

Upgrade SCOM 1807 to SCOM 2019 Step by Step

In this post, I will show you the steps involved to upgrade SCOM 1807 to SCOM 2019. In my lab, I am running SCOM 1807 with SQL 2016. Have installed all the updates and restarted the server.

Results	Messages
(No column name)	
1	Microsoft SQL Server 2016 (SP2-CU11) (KB4527378...

You can find out SCOM version with this command Get-SCOMManagementServer

```
Administrator: Operations Manager Shell
Enter the name of the Operations Manager Management Server to connect to.
Management Server: om
Connecting to Operations Manager Management Server 'om'.
PS C:\> Get-SCOMManagementServer

HealthState DisplayName Version ActionAccountIdentity
-----
Success OM.RAMLAN.CA 7.3.13142.0 RAMLAN\OMAA
```

Monitoring

Agents By Version (5)

Version	State	Name	Patch List
8.0.13067.0	Healthy	CB.RAMLAN.CA	System Center Operations Manager 1807;
8.0.13067.0	Healthy	DC.RAMLAN.CA	System Center Operations Manager 1807;
8.0.13067.0	Healthy	EX2019.RAML...	System Center Operations Manager 1807;
8.0.13067.0	Healthy	OFFICESERVER...	System Center Operations Manager 1807;
8.0.13067.0	Healthy	SFB.RAMLAN.CA	System Center Operations Manager 1807;

System Center Operations Manager

Version 1807

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Product ID:
Server version: 7.3.13261.0 (Retail)

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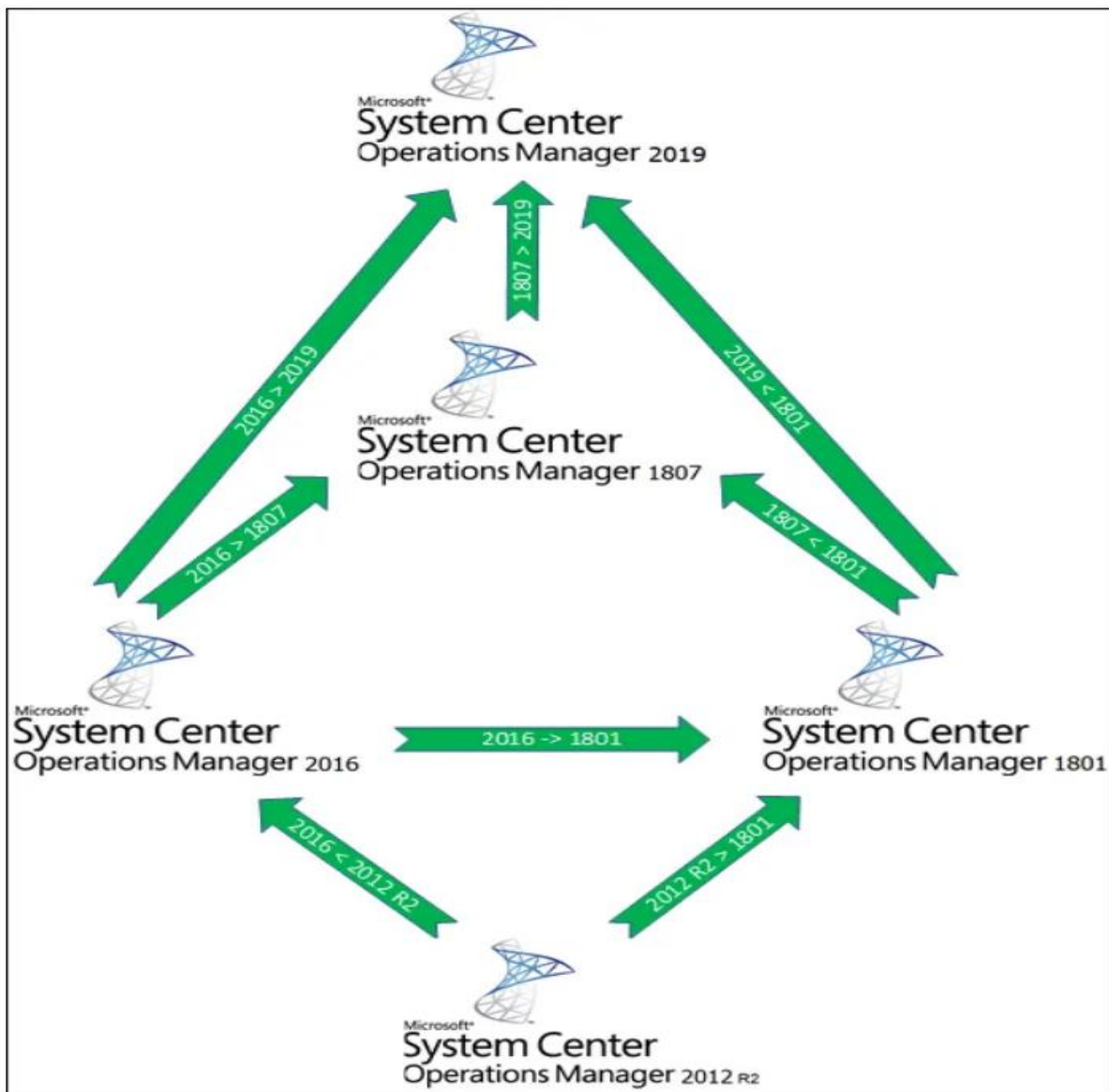
System Center Operations Manager 2019 build numbers

BUILD NUMBER	KB	RELEASE DATE	DESCRIPTION
10.19.10050.0	What's New	2019 March 14	SCOM 2019

SCOM Semi-Annual Channel (SAC) build numbers

BUILD NUMBER	KB	RELEASE DATE	DESCRIPTION
7.3.13261.0	What's New KB4133779	2018 July 24	Version 1807
7.3.13142.0	What's New	2018 February 8	Version 1801
7.3.13040.0		2017 November 9	Version 1711 (preview)

Upgrade Path:



Direct in-place upgrade to SCOM 2019

- SCOM 2016 -> SCOM 2019 ✓
- SCOM 1801 -> SCOM 2019 ✓
- SCOM 1807 -> SCOM 2019 ✓

Indirect upgrade to SCOM 2019:

- SCOM 2012 R2 -> SCOM 2016 -> SCOM 2019 ✓
- SCOM 2012 R2 -> SCOM 1801 -> SCOM 2019 ✓

Pre-upgrade tasks

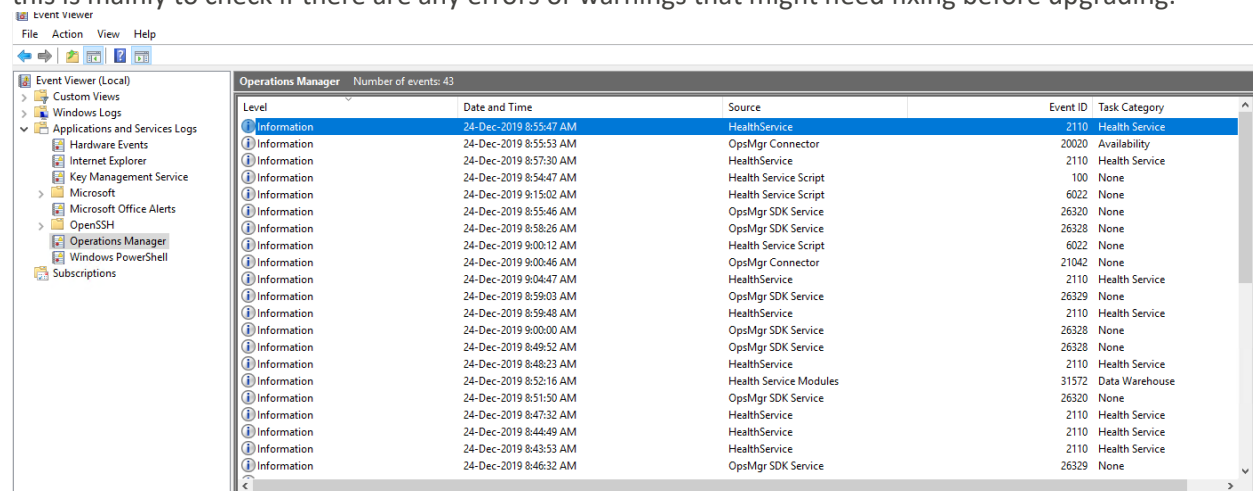
Before upgrading there are some tasks that need to be done, we will go through them one by one before performing the upgrade.

High-level overview of the pre-upgrade tasks

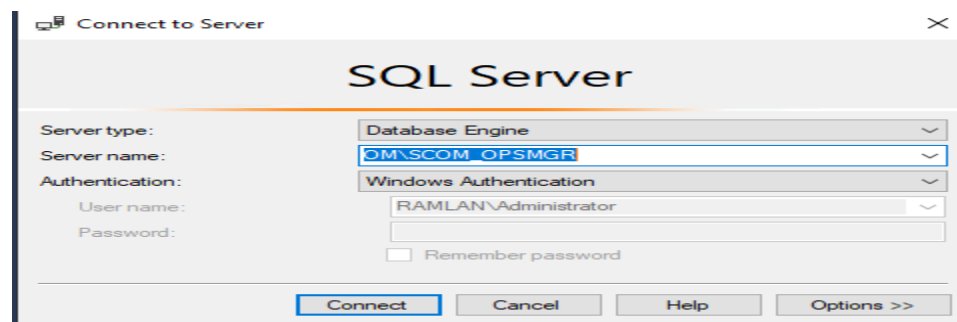
1. Review the Operations Manager event logs.
2. Clean up the Database (ETL Table).
3. Configure agents to failover between multiple gateway servers so all agents reporting to a gateway have a failover gateway assigned.
4. Remove Agents from Pending Management.
5. Disable Notification Subscriptions.
6. Disable any connectors.
7. Stop the Microsoft Monitoring Agent, System Center Data Access Service, System Center Configuration Management, and Microsoft Monitoring Agent services on all management servers except the one being upgraded.
8. Verify that the Operational Database Has More Than 50 Percent Free Space.
9. Back up the Operations Manager Databases.
10. Update the agent's health service cache size temporarily to prevent loss of data while Management, and Gateway servers are upgraded.
11. Stop the application pool of Operations Manager and MonitoringViews in IIS server.

