

# INSTALLING SQL SERVER EXPRESS AND NASIS 7.0

## Section 1

NASIS version 7.0 and higher uses Microsoft's SQL Server Express 2012 database as a local repository for soils data. In order for NASIS to use this database in a reliable and secure fashion it must be installed correctly. This document describes how to download and install SQL Server Express.

For USDA workstations SQL Server Express will be installed automatically in a CCE-approved fashion. Non-USDA users will have to follow the instructions below to do their own SQL Server Express installation. Even if a workstation already has SQL Server Express for other purposes it will be necessary to do this installation to create a SQL Server instance named "NasisSqlExpress".

Once SQL Server Express is installed, the NASIS Editor installer will make changes to the named database instance. By using our own named instance we can make the database even more secure and avoid stepping on other database instances which might exist on the client computer.

Some of the changes the NASIS Editor installation will make include:

- Remove the `Builtins\Administrators` group. This makes the database secure from changes made by anything other than the NASIS Editor
- Modify the `Builtins\Users` group to be read-only. Again, this protects the database.
- Turn on mixed-mode authentication and install a NASIS-only `sysadmin` user. The user and password will be known only to the installer app and the NASIS Editor, and exists only in encrypted form on disk.

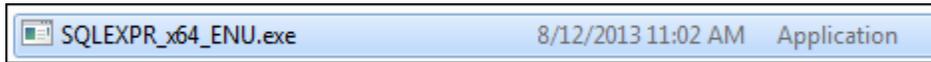
## Section 2

The screenshots below show all the detail required to install a SQL Server Express 2012 instance.

The installation package can be obtained from a Microsoft download site such as <https://www.microsoft.com/en-US/download/details.aspx?id=29062>. These sites change from time to time, so it may be necessary to search for SQL Server 2012 Express. Also search for and install any SQL 2012 service packs. Multiple versions of the download package are available. The minimum requirement is the file `SQLEXPRESS_x64_ENU.exe` (for 64-bit Windows 7 or Windows 10). You can also install `SQLEXPRESSWT_x64_ENU.exe` which includes SQL tools such as SQL Management Studio, but the tools are not required to use NASIS.

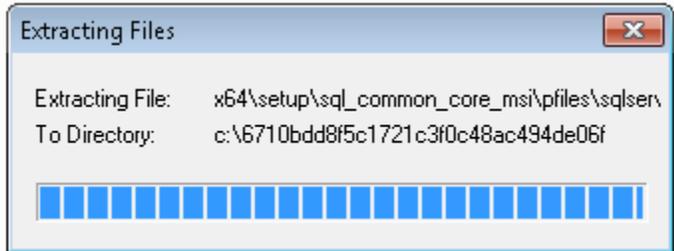
In the following series of installation screens, most of the default actions are used. If some screen appears that is not shown in the instructions, just hit Next.

Right-click on the downloaded installer file, such as:

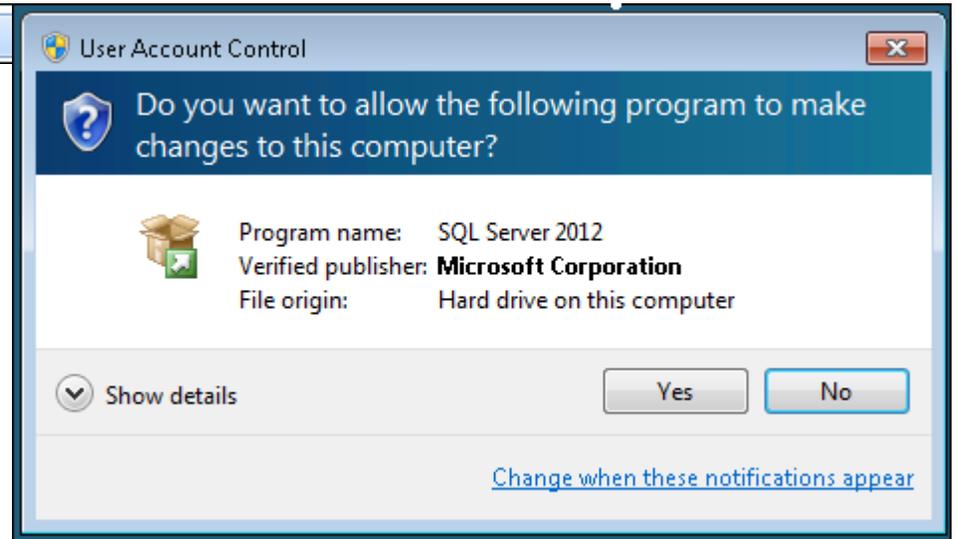


If there is a "Run as Administrator" or "Run Elevated" option, use that, otherwise just Run the installation program.

