CONFIGMGR PREREQUISITES TOOL 3.0.5 - DOCUMENTATION
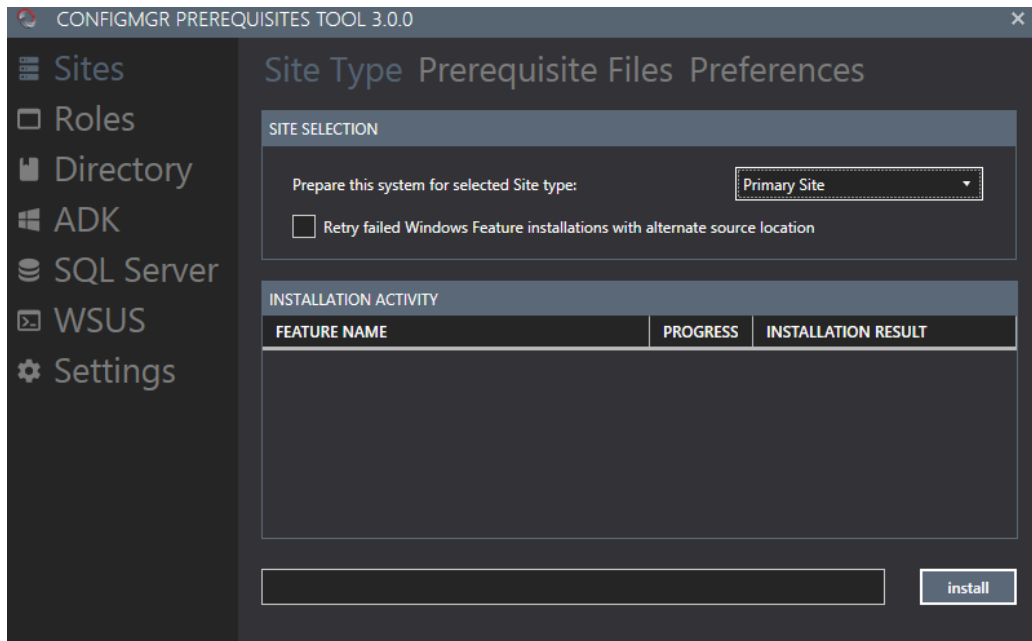
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1 OVERVIEW

Preparing your environment for a successful deployment of System Center Configuration Manager should not be an obstacle or time consuming. Many of the issues that might occur during the initial installation process can often be resolved by making sure that the correct prerequisites are in place.

The ConfigMgr Prerequisites Tool will help you to successfully prepare your environment allowing you to install the required software and Windows features. Below is a list of the tools functionality:

Site types:

- Central Administration Site
- Primary Site
- Secondary Site

And the following Site System roles:

- Management Point
- Distribution Point
- Software Update Point
- State Migration Point
- Application Catalog
- Enrollment Point
- Enrollment Proxy Point
- Certificate Registration Point

In addition to what's mentioned above, the tool will also allow you to:

- Configuration Manager configuration:
  - o Download prerequisite files for Configuration Manager setup
  - o Download and install Windows Assessment and Deployment Kit (ADK)
  - o Create NO_SMS_ON_DRIVE.SMS files to prevent unwanted volumes to be used by Configuration Manager
- Active Directory configuration:
  - o Extend Active Directory schema
  - o Create System Management container in Active Directory
  - o Configure permissions on System Management container
- SQL Server configuration:
  - o Configure SQL Server memory usage settings
  - o Validate SQL Server collation
  - o Pre-create the Configuration Manager database
  - o Configure SSRS database file size settings

1.1 VERSION HISTORY

Previous version of the ConfigMgr Prerequisites Toolkit didn't contain any documentation in this format, and there for is the table below only showing from the current version and onwards.

Version	Release date	Author
3.0.5	2019-10-16	Nickolaj Andersen
3.0.4	2019-01-04	Nickolaj Andersen
3.0.3	2018-05-18	Nickolaj Andersen
3.0.2	2018-02-19	Nickolaj Andersen
3.0.1	2017-10-27	Nickolaj Andersen
3.0.0	2017-08-09	Nickolaj Andersen

1.2 WHAT'S NEW

Version 3.0.5

- Fixed a bug where the old method of using ping to determine internet connectivity has been replaced with WebClient instead to work in restricted network environments that don't allow ping outbound. Also changed the lookup URL for connectivity to 'http://www.msftconnecttest.com/connecttest.txt' instead of 'developer.microsoft.com'.

Version 3.0.4

- With the changes that came in Windows 10 ADK version 1809 (and assumingly onwards) the tool has been updated to support both installation files to also download and install the WinPE add-on. Offline installation for Windows 10 ADK has also been updated with a new drop-down menu to specify the type of installer to ensure that the correct silent installation parameters are being used. See the ADK section for more information.

Version 3.0.3

- Changed the way the tool reads in the available Windows ADK versions. Previous behavior would attempt to scrape the docs.microsoft.com website but since this has proven to be an ineffective way and has required an update to the tool for each new Windows ADK release another approach was required to make the tool stable. From this version and forward, the tool will read the Windows ADK versions and get the download information from a XML feed hosted on www.scconfigmgr.com.

Version 3.0.2

- Fixed an issue when detecting Windows ADK version from the Windows Hardware Dev Center. Downloads for Windows ADK has now been moved to docs.microsoft.com, causing updates to the web parsing section of the tool.

Version 3.0.1

- Fixed an issue when detecting Windows ADK versions from the Windows Hardware Dev Center resulted in an empty list box. This issue occurred after Microsoft updated the web site layout.
- Correct an issue causing the wrong error message to appear when the WSUS Post-Install process fails.

Version 3.0.0

- Version 3.0.0 has been completely re-written in C# and WPF. Every section and operation of the tool has been written to support asynchronous calls whenever possible. With the change from PowerShell to C# a modern design is also introduced including a more simplified tab experience. Another benefit from this language change is that the tool now only consists of a single

executable. It will also automatically require elevation, so that issues around non-elevated privileges are eliminated.

- Primary Site and Central Administration Site windows feature installation now only install the minimum required items for the selected site type to install successfully. Remember to install the windows features for a Management Point and Distribution Point if you plan to host these roles on the same server as the selected site type. A message will appear showing a reminder for this operation.
- The tool now has a Settings section, built to make the tool easier to use. Within the section you can define alternative credentials, setup a connection to a SQL Server and specify what alternative source to use when re-trying a failed windows feature installation.
- Installation of windows features for any site type can now be re-tried with sources files from a specific location containing the operating system files required to install the feature that failed.
- This tool can now also prepare a server for holding the Certificate Registration point role.
- Prerequisite checks for launching the tool has been reduced to only check for a valid operating system type, e.g. Member Server. Support for running the tool on a Domain Controller has been added, but with a warning message that this is not supported, meaning it has not been tested extensively.
- Configuring Active Directory for a Configuration Manager environment has improved and is now spread over multiple tabs. Automatic detection for the Schema Master role owner and PDC Emulator role owner has been added in this version. Support for providing different credentials when creating the System Management container and extending the Active Directory schema has also been added.
- Supported and available Windows ADK version from the Windows Hardware Dev Center can automatically be detected by a simple web page scraper. This improves the experience of the tool when installing Windows ADK in the online mode. Previously, the tool would require an update to add-in the latest Windows ADK version URL.
- A whole new section for SQL Server is introduced in this version. You can now configure the SQL Server memory usage settings, validate the correct collation for Configuration Manager is in use for the specified SQL Server connection, pre-create the Configuration Manager database and split the files in addition to configure SSRS database file settings.
- This version also includes a better messaging system that prompts for success and/or failures. Warning and information messages are also shown when eligible.

2 SUPPORTED CONFIGURATIONS

2.1 CONFIGURATION MANAGER

From version 3.0.0 and above, the ConfigMgr Prerequisite Tool now supports the following versions of Configuration Manager:

- Configuration Manager 2012 SP2
- Configuration Manager 2012 R2 SP1
- Configuration Manager Current Branch (all supported versions from Microsoft)

2.2 OPERATING SYSTEMS

From version 3.0.0 and above, the supported operating system version check has been removed and instead it's replaced by this list of tested and supported versions:

- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016

2.3 PREREQUISITES

ConfigMgr Prerequisites Tool has been from version 3.0.0 and onwards ported to C# and WPF. Some actions perform by the tool still leverage PowerShell in the back end asynchronously. Therefore, it's required of the server the tool is running on to have at least PowerShell 4.0 or above installed. ConfigMgr Prerequisites Tool is built on .NET and requires minimum version 4.5.2.

3 SECTIONS

ConfigMgr Prerequisites Tool simplifies any installation of a Configuration Manager environment. Below is a summary of what section within the tool can be used for.

