

Step by Step Guide to Upgrade SCCM 2012 R2 Environment to SCCM R2 SP1 and R2 SP1 CU2

In This guide we will perform upgrade on our existing SCCM 2012 R2 hierarchy and upgrade it to SCCM R2 SP1 and then apply R2 SP1 CU2.

- [What's New in System Center 2012 R2 Configuration Manager SP1](#)

Very nice explanation on new features by [Benoit Lecours](#)

List of new features:

Sites and Hierarchies

- Improvements to automatic client upgrade
- You can now exclude servers from automatic client upgrade

Application Management

- When you revise an application, the new revision now inherits all dependencies from the previous revision.
- Configuration Manager now lets you create supersedence relationships that can update dependent applications to a newer version.

Content Management

- Remote Differential Compression (RDC) is no longer used for every file during content distribution. As a best practice, it is now only used for files larger than 16KB.
- Pull-distribution points now have their own controls for concurrent distribution settings to multiple pull distribution points

Operating System Deployment

- You can now deploy Windows 10 to compatible devices in your hierarchy.
- Role based authentication can now be used for standalone media.
- Enhanced audit messages for operating system deployment.
- OS Installer Package renamed to OS Upgrade Packages.
- Task sequence USB media now supports larger than 32GB.

Reporting

- You can now specify a start and end date for the Distribution Point Usage Summary report

Configuration Manager Company Portal App

- The Configuration Manager Company Portal app allows users of client Windows 8, Windows 8.1 and Windows 10 devices to view and install applications that you make available


Configuration Manager and Microsoft Intune


- You can now manage Windows 10 and Windows 10 mobile devices that are enrolled with Microsoft Intune
- You can deploy iOS apps that are free of charge from the app store
- Conditional access to Exchange On-premises for mobile devices

For Complete Details Refer Below Links:

- [SCCM 2012 SP2 and SCCM 2012 R2 SP1 Release announcement](#)
- [Planning to upgrade to System Center 2012 Configuration Manager SP2](#)
- [Planning to Upgrade System Center 2012 Configuration Manager](#)

Download all the necessary files see [Anoop c nair's Post](#) and detail on which file to download

 SC2012_R2_SP1_Configmgr

 SC2012_SP2_Configmgr_SCEP

Order of Upgrade:

- CAS
- Primary
- Secondary Site
- Console Upgrades
- Client Upgrade

Start at the top-level site in the hierarchy, run the Setup.exe from the System Center 2012 R2 Configuration Manager Source media.

After top-level site completes the upgrade and replication is Active, you can **begin the upgrade of each child site**.

Complete the upgrade of each site before you begin to upgrade the next site.

Until all sites in your hierarchy upgraded to the new product version, your hierarchy operates in a mixed version mode.

Complete the Check list before proceeding to upgrade infrastructure:

Make a Note of:

- Server Names
- Location
- Virtual/Physical,
- Operating System
- RAM
- SQL Version
- NIC Details / Network Configurations
- Total Disk Drives
- Free and Used space

Prepare for Upgrade:

Ensure that Current and Complete Backup of all SCCM Site Servers is available to external Server
Also verify followings and make a note of maintenance tasks schedule time, location of the backup with complete details.

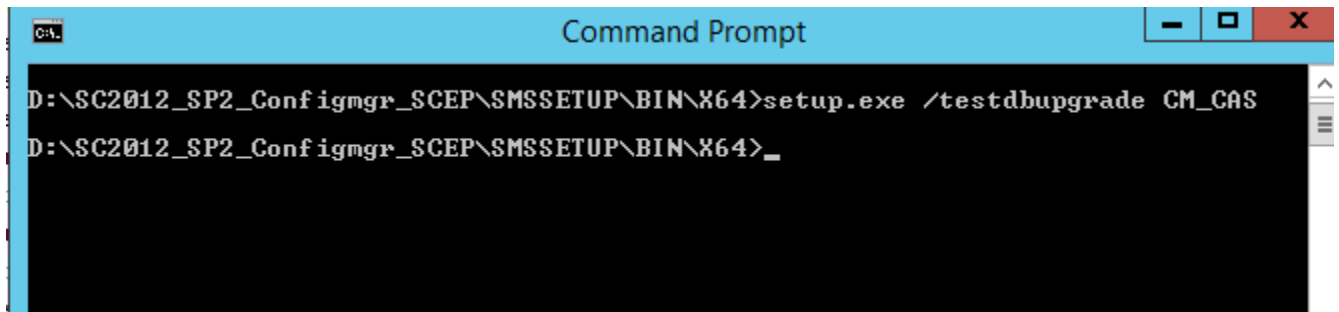
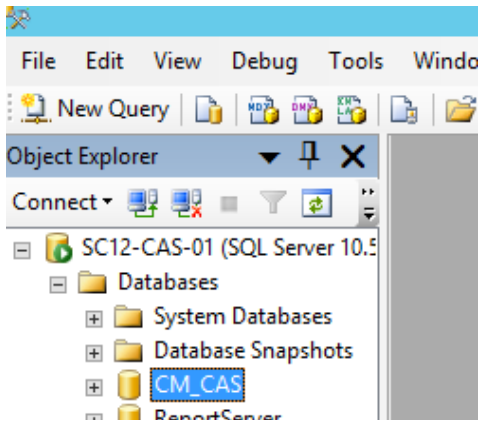
SCCM 2012 R2 Upgrade Checklist: for complete check list refer [Technet](#) site

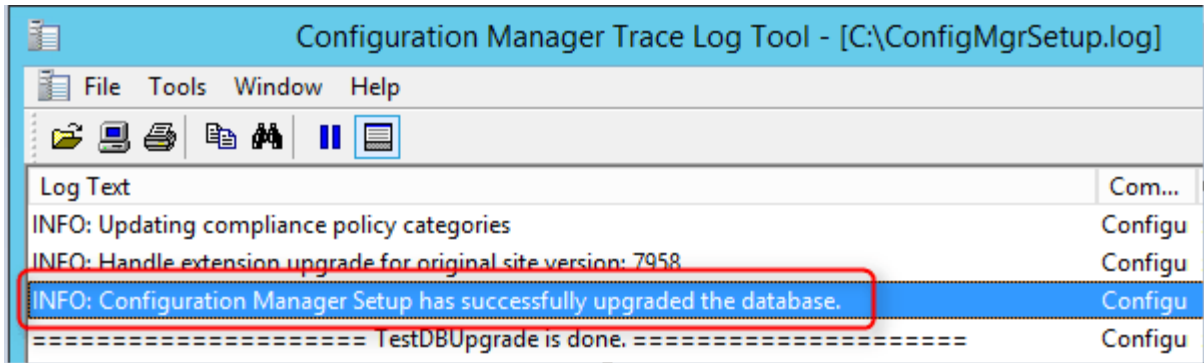
1. Verify that all your sites run on same version SCCM 2012 R2 CU4 in my case.
2. Apply all required patches on all Site Servers and Restart
3. Back up the site database.
4. If you have a database replica for management point, disable Database replication. If you don't use this function, skip this step
5. Disable all site maintenance tasks that might run during the upgrade
6. Test the database upgrade process on a copy of the most recent site database backup.
7. Uninstall the existing version of Windows Assessment and Deployment Kit (ADK) 8.0
8. Install Windows Assessment and Deployment Kit (Windows ADK) 10 for Windows 10
[Download Windows ADK for Windows 10](#)
9. Run Setup Prerequisite Checker, to verify that the site server is ready to upgrade.
10. Download the prerequisite files and redistributable files for SCCM 2012 R2 SP1 by running **setupdl.exe** on alternate location
11. Restart the site server and ensure that there are no pending restarts.
12. Install the SCCM 2012 R2 SP1 Upgrade on the CAS/Primary/Secondary Site Servers.
13. Verify Hierarchy / Sites, Logs and perform post upgrade activity
14. Create Collections for updating Clients, Consoles and Site Servers.
15. Upgrade the stand-alone Configuration Manager Consoles.
16. Reconfigure the database maintenance tasks you might have disabled prior to the upgrade.

17. Upgrade Clients

Backup and TestUpgrade

- Perform a backup of your SCCM database.
- Perform Test DB Upgrade on your CM database before the upgrade, Recommended.
More information on test db upgrade.
 - Backup SCCM site Database
 - Restore it on a SQL server running the same version as your SCCM SQL instance on another server
 - On the SQL server, run the SCCM setup command line using the **Testdbupgrade** switch
 - Open the log file on C:**ConfigMgrSetup.log**
 - Ensure test DB upgrade is successful, if any errors, resolved them before you proceed with actual upgrade.





Once Test Database upgrade is successful. Proceed further with Actual upgrade.

Perform Installation

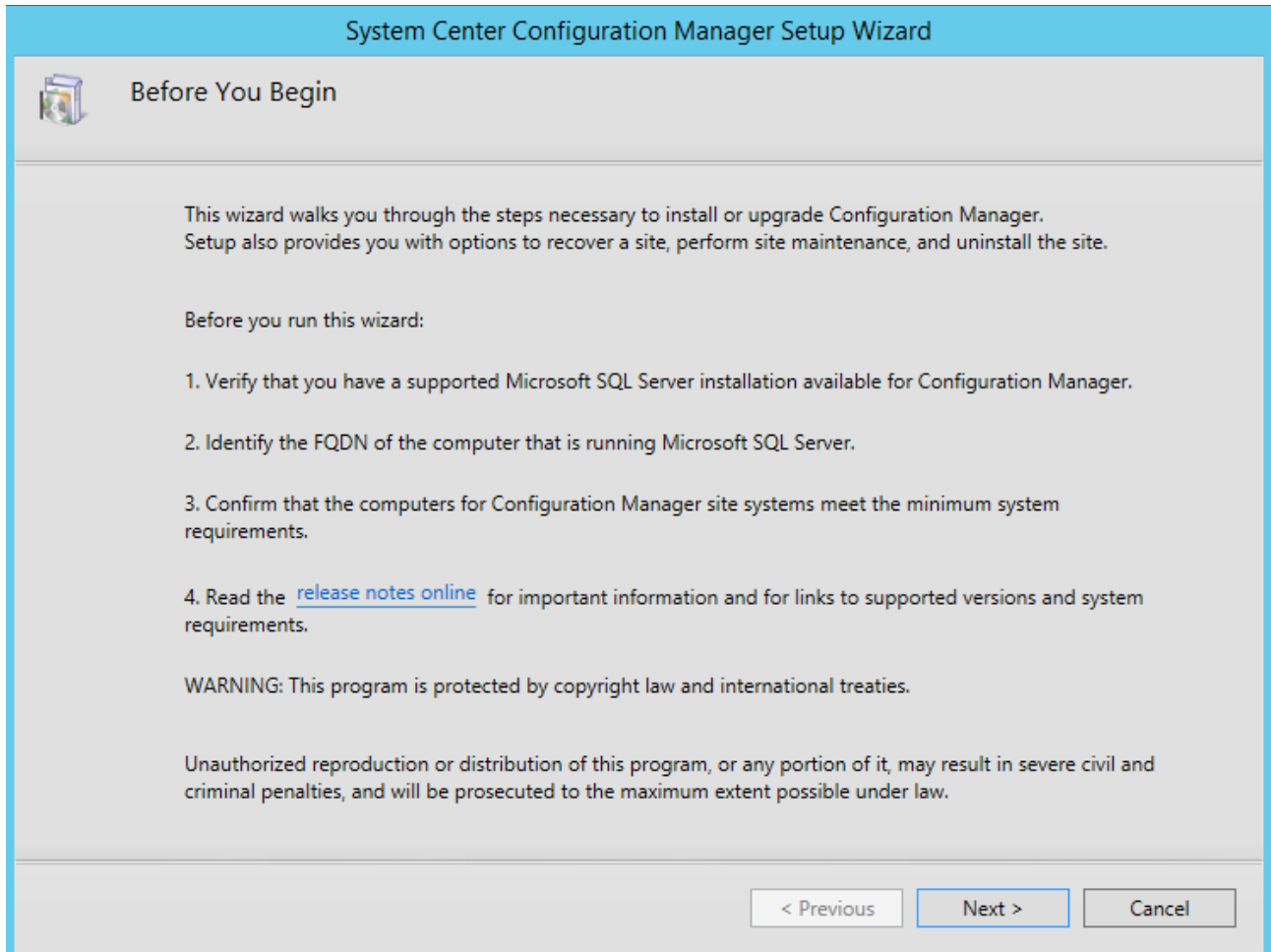
The SCCM R2 SP1 experience is like a new SCCM installation.

In our case, the site is already R2 so we extract the SC2012_SP2_Configmgr_SCEP.exe to a folder and execute **Splash.hta**

