



HERMES Installation Guide (10.6)

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Document Version History

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| 1.1 | 08/11/2022 | Draft from EOS Document | DB |

Related Documents

| DOC REF | Document title | Document description |
|---------|----------------|----------------------|
| | N/A | |

Introduction & Scope

Applicable Versions: **Alemba Service Manager HERMES, v10.6** and above

Alemba no longer provides a Patch MSI or Setup EXE file for install or upgrade.

We have found that this process is out of sync with current trends and maintaining these install tools is preventing improvements in the design, development, test, release, and maintenance processes.

We believe that ASM will be easier to install, own and operate without the old install process.

ASM Gaia (v10.4) marks the last release which supports the old installation process.

ASM Eos (v10.5) and ASM Hermes (v10.6) is geared towards automated installation on cloud environments.

📌 If you currently have a version of ASM earlier than v10.5.1, ASM is going to be removed and reinstalled during the upgrade process.

📌 Any screen designs used in this document are used to represent the solution and may differ from what is delivered.

Exclusions

None

Summary of the Automated Installation Process

Below are the steps the automated installer performs. If monitoring the installation, you will be able to follow along with this list. Space is available for you to take notes during the process.

Installation Checklist:

| # | ITEM |
|----|---|
| 1 | Check for PowerShell 5 or later |
| 2 | Check current user is a member of the built in Administrator role |
| 3 | Find package.zip |
| 4 | Install Azure Platform Utilities if on Azure and that ASM KeyVault environment variable is set. |
| 5 | Validate install parameters. Parameters are gathered in the following order: <ul style="list-style-type: none">• from script arguments• from Azure Key Vault secrets (if ASM KeyVault is set for the environment)• environment variables (prefixed with ASM_)• user input (if interactive) |
| 6 | Validate database connection string |
| 7 | Uninstall ASM Gaia or earlier |
| 8 | Disable Windows Defender Realtime monitoring |
| 9 | Extract files to ALEMBA_PATH\staging |
| 10 | Stop ASM services |
| 11 | Check if upgrade is supported <ul style="list-style-type: none">• Only if it's a minor upgrade e.g. 10.5.1 to 10.5.2• If not, the existing version will be removed before the install continues |
| 12 | Install pre-requisites <ul style="list-style-type: none">• Windows features• .Net Core |
| 13 | Uninstall existing version of ASM if necessary |
| 14 | Copy files for each system |
| 15 | Remove existing files (if necessary) |
| 16 | Copy new files |
| 17 | Update registry |

- 18 Configure IIS
- 19 Configure IIS and registry for each system
- 20 Install ASM services
- 21 Configure connection string and update database for each system
- 22 Start services
- 23 Verify installation using health-status page
- 24 Restore Windows Defender Realtime monitoring
- 25 Reboot to complete install of pre-requisites if required.

Prerequisites

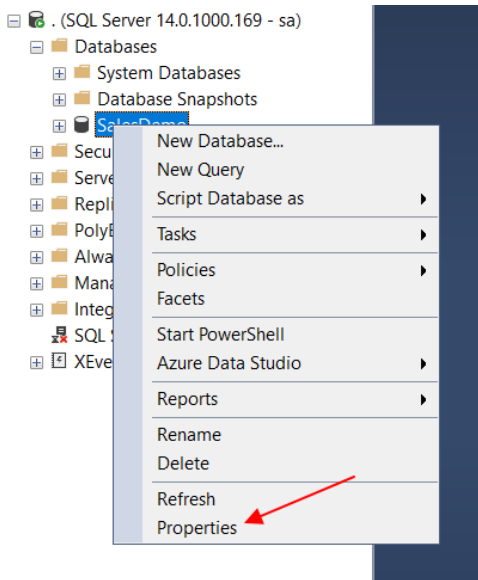
Summary Checklist:

| VERIFIED Y/N | CRITICALITY | ITEM |
|-----------------|--|---|
| | SQL 2019 | From EOS (10.5.X) , SQL 2019 or later is necessary if you wish to create a new database |
| | PowerShell >5.0 | |
| | User is Administrator | |
| | Key Vault | |
| | ADO net connection String | |
| | Host Name | |
| | System Name | |
| | Certificate Thumbprint | |
| | Certificate Store Location | |
| | Download Prerequisites | |
| | License Key Text | |
| | Ensure Outlook is not installed on the Application Server | |
| | Minimum 8GB RAM, Recommended 16GB RAM in Production Environments | |

