

# Authlogics Domain Controller Agent Integration Guide

**With PSM and MFA functionality**

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Call us on: +44 1344 568 900 (UK/EMEA)  
+1 408 706 2866 (US)

Email us: [sales@authlogics.com](mailto:sales@authlogics.com)



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## Introduction

The Authlogics Domain Controller Agent is a lightweight service component of both Authlogics Password Security Management (PSM) and Multi-Factor Authentication (MFA) solutions which provides the following features:

### Password Security Management:

- Intercept password change requests made on the Windows Domain in real-time.
- Process password change requests against a modern and secure password policy to see if they comply, including checking if the password has:
  - been breached online
  - already been used in the AD
- Randomise passwords of user accounts that no longer require a password.

### Multi-Factor Authentication:

- Intercept successful password changes and store them in the Authlogics Password Vault.

In summary, the Domain Controller Agent ensures that all new passwords comply with the latest NIST SP 800-63B guidance and it keeps the Microsoft password database and the Authlogics Password Vault in sync at all times regardless of which mechanism is used to change/reset an AD password.



#### Note

The Domain Controller Agent MUST be installed on all writable Domain Controllers in the Active Directory domain.



## Passwordless logon for Active Directory

The Authlogics Authentication Server includes a highly secure Password Vault which stores a copy of users Active Directory passwords which are later used to automatically log the user in to various applications which require Windows authentication if they have used an alternative logon method.

The Password Vault is disabled by default and must be explicitly enabled. When active it is secured with AES256 bit encryption using an asymmetric key pair from a digital certificate. The private key may be stored in a Hardware Security Module (HSM) if required.

## The Authlogics Windows Desktop Agent

The Authlogics Windows Desktop Agent allows users to logon to Windows desktops and servers without having to enter their Windows password. This form of passwordless logon is achieved by using the password stored in the Password Vault which is retrieved and delivered to the Windows desktop on the user's behalf when logging on. Logging onto Windows in this way ensures compatibility with existing Windows applications that rely on Active Directory credentials.

Like the Password Vault, Passwordless logon is disabled by default and can be enabled on the Windows systems by setting the "Enable Passwordless functionality to remove the Active Directory password for logon" group policy option on the Windows Desktop Agent.

## Other Agents

The Authlogics Exchange Agent also uses the Password Vault to provide passwordless access into Outlook Web App.

The Authlogics ADFS Agent, when installed on Windows Server 2019 or higher, provides passwordless access to federated applications however it does not require the Password Vault to provide this functionality.



## Considerations

### Password Policies

The Authlogics PSM Password Policy complies with NIST SP 800-63B guidance, whereas the Windows Default Domain Policy does not have this ability. The Windows password policy must be modified after deploying the Authlogics PSM Password Policy to avoid conflicts.

The Authlogics Authentication Server and the Authlogics Domain Controller Agent work together to provide the overall Password Security Management functionality.

### System Requirements

The Authlogics Domain Controller Agent is designed to work with an Authlogics Authentication Server which must be deployed before installing the agent.

The installer will check for pre-requisites and install them automatically where possible. The required pre-requisites are:

- Microsoft Visual C++ 2010 SP1 Runtime Libraries
- Microsoft .NET Framework 4.8



#### Note

The Visual C++ 2010 Runtime and .NET Framework 4.8 Libraries for 64bit systems are included in the agent installer. If the installation of a pre-requisite fails, then the agent installation will also fail.

### Direct Internet Failover

The Domain Controller Agent does not require direct access to the Internet as all connectivity to the cloud is performed by the Authlogics Authentication Server. However, the Domain Controller Agent can be configured to connect to the cloud in a failover scenario if the Authlogics Authentication Server is unavailable. This option is disabled by default.

In order for the Domain Controller Agent to communicate with the Authlogics Cloud Password Breach Database if the Authlogics Authentication Server is unavailable (**failover scenario only**), all Domain Controllers will require Internet access to the following destination (depending on the capabilities of the network firewall):

- Destination URL: `https://passwordsecurityapi.authlogics.com/api/*`
- Host: `passwordsecurityapi.authlogics.com` on port 443

A web proxy server can be configured using Group Policy to allow indirect Internet access instead of a routed connection. Proxy authentication will automatically be performed using the Windows Machine account credentials. If the proxy does not support Windows Authentication then anonymous access must be granted to the Domain Controllers. Static proxy server credentials are not supported.