3.1 SITES

3.1.1 Site Type

In this section, you can prepare your environment for any of the following Configuration Manager site types:

- Central Administration Site
- Primary Site
- Secondary Site

In the event any of the features for the selected site type would fail. An error message is shown next to the feature in the Installation Result column. It's a good practice to always validate all features and if any did fail to install, select the Retry failed Windows Feature installation with alternative source location check box and install the features again. Before you select the check box, go to Settings > Sources and specify where the tool can access those source files.

For the Central Administration Site and Primary Site types, ConfigMgr Prerequisites Tool from version 3.0.0 and above now only installs the least number of required Windows Features. This has changed from the previous versions, that would also install the features required for a Management Point and a Distribution Point. If you're planning on having these two Site System roles installed on the Primary Site server, remember to go to the Roles section and install the features.
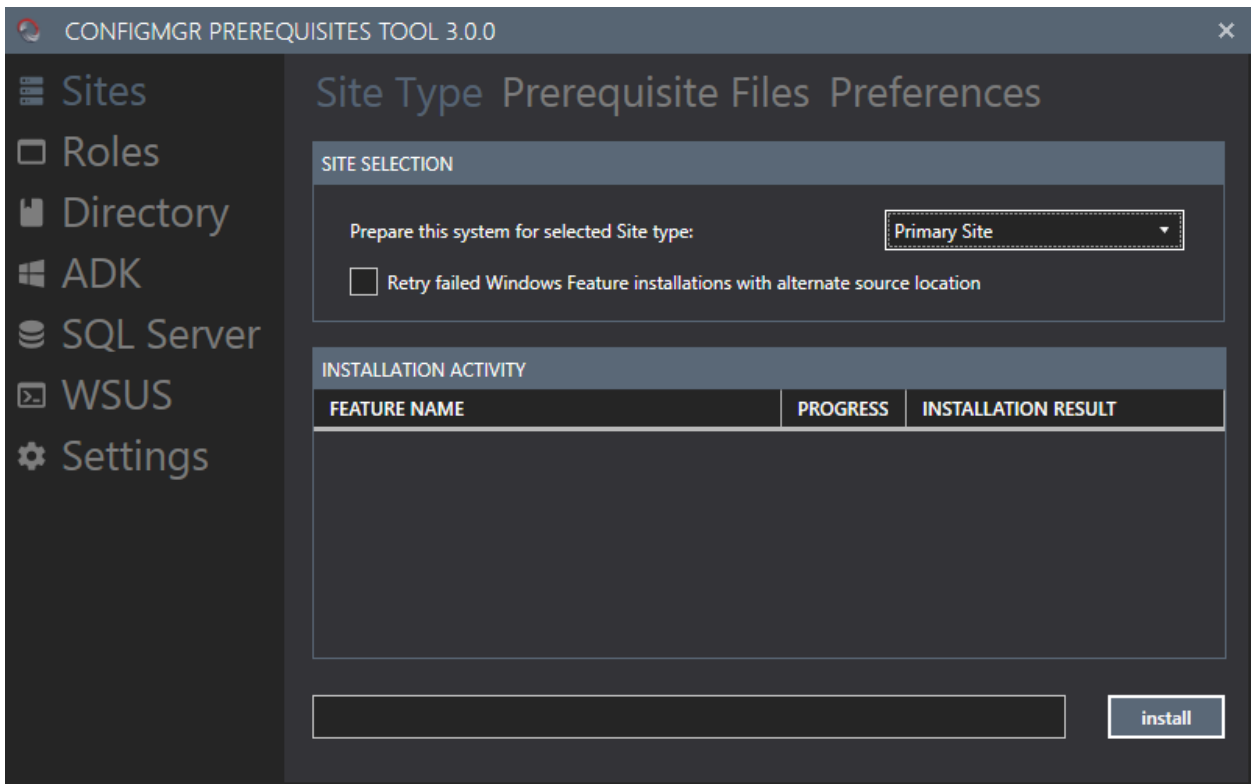
3.1.2 Prerequisite Files

When installing Configuration Manager, the setup requires a set of prerequisite files to be downloaded. This can either be done during setup or beforehand if there's no internet connectivity available for the server when performing the setup. ConfigMgr Prerequisites Tool can download these prerequisite files to a specified location. This download process requires access to the Configuration Manager installation media, and it's vital to use the media that will be used to later install Configuration Manager, so that the proper prerequisite files are downloaded.
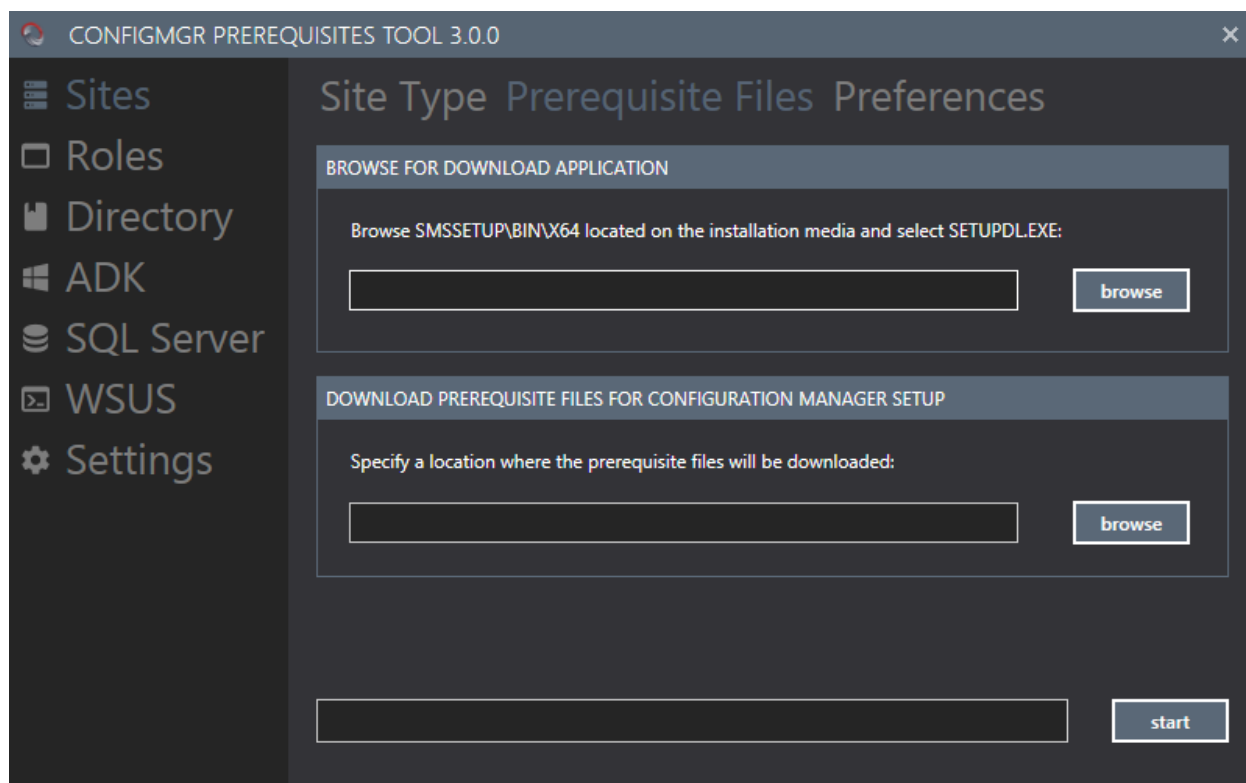
3.1.3   Preferences