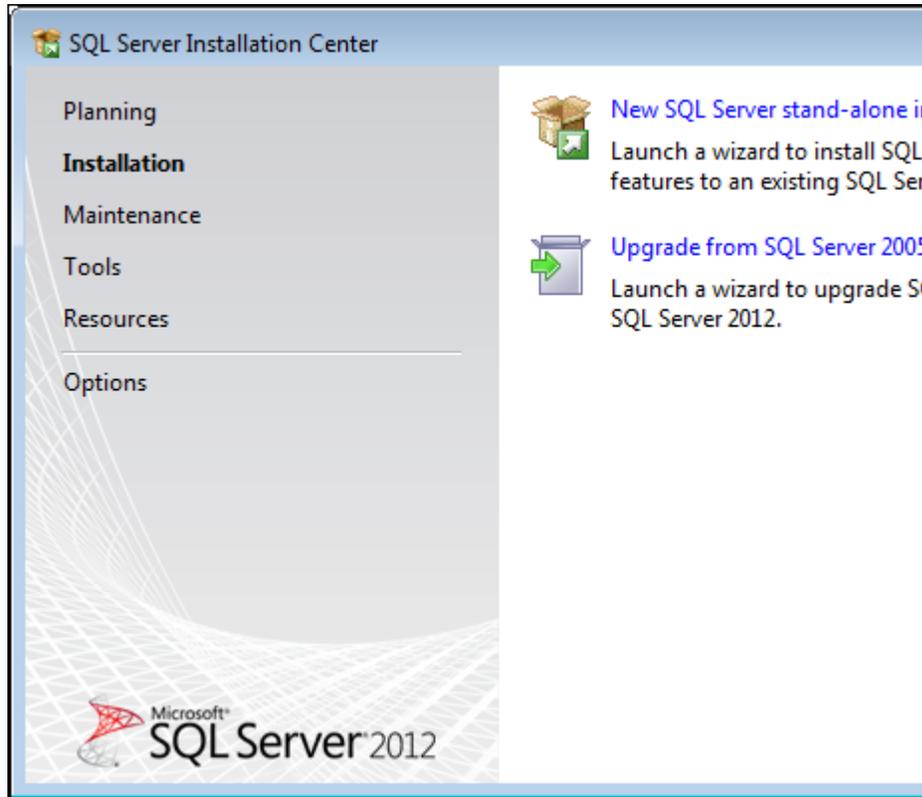
The first step will be to extract files:



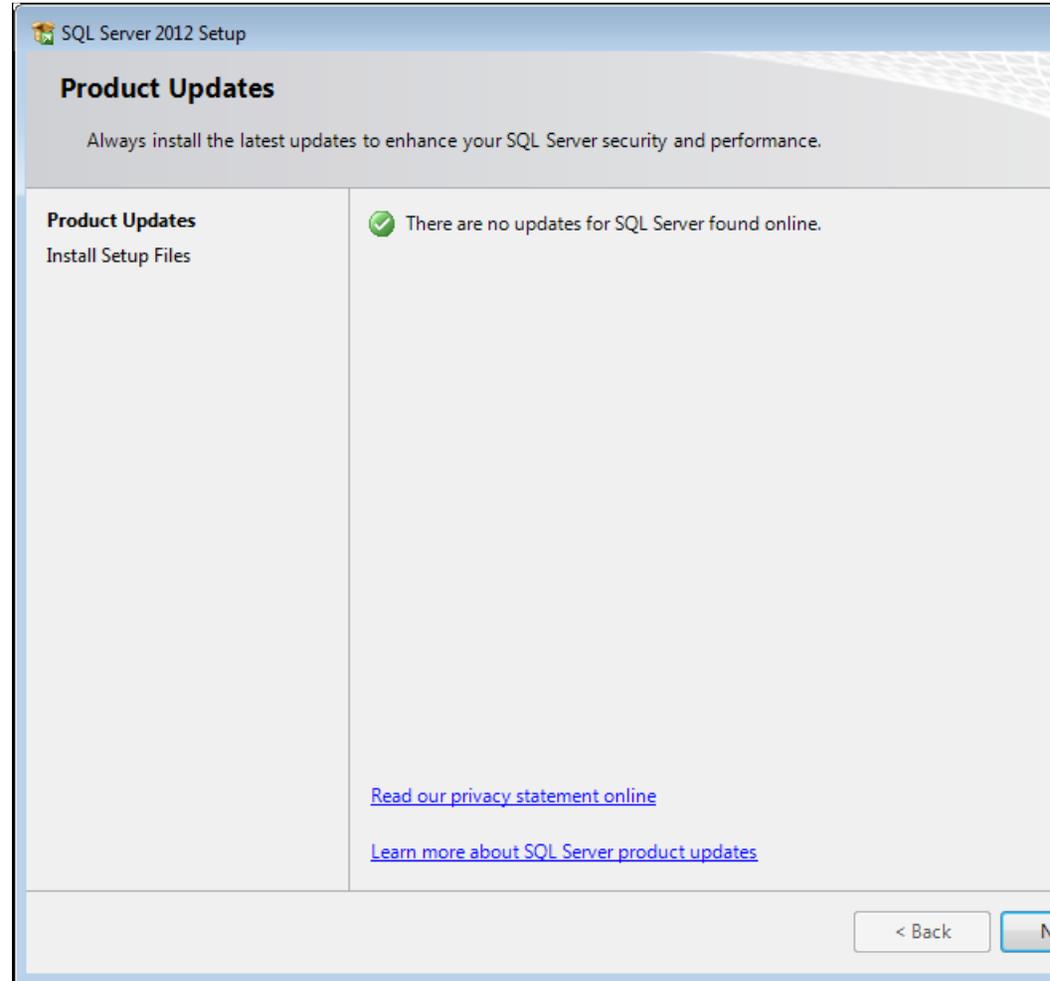
Click Yes if asked to allow the installation.



If you have an existing NASSIS installation using SQL Express 2008, choose the Upgrade option. If not, click on New installation.



