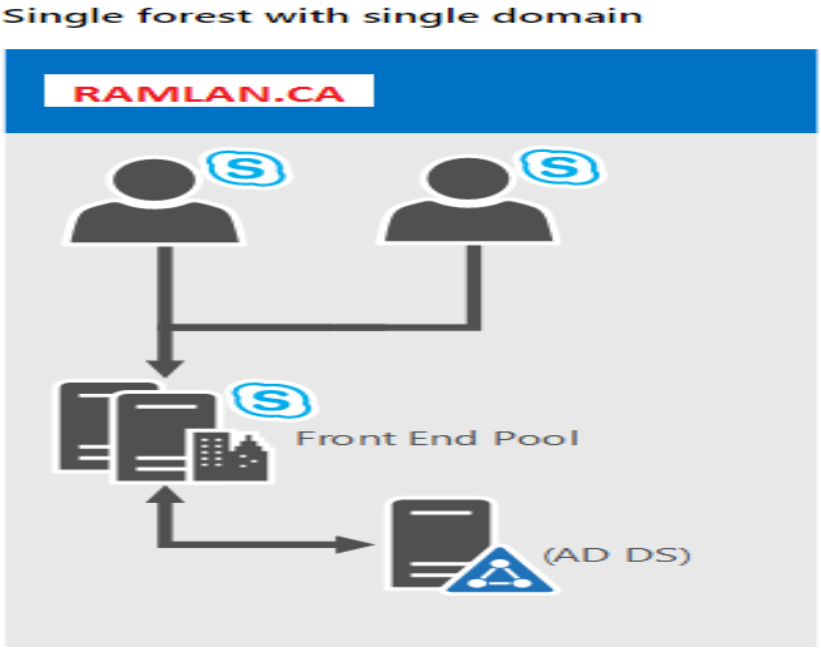
INSTALLING SKYPE FOR BUSINESS 2019 ON WINDOWS SERVER 2019

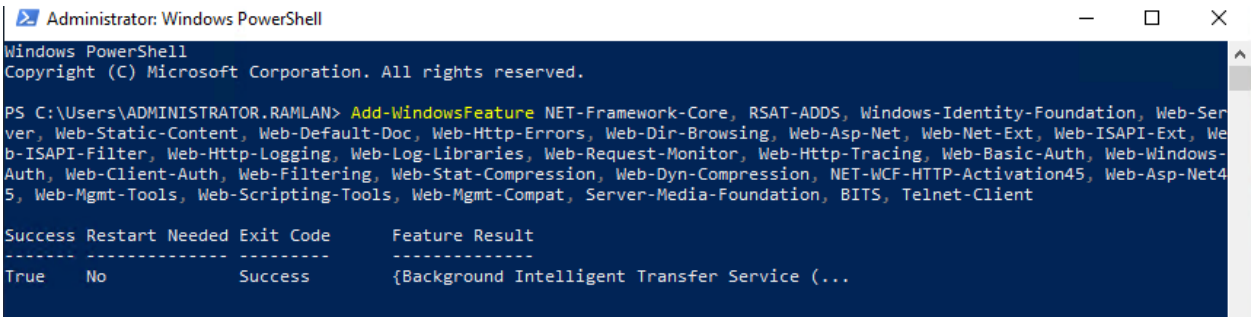
In this post, I will show you how to install and configure Skype for Business 2019 Standard Edition within SQL Server Express edition. If you have less than 5000 users you can use SQL Server Express edition. Anything more than 5000+ then you need SQL Enterprise edition.

Here is my home lab infrastructure:

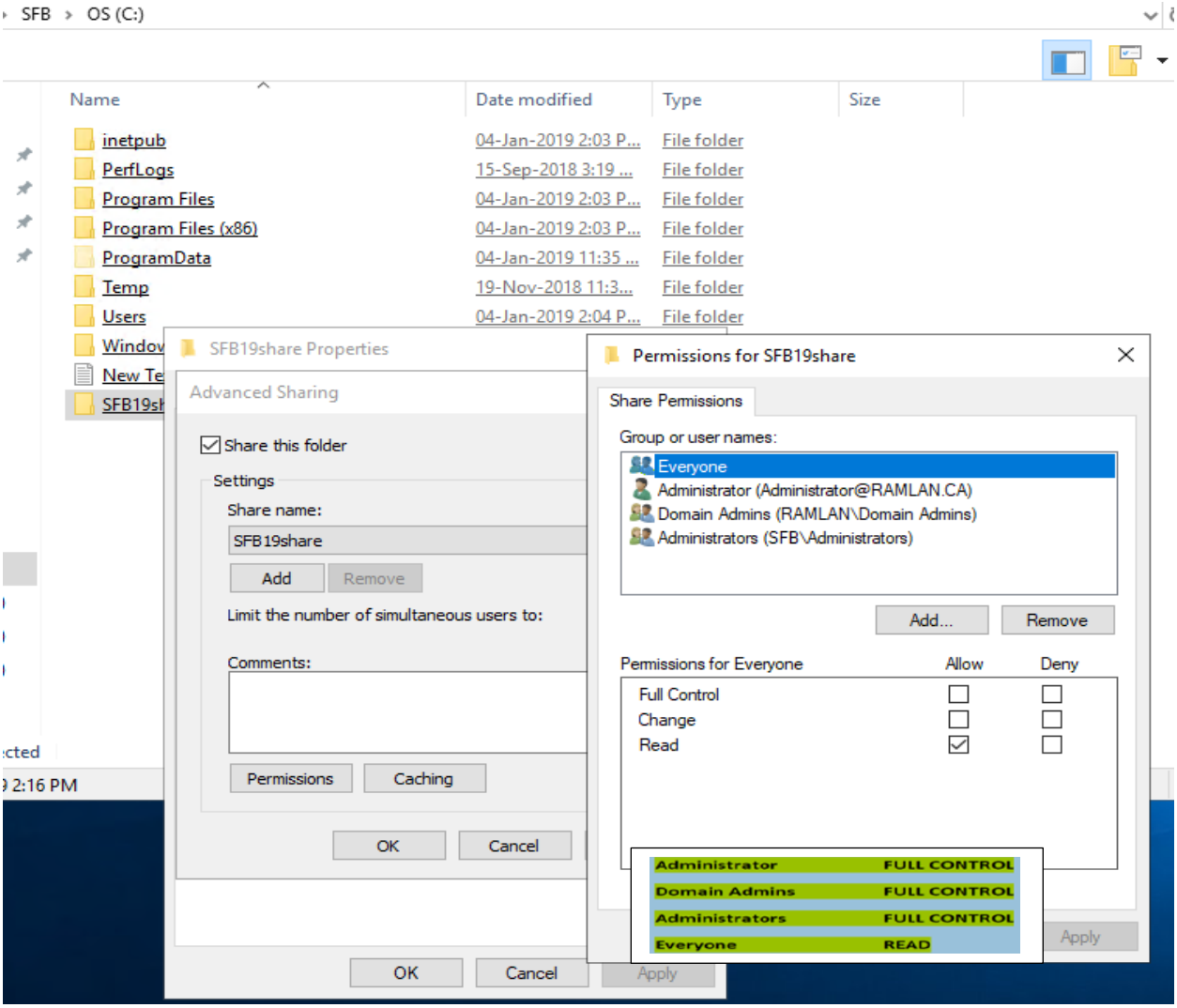


I have prepped Windows Server 2019 and installed all the update. Restarted the system and will start Prerequisites.

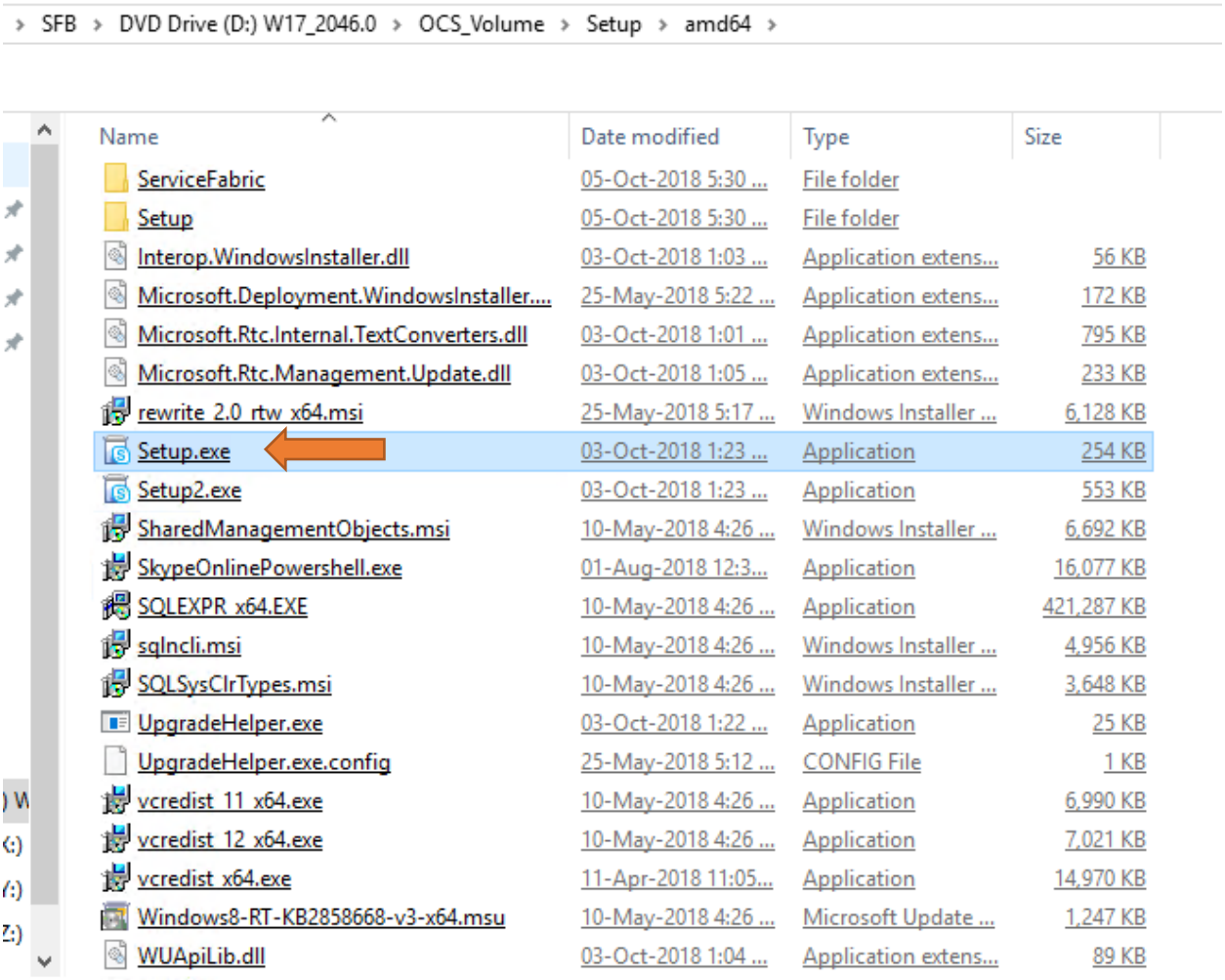
Add-WindowsFeature NET-Framework-Core, RSAT-ADDS, Windows-Identity-Foundation, Web-Server, Web-Static-Content, Web-Default-Doc, Web-Http-Errors, Web-Dir-Browsing, Web-Asp-Net, Web-Net-Ext, Web-ISAPI-Ext, Web-ISAPI-Filter, Web-Http-Logging, Web-Log-Libraries, Web-Request-Monitor, Web-Http-Tracing, Web-Basic-Auth, Web-Windows-Auth, Web-Client-Auth, Web-Filtering, Web-Stat-Compression, Web-Dyn-Compression, NET-WCF-HTTP-Activation45, Web-Asp-Net45, Web-Mgmt-Tools, Web-Scripting-Tools, Web-Mgmt-Compat, Server-Media-Foundation, BITS, Telnet-Client

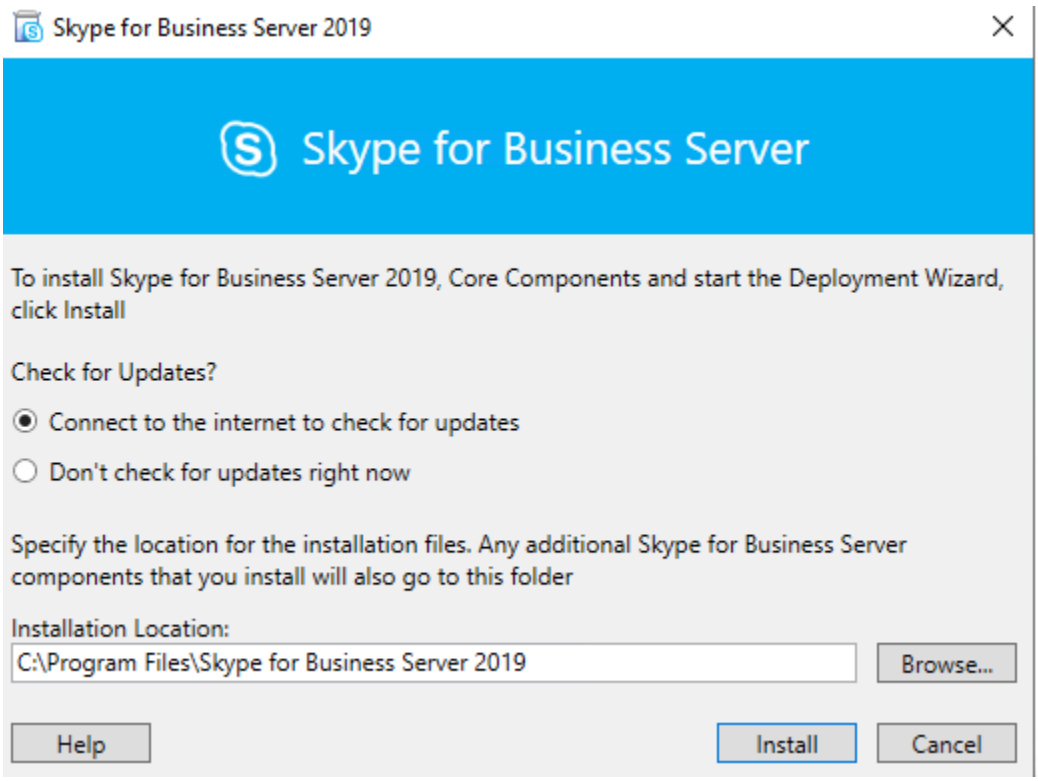


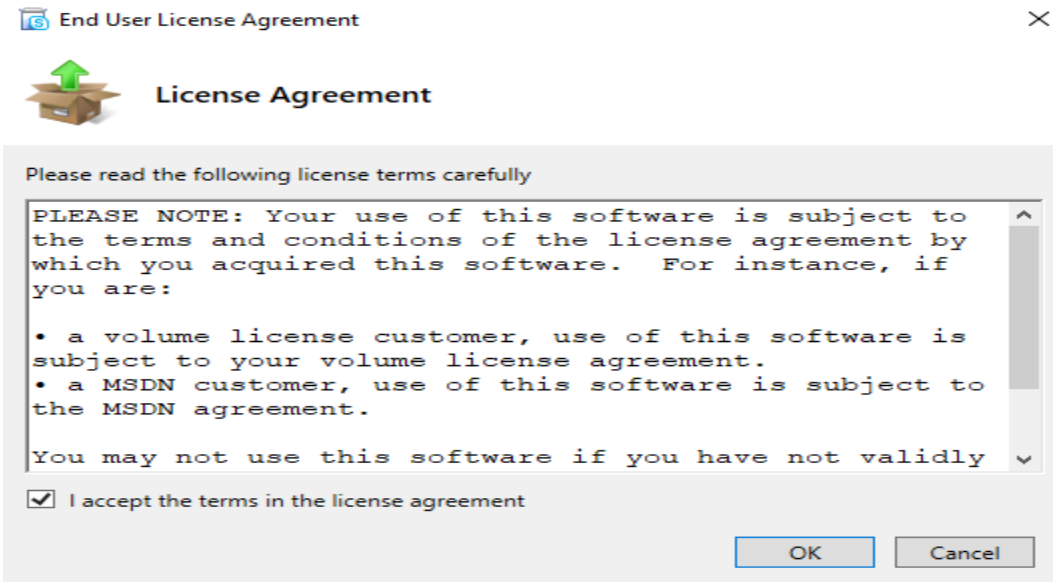
The next step is to create a shared folder and give below group's necessary permission.