Configuration Manager creates temporary files and other files that it needs. It stores them in the location it sees most fit (mainly the volume with the highest available free space). You can prevent Configuration Manager from storing these files on any volume by creating a NO_SMS_ON_DRIVE.SMS file in the root of the volume. Select the volumes listed under Preferences to let the tool create these files.
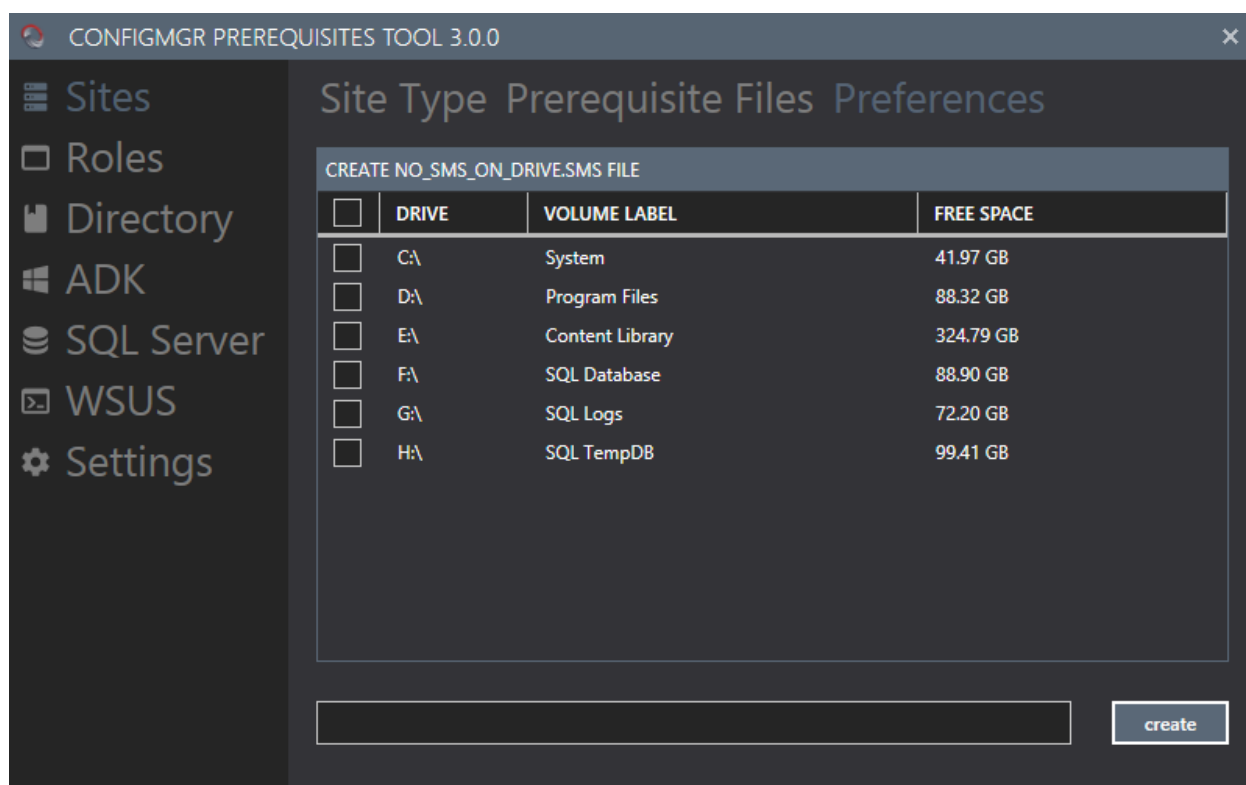
3.2 ROLES

Site System roles play a vital part in any Configuration Manager hierarchy. It's therefor important to prepare your environment so these roles can be installed from within Configuration Manager. This section of the tool allows for installing the features for any of the following roles:

- Management Point
- Distribution Point
- Application Catalog (Application Catalog Web Service Point and Application Catalog Website Point combined)
- Enrollment Point
- Enrollment Proxy Point
- Certificate Registration Point

You have the option to either select to install any of the roles to be installed locally on the server where the ConfigMgr Prerequisites Tool is running, or remotely on any given number of servers. For installing features for a role remotely, a comma-separated list of the server names is required. The remote connection is established through PowerShell remoting, so this needs to be enabled in your environment. If needed, the option to use alternative credentials is available. Before these alternative credentials can be selected, go to Settings > Credentials and setup a temporary credentials object.

Software Update Point role is not added in this list of supported roles, as it requires further configuration than just the installation of Windows Features. See the separate section WSUS for more details.
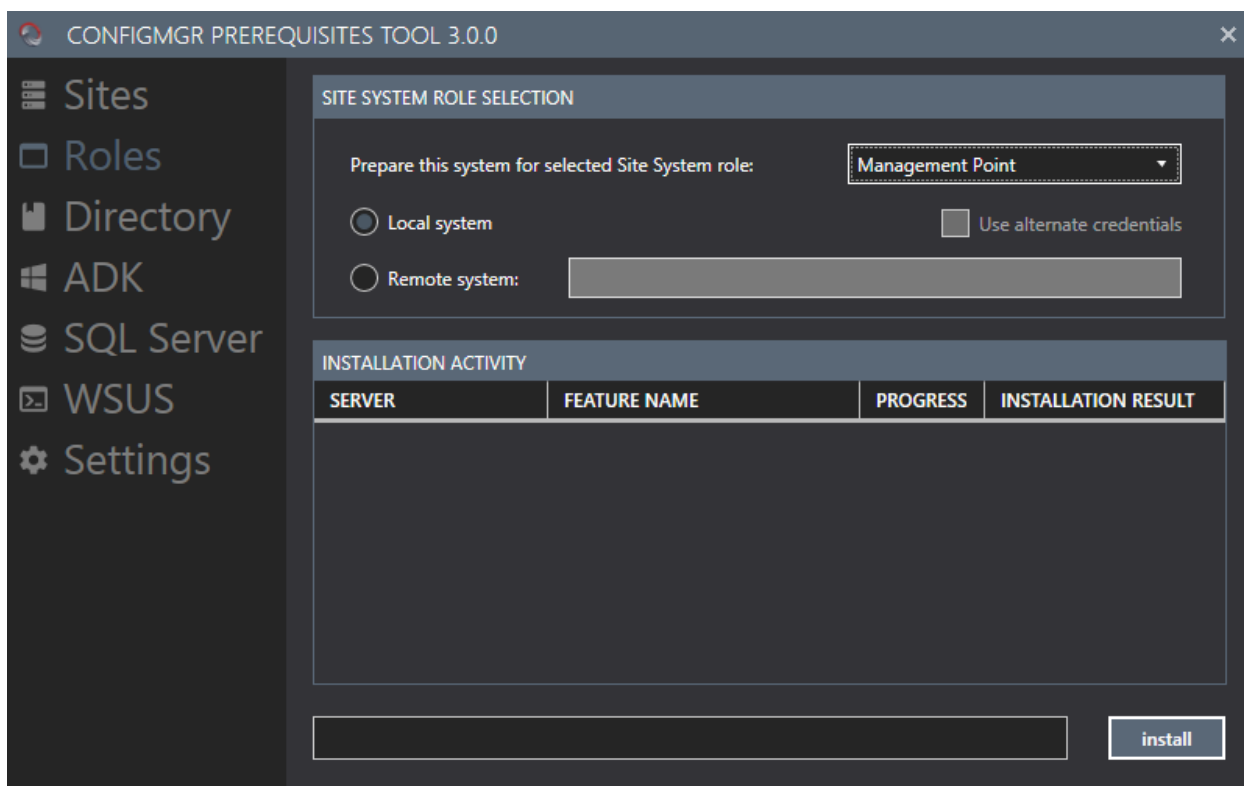
3.3 DIRECTORY

3.3.1 Schema

This section of the tool allows for extending the Active Directory schema of the forest where the server the tool is running on is joined. Extending the schema requires the tool to be able to validate the current Schema Master role owner domain controller. The tool can attempt to do that automatically for you when the detect button is clicked. However, it's also possible to manually enter the domain controller server name and then after that perform the validation.

Once the Schema Master role owner domain controller has been validated, the Configuration Manager installation media is required to locate the extadsch.exe that will perform the Schema extension. This executable will be copied to the validated domain controller and executed. This will produce a log file in the root of the C: drive and should be manually validated if the Schema extension was successful.

You can also specify alternative credentials in this section of the tool, if required. Make sure that a temporary credential object has been setup under Settings > Credentials.
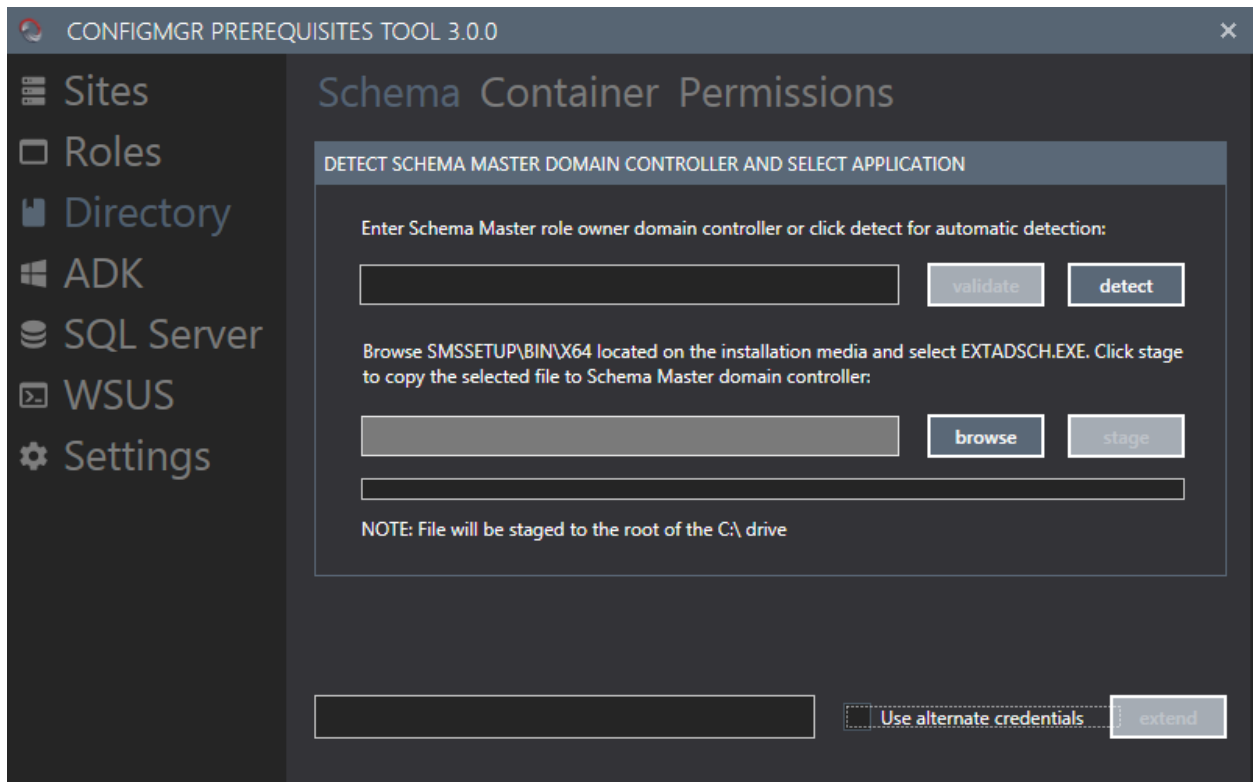
3.3.2 Container