### Language Requirements

Authlogics Domain Controller Agent is only available in English. Product support and documentation is only available in English.



## Design and Deployment Scenarios

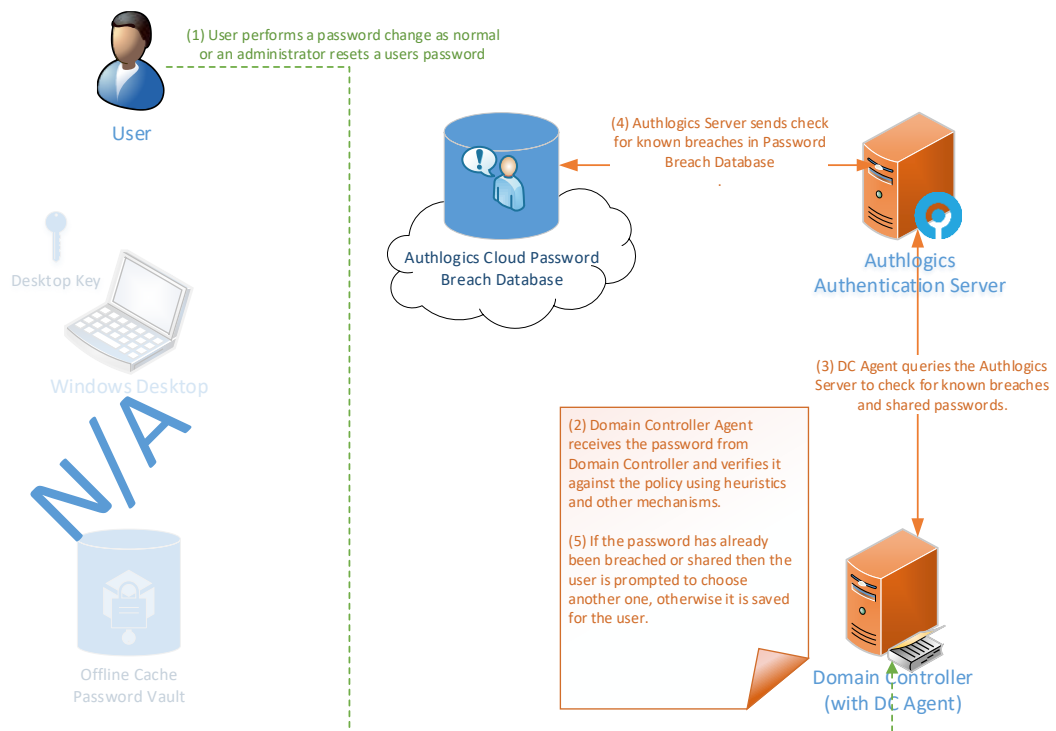
The Authlogics Domain Controller Agent has been designed to work seamlessly in a Windows and Active Directory environment.

The Password Security Management password policy is controlled via Active Directory Group Policy for flexible, centralised management.

### Active Directory password change workflow – Policy Check

The following workflows depict the steps performed during an AD password reset/change to check the password against the defined policy:

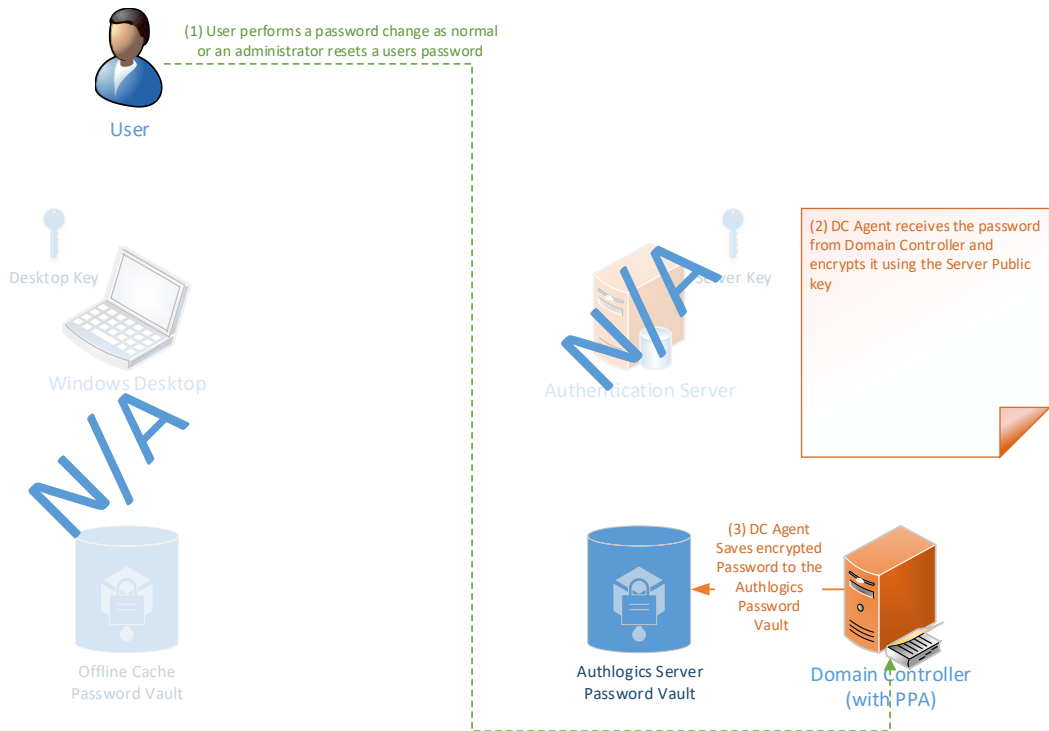
#### Authlogics Active Directory AD password change policy check



## Active Directory password change workflow – Password Vault Update

The following workflows depict the steps performed during an AD password reset/change to update the Authlogics Server Password Vault:

### Authlogics Active Directory Password-less AD password change capture

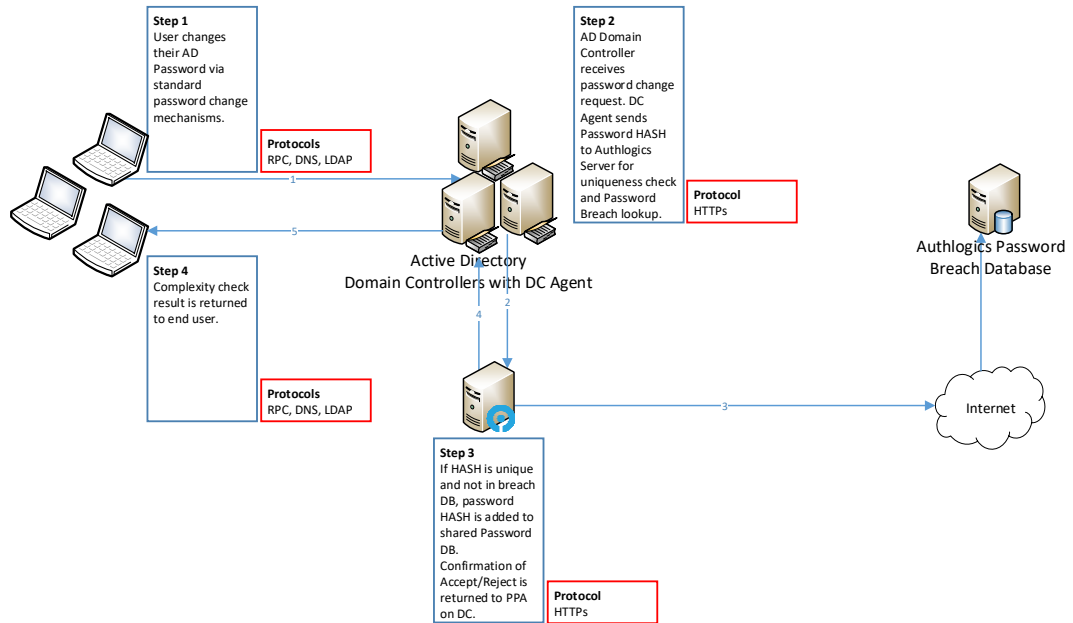




## Active Directory Shared password protection workflow

The following workflows depict the steps performed by the Domain Controller Agent during an AD password reset/change to ensure the uniqueness of a password and prevent the use of shared passwords in the domain:

Authlogics Domain Controller Agent Shared Password Process Flow



### Note

To prevent shared passwords from being selected, the Password Security Management Wizard needs to be run on the Authlogics Authentication Server with the current domain being enabled for PSM. Please refer to the Authlogics Authentication Server documentation for further information.



## Deployment

The following deployment overview walks through the installation process for deploying the Authlogics Domain Controller Agent.

### Overview

This deployment section assumes that at least one Authlogics Authentication Server has already been installed and is functional. See the Authlogics Authentication Server Installation and Configuration Guide for further information on setting up the Authlogics Authentication Server.

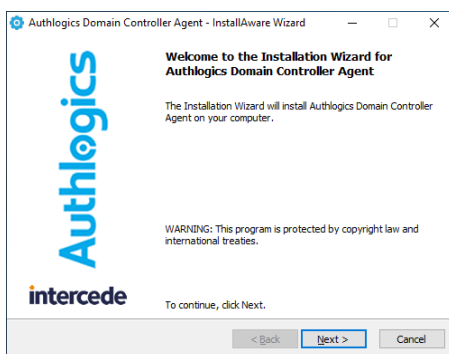
## Installing the Authlogics Domain Controller Agent



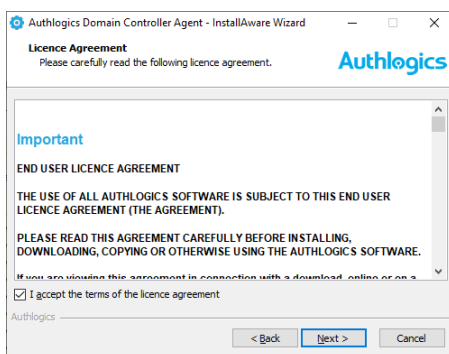
### Note

This section of the installation process requires Administrator rights on the Domain Controller.

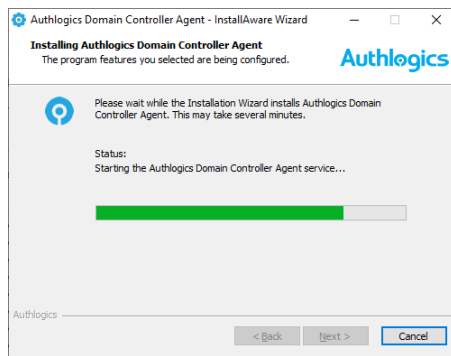
- (1) To start the Authlogics Domain Controller Agent installation, run the *Authlogics Domain Controller Agent xxxxx.msi* installer with **elevated privileges**. Depending on the Windows security settings you may need to start the setup from an elevated command prompt.
- (2) Click *Next* to continue.



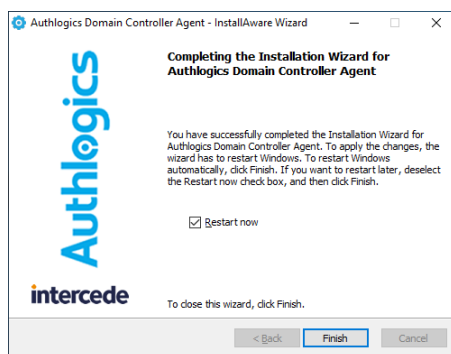
- (3) After **reading** the licence agreement click *I accept the terms in the terms in the Licence Agreement* if you agree to the terms, then click *Next* to continue.



The installation is being performed.



(4) If you plan to reboot later untick the *Restart now* box. Click *Finish* to complete the installation process.