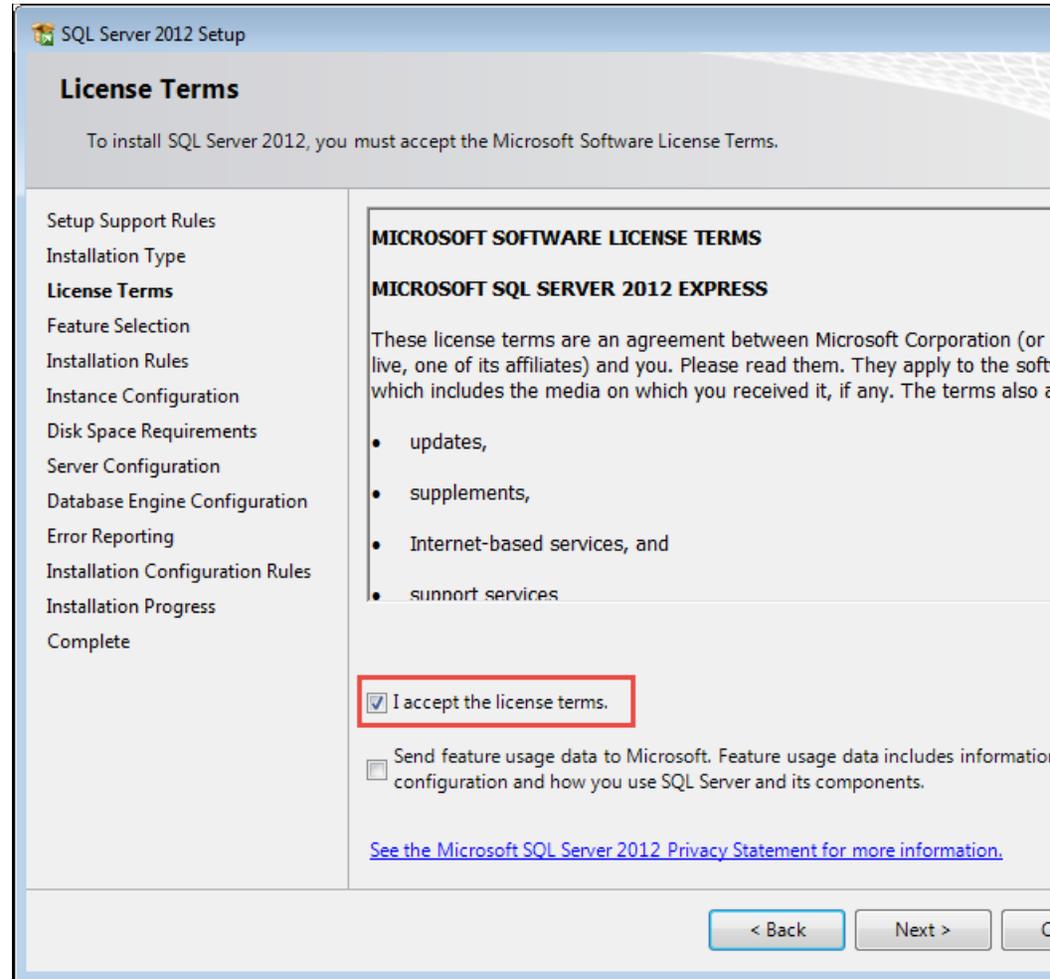
The installation will check for product updates. If there are updates listed, accept them at this time. If not, click Next.



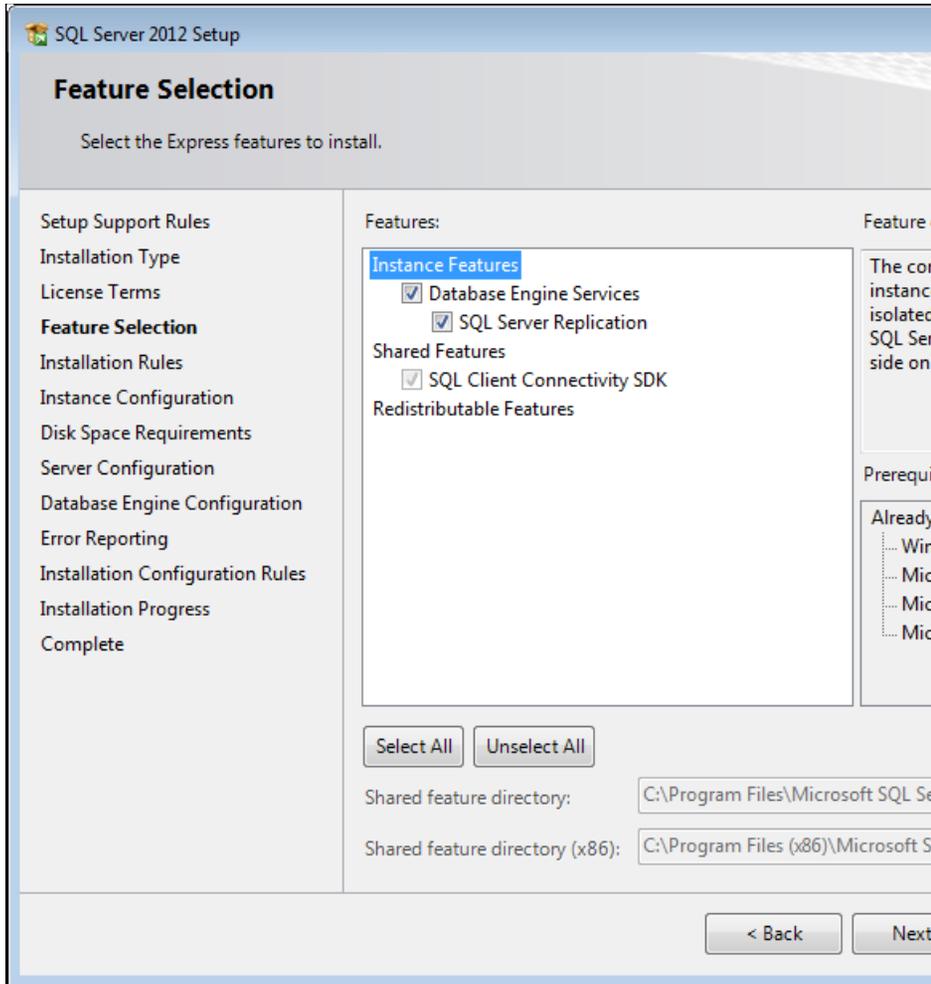
If you are upgrading from SQL Express 2008, a dialog will appear for selecting the instance to upgrade. Typically there will only be one choice, but select the instance named "NASISSQLEXPRESS" and click Next.

