

XIA Automation Administrator's Guide

Version: 5.0

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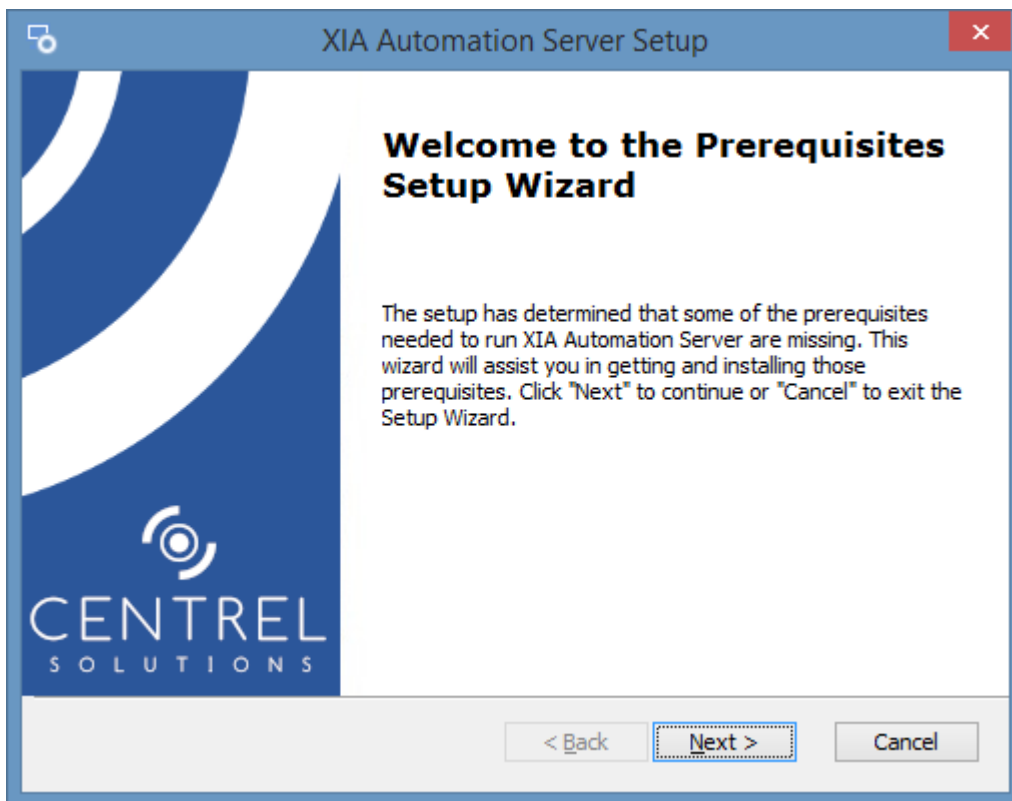
XIA Automation Server

[XIA Automation Server](#) is a network task automation tool which helps you automate away common IT management and network tasks.

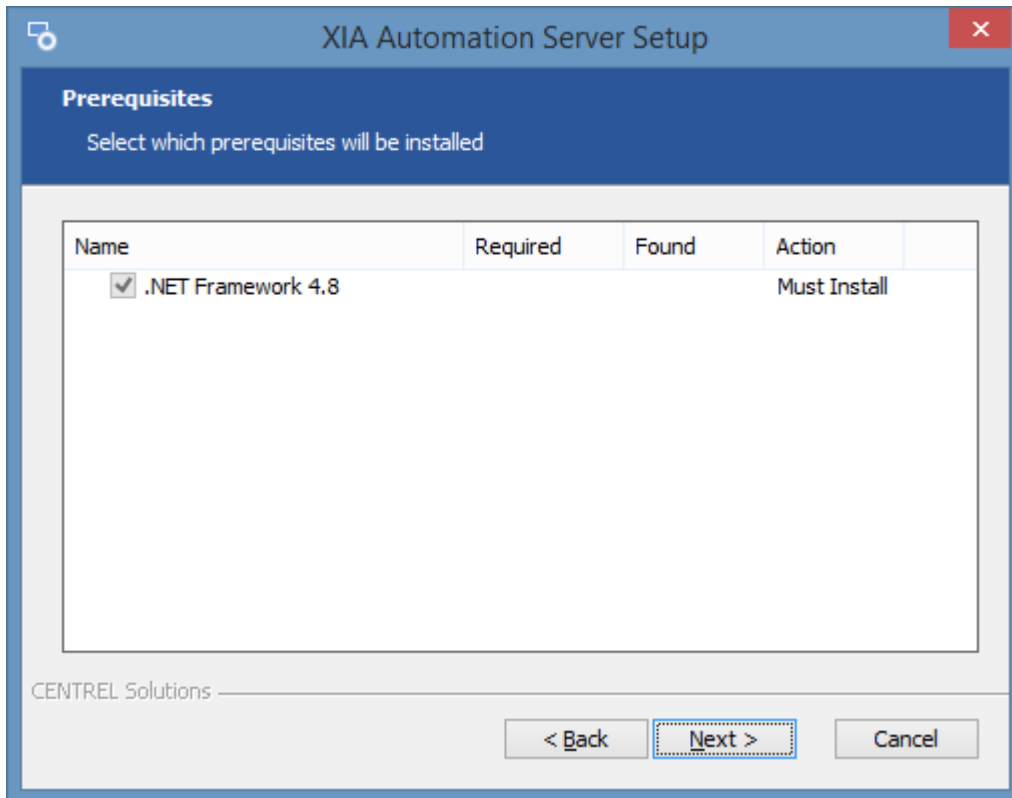
Installation

This section describes the installation process of [XIA Automation Server](#). For information about the removal of the product, see the [uninstallation](#) section.

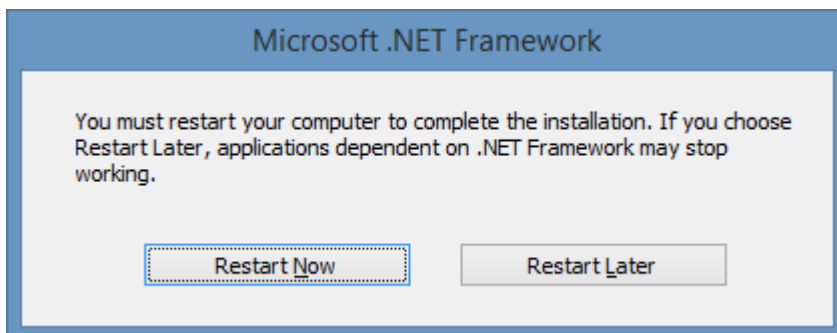
- Check that the system you are installing on meets the [server requirements](#).
- Check that the system you are installing on has a full system backup.
- Download the latest [installation package](#).
- Ensure you have an appropriate license file, or [request a trial license](#).
- Review the [roles and features](#) that will be automatically installed.
- Start the installer
- If the [.NET Framework 4.8](#) is not installed and is not available as a Windows feature the *Prerequisites Setup Wizard* will be displayed.



- You will be prompted to install the [.NET Framework 4.8](#) if required.



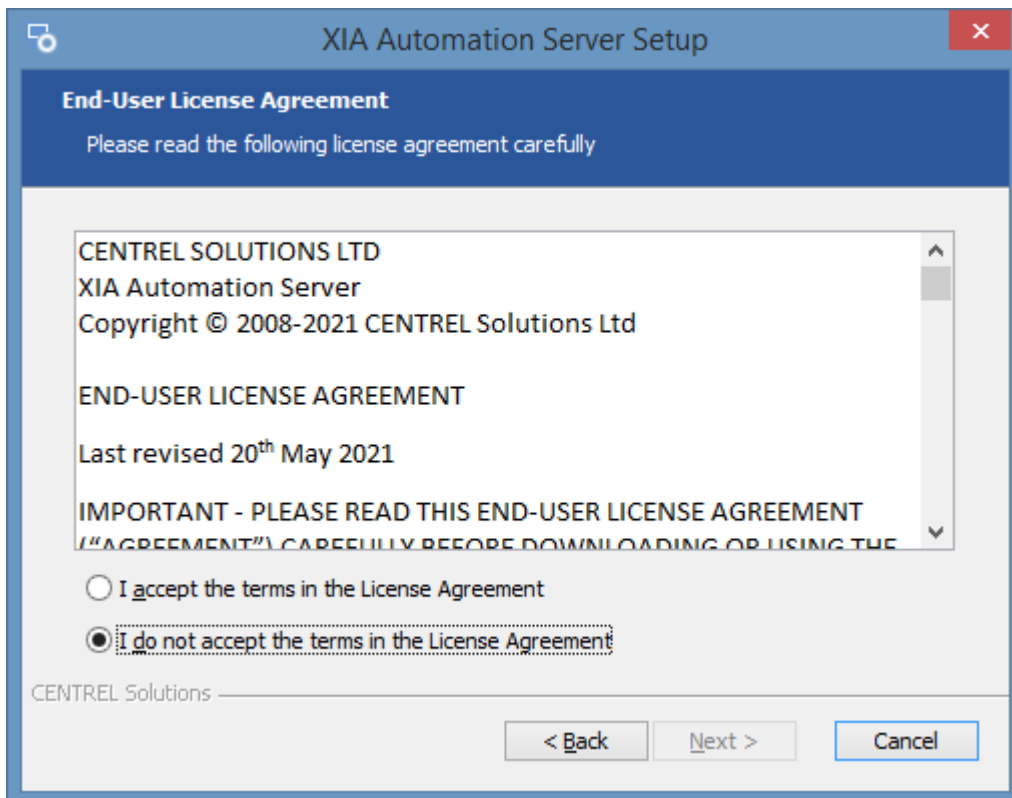
- If required the [.NET Framework 4.8](#) will be installed and a [log file](#) created for the installation.
- You may be required to reboot to continue the installation. The installation will resume automatically after logging in following the reboot.



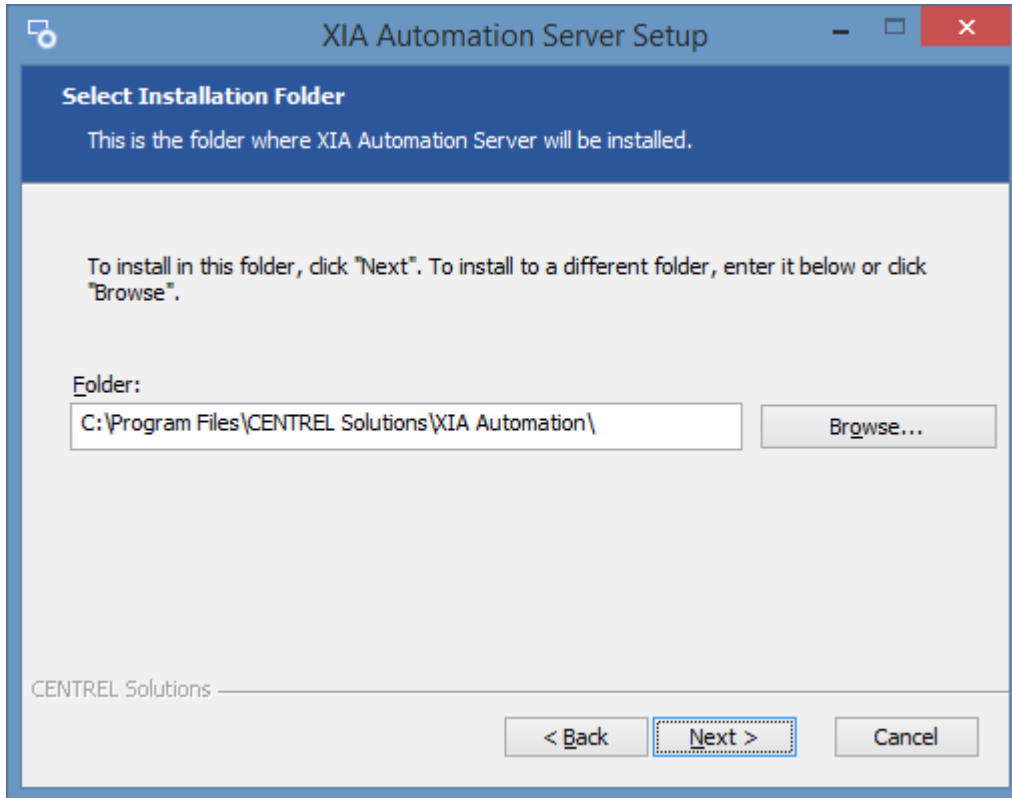
- The main installation screen will be displayed.



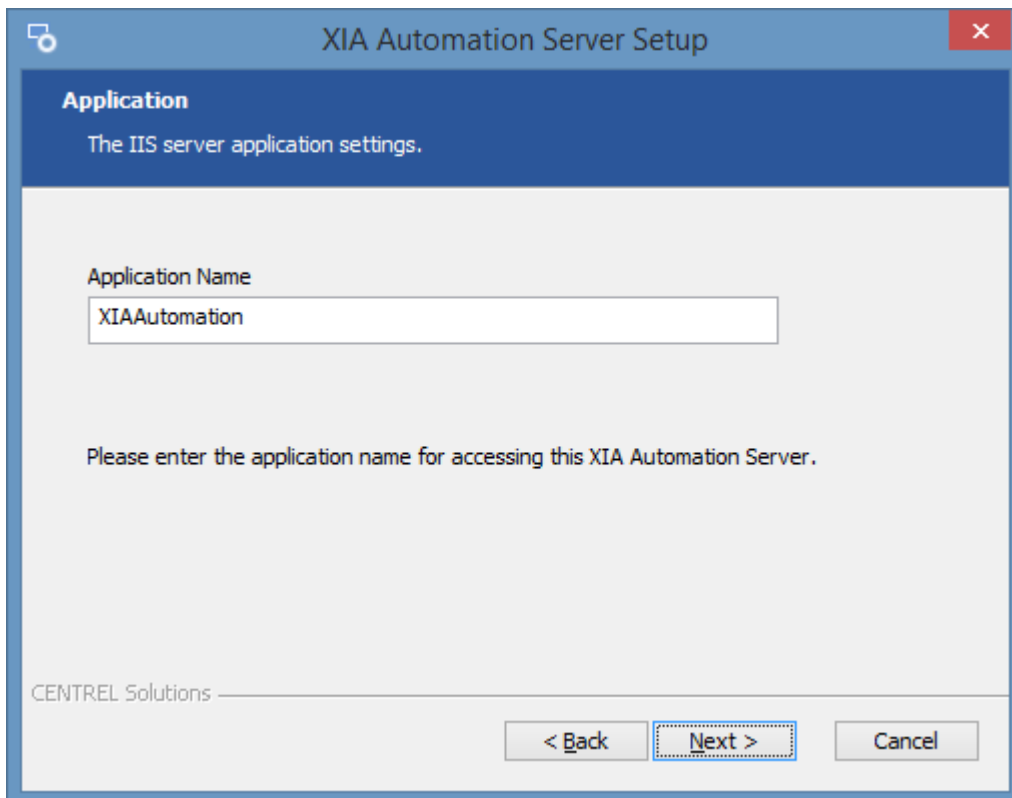
- Review the [end user license agreement \(EULA\)](#) and only accept if you agree to the terms. If you do not accept the terms of the agreement please cancel the installation.



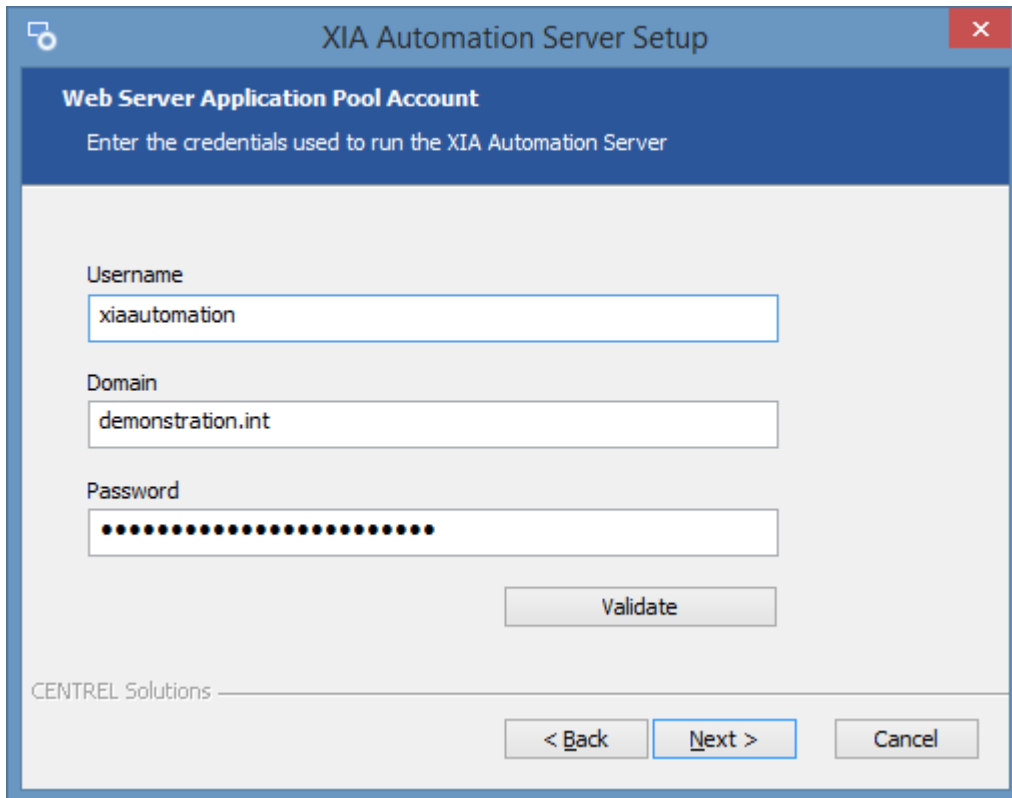
- Select the directory into which [XIA Automation Server](#) should be installed and click *Next*.



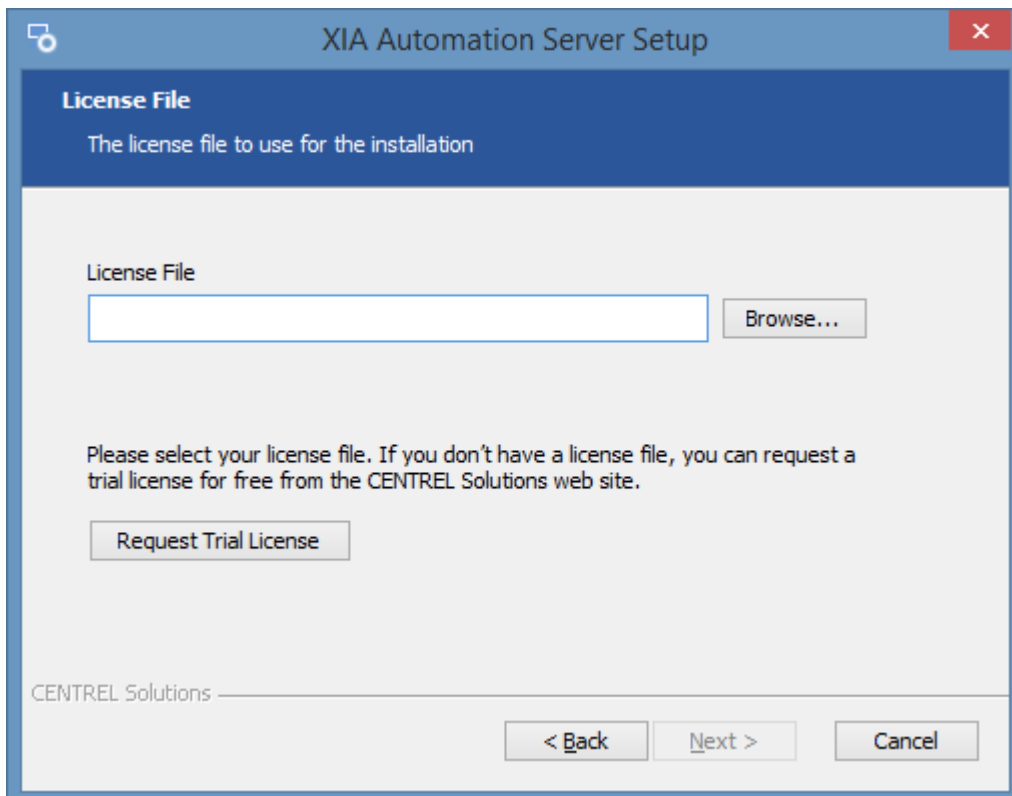
- Enter the application name, this is used to form the URL at which [XIA Automation Server](#) can be accessed and click *Next*.



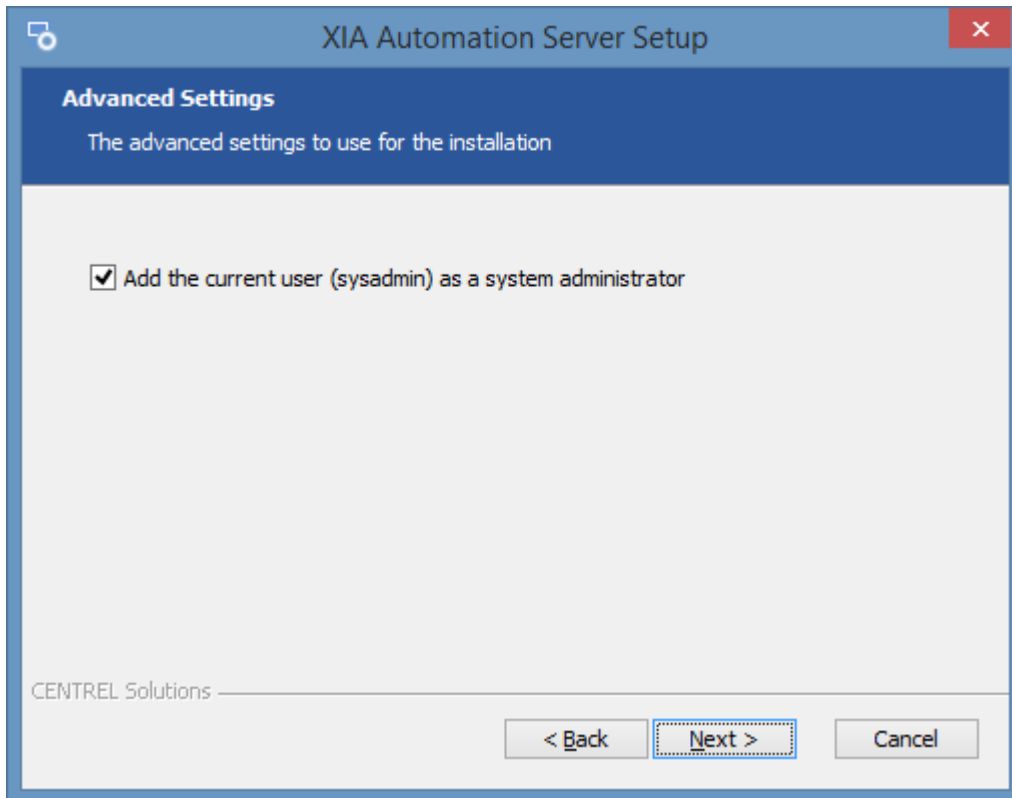
- Enter the credentials for the [web server application pool account](#) and click *Validate* to validate the account, and then click *Next*.



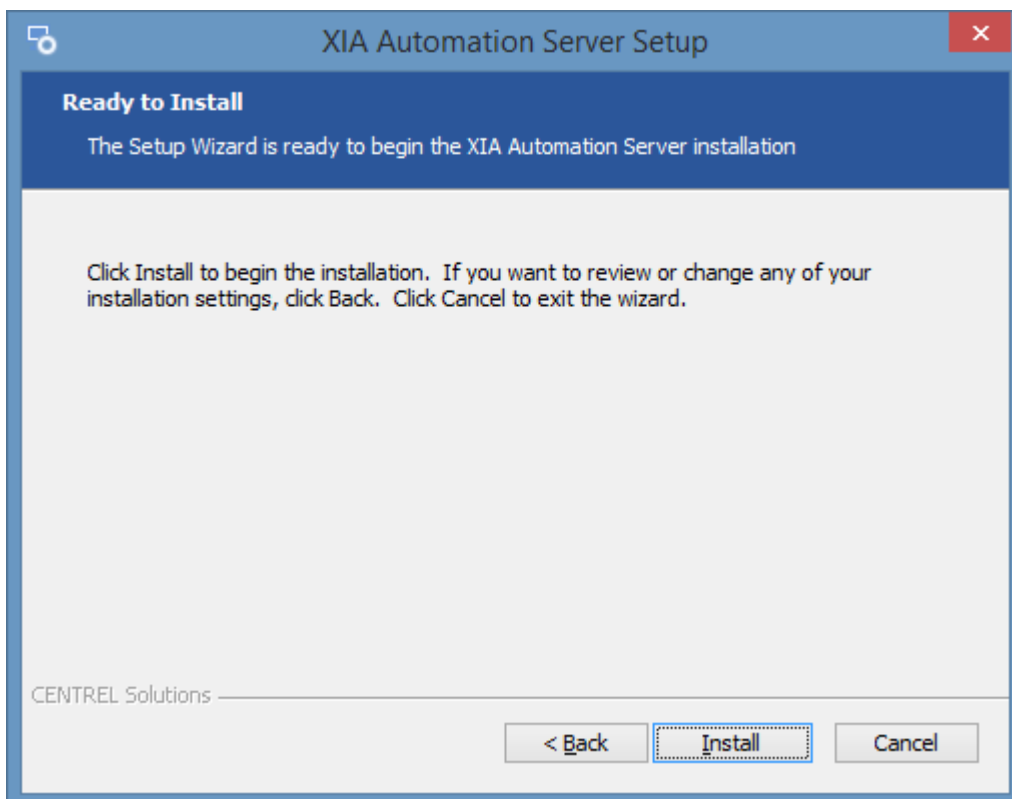
- Click *Browse* to browse for the [trial](#) or [production license](#) file you have been provided. If you do not have a [license](#) you can [request a trial license](#).



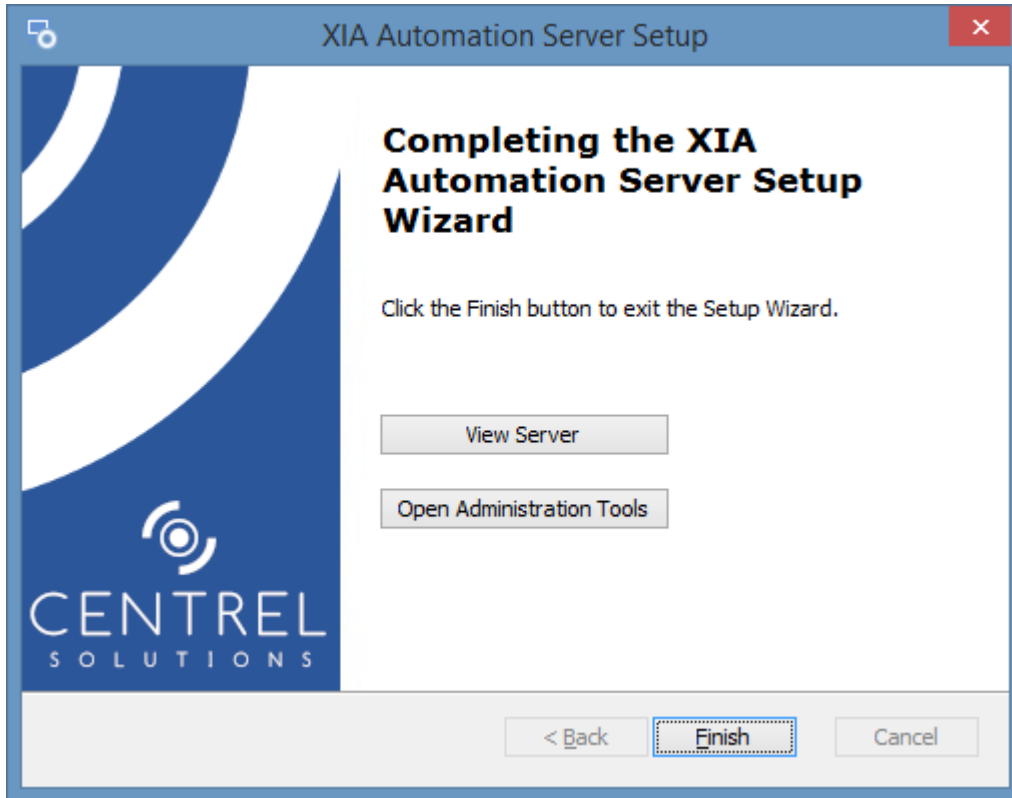
- Enter the appropriate [server advanced options](#) and click *Next*.



- Click *Install* to begin the installation.



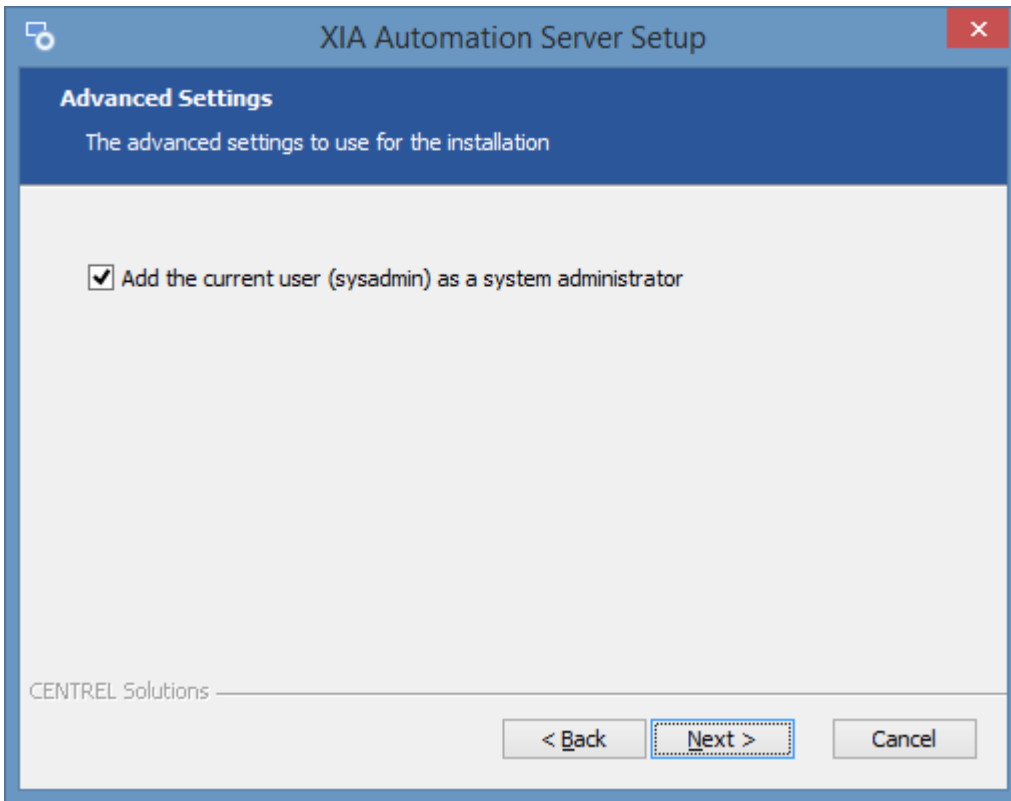
- When the installation is complete you will be prompted to [View Server](#) or [Open Administration Tools](#). Click *Finish* to complete the installation.



- **NOTE:** If the installation was run as a user who is a member of the Administrators group, but not the Administrator user account, you may need to log off for the group membership to be updated.

Server Advanced Options

When installing XIA Automation Server the following client and server advanced options are presented.



Add the current user (username) as a system administrator

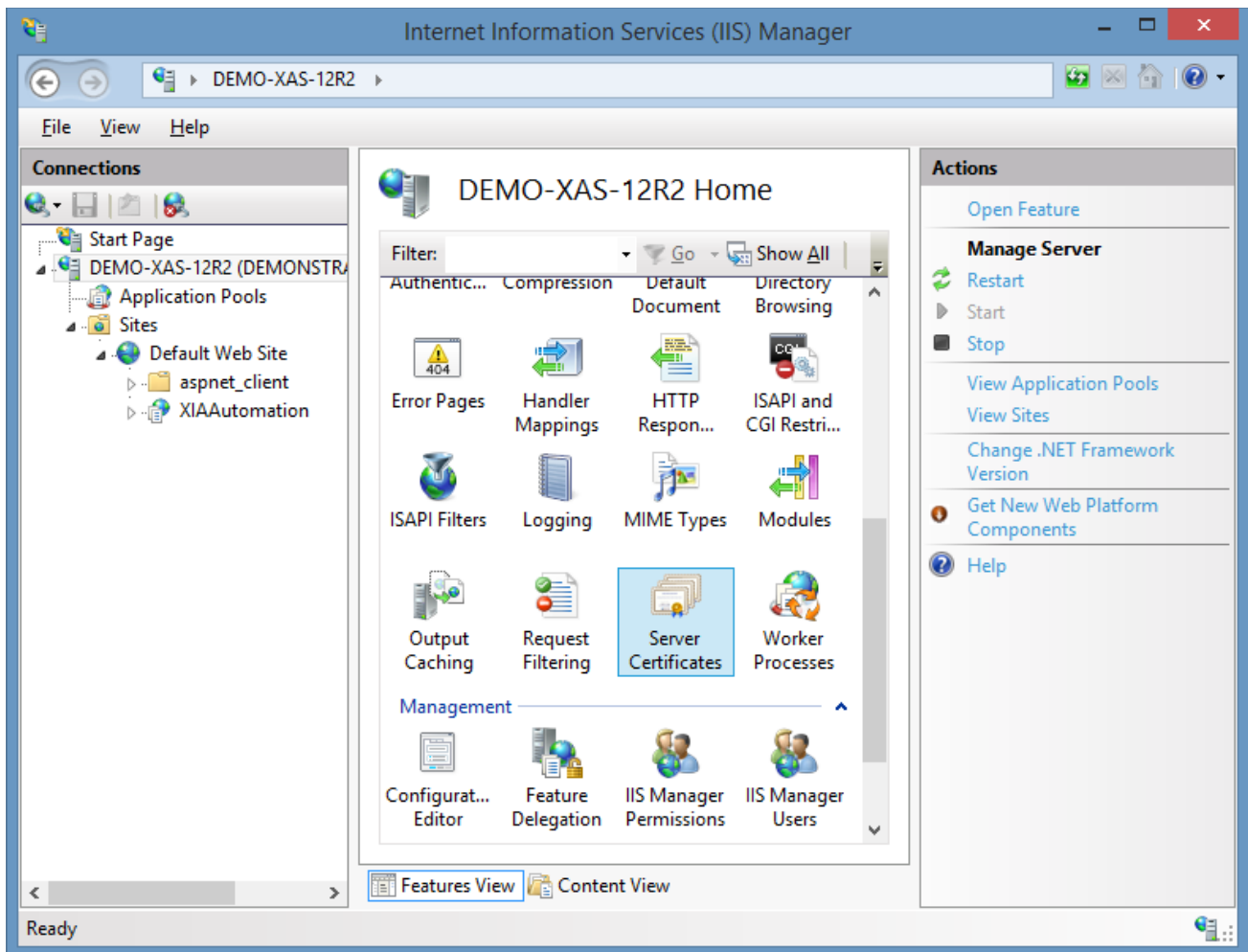
Determines whether the user performing the [installation](#) should be automatically added as a [system administrator](#).

Configure SSL (HTTPS)

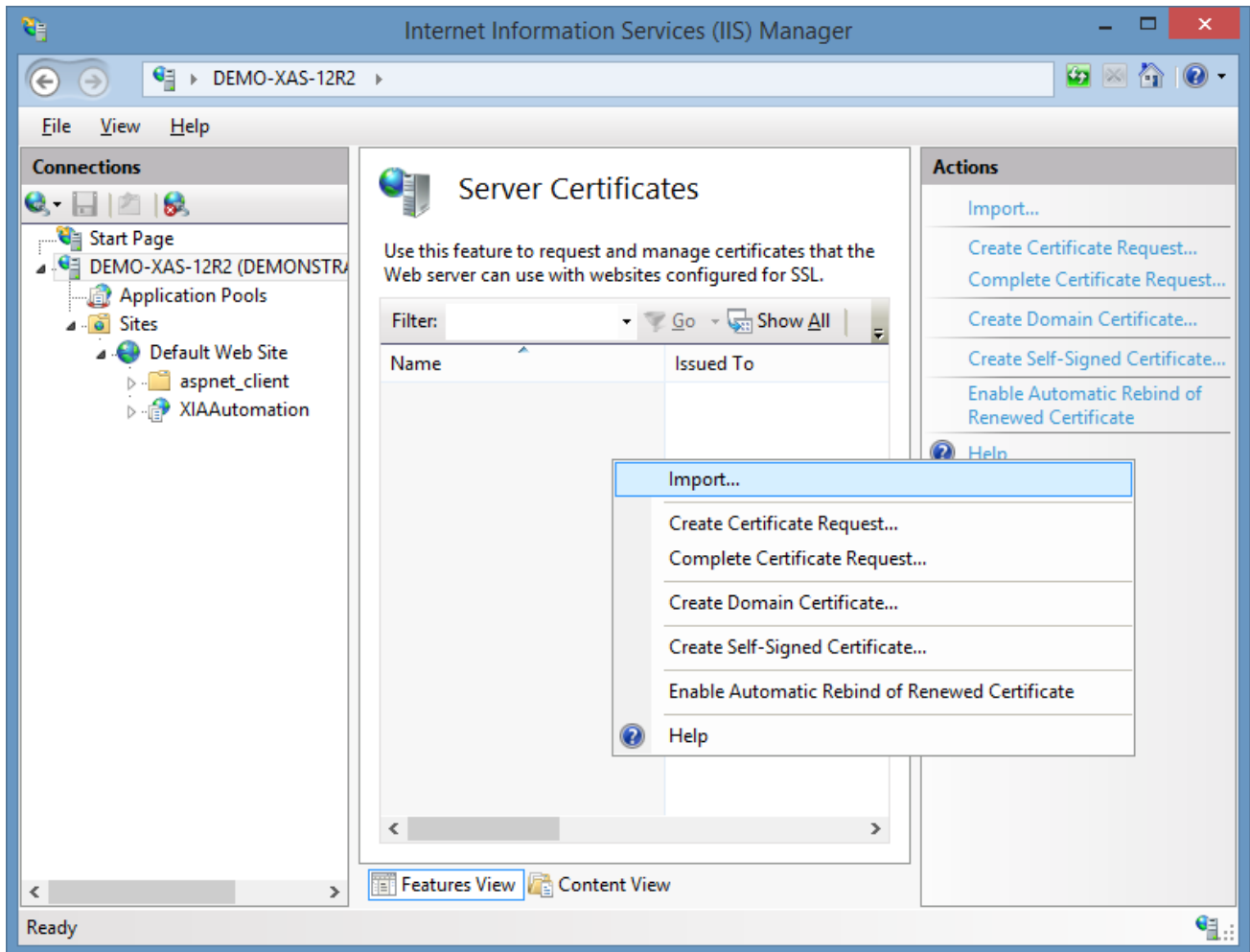
To configure [XIA Automation Server](#) to use SSL (also known as TLS) complete the following steps.

NOTE: This section is for guidance only, for more information review the documentation for the version of [Internet Information Server \(IIS\)](#) in use.

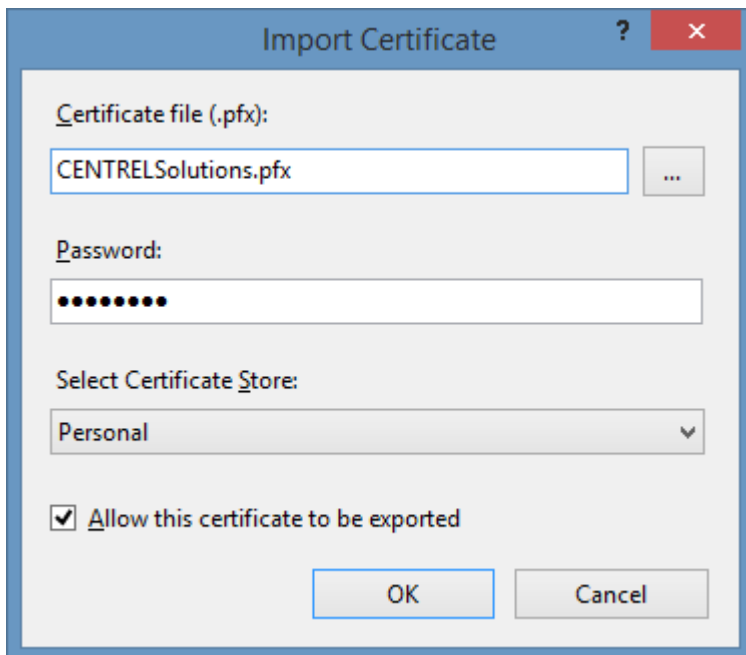
- An SSL certificate in .pfx format is required before proceeding - this can be generated by your network administrator or purchased from a 3rd party.
- Open the [Internet Information Server \(IIS\)](#) Manager tool.
- Select the server node, then double click *Server Certificates*.



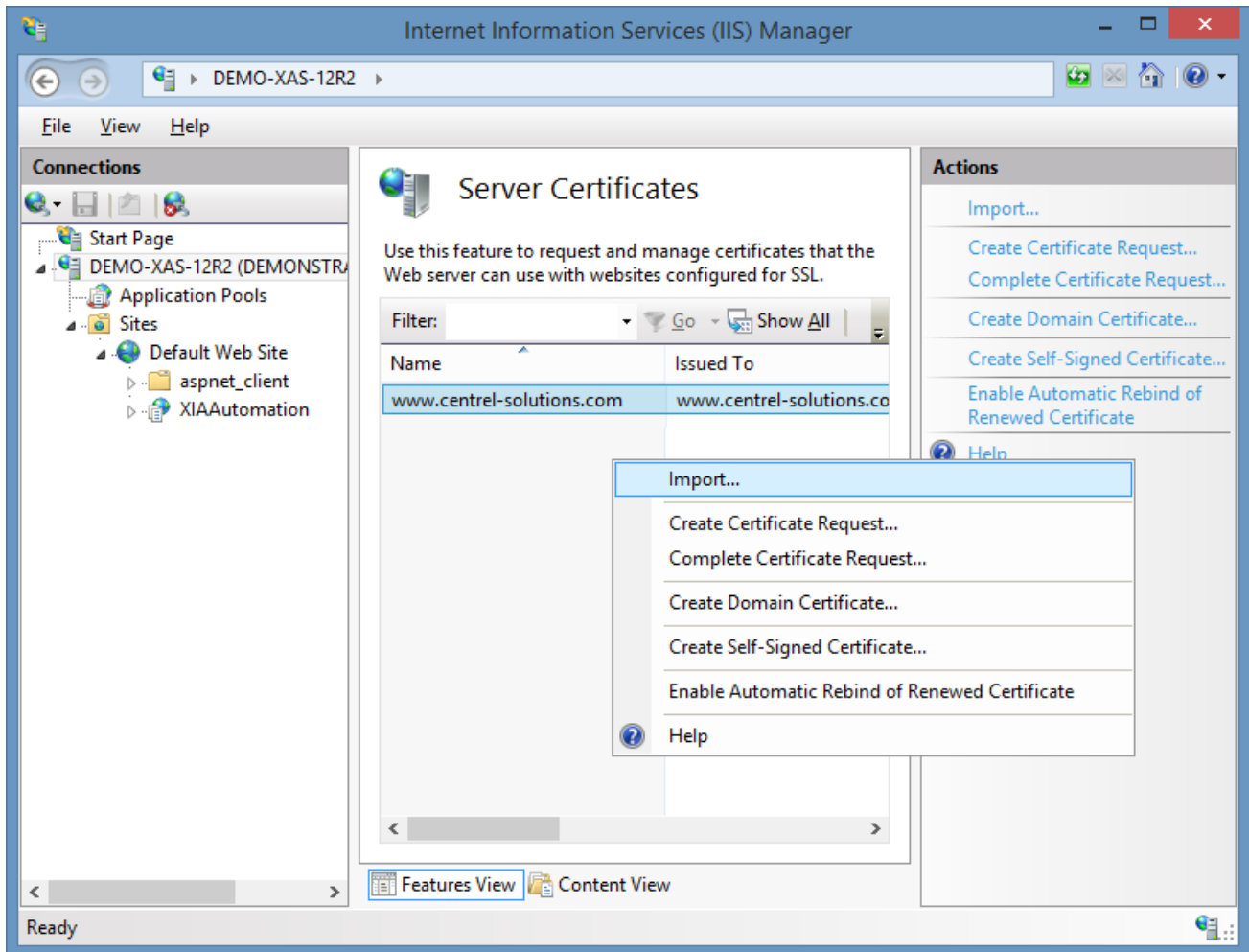
- Right click and select *Import*.



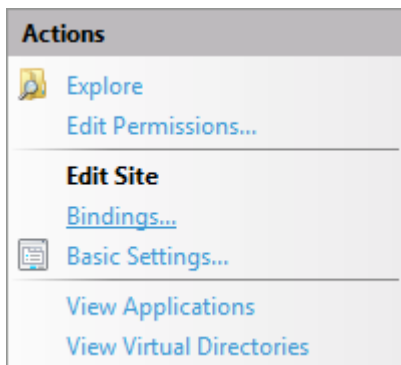
- Browse to the SSL certificate and enter the password.



- Ensure that the certificate is installed.



- Select the web site hosting [XIA Automation Server](#) and click *Bindings*.



- Add a new HTTPS binding selecting the certificate and assign the host name as required.

Add Site Binding

Type: **https** IP address: **All Unassigned** Port: **443**

Host name: **www.centrel-solutions.com**

Require Server Name Indication

SSL certificate: **www.centrel-solutions.com** **Select...** **View...**

OK **Cancel**

- Optionally remove the default HTTP binding if required.

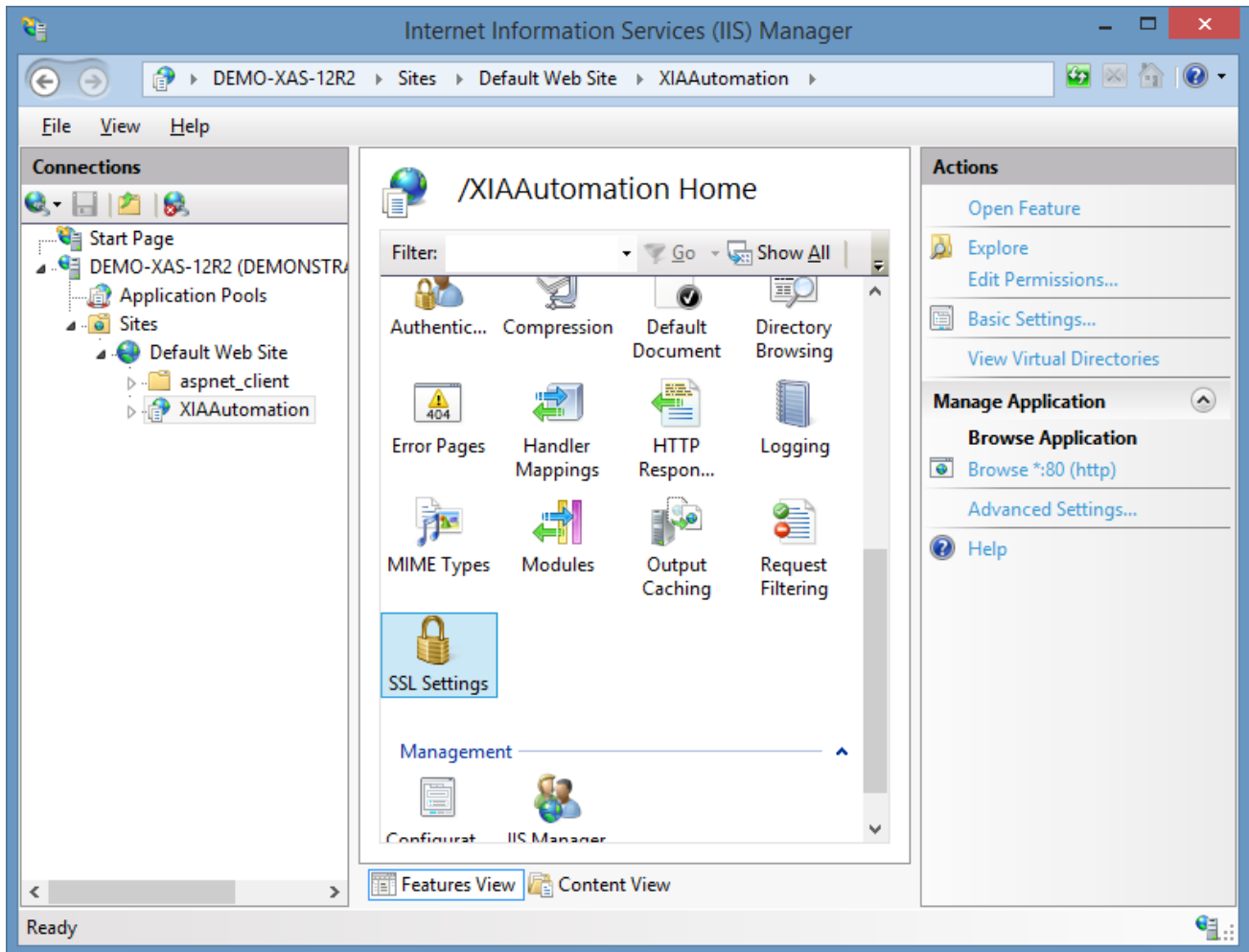
Site Bindings

Type	Host Name	Port	IP Address	Binding Informa...
https	www.centrel-solutions....	443	*	

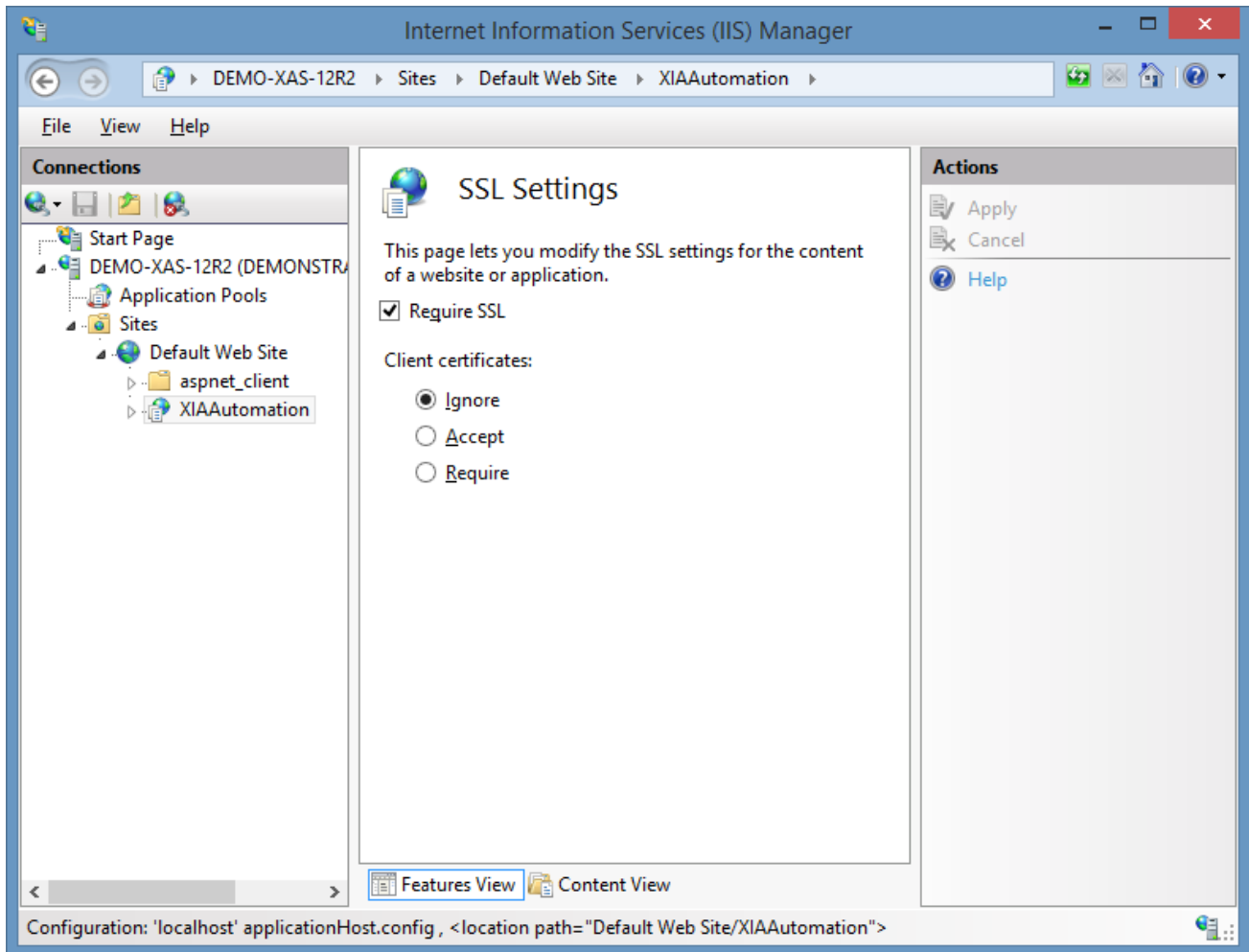
Add...
Edit...
Remove
Browse

Close

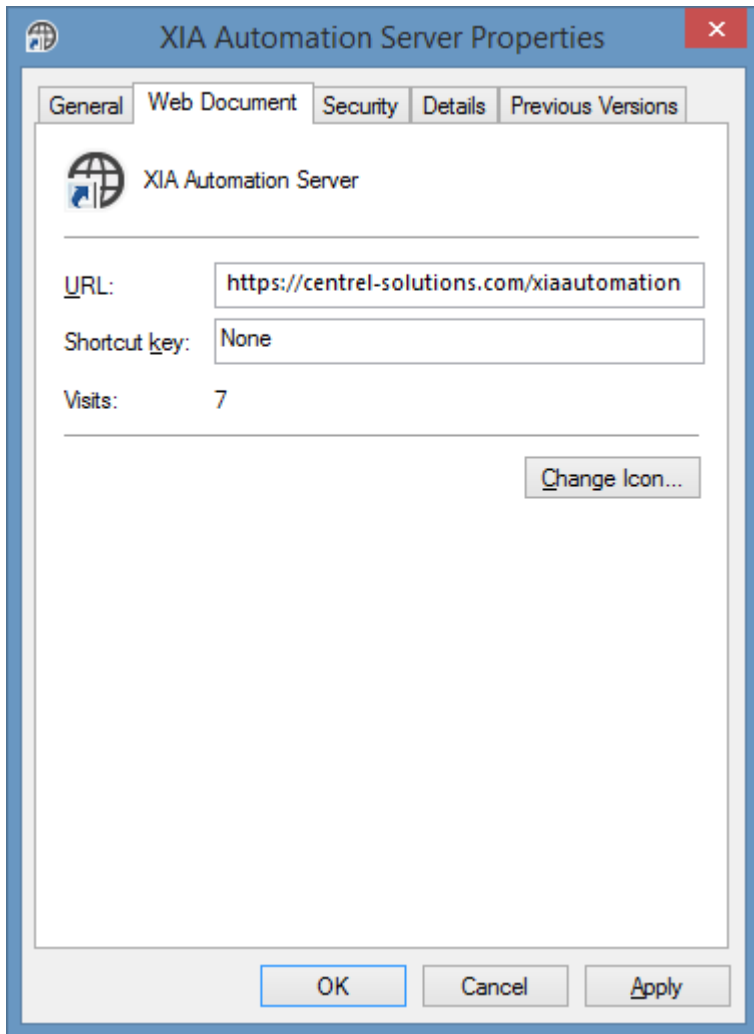
- Select the [XIA Automation Server](#) application and double click *SSL Settings*.



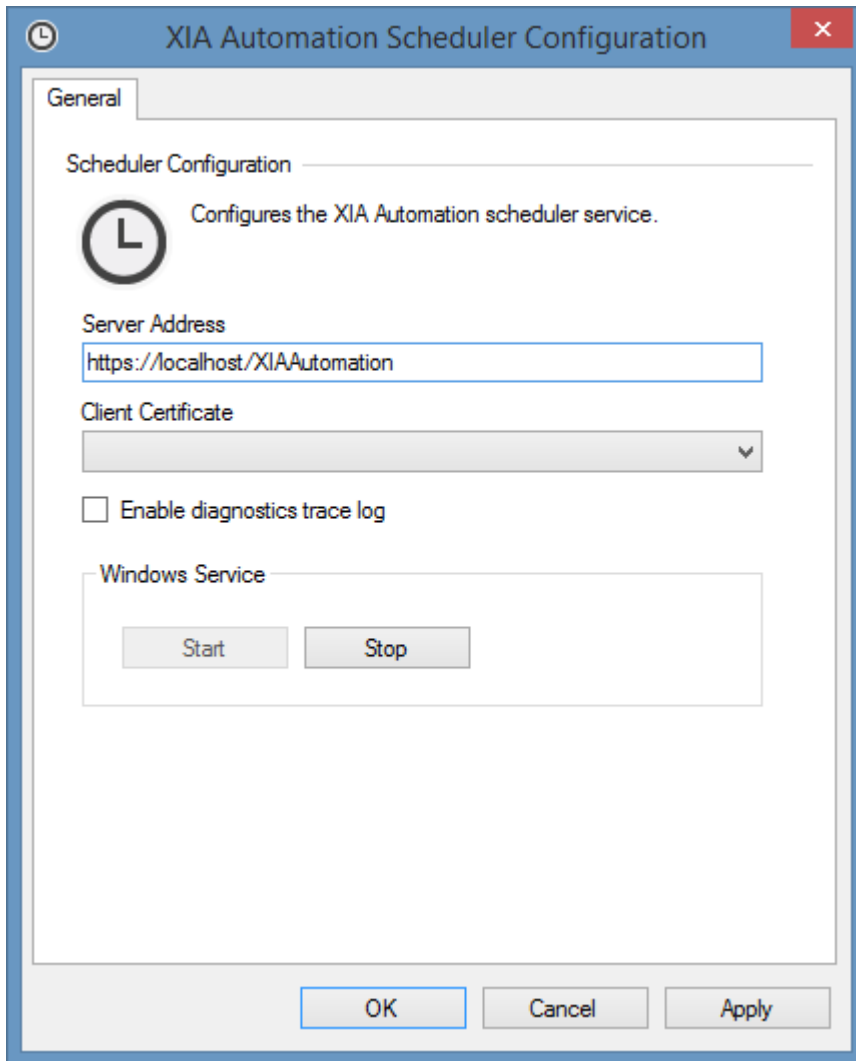
- Select *Require SSL* if required.



- Ensure that the installation can be accessed from a web browser.
- Right click the [XIA Automation Server](#) shortcut on the desktop, and click properties.
- Set the server address as required.



- Configure the [XIA Automation Administration Tools](#) to use the new URL.
- Open the [scheduler configuration tool](#) and set the server address to use the new URL.



Server Requirements

This section describes the requirements for the [installation](#) of [XIA Automation Server](#).

Operating Systems (Server)

The following operating systems are supported for installation of a production version of [XIA Automation Server](#):

- Windows Server 2022
- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2

Prerequisites

- [.NET Framework 4.8](#) (installed automatically) *

Internet Information Server

- Internet Information Server (installed automatically) **

* Please see the [Microsoft .NET Framework 4.8 installation requirements](#) for further information.

** This prerequisite is a shared component and not removed when the product is [uninstalled](#).

Custom Actions Log Files

NOTE: additional information related to the [server installation](#) may be logged to the custom actions log files which is stored in the following locations

%temp%\XIA Automation Server Installation Actions.log.

.NET Framework Installation Log File

If the .NET Framework is installed a log file will be created in the following location

%temp%\Microsoft .NET Framework 4.8 Setup_XXXXXXXX_XXXXXXXX.html

Installed Roles and Features

During the [installation](#) of [XIA Automation Server](#), the following roles, features and other shared components will be automatically installed:

- [Microsoft .NET Framework 4.8](#)

Web Server (IIS)

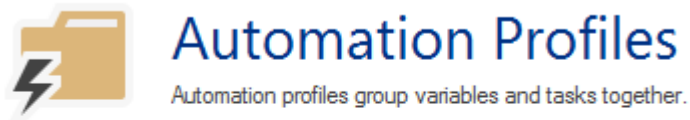
The following Internet Information Server (IIS) roles and features are installed automatically.

- Application Development > .NET Extensibility 4.x
- Application Development > ASP.NET 4.x
- Application Development > ISAPI Extensions
- Application Development > ISAPI Filters
- Common HTTP Features > Default Document
- Common HTTP Features > HTTP Errors
- Common HTTP Features > Static Content
- Security > Request Filtering
- Security > Windows Authentication
- Management Tools > IIS Management Console
- Management Tools > IIS Management Scripts and Tools

Creating your first automation profile

Once the [installation](#) has been completed, you are ready to create your automation profile.

- Start the [XIA Automation Administration Tools](#) by double clicking the desktop icon
- Go to [automation profiles](#) and click the *new automation profile* button.



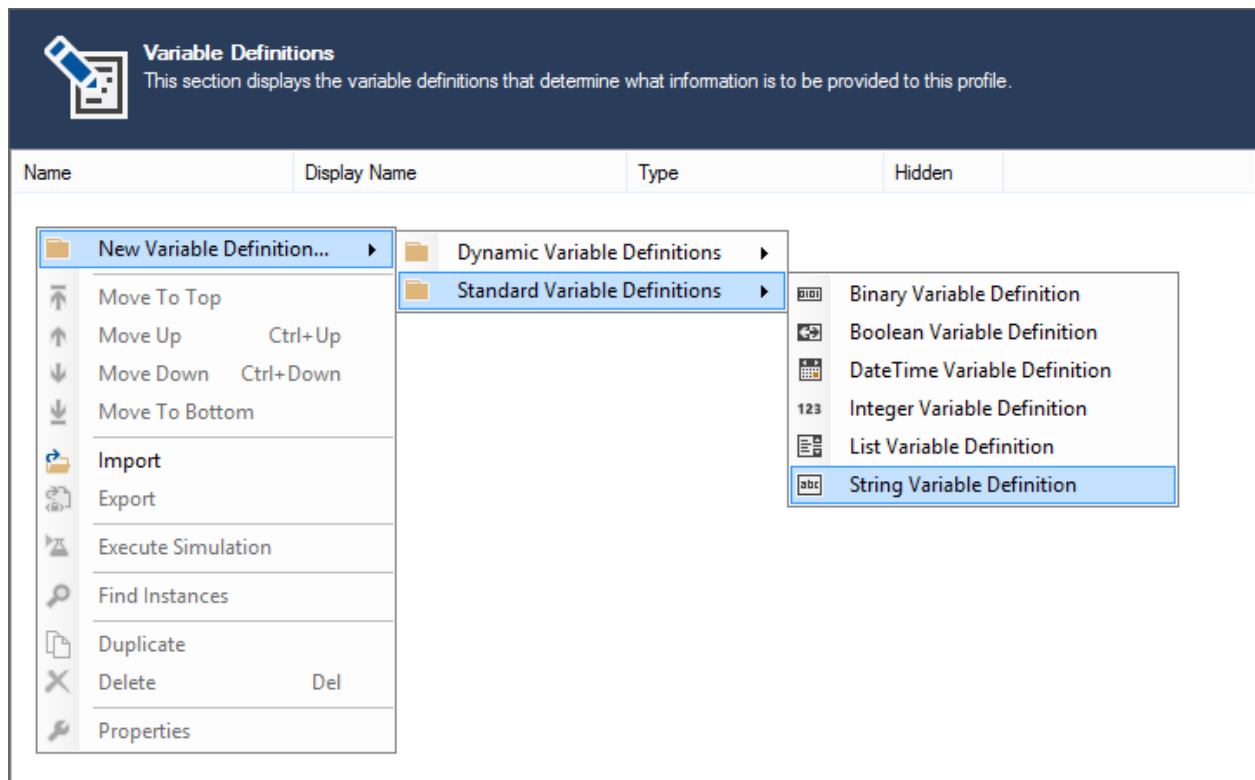
New Automation Profile

- Enter a display name and description and click OK.

A screenshot of the 'Automation Profile' dialog box. The dialog has a title bar with a close button (X) in the top right corner. Below the title bar are five tabs: 'General', 'Permissions', 'CSV', 'Form', and 'CSV File Import'. The 'General' tab is selected. The main content area is titled 'General Settings' and contains a folder icon with a lightning bolt and the text 'The general settings for the automation profile.' Below this are four input fields: 'Identifier' (containing '2971510c-dea6-4d50-9326-e678dd0de44b'), 'Display Name' (containing 'Create Test Folder'), 'Description' (containing 'Creates a test folder.'), and a checked checkbox labeled 'Enabled'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

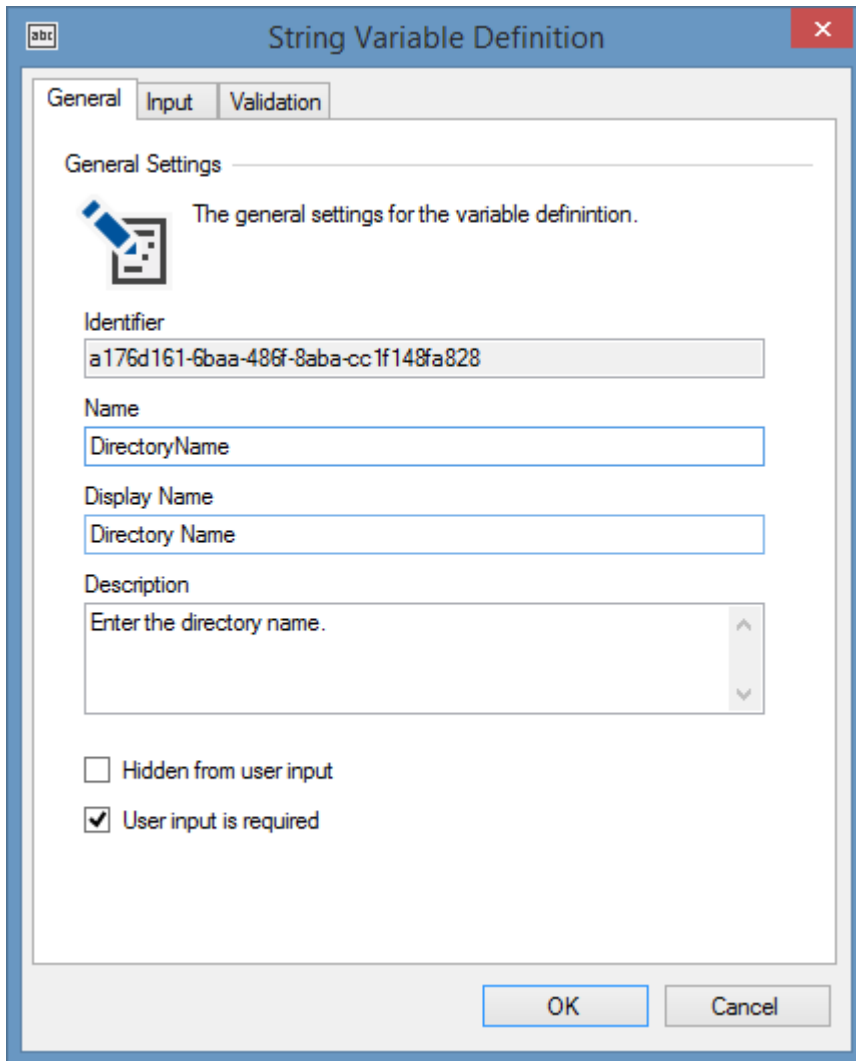
- Go to the [variable definitions](#) section of the [automation profile](#).
- Right click the listview and select New Variable Definition > [Standard Variable Definitions](#) >

String Variable Definition.

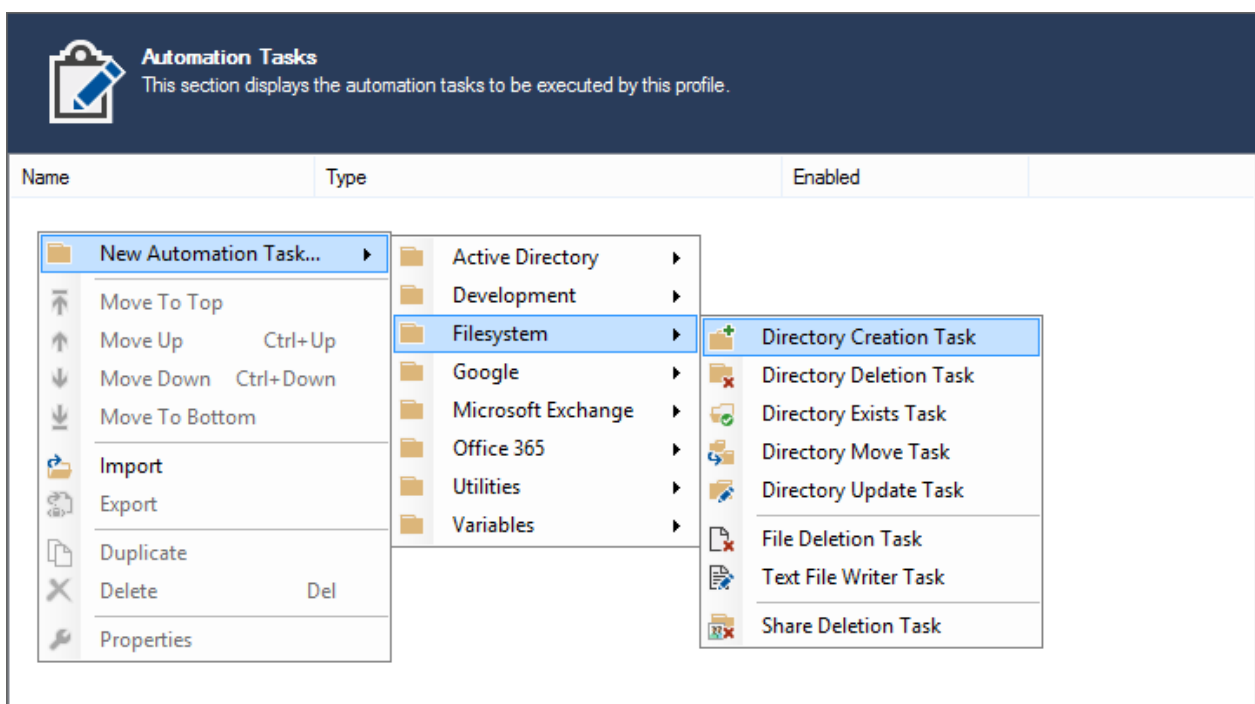


The screenshot shows the 'Variable Definitions' section of a software interface. At the top, there is a dark blue header with a pencil icon and the text 'Variable Definitions' and 'This section displays the variable definitions that determine what information is to be provided to this profile.' Below the header is a table with columns: Name, Display Name, Type, and Hidden. The table is currently empty. A context menu is open over the 'New Variable Definition...' folder. The menu includes options like 'Move To Top', 'Move Up', 'Move Down', 'Move To Bottom', 'Import', 'Export', 'Execute Simulation', 'Find Instances', 'Duplicate', 'Delete', and 'Properties'. The 'New Variable Definition...' folder is expanded to show 'Dynamic Variable Definitions' and 'Standard Variable Definitions'. The 'Standard Variable Definitions' folder is further expanded to show a list of variable types: Binary Variable Definition, Boolean Variable Definition, DateTime Variable Definition, Integer Variable Definition, List Variable Definition, and String Variable Definition. The 'String Variable Definition' option is highlighted in blue.

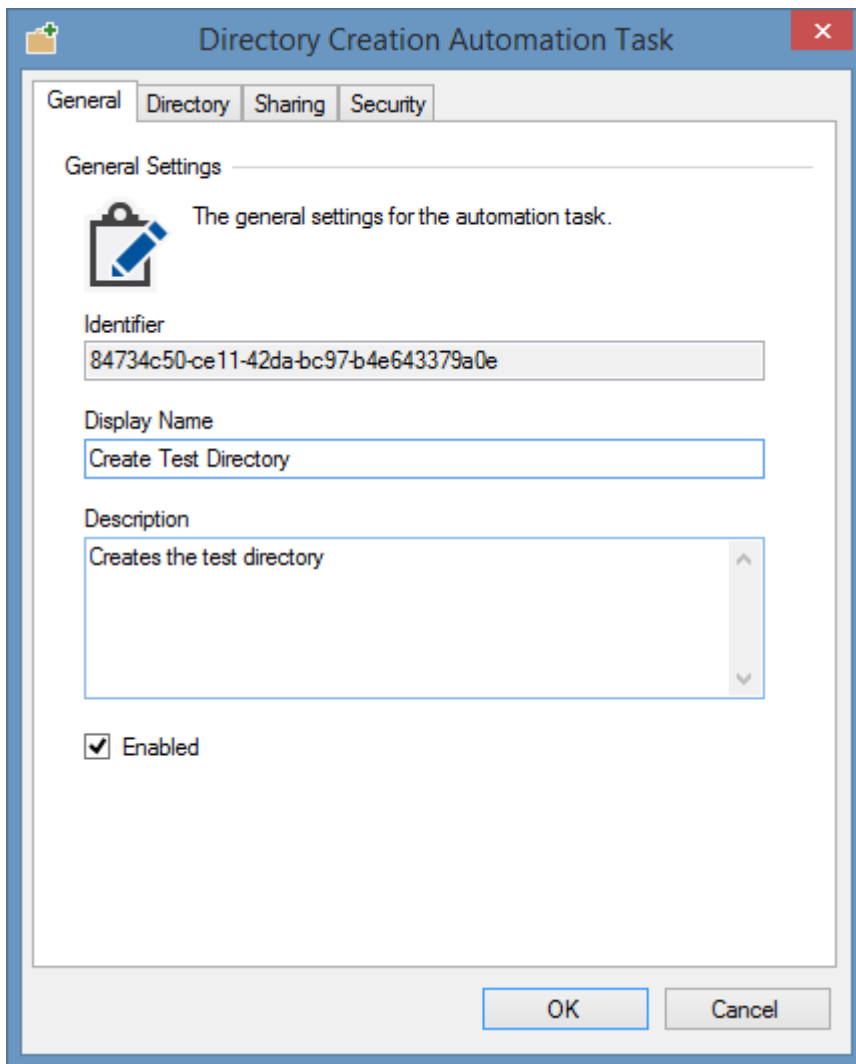
- Enter the name, display name, and description for the [variable definition](#).



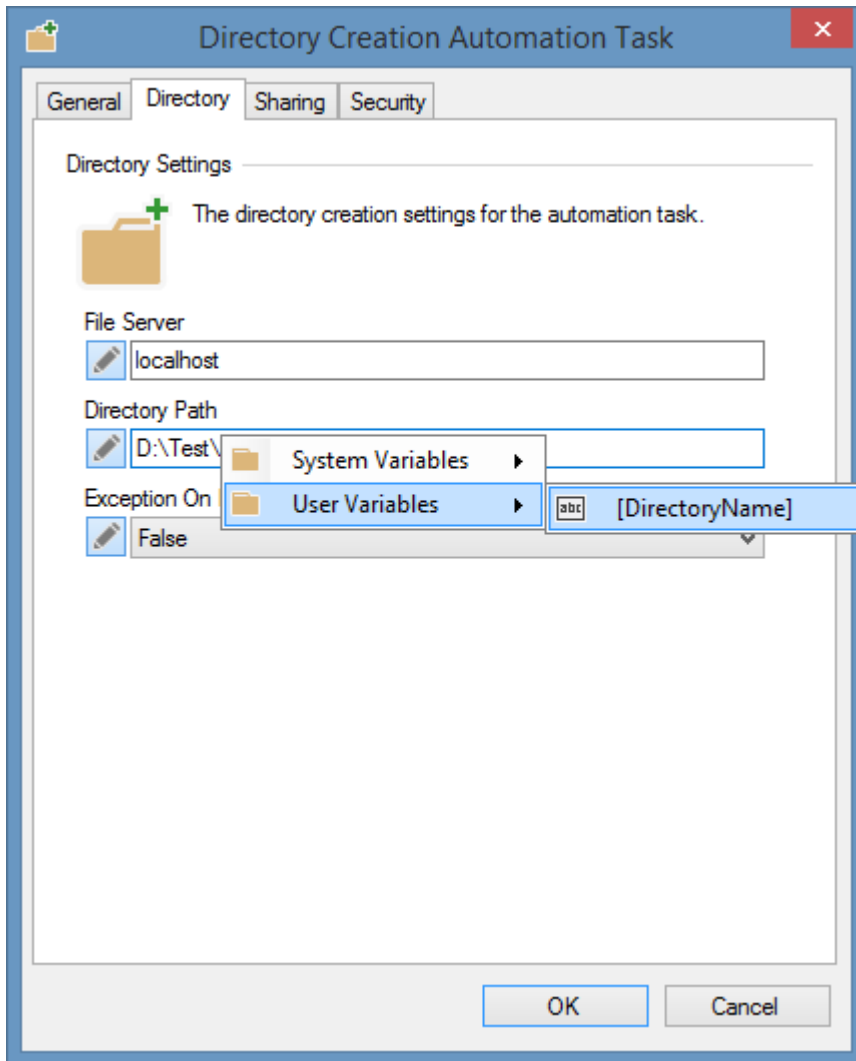
- Go to the [automation tasks](#) section of the [automation profile](#).
- Right click the listview and select New Automation Task > [Filesystem](#) > [Directory Creation Task](#).



- Enter the display name and description for the [directory creation task](#).



- On the [directory tab](#) enter a valid directory path on the computer running [XIA Automation Server](#) including the [DirectoryName] [variable definition](#) for example D:\Test\[DirectoryName] and click OK.



- Click Save Configuration in the [toolbar](#) or [file menu](#).
- In the [user interface](#) of the XIA Automation Server select the newly created [automation profile](#).

Server Migration

The following steps describe how to move [XIA Automation Server](#) to a different physical or virtual machine:

- Ensure you have a **full system backup** of the existing and new server.
- If the new server is on a different Active Directory domain, you may need to contact [CENTREL Solutions Support](#) for an updated license file before proceeding.
- On the new server, **install** the **same version** of [XIA Automation Server](#) as is installed on the existing machine.
- Ensure that you can access the installation on the new server and that it performs correctly.

NOTE: If you wish to use a newer version of [XIA Automation Server](#), upgrade the existing server **before** performing the new installation. This may require you to obtain an updated [license](#) file from [CENTREL Solutions Support](#).

- Copy the files from the App_Data folder on the existing server to the new server, overwriting any existing files.

By default, these files are found in this location:

C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation Server\App_Data

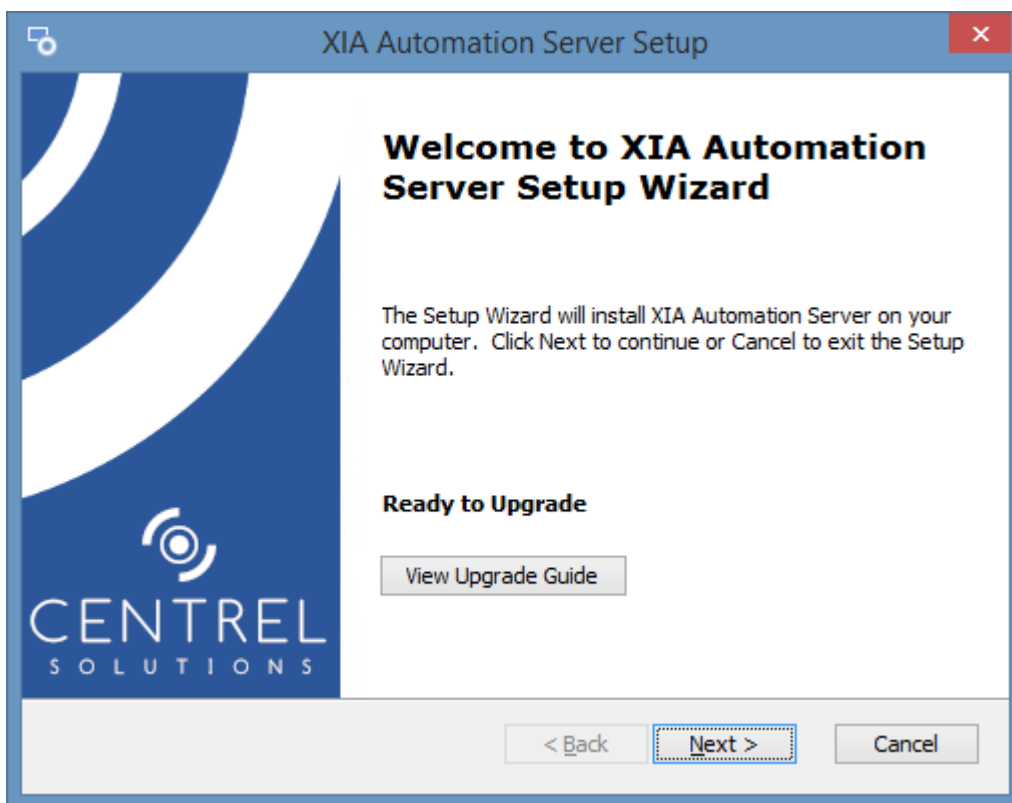
- If you have made any custom modifications to the [Web.Config](#) file, copy the file from the existing server to the new server.
- If you have installed any SSL certificates on the existing server, these must be migrated manually to the new server. Please see the documentation from your SSL certificate provider for more information.
- Once complete, **uninstall** the existing [XIA Automation Server](#).

Server Upgrade

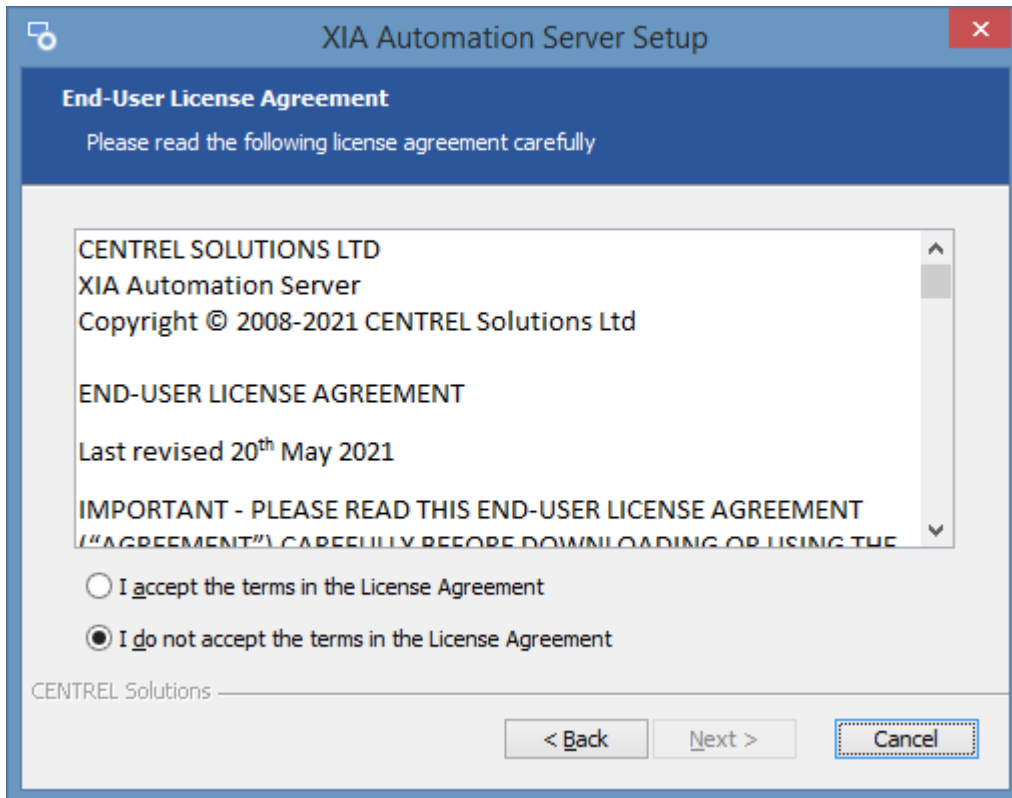
This section describes the upgrade process of [XIA Automation Server](#), for new installations please see the [installation](#) section.

PLEASE NOTE: Due to architecture changes you cannot upgrade from versions older than version 4.

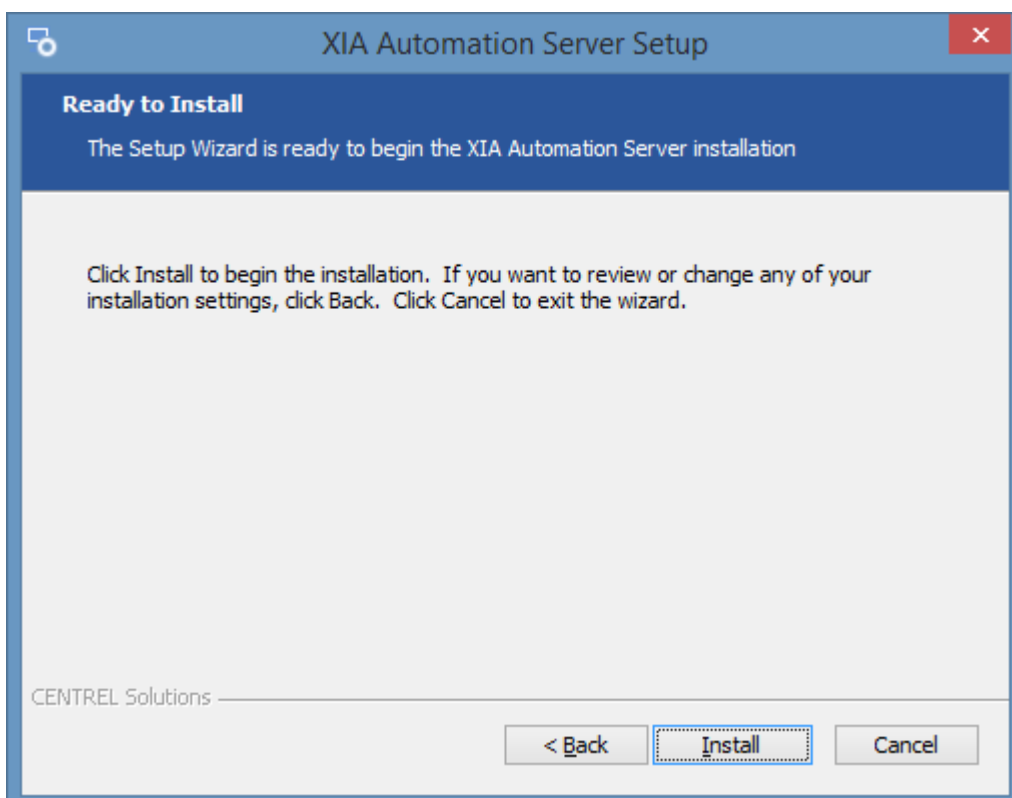
- Ensure that you have a full system backup.
- Ensure that the support expiry date of your [license](#) file is still valid, or if support has expired, later than the release date of the upgrade.
- Review the [upgrade notes](#) for the version being installed.
- Check that the system you are installing on meets the current [server requirements](#).
- Download the [latest installation package](#).
- Start the installation, the system should report *Ready to Upgrade*, click *Next*.



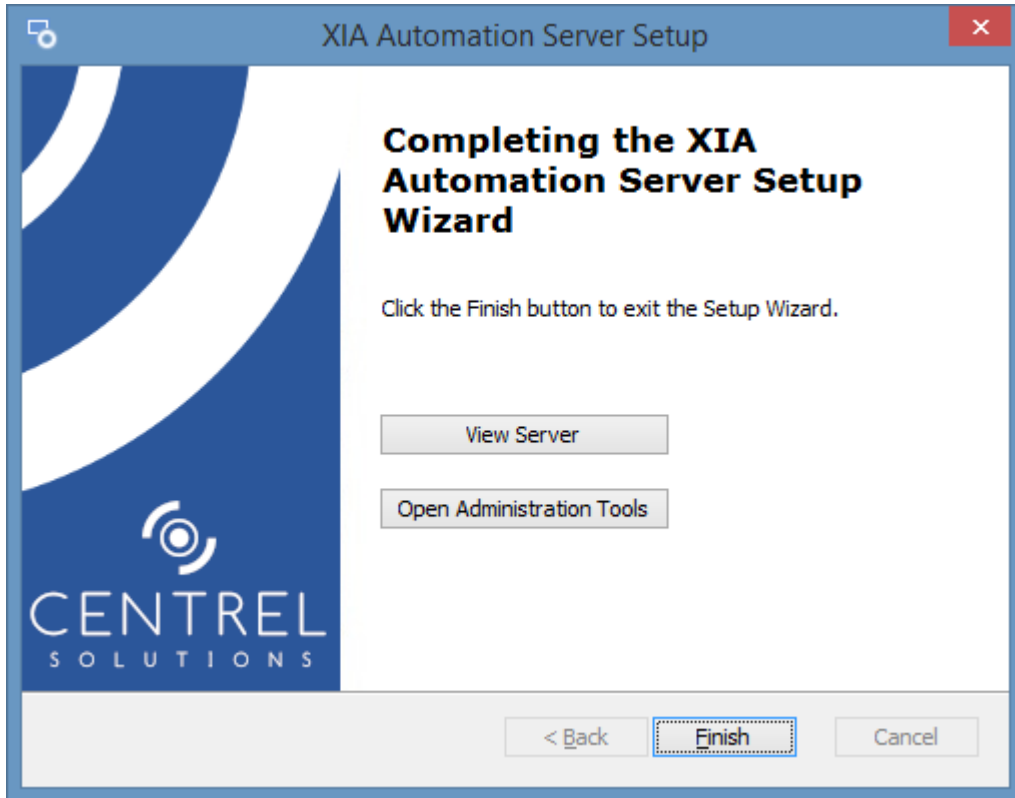
- Review the [end user license agreement \(EULA\)](#) and only accept if you agree to the terms. If you do not accept the terms of the agreement please cancel the installation.



- Click *Install* to begin the upgrade.



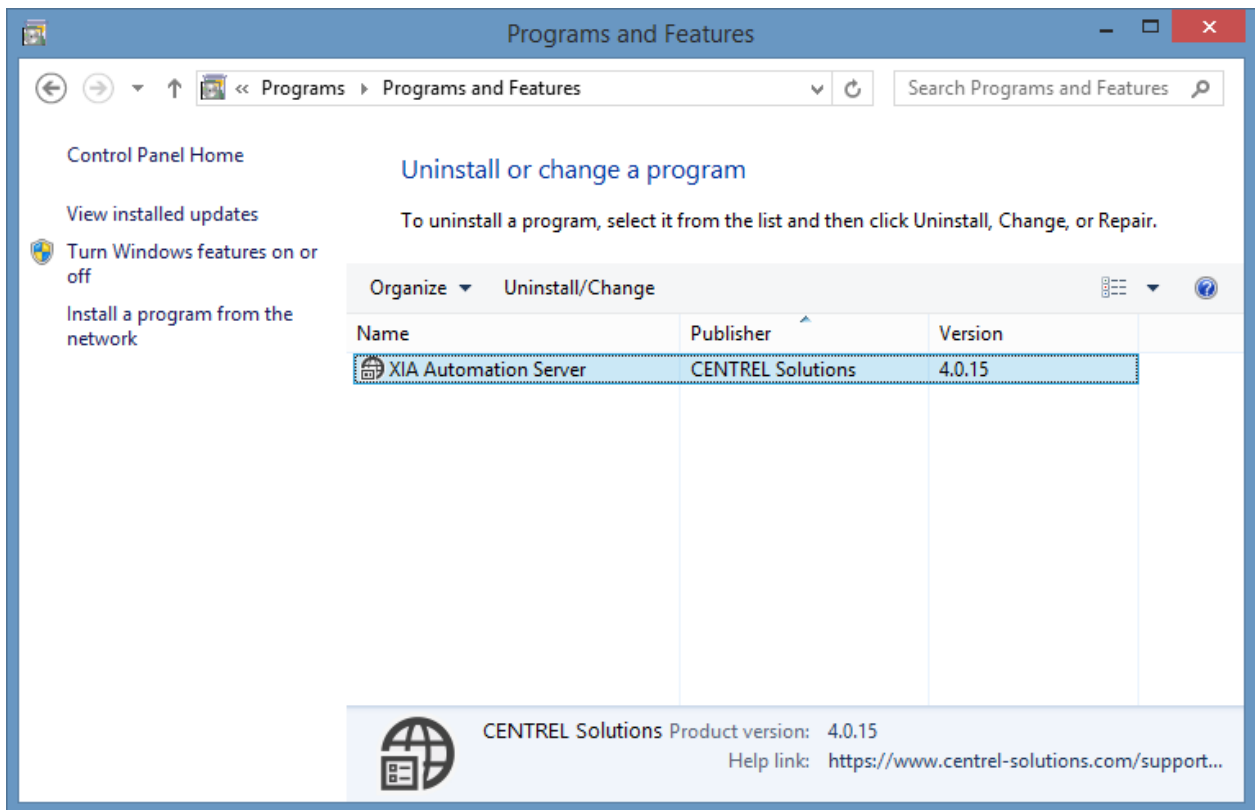
- When the installation is complete you will be prompted to [View Server](#) or [Open Administration Tools](#). Click *Finish* to complete the installation.



Uninstallation

This section describes how to uninstall XIA Automation Server.

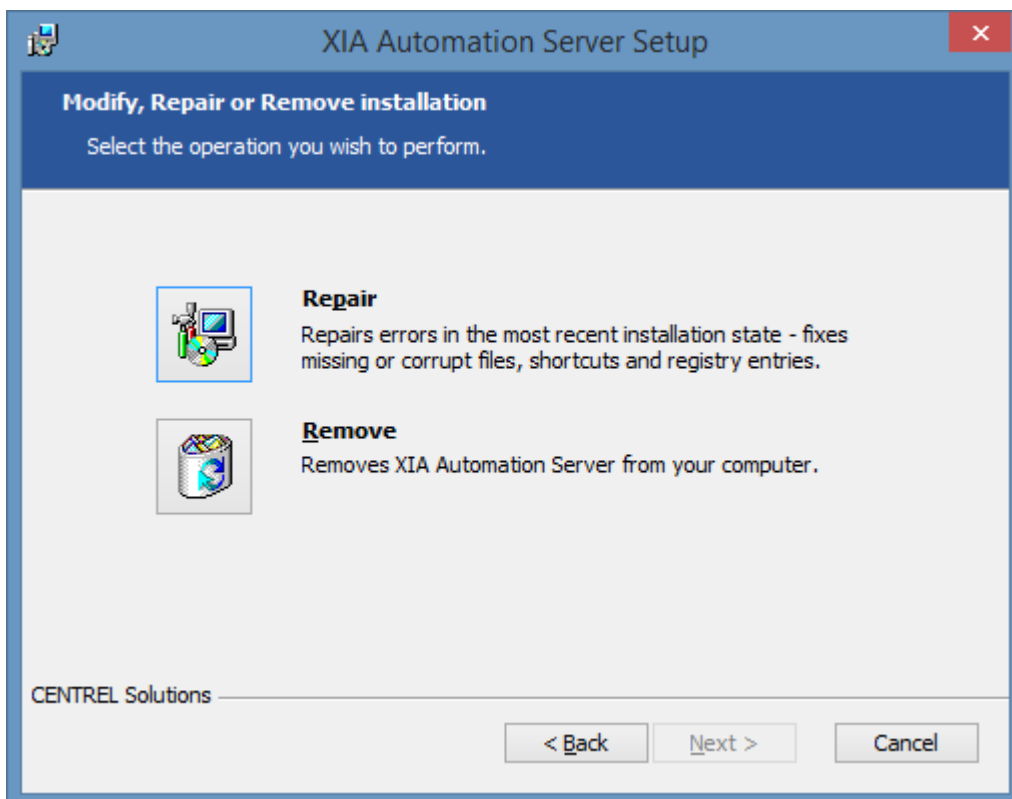
- Go to Control Panel
- Select Programs
- Right click the XIA Automation Server entry, and select *Uninstall/Change*.



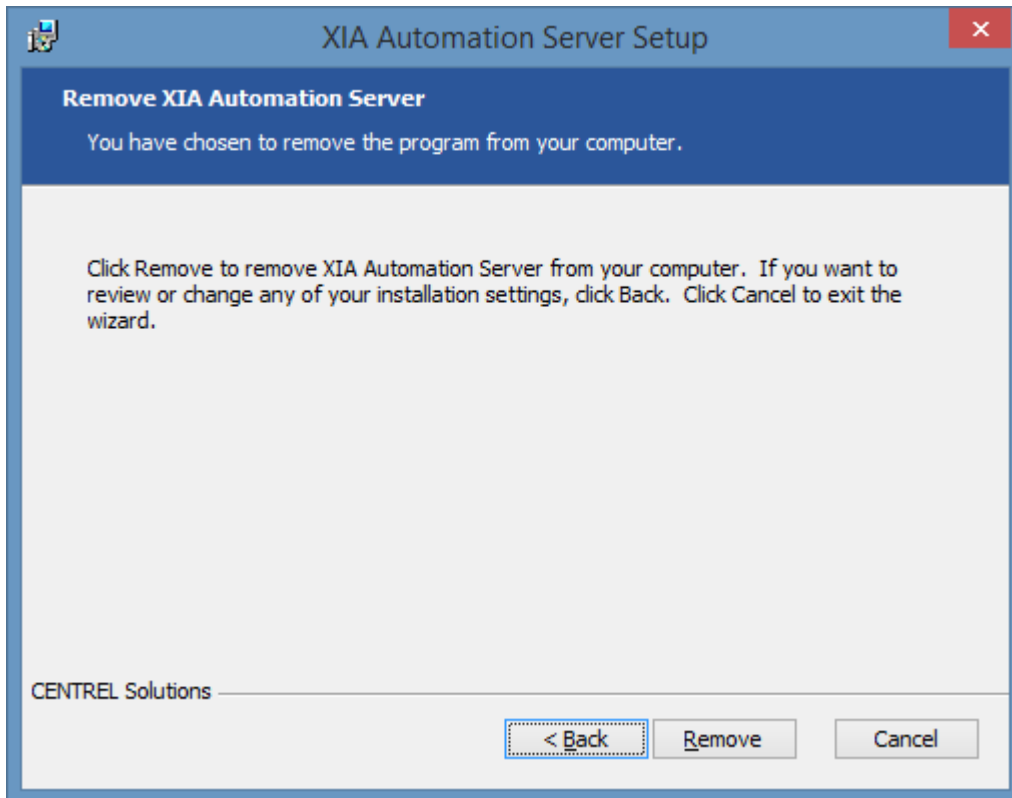
- The welcome screen will be displayed, click *Next* to continue.



- The repair or remove installation screen will be displayed, click *Remove* to continue.



- Click *Remove* to commence the uninstallation.



- Once complete click *Finish* to complete the uninstallation.



Web Server Application Pool Account

When [installing XIA Automation Server](#), a user account is selected that is used to run the [XIA Automation Server](#) web application.

This account must have the permissions required to execute the automation profiles.

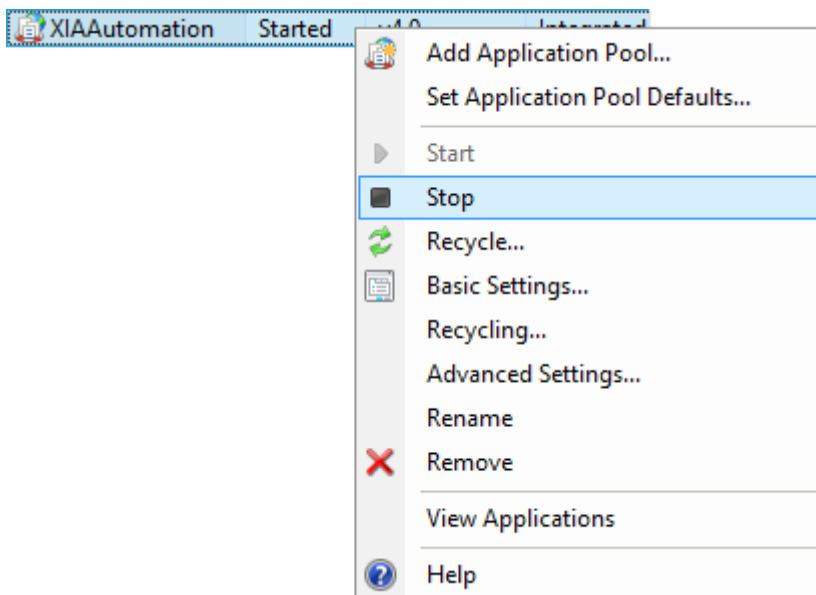
- The account must be created manually, it will not be created by the [installer](#).
- The account should be dedicated for this purpose.
- The account will be assigned to the application pool created by the [installer](#).
- The account has access to the potentially sensitive data and should therefore should have a suitably complex password.
- The account will be added to the IIS_IUSRS group.

Change Web Server Application Pool Account

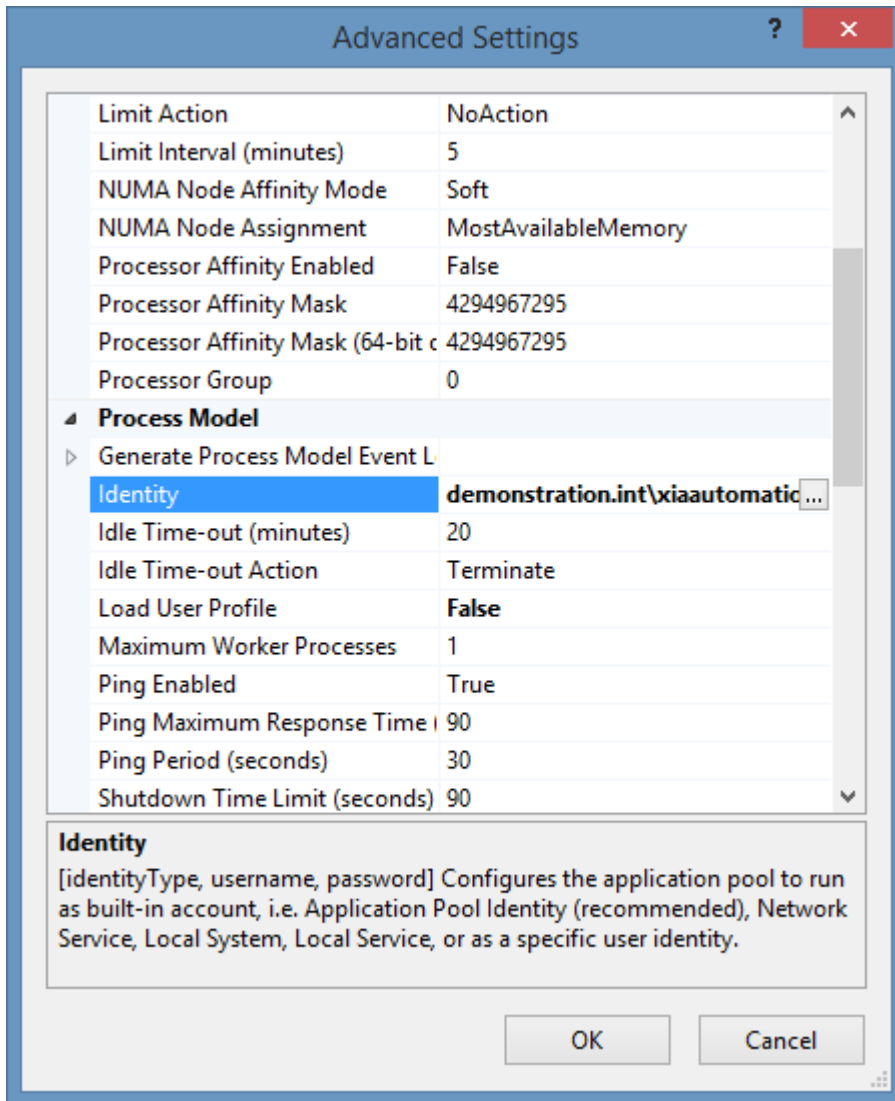
The following steps describe how to manually change the [web server application pool account](#) after [XIA Automation Server](#) has been installed.

WARNING: This process is not recommended, the [installer](#) should be used to assign the [web server application pool account](#).

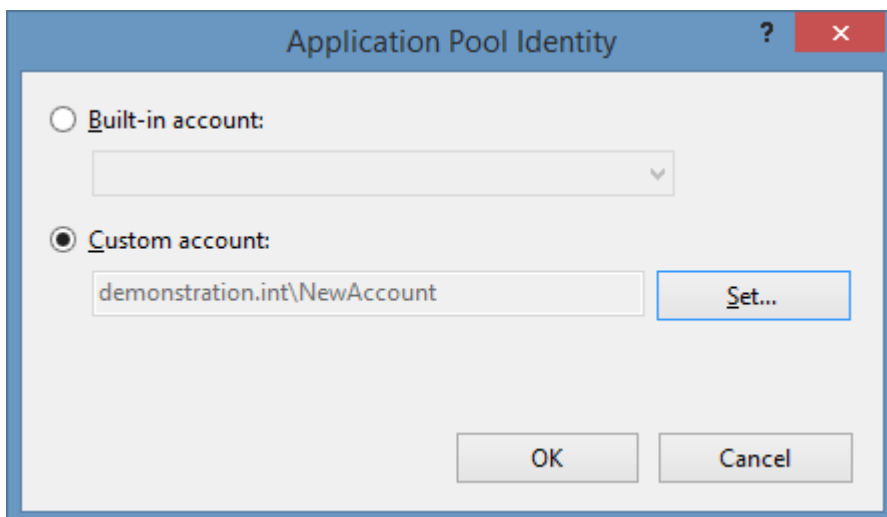
- Ensure you have a **full system backup** of the server.
- Create the user account that is to be used as the [web server application pool account](#) following the guidelines in the [web server application pool account](#) section.
- Add the [web server application pool account](#) to the IIS_USRS group.
- Open the Internet Information Services (IIS) Manager tool, and stop the [XIA Automation](#) application pool.



- In the advanced settings of the application pool modify the **Identity** property.

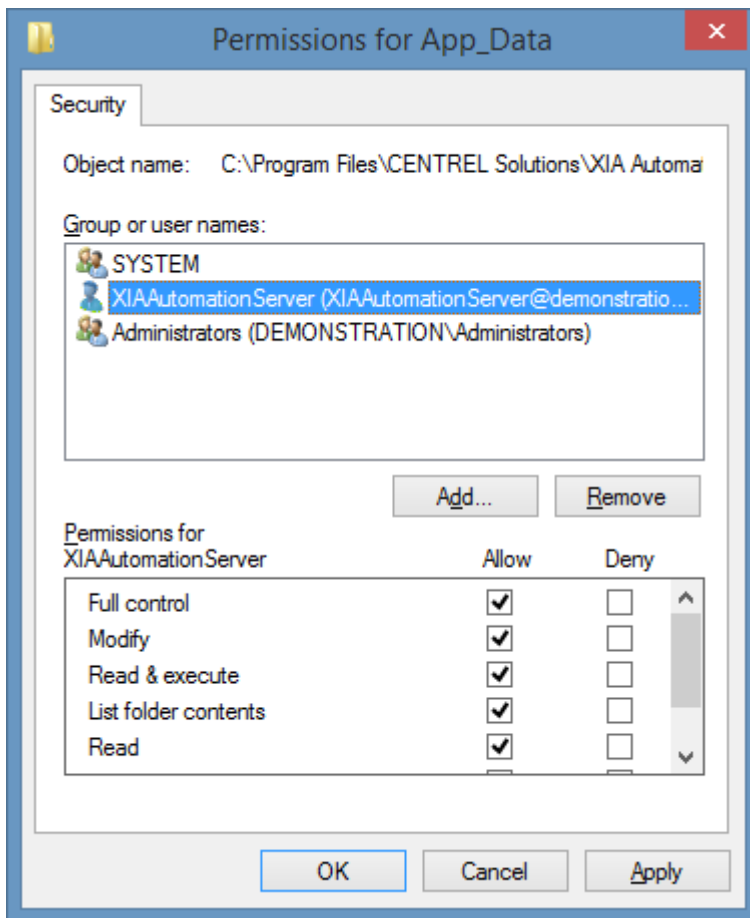


- Set the credentials for the [web server application pool account](#).



- Modify the NTFS permissions on the App_Data directory, this is located by default in the following location.
C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation Server\App_Data

- Remove the previous [web server application pool account](#) from the access control list, and ensure that the new [web server application pool account](#) has full control.



- Start the [XIA Automation](#) application pool.
- Test that the [XIA Automation Server](#) can be accessed through a web interface, and that scheduled tasks work as expected before proceeding.

Server Installation Troubleshooting

This section provides troubleshooting information for the [installation](#) of the [XIA Automation Server](#).

- Please ensure that your system meets the [server requirements](#).
- You can request support by going to our [support page](#).
- For additional information about the installation please see the [custom actions log files](#).
- For non-installation issues see the [server troubleshooting](#) section.

The installation package could not be opened

Symptoms

When [installing XIA Automation Server](#), the installer reports

This installation package could not be opened. Verify that the package exists and that you can access it, or contact the application vendor to verify that this is a valid Windows Installer package.

Issue

This issue is seen when the installer package has been corrupted, typically during the download process.

Resolution

[Download the installer](#) and start the installation again.

XIA Automation Server Setup Wizard ended prematurely

Symptoms

When [upgrading XIA Automation Server](#), the installer reports *XIA Automation Server Setup Wizard ended prematurely*.



Issue

This issue is seen when the *IIS Management Scripts and Tools* role service has been removed from the server.