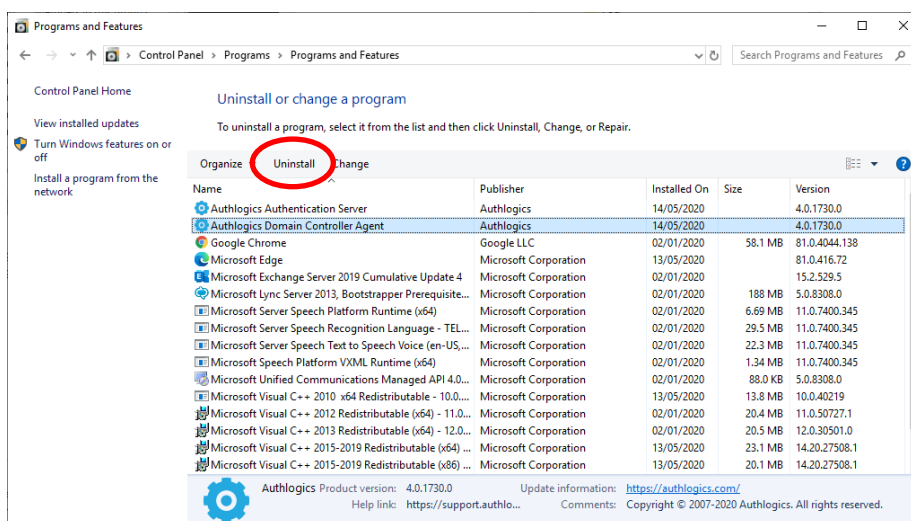


## Note

The Domain Controller MUST be restarted for changes to take effect.

## Uninstalling Authlogics Domain Controller Agent

If you no longer require Domain Controller Agent on a Domain Controller, you can remove it by performing an uninstall from Control Panel > Programs > Programs and Features:



## Automated / command line Setups

### Running an installation with verbose logging

In scenarios where the installation may not succeed successfully on a system, it may be necessary to run setup with logging enabled to help identify the problem. The following command will run setup and create a setup.log file containing information about the install:

```
msiexec /i " Authlogics Domain Controller Agent xxxxx.msi" /lv setup.log
```

### Fully automated silent installation

Setup can be run silently directly by simply running the MSI file with a /q switch, or via the MSI Executive interface as follows:

```
" Authlogics Domain Controller Agent xxxxx.msi" /q
```

or

```
msiexec /i " Authlogics Domain Controller Agent xxxxx.msi" /quiet
```

### Fully automated silent removal

The agent can be removed silently using the /x switch as follows:

```
msiexec /x " Authlogics Domain Controller Agent xxxxx.msi" /quiet
```



## Deploying Certificates

The Domain Controller Agent does not explicitly require any certificates to be installed on Domain Controllers to function. However, if the Authlogics Authentication Server Certificate (with private key) is installed on the Domain Controllers then the DC agent will be able to access Authlogics encrypted data stored on the DC directly. This will improve performance as less connections are required from the DC Agent to the Authlogics Authentication Server.

## Configuring the Domain Controller Agent Policy Settings

The Domain Controller Agent Policy is designed to configure infrastructure components of the agent. This policy is configured separately to the actual password policy which is detailed in the Installation and Configuration Guide.

Deploying the Authlogics Domain Controller Agent Policy involves the following step:

- (1) Create an Authlogics Domain Controller Agent Policy in Group Policy
- (2) Deploy the Domain Controller Agent
- (3) Group Policy changes:
  - a. Assign the Authlogics Domain Controller Agent Policy to the Domain Controllers OU

The Authlogics Domain Controller agent includes an AD Group Policy Template files `AuthlogicsDCAgent.admx` and `AuthlogicsDCAgent.adml` which are used to create policies. The *User Configuration* section of the GPO can be disabled as the settings only apply to the *Computer Configuration*.