A sequence of installation pages will appear, following the steps listed on the left side. Some differences from the following examples may appear, depending on your type of installation.

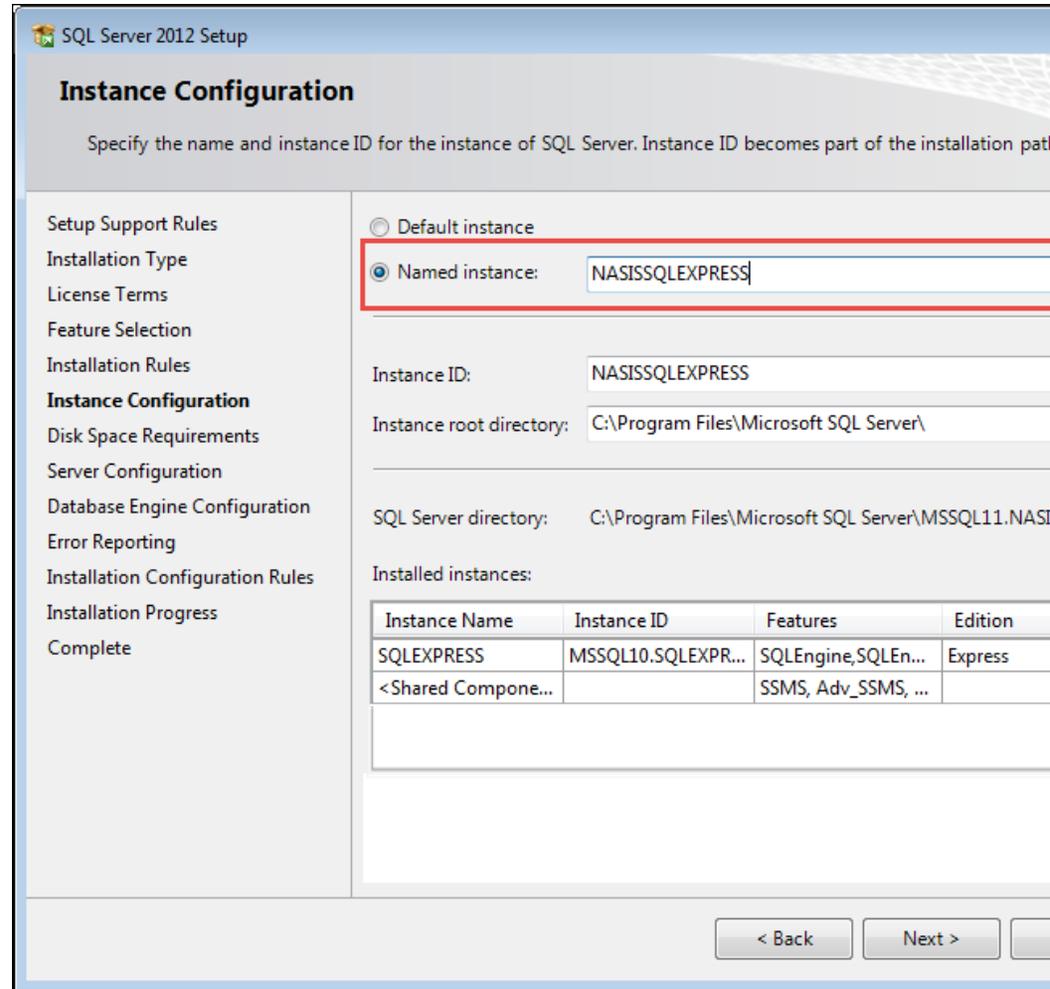
On the License Terms page, check the box next to "I accept the license terms" and click Next.