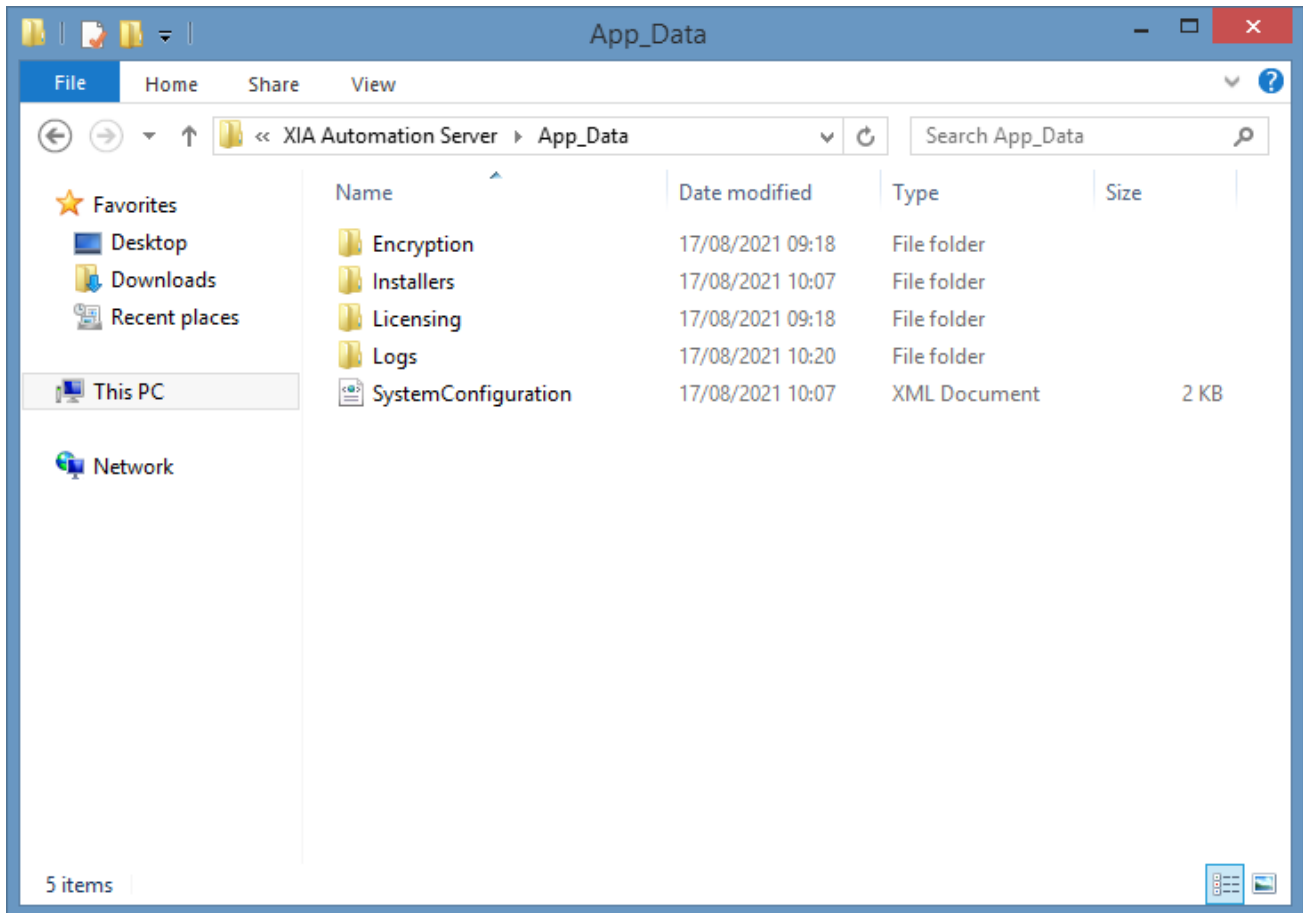
Resolution

Install the *IIS Management Scripts and Tools* role service and run the [upgrade](#) again.

Files and Directories

This section describes the important files and directories managed by the [XIA Automation Server](#) which are stored in the App_Data directory.

WARNING: The information in this section is provided for references purposes only. No files or directories should be modified or deleted directly.



Encryption

The encryption directory stores the [encryption keys](#) for the [server](#).

Installers

The installers directory stores the [administration tools installation files](#).

Licensing

The licensing directory contains the current [license](#) file license.licx.

Logs

Stores the current [server diagnostics](#) log.

System Configuration

The SystemConfiguration.xml file stores the configuration of the [server](#).

Encryption Keys

XIA Automation Server uses 2048 bit RSA Keys to secure information contained within the [automation profiles](#) and [server configuration settings](#).

The keys are generated by [XIA Automation Server](#) setup during [installation](#) and are stored in the App_Data\Encryption folder.

The files are named pub.key and priv.key for the public and private keys respectively.

NOTE: These keys are essential for the security of the [XIA Automation Server](#) and should be kept secure.

Should you lose these encryption keys you will not be able to decrypted passwords stored in [automation profiles](#) and [server configuration settings](#).

Licensing

As per the terms of the [End User License Agreement \(EULA\)](#), XIA Automation Server must be licensed to be used.

For more information about the types of license see the [license types](#) section.

Licenses can be viewed and managed within the [licensing](#) section of the [server configuration settings](#) of the [XIA Automation administration tools](#).

License Types

This section provides a summary of the available license types, however for detailed information please review the [End User License Agreement \(EULA\)](#).

Enterprise License

The [enterprise license](#) is the production license for [XIA Automation Server](#).

Trial License

The [trial license](#) allows for the evaluation of [XIA Automation Server](#) for a limited time period.

Enterprise License

The enterprise license allows you to [install XIA Automation Server](#) on a single server within the organization named on the license, and optionally a second server for resilience purposes.

You may also install the [XIA Automation Administration Tools](#) on any computer owned by the organization named on the license that meets the [administration tools requirements](#).

Trial License

The trial license is time limited and permitted for the evaluation of [XIA Automation Server](#) only, and cannot be used in a production environment.

System Administrators

System administrators have full access to use and manage [XIA Automation Server](#).

Users who are members of the [Administrators group](#) on the machine where [XIA Automation Server](#) is installed are automatically given system administrator rights, however additional users and groups can be configured within the security settings.

Server Diagnostics Log

The server diagnostics can be enabled using the server [diagnostics tab](#) of the [server configuration settings](#) of the [XIA Automation administration tools](#).

The diagnostics log can also be enabled manually by modifying the Web.Config file which can by default be found in the following location.

C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation Server\Web.config

```
<system.diagnostics>
  <trace autoflush="true">
    <listeners>
      <clear/>
      <!-- Uncomment the following line to enable trace logging from startup. This is not
required normally as this can be enabled from the web interface once the application is
running.
      <add name="TextTracer" type="CENTREL.XIA.Support.AdvancedTextWriterTraceListener,
CENTREL.XIA.Support" initializeData="~\App_Data\Logs\Trace\Trace.log"/>
      -->
    </listeners>
  </trace>
</system.diagnostics>
```

Server Troubleshooting

The following chapters cover the troubleshooting of [XIA Automation Server](#), for issues with troubleshooting the [installation](#) see the [server installation troubleshooting](#) section.

Error Decrypting String Value

Symptoms

When accessing a configuration page or viewing a diagnostics log, you see the message:
"Error decrypting string value"

Cause

[XIA Automation Server](#) uses encryption to store sensitive data.

The error can be caused when

- The encryption keys are deleted or replaced.
- A configuration file is copied from another machine where different encryption keys were used to perform the encryption.

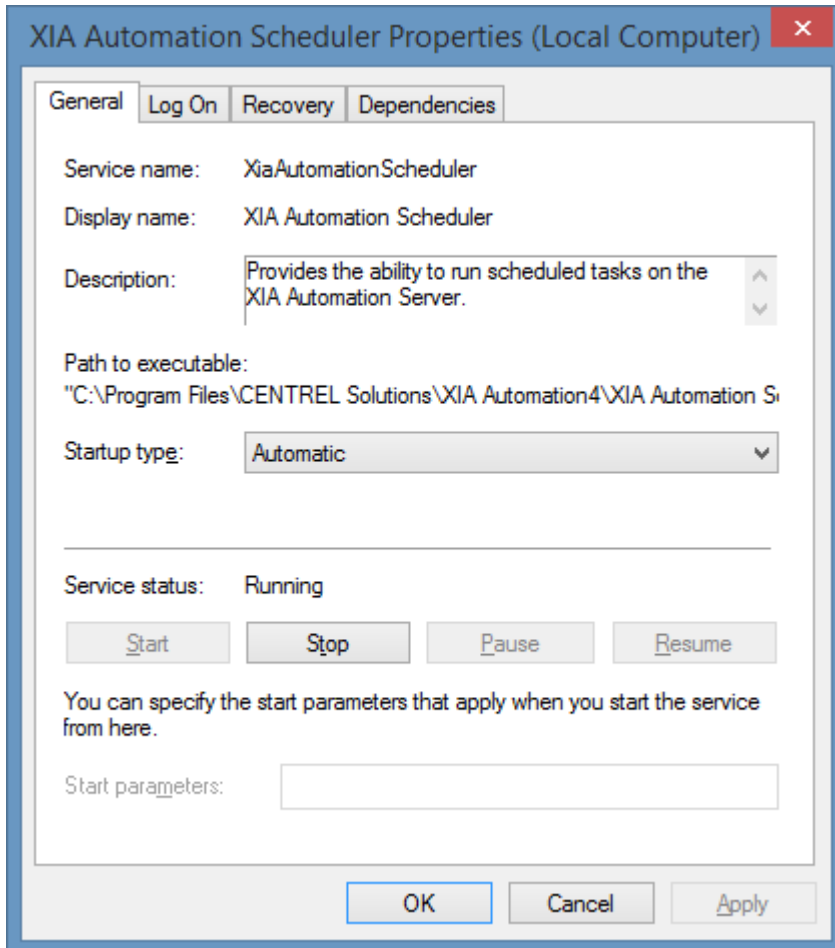
Resolution

Ensure that the correct [encryption keys](#) are in place.

Scheduler Service

The scheduler service is a [Windows service](#) that polls the [scheduler web service](#) and allows the automated execution tasks such as the import of data files into the [XIA Automation Server](#).

The service runs automatically as the [Local Service](#) account.



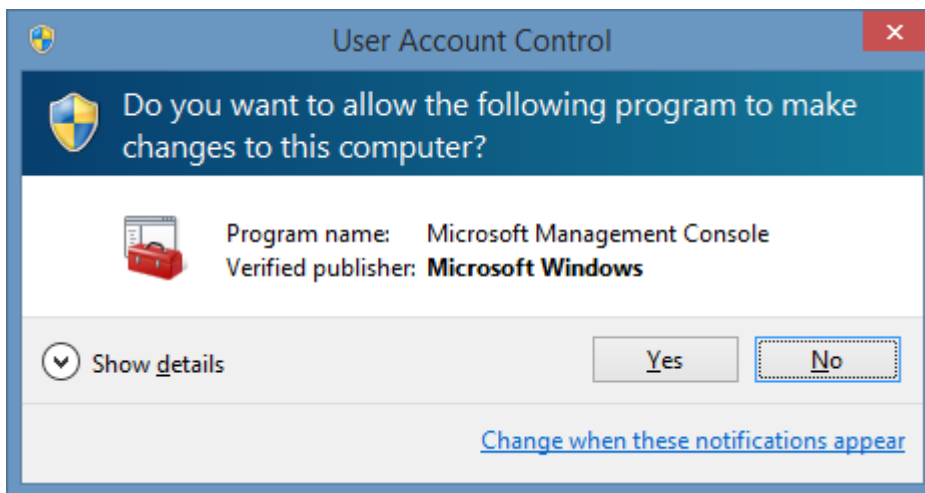
The scheduler service checks for tasks to execute every 60 seconds and can be configured with the [scheduler configuration tool](#).

Configuring Client Certificates

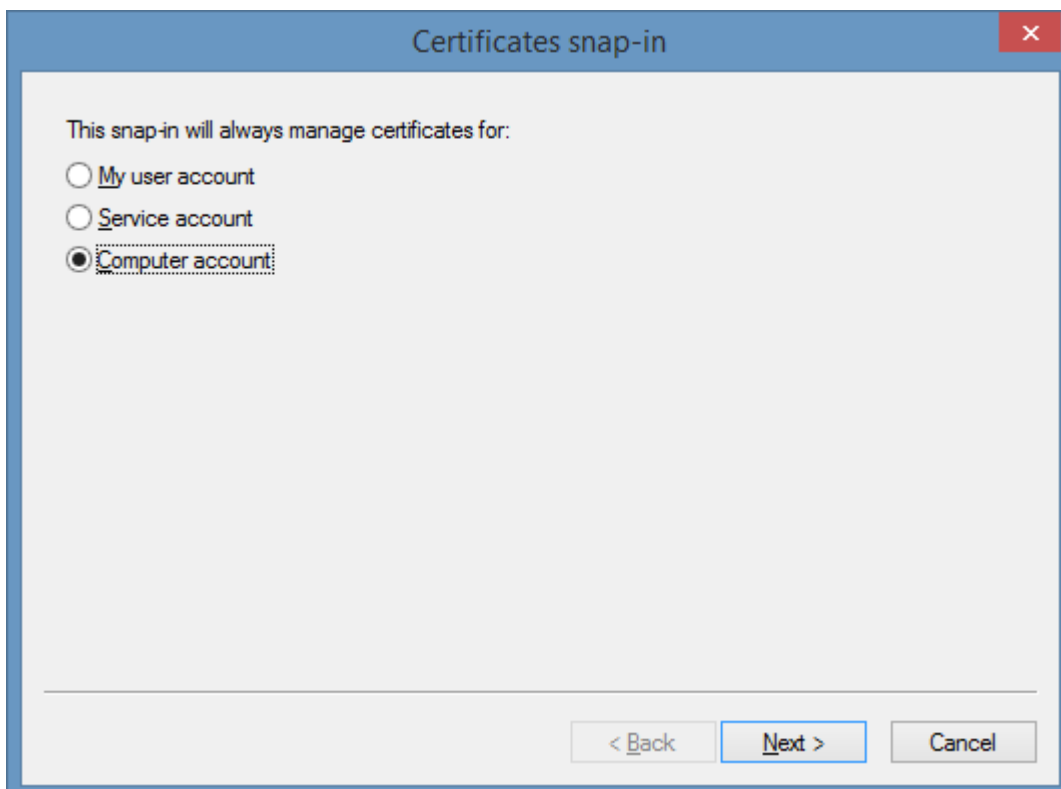
When using client certificate authentication, the [scheduler service](#) requires additional configuration. The [scheduler service](#) permits only local connections and it is possible to disable client certificate authentication for the [scheduler web service](#) only.

To enable the [scheduler service](#) to use client certificate authentication perform the following steps:

- Ensure that the [server](#) URL uses a secure (HTTPS) connection in the [scheduler configuration tool](#).
- Login as an administrator and run mmc.exe.
- Accept the UAC prompt if required



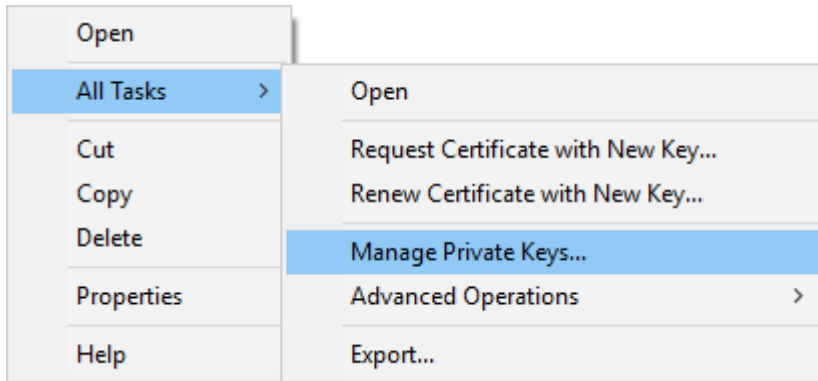
- Add the **Certificates** snap-in and ensure that **Computer account** is selected.



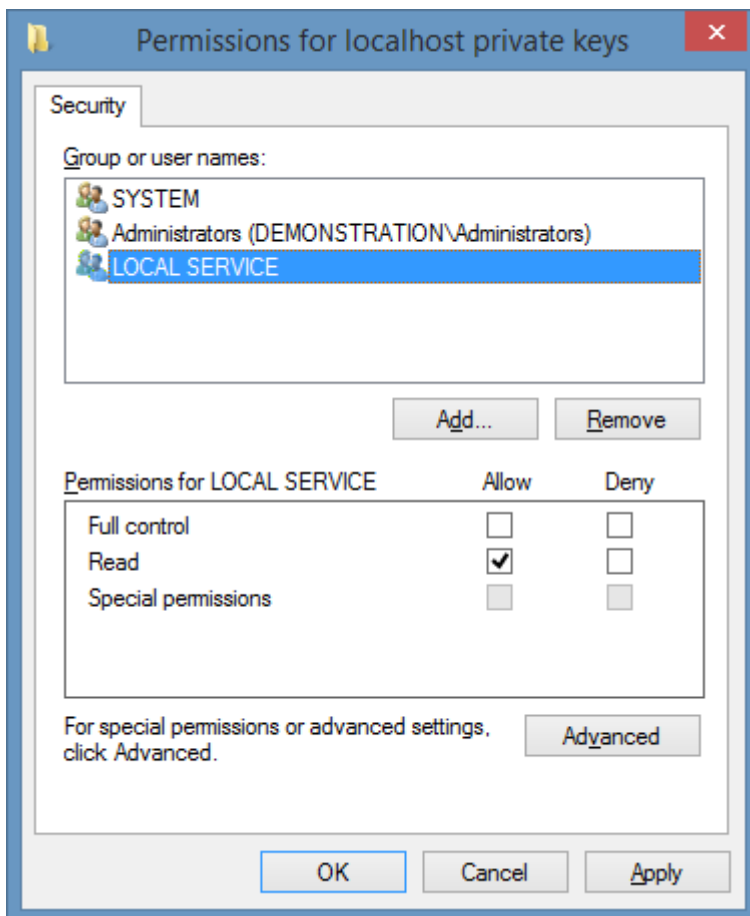
- Import the client certificate into the **Personal** folder for the **Computer account**.
- When imported ensure that the client certificate is within the expiration date and that **Client Authentication** is one of the intended purposes.

Issued To	Issued By	Expiration Date	Intended Purposes
ClientCert	MyPersonalCA	01/01/2018	Client Authentication

- Right click the certificate and select **Manage Private Keys**.



- Ensure that the **Local Service** account has permissions to **Read** the key.

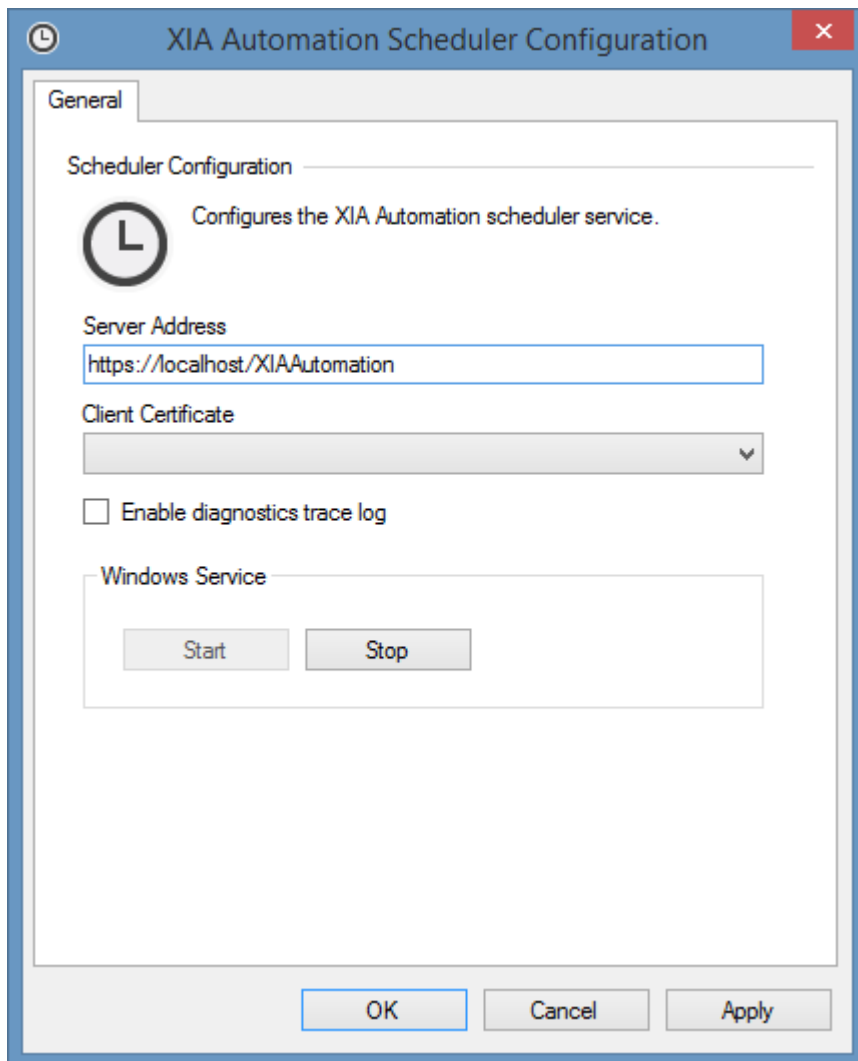


- Select the client certificate in the [scheduler configuration tool](#).

Scheduler Configuration Tool

The scheduler configuration tool allows for the simple configuration of the [scheduler service](#).

Installation Directory\XIA Automation Scheduler\CENTREL.XIA.Automation.Server.SchedulerUI.exe



Server Address

The address of the [XIA Automation Server](#) installation.

Client Certificate

Determines which client certificate to use for client certificate authentication, if required. Only certificates that support client authentication and have the private key available will be listed. For more information see the [configuring client certificates](#) section.

Enable Diagnostics Trace Log

Determines whether the [scheduler diagnostics log](#) should be enabled for the [scheduler service](#). The service must be stopped and started for this change to take effect.

Service Control

Provides information about the state of the [scheduler service](#), and allows the service to be stopped and started.

Scheduler Diagnostics Log

The [scheduler service](#) has its own diagnostics log which can be enabled using the [scheduler configuration tool](#).

Once enabled the diagnostics log is written, by default, to the following location.

C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation
Scheduler\Logs\Trace\trace.log

Scheduler Registry Keys

The following registry keys are used by the [scheduler service](#) and are provided for reference only.

Please use the [scheduler configuration tool](#) to configure the [scheduler service](#).

Url

This stores the URL used by the scheduler to access [XIA Automation Server](#).

By default, this is `http://localhost/xiaconfiguration`, however, it can be modified if the [server](#) is installed at a different URL.

HKEY_LOCAL_MACHINE\SOFTWARE\CENTREL Solutions\XIA Automation\XIA Automation Server

ClientCertificateThumbprint

The thumbprint of the client certificate to use when connecting to the [XIA Automation Server](#). For more information see the [configuring client certificates](#) section.

HKEY_LOCAL_MACHINE\SOFTWARE\CENTREL Solutions\XIA Automation\XIA Automation Scheduler

EnableTrace

This value determines whether trace logging should be enabled by the [scheduler service](#). When set to zero, trace is disabled. When set to "1", trace is enabled.

HKEY_LOCAL_MACHINE\SOFTWARE\CENTREL Solutions\XIA Automation\XIA Automation Scheduler

Path

This value determines the installation directory of the [scheduler service](#).

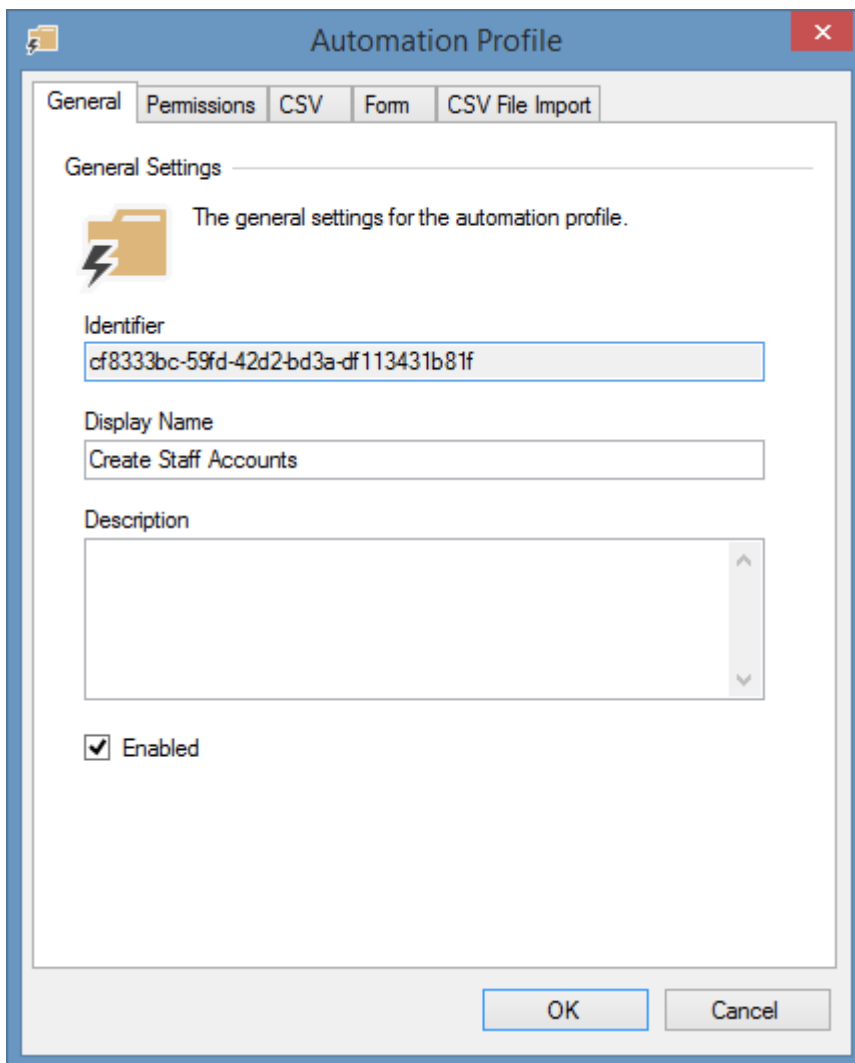
HKEY_LOCAL_MACHINE\SOFTWARE\CENTREL Solutions\XIA Automation\XIA Automation Scheduler

Automatically Import Files

The [scheduler service](#) provides the ability to poll a directory on the file system and automatically import files within that directory.

To enable automatic import, complete the following steps:

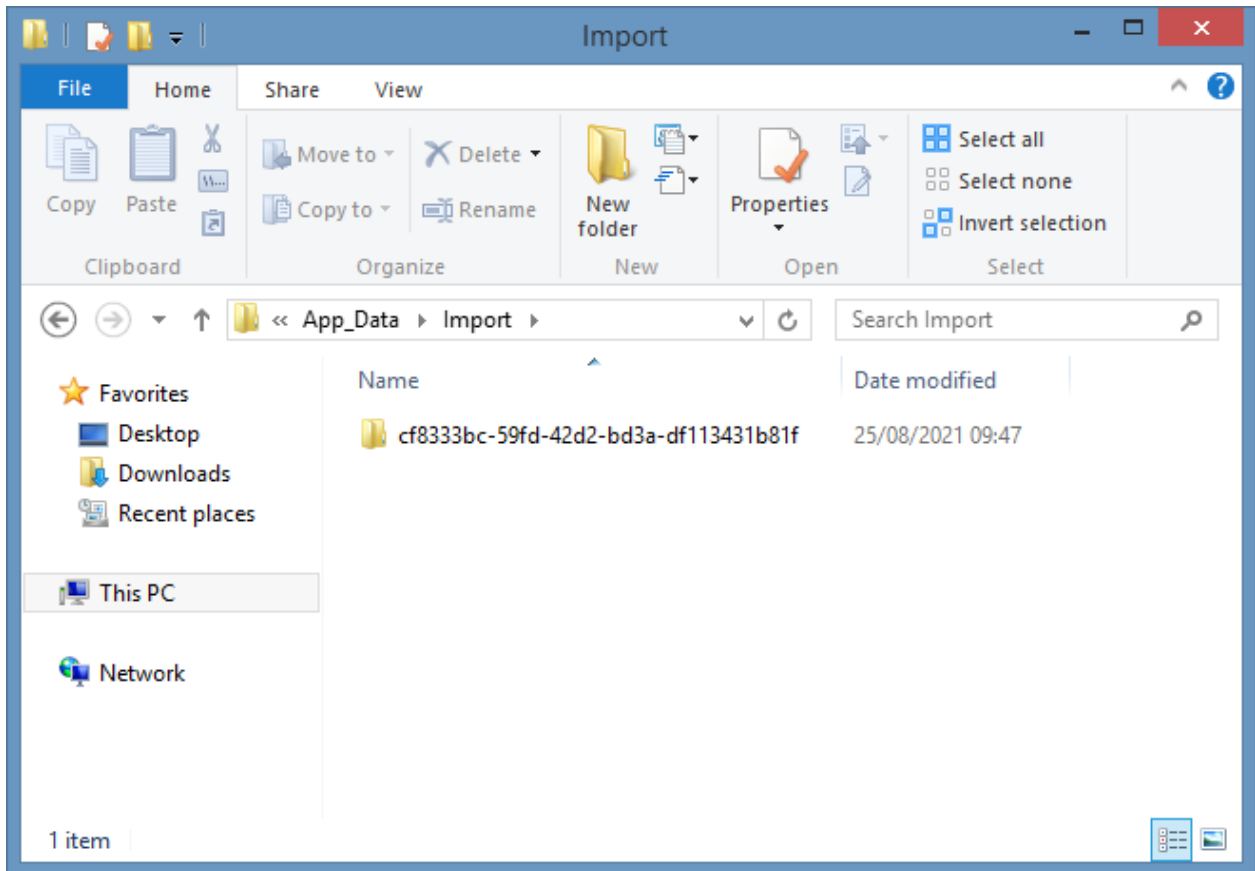
- Ensure that the [scheduler service](#) is configured and running.
- Enable the import functionality see the [file import tab](#) of the [server configuration settings](#) dialog of the [XIA Automation administration tools](#).
- Open the import directory specified on the [file import tab](#), by default this is the following path. C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation Server\App_Data\Import
- View the properties of the [automation profile](#) for which you wish to import files and note the display name and unique identifier on the [general tab](#).



- Create a new directory in the import directory that matches either the profile display name or [profile identifier](#). It is recommended that the [profile identifier](#) is used as this remains constant even if the [profile](#)

name is changed.

NOTE: This is done automatically if the *automatically create directories* option is enabled in the [file import settings](#).



- Place any CSV files containing the data into the directory created. The files will be automatically imported by the [scheduler service](#) in date modification order at the next polling interval, and the results will be written to the audit log.
- If a file cannot be processed it will be moved to an "ImportFailures" directory within the automation profile's directory.

SDK

XIA Automation supports the ability to extend the system using the following SDKs.

Web Services API

Provides the ability to access the [XIA Automation Server](#).

Dynamic Plugin Tasks

Provides the ability to execute custom code as an [automation task](#) when executing an [automation profile](#).

Dynamic Plugin Variable Definitions

Provides the ability to execute custom code as a [variable definition](#) to provide users with custom values when executing an [automation profile](#).

Web Services SDK

The following development environments are supported:

- Microsoft [Visual Studio](#) using [C#.NET](#).
- Microsoft [PowerShell](#) or [PowerShell Integrated Scripting Environment \(ISE\)](#).

The following web services are integrated into [XIA Automation Server](#).

Administration Web Service

The [administration web service](#) provides system administrators with access to the system configuration, [licensing information](#), and [server diagnostics](#).

This web services is also used by the [administration tools](#).

Automation Web Service

The [automation web service](#) provides users with access to execute [automation profiles](#).

Scheduler Access Web Service

The scheduler access web service is used by the [scheduler service](#) to perform automated actions such as [automatically importing files](#). This web service is for **internal use** only and should not be accessed by the SDK.

Administration Web Service (System Administrators)

The administration [web service](#) provides functions such as access to the system configuration, [licensing information](#), and [server diagnostics](#).

This web services is also used by the [administration tools](#).

```
# Connect to the administration web service.
Clear-Host;
$url = "http://localhost/XIAAutomation/webService/AdministrationWebService.asmx";
Write-Host "Connecting to administration web service at" $url;
$administration = New-WebServiceProxy -UseDefaultCredential -Uri $url;
Write-Host "Connected as $($administration.GET_AuthenticatedUserName())";

# To use specific credentials use the Get-Credential cmdlet.
$creds = Get-Credential;
$administration = New-WebServiceProxy -Uri $url -Credential $creds;
```

NOTE: Only [system administrators](#) can access this web service.

Automation Status

The following example displays the automation status.

- Connect to the [administration web service](#).

```
# Get the current automation status.
$status = $administration.GET_AutomationStatus();
if ($status.IsActive -eq $false)
{
    write-Host "There is currently no active profile executing.";
    return;
}

# Display the status.
write-Host "Automation Status";
write-Host "-----";
write-Host "Account Name: $($status.AccountName)";
write-Host "Profile: $($status.ProfileDisplayName)";
write-Host "Elapsed Time: $($status.ElapsedTimeString)";
write-Host "Last Action: $($status.LastAction)";
```

NOTE: This is functionally equivalent to the method with the same name in the [automation web service](#).

Disconnection

When access to the [administration web service](#) is completed the code should disconnect from the [server](#).

```
# Disconnect from the administration web service.  
$administration.DO_Disconnect();
```

NOTE: This prevents users accessing the [XIA Automation Server](#) using the [administration tools](#) from receiving a warning message that multiple system administrators are connected to the server.

Licensing Information

The following example gets and displays [licensing](#) information for the [XIA Automation Server](#).

- Connect to the [administration web service](#).

```
# Get licensing information.
$licensing = $administration.GET_LicensingInformation();
if ($licensing.IsLicensed -eq $false)
{
    "The product is not licensed.";
    return;
}

# Write licensing information.
write-Host $licensing.License.LicenseTypeDisplayName;
write-Host "-----";
write-Host "Customer Name: $($licensing.License.CustomerName)";
write-Host "Expiry Date: $($licensing.License.ExpiryDate)";
write-Host "Support Expiry Date: $($licensing.License.SupportExpiryDate)";
```

Server Diagnostics

The following example enables the [diagnostics log](#) on the [XIA Automation Server](#).

- Connect to the [administration web service](#).

```
# Enable diagnostics log.  
$administration.DO_EnableTrace();  
  
# Display the local path to the diagnostics log on the XIA Automation Server.  
write-Host $administration.GET_TraceLogPath();  
  
# Display the contents of the diagnostics log.  
write-Host $administration.GET_TraceLogContents();
```

Scheduler Status

The following example displays the status of the [scheduler service](#).

- Connect to the [administration web service](#).

```
# Get the current scheduler status.
$status = $administration.GET_SchedulerStatus();
if ($status.IsExecuting -eq $false)
{
    write-Host "The scheduler is not currently executing.";
    return;
}
```

```
# Display the status.
write-Host "Scheduler status";
write-Host "-----";
write-Host "Last Updated: $($status.LastUpdated)";
write-Host "Summary: $($status.Summary)";
```

System Configuration

The following example accesses and updates the configuration of the [XIA Automation Server](#).

- Connect to the [administration web service](#).

```
# Get the current system configuration.
$configuration = $administration.GET_SystemConfiguration();

# Modify the configuration.
$configuration.UserInterface.Title = "New Company Name";

# Update the configuration.
$administration.SET_SystemConfiguration($configuration);
```

Automation Web Service

The automation [web service](#) provides user access to access and execute [automation profiles](#) and check the automation status.

```
# Connect to the automation web service.
Clear-Host;
$url = "http://localhost/XIAAutomation/webService/AutomationWebService.asmx";
write-Host "Connecting to automation web service at" $url;
$automation = New-WebServiceProxy -UseDefaultCredential -Uri $url;
write-Host "Connected as $($automation.GET_AuthenticatedUserName())";

# To use specific credentials use the Get-Credential cmdlet.
$creds = Get-Credential;
$automation = New-WebServiceProxy -Uri $url -Credential $creds;
```

Automation Status

The following example displays the automation status.

- Connect to the [automation web service](#).

```
# Get the current automation status.
$status = $automation.GET_AutomationStatus();
if ($status.IsActive -eq $false)
{
    write-Host "There is currently no active profile executing.";
    return;
}
```

```
# Display the status.
write-Host "Automation Status";
write-Host "-----";
write-Host "Account Name: $($status.AccountName)";
write-Host "Profile: $($status.ProfileDisplayName)";
write-Host "Elapsed Time: $($status.ElapsedTimeString)";
write-Host "Last Action: $($status.LastAction)";
```

NOTE: This is functionally equivalent to the method with the same name in the [administration web service](#).

Automation Profiles Names

The following example gets the unique identifiers of the [automation profiles](#) to which the user has [permission](#) in [GUID](#) format.

The unique identifier is converted to the display name of the [automation profile](#).

- Connect to the [automation web service](#).

```
# Get the unique identifiers of the automation profiles to which the user has permissions.
$identifiers = $automation.GET_AutomationProfileIdentifiers();
foreach ($identifier in $identifiers)
{
    $displayName = $automation.GET_AutomationProfileDisplayName($identifier);
    Write-Host "$($displayName) - $($identifier)";
}
```

NOTE: The [automation profile](#) must have [web service access](#) enabled to be displayed in the results.

Execute Job

The following example executes a single job for an [automation profile](#).

- Connect to the [automation web service](#).
- Set the profile identifier to a valid [automation profile](#).
- Set the variables as required by the [automation profile](#).

```
# Set the unique identifier of the automation profile to execute.
$profileIdentifier = "207dd2fe-9380-4869-a6c3-39dae9a8bebb";

# Create a job and set the variables.
$job = $automation.DO_CreateJob();
$job = $automation.DO_AddVariable($job, "FirstName", "Tariq");
$job = $automation.DO_AddVariable($job, "LastName", "Razzaq");

# Execute the job.
$jobsIdentifier = $automation.DO_ExecuteJob($profileIdentifier, $job);
```

NOTE: The [automation profile](#) must have [web service access](#) enabled else an access denied exception will be thrown.

Execute Jobs

The following example executes multiple jobs for an [automation profile](#).

- Connect to the [automation web service](#).
- Set the profile identifier to a valid [automation profile](#).
- Set the variables as required by the [automation profile](#).

```
# Set the unique identifier of the automation profile to execute.
$profileIdentifier = "207dd2fe-9380-4869-a6c3-39dae9a8bebb";

# Create a new jobs collection for the specified automation profile.
$jobs = $automation.DO_CreateJobs($profileIdentifier);

# Create a job and set the variables.
$job = $automation.DO_CreateJob();
$job = $automation.DO_AddVariable($job, "FirstName", "Tariq");
$job = $automation.DO_AddVariable($job, "LastName", "Razzaq");
$jobs.Job += $job;

# Create a job and set the variables.
$job2 = $automation.DO_CreateJob();
$job2 = $automation.DO_AddVariable($job2, "FirstName", "Sarah");
$job2 = $automation.DO_AddVariable($job2, "LastName", "Jackson");
$jobs.Job += $job2;

# Execute the jobs.
$jobsIdentifier = $automation.DO_ExecuteJobs($jobs);
```

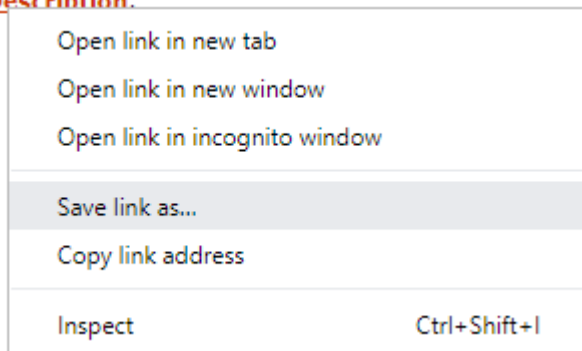
NOTE: The [automation profile](#) must have [web service access](#) enabled else an access denied exception will be thrown.

Using Windows PowerShell with Client Certificates

When using client certificates additional steps must be taken due to a limitation in the [New-WebServiceProxy](#) cmdlet which does not support client certificates.

- Open the [XIA Automation Server](#) web service that you are trying to access - for example <http://localhost/XIAAutomation/WebService/AdministrationWebService.asmx>
- Right click the service description link, and click save link as

Service Description.



- Save the WSDL document to a location accessible to the script - for example "C:\WebService\XiaAutomation.wsdl"
- Use the following in a [PowerShell](#) script or the [PowerShell Integrated Scripting Environment \(ISE\)](#), replacing the highlighted text with appropriate values

```
Clear-Host
$xia = New-WebServiceProxy "file://C:\WebService\filename.wsdl"
$certificate = Get-ChildItem Cert:\CurrentUser\My\{THUMBPRINT}
$xia.ClientCertificates.Add($certificate)
$xia.UseDefaultCredentials = $true
$xia.Url = {URL}
Write-Host $xia.GET_AuthenticatedUserName()
```

NOTE: When [XIA Automation Server](#) is upgraded the steps to generate the WSDL file must be repeated.

NOTE: The client certificate can be installed in the local machine certificate store and the script updated accordingly.

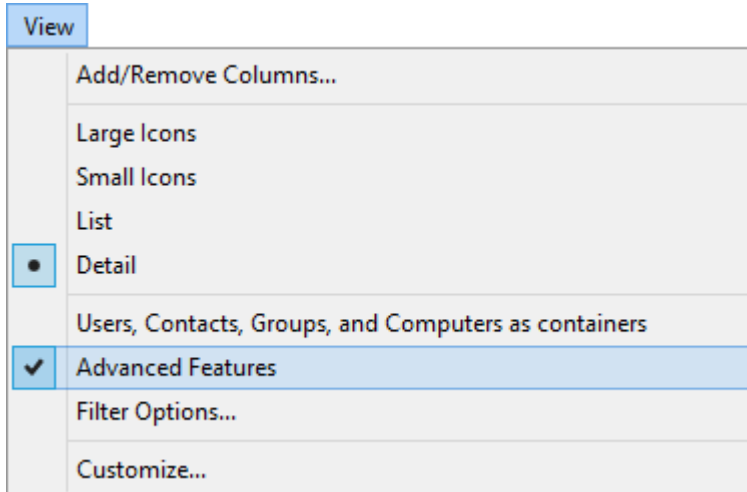
Technical Reference

The following provides a technical reference for [XIA Automation Server](#).

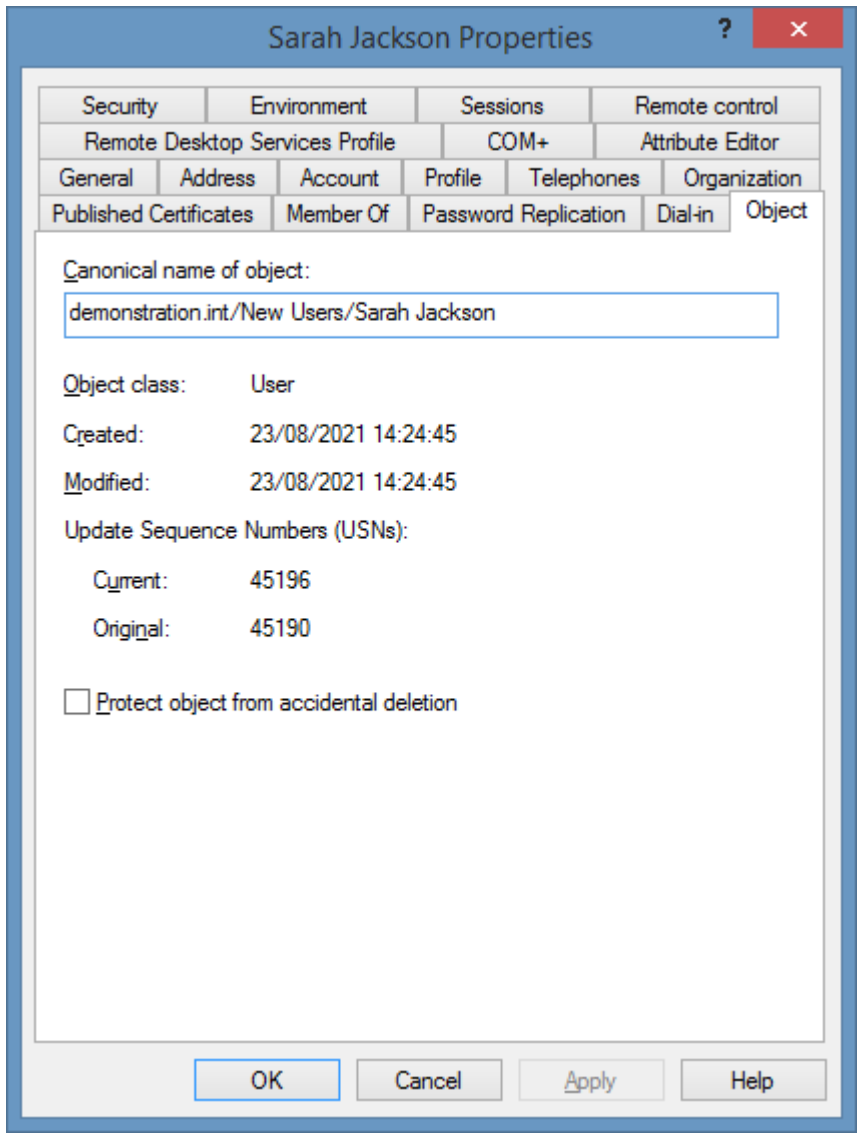
Canonical Name

The **canonical name** is an attribute in **Microsoft Active Directory** that describes the location of an object in the directory.

The **canonical name** of an object can be seen within the Active Directory Users and Computers by ensuring that the Advanced Features option is ticked on the view menu.



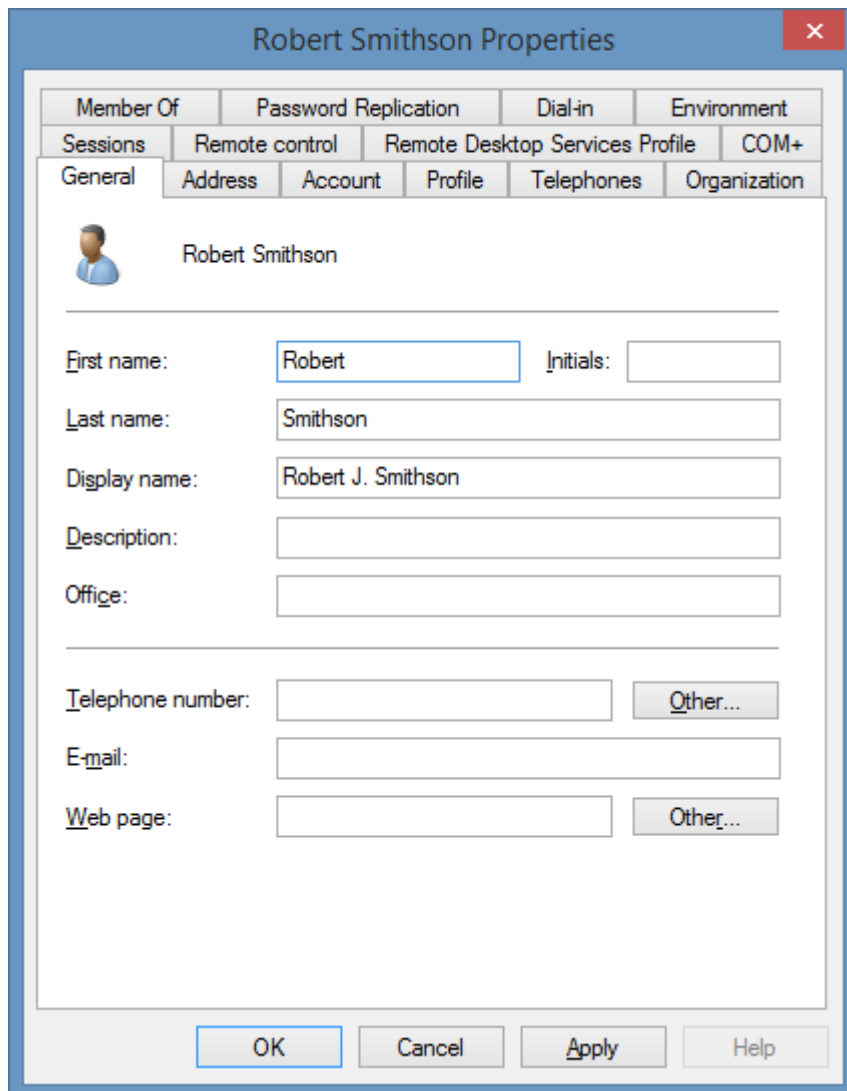
Then select the object tab.



Common Name

The **common name** is an attribute in **Microsoft Active Directory**.

- The common name is displayed in Active Directory User and Computers.



The screenshot shows the 'Robert Smithson Properties' dialog box with the 'General' tab selected. The dialog box has a title bar with a close button (X) in the top right corner. Below the title bar is a tabbed interface with the following tabs: Member Of, Password Replication, Dial-in, Environment, Sessions, Remote control, Remote Desktop Services Profile, COM+, General, Address, Account, Profile, Telephones, and Organization. The 'General' tab is active and contains the following fields:

- First name:** Robert
- Initials:** (empty)
- Last name:** Smithson
- Display name:** Robert J. Smithson
- Description:** (empty)
- Office:** (empty)
- Telephone number:** (empty) with an 'Other...' button
- E-mail:** (empty)
- Web page:** (empty) with an 'Other...' button

At the bottom of the dialog box are four buttons: OK, Cancel, Apply, and Help.

- The common name is not used for authentication.
- This name does not have to be unique in the domain however must be unique within the container or organizational unit in which it is created.
- The common name is shown in search results.

Find Users, Contacts, and Groups

File Edit View

Find: Users, Contacts, and Groups In: demonstration.int Browse...

Users, Contacts, and Groups Advanced

Name: Robert


Description:

Find Now

Stop

Clear All

Search results:

Name	Type	Description
 Robert Smithson	User	

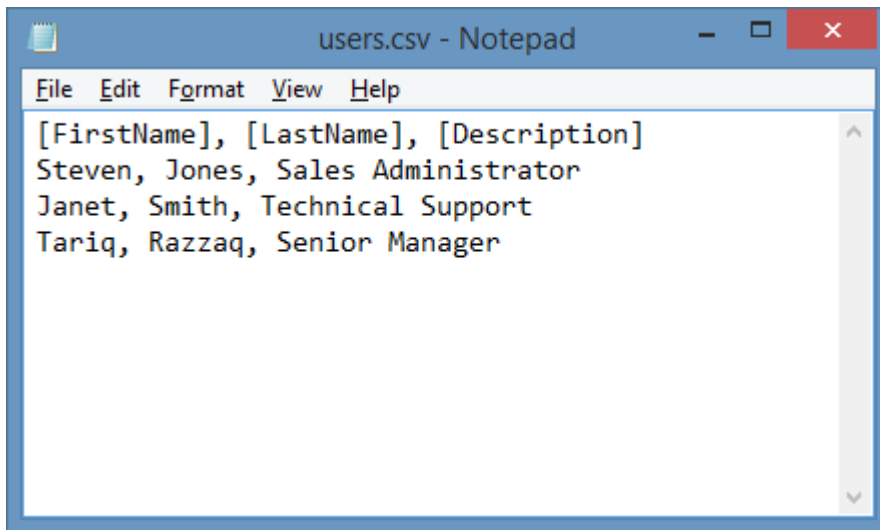
1 item(s) found

CSV Files

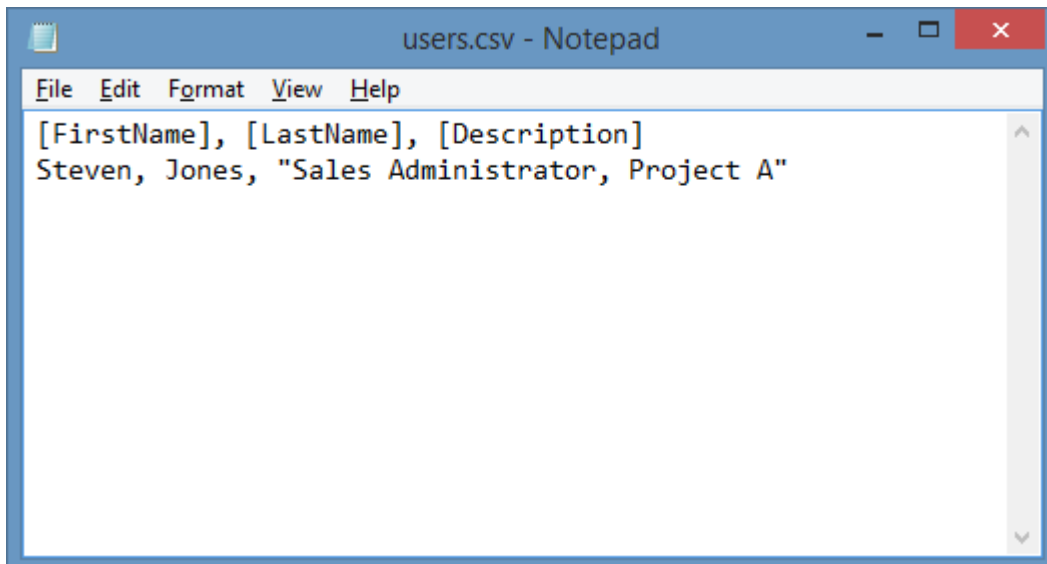
Comma-separated values (CSV) files can be imported into [XIA Automation Server](#) using either the [CSV input](#) user interface, or the [automatic file import](#) functionality provided by the [scheduler service](#).

- The CSV file may include the [automation variable](#) names in the header row, this allows the columns to be mapped automatically.

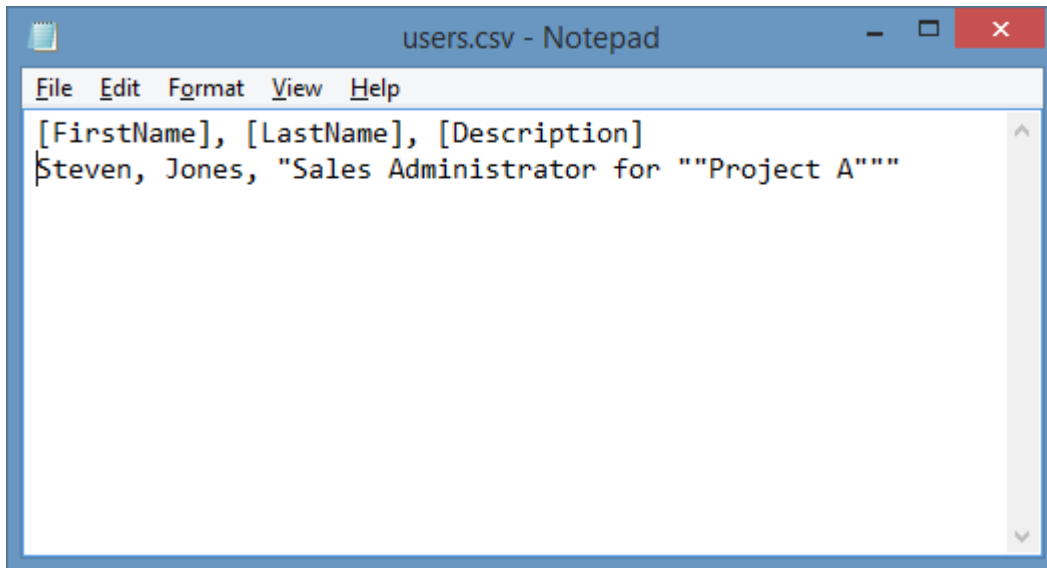
The [automation variable](#) names may or may not be enclosed in square brackets, however the [automation variable](#) display name cannot be used.



- If a value includes a comma then the entire value must be enclosed in double quotation marks.

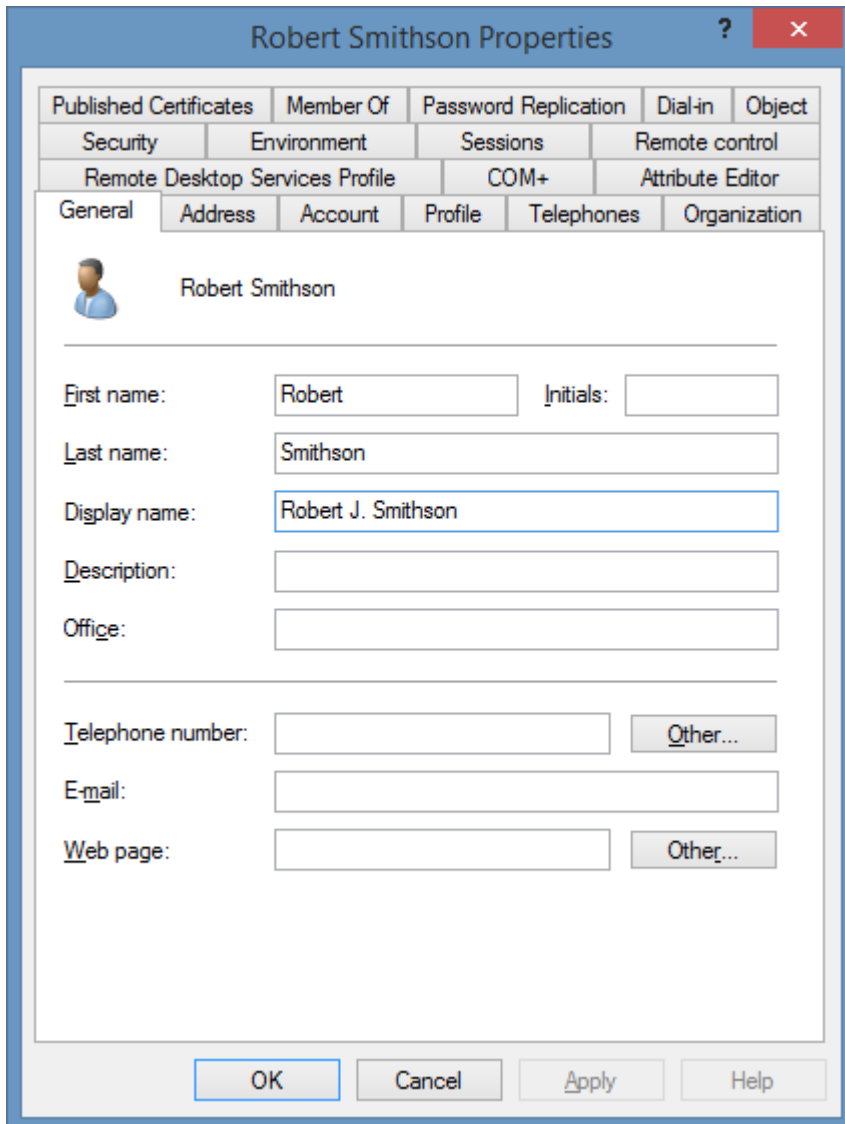


- If a value includes double quotation marks the entire value must be enclosed in double quotation marks and the double quotation marks replaced with two double quotation marks.



Display Name

The **display name** is an attribute in **Microsoft Active Directory**. This is usually the combination of the users first name, middle initial, and last name, however can be set to any string.



The screenshot shows the 'Robert Smithson Properties' dialog box with the 'General' tab selected. The 'Display name' field is highlighted and contains the text 'Robert J. Smithson'. Other fields include 'First name' (Robert), 'Last name' (Smithson), 'Description', 'Office', 'Telephone number', 'E-mail', and 'Web page'. The 'OK', 'Cancel', 'Apply', and 'Help' buttons are visible at the bottom.

- The display name is used for display purposes.
- This name is not used for authentication.
- This does not have to be unique in the domain.

GUID

A **globally unique identifier (GUID)** is a 128-bit value consisting of one group of 8 hexadecimal digits, followed by three groups of 4 hexadecimal digits each, followed by one group of 12 hexadecimal digits.

GUIDs are the **Microsoft** implementation of the distributed computing environment (DCE) universally unique identifier (UUID).

The following is an example of a GUID

```
6B29FC40-CA47-1067-B31D-00DD010662DA
```

User Interface

The main user interface of the [XIA Automation Server](#) can be accessed using a supported web browser.



About

Displays information about the [XIA Automation Server](#) including version and copyright information as well as links to the [EULA](#), release notes, and [web site](#).

Audit Logs

The audit logs record information about the [automation profiles](#) that have been run.

The audit logs can be searched using the following fields.

Account Name

The name of the account that executed the [automation profile](#), or blank for all user accounts.

NOTE: Only [system administrators](#) can view the audit logs of other users.

Profile Display Name

The display name of the [automation profile](#) that was executed, or blank for all automation profiles.

Minimum Start Date

The minimum date on which the [automation profile](#) was executed.

Maximum Start Date

The maximum date on which the [automation profile](#) was executed.

Double clicking an audit log displays the [audit log](#).

Audit Log

The audit log page displays all information about the audit log.

Account Name

The name of the account that executed the [automation profile](#).

Data Source Type

The source of data that was used to execute the [automation profile](#).

- Form
- CSV
- CSV File
- Web Service

Profile Display Name

The display name of the [automation profile](#) that was executed.

Profile Identifier

The unique identifier of the [automation profile](#) that was executed in [GUID](#) format.

Service Account

The account name of the [service account](#).

Start Time

The date and time that the [automation profile](#) was executed.

Finish Time

The date and time that the [automation profile](#) execution completed.

Duration

The length of time that the [automation profile](#) was executing.

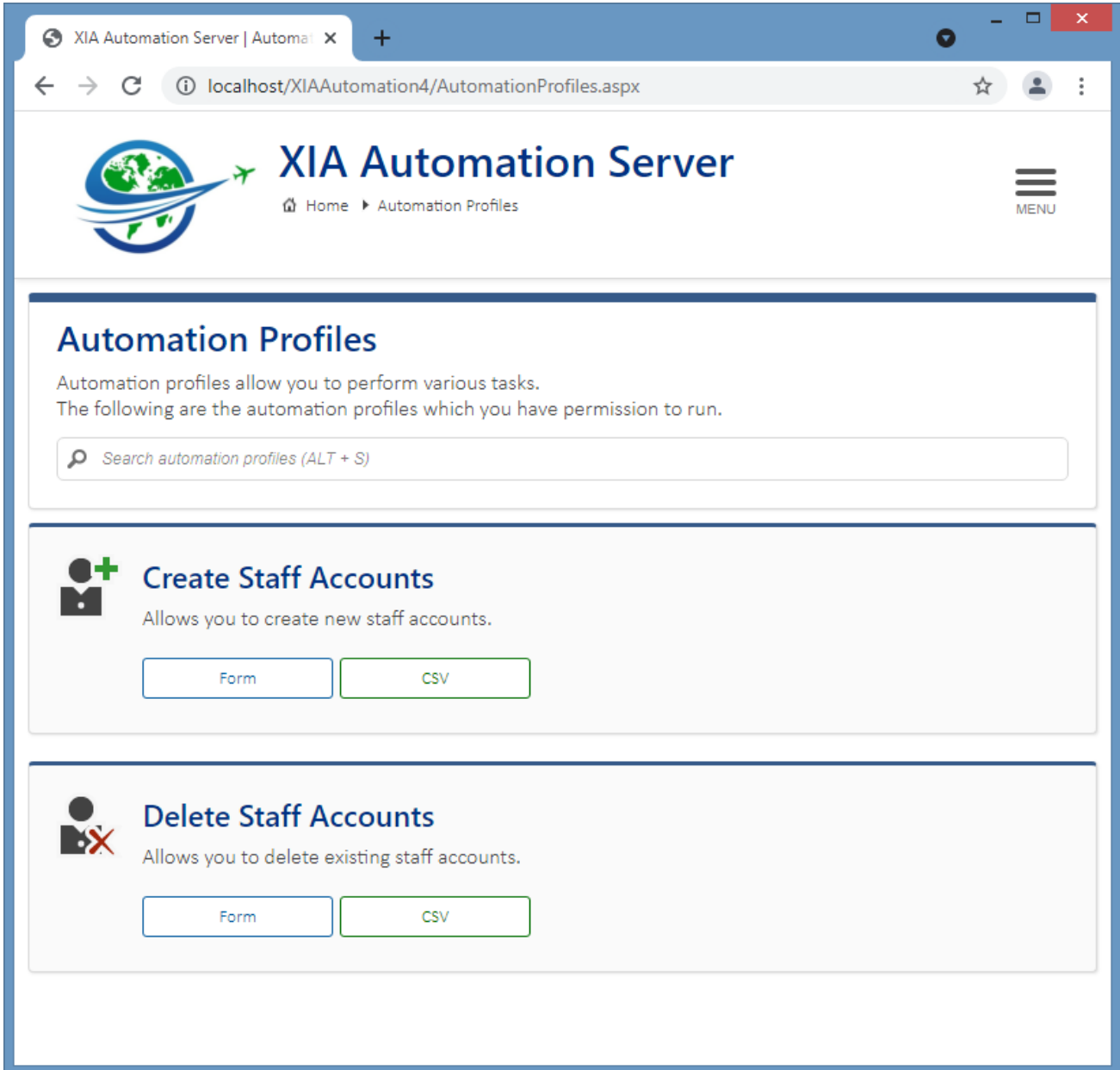
Jobs

Displays information about each of the jobs that were executed.

Automation Profiles

The automation profiles page lists the [automation profiles](#) that the current user has permission to run.

The profiles can be searched by entering the whole or part of the [automation profile](#) name in the search box.



Automation Status

Displays the status of the currently executing [automation profile](#).

NOTE: [System administrators](#) can see [automation profiles](#) that have been executed by any user.

Account Name

The account name of the user that executed the [automation profile](#).

Data Source Type

The source of data that was used to execute the [automation profile](#).

- Form
- CSV
- CSV File
- Web Service

Jobs Identifier

The unique identifier of the jobs being executed by the [automation profile](#) in [GUID](#) format.

Profile Display Name

The display name of the [automation profile](#).

Start Time

The time that the [automation profile](#) was executed.

Elapsed Time

The amount of time that the [automation profile](#) has been executing.

Last Action

The last action that was performed.

Completed Tasks

A summary of the [automation tasks](#) that have been executed by the [automation profile](#).

CSV Input


The CSV input page allows users to execute [automation profiles](#) using a CSV file.

NOTE: This user interface is not available for mobile devices.

Either drop the [CSV file](#) in the drop zone, or click browse to browse for the file.







The information from the [CSV file](#) will be displayed. If the [CSV file](#) contains the [automation variable](#) names in the header row these will be mapped automatically.

 3 Lines

▲ Row	[FirstName]	[LastName]	[Description]
✓ 1	Steven	Jones	Sales Administrator
✓ 2	Janet	Smith	Technical Support
✓ 3	Tariq	Razzaq	Senior Manager

To map the columns manually right click the column and assign the appropriate [automation variable](#).

NOTE: Each [automation variable](#) can only be assigned once, if the [automation variable](#) is already assigned to a column it will be unassigned from that column.

{Not Assigned}	
Jones	 Unassign
Smith	 [FirstName]
Razzaq	 [LastName]
	 [Description]

If the row contains validation errors a error icon is displayed for the row. Hovering the mouse over the row displays the validation error.

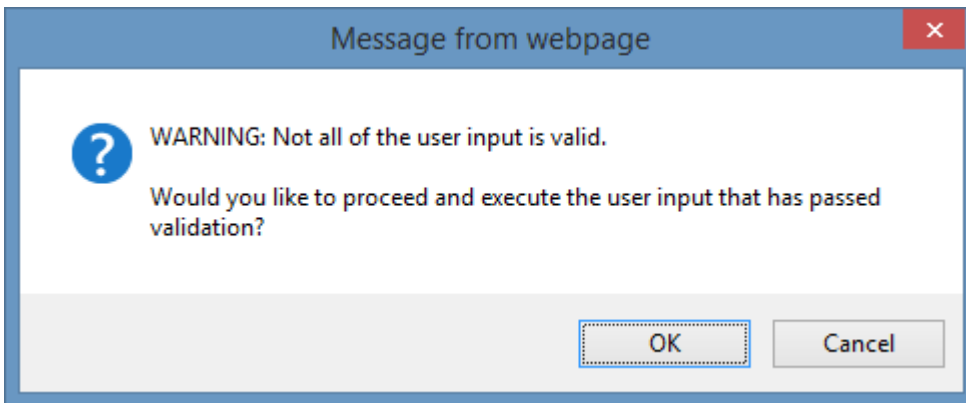
3 Lines

Row	[FirstNan		
1	Steven		
2	Janet		Technical Support
3	Tariq	Razzaq	Senior Manager

Error validating variable 'LastName'. The required string value was not specified.

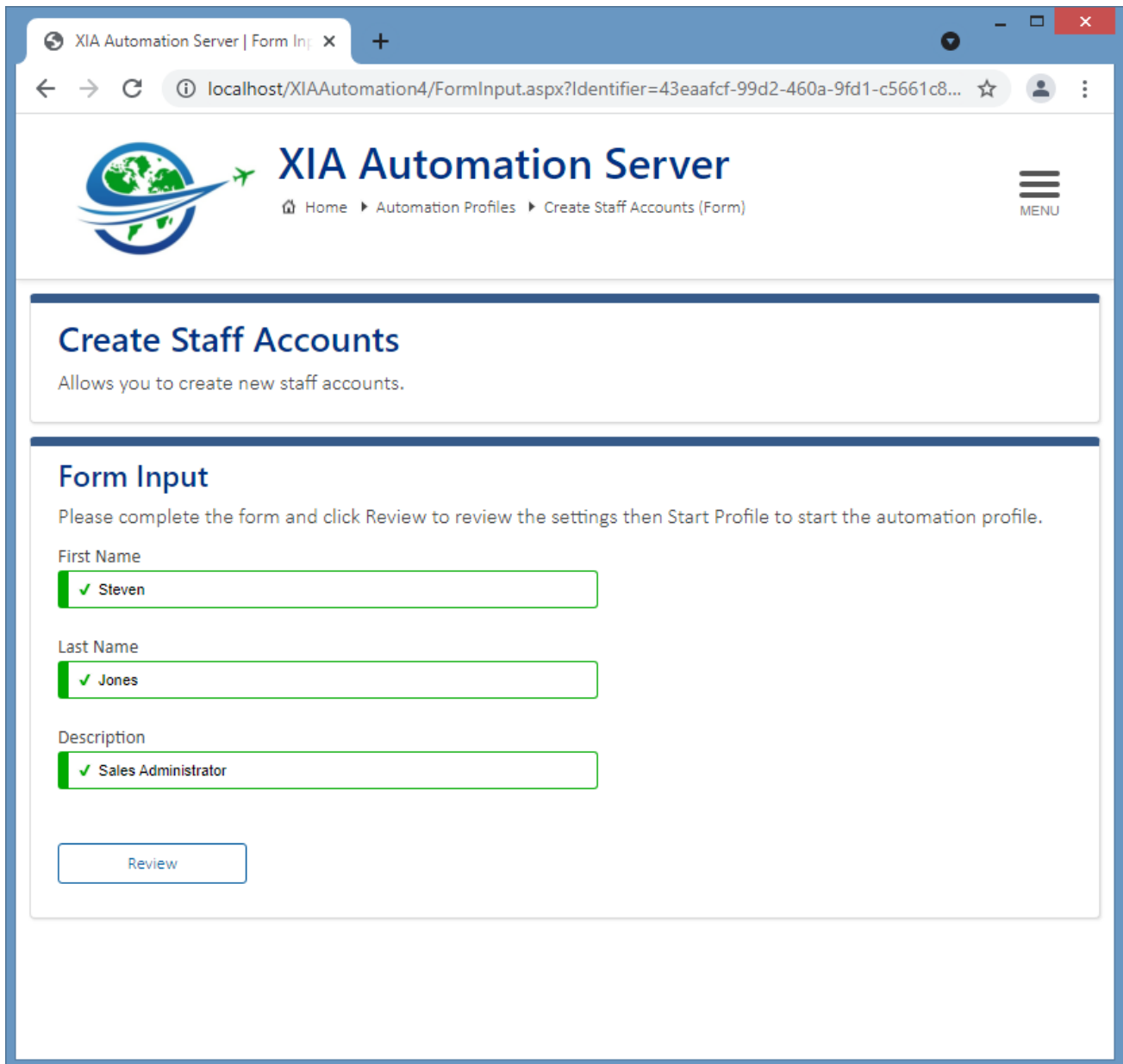
Clicking the start profile button will execute the [automation profile](#).

NOTE: If any of the rows still fail validation you will be prompted whether to proceed and execute only the rows that have passed validation.



Form Input

The form input page allows users to execute [automation profiles](#) using a web based form interface.



The screenshot shows a web browser window with the following elements:


- Browser Tab:** XIA Automation Server | Form Inp
- Address Bar:** localhost/XIAAutomation4/FormInput.aspx?Identifier=43eaafc9-99d2-460a-9fd1-c5661c8...
- Header:** XIA Automation Server logo and navigation links: Home > Automation Profiles > Create Staff Accounts (Form). A MENU icon is also present.
- Section Header:** Create Staff Accounts
- Text:** Allows you to create new staff accounts.
- Form Input Section:**
 - Form Title:** Form Input
 - Instructions:** Please complete the form and click Review to review the settings then Start Profile to start the automation profile.
 - Fields:**
 - First Name:** Input field containing "Steven" with a green checkmark icon.
 - Last Name:** Input field containing "Jones" with a green checkmark icon.
 - Description:** Input field containing "Sales Administrator" with a green checkmark icon.
 - Buttons:** A "Review" button is visible at the bottom of the form.

Clicking the *Review* button displays the review page where the information can be reviewed and edited if necessary.

Clicking the *Start Profile* button will immediately execute the [automation profile](#).

XIA Automation Server | Form Inj x +

localhost/XIAAutomation4/FormInput.aspx?Identifier=43eaafc9-99d2-460a-9fd1-c5661c8... ☆



XIA Automation Server

Home ▶ Automation Profiles ▶ Create Staff Accounts (Form) MENU

Create Staff Accounts

Allows you to create new staff accounts.

Form Input

Please complete the form and click Review to review the settings then Start Profile to start the automation profile.

Variables

First Name	Steven
Last Name	Jones
Description	Sales Administrator

[Edit](#) [Start Profile](#)

Home

Displays the [XIA Automation Server](#) home page, which includes links to the following.

Automation Profiles

Displays the [automation profiles](#) that the user has permission to run.

Automation Status

Displays the current [automation status](#).

Audit Logs

Displays the [audit logs](#) of profiles that have been run.

Menu

Selecting the menu icon displays the main menu which contains the following items.



Home

Displays the [home page](#).

Automation Profiles

Displays the [automation profiles](#) that the user has permission to run.

Automation Status

Displays the current [automation status](#).

Administration Tools Installer

Downloads the [installation](#) files for the [XIA Automation Administration Tools](#). Only [system administrators](#) can access this item.

Audit Logs

Displays the [audit logs](#) of profiles that have been run.

Administration Web Service

Opens the [administration web service](#). Only [system administrators](#) can access this item.

Automation Web Service

Opens the [automation web service](#).

Help

Opens this help in a new web browser window.

About

Display the [about](#) dialog.

Web Controls

This section describes the web based controls in the [XIA Automation Server](#).

Advanced Upload Control

The advanced upload control allows files to be uploaded to the [XIA Automation Server](#).

Date Control

The date control allows the user to select a date.

Advanced Upload Control

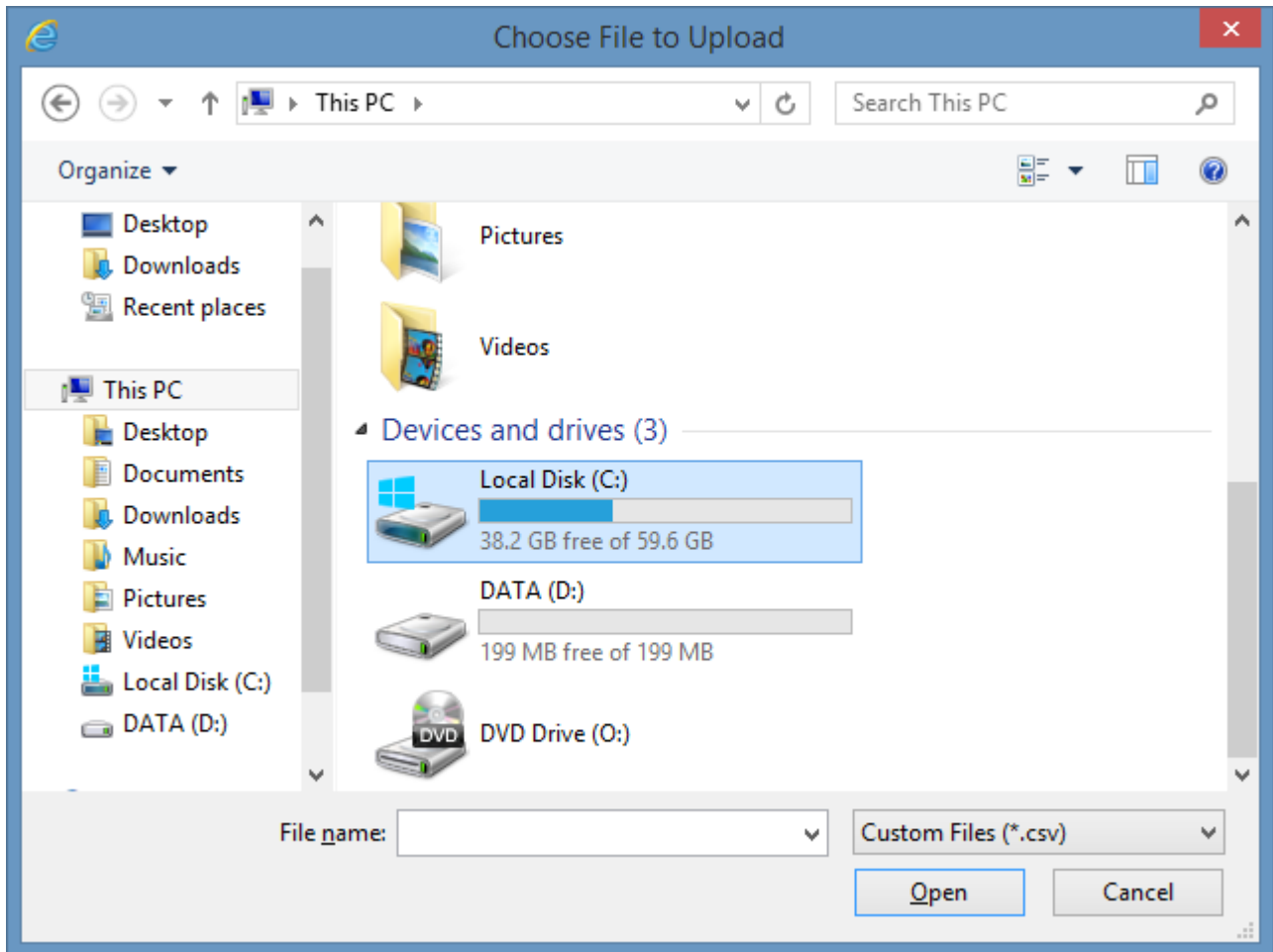
The advanced upload control allows files to be uploaded to the [XIA Automation Server](#).



Files can be dropped directly into the drop zone shown with the dashed outline.



Clicking the button displays the file browse dialog.



When a file has been uploaded the success icon is displayed.



If the file uploaded is a valid image file, a thumbnail of that image is displayed.

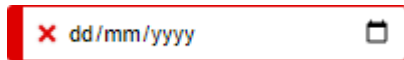


Date Control

The date picker control allows the selection of a date.



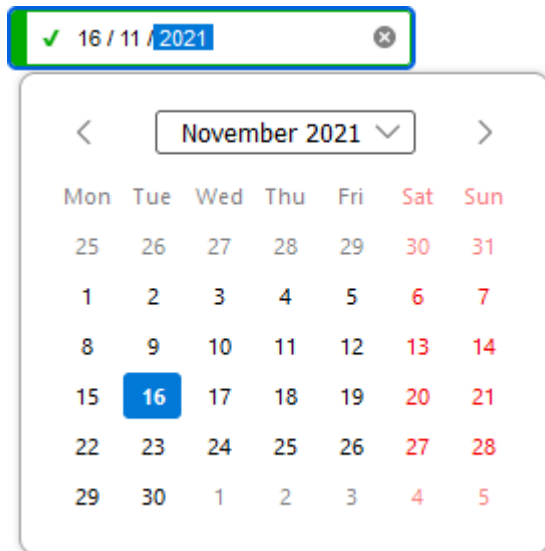
If the date is required but not set the control displays with a red border.



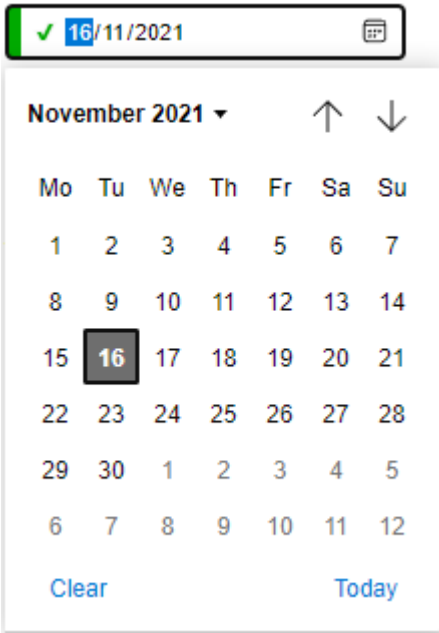
The control uses the [HTML 5 date input control](#) and the behaviour of this control varies between browsers.

The date can be entered by typing within the control or using the up and down arrows on the keyboard and is displayed in the short date format configured for the operating system.

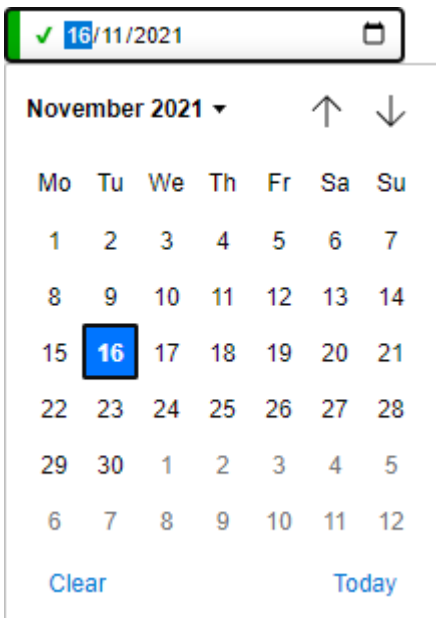
The control displayed in [Mozilla Firefox](#).



The control displayed in [Microsoft Edge](#).



The control displayed in [Google Chrome](#).



Web Services

The web services provides the programmatic entry point for the [Web Services SDK](#) and [scheduler service](#).

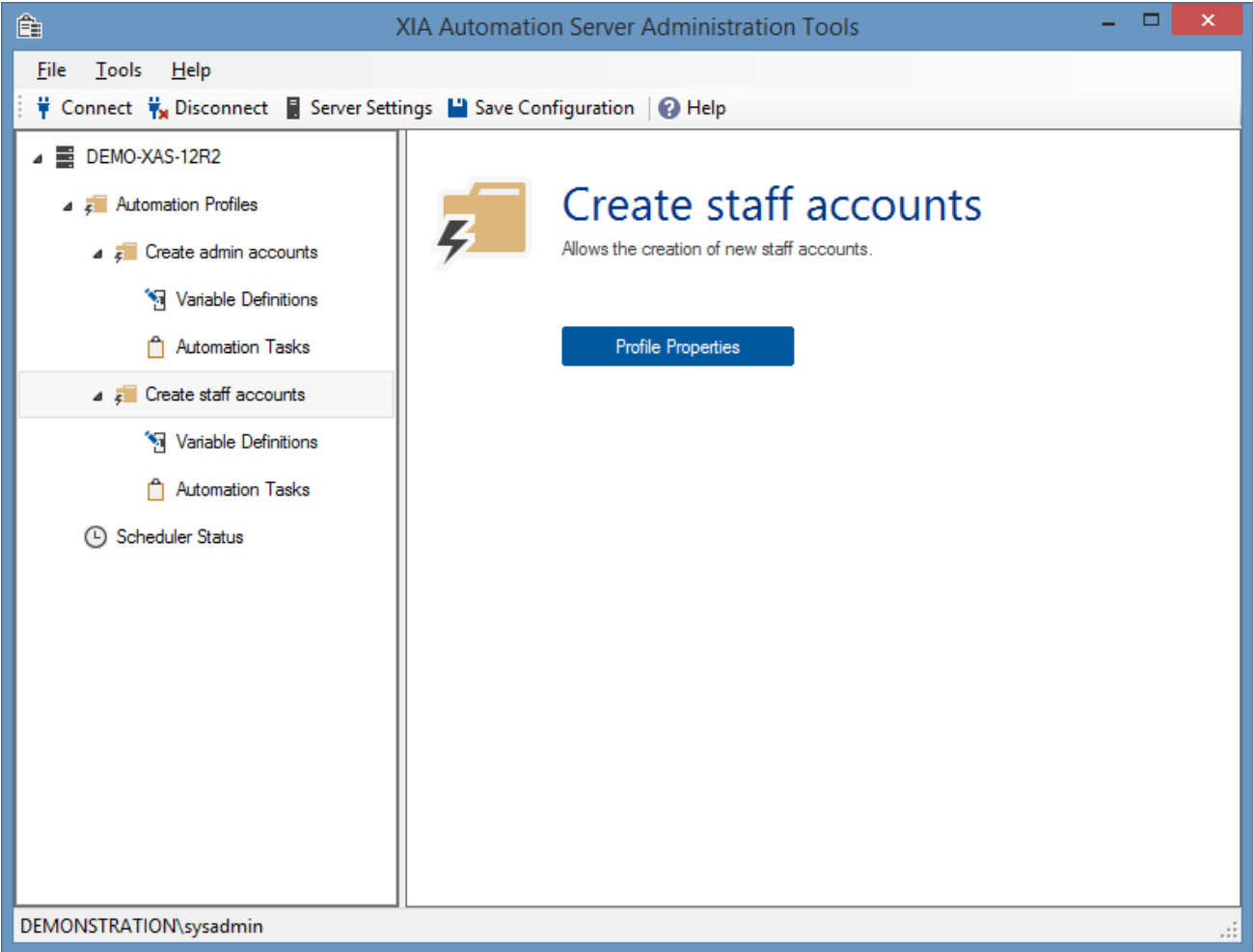
Scheduler Web Service

The scheduler web service is the entry point for the [scheduler service](#) to communicate with the [XIA Automation Server](#) and is for internal use by [XIA Automation Server](#) only.

The web service can be disabled on the [web services](#) tab of the [server configuration settings](#) within the [XIA Automation administration tools](#).

XIA Automation Administration Tools

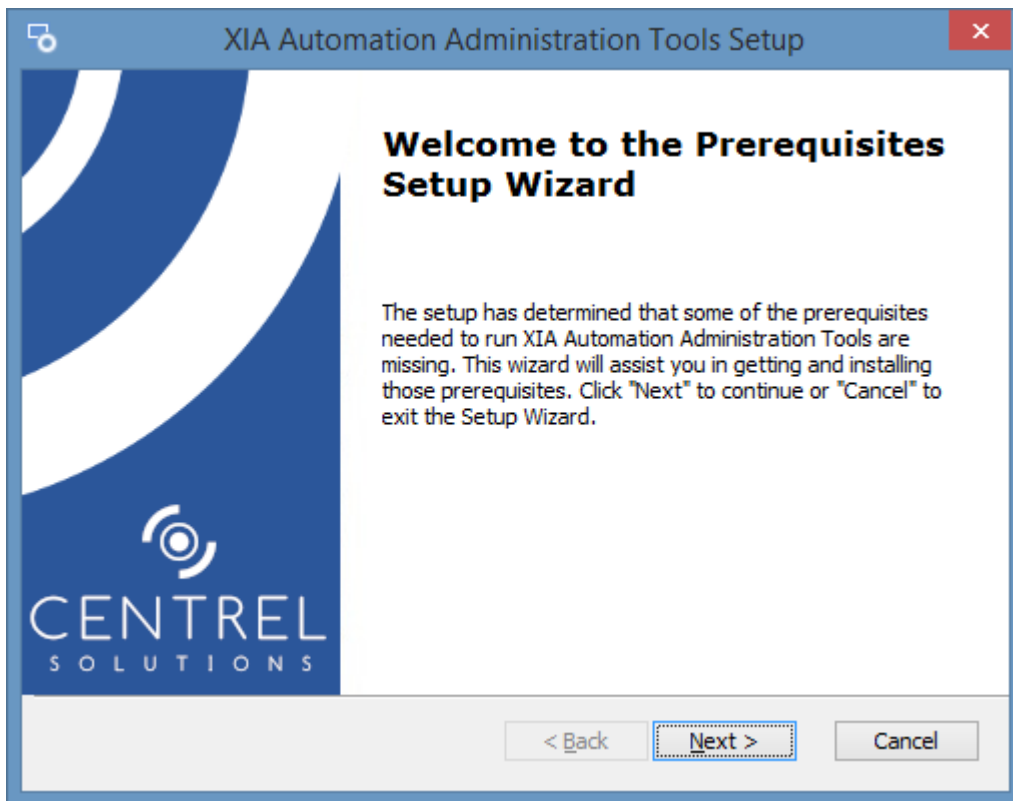
The XIA Automation Administration Tools are used for the configuration of the [XIA Automation Server](#) including designing the automation profiles that are executed by the user.



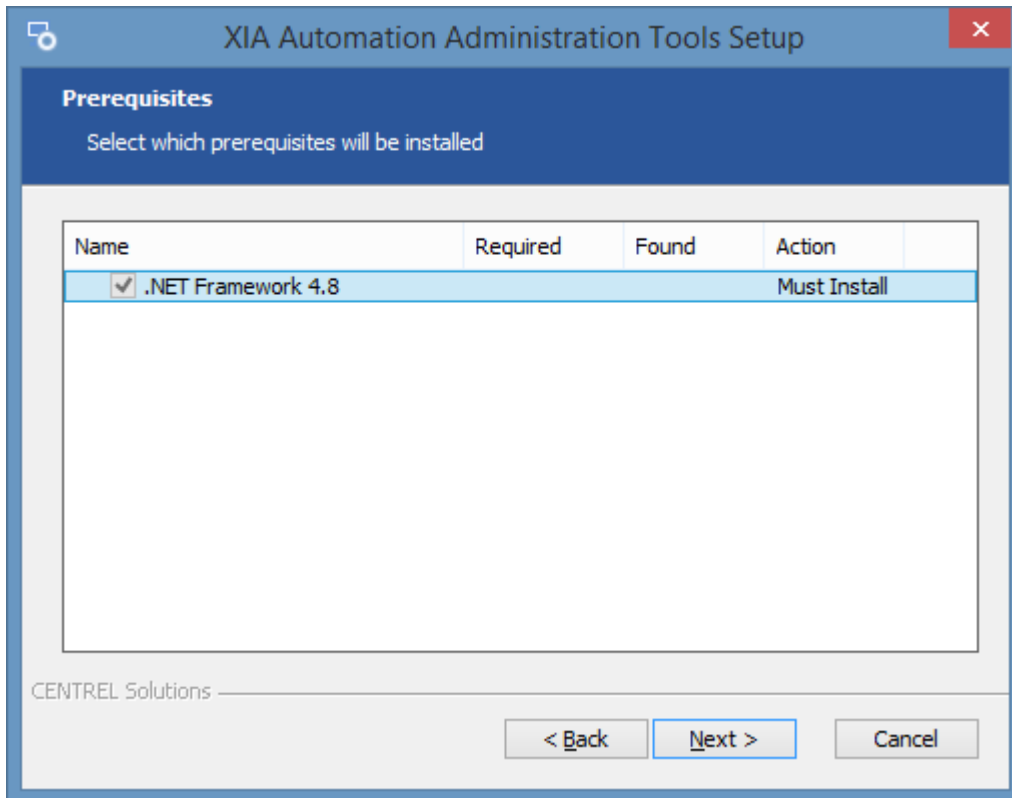
Installation

The [XIA Automation Administration Tools](#) can be installed on machines using the following process

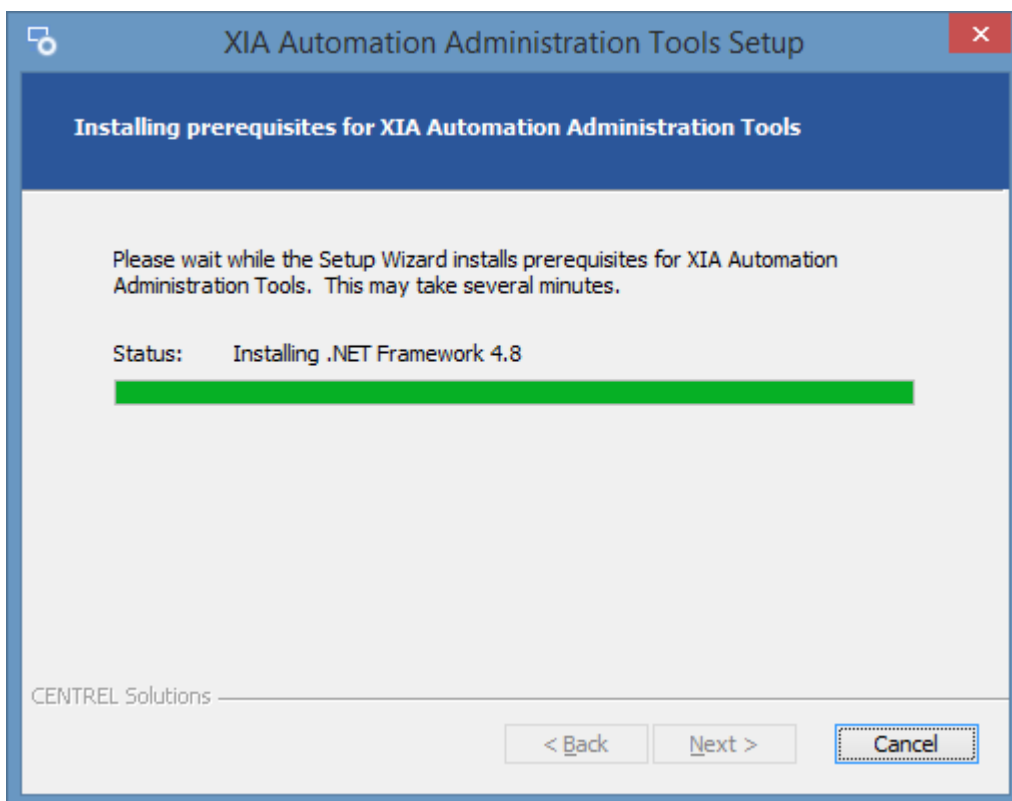
- **NOTE:** The [XIA Automation administration tools](#) are automatically installed with the [XIA Automation Server](#).
- Check that the system you are installing on meets the [administration tools requirements](#).
- Obtain the [administration tools installation files](#).
- Start the installer.
- If the [.NET Framework 4.8](#) is not installed and is not available as a Windows feature the *Prerequisites Setup Wizard* will be displayed.



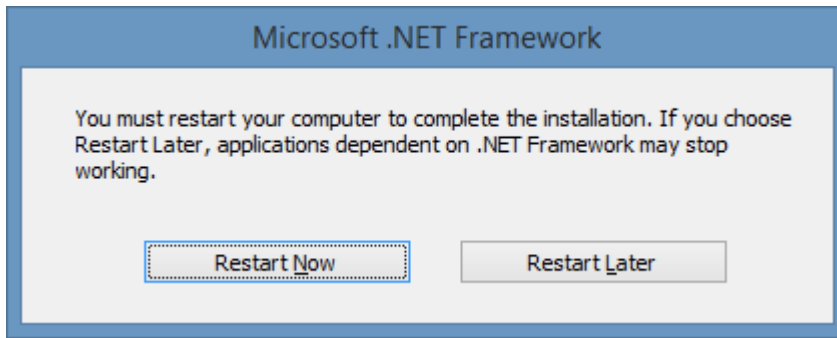
- You will be prompted to install the [.NET Framework 4.8](#) if required.



- If required the [.NET Framework 4.8](#) will be installed and a log file created for the installation in the following location.
 %temp%\Microsoft .NET Framework 4.8 Setup_XXXXXXXX_XXXXXXXX.html



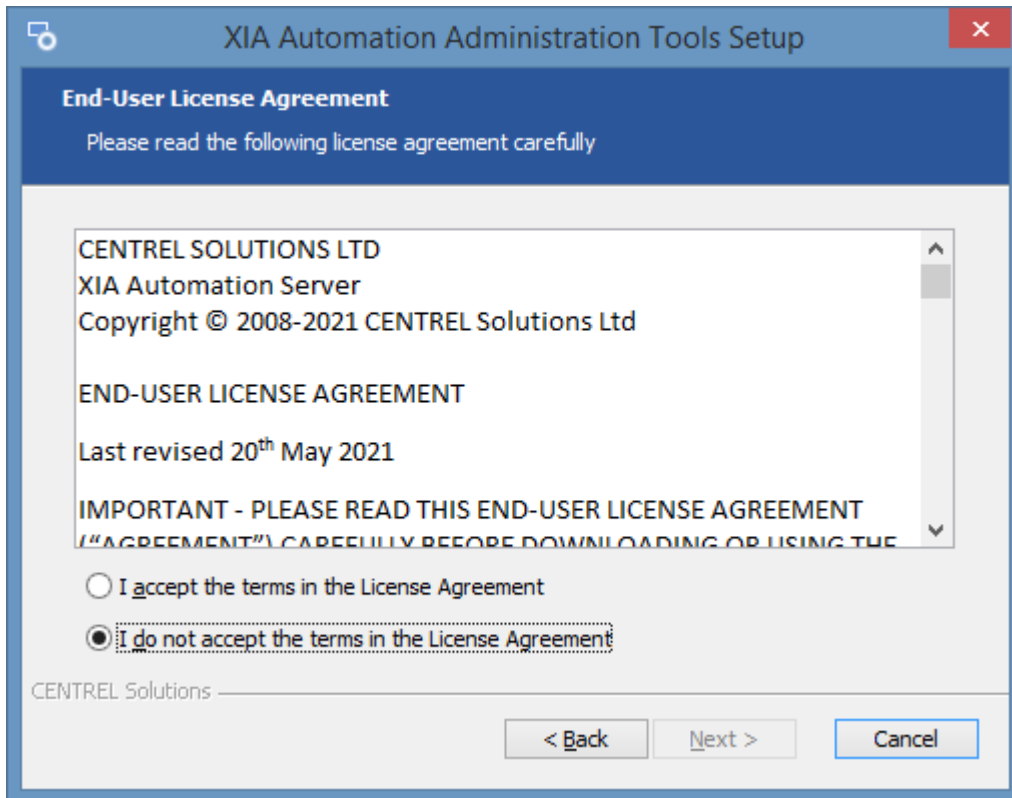
- You may be required to reboot to continue the installation. The installation will resume automatically after logging in following the reboot.



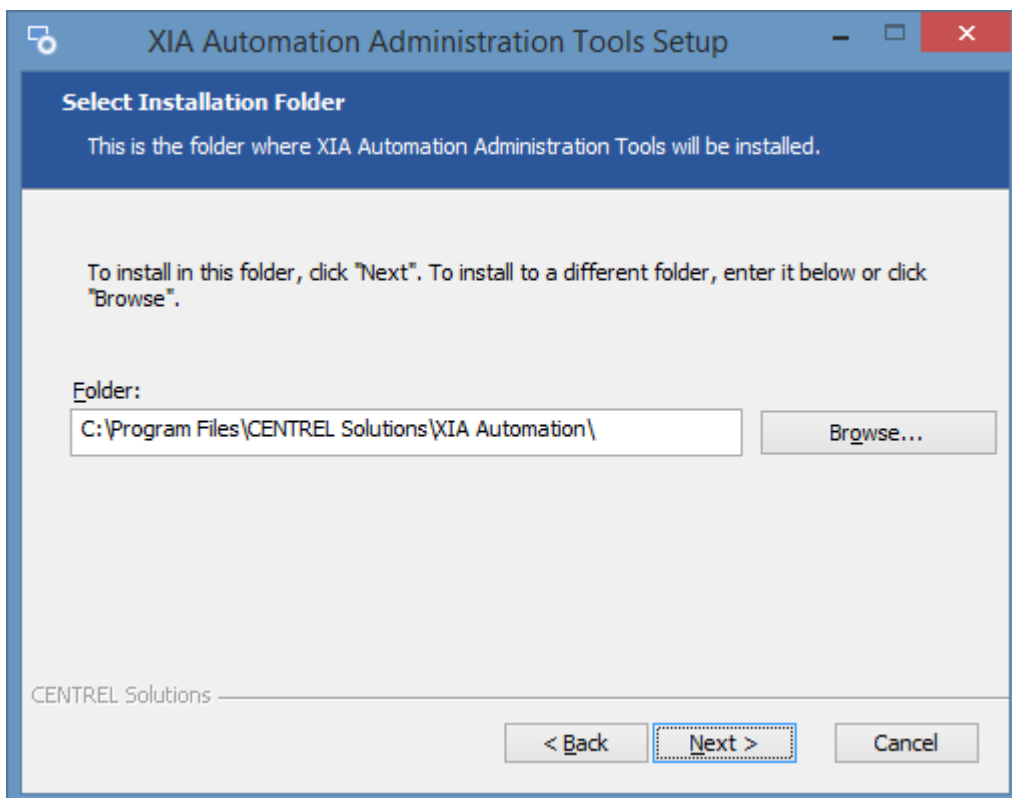
- The main installation screen will be displayed.



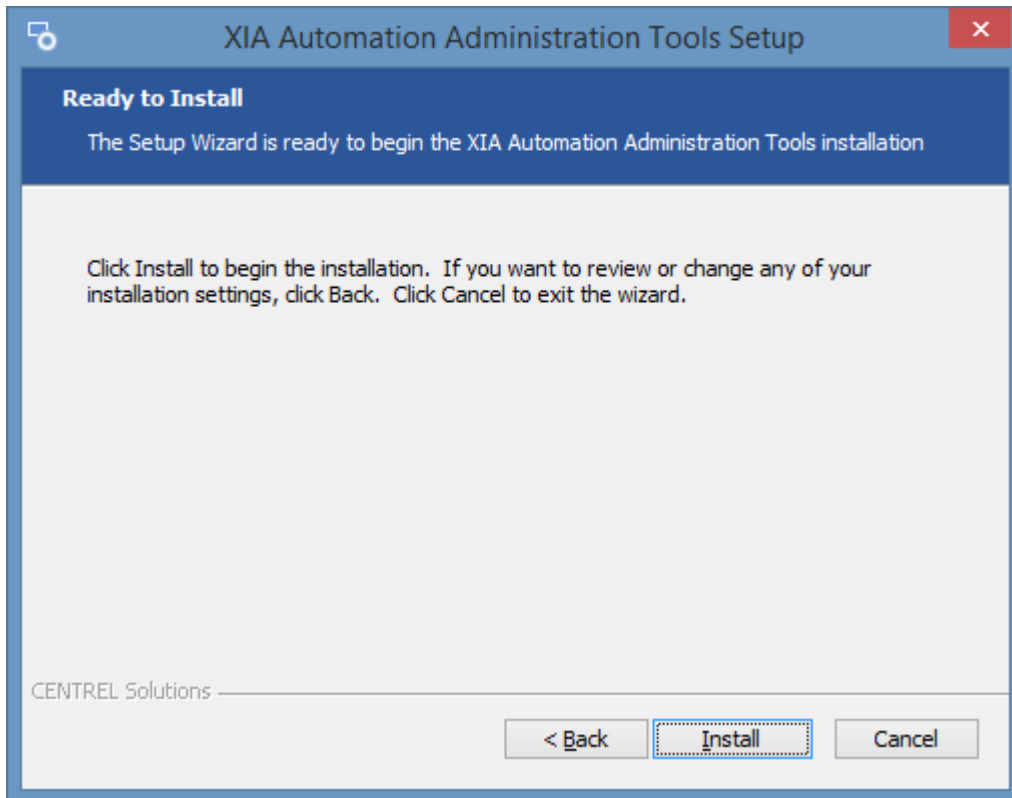
- Review the [end user license agreement \(EULA\)](#) and only accept if you agree to the terms. If you do not accept the terms of the agreement please cancel the installation.



- Select the directory into which the [XIA Automation administration tools](#) should be installed and click *Next*.



- Click *Install* to begin the installation.



- When the installation is complete you will be prompted to [Open Administration Tools](#). Click *Finish* to complete the installation.



Administration Tools Requirements

This section describes the requirements for the [installation](#) of [XIA Automation Administration Tools](#).

Operating Systems (Server)

The following server operating systems are supported

- Windows Server 2022
- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2

Desktop Operating Systems

The following desktop operating systems are supported

- Windows 11
- Windows 10 (64-bit)

Prerequisites

- [.NET Framework 4.8](#) (installed automatically) *

** Please see the [Microsoft .NET Framework 4.8 installation requirements](#) for further information.*

Administration Tools Installation Files

The [installation](#) files for the [XIA Automation Administration Tools](#) can be obtained by

- Selecting the *Administration Tools Installer* item on [menu](#) of the [XIA Automation Server](#).

- or -

- Opening the installation directory on the [XIA Automation Server](#) directly.

By default the [installer](#) can be found here

C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation

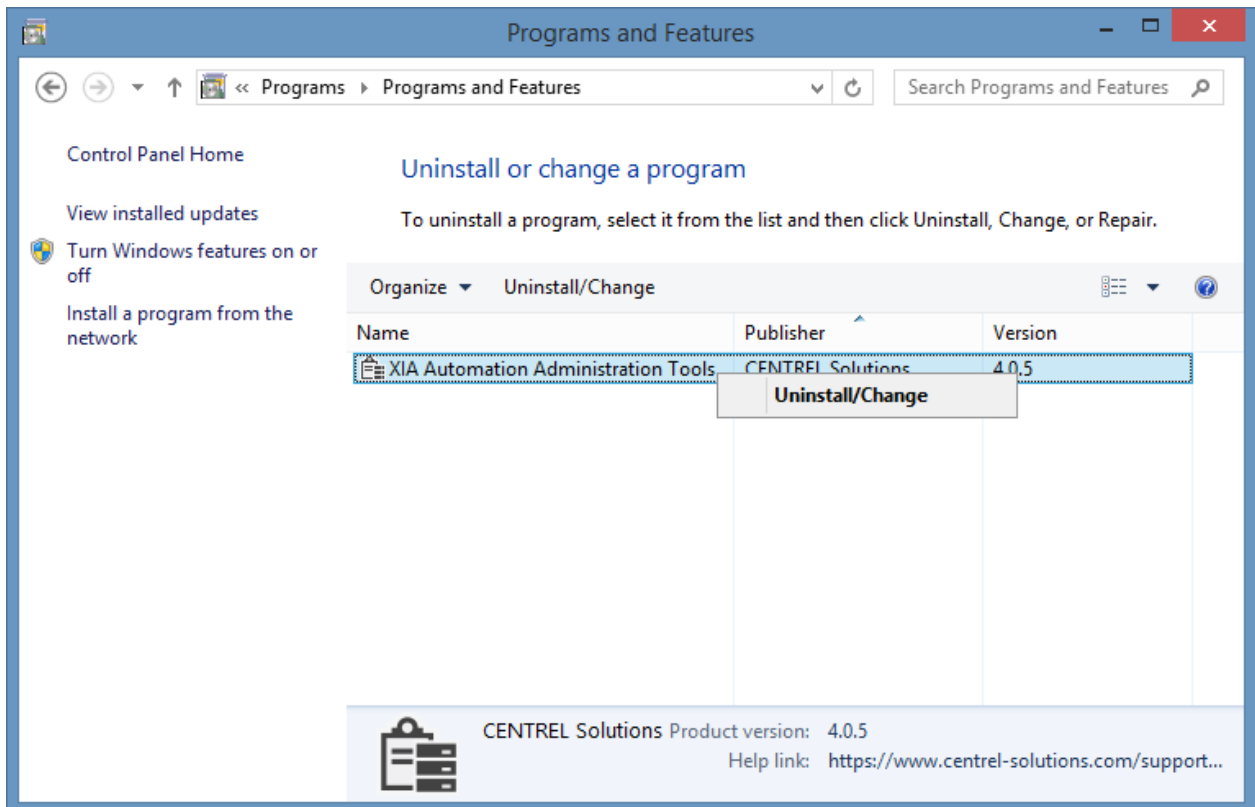
Server\AppData\Installers\Administration Tools\XIA Automation Administration Tools.exe

Uninstallation

When installed as part of the [XIA Automation Server](#) please follow the server [uninstallation](#) section.

To uninstall a stand-alone [installation](#) of the [XIA Automation administration tools](#) simply

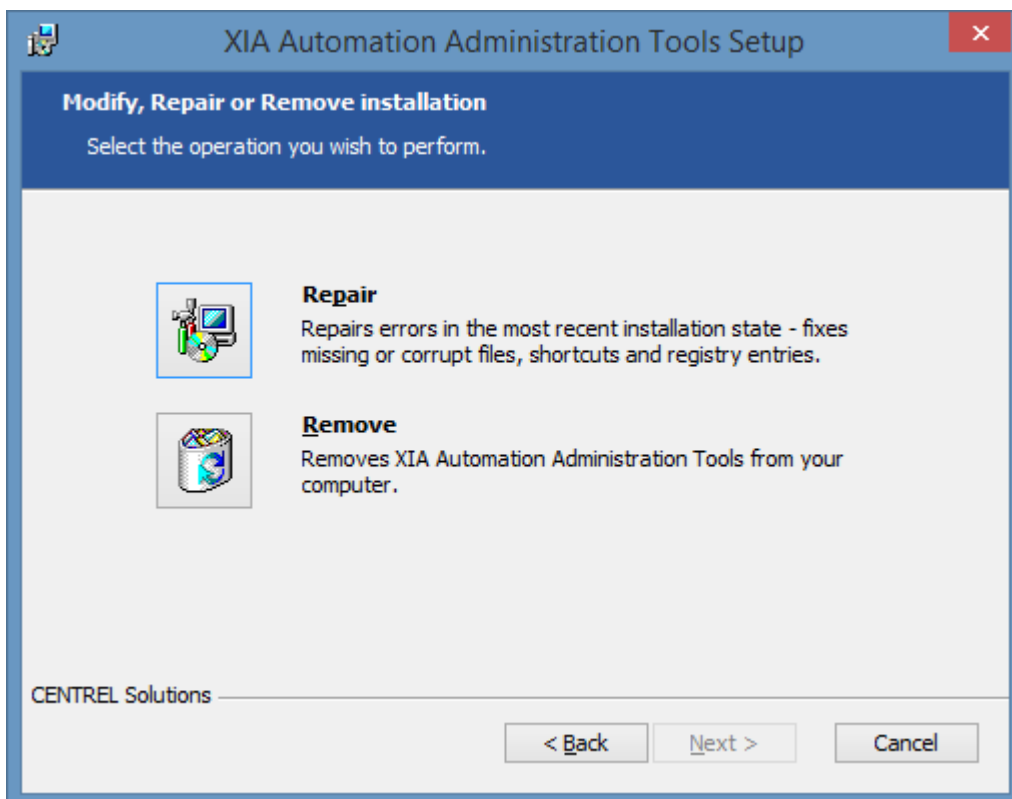
- Go to Control Panel
- Select Programs
- Right click the [XIA Automation Administration Tools](#) entry, and select *Uninstall/Change*.



