainer". Please contact your IT administrator.

CHECK AGAIN

This page checks

- if the container is online and accessible for the Automation Engine server.
- if the used disk space of the disk where the container is located is not getting too high. The percentage of used disk space at which you get a warning or an error can be set in the [Settings](#) page.





This function is available on the AE master server only.

2.13.3. Disks Check

The **Disks** page checks and shows detailed information about the disks where the Automation Engine system folders are located.

These disks are checked :

- Installation disk (disk containing %bg_prog_fastserver_vxxx%, where xxx stands for the version of AE)
- custom folder disk (disk containing %bg_data_custom_v010%)
- temporary folder disk (disk containing %bg_tmp%)
- backup folder disk (disk containing the Automation Engine backups)

Status	Name	Details
	Installation Folder Disk	The disk where the installation folder "C:\Dev\AE14.1\src\prog" is located is accessible (169 GB available of 465.7 GB).
	Custom Folder Disk	The disk where the custom folder "C:\Esko\bg_data_custom_v010" is located is accessible (169 GB available of 465.7 GB).
	Temporary Folder Disk	The disk where the temporary folder "C:\Esko\bg_data_fastserver_v100\tmp" is located has less than 20 GB of free disk space (14.9 GB available of 465.7 GB).
	Backup Folder Disk	The disk where the backup folder "C:\Esko\AEBackup" is located has less than 5 GB of free disk space (3.7 GB available of 465.7 GB).

CHECK AGAIN




This page checks:



- If the disk where the system folder is located is accessible to the Server.
- If the free disk space of the disk where the system folder is located is not getting too low.
 - When the free disk space is less than 20 GB, the check will show a warning.
 - When the free disk space is less than 5 GB, the check will show an error.




This function is available on the AE master server only.

2.13.4. Network Check

The **Network** page checks and shows detailed information about network connections of the Automation Engine server, including those to external systems like the **License Server**, **WebCenter Sites** and **Devices**.

General		
Status	Name	Details
	Online Help	Online help is available at http://help.esko.com/ .
	DNS	OK
	License Server	Connection to license server "licman3:27000" OK.

WebCenter Sites		
Status	Name	Details
	rdvmaewcr01	WebCenter Site "rdvmaewcr01" is online and accessible.
	ikbestaniet	The server "ikbestaniet" does not have a public IPv4 address. Please check its network settings or contact your IT administrator.

Devices		
Status	Name	Details
	esko-gen8-1	Digital Press "esko-gen8-1" on "esko-gen8-1" using port "8088" is online and accessible.
	ScreenedOutput1	Could not connect to the Device "ScreenedOutput1" on "cssuite12a33" using port "3020". Verify that this Device is running and accessible and that you entered the correct information in Configure.
	CDI1	Could not connect to the Device "CDI1" on "cssuite12a1" using port "3100". Verify that this Device is running and accessible and that you entered the correct information in Configure.

CHECK AGAIN

The network checks are grouped into 3 categories:





- **General:** This category checks
 - if the Automation Engine server can connect to the **Online Help** (<http://help.esko.com/>).

- if the **DNS** settings are configured correctly (does the server name of this server computer match with what the DNS returns to other systems when they try to access it).
- if the **License Server** can be reached (in case of failure, basic network tests are done to verify DNS configuration and TCP/IP connectivity).
- if the **Assistant Server(s)** can be reached (in case of failure, basic network tests are done to verify DNS configuration and TCP/IP connectivity).
- **WebCenter Sites:** This category checks the network connection between the Automation Engine server and the configured [WebCenter sites](#).
- **RIPs:** The connection with configured Imaging Engines or FlexRips.
- **Workflow Servers:** The connection between the Automation Engine server and legacy workflow servers [Nexus](#) or [Odystar](#), which are used by the 'Send to ...tasks' (by now outdated tasks).
- **Digital Presses:** The connection with configured [digital presses](#).
- **Devices:** The connection with configured [Devices](#) ([CDI Imagers](#) or [Kongsberg tables](#)).
- **Esko Cloud Locations.** Learn more in [Collaborating via Esko Cloud](#).

If there are no network checks available or applicable for a certain category, then that category will not be shown, except for the **General** category, which is always shown.




This function is available on the AE master server only.

Possible Statuses

-  The network test succeeded.
-  The network test succeeded, but there are one or more warnings.
-  The network test failed.
-  The network test was not applicable or was skipped.

2.13.5. Health Check

These three categories check the health of your server computer: **Processor Cores, Memory and Tasks.**

Status	Name	Details
	Processor Cores	The number of processor cores is sufficient.
	Memory	The amount of memory in the cluster available for running tasks (3.5 GB of 8 GB) is not sufficient. There should be at least 4 GB available. Please consider reducing the number of file streaming sessions and/or gang run printing sessions or consider upgrading your cluster.
	Tasks	The Tasks database contains 590 tasks of which 94 tasks are older than 6 months. Please consider adding cleanup rules for the Tasks database in Configure.

CHECK AGAIN

This function is available on the AE master server only.

Processor Cores

The check determines if sufficient processor cores are present for the current Automation Engine setup.