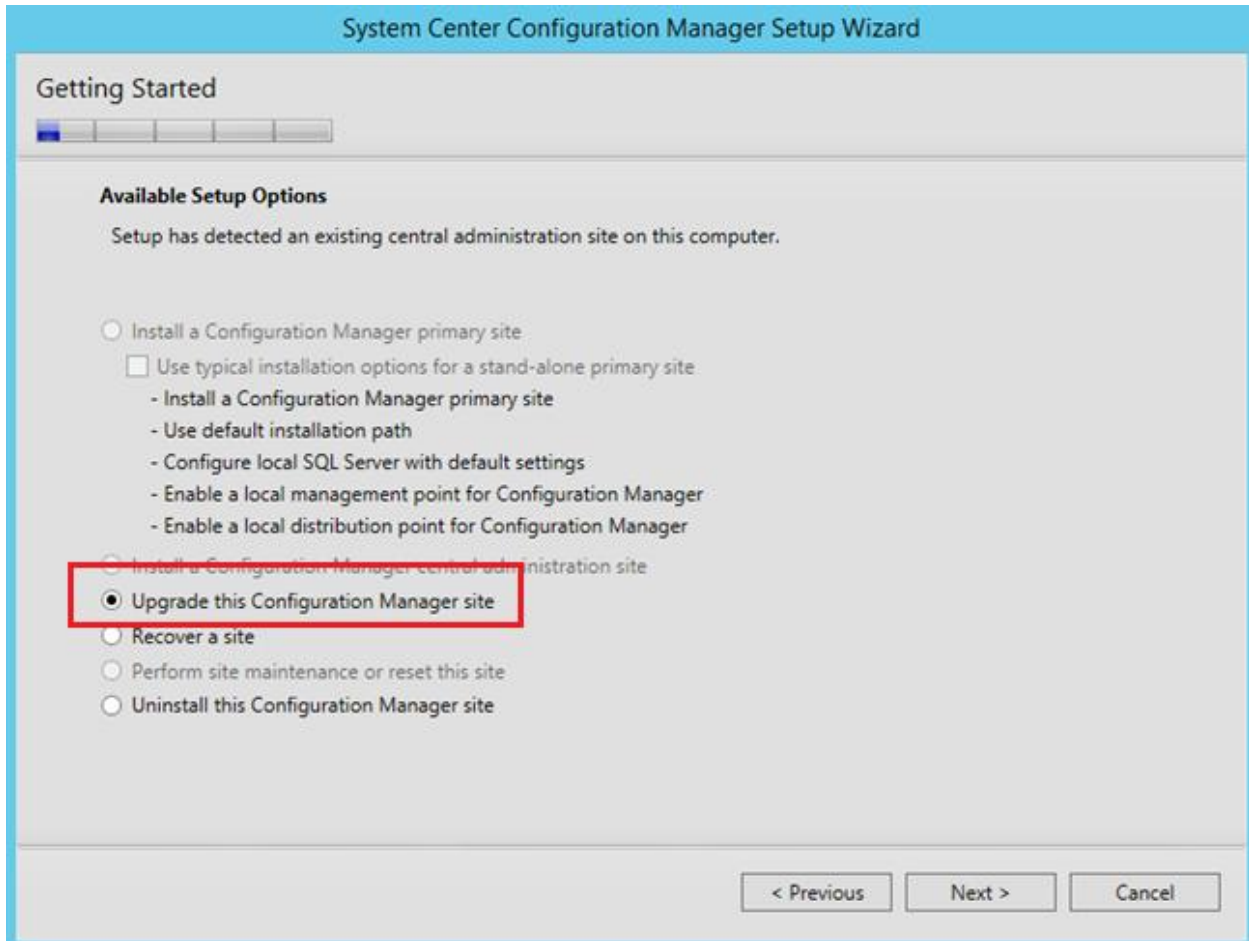
- On the main menu, select Install



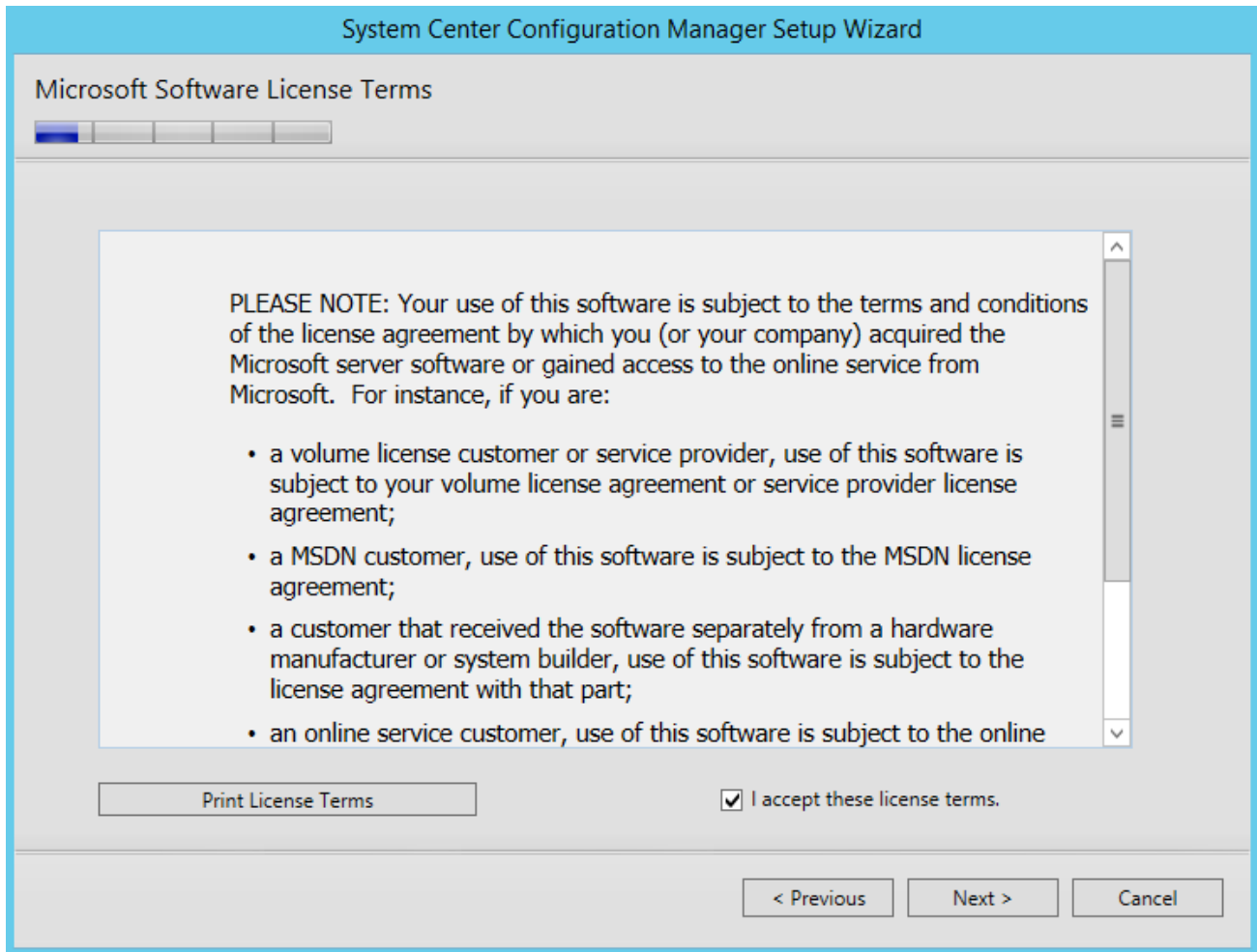
- On the Before You Begin screen, click Next



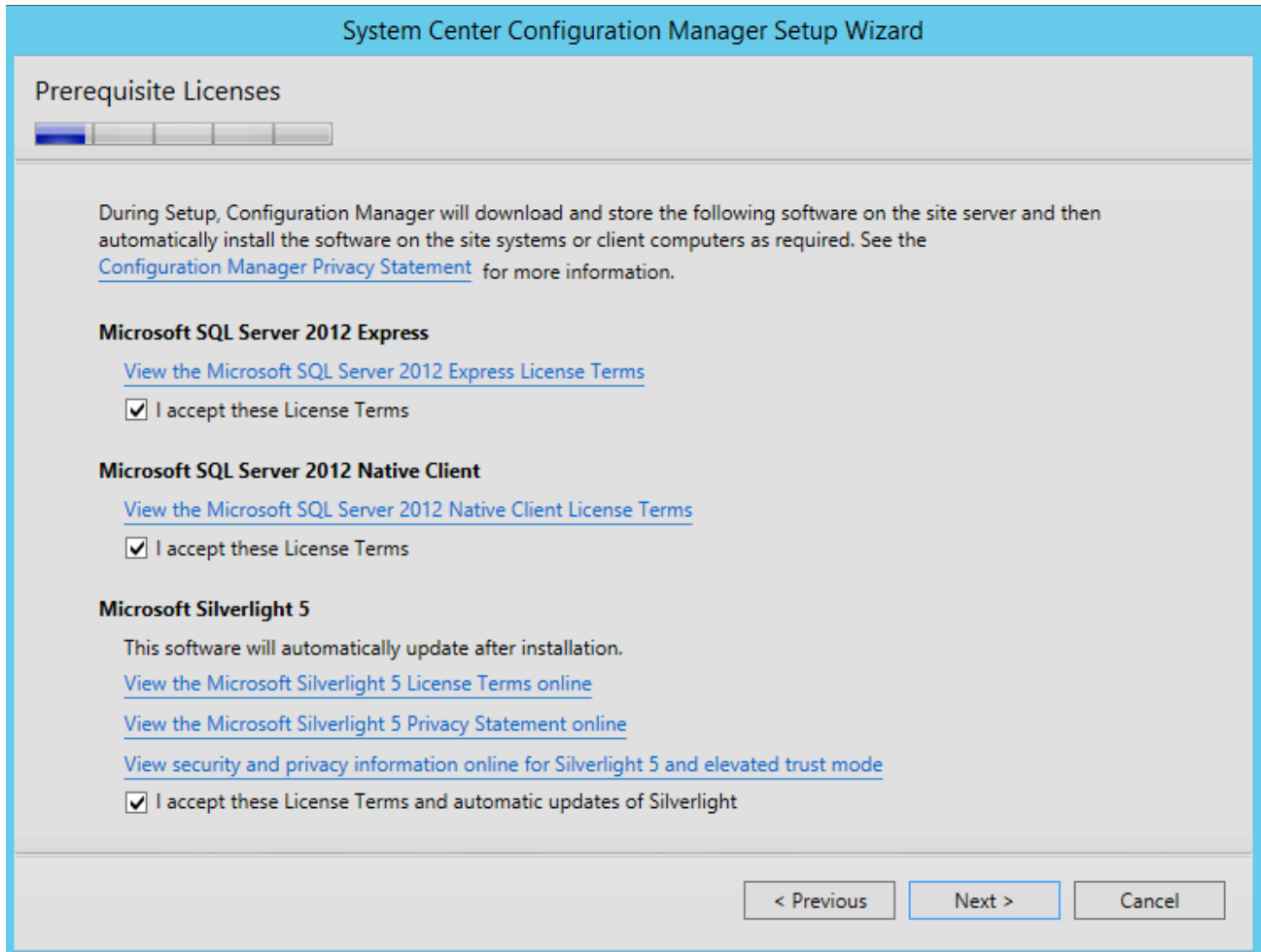
- On the Getting Started screen, select **Upgrade this Configuration Manager site**



- On the Microsoft Software License Terms, check I accept these license terms and click Next



- On the Prerequisite Licenses, check all 3 boxes and click Next



- On the Prerequisite Downloads screen, specify a location to download the prerequisite files or select alternate path where prerequisite files were downloaded offline.

System Center Configuration Manager Setup Wizard

Prerequisite Downloads

Setup requires prerequisite files. Setup can automatically download the files to a location that you specify, or you can use files that have been downloaded previously.

Download required files

Example: \\ServerName\ShareName or C:\Downloads

Path:

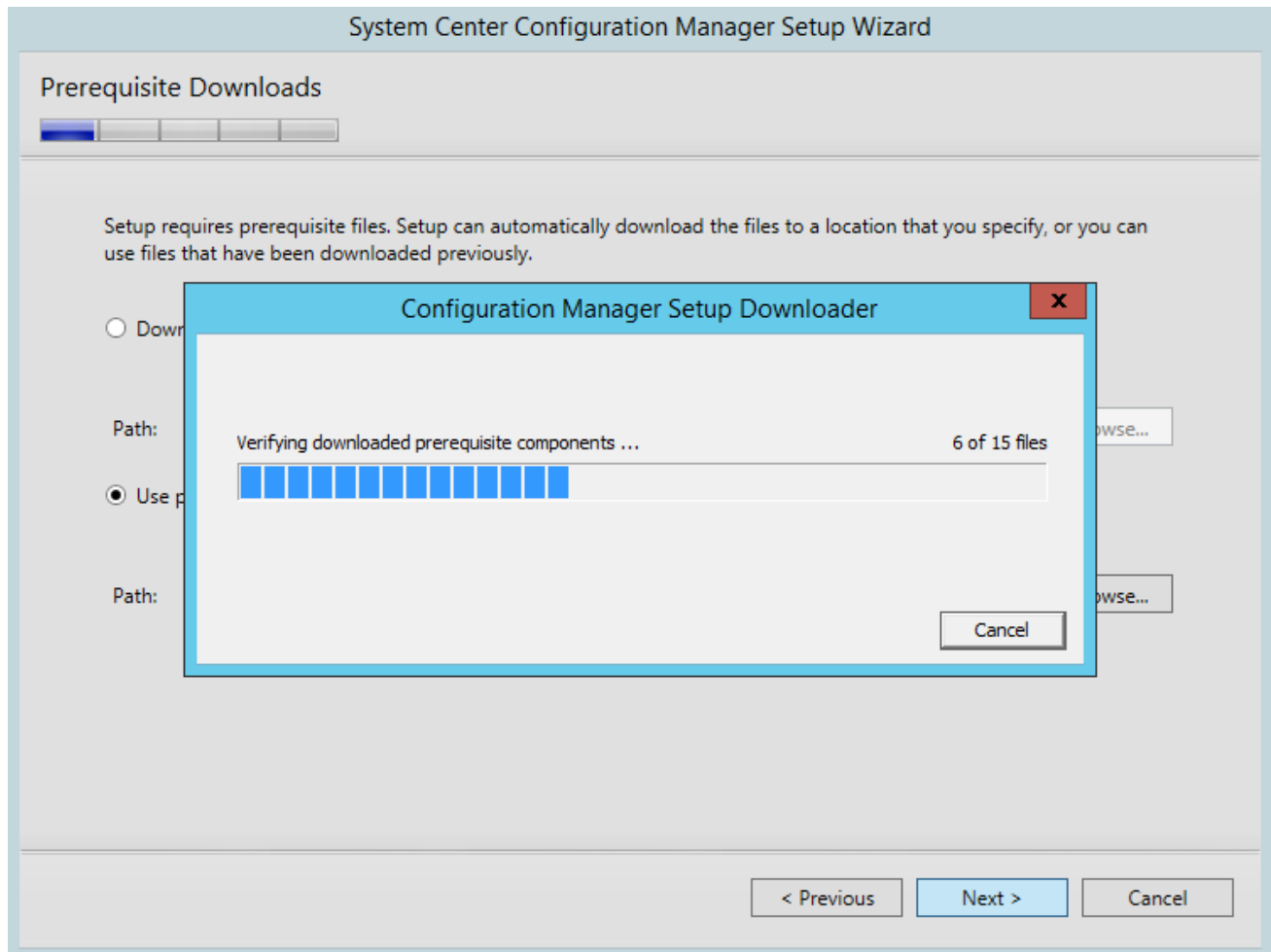
Use previously downloaded files

Example: \\ServerName\ShareName or C:\Downloads

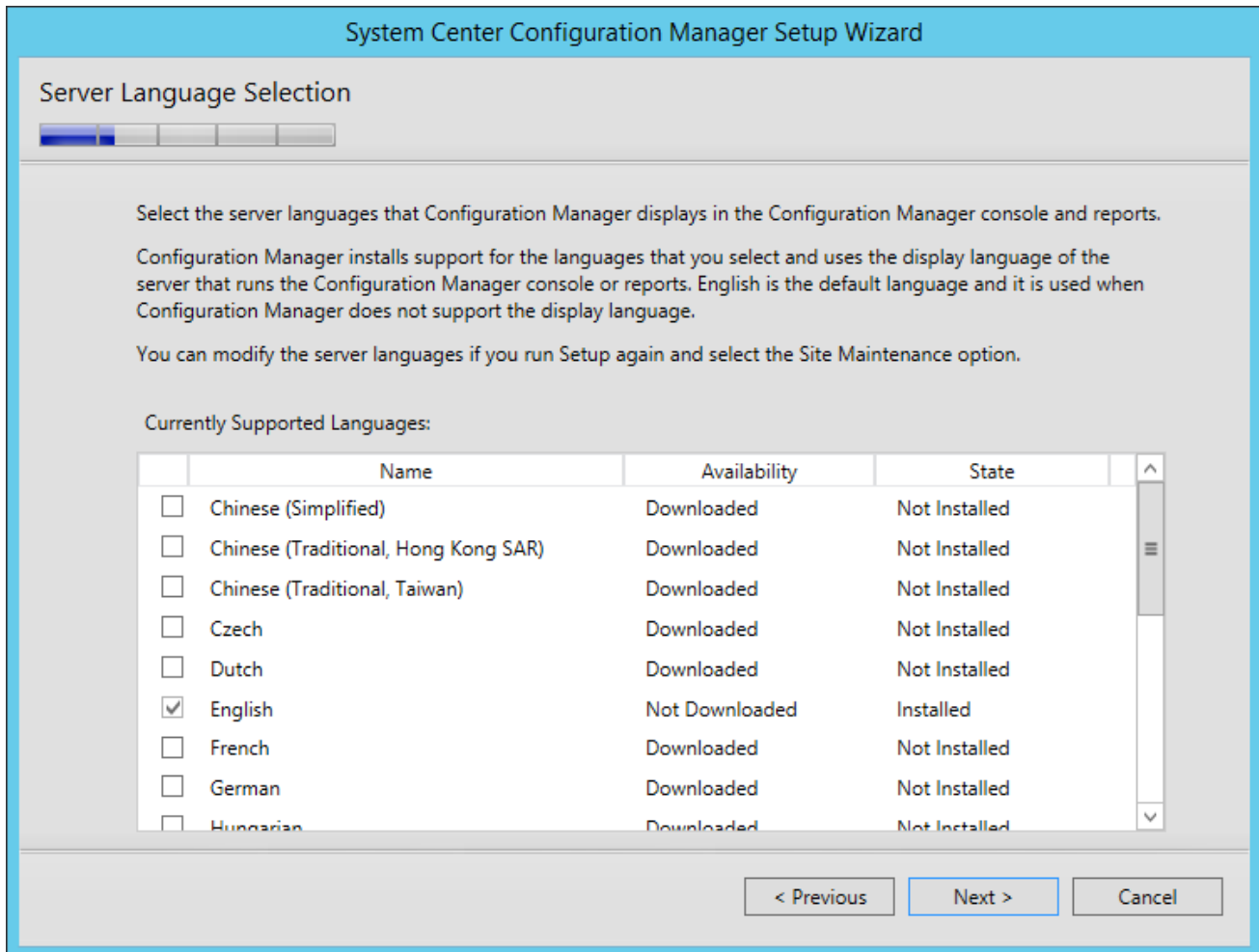
Path:

< Previous Next > Cancel

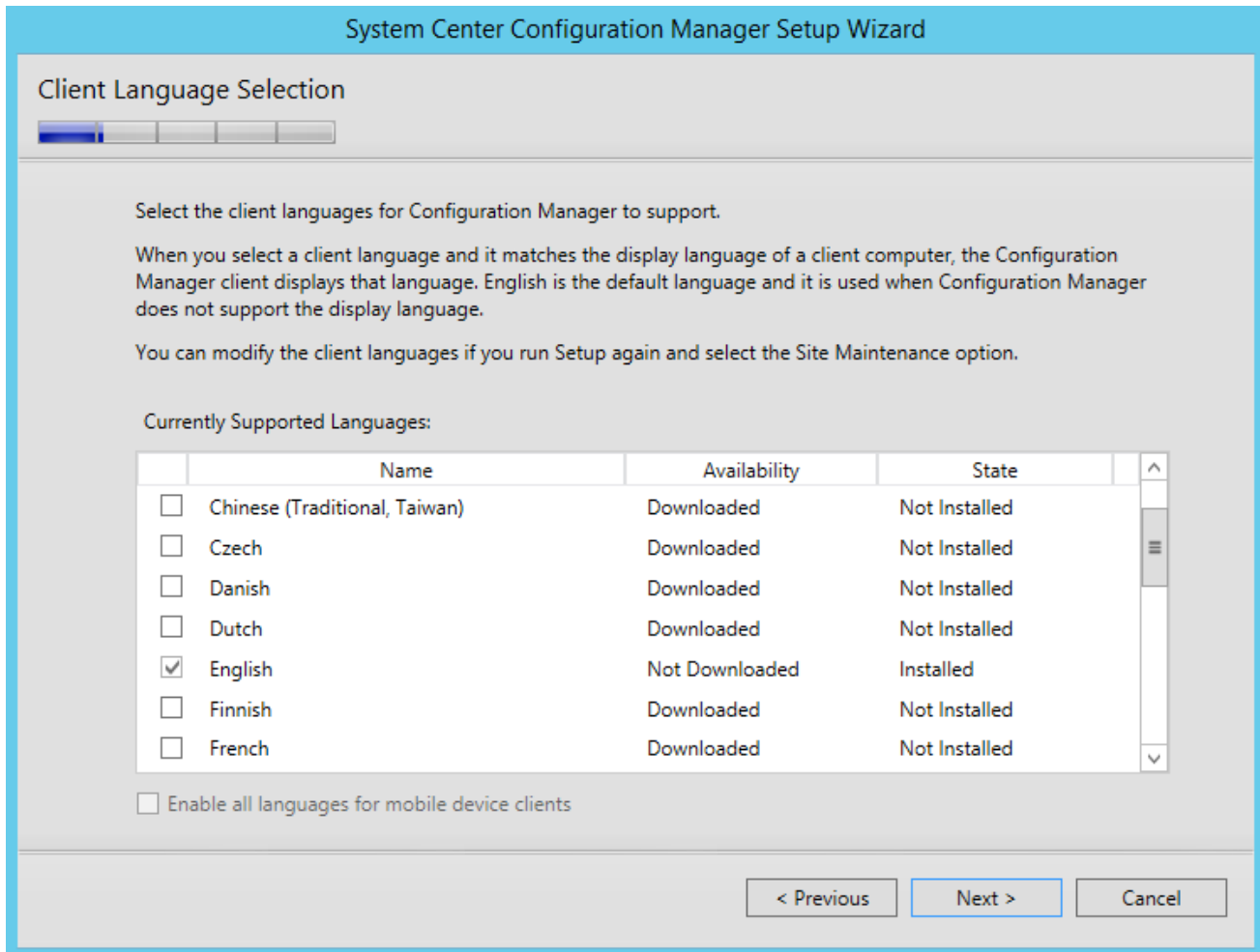
- The prerequisite files are being verified



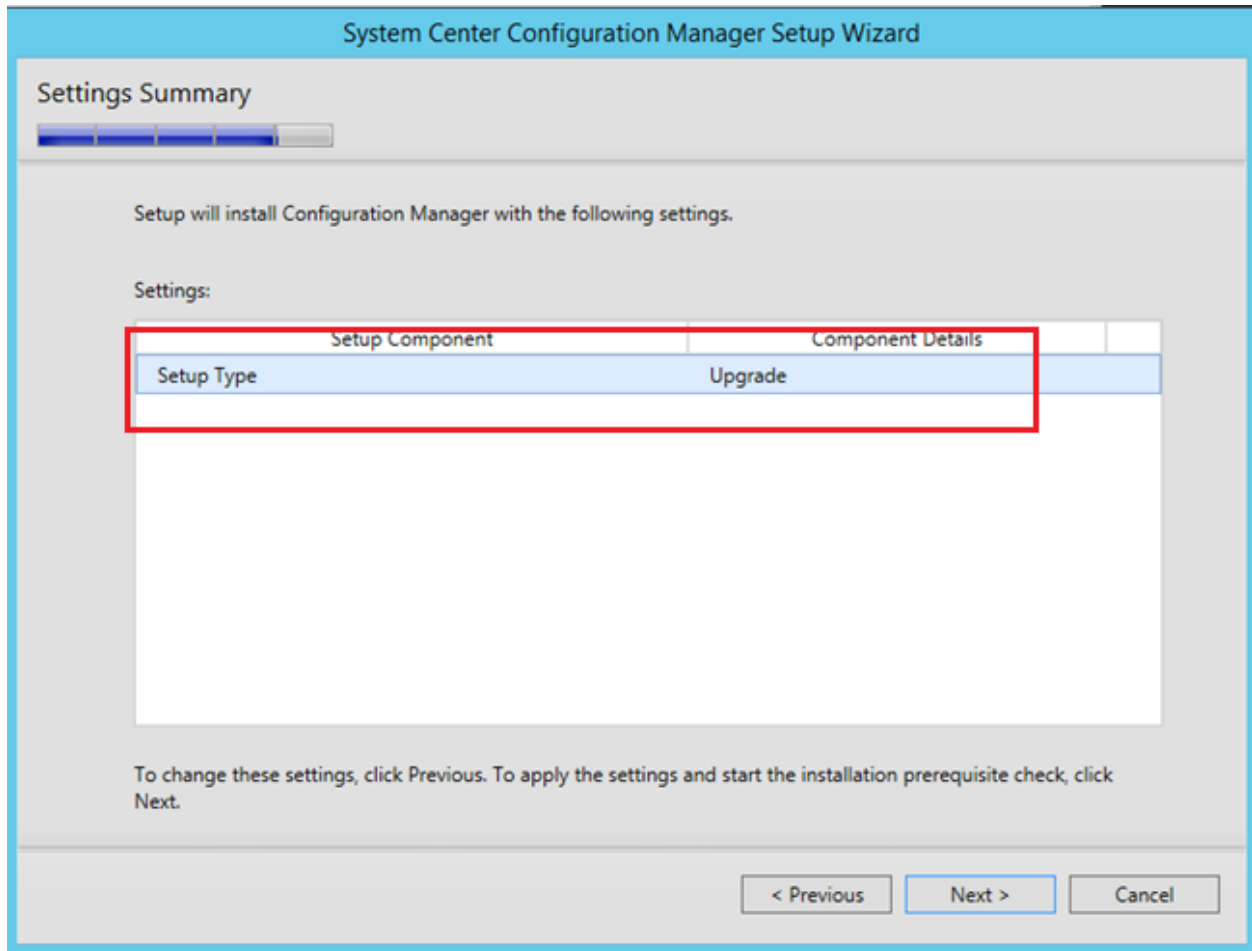
- On the **Server Language Selection** screen, select the language you want to display in the SCCM Console and Reports



- On the Client **Language Selection** screen, select the language for SCCM Client



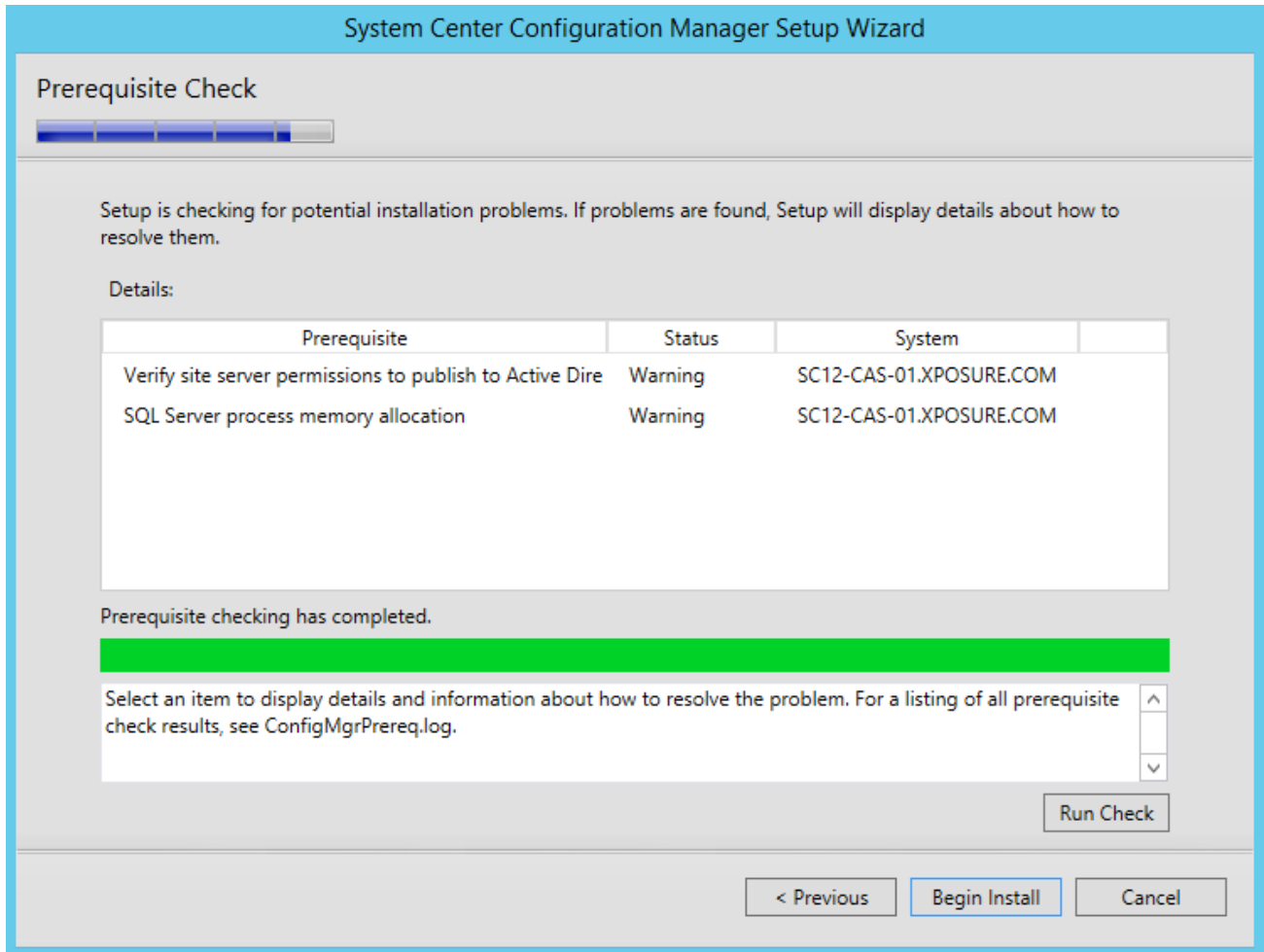
- On the **Settings Summary** screen, you will see that you are performing an Upgrade



The Prerequisite Check is running

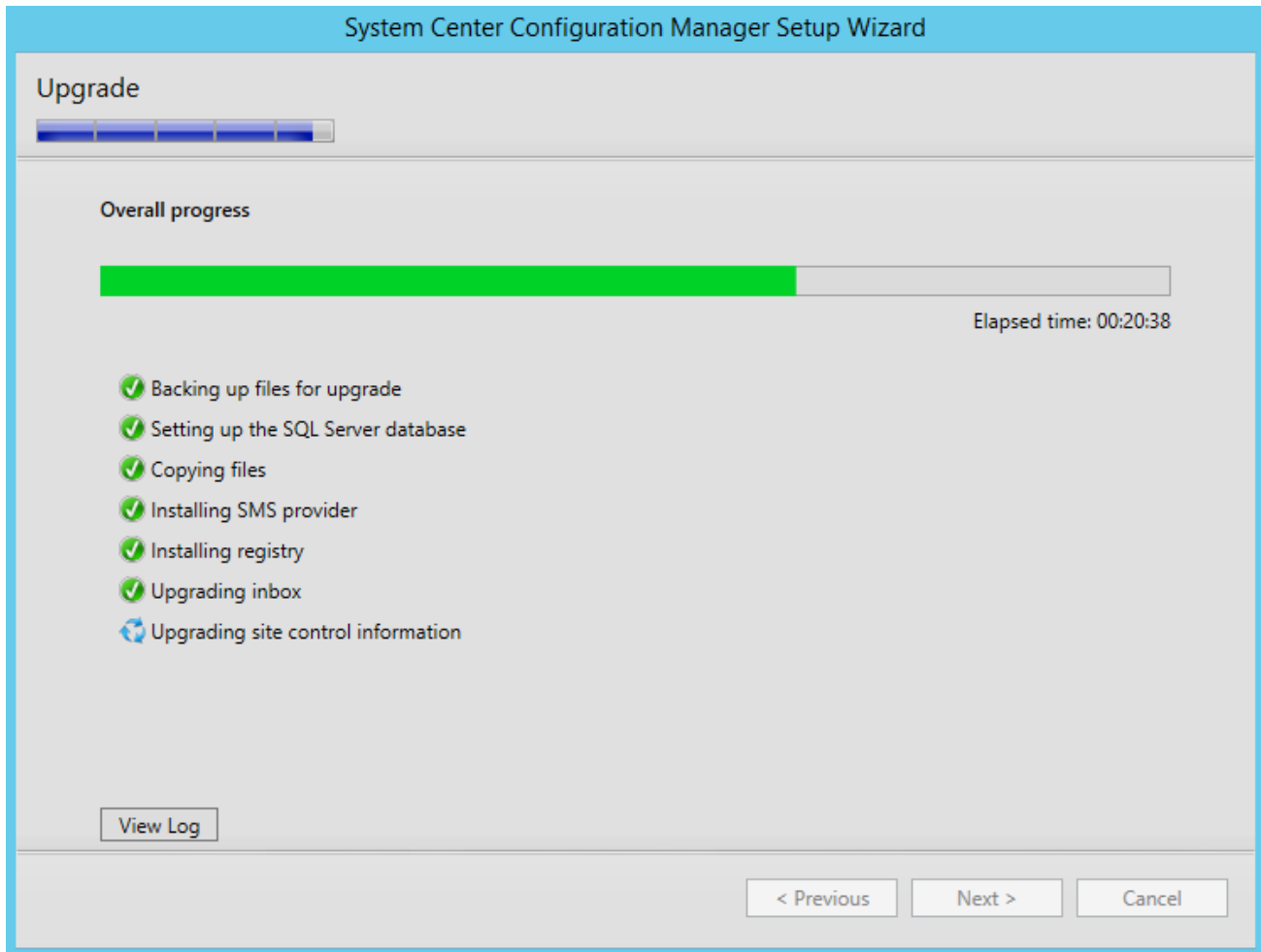
There shouldn't be any errors since site is already installed and running