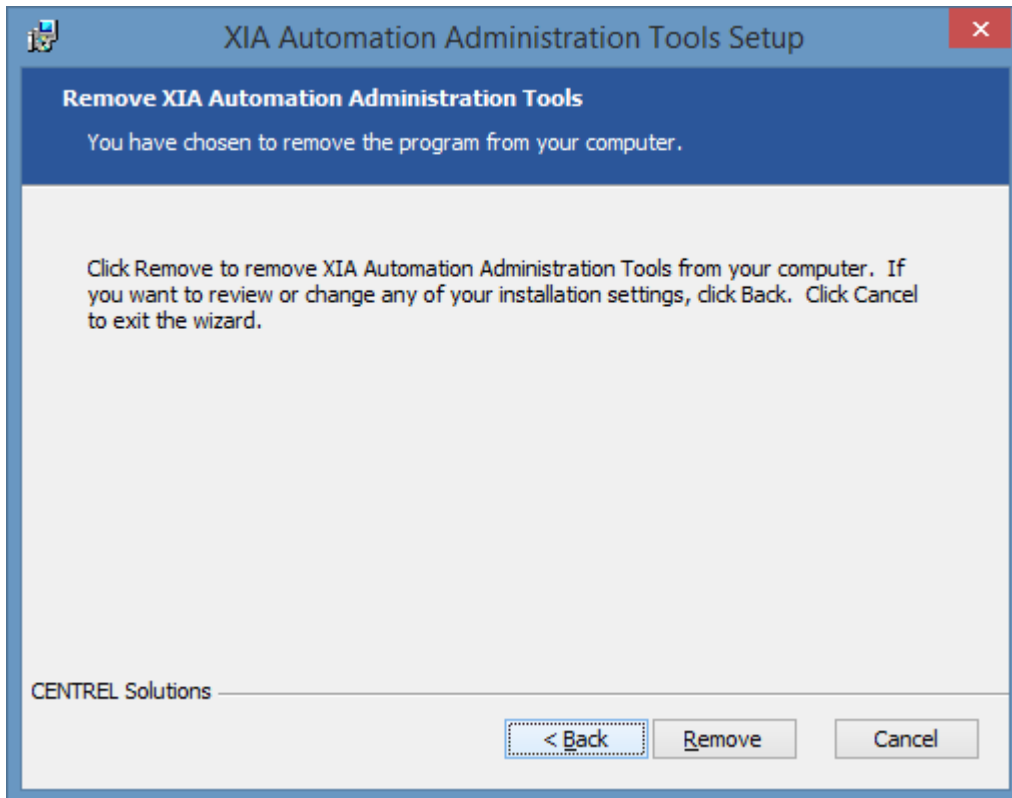
- The welcome screen will be displayed, click *Next* to continue.



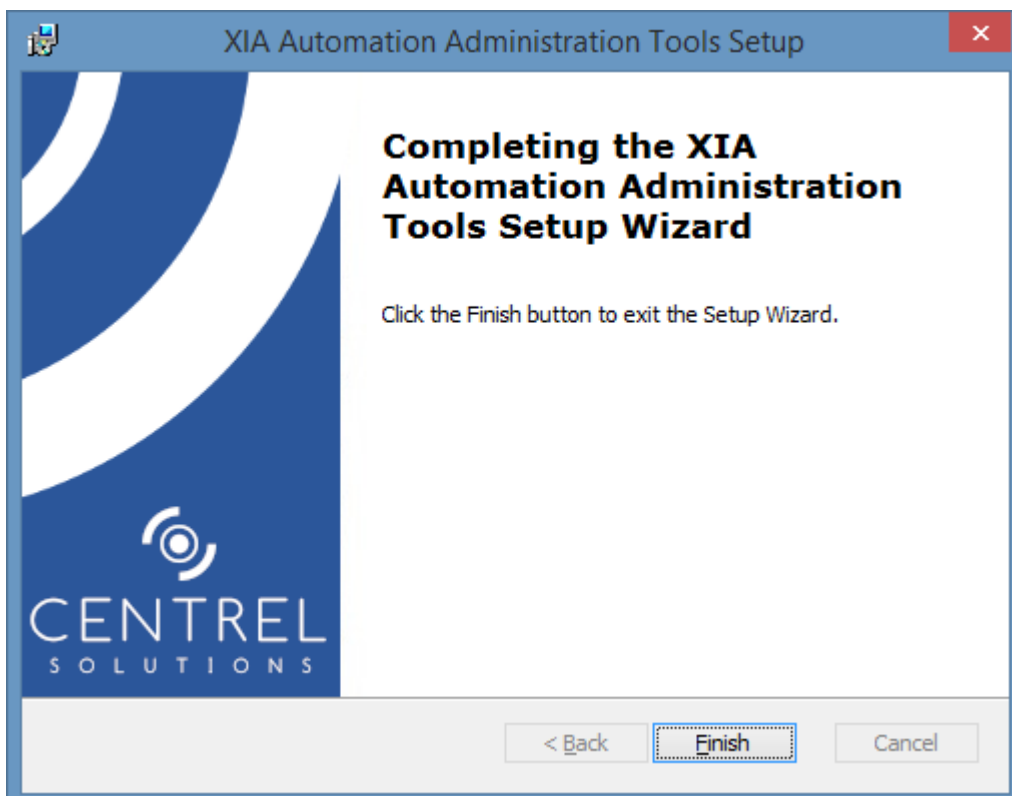
- The repair or remove installation screen will be displayed, click *Remove* to continue.



- Click *Remove* to commence the uninstallation.



- Once complete click *Finish* to complete the uninstallation.



Administration Tools Diagnostic Log

The [administration tools](#) diagnostics assists with troubleshooting the [XIA Automation administration tools](#) by writing detailed diagnostics information to a log file.

The [administration tools](#) diagnostics can be enabled and accessed from the [tools menu](#) within the [XIA Automation administration tools](#).

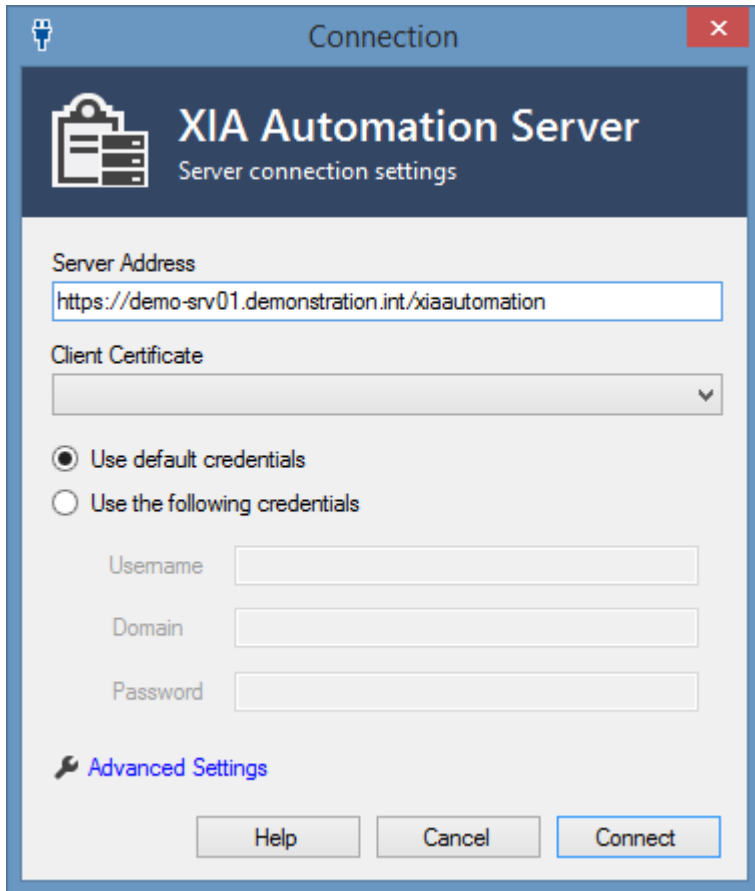
The diagnostics log is written in [UTF-8 encoding](#).

The client diagnostics log file is written to the following location
%APPDATA%\CENTREL Solutions\XIA Automation Administration Tools\Logs\Trace

NOTE: For [XIA Automation Server](#) diagnostics logging see the [server diagnostics](#).

Connection Form

The connection form allows users to connect to the [XIA Automation Server](#).



The screenshot shows a Windows-style dialog box titled "Connection" with a close button in the top right corner. The dialog has a dark blue header with the XIA Automation Server logo and the text "XIA Automation Server" and "Server connection settings". Below the header, there are several input fields and options: a "Server Address" text box containing "https://demo-srv01.demonstration.int/xiaautomation"; a "Client Certificate" dropdown menu; two radio buttons for "Use default credentials" (selected) and "Use the following credentials"; three text boxes for "Username", "Domain", and "Password"; a blue link for "Advanced Settings" with a wrench icon; and three buttons at the bottom: "Help", "Cancel", and "Connect".

Server Address

The address of the [XIA Automation Server](#).

Client Certificate

The [client certificate](#) to use if required.

Use default credentials

Connects using the credentials of the currently logged in user.

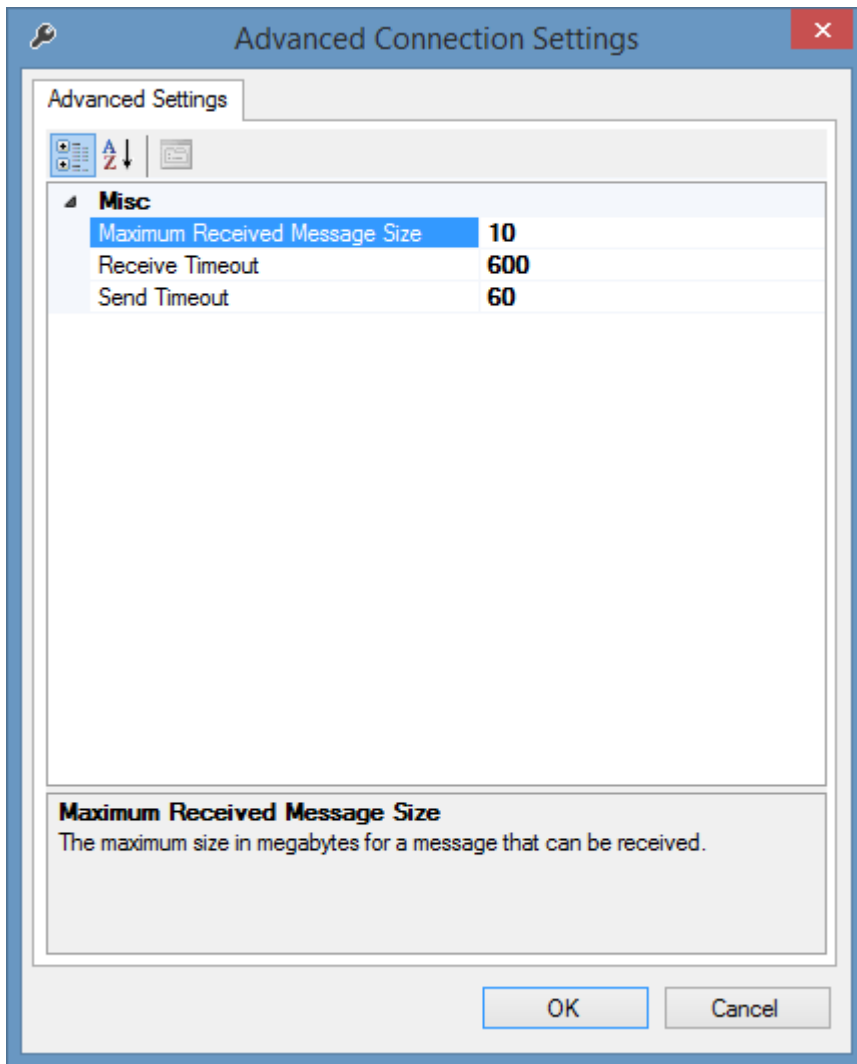
Use the following credentials

Uses the specified credentials.

Advanced Settings

Displays the [advanced connection settings](#) dialog.

Advanced Connection Settings



Maximum Received Message Size

The maximum size in megabytes for a message that can be received.

Receive Timeout

The receive timeout in seconds.

Send Timeout

The send timeout in seconds.

Configuring Client Certificates

To configure the [XIA Automation administration tools](#) to use client certificates in conjunction with [Microsoft Internet Information Server \(IIS\)](#) as a method of two factor authentication, complete the following steps:

- Ensure that the [IIS server](#) is [configured with a valid SSL certificate](#).
- Ensure that the [IIS server](#) SSL settings are [configured appropriately](#) to either accept or require client certificates

SSL Settings

This page lets you modify the SSL settings for the content of a website or application.

Require SSL

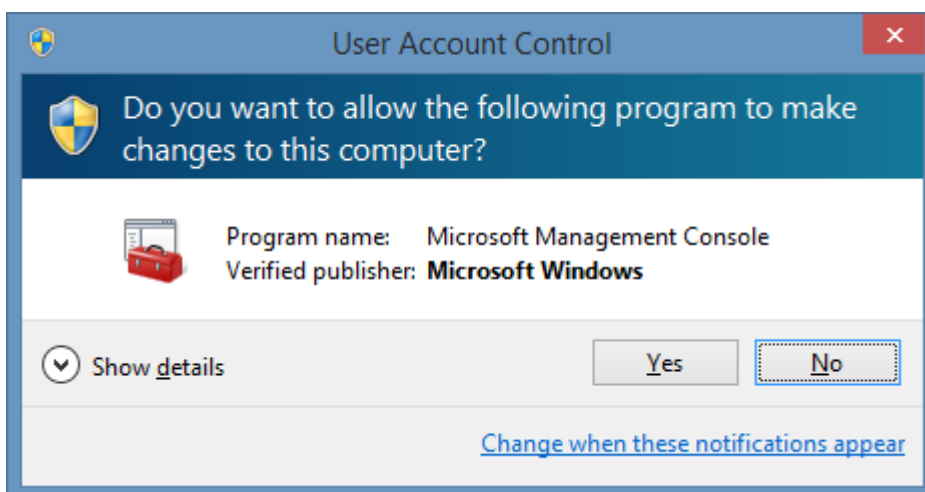
Client certificates:

Ignore

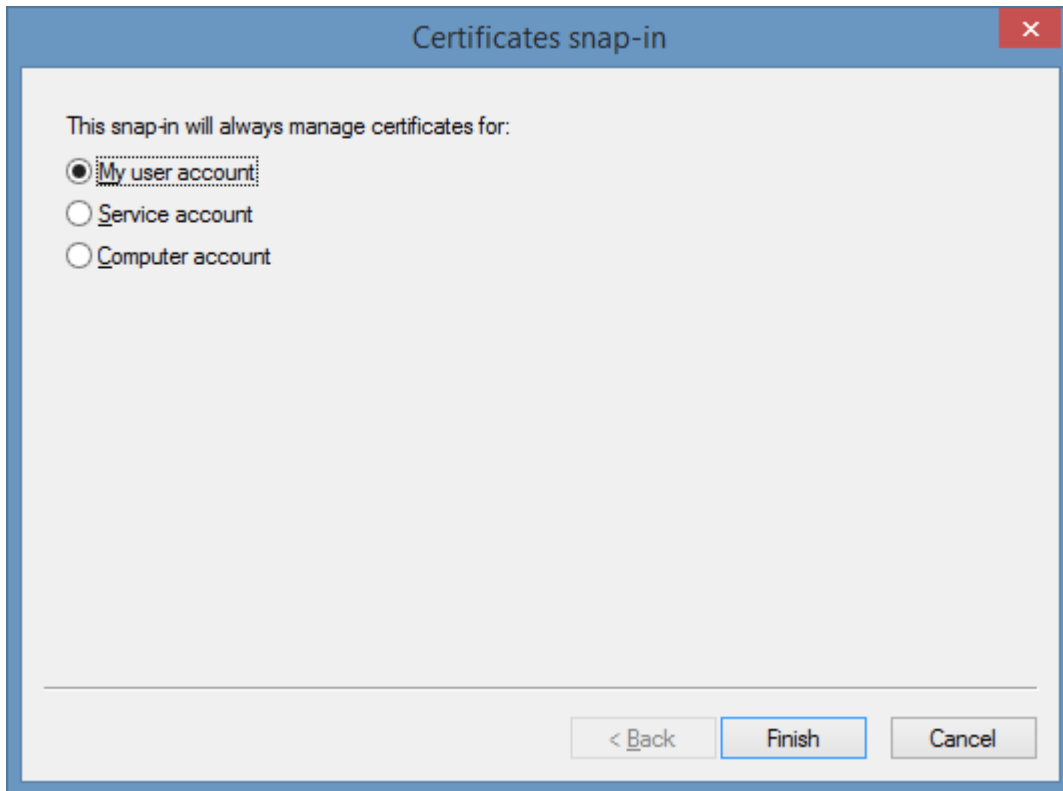
Accept

Require

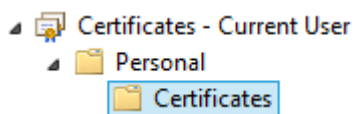
- Logon as the user account who will run the [XIA Automation administration tools](#).
- Start the Microsoft Management Console by running the mmc.exe command.
- Accept the UAC prompt if required.



- Add the **Certificates** snap-in and ensure that **My user account** is selected.



- Import the client certificate into the **Personal** folder for the service user account.



- When imported ensure that the client certificate is within the expiration date and that **Client Authentication** is one of the intended purposes

Issued To	Issued By	Expiration Date	Intended Purposes
ClientCert	MyPersonalCA	01/01/2018	Client Authentication

- Select the appropriate certificate on the [connection form](#).

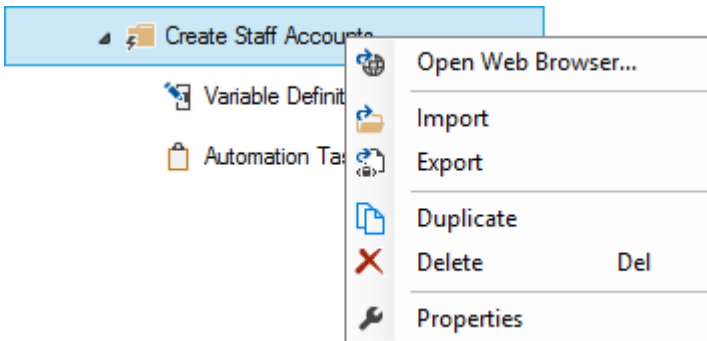
Automation Profiles

Automation profiles provide a logical unit of automation and include the [security permissions](#), [variable definitions](#), and [automation tasks](#) to be executed by the automation profile.

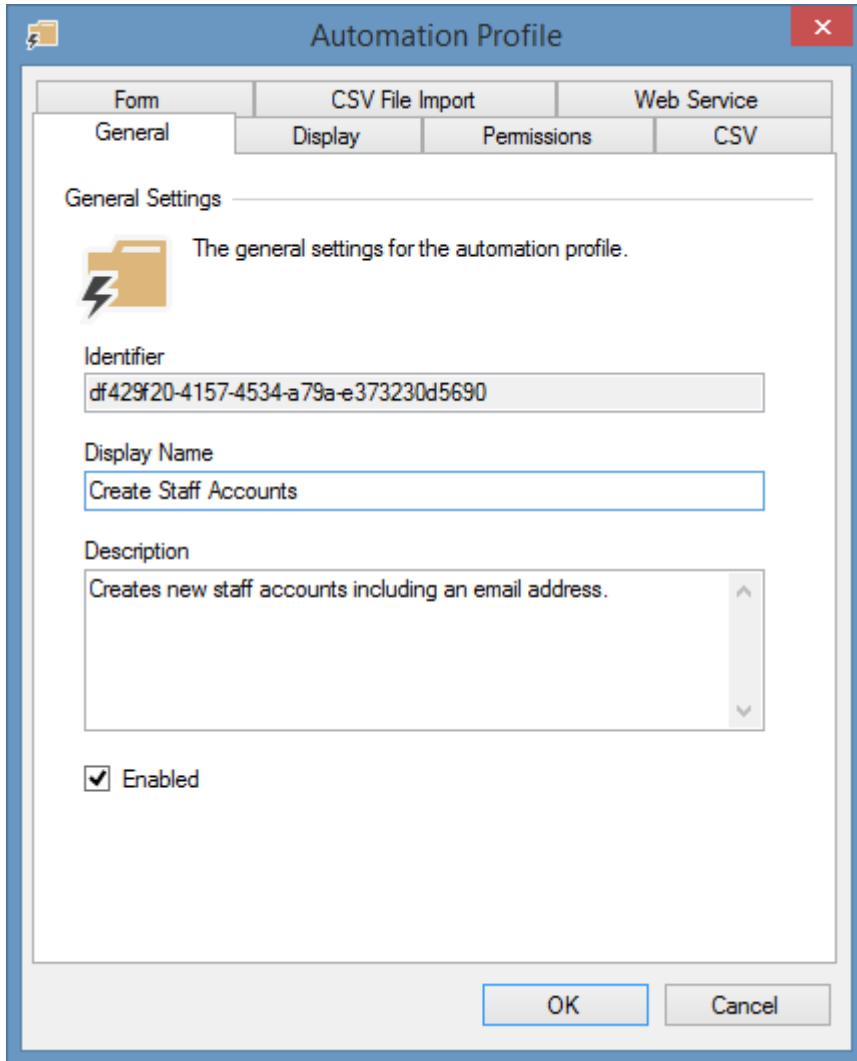
Right clicking the automation profiles node in the [treeview](#) displays the [automation profiles context menu](#).



Right clicking an individual automation profile in the [treeview](#) displays the [automation profile context menu](#).



Automation Profile



The screenshot shows a dialog box titled "Automation Profile" with a close button (X) in the top right corner. The dialog has four tabs: "Form", "CSV File Import", "Web Service", and "General". The "General" tab is selected and contains the following fields:

- General Settings**: A sub-section header with a folder icon and a lightning bolt icon, followed by the text "The general settings for the automation profile."
- Identifier**: A text box containing the GUID "df429f20-4157-4534-a79a-e373230d5690".
- Display Name**: A text box containing "Create Staff Accounts".
- Description**: A text area containing "Creates new staff accounts including an email address."
- Enabled**: A checked checkbox.

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identifier

The unique identifier of the [automation profile](#) in GUID format.

Display Name

The unique display name of the [automation profile](#).

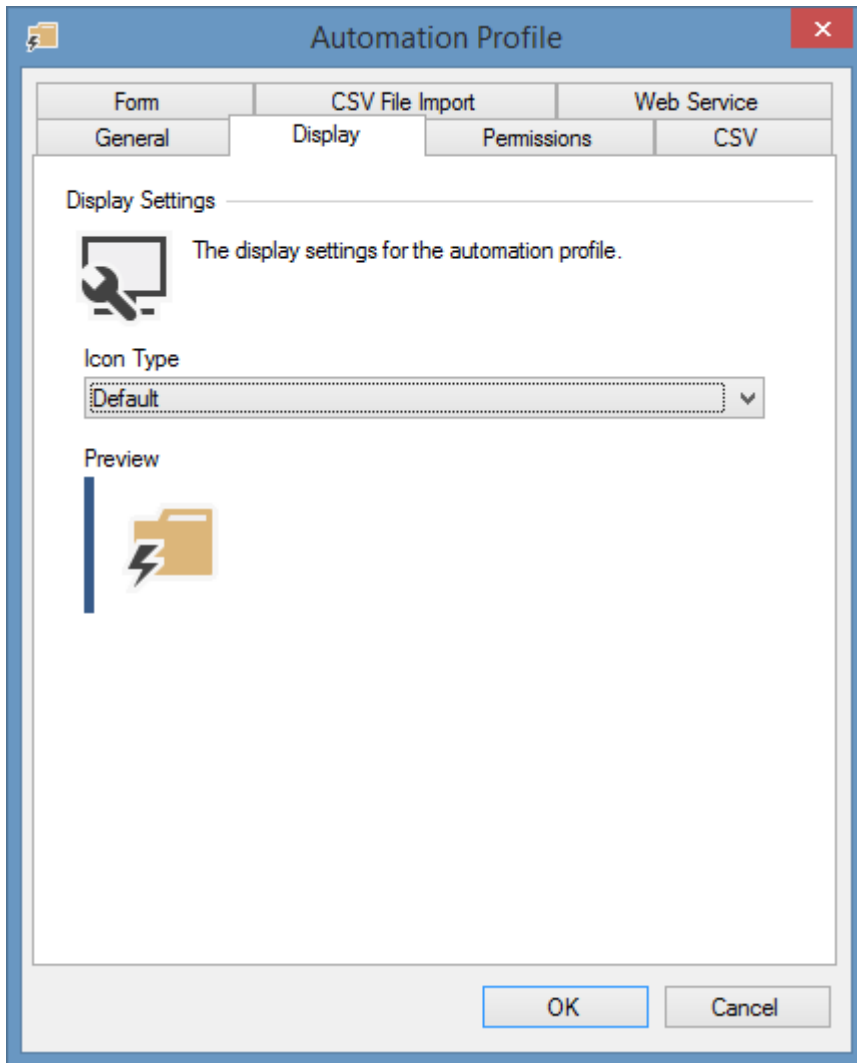
Description

The description of the [automation profile](#).

Enabled

Determines whether the [automation profile](#) is enabled.

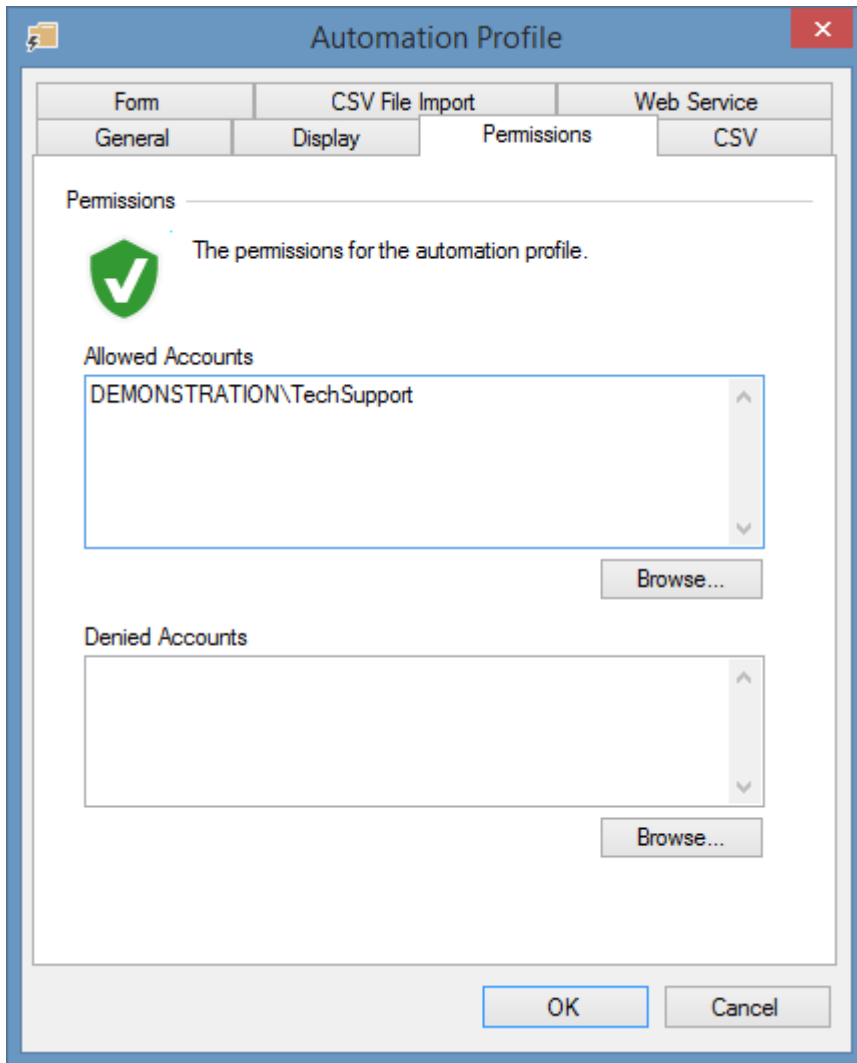
Display



Icon Type

The type of icon to display for the [automation profile](#) in the [server web interface](#).

Permissions



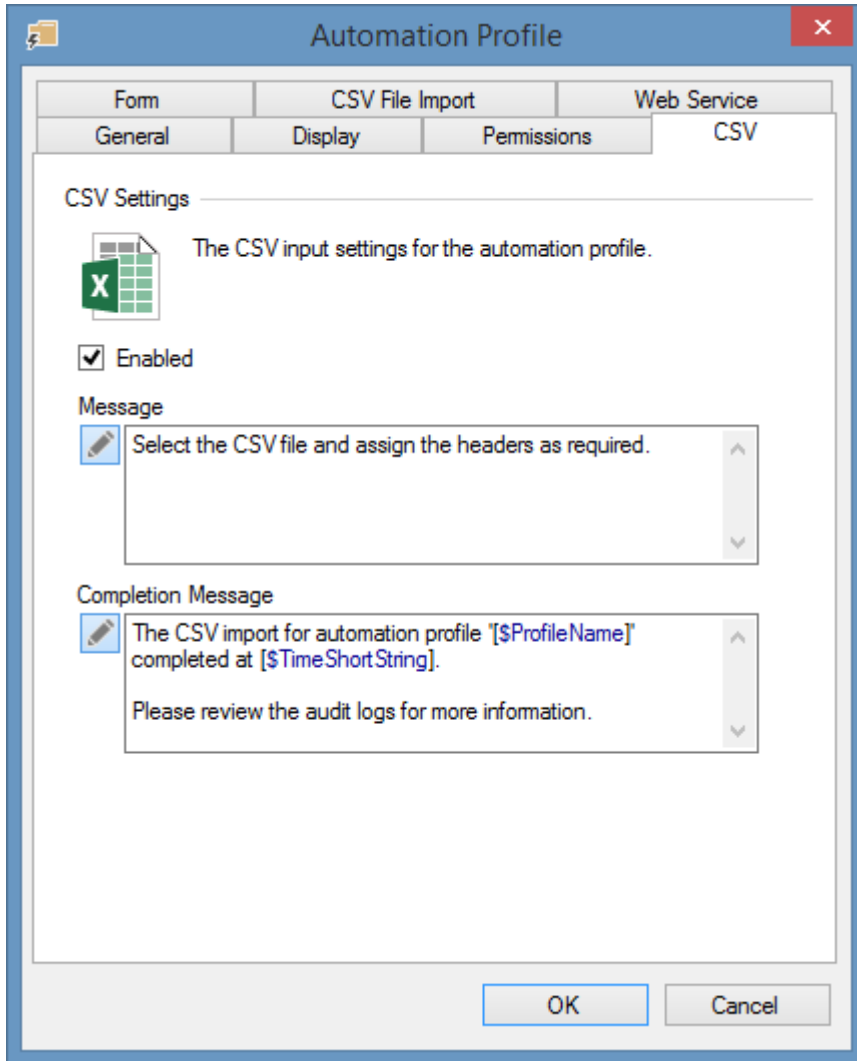
Allowed Accounts

The user or group accounts* that have permissions to execute the [automation profile](#). Clicking browse displays the [account browser](#).

Denied Accounts

The user or group accounts that are denied permissions to execute the [automation profile](#). Deny permissions override allow permissions. Clicking browse displays the [account browser](#).

* [System administrators](#) are automatically given permissions and cannot be denied permissions.



Enabled

Determines whether CSV input is enabled for the [automation profile](#).

Message

The message to display to user in the [XIA Automation Server](#) web interface when using CSV input.

Completion Message

The message to display to user in the [XIA Automation Server](#) web interface when the CSV input completes.

Form

The screenshot shows the 'Automation Profile' dialog box with the 'Form' tab selected. The 'Form Settings' section includes a description, an 'Enabled' checkbox (checked), and three message text boxes: 'Message', 'Success Message', and 'Failure Message'. The 'Message' text box contains: 'Complete the form and click next to review the settings and execute the automation profile.' The 'Success Message' text box contains: 'The automation profile '[ProfileName]' completed successfully at [TimeShortString].' The 'Failure Message' text box contains: 'The automation profile '[ProfileName]' failed. Please review the audit logs for more information.' At the bottom are 'OK' and 'Cancel' buttons.

Enabled

Determines whether form input is enabled for the [automation profile](#).

Message

The message to display to user in the [XIA Automation Server](#) web interface when using form input.

Success Message

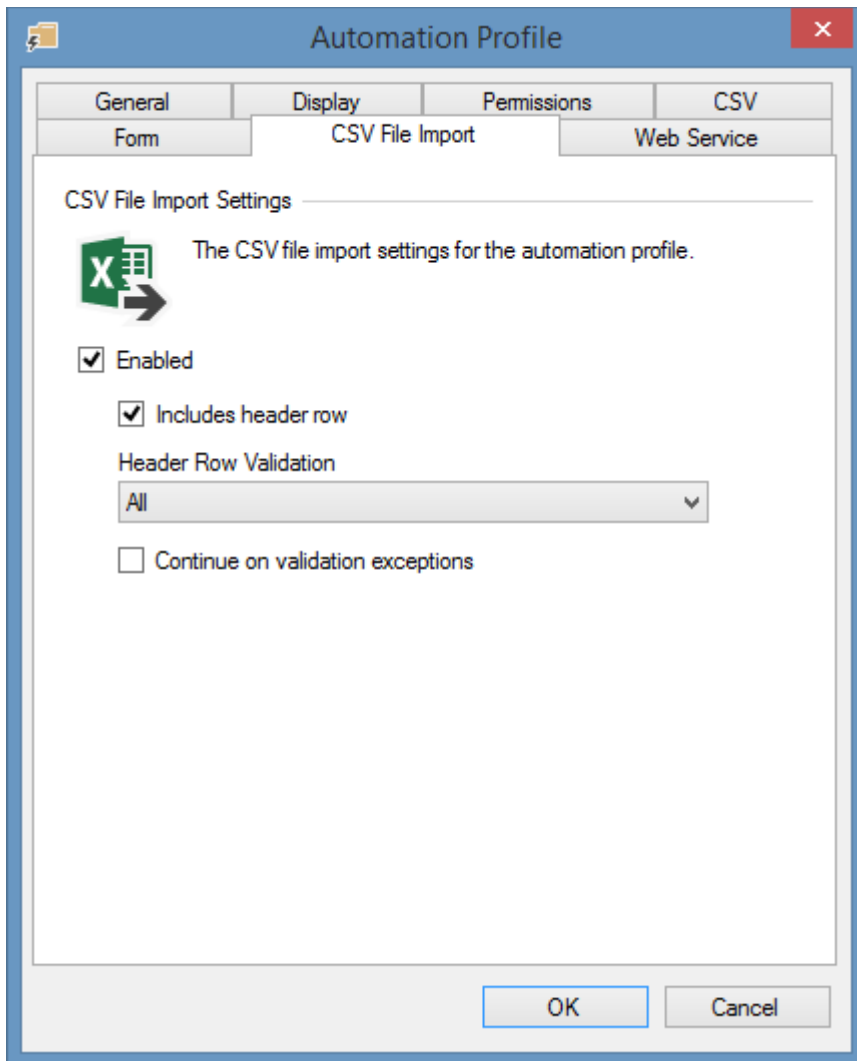
The message to display to user in the [XIA Automation Server](#) web interface when using form input and the [automation profile](#) completes successfully.

Failure Message

The message to display to user in the [XIA Automation Server](#) web interface when using form input and the [automation profile](#) completes with errors.

CSV File Import

NOTE: For this tab to be enabled [file import](#) must be enabled in the [server configuration settings](#).



Enabled

Determines whether CSV file import is enabled for the [automation profile](#).

Includes header row

Determines whether the import files include a header row.

Header Row Validation

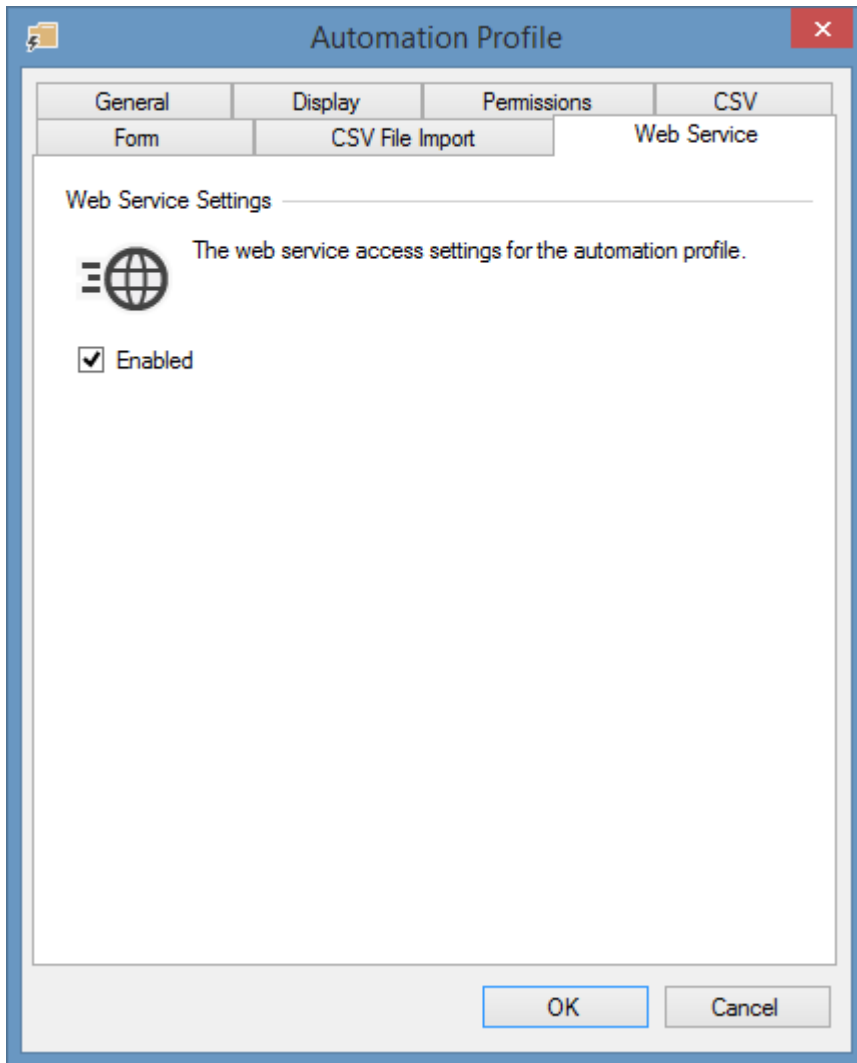
The header row validation settings.

- None
Does not ensure that any user visible [variables](#) are defined in the header row.
- All
Ensures that all user visible [variables](#) are defined in the header row.
- Required
Ensures that all required user visible [variables](#) are defined in the header row.

Continue on validation exceptions

Determines whether the system should continue processing rows in the CSV file when any row contains validation exceptions.

Web Service



Enabled

Determines whether [web services](#) access is enabled for the [automation profile](#).

Automation Profiles Context Menu

Right clicking the automation profiles node in the [treeview](#) displays the automation profiles context menu.

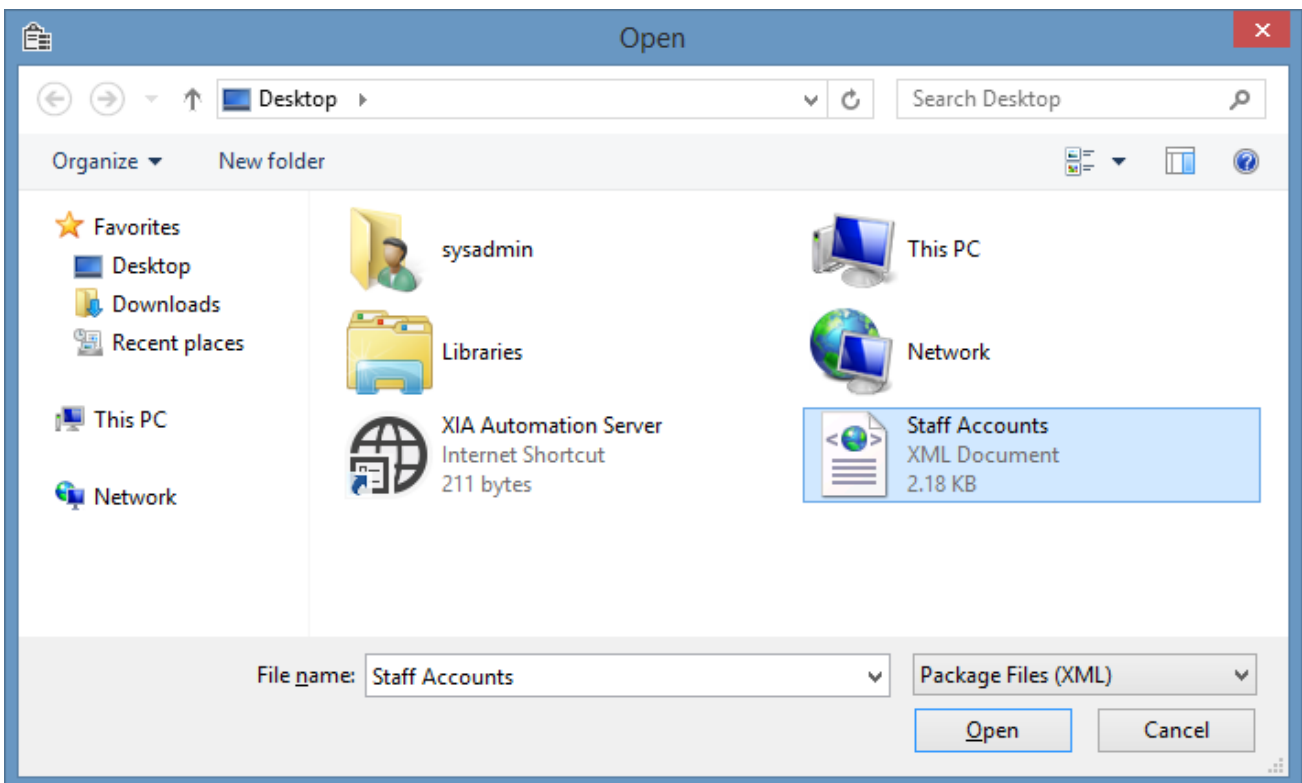


New Automation Profile

Displays the [automation profile dialog](#).

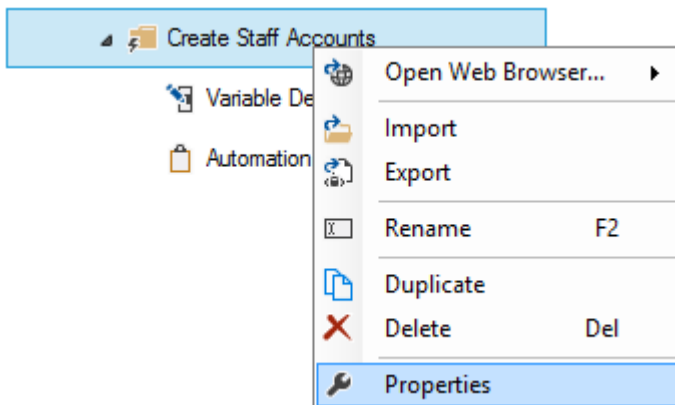
Import

Displays the file open dialog where an [automation profile XML](#) file can be selected for import.



Automation Profile Context Menu

Right clicking an individual [automation profile](#) in the [treeview](#) displays the automation profile context menu.

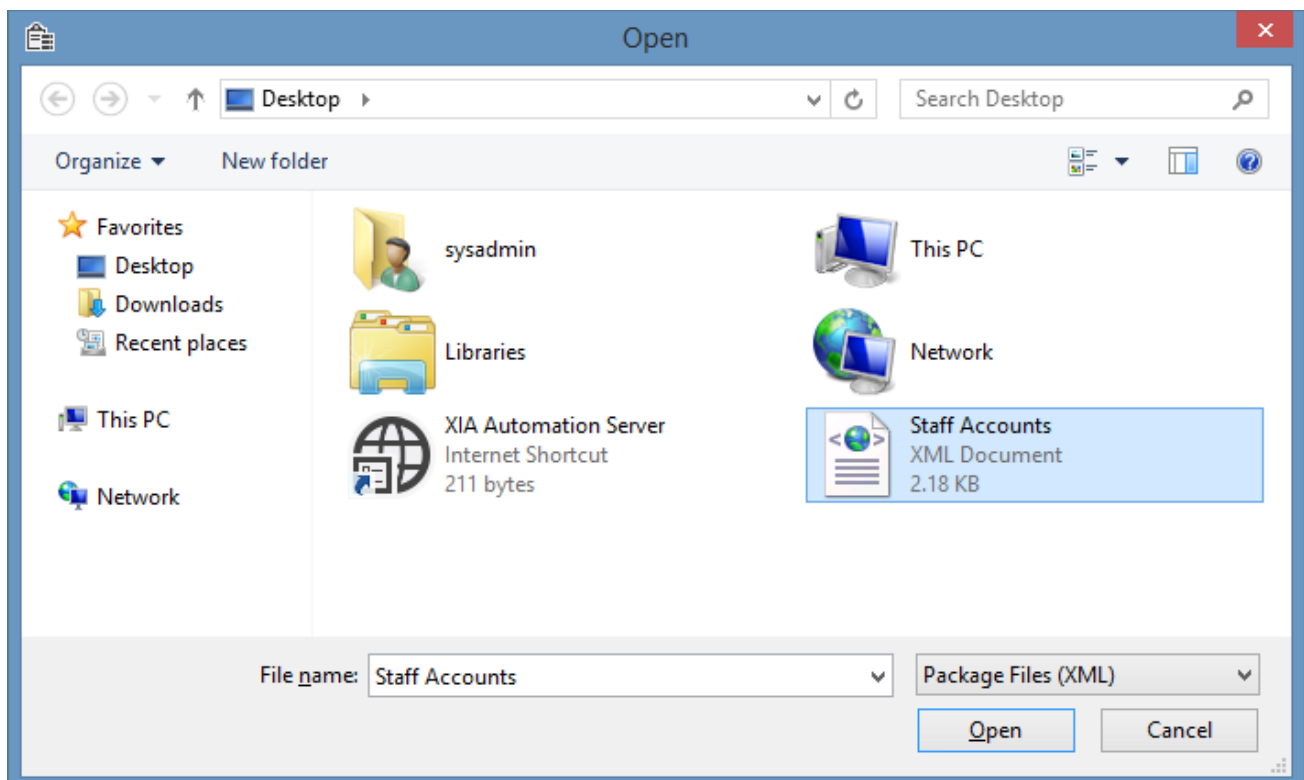


Open Web Browser

Opens a web browser displaying the currently selected [automation profile](#) in the [XIA Automation Server](#) web interface.

Import

Displays the file open dialog where an [automation profile](#) XML file can be selected for import.



Export

Displays the file save dialog to select a file name to which the currently selected [automation profile](#) should be exported as XML.

Rename

Allows the currently selected [automation profile](#) to be renamed.

Duplicate

Creates a duplicate of the currently selected [automation profile](#).

Delete

Deletes the currently selected [automation profile](#).

Properties

Displays the [properties](#) of the currently selected [automation profile](#).

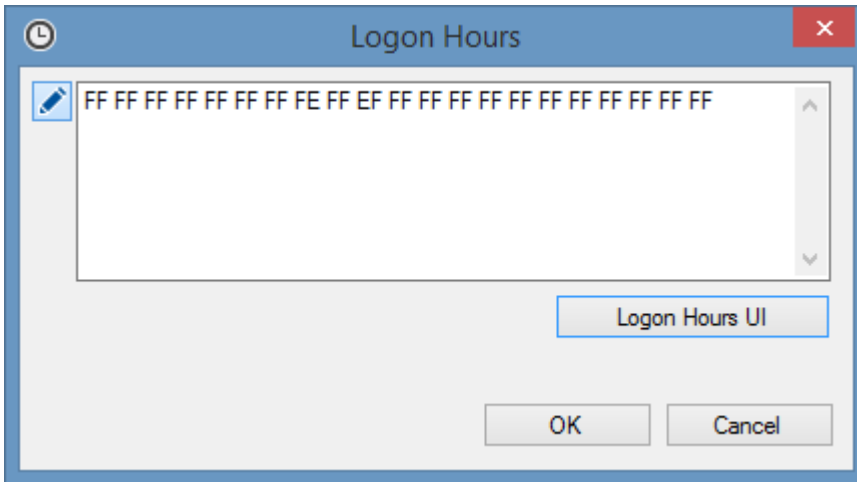
Automation Properties

Automation properties allow [system administrators](#) to assign values to [automation tasks](#).

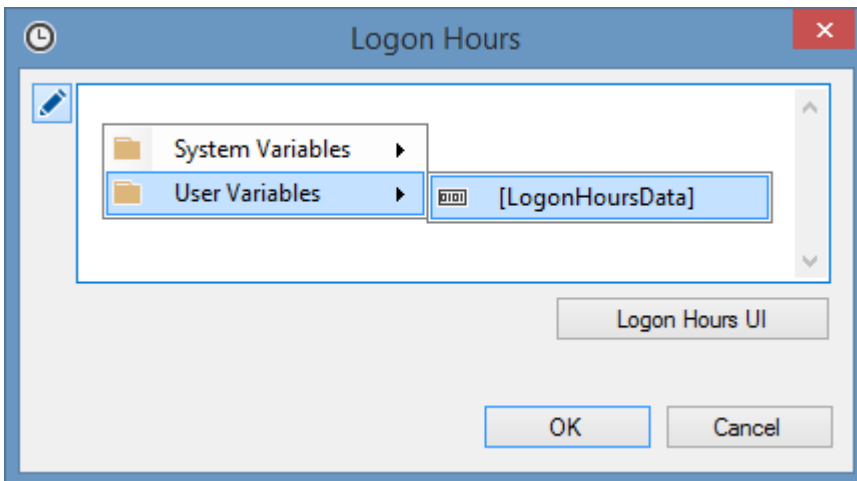
The values can be set by the [system administrator](#), provided by the user using [variable definitions](#), or configured as not set.

Binary Automation Property

The binary automation property allow the input of binary data in hex string format.

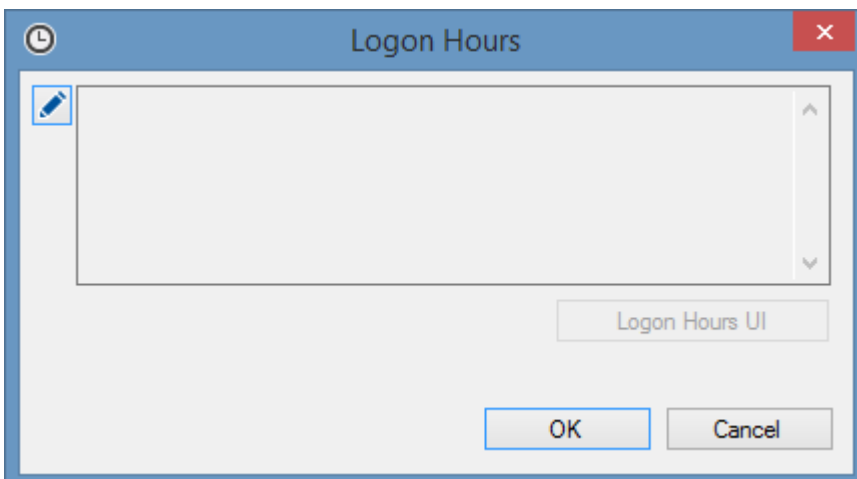


Binary variables may also be assigned by right clicking the user interface and selecting a binary variable.



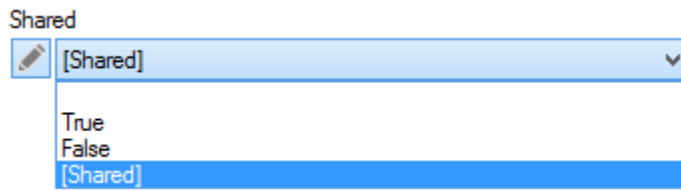
Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.



Boolean Automation Property

The boolean [automation property](#) allows the setting of a [System.Boolean](#) true/false value either directly, or by assigning an [boolean variable definition](#).



Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

DateTime Automation Property

The datetime [automation property](#) allows the setting of a `System.DateTime` value either directly, or by assigning an [datetime variable definition](#).

Account Expires

Specified Value

24 August 2021

Specified Value

Allows the system administrator to set the value. Depending on the [automation property](#), this may include the date, date and time, or time components.

\$Now

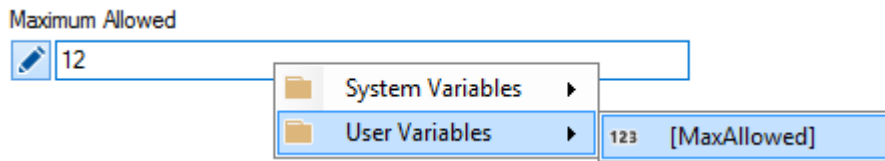
Sets the value to date and time when the [automation profile](#) is executed.

Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

Integer Automation Property

The integer automation property allows the setting of a `System.Int32` value either directly or by assigning an integer variable definition.

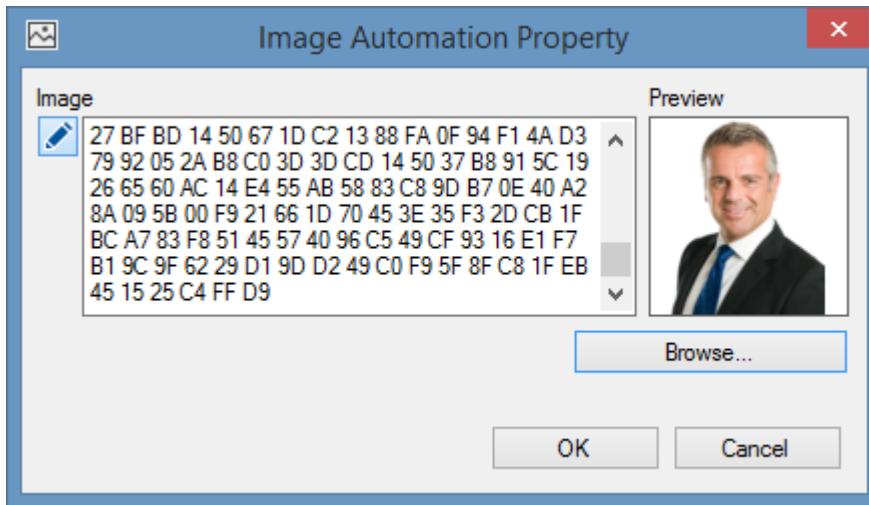


Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

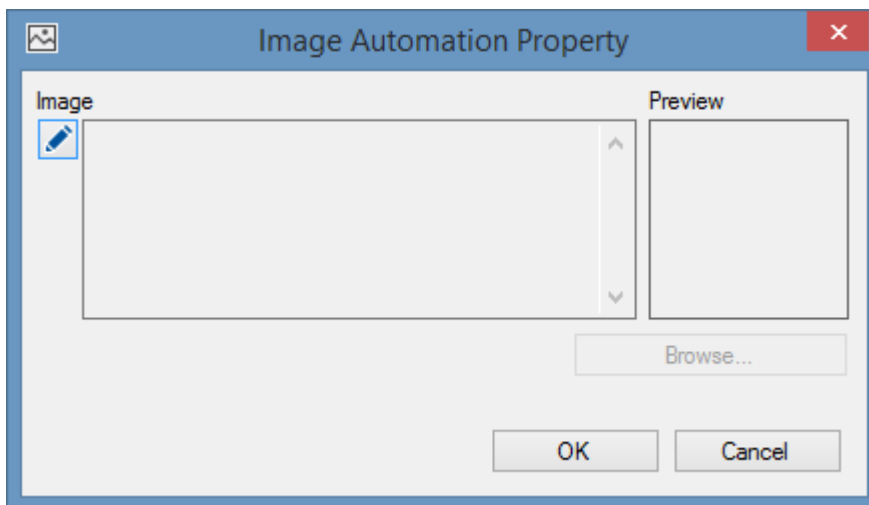
Image Automation Property

The image automation property is a special type of binary automation property that allows the setting of a binary value that represents an image.



Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current value. If the set button is greyed out then the property is mandatory and must be set.



Image

The binary data that represents the image or a [binary variable](#).

Preview

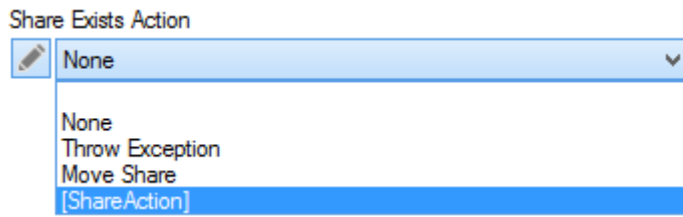
The preview of the image.

Browse

Displays the open file dialog to select an image file with a .jpg, .jpeg, or .png extension.

Integer Enum Automation Property

The integer enum `automation property` allows the setting of a `System.Enum` value either directly using the predefined values, or by assigning an `integer variable definition`.



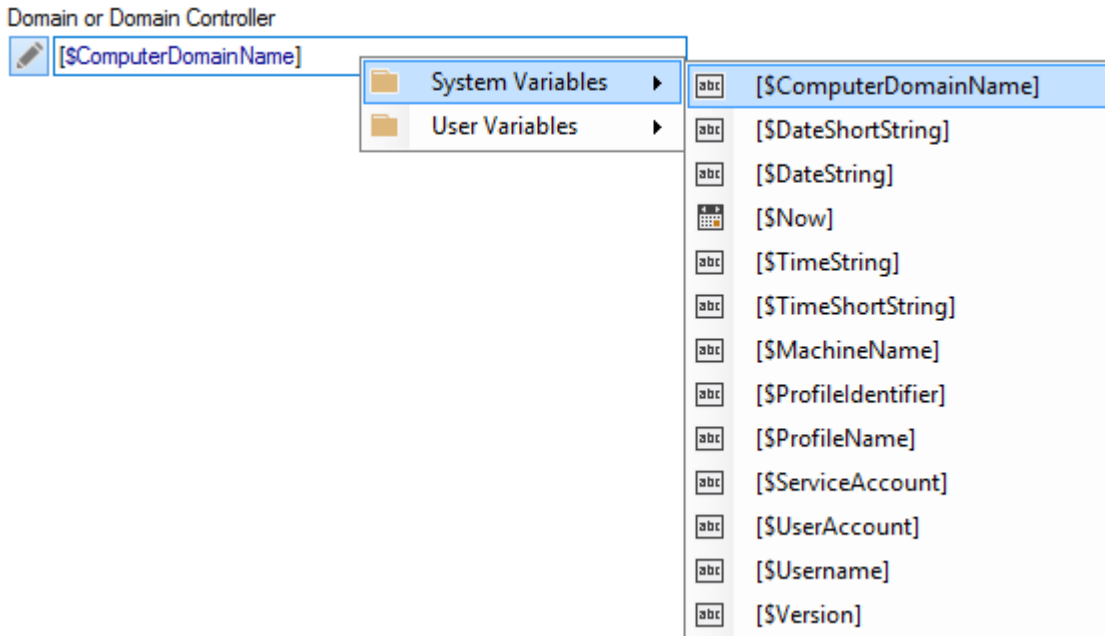
Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

String Automation Property

The string automation property allows the input of a `System.String` value either directly or by assigning [variable definitions](#).

If a [variable definition](#) is assigned that does not provide a string value directly then the display value of that [variable](#) is used.



Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

Special Characters

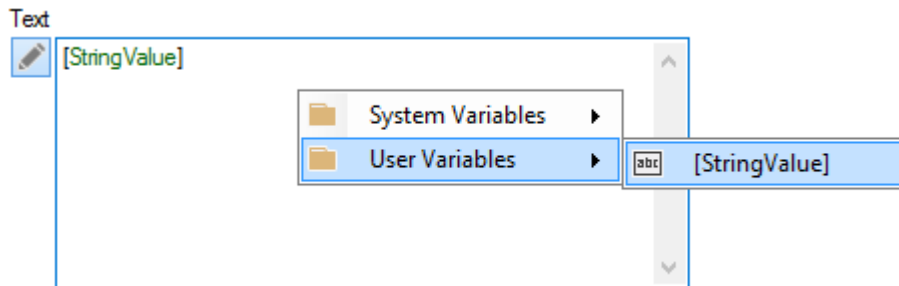
The square brackets characters [and] are used to identify [variable definitions](#).

To include these characters in the property use the HTML entity numbers `[` for the opening bracket and `]` for the closing bracket.

Multiline String Automation Property

The multiline string [automation property](#) allows the input of a [System.String](#) value that can span multiple lines either directly or by assigning [variable definitions](#).

If a [variable definition](#) is assigned that does not provide a string value directly then the display value of that [variable](#) is used.



Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

Special Characters

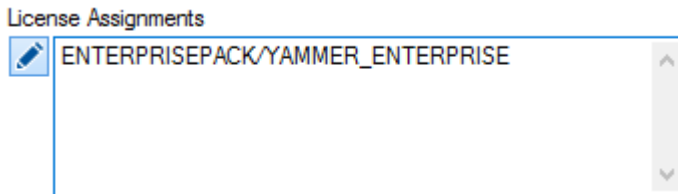
The square brackets characters [and] are used to identify [variable definitions](#).

To include these characters in the property use the HTML entity numbers `[` for the opening bracket and `]` for the closing bracket.

Multivalue String Automation Property

The multivalue [automation property](#) properties allow the input of multiple [System.String](#) values either directly or by assigning [variable definitions](#).

If a [variable definition](#) is assigned that does not provide a string value directly then the display value of that [variable](#) is used.

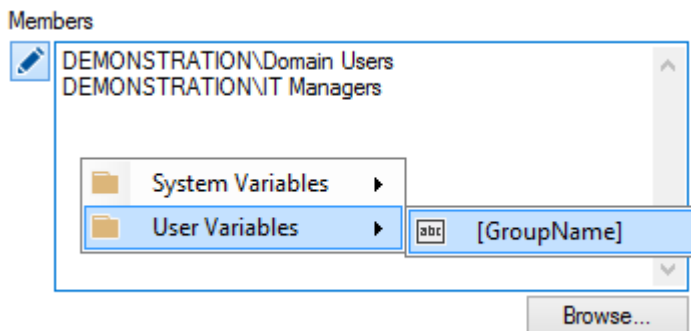


Set Button (Pencil Icon)

Determines whether the value of the property should be set, or retain the current or default value. If the set button is greyed out then the property is mandatory and must be set.

Accounts

If the automation property is to enter accounts the account names are automatically resolved by the [XIA Automation Server](#).

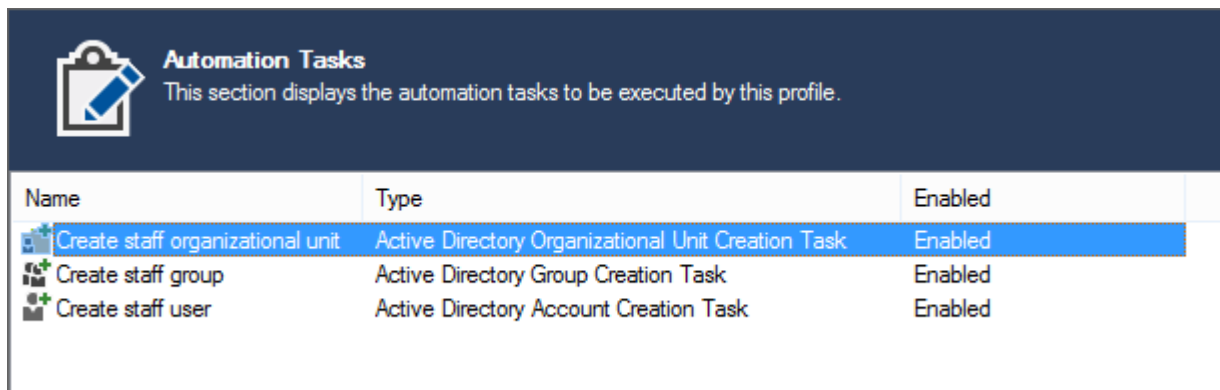





Browse

Clicking the browse button displays the [account browser](#) dialog.

Automation Tasks

Automation tasks perform the work of each [automation profile](#) and are executed sequentially.



Name	Type	Enabled
 Create staff organizational unit	Active Directory Organizational Unit Creation Task	Enabled
 Create staff group	Active Directory Group Creation Task	Enabled
 Create staff user	Active Directory Account Creation Task	Enabled

Tasks are grouped into the following task types

Active Directory

Perform actions relating to [Microsoft Active Directory on-premises](#).

Development

Allow custom actions to be written using [Microsoft C#](#).

Filesystem

Perform actions relating to the Windows filesystem.

Google

Perform actions relating to [Google](#) accounts.

Microsoft Exchange

Perform actions relating to [Microsoft Exchange Online](#) and [Microsoft Exchange On-Premises](#) management.

Office 365

Perform actions relating to [Microsoft Office 365](#) account management.

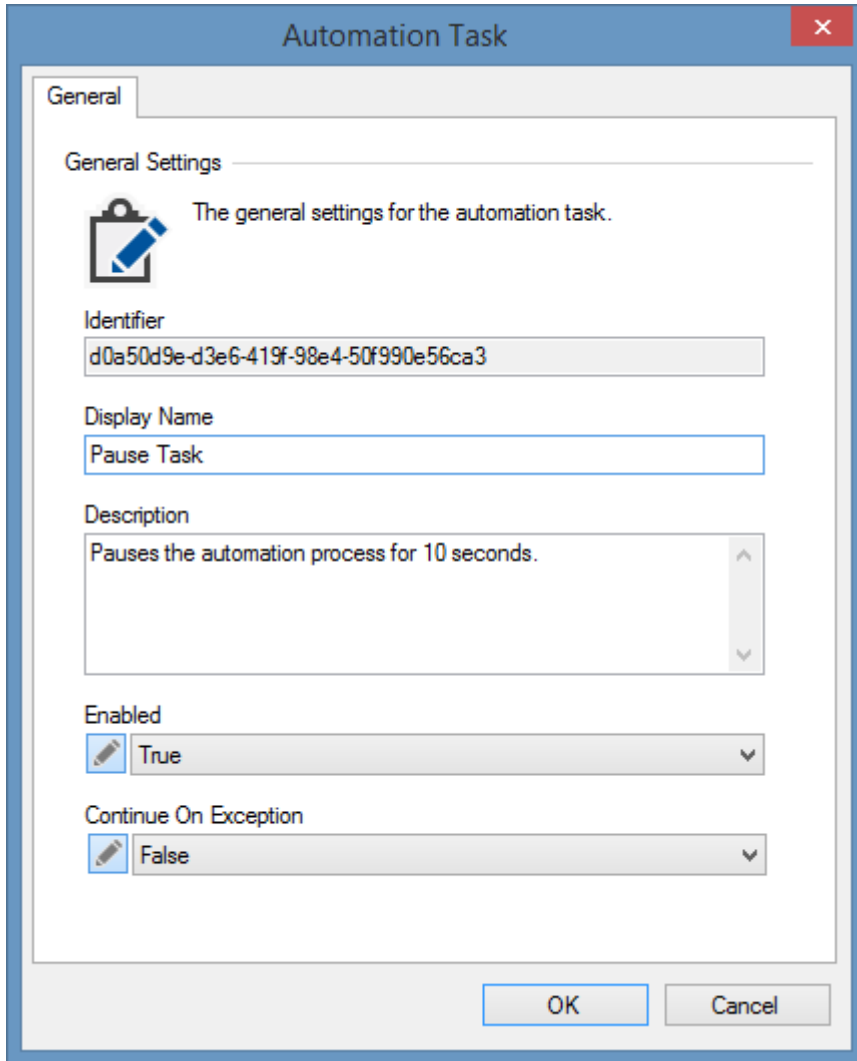
Utilities

Perform utility style support functions.

Variables

Perform functions relating to [variables](#).

General Settings



Identifier

The unique identifier of the [automation task](#) in [GUID](#) format.

Display Name

The unique display name of the [automation task](#).

Description

The description of the [automation task](#).

Enabled

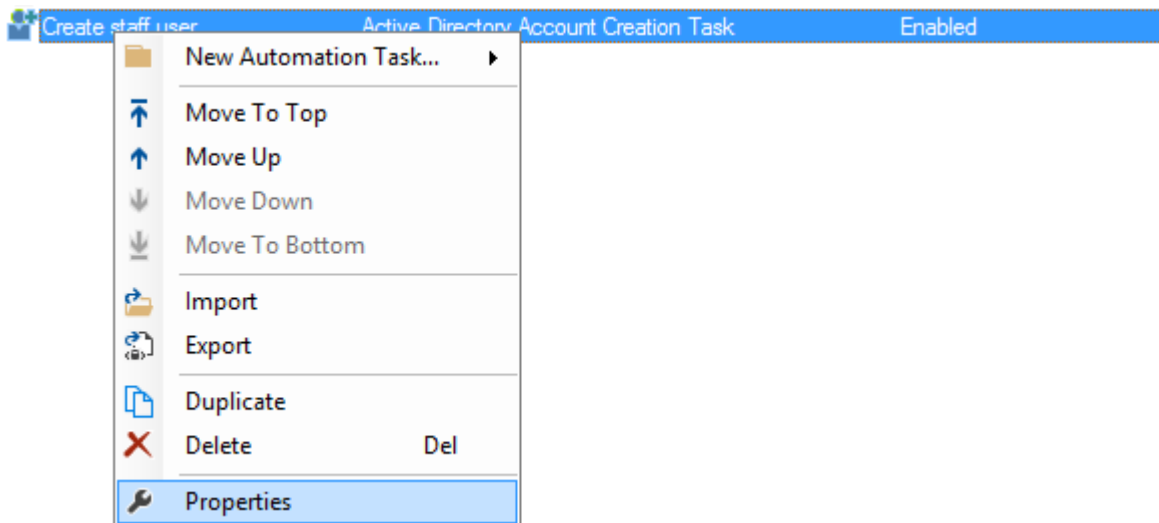
A [boolean variable](#) that determines whether the [automation task](#) is enabled.

Continue On Exception

A [boolean variable](#) that determines whether the [automation profile](#) should continue executing if the [automation task](#) fails with an exception.

Automation Tasks Context Menu

Right clicking the [automation tasks](#) listview displays the automation tasks context menu.



New Automation Task

Creates a new automation task of the selected [task type](#).

Move To Top

Moves the selected automation task to the top of the list.

Move Up

Moves the selected automation task up the list.

Move Down

Moves the selected automation task down the list.

Move To Bottom

Moves the selected automation task to the bottom of the list.

Import

Displays the open file dialog to import an [automation task](#) from an XML file.

Export

Exports the currently selected [automation task](#) to XML.

Duplicate

Creates a duplicate of the currently selected [automation tasks](#).

Delete

Deletes the currently selected [automation tasks](#).

Properties

Displays the [properties](#) of the selected [automation task](#).

Active Directory

The Active Directory [automation tasks](#) perform actions relating to [Microsoft Active Directory on-premises](#).

Active Directory Account Creation Task

The Active Directory account creation [task](#) is capable of creating a new [Active Directory account](#).

To update an existing account see the [Active Directory account update task](#).

Account

The screenshot shows a dialog box titled "Active Directory Account Creation Automation Task". It has a tabbed interface with the following tabs: Address, Organization, Telephones, Profile, Remote Desktop Services Profile, Remote Control, Member Of, Custom Attributes, Directory, General, Object, Account (selected), Account Options, Account General, and Contact. The "Account" tab is active, showing a section titled "Account" with a description: "The Active Directory account creation task account settings." Below this are four input fields: "SAM Account Name" with a value of "[SamAccountName]", "User Principal Name" with a value of "[UserPrincipalName]", "Password" with a value of "[Password]", and "Account Expires" which is a dropdown menu. There is also a "Logon Hours..." button and "OK" and "Cancel" buttons at the bottom.

SAM Account Name

The [SAM account name](#) of the account.

User Principal Name

The [user principal name](#) of the account.

Password

The initial password to set for the account.

Account Expires

Determines whether the account should expire.

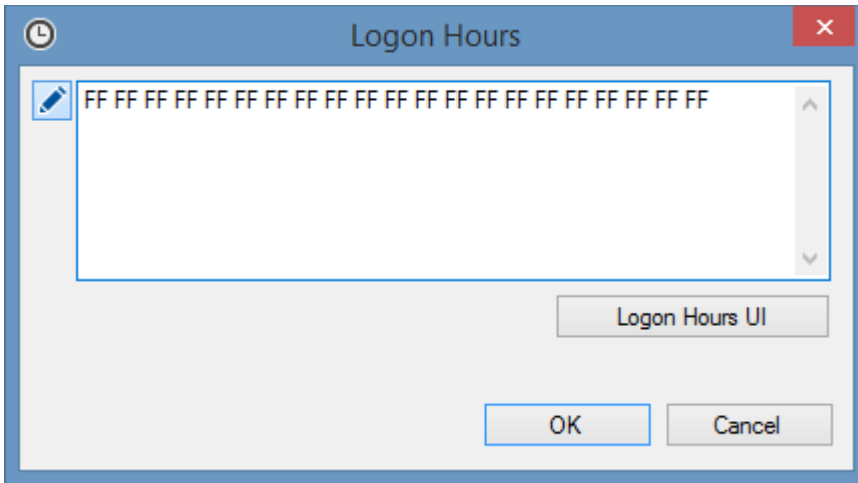
Logon Hours

The [logon hours](#) for the account.

NOTE: To automatically generate a unique [SAM account name](#) and [user principal name](#) for the account see the [Active Directory account name generator task](#).

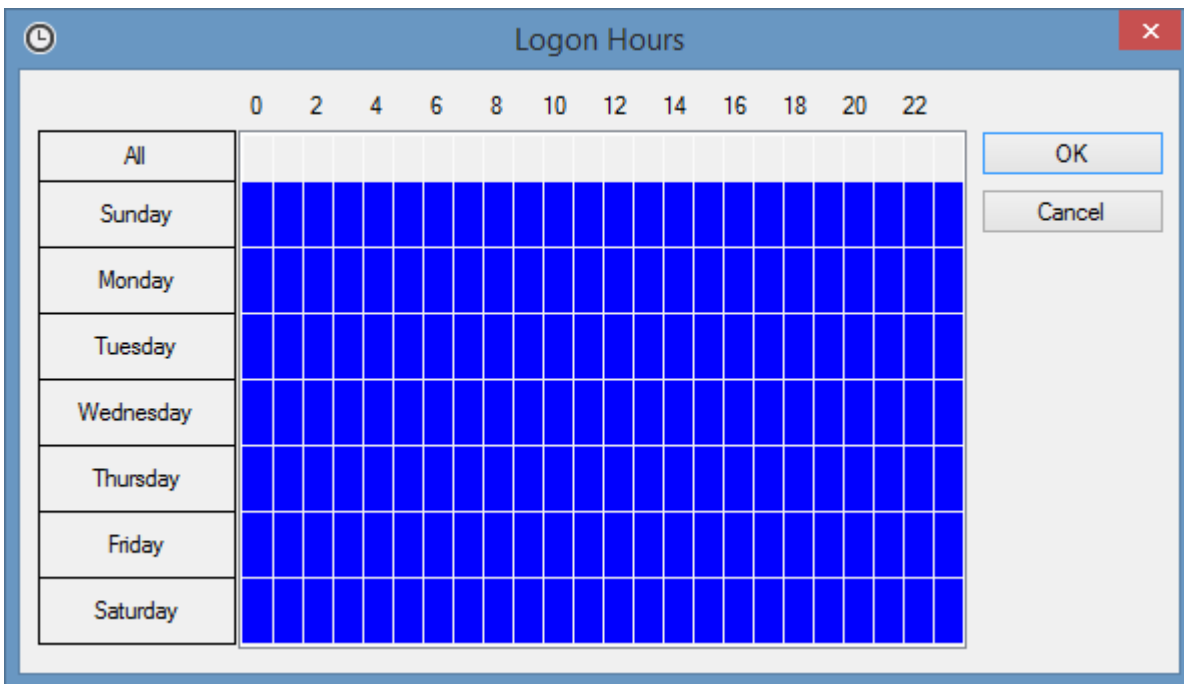
Logon Hours

The logon hours for the account.

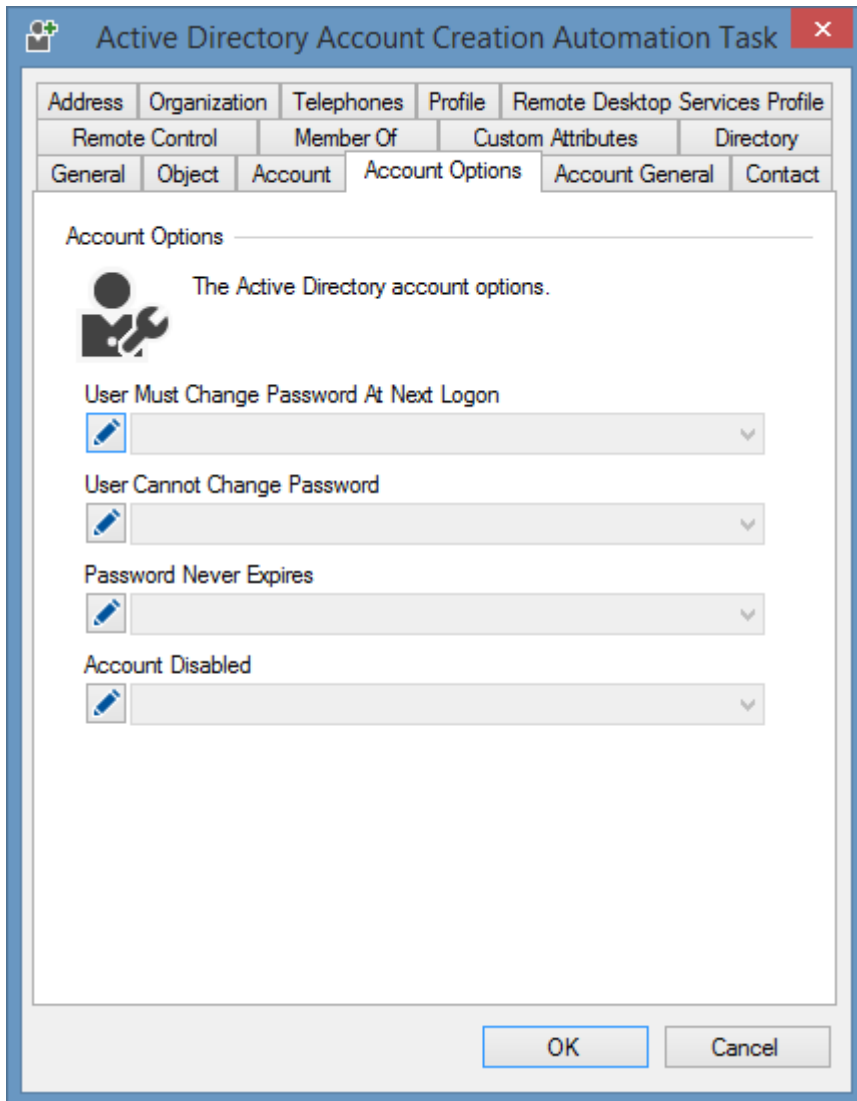


Logon Hours UI

Displays the logon hours user interface. Each block represents an hour with blue blocks permitting logon, and white blocks denying logon.



Account Options



User Must Change Password At Next Logon

Determines whether the user must change their password at next logon.

User Cannot Change Password

Determines whether the user is prevented from changing their password.

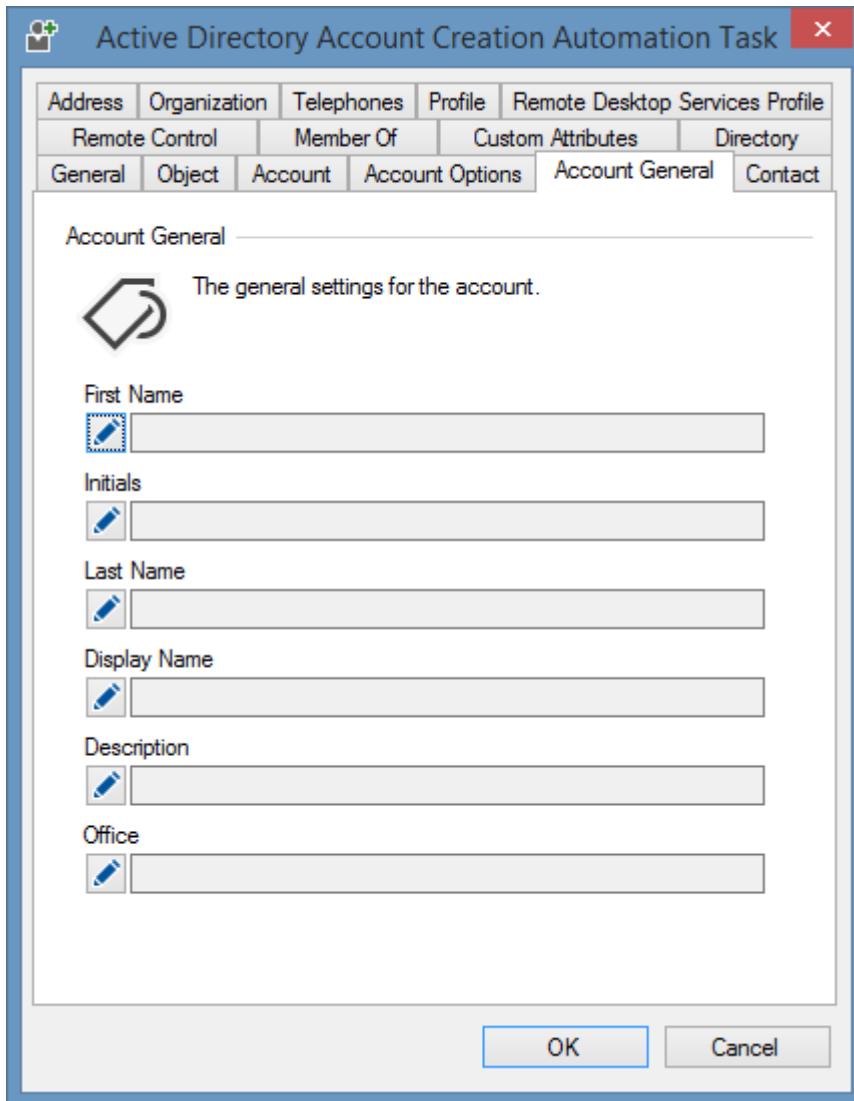
Password Next Expires

Determines whether the password will never expire.

Account Disabled

Determines whether the account will be disabled when created.

Account General



The screenshot shows a window titled "Active Directory Account Creation Automation Task" with a close button (X) in the top right corner. The window contains a tabbed interface with the following tabs: Address, Organization, Telephones, Profile, Remote Desktop Services Profile, Remote Control, Member Of, Custom Attributes, Directory, General, Object, Account, Account Options, Account General (selected), and Contact. The "Account General" tab is active and displays the following fields:

- Account General** (with a description icon and text: "The general settings for the account.")
- First Name** (text input field with a blue edit icon)
- Initials** (text input field with a blue edit icon)
- Last Name** (text input field with a blue edit icon)
- Display Name** (text input field with a blue edit icon)
- Description** (text input field with a blue edit icon)
- Office** (text input field with a blue edit icon)

At the bottom of the window are "OK" and "Cancel" buttons.

First Name

The first name of the user.

Initials

The initials of the user.

Last Name

The last name of the user.

Display Name

The [display name](#) of the user.

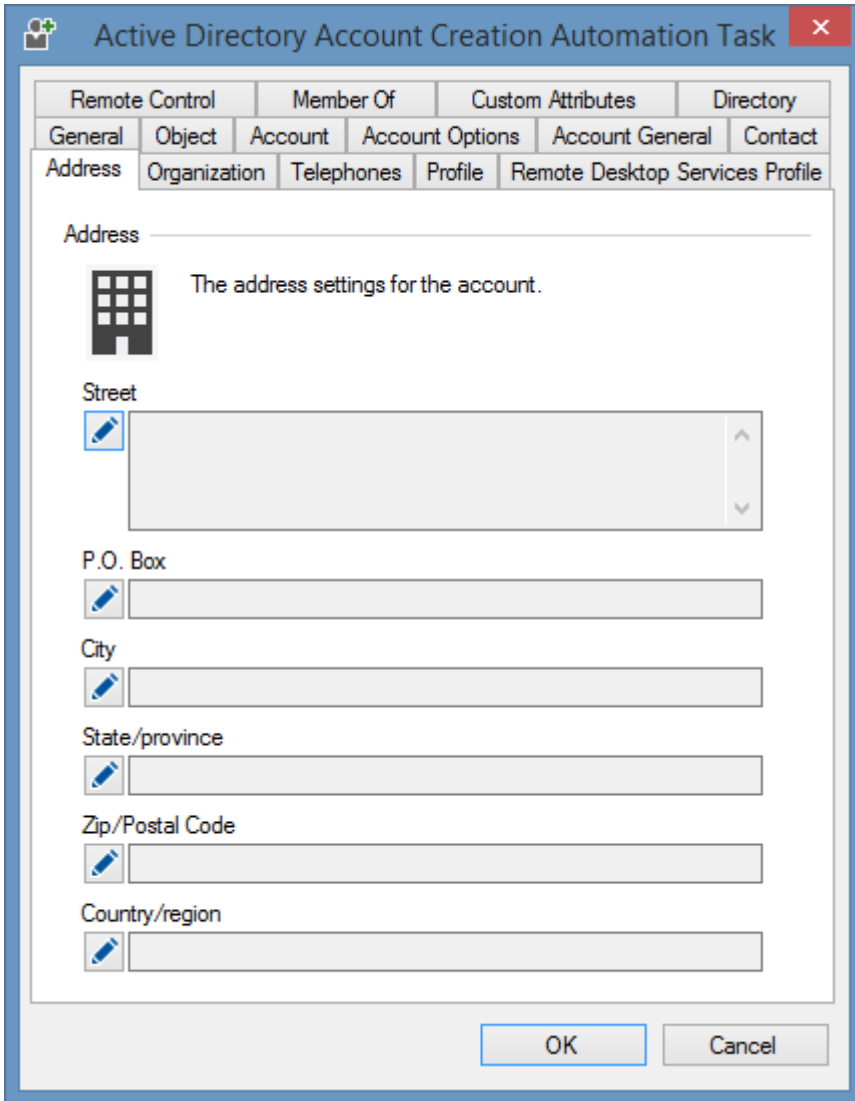
Description

The description of the user.

Office

The office of the user.

Address



Street

The street address for the user.

P.O. Box

The PO box address for the user.

City

The city for the user.

State/province

The state or province for the user.

Zip/Postal Code

The Zip or postal code for the user.

Country/region

The country or region ([ISO 3166-1-alpha-2](#)) code assigned to the user account - for example "US".

Contact

Active Directory Account Creation Automation Task

Address Organization Telephones Profile Remote Desktop Services Profile
Remote Control Member Of Custom Attributes Directory
General Object Account Account Options Account General Contact

Contact

The contact settings for the account.

Telephone Number

Other Telephone Numbers

Email Address

Web Page

OK Cancel

Telephone Number

The telephone number for the user.

Other Telephone Numbers

Other telephone numbers for the user.

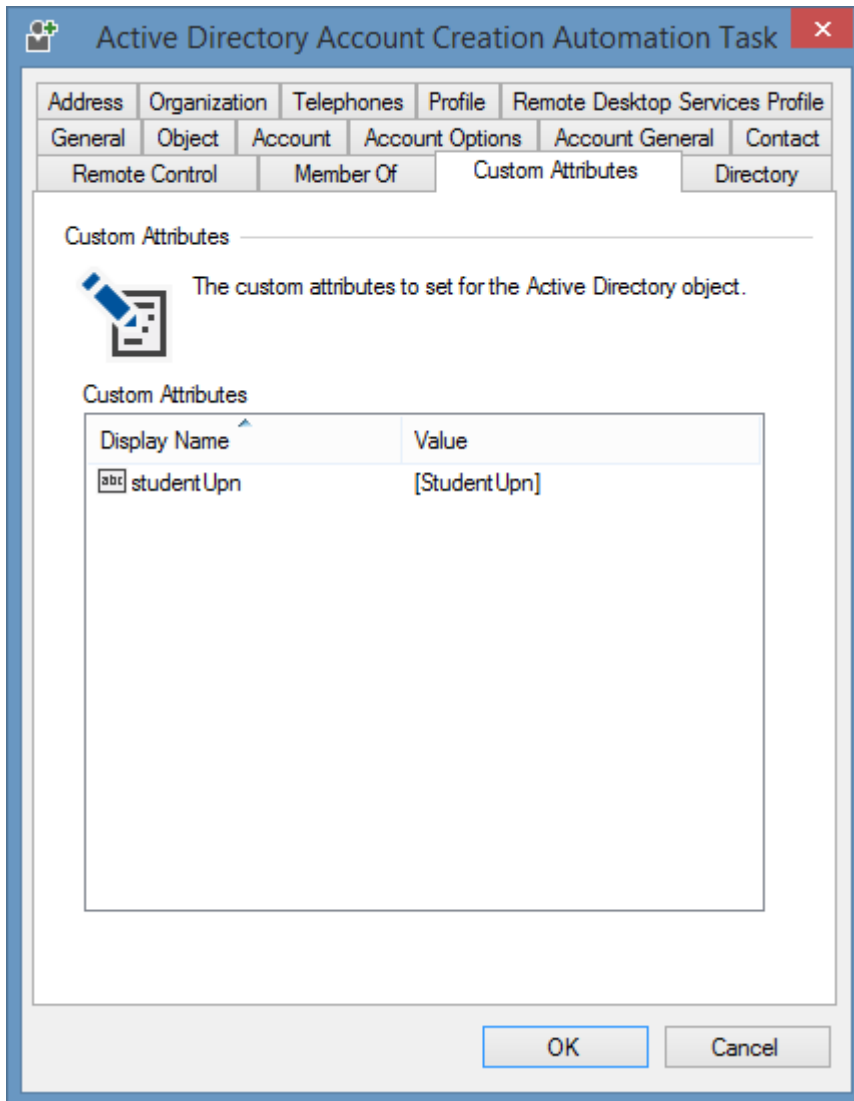
Email Address

The email address for the user.

Web Page

The web page for the user.

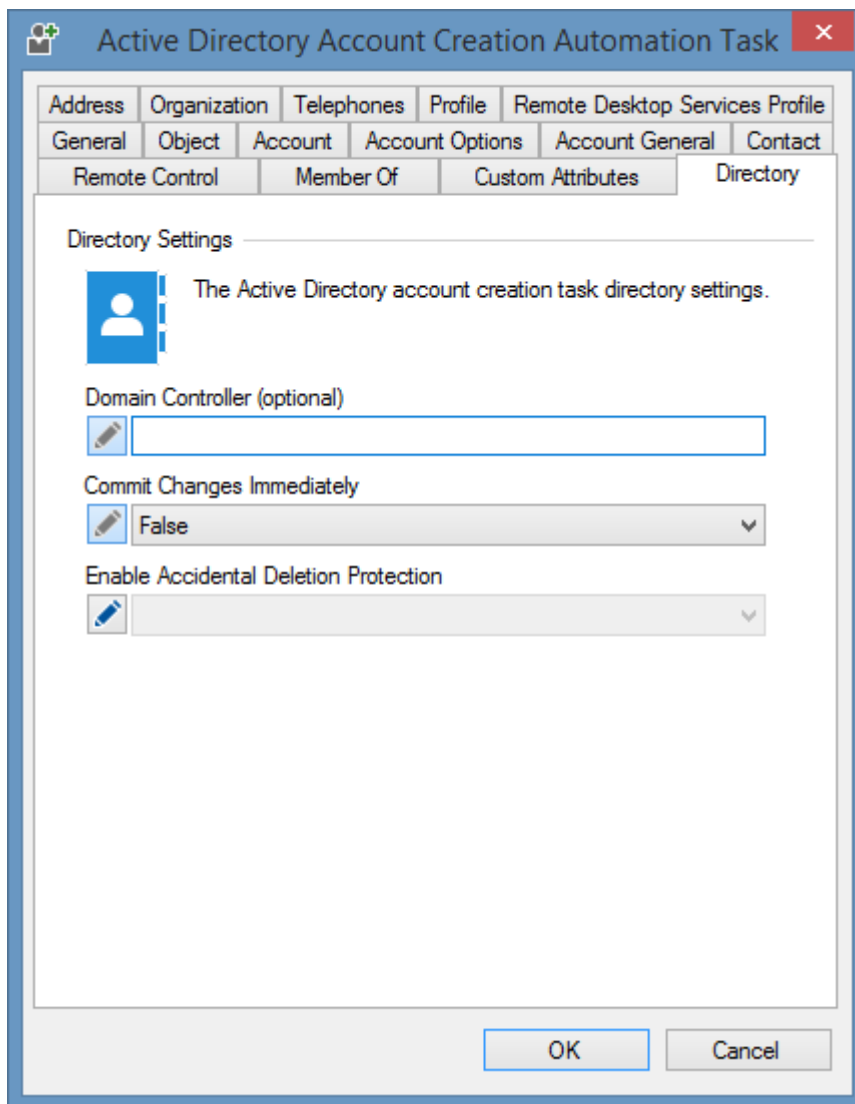
Custom Attributes



Custom Attributes

The [custom attributes](#) to set for the account.

Directory



Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

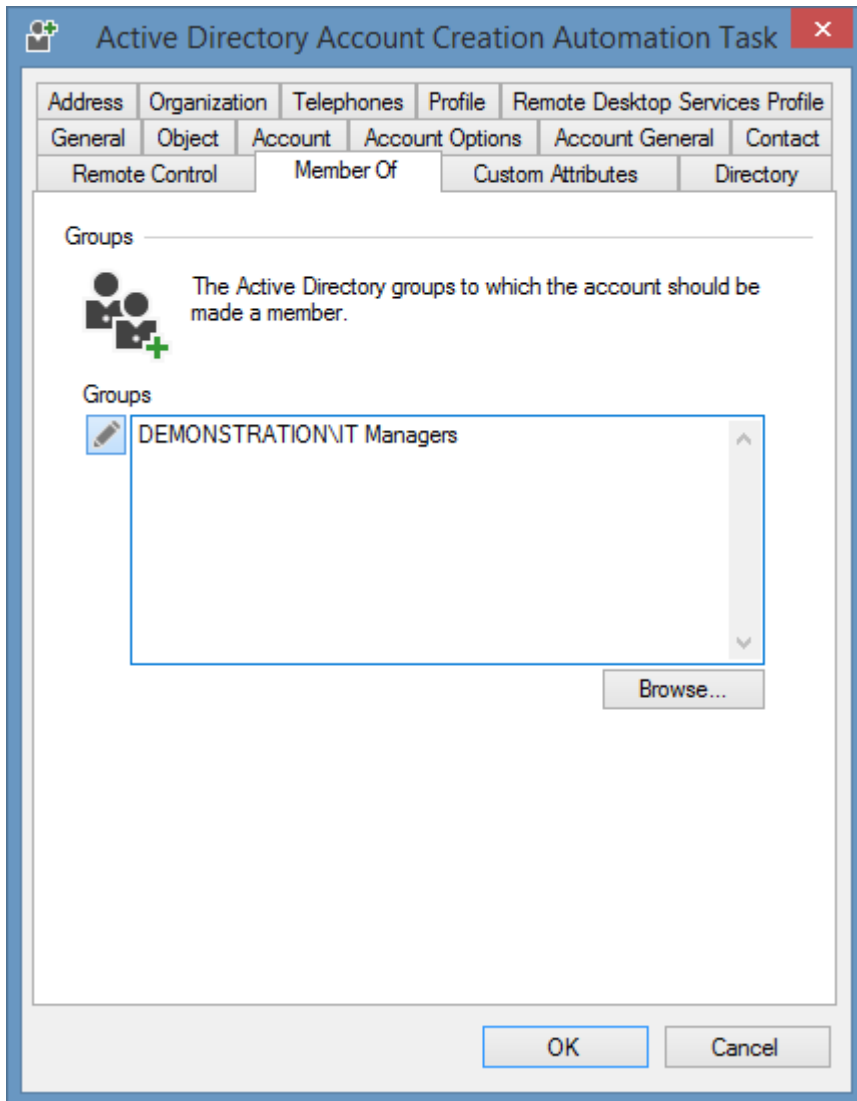
Commit Changes Immediately

Determines whether each change made to the directory is committed immediately. This can assist in troubleshooting.

Enable Accidental Deletion Protection

Determines whether accidental deletion protection should be enabled for the account.

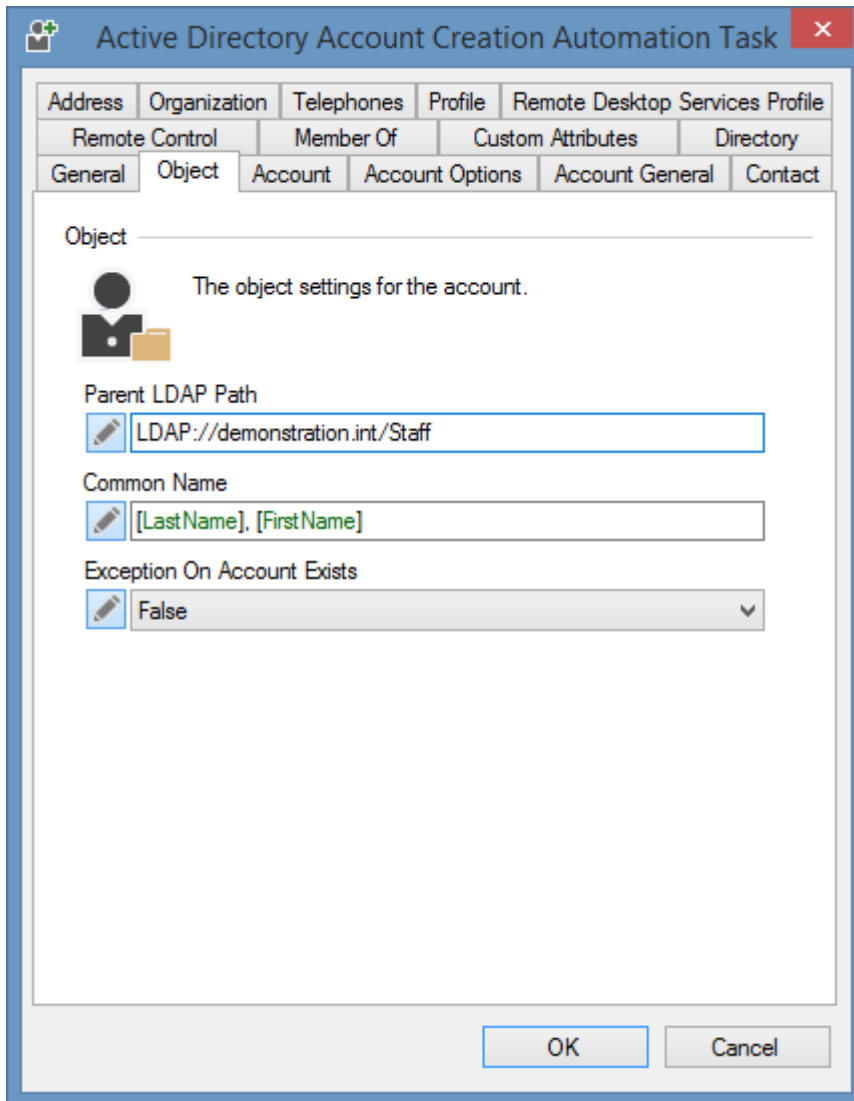
Member Of



Groups

The [Active Directory groups](#) to which the account should be made a member. Clicking the *browse* button displays the [account browser](#).

Object



Parent LDAP Path

The absolute LDAP path in [canonical name](#) format in which to create the account.

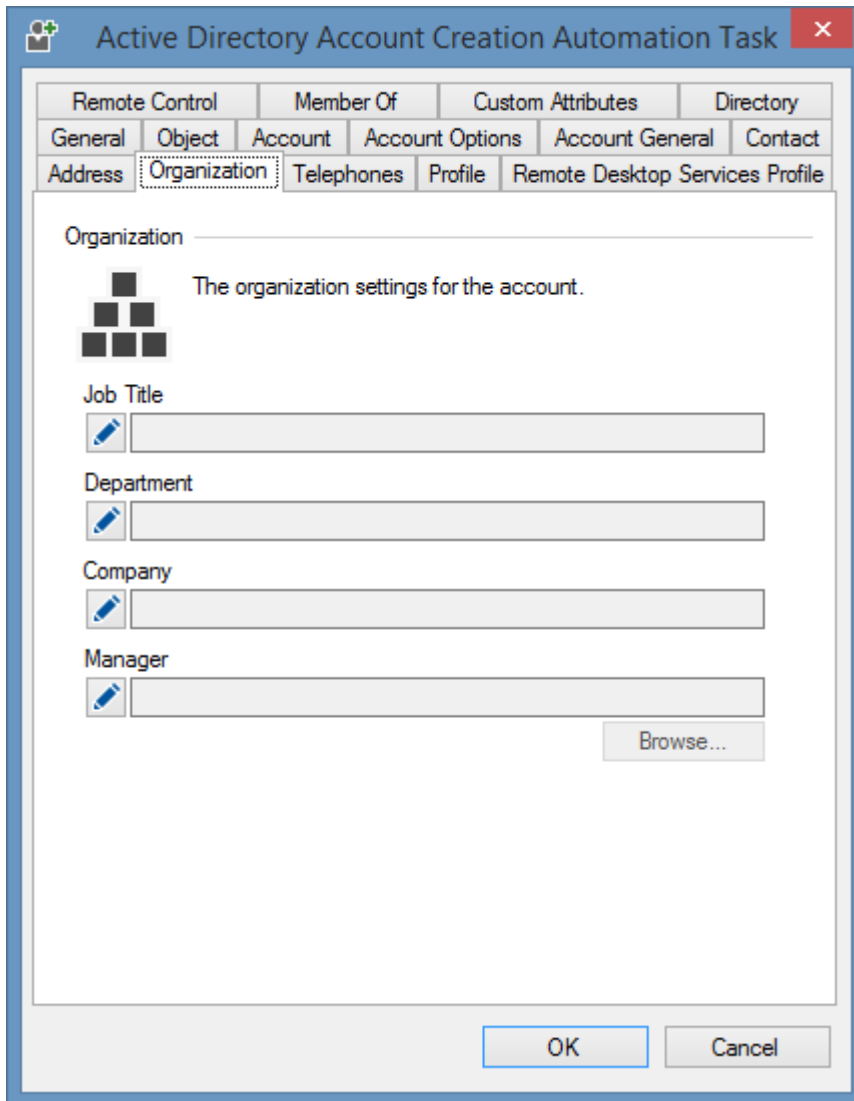
Common Name

The [common name](#) of the account.

Exception On Account Exists

Determines whether an exception should be thrown if the account to create already exists.

Organization



Job Title

The job title of the user.

Department

The department of the user.

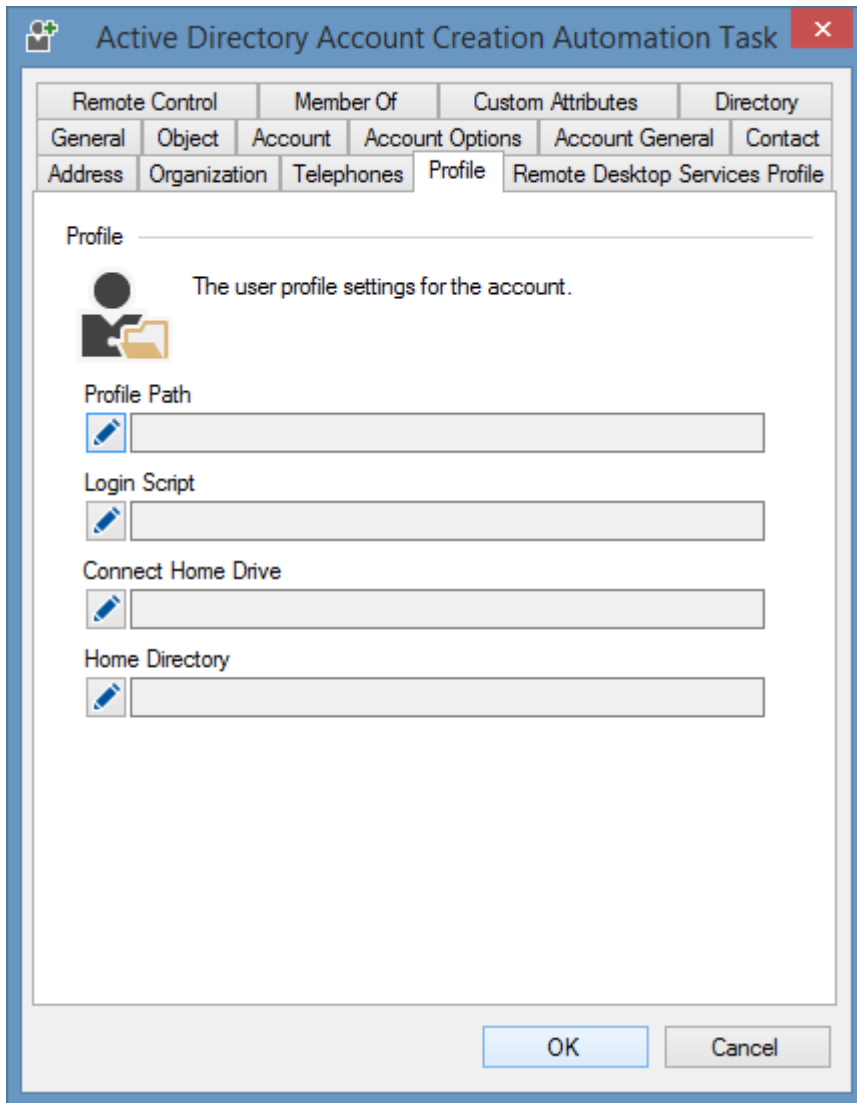
Company

The company of the user.

Manager

The [SAM account name](#) or [user principal name](#) of the manager to assign to the user account. Clicking the *browse* button displays the [account browser](#).

Profile



Profile Path

The network path to the user's roaming or mandatory profile.

Login Script

The login script.

Connect Home Drive

The drive letter that should be connected for the user.

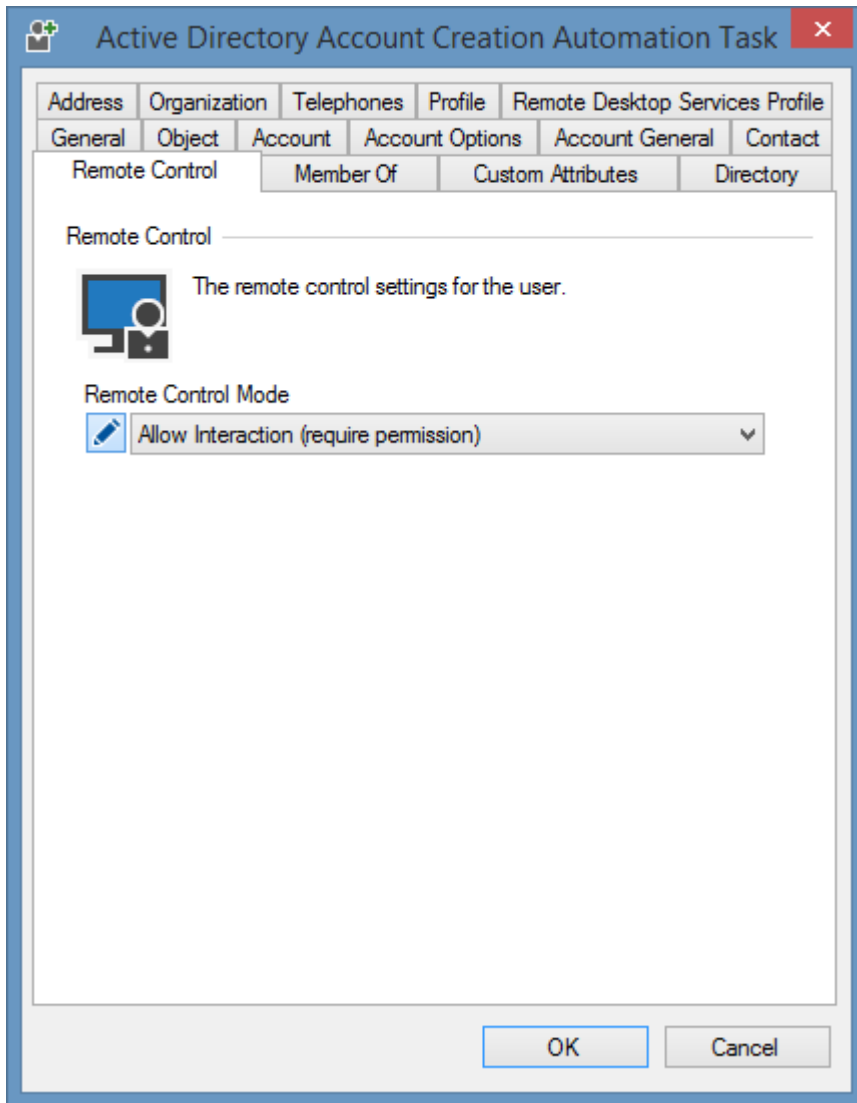
Home Directory

The path to the home folder.