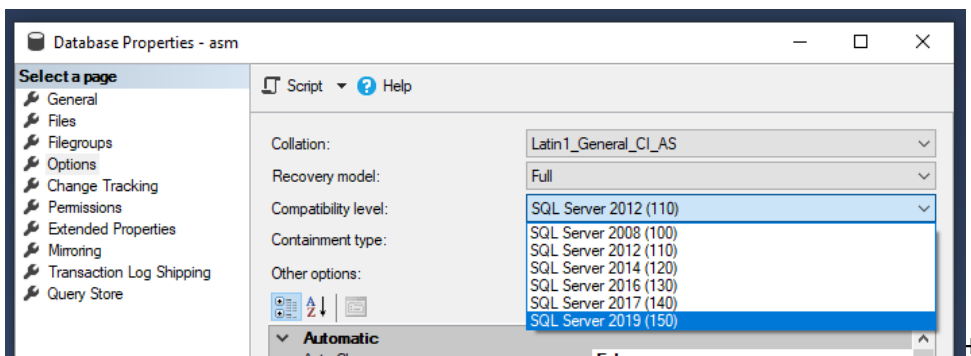
ADDITIONAL INFORMATION:

SQL Server 2019

From EOS (10.5.X), SQL 2019 or later is necessary if you wish to create a new database. You can check it by opening the Properties:



Go to Options and click on the Compatibility Level:



There should be a SQL Server 2019 option.
Please note, you need the Full Text Search feature for SqlServer.

Upgrading/Installing ASM to HERMES

Step by Step Guide

1. Getting the install files - PowerShell Script

There are 2 ways to start the upgrade/install ASM; This is the recommended approach: Run PowerShell V5 or later as an Administrator and execute the following script:

```
Set-ExecutionPolicy -ExecutionPolicy Unrestricted -Scope Process -Force;  
Invoke-WebRequest "https://alembareleases.blob.core.windows.net/asm-  
core/hermes_latest" -OutFile "$env:TEMP\Download_ASMCore.ps1"; Invoke-  
Expression "$env:TEMP\Download_ASMCore.ps1";
```

The script will download the necessary files and prompt for various information as required GO TO STEP 3

The following values can be set using environment variables for non-interactive installation and can also be set as arguments for the command

e.g. Invoke-Expression “.\windows-install.ps1 -connectionString \$connectionstring”

WIN

2. Getting the install files - Non-Interactive Installation

The install process also supports non-interactive installation (e.g. via remote PowerShell) if your application server does not have a direct Internet Connection.

1. In this case, all parameters must be set either as machine level environment variables or must be added to the registered key vault before install.ps1 is executed.

```
[Environment]::SetEnvironmentVariable("ASM_ConnectionString",  
"Server=localhost;Database=asm;User ID=sa;Password=password", 'Machine')
```

2. Download package.zip and install.ps1 and copy these files to the same location on your server

You can download the files manually from here:

[https://alembareleases.blob.core.windows.net/asm-core/\[HermesBuildNumber\]/package.zip](https://alembareleases.blob.core.windows.net/asm-core/[HermesBuildNumber]/package.zip)

[https://alembareleases.blob.core.windows.net/asm-core/\[HermesBuildNumber\]/Windows-Install.ps1](https://alembareleases.blob.core.windows.net/asm-core/[HermesBuildNumber]/Windows-Install.ps1)

The [HermesBuildNumber] can be found in the Hermes Release Notes e.g. "Hermes10.6.5.1x"