For each Automation Engine server (master and assistants):

- The number of processor cores is calculated that are required to run the configured number of file streaming sessions (the **Viewer**) and **Gang Run Printing** sessions.
 - **2 file streaming sessions require 1 processor core.** If the number of file streaming sessions is not even, an extra processor core is required.
 - **1 gang run printing session requires 1 processor core.**
- Based on this calculation, if there are not enough processor cores, the resulting status is a warning and a specific message. An example:

```
The number of processor cores in "name-of-the-server" ({1}) is not
sufficient. A system that can run {2} file streaming sessions and {3}
gang run printing sessions requires at least {4} processor cores.
```

For the whole cluster, the remaining number of processor cores is checked against the number of defined processing channels. **1 processing channel requires 1 processor core.**

Note: The remaining number of processor cores in the cluster is the sum of all remaining cores in each host after subtracting the ones needed for file streaming and gang run printing sessions.

When there are not enough processor cores to run tasks, the resulting status is a warning and a message appears. An example:

```
The number of processor cores in the cluster available for running tasks
({0}) is not sufficient. There should be at least {1} processor cores
available. Please consider reducing the number of file streaming sessions
and/or gang run printing sessions or consider upgrading your cluster.
```

Memory

This check determines if sufficient memory (RAM) is present for the current Automation Engine setup.

For each Automation Engine server (master and assistants):

- The amount of memory is calculated that is required to run the configured number of file streaming sessions (**Viewer**) and gang run printing sessions. **1 file streaming session requires 1 GB. 1 gang run printing session requires 500 MB.**
- Based on this calculation, if there are not enough memory, the resulting status is a warning and a specific message is shown. An example:

```
The amount of memory in "{hostname}" ({1}) is not sufficient. A system
that can run {2} file streaming sessions and {3} gang run printing
sessions requires at least {4}.
```

For the whole cluster, the remaining amount of memory is checked against the number of processing channels defined. **1 processing channel requires 2 GB.**

Note: The remaining amount of memory in the cluster = the sum of all remaining memory in each host after subtracting the memory needed for file streaming and gang run printing sessions.

If there is not enough memory to run tasks, the resulting status is a warning and a specific message appears. An example:

```
The amount of memory in the cluster available for running tasks ({0}) is not sufficient. There should be at least {1} available. Please consider reducing the number of file streaming sessions and/or gang run printing sessions or consider upgrading your cluster.
```

Tasks

The number of tasks in the tasks database is checked against some predefined thresholds. Also, a check for old tasks is done.

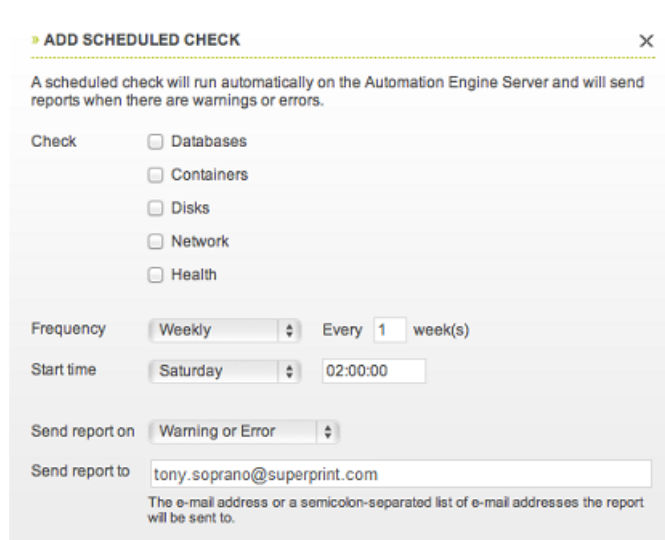
- The thresholds depend on the database version:
 - For an SQL Express edition, the warning threshold is 30.000 and the error threshold is 100.000 .
 - For all other database versions, the warning threshold is 200.000 and the error threshold is none.
- Old tasks are tasks that were launched more than 6 months ago. The check returns a specific message. An example:

```
The Tasks database contains {0} tasks of which {1} tasks are older than 6 months. Please consider adding cleanup rules for the Tasks database in Configure.
```

2.13.6. Scheduled Checks

This page allows to schedule automatic runs of the **Server Checks**. When there are warnings or errors, they send a report via e-mail.

To add a scheduled check, click the **Add Scheduled Check** button.



- Select one or more items to **Check**.
- Select the **Frequency** and the **Start time**.

- Specify if you want the report to be sent on **Warning or Error** or on **Error Only**.
- Specify the e-mail address or a semicolon-separated list of e-mail addresses that the report should be sent to.

Click **OK** to add the scheduled check.

Your scheduled check will appear in the list.

Add more if you want to.

This function is available on the AE master server only.

2.13.7. Settings

CONTAINERS

Warn when used disk space is above (%):

Provide error when used disk space is above (%):

For the check on **Containers**, you can decide the percentage of used disk space that triggers a warning (90% by default) or an error (99% by default).

Enter the new values for the settings you wish to change and close the lock icon to confirm. The new values will be used the next time those checks are done.