In this section, the ConfigMgr Prerequisites Tool can assist in creating the System Management container. It will be created in the same domain as of the server where the tool is running. For creating this container, the PDC Emulator role owner domain controller needs to be detected and validated. This can either be done automatically by clicking on the detect button, or manually by entering the domain controller server name.

You can also specify alternative credentials in this section of the tool, if required. Make sure that a temporary credential object has been setup under Settings > Credentials.
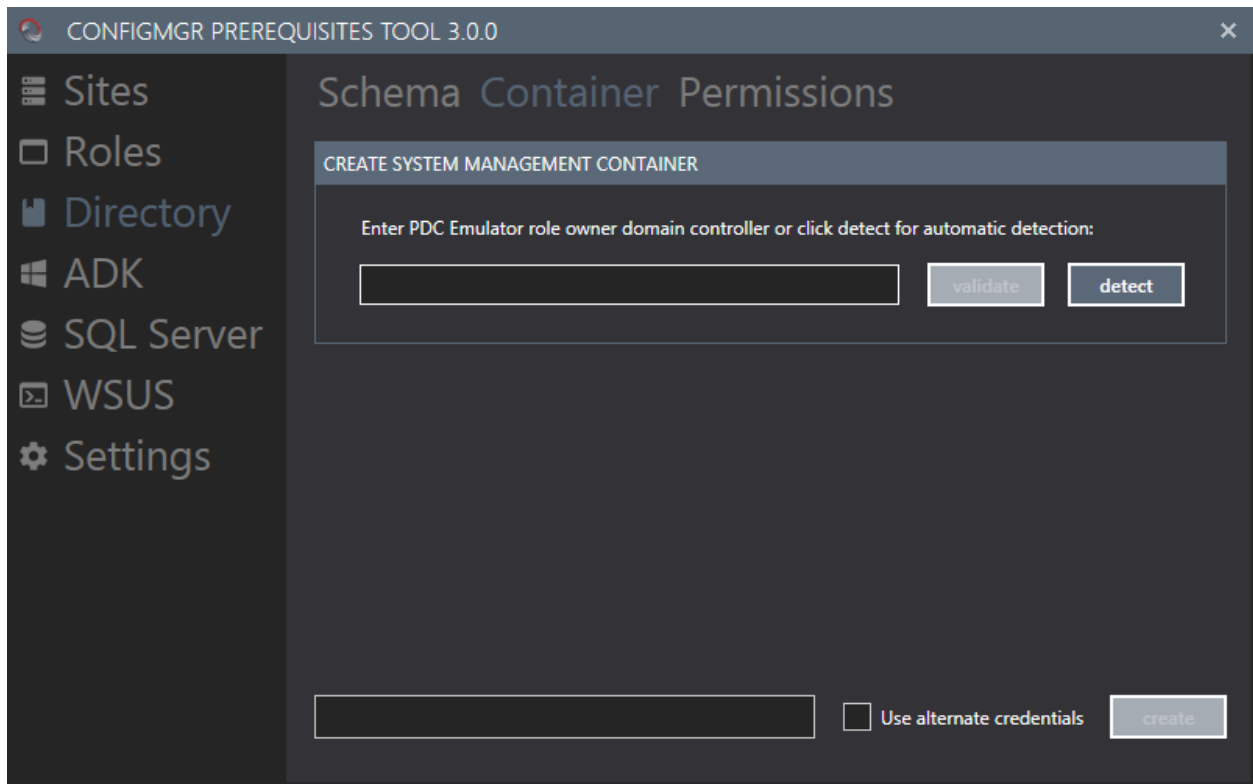
3.3.3 Permissions

For Configuration Manager to publish its information to Active Directory, the Primary Site server requires special permissions to the System Management container. It's recommended that the site server computer account is added to an Active Directory security group, and to later add that group with the special permissions to the System Management container. Start by searching for the Active Directory group within the ConfigMgr Prerequisites Tool and then select the group from the search results. Any selected groups will be given the proper special permissions required.
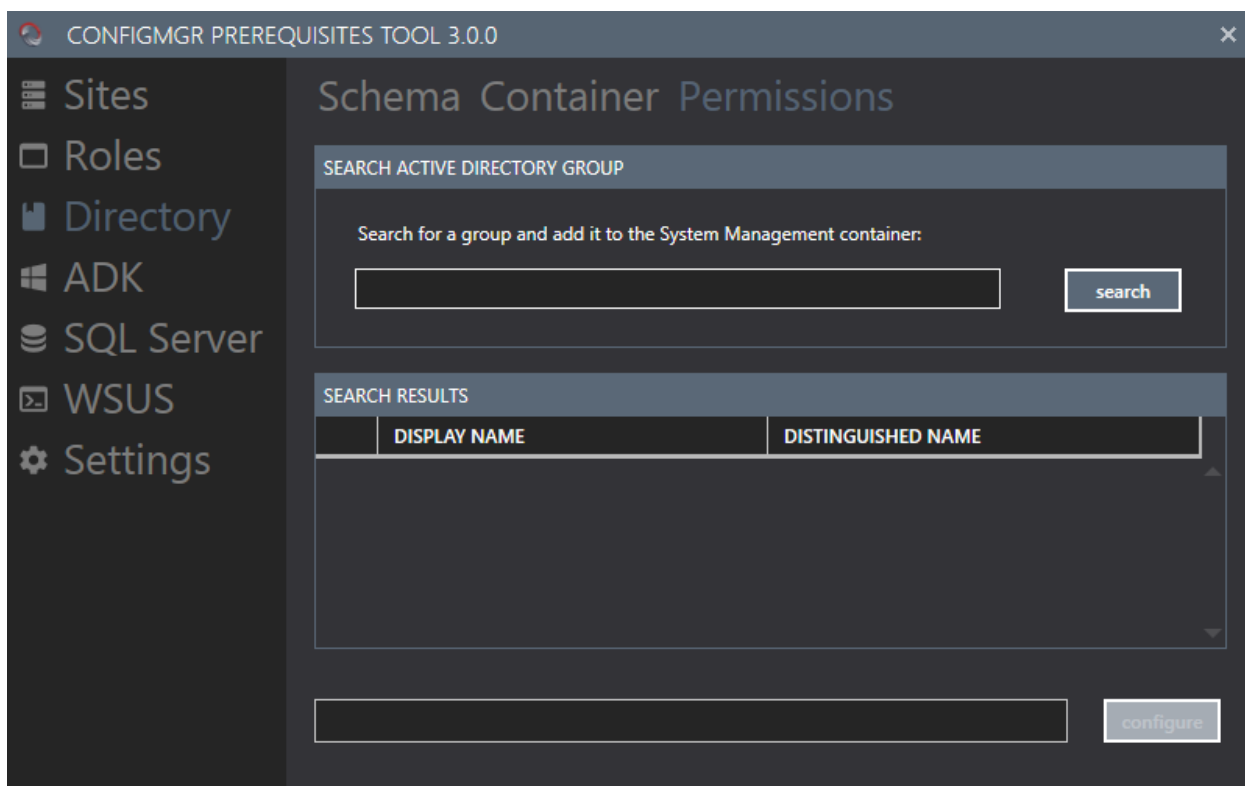
3.4   ADK

3.4.1   Online

ConfigMgr Prerequisites Tool in online mode will download any of the currently supported versions of Windows ADK from the Microsoft Hardware and Dev Center web site. Clicking on the load button will result in a web call to www.scconfigmgr.com/windows-adk-feed.xml with information about the supported Windows 10 ADK files available and populate the combo box with the available versions. The download location of the installer for Windows ADK can also be specified and is by default set to C:\Windows\Temp.