3. Run PowerShell as an administrator and execute Windows-Install.ps1

3. Entering parameters

After downloading the files, the process will start and the script will ask for parameters as an interactive installation:


```
PS C:\Users\Administrator> $Release = "eos_latest"; Invoke-WebRequest "https://alembareleases.blob.core.windows.net/asm-core/$Release" -OutFile $env:TEMP\Download_ASMCore.ps1; Invoke-Expression $env:TEMP\Download_ASMCore.ps1
Starting installation of Alemba Service Manager: Eos 10.5.1.10555
Download Eos 10.5.1.10555
Start Windows Install
Writing install log to 'C:\temp\install.20210707-132348.log'

[00:00:00.1255683] Gather Installation Parameters
Gather Installation Parameters
Enter a value for Connection String:
Enter a value for Hostname (press enter to use 'localhost'): localhost
Enter a value for System Name (press enter to use 'production'): Test
Enter a value for Certificate Thumbprint:
Enter a value for Certificate Store Location (press enter to use 'My'):
Enter a value for Install prerequisites [y or n] (press enter to use 'y'): y
Enter a value for Replace existing versions [y to replace (recommended) or n to modify] (press enter to use 'y'): y
Enter a value for Optional modules ['all', 'none' or any of 'alemba.web.windows', 'infra.api.wstester', 'infra.console', 'dashboard.platform'] (press enter to use 'none'): all
Enter a value for Licence Key text for ASM:

CurrentUser      win-itf015r27tj\Administrator
InstallLocation  C:\alemba
ConnectionString  localhost
SystemName       Test
sslCertificateThumbprint
sslCertificateStore  My
InstallPrerequisites  y
CleanInstall       y
OptionalModules    all
LicenceKey
```

1. Key Vault - Cloud systems

This is the name of the key vault which has been configured for access by your Azure Virtual Machine

 This setting is entirely optional and is only applicable to systems running in Alemba Cloud.

| | |
|---------------------------|--------------|
| Parameter Name | KeyVault |
| Environment Variable Name | ASM_KeyVault |
| Default | Null |
| Example | mykeyvault |

2. Connection String

This is the ADO Net connection string used to connect to the ASM database

The way we deal with this connection string has been simplified to help support more advanced scenarios such as Windows Authentication

See <https://docs.microsoft.com/en-us/dotnet/framework/data/adonet/connection-string-syntax>

Even if you had a running ASM before (if it's not EOS), you have to enter the following variables:

- Server name
- Database name
- User ID
- Password

| | |
|---------------------------|--|
| Parameter Name | ConnectionString |
| Environment Variable Name | ASM_ConnectionString |
| Default | Null |
| Example | Server=asm-server;Database=asm;UserId=MyUser;Password=MyPassword |

3. Hostname

This is the URL which will be used to access ASM over the network and will be used to configure IIS

| | |
|---------------------------|-------------------------|
| Parameter Name | Hostname |
| Environment Variable Name | ASM_Hostname |
| Default | localhost |
| Example | support.alembacloud.com |

4. System Name

This name refers to the ASM instance and is used to determine the base URL for the ASM system

Assuming you use the default name of production, you would access ASM using <https://support.alembacloud.com/production/core.aspx>

| | |
|---------------------------|----------------|
| Parameter Name | systemName |
| Environment Variable Name | ASM_systemName |
| Default | production |
| Example | production |

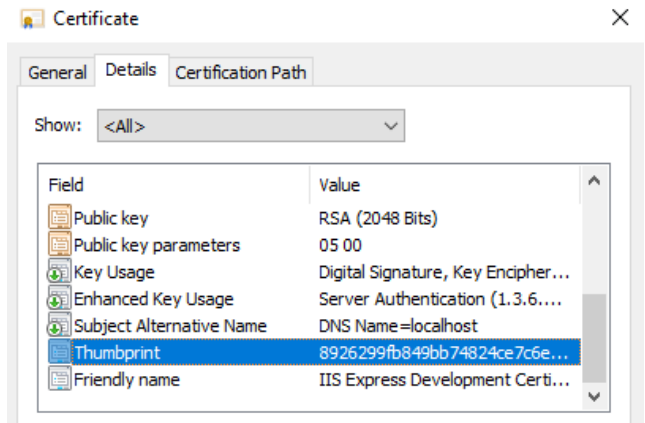
5. Certificate Thumbprint

The installation can configure HTTPS bindings for the system, but a suitable certificate must be installed on the server prior to running the installation.