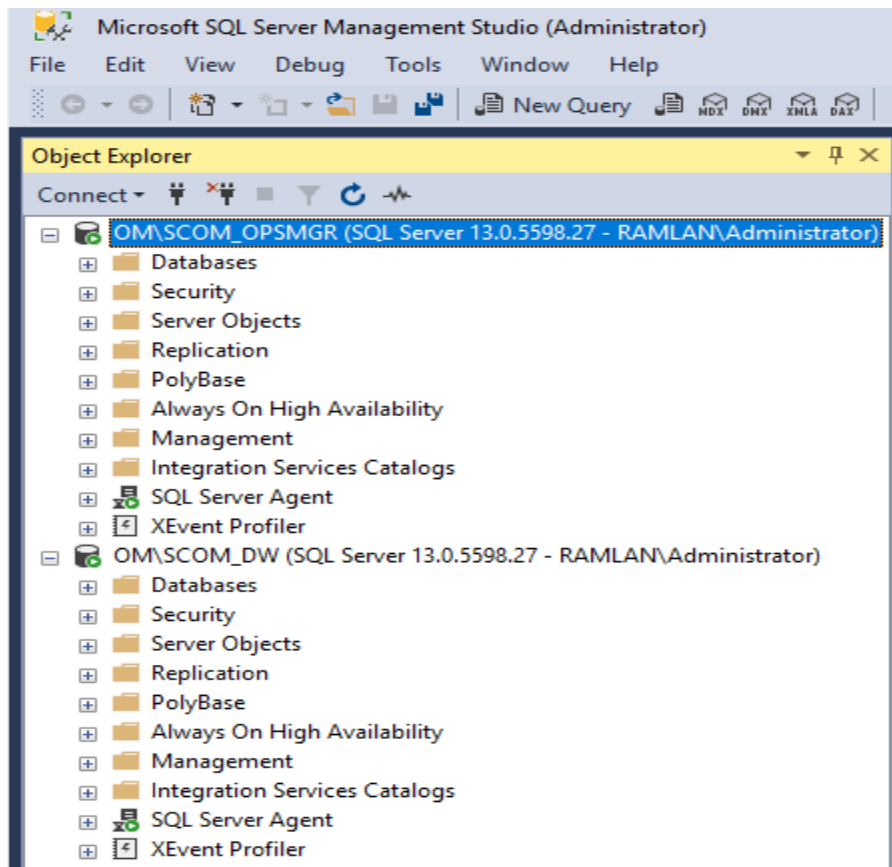
Detailed overview of the pre-upgrade tasks

1. Go through the **Operations Manager** event log(s) on the SCOM management and gateway servers, this is mainly to check if there are any errors or warnings that might need fixing before upgrading.

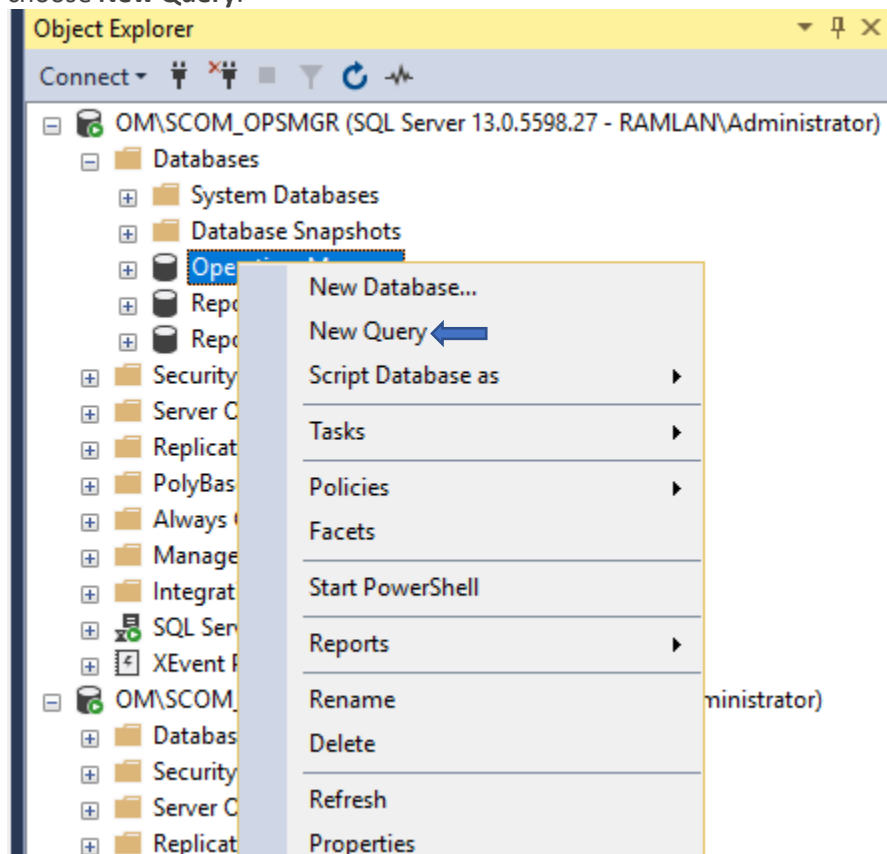


2. Open the **SQL Server Management Studio** either remotely or locally on the SCOM database server and then **connect** to the SCOM 2016 SQL instance.





2.1. Expand the **Databases**, find your **Operational Database** and then select it and right-click it and choose **New Query**.



2.2. Run the following cleanup ETL SQL query (the source for the cleanup query can be found from the Microsoft documentation [here](#)):

```
SQLQuery1.sql - OM...dministrator (68)* - X
-- (c) Copyright 2004-2006 Microsoft Corporation, All Rights Reserved
-- Proprietary and confidential to Microsoft Corporation
-- File:      CatchupETLGrooming.sql
-- Contents:  A bug in the ETL grooming code could have left the customer
-- Database with a large amount of ETL rows to groom. This script will groom
-- The ETL entries in a loop 100K rows at a time to avoid filling up the
-- Transaction log
-----
DECLARE @RowCount int = 1;
DECLARE @BatchSize int = 100000;
DECLARE @SubscriptionWatermark bigint = 0;
DECLARE @LastErr int;
-- Delete rows from the EntityTransactionLog. We delete the rows with TransactionLogId that aren't being
-- used anymore by the EntityChangeLog table and by the RelatedEntityChangeLog table.
SELECT @SubscriptionWatermark = dbo.fn_GetEntityChangeLogGroomingWatermark();
WHILE (@RowCount > 0)
BEGIN
    DELETE TOP (@BatchSize) ETL
    FROM EntityTransactionLog ETL
    WHERE NOT EXISTS (SELECT 1 FROM EntityChangeLog ECL WHERE ECL.EntityTransactionLogId = ETL.EntityTransactionLogId) AND NOT EXISTS (SEL
    WHERE RECL.EntityTransactionLogId = ETL.EntityTransactionLogId)
    AND ETL.EntityTransactionLogId < @SubscriptionWatermark;
    SELECT @LastErr = @@ERROR, @RowCount = @@ROWCOUNT;
END
```

100 %

Messages

(2975 rows affected)

(0 rows affected)

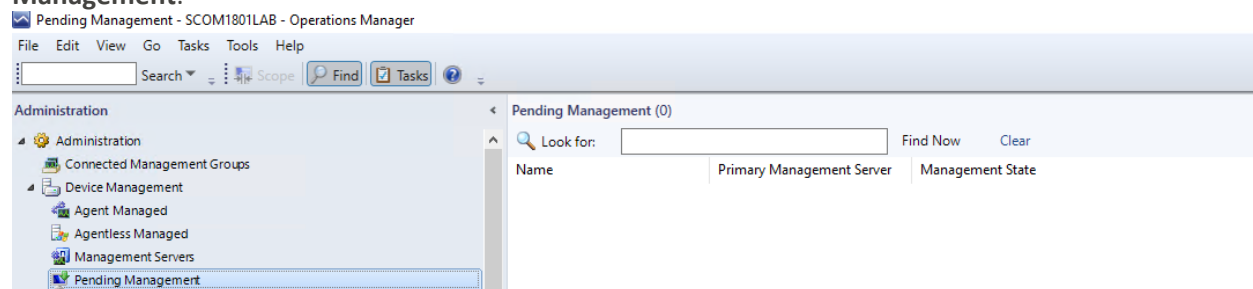
3. If there are agents that are located in a workgroup / DMZ environment, we need to configure the agents to failover between multiple gateway servers so that all agents reporting to a gateway have a failover gateway assigned.

3.1. Open the **Operations Manager Shell / PowerShell** on a SCOM management server.

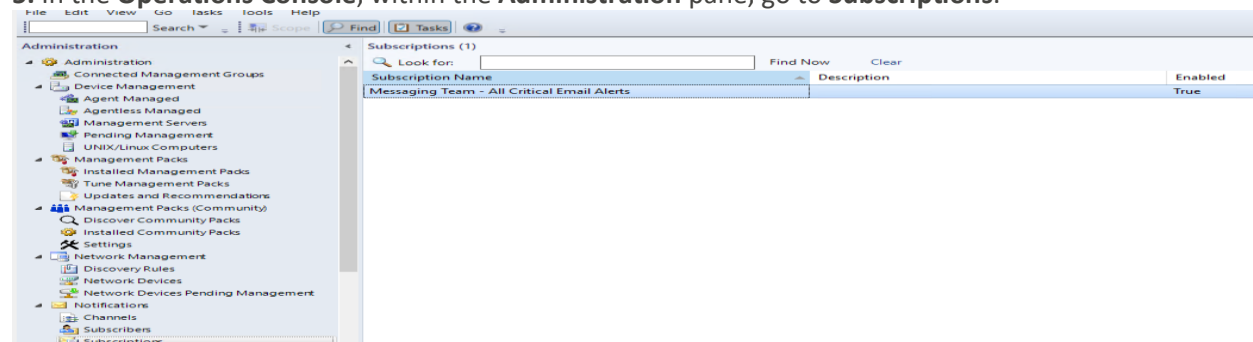
3.2. Run the PowerShell command below, make sure to change the **SCOM management server** and **SCOM agent** to the appropriate values.

In our lab we don't have failover agent or server or DMZ. So, we can ignore above step (The source of the script can be found from the Microsoft documentation [here](#).)