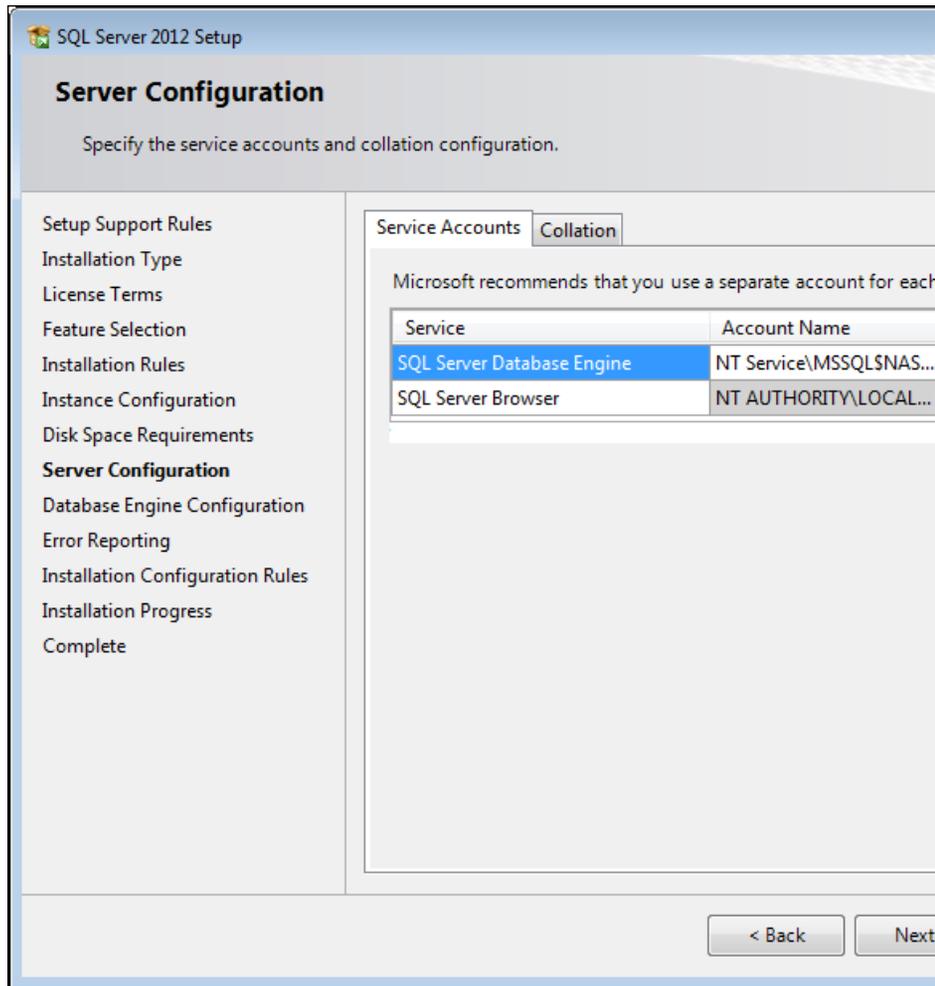
For Feature Selection use the default selections.



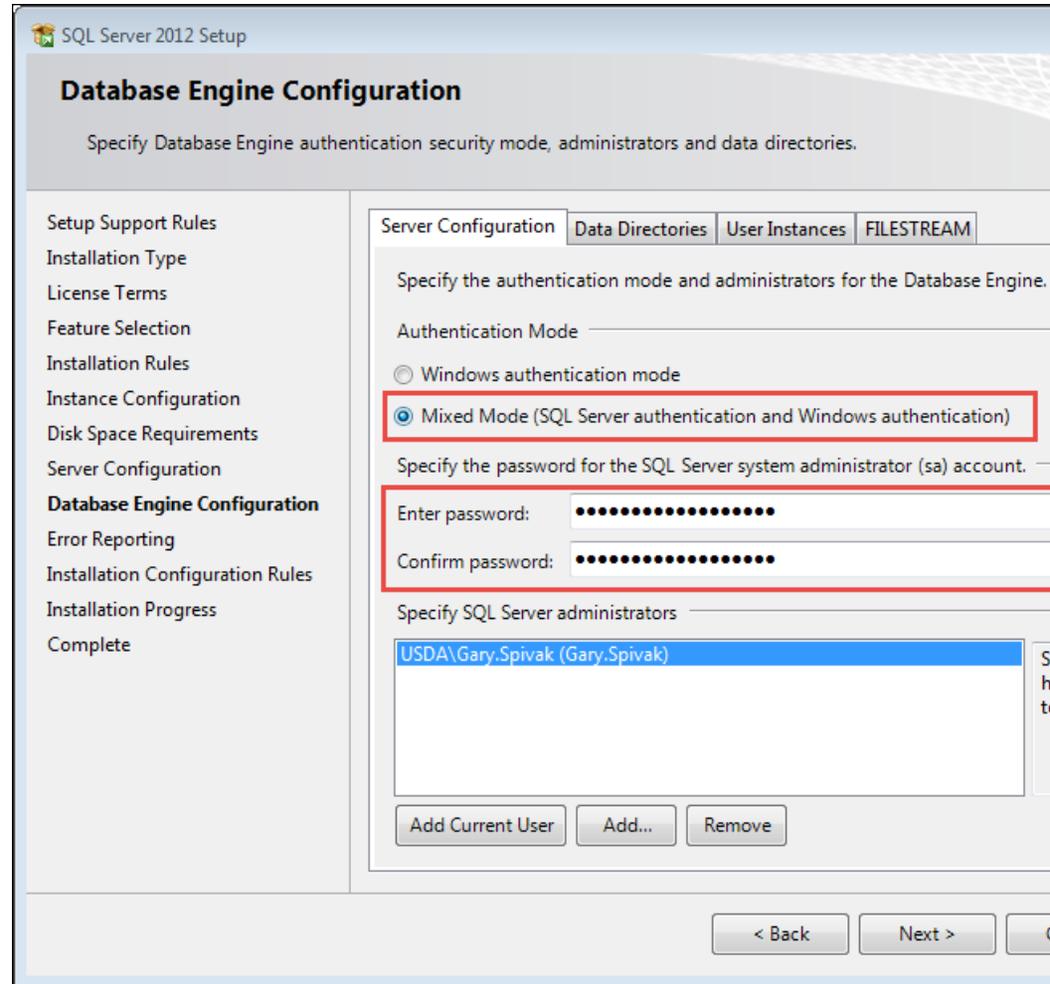
For Instance Configurations, type NASISSQLEXPRESS for the name of the instance.  
Click Next