Please consider that the IIS worker process must have suitable permissions to access the certificate and ASM is configured to use Application Pool Identity by default.

The certificate thumbprint is used as a unique identifier for the certificate and can be found in the certificate properties

See the related section in [https://docs.microsoft.com/en-](https://docs.microsoft.com/en-us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-ps)



[us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-](https://docs.microsoft.com/en-us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-ps)
[ps](https://docs.microsoft.com/en-us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-ps) for further information

| | |
|---------------------------|---|
| Parameter Name | <code>sslCertificateThumbprint</code> |
| Environment Variable Name | <code>ASM_sslCertificateThumbprint</code> |
| Default | Null |

6. Certificate Store Location

The installation can configure HTTPS bindings for the system, but a suitable certificate must be installed on the server prior to running the installation.

This setting defines the install location of the certificate on the local server

See the related section in [https://docs.microsoft.com/en-](https://docs.microsoft.com/en-us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-ps)
[us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-](https://docs.microsoft.com/en-us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-ps)
[ps](https://docs.microsoft.com/en-us/powershell/module/iisadministration/new-iissitebinding?view=windowsserver2019-ps) for further information

| | |
|---------------------------|--|
| Parameter Name | <code>sslCertificateStore</code> |
| Environment Variable Name | <code>ASM_sslCertificateStore</code> |
| Default | My |
| Accepted Values | Cert:\LocalMachine\My, Cert:\LocalMachine\WebHosting, My, WebHosting |


7. Install prerequisites

The installation will install all prerequisites by default. When this value is set to n the system administrator assumes responsibility for installing windows features and all other prerequisites.

| | |
|---------------------------|---------------------------------------|
| Parameter Name | <code>InstallPrerequisites</code> |
| Environment Variable Name | <code>ASM_InstallPrerequisites</code> |
| Default | y |
| Accepted Values | y, n |

8. Replace existing versions

When this value is set to y, the installation will install reset all IIS configuration during the installation process.

 This is the recommended approach and system administrators are advised to capture any non-standard configuration in a PowerShell script to run as part of their upgrade process

| | |
|---------------------------|-------------------------------|
| Parameter Name | <code>CleanInstall</code> |
| Environment Variable Name | <code>ASM_CleanInstall</code> |
| Default | y |
| Accepted Values | y, n |

9. Optional Modules

Specify one or more non-critical modules to install

| | |
|---------------------------|---|
| Parameter Name | <code>optionalModules</code> |
| Environment Variable Name | <code>ASM_optionalModules</code> |
| Default | none |
| Accepted Values | <code>all, alemba.web.windows, infra.api.wstester, infra.console, dashboard.platform</code> |

ALEMBA.WEB.WINDOWS

Used to support integrated windows authentication

Alemba recommends using SAML or Open ID instead of this legacy authentication method

INFRA.API.WSTESTER

Install the standard test harness for the classic API
Further configuration is required post installation.

INFRA.CONSOLE

Install the ASM Server Console
Required for Workflow Import/Export.

DASHBOARD.PLATFORM

You need to install this module again even if you had running Dashboards before. In this case only the IIS configurations are going to be reset.

Installs the Syncfusion Dashboard Platform. Requires further manual configuration.

10. Licence Key text

| | |
|---------------------------|----------------|
| Parameter Name | LicenceKey |
| Environment Variable Name | ASM_LicenceKey |
| Default | none |

FAQ

What if I don't want the latest version?

Alemba maintains a version for each major release, each minor release and for each build.