4. Open the **Operations Console**, head to the **Administration** pane and then head to **Pending Management**.

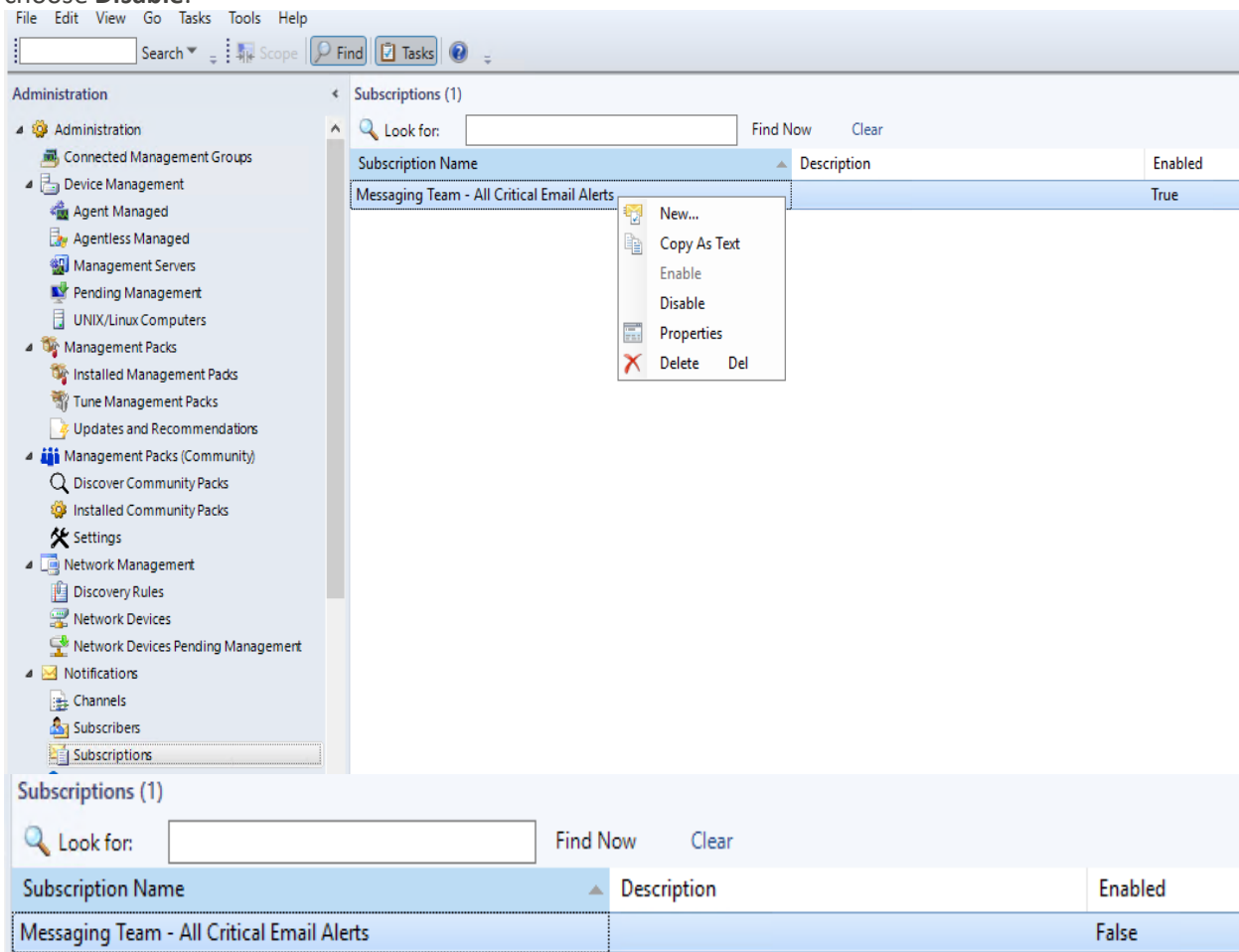


5. In the **Operations Console**, within the **Administration** pane, go to **Subscriptions**.



5.1. Make note of all the enabled and disabled subscriptions so that you remember which subscriptions were enabled/disabled.

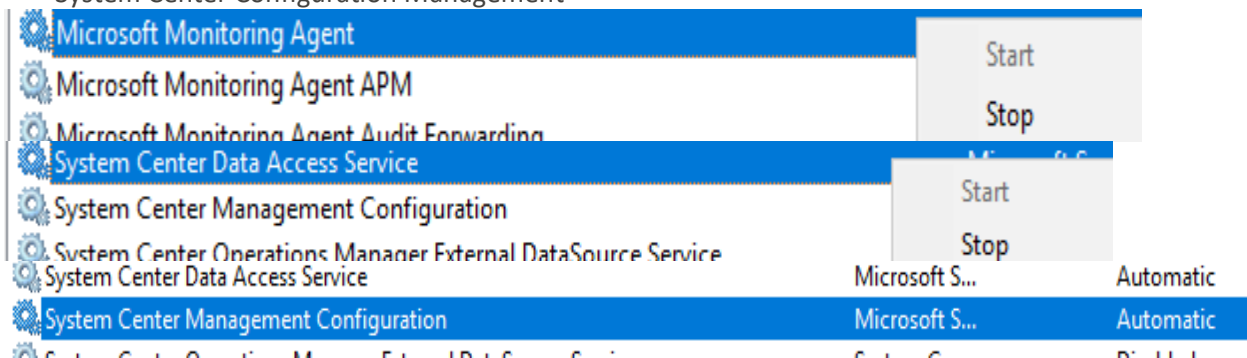
5.2. Now **disable** all the subscriptions by right-clicking one subscription at the time and then choose **Disable**.



6. If SCOM has any integrations to other Microsoft or third-party software, we need to disable the connectors. This can be done by simply stopping the connector services, refer to the documentation for each connector to determine the services used for each connector.

7. Now it's time to stop the SCOM services below on all SCOM management servers except the one that is being upgraded.

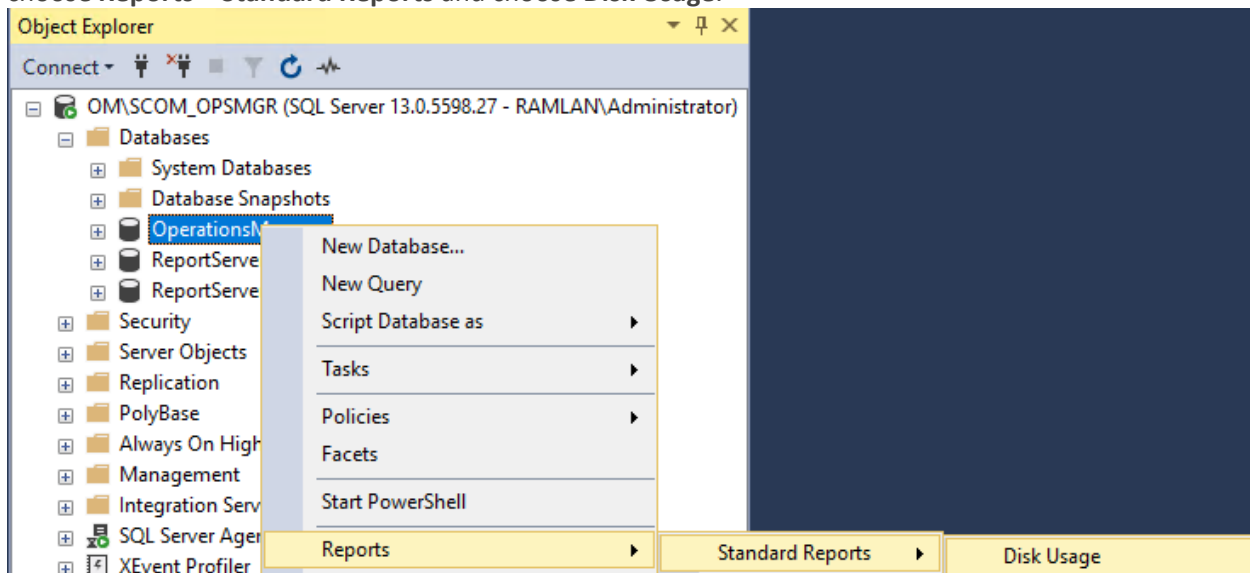
- Microsoft Monitoring Agent
- System Center Data Access Service
- System Center Configuration Management



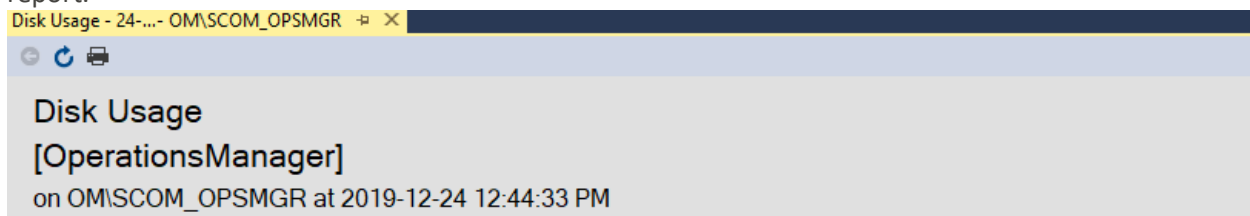
8. Now we will make sure and verify that the Operational Database has more than 50% of free space available.

8.1. Open the **SQL Server Management Studio**.

8.2. Expand the **Databases**, then select the **Operational Database**, right-click it and choose **Reports > Standard Reports** and choose **Disk Usage**.



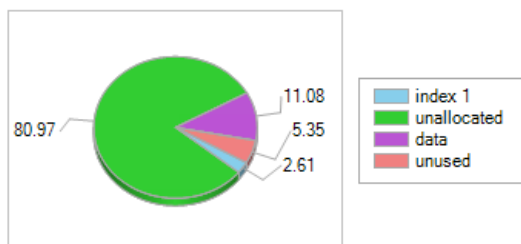
8.3. This will create a disk usage report, we should now see how much available space we have in the report.



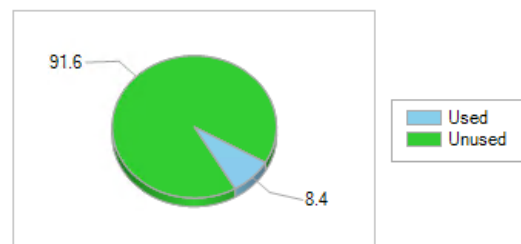
This report provides overview of the utilization of disk space within the Database.