NOTE: When the home drive is set, the home directory must be a UNC path.

NOTE: When the home drive is not set, the home directory must be a valid local path using the form: drive-letter:\directory.

Remote Control



Remote Control Mode

The remote control mode for the user

- Disabled
- Allow Interaction (require permission)
- Allow Interaction
- View Only (require permission)
- View Only

Remote Desktop Services Profile

The screenshot shows a window titled "Active Directory Account Creation Automation Task" with a close button (X) in the top right corner. The window contains a tabbed interface with the following tabs: Remote Control, Member Of, Custom Attributes, Directory, General, Object, Account, Account Options, Account General, Contact, Address, Organization, Telephones, Profile, and Remote Desktop Services Profile. The "Remote Desktop Services Profile" tab is selected and active. It displays a "Profile" section with a description: "The Remote Desktop Services user profile settings for the account." Below this are four fields, each with a blue edit icon (pencil) on the left: "Profile Path", "Connect Home Drive", "Home Directory", and "Deny Remote Desktop Services Logon". At the bottom of the window are "OK" and "Cancel" buttons.

Profile Path

The network path to the user's roaming or mandatory profile when logging in using [Remote Desktop Services](#).

Connect Home Drive

The drive letter that should be connected for the user.

Home Directory

The path to the home folder.

NOTE: When the home drive is set, the home directory must be a UNC path.

Deny Remote Desktop Services Logon

Determines whether the user should be denied the ability to logon using [Remote Desktop Services](#).

Telephones

Active Directory Account Creation Automation Task

Remote Control | Member Of | Custom Attributes | Directory

General | Object | Account | Account Options | Account General | Contact

Address | Organization | Telephones | Profile | Remote Desktop Services Profile

Telephones

The telephone numbers for the account.

Home

Pager

Mobile

Fax

IP Phone

Notes

OK Cancel

Home

The home phone number.

Pager

The pager number.

Mobile

The mobile number.

Fax

The fax number.

IP Phone

The user's IP phone number.

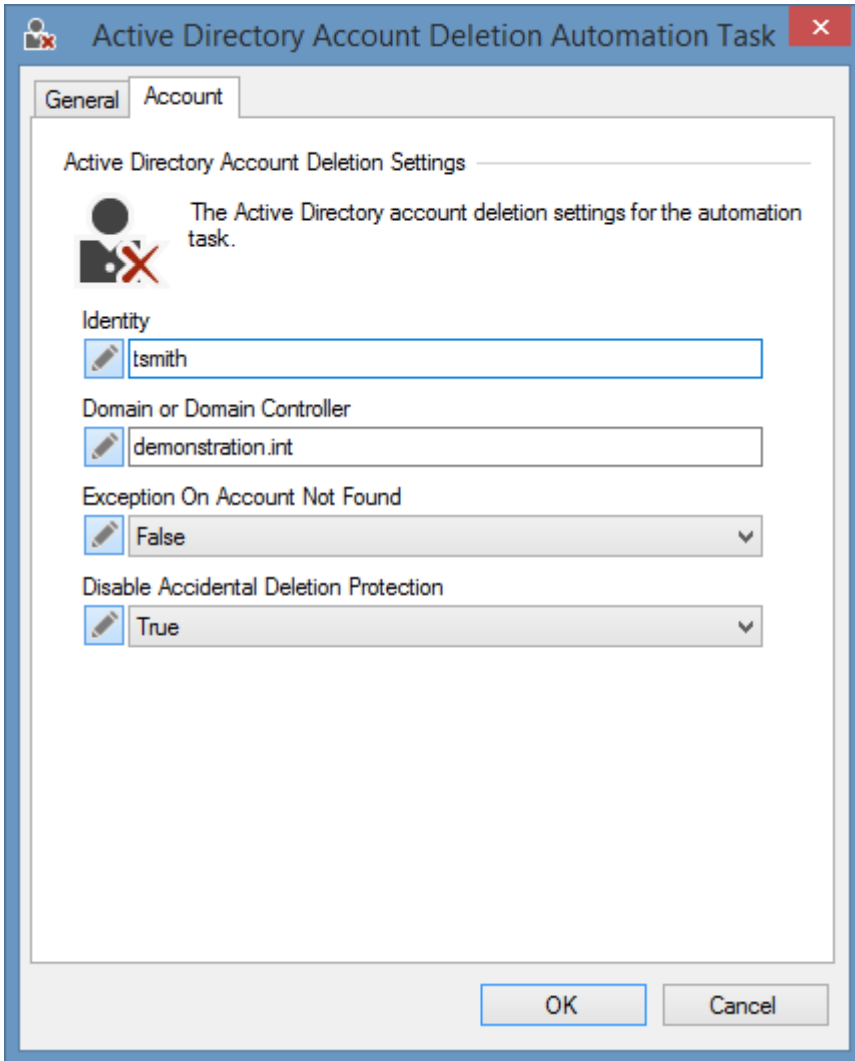
Notes

The telephony related notes.

Active Directory Account Deletion Task

The Active Directory account deletion [task](#) is capable of deleting an [Active Directory account](#) with the specified identity.

Account



Identity

The [SAM account name](#) or [user principal name](#) of the account to delete.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to delete is not found.

Disable Accidental Deletion Protection

Determines whether the "Protect object from accidental deletion" option should be disabled for the account before attempting deletion.

Active Directory Account Disable Task

The Active Directory account disable [task](#) is capable of disabling an enabled [Active Directory account](#) with the specified identity.

Account

The screenshot shows a Windows-style dialog box titled "Active Directory Account Disable Automation Task". It has two tabs: "General" and "Account", with "Account" selected. The main area is titled "Active Directory Account Disable Settings" and contains a description: "The Active Directory account disable settings for the automation task." Below this are four settings, each with a pencil icon for editing:

- Identity:** A text box containing "tsmith".
- Domain or Domain Controller:** A text box containing "demonstration.int".
- Exception On Account Not Found:** A dropdown menu set to "True".
- Exception On Not Enabled:** A dropdown menu set to "False".

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The [SAM account name](#) or [user principal name](#) of the account to disable.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to disable is not found.

Exception On Not Enabled

Determines whether an exception should be thrown if the account to disable is not currently enabled.

Active Directory Account Enable Task

The Active Directory account enable [task](#) is capable of enabling a disabled [Active Directory account](#) with the specified identity.

Account

The screenshot shows a Windows-style dialog box titled "Active Directory Account Enable Automation Task". It has two tabs: "General" and "Account", with "Account" selected. The main area is titled "Active Directory Account Enable Settings" and contains a description: "The Active Directory account enable settings for the automation task." Below this are four settings, each with a pencil icon for editing:

- Identity:** A text box containing "tsmith".
- Domain or Domain Controller:** A text box containing "demonstration.int".
- Exception On Account Not Found:** A dropdown menu set to "True".
- Exception On Not Disabled:** A dropdown menu set to "False".

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The [SAM account name](#) or [user principal name](#) of the account to enable.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to enable is not found.

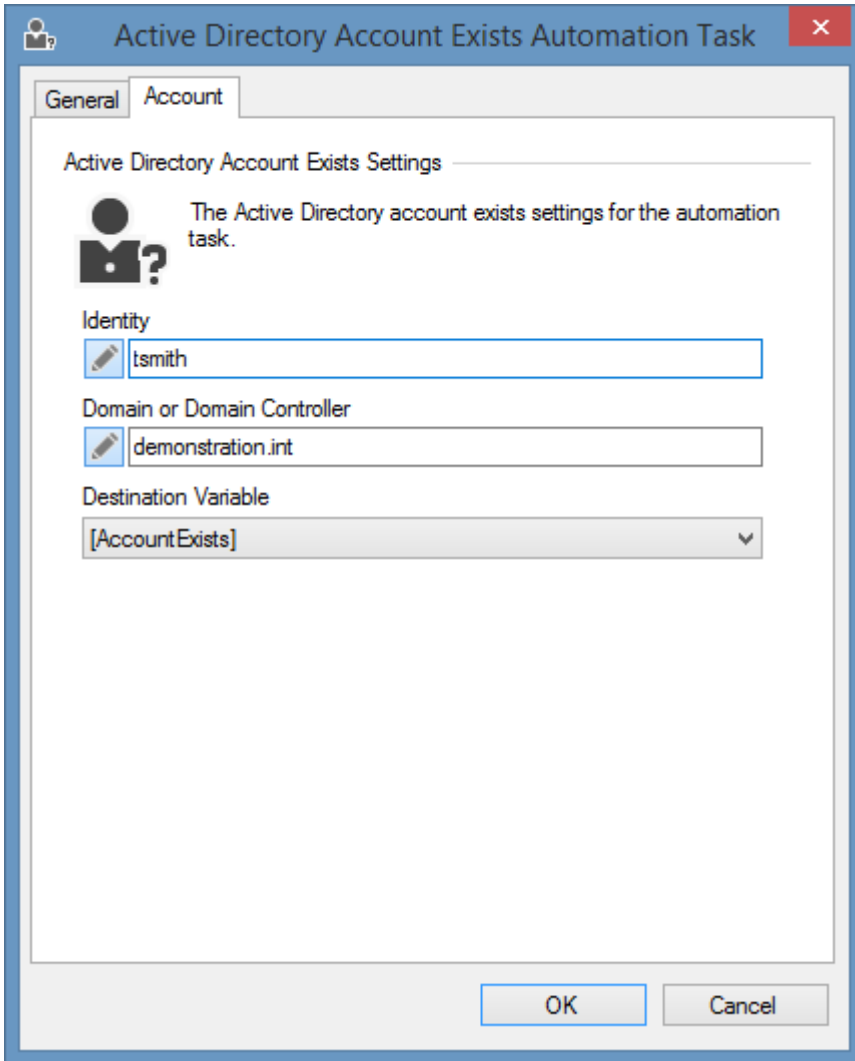
Exception On Not Disabled

Determines whether an exception should be thrown if the account to enable is not currently disabled.

Active Directory Account Exists Task

The Active Directory account exists [task](#) is capable of determining whether an [Active Directory account](#) with the specified identity exists in the domain.

Account



Identity

The [SAM account name](#) or [user principal name](#) of the account to locate.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

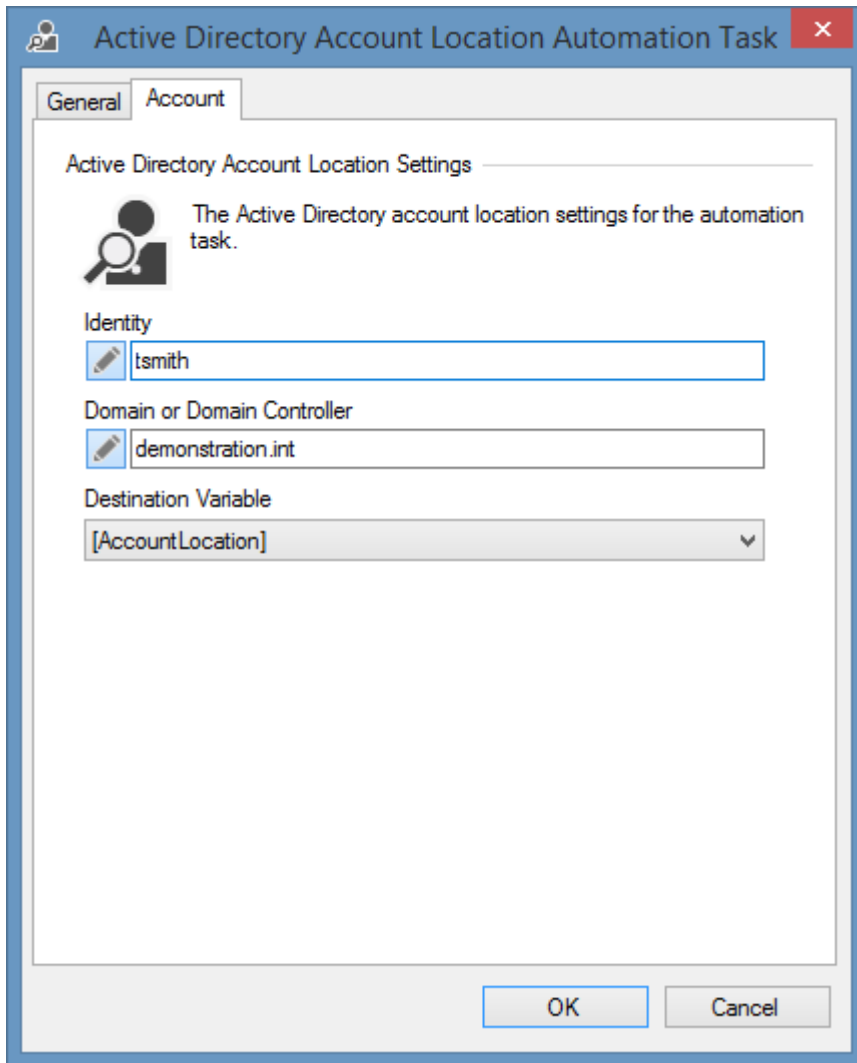
Destination Variable

The [boolean variable](#) in which to store the return value.

Active Directory Account Location Task

The Active Directory account location [task](#) is capable of determining the canonical LDAP path of an [Active Directory account](#) with the specified identity in the specified domain.

Account



The screenshot shows a dialog box titled "Active Directory Account Location Automation Task" with a close button (X) in the top right corner. The dialog has two tabs: "General" and "Account", with "Account" selected. The main content area is titled "Active Directory Account Location Settings" and contains a magnifying glass icon and the text "The Active Directory account location settings for the automation task." Below this, there are three input fields: "Identity" with the value "tsmith", "Domain or Domain Controller" with the value "demonstration.int", and "Destination Variable" with a dropdown menu showing "[AccountLocation]". At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The [SAM account name](#) or [user principal name](#) of the account to locate.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

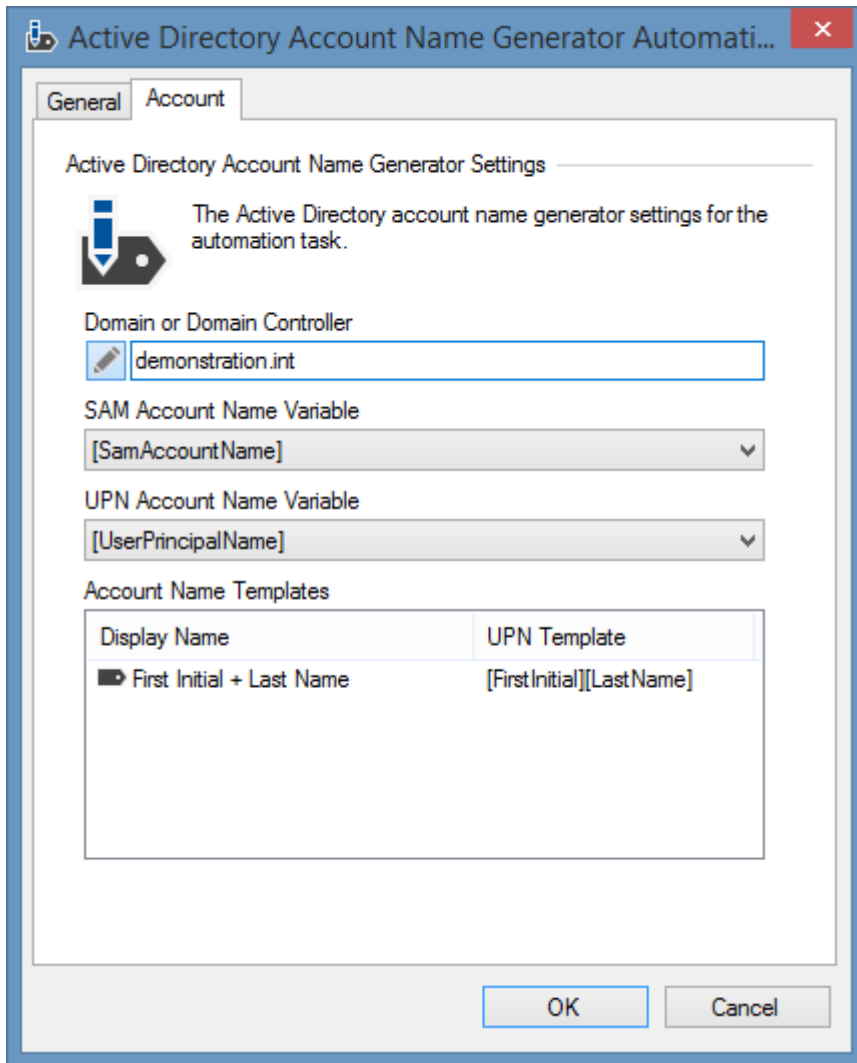
Destination Variable

The [string variable](#) in which to store the return value. The value will be in canonical name format - for example "LDAP://demonstration.int/Management Team/tsmith".

Active Directory Account Name Generator Task

The Active Directory account name generator [task](#) is capable of generating a unique new [SAM account name](#) and [user principal name](#) for an [Active Directory account](#) based on account name templates.

Account



Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account name is to be generated, or the fully qualified domain name of a specific domain controller to use for the operation.

SAM Account Name Variable

The [string variable](#) in which to store the generated [SAM account name](#).

UPN Account Name Variable

The [string variable](#) in which to store the generated [user principal name](#).

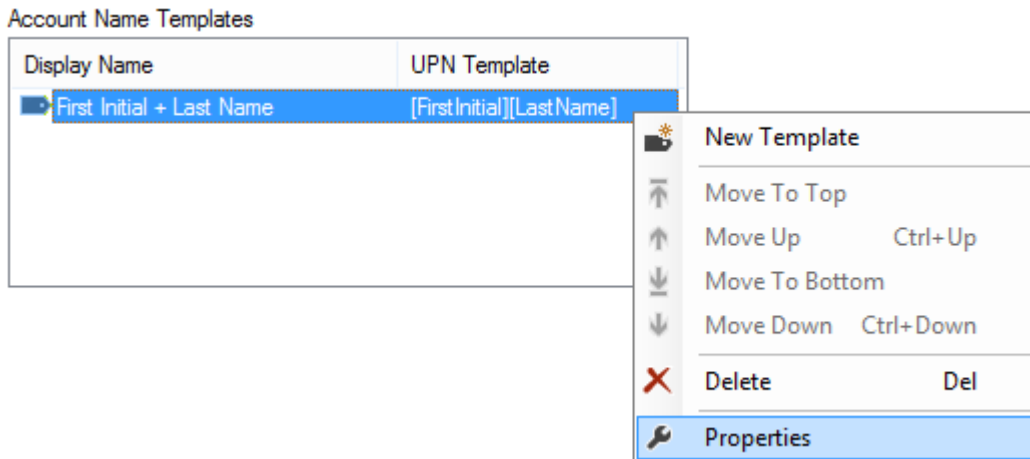
Account Name Templates

The [account name templates](#) to use to generate the account name.

Account Name Templates

Account name templates are used to determine new available [SAM account names](#) and [user principal names](#) for [Active Directory accounts](#) within a domain.

The account name templates are processed in order, and at least one template must be defined for a [Active Directory account name generator task](#).



New Template

Displays a new [account name template](#).

Move To Top

Moves the currently selected account name template to the top of the list.

Move Up

Moves the currently selected account name template up the list.

Move To Bottom

Moves the currently selected account name template to the bottom of the list.

Move Down

Moves the currently selected account name template down the list.

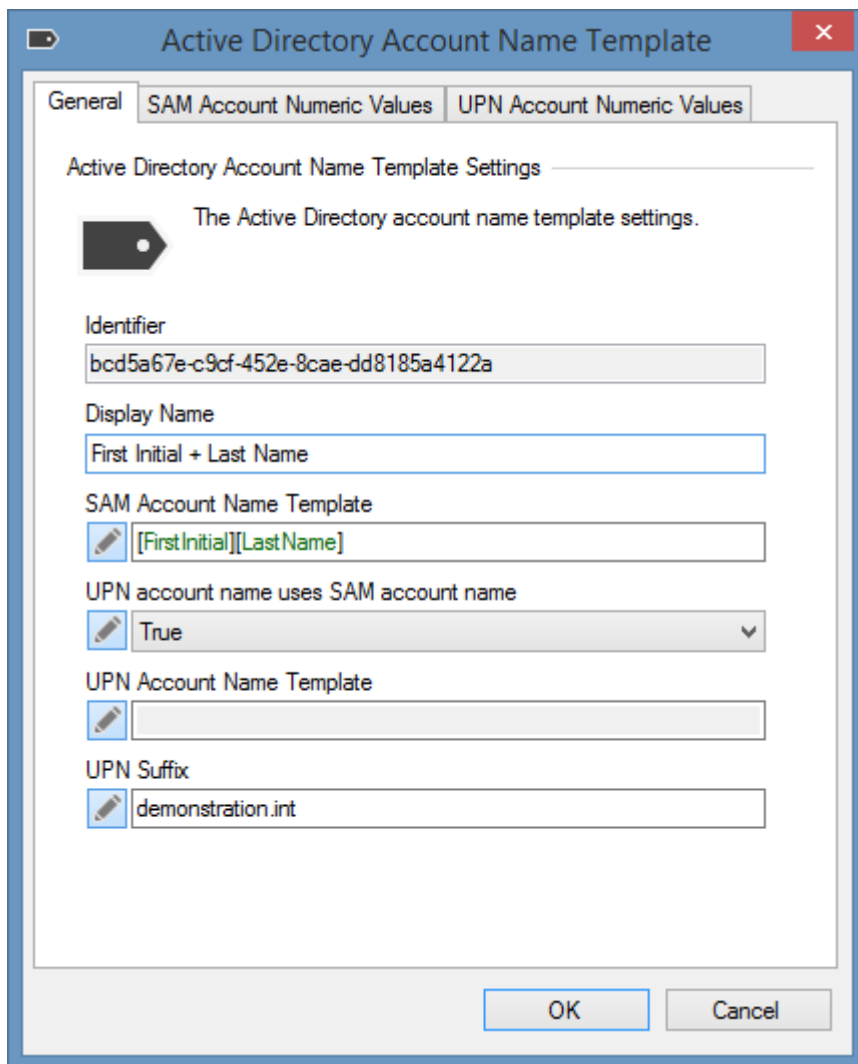
Delete

Deletes the currently selected account name template.

Properties

Displays the properties of the currently selected [account name template](#).

General



The screenshot shows the 'Active Directory Account Name Template' dialog box with the 'General' tab selected. The dialog has three tabs: 'General', 'SAM Account Numeric Values', and 'UPN Account Numeric Values'. The 'General' tab contains the following settings:

- Active Directory Account Name Template Settings**: A sub-header with a tag icon and the text 'The Active Directory account name template settings.'
- Identifier**: A text box containing the GUID 'bcd5a67e-c9cf-452e-8cae-dd8185a4122a'.
- Display Name**: A text box containing 'First Initial + Last Name'.
- SAM Account Name Template**: A text box containing '[FirstInitial][LastName]' with a small edit icon to the left.
- UPN account name uses SAM account name**: A dropdown menu set to 'True' with a small edit icon to the left.
- UPN Account Name Template**: An empty text box with a small edit icon to the left.
- UPN Suffix**: A text box containing 'demonstration.int' with a small edit icon to the left.

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Display Name

The display name for the account name template.

SAM Account Name Template

The template to use to generate a unique [SAM account name](#) in the domain. The token <n> can be included to use [SAM account numeric values](#).

UPN Account Name Uses SAM Account Name

Determines whether the [user principal name](#) uses the same template as the [SAM account name](#) so that both user names match. By default this is true.

UPN Account Name Template

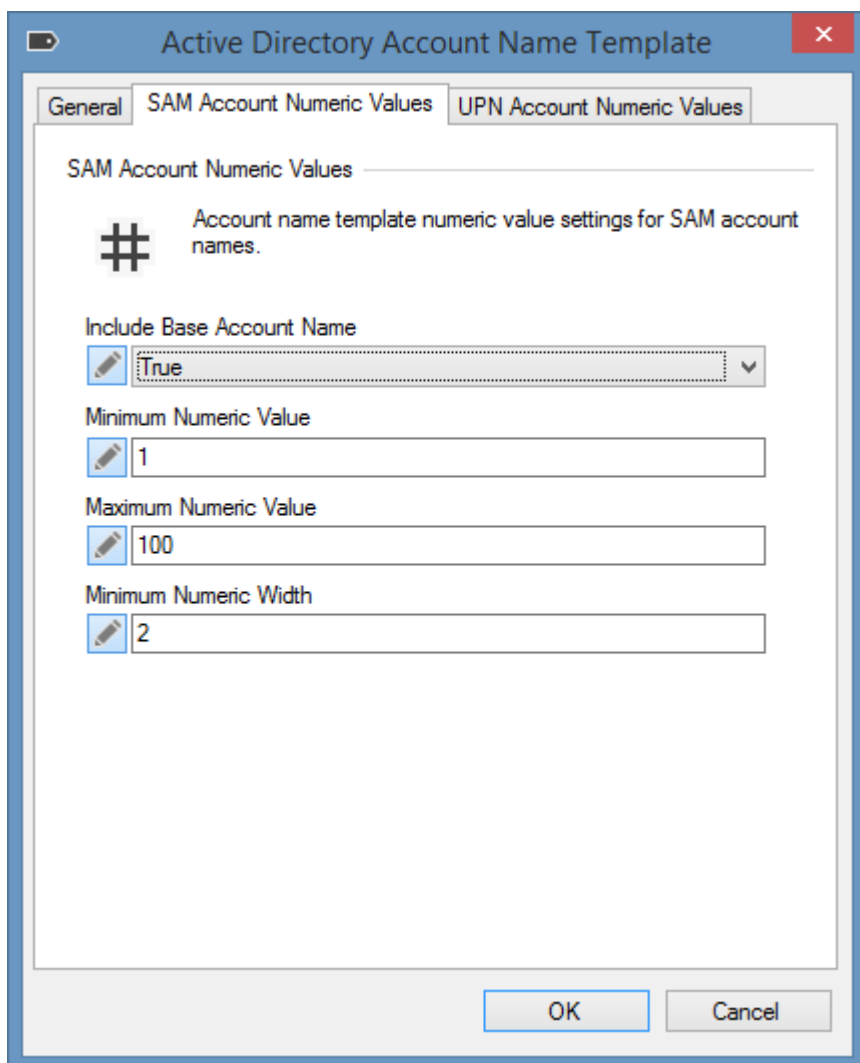
The template to use to generate a unique [user principal name](#).

UPN Suffix

The domain suffix to use for the [user principal name](#).

SAM Account Numeric Values

If the SAM account name template specified in the [general tab](#) includes the <n> token the [Active Directory account name generator task](#) can append numeric values to generate a unique [SAM account name](#) in the domain.



The screenshot shows the 'Active Directory Account Name Template' dialog box with the 'SAM Account Numeric Values' tab selected. The dialog has three tabs: 'General', 'SAM Account Numeric Values', and 'UPN Account Numeric Values'. The 'SAM Account Numeric Values' tab contains a '#' icon and the text 'Account name template numeric value settings for SAM account names.' Below this are four settings, each with a pencil icon and a text box: 'Include Base Account Name' is set to 'True'; 'Minimum Numeric Value' is set to '1'; 'Maximum Numeric Value' is set to '100'; and 'Minimum Numeric Width' is set to '2'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Include Base Account Name

Determines whether the base account should be included - for example when true the template "tsmith<n>" would include "tsmith" as a possible account name.

Minimum Numeric Value

The minimum numeric value to append to the account name.

Maximum Numeric Value

The maximum numeric value to append to the account name.

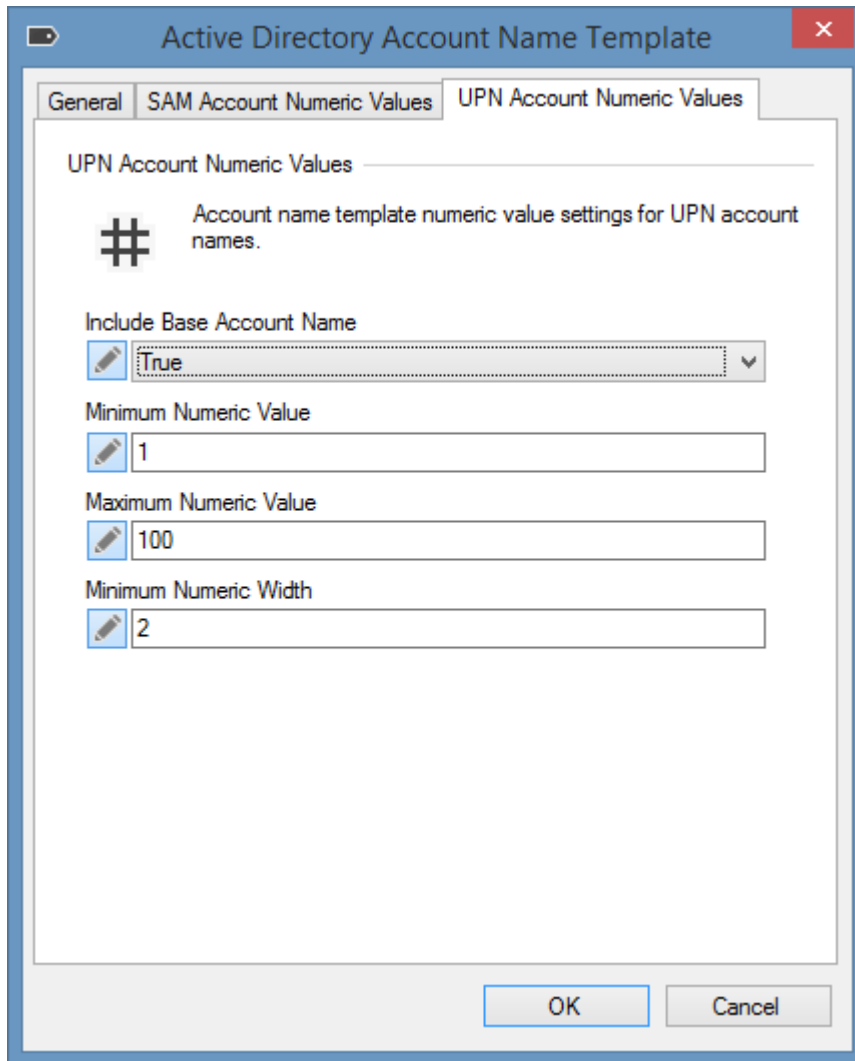
Minimum Numeric Width

The minimum numeric width of the numeric value to append - for example for a value of 3 the template "tsmith<n>" would include account names such as "tsmith", "tsmith001", "tsmith002", etc. as possible account names.

UPN Account Numeric Values

If the UPN account name template specified in the [general tab](#) includes the <n> token the [Active Directory account name generator task](#) can append numeric values to generate a unique [user principal name](#).

NOTE: If the *UPN Account Name Uses SAM Account Name* setting on the [general tab](#) is set to true these settings do not apply.



The screenshot shows the 'Active Directory Account Name Template' dialog box with the 'UPN Account Numeric Values' tab selected. The dialog has three tabs: 'General', 'SAM Account Numeric Values', and 'UPN Account Numeric Values'. The 'UPN Account Numeric Values' tab contains a '#' icon and the text 'Account name template numeric value settings for UPN account names.' Below this, there are four settings, each with a pencil icon and a text field:

- Include Base Account Name:** A dropdown menu set to 'True'.
- Minimum Numeric Value:** A text field containing '1'.
- Maximum Numeric Value:** A text field containing '100'.
- Minimum Numeric Width:** A text field containing '2'.

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Include Base Account Name

Determines whether the base account should be included - for example when true the template "tsmith<n>" would include "tsmith" as a possible account name.

Minimum Numeric Value

The minimum numeric value to append to the account name.

Maximum Numeric Value

The maximum numeric value to append to the account name.

Minimum Numeric Width

The minimum numeric width of the numeric value to append - for example for a value of 3 the template "tsmith<n>" would include account names such as "tsmith", "tsmith001", "tsmith002", etc.

as possible account names.

Active Directory Account Password Reset Task

The Active Directory account password reset [task](#) is capable of resetting the password of an [Active Directory account](#) with the specified identity.

Account

The screenshot shows a Windows dialog box titled "Active Directory Account Password Reset Automatio...". It has two tabs: "General" and "Account", with "Account" selected. The dialog contains the following fields and controls:

- Active Directory Account Password Reset Settings**: A header section with a user icon and the text "The password reset settings for the automation task."
- Identity**: A text box containing "tsmith".
- Domain or Domain Controller**: A text box containing "demonstration.int".
- Exception On Account Not Found**: A dropdown menu set to "True".
- Password**: A text box containing "[Password]".
- User Must Change Password**: A dropdown menu set to "True".

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The [SAM account name](#) or [user principal name](#) of the account for which the password is to be reset.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Exception On Account Not Found

Determines whether an exception should be thrown if the account is not found.

Password

The password to set for the account.

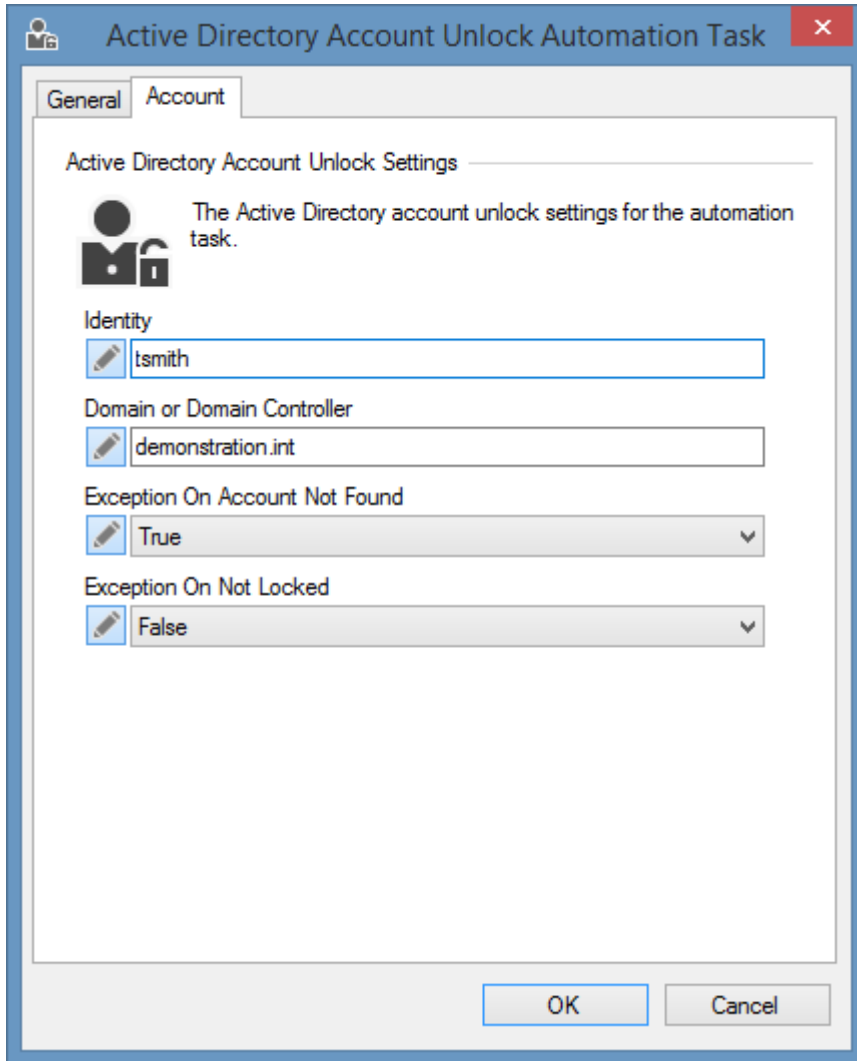
User Must Change Password

Determines whether the user must change password at next logon.

Active Directory Account Unlock Task

The Active Directory account unlock [task](#) is capable of unlocking a locked [Active Directory account](#) with the specified identity.

Account



The screenshot shows a Windows-style dialog box titled "Active Directory Account Unlock Automation Task". It has two tabs: "General" and "Account", with "Account" selected. The main area is titled "Active Directory Account Unlock Settings" and contains a description: "The Active Directory account unlock settings for the automation task." Below this are four settings, each with a pencil icon for editing:

- Identity:** A text box containing "tsmith".
- Domain or Domain Controller:** A text box containing "demonstration.int".
- Exception On Account Not Found:** A dropdown menu set to "True".
- Exception On Not Locked:** A dropdown menu set to "False".

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The [SAM account name](#) or [user principal name](#) of the account to unlock.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to unlock is not found.

Exception On Not Locked

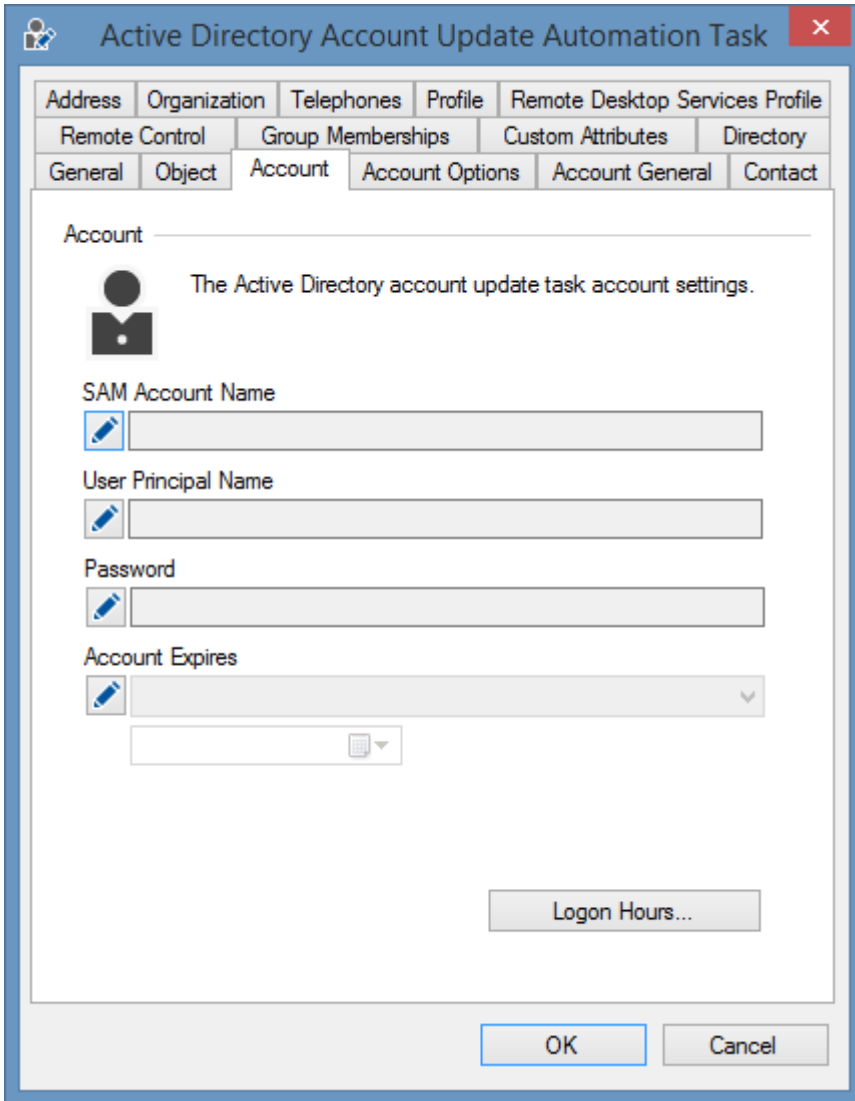
Determines whether an exception should be thrown if the account to unlock is not currently locked.

Active Directory Account Update Task

The Active Directory account update [task](#) is capable of updating an existing [Active Directory account](#).

To create a new account see the [Active Directory account creation task](#).

Account



SAM Account Name

The new [SAM account name](#) for the account.

User Principal Name

The new [user principal name](#) for the account.

Password

The new password to set for the account.

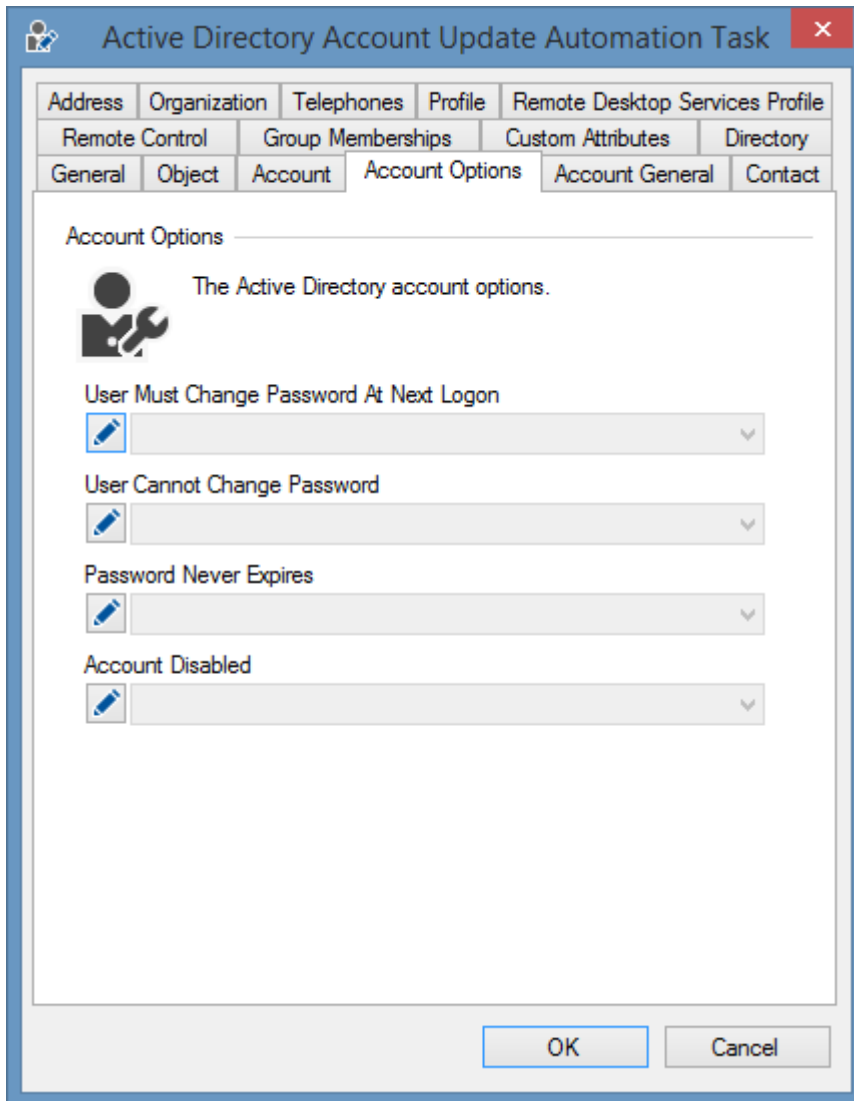
Account Expires

Determines whether the account should expire.

Logon Hours

The [logon hours](#) for the account.

Account Options



User Must Change Password At Next Logon

Determines whether the user must change their password at next logon.

User Cannot Change Password

Determines whether the user is prevented from changing their password.

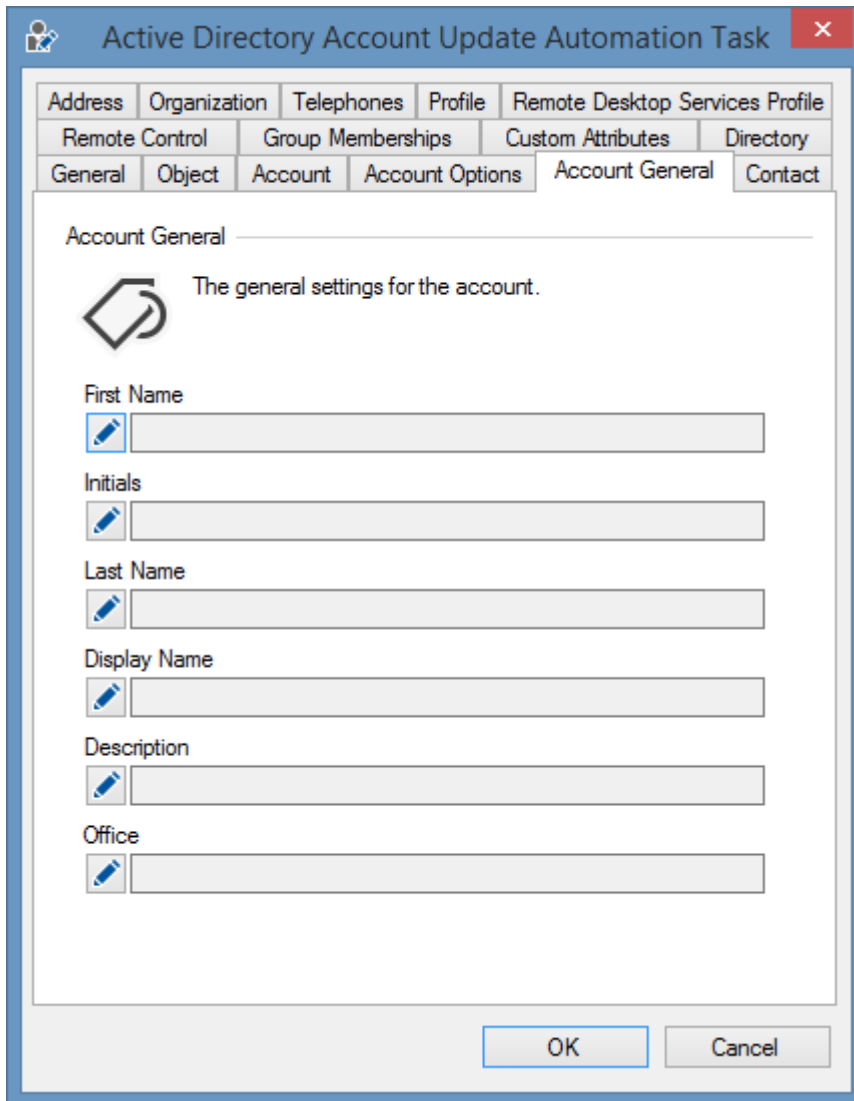
Password Next Expires

Determines whether the password will never expire.

Account Disabled

Determines whether the account should be disabled.

Account General



The screenshot shows a window titled "Active Directory Account Update Automation Task" with a close button in the top right corner. The window contains a tabbed interface with the following tabs: Address, Organization, Telephones, Profile, Remote Desktop Services Profile, Remote Control, Group Memberships, Custom Attributes, Directory, General, Object, Account, Account Options, Account General (selected), and Contact. The "Account General" tab is active and displays the following fields:

- Account General** (with a description icon and text: "The general settings for the account.")
- First Name** (with a text input field and a blue edit icon)
- Initials** (with a text input field and a blue edit icon)
- Last Name** (with a text input field and a blue edit icon)
- Display Name** (with a text input field and a blue edit icon)
- Description** (with a text input field and a blue edit icon)
- Office** (with a text input field and a blue edit icon)

At the bottom of the window are "OK" and "Cancel" buttons.

First Name

The first name of the user.

Initials

The initials of the user.

Last Name

The last name of the user.

Display Name

The [display name](#) of the user.

Description

The description of the user.

Office

The office of the user.

Address

Active Directory Account Update Automation Task

General Object Account Account Options Account General Contact
Remote Control Group Memberships Custom Attributes Directory
Address Organization Telephones Profile Remote Desktop Services Profile

Address

The address settings for the account.

Street

P.O. Box

City

State/province

Zip/Postal Code

Country/region

OK Cancel

Street

The street address for the user.

P.O. Box

The PO box address for the user.

City

The city for the user.

State/province

The state or province for the user.

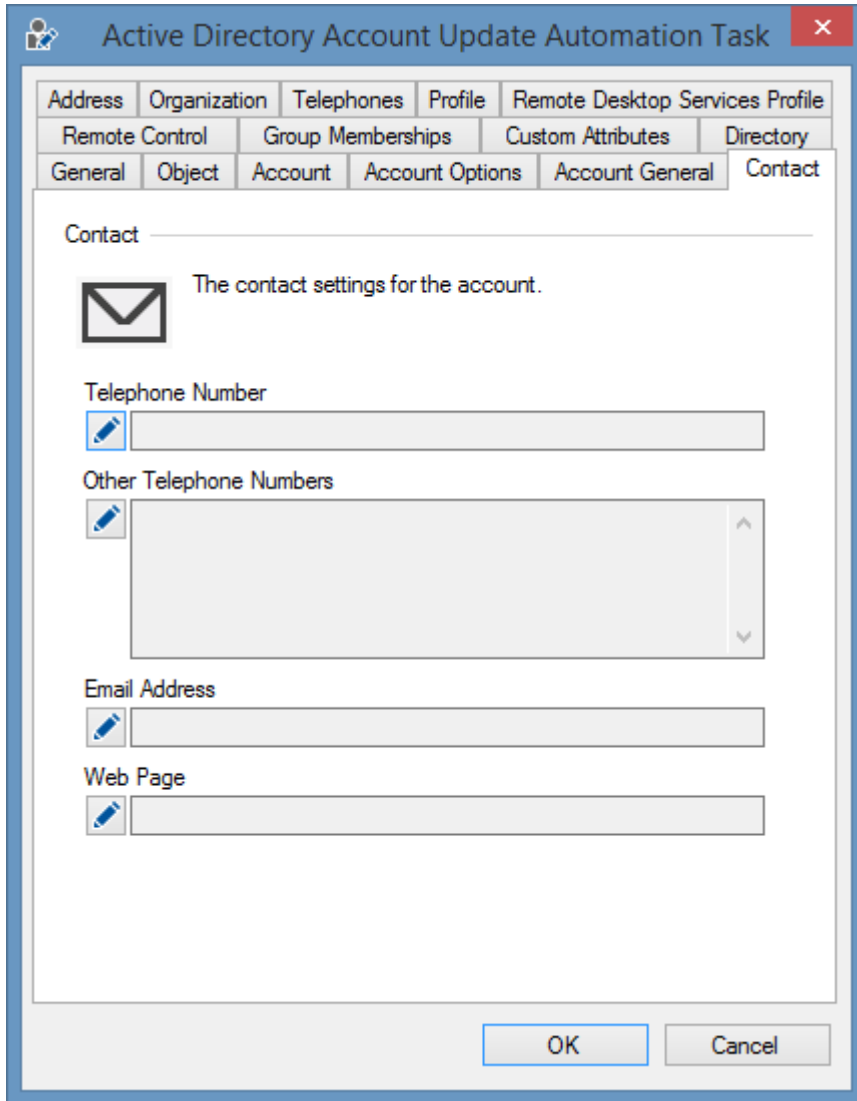
Zip/Postal Code

The Zip or postal code for the user.

Country/region

The country or region ([ISO 3166-1-alpha-2](#)) code assigned to the user account - for example "US".

Contact



Telephone Number

The telephone number for the user.

Other Telephone Numbers

Other telephone numbers for the user.

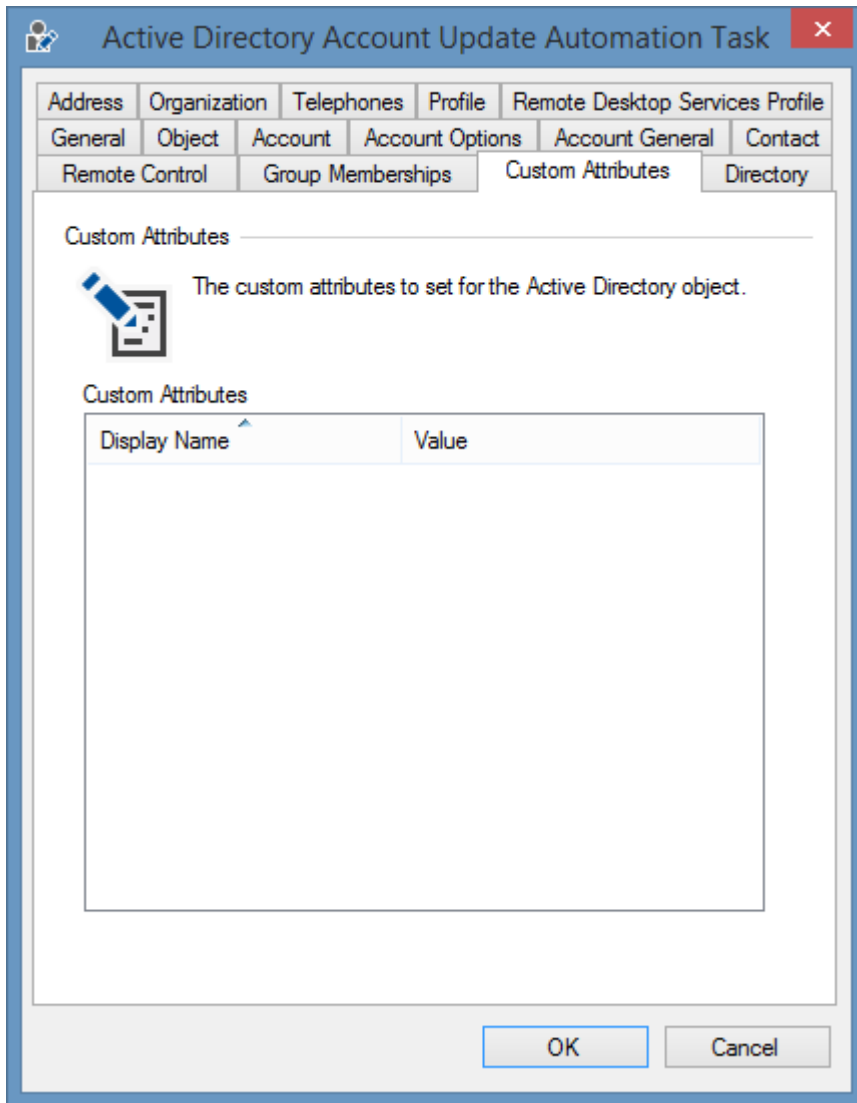
Email Address

The email address for the user.

Web Page

The web page for the user.

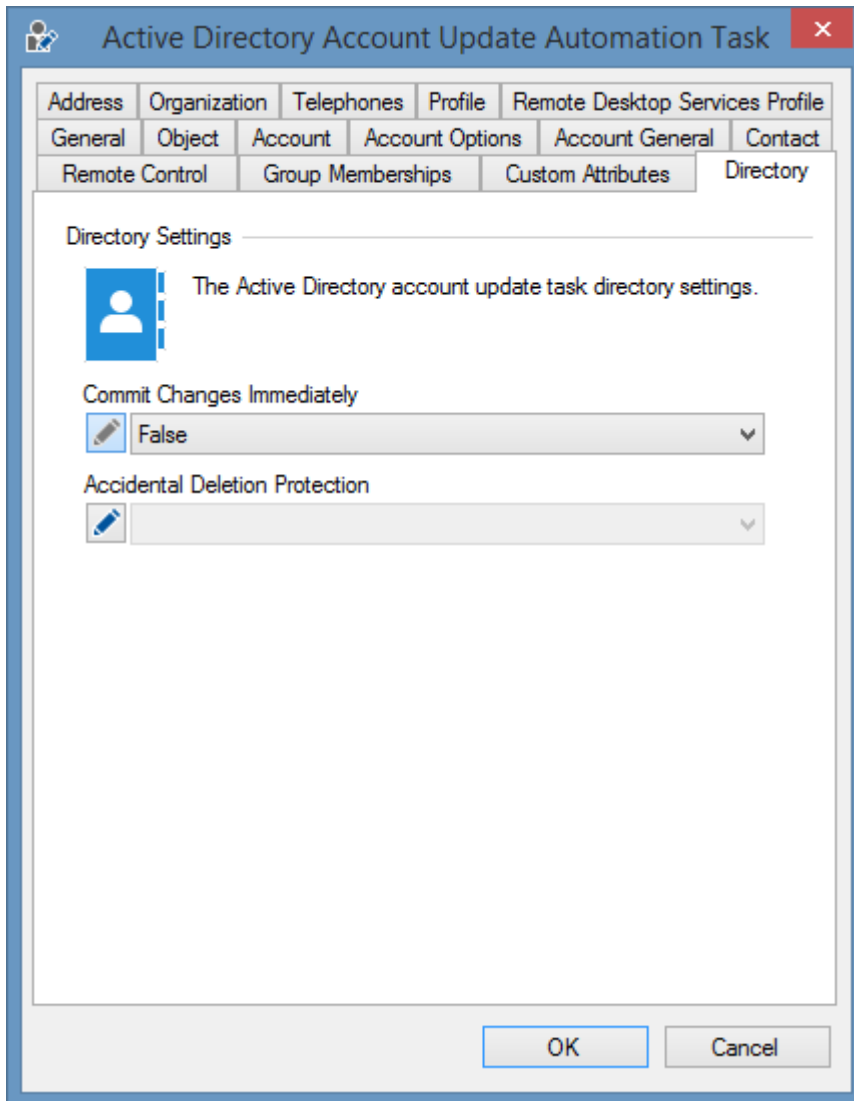
Custom Attributes



Custom Attributes

The [custom attributes](#) to set for the account.

Directory



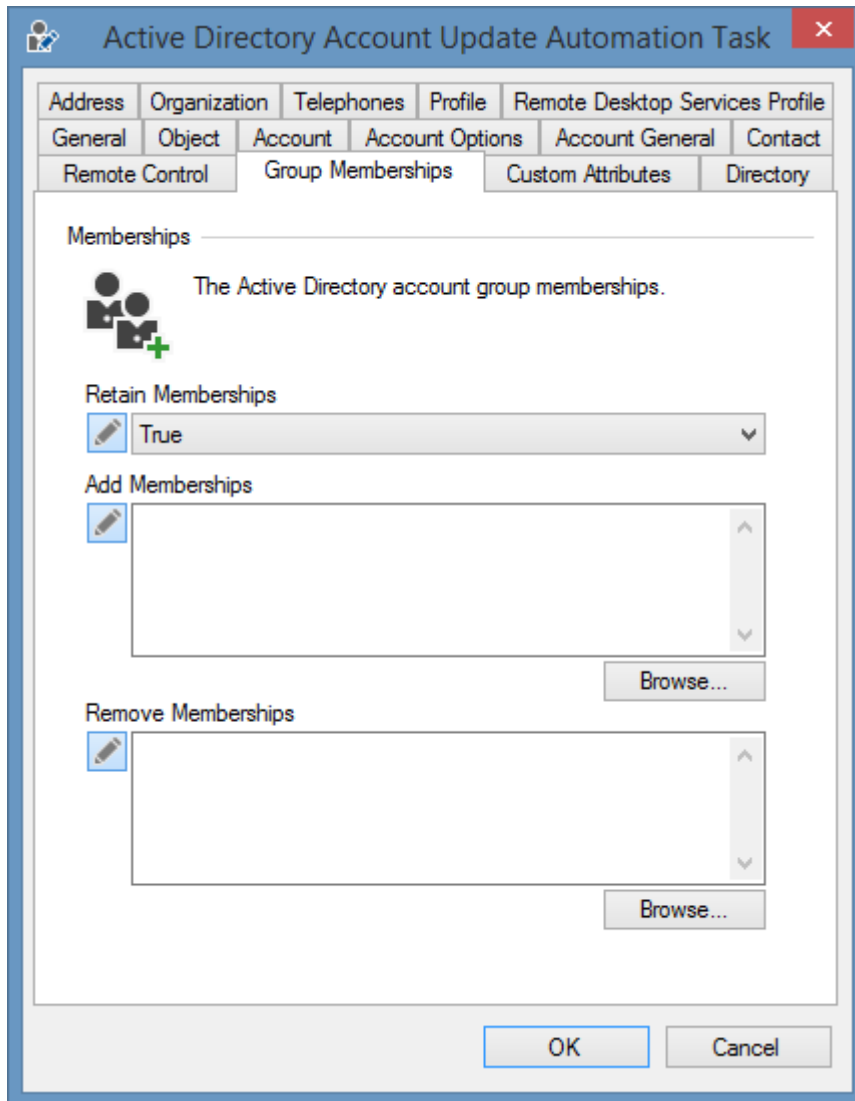
Commit Changes Immediately

Determines whether each change made to the directory is committed immediately. This can assist in troubleshooting.

Enable Accidental Deletion Protection

Determines whether accidental deletion protection should be enabled or disabled for the account.

Group Membership



Retain Memberships

Determines whether the [Active Directory groups](#) to which the account is currently a member should be retained.

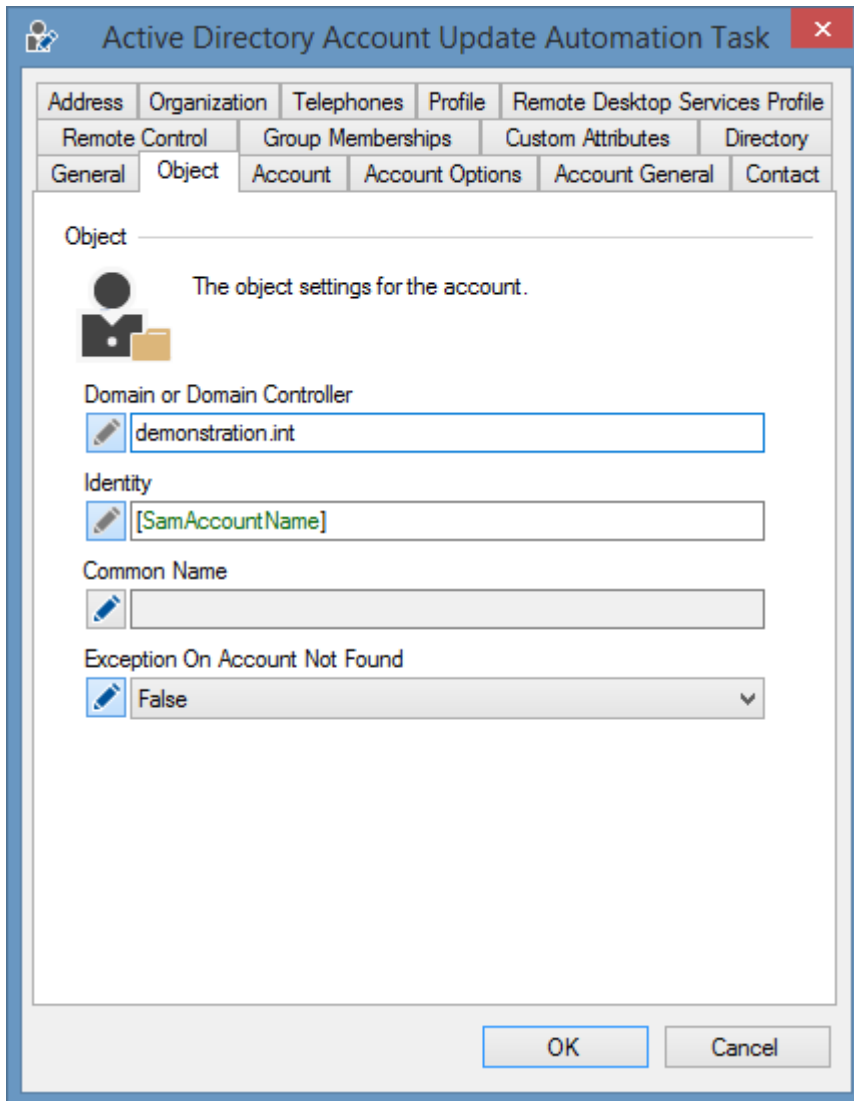
Add Memberships

The [Active Directory groups](#) to which the account should be made a member. Clicking the *browse* button displays the [account browser](#).

Remove Memberships

The [Active Directory groups](#) from which the account should be removed. Clicking the *browse* button displays the [account browser](#).

Object



Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the account resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Identity

The [SAM account name](#) or [user principal name](#) of the account to unlock.

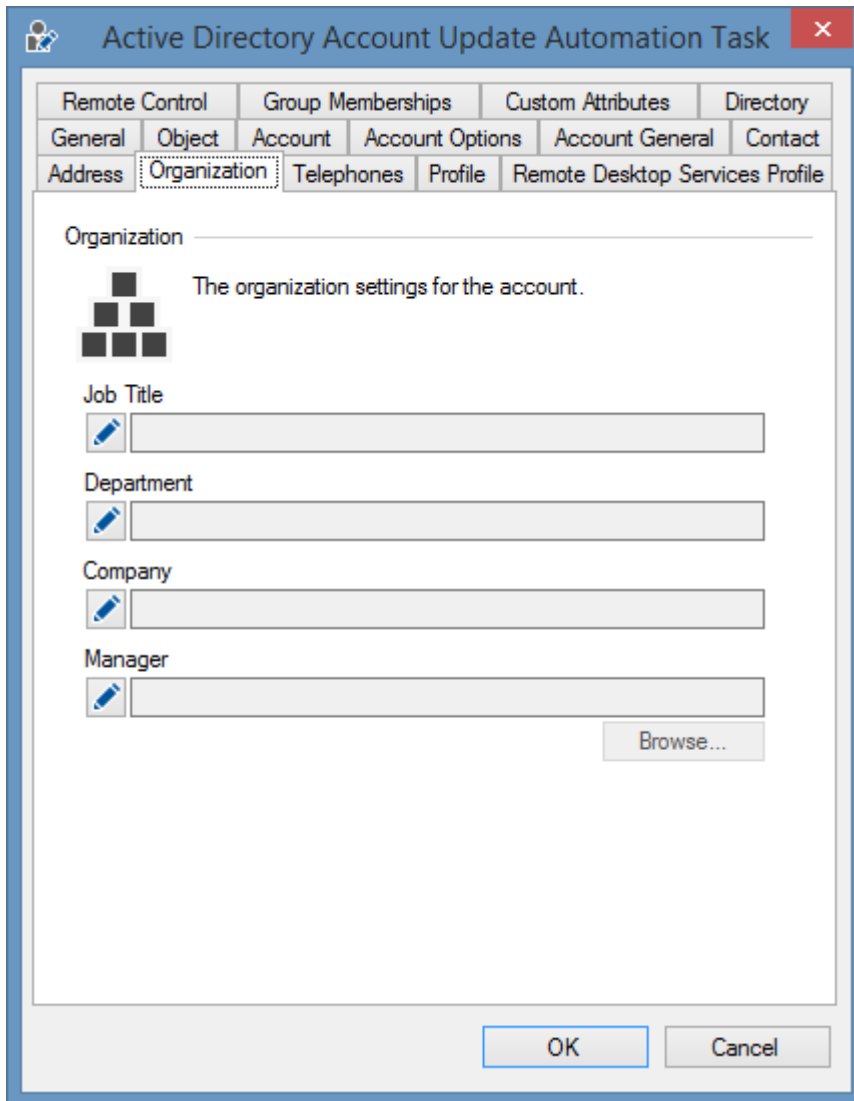
Common Name

The new [common name](#) for the account.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to update is not found.

Organization



Job Title

The job title of the user.

Department

The department of the user.

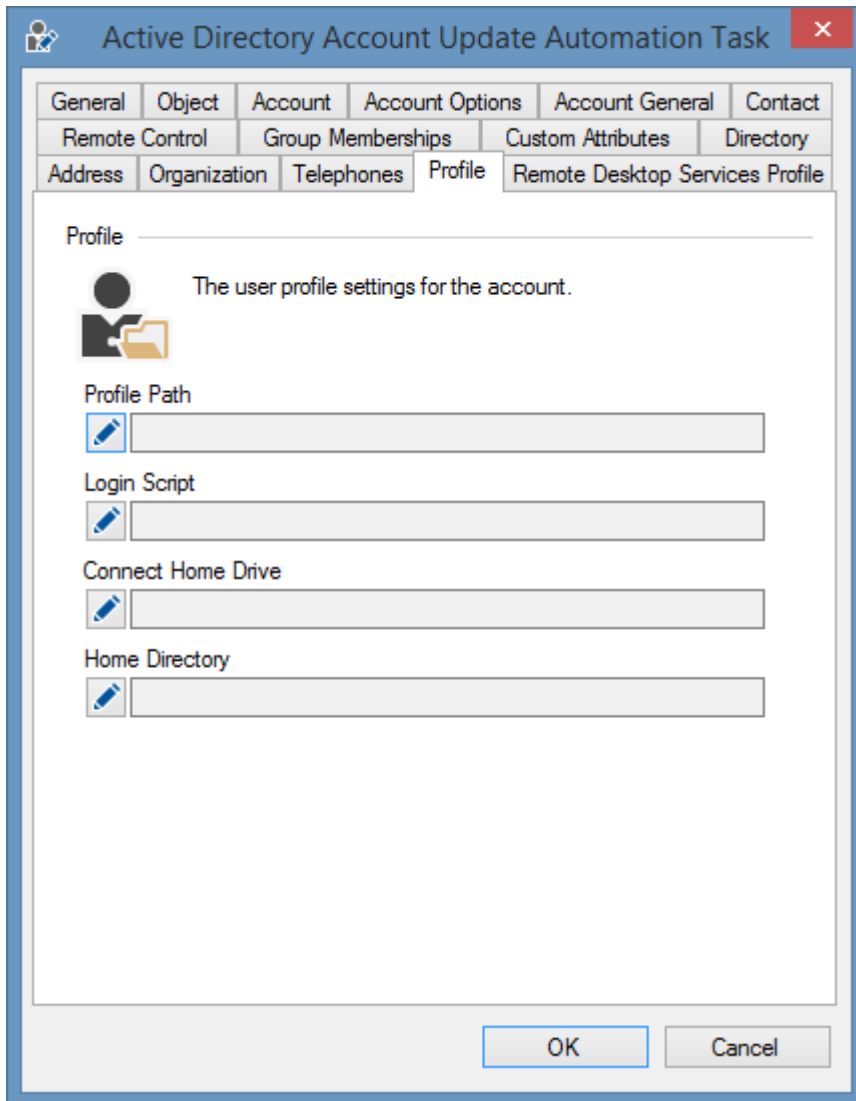
Company

The company of the user.

Manager

The [SAM account name](#) or [user principal name](#) of the manager to assign to the user account. Clicking the *browse* button displays the [account browser](#).

Profile



Profile Path

The network path to the user's roaming or mandatory profile.

Login Script

The login script.

Connect Home Drive

The drive letter that should be connected for the user.

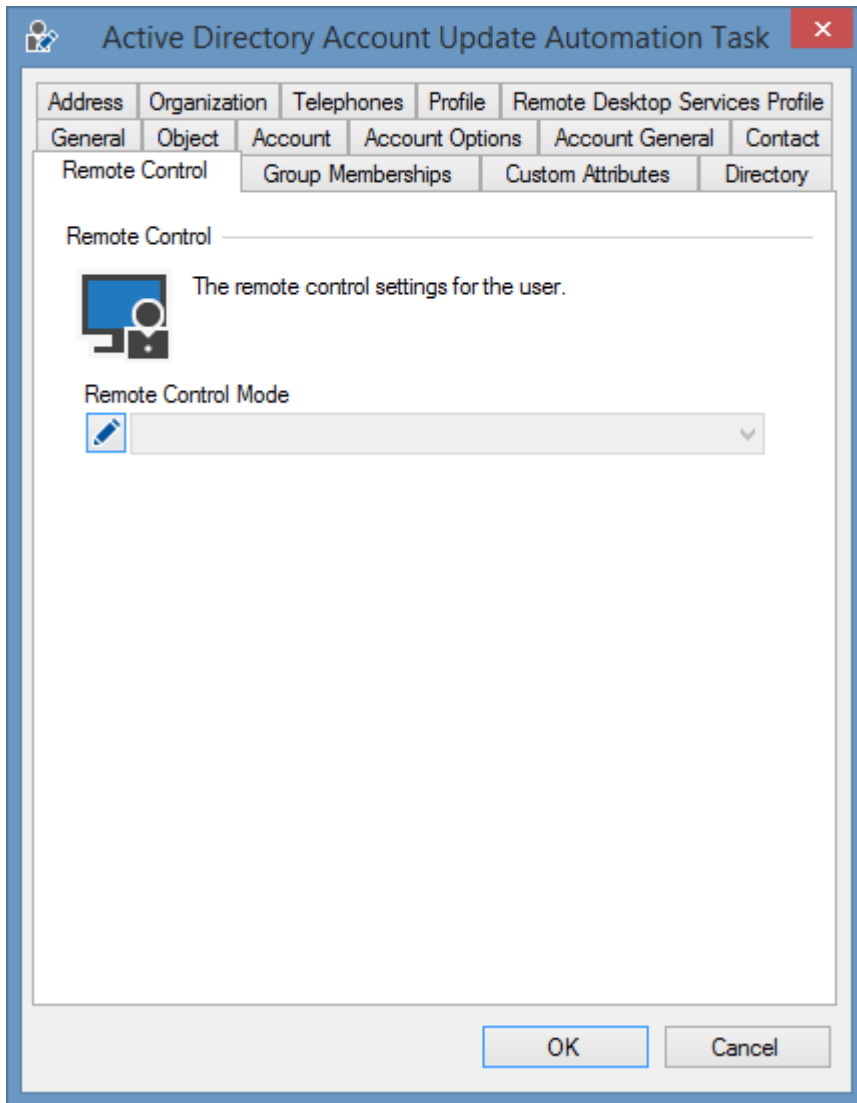
Home Directory

The path to the home folder.

NOTE: When the home drive is set, the home directory must be a UNC path.

NOTE: When the home drive is not set, the home directory must be a valid local path using the form: drive-letter:\directory.

Remote Control

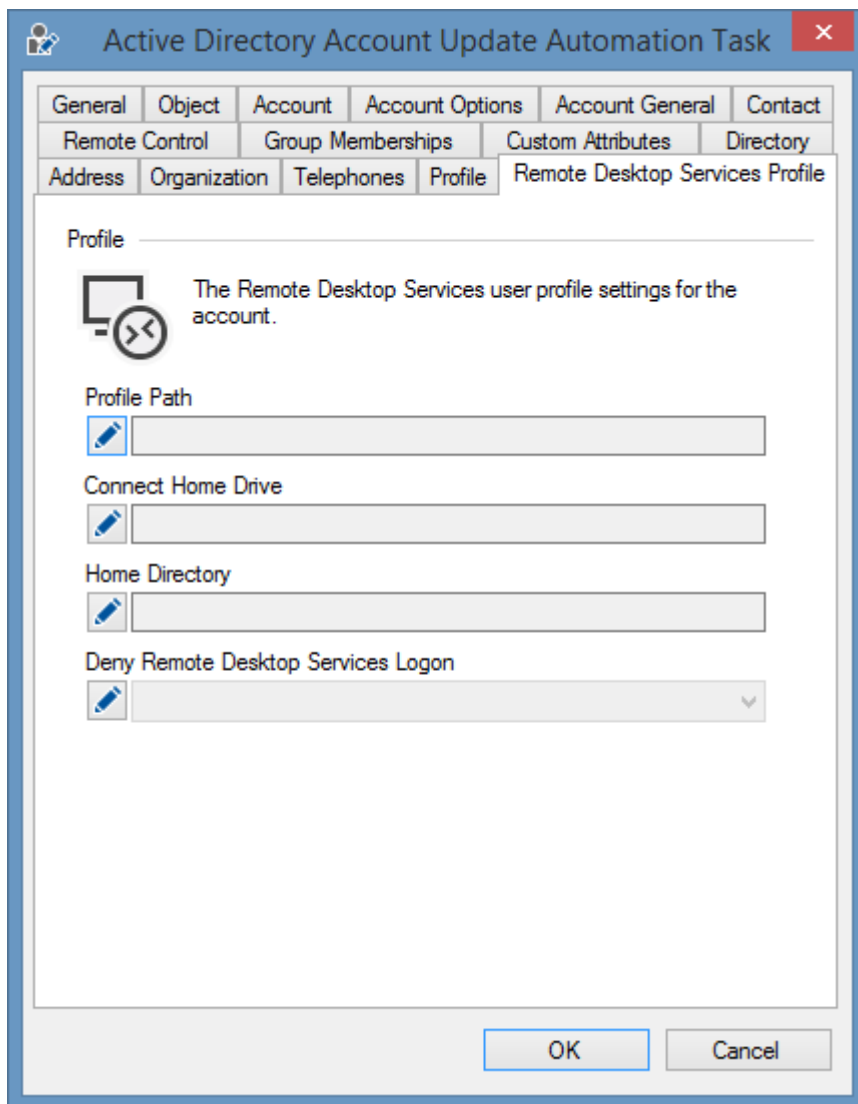


Remote Control Mode

The remote control mode for the user

- Disabled
- Allow Interaction (require permission)
- Allow Interaction
- View Only (require permission)
- View Only

Remote Desktop Services Profile



The screenshot shows a dialog box titled "Active Directory Account Update Automation Task" with a close button (X) in the top right corner. The dialog has a tabbed interface with the following tabs: General, Object, Account, Account Options, Account General, Contact, Remote Control, Group Memberships, Custom Attributes, Directory, Address, Organization, Telephones, Profile, and Remote Desktop Services Profile. The "Remote Desktop Services Profile" tab is selected and active. The main content area of the dialog is titled "Profile" and contains a description: "The Remote Desktop Services user profile settings for the account." Below this description are four input fields, each with a blue pencil icon on the left: "Profile Path", "Connect Home Drive", "Home Directory", and "Deny Remote Desktop Services Logon". The "Deny Remote Desktop Services Logon" field is a dropdown menu. At the bottom of the dialog are "OK" and "Cancel" buttons.

Profile Path

The network path to the user's roaming or mandatory profile when logging in using [Remote Desktop Services](#).

Connect Home Drive

The drive letter that should be connected for the user. The connect home drive setting cannot be blank or clear. To disconnect the home drive either set the home directory to a local path, an empty string, or clear.

Home Directory

The path to the home folder.

NOTE: When the home drive is set, the home directory must be a UNC path.

Deny Remote Desktop Services Logon

Determines whether the user should be denied the ability to logon using [Remote Desktop Services](#).

Telephones

Active Directory Account Update Automation Task

General Object Account Account Options Account General Contact
Remote Control Group Memberships Custom Attributes Directory
Address Organization Telephones Profile Remote Desktop Services Profile

Telephones

The telephone numbers for the account.

Home

Pager

Mobile

Fax

IP Phone

Notes

OK Cancel

Home

The home phone number.

Pager

The pager number.

Mobile

The mobile number.

Fax

The fax number.

IP Phone

The user's IP phone number.

Notes

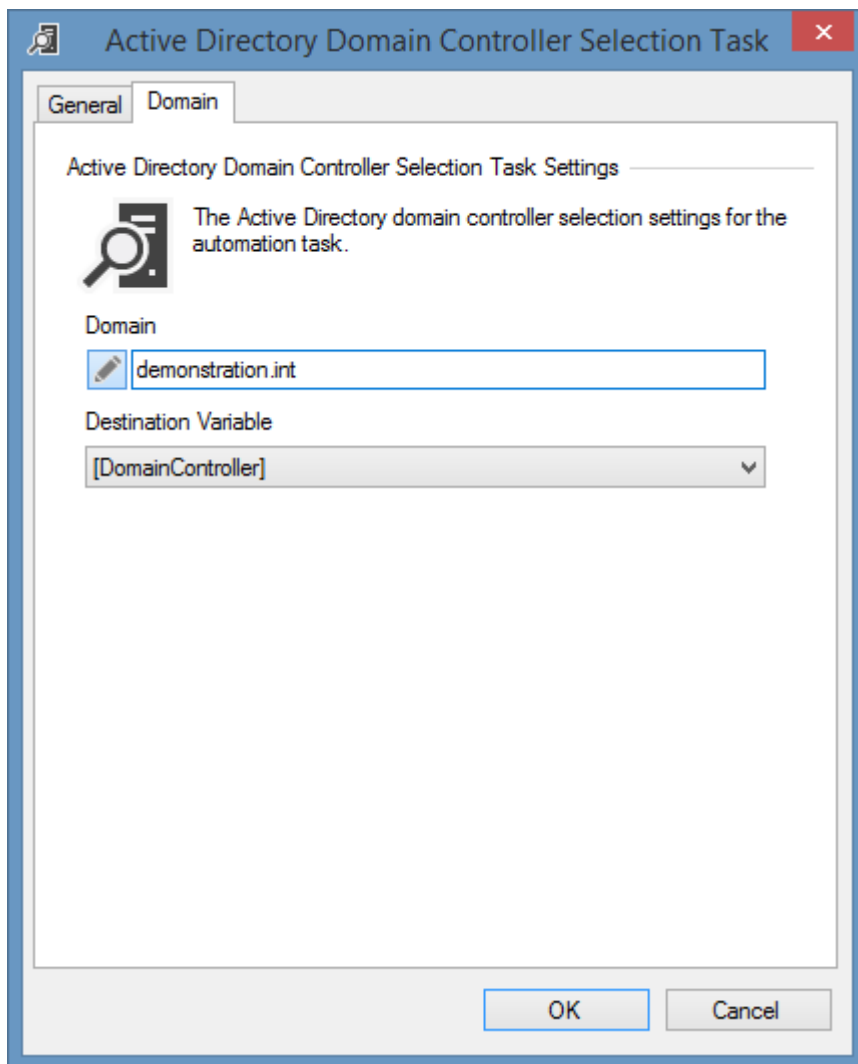
The telephony related notes.

Active Directory Domain Controller Selection Task

The Active Directory domain controller selection [task](#) is capable of selecting a domain controller for the specified [Active Directory](#) domain.

The fully qualified domain name of the domain controller is stored in the specified [string variable](#).

Domain



Domain

The fully qualified domain name (FQDN) of the Active Directory domain for which the domain controller should be selected.

Destination Variable

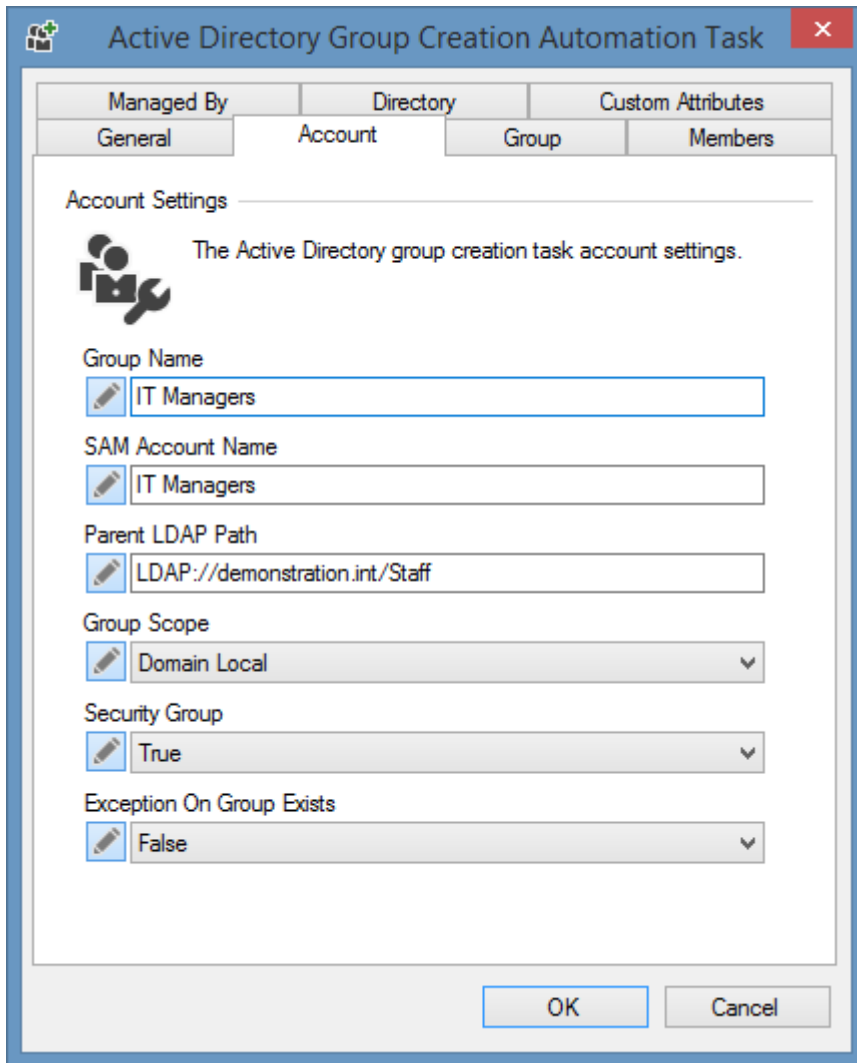
The [string variable](#) in which to store the fully qualified domain name of the domain controller.

Active Directory Group Creation Task

The Active Directory group creation [task](#) is capable of creating a new [Active Directory group](#).

To update an existing group see the [Active Directory group update task](#).

Account



Group Name

The group name.

SAM Account Name

The [SAM account name](#) of the group.

Parent LDAP Path

The absolute LDAP path in [canonical name](#) format in which to create the group.

Group Scope

The [scope](#) of the group

- Domain Local
- Global
- Universal

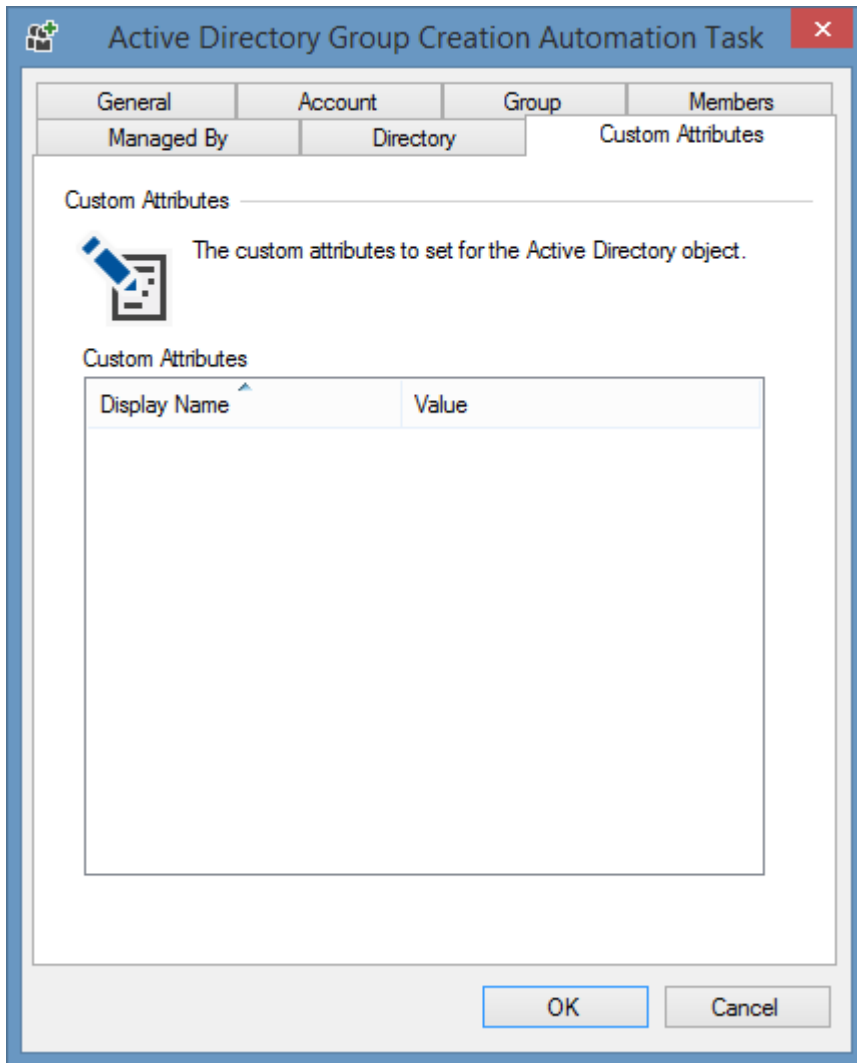
Security Group

Determines whether the group is a [security group](#). When set to false a distribution group is created.

Exception On Group Exists

Determines whether an exception should be thrown if the group to create already exists.

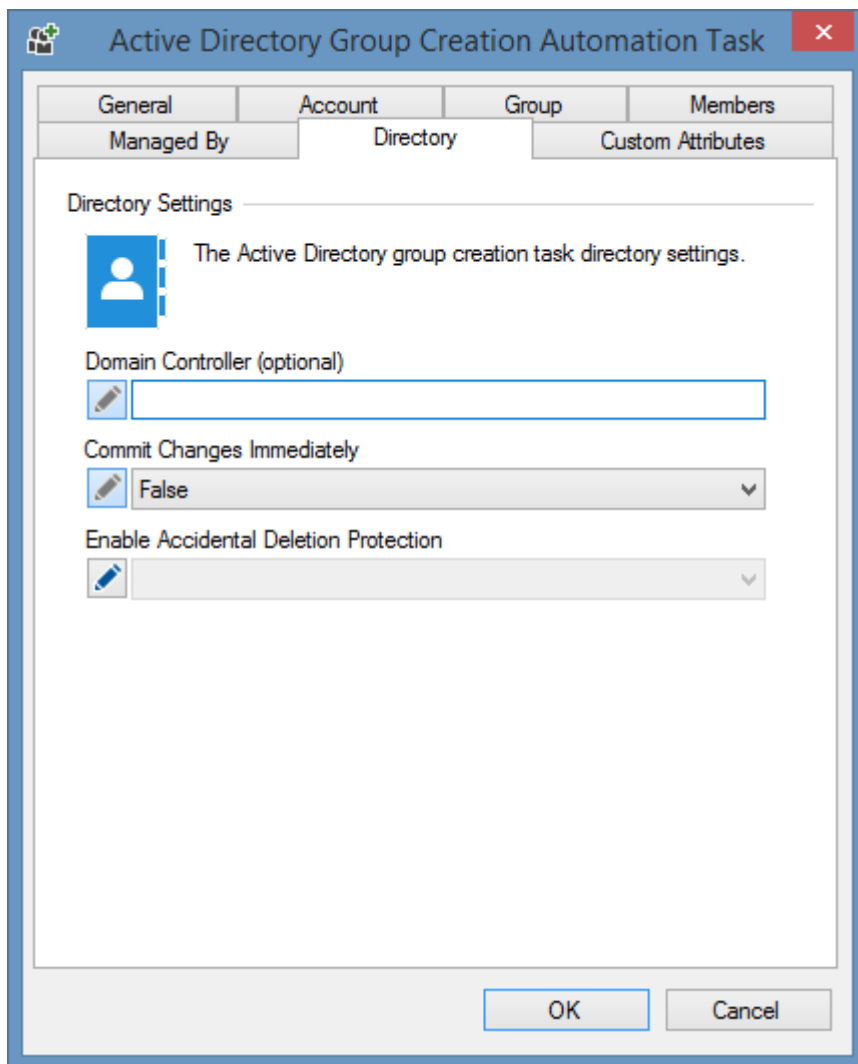
Custom Attributes



Custom Attributes

The [custom attributes](#) to set for the group.

Directory



Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

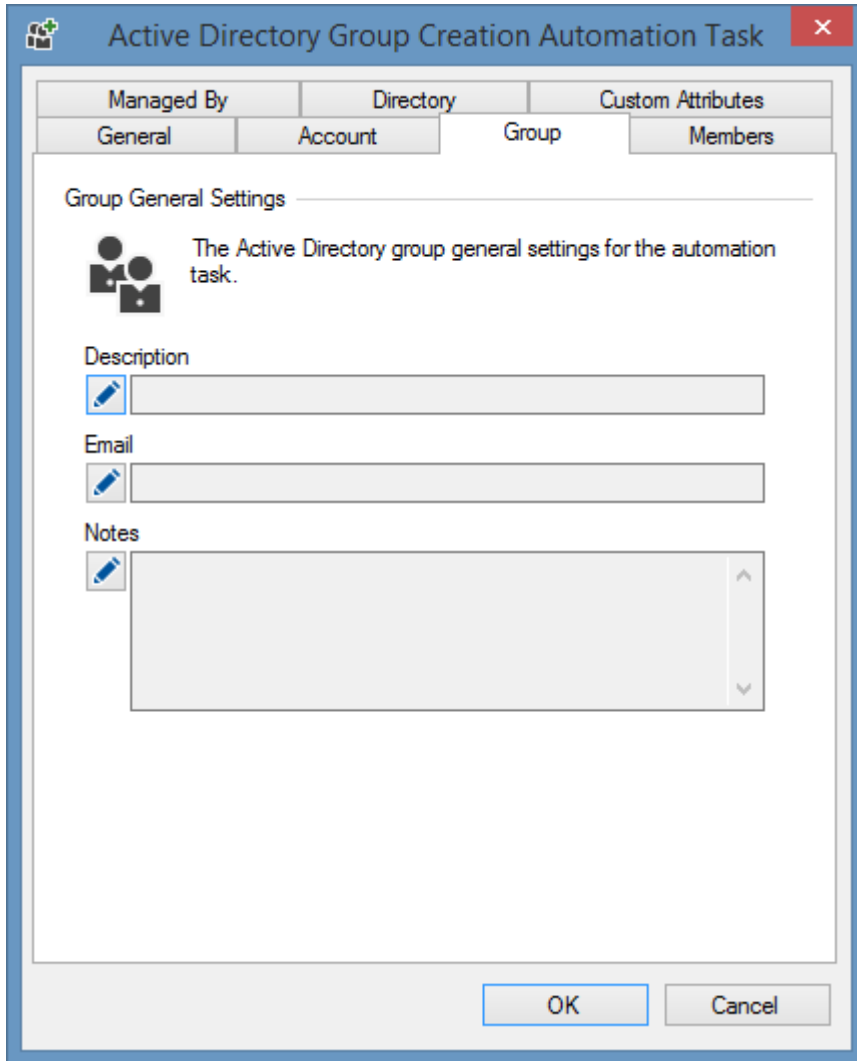
Commit Changes Immediately

Determines whether each change made to the directory is committed immediately. This can assist in troubleshooting.

Enable Accidental Deletion Protection

Determines whether accidental deletion protection should be enabled for the group.

Group



Description

The description of the group.

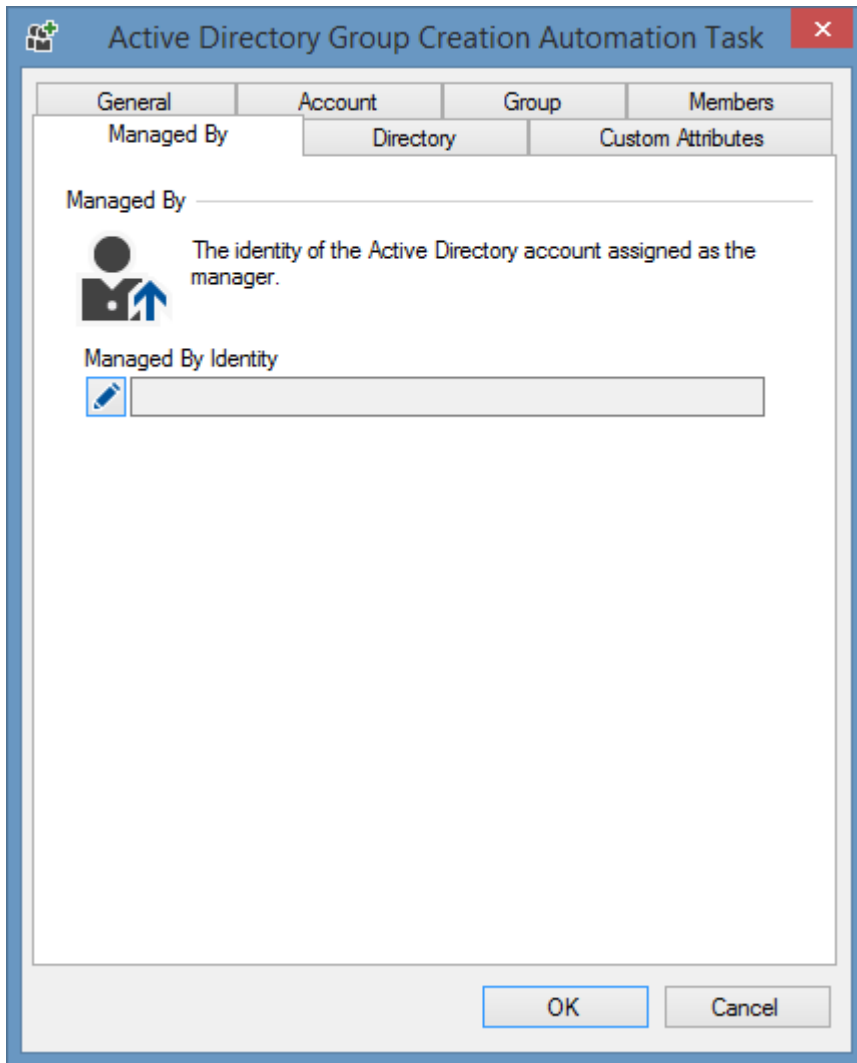
Email

The email address for the group.

Notes

Notes relating to the group.

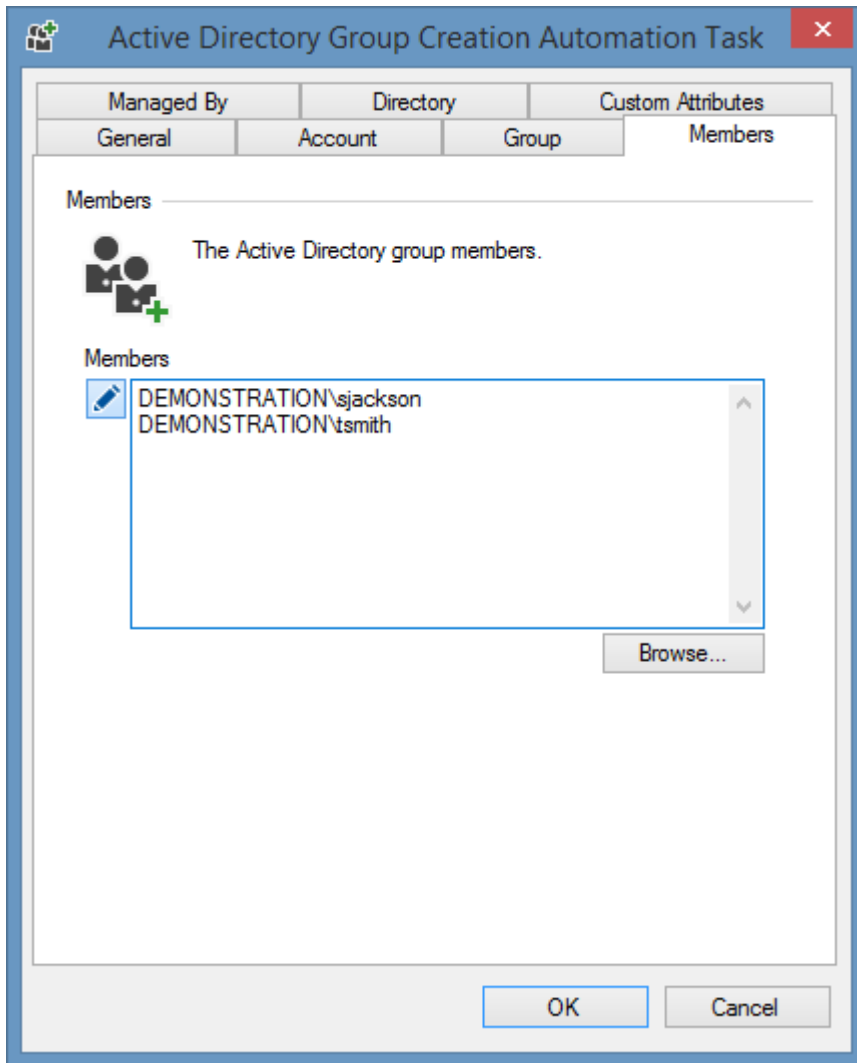
Managed By



Managed By

The [SAM account name](#) or [user principal name](#) of the manager to assign to the group. Clicking the *browse* button displays the [account browser](#).

Members



Members

The [Active Directory accounts](#) and [Active Directory groups](#) which should be made members of the group.

Clicking the *browse* button displays the [account browser](#).

Active Directory Group Deletion Task

The Active Directory group deletion [task](#) is capable of deleting an [Active Directory group](#) with the specified identity.

Group

The screenshot shows a Windows-style dialog box titled "Active Directory Group Deletion Automation Task". It has two tabs: "General" and "Group", with "Group" selected. The main area is titled "Active Directory Group Deletion Settings" and contains a description: "The Active Directory group deletion settings for the automation task." Below this are four settings, each with a pencil icon for editing:

- Identity:** A text box containing "IT Managers".
- Domain or Domain Controller:** A text box containing "demonstration.int".
- Exception On Group Not Found:** A dropdown menu set to "False".
- Disable Accidental Deletion Protection:** A dropdown menu set to "True".

At the bottom right, there are "OK" and "Cancel" buttons.

Identity

The identity of the group to delete.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the group resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Exception On Group Not Found

Determines whether an exception should be thrown if the group to delete is not found.

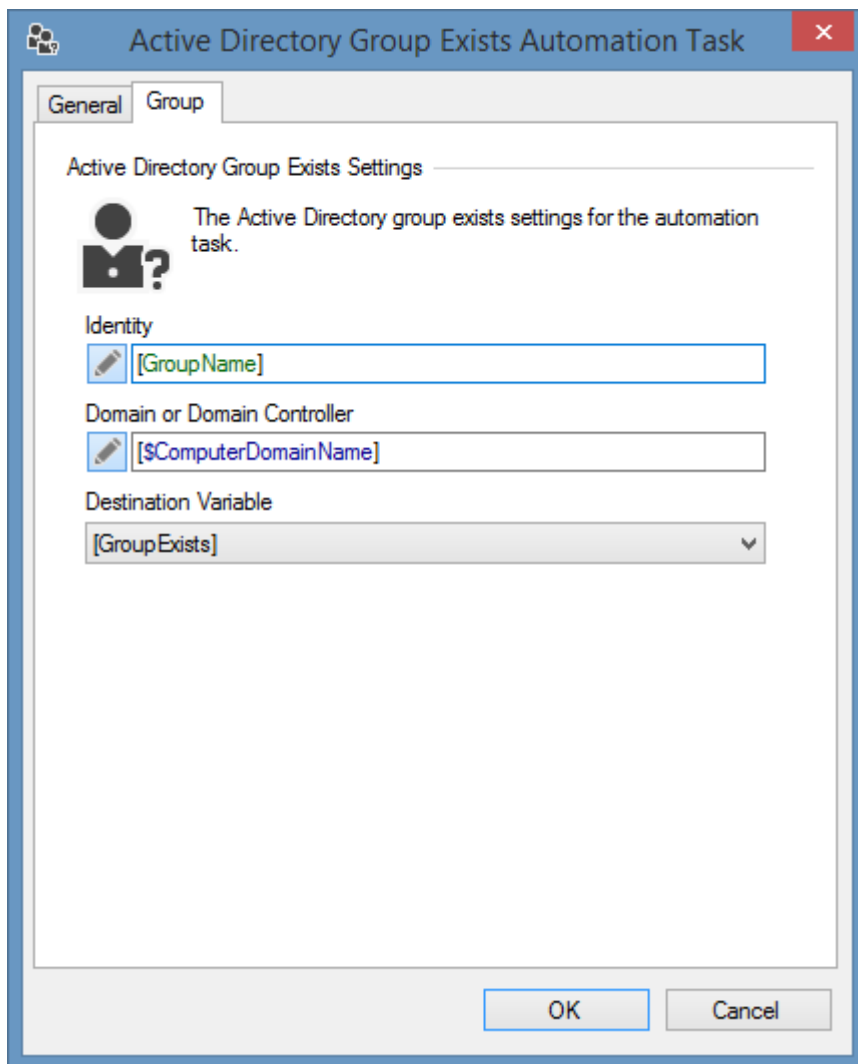
Disable Accidental Deletion Protection

Determines whether the "Protect object from accidental deletion" option should be disabled for the group before attempting deletion.

Active Directory Group Exists Task

The Active Directory group exists [task](#) is capable of determining whether an [Active Directory group](#) with the specified identity exists in the domain.

Group



The screenshot shows a dialog box titled "Active Directory Group Exists Automation Task" with a close button (X) in the top right corner. The dialog has two tabs: "General" and "Group", with "Group" selected. The main content area is titled "Active Directory Group Exists Settings" and contains a help icon (a person with a question mark) and the text "The Active Directory group exists settings for the automation task." Below this, there are three fields: "Identity" with a text box containing "[GroupName]", "Domain or Domain Controller" with a text box containing "[\$ComputerDomainName]", and "Destination Variable" with a dropdown menu showing "[GroupExists]". At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The identity of the group to locate.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the group resides, or the fully qualified domain name of a specific domain controller to use for the operation.

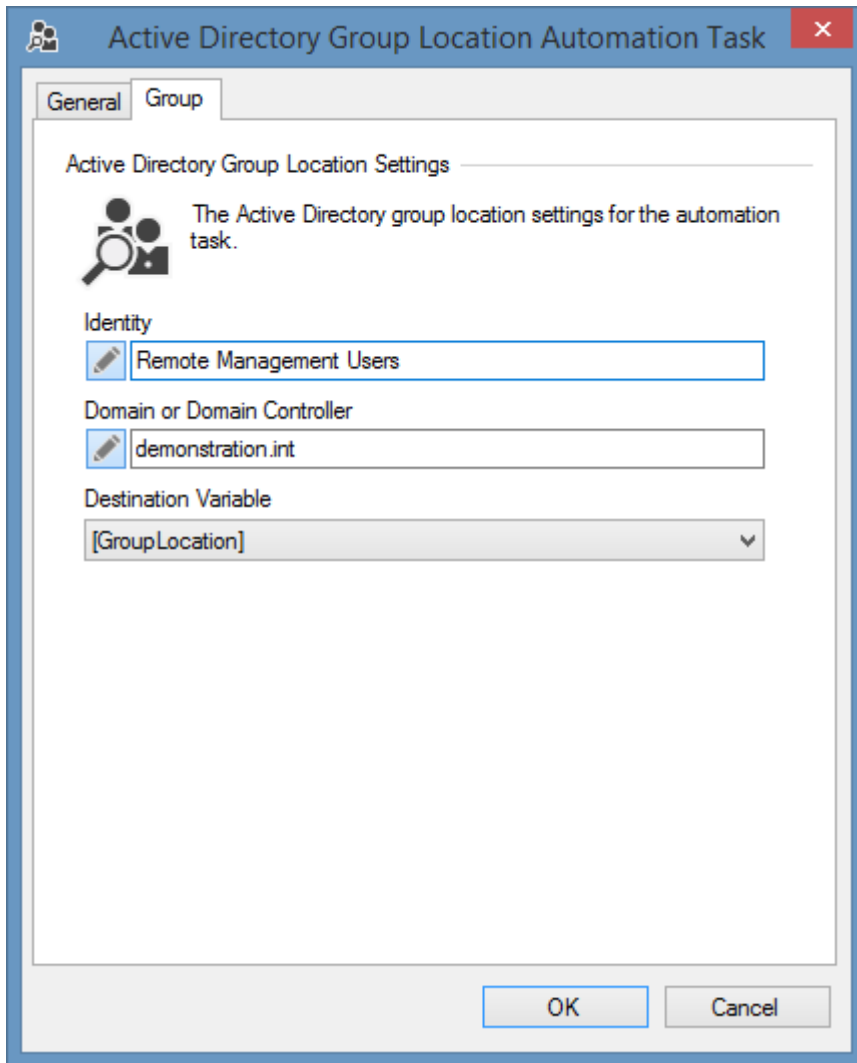
Destination Variable

The [boolean variable](#) in which to store the return value.

Active Directory Group Location Task

The Active Directory group location [task](#) is capable of determining the canonical LDAP path of an [Active Directory group](#) with the specified identity in the specified domain.

Group



The screenshot shows a dialog box titled "Active Directory Group Location Automation Task" with a "Group" tab selected. The dialog contains the following fields:

- Identity:** A text box containing "Remote Management Users".
- Domain or Domain Controller:** A text box containing "demonstration.int".
- Destination Variable:** A dropdown menu showing "[GroupLocation]".

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The identity of the group to locate.

Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the group resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Destination Variable

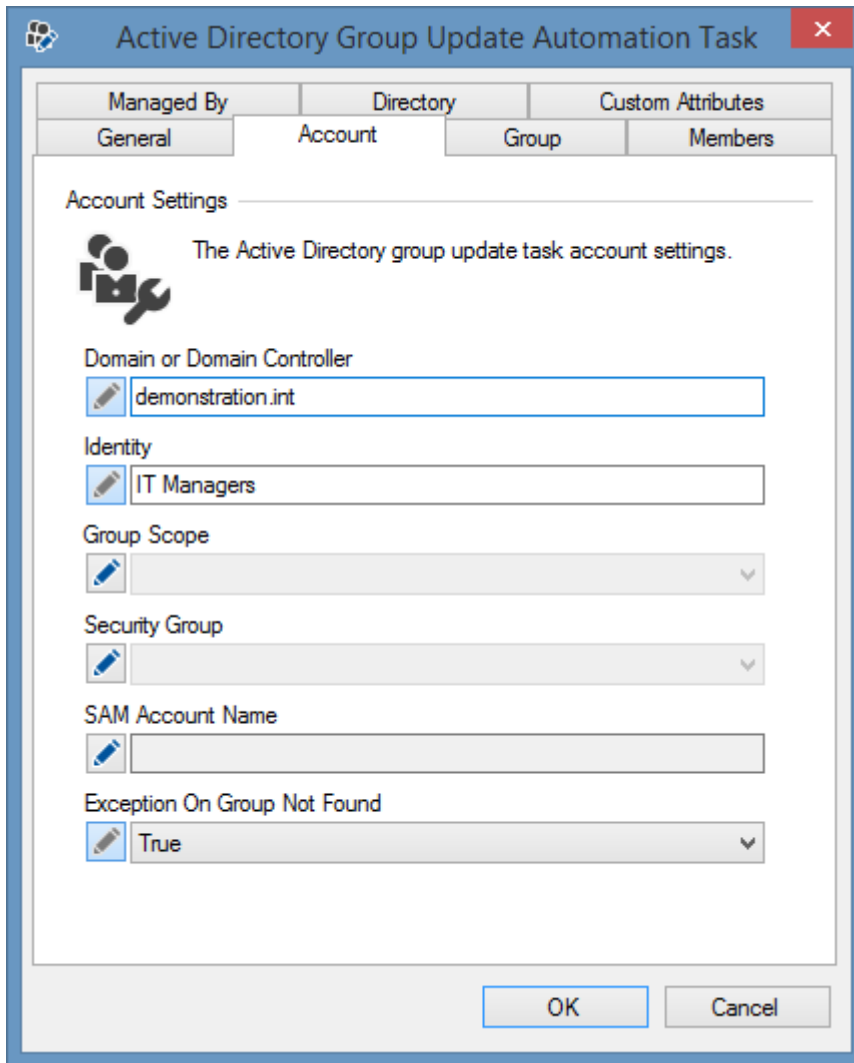
The [string variable](#) in which to store the return value. The value will be in canonical name format - for example "LDAP://demonstration.int/Management Team/Managers".