Wait for Prerequisite checking has completed and click on Begin Install

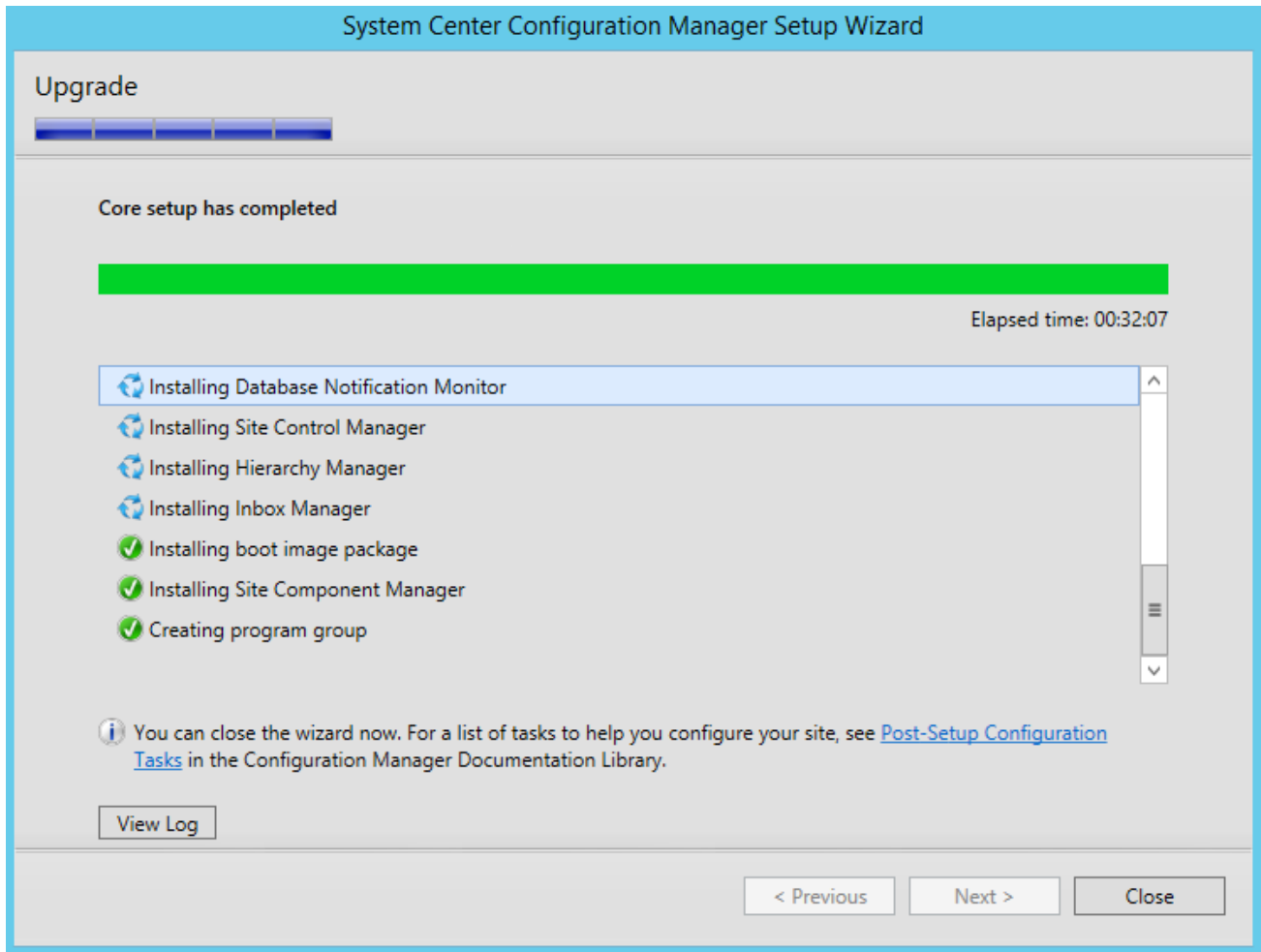


The installation is in progress. The installation will run for about 30 to 45 minutes depending of your server specifications

Progress can be seen by clicking the View Log button or open the **ConfigMgrSetup.log** file on the **C:** drive



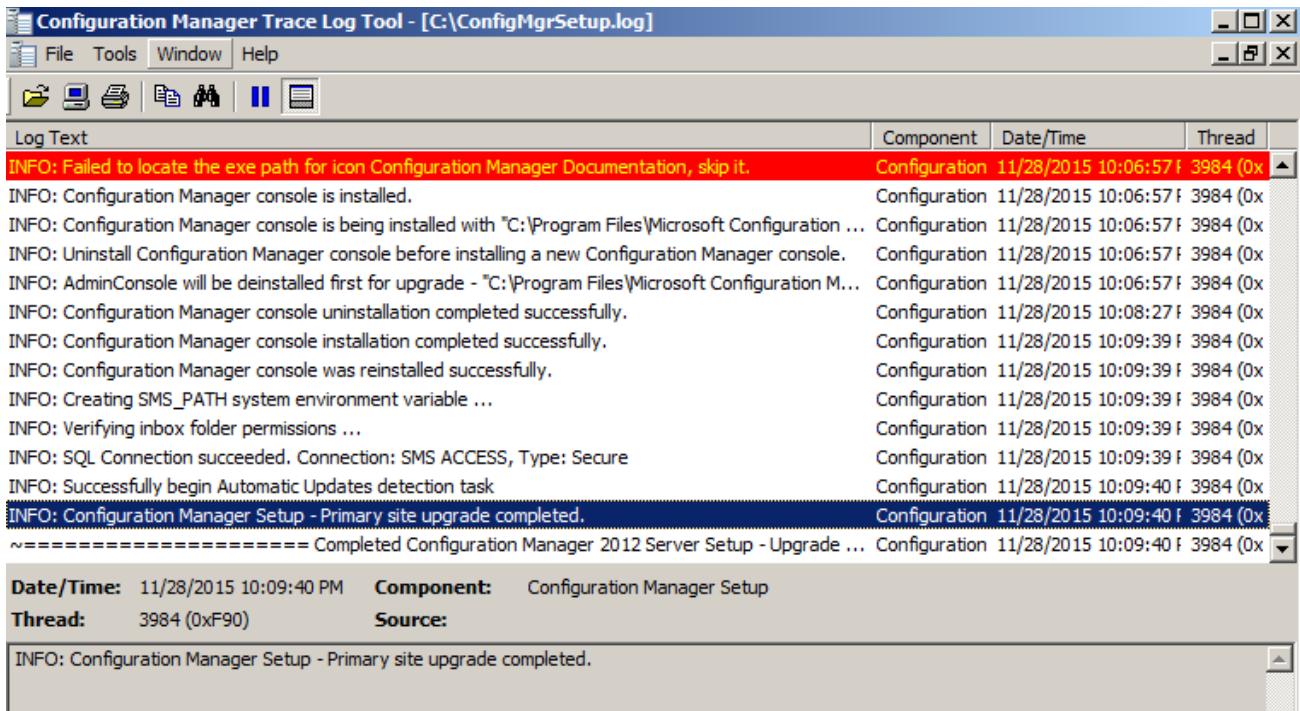
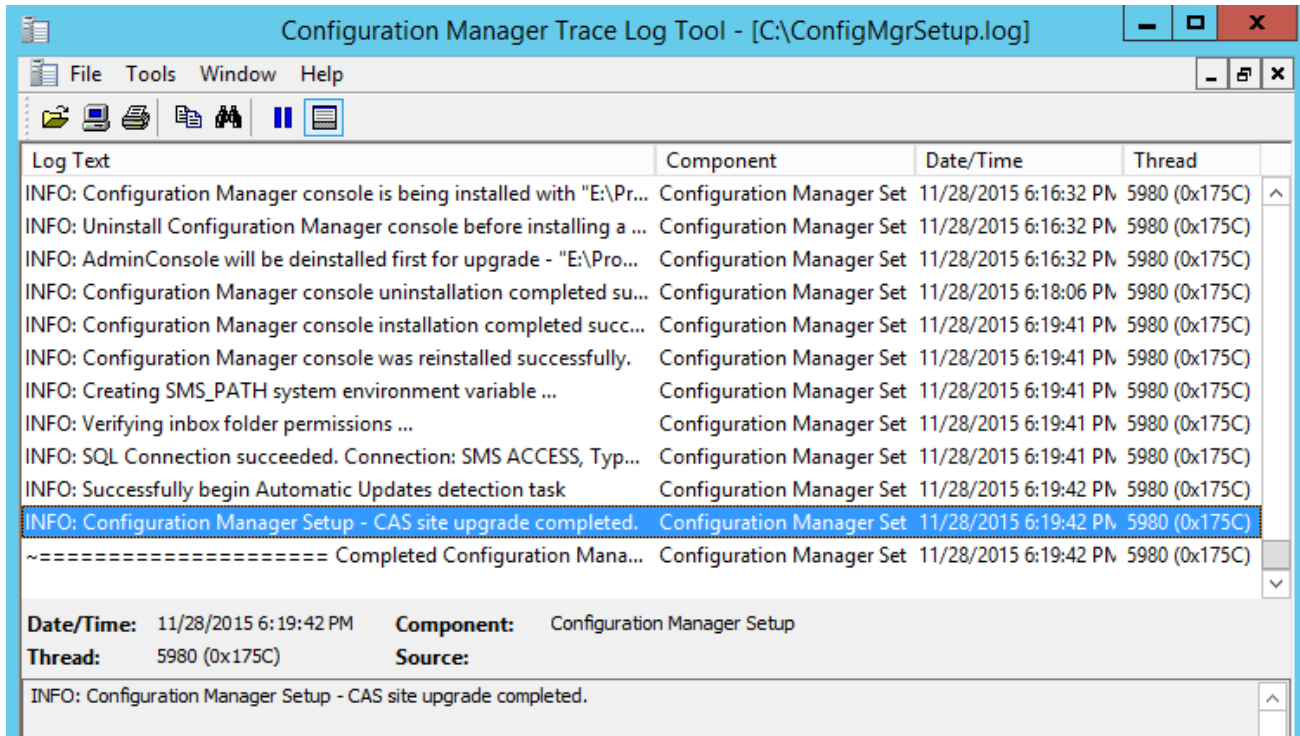
- Wait for Core setup to complete and close the wizard



Verify the installation

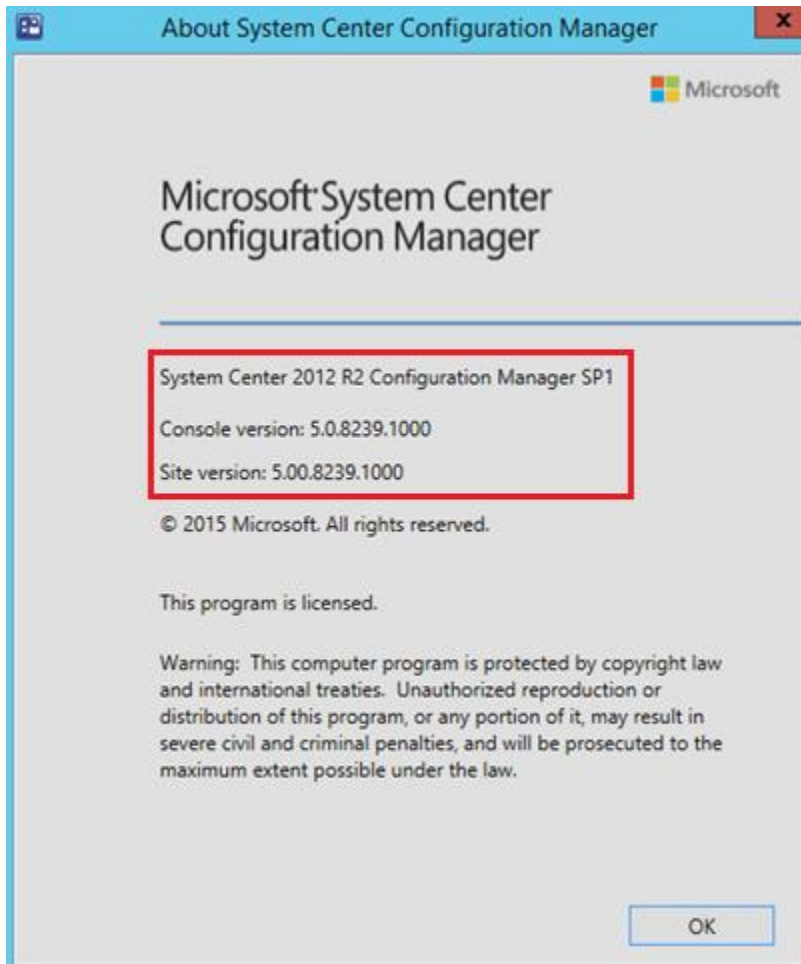
Once the setup has completed, there's a couple of check that you can make to be sure the upgrade process was successful.