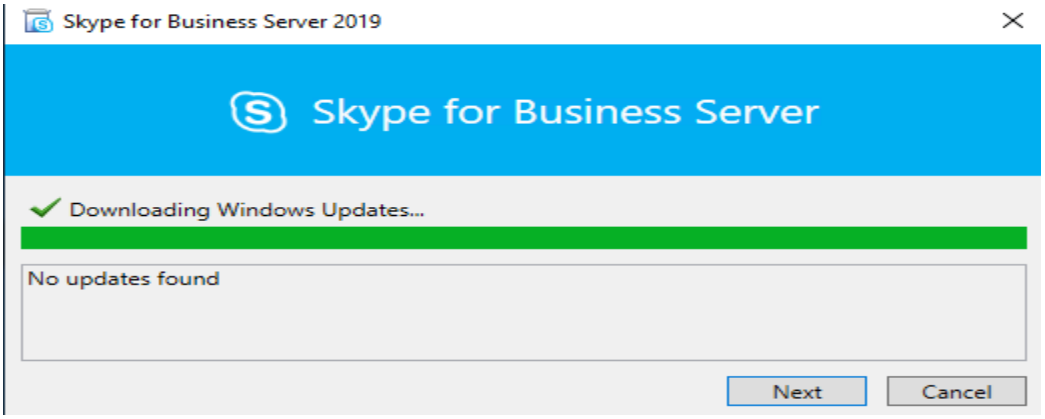


Now it is time to start the install of SFB 2019. Run setup.exe

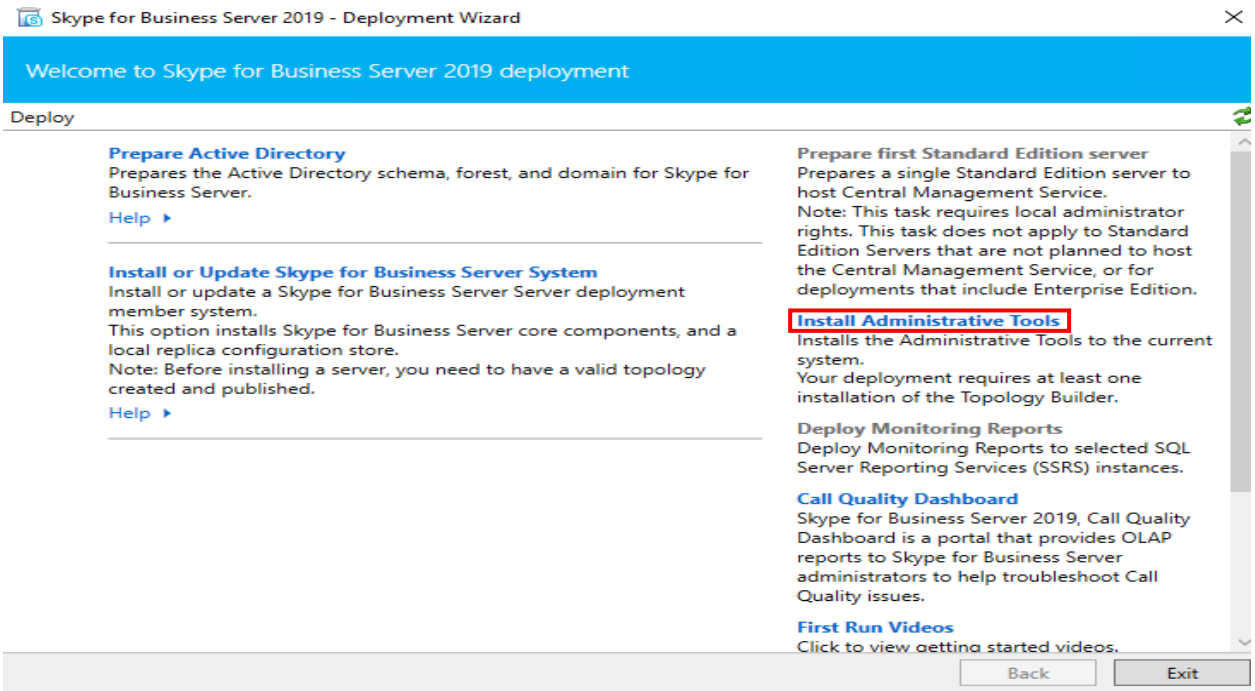


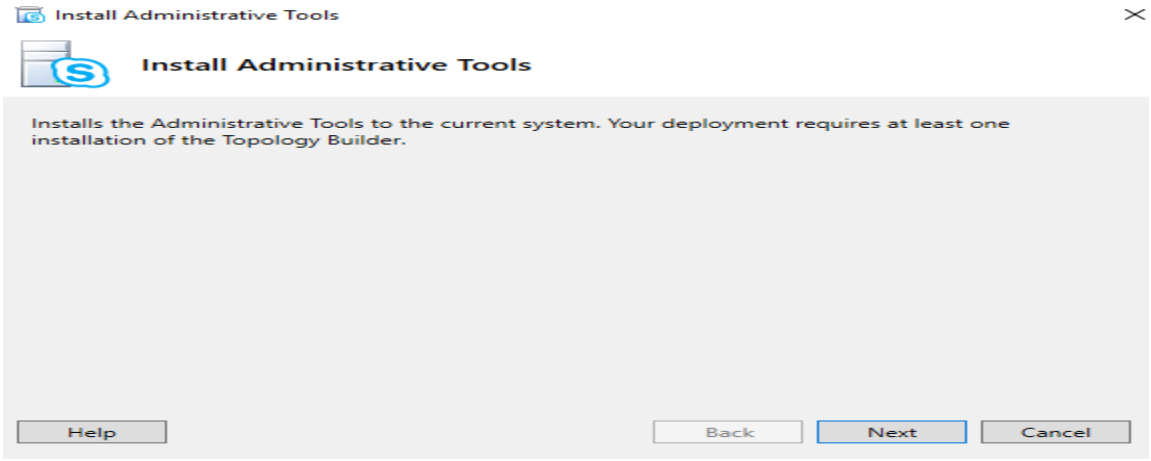


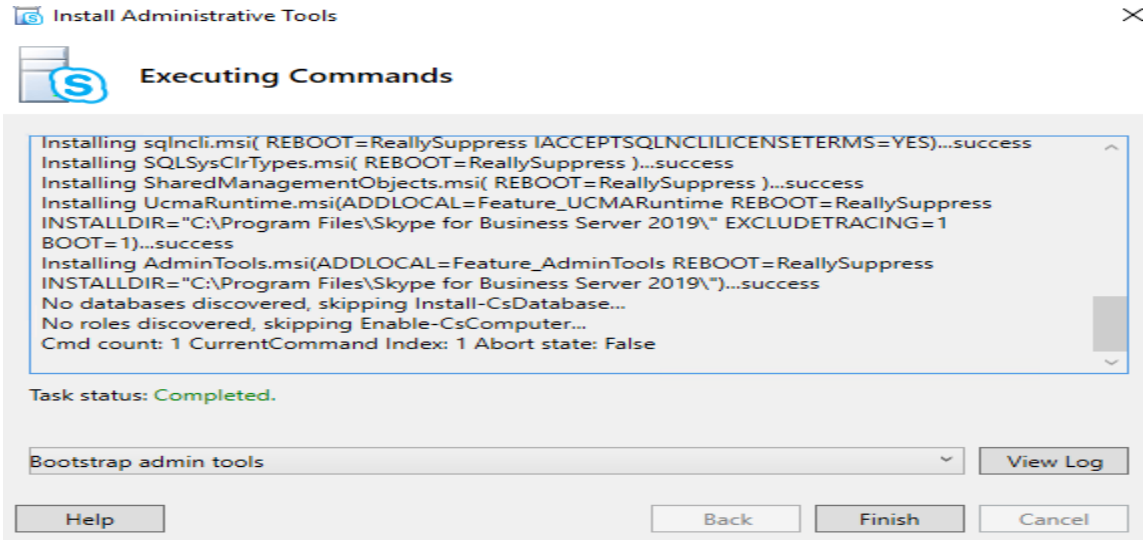




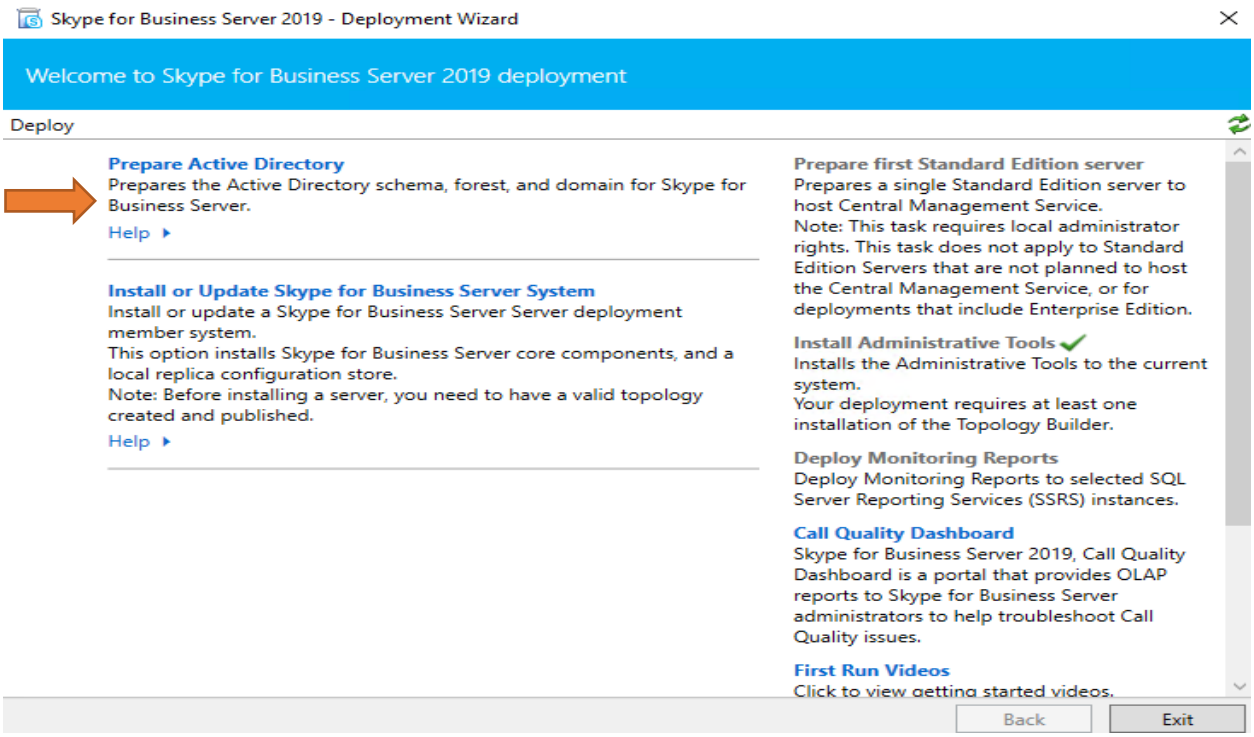
Now we will install Administrative Tools