### General Settings

<b>Setting</b>	Disable Domain Controller Agent
<b>Values</b>	Enabled / Disabled
<b>Default</b>	Disabled
<b>Description</b>	
<p>This policy setting disables the Authlogics Domain Controller Agent functionality without needing to uninstall the product, which would require a reboot of the Domain Controllers.</p> <p>If you enable this policy no Domain Controller Agent tasks will be performed.</p> <p>If you disable or do not configure this policy then the agent will function as normal.</p>	

<b>Setting</b>	Authlogics Authentication Server Names
<b>Values</b>	Any DNS based server address (CSV)
<b>Default</b>	{blank}
<b>Description</b>	
<p>This policy setting configures the server name(s) which agents will use to connect to the Authlogics Authentication Server instead of searching the Active Directory for server names.</p> <p>If you enable this policy you must specify at least one server DNS name, however multiple server names can be specified separated by a comma, e.g. <code>server1.domain.com,server2.domain.com</code></p> <p>If you disable or do not configure this policy the Active Directory will be searched to locate one or more Authlogics Authentication Servers.</p>	



<b>Setting</b>	Authlogics Authentication Server Port (HTTPS/SSL)
<b>Values</b>	(1024 - 65535)
<b>Default</b>	14443
<b>Description</b>	
<p>This policy setting configures the Authlogics Authentication Server port number which agents will use to connect to the Authlogics Authentication Server. The server name will be located automatically via an Active Directory search unless specified in the "Authlogics Authentication Server Names" policy.</p> <p>If you enable this policy you must specify a TCP port number, e.g. 14443</p> <p>If you disable or do not configure this policy the default port 14443 will be used.</p>	

<b>Setting</b>	Authlogics Authentication Server refresh time
<b>Values</b>	(5 - 1440)
<b>Default</b>	60
<b>Description</b>	
<p>This policy setting sets the maximum amount of time before refreshing the most suitable Authlogics Authentication Server.</p> <p>If you enable this policy you must specify the interval value in minutes to wait before refreshing which Authlogics Authentication Server to use.</p> <p>If you disable or do not configure this policy the agent will wait for 60 minutes before refreshing which Authlogics Authentication Server to use.</p>	

<b>Setting</b>	Authlogics Authentication Server access timeout
<b>Values</b>	(0 - 120)
<b>Default</b>	5
<b>Description</b>	
<p>This policy setting sets the maximum amount of time to wait while locating an Authlogics Authentication Server before attempting an alternative server or the request failing.</p> <p>If you enable this policy you must specify the interval value in seconds to wait while locating an Authlogics Authentication Server. Setting this value to 0 will disable the timeout and connections will wait indefinitely.</p> <p>If you disable or do not configure this policy the agent will wait for 5 seconds while locating an Authlogics Authentication Server.</p>	

<b>Setting</b>	Domain Controller Server Names
<b>Values</b>	Any DNS based server address (CSV)
<b>Default</b>	{blank}
<b>Description</b>	
<p>This policy setting configures the server name(s) which Domain Controller Agents will use to connect to Domain Controllers instead of auto detecting them.</p> <p>If you enable this policy you must specify at least one Domain Controller DNS name, however, multiple server names can be specified separated by a comma, e.g. dc1.domain.com,dc2.domain.com</p> <p>If you disable or do not configure this policy the PC will auto detect which Domain Controller to use however the local machine will always be used for the local domain.</p>	



<b>Setting</b>	Global Catalog Server Names
<b>Values</b>	Any DNS based server address (CSV)
<b>Default</b>	{blank}
<b>Description</b>	
<p>This policy setting configures the server name(s) which Domain Controller Agents will use to connect to Global Catalog Servers instead of auto detecting them.</p> <p>If you enable this policy you must specify at least one Global Catalog DNS name, however, multiple server names can be specified separated by a comma, e.g. gc1.domain.com,gc2.domain.com</p> <p>If you disable or do not configure this policy the PC will auto detect which Global Catalog to use.</p>	