Total Space Reserved	14.65 GB
Data Files Space Reserved	10,000.00 MB
Transaction Log Space Reserved	5,000.00 MB

Data Files Space Usage (%)



Transaction Log Space Usage (%)

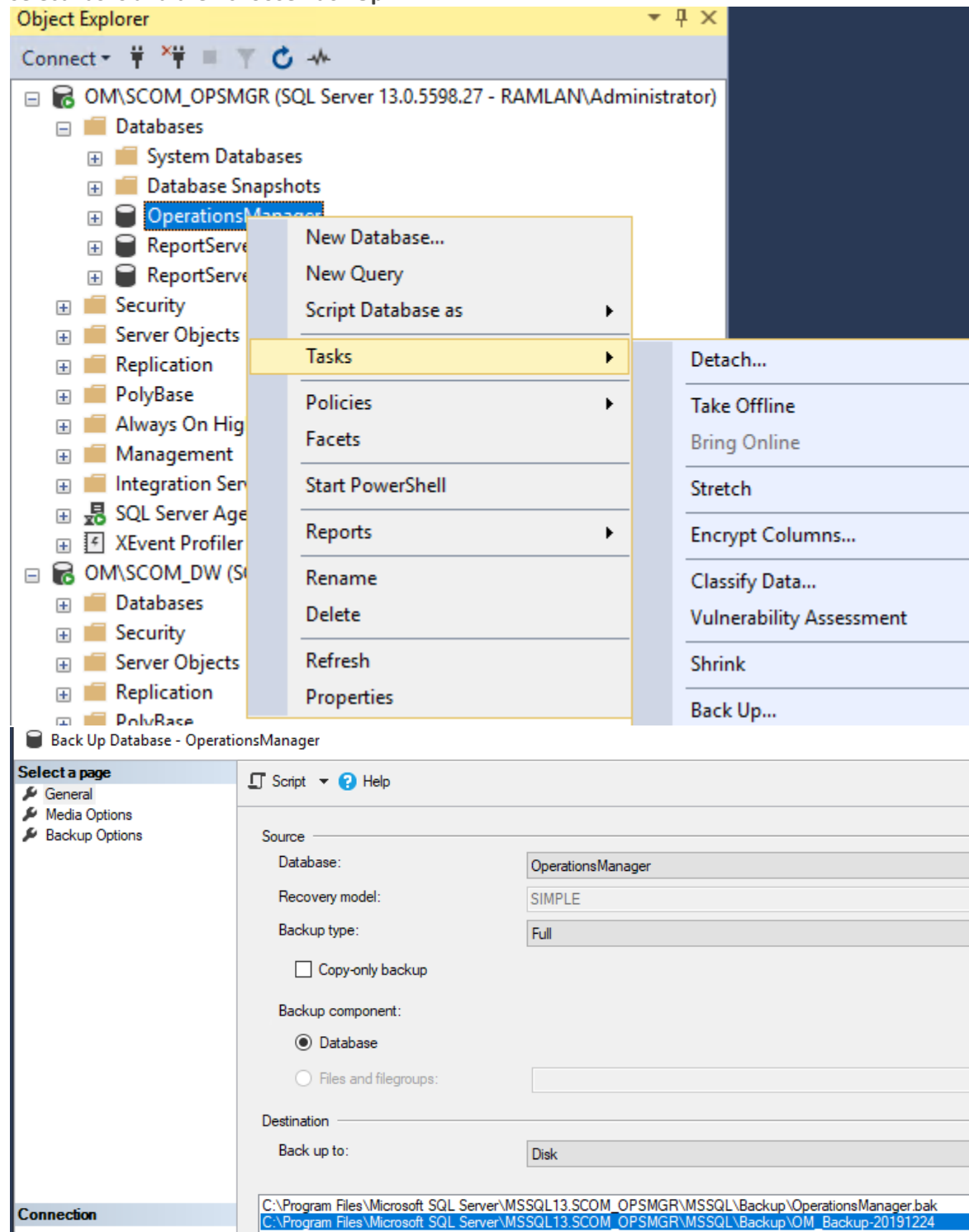


No entry found for autogrow/autoshrink event for OperationsManager database in the trace log.

⊞ Disk Space Used by Data Files

8.4. If there's less than 50% of free space available for the Operational Database, then make sure add more space for the database.

9. Now we'll perform a backup of the **Operational Database** and the **Operations Manager Data Warehouse**, in the SQL Server Management Studio, right-click the **Operational Database**, select **Tasks** and then choose **Back Up...**



Back Up Database - OperationsManager

Select a page: General, Media Options, Backup Options

Script Help

Source

Database: OperationsManager

Recovery model: SIMPLE

Backup type: Full

☐ Copy-only backup

Backup component:

☒ Database

☐ Files and filegroups:

Destination

Back up to: Disk

C:\Program Files\Microsoft SQL Server\MSSQL13.SCOM_OPSMGR\MSSQL\Backup\OperationsManager.bak
C:\Program Files\Microsoft SQL Server\MSSQL13.SCOM_OPSMGR\MSSQL\Backup\OM_Backup-20191224

Add... Remove Contents

Connection

Server: OM\SCOM_OPSMGR

Connection: RAMLAN\Administrator

View connection properties

Progress

Executing (60%)

Stop action now

OK Cancel

Microsoft SQL Server Management Studio

The backup of database 'OperationsManager' completed successfully.

OK

9.6. To backup the Operations Manager Data Warehouse database, follow the previous steps 9 – 9.5.

Back Up Database - OperationsManagerDW

Select a page: General, Media Options, Backup Options

Script Help

Source

Database: OperationsManagerDW

Recovery model: SIMPLE

Backup type: Full

☐ Copy-only backup

Backup component:

☒ Database

☐ Files and filegroups:

Destination

Back up to: Disk

C:\Program Files\Microsoft SQL Server\MSSQL13.SCOM_DW\MSSQL\Backup\OperationsManagerDW.bak
C:\Program Files\Microsoft SQL Server\MSSQL13.SCOM_DW\MSSQL\Backup\DW_Backup-20191224

Add... Remove Contents

Connection

Server: OM\SCOM_DW

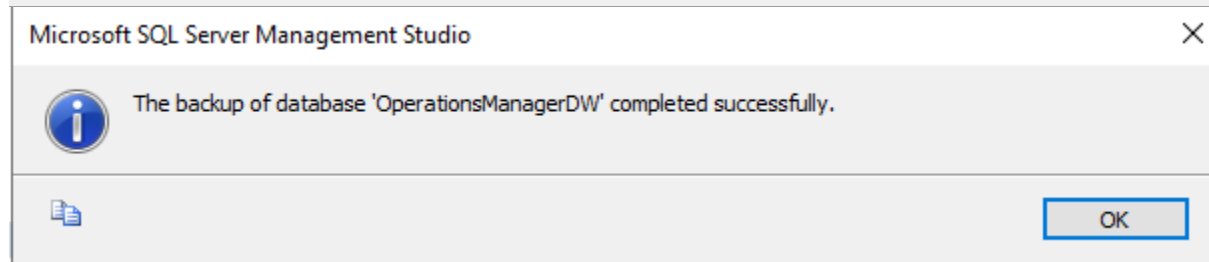
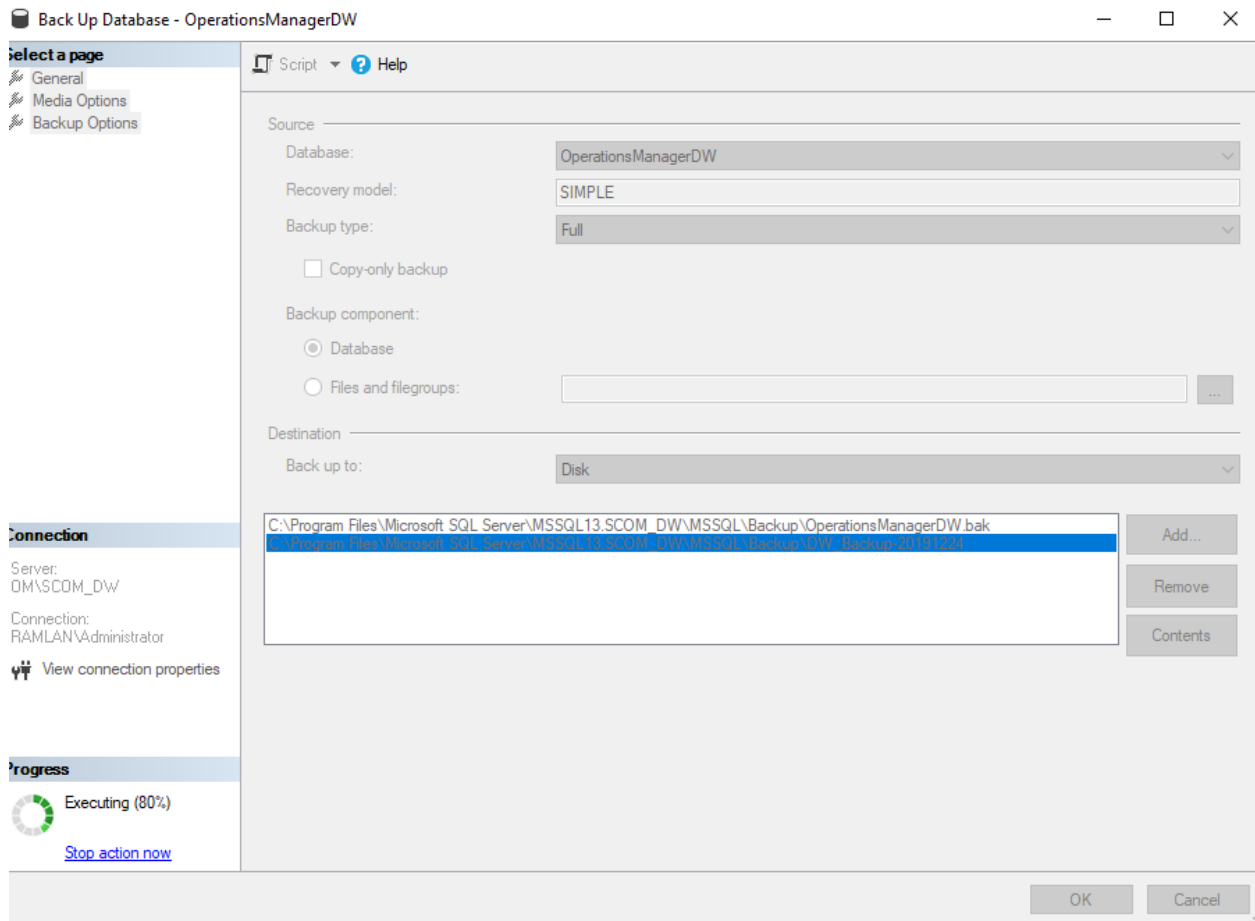
Connection: RAMLAN\Administrator