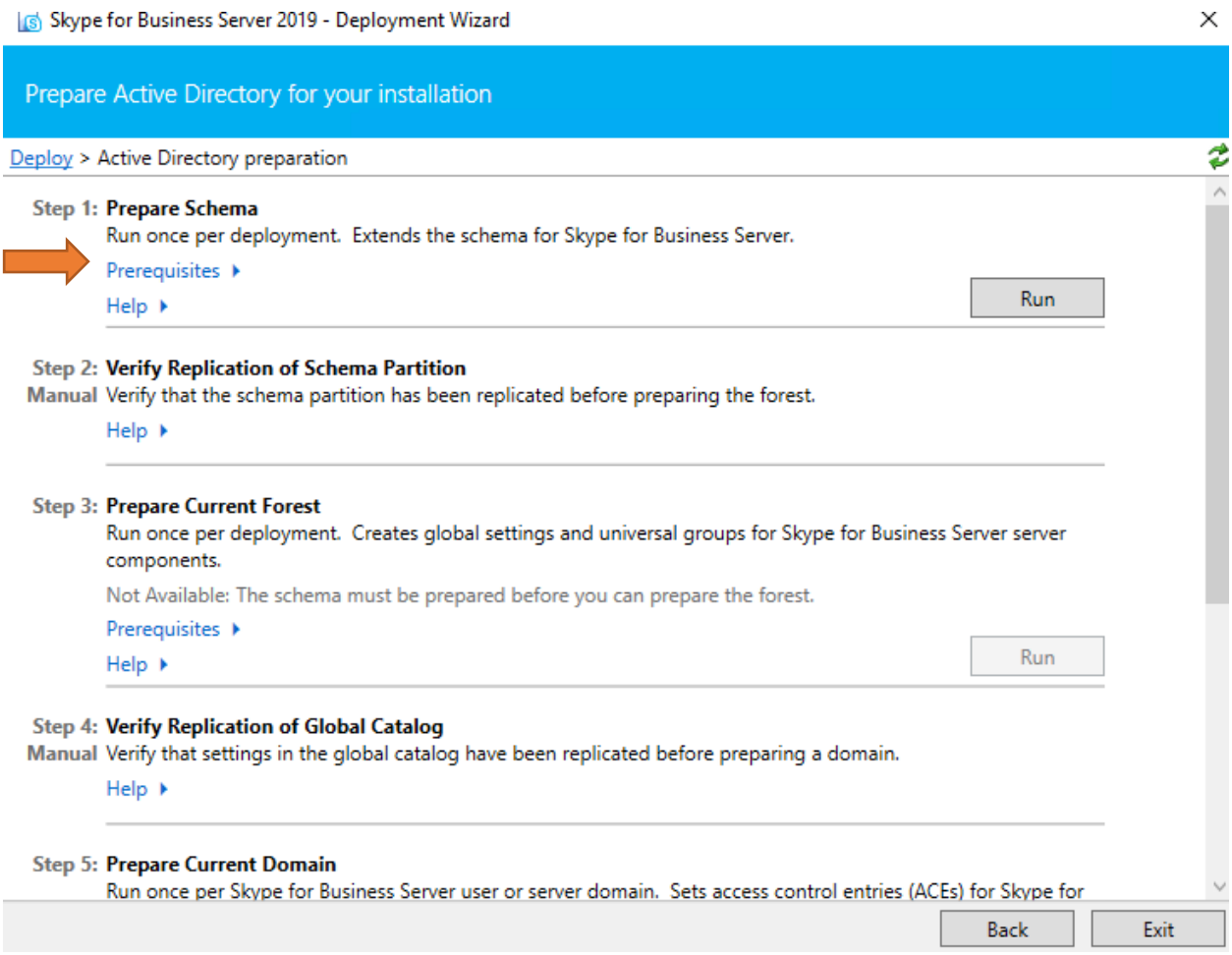


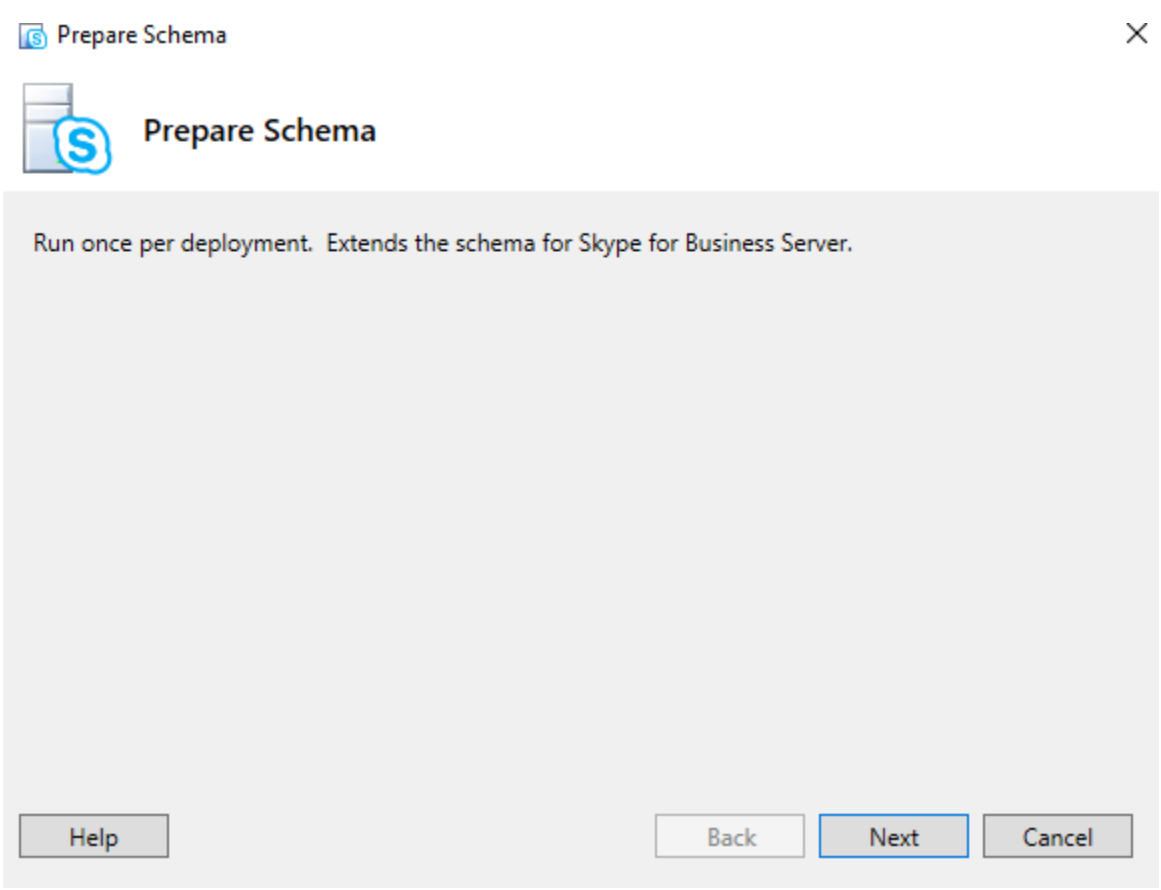


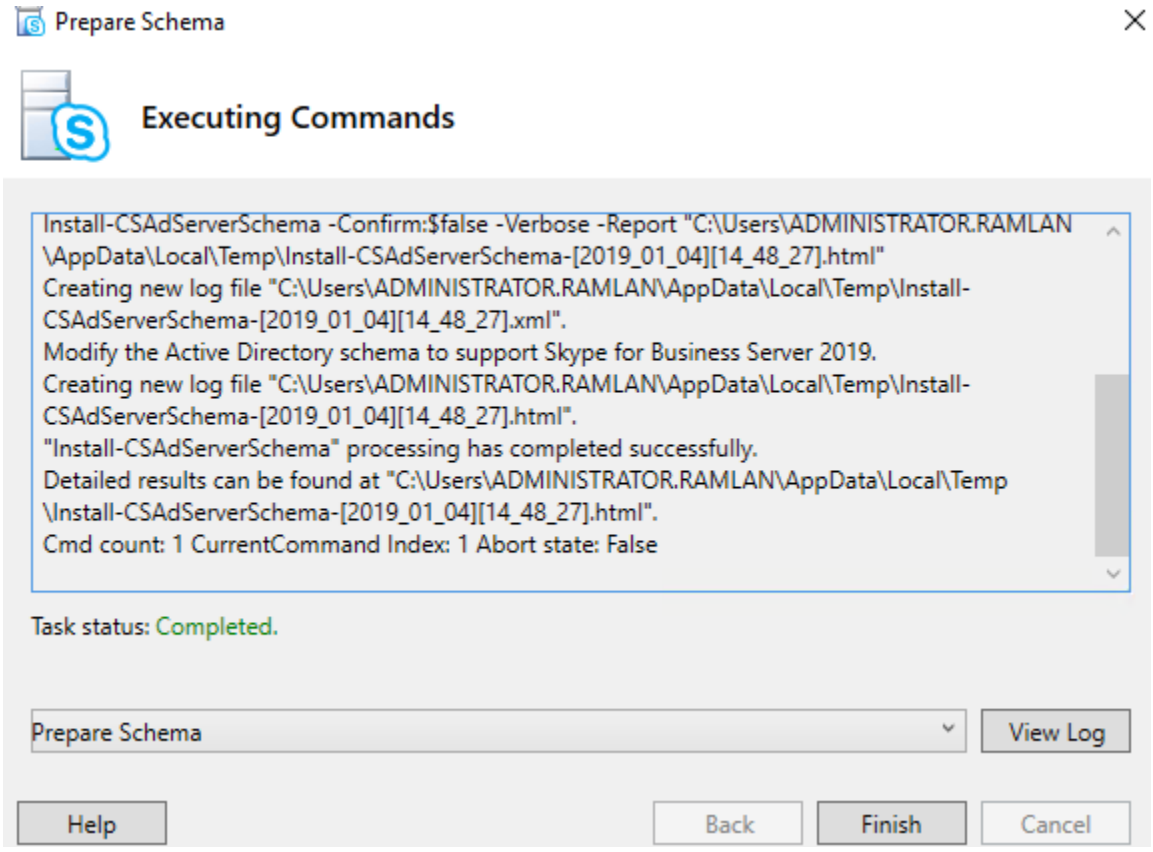


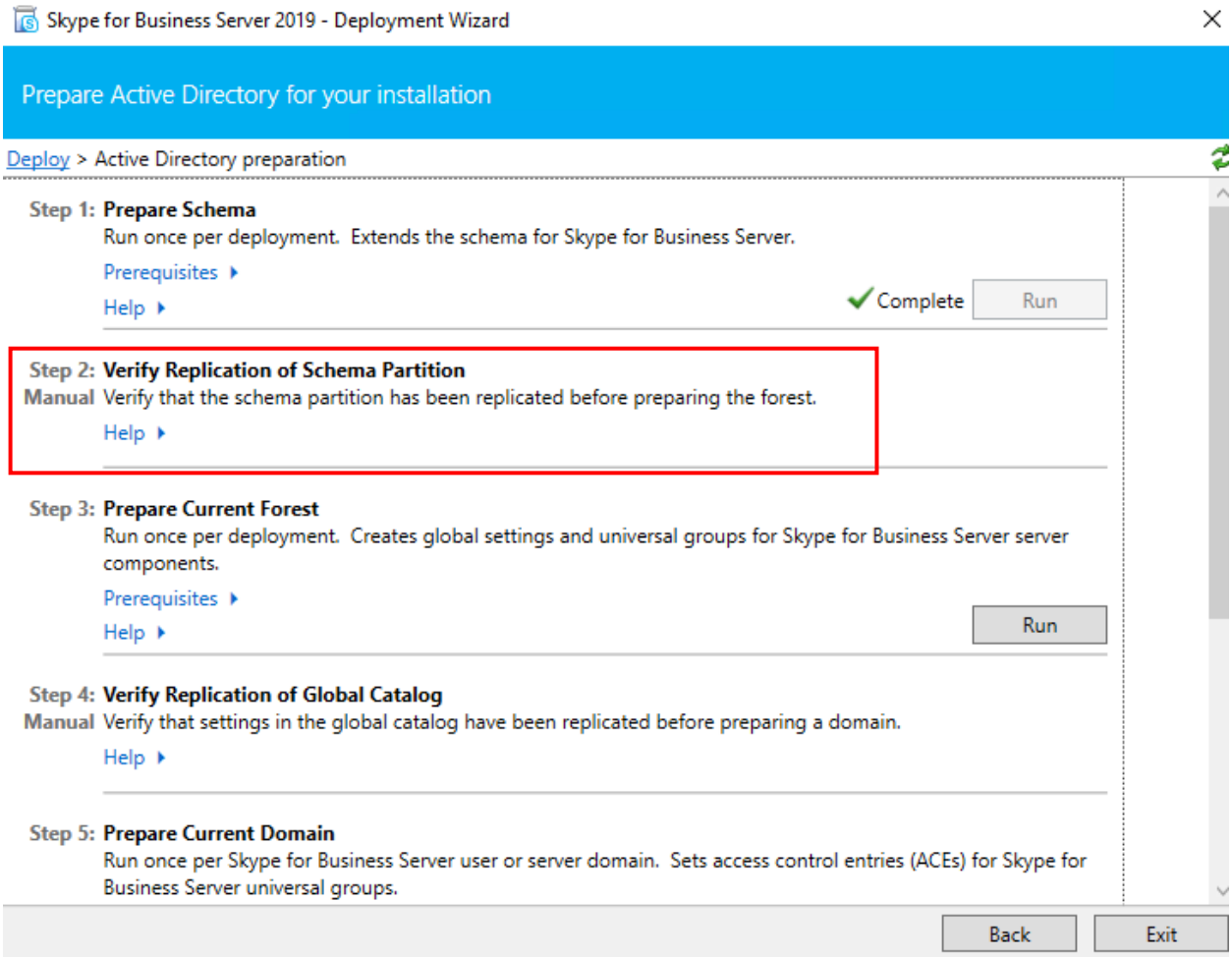
Prepare Active Directory



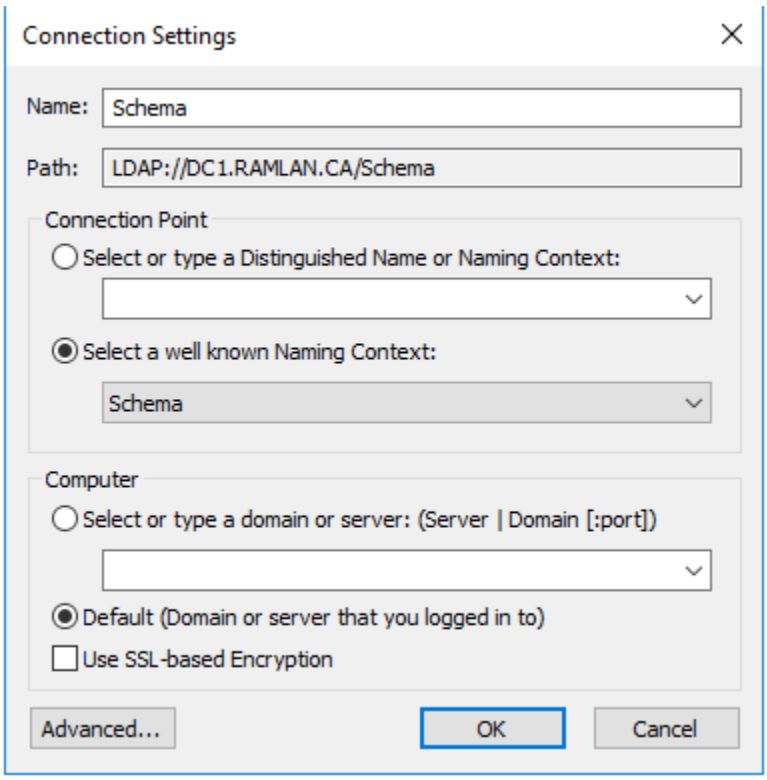

Skype for Business Server 2019 - Deployment Wizard
Prepare Active Directory for your installation
Deploy > Active Directory preparation
Step 1: Prepare Schema
Run once per deployment. Extends the schema for Skype for Business Server.
Prerequisites
Help
Run
Step 2: Verify Replication of Schema Partition
Manual
Verify that the schema partition has been replicated before preparing the forest.
Help
Step 3: Prepare Current Forest
Run once per deployment. Creates global settings and universal groups for Skype for Business Server server components.
Not Available: The schema must be prepared before you can prepare the forest.
Prerequisites
Help
Run
Step 4: Verify Replication of Global Catalog
Manual
Verify that settings in the global catalog have been replicated before preparing a domain.
Help
Step 5: Prepare Current Domain
Run once per Skype for Business Server user or server domain. Sets access control entries (ACEs) for Skype for
Back
Exit


Prepare Schema
Prepare Schema
Run once per deployment. Extends the schema for Skype for Business Server.
Help
Back
Next
Cancel