<b>Setting</b>	Active Directory Domain Controller refresh time
<b>Values</b>	(1 - 1440)
<b>Default</b>	60
<b>Description</b>	
<p>This policy setting sets the maximum amount of time to wait before retesting the Domain Controller connectivity for the quickest connection. Setting this value too high will make connections stay on a single server for longer, whereas setting this value too low could result in too many checks being performed.</p> <p>If you enable this policy you must specify the interval value in minutes to wait before retesting the Domain Controller connectivity.</p> <p>If you disable or do not configure this policy the Domain Controller Agent will retest the Domain Controller connectivity every 60 minutes.</p>	

<b>Setting</b>	Active Directory access timeout
<b>Values</b>	(0 - 120)
<b>Default</b>	15
<b>Description</b>	
<p>This policy setting sets the maximum amount of time to wait while connecting to an Active Directory Domain Controller. Setting this value too high can make HA failovers take longer while the AD is being located, whereas setting this value too low could result in connections failing even when the AD is available.</p> <p>If you enable this policy you must specify the interval value in seconds to wait while locating an Active Directory Domain. Setting this value to 0 will disable the timeout and connections will wait indefinitely.</p> <p>If you disable or do not configure this policy the Domain Controller Agent will wait for 15 seconds while locating an Active Directory Domain.</p>	

<b>Setting</b>	Disable Fail-Safe
<b>Values</b>	Enabled / Disabled
<b>Default</b>	Disabled
<b>Description</b>	
<p>This policy setting controls the behaviour of the agent in the case of a catastrophic failure. E.g. The agent is unable to connect to the Authlogics Cloud Password Breach Database, or the licence becomes invalid. Fail-safe relates to the security of the AD passwords, not the ability to change AD passwords, this is to ensure passwords are kept secure.</p> <p>If you enable this policy then any agent failure will result in password changes being ALLOWED.</p> <p>If you disable or do not configure this policy then any agent failure will result in password changes being DENIED.</p>	



<b>Setting</b>	Direct Internet Failover
<b>Values</b>	Enabled / Disabled
<b>Default</b>	Disabled
<b>Description</b>	
<p>This policy setting allows the Authlogics Domain Controller Agent to connect directly to the Internet to access the Authlogics Cloud Password Breach Database if the Authlogics Authentication Server is unavailable.</p> <p>If you enable this policy the Domain Controller Agent will attempt to connect to the Internet directly if the Authlogics Authentication Server is unavailable in addition a local blacklist.txt file.</p> <p>If you disable or do not configure this policy then the agent will not attempt to connect directly to the Internet if the Authlogics Authentication Server is unavailable.</p>	

<b>Setting</b>	Proxy Server Host
<b>Values</b>	A DNS based server address
<b>Default</b>	{blank}
<b>Description</b>	
<p>This policy setting configures the Proxy Server Host name which will be used to connect to the Internet for access to the Authlogics Cloud Password Breach Database on the URL <a href="https://passwordsecurityapi.authlogics.com/api/*">https://passwordsecurityapi.authlogics.com/api/*</a> if Direct Internet Failover is enabled.</p> <p>If you enable this policy you must specify a FQDN or IP Address, e.g. proxy.mycompany.com</p> <p>If you disable or do not configure this policy a proxy server will not be used and a routable Internet connection will be required.</p>	

<b>Setting</b>	Proxy Server Port
<b>Values</b>	Any TCP port value
<b>Default</b>	8080
<b>Description</b>	
<p>This policy setting configures the Proxy Server TCP Port number which will be used to connect to the Internet if Direct Internet Failover is enabled. This setting MUST be used in conjunction with the "Proxy Server Host" policy setting.</p> <p>If you enable this policy you must specify a TCP port number, e.g.8080</p> <p>If you disable or do not configure this policy the default port 8080 will be used.</p>	

<b>Setting</b>	Enable Debug Logging
<b>Values</b>	Enabled / Disabled
<b>Default</b>	Disabled
<b>Description</b>	
<p>This policy setting enables debug logging on all servers running the agent. This should only be enabled if requested by an Authlogics Support engineer. This setting performs the same function as manually setting the LoggingEnabled registry key to 1.</p> <p>If you enable this policy debug logging will be active.</p> <p>If you disable or do not configure this policy then debug logging will not be active.</p>	