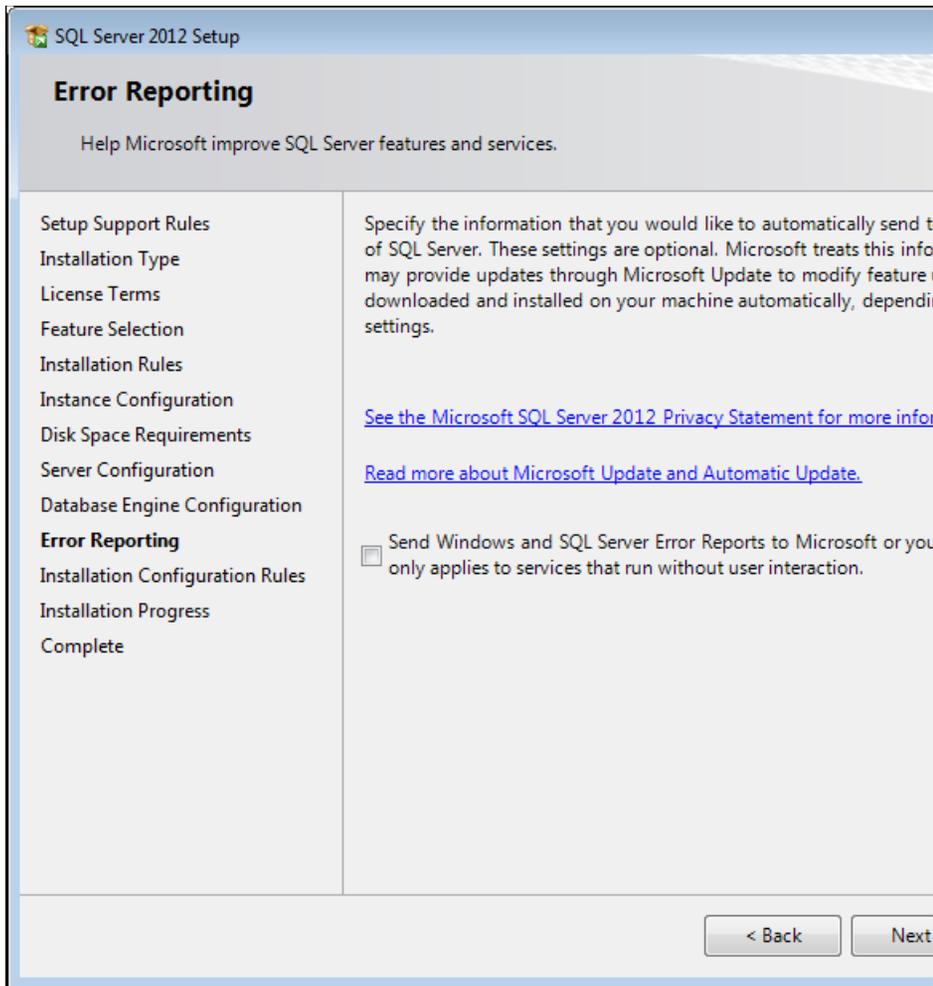
For Server Configuration, no action is needed. Click Next.



On the Database Engine Configuration page, select Mixed Mode authentication and enter an administrator password. There's no need to remember this password because the NASIS installation will change it.