Major: hermes_latest

Minor: hermes_10_6_X

The major release is updated whenever a new minor version is published.

The minor release is updated whenever a new version is published for that minor version.

The latest version for all releases can also be accessed using the release name "latest" e.g., "hermes_latest"

Why isn't the Server Console installed?

Alemba is transitioning to a serverless model. The Server Console will be removed entirely in a future release and is provided for ease of adoption

The server console is not installed by default. All functions of the server console are accessible via PowerShell and Alemba recommends using the new PowerShell scripts for the few settings which were previously managed via the server console

If necessary, the server console can be added at install time by specifying the optional module by name

```
C:\alemba\install\windows-install.ps1 -dbserver... -optionalModules infra.console
```

The install process will add a desktop shortcut to the All-Users profile

Another version of Alemba Service Manager is already installed. Please uninstall and try again

The install process cannot support upgrading your old installation. The install process will attempt to uninstall existing versions of ASM, and this does require user input. If the installation is performed non-interactively (e.g., using remote PowerShell) the installation will abort if older versions of ASM are already installed

How do I prevent the Unicode conversion?

ASM is no longer supported on databases using a non-Unicode schema.

The install will convert any existing data to Unicode during the installation process

How to add a new system?

Alemba recommends using one application server per ASM instance. The option to create more than one system is not recommended but a method is provided for advanced use cases.

Execute windows-install.ps1 and provide a new system name and connection string.

The installer will create the new system and will also update any existing systems as necessary

How do I connect a new server to an existing database?

Use the installation process to install ASM. The installation process will not modify the database if it has already been upgraded to the installed version

MAPI doesn't work

MAPI is no longer a supported Email Protocol.

MS Graph API(Preferred) or EWS should be used instead of MAPI.

Login Error - A task was cancelled

Your server probably doesn't have enough memory.

You must allocate at least 8GB RAM plus additional capacity for other programs such as web browsers

Install Error - Unable to read data from the transport connection

When the ASM install is triggered using PowerShell a transport error can occur during download of one of the files

```
PS C:\Users\Administrator> $release = "eos_10_5_1_10611"; Invoke-WebRequest "https://alembareleases.blob.core.windows.net/asm-core/$release" -OutFile "$env:TEMP\Download_ASMCore.ps1"; Set-Location $env:TEMP; .\Download_ASMCore.ps1;
Starting installation of Alemba Service Manager: Eos 10.5.1.10611
Download Eos 10.5.1.10611
Invoke-WebRequest : Unable to read data from the transport connection: An existing connection was forcibly closed by
the remote host.
At C:\Users\Administrator\AppData\Local\Temp\Download_ASMCore.ps1:22 char:9
+ Invoke-WebRequest "$storageUrl/$release/package.zip" -OutFile ..
+ ~~~~~
+ CategoryInfo          : NotSpecified: (:) [Invoke-WebRequest], IOException
+ FullyQualifiedErrorId : System.IO.IOException,Microsoft.PowerShell.Commands.InvokeWebRequestCommand
```

This error is caused by problems with connectivity between the windows server and the Azure Storage Account.

The files can be downloaded using a web browser. The following files are required

Windows-install.ps1

Package.zip

Both files must be copied to the same folder on the server, and both must retain the exact file name above.

Open a PowerShell terminal and optionally set environment variables as described above, then execute windows-install.ps1. This PowerShell script accepts a number of parameters, type `-{tab}` in PowerShell for more information

The Server Console is not installed

The Server Console is deprecated and will be removed from future versions of ASM. It can be installed for advanced support scenarios.

It is not installed by default, but you can specify the optional module at install time.

When it is installed, the Server Console does not appear in the start menu.

You can open serverconsole.msc from "C:\alemba\service manager\services\ServerConsole.msc"

A desktop shortcut is also added to the All-Users profile.

Install fails to download or install prerequisites

The following dependencies are downloaded and installed automatically.

If these files cannot be downloaded automatically, they can be copied to c:\temp\alemba prior to running the installation

| NAME | LOCATION | SOURCE | CHECKSUM |
|--|--|---|--|
| MICROSOFT VISUAL C++ 2010 SP1 REDISTRIBUTABLE PACKAGE | c:\temp\alemba\vc redist_x64.exe | http://download.microsoft.com/download/1/6/5/165255E7-1014-4D0A-B094-B6A430A6BFFC/vcredist_x64.exe | 3AF3DCAAD4FC9651DCE 75C75A85BCA0B15782A1 90F0FBB4AE21A6182CBC 2F78138AA8FF26B350EFE F302F95C74B1808B2436A A199D43A5EE17FD0796A 79C405B |
| ASP.NET CORE 5.0.7 WINDOWS HOSTING BUNDLE | c:\temp\alemba\dotnet-hosting-5.0.7-.exe | https://download.visualstudio.microsoft.com/download/pr/c887d56b-4667-4e1d-9b6c-95a32dd65622/97e3eef489af8a6950744c4f9bde73c0/dotnet-hosting-5.0.8-win.exe | a388a3e6aa9f061ea65e897 0f5a76c8afa7e429cab3f6e0 ef6775f029a49c96e73606a be6a7e48c2d68485b74120 d9daa10f5a6d66867aaf3a6 afd8eab2f0936 |

Checksum error

Installation of prerequisites may fail if the downloaded installer is invalid.

This could happen if an earlier attempt to download the file is aborted.

If the downloaded file does not match the expected checksum, the file will be deleted, and you should restart the installation. The install process will download the file again and attempt to install.