Detailed installation steps can be viewed in **C:\ConfigMgrSetup.log** file



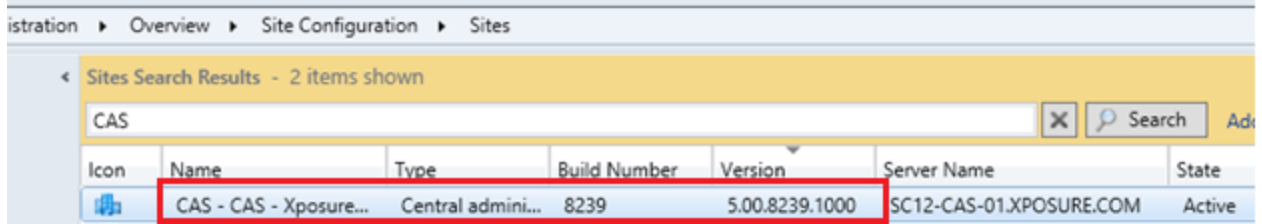
Verify from SCCM Console

- Open the **SCCM Console** → click on the upper left corner on the blue arrow → select **About Configuration Manager**
- The Console has been upgraded to SP1
 - A new addition is the Site version which was not available on this screen before

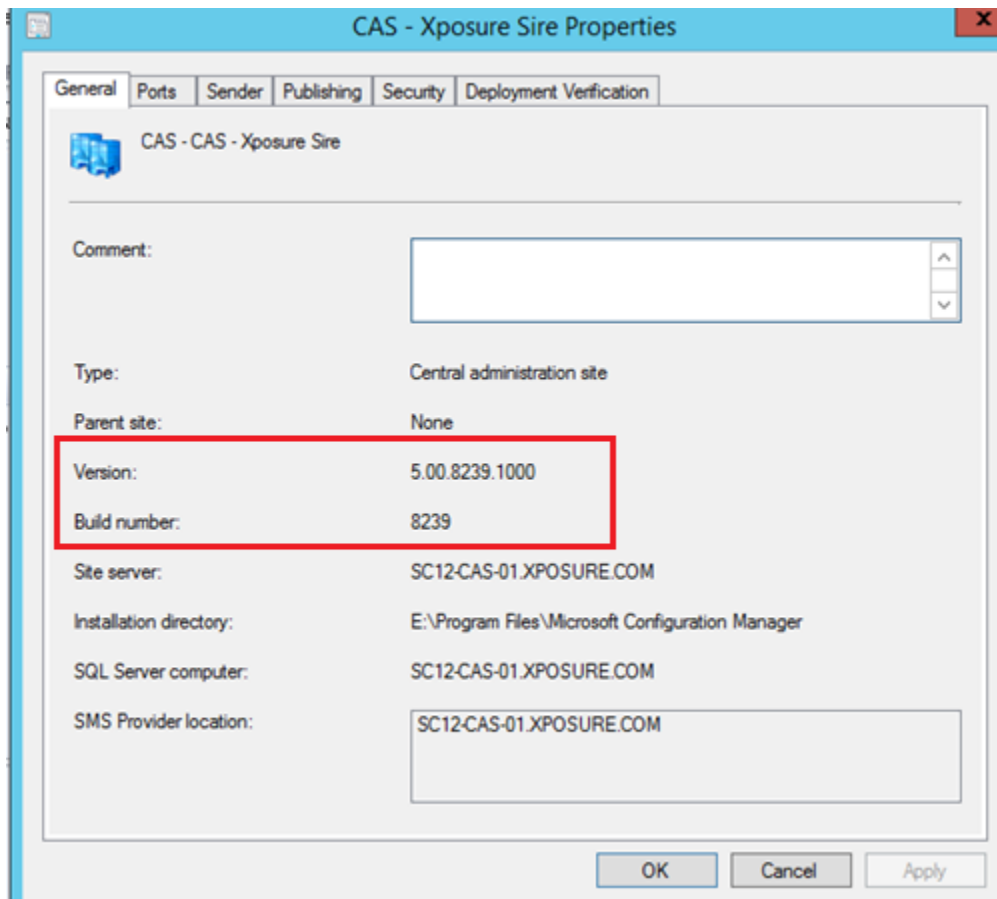


Site Properties

- Go to **Administration** → **Site Configuration** → **Sites**
- Right-click your site and select **Properties**
- The **Site Version** and **Build Numbers** has been upgraded to **5.00.8239.1000**
- **Site Build Number** and **Version**



Icon	Name	Type	Build Number	Version	Server Name	State
	CAS - CAS - Xposure...	Central admini...	8239	5.00.8239.1000	SC12-CAS-01.XPOSURE.COM	Active

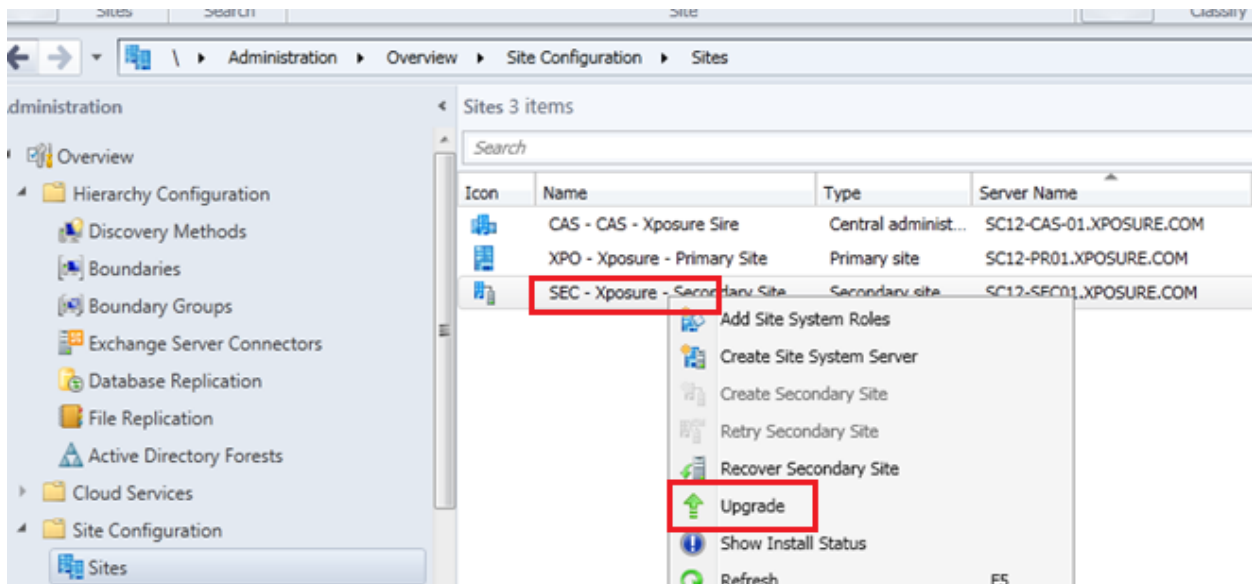


Site has been upgraded successfully. Wait for replication to be active, verify the replication status, site component status and run exec **SpDiagDRS** to verify if everything looks good.

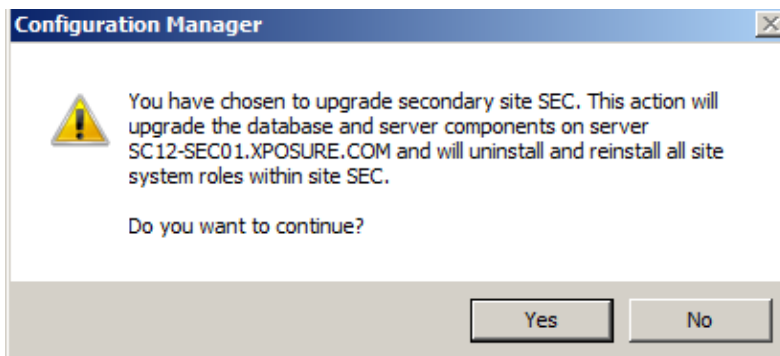
Performing Upgrade on Secondary Site:

Secondary site can be upgraded from SCCM Console itself. To upgrade select the Secondary site from SCCM Console.

- Go to **Administration** → **Site Configuration** → **Sites**
- Right-click your **Secondary site** and right click and click on **Upgrade** or Select the site and from ribbon click on **Upgrade**



- On confirmation, click on Ok to start the upgrade process



To view the install status:

- Go to **Administration** → **Site Configuration** → **Sites**
- Right-click your **Secondary site** and click on **Show Install Status**



Secondary Site Installation Status [X]

Detailed site installation status for Secondary site 'SEC - Xposure - Secondary Site' Refresh

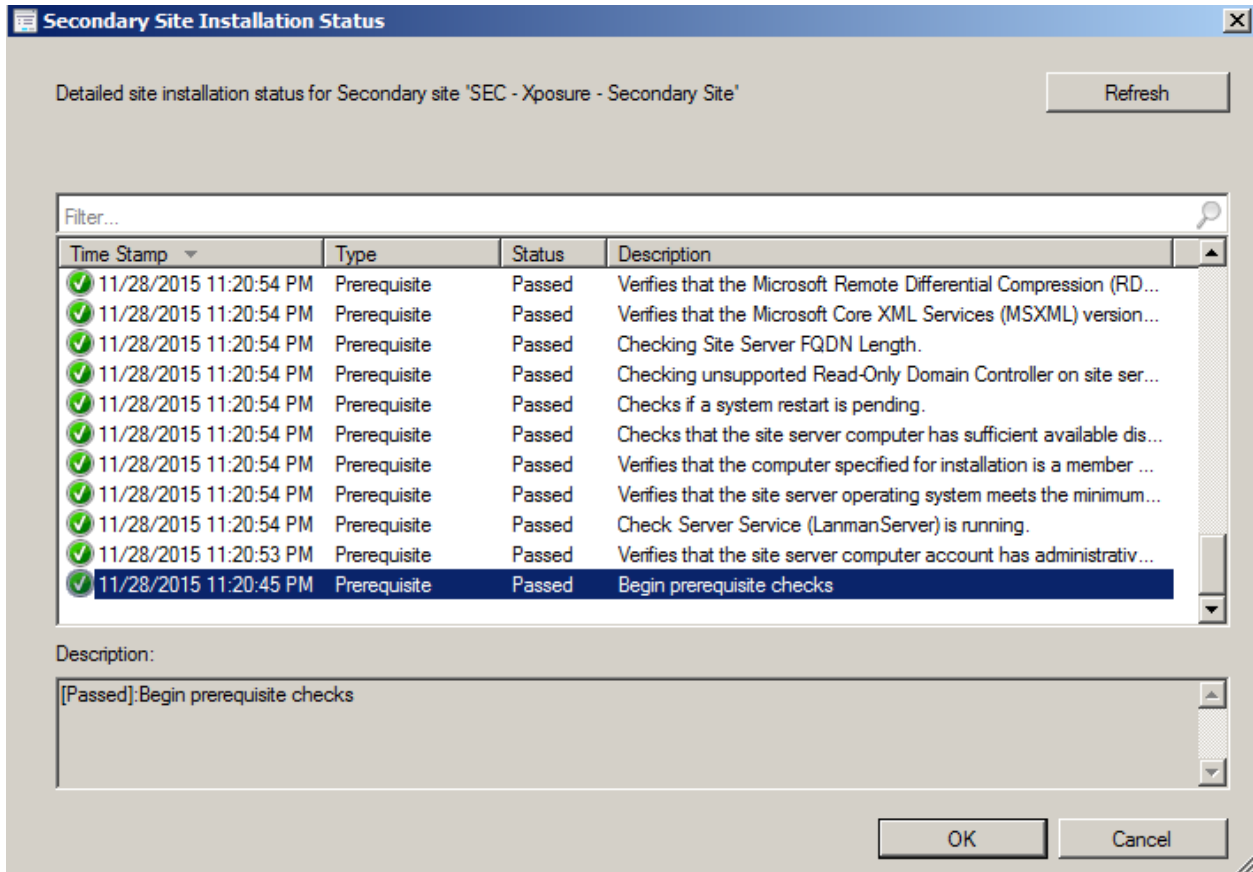
Filter...

Time Stamp	Type	Status	Description
✓ 11/28/2015 11:26:24 PM	Bootstrap	Passed	Decompress secondary site server installation files
✓ 11/28/2015 11:26:24 PM	Bootstrap	Passed	Secondary site server bootstrap installation service initiation suc...
✓ 11/28/2015 11:26:24 PM	Bootstrap	Passed	Initiate secondary site server bootstrap installation service
✓ 11/28/2015 11:26:24 PM	Bootstrap	Passed	Initiate secondary site server bootstrap installation service
✓ 11/28/2015 11:22:50 PM	Prerequisite	Passed	Prerequisite checks complete
✓ 11/28/2015 11:22:50 PM	Prerequisite	Passed	Verifies that the user running Setup has local administrator right...
✓ 11/28/2015 11:22:50 PM	Prerequisite	Passed	Verifies that Internet Information Services (IIS) is configured for ...
✓ 11/28/2015 11:22:50 PM	Prerequisite	Passed	Verifies that the Microsoft Core XML Services (MSXML) version...
✓ 11/28/2015 11:22:50 PM	Prerequisite	Passed	Verifies that the operating system meets the minimum requireme...
✓ 11/28/2015 11:22:50 PM	Prerequisite	Passed	Checks to see if there is an earlier version of the Configuration ...
✓ 11/28/2015 11:22:39 PM	Prerequisite	Passed	Verifies that the machine account of site server has administrati...
✓ 11/28/2015 11:22:39 PM	Prerequisite	Passed	Checks if the Windows Firewall is disabled or if a relevant Wind...

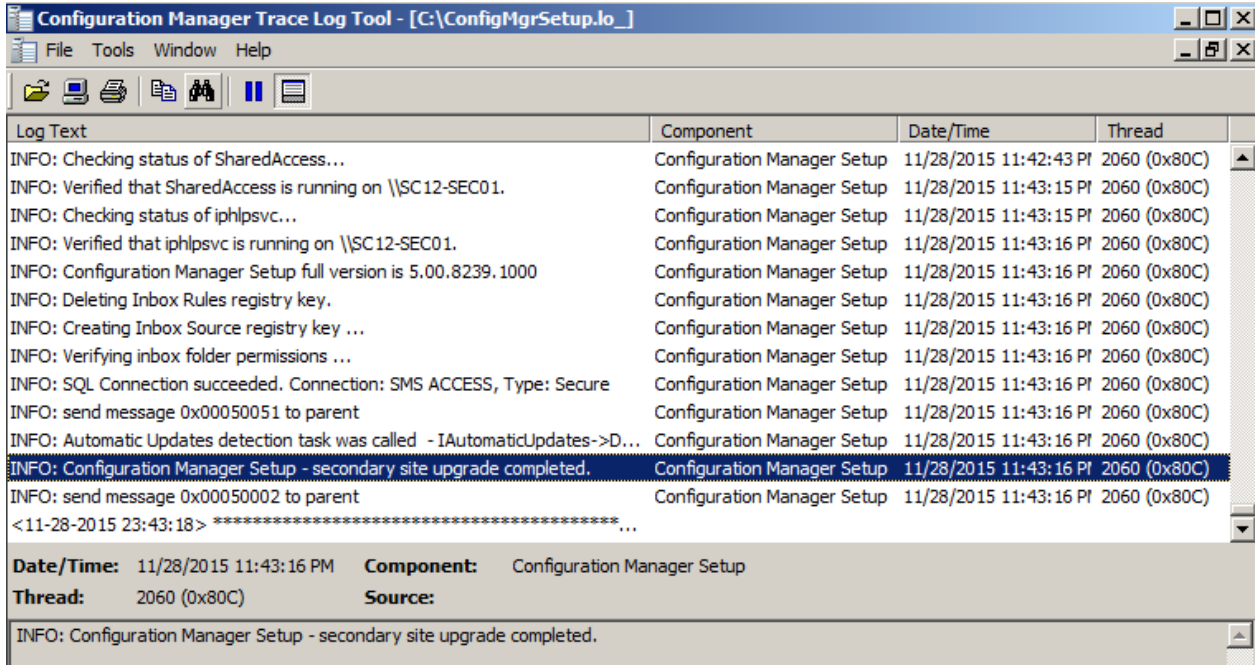
Description:

[Passed]:Decompress secondary site server installation files

OK Cancel



Detailed installation steps can be viewed in **C:\ConfigMgrSetup.log** file on secondary site server



Verify the same in SCCM Console and Site Properties

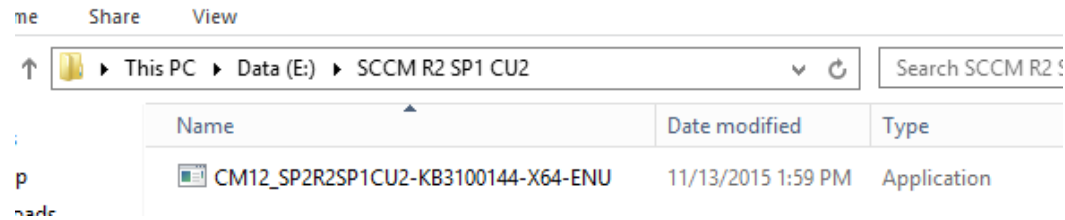
Icon	Name	Type	Build Number	Version	Server Name
	CAS - CAS - Xposure...	Central admini...	8239	5.00.8239.1000	SC12-CAS-01.XPOSURE.COM
	XPO - Xposure - Prim...	Primary site	8239	5.00.8239.1000	SC12-PR01.XPOSURE.COM
	SEC - Xposure - Seco...	Secondary site	8239	5.00.8239.1000	SC12-SEC01.XPOSURE.COM

CAS, Primary and all other Sites have been upgraded successfully. Wait for replication to be active, verify the replication status, site component status and run exec **SpDiagDRS** to verify whether everything looks good.