In the online mode, access to internet is required. The tool will first perform a check to see if there's an active network connection established on the local machine for any of the network adapters. When an active connection is detected, it will perform a ping to developer.microsoft.com to see if it can access the internet. If the tool can access the developer.microsoft.com site, it will perform the web scraping.

The installation of Windows ADK is done with the least number of required options for Configuration Manager. If you'd want to add more of the capabilities of Windows ADK, that operation would have to be made manually.
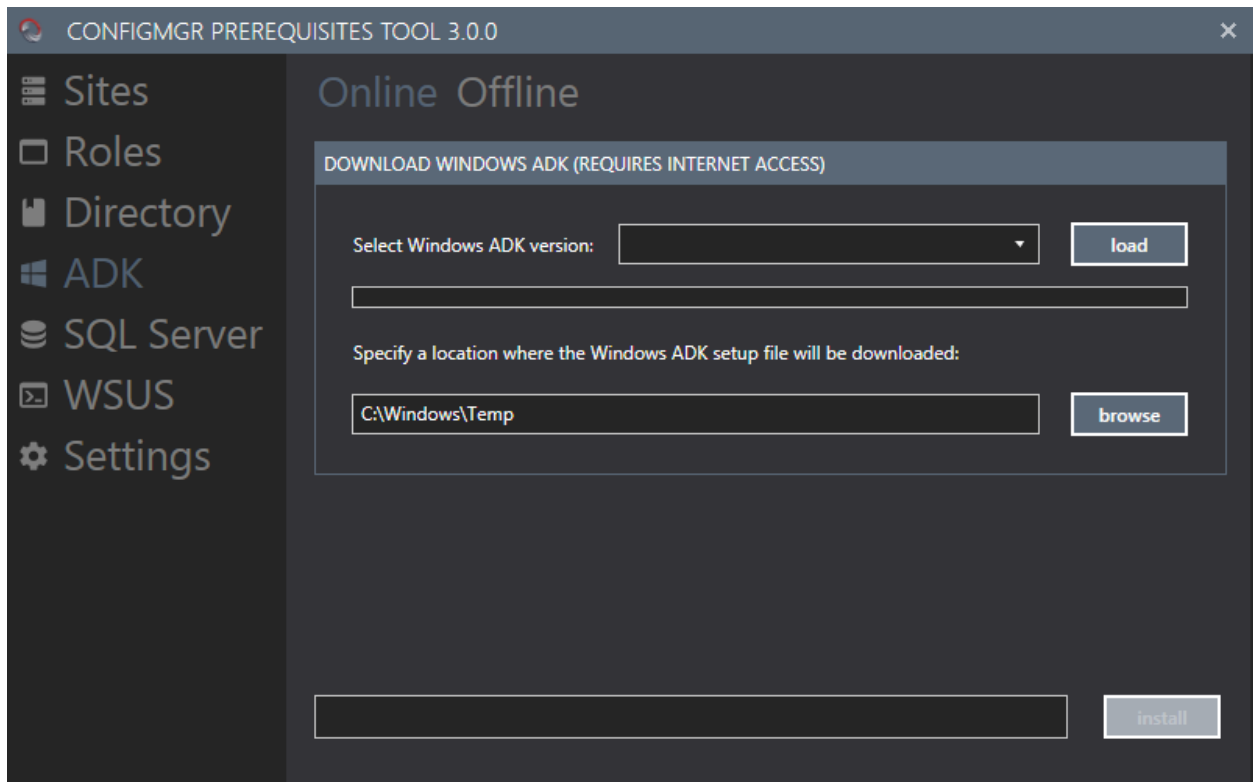
3.4.2 Offline

Offline mode should be used when there's no active internet connection on the server ConfigMgr Prerequisites Tool is running on. This mode requires the setup files for ADK to be staged at a location on the same server the tool is running on.

Starting from version 3.0.4, a new drop-down menu has been added to control the setup type provided for offline installation. There're 3 alternatives to control the setup behavior:

- Setup Installer
  - o Select this installer type when using the main setup installer for Windows 10 ADK. This type will not install the WinPE optional feature, see the next installer type for more information.
- Setup Add-on
  - o Select this installer type when using the add-on setup installer for Windows 10 ADK. This type will ensure that the WinPE optional feature is installed and is required starting with Windows 10 ADK version 1809.
- Setup Legacy
  - o Select this installer type when using a setup installer for Windows 10 ADK version 1803 or below.

The installation of Windows ADK is done with the least number of required options for Configuration Manager. If you'd want to add more of the capabilities of Windows ADK, that operation would have to be made manually.
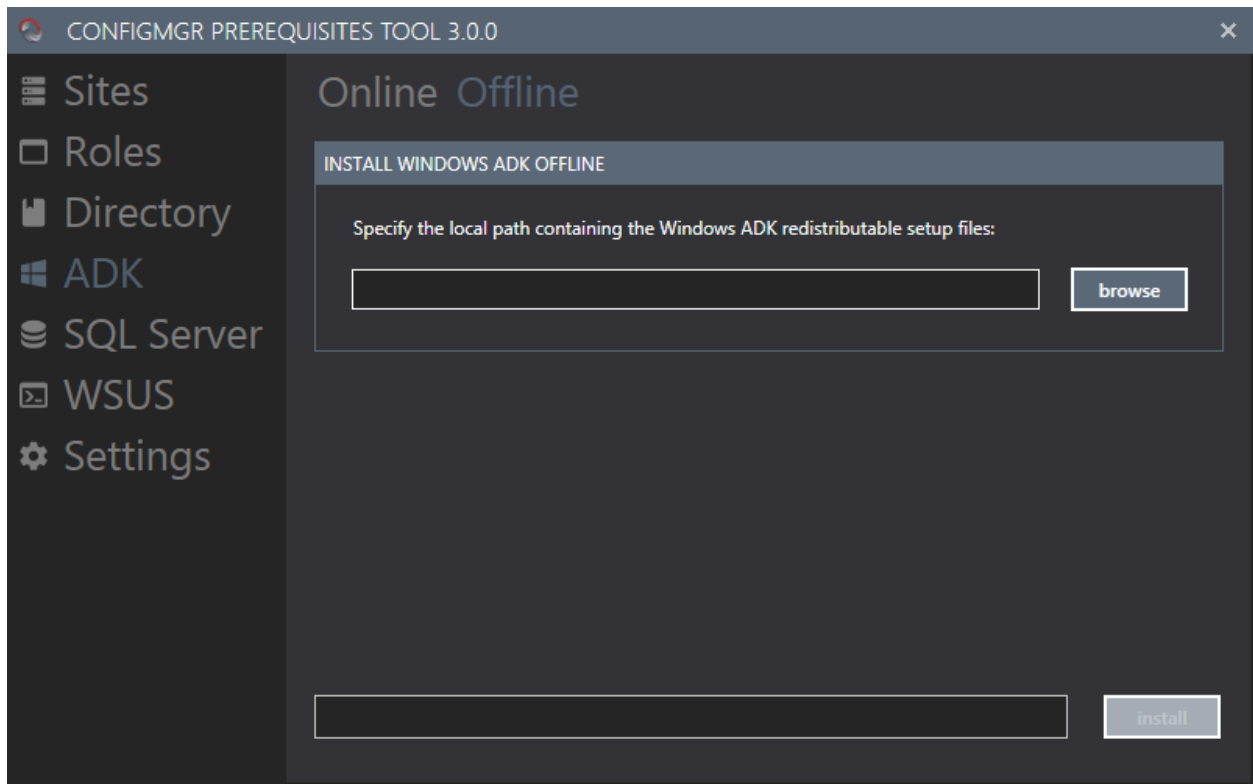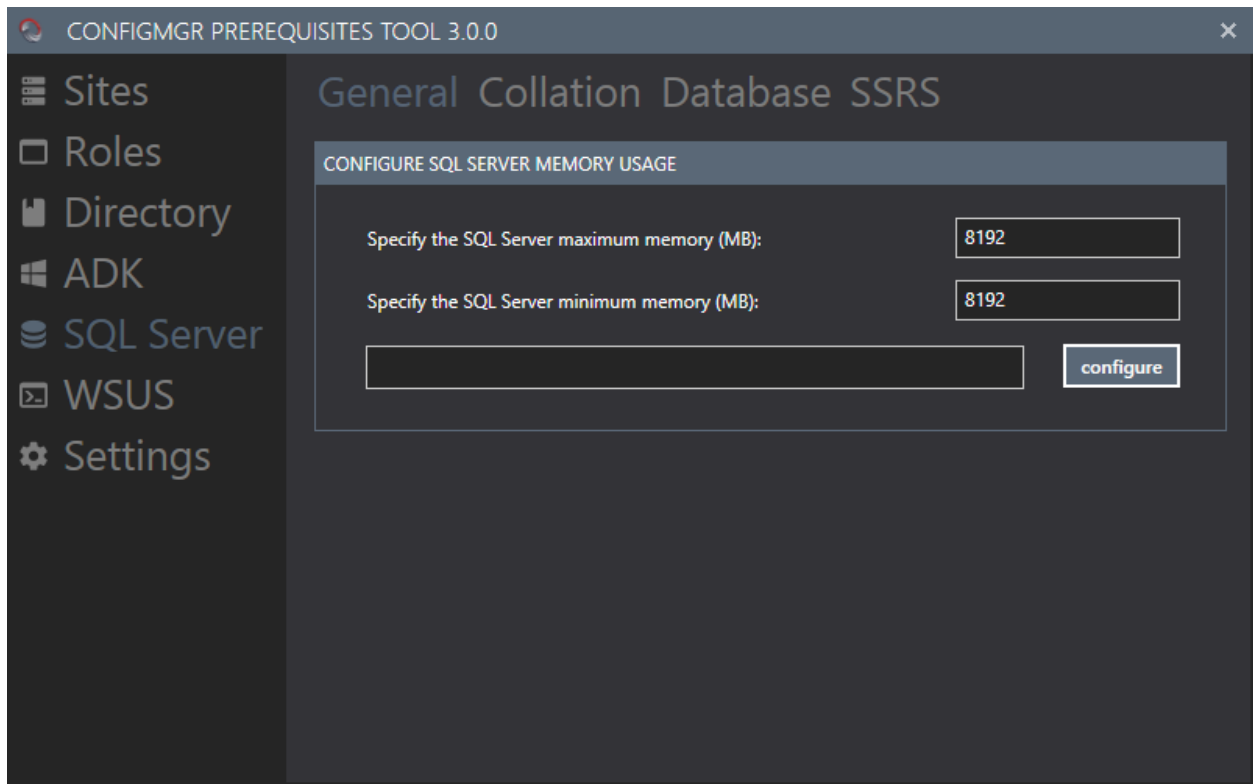
3.5   SQL SERVER