```
Install prerequisites
Checksum error for ASP.NET Core 5.0 Windows Hosting Bundle (C:\temp\alemba\dotnet-hosting-5.0.7-win.exe). The file has
been deleted. Please try again
At C:\Scheduler\scripts\install-prerequisites.ps1:24 char:13
+         throw "Checksum error for $display ($filepath). The file ..."
+ ~~~~~
+ CategoryInfo          : OperationStopped: (Checksum error ...lease try again:String) [], RuntimeException
+ FullyQualifiedErrorId : Checksum error for ASP.NET Core 5.0 Windows Hosting Bundle (C:\temp\alemba\dotnet-hostin
g-5.0.7-win.exe). The file has been deleted. Please try again
```

Something else went wrong, where is the upgrade log?

The console output is the log. It captures all output from all steps in the upgrade process.

If you start the installation using the recommended approach (described earlier in this document) a log will be created in c:\temp\logs (where c: is the system drive)

All console output is written to this log file.

If you download the zip and install script manually, you must also make provision for capturing the console output. We recommend using Tee-Object so you can monitor console output and write the output to a file

e.g.

```
Invoke-Expression "powershell.exe 'install.ps1'" | Tee-Object -FilePath 'c:\temp\install.log';
```

Where can find the log if the installation has failed?

Go to c:\temp and the a log file should be there with a name: instal.yyyymmdd-tttt

How-To: Administration using PowerShell Scripts

Import-Module AlembaUtils

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\KrisTrigg> Import-Module AlembaUtils
Importing function Get-ServiceManagerSystemAdminModule
Importing function Get-ServiceManagerSystemNames
Importing function Get-ServiceManagerSystemPath
Importing function Get-ServiceManagerSystemProperty
Importing function Get-ServiceManagerVersion
Importing function Invoke-QueryParser
Importing function Invoke-SQL
Importing function Invoke-SQLReader
Importing function Invoke-SQLScript
Importing function Set-ServiceManagerUserPassword
Importing function Set-ServiceManagerSystemProperty
PS C:\Users\KrisTrigg>
```

Use Get-Help (PowerShell Feature) to display information about each function

An example: Changing and getting the value of Time Out

1. get-help Set-ServiceManagerSystemProperty
2. In the received information, you find: "Set-ServiceManagerSystemProperty -SystemName production -Name TimeOut -Value 240" --> Change the value to the desired one and enter it as a new command: Set-ServiceManagerSystemProperty -SystemName production -Name TimeOut -Value 300
3. To get the information about the new TimeOut Value: The Syntax section helps you:

From:

```
SYNTAX
Set-ServiceManagerSystemProperty [[-Value] <Object>] [[-Name] <String>] [[-SystemName] <String>] [<CommonParameters>]
```

To:

Get- ServiceManagerSystemProperty -Name TimeOut -SystemName "production"

```
PS C:\Users\KrisTrigg> Get-Help Invoke-SQL
NAME
Invoke-SQL
SYNOPSIS
Execute a sql query using the database for a Service Manager system
SYNTAX
Invoke-SQL [[-System] <Object>] [[-SQL] <String>] [[-Parameters] <Hashtable>] [<CommonParameters>]
DESCRIPTION
Execute a sql query using the database for a Service Manager system
Does not return any results
RELATED LINKS
REMARKS
To see the examples, type: "get-help Invoke-SQL -examples".
For more information, type: "get-help Invoke-SQL -detailed".
For technical information, type: "get-help Invoke-SQL -full".
```

AlembaUtils functions

Get-ServiceManagerSystemAdminModule

.SYNOPSIS
Get the admin module for a named ASM system

.DESCRIPTION
Get the admin module for a named ASM system

.PARAMETER SystemName
The name of the Service Manager system

.EXAMPLE
Get-ServiceManagerSystemAdminModule -SystemName production

Get-ServiceManagerSystemNames

.SYNOPSIS
Get a list of installed alemba systems

.DESCRIPTION
Get all local alemba system names as an array of strings

.EXAMPLE
Get-ServiceManagerSystemNames

Get-ServiceManagerSystemPath

.SYNOPSIS
Get the install path for a named Service Manager System

.DESCRIPTION
Returns the path to the system folder for a named system

.PARAMETER SystemName
The name of the Service Manager system

.EXAMPLE
Get-ServiceManagerSystemPath -
SystemName production => C:\alemba\Service Manager\web\systems\production\

Get-ServiceManagerSystemProperty

.SYNOPSIS
Get the current value of a specified system property for a named Service Manager system

.DESCRIPTION
Returns the string value of the specified system property

.PARAMETER SystemName
The name of the Service Manager system

.EXAMPLE
Get-ServiceManagerSystemProperty -SystemName production -Name Timeout => "120"

Get-ServiceManagerVersion

.SYNOPSIS

Get the version of Alemba Service Manager

.DESCRIPTION

Returns a Version value representing the currently installed version of Alemba Service Manager

.EXAMPLE

```
Get-ServiceManagerVersion =>
  Major  Minor  Build  Revision
  -----
  10     5      1      12345
```

Invoke-QueryParser

.SYNOPSIS

Parse Queries for the named system

.DESCRIPTION

Executes the parse queries process for the named Alemba Service Manager system
You must restart web and windows services after executing this function

.PARAMETER SystemName

The name of the Service Manager system

.EXAMPLE

```
Invoke-QueryParser -SystemName production
```

Invoke-SQL

.SYNOPSIS

Execute a sql query using the database for a Service Manager system

.DESCRIPTION

Execute a sql query using the database for a Service Manager system
Does not return any results

.PARAMETER System

The name of the Service Manager system or a reference to the System Admin Module for the named system

For optimal performance, pass a reference to an existing instance of a System Admin Module when you plan to iteratively execute many sql queries

.PARAMETER SQL

The SQL query text

e.g. "select NAME from SU_CALL_PRIORITY where REF = @REF"

.PARAMETER Parameters

Optional hashtable of SQL Query parameters

e.g. @{ REF = 1, NAME = "Priority 1" }

Types must conform to known SQL Server Data Types. These are usually [int32] and [string] and in these cases the types are inferred

.EXAMPLE