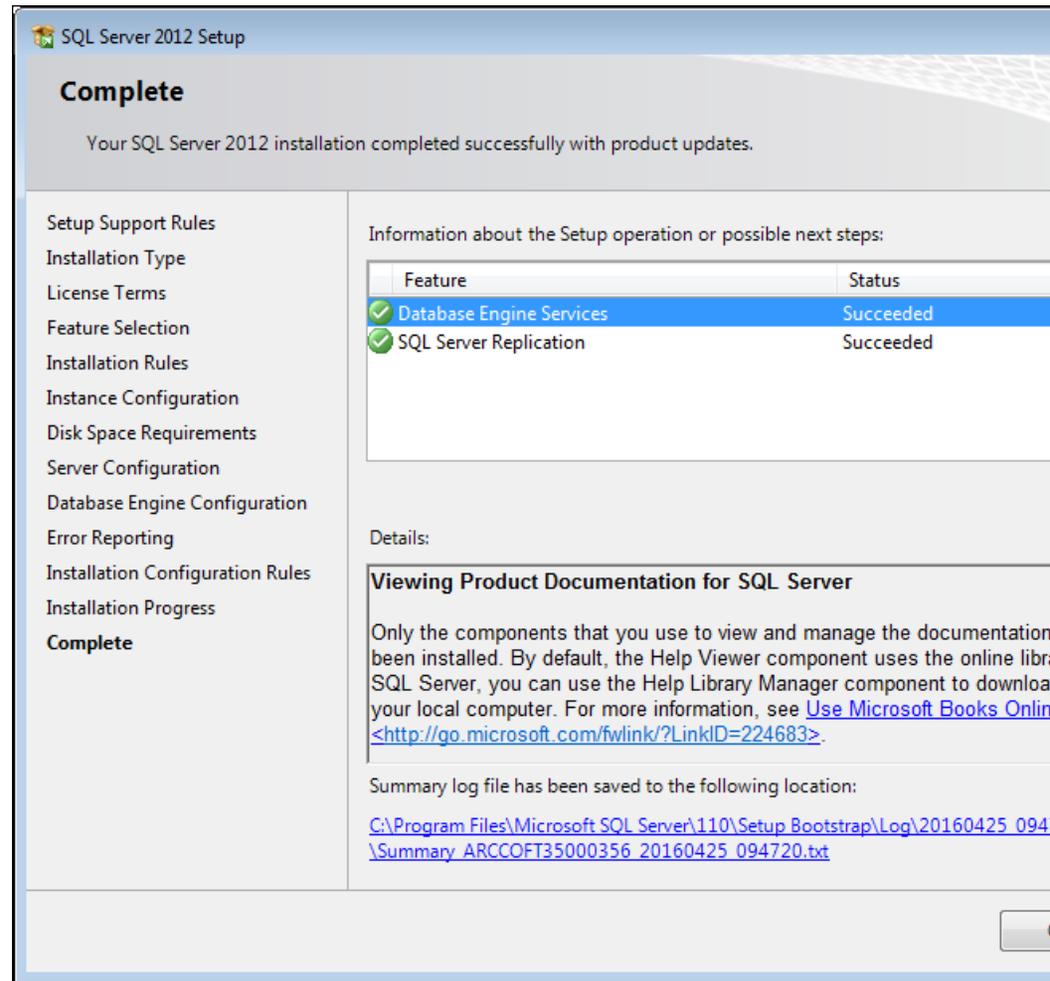


No changes are required in the Error Reporting page. Click Next.



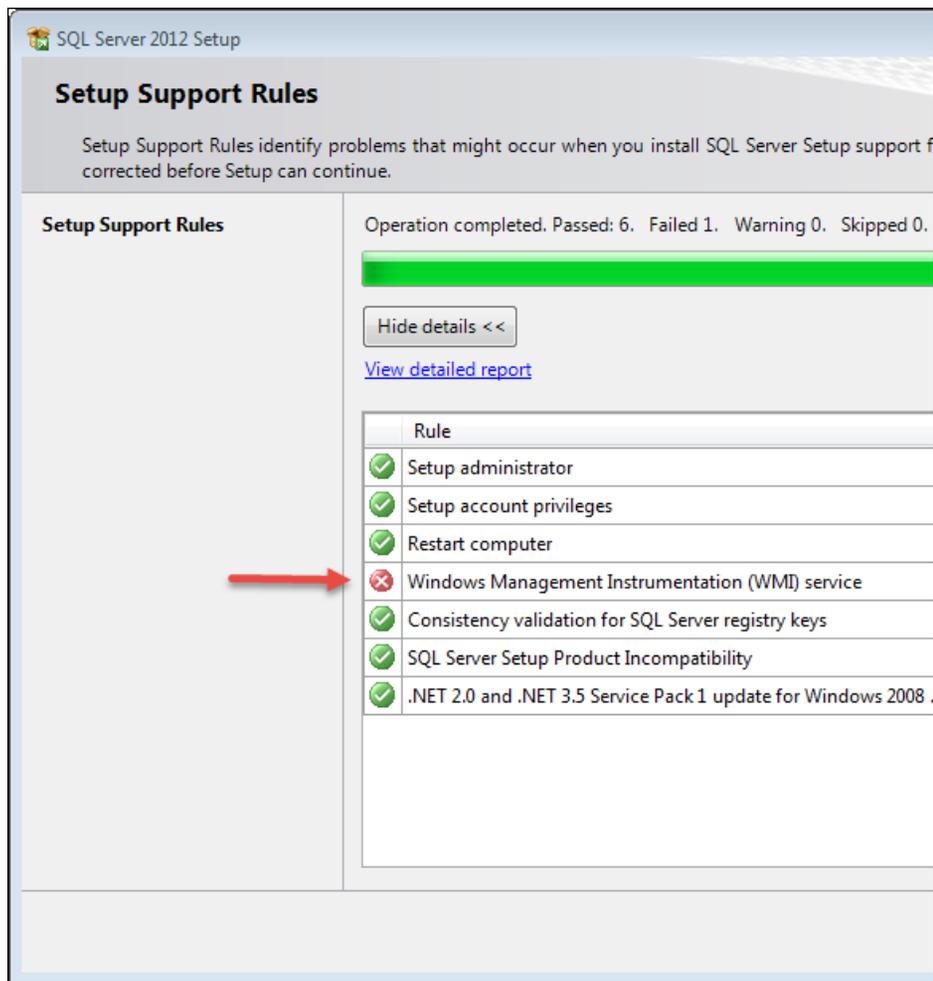
After this, the installation will commence and a progress strip will appear. When it has finished, the final page will be displayed.