View connection properties

Progress

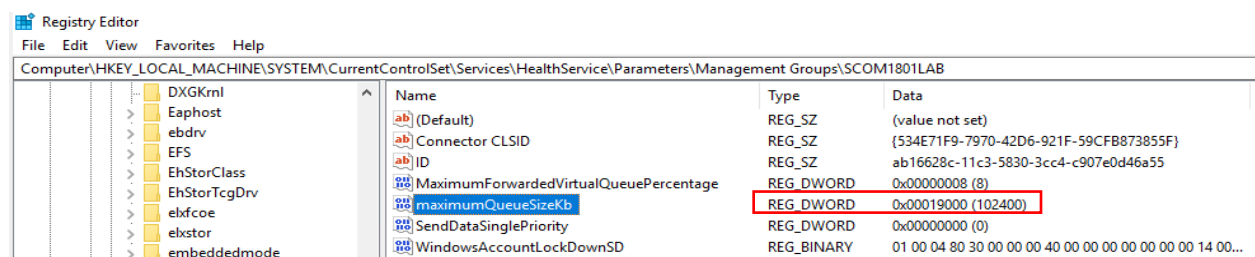
Ready

OK Cancel

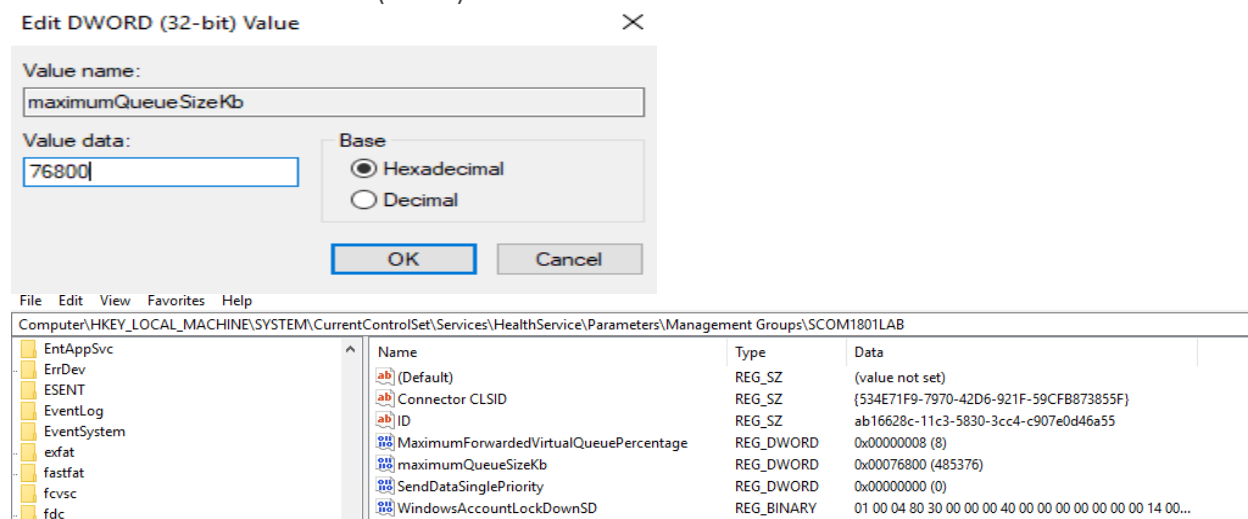


10. Next up we'll increase the agent HealthService cache size on the agent computers temporarily for during the upgrade.

Go to **Start** and type "**Regedit**" and hit **Enter** to open the Registry Editor.



10.2. Modify the **maximumQueueSizeKb** registry key to the following value: **76800** (75MB) or more, the default value should be 15360 (15MB).

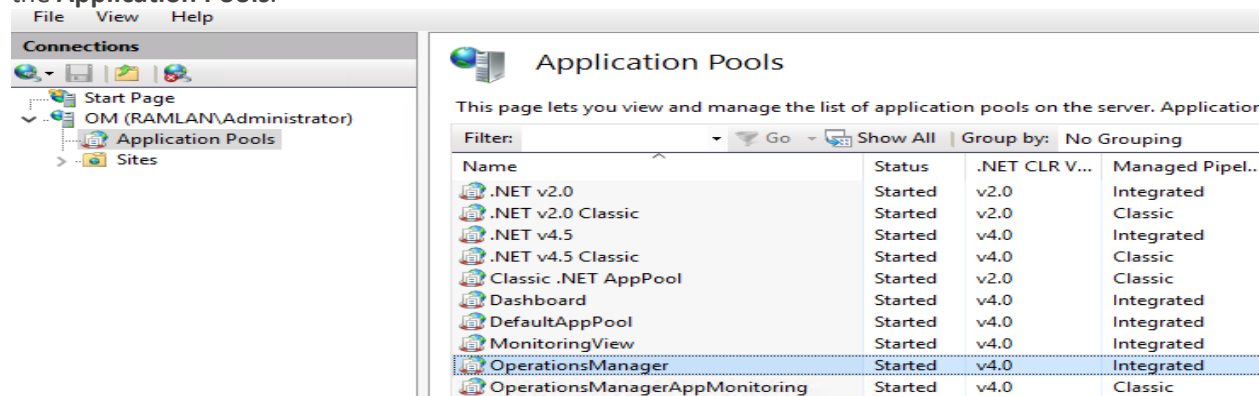


Note: This has to be done on all the SCOM agent computers, you can export and import the registry settings and automate this with for example Orchestration or configuration management tools.

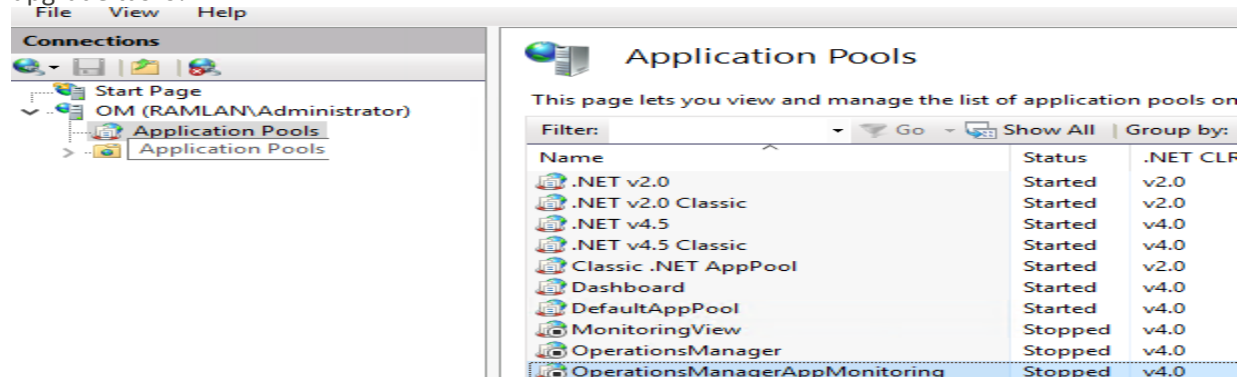
11. The final task is to stop the **OperationManager** and **OperationsManagerMonitoringViews** application pools within the **Internet Information Services (IIS) Manager**.

On the SCOM management server, go to **Start** and search for “**IIS**” and hit Enter to open the **Internet Information Services (IIS) Manager**.

11.1. In the **Internet Information Services (IIS) Manager** expand the **local server** and then expand the **Application Pools**.



11.3. Once both **OperationsManager** and **OperationsManagerMonitoringView** & **OperationsManagerAppMonitoring** application pools are stopped, we are finally ready with all the pre-upgrade tasks!



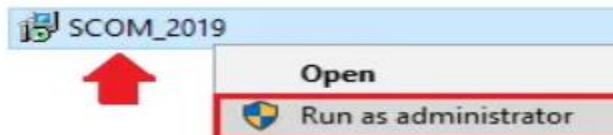
Upgrading to SCOM 2019

1. Mount the **Operations Manager 2019 ISO** image to the SCOM management server that we will perform the upgrade on.

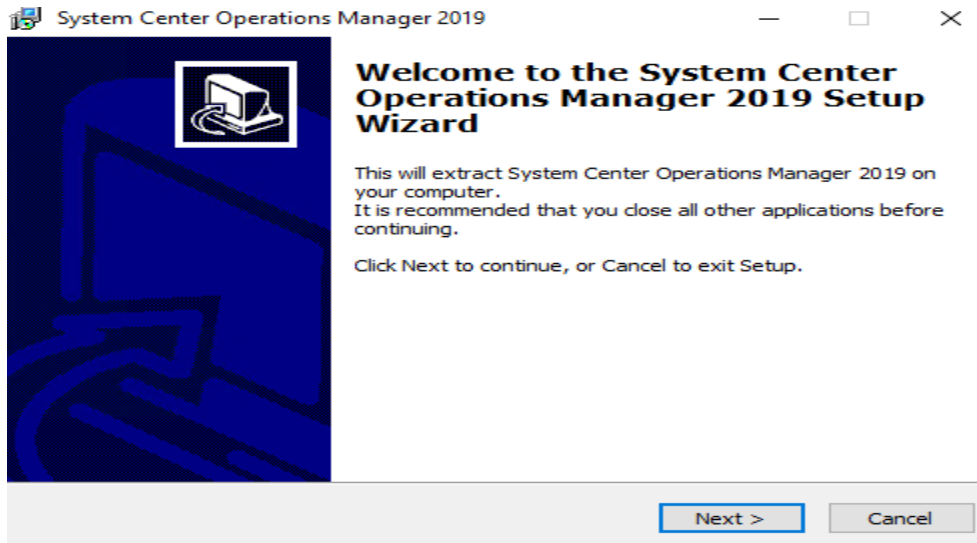
· OM > DVD Drive (D:) SCOM-2019

Name	Date modified	Type	Size
SCOM_2019.exe	21-Feb-2019 1:16 ...	Application	715,209 KB

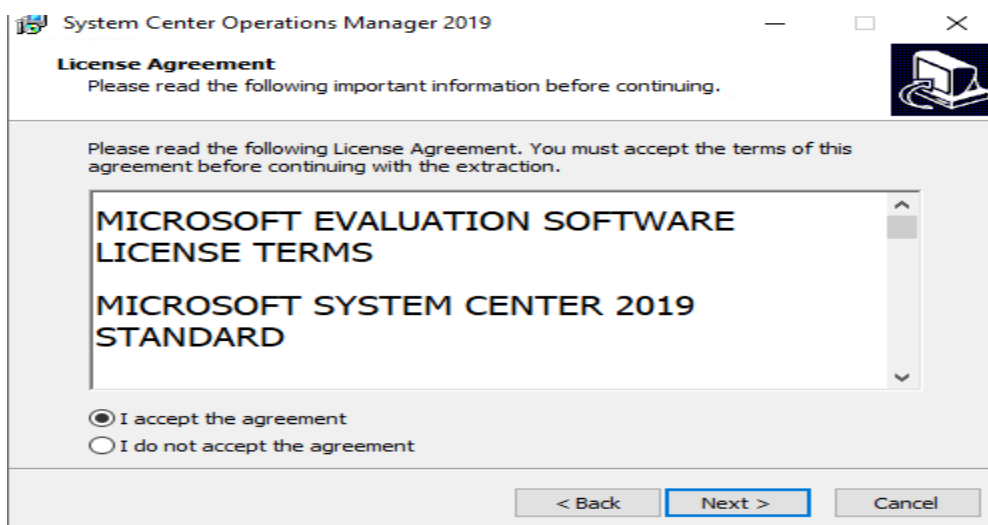
2. Run the **SCOM_2019.exe** (Run as administrator) to start the extraction wizard of the SCOM 2019 installation files.