3.5.1   General

Configure the SQL Server memory usage settings is a best practice and if it's not completed before running the prerequisites checker of the Configuration Manager setup, it will result in a warning. ConfigMgr Prerequisites Tool can configure these memory usage settings. Define the maximum and minimum values, recommended default values from Microsoft are shown by default in the tool.
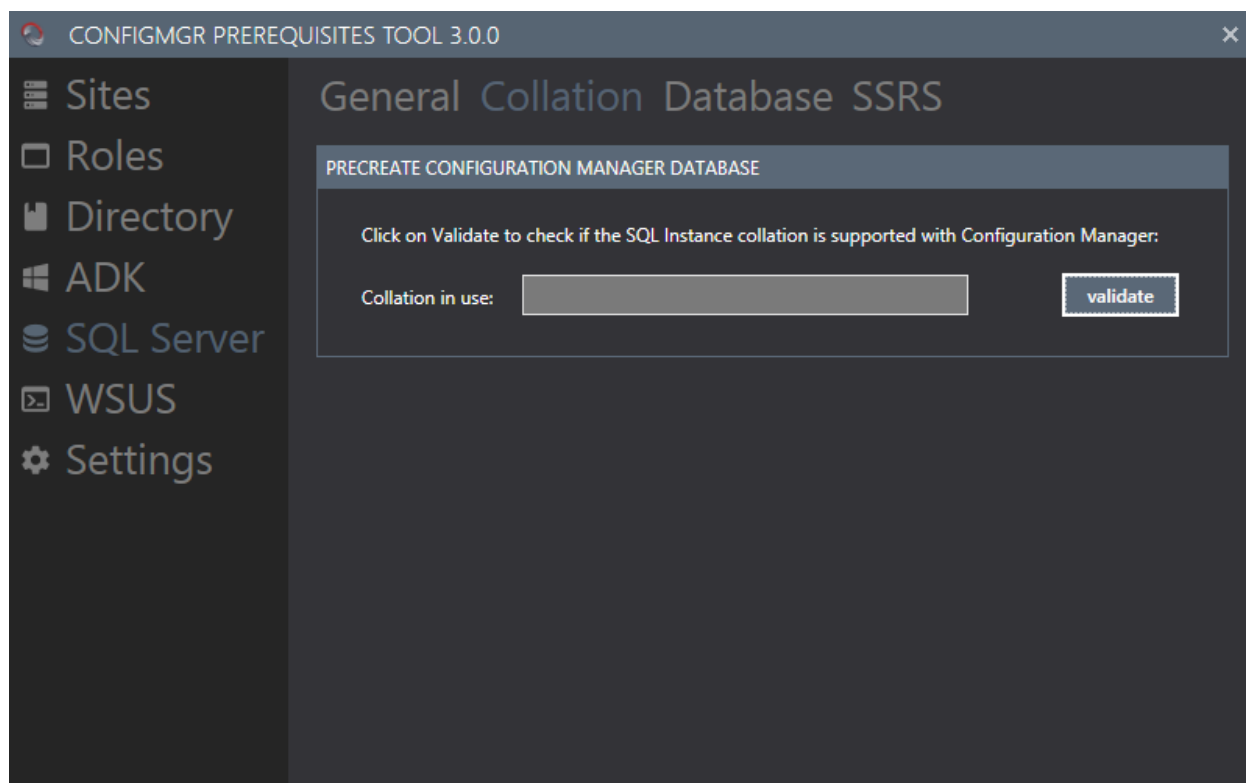
This section requires a connection to the SQL Server before it can make any changes. Go to Settings > Connection and establish a connection.

3.5.2 Collation

ConfigMgr Prerequisites Tool can validate the current collation of a SQL Server so that it meets the requirement for Configuration Manager. Click the validate button to see if the correct collation has been configured for the SQL Server.

This section requires a connection to the SQL Server before it can make any changes. Go to Settings > Connection and establish a connection.
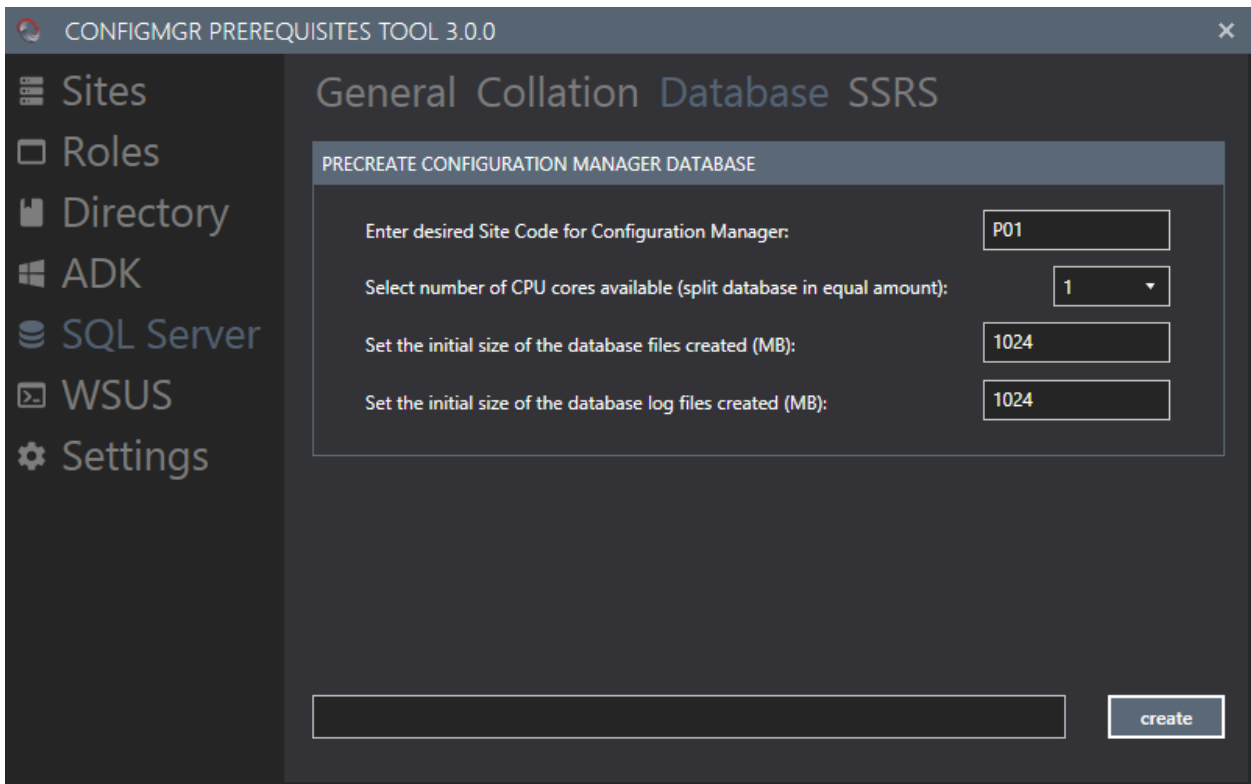
3.5.3   Database

Configuration Manager setup automatically creates the database. However, it can also be pre-created before setup is executed. ConfigMgr Prerequisites Tool can pre-create the Configuration Manager database, split it into a fixed number of files and set the initial database file and log sizes. The Site Code entered in this section of the tool must match the Site Code that will be specified during the Configuration Manager setup wizard. When the tool pre-creates the database, it will be named accordingly:

- CM_<SiteCode>

This section requires a connection to the SQL Server before it can make any changes. Go to Settings > Connection and establish a connection.