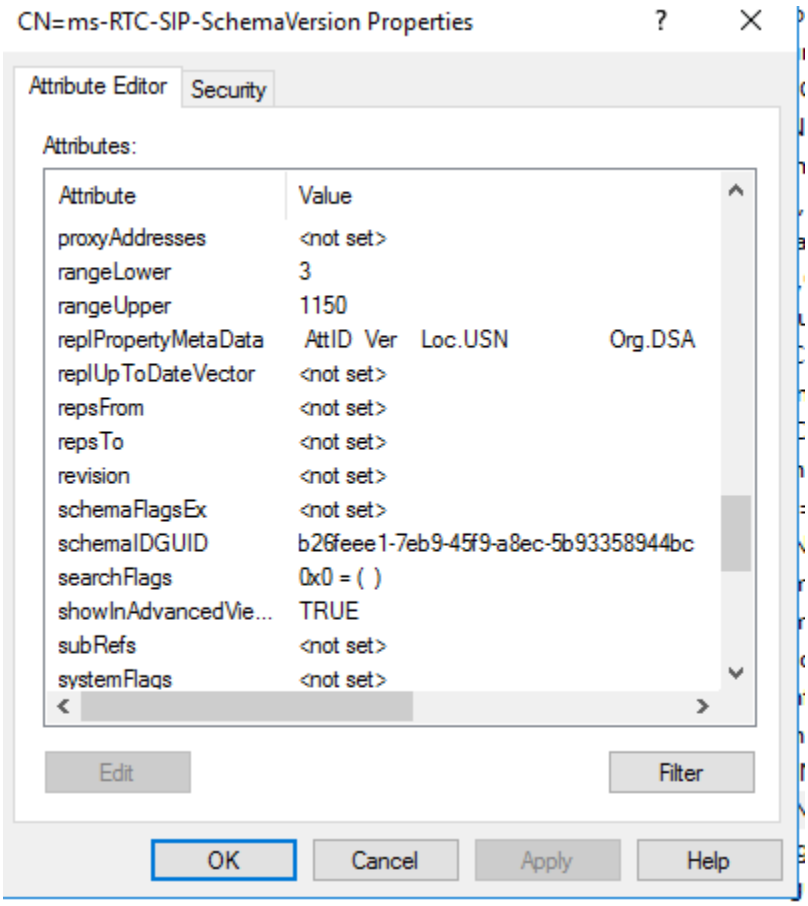

Prepare Schema
Executing Commands
Install-CSAdServerSchema -Confirm:$false -Verbose -Report "C:\Users\ADMINISTRATOR.RAMLAN
\AppData\Local\Temp\Install-CSAdServerSchema-[2019_01_04][14_48_27].html"
Creating new log file "C:\Users\ADMINISTRATOR.RAMLAN\AppData\Local\Temp\Install-
CSAdServerSchema-[2019_01_04][14_48_27].xml".
Modify the Active Directory schema to support Skype for Business Server 2019.
Creating new log file "C:\Users\ADMINISTRATOR.RAMLAN\AppData\Local\Temp\Install-
CSAdServerSchema-[2019_01_04][14_48_27].html".
"Install-CSAdServerSchema" processing has completed successfully.
Detailed results can be found at "C:\Users\ADMINISTRATOR.RAMLAN\AppData\Local\Temp
\Install-CSAdServerSchema-[2019_01_04][14_48_27].html".
Cmd count: 1 CurrentCommand Index: 1 Abort state: False
Task status: Completed.
Prepare Schema
View Log
Help
Back
Finish
Cancel


Skype for Business Server 2019 - Deployment Wizard
Prepare Active Directory for your installation
Deploy > Active Directory preparation
Step 1: Prepare Schema
Run once per deployment. Extends the schema for Skype for Business Server.
Prerequisites
Help
Complete
Run
Step 2: Verify Replication of Schema Partition
Manual
Verify that the schema partition has been replicated before preparing the forest.
Help
Step 3: Prepare Current Forest
Run once per deployment. Creates global settings and universal groups for Skype for Business Server server components.
Prerequisites
Help
Run
Step 4: Verify Replication of Global Catalog
Manual
Verify that settings in the global catalog have been replicated before preparing a domain.
Help
Step 5: Prepare Current Domain
Run once per Skype for Business Server user or server domain. Sets access control entries (ACEs) for Skype for Business Server universal groups.
Back
Exit

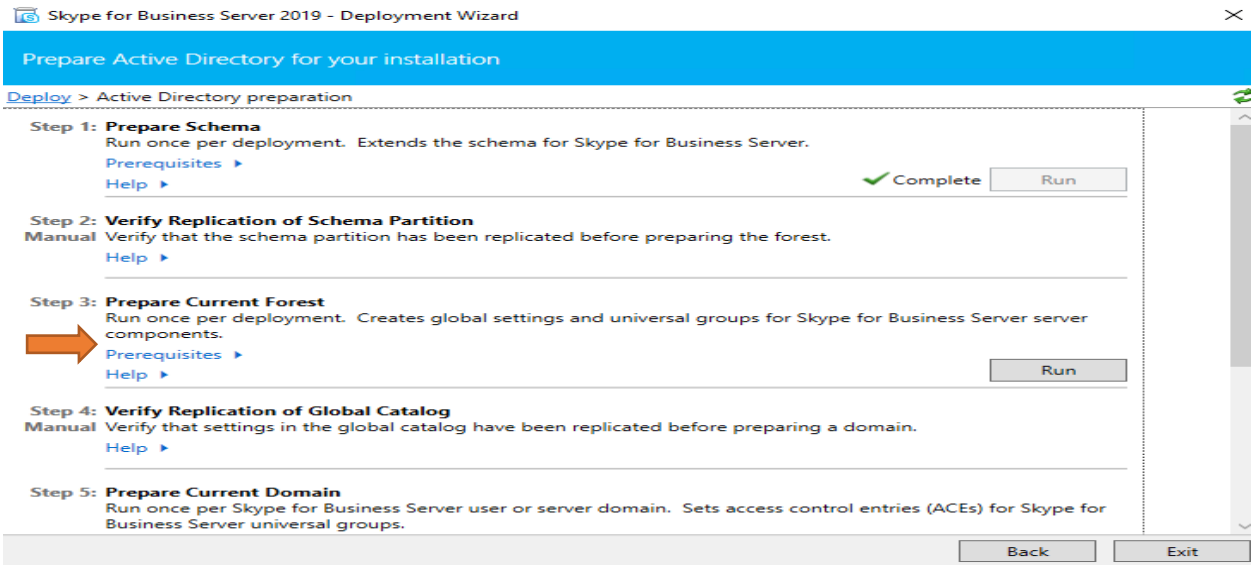
Open ADSIEdit from Admin Tools – Connect to Schema – Locate CN-ms-RTC-SIP-SchemaVersion object – right click – Properties

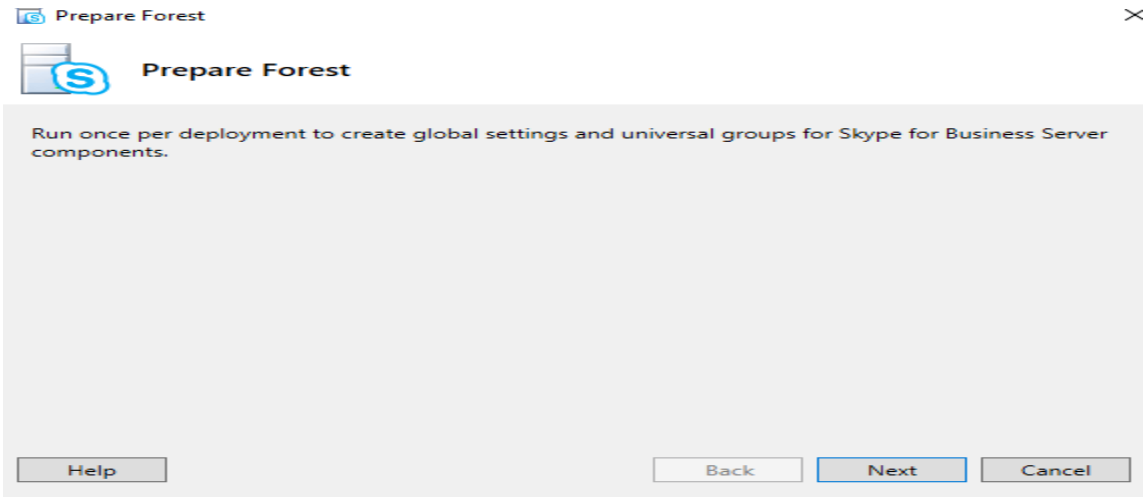


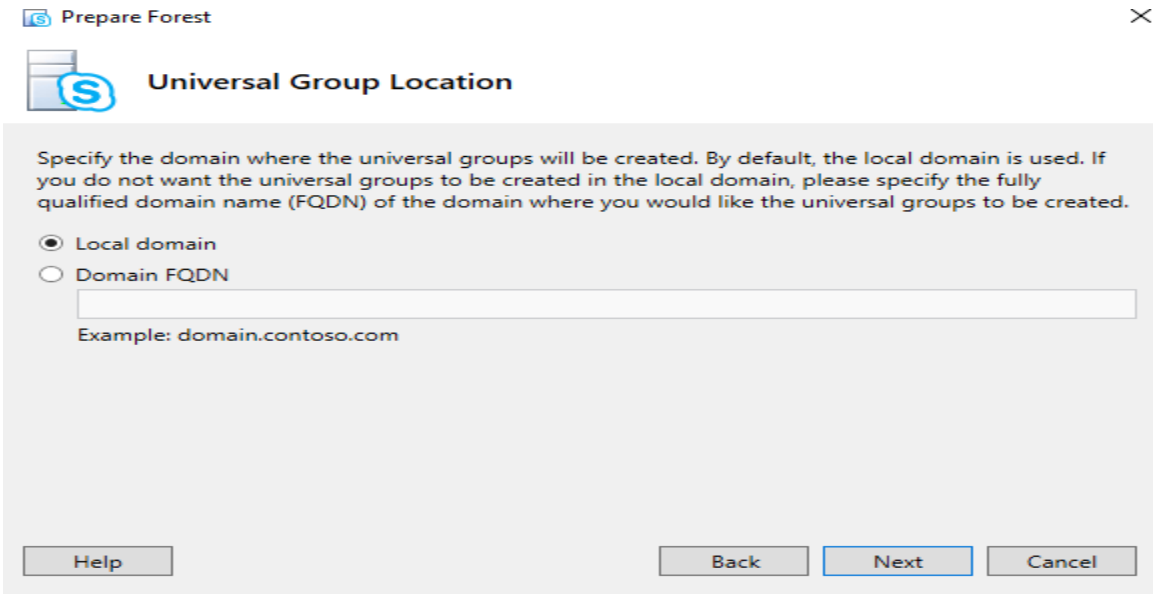
rangeLower should be 3 and rangeUpper should be 1150