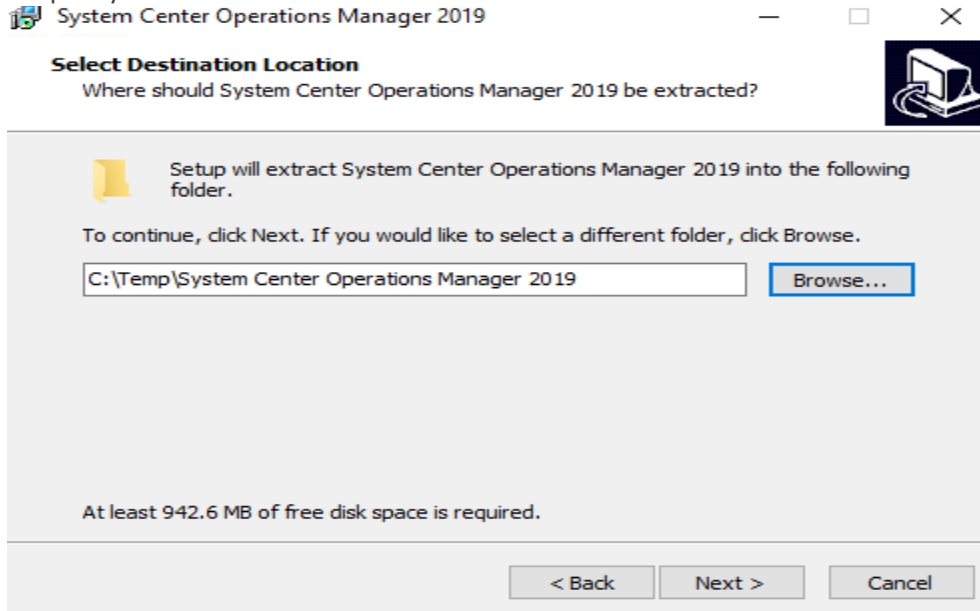
3. Click **Next** to continue.



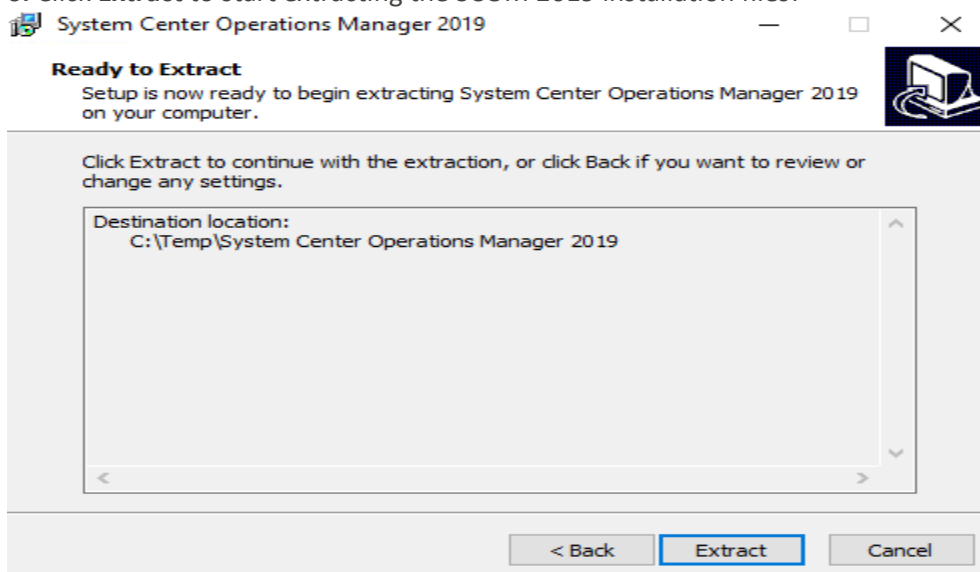
4. Check the **I accept the agreement** and then click **Next**.



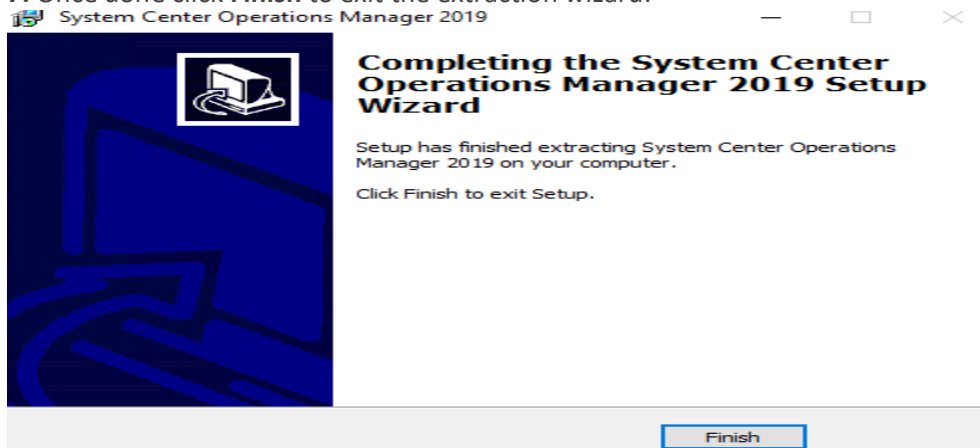
5. Specify a **location** where to extract the SCOM 2019 installation files.



6. Click **Extract** to start extracting the SCOM 2019 installation files.



7. Once done click **Finish** to exit the extraction wizard.

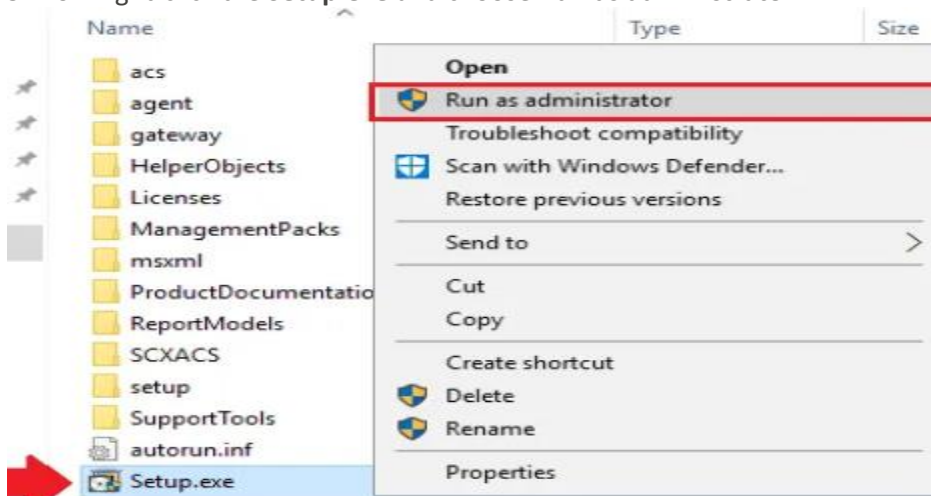


8. Next up, head to the location where the SCOM 2019 installation files were extracted to.

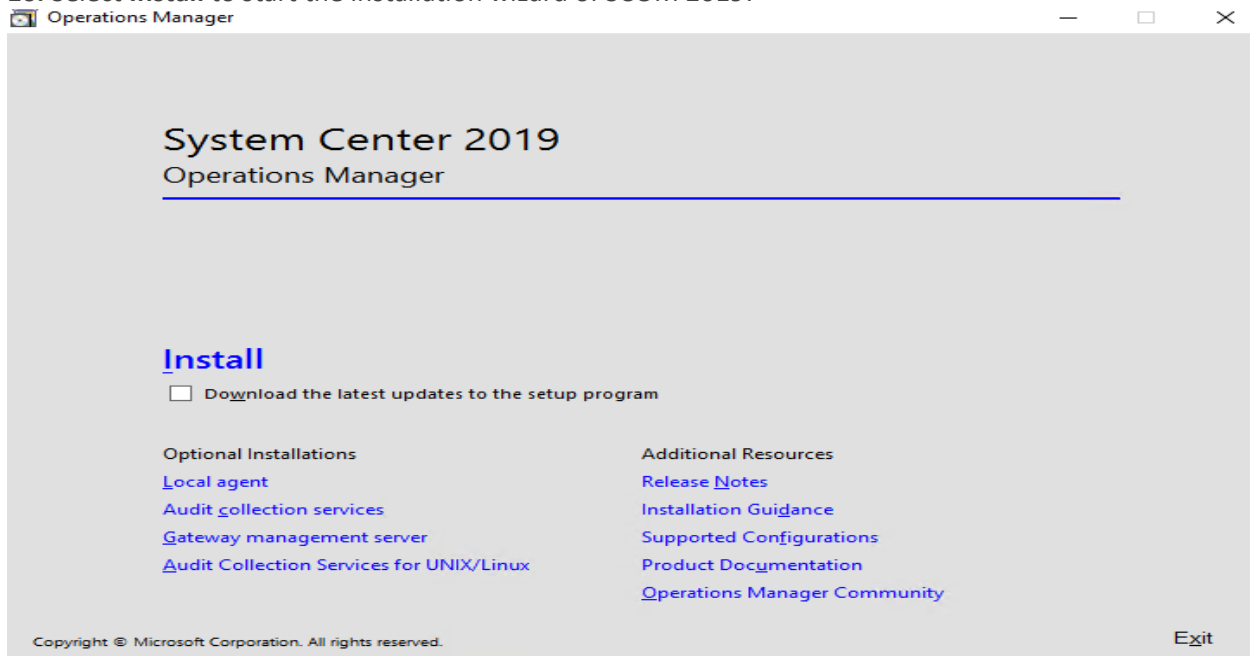
OM > OS (C:) > Temp > System Center Operations Manager 2019 >