3.5.4   SSRS

If the SQL Server has been installed with SQL Server Reporting Services (SSRS), ConfigMgr Prerequisites Tool can configure the ReportServer and ReportServerTempDB maximum database file sizes.

This section requires a connection to the SQL Server before it can make any changes. Go to Settings > Connection and establish a connection.
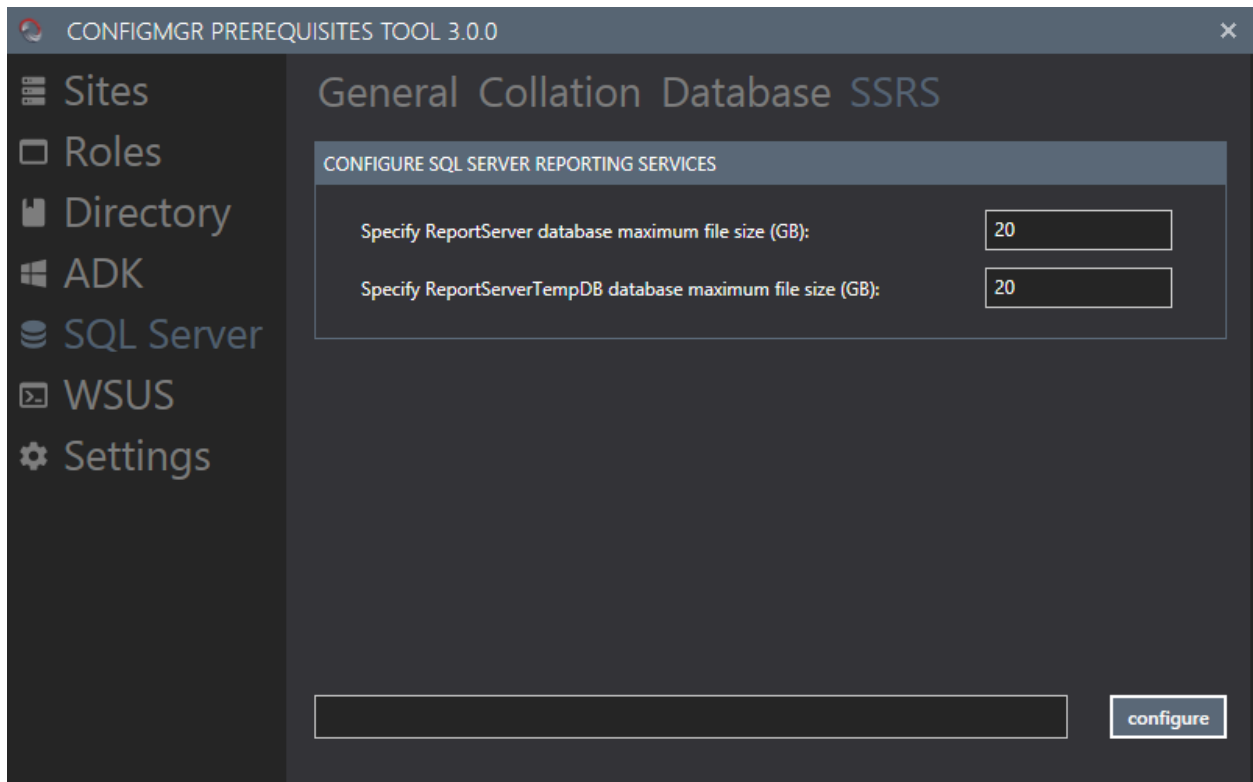
3.6 WSUS

3.6.1 Features

To prepare a server for holding the Software Update Point role, ConfigMgr Prerequisites Tool can both install the required Windows Features and perform the post-install configuration. In this section, there's an option to select to install features for:

- SQL Server
- Windows Internal Database

Installing the features for any of the above options is required to be completed before the Post-Install section can be completed.
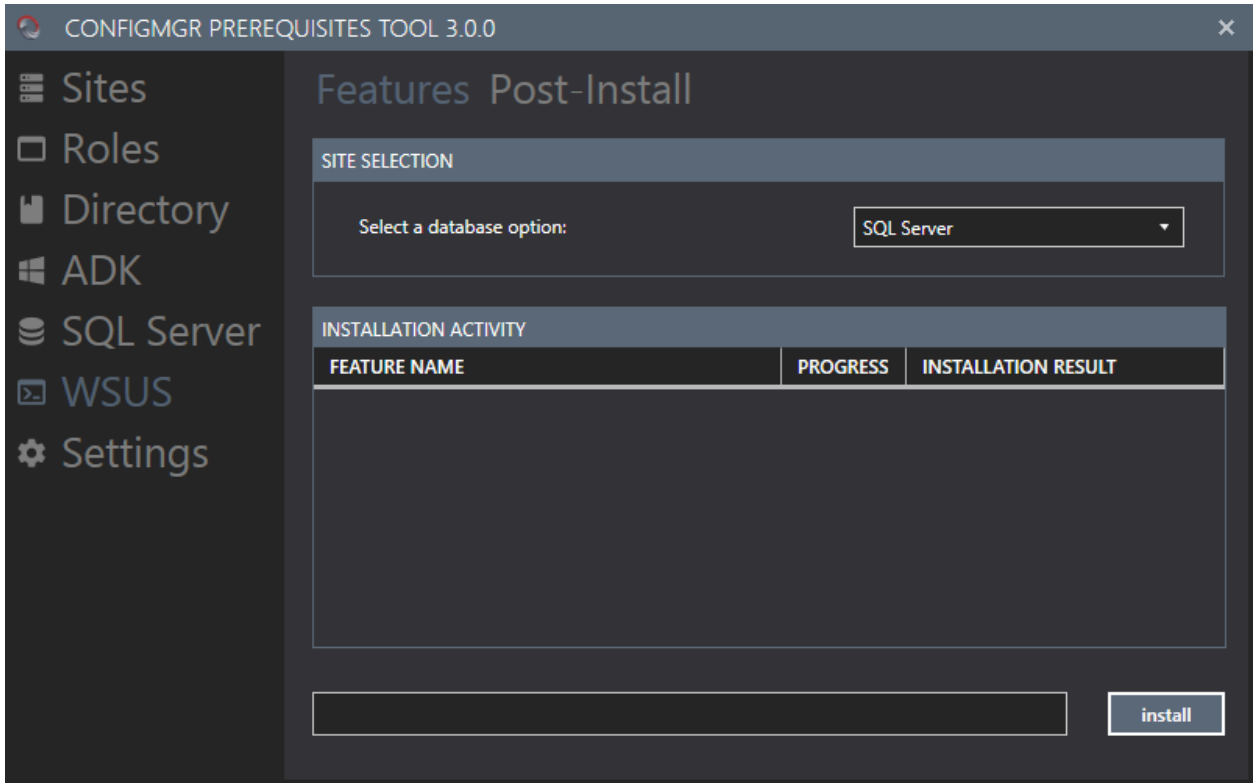
3.6.2 Post-Install