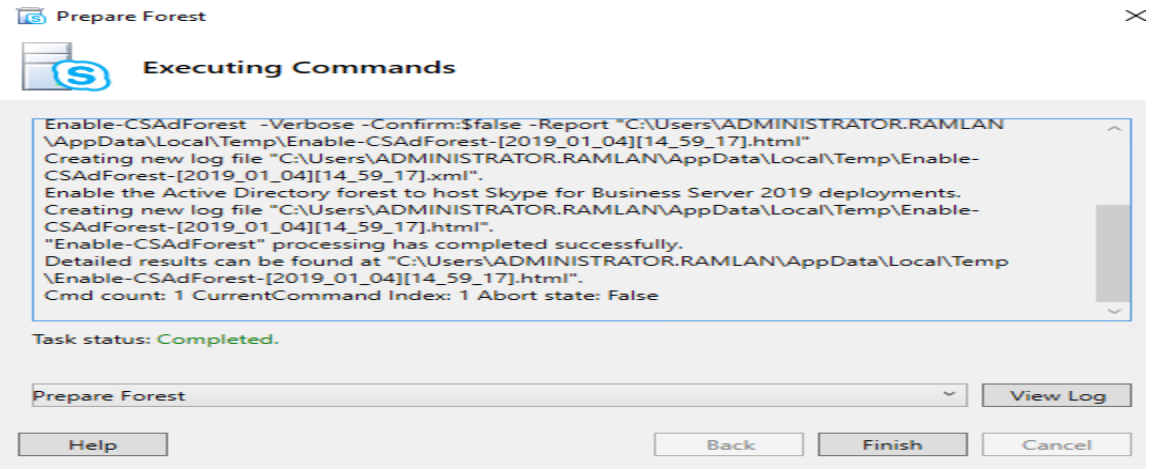


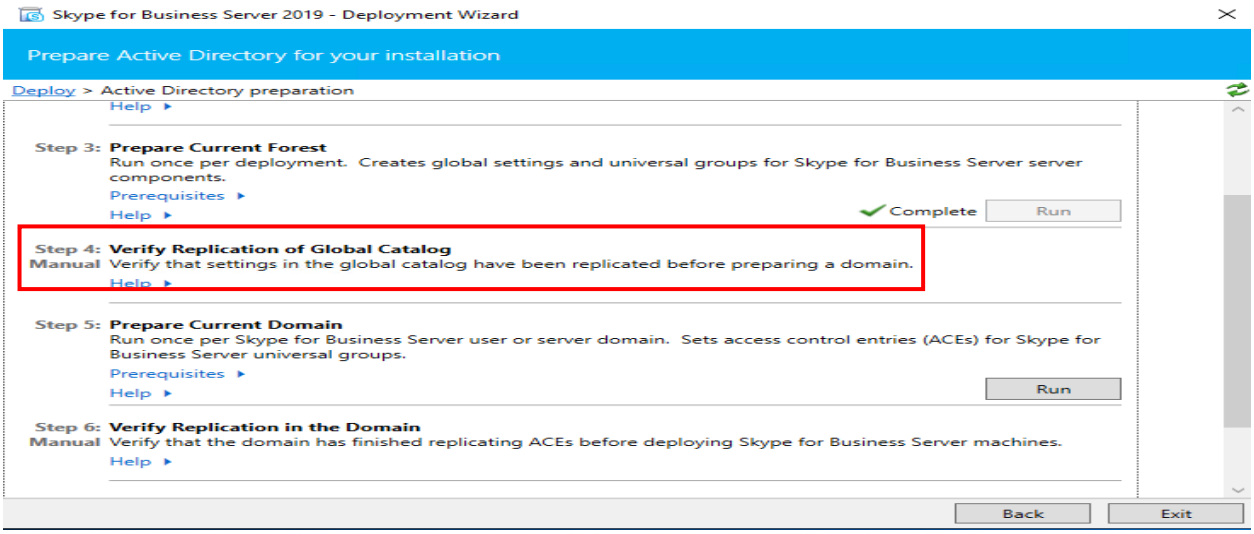
Prepare Current Forest



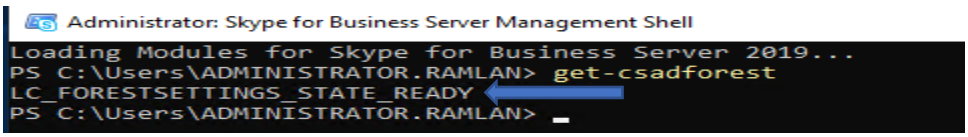




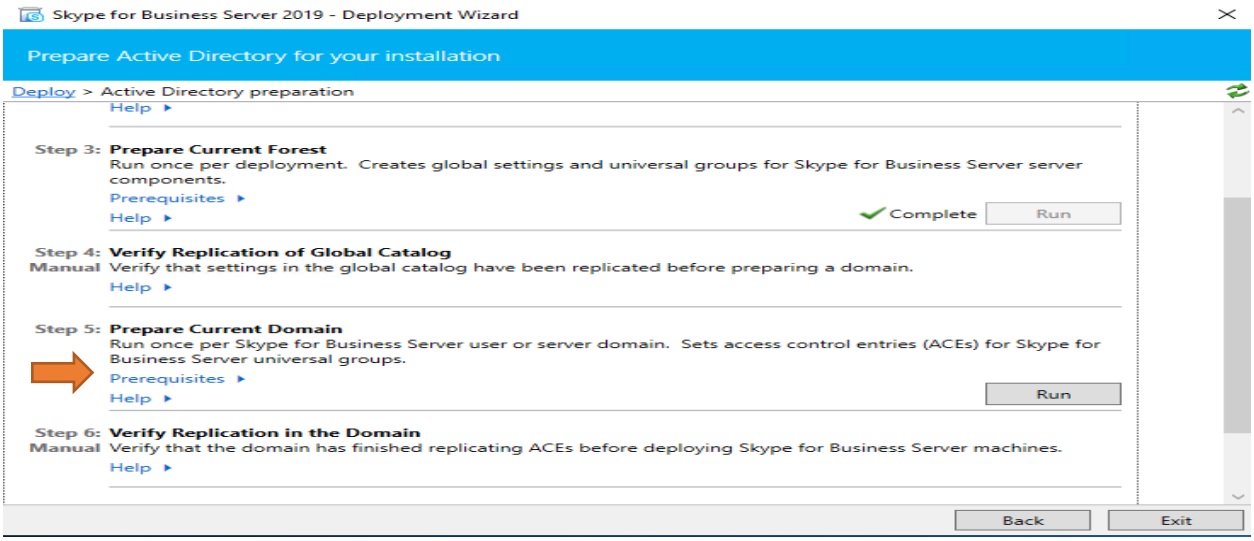


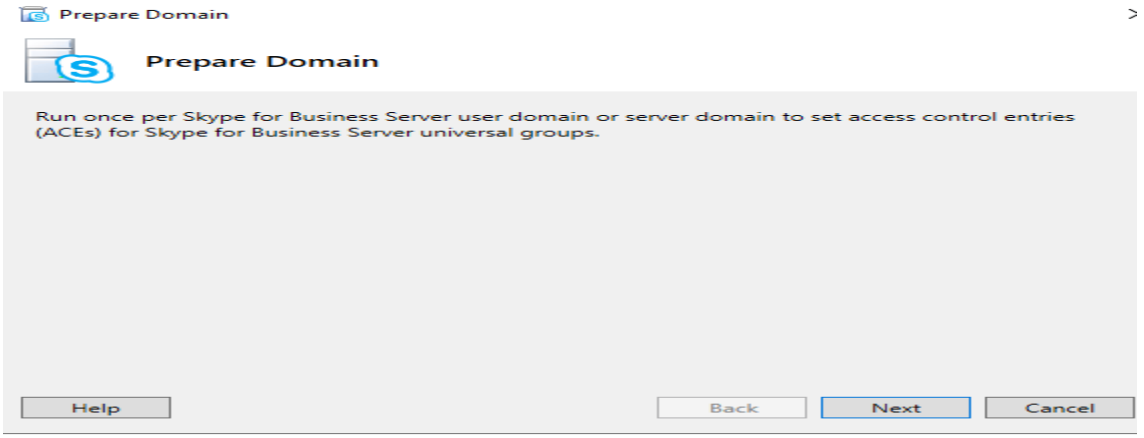


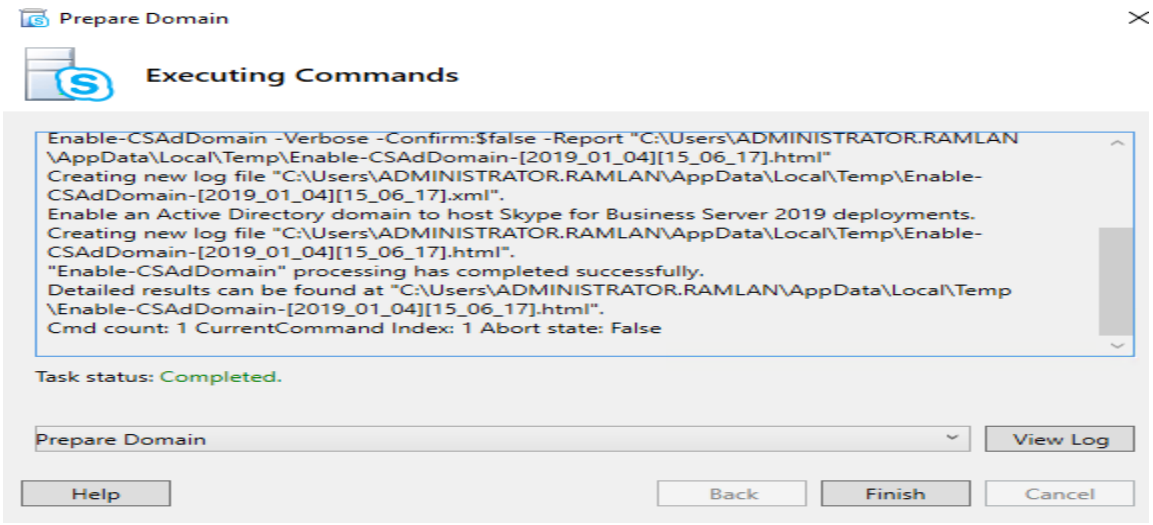
In order to validate Forest Prep – Open Skype for Business Server Management Shell and run this command - **Get-CSADForest**

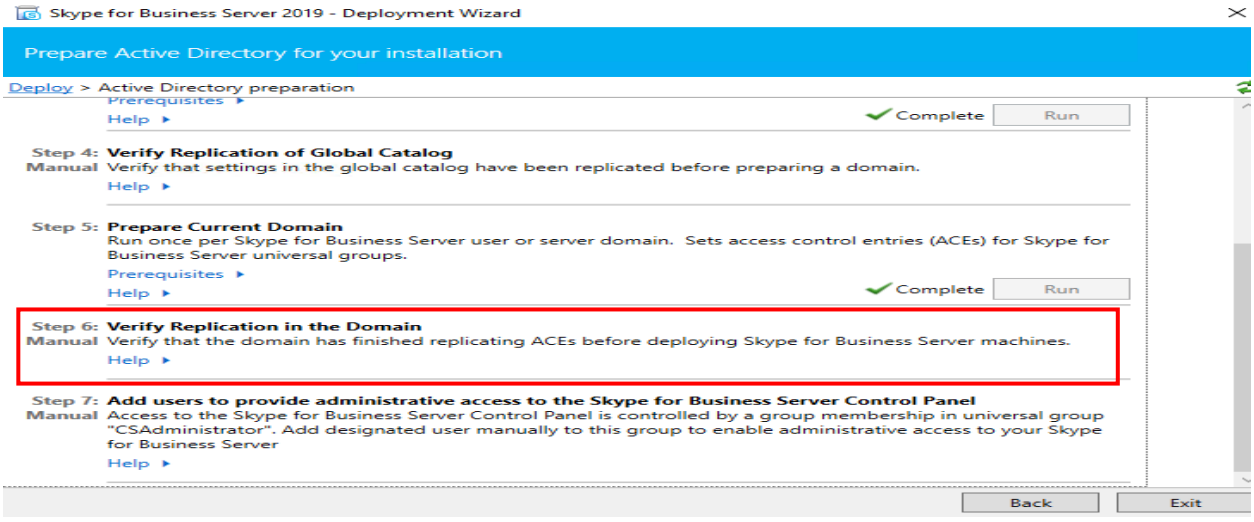


Prepare Current Domain

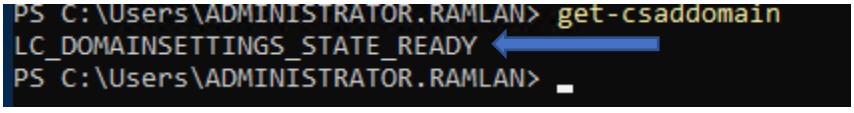




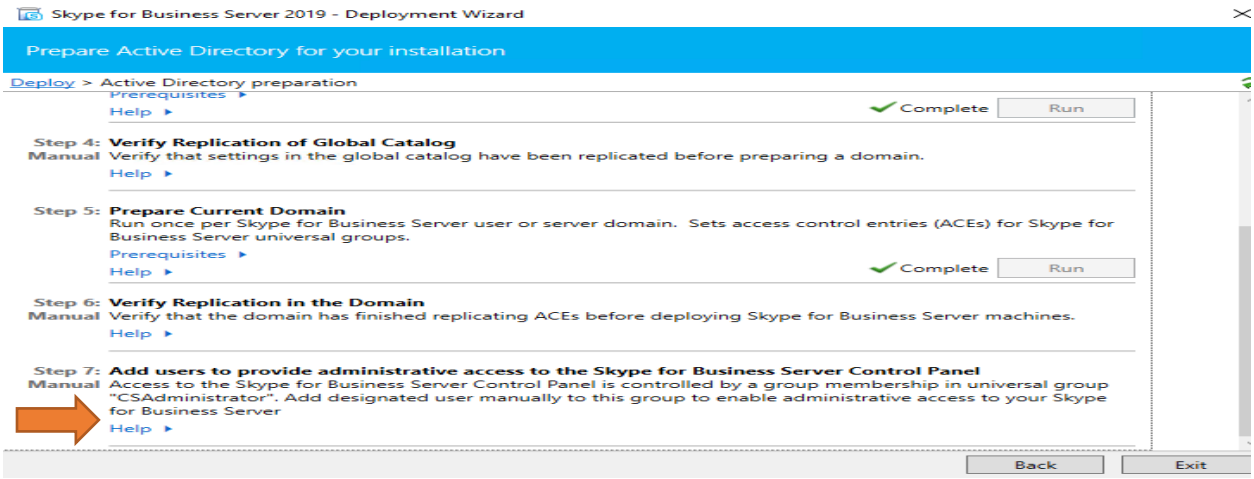




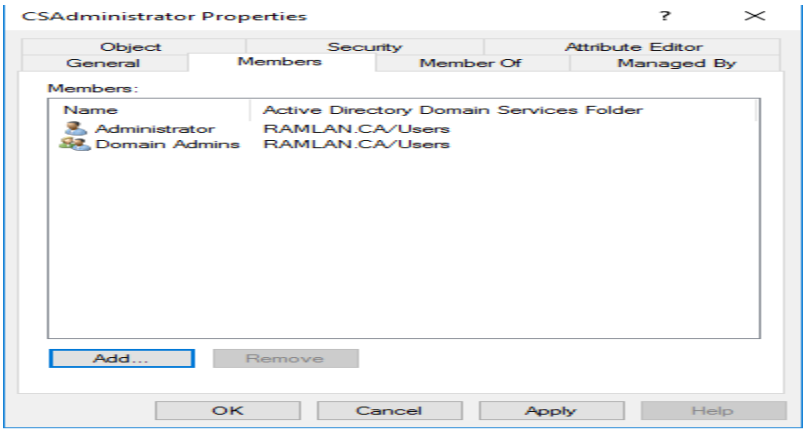
In order to validate Domain Prep – Open Skype for Business Server Management Shell and run this command - **Get-CSADDomain**



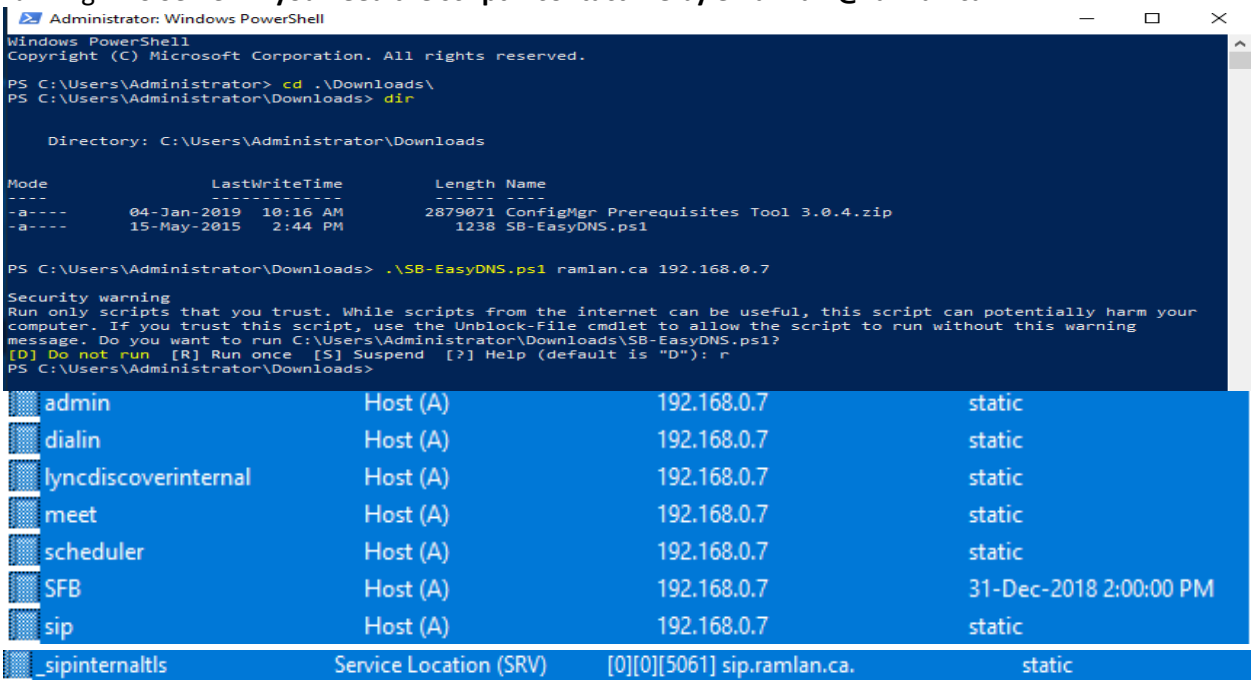
Add Users/Groups:



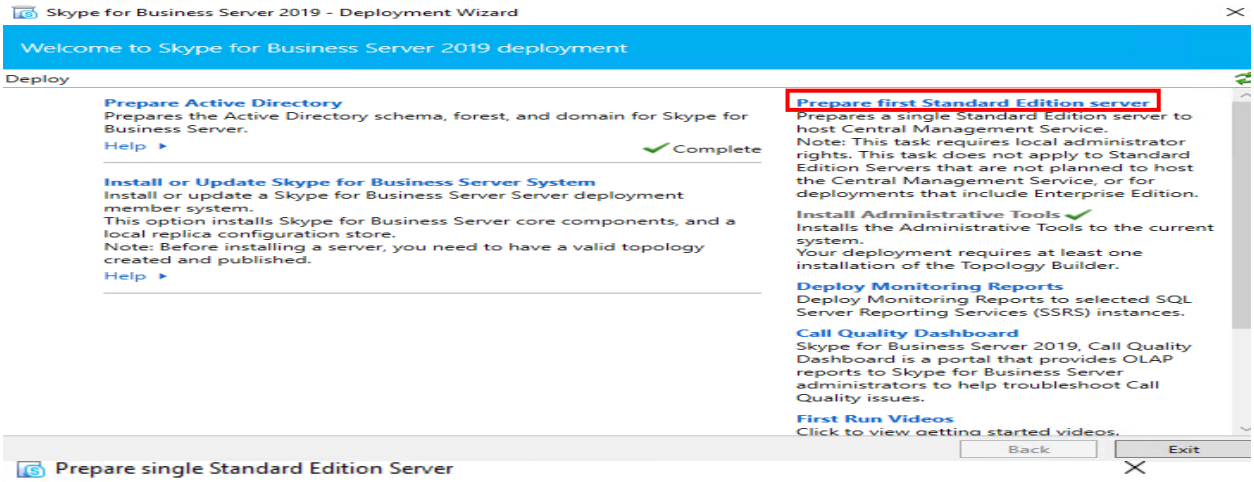
Now we have to add users to give access to Skype for Business Server Control Panel Security Group (CSAdministrator) using Active Directory Users and Computers

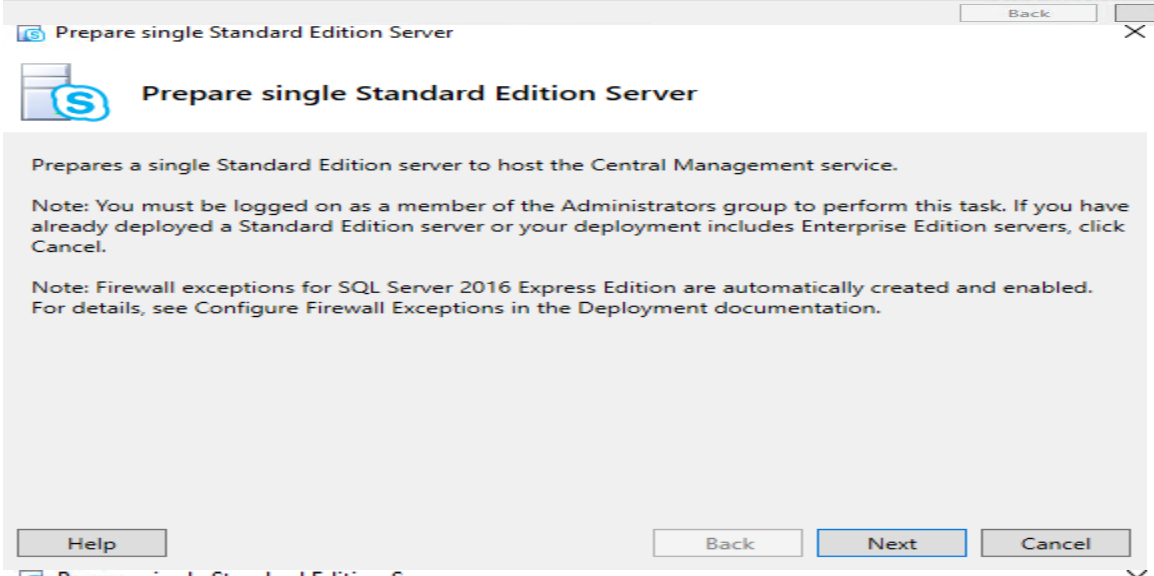


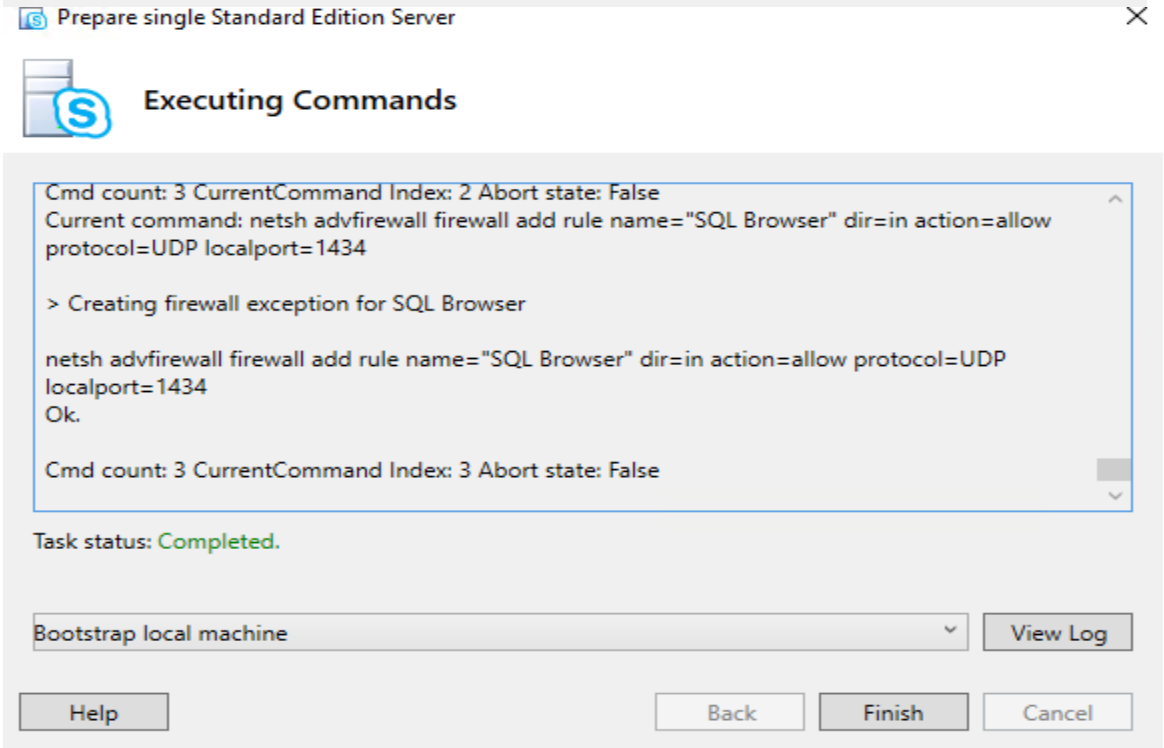
Now we will create necessary DNS entry using PowerShell Script on the Domain Controller that is running DNS Server. **If you need the script – contact me by email ram@ramlan.ca**



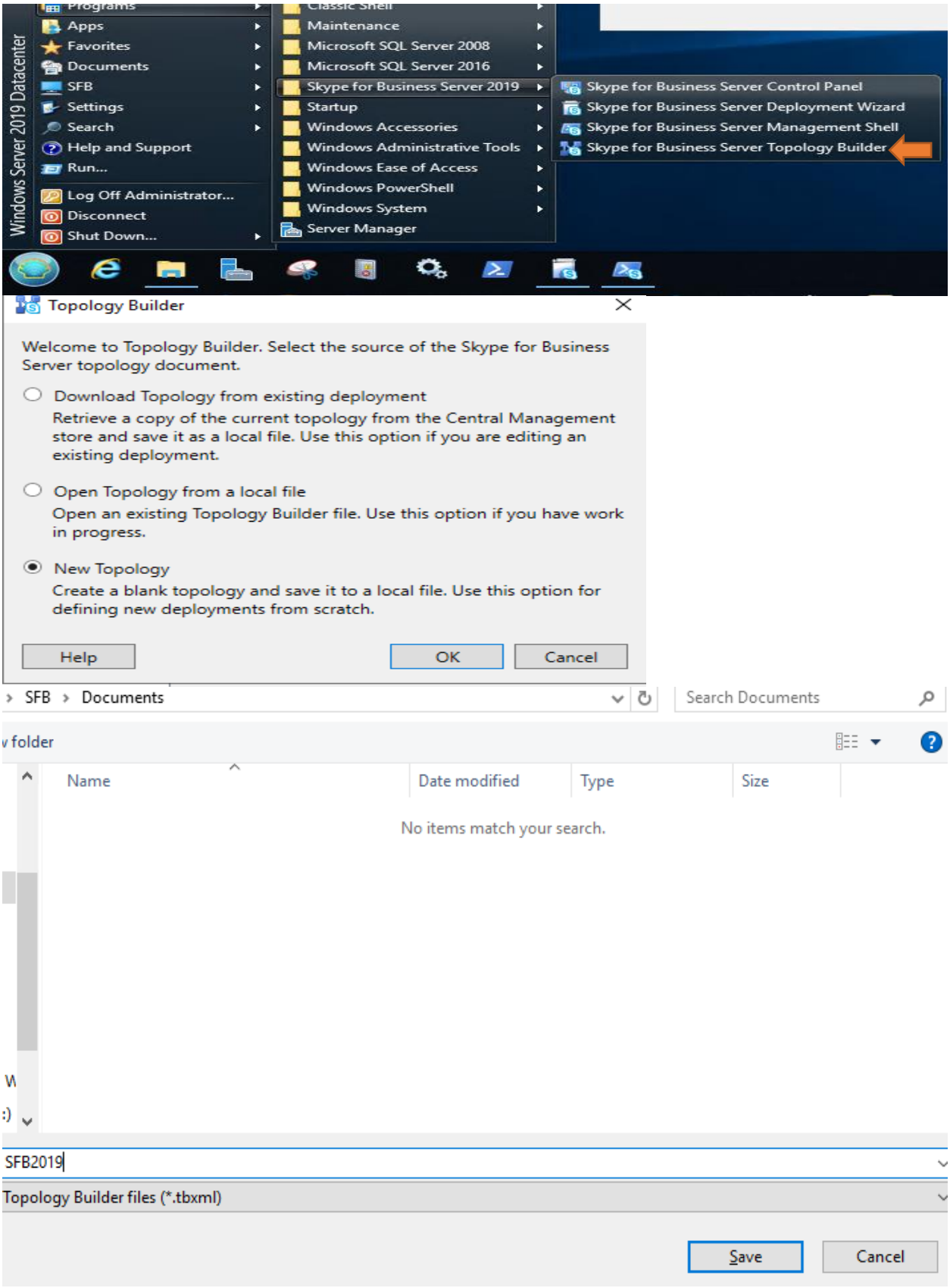
Central Management Store by clicking Prepare first Standard Edition Server