```
Invoke-SQL -System production -
SQL "select Name from SU_CALL_PRIORITY where REF = @REF" -Parameters @{ REF = 1; }
```


Invoke-SQLReader

.SYNOPSIS

Execute a sql query using the database for a Service Manager system

.DESCRIPTION

Execute a sql query using the database for a Service Manager system

Returns results as an array of hashtables

e.g. `@(@{ REF = 1; NAME = "P1"; }; @ { REF = 2; NAME = "P2"; };)`

.PARAMETER System

The name of the Service Manager system or a reference to the System Admin Module for the named system

For optimal performance, pass a reference to an existing instance of a System Admin Module when you plan to iteratively execute many sql queries

.PARAMETER SQL

The SQL query text

e.g. `"select NAME fromSU_CALL_PRIORITY where REF = @REF"`

.PARAMETER Parameters

Optional hashtable of SQL Query parameters

e.g. `@{ REF = 1, NAME = "P1" }`

Types must conform to known SQL Server Data Types. These are usually [int32] and [string] and in these cases the types are inferred

.EXAMPLE

```
Invoke-SQLReader -System production -  
SQL "select Name from SU_CALL_PRIORITY where REF = @REF" -Parameters @{ REF = 1; }
```

Invoke-SQLScript

.SYNOPSIS

Execute a sql queries from a file using the database for a Service Manager system

.DESCRIPTION

Execute a sql queries from a file using the database for a Service Manager system

Does not return any results

Use GO; on a new line to separate scripts within the file

.PARAMETER System

The name of the Service Manager system or a reference to the System Admin Module for the named system

For optimal performance, pass a reference to an existing instance of a System Admin Module when you plan to iteratively execute many sql queries

.PARAMETER FileName

Path to a file containing SQL commands.

The path can be relative to the current working directory

.EXAMPLE

```
Invoke-SQLScript -System production -FileName ".\script.sql"
```

Set-ServiceManagerUserPassword

.SYNOPSIS

Set a new password for an existing ASM user

.DESCRIPTION

Set a new password for an existing ASM user

Only applicable when using ASM Password authentication

This is intended to be used to securely restore admin access to a system when no other user can access ASM

.PARAMETER SystemName

The name of the Service Manager system

.PARAMETER Username

The username (USER_ID) of the ASM User Account

.PARAMETER Password

The new password

.EXAMPLE

```
Set-ServiceManagerUserPassword -SystemName production -Username "admin.user" -  
Password *****
```

Set-ServiceManagerSystemProperty

.SYNOPSIS

Set system properties for a Service Manager system

.DESCRIPTION

Execute a sql queries from a file using the database for a Service Manager system

Does not return any results

Use GO; on a new line to separate scripts within the file

.PARAMETER SystemName

The name of the Service Manager system

.PARAMETER Name

The name of the system property

.PARAMETER Value

The value of the system property

.EXAMPLE

```
Set-ServiceManagerSystemProperty -SystemName production -Name TimeOut -Value 240
```

.EXAMPLE

```
Set-ServiceManagerSystemProperty -SystemName production -Name CurrencySign -  
Value "€"
```

| Value | Type | Example |
|-------------------|---------|--|
| TimeOut | Int32 | -Name TimeOut -Value 120 |
| LiteTimeout | Int32 | -Name LiteTimeout -Value 60 |
| DefaultDateFormat | String | -Name DefaultDateFormat -Value "yyyyMMdd" |
| CurrencySign | String | -Name CurrencySign -Value "£" |
| MMAURL | String | -Name MMAURL -Value "https://alemba.help/production/core.aspx" |
| LicenceKey | String | -Name LicenceKey -Value \$licenceText |
| EnableVirusCheck | Boolean | -Name EnableVirusCheck -Value \$true |
| ConnectionString | String | -Name ConnectionString -Value \$sqlConnectionString |
| TraceToFilePath | String | -Name TraceToFilePath -Value "c:\temp\logs" |
| EnableTracing | Boolean | -Name EnableTracing -Value \$true |

<https://docs.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings>

<https://docs.microsoft.com/en-us/dotnet/framework/data/adonet/connection-string-syntax>