Step-by-Step SCCM 2012 R2 SP1 Cumulative Update 2 (CU2) Installation guide

Cumulative Update 2 (CU2) for SCCM 2012 R2 SP1 and SCCM 2012 SP2 is [Now Available](#)

Download the [CM12_SP2R2SP1CU2-KB3100144-X64-ENU](#) and extract locally.



As this is a cumulative update, CU2 can be installed without installing the CU1.

There are many Issues that are fixed in CU2: Refer [Link](#) for more details

This update contains fixes for issues in various areas including software distribution and content management; operating system deployment; site systems and mobile device management.

In addition, the update contains the following:

Administrator Console

Configuration Manager Client

- Configuration Manager clients may not recognize a forest trust
- Automatic site assignment fails on clients in a workgroup
- In a Configuration Manager environment in which multiple certificates are deployed to client computers, the client may select the wrong certificate for use in management point communication

Site systems

- The SMS Executive Service may quit unexpectedly with a C0000374 exception code when it uploads content to a Cloud-based distribution point

Operating system deployment

- 3084586 Driver package size increases in System Center 2012 Configuration Manager

Software distribution and content management

Additional changes that is included in this update

Endpoint Protection

Software distribution and content management

- Distribution Manager can now process pull-distribution point packages more efficiently in large environments.

Microsoft Intune and mobile device management

- This update contains general performance improvements to the device enrollment process in Intune hybrid environments.

The same update applies to the following:

- System Center 2012 Configuration Manager Service Pack 2
- System Center 2012 R2 Configuration Manager Service Pack 1

Installation

This update can be applied directly to the following Systems/Roles:

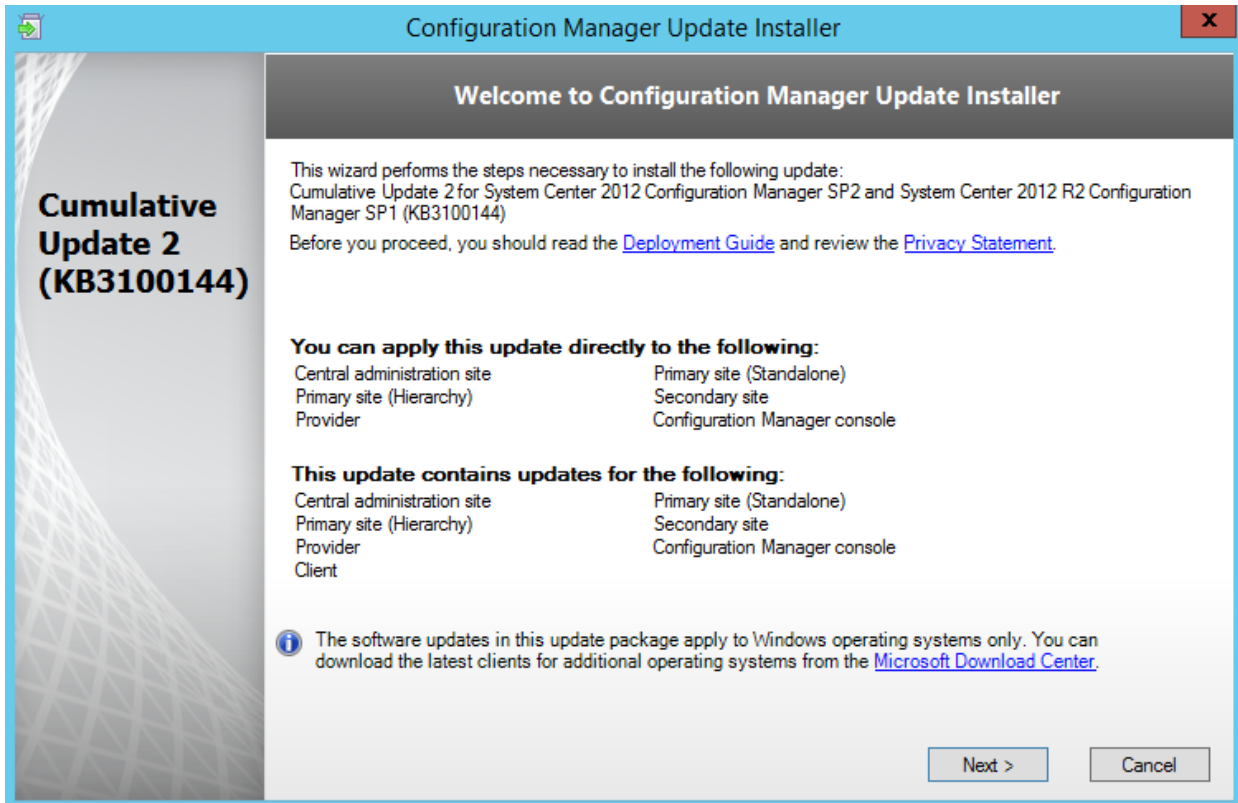
- The Central Administration Site (CAS)
- Primary Site
- Secondary Site
- SMS Provider
- Configuration Manager Console

In this guide, we'll be updating a CAS / Primary Site Server, Console and Clients.

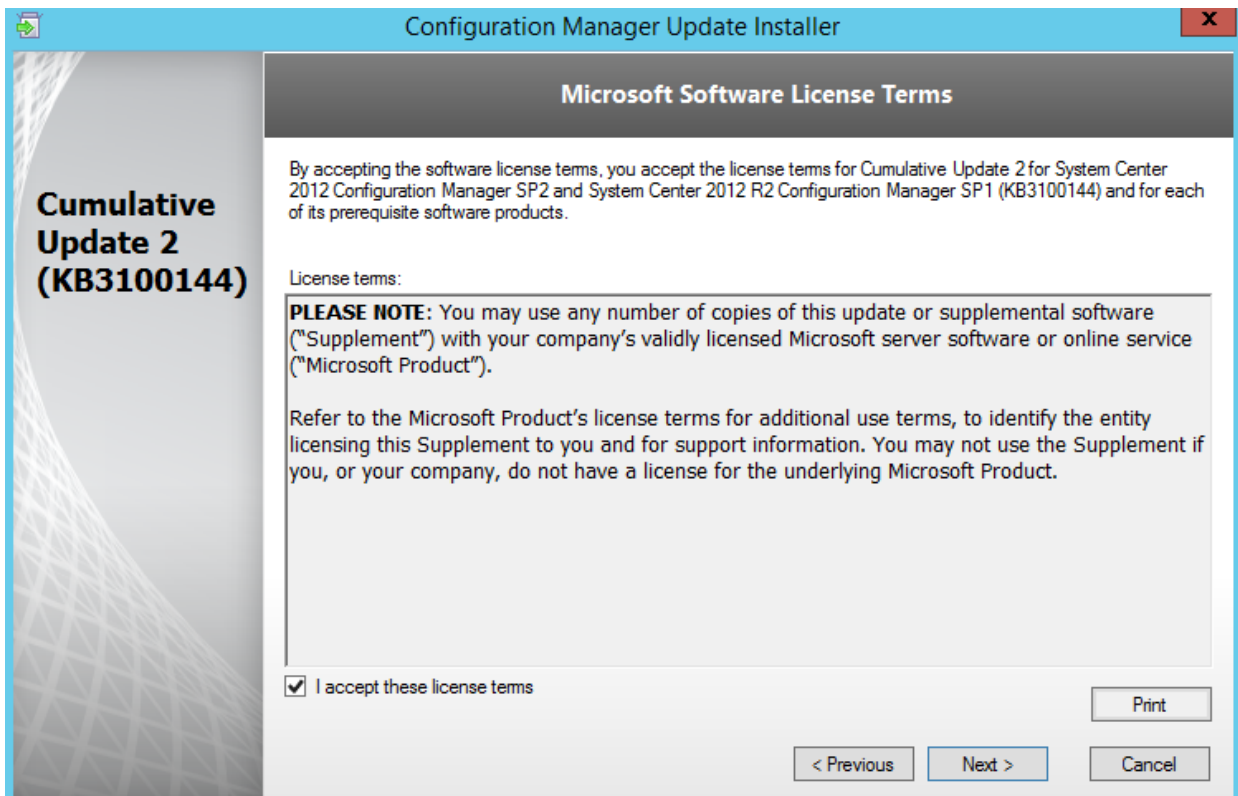
To start the installation, run **CM12_SP2R2SP1CU2-KB3100144-X64-ENU.exe**

A log file will be created in C:\Windows\Temp\cm12_sp2r2sp1cu2-kb3100144-x64-enu.log

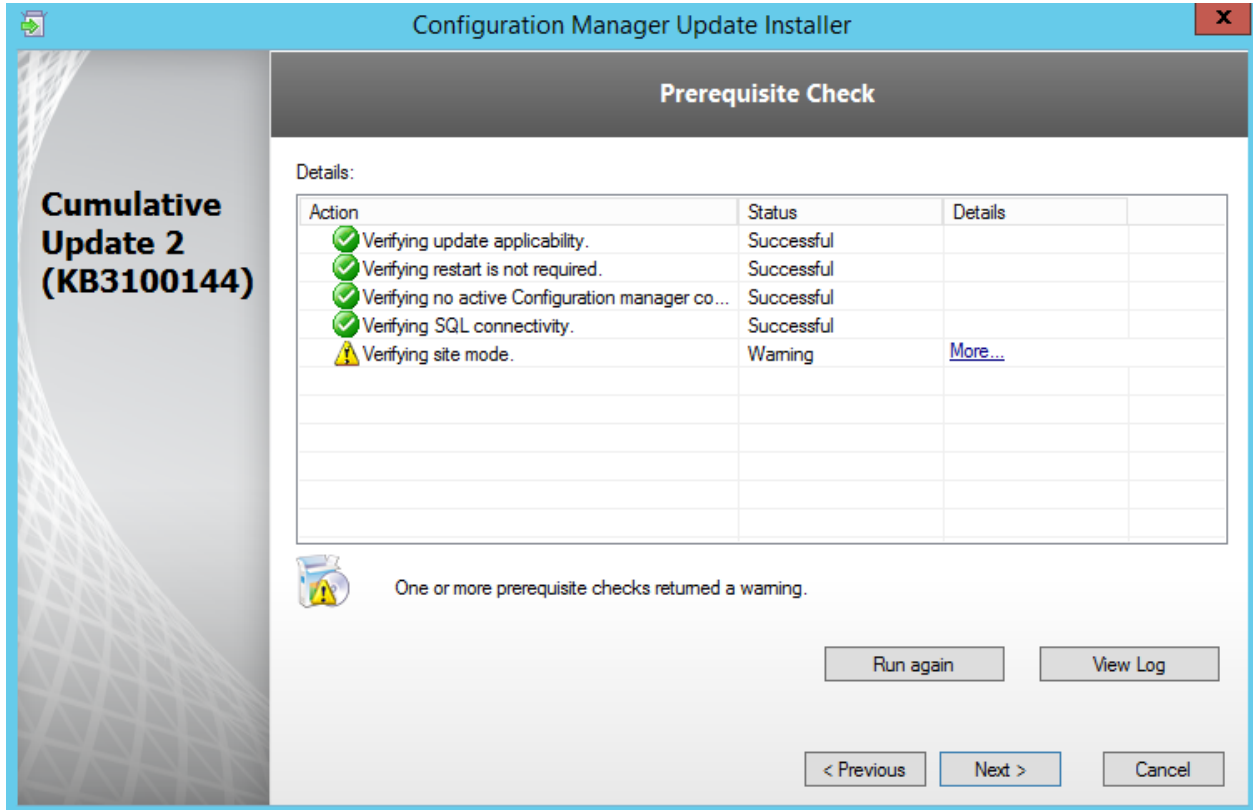
- On the Welcome Screen, click **Next**



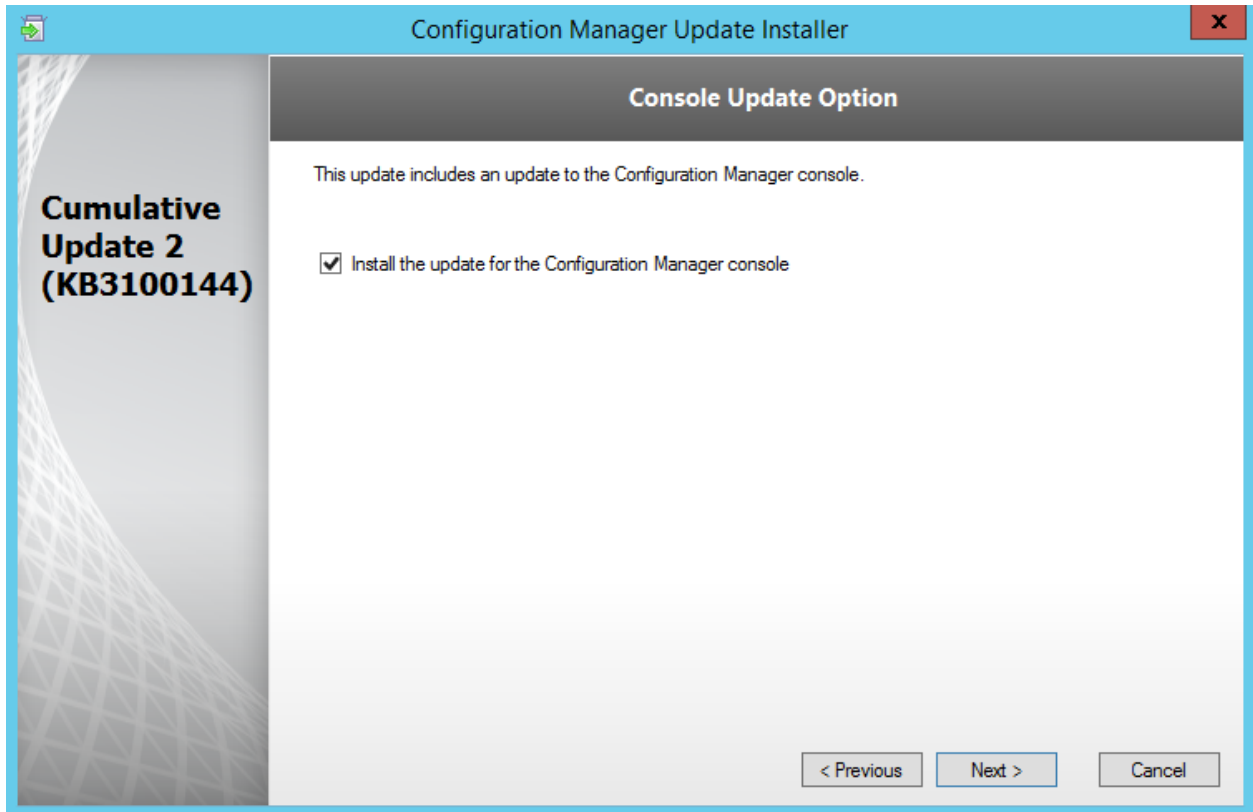
- Accept the license agreement, and click Next