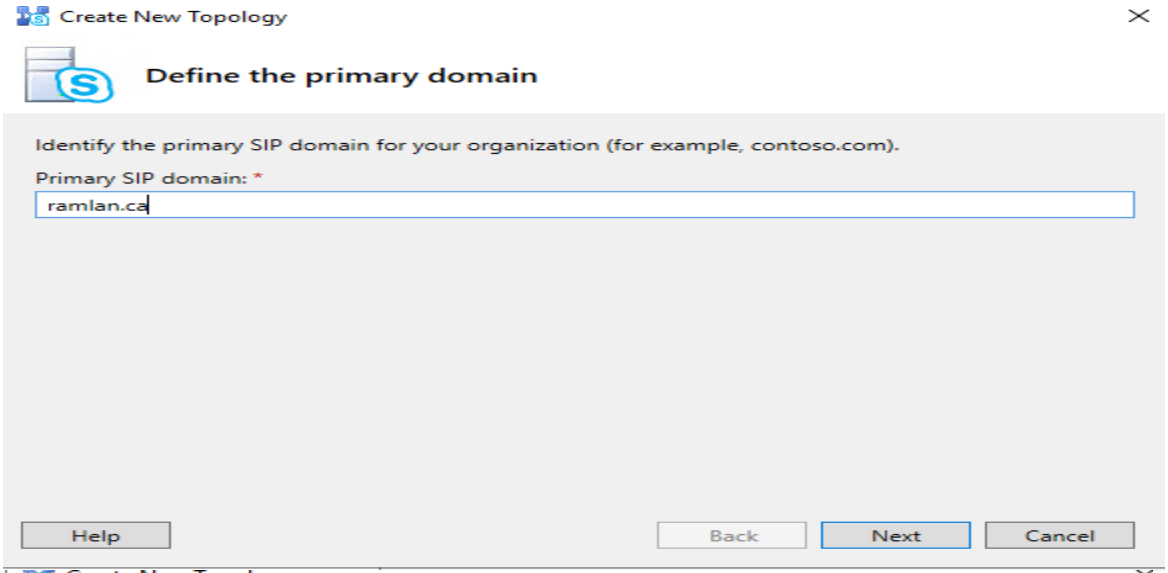


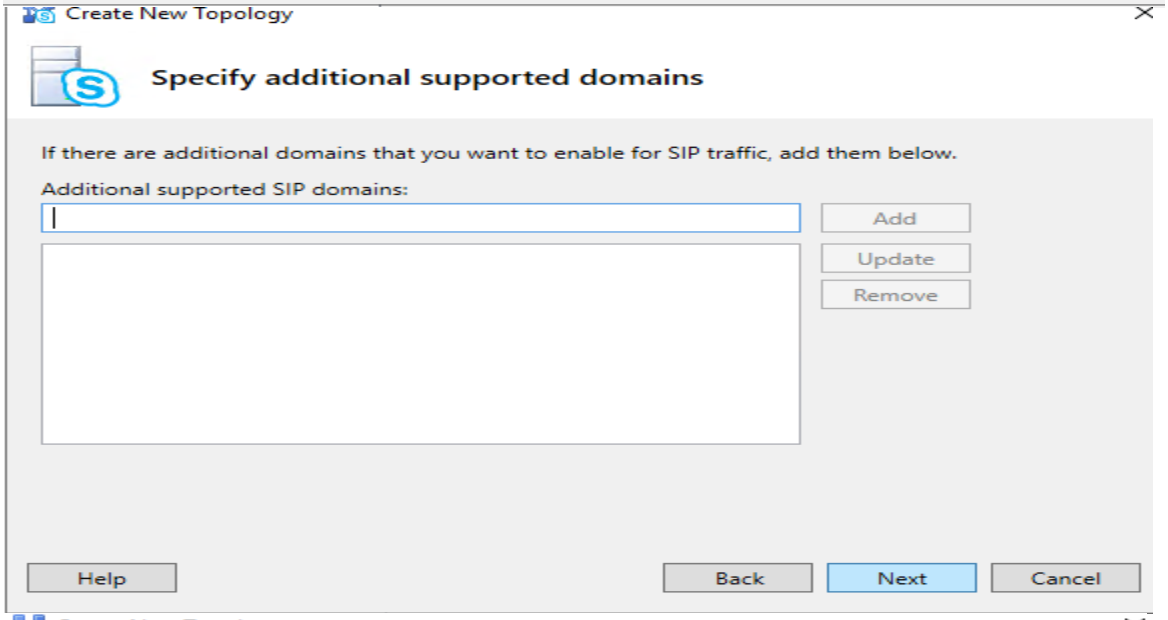


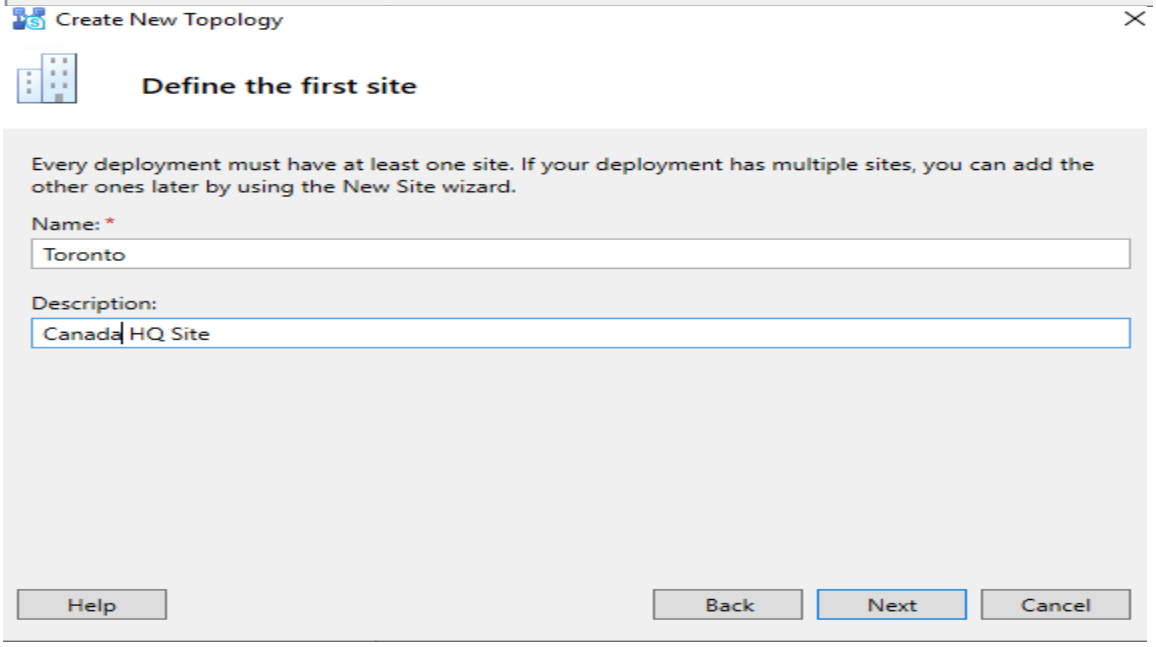


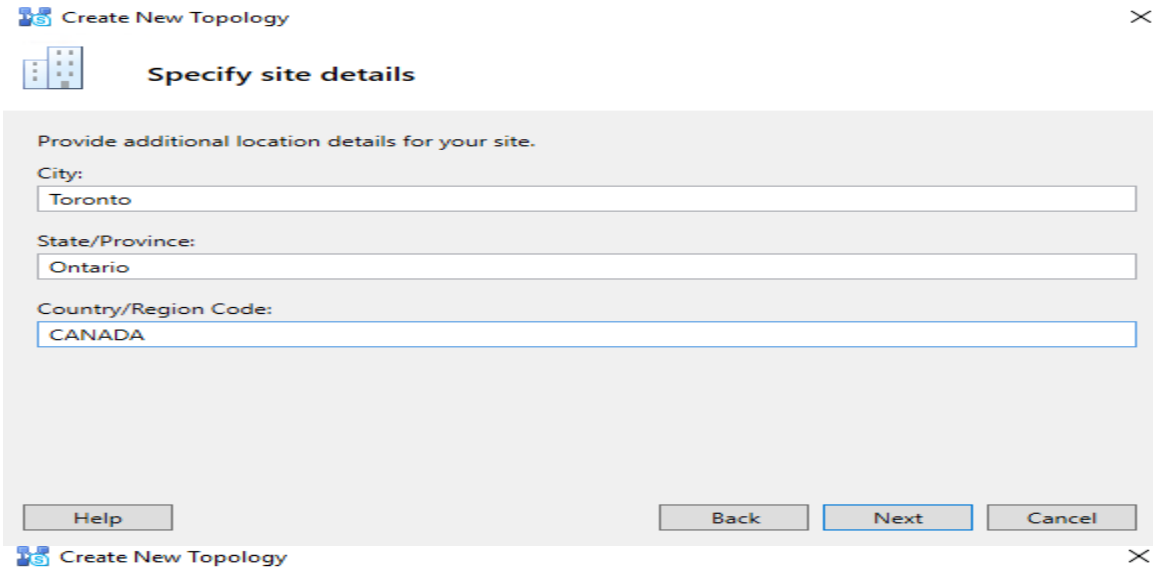
New topology

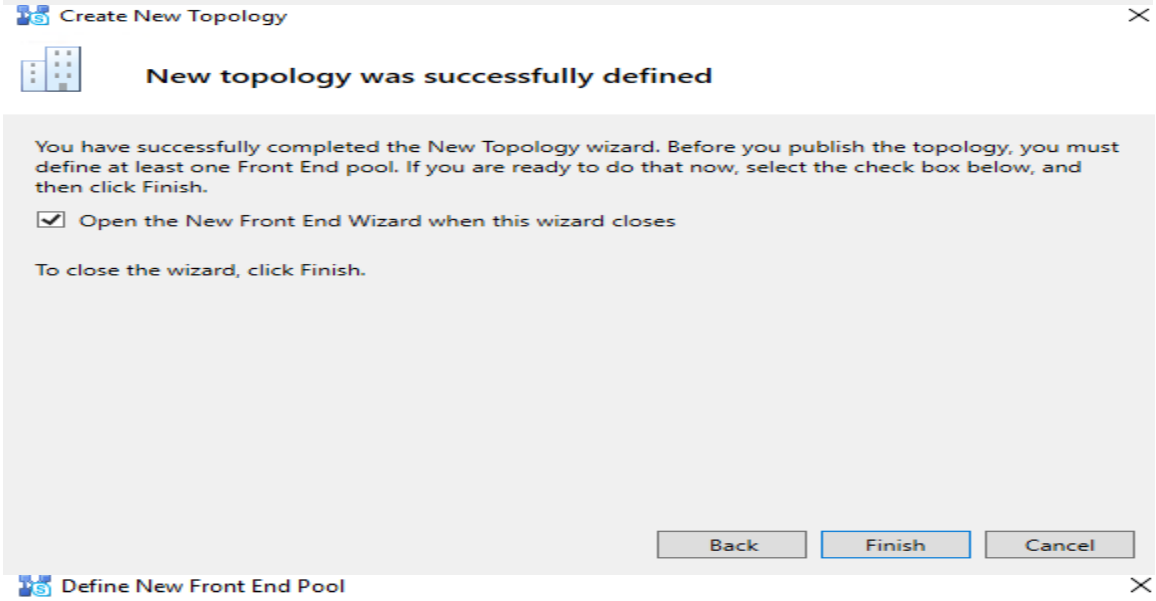


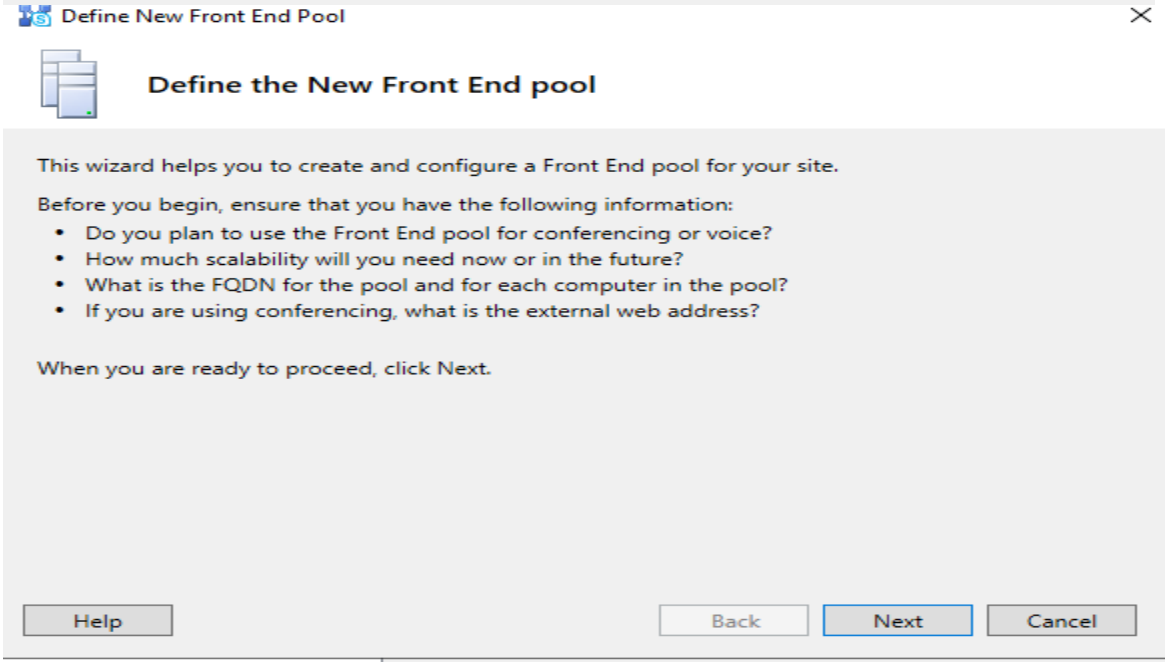

Create New Topology
Define the primary domain
Identify the primary SIP domain for your organization (for example, contoso.com).
Primary SIP domain: *
ramlan.ca
Help
Back
Next
Cancel


Create New Topology
Specify additional supported domains
If there are additional domains that you want to enable for SIP traffic, add them below.
Additional supported SIP domains:
Add
Update
Remove
Help
Back
Next
Cancel


Create New Topology
Define the first site
Every deployment must have at least one site. If your deployment has multiple sites, you can add the other ones later by using the New Site wizard.
Name: *
Toronto
Description:
Canada HQ Site
Help
Back
Next
Cancel


Create New Topology
Specify site details
Provide additional location details for your site.
City:
Toronto
State/Province:
Ontario
Country/Region Code:
CANADA
Help
Back
Next
Cancel


Create New Topology
New topology was successfully defined
You have successfully completed the New Topology wizard. Before you publish the topology, you must define at least one Front End pool. If you are ready to do that now, select the check box below, and then click Finish.
Open the New Front End Wizard when this wizard closes
To close the wizard, click Finish.
Back
Finish
Cancel


Define New Front End Pool
Define the New Front End pool
This wizard helps you to create and configure a Front End pool for your site.
Before you begin, ensure that you have the following information:
Do you plan to use the Front End pool for conferencing or voice?
How much scalability will you need now or in the future?
What is the FQDN for the pool and for each computer in the pool?
If you are using conferencing, what is the external web address?
When you are ready to proceed, click Next.
Help
Back
Next
Cancel

Define New Front End Pool

Define the Front End pool FQDN

You may deploy your Front End Server as either an Enterprise Edition pool or a Standard Edition server.

FQDN: *

SFB.RAMLAN.CA

○ Enterprise Edition Front End Pool

An Enterprise Edition Front End pool can contain as many as 16 computers for large scale deployments that require load balancing or high availability. The SQL Server instance that hosts the user store and the application store for this pool must be on a server or pool that is running Microsoft SQL Server.

◉ Standard Edition Server

A Standard Edition server is a single computer for smaller deployments that do not require high availability. The SQL Server instance that hosts the user store and the application store for this Standard Edition server is an instance of SQL Server Express Edition, which is automatically installed.

Help | Back | Next | Cancel

Define New Front End Pool

Select features

Instant messaging and presence are always enabled. Select the additional features that you want this Front End pool to handle.

☑ Conferencing (includes audio, video, and application sharing)

☐ Dial-in (PSTN) conferencing

☐ Enterprise Voice

☐ Call Admission Control

Call admission control (CAC) is an optional component that manages the bandwidth used by unified communications traffic within the deployment. Only one Front End pool per site can enable CAC.

☐ Archiving

To enable Exchange Server integration, use Skype for Business Server Control Panel.

☐ Monitoring (CDR and QoE metrics)

Help | Back | Next | Cancel

Define New Front End Pool

Select collocated server roles

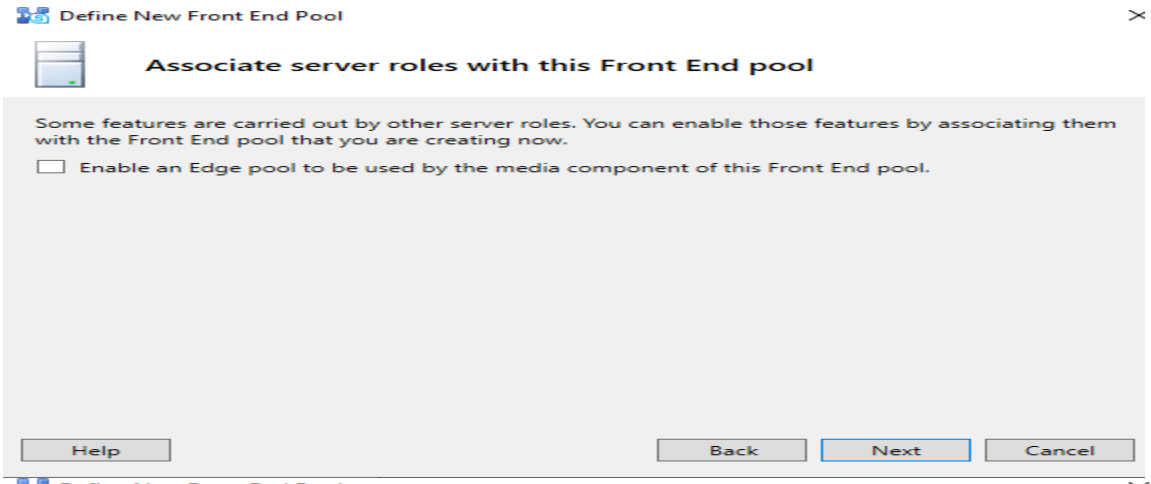
The Mediation Server can be collocated on a Front End pool. Collocation requires fewer computers, but in larger deployments a stand-alone Mediation pool can provide better voice quality and greater scalability.