Click close



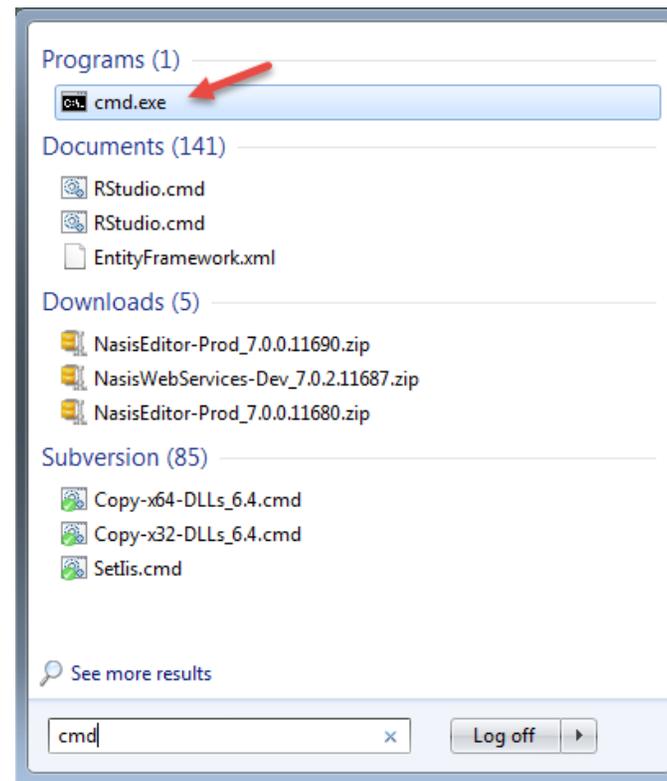
### Troubleshooting Suggestion

At the beginning of the setup procedure a page like this may appear. Notice that the check for the WMI service failed.



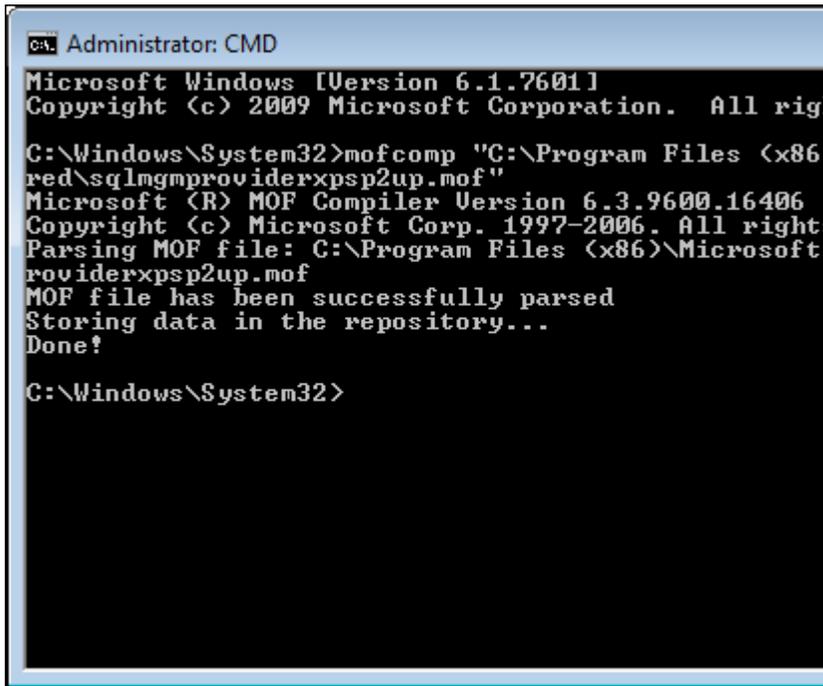
If this happens, cancel the installation and use the following procedure to fix the WMI service.

1. To open a Command window: click on the Windows Start button and type "cmd" in the search box. Right-click on the program cmd.exe and select "Run as Administrator".



2. In the CMD window, type (or paste) this command:

```
mofcomp "C:\Program Files (x86)\Microsoft SQL Server\110\Shared\sqlmgmproviderxpsp2up.mof"
```



```
Administrator: CMD
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\System32>mofcomp "C:\Program Files (x86)\Microsoft\SQL Server\100\sqlmgmprovider\sqlmgmproviderxpsp2up.mof"
Microsoft (R) MOF Compiler Version 6.3.9600.16406
Copyright (c) Microsoft Corp. 1997-2006. All rights reserved.
Parsing MOF file: C:\Program Files (x86)\Microsoft\SQL Server\100\sqlmgmprovider\sqlmgmproviderxpsp2up.mof
MOF file has been successfully parsed
Storing data in the repository...
Done!

C:\Windows\System32>
```

3. If the above messages indicate successful completion, close the CMD window and restart the SQL installation.

## Section 3

Once the “NasisSqlExpress” instance of SQL Server Express 2012 has been installed as described in Section 2 it’s time for the NASIS Editor installer to take over. Download the NASIS installer from the NASIS home page:

[http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/tools/?cid=nrcs142p2\\_053550](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/tools/?cid=nrcs142p2_053550)

Run the installer as an administrator. It will show a few dialog pages, but you do not need to change any options. Just click Next on each page. If the installation fails and displays an error message similar to “Could not load file or assembly ‘Microsoft.SqlServer.Smo’ ...” it means that SQL Server Express was not installed. Start over with the SQL Server Express installation process.

When the installation is finished there will be a new program on your Start menu at All Programs / USDA Applications / Soils / NASIS. When you start the program it will first ask you to log in using your eAuthentication login and password. Next it will report that the database needs to be initialized, and you should click the Initialize button. When this is finished, NASIS is ready to use.

If you have trouble with the login process, contact the Soils Hotline at [soilshotline@lin.usda.gov](mailto:soilshotline@lin.usda.gov) or 402-437-5378 or 402-437-5379.

Inquiries about NASIS training may be sent to [SoilsHotline@lin.usda.gov](mailto:SoilsHotline@lin.usda.gov).