Active Directory Group Update Task

The Active Directory group update [task](#) is capable of updating an existing [Active Directory group](#).

To create a new group see the [Active Directory group creation task](#).

Account



Domain or Domain Controller

Either the fully qualified domain name (FQDN) of the Active Directory domain in which the group resides, or the fully qualified domain name of a specific domain controller to use for the operation.

Identity

The [SAM account name](#) of the group to update.

Group Scope

The [scope](#) of the group

- Domain Local
- Global
- Universal

Security Group

Determines whether the group is a [security group](#). When set to false the group is made a distribution group.

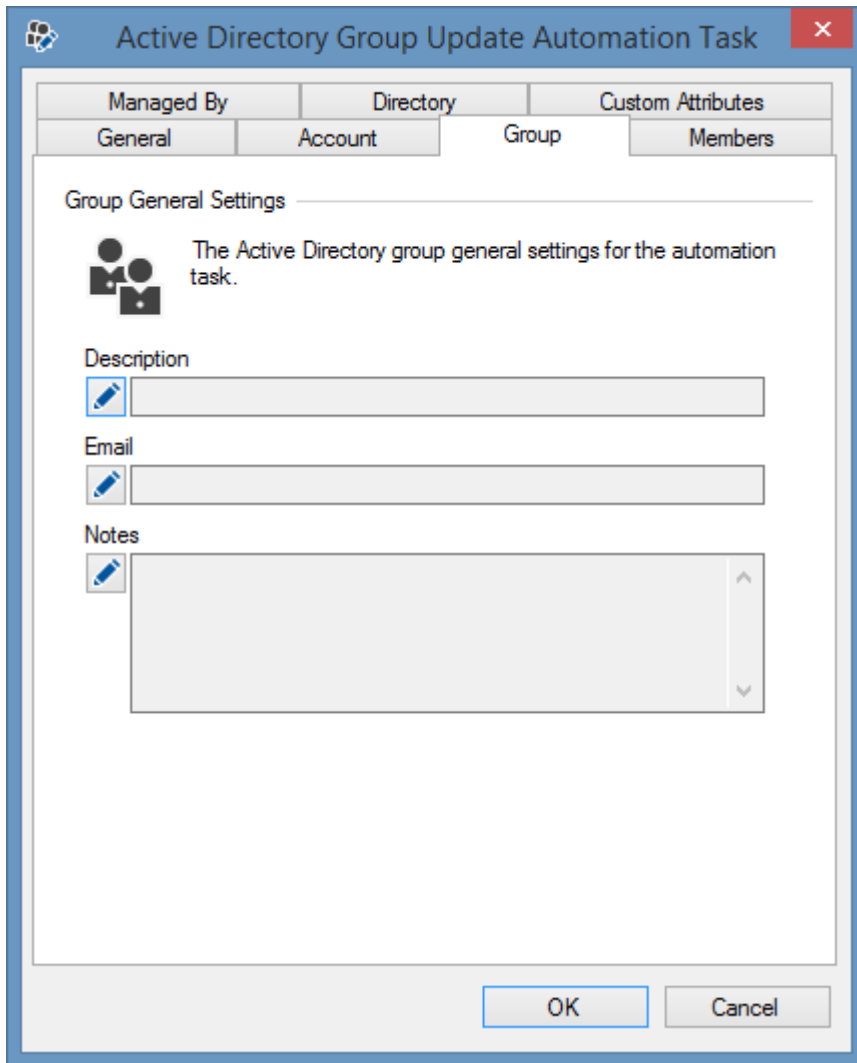
SAM Account Name

The new [SAM account name](#) of the group.

Exception On Group Not Found

Determines whether an exception should be thrown if the group to update is not found.

Group



Description

The description of the group.

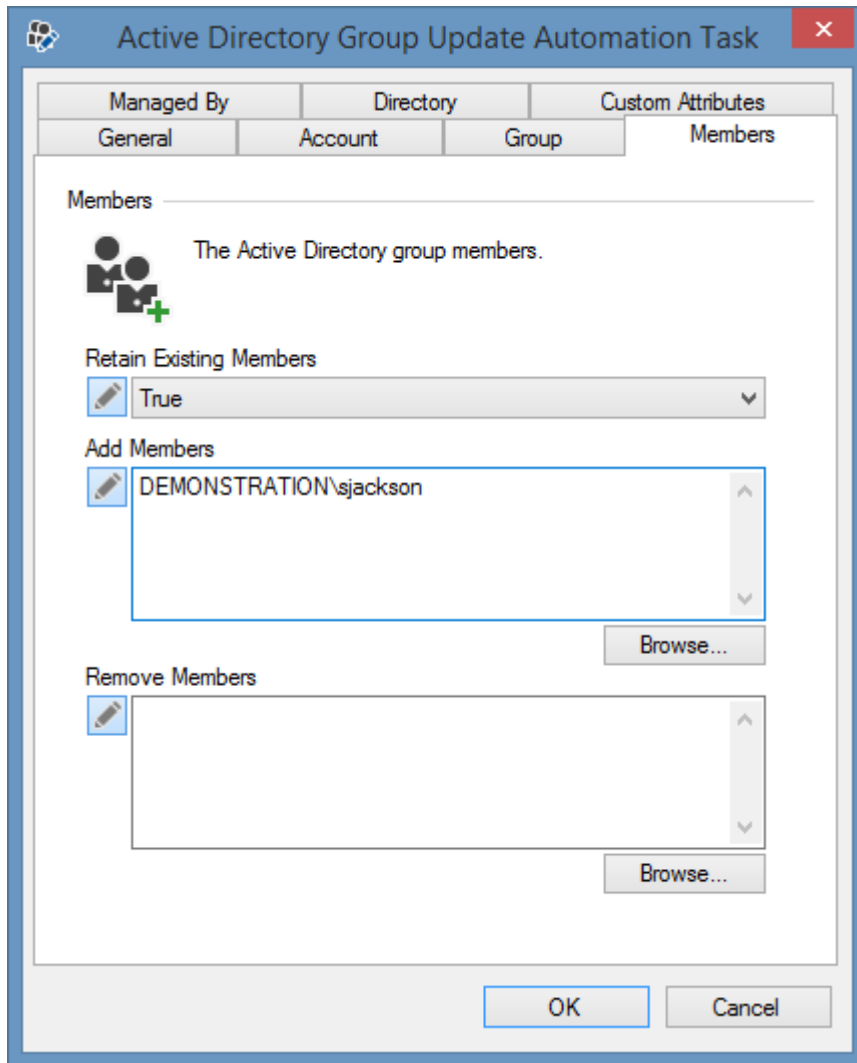
Email

The email address for the group.

Notes

Notes relating to the group.

Members



Retain Existing Members

Determines whether the existing members of the group should be retained.

Add Members

The [Active Directory accounts](#) and [Active Directory groups](#) which should be made members of the group.

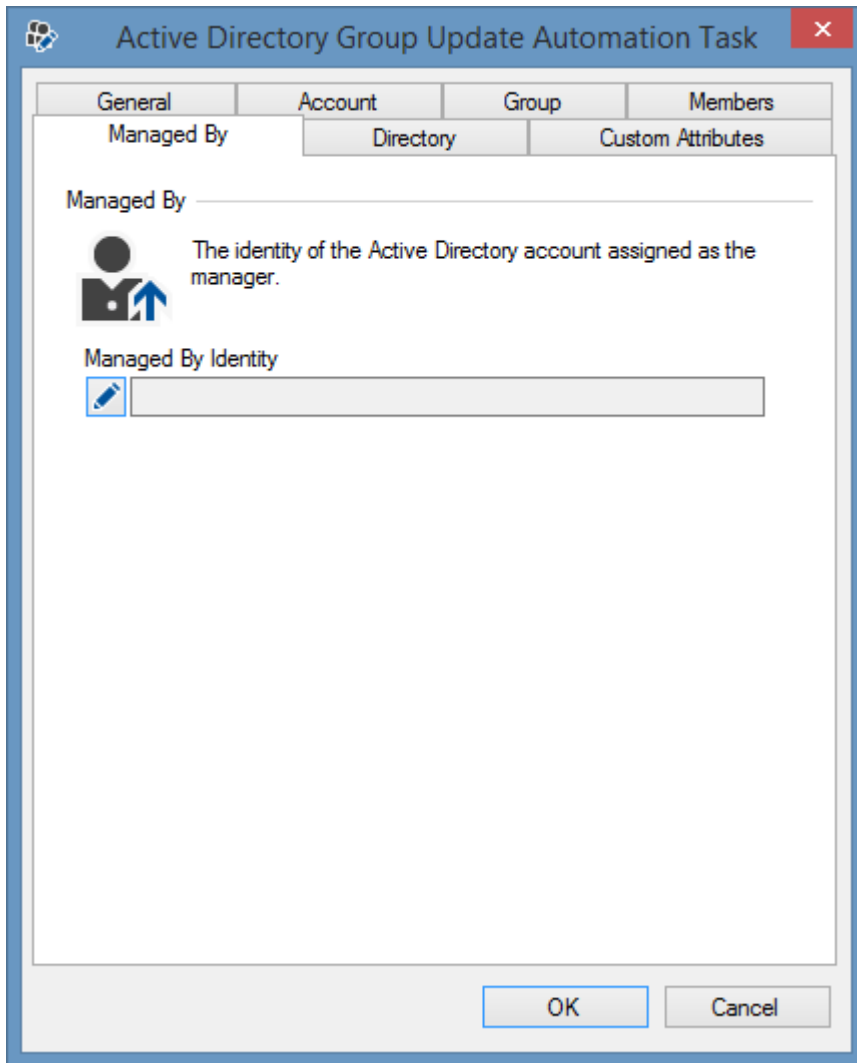
Clicking the *browse* button displays the [account browser](#).

Remove Members

The [Active Directory accounts](#) and [Active Directory groups](#) which should be removed from the group.

Clicking the *browse* button displays the [account browser](#).

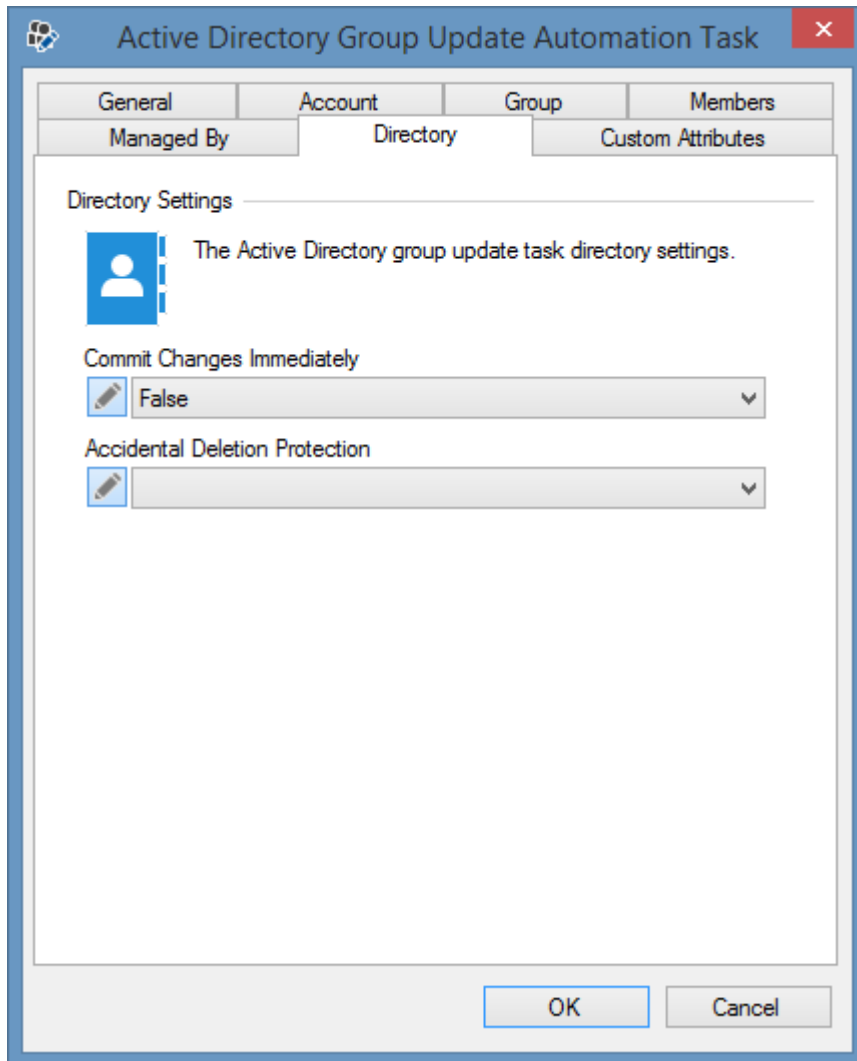
Managed By



Managed By

The [SAM account name](#) or [user principal name](#) of the manager to assign to the group. Clicking the *browse* button displays the [account browser](#).

Directory



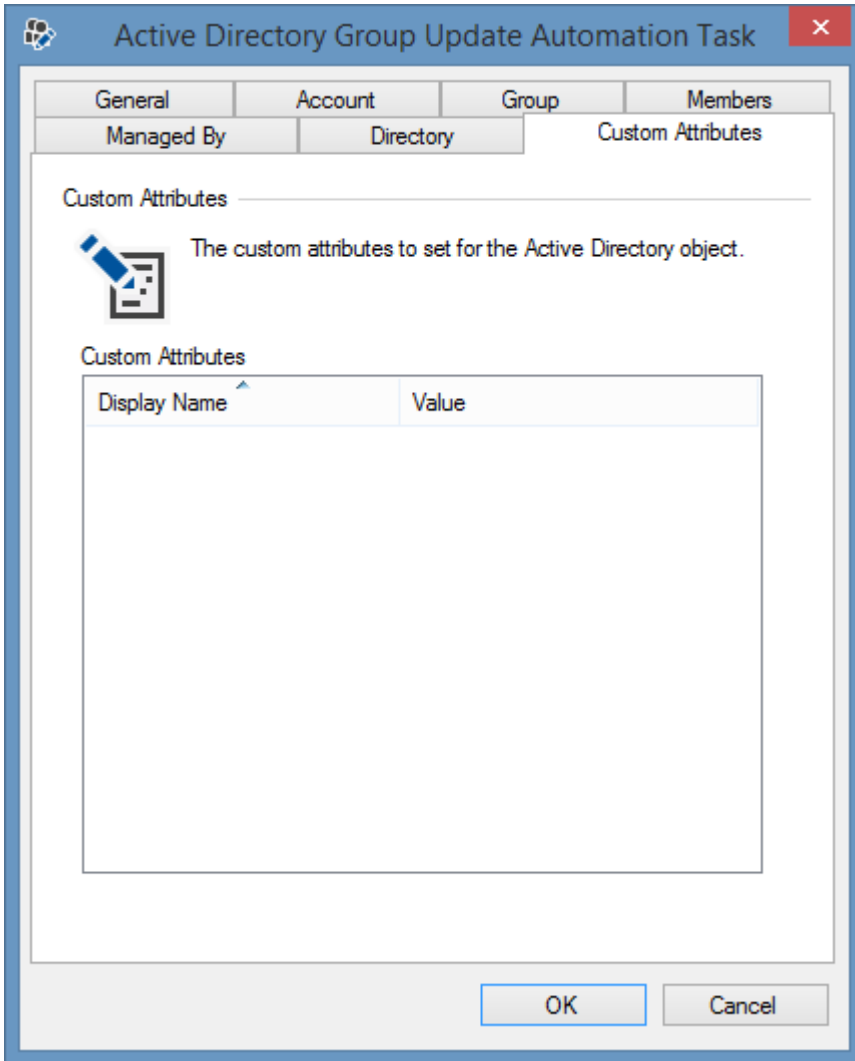
Commit Changes Immediately

Determines whether each change made to the directory is committed immediately. This can assist in troubleshooting.

Accidental Deletion Protection

Determines whether accidental deletion protection should be enabled or disabled for the group.

Custom Attributes



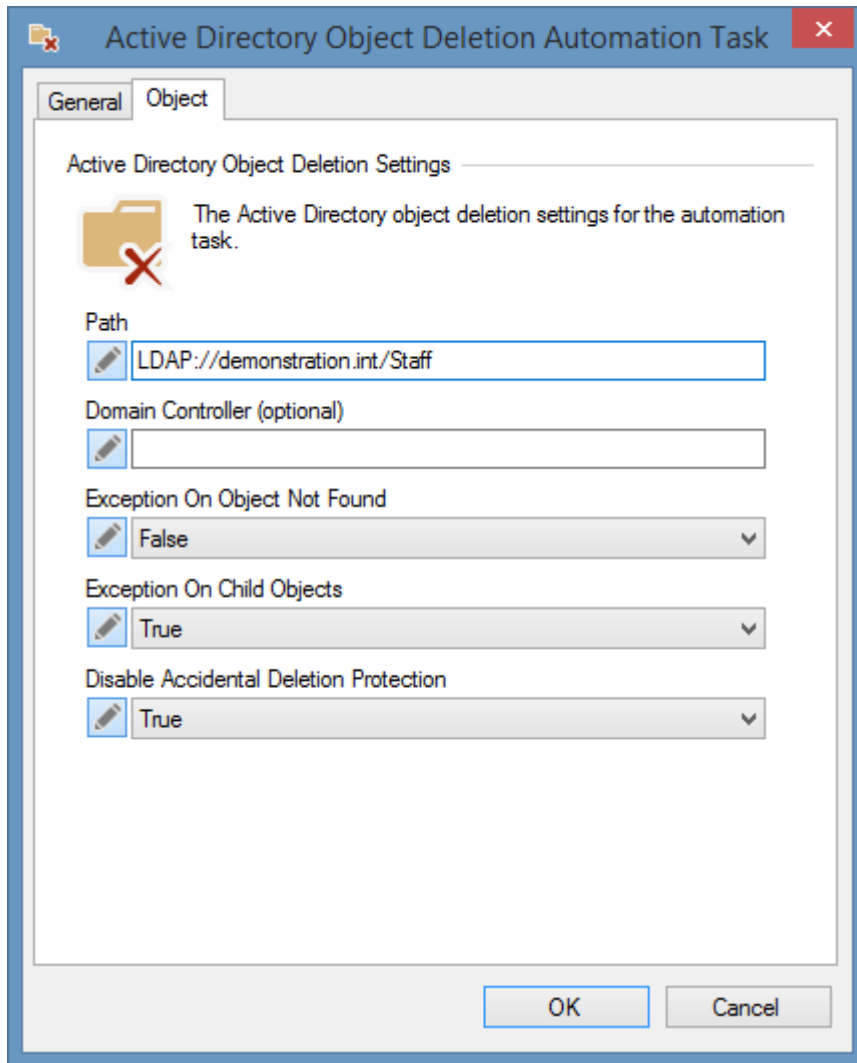
Custom Attributes

The [custom attributes](#) to set for the group.

Active Directory Object Deletion Task

The Active Directory object deletion [task](#) is capable of deleting an [Active Directory](#) object found at the specified path.

Object



Path

The absolute LDAP path in [canonical name](#) format of the object to delete.

Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

Exception On Object Not Found

Determines whether an exception should be thrown if the object to delete does not exist.

Exception On Child Objects

Determines whether an exception should be thrown if the object to delete contains child objects.

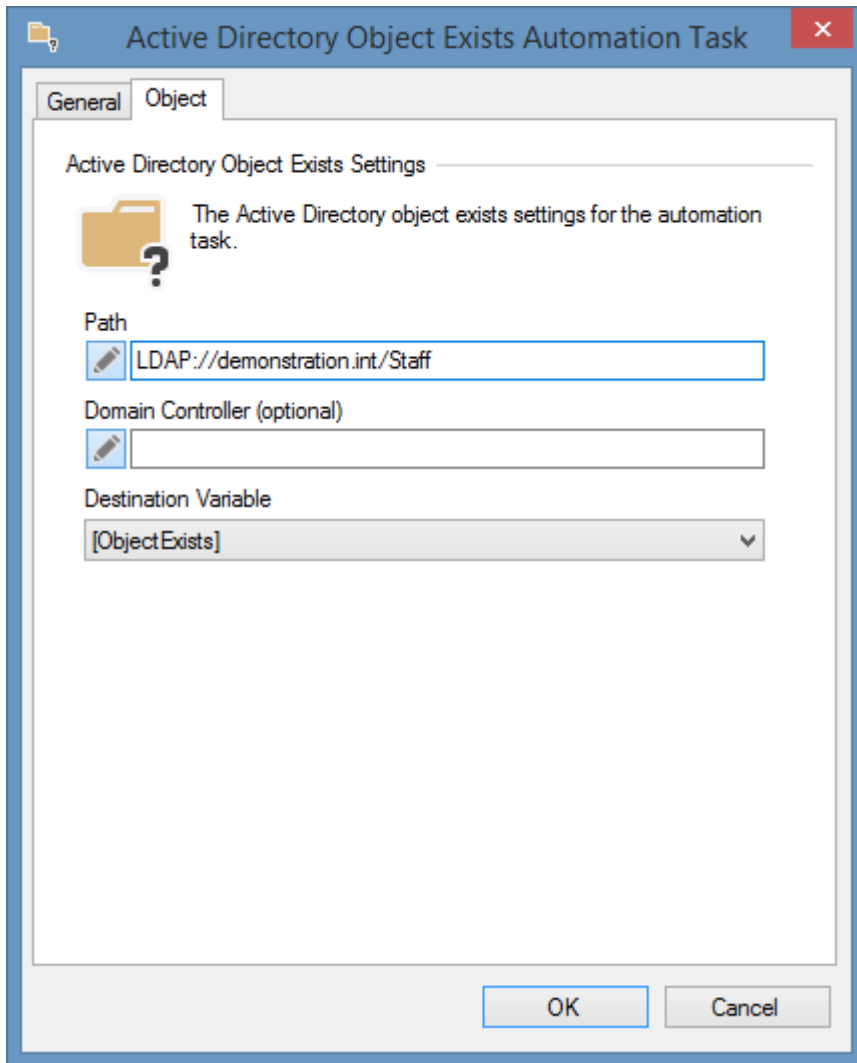
Disable Accidental Deletion Protection

Determines whether the "Protect object from accidental deletion" option should be disabled for the object before attempting deletion.

Active Directory Object Exists Task

The Active Directory object exists [task](#) is capable of determining whether an [Active Directory](#) object exists at the specified path.

Object



The screenshot shows a dialog box titled "Active Directory Object Exists Automation Task" with a close button (X) in the top right corner. The dialog has two tabs: "General" and "Object", with "Object" selected. Below the tabs is a section titled "Active Directory Object Exists Settings" with a folder icon and a question mark. To the right of the icon is the text: "The Active Directory object exists settings for the automation task." Below this are three fields: "Path" with a text box containing "LDAP://demonstration.int/Staff", "Domain Controller (optional)" with an empty text box, and "Destination Variable" with a dropdown menu showing "[ObjectExists]". At the bottom of the dialog are "OK" and "Cancel" buttons.

Path

The absolute LDAP path in [canonical name](#) format of the object to evaluate.

Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

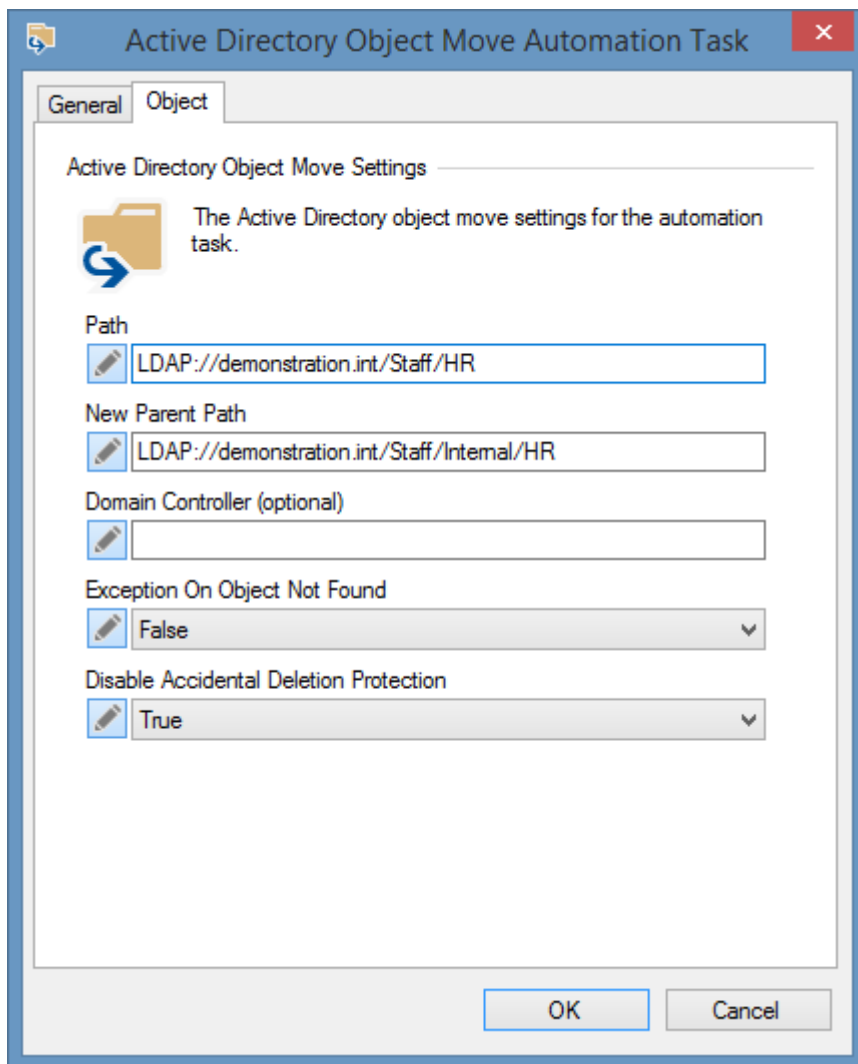
Destination Variable

The [boolean variable](#) in which to store the return value.

Active Directory Object Move Task

The Active Directory object move [task](#) is capable of moving an [Active Directory](#) object from the specified path to a new location in the directory.

Object



The screenshot shows a dialog box titled "Active Directory Object Move Automation Task" with a close button in the top right corner. The "Object" tab is selected, showing the "Active Directory Object Move Settings" section. A folder icon with a blue arrow indicates the settings for the automation task. Below this, there are five fields:

- Path:** LDAP://demonstration.int/Staff/HR
- New Parent Path:** LDAP://demonstration.int/Staff/Internal/HR
- Domain Controller (optional):** (empty field)
- Exception On Object Not Found:** False
- Disable Accidental Deletion Protection:** True

At the bottom of the dialog box are "OK" and "Cancel" buttons.

Path

The absolute LDAP path in [canonical name](#) format of the object to move.

New Parent Path

The absolute LDAP path in [canonical name](#) format to which the object is to be moved.

Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

Exception On Object Not Found

Determines whether an exception should be thrown if the object to move is not found.

Disable Accidental Deletion Protection

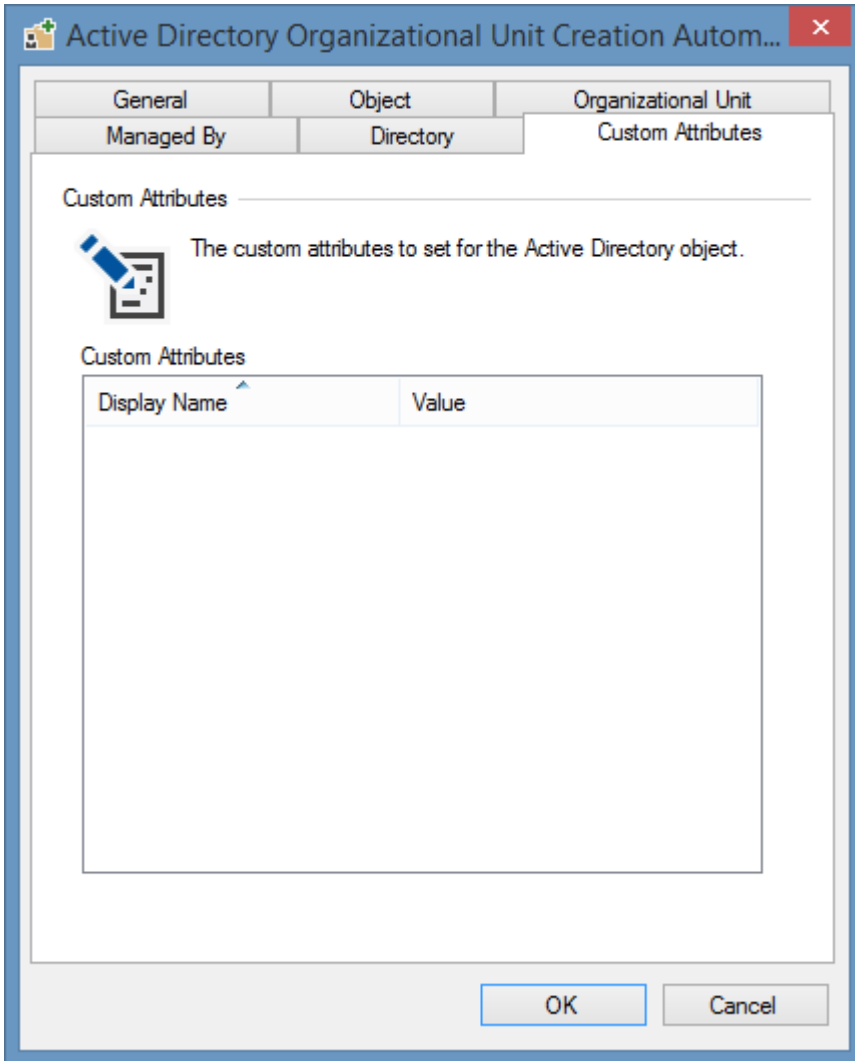
Determines whether the "Protect object from accidental deletion" option should be disabled for the object before attempting the move.

Active Directory Organizational Unit Creation Task

The Active Directory organizational unit creation [task](#) is capable of creating a new [Active Directory organizational unit](#).

To update an existing organizational unit see the [Active Directory organizational unit update task](#).

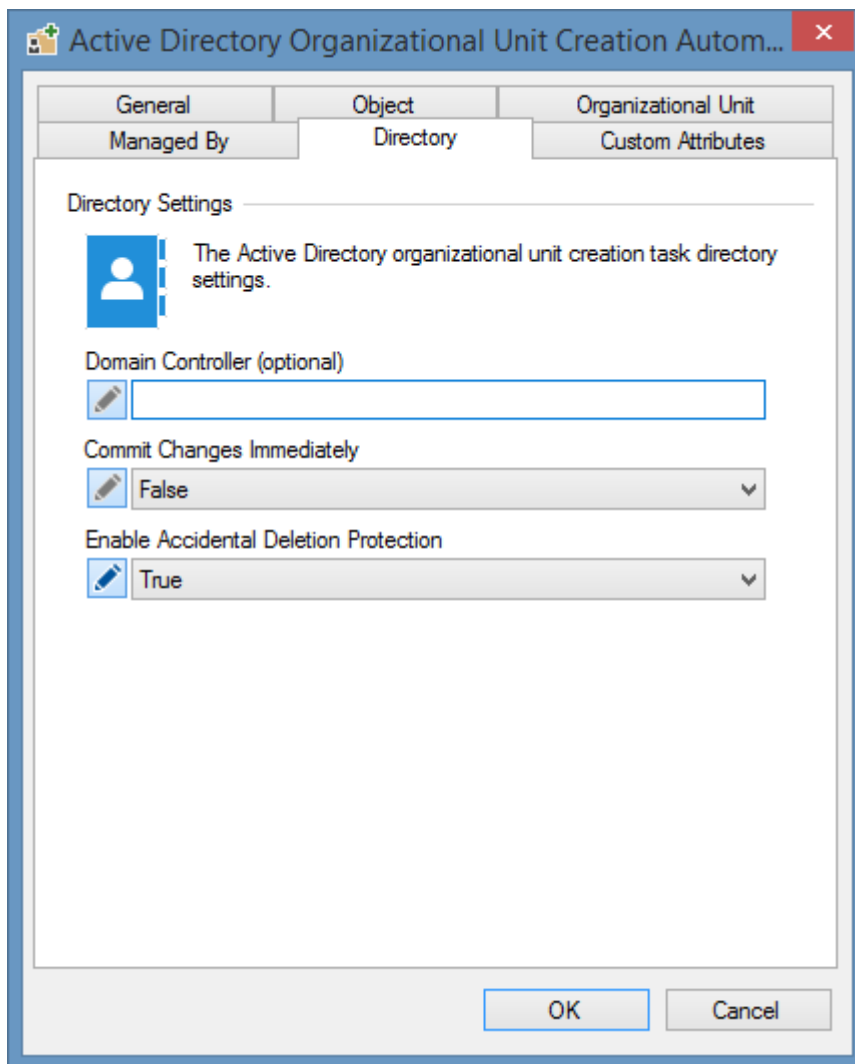
Custom Attributes



Custom Attributes

The [custom attributes](#) to set for the organizational unit.

Directory



Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

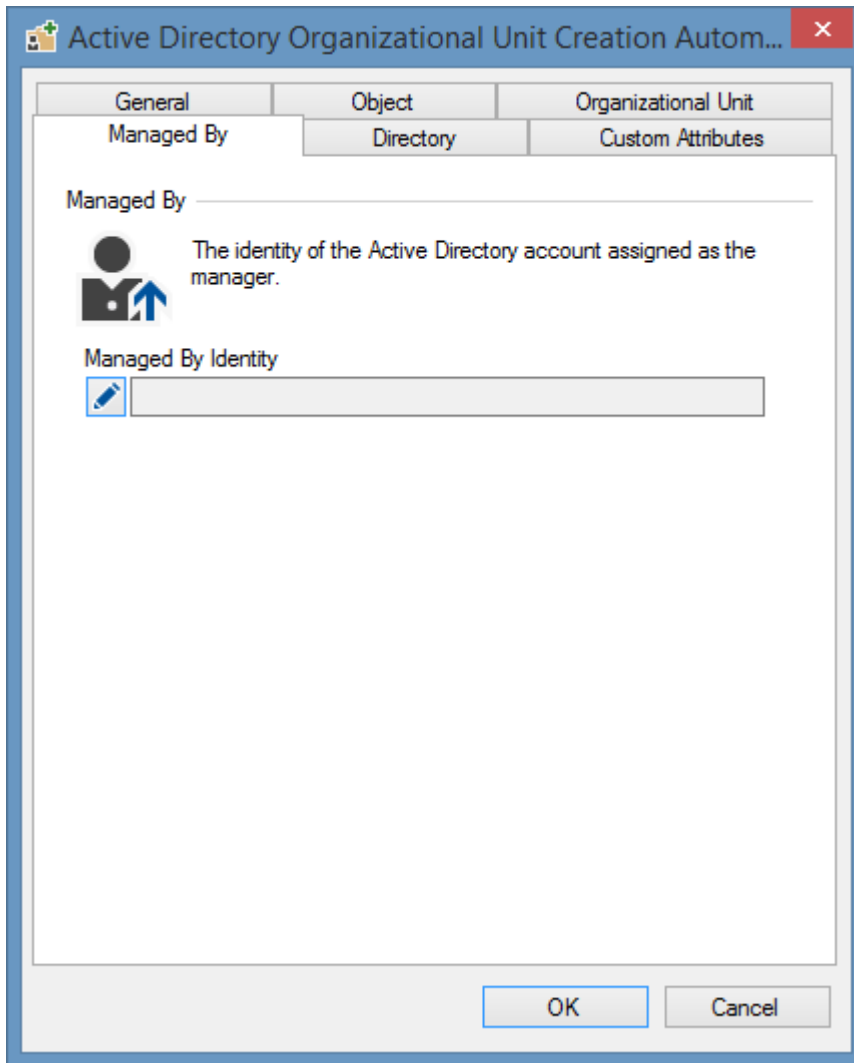
Commit Changes Immediately

Determines whether each change made to the directory is committed immediately. This can assist in troubleshooting.

Enable Accidental Deletion Protection

Determines whether accidental deletion protection should be enabled for the organizational unit.

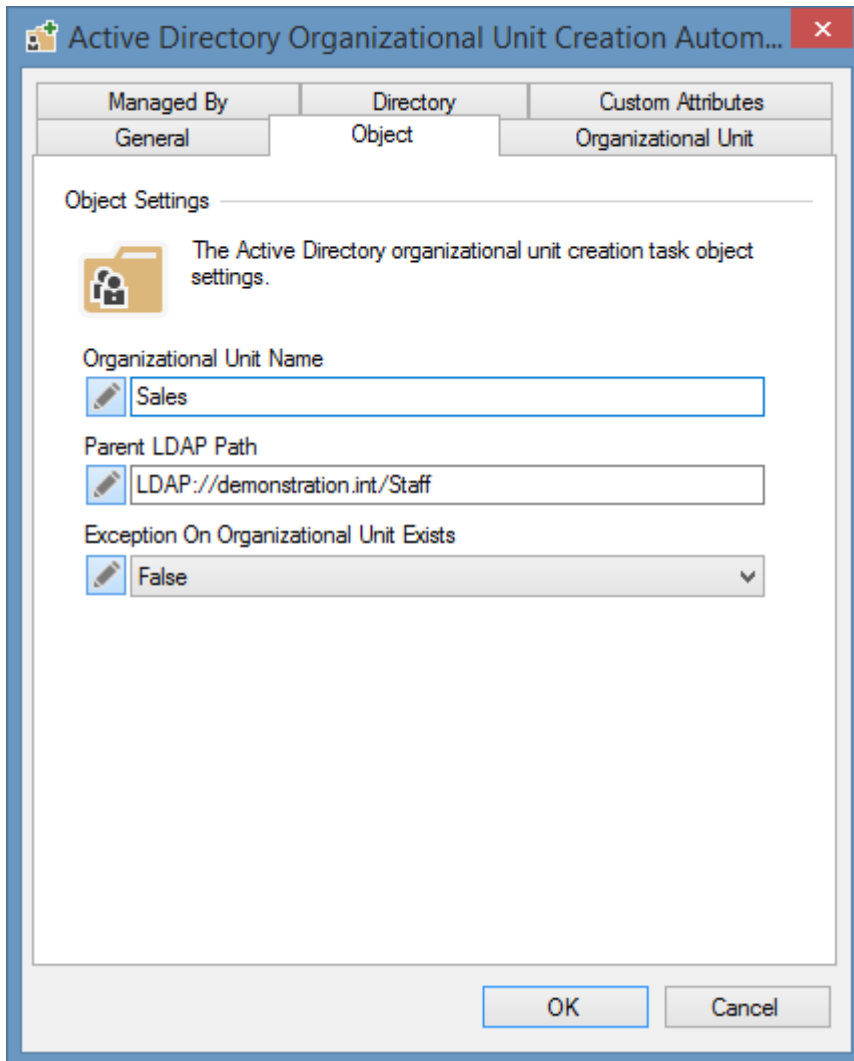
Managed By



Managed By

The [SAM account name](#) or [user principal name](#) of the manager to assign to the organizational unit. Clicking the *browse* button displays the [account browser](#).

Object



Organizational Unit Name

The name of the organizational unit to create.

Parent LDAP Path

The absolute LDAP path in [canonical name](#) format in which to create the organizational unit.

Exception On Organizational Unit Exists

Determines whether an exception should be thrown if an organizational unit already exists with the name specified in the specified parent LDAP path.

Organizational Unit

Active Directory Organizational Unit Creation Autom...

Managed By | Directory | Custom Attributes

General | Object | Organizational Unit

Organizational Unit General Settings

The Active Directory organizational unit general settings for the automation task.

Description

Street

City

State/province

Zip/Postal Code

Country/region

OK Cancel

Description

The description of the organizational unit.

Street

The street address for the organizational unit.

P.O. Box

The PO box address for the organizational unit.

City

The city for the organizational unit.

State/province

The state or province for the organizational unit.

Zip/Postal Code

The Zip or postal code for the organizational unit.

Country/region

The country or region ([ISO 3166-1-alpha-2](#)) code assigned to the organizational unit - for example

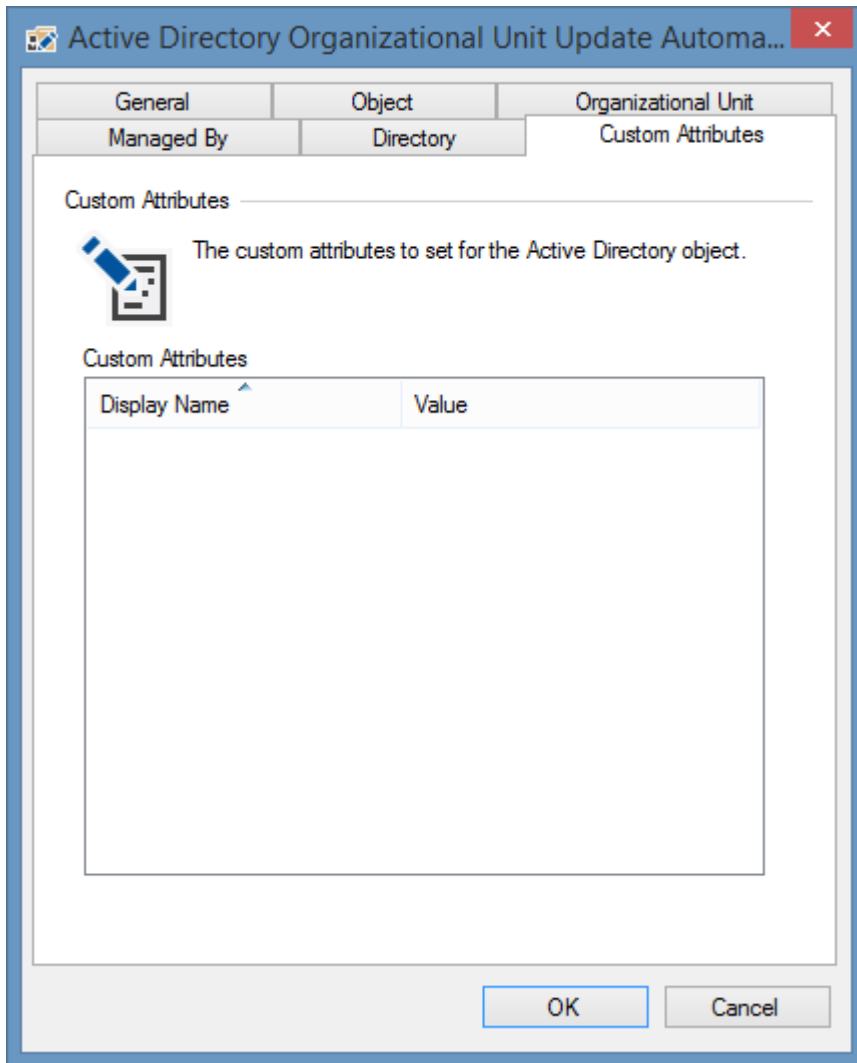
"US".

Active Directory Organizational Unit Update Task

The Active Directory organizational unit update [task](#) is capable of updating an existing [Active Directory organizational unit](#).

To create a new organizational unit see the [Active Directory organizational unit creation task](#).

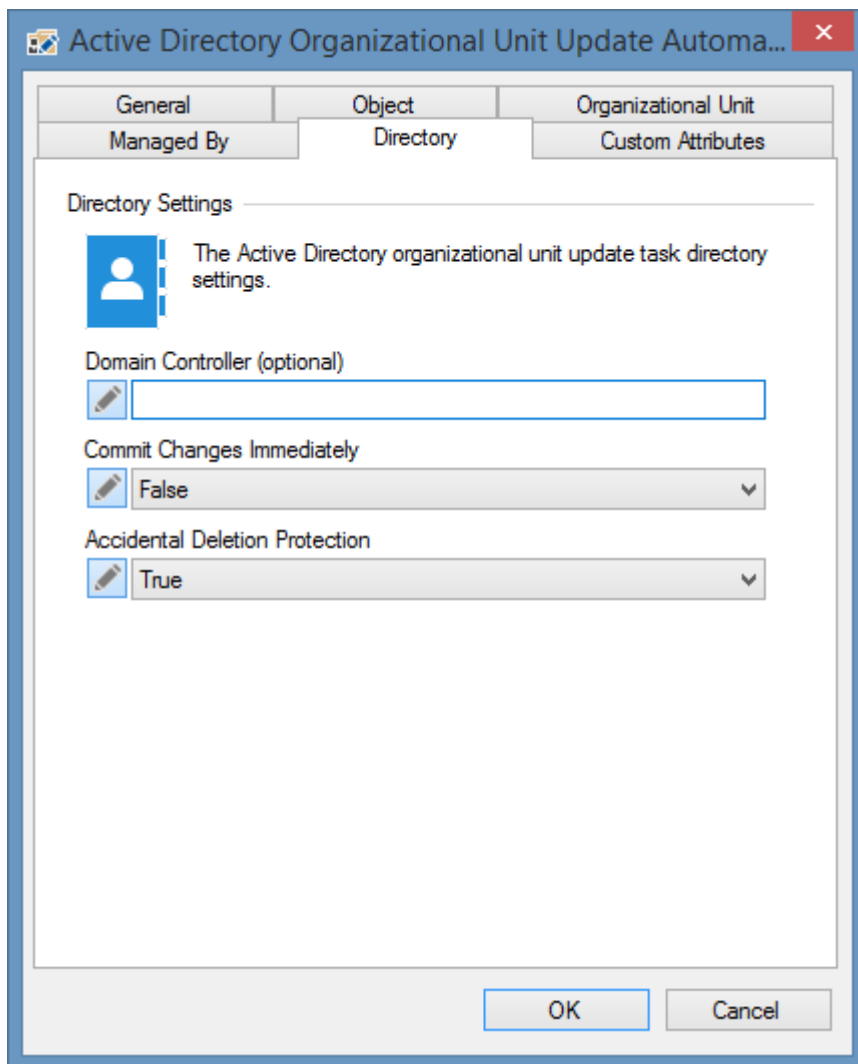
Custom Attributes



Custom Attributes

The [custom attributes](#) to set for the organizational unit.

Directory



Domain Controller (optional)

The fully qualified domain name of a specific domain controller to use for the operation.

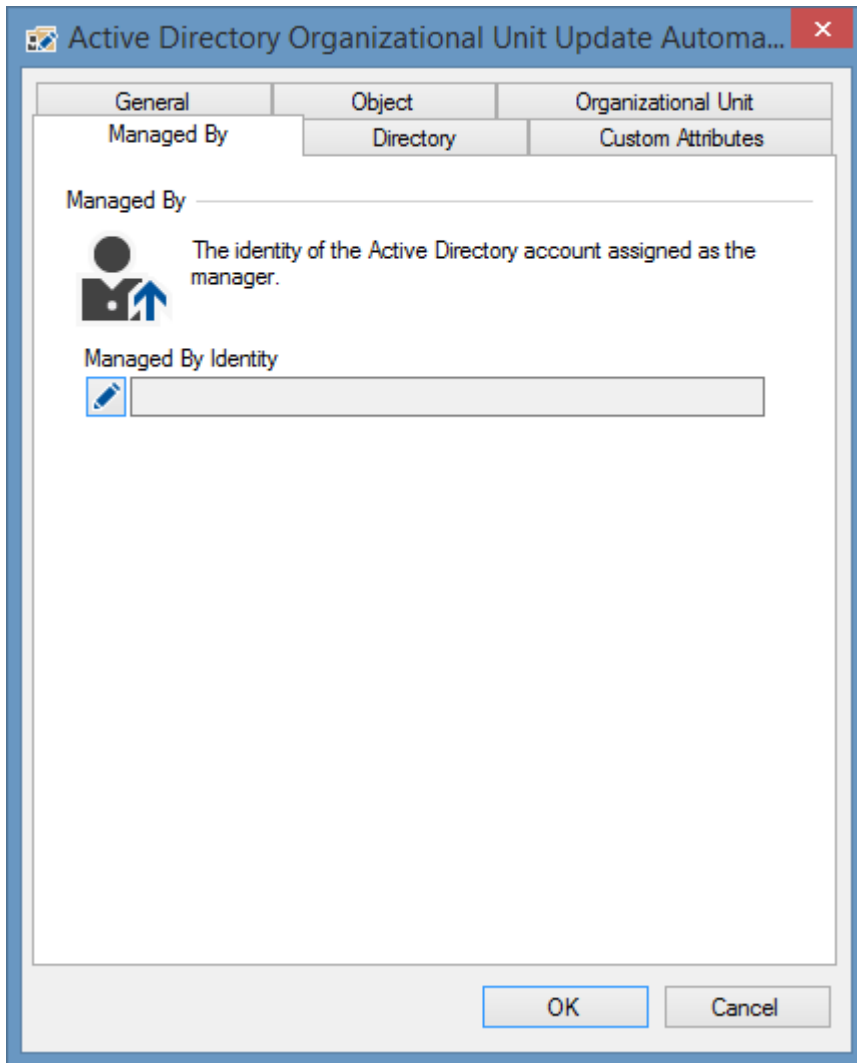
Commit Changes Immediately

Determines whether each change made to the directory is committed immediately. This can assist in troubleshooting.

Accidental Deletion Protection

Determines whether accidental deletion protection should be enabled or disabled for the organizational unit.

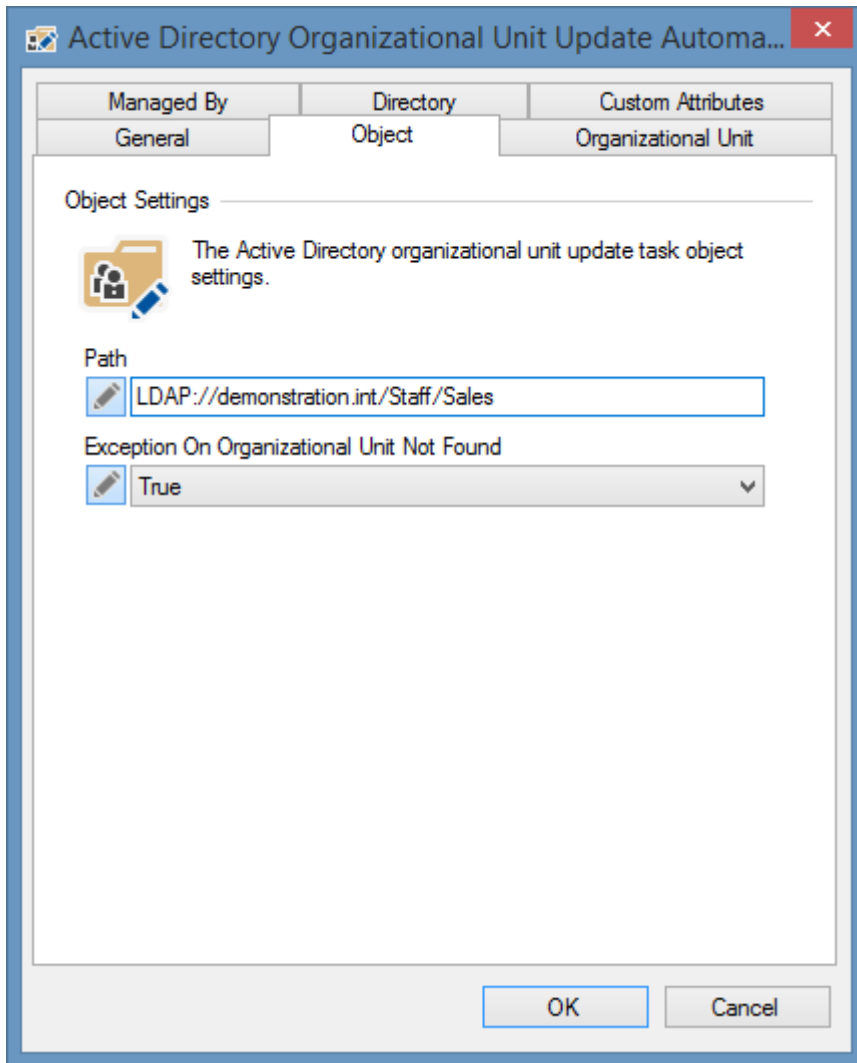
Managed By



Managed By

The [SAM account name](#) or [user principal name](#) of the manager to assign to the organizational unit. Clicking the *browse* button displays the [account browser](#).

Object



Path

The absolute LDAP path in [canonical name](#) format of the organizational unit to update.

Exception On Organizational Not Found

Determines whether an exception should be thrown if the organizational unit to update is not found.

Organizational Unit

Active Directory Organizational Unit Update Automa...

Managed By | Directory | Custom Attributes

General | Object | Organizational Unit

Organizational Unit General Settings

The Active Directory organizational unit general settings for the automation task.

Description

Street

City

State/province

Zip/Postal Code

Country/region

OK Cancel

Description

The description of the organizational unit.

Street

The street address for the organizational unit.

P.O. Box

The PO box address for the organizational unit.

City

The city for the organizational unit.

State/province

The state or province for the organizational unit.

Zip/Postal Code

The Zip or postal code for the organizational unit.

Country/region

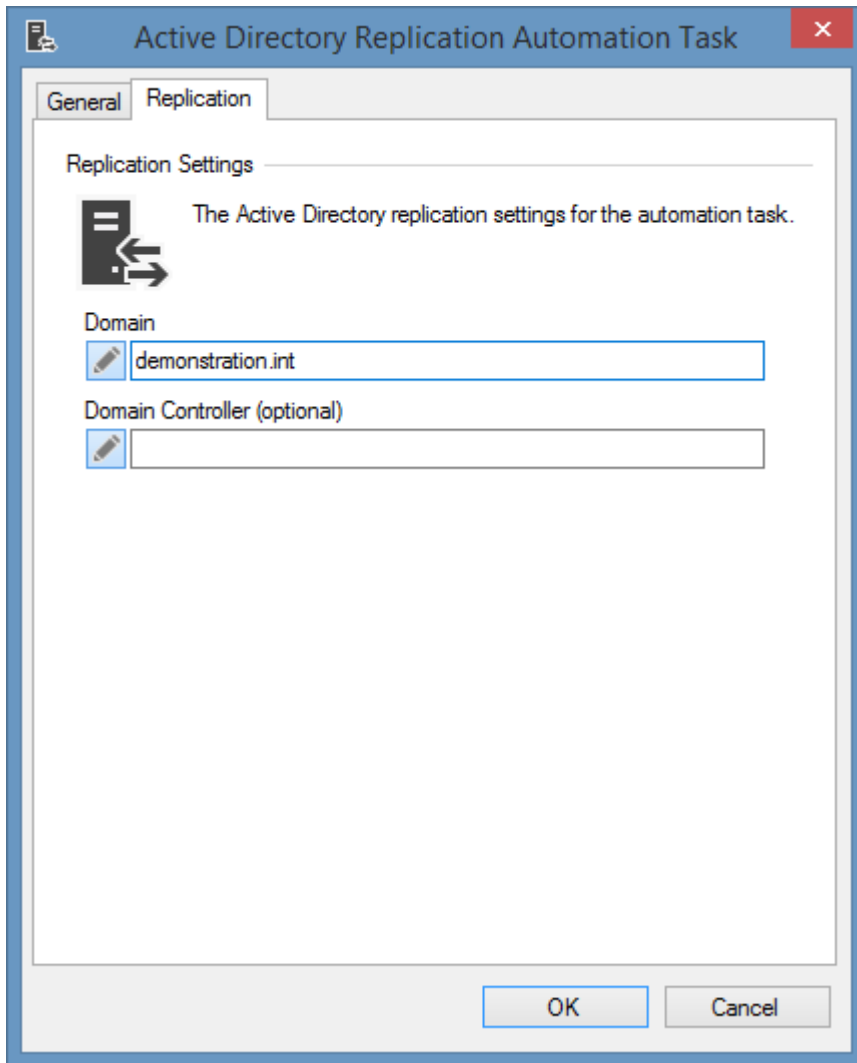
The country or region ([ISO 3166-1-alpha-2](#)) code assigned to the organizational unit - for example

"US".

Active Directory Replication Task

The Active Directory replication [task](#) is capable of forcing [Active Directory](#) replication.

Replication



Domain

The name of the Active Directory domain to replicate.

Domain Controller

The fully qualified domain name of the domain controller to replicate, or an empty string to replicate all domain controllers.

Custom Attributes

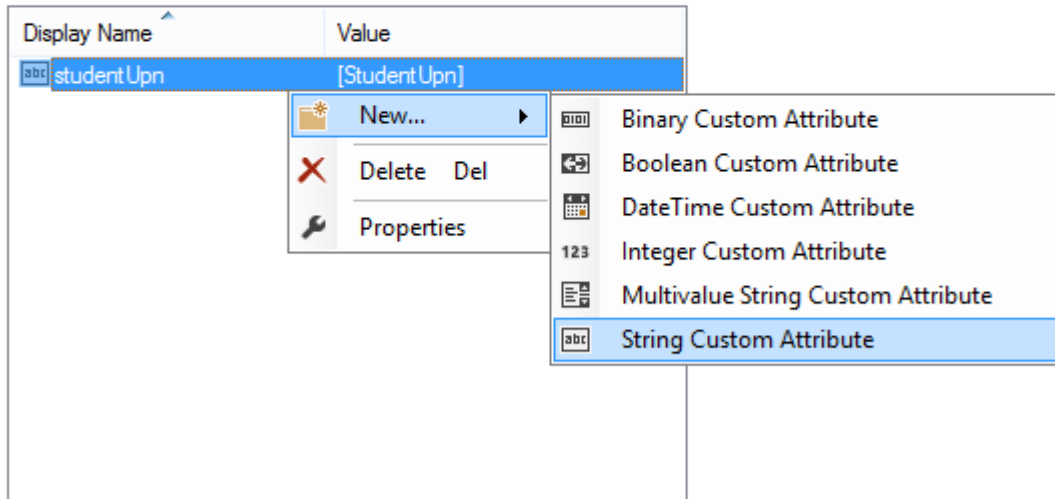
This section allows [attributes](#) to be set for objects within [Active Directory](#) that otherwise cannot be set by [XIA Automation Server](#). These can be built in [Active Directory attributes](#), or attributes that have been created by [extending the schema](#).

Custom Attributes



The custom attributes to set for the Active Directory object.

Custom Attributes



Right clicking the custom attributes listview displays the context menu.

New

Creates a new [custom attribute](#) of the specified type.

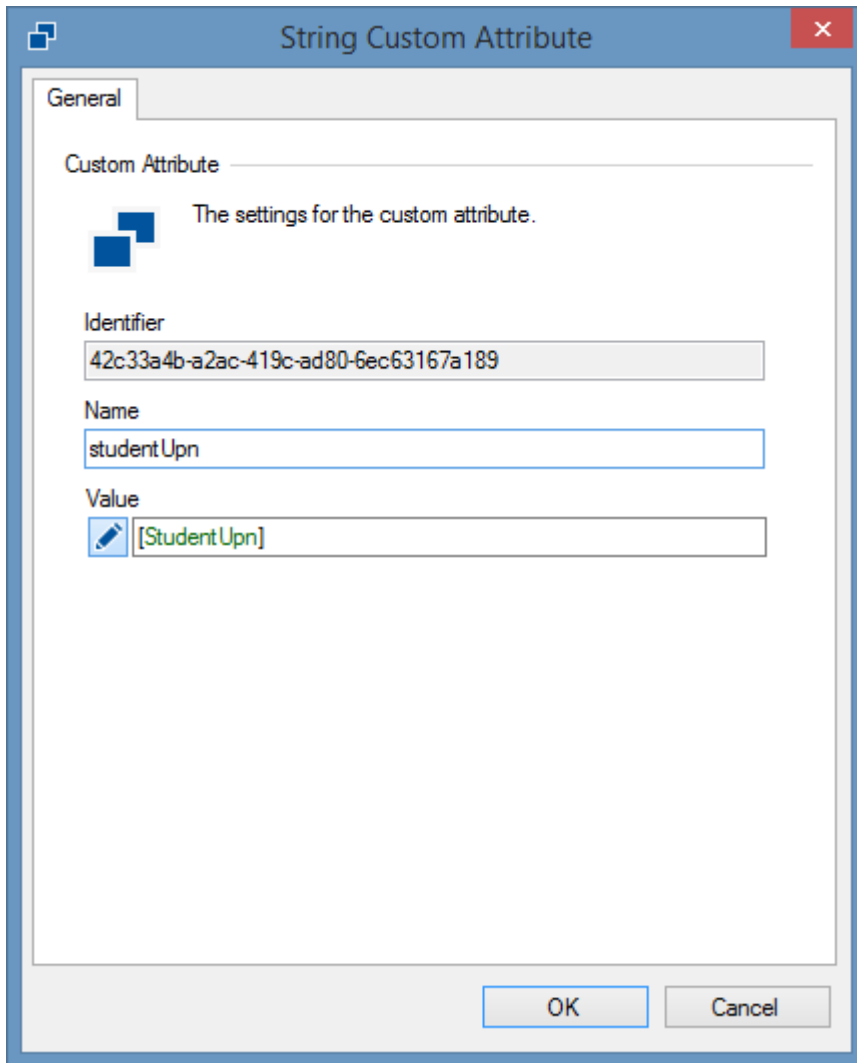
Delete

Deletes the currently selected custom attribute.

Properties

Displays the [properties](#) of the currently selected [custom attribute](#).

Custom Attribute



String Custom Attribute

General

Custom Attribute

The settings for the custom attribute.

Identifier
42c33a4b-a2ac-419c-ad80-6ec63167a189

Name
studentUpn

Value
[StudentUpn]

OK Cancel

Identifier

The unique identifier of the custom attribute in [GUID](#) format. This identifier is internal to [XIA Automation Server](#).

Name

The unique name of the [attribute](#).

Value

The value to assign to the [attribute](#). The type of value is determined by the [custom attribute type](#).

Custom Attribute Types

Binary Custom Attribute

A [System.Byte](#) array that can be used to update [string \(octet\)](#) attributes.

Boolean Custom Attribute

A [System.Boolean](#) true or false value that can be used to update [boolean](#) attributes.

DateTime Custom Attribute

A [System.DateTime](#) value that can be used to update [large integer](#) attributes.

Integer Custom Attribute

A [System.Int32](#) value that can be used to update [integer](#) attributes.

MutliValue String Custom Attribute

A [System.String](#) array value that can be used to update multivalued [string](#) attributes.

String Custom Attribute

A [System.String](#) value that can be used to update [string \(unicode\)](#) attributes.

Troubleshooting

This section highlights the known issues for the [Active Directory automation tasks](#) and provides details of the solutions.

Could not find the name or insufficient right to see name

Symptoms

When executing an [Active Directory automation task](#) you receive the following error.
Name translation could not find the name or insufficient right to see name.

Cause

This error can occur if an LDAP path entered in the [Active Directory automation task](#) is not valid or the [Web Server application pool account](#) does not have permissions to the path.

Resolution

Ensure that the path is valid and that the [Web Server application pool account](#) has the required permissions to access the path in [Active Directory](#).

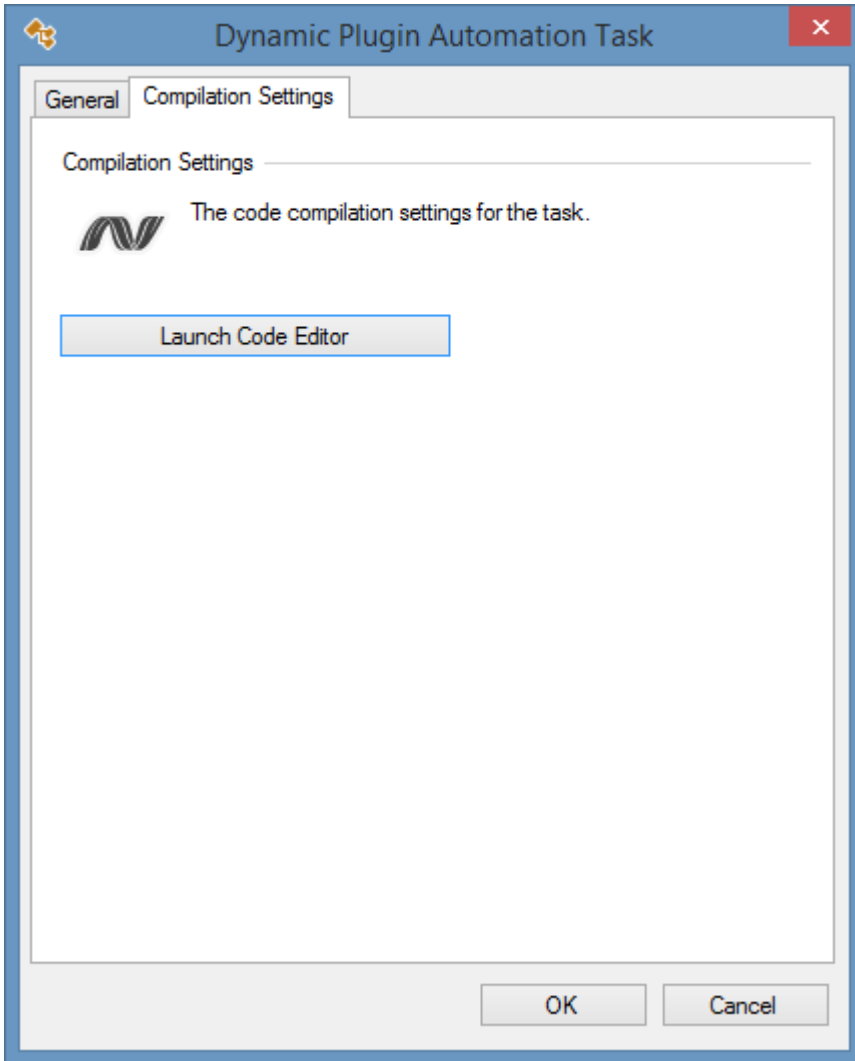
Development

The development [automation tasks](#) allow custom actions to be written using [Microsoft C#](#).

Dynamic Plugin Task

The dynamic plugin [task](#) allows custom actions to be performed using [Microsoft C#](#) code.

Compilation Settings



Launch Code Editor

Open the built-in [dynamic code editor](#).

Task Parameter

The Task parameter in the [dynamic code editor](#) allows access to the [dynamic plugin task](#) being executed.

Variables Parameter

The Variables parameter in the [dynamic code editor](#) allows access to the current [variables](#).

For example to modify the value of a variable called AccountEnabled.

```
/// <summary>
/// Executes the dynamic automation task.
/// </summary>
public override void Execute()
{
    BooleanVariable variable =
    (BooleanVariable)Variables.Items.FindByName("AccountEnabled");
    variable.Value = true;
}
```

Filesystem

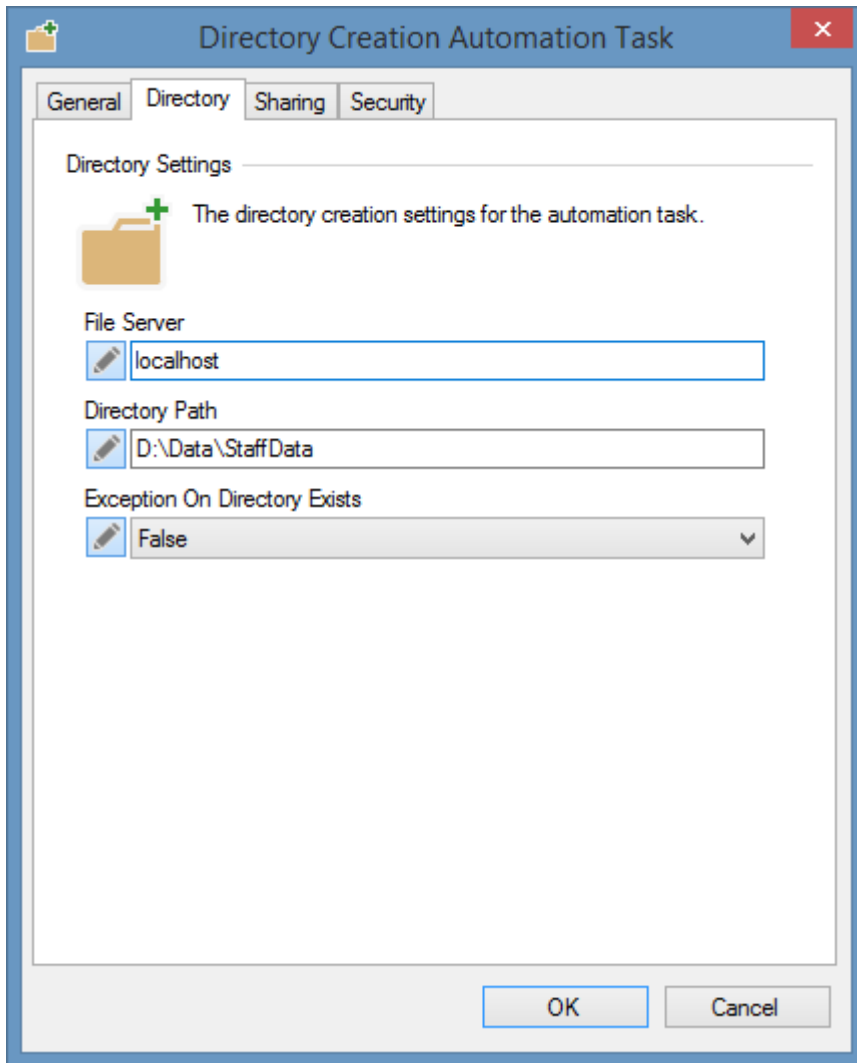
The filesystem [automation tasks](#) perform actions relating to the Windows filesystem.

Directory Creation Task

The directory creation [task](#) can create a directory on a local or remote [Windows machine](#).

To update an existing directory see the [directory update task](#).

Directory



File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which the directory should be created. To create the directory on the [XIA Automation Server](#) executing the [task](#) enter *localhost*.

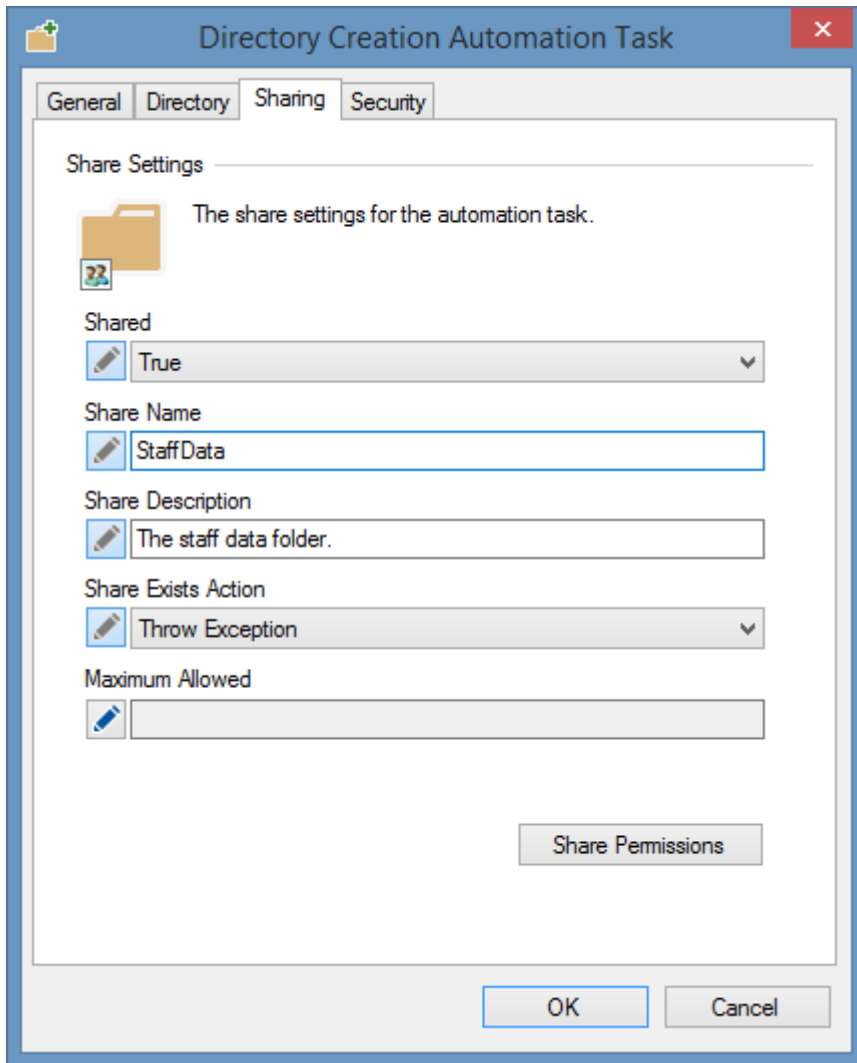
Directory Path

The absolute local path of the directory to create on the specified file server.

Exception On Directory Exists

Determines whether an exception should be thrown if the directory to create already exists on the file server.

Sharing



Shared

Determines whether the directory should be [shared](#).

Share Name

The [share](#) name.

Share Description

The description of the [file share](#).

Share Exists Action

Determines the action to take if the [share](#) already exists for a different directory.

- None
The existing share is retained and no changes are made.
- Throw Exception
An exception is thrown.
- Move Share

The existing share is deleted and the share is moved to the newly created directory.

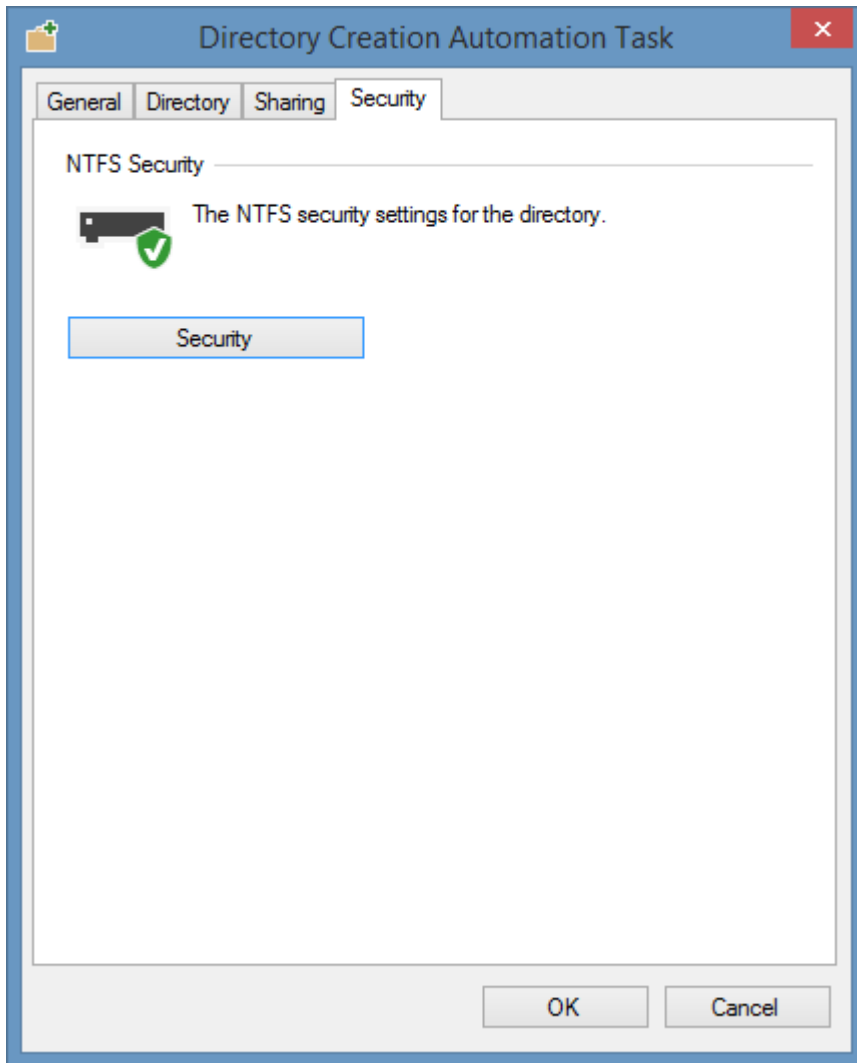
Maximum Allowed

The maximum number of concurrent connections allowed - by default this is not set (no limit).

Share Permissions

The [share permissions](#).

Security



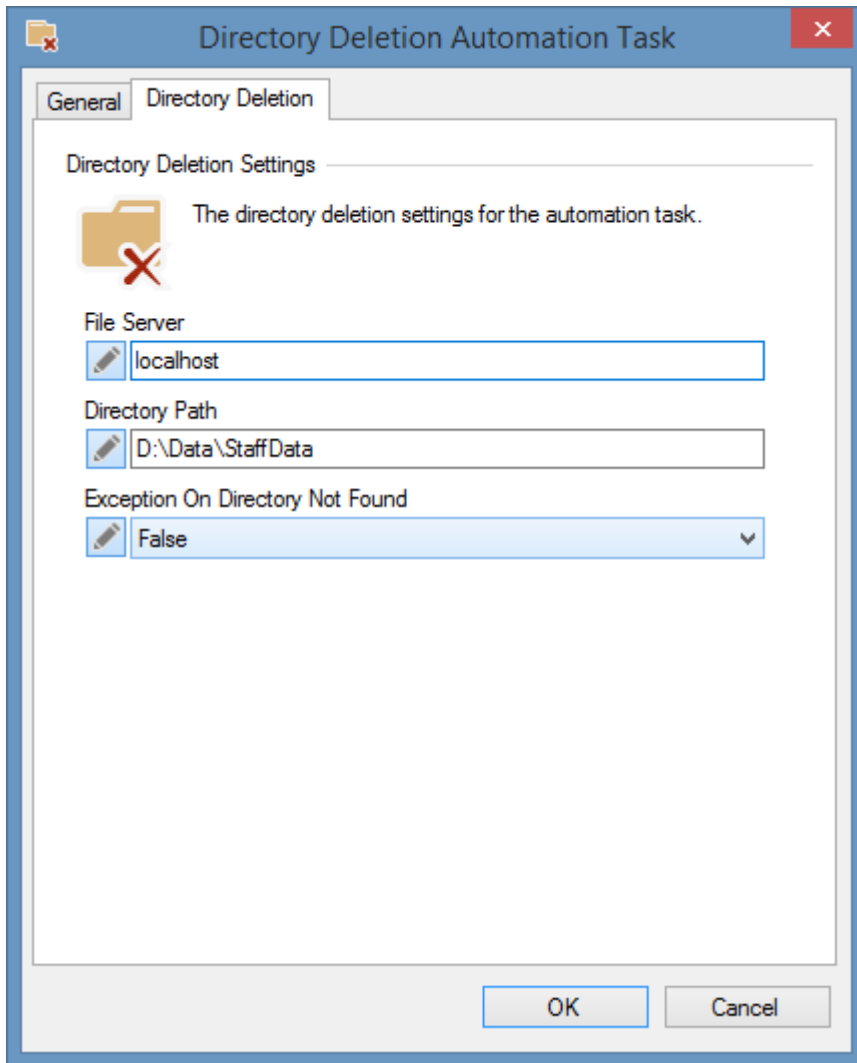
Security

Displays the [NTFS security](#) dialog.

Directory Deletion Task

The directory deletion [task](#) can delete a directory on a local or remote [Windows machine](#).

Directory Deletion



File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which the directory should be deleted. To delete the directory on the [XIA Automation Server](#) executing the [task](#) enter *localhost*.

Directory Path

The absolute local path of the directory to delete on the specified file server.

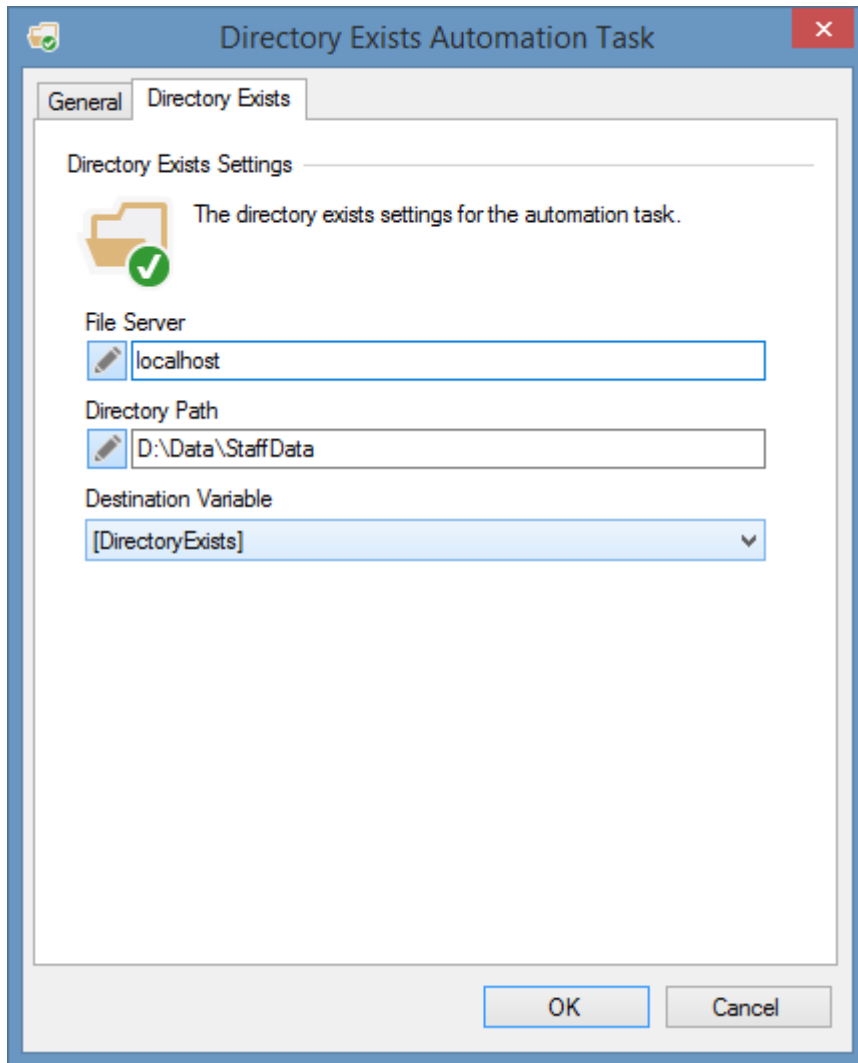
Exception On Directory Not Found

Determines whether an exception should be thrown if the directory to delete does not exist on the file server.

Directory Exists Task

The directory exists [task](#) can determine if a directory exists on a local or remote [Windows machine](#).

Directory Exists



File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which the directory should be evaluated. To evaluate the directory on the [XIA Automation Server](#) executing the [task](#) enter *localhost*.

Directory Path

The absolute local path of the directory to evaluate on the specified file server.

Destination Variable

The [boolean variable](#) in which to store the result of the evaluation.

Directory Move Task

The directory move [task](#) can copy or move a directory to a new location on a local or remote [Windows machine](#).

Directory Move

The screenshot shows the 'Directory Move Automation Task' dialog box. It has two tabs: 'General' and 'Directory Move'. The 'Directory Move' tab is selected. The dialog contains the following fields and options:

- Directory Move Settings:** A header section with a folder icon and a blue arrow icon, followed by the text 'The directory move settings for the automation task.'
- Source File Server:** A text box containing 'DEMO-SRV01'.
- Source Directory Path:** A text box containing 'D:\OldData\StaffData'.
- Destination File Server:** A text box containing 'DEMO-SRV02'.
- Destination Directory Path:** A text box containing 'D:\Data\StaffData'.
- Action:** A group box containing two radio buttons: 'Copy' (selected) and 'Move'.
- Overwrite:** A dropdown menu set to 'False'.

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Source File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which the source directory can be found.

Source Directory Path

The absolute local path of the directory to move or copy.

Destination File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine to which the directory should be copied or moved.

Destination Directory Path

The absolute local path where the directory should be copied or moved.

Action

Determines whether the directory should be copied or moved.

Overwrite

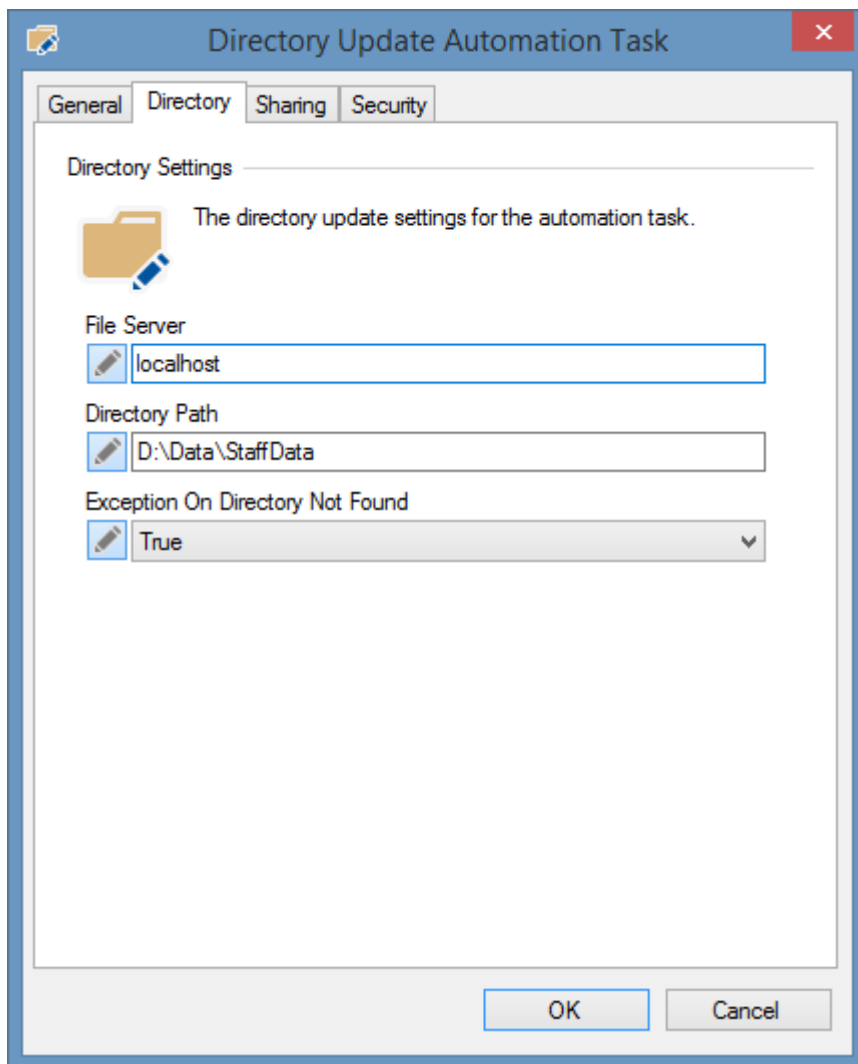
Determines whether the destination directory should be overwritten if it already exists.

Directory Update Task

The directory update [task](#) can update an existing directory on a local or remote [Windows machine](#).

To create a new directory see the [directory creation task](#).

Directory



File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine where the directory resides. To update the directory on the [XIA Automation Server](#) executing the [task](#) enter *localhost*.

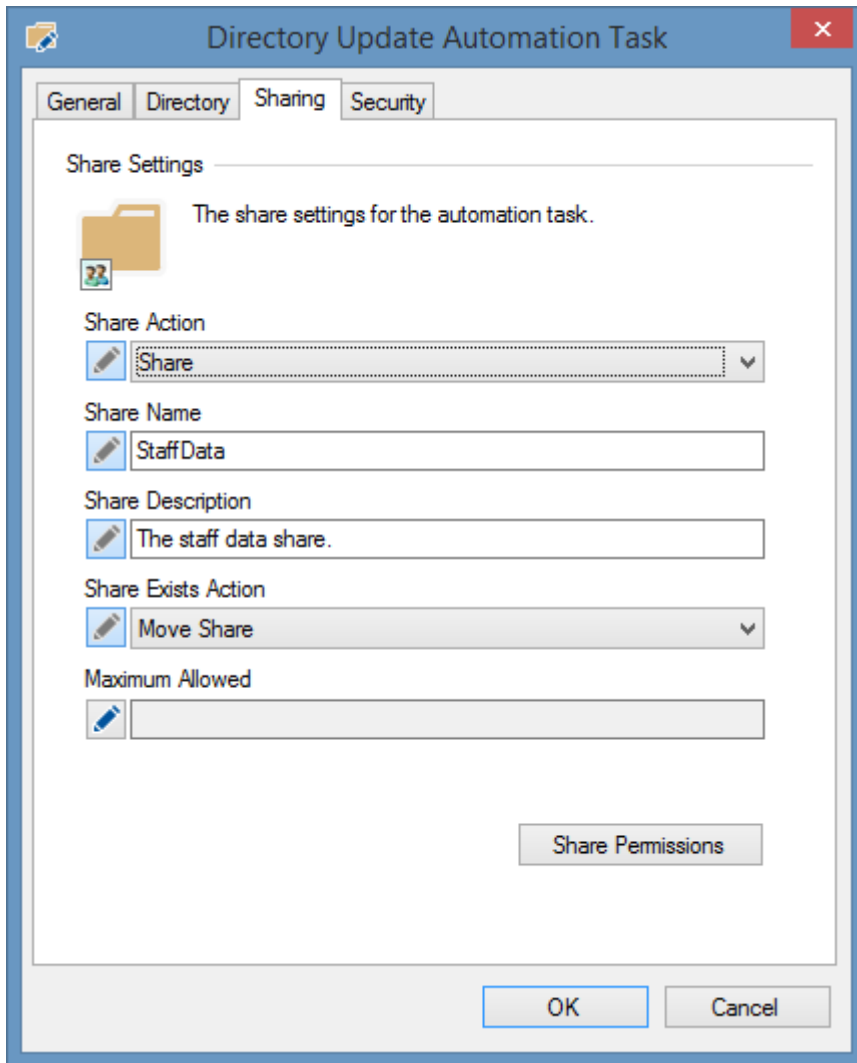
Directory Path

The absolute local path of the directory to update on the specified file server.

Exception On Directory Not Found

Determines whether an exception should be thrown if the directory to update does not exist on the file server.

Sharing



Share Action

Determines whether the directory should be [shared](#).

- None
The directory should not be shared, however existing shares are retained.
- Stop Sharing
If the directory is already shared then the share(s) are deleted.
- Share
The directory is shared.

Share Name

The [share](#) name.

Share Description

The description of the [file share](#).

Share Exists Action

Determines the action to take if the [share](#) already exists for a different directory.

- None
The existing share is retained and no changes are made.
- Throw Exception
An exception is thrown.
- Move Share
The existing share is deleted and the share is moved to the newly created directory.

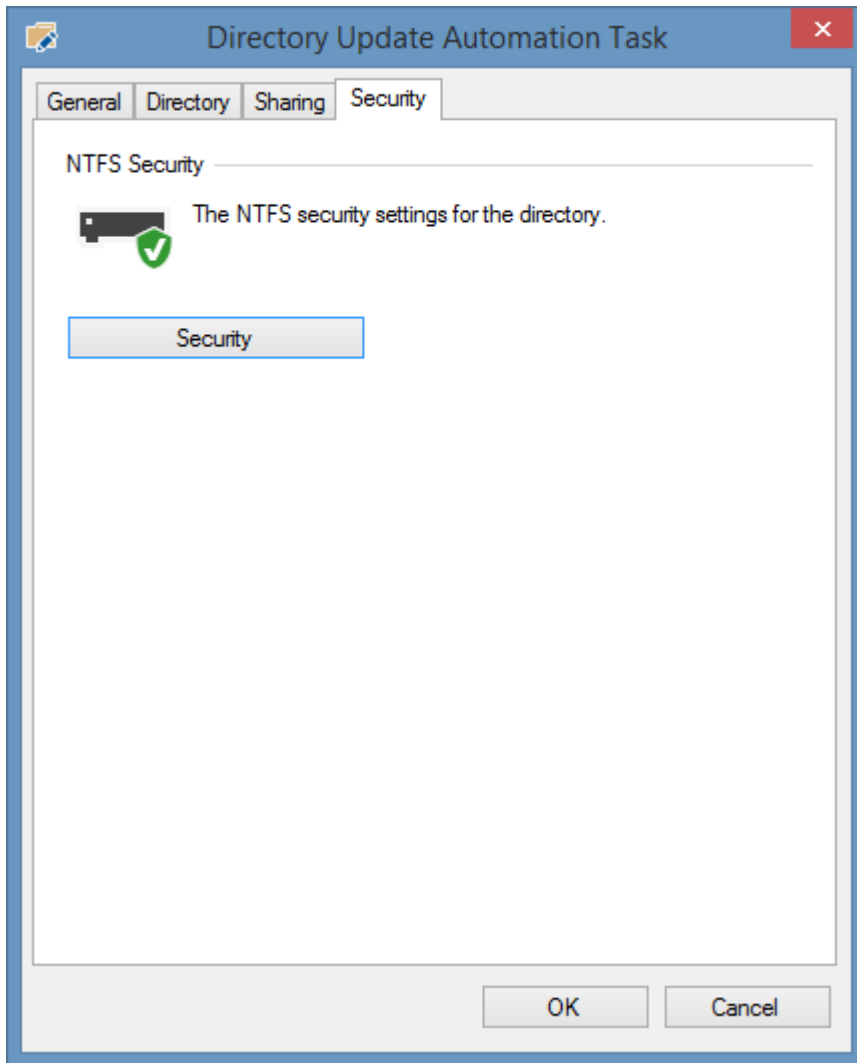
Maximum Allowed

The maximum number of concurrent connections allowed - to reset this to unlimited set this value to blank.

Share Permissions

The [share permissions](#).

Security



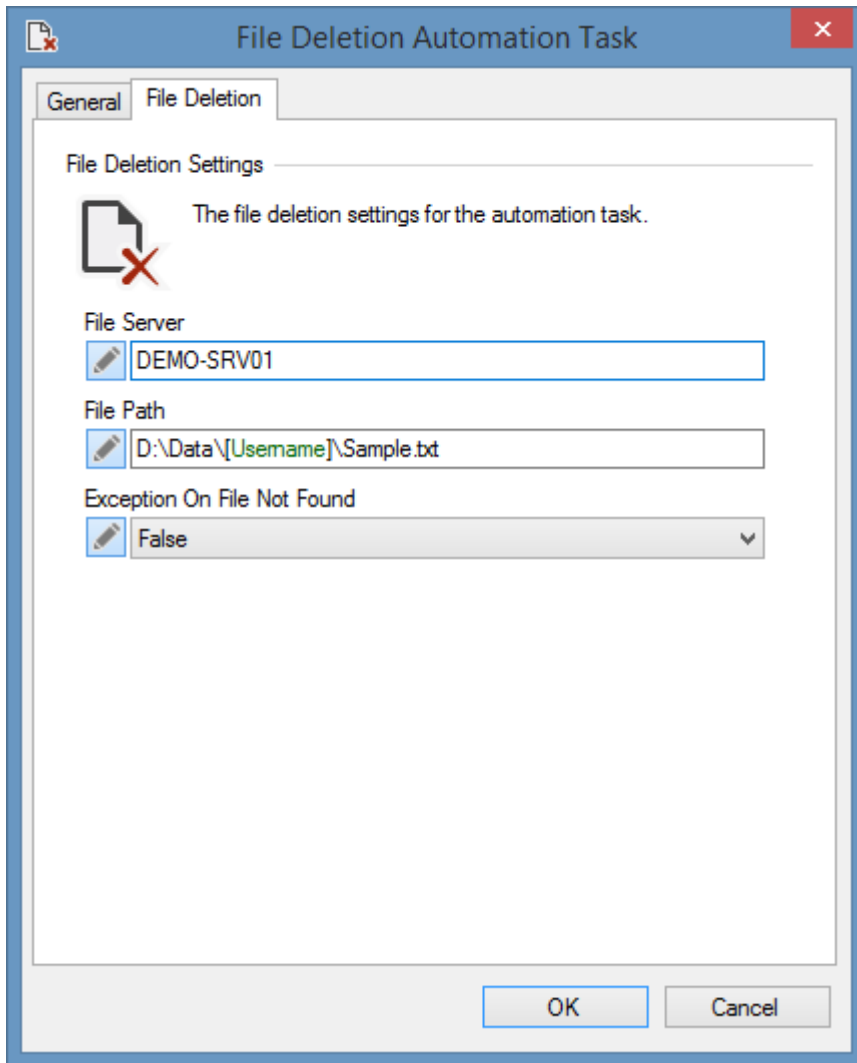
Security

Displays the [NTFS security](#) dialog.

File Deletion Task

The file deletion [task](#) can delete a file on a local or remote [Windows machine](#).

File Deletion



File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which the file to delete resides. To delete the file on the [XIA Automation Server](#) executing the [task](#) enter *localhost*.

Directory Path

The absolute local path of the file to delete on the specified file server.

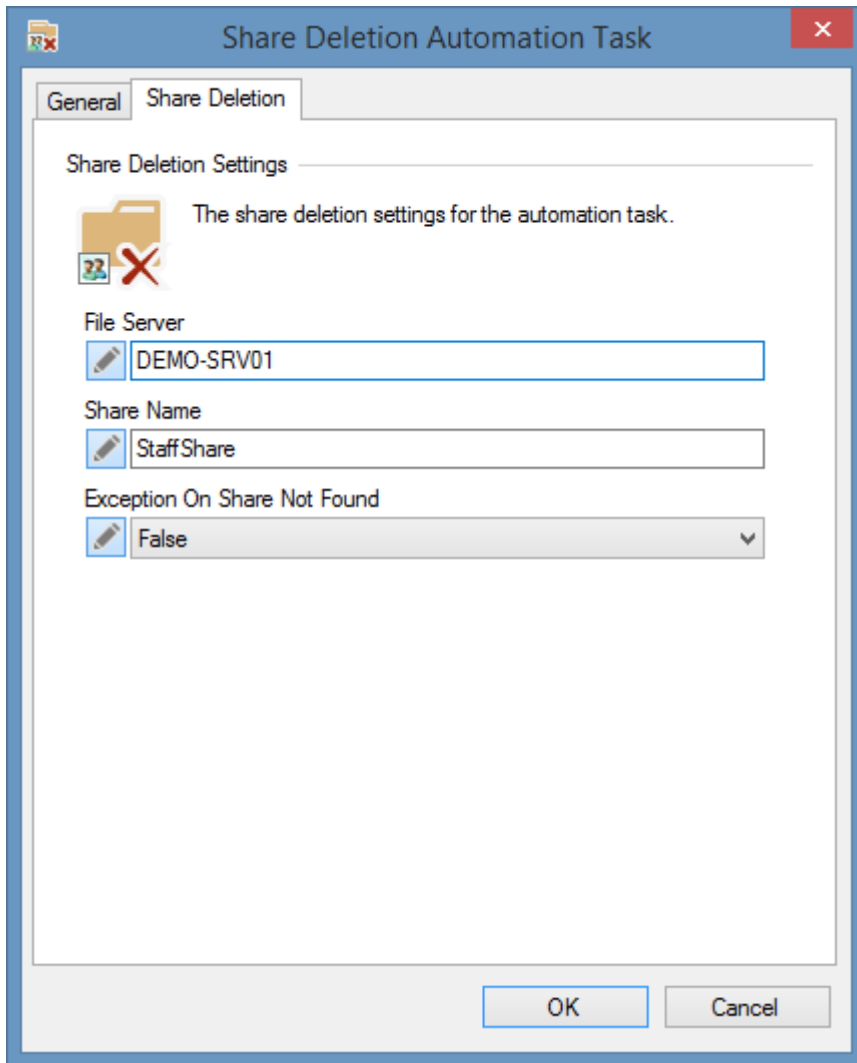
Exception On File Not Found

Determines whether an exception should be thrown if the file to delete does not exist on the file server.

Share Deletion Task

The share deletion [task](#) can delete a share by share name on a local or remote [Windows machine](#).

Share Deletion



File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which to delete the share.

Share Name

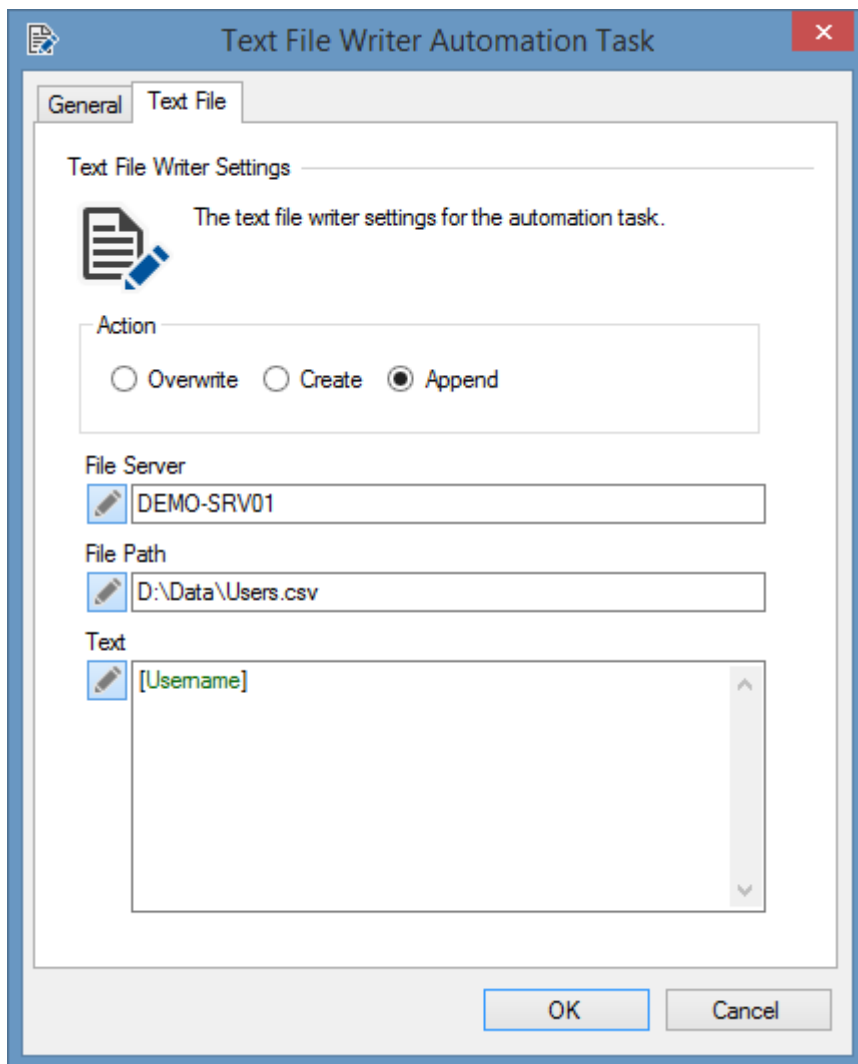
The name of the share to delete.

Exception On Share Not Found

Determines whether an exception should be thrown if the share to delete does not exist on the file server.

Text File Writer Task

Text File



Action

Determines the action

- **Overwrite**
The file is overwritten if it already exists, or created if it does not exist.
- **Create**
The file is created, if the file already exists an exception is thrown.
- **Append**
The specified text is appended to the file if it already exists, or created if it does not exist.

File Server

The NetBIOS name, IP address, or fully qualified domain name of the machine on which the file should be written. To write to a file on the [XIA Automation Server](#) executing the [task](#) enter *localhost*.

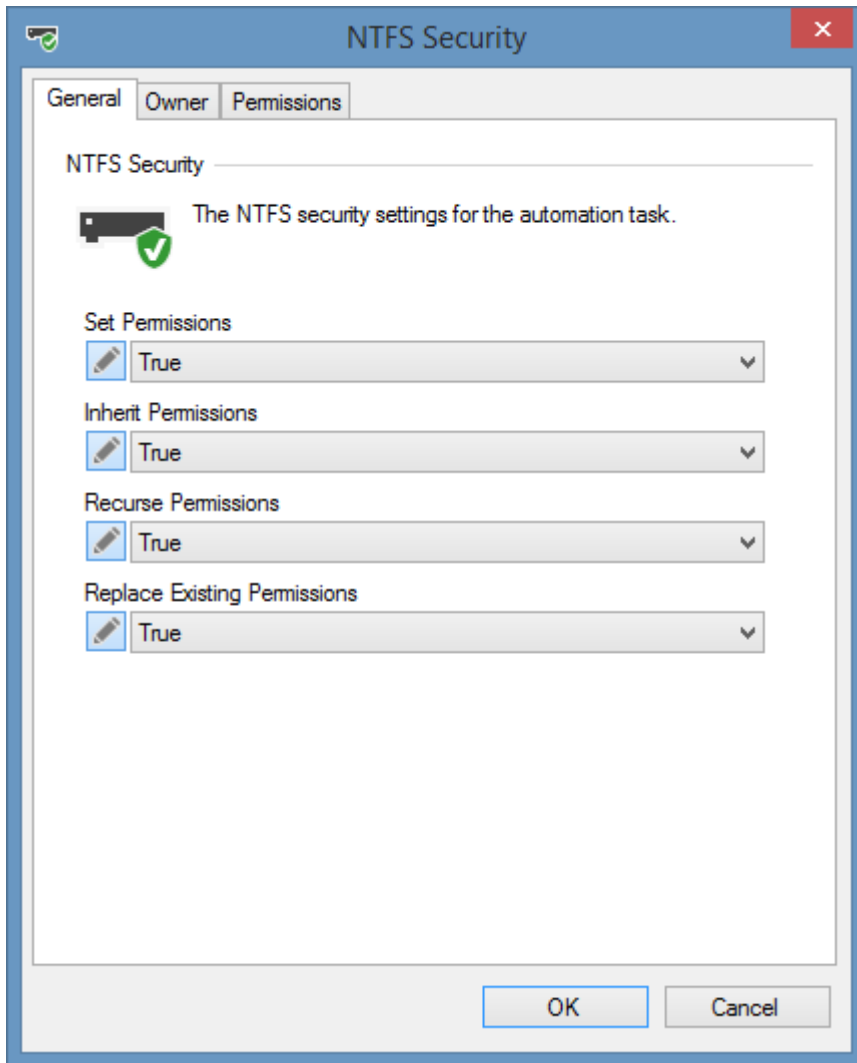
Text

The text to write or append to the file.

NTFS Security

NTFS is the primary file system for Windows and Windows Server.

General



Set Permissions

Determines whether to set the [NTFS](#) permissions.

Inherit Permissions

Determines whether to inherit the [NTFS](#) permissions from the parent directory.

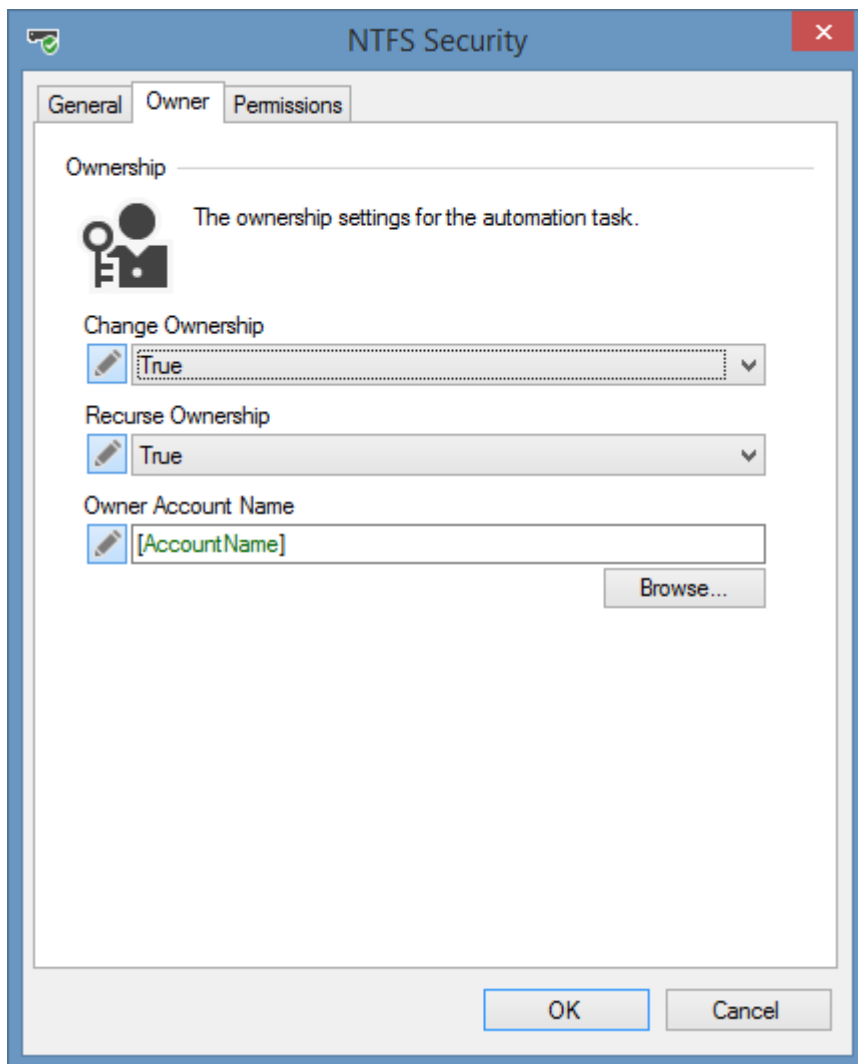
Recurse Permissions

Determines whether the [NTFS](#) permissions set on this directory should be recursed to child objects.

Replace Existing Permissions

Determines whether the [NTFS](#) permissions on child objects should be replaced with permissions inherited from this directory.

Owner



Change Ownership

Determines whether the [NTFS](#) ownership of this file directory should be changed.