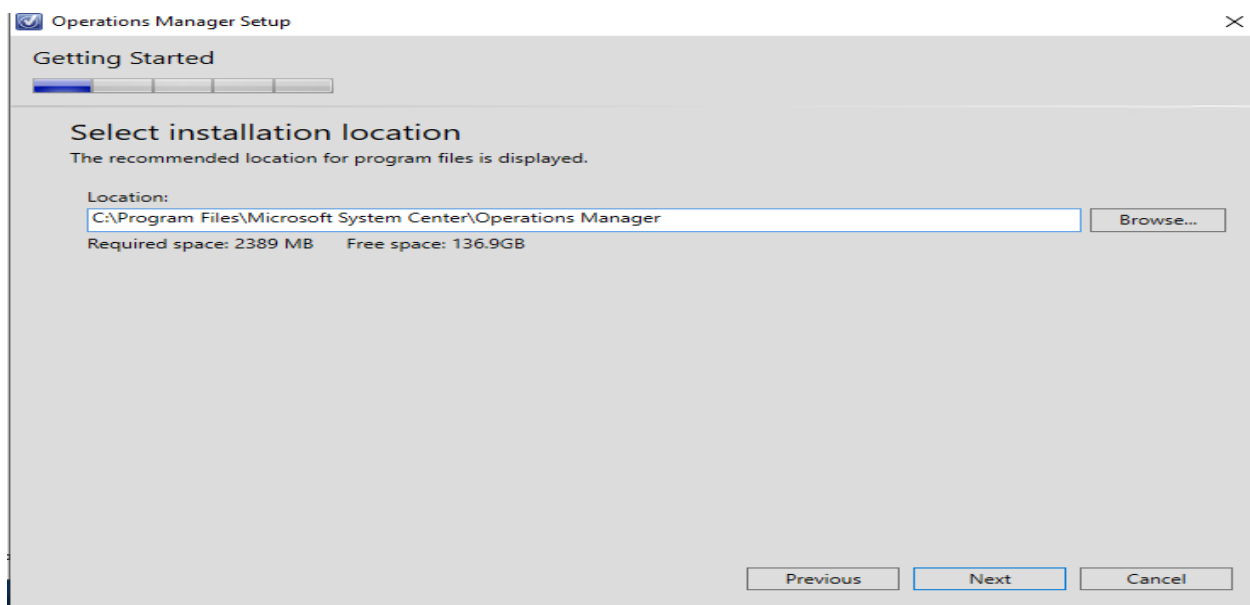
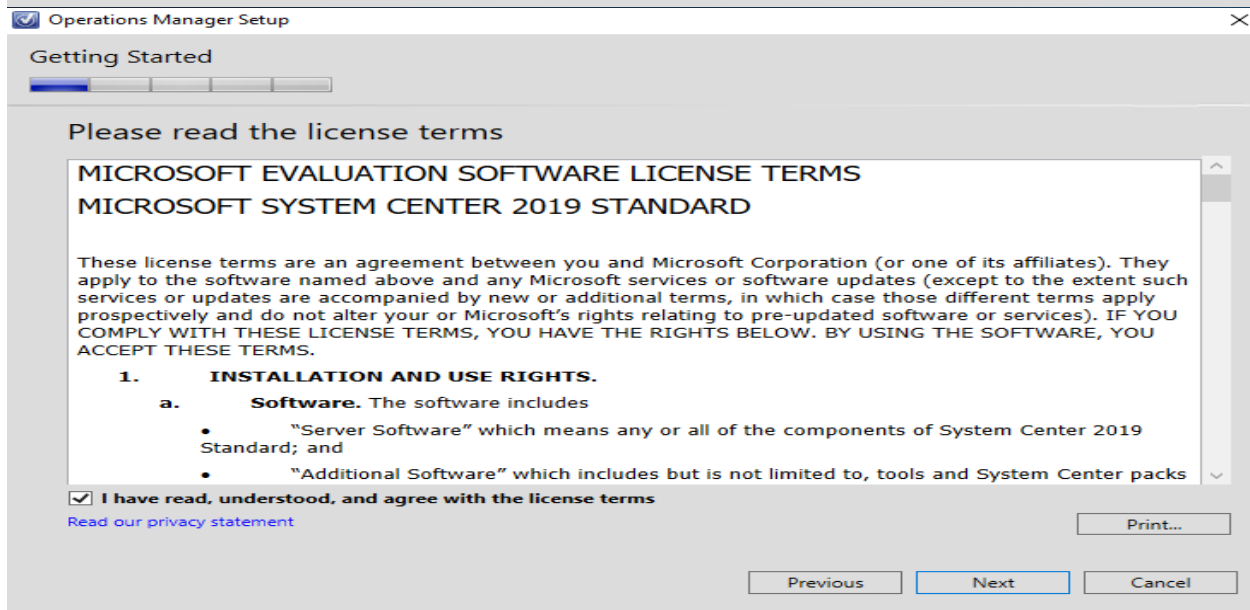
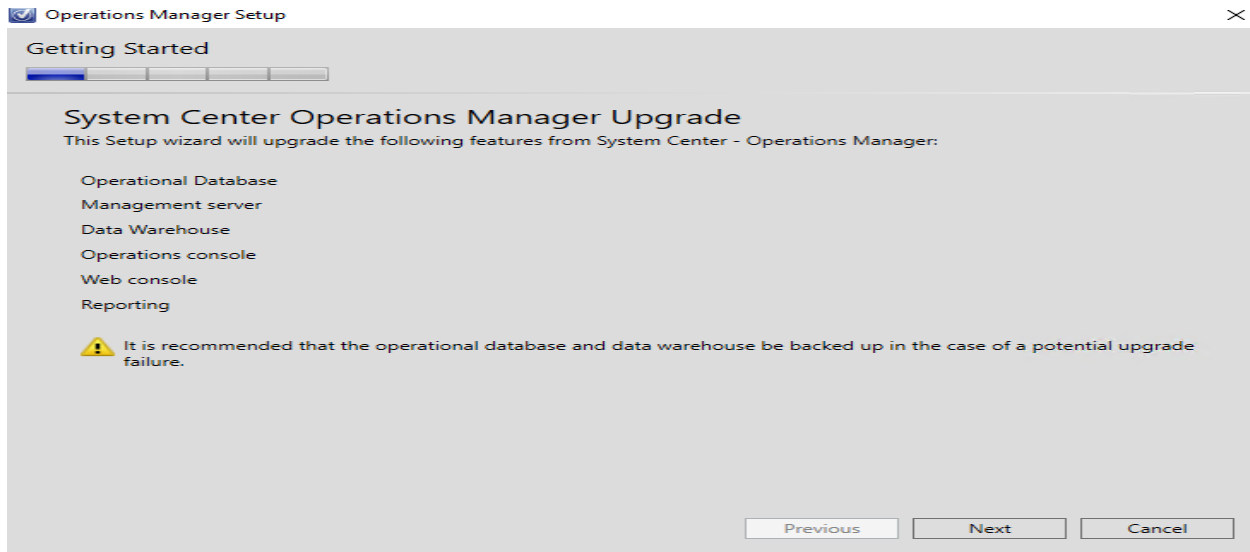
Name	Date modified	Type	Size
acs	24-Dec-2019 1:15 ...	File folder	
agent	24-Dec-2019 1:15 ...	File folder	
gateway	24-Dec-2019 1:15 ...	File folder	
HelperObjects	24-Dec-2019 1:15 ...	File folder	
Licenses	24-Dec-2019 1:15 ...	File folder	
ManagementPacks	24-Dec-2019 1:15 ...	File folder	
msxml	24-Dec-2019 1:15 ...	File folder	
ProductDocumentation	24-Dec-2019 1:15 ...	File folder	
ReportModels	24-Dec-2019 1:15 ...	File folder	
SCXACS	24-Dec-2019 1:15 ...	File folder	
setup	24-Dec-2019 1:16 ...	File folder	
SupportTools	24-Dec-2019 1:16 ...	File folder	
autorun.inf	29-Jan-2019 7:05 ...	Setup Information	1 KB
Setup.exe	31-Jan-2019 4:37 ...	Application	1,640 KB

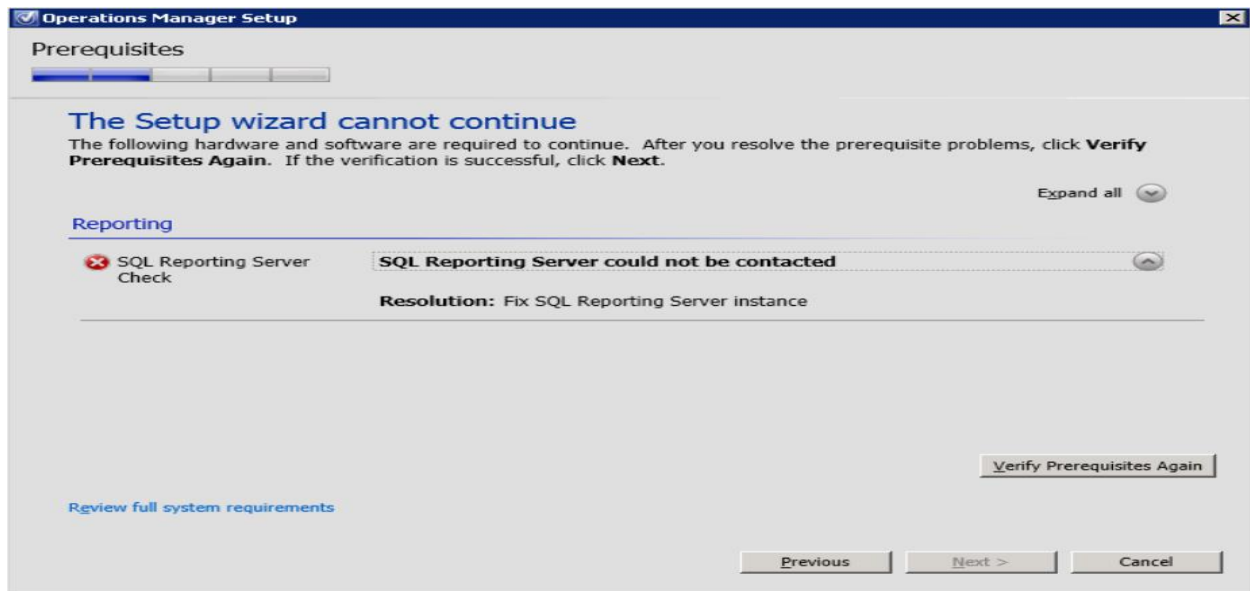
9. Now right-click the Setup.exe and choose Run as administrator.