When you have successfully installed the requires Windows Features for the selected option in the Features section, the Post-Install section can be utilized. As for the Select a database option, it's important to select the same option as selected for when installing the features.
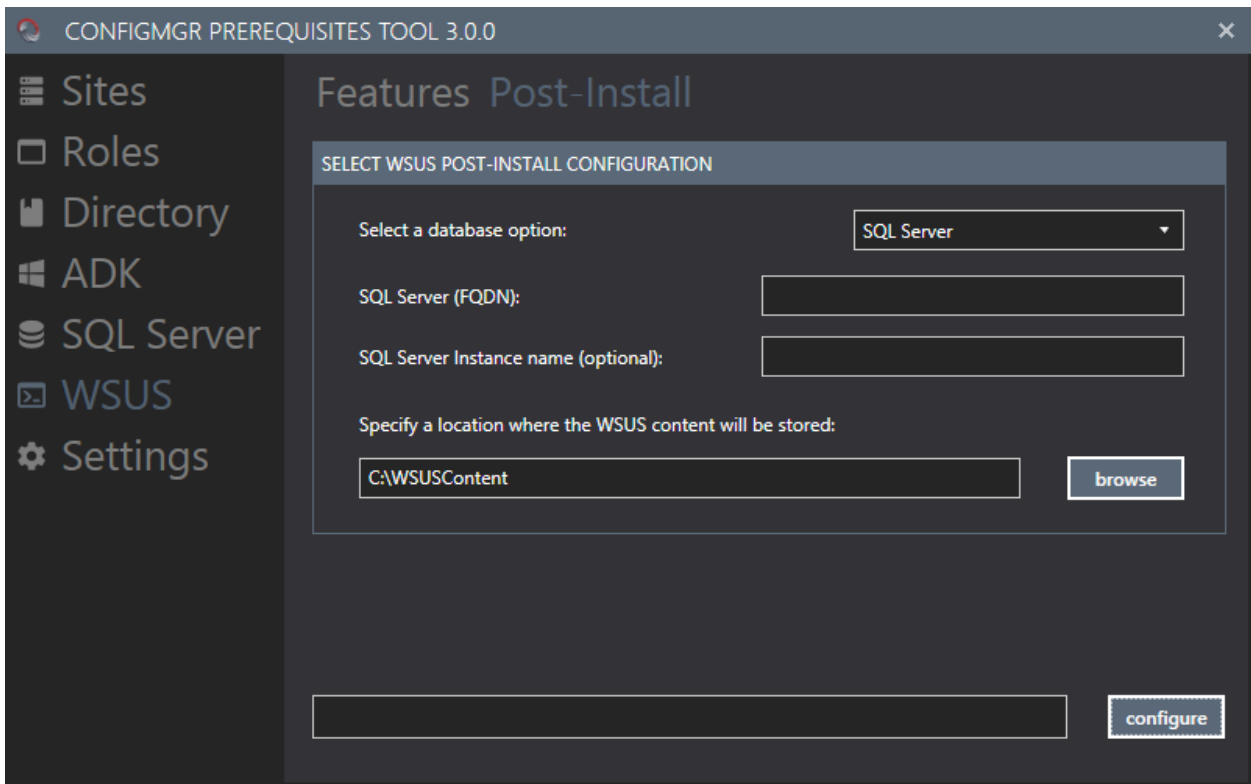
3.7 SETTINGS

3.7.1 Credentials

In this section, a temporary credential object can be created and utilized in other sections of the ConfigMgr Prerequisites Tool. When clicking add, a custom PSCredential object is created. Click on the clear button to remove the current credential if you need to enter another.
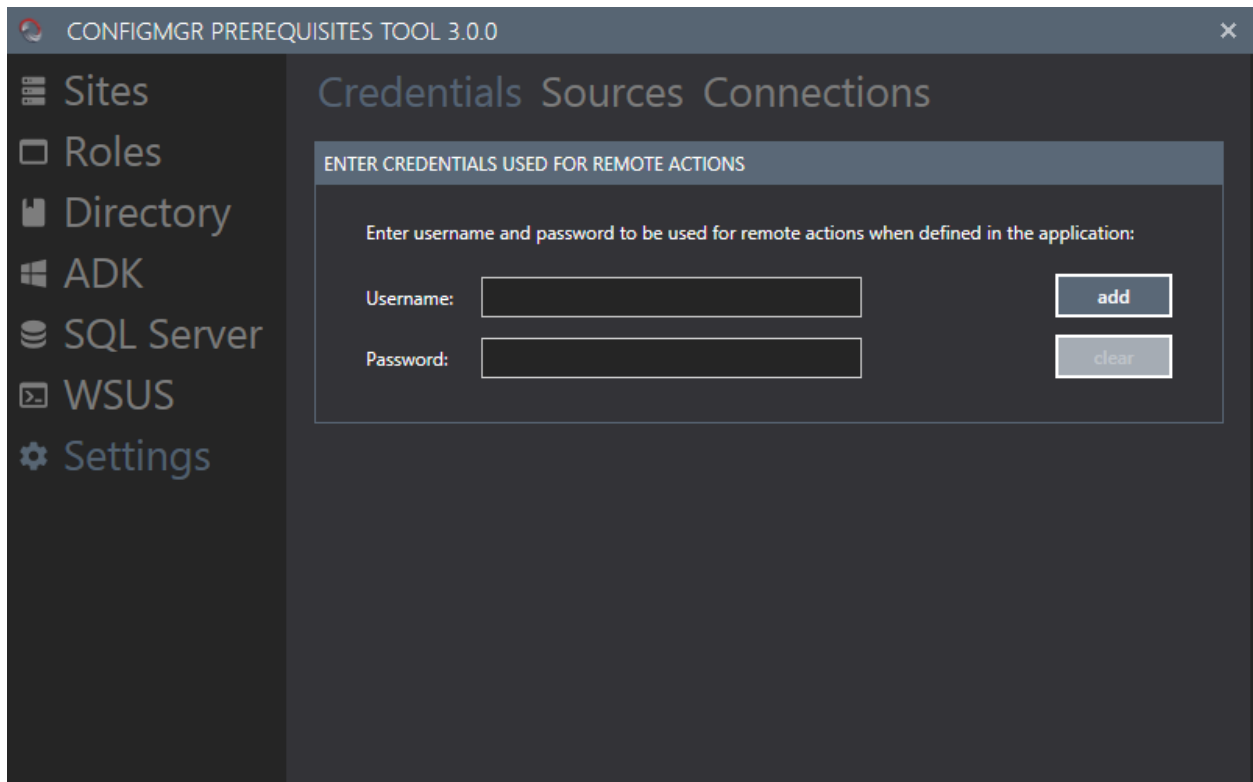
3.7.2 Sources

For the Site Type section, an option to re-try the installation of Windows Features that failed can be chosen. ConfigMgr Prerequisites Tool requires a named location for where the tool will look for the alternative sources when installing the features. In this section, specify that named location. It's recommended that the sources\sxs folder of the installation media for the currently installed Windows Server version is copied locally to the server where the tool is running.
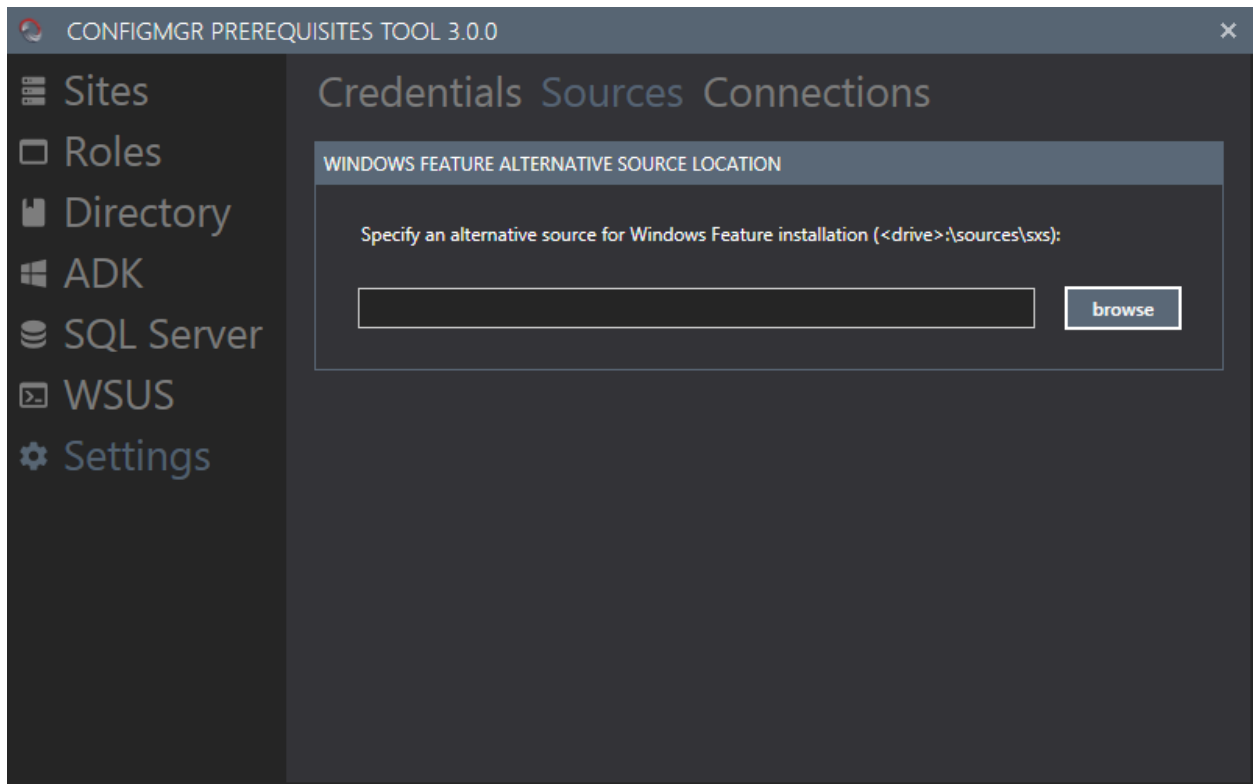
3.7.3   Connections

For the SQL Server section in ConfigMgr Prerequisites Tool, a connection to the SQL Server must be established. This is done within this section of the tool.