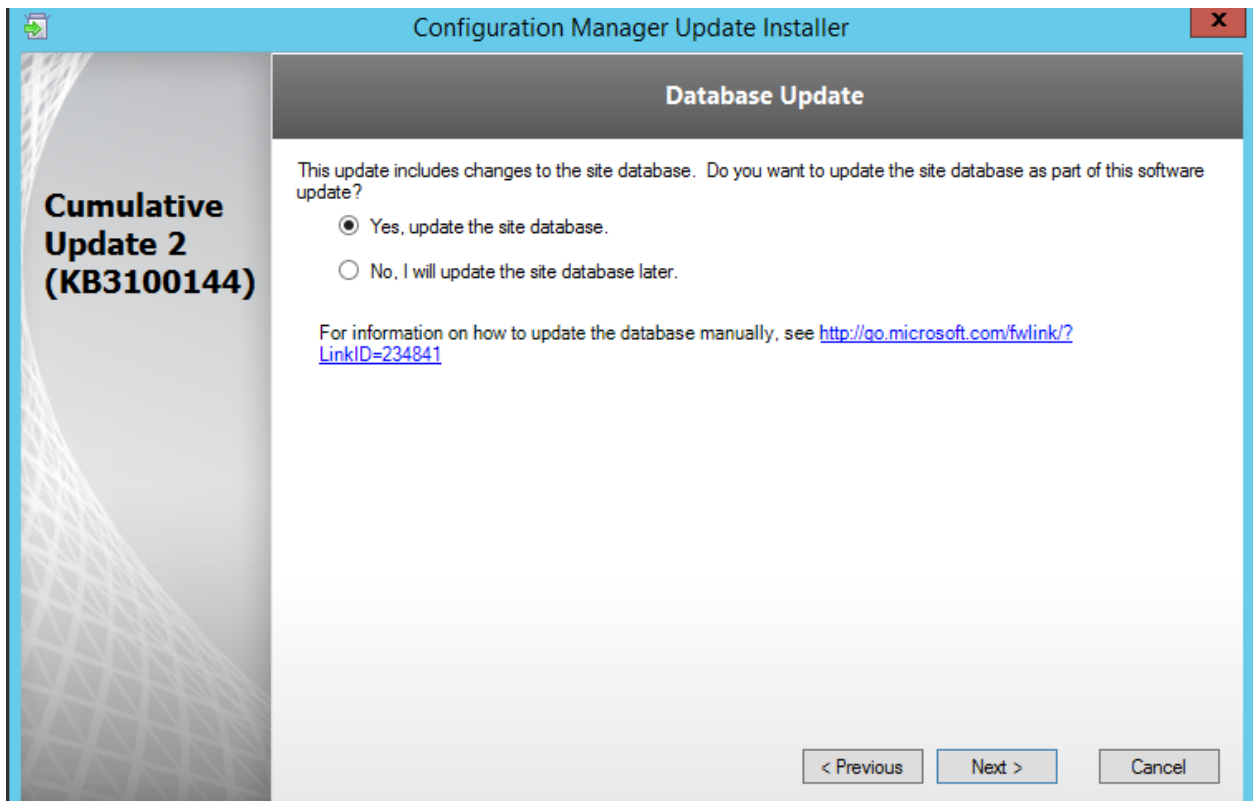
- Ensure that there is no error, and click Next.



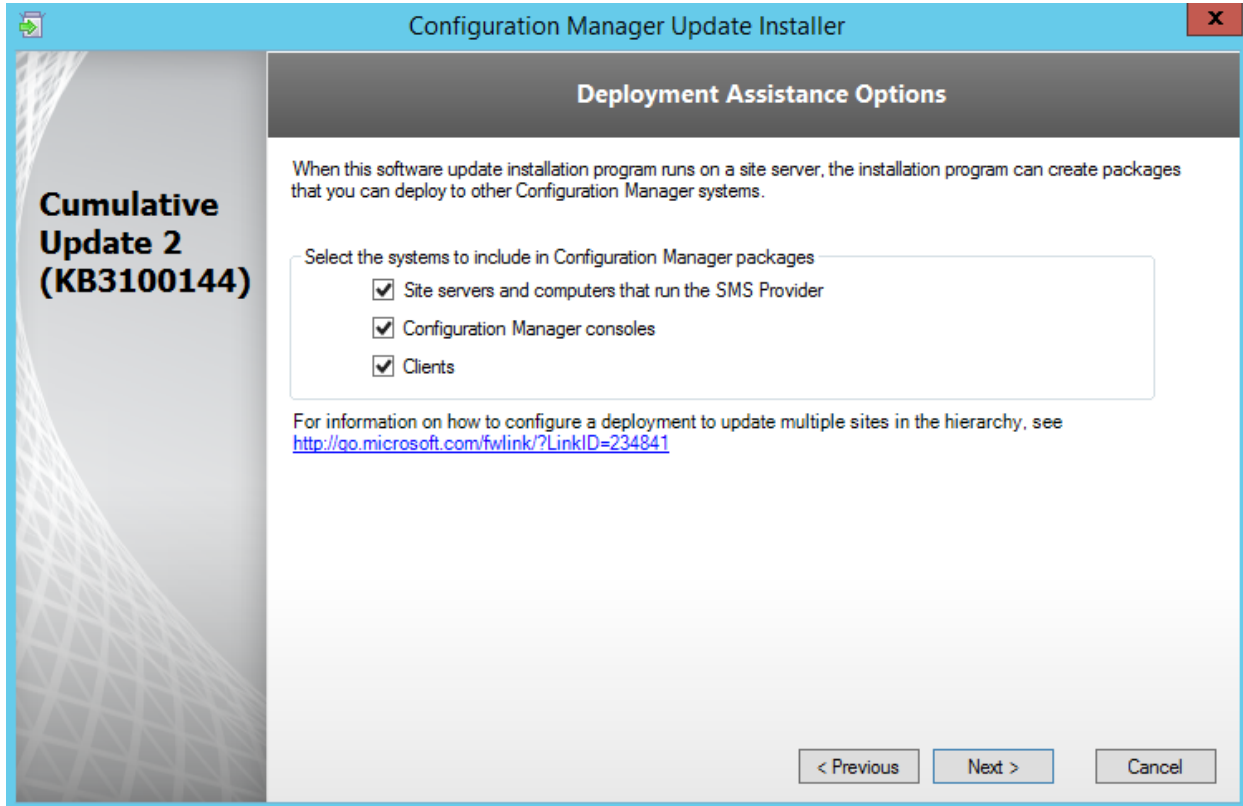
- Check the box to update the console, click Next



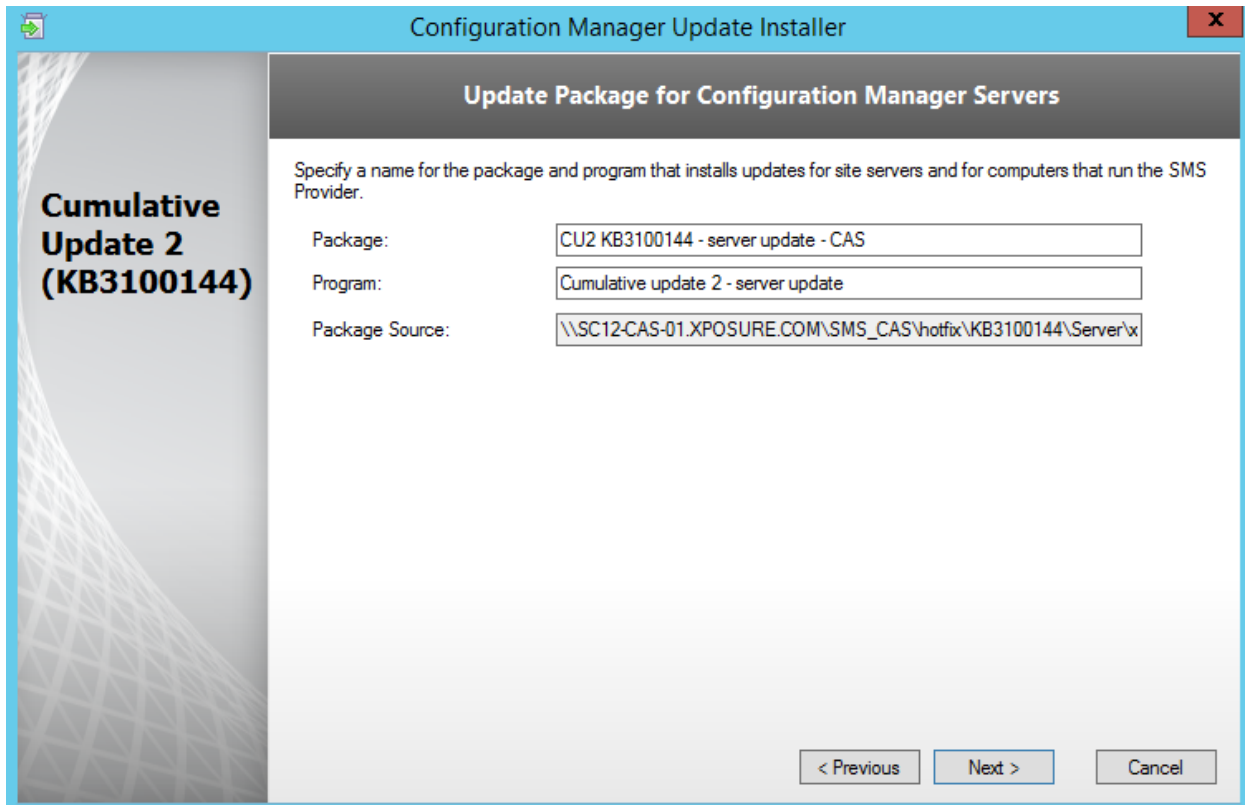
- Select Yes, update the site database, click Next



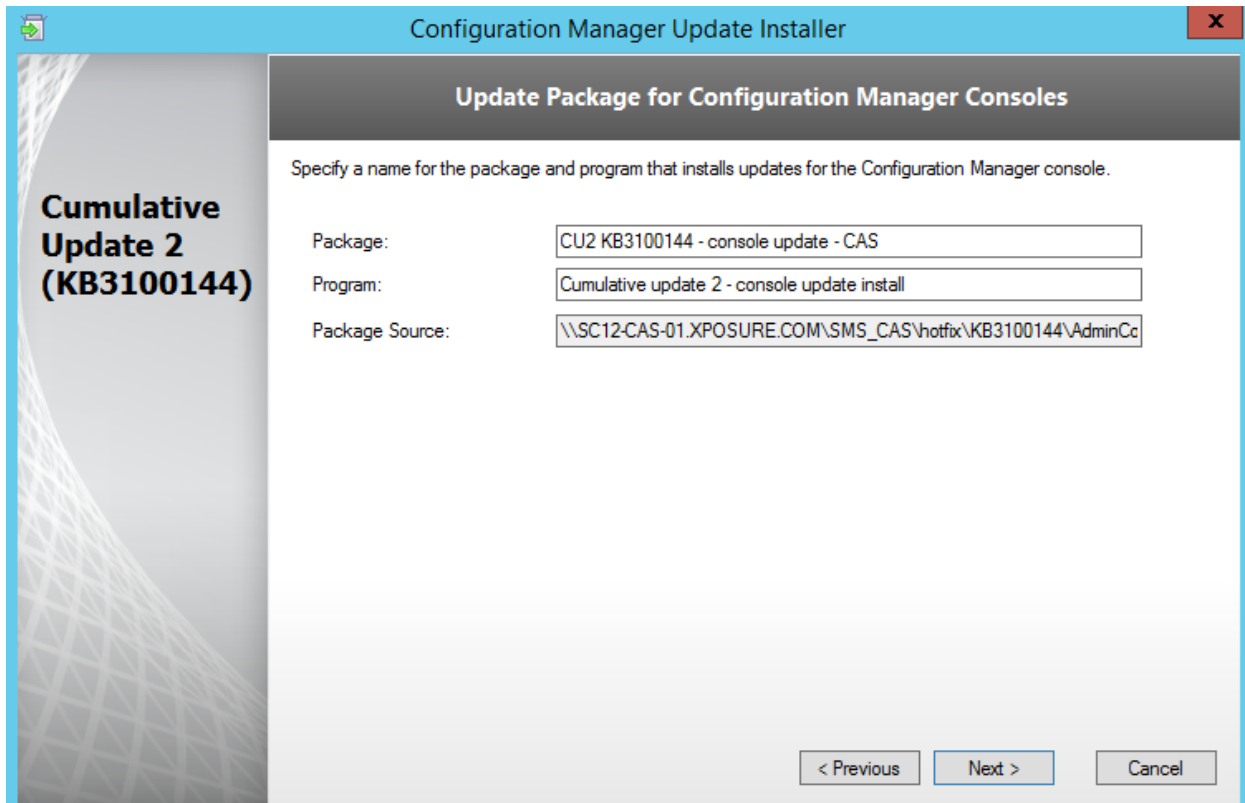
- Check all 3 checkbox (**Server, Console and Clients**), click **Next**



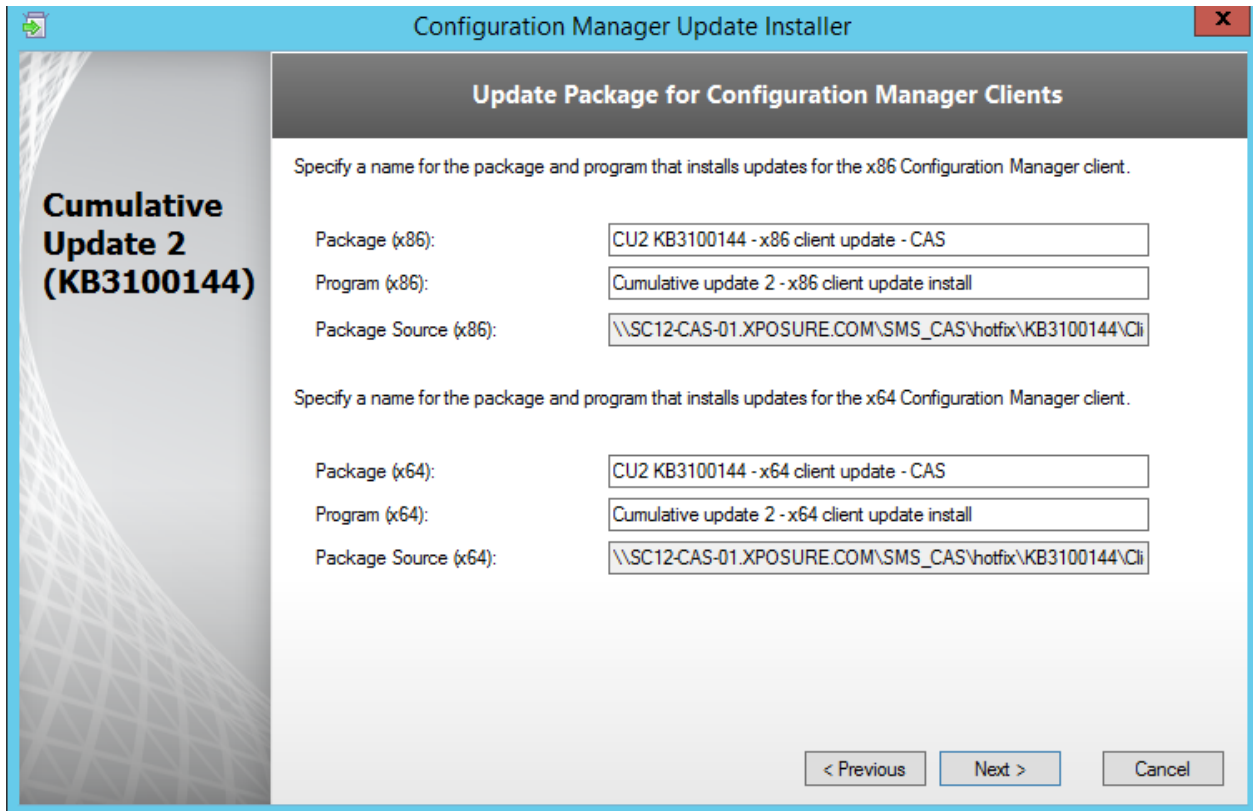
- Select default on package name and program screen and dick Next