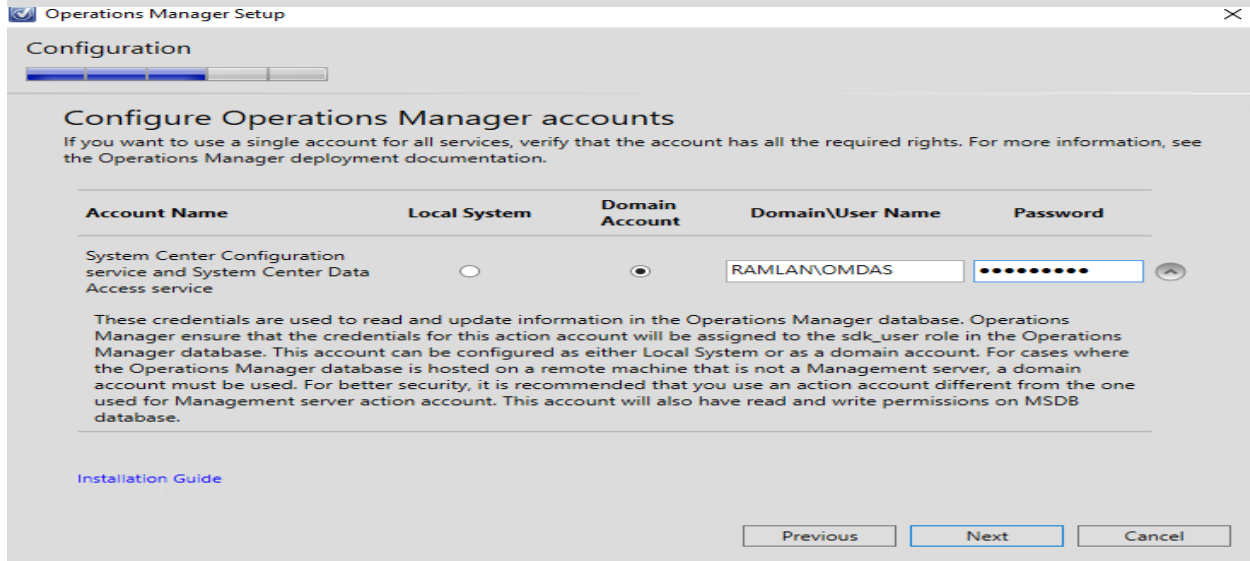
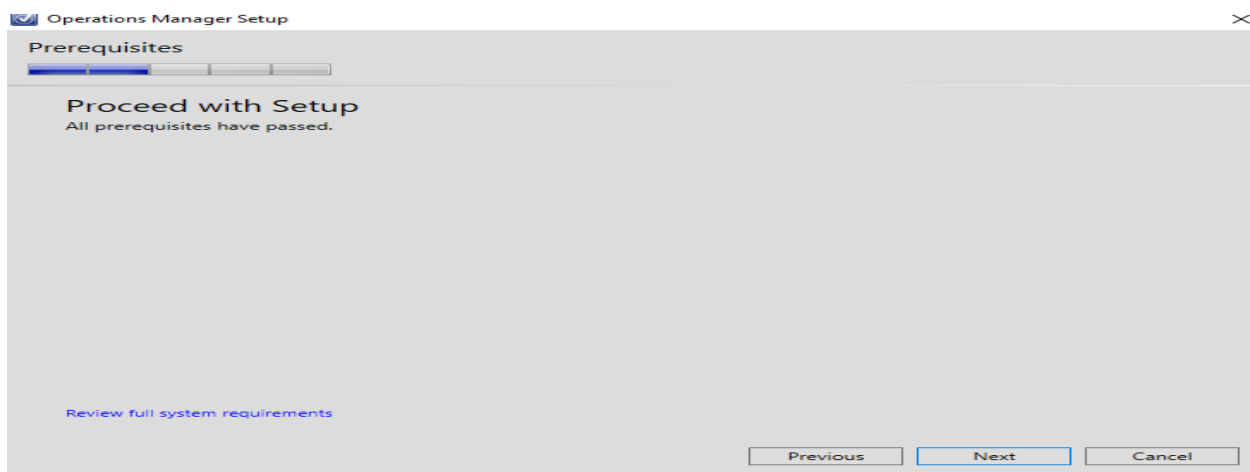
10. Select Install to start the installation wizard of SCOM 2019.

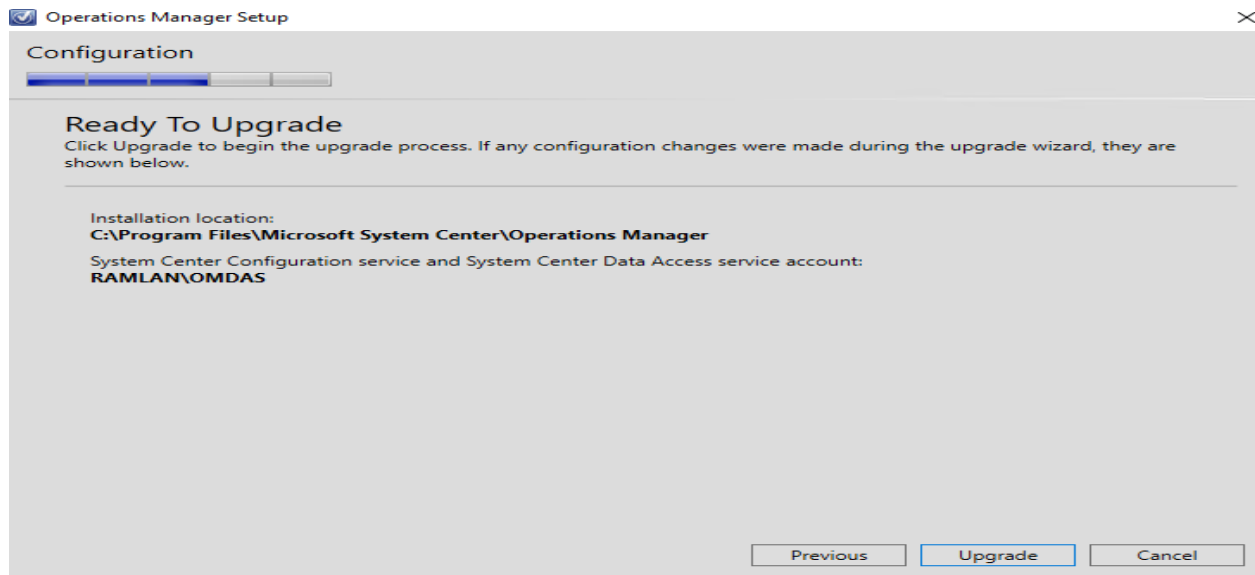




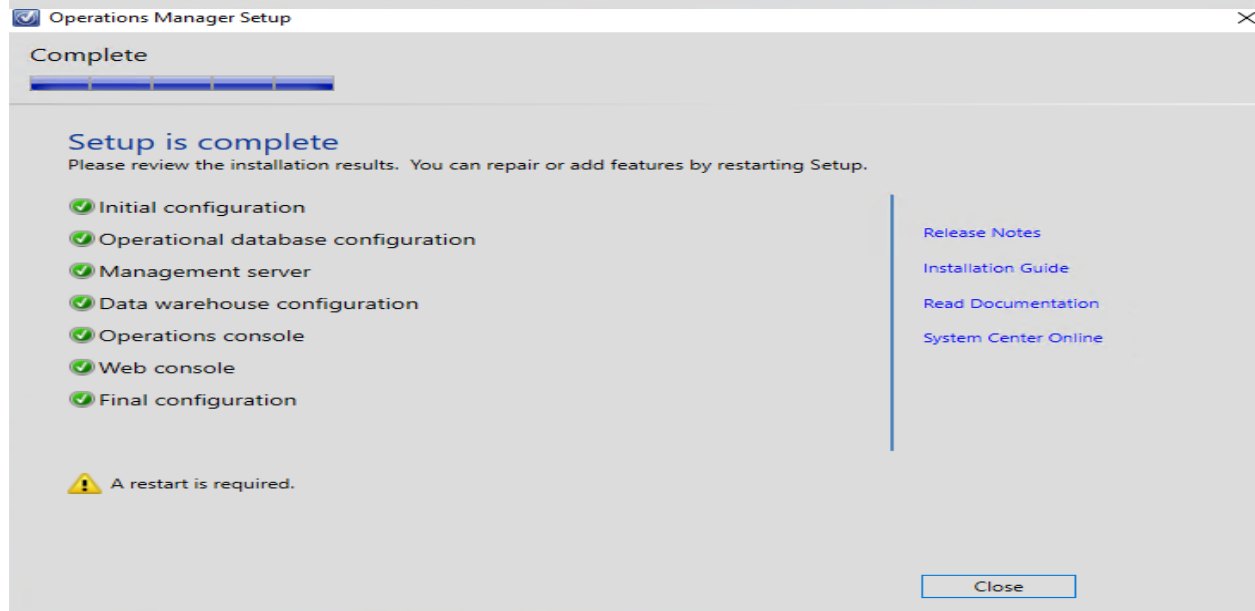
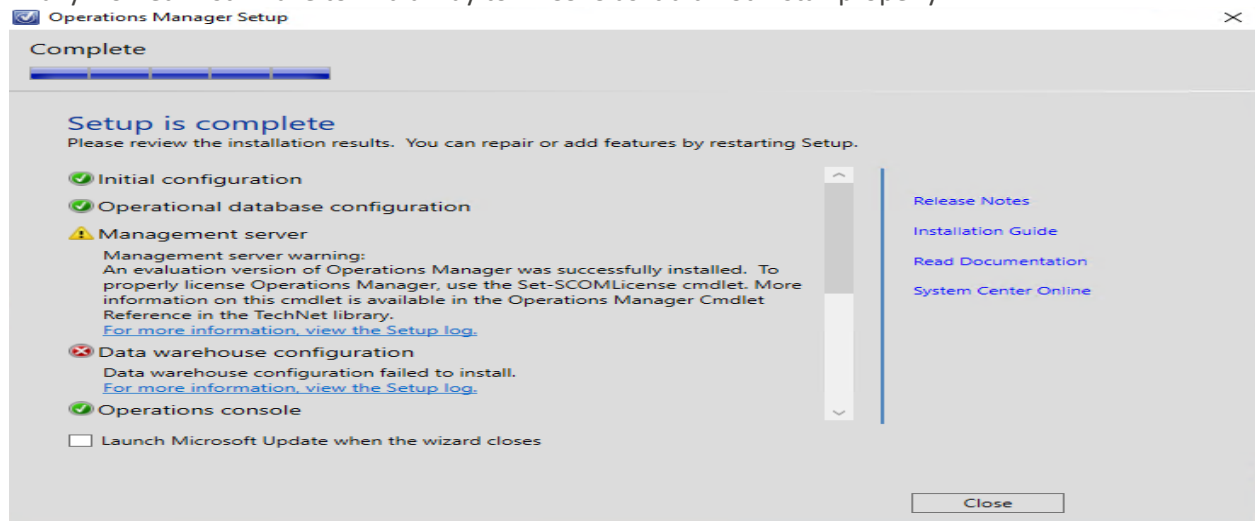


I was getting above error during pre req check. The only solution that fixed and I was able to proceed with the upgrade was to restart





As you can see from below screen shot the upgrade was not fully successful. I tried to repair and it finally worked. I still have to find a way to fix SSRS as it did not install properly.



System Center 2019

Operations Manager

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Activate

OK

Activate

OK

System Center 2019

Operations Manager

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Post-upgrade tasks

Now that we have successfully upgraded to SCOM 2019, we will need to perform a few post-upgrade tasks, as we disabled a few things prior to the upgrade.

High-level overview of the post-upgrade tasks

1. Re-enable the Notification Subscriptions.
2. Reset agent HealthService Cache size.
3. Start the application pools of Operation Manager and MonitoringView in the IIS.
4. Verify the upgrade was successful
5. Activate the license

Thanks

Ram Lan

25th Dec 2019