Recurse Permissions

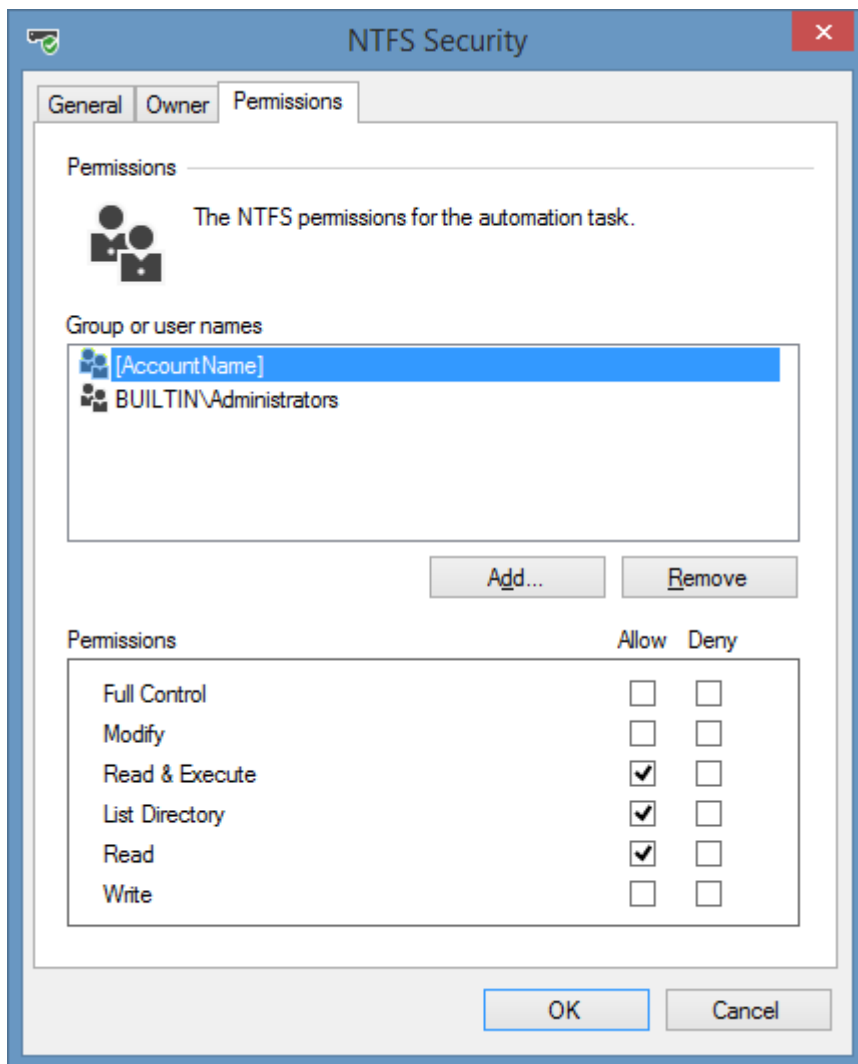
Determines whether the [NTFS](#) ownership set on this directory should be recursed to child objects.

Owner Account Name

The user or group to take ownership.

This can be selected using the [account browser](#), entering the name manually, or by setting [variable](#).

Permissions



Group or user names

The group or user names for which [NTFS](#) permissions should be set.

Add

Adds a new group or user name using the [account browser](#) or [variable](#).

Remove

Removes the currently selected group or user name from the list.

Full Control

The currently selected group or user is either allowed or denied full control.

Modify

The currently selected group or user is either allowed or denied modify permissions.

Read & Execute

The currently selected group or user is either allowed or denied read and execute permissions.

List Directory

The currently selected group or user is either allowed or denied list directory permissions.

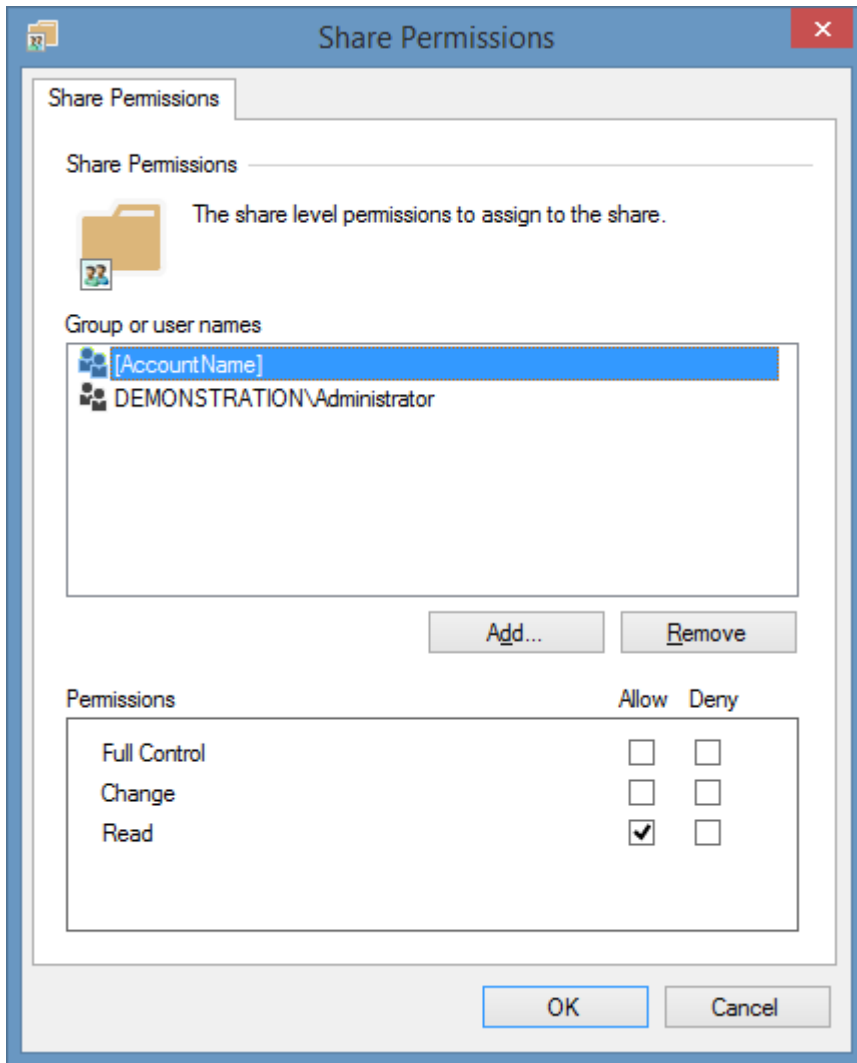
Read

The currently selected group or user is either allowed or denied read permissions.

Write

The currently selected group or user is either allowed or denied write permissions.

Share Permissions



Group or user names

The group or user names for which share permissions should be set.

Add

Adds a new group or user name using the [account browser](#) or [variable](#).

Remove

Removes the currently selected group or user name from the list.

Full Control

The currently selected group or user is either allowed or denied full control share permissions.

Change

The currently selected group or user is either allowed or denied change share permissions.

Read

The currently selected group or user is either allowed or denied read share permissions.

For information on [NTFS](#) permissions see the [security](#) section.

Google

The Google [automation tasks](#) perform actions relating to [Google](#) accounts.

Connection Settings

Connection Settings



The Google connection settings for the automation task.

Delegated User Email

Service Account Email

Private Key Password

Delegated User Email

The delegated user email - this should be an existing Google account - for example "admin@demonstration.com".

Service Account Email

The service account email.

Private Key Password

The private key password.

Private Key File

Opens a file dialog to browse to the private key file in .p12 format.

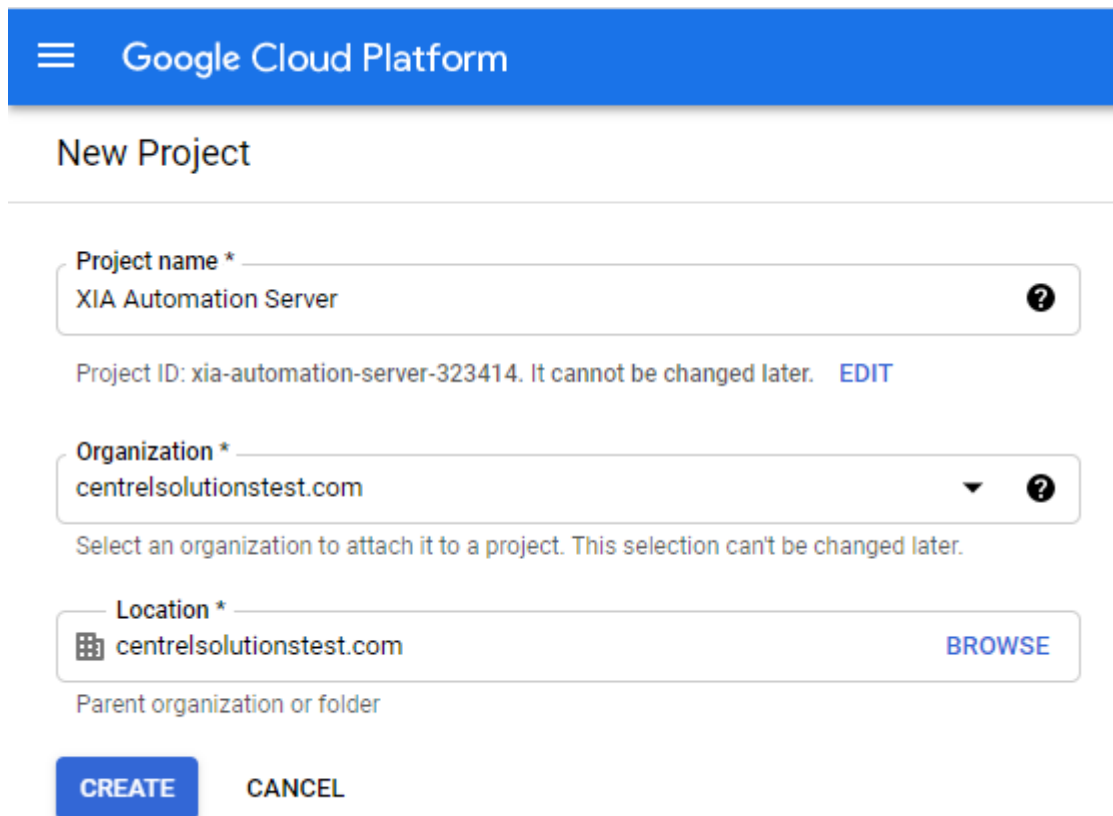
Google Service Account Setup (Part 1)

Follow these steps to enable login using a [Google](#) service account.

For more information see

<https://cloud.google.com/iam/docs/creating-managing-service-accounts>

- Go to the Google Cloud Console and login as a user with appropriate permissions. <https://console.cloud.google.com/>
- From the navigation menu go to IAM and Admin > Service Accounts.
- Create a new project if required.



The screenshot shows the 'New Project' form in the Google Cloud Platform console. At the top is a blue header with the Google Cloud Platform logo and name. Below the header, the title 'New Project' is displayed. The form contains three main sections: 1. 'Project name *' with a text input field containing 'XIA Automation Server' and a help icon. Below this is the text 'Project ID: xia-automation-server-323414. It cannot be changed later.' followed by an 'EDIT' link. 2. 'Organization *' with a dropdown menu showing 'centrelsolutionstest.com' and a help icon. Below this is the text 'Select an organization to attach it to a project. This selection can't be changed later.' 3. 'Location *' with a dropdown menu showing 'centrelsolutionstest.com' and a 'BROWSE' link. Below this is the text 'Parent organization or folder'. At the bottom of the form are two buttons: 'CREATE' (highlighted in blue) and 'CANCEL'.

- Click the *create service account* button.

[+ CREATE SERVICE ACCOUNT](#)

- Enter the appropriate details and click *create and continue*, and then click *done*.

1 Service account details

Service account name

XIA Automation Server

Display name for this service account

Service account ID

xia-automation-server @xia-automation-server-305017.iam.gserv X ↺

Service account description

XIA Automation Service service account.

Describe what this service account will do

[CREATE AND CONTINUE](#)

- Open the details of the service account, and click *show advanced settings*.

Service account details

Name

XIA Automation Server

SAVE

Description

XIA Automation Service service account.

SAVE

Email

xia-automation-server@xia-automation-server-305017.iam.gserviceaccount.com

Unique ID

114656574110486244062

Service account status

Disabling your account allows you to preserve your policies without having to delete it.

✔ Account currently active

DISABLE SERVICE ACCOUNT

Domain-wide Delegation



Granting this service account access to your organization's data via domain-wide delegation should be used with caution. It can be reversed by disabling or deleting the service account or by removing access through the Google Workspace admin console.


[LEARN MORE](#)

Client ID: 114656574110486244062

[VIEW GOOGLE WORKSPACE ADMIN CONSOLE](#)

- Make a note of the value of the **Email** field - this is the **service account email** to use for the [connection settings](#).
- Make a note of the **Client ID** - this is required later in this section.
- Go to Keys.

- Click *Add Key > Create new key > P12*.
- Save the file when prompted, this is the **private key file**.
- Make a note of the private key password.

Private key password 

- The key should be listed.

Type	Status	Key	Key creation date	Key expiration date	
	 Active	3a2708ed7e8bf913b1b60b4c0c5195216f528226	Aug 19, 2021	Dec 31, 9999	

- From the navigation menu go to *APIs & Services > Library*.
- Search for the Admin SDK API and click *enable*.



Admin SDK API

Google Enterprise API

Admin SDK lets administrators of enterprise domains to view and manage resources like user,...

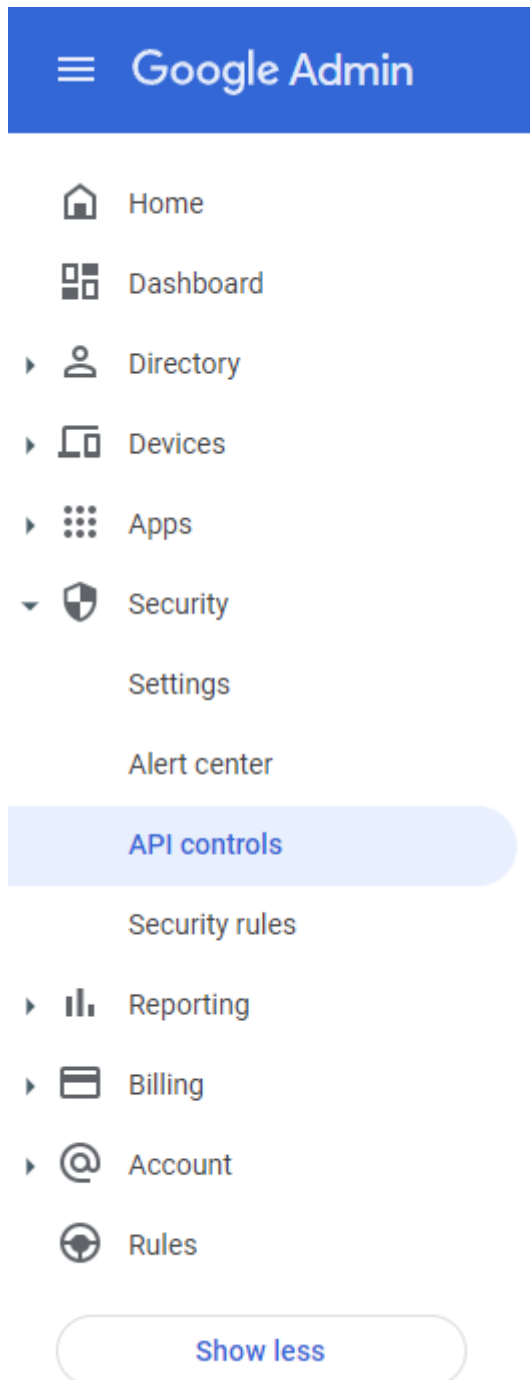
[ENABLE](#) [TRY THIS API !\[\]\(7f687ebb7a44ef7ed08b33436ec177b8_img.jpg\)](#)

- Continue with the steps in [Google Service Account Setup \(Part 2\)](#).

Google Service Account Setup (Part 2)

Follow the steps in [Google Service Account Setup \(Part 1\)](#).

- Go to the Google admin site and login as a user with appropriate permissions.
<https://admin.google.com/>
- From the menu go to Security > API Controls (if security isn't visible click the *Show more* button).




- Click the *manage domain wide delegation* link.
- Click *Add New*.


- Enter the Client ID created earlier and the following scope and click *authorize*.
<https://www.googleapis.com/auth/admin.directory.user>

Add a new client ID

Client ID

114656574110486244062

Overwrite existing client ID 

OAuth scopes (comma-delimited) 

<https://www.googleapis.com/auth/admin.directory.user>

OAuth scopes (comma-delimited)

CANCEL **AUTHORIZE**

Google Account Creation Task

The Google account creation [task](#) is capable of creating a [Google](#) account.

To update an existing account see the [Google account update task](#).

Account

The screenshot shows a dialog box titled "Google Account Creation Automation Task" with a close button in the top right corner. The dialog has several tabs: "General", "Connection", "Account" (selected), "Account Options", "Employee", and "Office". The "Account" tab is active, displaying "Google Account Settings". Below the title, there is a user icon and the text "The Google account creation account settings for the automation task." The settings are as follows:

- First Name:** Tariq
- Last Name:** Razzaq
- Primary Email:** trazzaq@demonstration.com
- Password:** [Password]
- Exception On Account Exists:** False

At the bottom of the dialog, there are "OK" and "Cancel" buttons.

First Name

The user's first name.

Last Name

The user's last name.

Primary Email

The primary email address for the account.

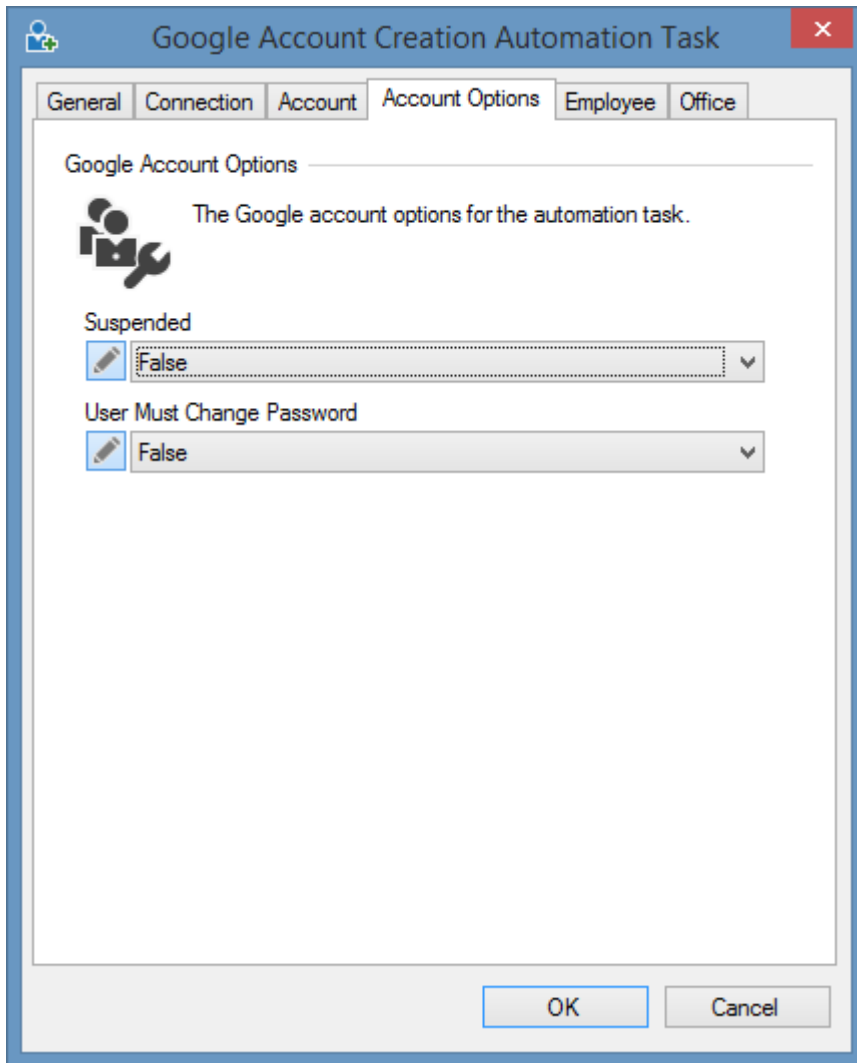
Password

The initial password to set for the account.

Exception On Account Exists

Determines whether an exception should be thrown if the account already exists.

Account Options



Suspended

Determines whether the user account is suspended upon creation.

User Must Change Password

Determines whether the user must change password at next logon.

Employee

The screenshot shows a dialog box titled "Google Account Creation Automation Task" with a close button (X) in the top right corner. The dialog has several tabs: "General", "Connection", "Account", "Account Options", "Employee" (which is selected), and "Office". The "Employee" tab is titled "Employee Information" and contains a blue person icon and the text "The Google account employee information settings for the automation task." Below this are six input fields, each with a blue edit icon (pencil) to its left: "Employee Identifier", "Job Title", "Employee Type", "Manager Email", "Department", and "Cost Center". At the bottom of the dialog are "OK" and "Cancel" buttons.

Employee Identifier

The employee identifier.

Job Title

The job title for the user account.

Employee Type

The employee type.

Manager Email

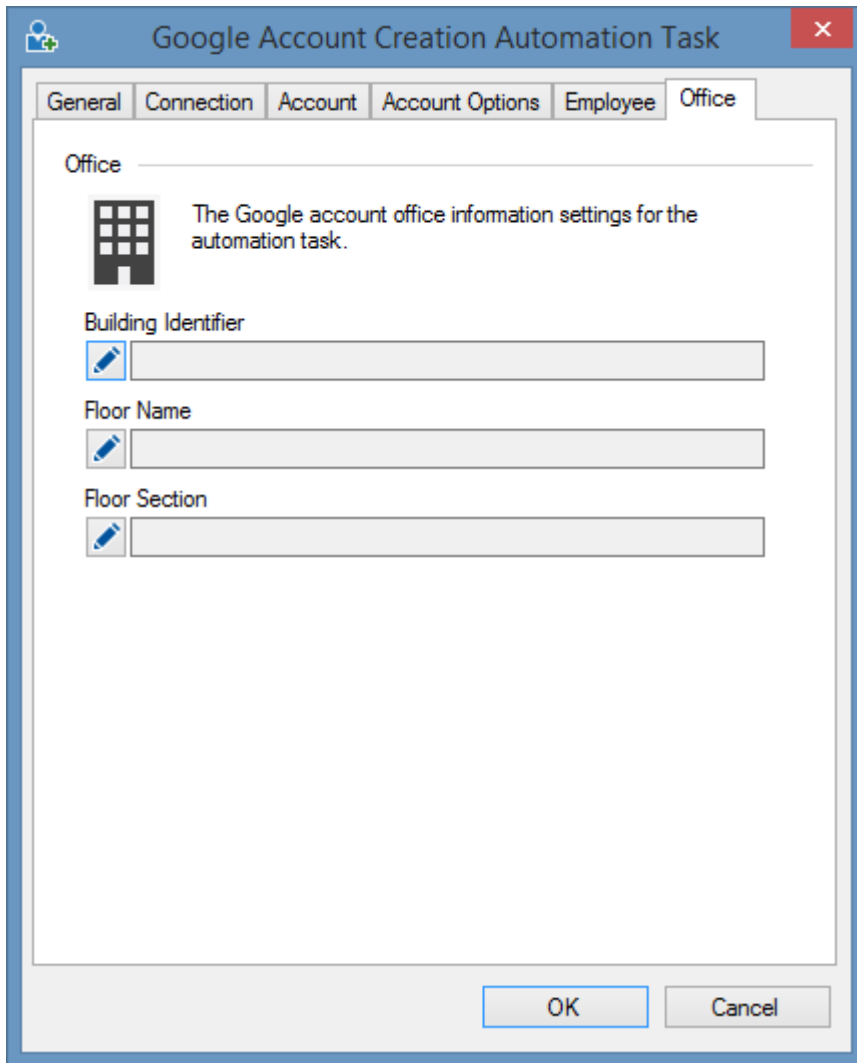
The email address of the manager.

Department

The department of the user account.

Cost Center

The cost center for the user account.



Building Identifier

The building identifier.

Floor Name

The name of the floor on which the user resides.

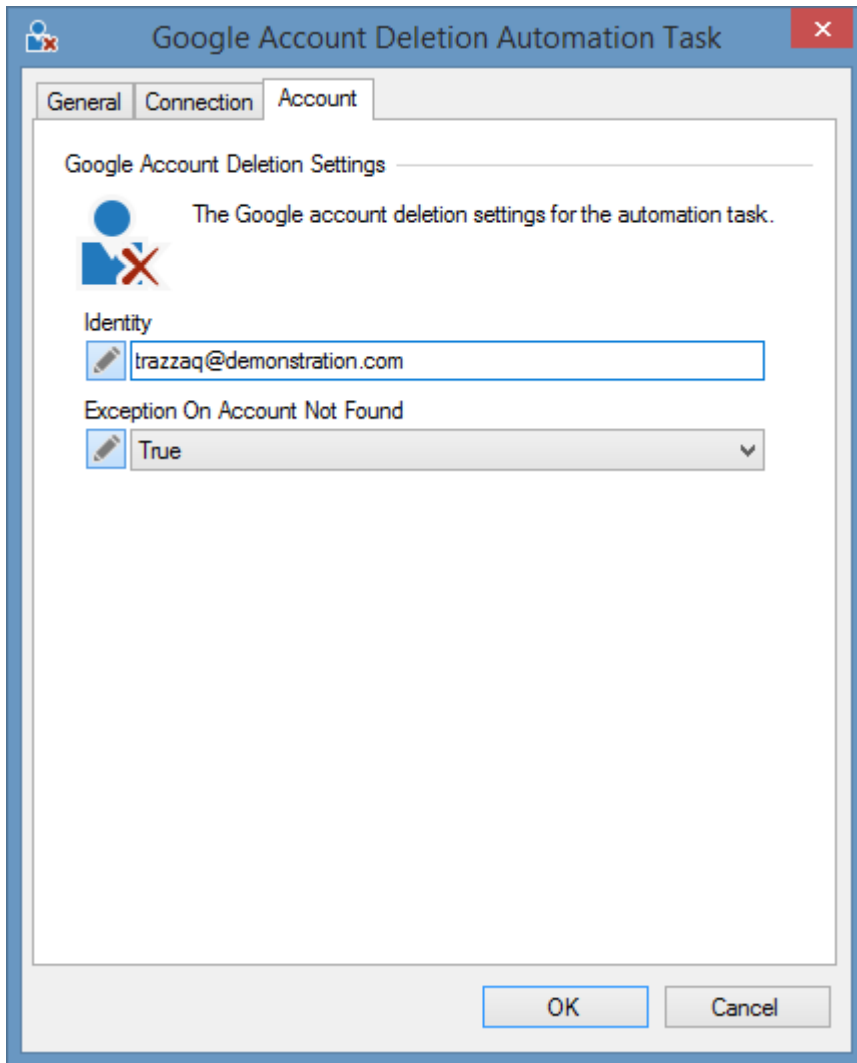
Floor Section

The floor section.

Google Account Deletion Task

The Google account deletion [task](#) is capable of deleting a [Google](#) account with the specified identity.

Account



Identity

The identity of the account to delete. This can be the user's primary email address, the unique user identifier, or one of the user's alias email addresses.

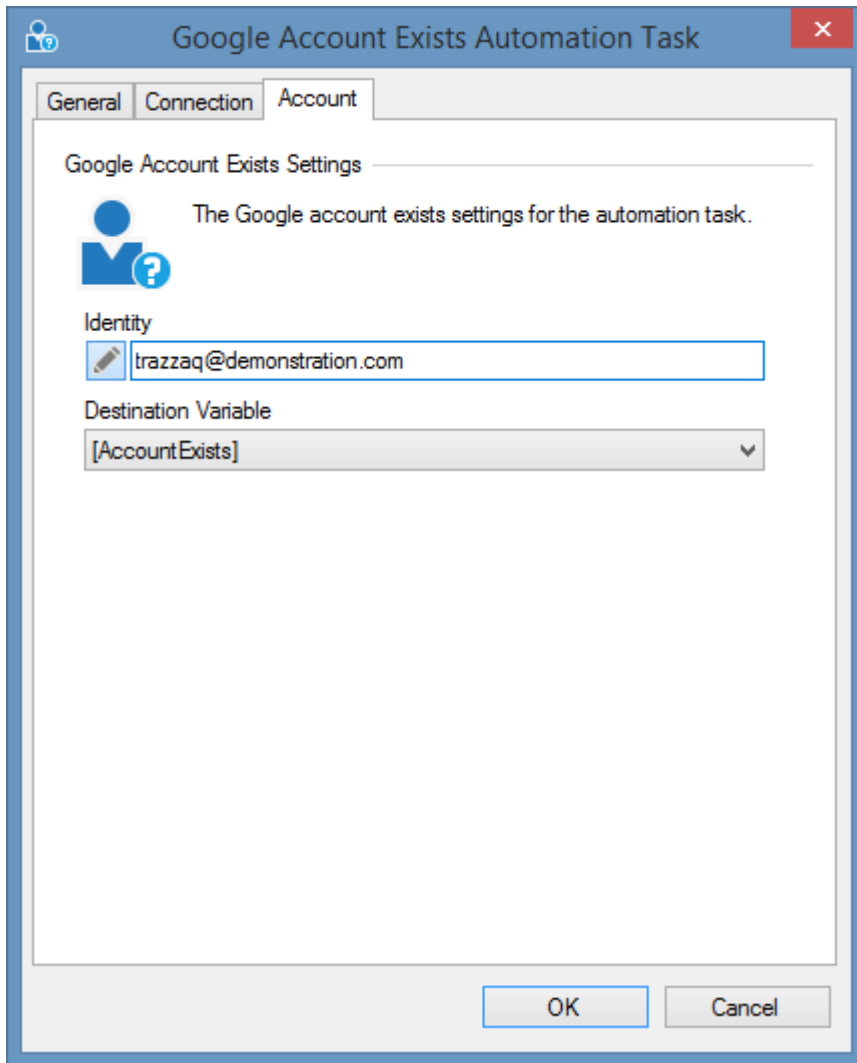
Exception On Account Not Found

Determines whether an exception should be thrown if the account with the specified identity does not exist.

Google Account Exists Task

The Google account exists [task](#) is capable of determining whether a [Google](#) account with the specified identity exists in the environment.

Account



The screenshot shows a dialog box titled "Google Account Exists Automation Task" with a close button (X) in the top right corner. The dialog has three tabs: "General", "Connection", and "Account", with "Account" selected. The main content area is titled "Google Account Exists Settings" and contains the following elements:

- A blue icon of a person with a question mark, followed by the text: "The Google account exists settings for the automation task."
- A section labeled "Identity" with a text input field containing the email address "trazzaq@demonstration.com".
- A section labeled "Destination Variable" with a dropdown menu showing "[AccountExists]" and a downward arrow.

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Identity

The identity of the account to locate. This can be the user's primary email address, the unique user identifier, or one of the user's alias email addresses.

Destination Variable

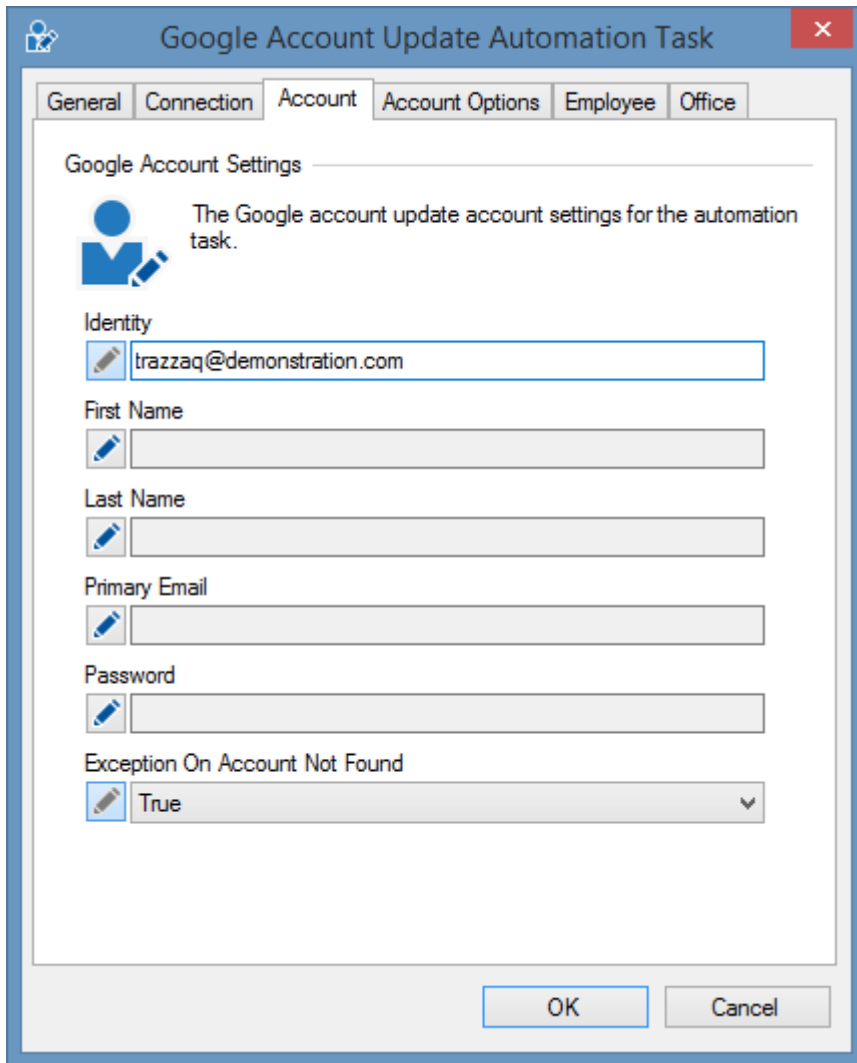
The [boolean variable](#) in which to store the return value.

Google Account Update Task

The Google account update [task](#) is capable of updating an existing [Google](#) account.

To create a new account see the [Google account creation task](#).

Account



The screenshot shows a dialog box titled "Google Account Update Automation Task" with a close button in the top right corner. The dialog has several tabs: "General", "Connection", "Account" (selected), "Account Options", "Employee", and "Office". The "Account" tab is active, displaying "Google Account Settings". Below the title is a blue person icon and the text "The Google account update account settings for the automation task." The settings are as follows:

- Identity:** A text box containing "trazzaq@demonstration.com".
- First Name:** An empty text box.
- Last Name:** An empty text box.
- Primary Email:** An empty text box.
- Password:** An empty text box.
- Exception On Account Not Found:** A dropdown menu with "True" selected.

At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The identity of the account to update. This can be the user's primary email address, the unique user identifier, or one of the user's alias email addresses.

First Name

The user's first name.

Last Name

The user's last name.

Primary Email

The new primary email address for the account.

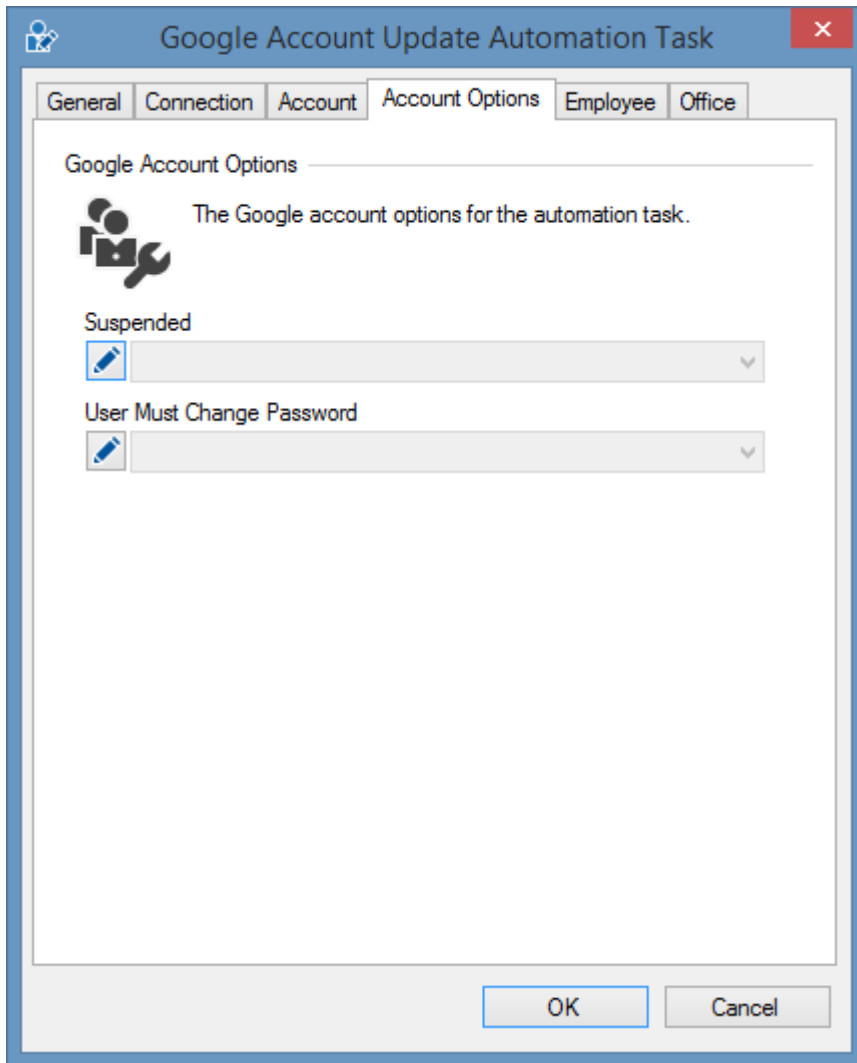
Password

The new password to set for the account.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to update does not exist.

Account Options



Suspended

Determines whether the user account is suspended.

User Must Change Password

Determines whether the user must change password at next logon.

Employee

The screenshot shows a dialog box titled "Google Account Update Automation Task" with a close button (X) in the top right corner. The dialog has several tabs: "General", "Connection", "Account", "Account Options", "Employee" (which is selected), and "Office". The "Employee" tab contains the following fields:

- Employee Information**: A header section with a blue person icon and the text "The Google account employee information settings for the automation task."
- Employee Identifier**: A text input field with a blue edit icon (pencil) to its left.
- Job Title**: A text input field with a blue edit icon (pencil) to its left.
- Employee Type**: A text input field with a blue edit icon (pencil) to its left.
- Manager Email**: A text input field with a blue edit icon (pencil) to its left.
- Department**: A text input field with a blue edit icon (pencil) to its left.
- Cost Center**: A text input field with a blue edit icon (pencil) to its left.

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Employee Identifier

The employee identifier.

Job Title

The job title for the user account.

Employee Type

The employee type.

Manager Email

The email address of the manager.

Department

The department of the user account.

Cost Center

The cost center for the user account.

Office

The screenshot shows a dialog box titled "Google Account Update Automation Task" with a close button (X) in the top right corner. The dialog has several tabs: "General", "Connection", "Account", "Account Options", "Employee", and "Office". The "Office" tab is selected and active. Below the tabs, the "Office" section is displayed, featuring a building icon and the text: "The Google account office information settings for the automation task." There are three input fields, each with a small edit icon (pencil) to its left: "Building Identifier", "Floor Name", and "Floor Section". At the bottom of the dialog, there are "OK" and "Cancel" buttons.

Building Identifier

The building identifier.

Floor Name

The name of the floor on which the user resides.

Floor Section

The floor section.

Troubleshooting

This section highlights the known issues for the [Google based automation tasks](#) and provides details of the solutions.

The specified network password is not correct

Symptoms

When executing a [Google based automation task](#) you receive the following error.
The specified network password is not correct.

Cause

The private key password specified in the [connection settings](#) is incorrect.

Resolution

Enter the correct private key password in the [connection settings](#).

Invalid email or User ID

Symptoms

When executing a [Google based automation task](#) you receive the following error.
Error connecting to Google. Invalid email or User ID.

Cause

The delegated user email or service account email setting specified in the [connection settings](#) is incorrect.

Resolution

Enter the correct delegated user email and service account email in the [connection settings](#).

403 Forbidden

Symptoms

When executing a [Google based automation task](#) you receive the following error.
The remote server returned an error: (403) Forbidden.

Cause

The Admin SDK API has not been enabled.

Resolution

Review the steps in the section [Google Service Account Setup \(Part 1\)](#) and ensure that the Admin SDK API has been enabled.

Microsoft Exchange

The Microsoft Exchange [automation tasks](#) perform actions relating to [Microsoft Exchange Online](#) and [Microsoft Exchange On-Premises](#) management.

Connection

Connection Mode _____



The Exchange connection mode for the automation task.

Connection Mode

Exchange On Premises

Exchange Online

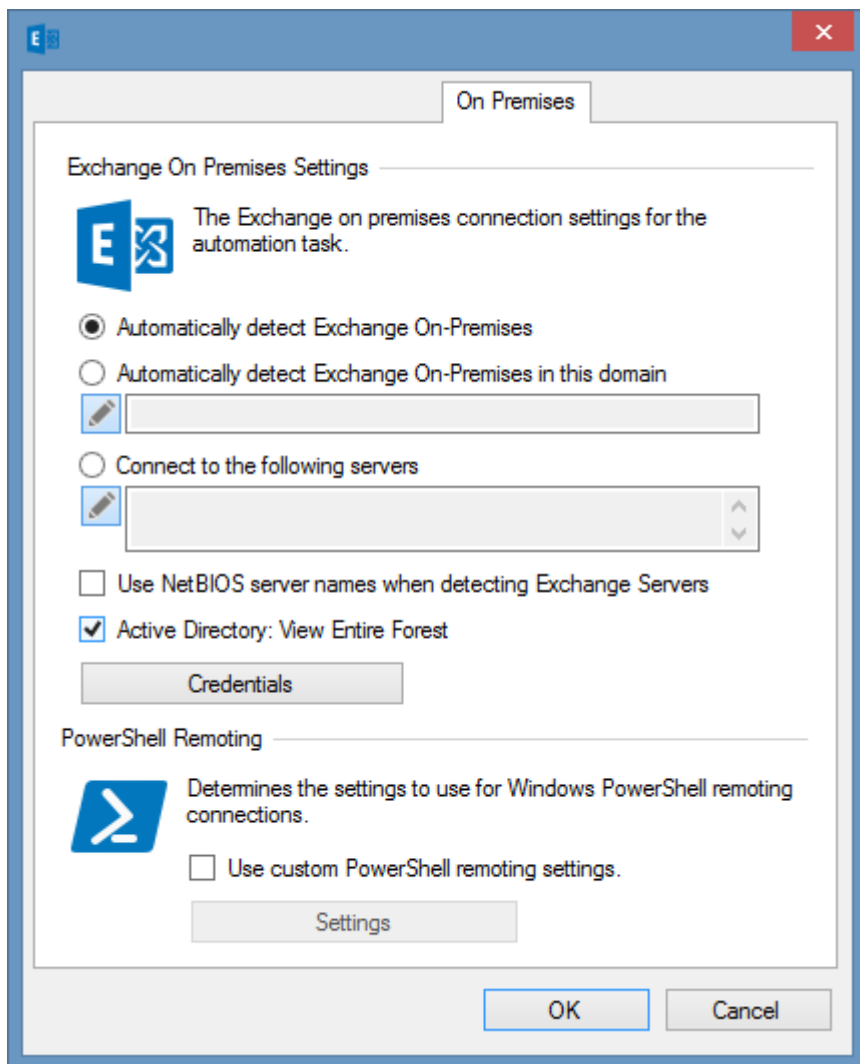
Exchange On Premises

Connects to a [Microsoft Exchange Premises](#) organization in your environment.

Exchange Online

Connects to [Microsoft Exchange Online](#).

Exchange On Premises



Automatically detect Exchange On-Premises

Connects to the Active Directory forest to which the machine running [XIA Automation Server](#) is a member and executes a query to locate Microsoft Exchange Servers.

Automatically detect Exchange On-Premises in this domain

Connects to the Active Directory forest to which the specified domain belongs and executes a query to locate Microsoft Exchange Servers.

Connect to the following servers

Attempts to connect to the specified Exchange Servers in order.

Use NetBIOS names when detecting Exchange Servers

When automatically detecting Exchange Servers determines whether to use the NetBIOS names of the Exchange Servers for the connections instead of the fully qualified domain name.

Active Directory: View Entire Forest

Determines whether all objects in the forest are viewed by the PowerShell session.

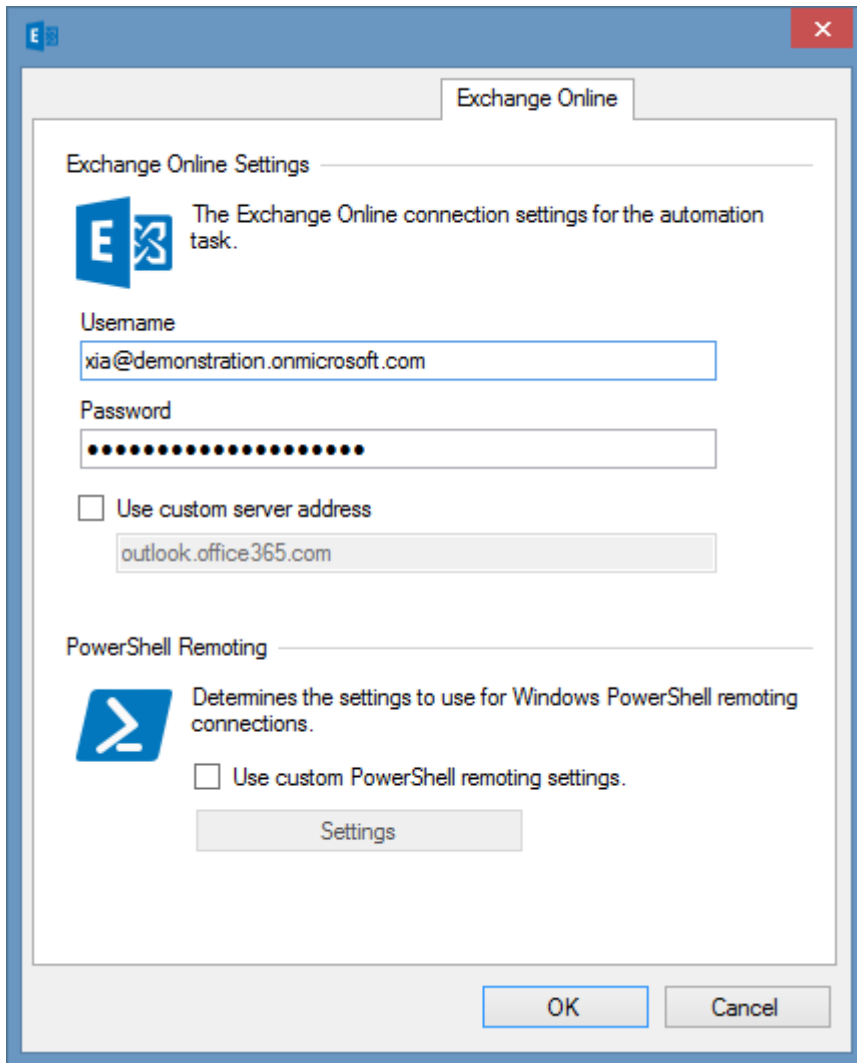
Credentials

Determines the credentials to use for the connection.

Use custom PowerShell remoting settings

The custom [PowerShell remoting connection](#) settings to use.

Exchange Online



Username

The username for the connection.

Password

The password for the connection.

Use custom server address

The custom server address for the connection.

Use custom PowerShell remoting settings

The custom [PowerShell remoting connection](#) settings to use.

Exchange Mailbox Disable Task

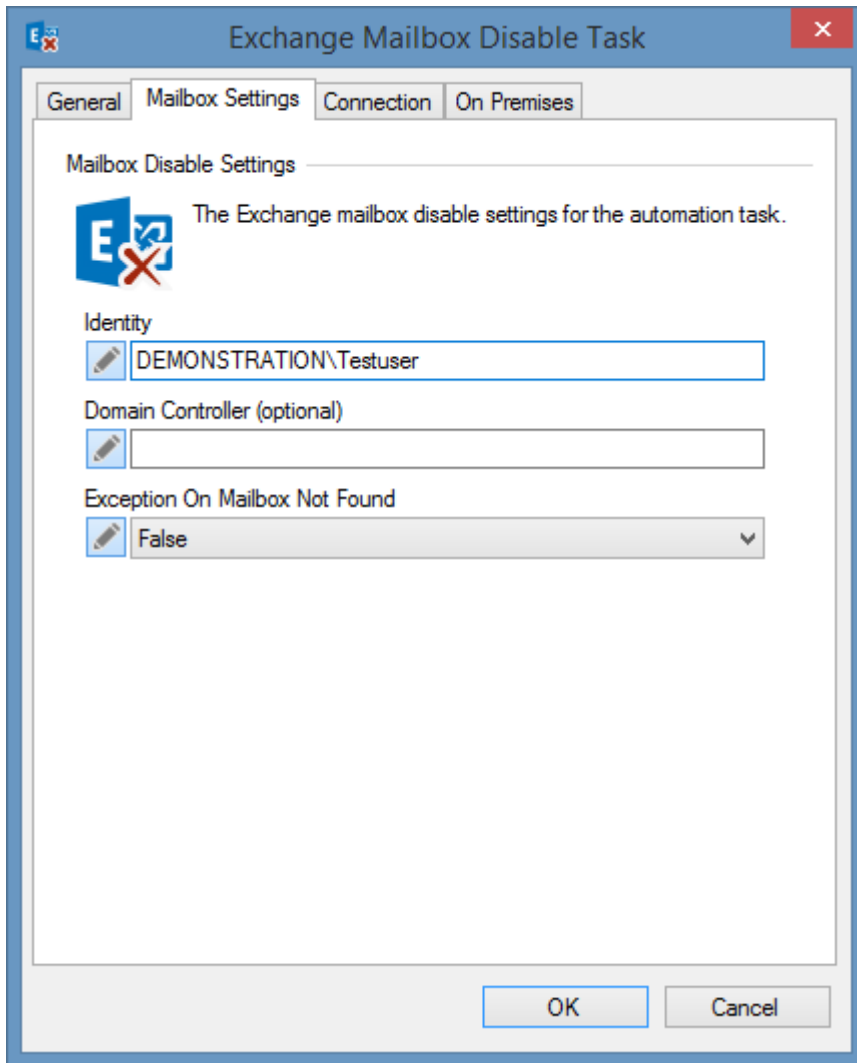
The Exchange mailbox disable [task](#) is capable of mailbox disabling an account on [Microsoft Exchange On-Premises](#).

For more information see the [Disable-Mailbox](#) cmdlet.

The following Exchange versions are supported.

- Microsoft Exchange 2019
- Microsoft Exchange 2016
- Microsoft Exchange 2013
- Microsoft Exchange 2010

Mailbox Settings



Identity

The identity of the account to mailbox disable.

Domain Controller

The Active Directory domain controller to use to perform the operation.

Exception On Mailbox Not Found

Determines whether an exception is thrown if the mailbox to disable does not exist.

Exchange Mailbox Enable Task

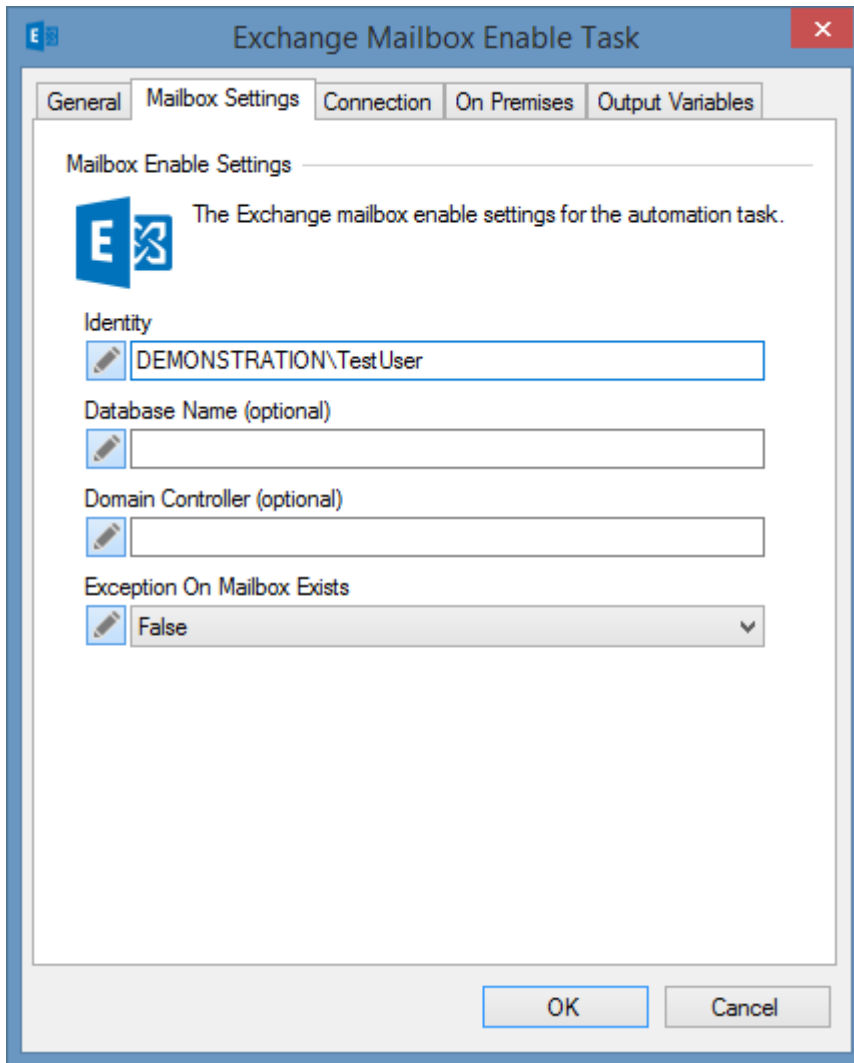
The Exchange mailbox enable [task](#) is capable of mailbox enabling an account on [Microsoft Exchange On-Premises](#).

For more information see the [Enable-Mailbox](#) cmdlet.

The following Exchange versions are supported.

- Microsoft Exchange 2019
- Microsoft Exchange 2016
- Microsoft Exchange 2013
- Microsoft Exchange 2010

Mailbox Settings



The screenshot shows a dialog box titled "Exchange Mailbox Enable Task" with a close button (X) in the top right corner. The dialog has four tabs: "General", "Mailbox Settings", "Connection", "On Premises", and "Output Variables". The "Mailbox Settings" tab is selected. Below the tabs, there is a section titled "Mailbox Enable Settings" with a description: "The Exchange mailbox enable settings for the automation task." Below this description is an Exchange logo. There are four input fields, each with a small edit icon (pencil) to its left: "Identity" (containing "DEMONSTRATION\TestUser"), "Database Name (optional)" (empty), "Domain Controller (optional)" (empty), and "Exception On Mailbox Exists" (a dropdown menu set to "False"). At the bottom of the dialog are "OK" and "Cancel" buttons.

Identity

The identity of the account to mailbox enable.

Database Name

The database in which to create the mailbox.

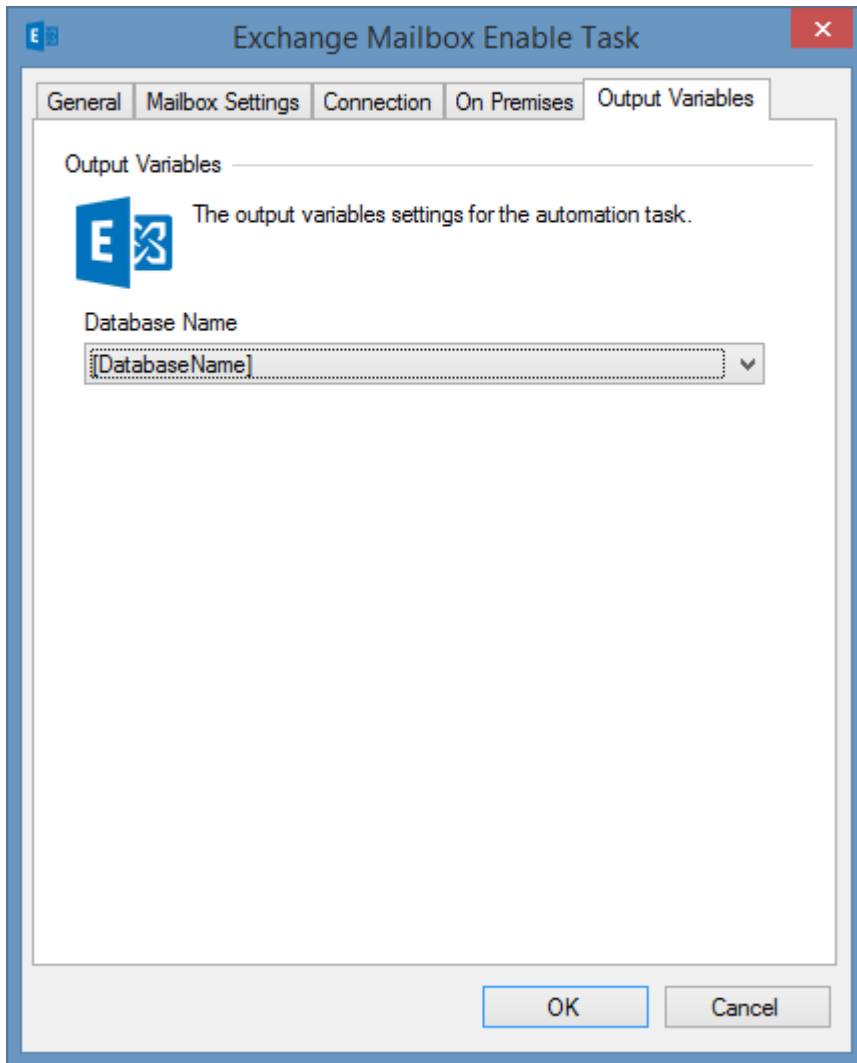
Domain Controller

The Active Directory domain controller to use to perform the operation.

Exception On Mailbox Exists

Determines whether an exception is thrown if the mailbox already exists.

Output Variables



Database Name

The string variable in which to store the name of the database in which the mailbox was created.

Exchange User Photo Update Task

The Exchange user photo update [task](#) is capable of updating or removing a user's photo on [Microsoft Exchange On-Premises](#) and [Exchange Online](#).

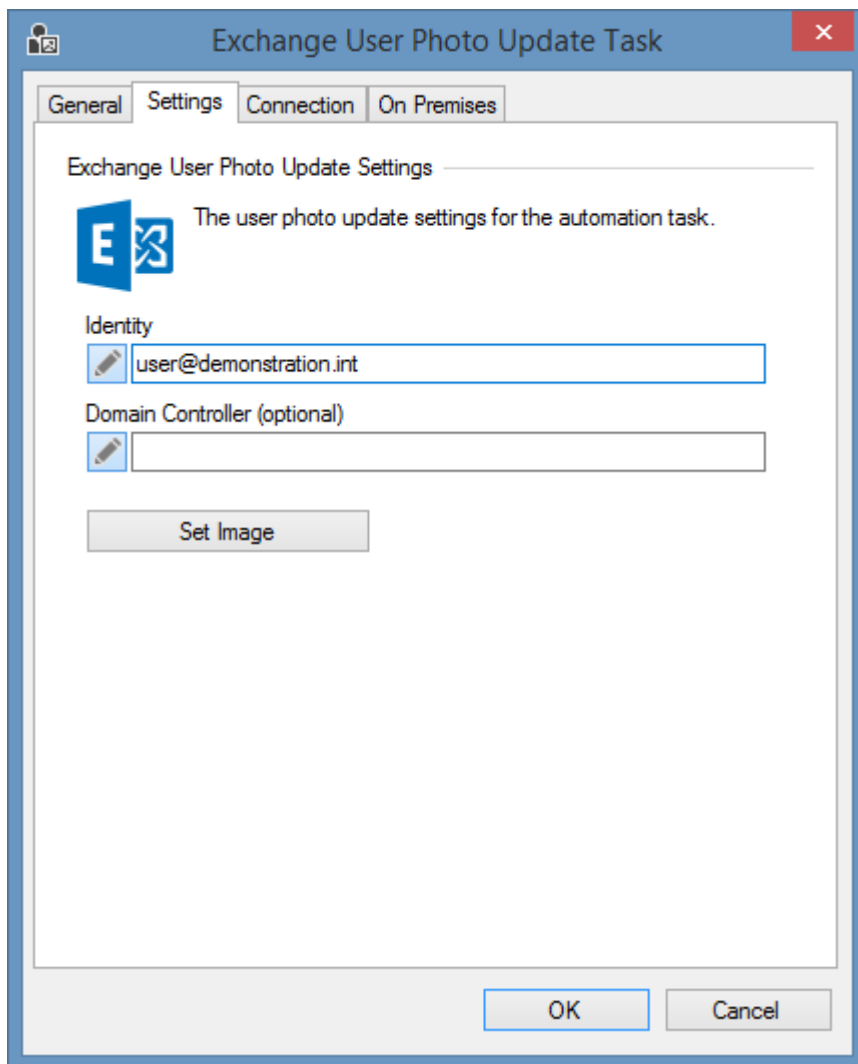
NOTE: Updating the photo of a user in [Exchange Online](#) updates their primary photo in [Microsoft 365](#).

For more information see the [Set-UserPhoto](#) cmdlet.

The following Exchange versions are supported.

- Microsoft Exchange Online
- Microsoft Exchange 2019
- Microsoft Exchange 2016
- Microsoft Exchange 2013
- Microsoft Exchange 2010

Settings



Identity

The identity of the account for which the user photo is to be updated.

Domain Controller

The Active Directory domain controller to use to perform the operation. This only applies to [Microsoft Exchange On-Premises](#).

Set Image

Displays the [image automation property](#) form to allow setting of the image to use as the user photo.

Office 365

The Office 365 [automation tasks](#) perform actions relating to [Microsoft Office 365](#) account management.

Connection Settings

The connection to Office 365 can use standard [username and password credentials](#), or a [service principal with certificate](#), or [service principal with a client secret](#).

Office 365 Connection Settings



The Office 365 connection settings for the automation task.

Authentication Type


Username

Password

Credentials

The connection to [Office 365](#) can use standard username and password credentials.

Office 365 Connection Settings —————

 The Office 365 connection settings for the automation task.

Authentication Type

Username

Password

Username

The username of the account to use for the connection.

Password

The password to use for the connection.

Service Principal (Certificate)

Office 365 Connection Settings



The Office 365 connection settings for the automation task.

Authentication Type

Service Principal (Certificate) ▼

Application Identifier

057ee535-21af-4754-9b15-06569fddb37c

Directory Identifier

057ee535-21af-4754-9b15-06569fddb37c

Certificate Thumbprint

BE4BCA8C388AF02EE1C50C3F5F74D6A34FE97DAF

Application Identifier

The unique identifier of the application.

Directory Identifier

The unique identifier of the Azure directory.

Certificate Thumbprint

The thumbprint of the certificate to use for authentication.

For more information see the [Office 365 service principal certificate setup](#) section.

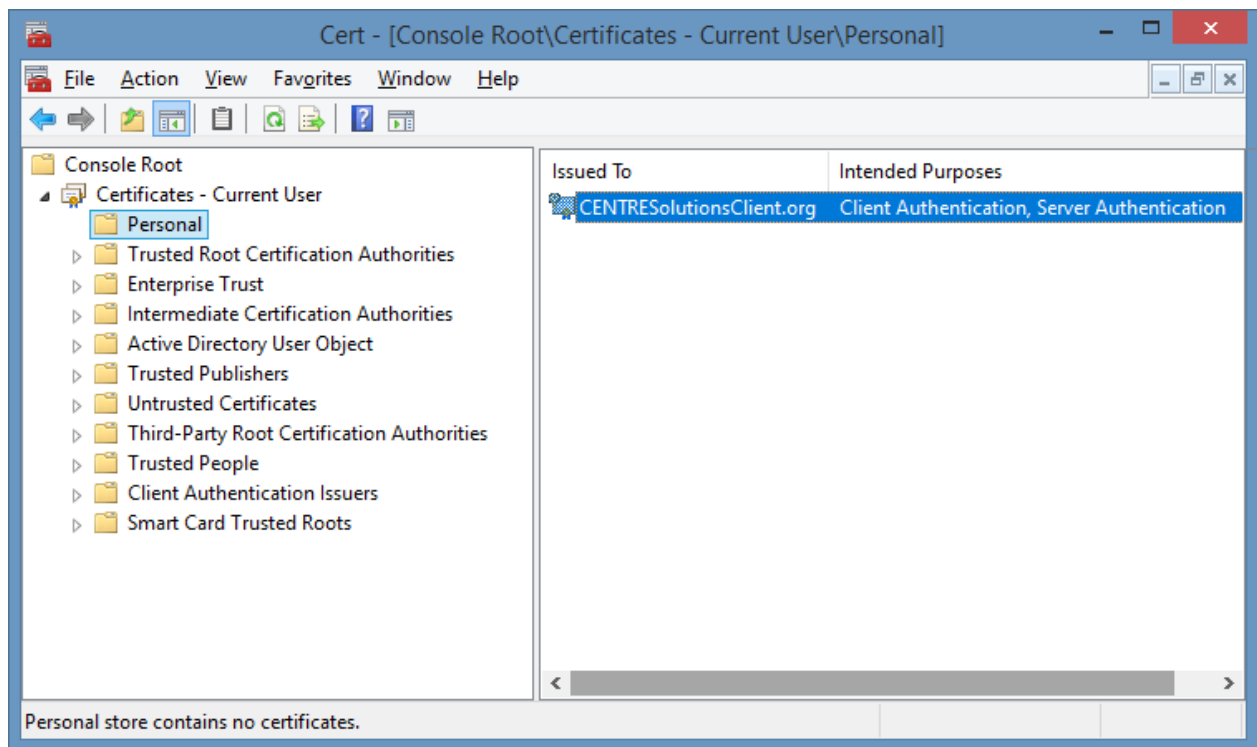
Office 365 Service Principal Certificate Setup

Follow these steps to enable login using a service principal with client certificate.

For more information see

<https://docs.microsoft.com/azure/active-directory/develop/howto-create-service-principal-portal>

- Ensure that you have a client certificate available in the Personal store of the Current User in the certificates management console.



- Export the certificate to DER encoded binary X.509 (.CER) format.
- Logon to the [Azure Portal](#) as a user account with the sufficient permissions.
- Goto Azure Active Directory > App Registrations.
- Click New Registration.
- Enter an appropriate name - for example "XIA Automation Server".
- For supported account types select
Accounts in this organizational directory only
- Do not specify a Redirect URI.
- Click *Register*.
- Make a note of the following values

Application (client) ID

Directory (tenant) ID

- Go to *Certificates & secrets*.
- Click *Upload Certificate*.
- Browse to the exported .CER file.
- Copy the **thumbprint value**.
- Go to Azure Active Directory > App Registrations > *XIA Automation Server* > API Permissions.
- Click *Add a permission*.
- Select Azure Service Management > *user_impersonation*.
- Click *Add* and ensure the permission is listed.
- Select the *user_impersonation* permission and click the *Grant admin content* button.

API / Permissions name	Type	Description	Admin c...	Status
▼ Azure Service Management (1)				
user_impersonation	Delegated	Access Azure Service Manage...	No	✔ Granted for CENTREL SOLUTIONS LTD
▼ Microsoft Graph (1)				
User.Read	Delegated	Sign in and read user profile	No	✔ Granted for CENTREL SOLUTIONS LTD

- Go to Azure Active Directory > Roles and Administrators.
- Assign the *XIA Automation Server* service principal the permissions required to execute the [automation tasks](#).

Service Principal (Client Secret)

Office 365 Connection Settings



The Office 365 connection settings for the automation task.

Authentication Type

Application Identifier

Directory Identifier

Client Secret

Application Identifier

The unique identifier of the application.

Directory Identifier

The unique identifier of the Azure directory.

Client Secret

The client secret.

For more information see the [Office 365 service principal client secret setup](#) section.

Office 365 Service Principal Client Secret Setup

Follow these steps to enable login using a service principal with client secret.



For more information see

<https://docs.microsoft.com/azure/active-directory/develop/howto-create-service-principal-portal>

- Ensure that the [requirements](#) are met including the installation of the [Azure Az PowerShell Module](#).
- Logon to the [Azure Portal](#) as a user account with the sufficient permissions.
- Go to Azure Active Directory > App Registrations.
- Click New Registration.
- Enter an appropriate name - for example "XIA Automation Server".
- For supported account types select Accounts in this organizational directory only
- Do not specify a Redirect URI.
- Click *Register*.
- Make a note of the following values

Application (client) ID
Directory (tenant) ID

- Go to *Certificates & secrets*.
- Click *New Client Secret*.
- Enter a description and appropriate expiry.
- Copy the **client secret value**.
- Go to Azure Active Directory > App Registrations > *XIA Automation Server* > API Permissions.
- Click *Add a permission*.
- Select Azure Service Management > user_impersonation.
- Click *Add* and ensure the permission is listed.
- Select the *user_impersonation* permission and click the *Grant admin content* button.

API / Permissions name	Type	Description	Admin c...	Status
▼ Azure Service Management (1)				
user_impersonation	Delegated	Access Azure Service Manage...	No	 Granted for CENTREL SOLUTIONS LTD
▼ Microsoft Graph (1)				
User.Read	Delegated	Sign in and read user profile	No	 Granted for CENTREL SOLUTIONS LTD

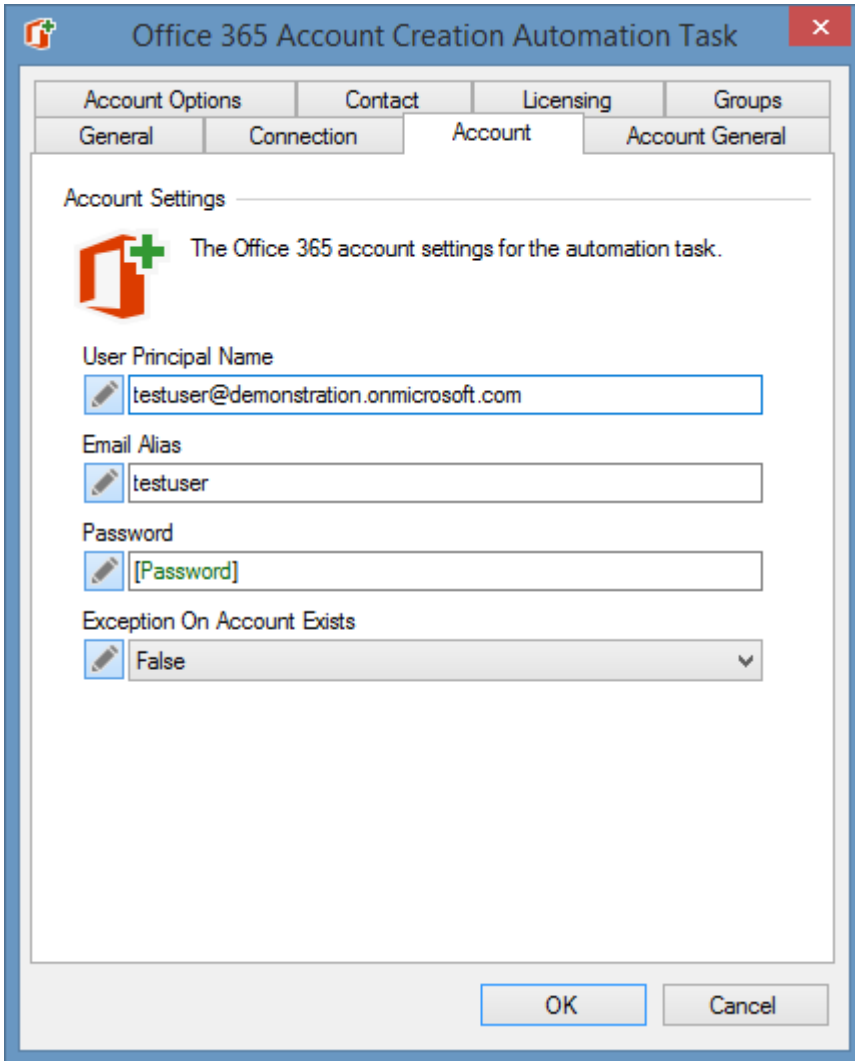
- Go to Azure Active Directory > Roles and Administrators.
- Assign the *XIA Automation Server* service principal the permissions required to execute the [automation tasks](#).

Office 365 Account Creation Task

The Office 365 account creation [task](#) is capable of creating an [Office 365](#) account.

To update an existing [Office 365](#) account see the [Office 365 account update task](#).

Account



User Principal Name

The user principal name of the account to create.

Email Alias

The email alias for the account.

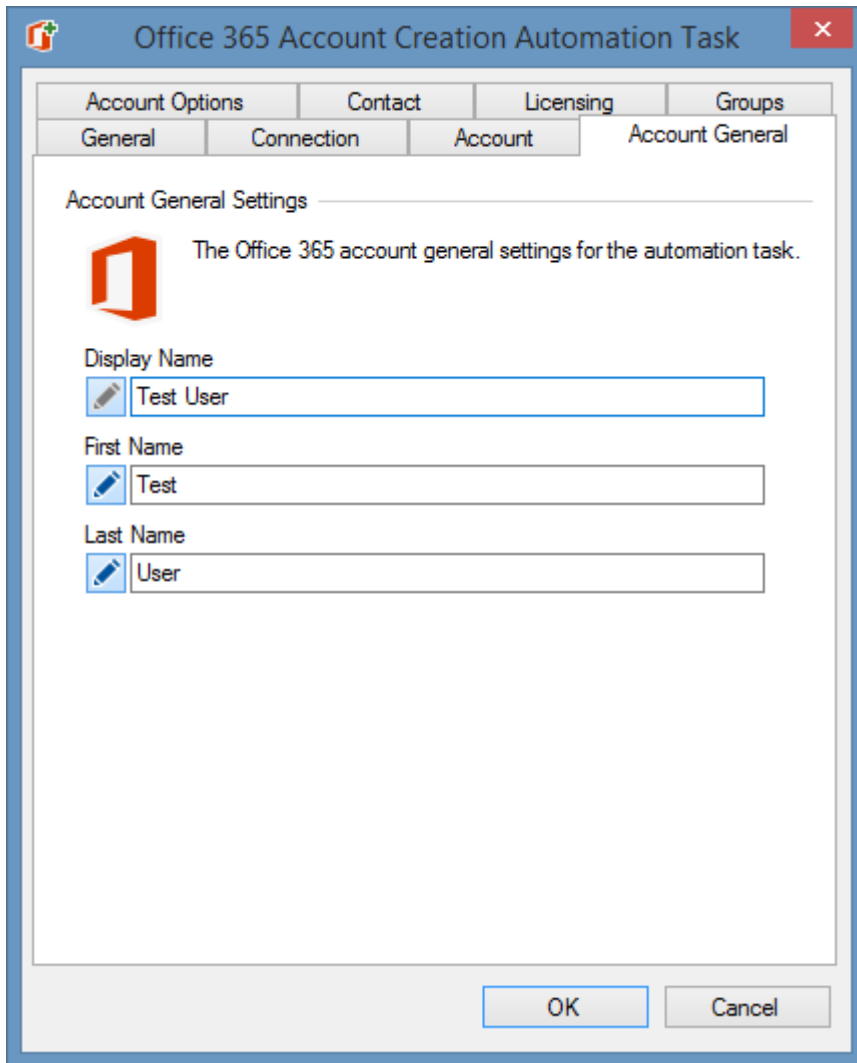
Password

The password to assign to the new account.

Exception On Account Exists

Determines whether an exception should be thrown if the account with the specified user principal name already exists.

Account General



The screenshot shows a dialog box titled "Office 365 Account Creation Automation Task". It has a tabbed interface with four main tabs: "Account Options", "Contact", "Licensing", and "Groups". Under "Account Options", there are sub-tabs: "General", "Connection", "Account", and "Account General". The "Account General" sub-tab is selected. The main content area is titled "Account General Settings" and contains the following elements:

- An Office 365 logo icon.
- The text: "The Office 365 account general settings for the automation task."
- A "Display Name" field with a pencil icon and the text "Test User".
- A "First Name" field with a pencil icon and the text "Test".
- A "Last Name" field with a pencil icon and the text "User".

At the bottom of the dialog box are "OK" and "Cancel" buttons.

Display Name

The display name of the account.

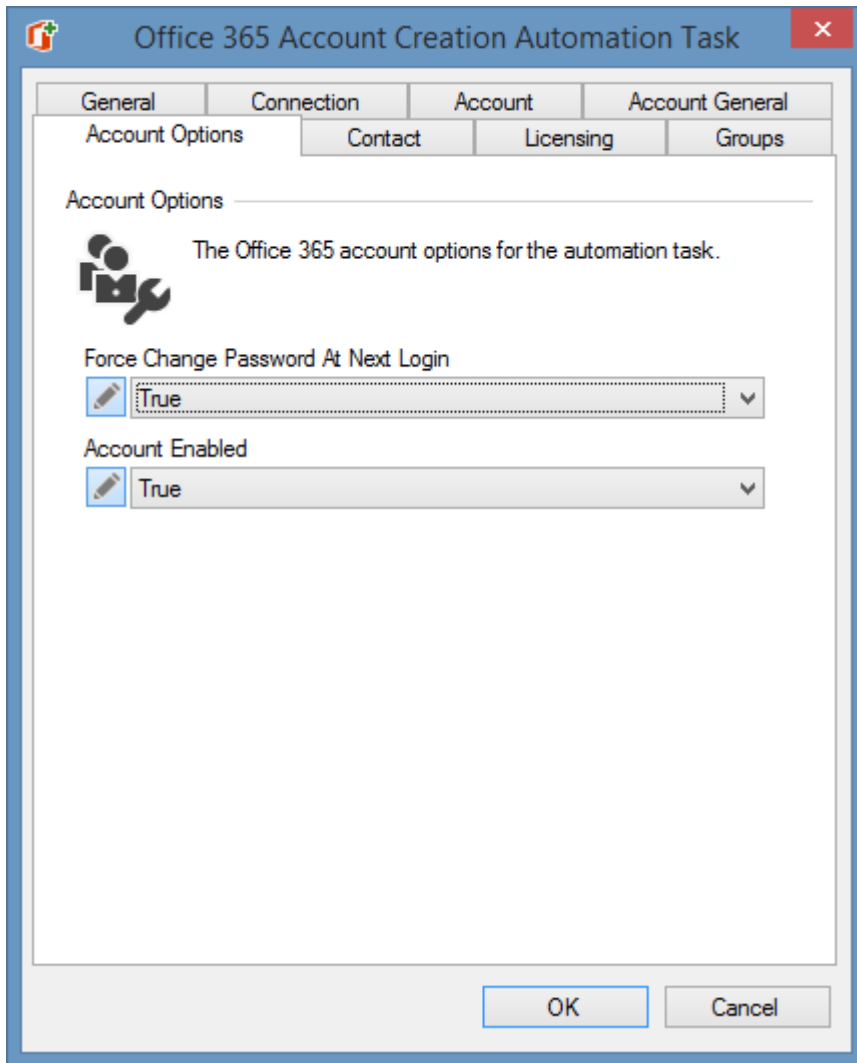
First Name

The optional first name of the user.

Last Name

The optional last name of the user.

Account Options



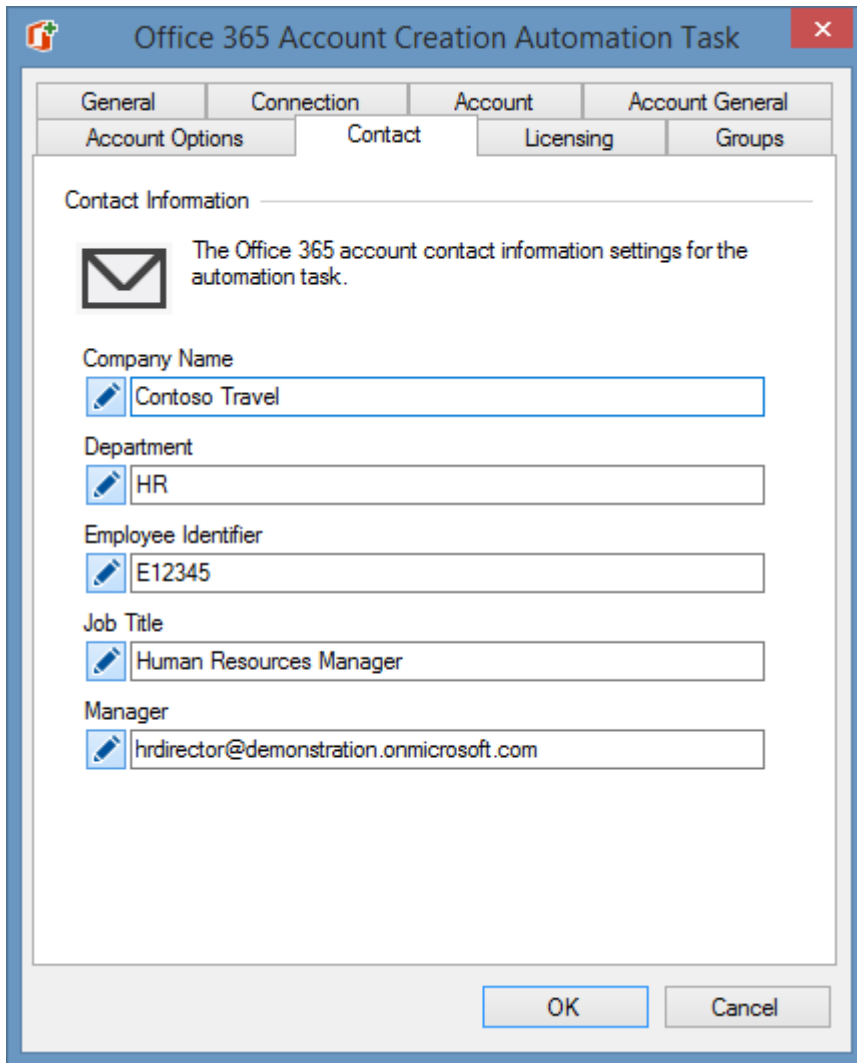
Force Change Password At Next Logon

Determines whether the account will be forced to change password at next logon.

Account Enabled

Determines whether the account is enabled.

Contact



The screenshot shows a dialog box titled "Office 365 Account Creation Automation Task" with a close button (X) in the top right corner. The dialog has a tabbed interface with the following tabs: "General", "Connection", "Account", "Account General", "Account Options", "Contact", "Licensing", and "Groups". The "Contact" tab is selected. Below the tabs, there is a section titled "Contact Information" with a sub-header "Contact Information" and a description: "The Office 365 account contact information settings for the automation task." Below this description are five text input fields, each with a blue pencil icon on the left:

- Company Name: Contoso Travel
- Department: HR
- Employee Identifier: E12345
- Job Title: Human Resources Manager
- Manager: hrdirector@demonstration.onmicrosoft.com

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Company Name

The name of the company.

Department

The department to which the user belongs.

Employee Identifier

The employee identifier.

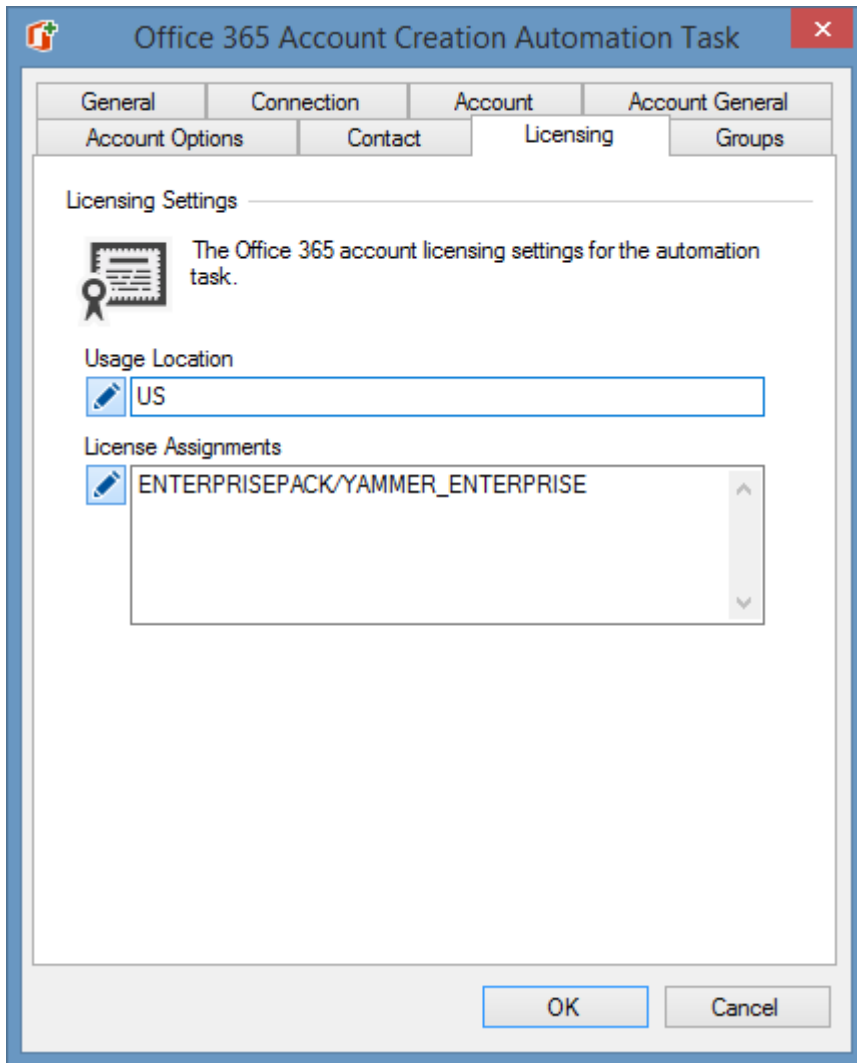
Job Title

The job title of the user.

Manager

The user principal name or object identifier of the user's manager.

Licensing



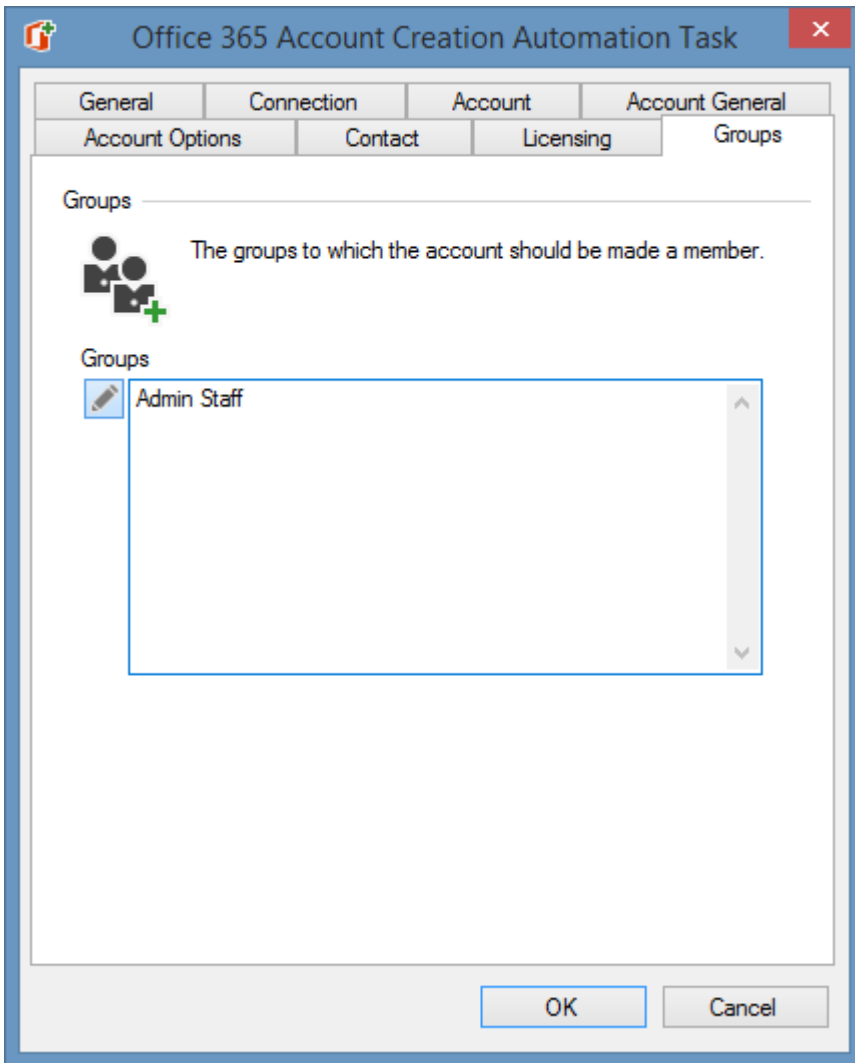
Usage Location

The two letter country code (ISO standard 3166) to assign to the user account. This is required for users that will be assigned licenses due to a legal requirement to check for availability of services in countries.

License Assignments

The licenses to assign to the user account - for example "ENTERPRISEPACK". Service plans can also be specified - for example "ENTERPRISEPACK/YAMMER_ENTERPRISE".

Groups



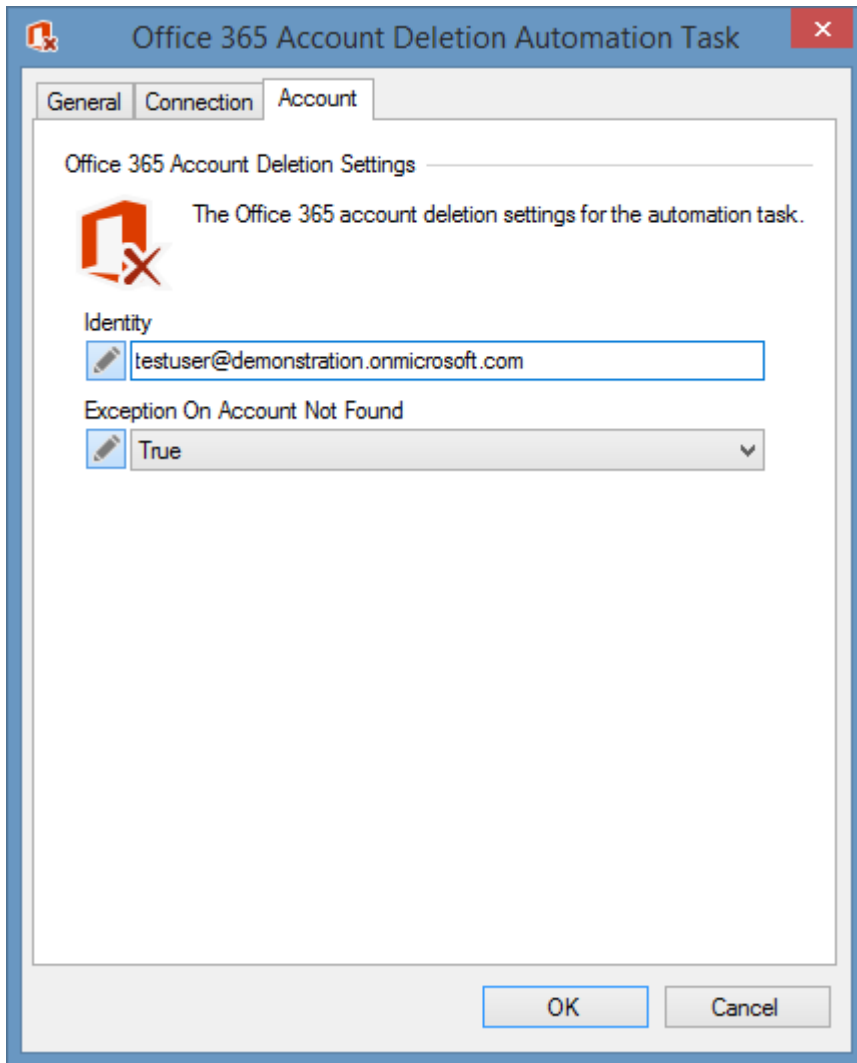
Groups

The names or object identifier of the groups to which the account should be added.

Office 365 Account Deletion Task

The Office 365 account deletion [task](#) is capable of deleting an [Office 365](#) account with the specified identity.

Account



Identity

The user principal name or object identifier of the account to delete.

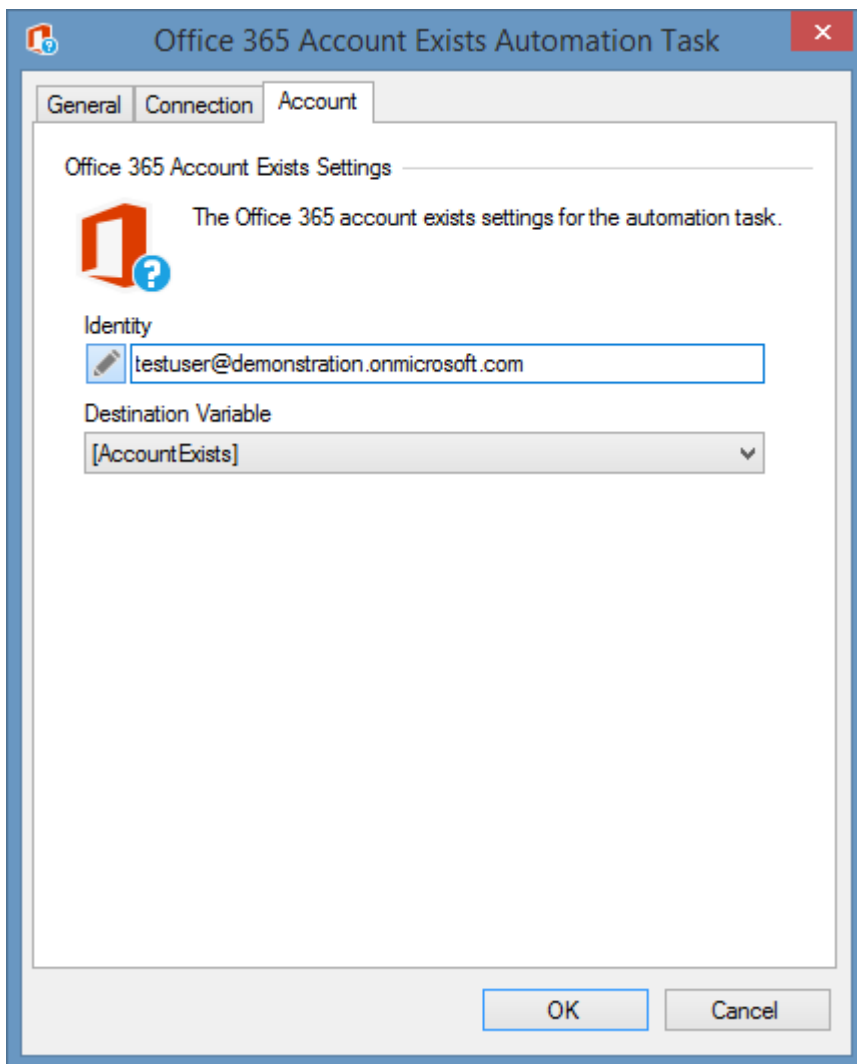
Exception On Account Not Found

Determines whether an exception should be thrown if the account with the specified identity does not exist.

Office 365 Account Exists Task

The Office 365 account exists [task](#) is capable of determining whether an [Office 365](#) account with the specified identity exists in the environment.

Account



Identity

The user principal name or object identifier of the account to locate.

Destination Variable

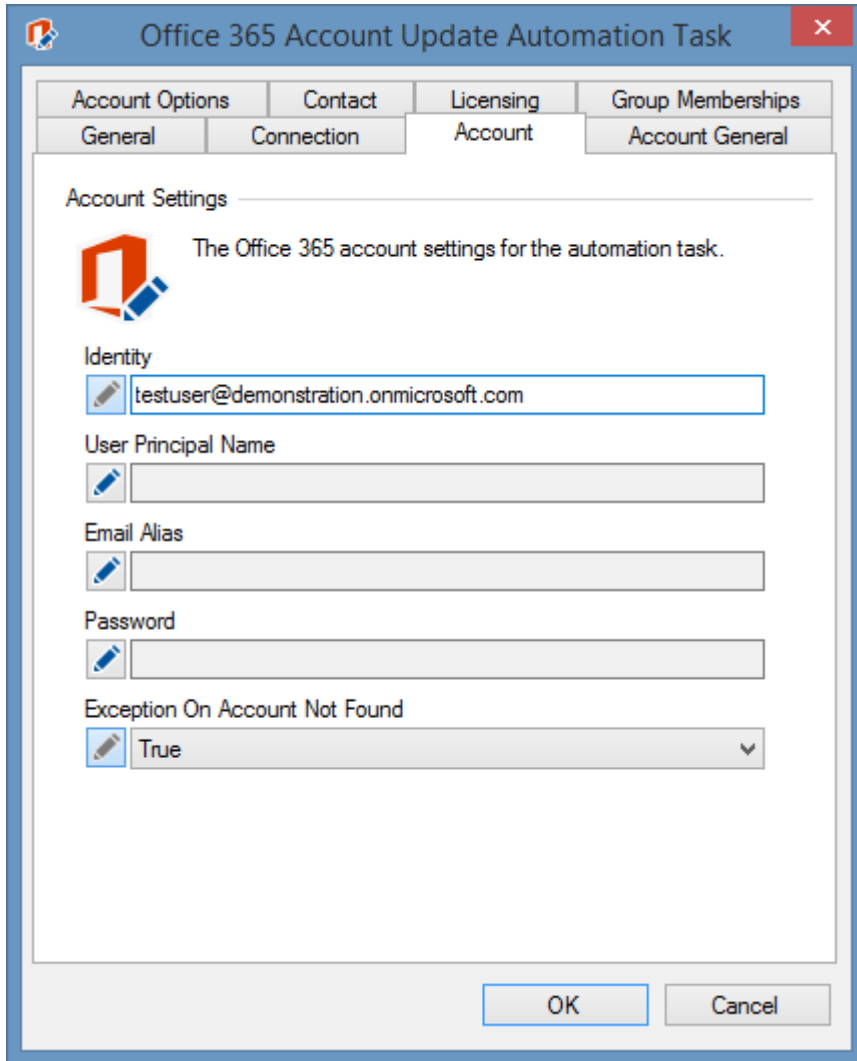
The [boolean variable](#) in which to store the return value.

Office 365 Account Update Task

The Office 365 account update [task](#) is capable of updating an existing [Office 365](#) account.

To create a new [Office 365](#) account see the [Office 365 account creation task](#).

Account



The screenshot shows a dialog box titled "Office 365 Account Update Automation Task". It has a tabbed interface with four tabs: "Account Options", "Contact", "Licensing", and "Group Memberships". The "Account Options" tab is active, and it has a sub-tab "Account General" selected. The main content area is titled "Account Settings" and contains the following fields:

- Identity:** A text box containing "testuser@demonstration.onmicrosoft.com".
- User Principal Name:** An empty text box.
- Email Alias:** An empty text box.
- Password:** An empty text box.
- Exception On Account Not Found:** A dropdown menu set to "True".

At the bottom of the dialog box are "OK" and "Cancel" buttons.

Identity

The user principal name or object identifier of the account to update.

User Principal Name

The new user principal name for the account.

Email Alias

The new email alias for the account.

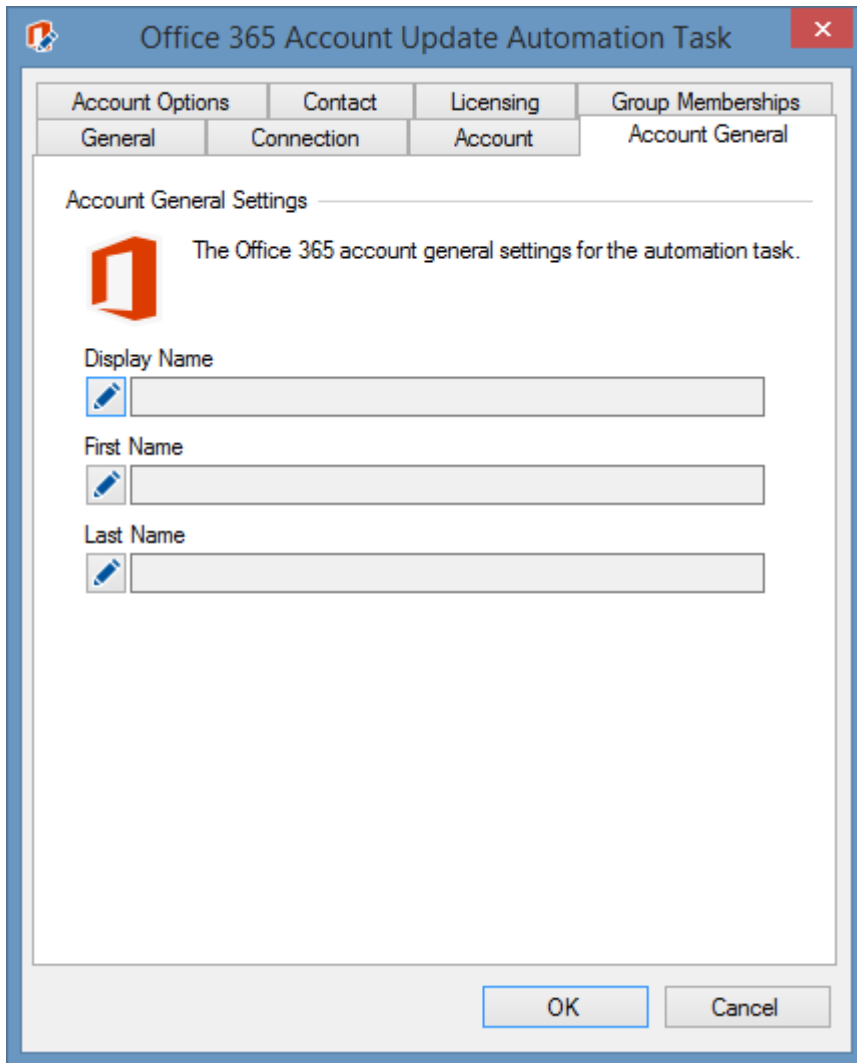
Password

The new password for the account.

Exception On Account Not Found

Determines whether an exception should be thrown if the account to update is not found.

Account General



The screenshot shows a dialog box titled "Office 365 Account Update Automation Task". It has a tabbed interface with four tabs: "Account Options", "Contact", "Licensing", and "Group Memberships". The "Account General" sub-tab is selected under the "Account" main tab. The "Account General Settings" section contains an Office logo and the text "The Office 365 account general settings for the automation task." Below this are three text input fields: "Display Name", "First Name", and "Last Name", each with a small edit icon to its left. At the bottom of the dialog are "OK" and "Cancel" buttons.

Display Name

The new display name of the account.

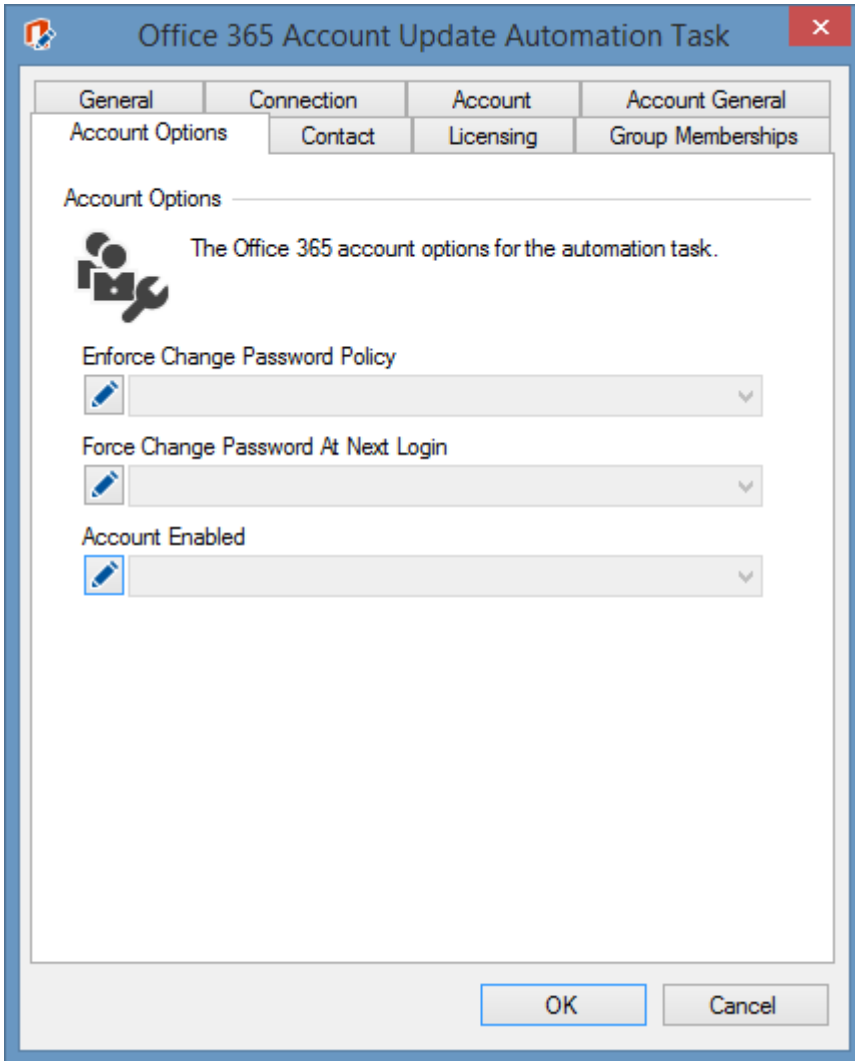
First Name

The new first name of the user.

Last Name

The new last name of the user.

Account Options



Enforce Change Password Policy

Determines whether the change password policy is enforced for the account.

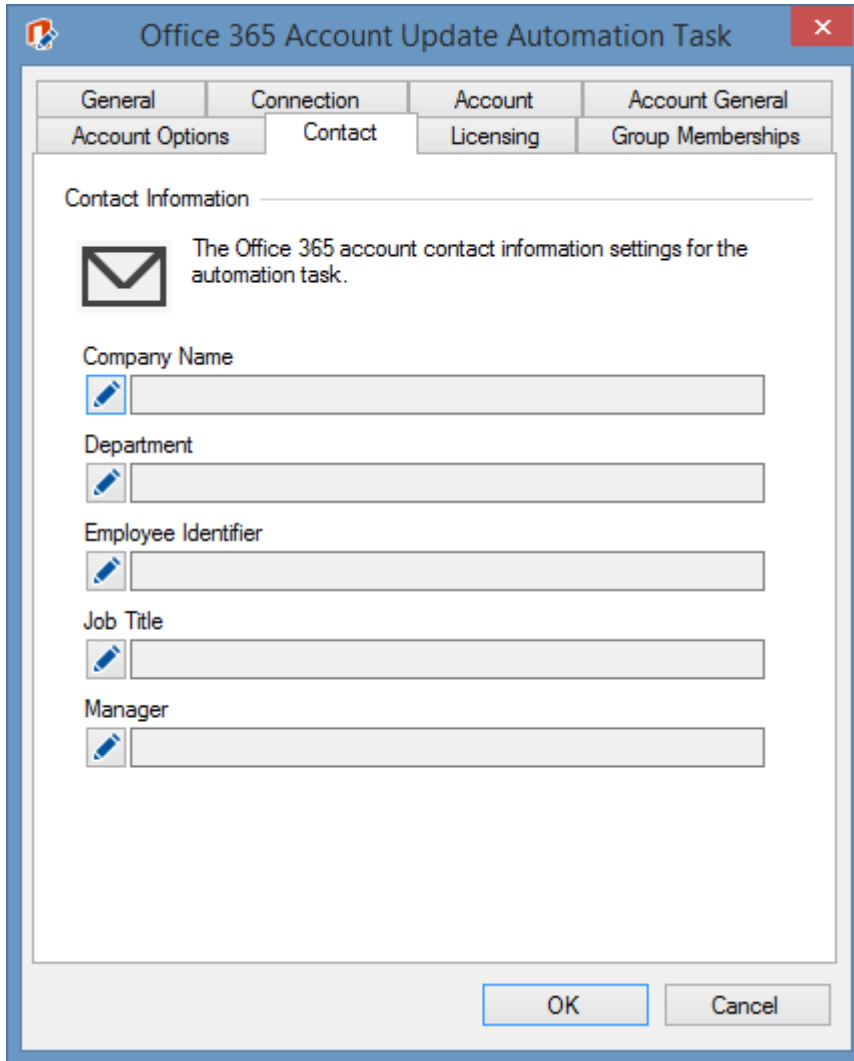
Force Change Password At Next Logon

Determines whether the account will be forced to change password at next logon.

Account Enabled

Determines whether the account is enabled.

Contact



The screenshot shows a dialog box titled "Office 365 Account Update Automation Task" with a close button in the top right corner. The dialog has a tabbed interface with the following tabs: General, Connection, Account, Account General, Account Options, Contact (selected), Licensing, and Group Memberships. The "Contact Information" section is active, featuring an envelope icon and the text: "The Office 365 account contact information settings for the automation task." Below this, there are five text input fields, each with a small edit icon to its left: "Company Name", "Department", "Employee Identifier", "Job Title", and "Manager". At the bottom of the dialog are "OK" and "Cancel" buttons.

Company Name

The name of the company.

Department

The department to which the user belongs.

Employee Identifier

The employee identifier.