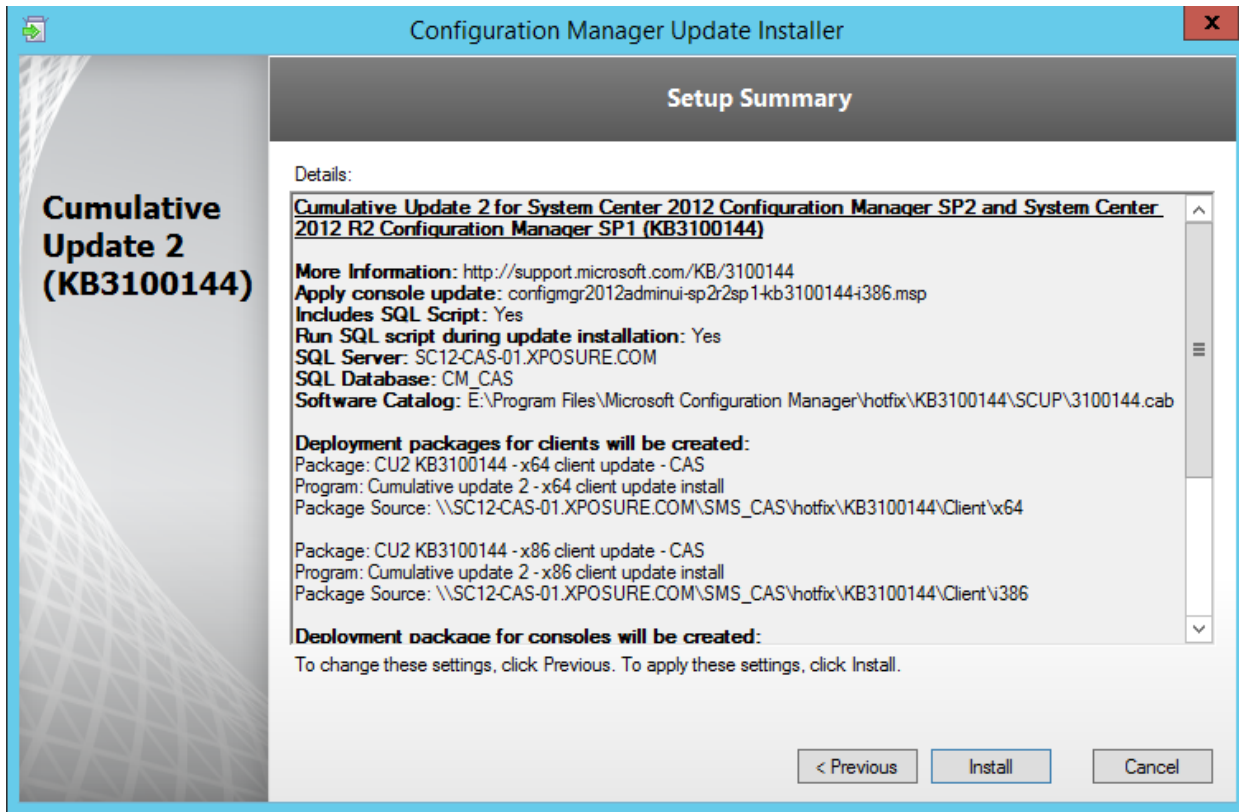
- Click Next



- Click Next here too



- Review the Summary page and click Install



- Installation is in progress

Cumulative Update 2 (KB3100144)

Installation Progress

Details:

Action	Status	Details
✓ Stop services	Successful	
✓ Install files for update KB3100144	Successful	
✓ Prepare database update script.	Successful	
✓ Perform Database Update	Successful	
Copy update installation files.	Not started	
Apply Configuration Manager console update	Not started	
Create Software Update Catalog	Not started	
Create console package	Not started	
Create x86 client package	Not started	
Create x64 client package	Not started	
Create server package	Not started	
Restart services	Not started	

Status: Running SQL operation 30 of 30...

< Previous Next > Cancel

Cumulative Update 2 (KB3100144)

Installation Progress

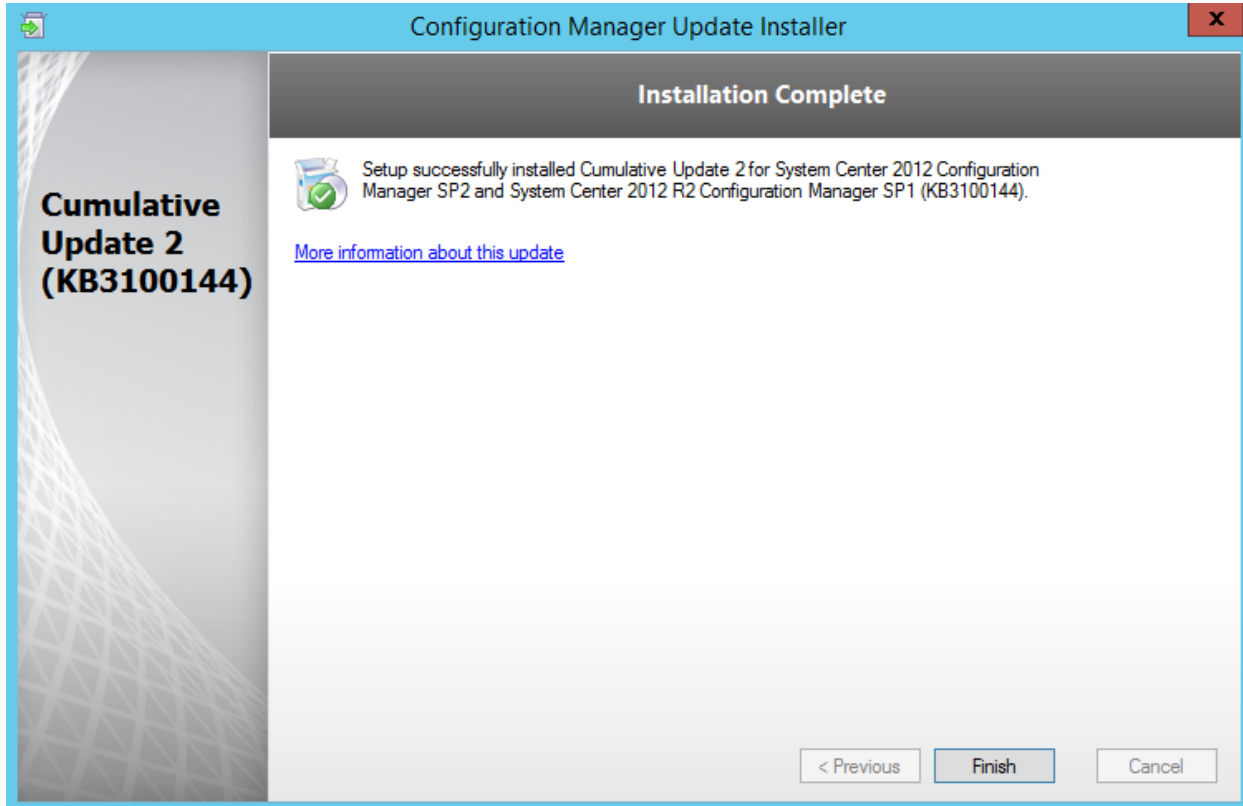
Details:

Action	Status	Details
✓ Stop services	Successful	
✓ Install files for update KB3100144	Successful	
✓ Prepare database update script.	Successful	
✓ Perform Database Update	Successful	
✓ Copy update installation files.	Successful	
✓ Apply Configuration Manager console update	Successful	
✓ Create Software Update Catalog	Successful	
✓ Create console package	Successful	
✓ Create x86 client package	Successful	
✓ Create x64 client package	Successful	
✓ Create server package	Successful	
✓ Restart services	Successful	

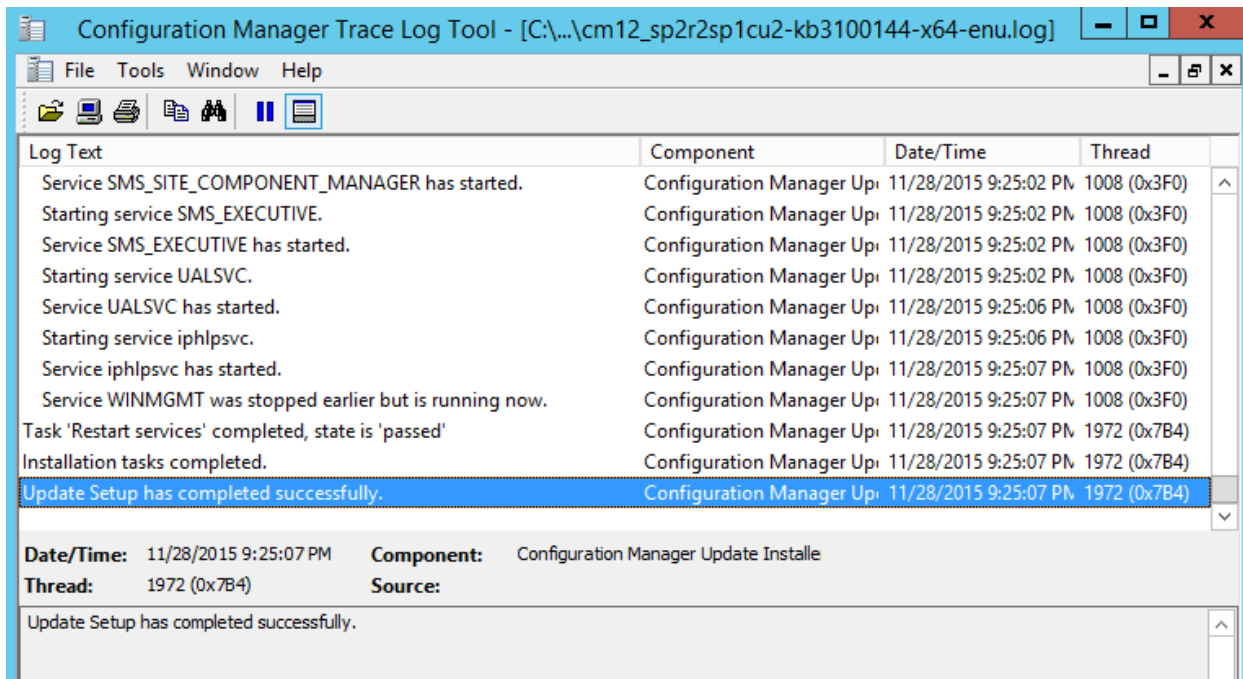
Status: All tasks completed successfully.

< Previous Next > Cancel

- When setup is complete, click Next and then Finish



Installation progress can be seen in the **C:\Windows\Temp\CM12_SP2R2SP1CU2-KB3100144-X64-ENU.log** file



Verify the Installation

Verify from SCCM Console

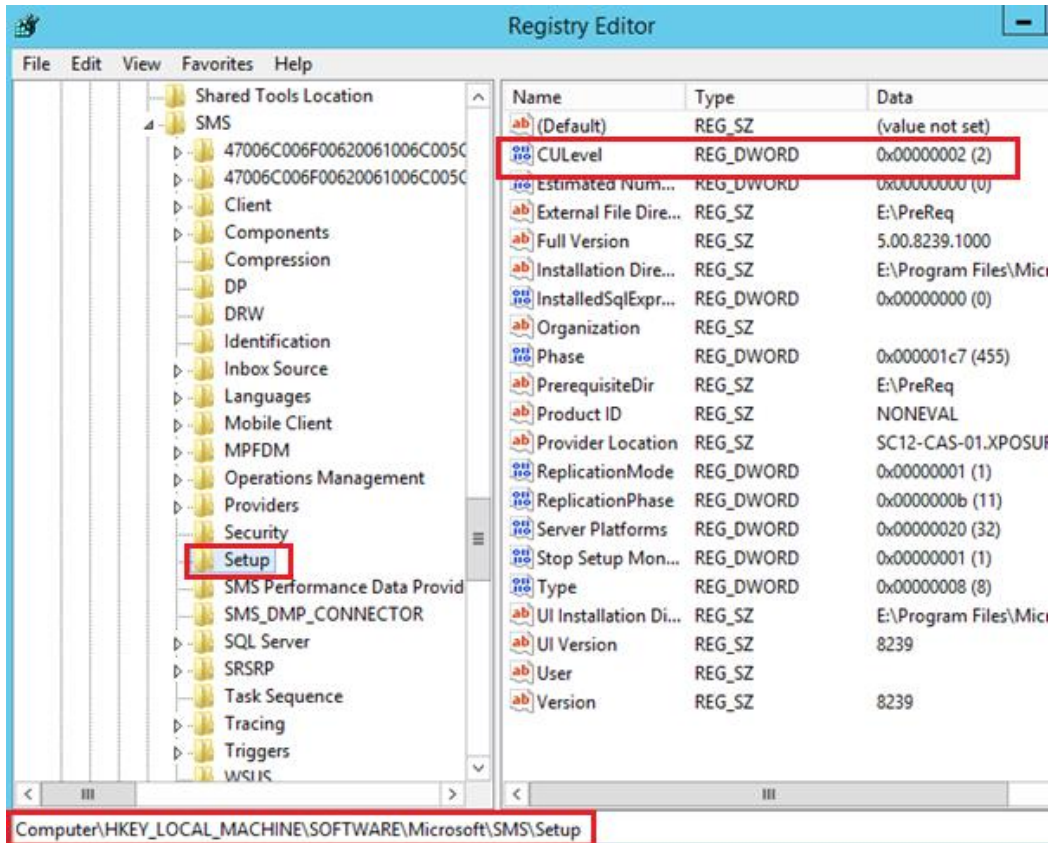
- Open the SCCM Console → click on the upper left corner on the blue arrow → select About Configuration Manager
- The Console has been upgraded to SCCM R2 SP1 CU2

Successful upgrade will show the console build number **5.0.8239.1302**



Registry Settings on Servers

Open registry editor and check the HKLM\Software\Microsoft\SMS\Setup\Key "CULevel" value will be 2.

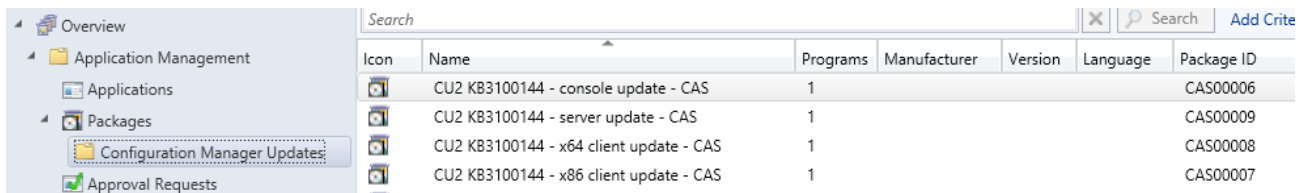


CAS, Primary and all other Sites have been upgraded successfully. Wait for replication to be active, verify the replication status, site component status and run `exec SpDiagDRS` to verify whether everything looks good.

Distribute Packages

Navigate to Software Library → Packages → Configuration Manager Updates

There will be four different packages for CU2 updates are created, proceed further and Update the contents to DPs.



Finally, use the packages to upgrade Client and Remote Consoles.

To Upgrade Clients, use below query to Create collections where client version is not equals to SCCM 2012 R2 SP1 CU2 and setup deployments for client upgrade.

```
select  
SMS_R_SYSTEM.ResourceID,SMS_R_SYSTEM.ResourceType,SMS_R_SYSTEM.Name,SMS_R_SYSTEM.SMSUniqueDe  
ntifier,SMS_R_SYSTEM.ResourceDo mainORWorkgroup,SMS_R_SYSTEM.Client from SMS_R_System where  
SMS_R_System.ClientVersion != '5.00.8239.1000'
```

Now we are done with Upgrading our SCCM hierarchy to SCCM 2012 R2 SP1 CU2

Note: Please perform the complete testing before proceeding with Production Environment Upgrade.