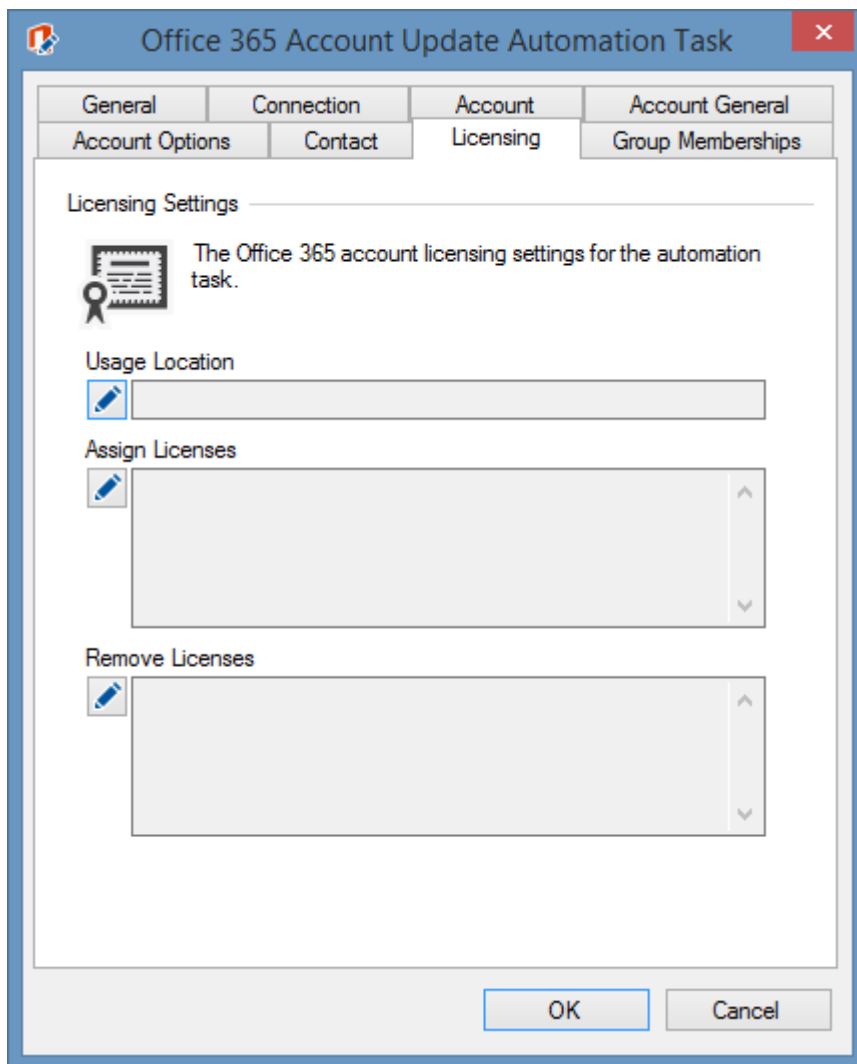
Job Title

The job title of the user.

Manager

The user principal name or object identifier of the user's manager.

Licensing



Usage Location

The two letter country code (ISO standard 3166) to assign to the user account. This is required for users that will be assigned licenses due to a legal requirement to check for availability of services in countries.

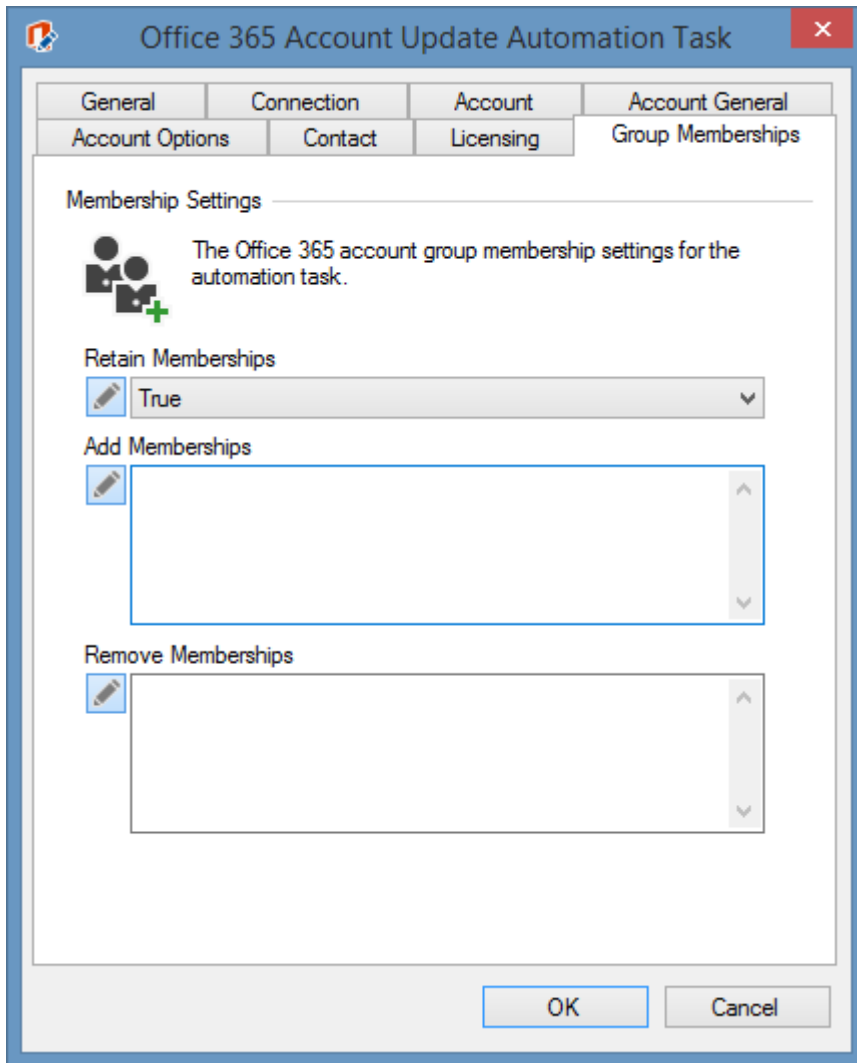
Assign Licenses

The licenses to assign to the user account - for example "ENTERPRISEPACK". Service plans can also be specified - for example "ENTERPRISEPACK/YAMMER_ENTERPRISE".

Remove Licenses

The licenses to remove from the user account - for example "ENTERPRISEPACK". Service plans can also be specified - for example "ENTERPRISEPACK/YAMMER_ENTERPRISE".

Group Memberships



Retain Memberships

Determines whether the group memberships currently assigned to the account should be retained.

Add Memberships

The names or object identifier of the groups to which the account should be added.

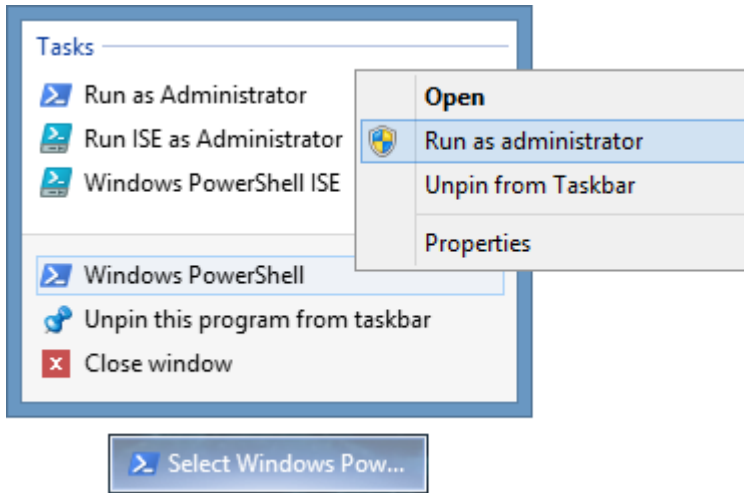
Remove Memberships

The names or object identifier of the groups from which the account should be removed.

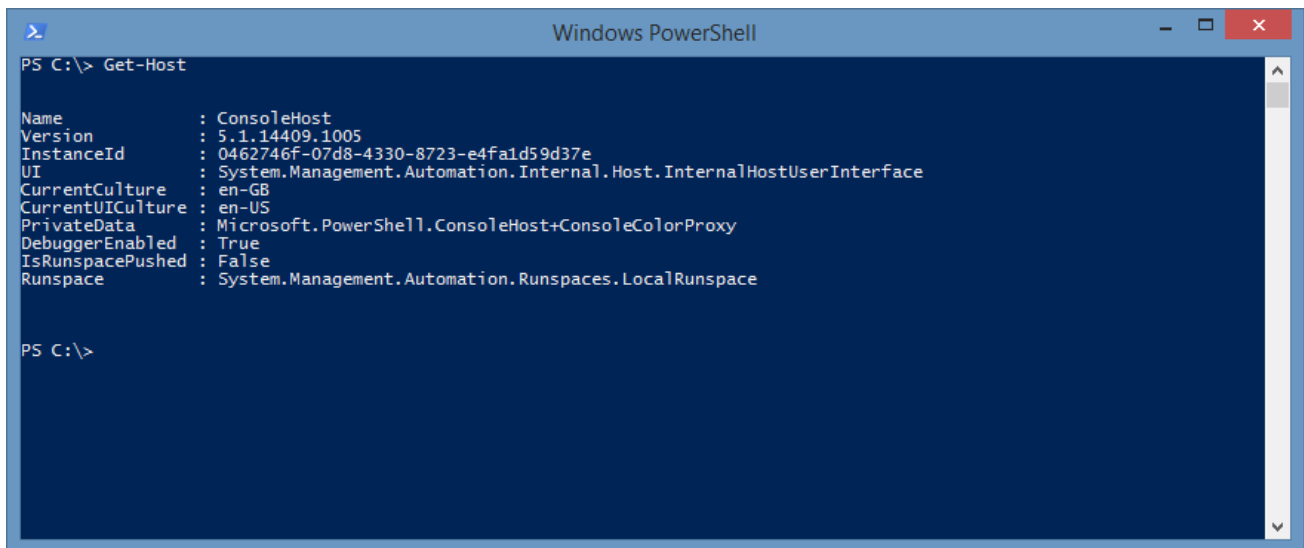
Requirements

The Office 365 [automation tasks](#) require the [AzureAD PowerShell modules](#).

- Open Windows PowerShell as an Administrator.



- Enter the Get-Host command.
- Ensure that Windows PowerShell version 5.1 or above is installed, if not download and install Windows PowerShell 5.1 or above <http://aka.ms/wmf5download>



- Install the [AzureAD PowerShell modules](#) by entering the following command.
Install-Module -Name AzureAD
- If prompted to install the NuGet provider answer [Y]es.
- If the error "WARNING: Unable to download the list of available providers. Check your internet connection." is seen then issue the following commands.

```
[Net.ServicePointManager]::SecurityProtocol = [Net.SecurityProtocolType]::Tls12
```



```
Register-PSRepository -Default -Verbose  
Set-PSRepository -Name "PSGallery" -InstallationPolicy Trusted  
Install-Module -Name AzureAD
```

- When connecting using [Service Account \(Client Secret\)](#) the [Azure Az PowerShell Module](#) must also be installed using the following command.

```
Install-Module Az
```

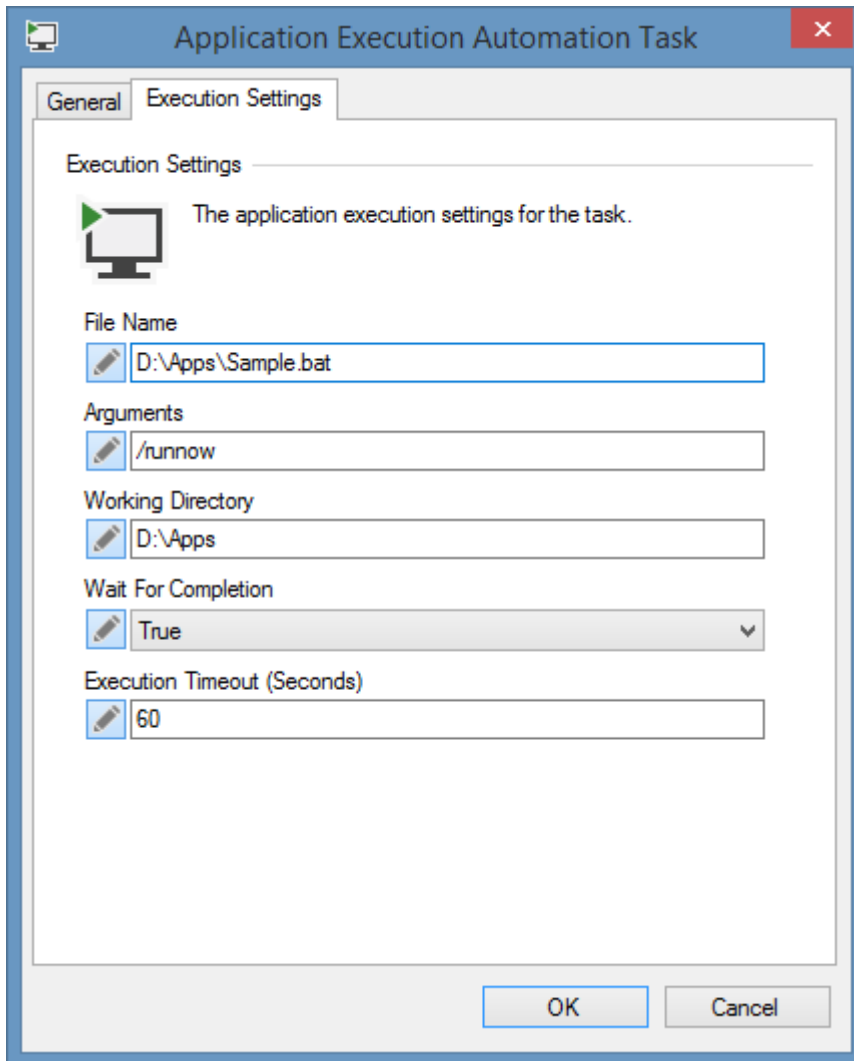
Utilities

The utility [automation tasks](#) perform utility style support actions such as pausing the automation process, and executing external applications.

Application Execution Task

The application execution task can execute an external application, script or batch file.

Execution Settings



File Name

The absolute path to the application, script, or batch file to execute.

Arguments

The command line arguments.

Working Directory

The working directory for the application.

Wait For Completion

Determines whether the system should wait for the application to complete.

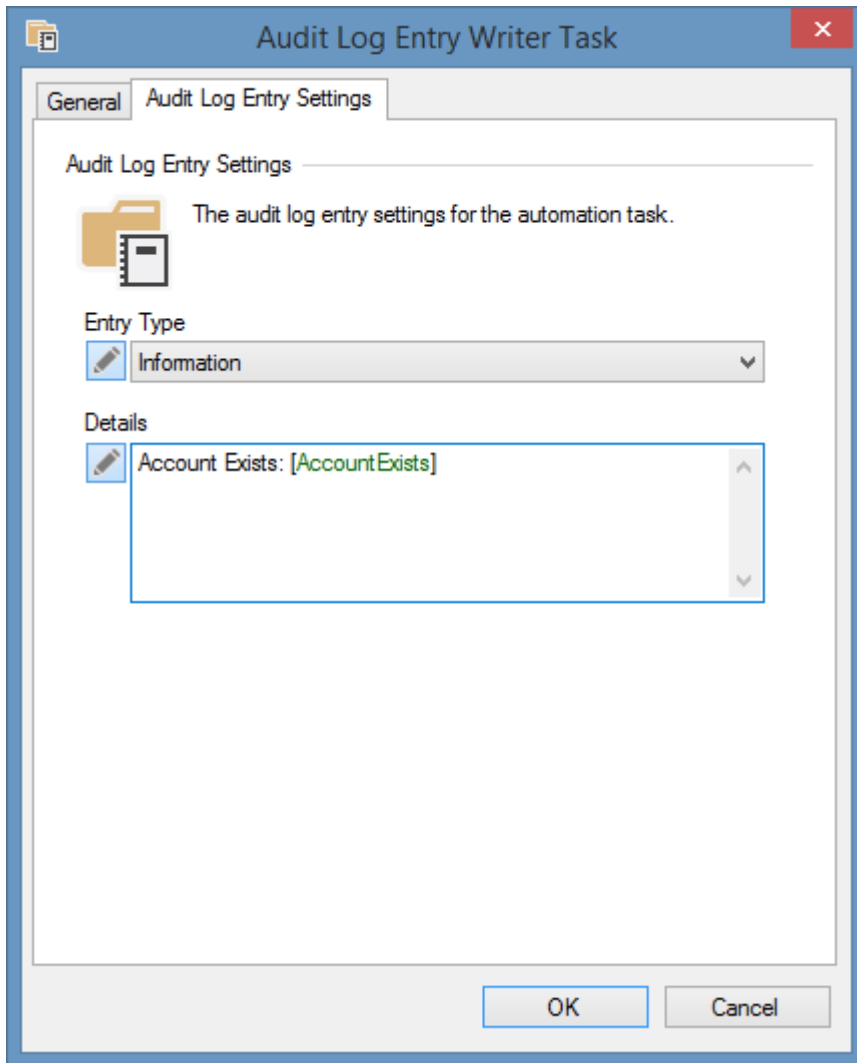
Execution Timeout (Seconds)

The timeout for the application to complete executing before the automation task fails. This setting only applies if "Wait For Completion" is true.

Audit Log Entry Writer Task

The audit log entry writer task is able to write an entry to the [audit log](#) with the specified [entry type](#) and [details](#).

Audit Log Entry Settings



Entry Type

An [integer automation property](#) that represents the type of entry to write to the [audit log](#).

Details

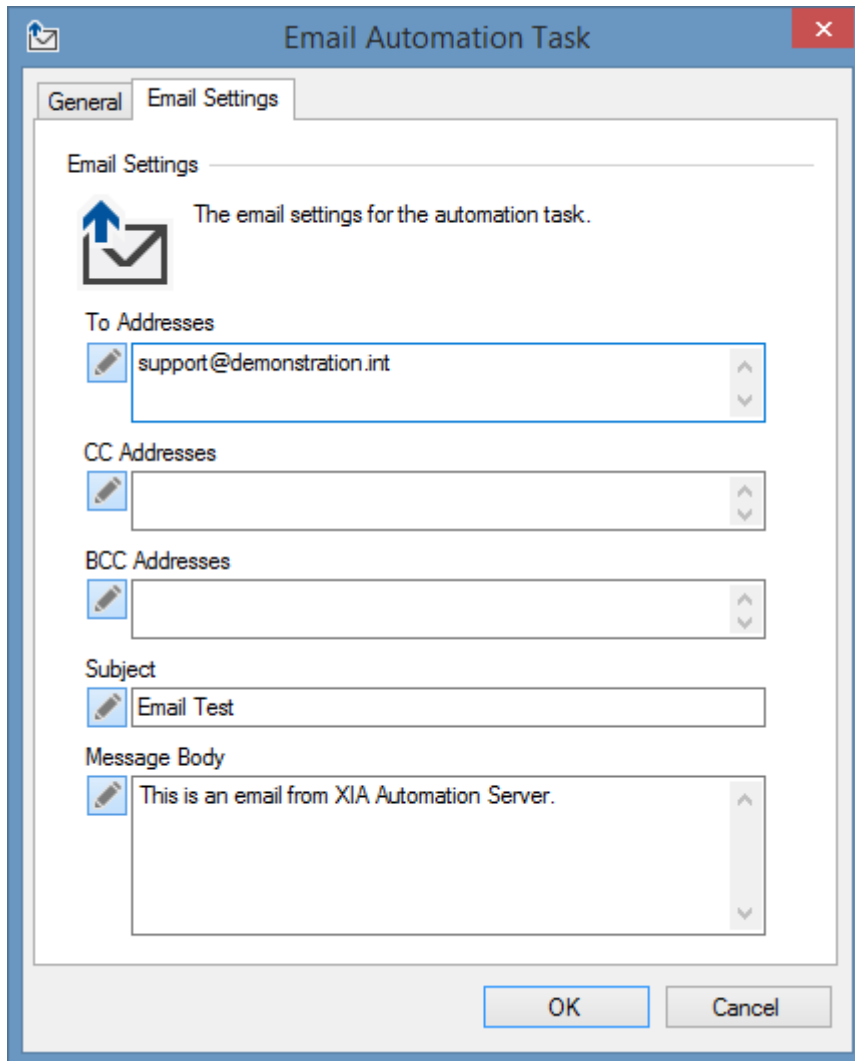
A [multiline string automation property](#) that represents the details of the entry to write to the [audit log](#).

Email Task

The email automation task can send an email by SMTP.

NOTE: This task requires that SMTP is enabled and configured in the [SMTP settings](#).

Email Settings



The screenshot shows a dialog box titled "Email Automation Task" with a close button in the top right corner. The "Email Settings" tab is selected. Below the tab, there is a section titled "Email Settings" with a sub-header "The email settings for the automation task." and an icon of an envelope with an upward arrow. The settings are organized into several sections, each with a list icon (pencil) on the left and a scrollable list on the right:

- To Addresses:** A list containing "support@demonstration.int".
- CC Addresses:** An empty list.
- BCC Addresses:** An empty list.
- Subject:** A list containing "Email Test".
- Message Body:** A list containing "This is an email from XIA Automation Server.".

At the bottom of the dialog, there are "OK" and "Cancel" buttons.

To Addresses

A list of valid email address to which the email should be sent.

CC Addresses

A list of valid email address to which the email should be carbon copied.

BCC Addresses

A list of valid email address to which the email should be blind carbon copied.

Subject

The subject of the email.

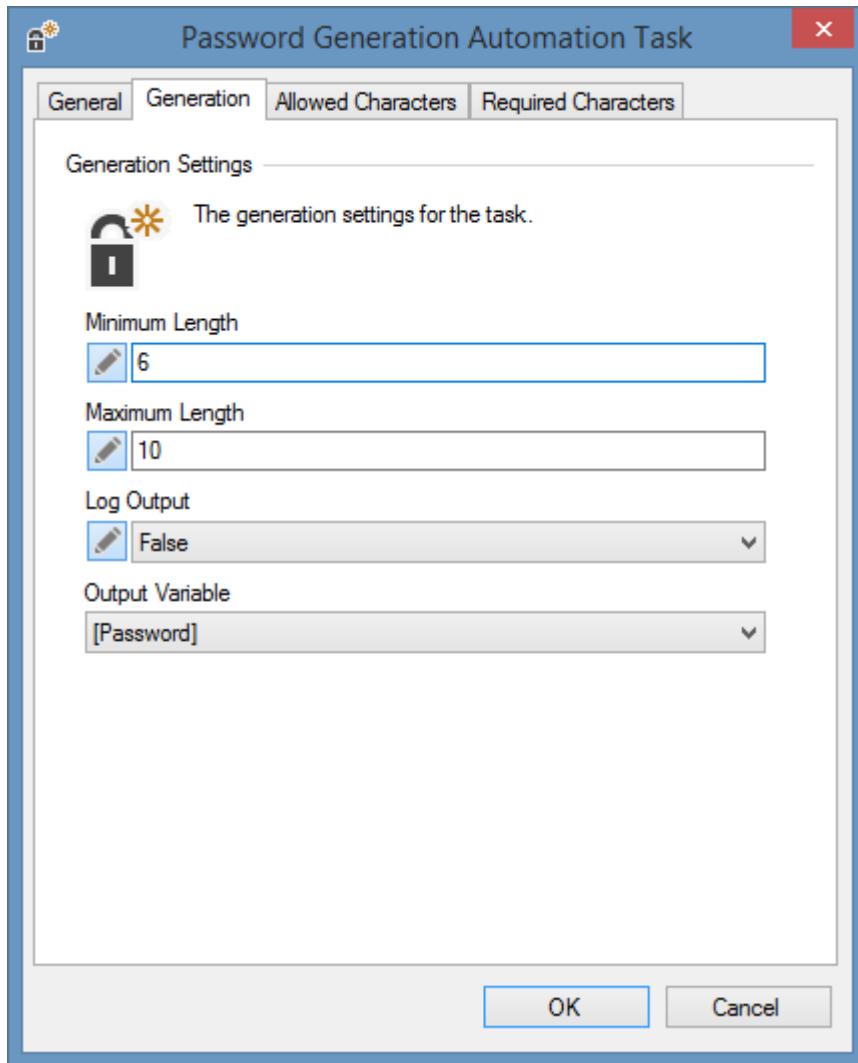
Message Body

The email message body.

Password Generation Task

The password generation task is capable of generating a random password based on specific criteria and storing the generated password in a [variable](#).

Generation Settings



The screenshot shows a dialog box titled "Password Generation Automation Task" with a close button (X) in the top right corner. The dialog has four tabs: "General", "Generation", "Allowed Characters", and "Required Characters". The "Generation" tab is selected. Below the tabs, the text "Generation Settings" is followed by a horizontal line. A padlock icon with a starburst is next to the text "The generation settings for the task." Below this, there are four settings:

- Minimum Length:** A text box containing the number "6".
- Maximum Length:** A text box containing the number "10".
- Log Output:** A dropdown menu with "False" selected.
- Output Variable:** A dropdown menu with "[Password]" selected.

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Minimum Length

The minimum number of characters in the generated password.

Maximum Length

The maximum number of characters in the generated password.

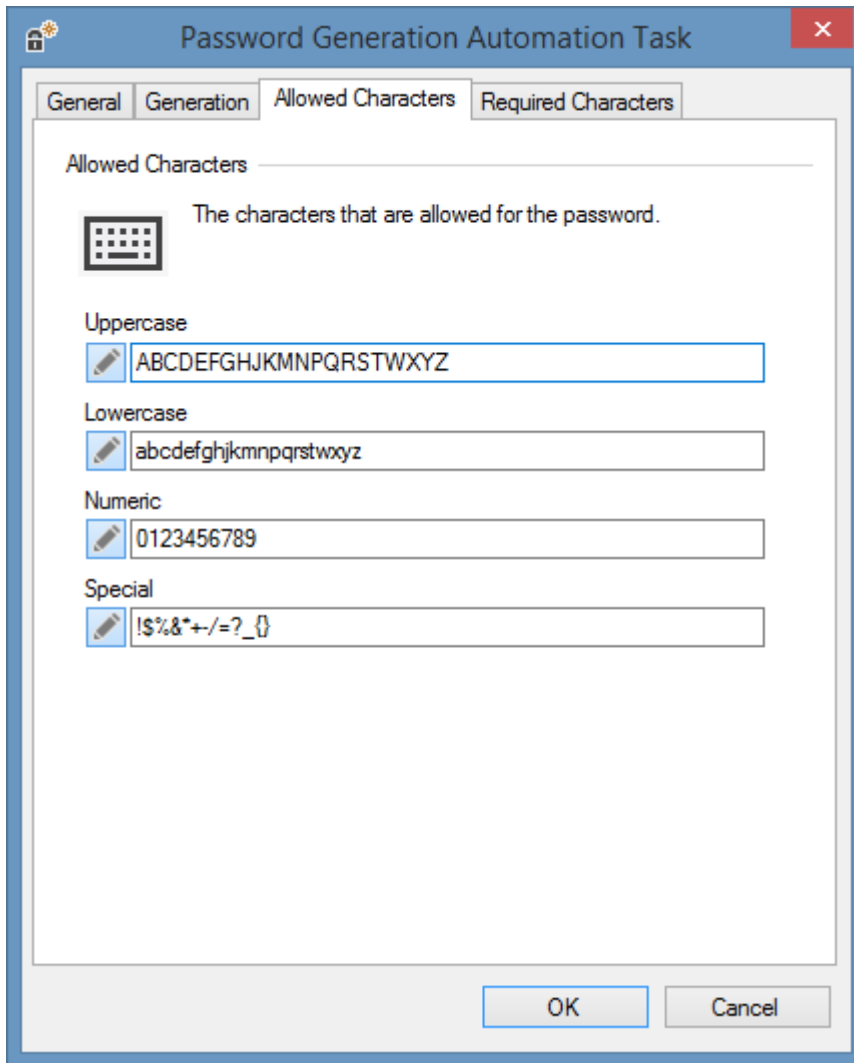
Log Output

Determines whether the output from the task should be written to log files.

Output Variable

The variable definition to which the generated password should be output.

Allowed Characters



Uppercase

The uppercase characters that are allowed for the password.

Lowercase

The lowercase characters that are allowed for the password.

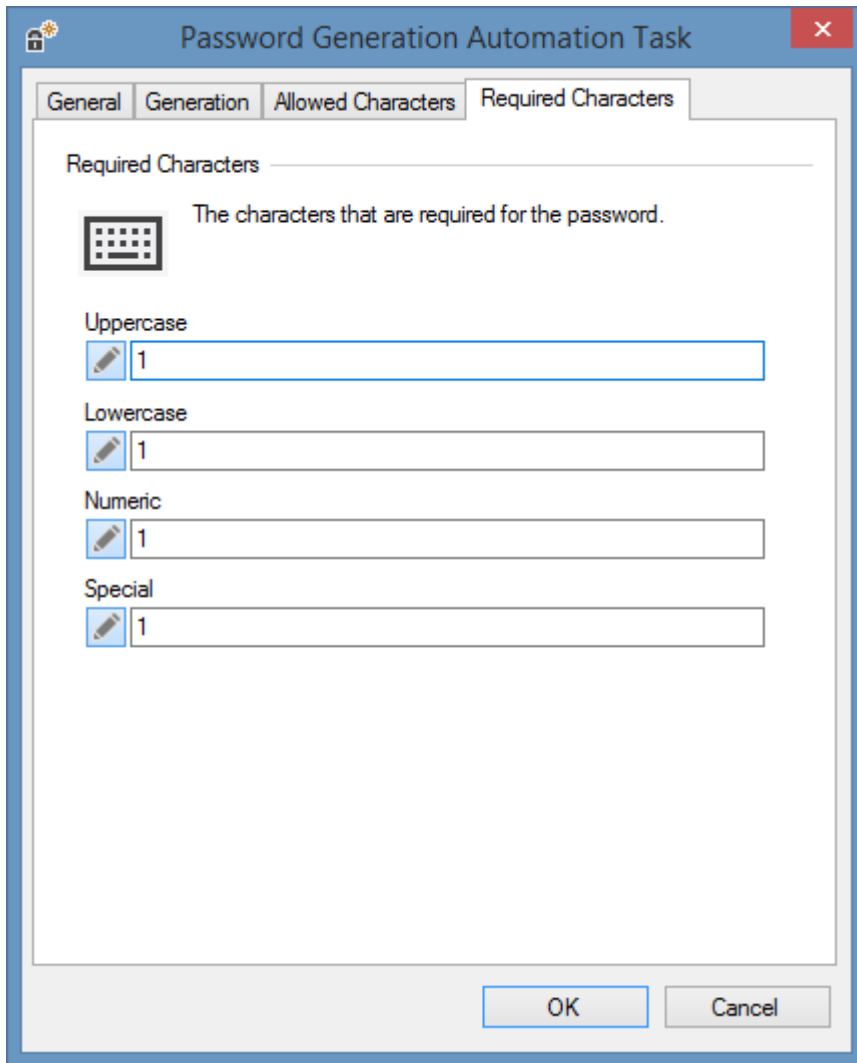
Numeric

The numeric characters that are allowed for the password.

Special

The special characters that are allowed for the password. Square brackets [and] cannot be used as special characters.

Required Characters



The screenshot shows a dialog box titled "Password Generation Automation Task" with a close button (X) in the top right corner. The dialog has four tabs: "General", "Generation", "Allowed Characters", and "Required Characters". The "Required Characters" tab is selected. Below the tab is a section titled "Required Characters" with a keyboard icon and the text "The characters that are required for the password." Below this are four input fields, each with a pencil icon and the number "1": "Uppercase", "Lowercase", "Numeric", and "Special". At the bottom of the dialog are "OK" and "Cancel" buttons.

Uppercase

The number of uppercase characters required to be included in the password.

Lowercase

The number of lowercase characters required to be included in the password.

Numeric

The number of numeric characters required to be included in the password.

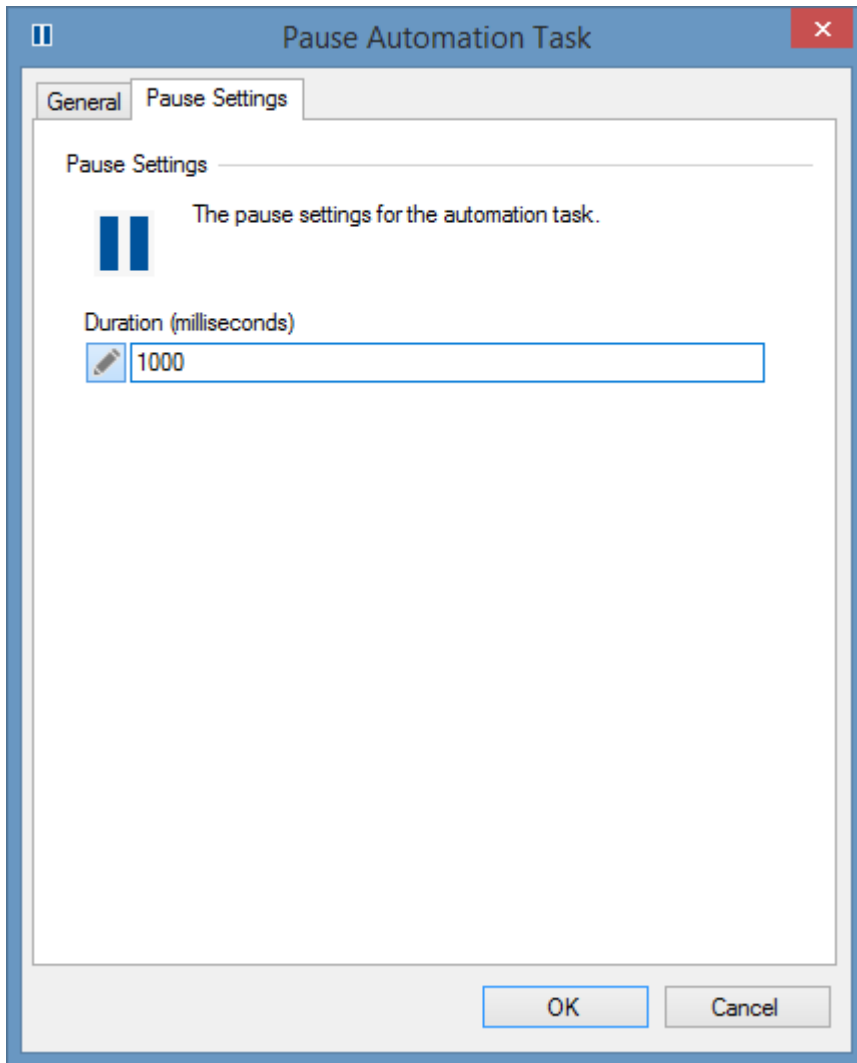
Special

The number of special characters required to be included in the password.

Pause Task

The pause task is able to pause the [automation profile](#) execution for the specified time.

Pause Settings



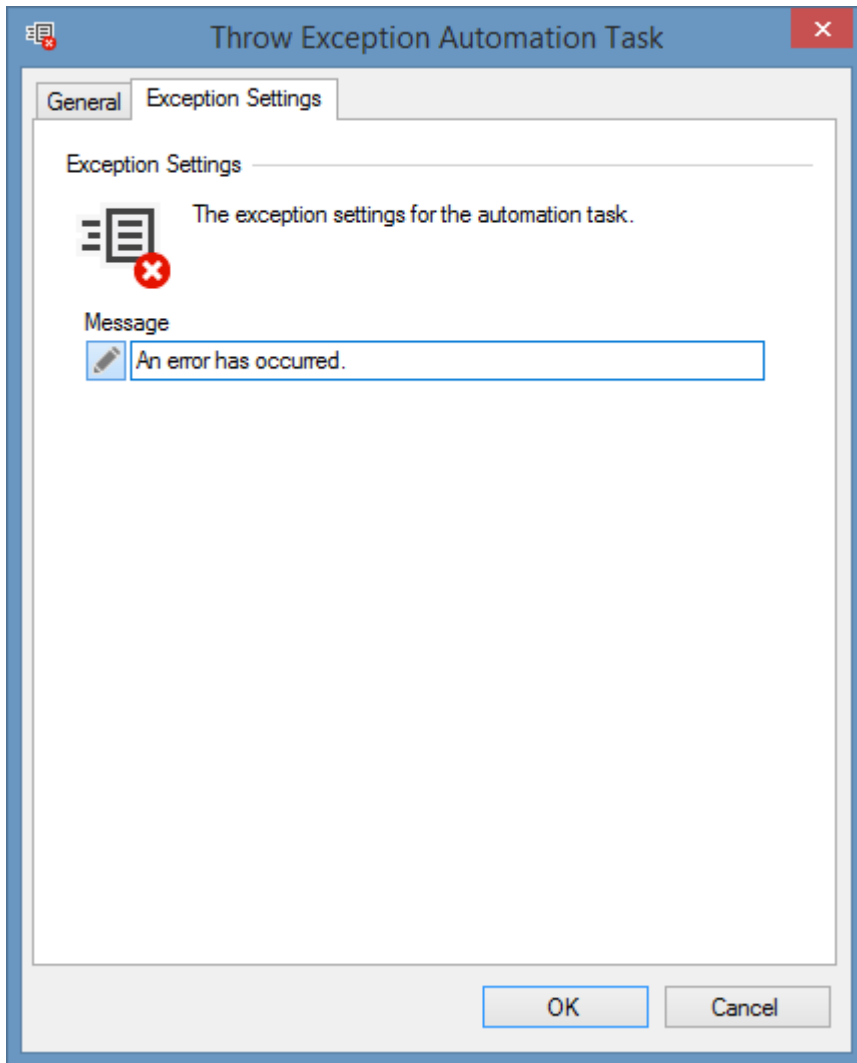
Duration (milliseconds)

The pause duration in milliseconds.

Throw Exception Task

The throw exception task is able to throw a [.NET exception](#) with a specific message.

Exception Settings



Message

The exception message.

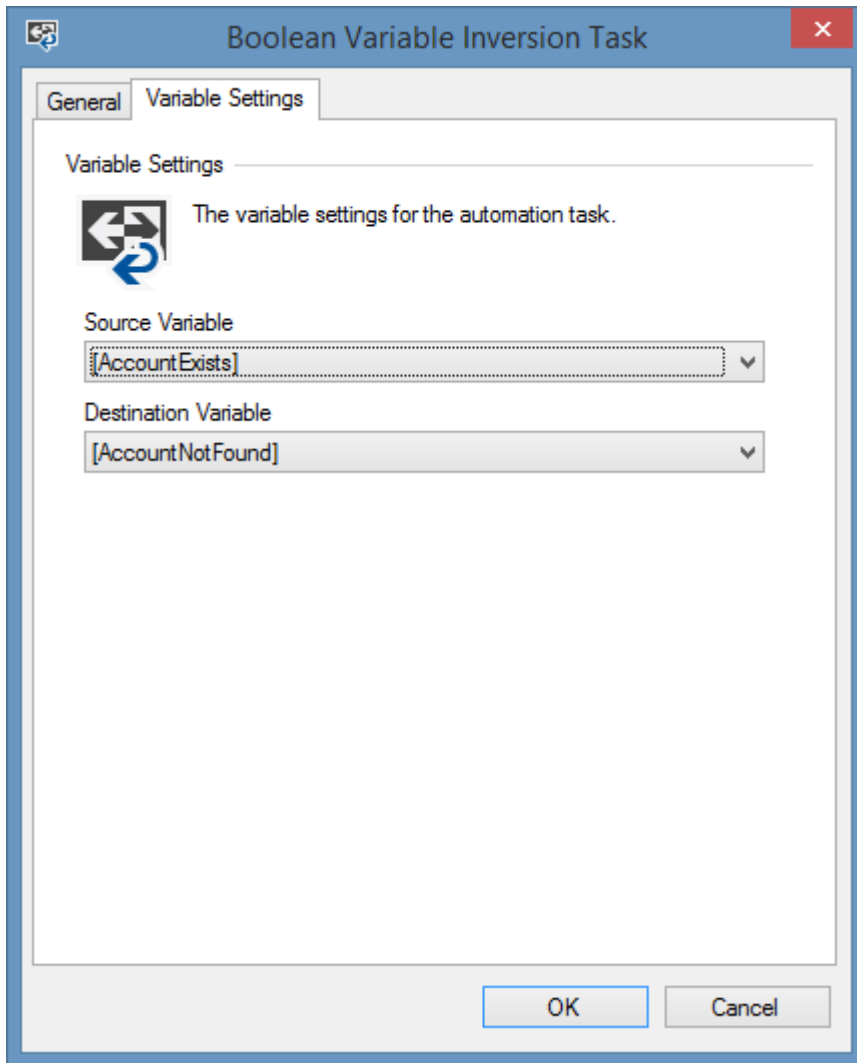
Variables

The variable [automation tasks](#) perform actions relating to [variables](#).

Boolean Variable Inversion Task

The boolean variable inversion [task](#) is able to invert the value of a [boolean variable](#).

Settings



Source Variable

The [boolean variable](#) from which the value should be read.

Destination Variable

The [boolean variable](#) which should receive the inverted value.

NOTE: The source and destination can be set to the same [boolean variable](#).

DateTime Variable Modification Task

The datetime variable modification [task](#) is able to add or subtract time from a [datetime variable](#).

DateTime Modification

The screenshot shows a dialog box titled "DateTime Variable Modification Task". It has two tabs: "General" and "DateTime Modification". The "DateTime Modification" tab is selected. The dialog contains the following elements:

- DateTime Variable Modification Settings**: A section with a calendar icon and the text "The date and time modification settings for the automation task."
- Action**: A section with two radio buttons: "Add" (selected) and "Subtract".
- Variable**: A dropdown menu showing "[ExpiryDate]".
- Duration (Seconds)**: A text box containing "86400".
- Buttons**: "OK" and "Cancel" buttons at the bottom.

Action

Determines whether the specified duration should be added or removed from the [datetime variable](#).

Variable

The [datetime variable](#) that is to be modified.

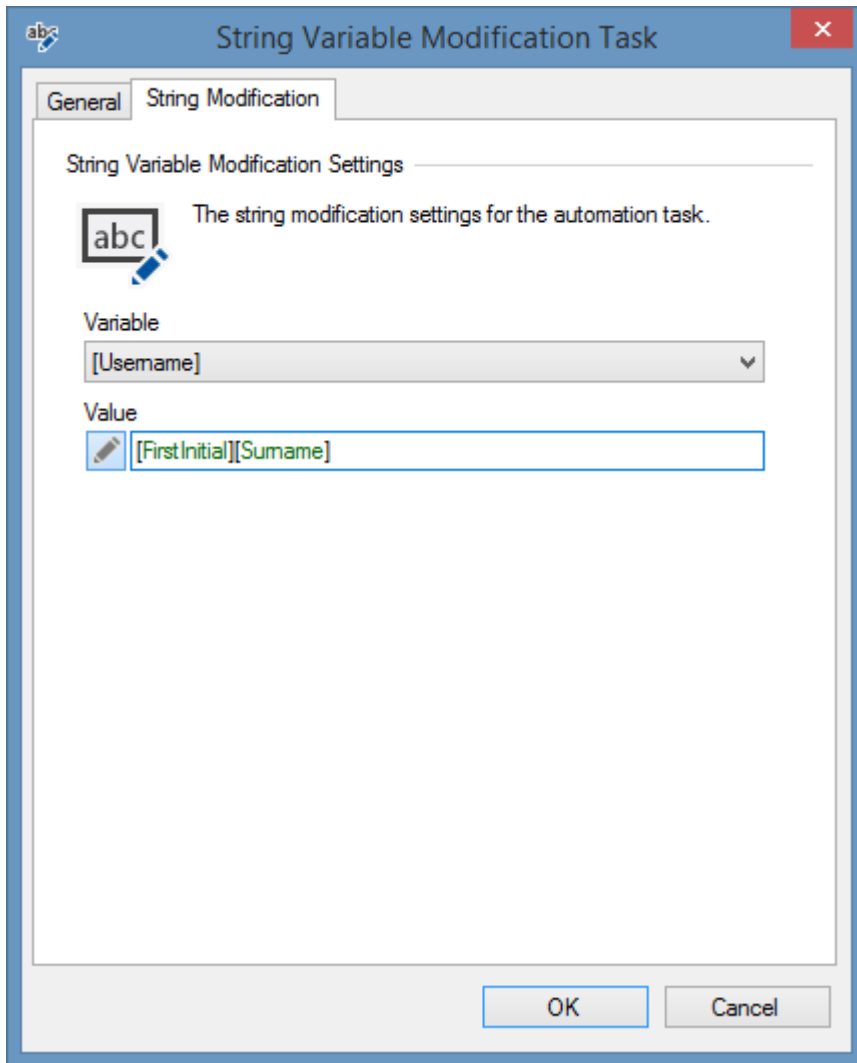
Duration (Second)

The duration in seconds that is to be added or subtracted from the [datetime variable](#).

String Variable Modification Task

The string variable modification [task](#) is able to modify the value of a [string variable](#).

String Modification



Variable

The [string variable](#) to modify.

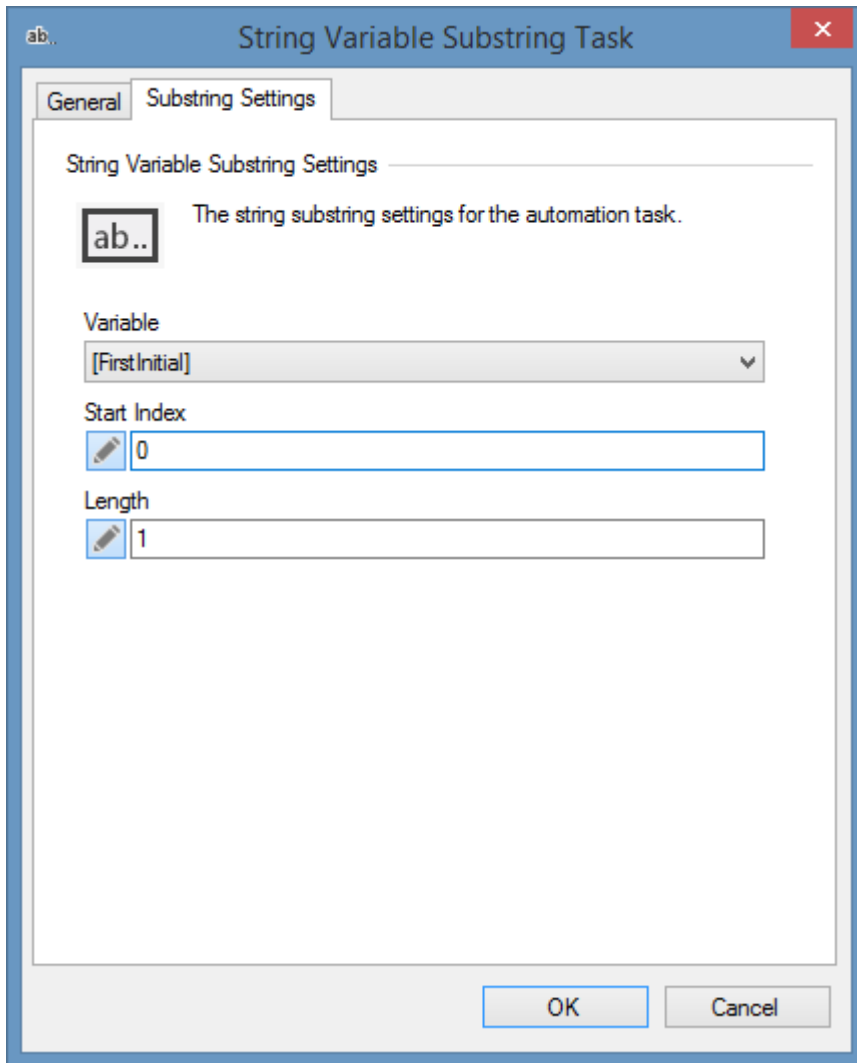
Value

The new value to assign to the [string variable](#).

String Variable Substring Task

The string variable substring [task](#) is able to modify the value of a [string variable](#) taking part of a string - for example to take the first letter of a name to determine the initial.

Substring Settings



Variable

The [string variable](#) to modify.

Start Index

The zero based start index of the [substring](#).

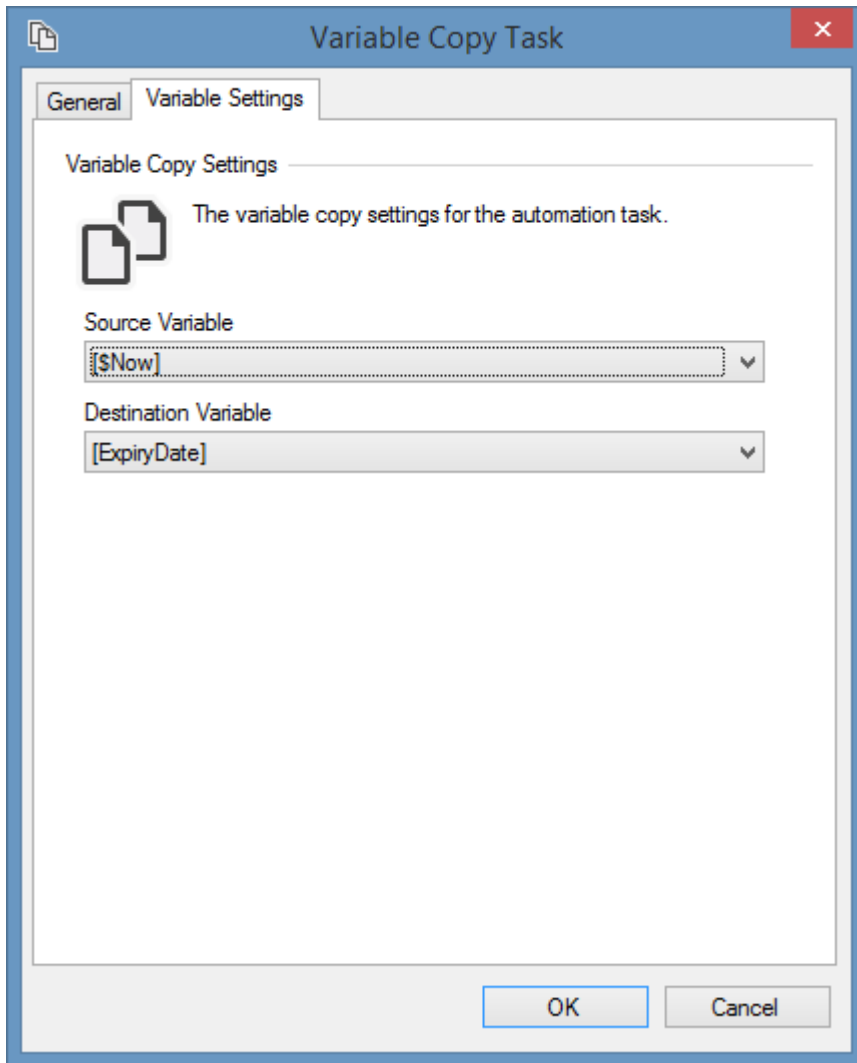
Length

The length of the [substring](#) - this may not exceed the length of the string value.

Variable Copy Task

The variable copy [task](#) can copy the value of one [variable](#) to another [variable](#) of the same type.

Variable Settings



Source Variable

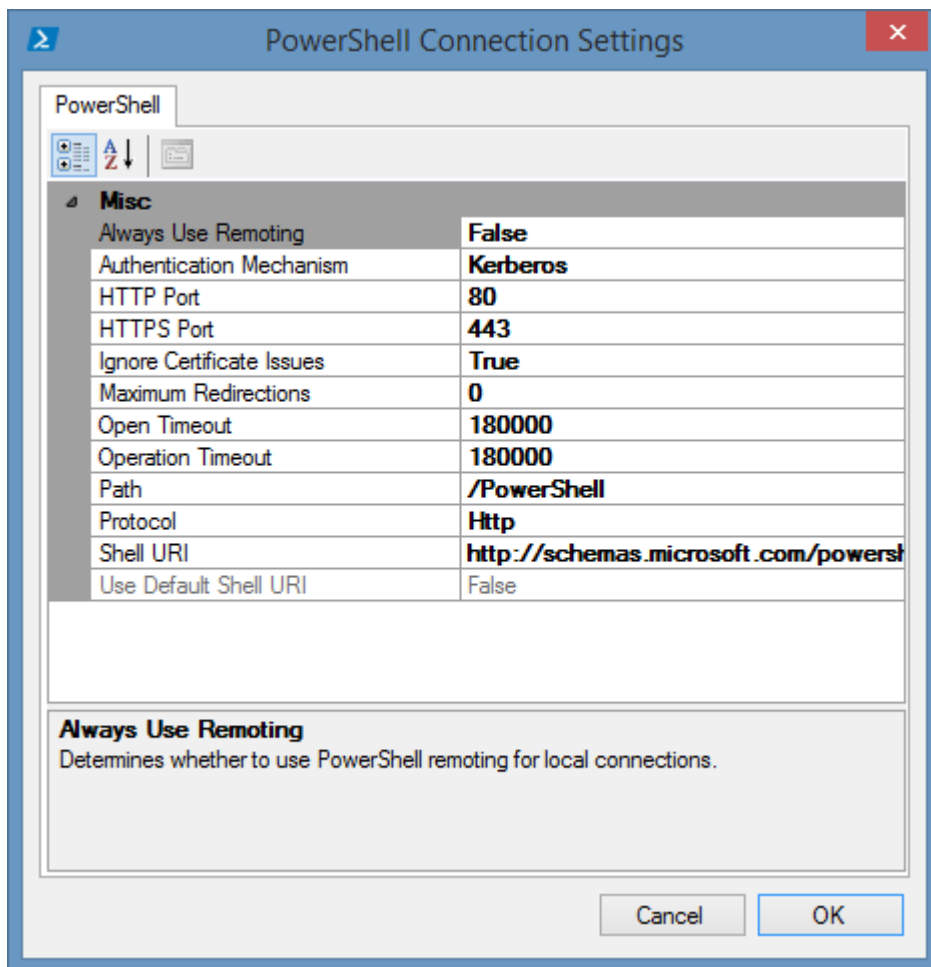
The [variable](#) from which the value should be read.

Destination Variable

The [variable](#) which should receive the value. The type of [variable](#) must match that of the source variable.

PowerShell Remoting Settings

The advanced PowerShell connection settings.



Always Use Remoting

Determines whether to use PowerShell remoting even when making local connections.

Authentication Mechanism

The authentication mechanism - Kerberos, Automatic, Negotiate or Basic.

HTTP Port

The TCP port to use for HTTP based PowerShell remoting connections.

HTTPS Port

The TCP port to use for HTTPS based PowerShell remoting connections.

Ignore Certificate Issues

Determines whether certificate issues should be ignored when making HTTPS connections.

Maximum Redirections

The maximum number of URI redirections to allow.

Open Timeout

The maximum amount of time (in milliseconds) that Windows PowerShell will wait for an open

operation to complete. By default this is 180 seconds.

Operation Timeout

The amount of time (in milliseconds) that Windows PowerShell will wait for an operation to complete. By default this is 180 seconds.

Path

The path for the remote connection, by default this is "/wsman".

Protocol

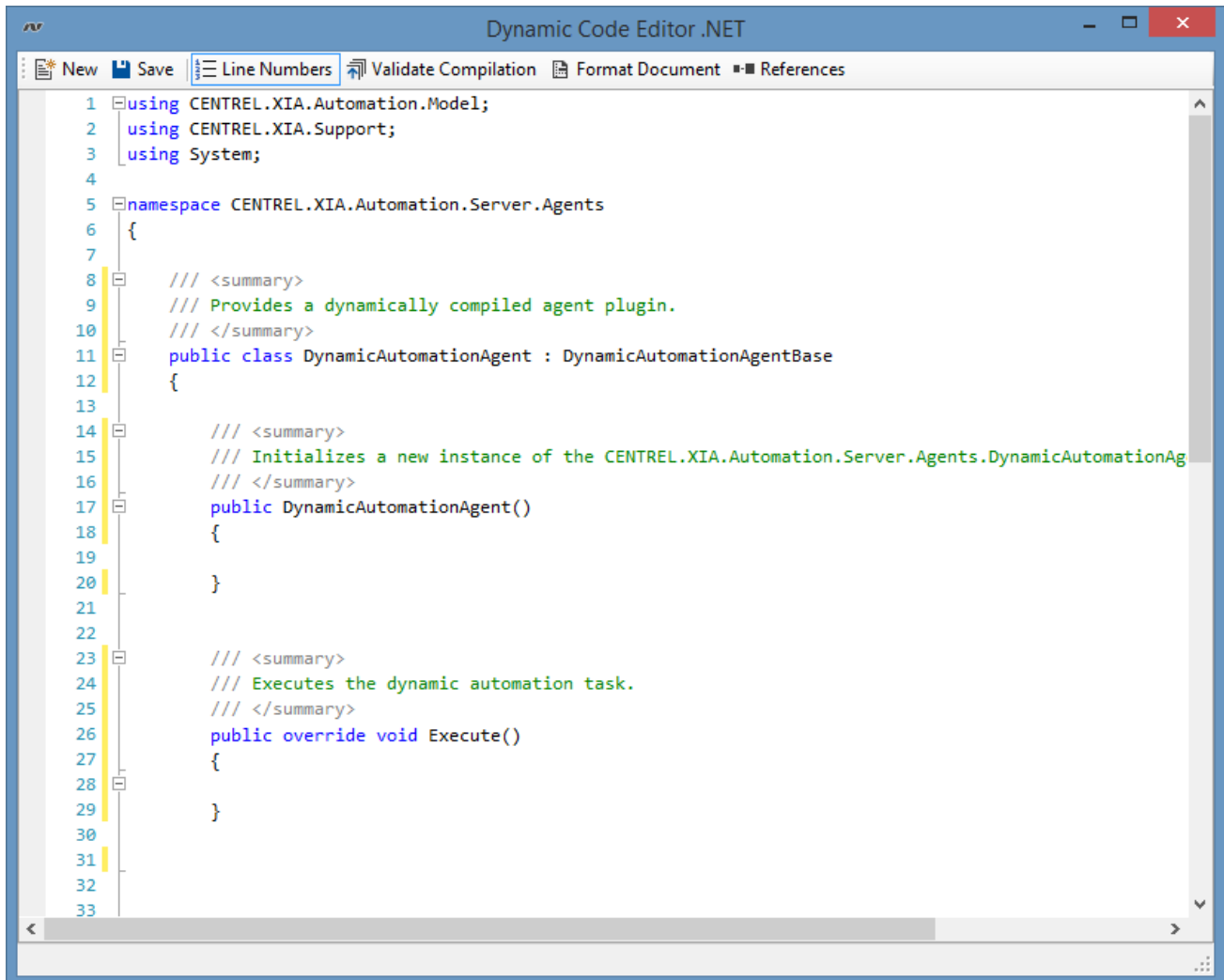
The protocol to use to connect to the PowerShell remoting session - automatic, HTTP, or HTTPS.

Shell URI

The uniform resource identifier for the shell to load, this is configured by the endpoint. This shell may set security, run scripts and load snap-ins automatically.

Dynamic Code Editor

The dynamic code editor allows the creation of dynamic [automation tasks](#) and [variable definitions](#) in [Microsoft C#](#) to expand the functionality of [XIA Automation Server](#).



```
Dynamic Code Editor .NET
New Save Line Numbers Validate Compilation Format Document References
1 using CENTREL.XIA.Automation.Model;
2 using CENTREL.XIA.Support;
3 using System;
4
5 namespace CENTREL.XIA.Automation.Server.Agents
6 {
7
8     /// <summary>
9     /// Provides a dynamically compiled agent plugin.
10    /// </summary>
11    public class DynamicAutomationAgent : DynamicAutomationAgentBase
12    {
13
14        /// <summary>
15        /// Initializes a new instance of the CENTREL.XIA.Automation.Server.Agents.DynamicAutomationAg
16        /// </summary>
17        public DynamicAutomationAgent()
18        {
19
20        }
21
22
23        /// <summary>
24        /// Executes the dynamic automation task.
25        /// </summary>
26        public override void Execute()
27        {
28
29        }
30
31
32
33
```

New

Creates a new document.

Save

Saves the current settings.

Line Numbers

Determines whether to display the line numbers.

Validate Compilation

Validates the compilation of the code.

Format Document

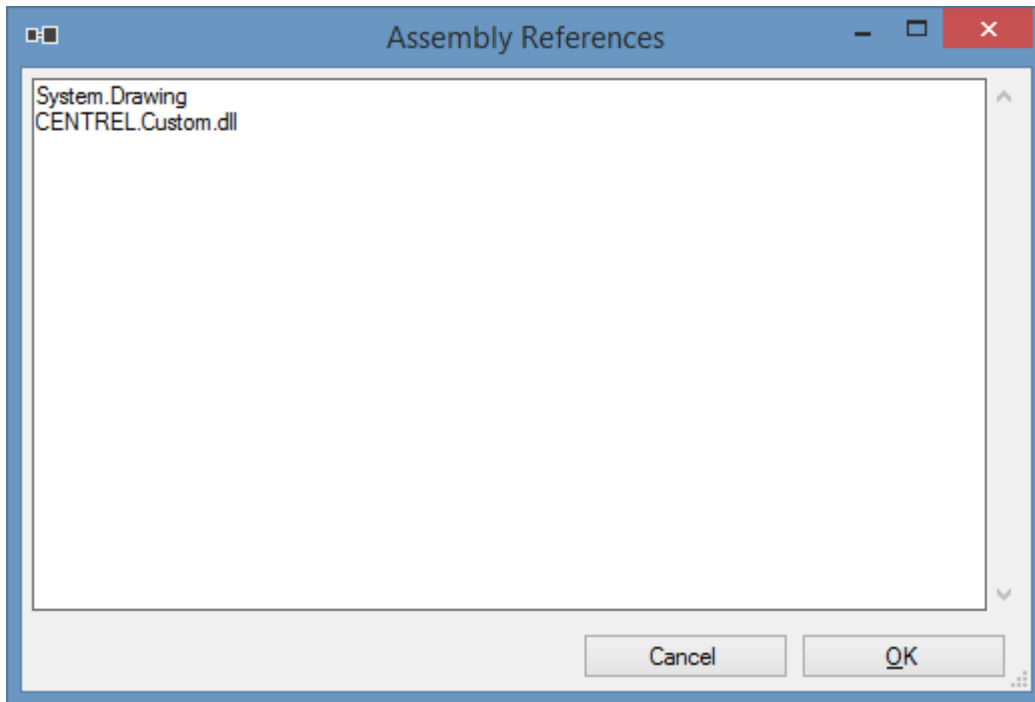
Formats the layout of the document.

References

The [assembly references](#) for the compilation.

Assembly References

Both assemblies included in the [.NET framework](#) and 3rd party assemblies may be referenced using assembly references.



- Enter the full name of the external assembly references including the ".dll" file extension.
- For built in .NET assemblies enter the assembly name **without** the extension.

The [dynamic code editor](#) automatically loads the assembly and provides [IntelliSense](#) style support.

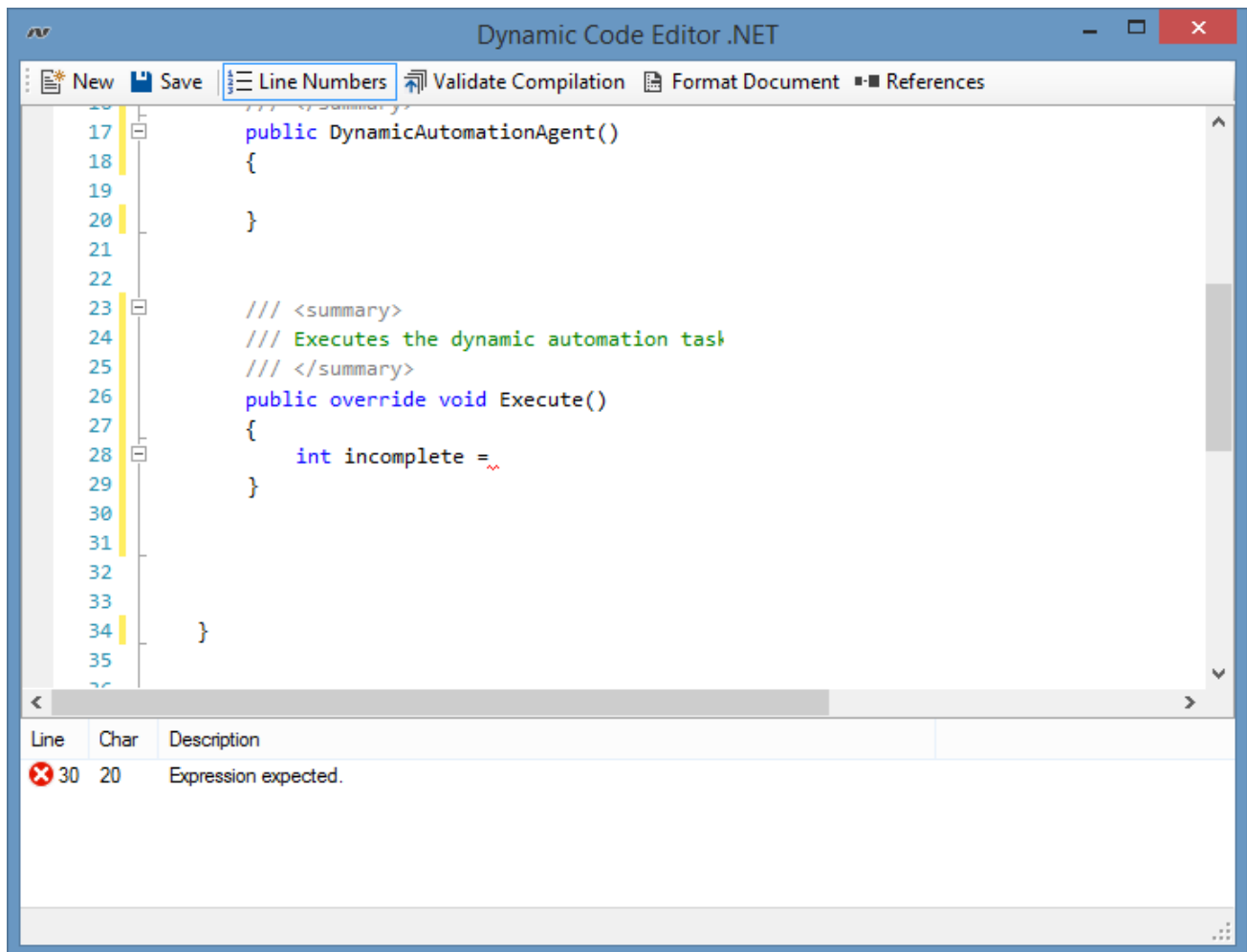
```
System.Drawing.Image.FromFile(
```

```
▲ 1 of 2 ▼ Image Image.FromFile(string filename)  
Creates an System.Drawing.Image from the specified file.  
filename: A string that contains the name of the file from which to create the System.Drawing.Image.
```


Error List

The [dynamic code editor](#) automatically displays an syntax errors in the error list. The error list does not display compiler errors, to validate compilation click the validate compilation button in the toolbar.

Double clicking an error in the error lists moves the caret to the position of that error.



Line

The line in the code where the error was detected.

Char

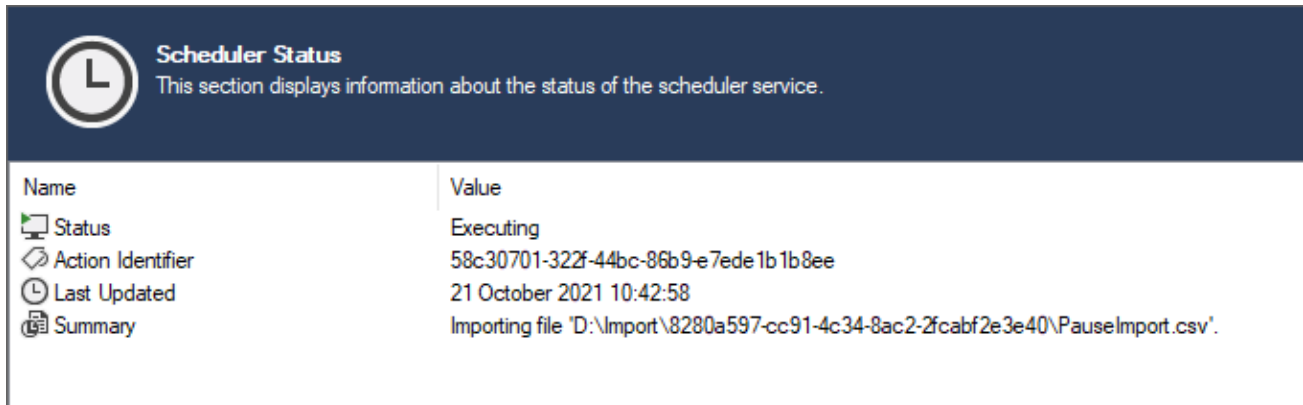
The character in the line in the code where the error was detected.

Description

A description of the error.

Scheduler Status

The scheduler status user interface displays the status of the [scheduler service](#).

A screenshot of the Scheduler Status user interface. At the top, there is a dark blue header with a clock icon and the text "Scheduler Status" and "This section displays information about the status of the scheduler service." Below the header is a table with two columns: "Name" and "Value". The table contains four rows of data: Status (Executing), Action Identifier (58c30701-322f-44bc-86b9-e7ede1b1b8ee), Last Updated (21 October 2021 10:42:58), and Summary (Importing file 'D:\Import\8280a597-cc91-4c34-8ac2-2fcabf2e3e40\PauseImport.csv').

Name	Value
Status	Executing
Action Identifier	58c30701-322f-44bc-86b9-e7ede1b1b8ee
Last Updated	21 October 2021 10:42:58
Summary	Importing file 'D:\Import\8280a597-cc91-4c34-8ac2-2fcabf2e3e40\PauseImport.csv'.

Status

Determines whether the [scheduler service](#) is currently executing.

Action Identifier

The unique identifier of the action being performed in [GUID](#) format.

Last Updated

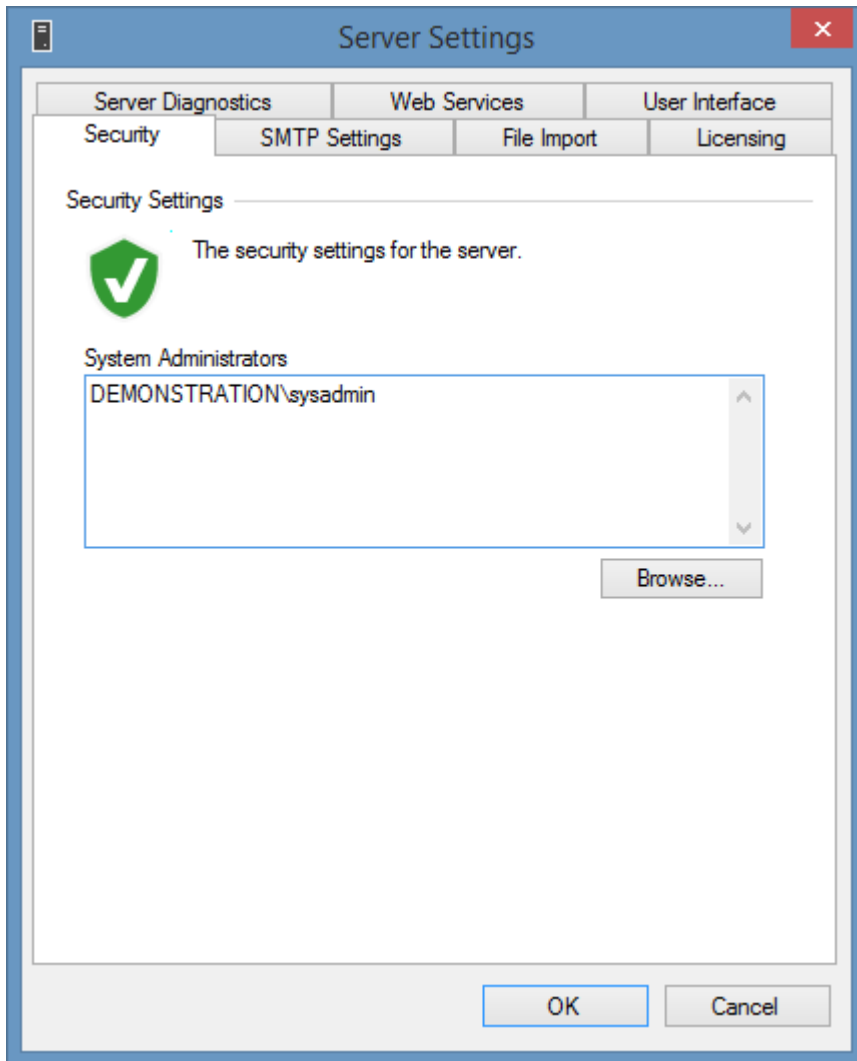
The date and time that the status was last updated.

Summary

A summary of the action being performed by the [scheduler service](#).

Server Settings

The server configuration settings form allows [system administrators](#) to configure the [XIA Automation Server](#) settings.

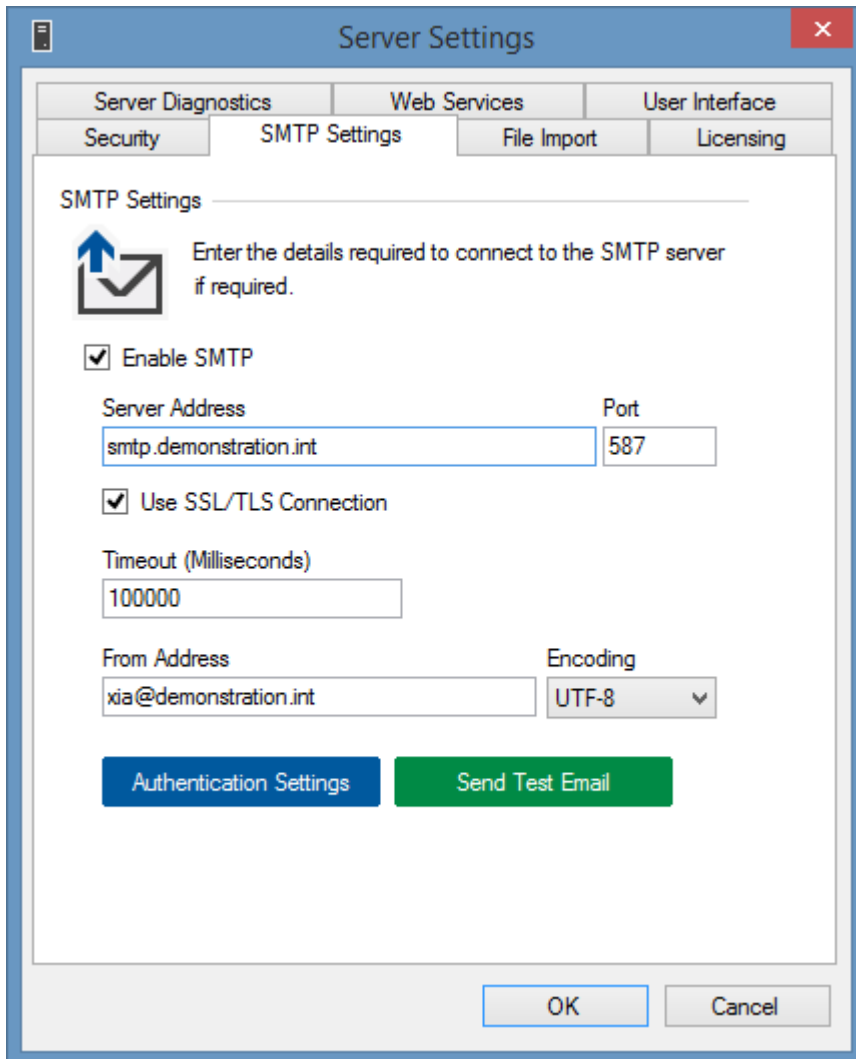


System Administrators

The configured [system administrators](#).

SMTP Settings

The SMTP settings tab allows XIA Automation Server to send emails using the simple mail transfer protocol (SMTP).



Enable SMTP

Determines whether SMTP should be enabled.

Server Address

The hostname or IP address of the SMTP server.

Port

The TCP port that should be used for communication.

Use SSL/TLS Connection

Determines whether an SSL or TLS connection should be used.

Timeout (Milliseconds)

The timeout for the SMTP connection in milliseconds.

From Address

A valid email address that is accepted by the SMTP server.

Encoding

The encoding to use for the message body. The available settings are [UTF-8](#) (default), [Unicode \(UTF-16\)](#), or [ASCII](#) encoding.

Authentication Settings

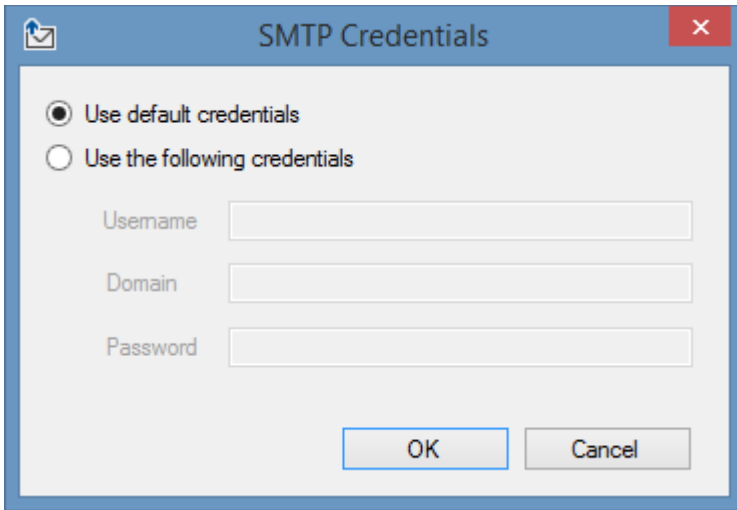
The [authentication settings](#) for the SMTP connection.

Send Test Email

Displays the [send test email](#) dialog.

Authentication Settings

The credentials to use for [SMTP connections](#).



The image shows a dialog box titled "SMTP Credentials". It has a blue title bar with a close button (X) on the right. The main area is light gray and contains two radio buttons. The first radio button is selected and is labeled "Use default credentials". The second radio button is unselected and is labeled "Use the following credentials". Below the radio buttons are three text input fields. The first is labeled "Username", the second is labeled "Domain", and the third is labeled "Password". At the bottom of the dialog are two buttons: "OK" and "Cancel".

Use Default Credentials

Determines whether the connection to the SMTP server should use the [web server application pool account](#).

Use Specific Credentials

Determines whether to use the specified credentials.

Username

The username to use for the connection.

Domain

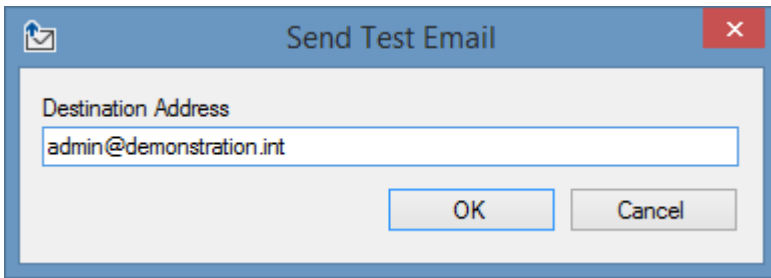
The domain name to use for the connection. If specifying an email address for the username, the domain field can be left blank.

Password

The password to use for the connection.

Send Test Email

The send test email dialog sends a test email via SMTP from the [XIA Automation Server](#) using the specified [SMTP settings](#).



Destination Address

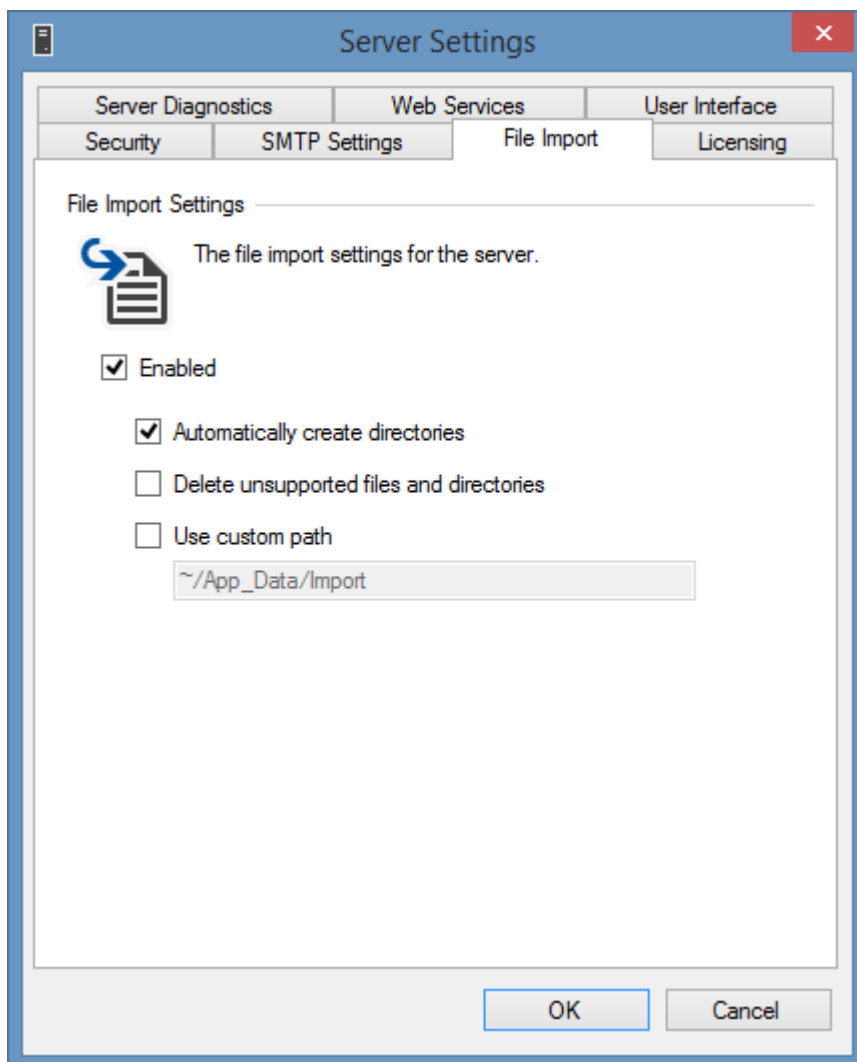
The email address to which the test email should be sent.

File Import

The [scheduler service](#) provides the ability to poll a directory on the file system and automatically import files within that directory.

For more information see the [automatically import files](#) section.

NOTE: This section will be disabled if the *enable scheduler access web service* option is unchecked on the [web services](#) tab.



Enabled

Determines whether the [file import](#) is enabled.

Automatically create directories

Determines whether a directory should be created in the import directory for each [automation profile](#) for which [file import](#) is enabled.

Delete unsupported files and directories

Determines whether unsupported files and directories should be deleted from the import directory.

Use custom path

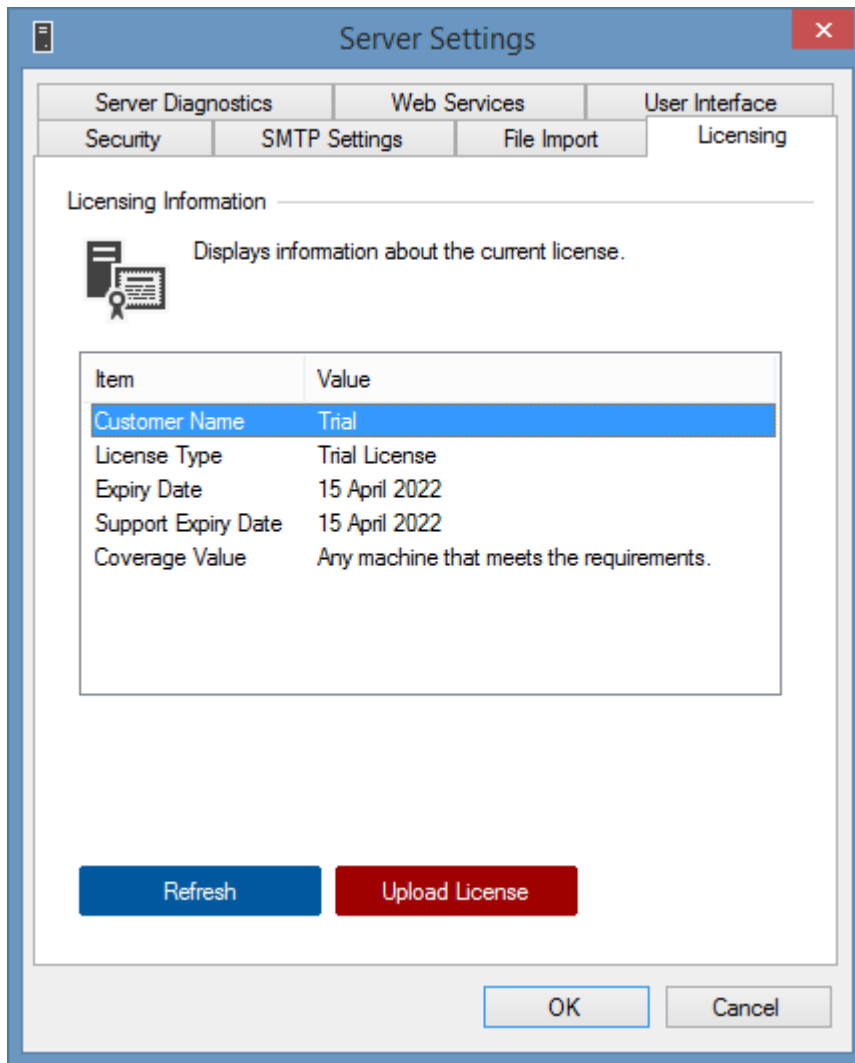
The absolute or virtual path to use for the import directory.

By default this is the following directory.

C:\Program Files\CENTREL Solutions\XIA Automation\XIA Automation Server\App_Data\Import

Licensing

The licensing tab displays information about the [licensing](#) of the [XIA Automation Server](#).



Customer Name

The name of the customer to which the [license](#) is assigned.

License Type

The [type of license](#) installed.

Expiry Date

The date on which the [license](#) expires and can no longer be used.

Support Expiry Date

The date on which the support of the [license](#) expires.

Coverage Value

Information about the Active Directory domain name, computer NetBIOS name, or other value to which the [license](#) applies.

Refresh

Reloads the [licensing](#) information.

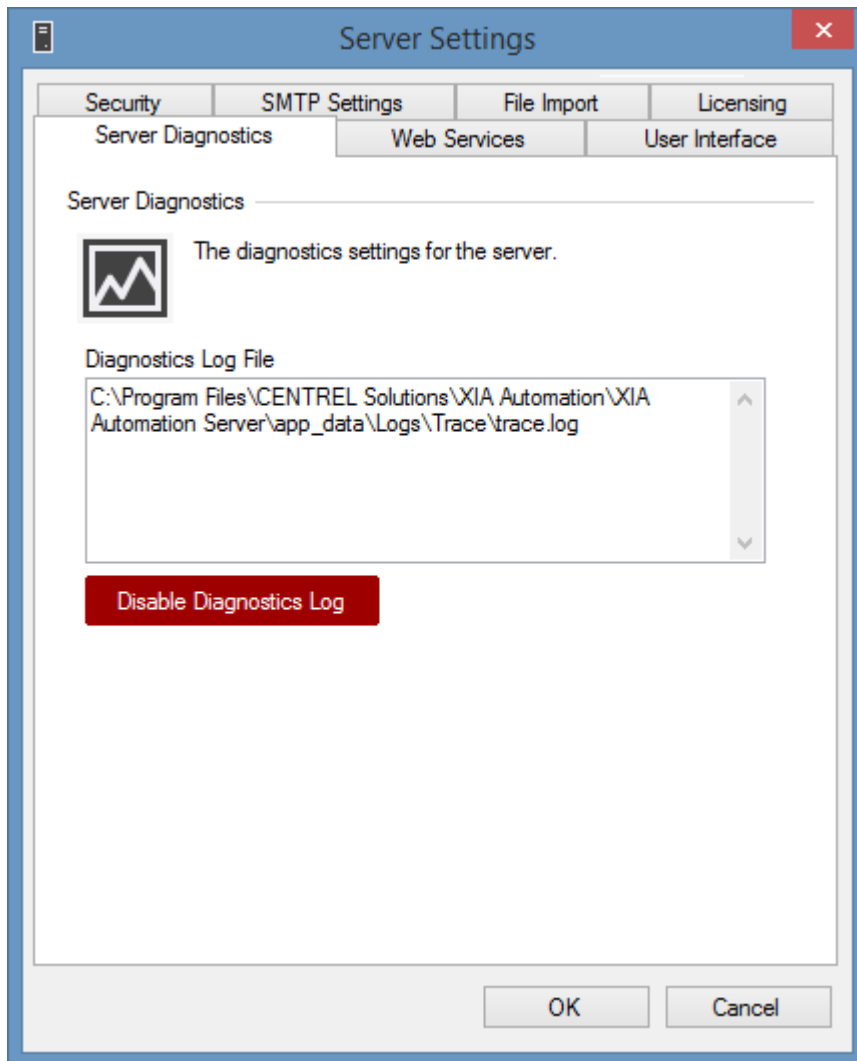
Upload License

Allows the user to select and upload a new license in .licx format.

Server Diagnostics

The server diagnostics allows diagnostics information generated by the [XIA Automation Server](#) to be written to a diagnostics log file.

NOTE: This is separate from the information generated by the [administration tools diagnostics](#).



Diagnostics Log File

The absolute local path on the [XIA Automation Server](#) of the diagnostics log file.

Enable Diagnostics Log

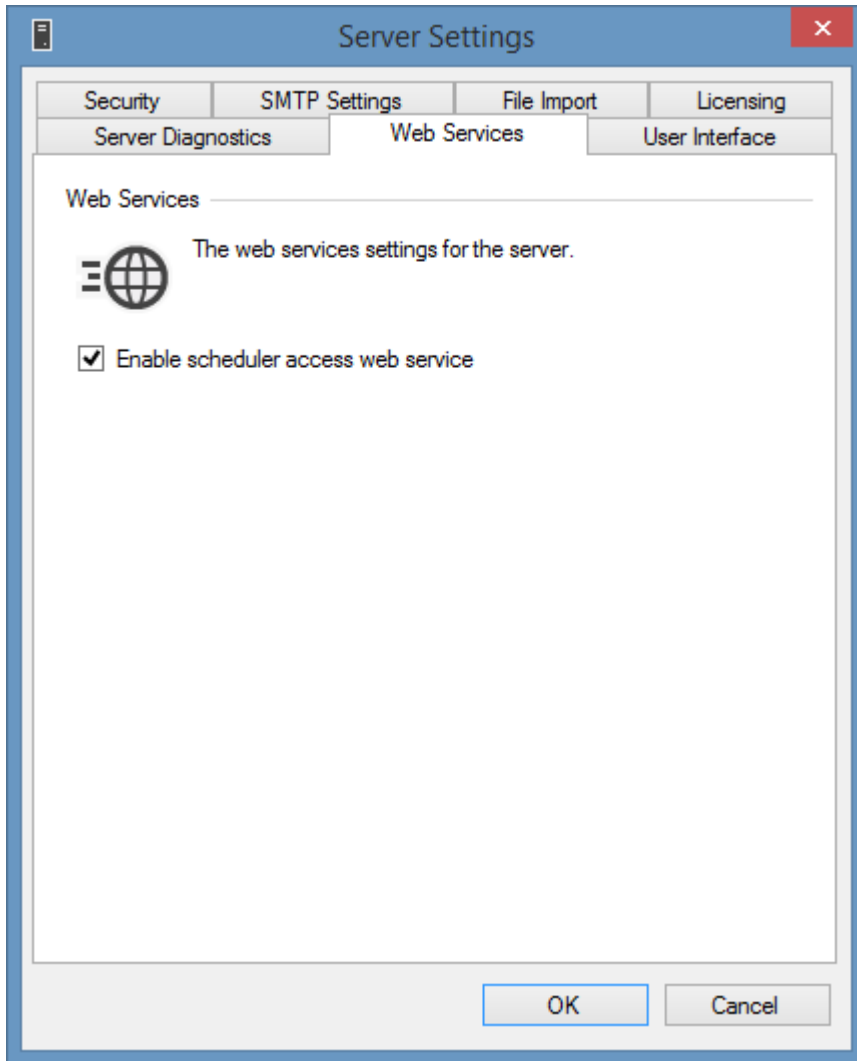
Enables the server diagnostics log.

Disable Diagnostics Log

Disables the server diagnostics log.

Web Services

Determines the web services which are enabled on the [XIA Automation Server](#).

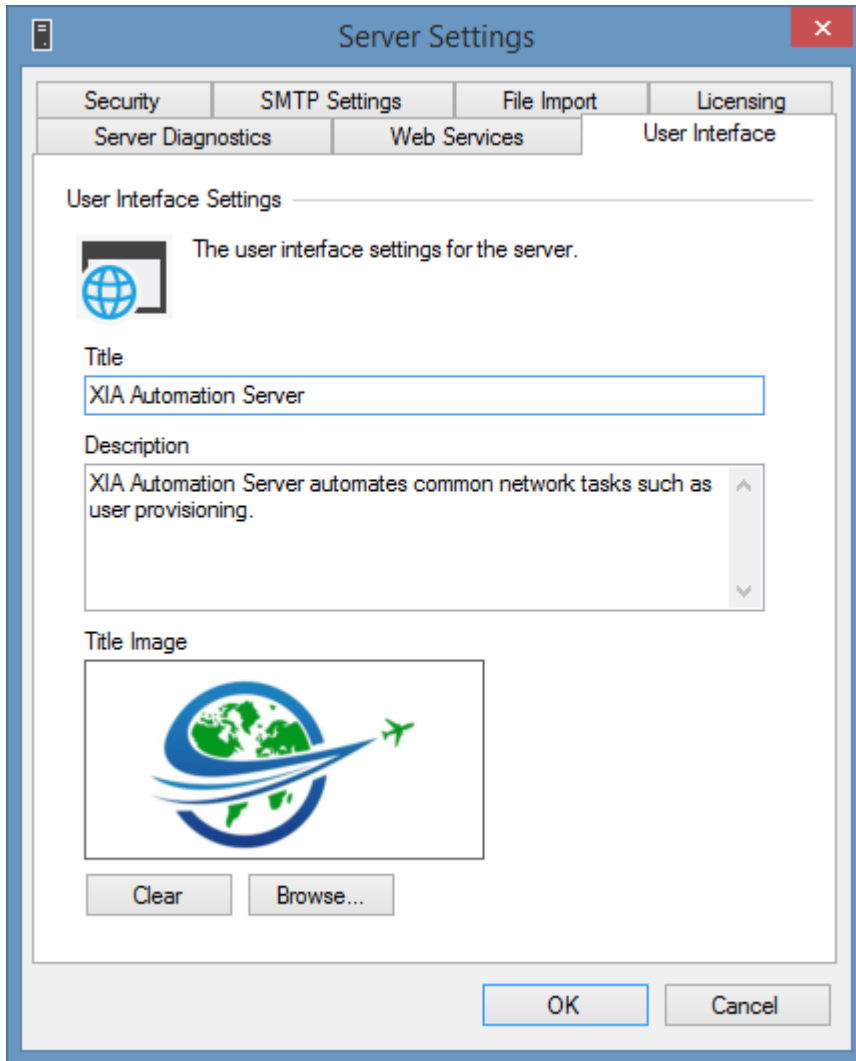


Enable scheduler access web service

Determines whether the scheduler web service is enabled. This is required for the operation of the [scheduler service](#).

User Interface

Determines the web user interface settings for the [XIA Automation Server](#).



Title

The title to display in the web interface and web browser.

Description

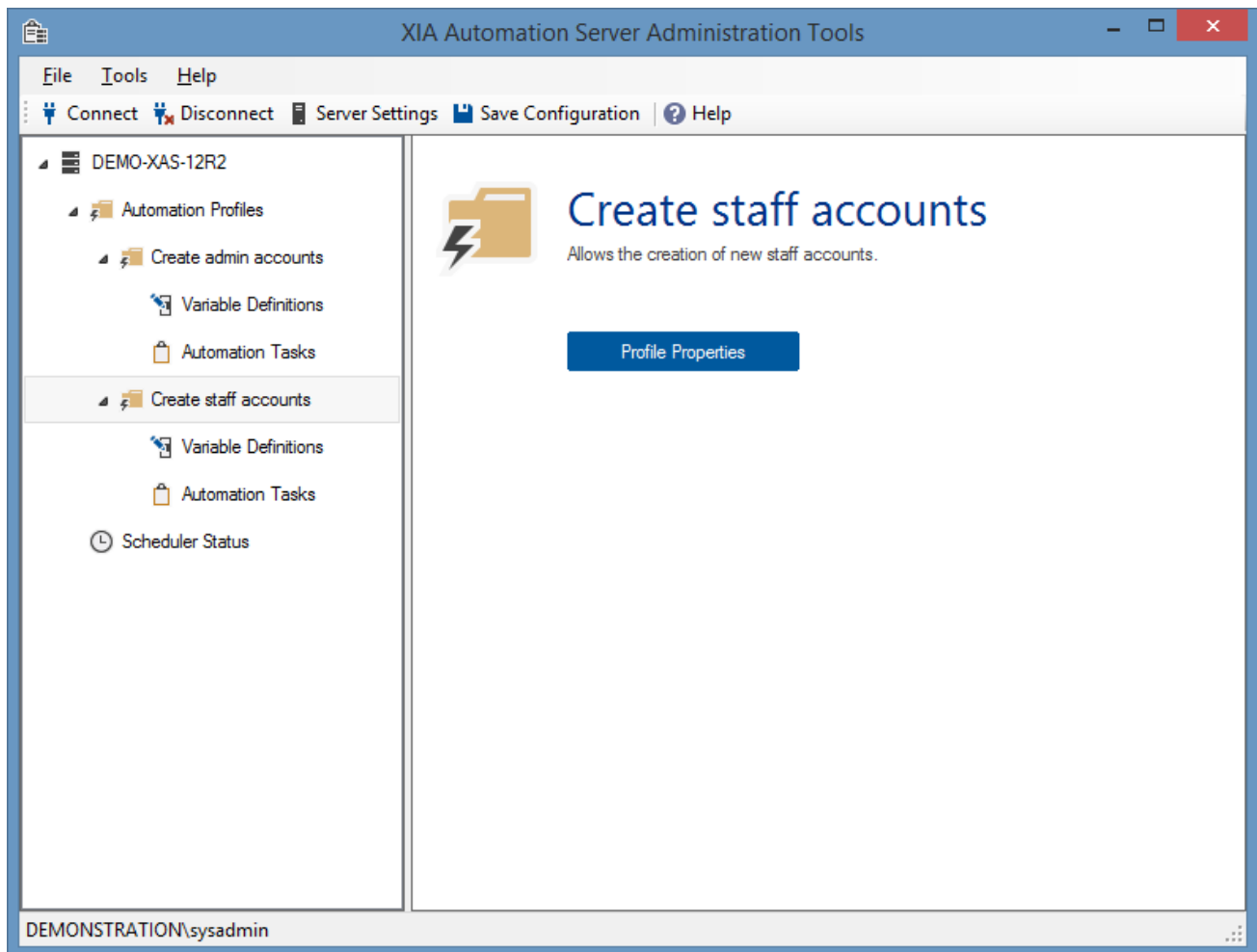
The description of the [XIA Automation Server](#) to display in the web interface.

Title Image

The image or logo to display in the web interface.

User Interface

The user interface of the [XIA Automation administration tools](#) comprises of the following.



Menu

The main dropdown menu.

Treeview

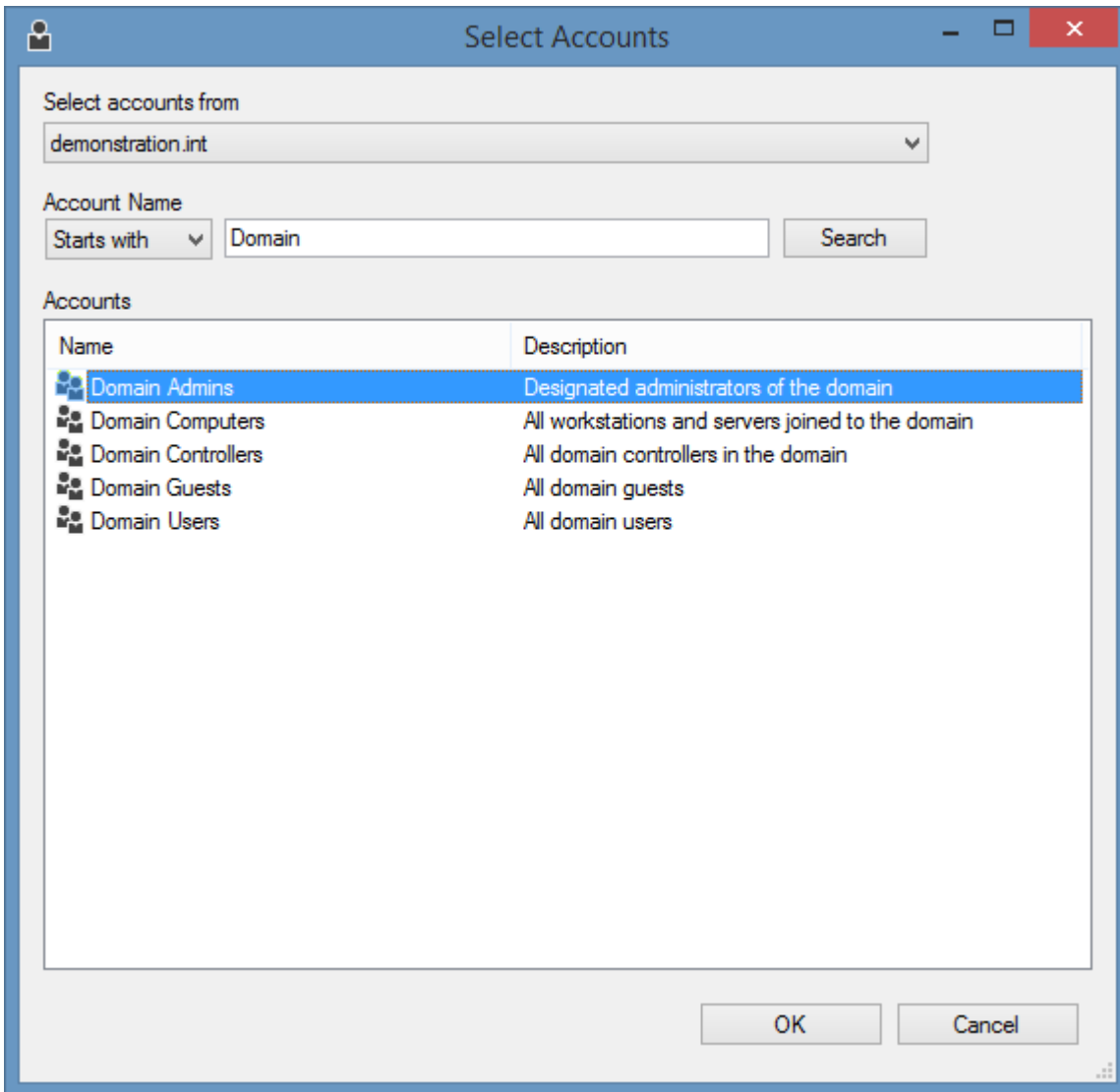
The treeview control.

Toolbar

The main toolbar.

Account Browser

The account browser allows you to select user and group accounts that are accessible to the XIA Automation Server.



Select accounts from

The Active Directory domain or computer from which the accounts are to be selected.

Starts with

Searches for accounts that start with the specified text.

Contains

Searches for accounts that contain the specified text.

Is Exactly

Searches for accounts that match the specified text exactly.

Search

Performs a search of the specified Active Directory domain.

Accounts

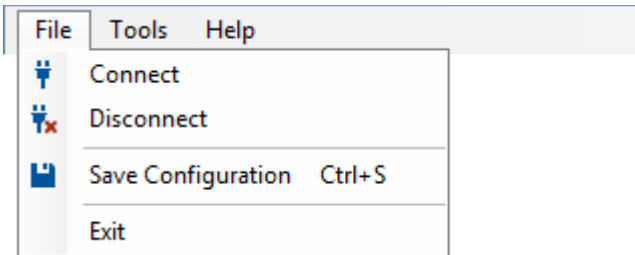
The accounts from which the selection can be made.

Menu

The drop down menu displayed in the [user interface](#).

File Menu

The file [menu](#) provides the following options.



Connect

Displays the [connection form](#) and allows the user to connect to the [XIA Automation Server](#).

Disconnects

Disconnects from the [XIA Automation Server](#).

Save Configuration

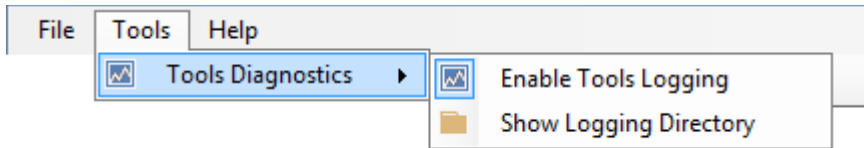
Saves the current configuration from the [administration tools](#) to the [XIA Automation Server](#).

Exit

Exits the application.

Tools Menu

The tools [menu](#) provides the following options.



Enable Tools Logging

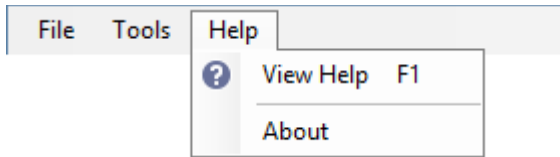
Enables the [administration tools diagnostic log](#).

Show Logging Directory

Opens the [administration tools diagnostic log](#) directory.

Help Menu

The help [menu](#) provides the following options.



View Help

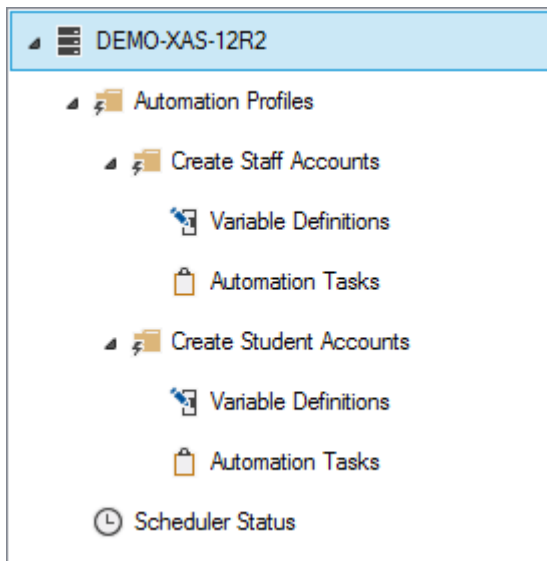
Displays the help.

About

Displays the about dialog.

Treeview

The treeview displays the following components.



Server

Right clicking the server node displays the [server context menu](#).

Automation Profiles

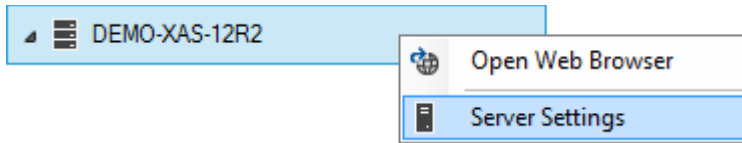
Displays the [automation profiles](#) including their [variable definitions](#) and [automation tasks](#).

Scheduler Status

Displays the [scheduler status](#) user interface.

Server Context Menu

Right clicking the server node in the [treeview](#) displays the server context menu.



Open Web Browser

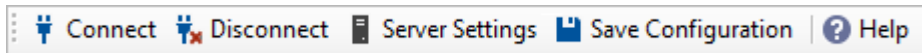
Displays the [server](#) web interface in the default web browser.

Server Settings

Displays the [server settings](#).

Toolbar

The toolbar [user interface](#) has the following



Connect

Displays the [connection form](#) to connect to the [XIA Automation Server](#).

Disconnect

Disconnects from the [XIA Automation Server](#).

Server Settings

Displays the [server configuration settings](#).

Save Configuration

Saves the current configuration to the [XIA Automation Server](#).

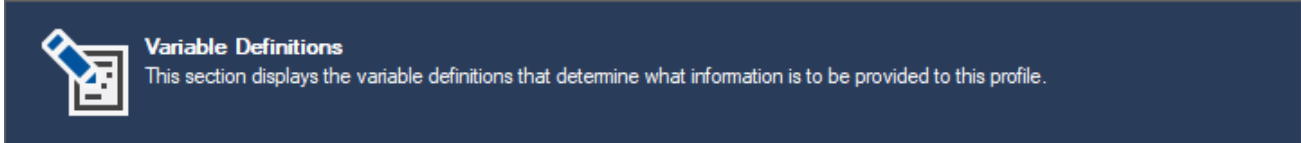
Help

Displays the help.




Variable Definitions

Variables allow the user to specify values for the [automation tasks](#) executed by an [automation profile](#) to use.

The variable definitions are displayed to the user in the order specified.



Variable Definitions
This section displays the variable definitions that determine what information is to be provided to this profile.

Name	Display Name	Type	Access Type
 FirstName	First Name	String	Visible (Required)
 LastName	Last Name	String	Visible (Required)
 Identifier	Identifier	Numeric (Int32)	Visible (Required)

Variable definitions are grouped into the types

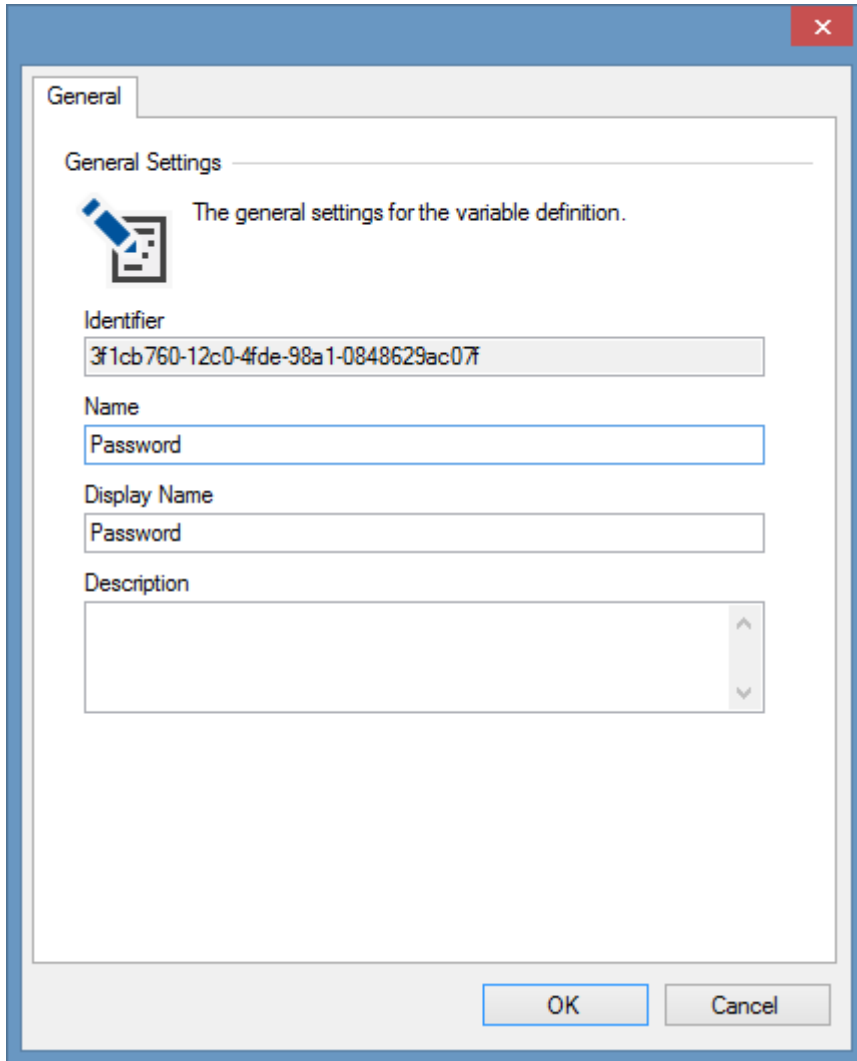
Standard Variable Definitions

These are static input types such as text ([string](#)) or numeric ([integer](#)) types.

Dynamic Variable Definitions

These are dynamically generated lists from which the user can select.

General Settings



The screenshot shows a dialog box titled "General Settings" with a close button (X) in the top right corner. The dialog has a tab labeled "General". Below the title bar, there is a section titled "General Settings" with a sub-header "The general settings for the variable definition." and a pencil icon. The settings are as follows:

- Identifier:** A text box containing the GUID "3f1cb760-12c0-4fde-98a1-0848629ac07f".
- Name:** A text box containing "Password".
- Display Name:** A text box containing "Password".
- Description:** An empty text box with a vertical scrollbar on the right side.

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Identifier

The unique identifier of the [variable definition](#) in [GUID](#) format.

Name

The unique name of the [variable definition](#). This is used in [automation properties](#).

The name can contain uppercase and lowercase letters, numbers, hyphens, and underscores.

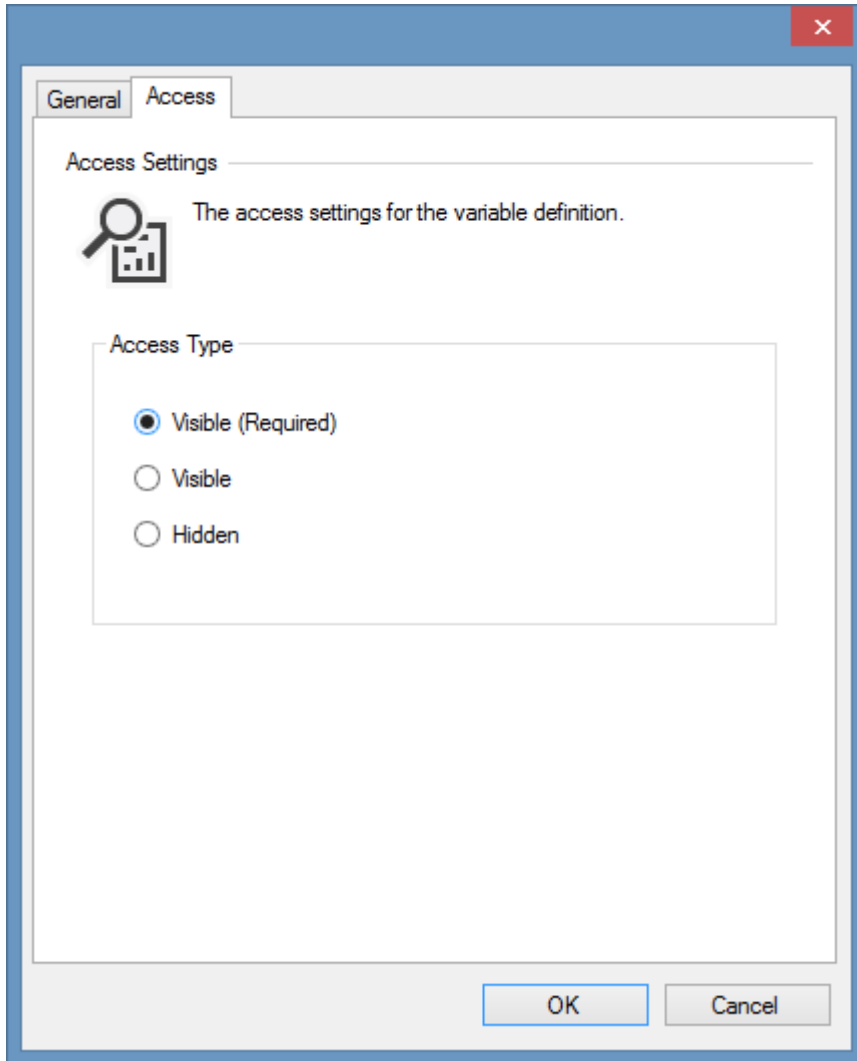
Display Name

The unique display name of the [variable definition](#). This is displayed to users in the user interface.

Description

The description of the [variable definition](#).

Access Settings



Visible (Required)

Determines whether the [variable definition](#) is visible and a value must be provided by the user or the default value.

Visible

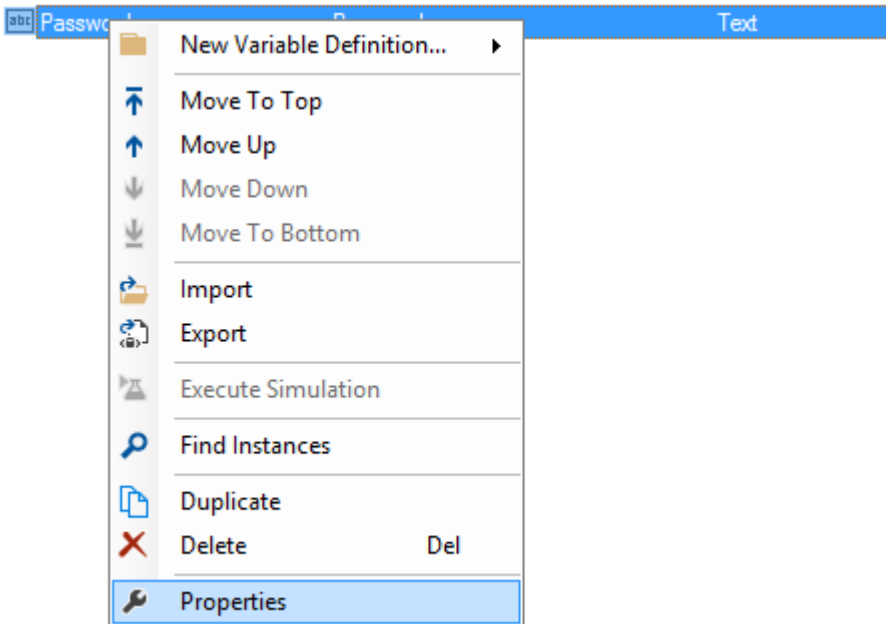
Determines whether the [variable definition](#) is visible though a value is not required. This option does not apply to the [integer variable definition](#) and [boolean variable definition](#).

Hidden

Determines whether the [variable definition](#) is hidden from user input. This option does not apply to [list variable definitions](#) or [dynamic variable definitions](#).

Variable Definitions Context Menu

Right clicking the [variable definitions](#) listview displays the variable definitions context menu.



New Variable Definition

Creates a new variable definition of the selected [variable definition type](#).

Move To Top

Moves the selected [variable definition](#) to the top of the list.

Move Up

Moves the selected [variable definition](#) up the list.

Move Down

Moves the selected [variable definition](#) down the list.

Move To Bottom

Moves the selected [variable definition](#) to the bottom of the list.

Import

Displays the open file dialog to import an [variable definition](#) from an XML file.

Export

Exports the currently selected [variable definition](#) to XML.

Execute Simulation

Executes a simulation of the selected [dynamic variable definition](#) and displays the results in the [dynamic variable simulation](#) dialog.

Find Instances

Finds instances of the selected [variable definition](#) and displays them in the [variable instances](#) dialog.

Duplicate

Creates a duplicate of the currently selected [variable definitions](#).

Delete

Deletes the currently selected [variable definitions](#).

Properties

Displays the [properties](#) of the selected [variable definition](#).

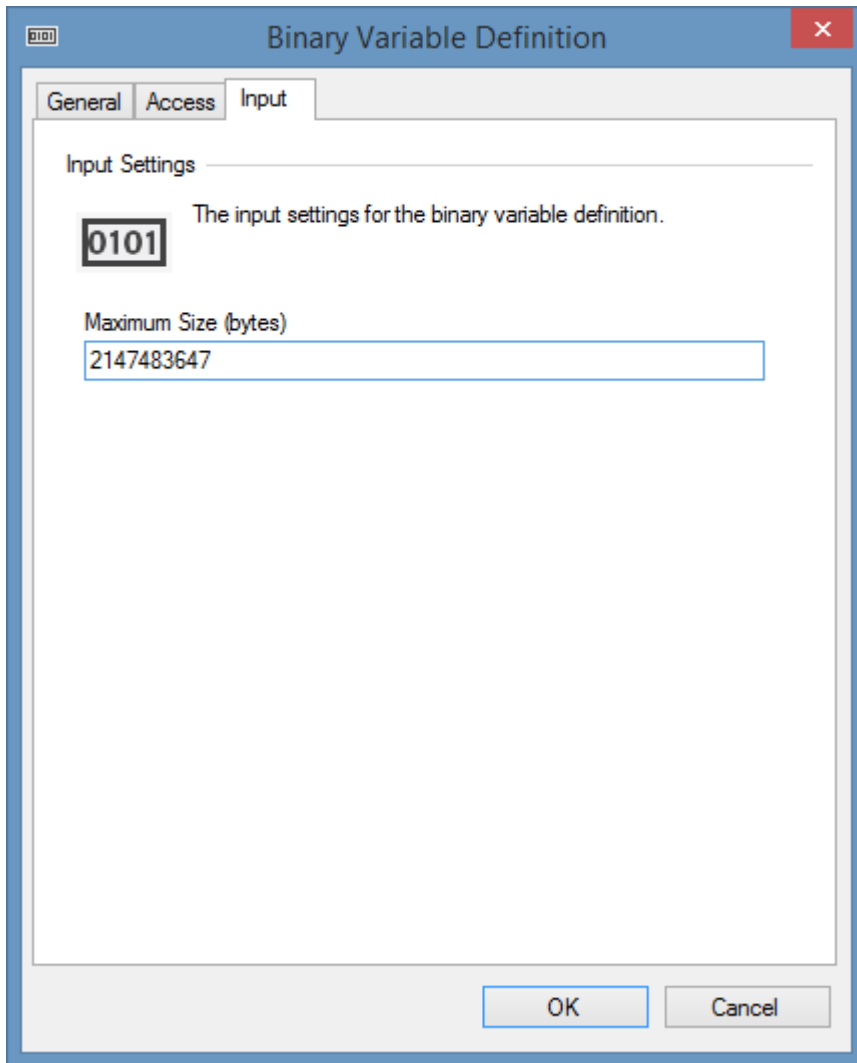
Standard Variable Definitions

Standard [variable definitions](#) allow the user to specify values for the [automation tasks](#) executed by an [automation profile](#) to use.

Binary Variable Definition

The binary [variable definition](#) allows the user to specify binary data in the form of a [byte](#) array.

Input



Maximum Size (bytes)

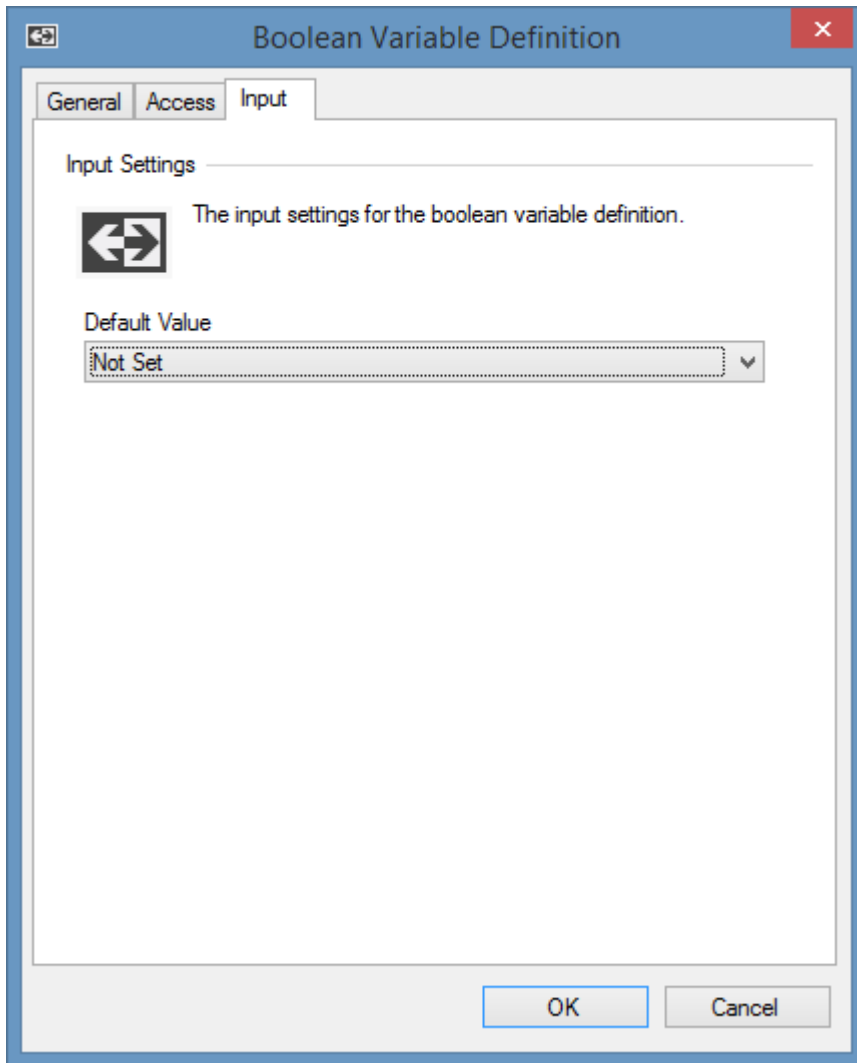
The maximum size the user can input in bytes.

NOTE: The input settings are not available when the [variable definition](#) is configured as hidden in the [access settings](#).

Boolean Variable Definition

The boolean [variable definition](#) allows the user to specify a `System.Boolean` (true/false) value.

Input



Default Value

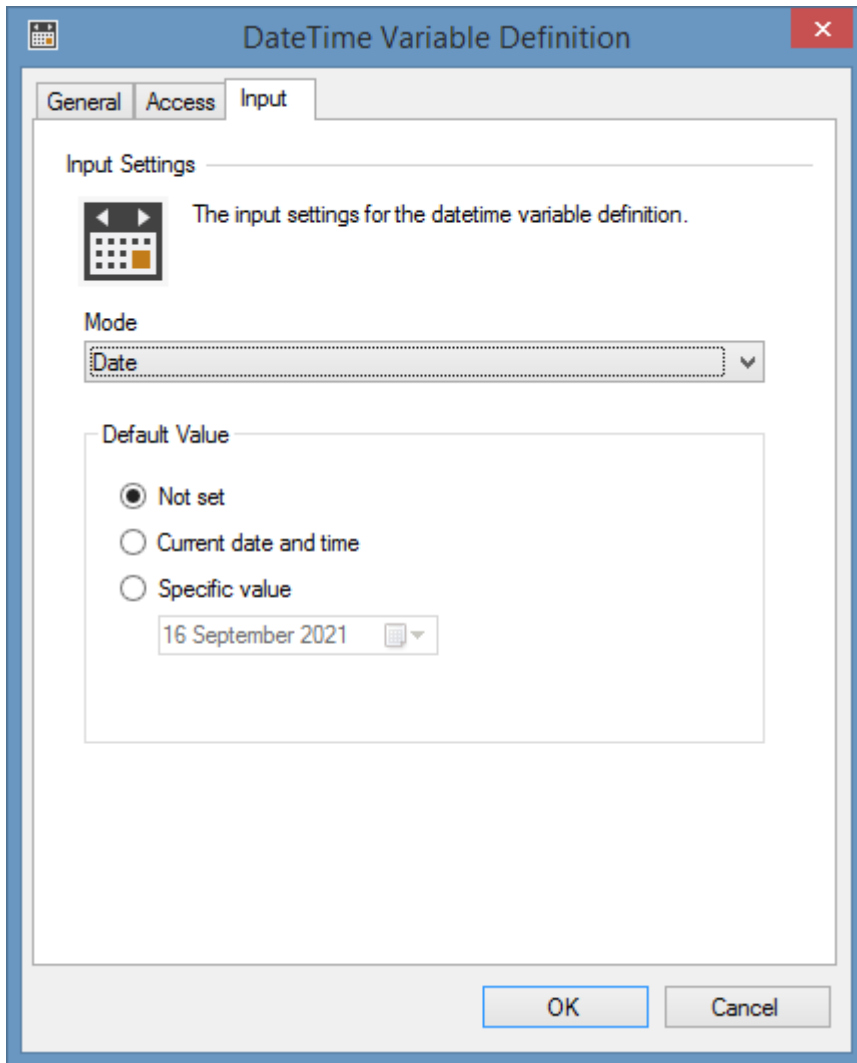
The default value to display to the user.

NOTE: The input settings are not available when the [variable definition](#) is configured as hidden in the [access settings](#).

DateTime Variable Definition

The datetime [variable definition](#) allows the user to specify a [System.DateTime](#) value.

Input



Mode

The input mode

- Date
- Time
- DateTime

Default Value

The default value to display to the user.

- Not set
The default value is not set.
- Current date and time
The date and time at the time the input is presented to the user.

- Specific value
The value specified by the [system administrator](#).

NOTE: The input settings are not available when the [variable definition](#) is configured as hidden in the [access settings](#).

Integer Variable Definition

The integer [variable definition](#) allows the user to specify a `System.Int32` value.

Input

123 Integer Variable Definition

General Access **Input**

Input Settings

123 The input settings for the integer variable definition.

Minimum Value
0

Maximum Value
2147483647

Placeholder Text
[Empty]

Enable Autocomplete

Default Value

Not set
 Specific value
0

OK Cancel

Minimum Value

The minimum valid [integer](#) value.

Maximum Value

The maximum valid [integer](#) value.

Placeholder Text

The placeholder text to display to the user.

Enable Autocomplete

Determines whether autocomplete is enabled when in using form input.

Default Value

Determines whether to provide the user with a default [integer](#) value.

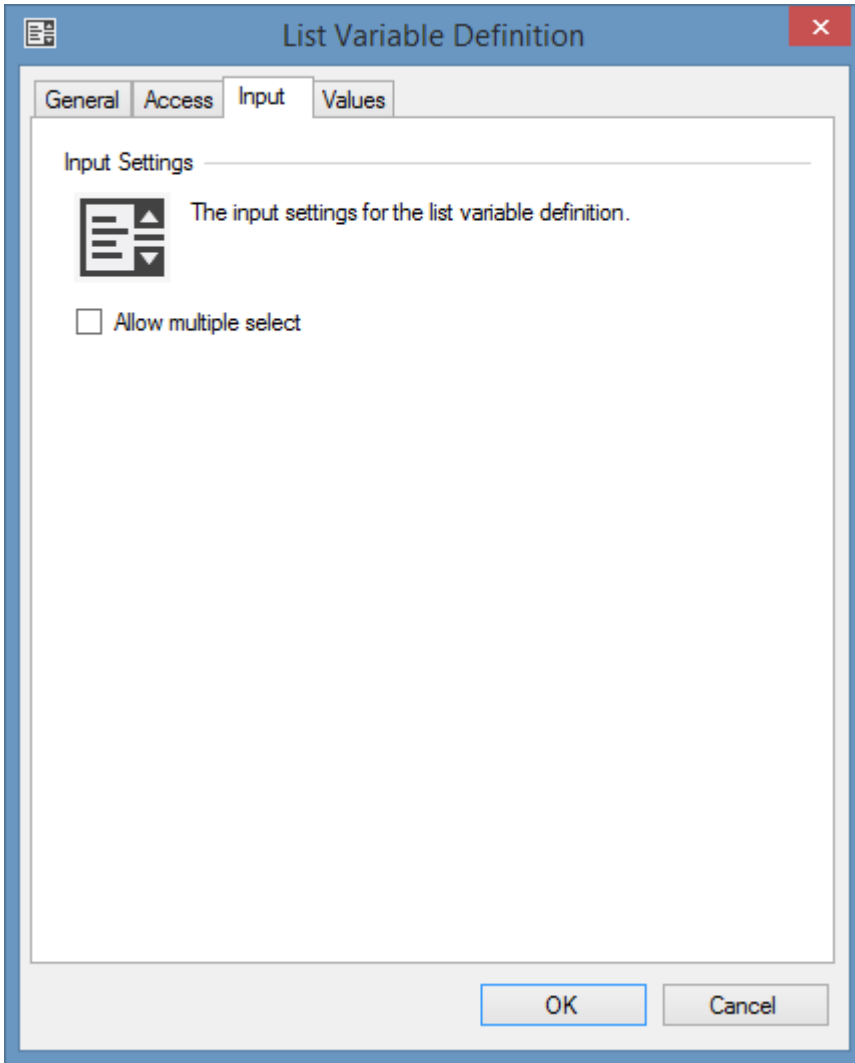
If specified, this value must be between the specified minimum and maximum values.

NOTE: The input settings are not available when the [variable definition](#) is configured as hidden in the [access settings](#).

List Variable Definition

The list [variable definition](#) allows the user to specify a single [System.String](#) value, or multiple [System.String](#) values, from a predefined list.

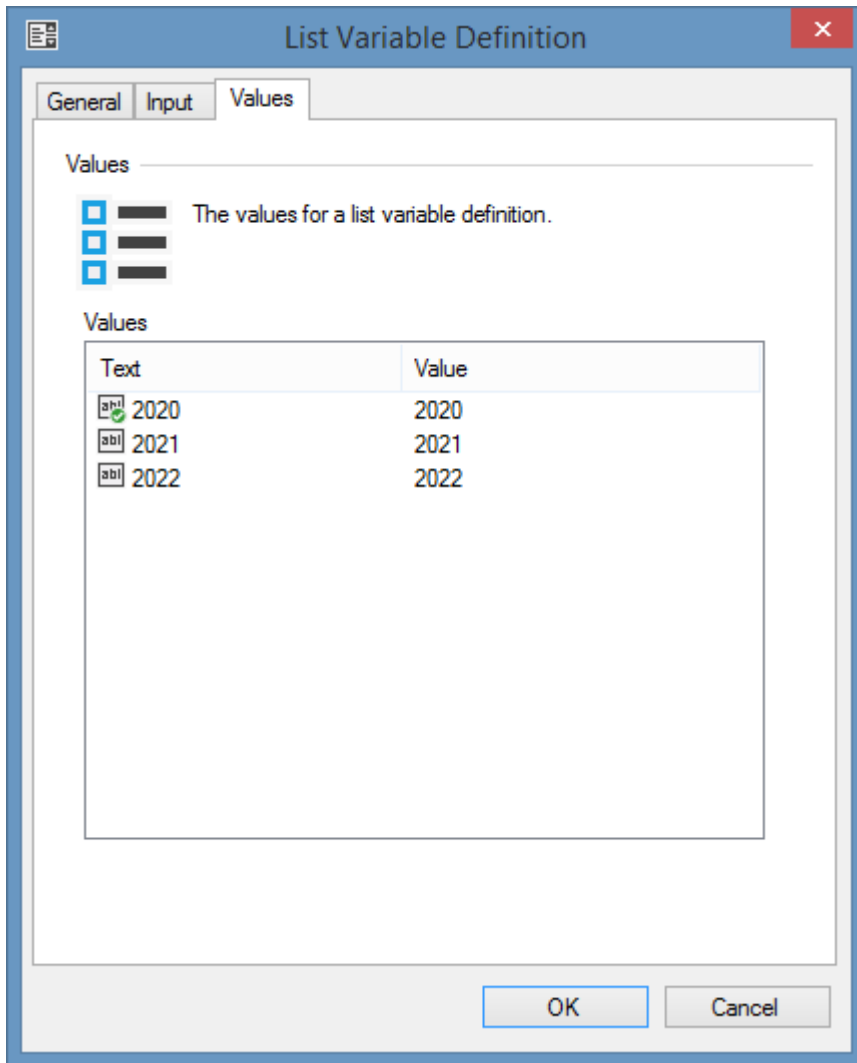
Input



Allow multiple select

Determines whether the user can select multiple values.

Values



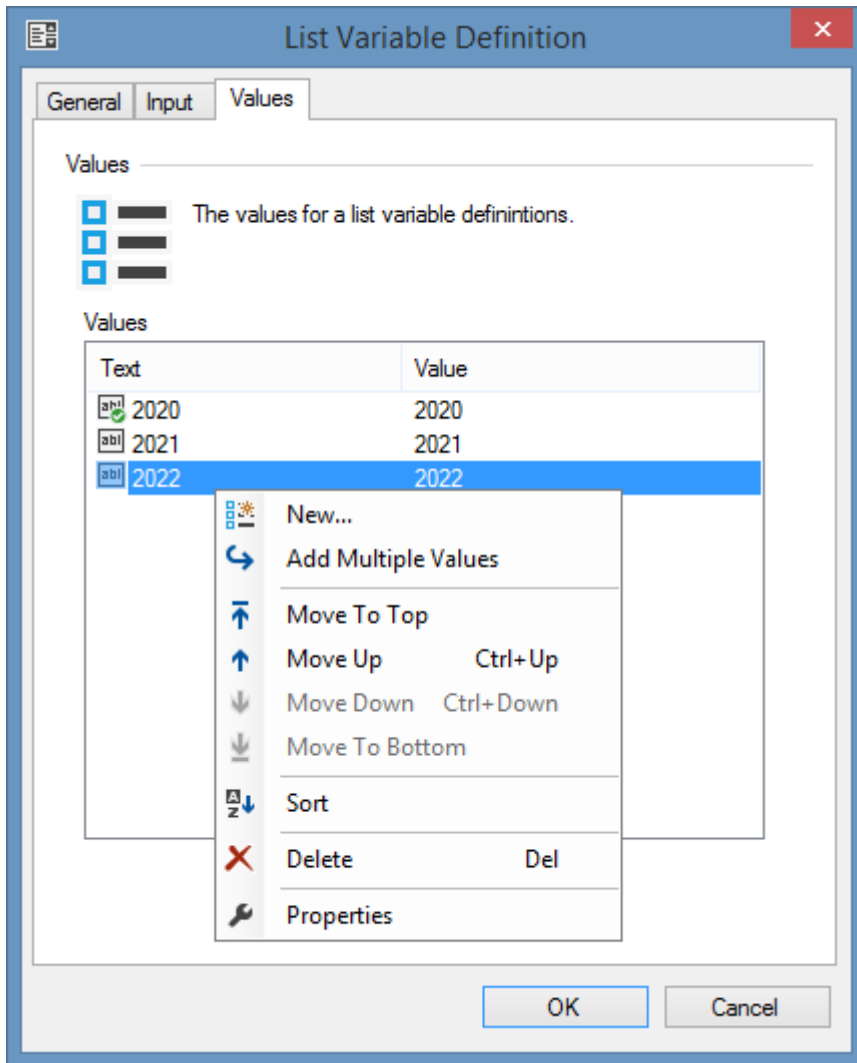
Values

The values to display in the list variable definition.
The values are displayed to the user in the order specified.

- The values can include square brackets [].

Right clicking the listview displays the [values context menu](#).

Values Context Menu



New

Displays a new value in the [list variable definition value form](#).

Add Multiple Items

Displays the [list variable definition values form](#).

Move To Top

Moves the currently selected value to the top of the list.

Move Up

Moves the currently selected value up the list.

Move Down

Moves the currently selected value down the list.

Move To Bottom

Moves the currently selected value to the bottom of the list.

Sort

Sorts the values in the list in ascending alphabetical text order.

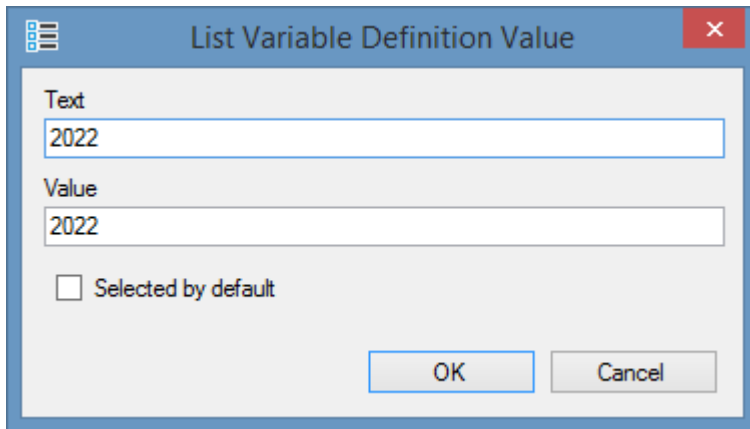
Delete

Deletes the currently selected values.

Properties

Displays the currently selected value in the [list variable definition value form](#).

List Variable Definition Value Form



The screenshot shows a dialog box titled "List Variable Definition Value". It has a blue header bar with a menu icon on the left and a close button (red square with a white 'X') on the right. The main area is light gray and contains three input fields. The first is labeled "Text" and contains the value "2022". The second is labeled "Value" and also contains "2022". Below these is a checkbox labeled "Selected by default", which is currently unchecked. At the bottom right, there are two buttons: "OK" and "Cancel".

Text

The text to display to the user.

Value

The value to assign to the variable.

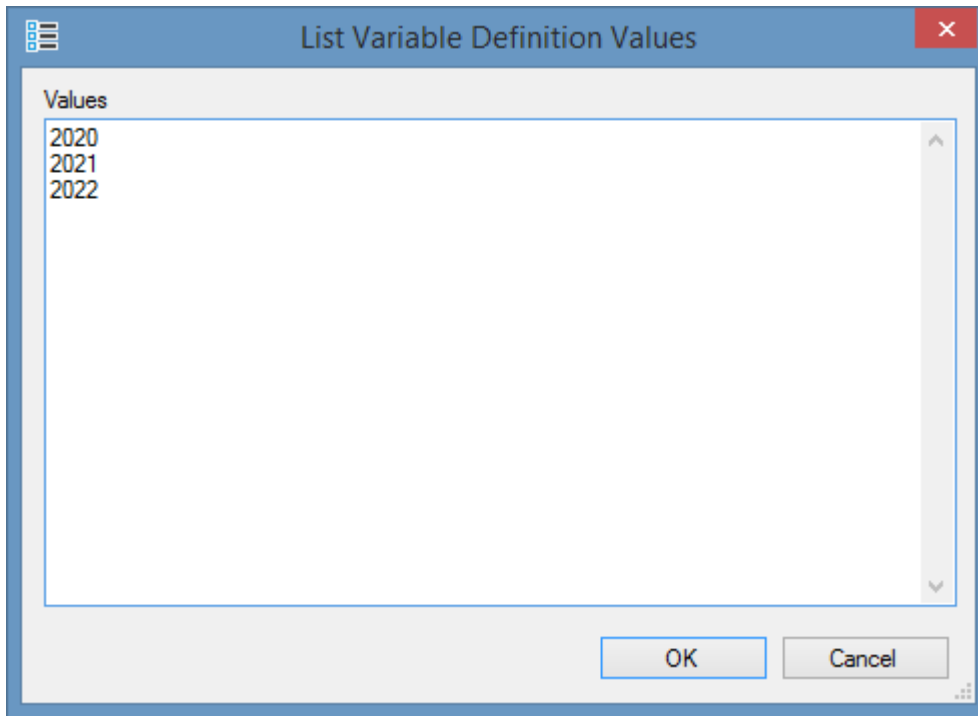
Selected by default

Determines whether the specified value should be selected by default.

The *allow multiple select* option on the [input tab](#) determines whether multiple values can be selected.

List Variable Definition Values Form

The list variable definition values form allows multiple values to be added to a [list variable definition](#).



The screenshot shows a dialog box titled "List Variable Definition Values". Inside the dialog, there is a list box labeled "Values" containing three entries: "2020", "2021", and "2022". Below the list box are two buttons: "OK" and "Cancel".

Values should be added one per line in the following format

[Text], [Value], [Selected by default]

- If the [list variable definition](#) already contains a matching value it is overwritten.
- If the value field is not specified then the value is set to text value.
- If the selected by default field is not specified then the value is not selected by default.
- The *allow multiple select* option on the [input tab](#) determines whether multiple values can be selected.

String Variable Definition


The string [variable definition](#) allows the user to specify a single `System.String` value.

Input

String Variable Definition

General Access **Input** Validation

Input Settings

 The input settings for the string variable definition.

Input Mode
Default

Placeholder Text

Enable Autocomplete

Default Value

OK Cancel

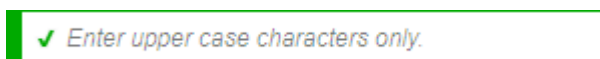
Input Mode

The input mode.

- Default
A single line text input.
- Multiline
A multiline text input.
- Password
A password text input.

Placeholder Text

The placeholder text to display to the user.



Enable Autocomplete

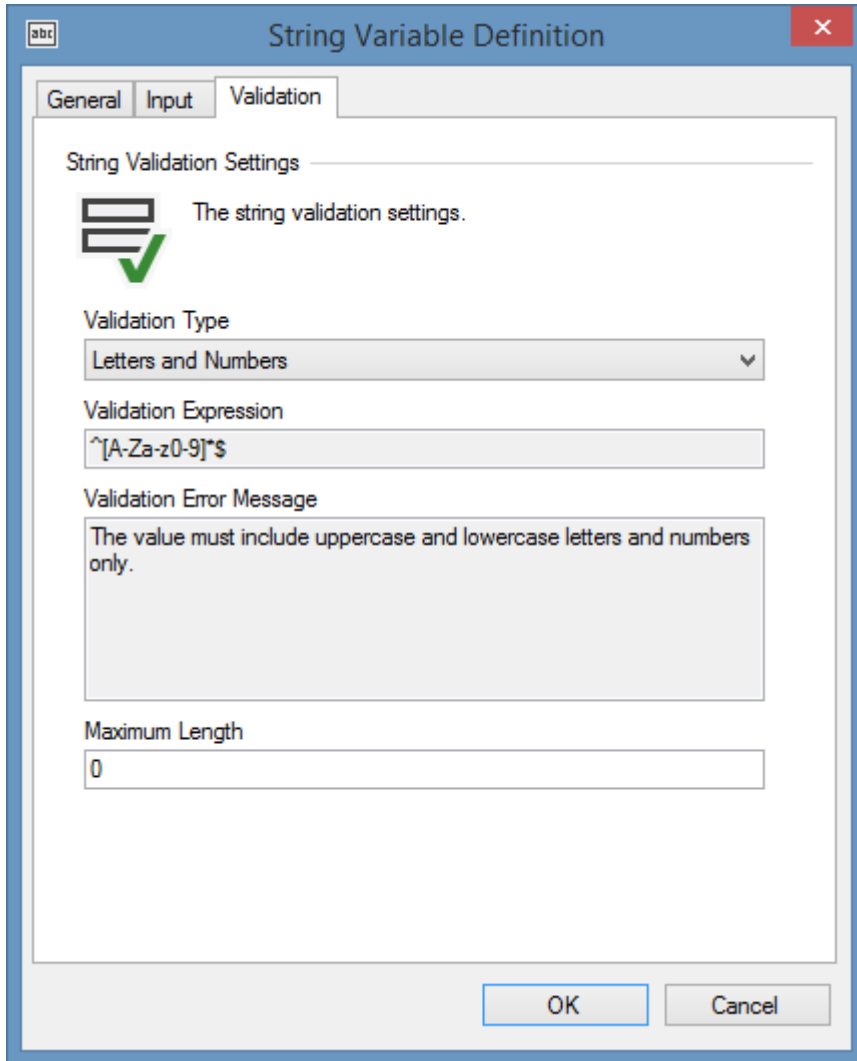
Determines whether autocomplete is enabled when in using form input. This does not apply when the input mode is set to password.

Default Value

The default value. This does not apply when the input mode is set to password.

NOTE: The input settings are not available when the [variable definition](#) is configured as hidden in the [access settings](#).

Validation



The screenshot shows a dialog box titled "String Variable Definition" with a close button (X) in the top right corner. The dialog has three tabs: "General", "Input", and "Validation", with "Validation" selected. The "String Validation Settings" section includes a green checkmark icon and the text "The string validation settings." Below this, the "Validation Type" is set to "Letters and Numbers" in a dropdown menu. The "Validation Expression" field contains the regular expression `^[A-Za-z0-9]*$`. The "Validation Error Message" field contains the text "The value must include uppercase and lowercase letters and numbers only." The "Maximum Length" field contains the value "0". At the bottom of the dialog are "OK" and "Cancel" buttons.

Validation Type

Determines whether to use a [built-in](#) or custom validation type.

Validation Expression

The [regular expression](#) to validate the [string](#) input.

Validation Error Message

The error message to display if the validation fails. This doesn't apply when using form input.

Maximum Length

The maximum length of the [string](#) value. A value of zero indicates no maximum length.

Validation Types

None

No validation is performed.

Custom

Custom validation is performed.

Letters and Numbers

The value must include uppercase and lowercase letters and numbers only.

Letters

The value must include uppercase and lowercase letters only.

Numbers

The value must be numeric.

Email Address

The value must be a valid email address.

Lower Case Letters

The value must include lowercase letters only.

Password

The value must be between 8 and 20 characters long and include at least one uppercase letter, one lowercase letter, one number, and one special character.

Upper Case Letters

The value must include uppercase letters only.

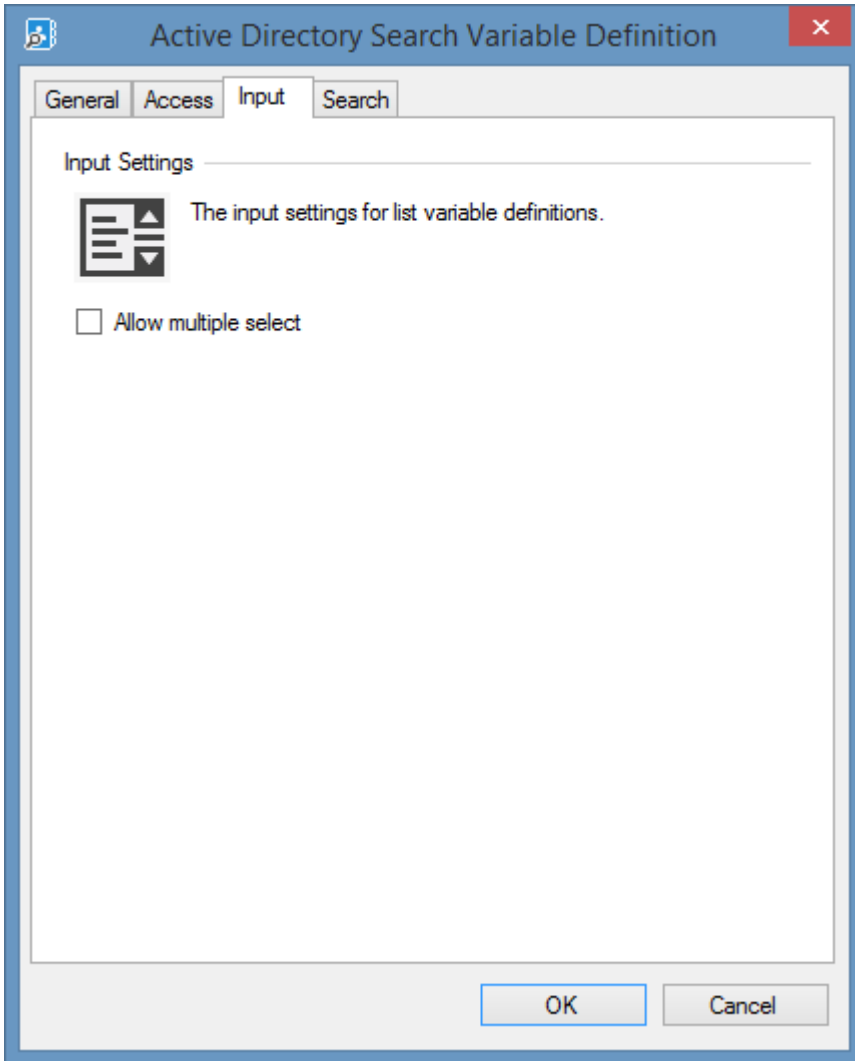
Dynamic Variable Definitions

Dynamic [variable definitions](#) allow the user to select values for the [automation tasks](#) executed by an [automation profile](#) to use from a dynamically generated list.

Active Directory Search Variable Definition

The [Active Directory search variable definition](#) allows the user to select values returned from a search of [Active Directory](#).

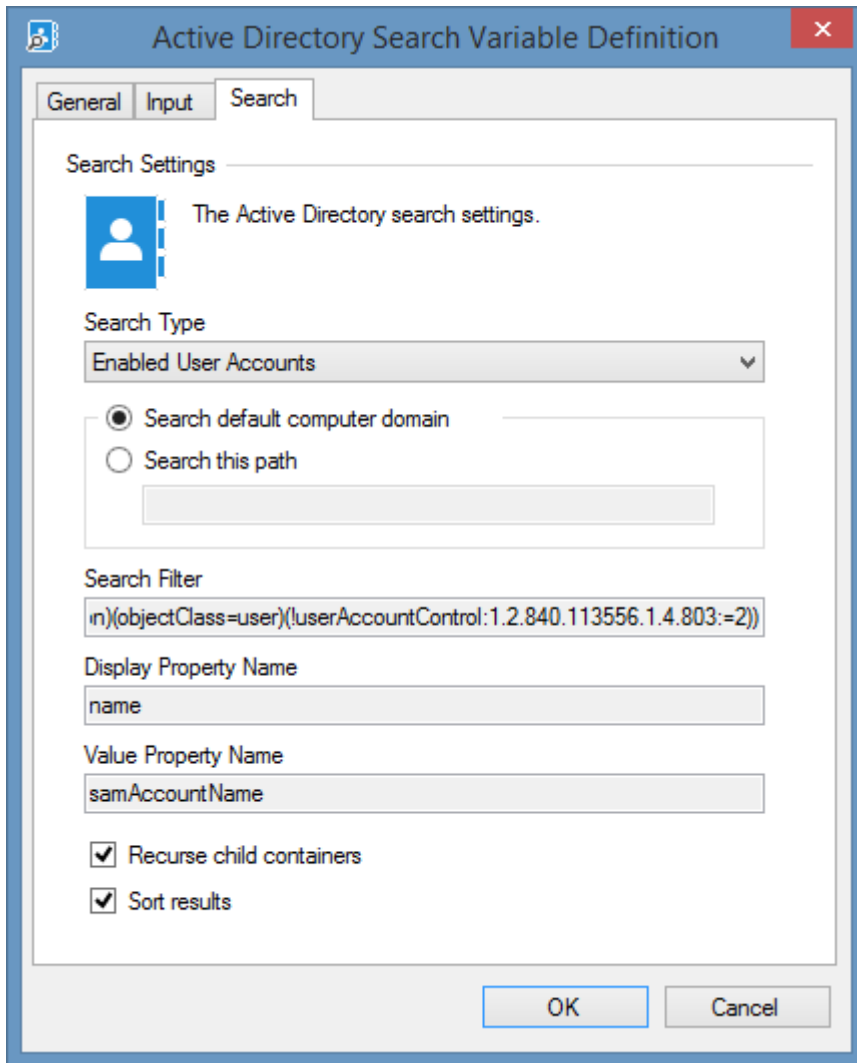
Input



Allow multiple select

Determines whether the user can select multiple values.

Search



Search Type

Determines whether to use a built-in or custom search.

Search default computer domain

Determines whether the search should be performed against the [Active Directory](#) domain to which the computer running [XIA Automation Server](#) is a member.

Search this path

The canonical path from which the search should be performed - for example LDAP://demonstration.int/Staff/HR.

Search Filter

The [LDAP search filter](#) to use.

Display Property Name

The name of the [Active Directory](#) property to use to generate the text to display to the user.

Value Property Name

The name of the [Active Directory](#) property to use to generate the value.

Recurse child containers

Determines whether the search should recurse child containers.

Sort results

Determines whether the values in the list should be sorted in ascending alphabetical text order.

Built-In Active Directory Search Types

Custom

The user defined search settings are used.

Accounts With "Password Never Expires" Set

Returns [Active Directory](#) user accounts with the password never expires set.

Disabled User Accounts

Returns disabled [Active Directory](#) user accounts.

Empty Security Groups

Returns [Active Directory](#) security groups that contain no members.

Enabled User Accounts

Returns enabled [Active Directory](#) user accounts.

Exchange Servers

Returns [Microsoft Exchange On-Premises](#) servers.

This query requires that the search path be set to the configuration container - for example LDAP://demonstration.int/Configuration

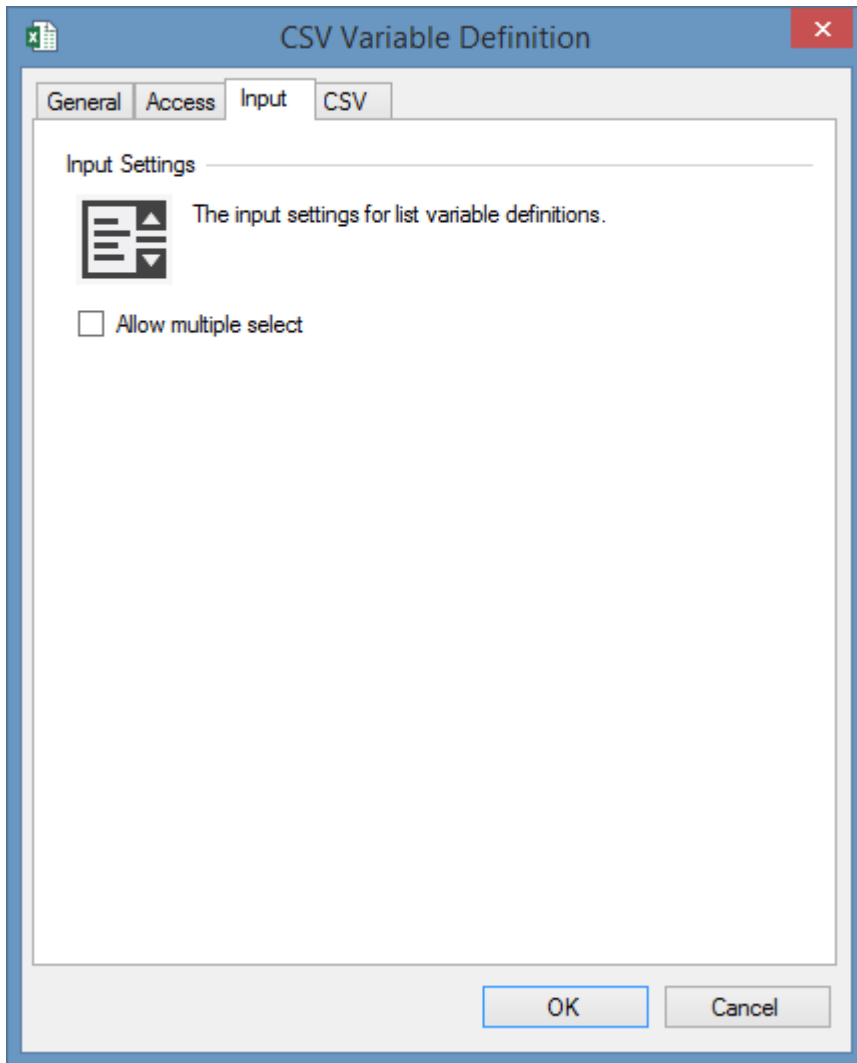
Security Groups

Returns [Active Directory](#) security groups.

CSV Variable Definition

The CSV [variable definition](#) allows the user to select values returned from a comma separated volume (CSV) file.

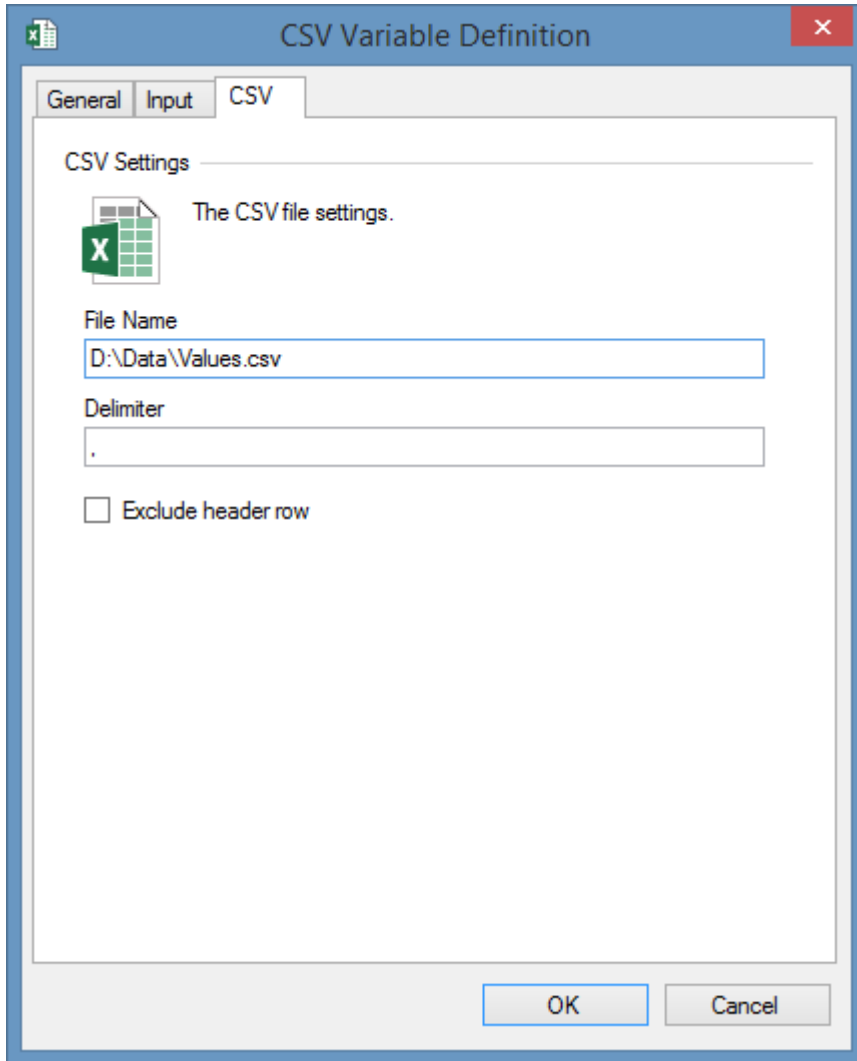
Input



Allow multiple select

Determines whether the user can select multiple values.

CSV



File Name

The absolute path to the [CSV file](#) to read.

This must be accessible to the machine running [XIA Automation Server](#) and the [web server application pool account](#).

Delimiter

The delimiter character such as a comma.

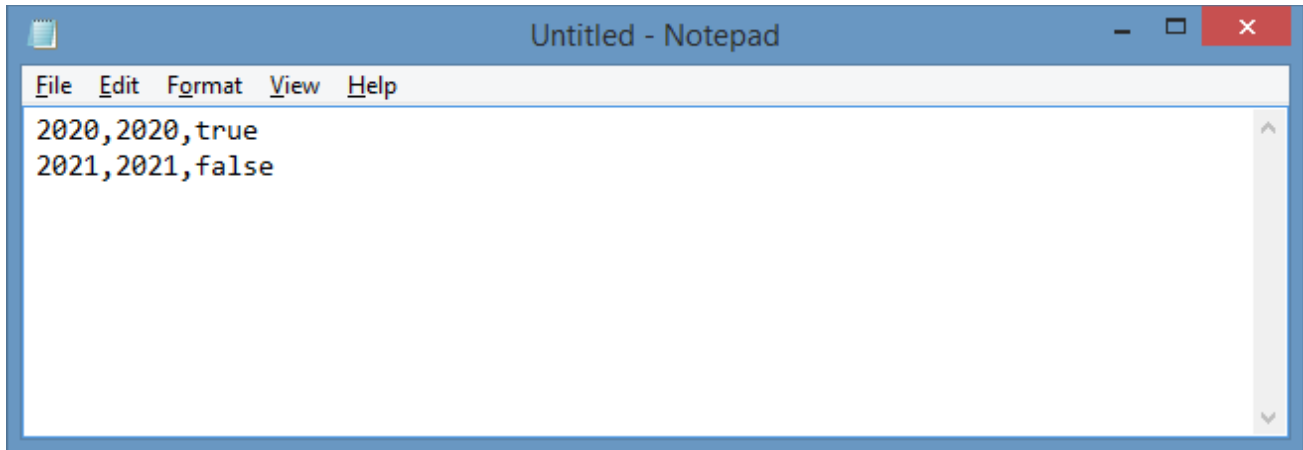
To use a tab character as the delimiter enter `\t`.

Exclude header row

Determines whether the CSV file includes a header row which should be ignored.

CSV File Format

The following describes the format of the CSV file used by the [CSV variable definition](#).



Values should be added one per line in the following format

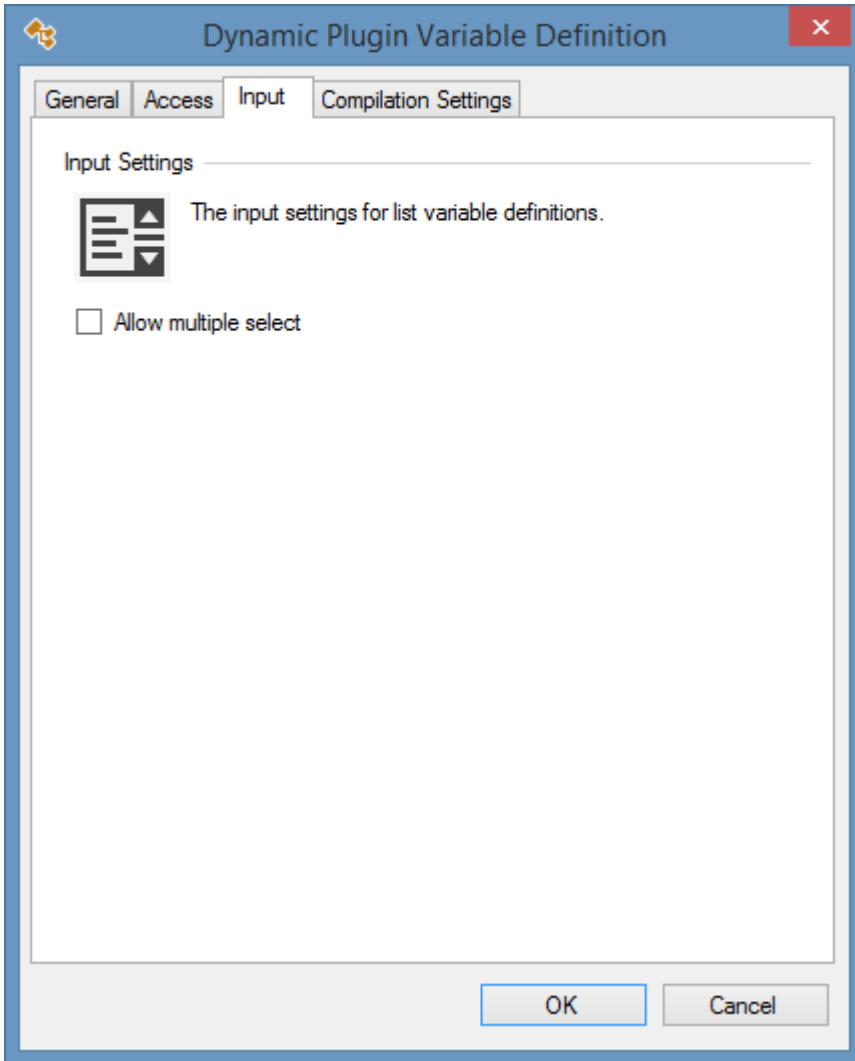
[Text], [Value], [Selected by default]

- If the value field is not specified then the value is set to text value.
- If the selected by default field is not specified then the value is not selected by default.
- The *allow multiple select* option on the [input tab](#) determines whether multiple values can be selected.
- A delimiter other than the comma can be specified on the [CSV tab](#).

Dynamic Plugin Variable Definition

The dynamic plugin [variable definition](#) allows the user to select values returned from custom plugins written using [Microsoft C#](#).

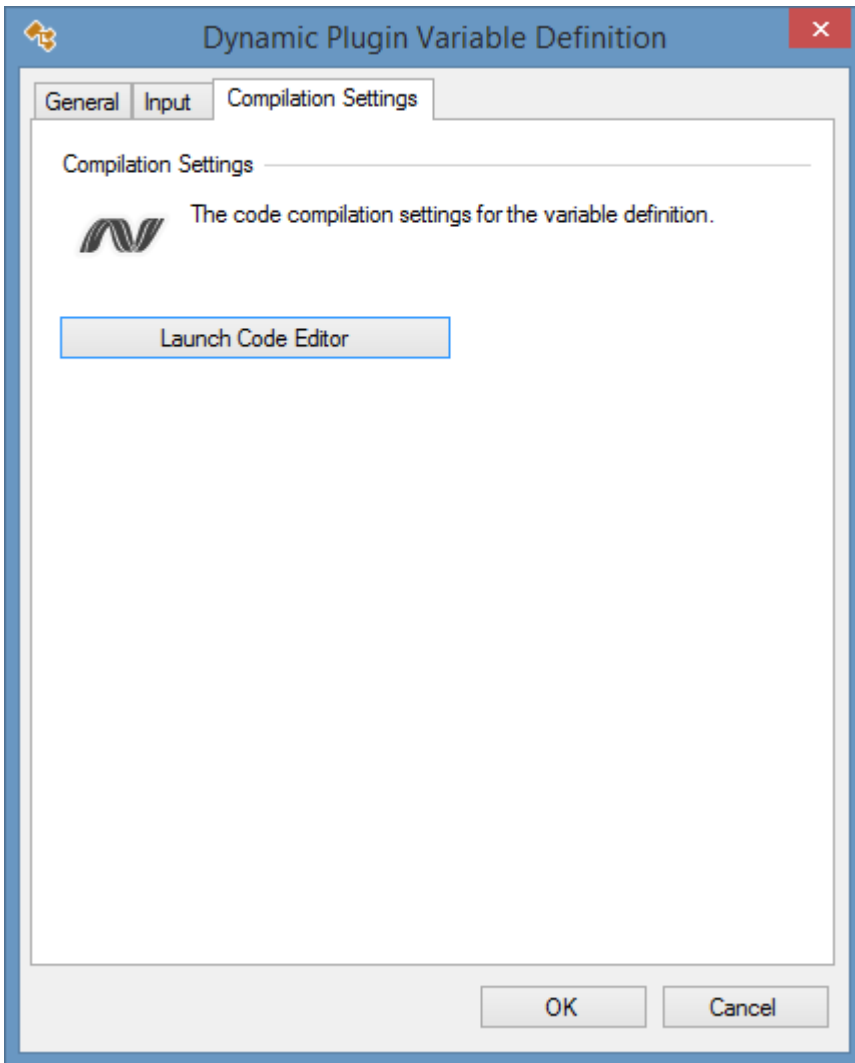
Input



Allow multiple select

Determines whether the user can select multiple values.

Compilation Settings



Launch Code Editor

Open the built-in [dynamic code editor](#).

VariableDefinition Property

The VariableDefinition parameter in the [dynamic code editor](#) allows access to the executing dynamic plugin variable definition.

```
/// <summary>
/// Executes the plugin and returns the list variable definition values.
/// </summary>
/// <returns>The CENTREL.XIA.Automation.Model.ListVariableDefinitionValues.</returns>
public override ListVariableDefinitionValues Execute()
{
    if (VariableDefinition.Input.AllowMultipleSelect)
    {
        // Determines whether multiple items can be selected.
    }
}
```

Return Value

The [dynamic plugin variable definition](#) should populate and return the `CENTREL.XIA.Automation.Model.ListVariableDefinitionValues` that should be displayed to the user.

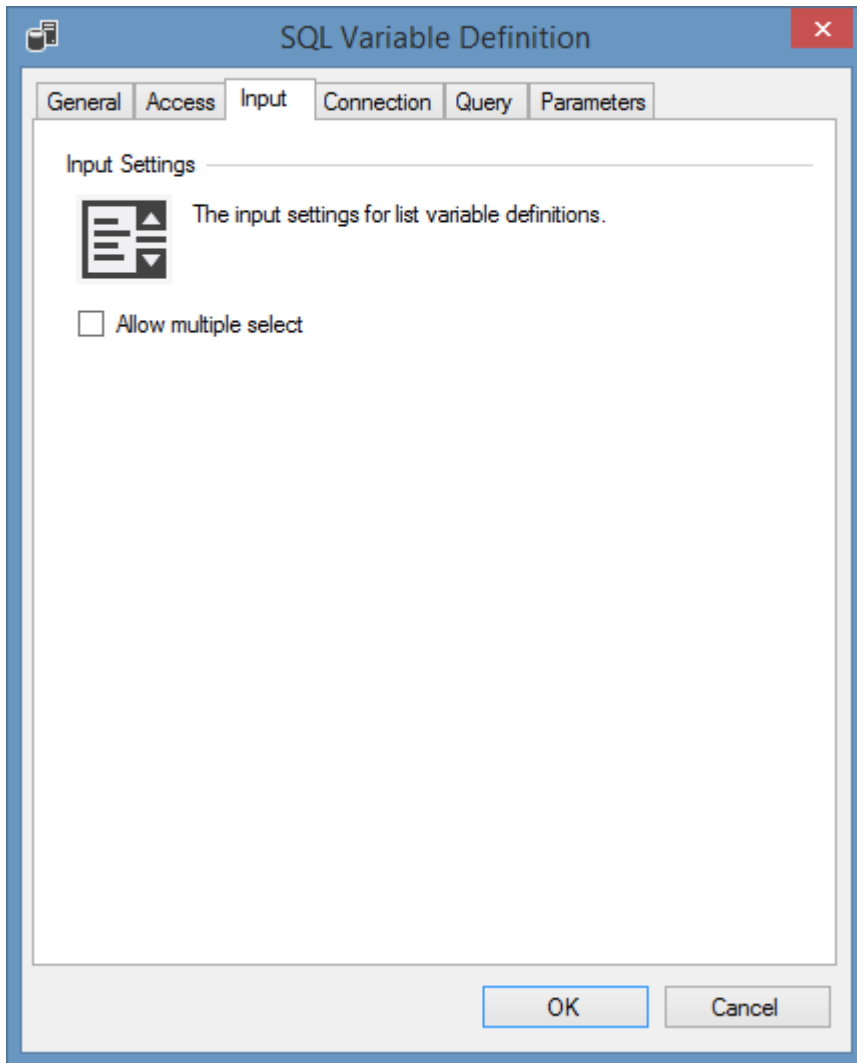
```
/// <summary>
/// Executes the plugin and returns the list variable definition values.
/// </summary>
/// <returns>The CENTREL.XIA.Automation.Model.ListVariableDefinitionValues.</returns>
public override ListVariableDefinitionValues Execute()
{
    ListVariableDefinitionValues values = new ListVariableDefinitionValues();
    values.Items.Add("2020", "2020", true);
    values.Items.Add("2021", "2021", true);
    values.Items.Add("2022", "2022", true);
    return values;
}
```

- If the value is not specified then the value is set to the text value.
`values.Items.Add("2022");`
- If `isSelected` is not specified then the value is not selected by default.
- The *allow multiple select* option on the [input tab](#) determines whether multiple values can be selected. This can be accessed programmatically using the [VariableDefinition property](#).

SQL Variable Definition

The SQL [variable definition](#) allows the user to select values returned from a [Microsoft SQL server](#) or [Microsoft Azure SQL Database](#).

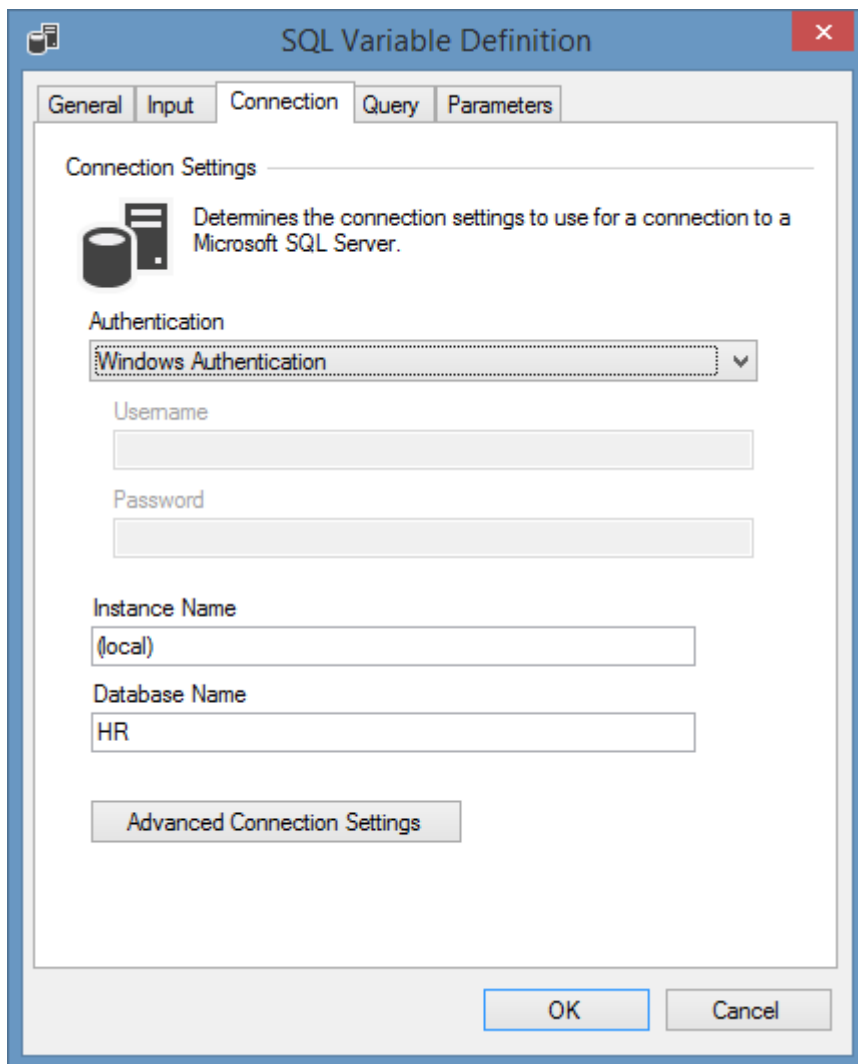
Input



Allow multiple select

Determines whether the user can select multiple values.

Connection



The screenshot shows the 'SQL Variable Definition' dialog box with the 'Connection' tab selected. The 'Connection Settings' section includes a description: 'Determines the connection settings to use for a connection to a Microsoft SQL Server.' Below this, the 'Authentication' dropdown menu is set to 'Windows Authentication'. There are empty text boxes for 'Username' and 'Password'. The 'Instance Name' is set to '(local)' and the 'Database Name' is set to 'HR'. An 'Advanced Connection Settings' button is located below the text boxes. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Authentication

Determines the type of [authentication](#) to use.

- Azure Active Directory Password
- Azure Active Directory Integrated
- Windows Authentication
The connection will be made as the [web server application pool account](#).
- SQL Password

Username

The username to use when Azure Active Directory Password or SQL password is selected as the authentication type.

Password

The password to use when Azure Active Directory Password or SQL password is selected as the

authentication type.

Instance Name

The name of the SQL instance to connect to.

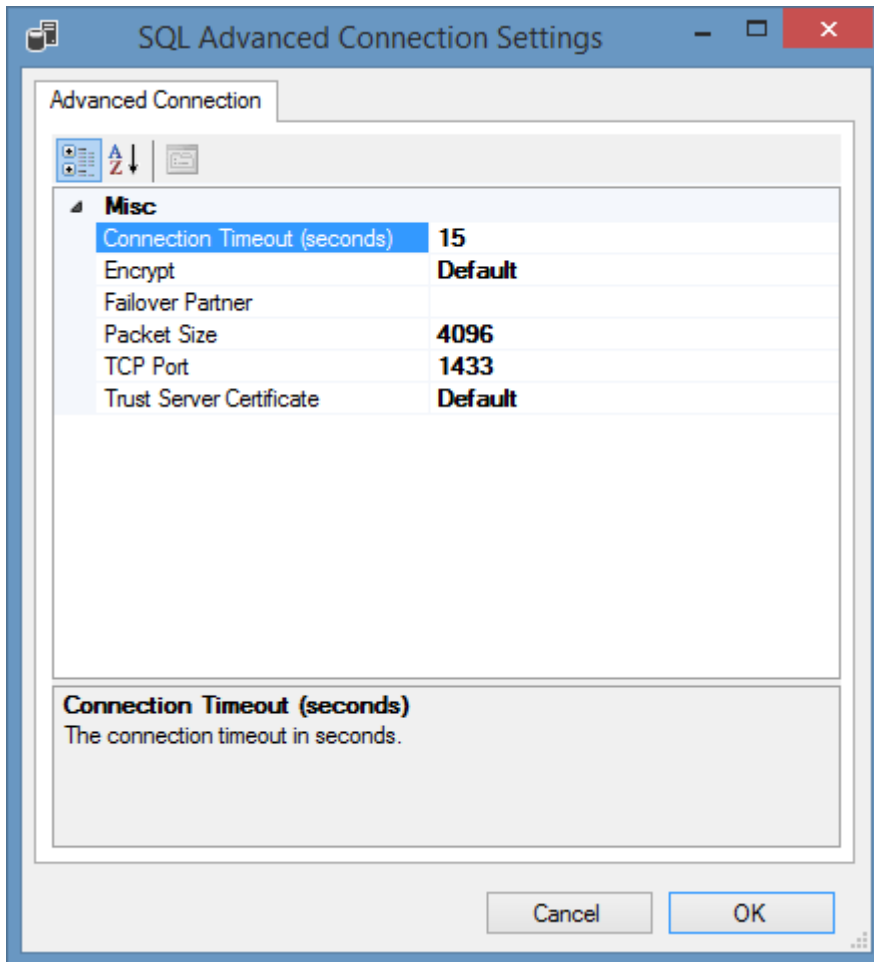
Database Name

The name of the database from which to read the values.

Advanced Connection Settings

Displays the [advanced connection settings](#) dialog.

Advanced Connection Settings



Connection Timeout (Seconds)

The connection timeout in seconds.

Encrypt

Determines whether to encrypt the connection.

Failover Partner

The name of the failover partner if required.

Packet Size

The size of the network packets used to communicate with an instance of SQL server in bytes.

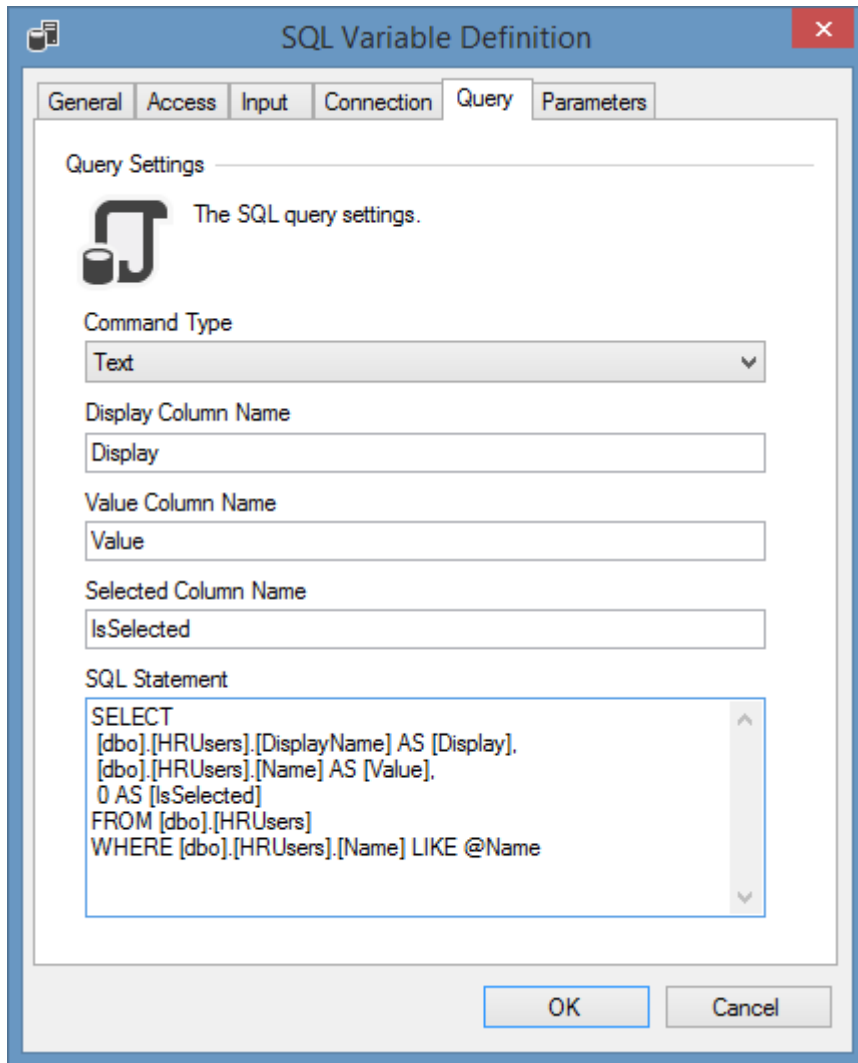
TCP Port

The TCP port to connect to - by default this is 1433.

Trust Server Certificate

Determines whether the client trusts the server certificate.

Query



Command Type

Determines the command type

- Text
- Stored Procedure

Display Column Name

The [VARCHAR](#) or [NVARCHAR](#) column name returned from the query that contains the text to display to the user.

Value Column Name

The [VARCHAR](#) or [NVARCHAR](#) column name returned from the query that contains the value use.

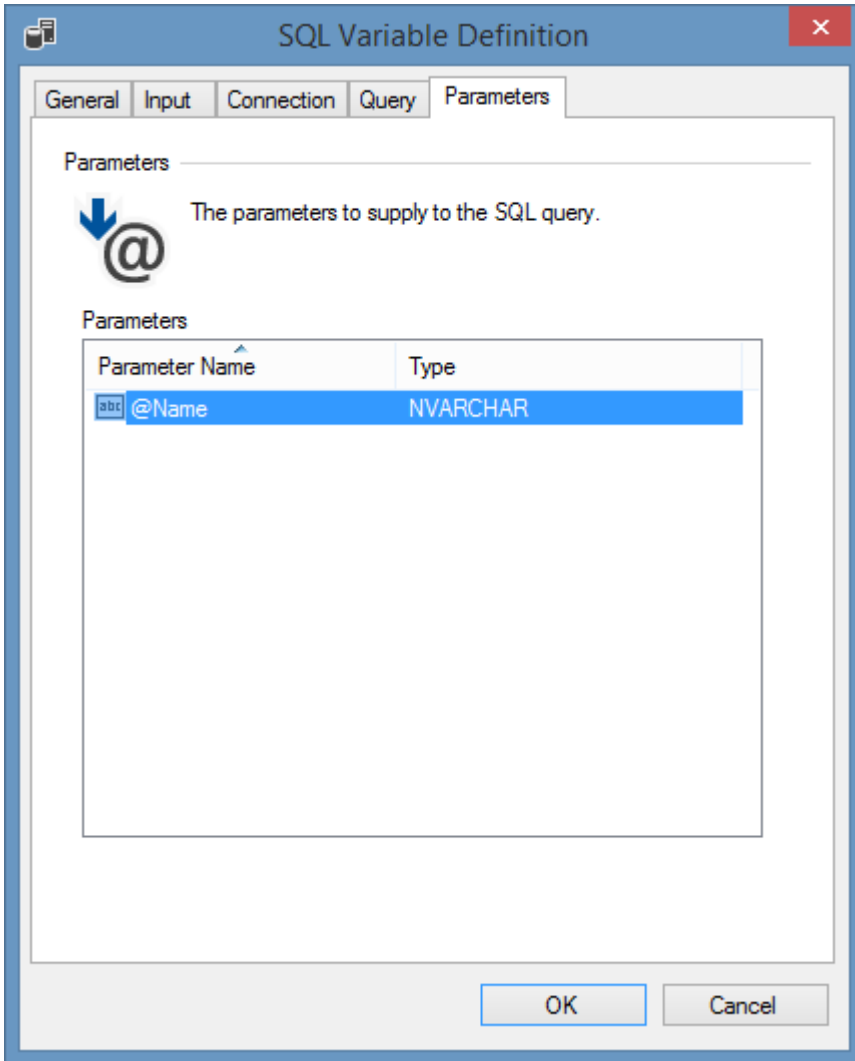
Value Column Name

The [BIT](#) column name returned from the query that contains the [boolean](#) value that indicates whether the value should be selected by default.

SQL Statement

The [T-SQL](#) statement or [stored procedure](#) name to execute. This can include parameters.

Parameters



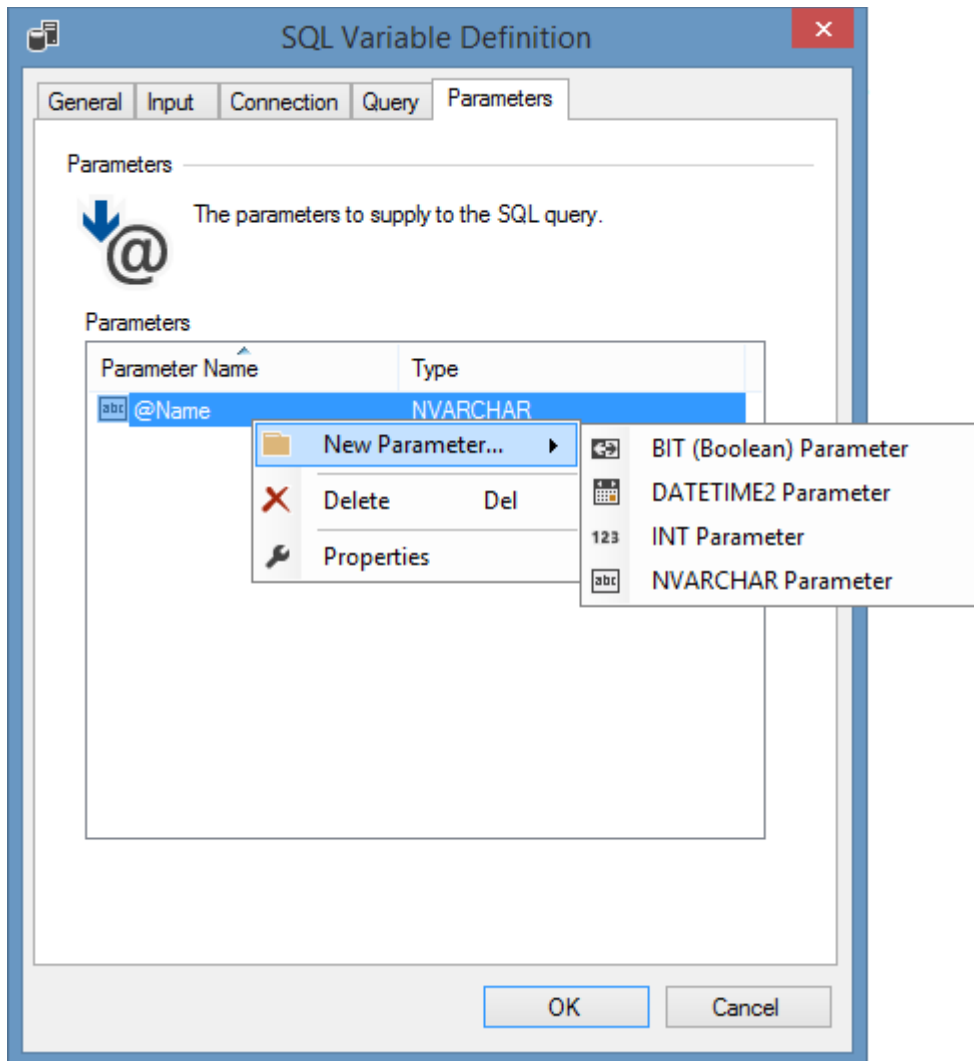
Parameters

The [T-SQL parameters](#) to pass to the query or stored procedure specified on the [query tab](#).

Right clicking the parameters listview displays the [parameters context menu](#).

Parameters Context Menu

The parameters context menu is displayed when the user right clicks the [parameters](#) listview.



New Parameter

Displays the new parameter dialog for the appropriate parameter type.

Delete

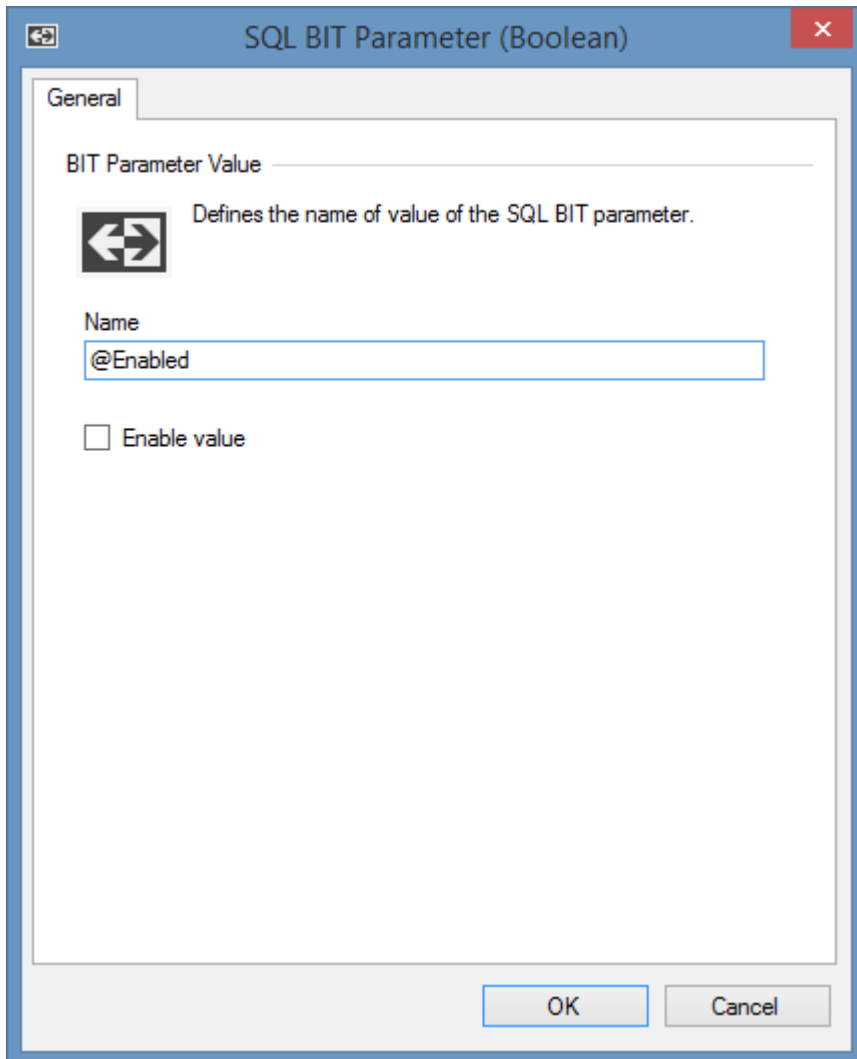
Deletes the currently selected [parameter](#).

Properties

Displays the parameter dialog for the currently selected [parameter](#).

BIT (Boolean) Parameter

The BIT (boolean) [parameter](#) passes a [BIT](#) value to the query or stored procedure specified on the [query tab](#).



The screenshot shows a dialog box titled "SQL BIT Parameter (Boolean)". It has a "General" tab selected. The dialog contains the following elements:

- A "BIT Parameter Value" label followed by a text input field.
- A help icon (two arrows pointing left and right) with the text "Defines the name of value of the SQL BIT parameter." to its right.
- A "Name" label followed by a text input field containing the text "@Enabled".
- An unchecked checkbox labeled "Enable value".
- "OK" and "Cancel" buttons at the bottom right.

Name

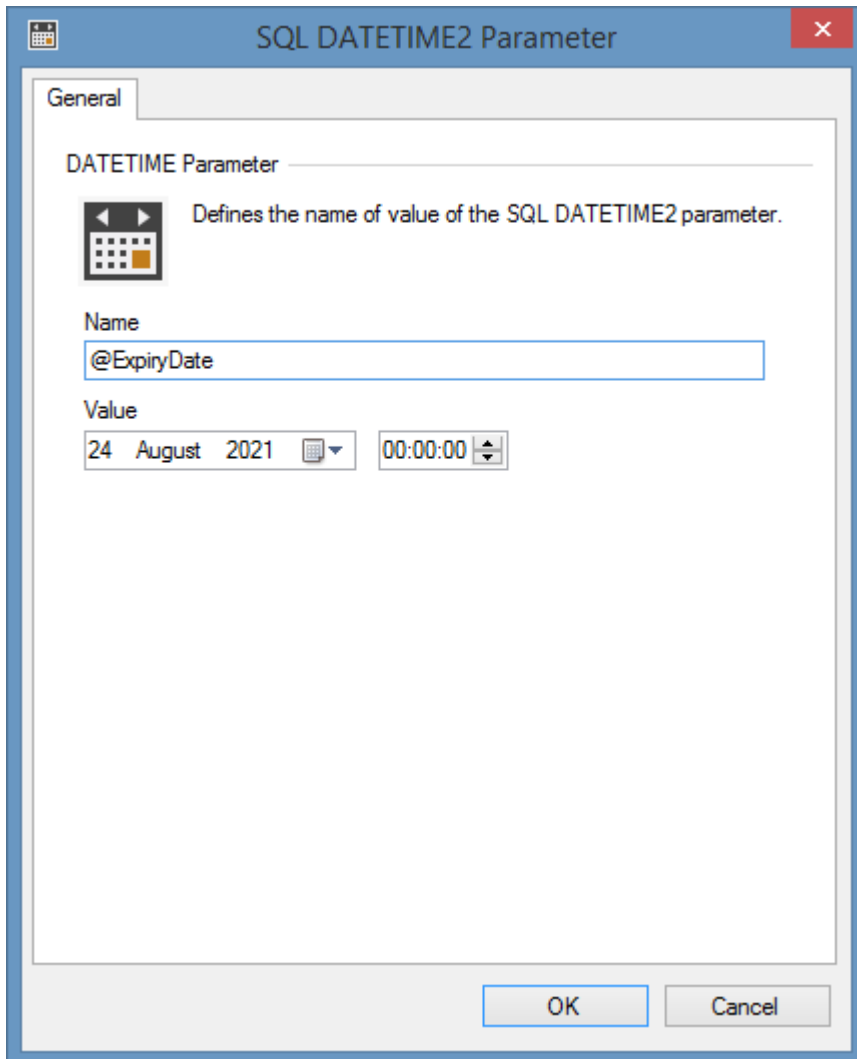
The name of the [parameter](#).

Enable value

Determines whether the [BIT](#) value is enabled (true) or false.

DATETIME2 Parameter

The DATETIME2 [parameter](#) passes a DATETIME2 value to the query or stored procedure specified on the [query tab](#).



The screenshot shows a dialog box titled "SQL DATETIME2 Parameter" with a "General" tab. The dialog contains the following elements:

- DATETIME Parameter**: A label with a description: "Defines the name of value of the SQL DATETIME2 parameter." and a calendar icon.
- Name**: A text input field containing "@ExpiryDate".
- Value**: A date and time selection area showing "24 August 2021" and "00:00:00".
- Buttons**: "OK" and "Cancel" buttons at the bottom right.

Name

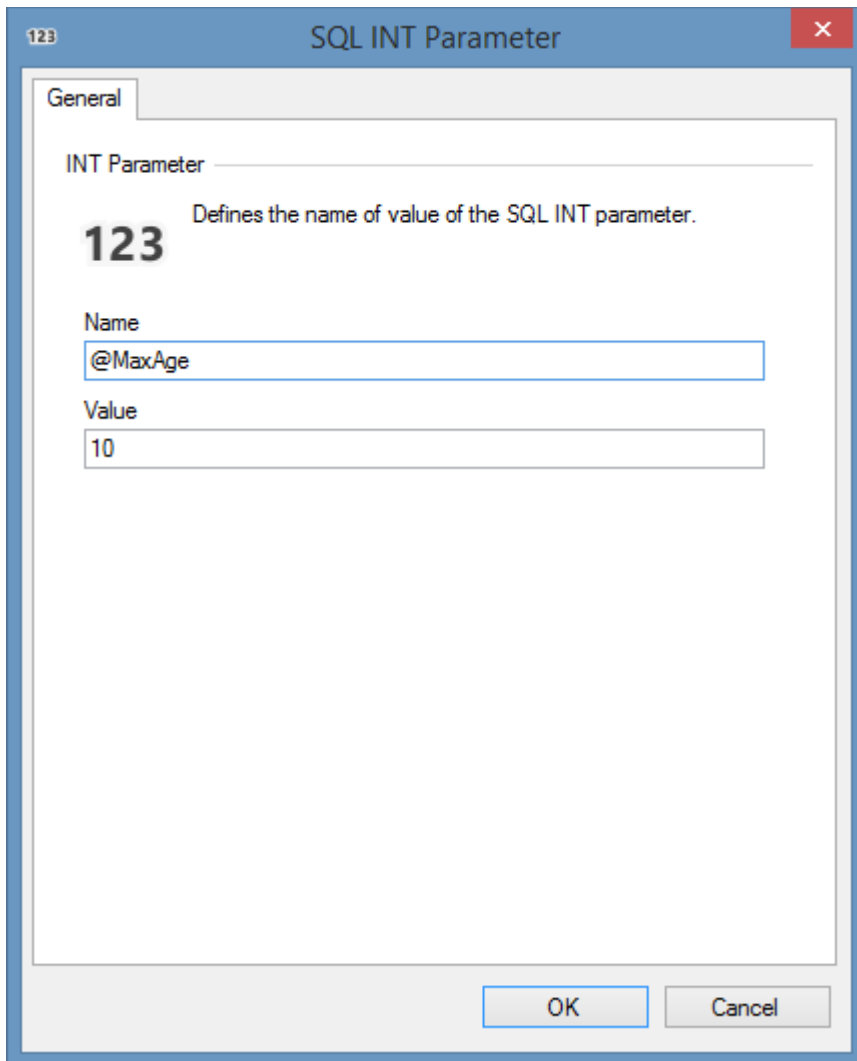
The name of the [parameter](#).

Value

Determines the [DATETIME2](#) value.

INT Parameter

The INT [parameter](#) passes an [INT](#) value to the query or stored procedure specified on the [query tab](#).



The screenshot shows a dialog box titled "SQL INT Parameter" with a close button (X) in the top right corner. The dialog has a tab labeled "General". Inside the dialog, there is a section for "INT Parameter" with a large "123" displayed and the text "Defines the name of value of the SQL INT parameter." Below this, there are two input fields: "Name" containing "@MaxAge" and "Value" containing "10". At the bottom of the dialog are "OK" and "Cancel" buttons.

Name

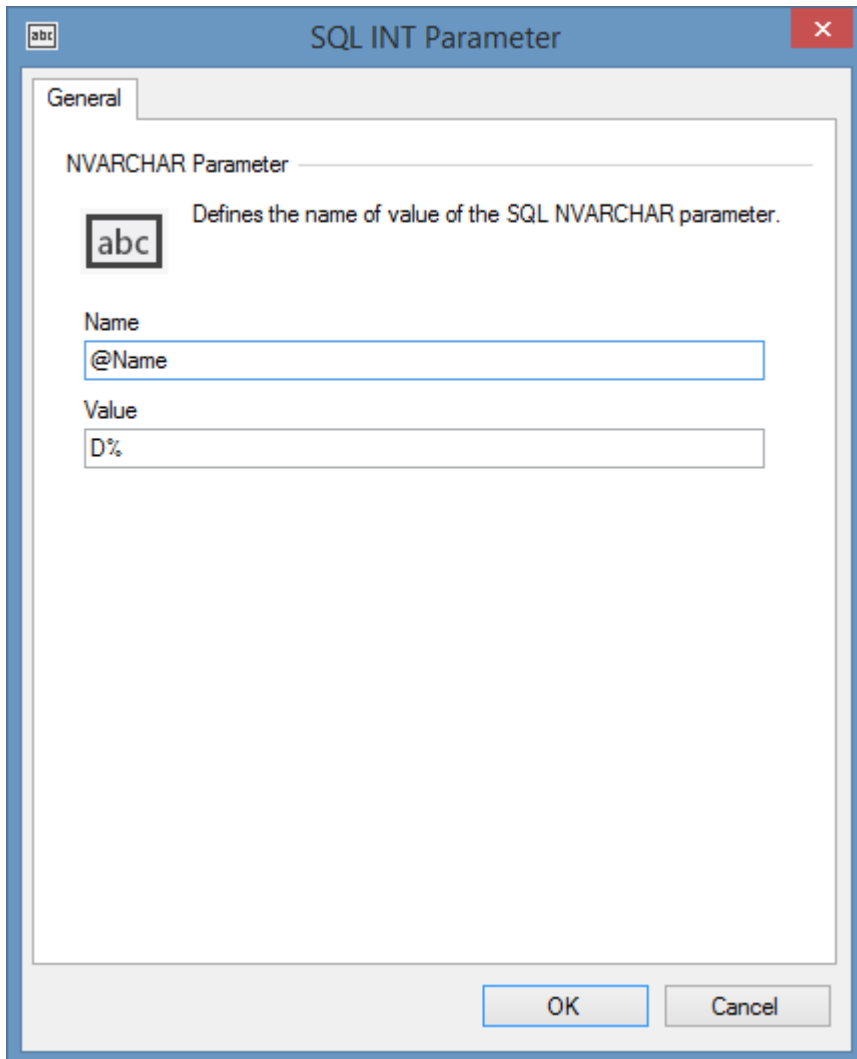
The name of the [parameter](#).

Value

Determines the [INT](#) value.

NVARCHAR Parameter

The NVARCHAR [parameter](#) passes an [NVARCHAR](#) value to the query or stored procedure specified on the [query tab](#).



The screenshot shows a dialog box titled "SQL INT Parameter" with a close button (X) in the top right corner. The "General" tab is selected. The dialog contains the following elements:

- NVARCHAR Parameter**: A label with a small box containing "abc" and a description: "Defines the name of value of the SQL NVARCHAR parameter."
- Name**: A text input field containing "@Name".
- Value**: A text input field containing "D%".
- Buttons**: "OK" and "Cancel" buttons at the bottom right.

Name

The name of the [parameter](#).

Value

Determines the [NVARCHAR](#) value.

Troubleshooting

This section highlights the known issues for the [SQL variable definition](#) and provides details of the solutions.

Unable to load adalsql.dll

Symptoms

When executing an [SQL variable definition](#) you receive the following error.
Failed to connect to server *servername*. Unable to load adalsql.dll.

Cause

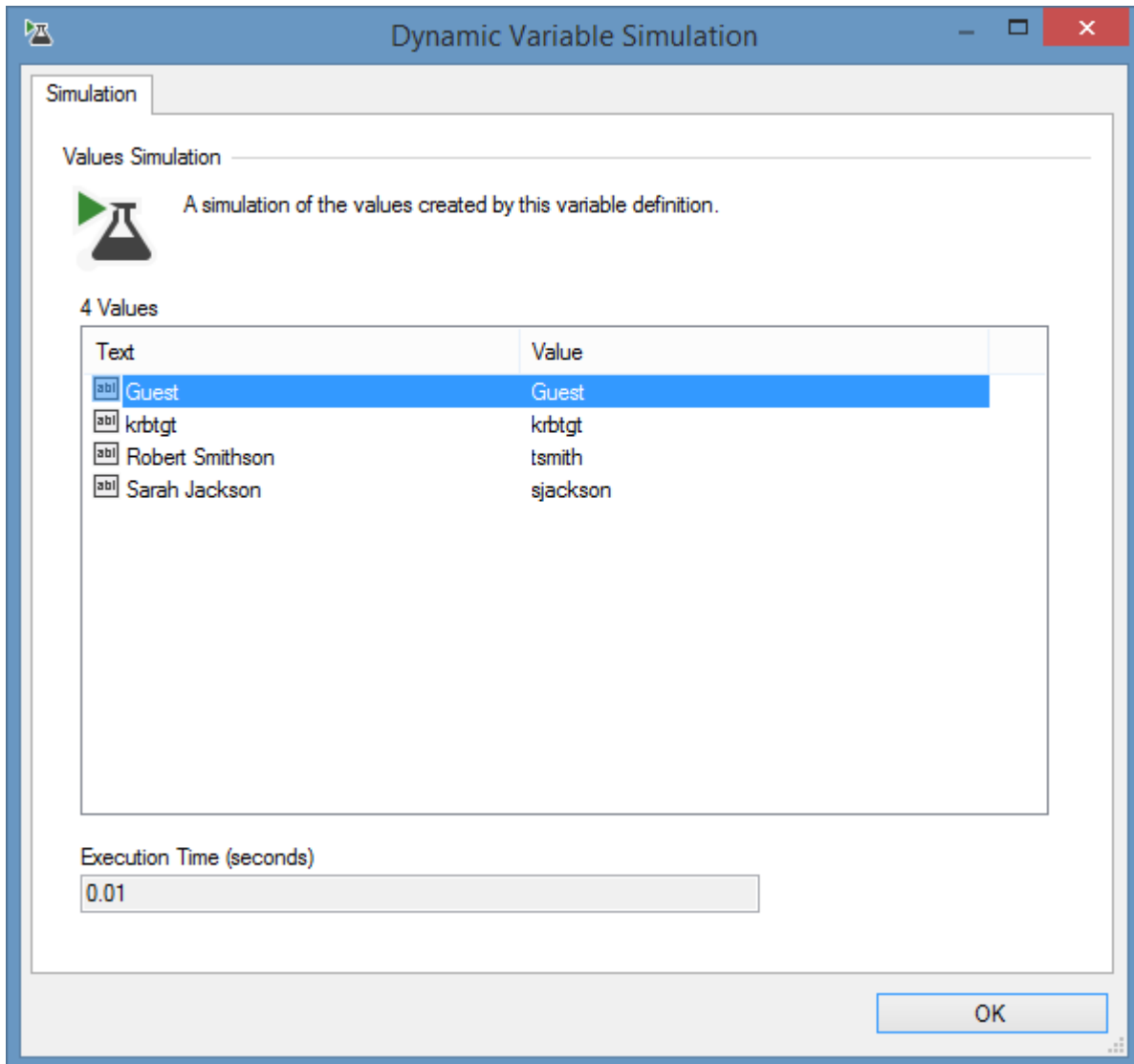
The [Microsoft Active Directory Authentication Library for Microsoft SQL Server](#) has not been installed.

Resolution

Download and install the [Microsoft Active Directory Authentication Library for Microsoft SQL Server](#) on the machine running [XIA Automation Server](#).

Dynamic Variable Simulation

The dynamic variable simulation dialog executes a [dynamic variable definition](#) and displays the values that would be displayed to the user.



Values

The values that would be displayed to the user by the [dynamic variable definition](#).

Execution Time (seconds)

The time taken to execute the [dynamic variable definition](#) in seconds.

System Variables

System variables are built-in [variable definitions](#) managed by [XIA Automation Server](#) and can be identified as they start with the \$ character.

\$ComputerDomainName

The fully qualified domain name of the Active Directory domain to which the machine running [XIA Automation Server](#) is a member - for example "demonstration.int".

\$DateShortString

The current date in the short date format.

The short date format is determined by the Windows regional settings configured for the machine running [XIA Automation Server](#).

\$DateString

The current date in the long date format.

The long date format is determined by the Windows regional settings configured for the machine running [XIA Automation Server](#).

\$Now

The current date and time in [System.DateTime](#) format.

\$TimeShortString

The current time in the short time format.

The short time format is determined by the Windows regional settings configured for the machine running [XIA Automation Server](#).

\$TimeString

The current time in the long time format.

The time date format is determined by the Windows regional settings configured for the machine running [XIA Automation Server](#).

\$MachineName

The NetBIOS name of the machine running [XIA Automation Server](#).

\$ProfileIdentifier

The unique identifier of the [automation profile](#) being executed in [GUID](#) format.

\$ProfileName

The unique name of the [automation profile](#) being executed.

\$ServiceAccount

The account name of the [web server application pool account](#) - for example DEMONSTRATION\XiaAutomation.

\$UserAccount

The account name of the user executing the [automation profile](#) - for example DEMONSTRATION\Tariq.Razzaq.

\$Username

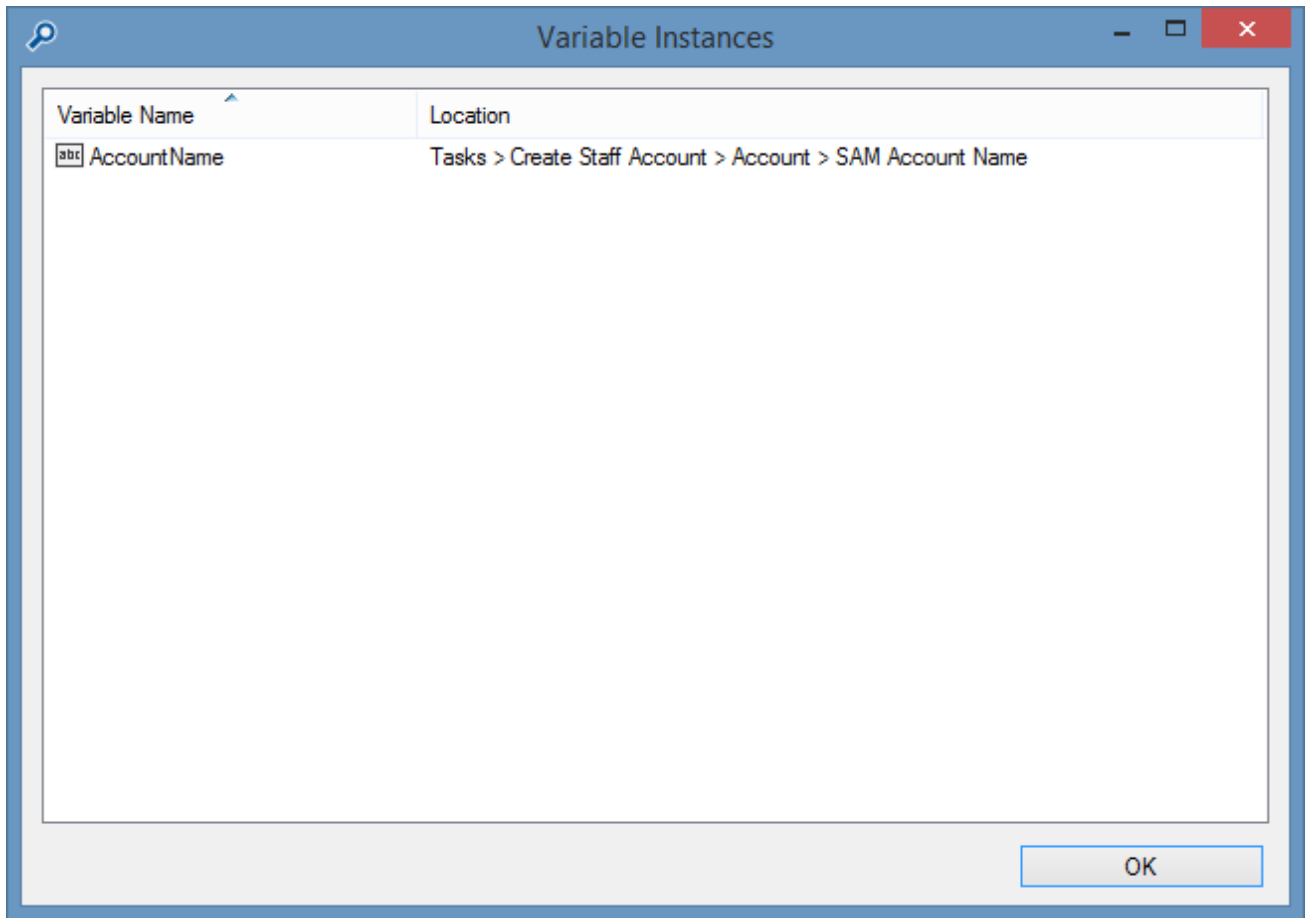
The user name of the user executing the [automation profile](#) without the domain name - for example Tariq.Razzaq.

\$Version

The version of [XIA Automation Server](#) for example 4.0.1.12.

Variable Instances

The variable instances dialog displays where in the configuration of an [automation profile](#) the specified [variable definitions](#) are implemented.



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Last revised 11th June 2021

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Any supplemental SOFTWARE PRODUCT(S) provided to YOU as part of the SUPPORT SERVICES shall be considered part of the SOFTWARE PRODUCT and subject to the terms and conditions of this AGREEMENT. With respect to technical information YOU provide to CENTREL SOLUTIONS as part of the SUPPORT SERVICES, CENTREL SOLUTIONS may use such information for its business purposes, including for SOFTWARE PRODUCT support and development.

Should the LICENSEE wish to report an issue relating to the SOFTWARE PRODUCT, the LICENSEE agrees to report the issue using the “Log Support Call” page of the CENTREL SOLUTIONS web site. The LICENSEE agrees to use the TeamViewer product from TeamViewer GmbH, for remote support. More information on TeamViewer can be found at <https://www.teamviewer.com>.

CENTREL SOLUTIONS may restrict or otherwise discontinue SUPPORT SERVICES provided to the LICENSEE if the SOFTWARE PRODUCT installed by the LICENSEE is more than one major release behind the currently available version of the SOFTWARE PRODUCT.

12. TERMINATION.

Without prejudice to any other rights or remedies, CENTREL SOLUTIONS may terminate this AGREEMENT immediately by written notice to YOU if YOU commit a material or persistent breach of this AGREEMENT which YOU fail to remedy (if remediable) within 14 days after the service of written notice requiring YOU to do so. On termination for any reason, the LICENSEE must destroy all copies of the SOFTWARE PRODUCT and all of its component parts including any related documentation.

13. TAX.

CENTREL SOLUTIONS delivers its software electronically. YOU should confirm that YOUR local, state, or federal government does not impose any sales or use tax on electronically delivered software. YOU are entirely liable for any such sales or use tax.

14. PERSONAL DATA.

CENTREL SOLUTIONS does not lend, lease, sell, or market information it obtains from its customers or those who provide us personally identifiable information. CENTREL SOLUTIONS does not disclose purchase information or licensing information to third parties.

CENTREL SOLUTIONS collects personally identifiable information whenever YOU purchase/license a CENTREL SOLUTIONS product or service. Information includes Name, Address, Phone Number, Email address, Product Purchases, Licenses Owned, Employee/Contact Details, etc. The information we collect allows CENTREL SOLUTIONS to communicate with YOU regarding upcoming product updates, new product releases, company news and other important business matters.

CENTREL SOLUTIONS may disclose or report Confidential Information in limited circumstances where it believes in good faith that disclosure is required under the law.

The CENTREL SOLUTIONS privacy policy can be viewed online at the following address <https://www.centrel-solutions.com/company/privacy-policy.aspx>

15. USE OF YOUR ACCOUNT.

YOUR election to use the SOFTWARE PRODUCT indicates YOUR acceptance of the terms of this AGREEMENT. YOU are responsible for maintaining confidentiality of YOUR username, password and other sensitive information. YOU are responsible for all activities that occur in YOUR user account and in case of any unauthorized activity on YOUR account, YOU agree to inform CENTREL SOLUTIONS immediately by any method listed on the CENTREL SOLUTIONS website’s Contact page. CENTREL SOLUTIONS is not responsible for any loss or damage to YOU or to any third party incurred as a result of any unauthorized access and/or use of YOUR user account, or otherwise.

16. THIRD PARTY CONTROLS.

This section is intentionally blank.

17. AGREEMENT.

This AGREEMENT constitutes the entire agreement between us and supersedes and extinguishes all previous agreements, promises, assurances, warranties, representations and understandings between us, whether written or oral, relating to its subject matter. YOU agree that YOU shall have no remedies in respect of any statement, representation, assurance or warranty (whether made innocently or negligently) that is not set out in this AGREEMENT. YOU agree that you shall have no claim for innocent or negligent misrepresentation or negligent misstatement based on any statement in this AGREEMENT.

This AGREEMENT, its subject matter and its formation (and any non-contractual disputes or claims) are governed by English law. CENTREL SOLUTIONS and YOU both irrevocably agree to the exclusive jurisdiction of the courts of England and Wales.

18. MISCELLANEOUS.

This AGREEMENT may only be modified or amended by YOU if the modification or amendment is approved in writing and signed by an authorized officer of CENTREL SOLUTIONS. If any provision of this AGREEMENT is found void or unenforceable, the remainder will remain valid and enforceable according to its terms. If any remedy provided is determined to have failed for its essential purpose, all limitations of liability and exclusions of damages set forth in the Limited Warranty shall remain in effect.

If we have to contact YOU, we will do so by email or post to the address YOU provided in accordance with your purchase of the LICENSE.

Any notice given by CENTREL SOLUTIONS to YOU will be deemed received and properly served 24 hours after an email is sent, or three days after the date of posting of any letter. Any notice given by YOU to CENTREL SOLUTIONS to will be deemed received and properly served three days after the date of posting of any letter.

CENTREL SOLUTIONS reserves all rights not specifically granted in this AGREEMENT.

Should YOU have any questions concerning this AGREEMENT, contact us directly on +44 (0)1865 589216 or write to

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