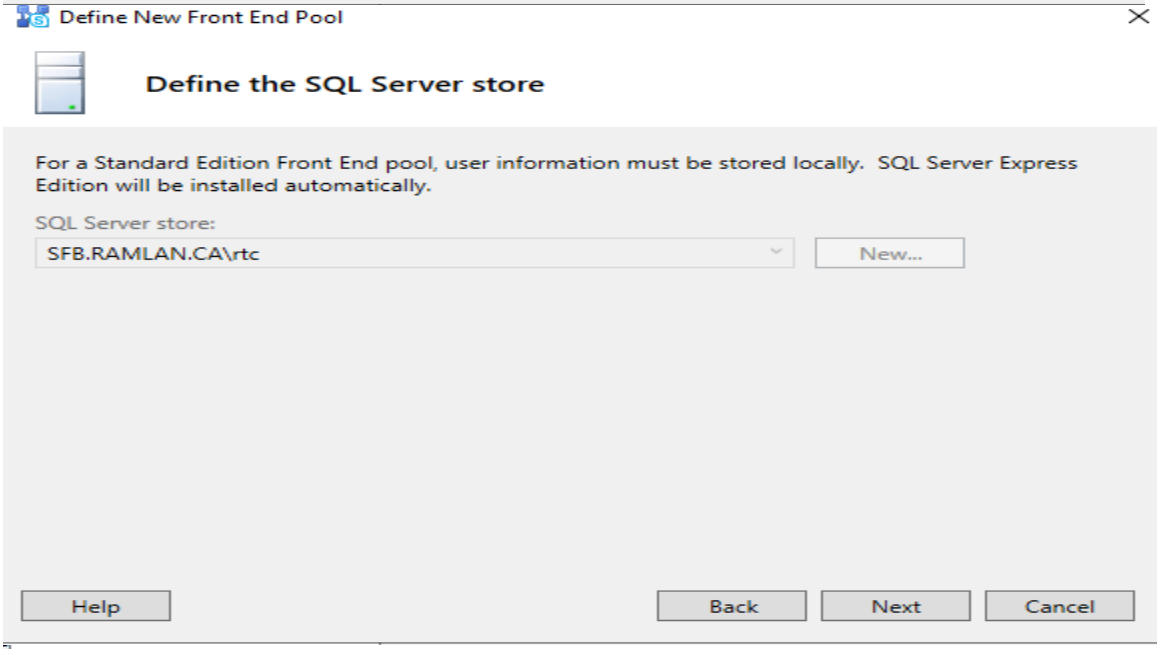
Select which server roles and services you want to collocate on this Front End pool.

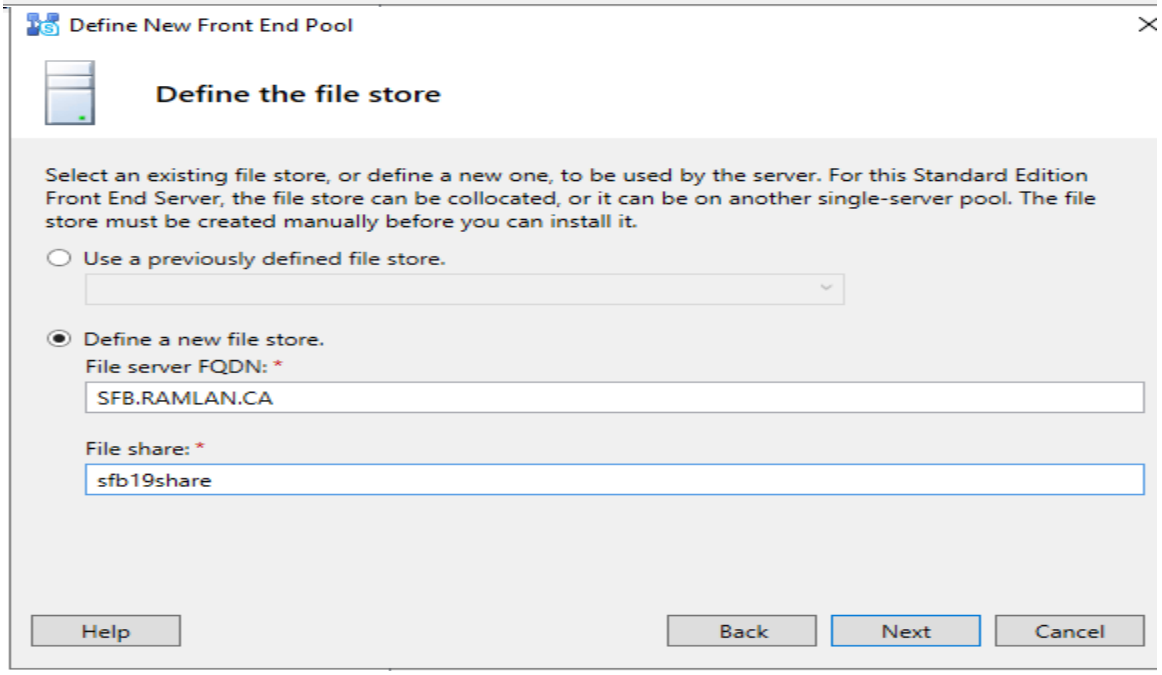
☐ Collocate Mediation Server

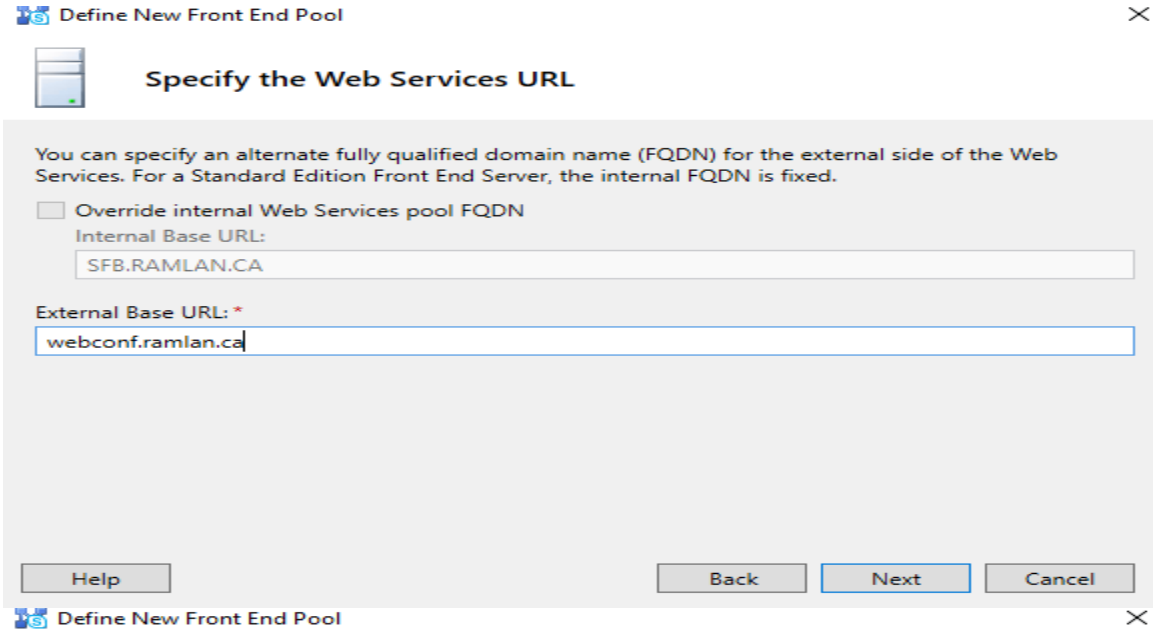
You can collocate the Mediation Server on the Front End Server if your IP/PSTN gateway or your IP-PBX supports media bypass and if Enterprise Voice is not mission-critical for your organization.

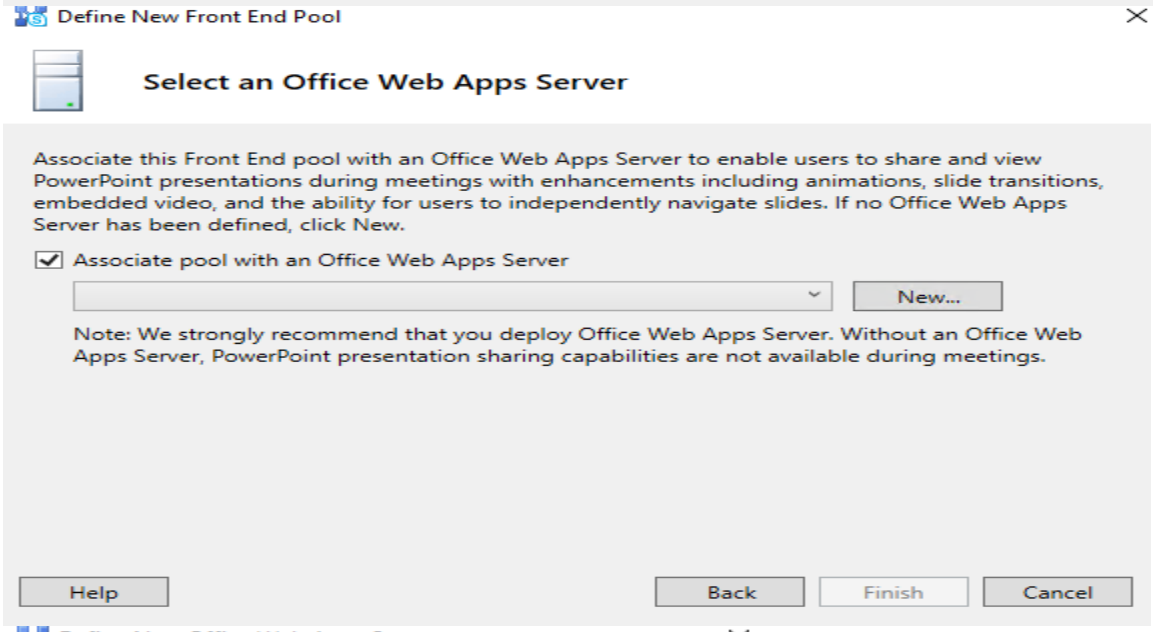
Help | Back | Next | Cancel

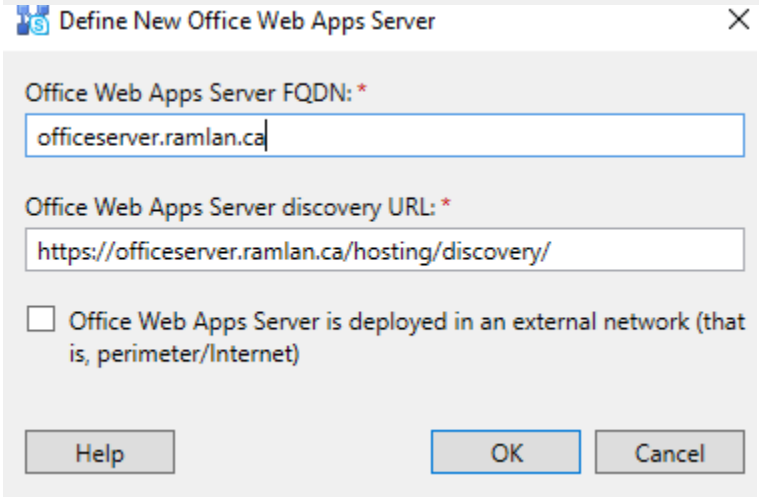

Define New Front End Pool
Associate server roles with this Front End pool
Some features are carried out by other server roles. You can enable those features by associating them with the Front End pool that you are creating now.
Enable an Edge pool to be used by the media component of this Front End pool.
Help
Back
Next
Cancel

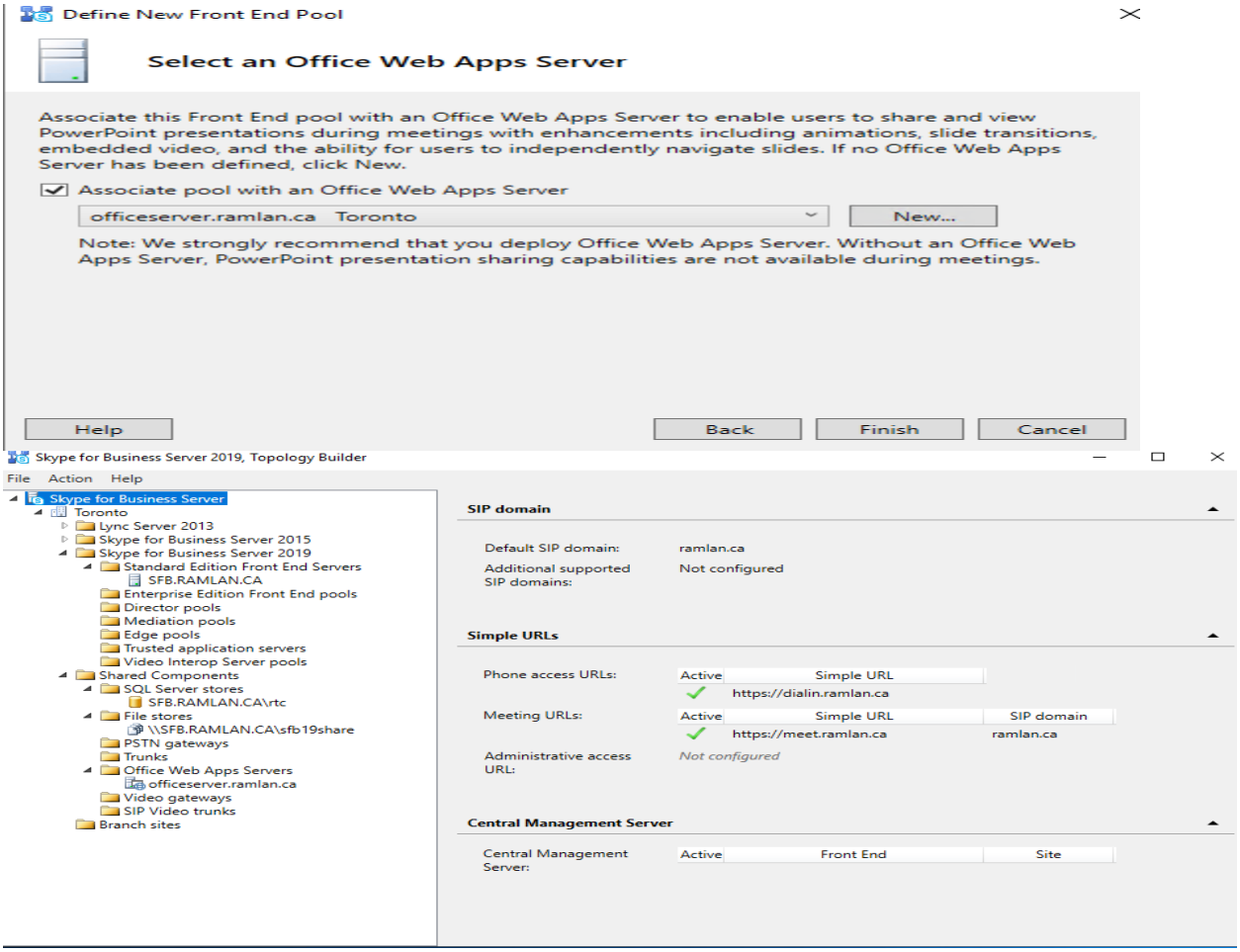

Define New Front End Pool
Define the SQL Server store
For a Standard Edition Front End pool, user information must be stored locally. SQL Server Express Edition will be installed automatically.
SQL Server store:
SFB.RAMLAN.CA\rtc
New...
Help
Back
Next
Cancel


Define New Front End Pool
Define the file store
Select an existing file store, or define a new one, to be used by the server. For this Standard Edition Front End Server, the file store can be collocated, or it can be on another single-server pool. The file store must be created manually before you can install it.
Use a previously defined file store.
Define a new file store.
File server FQDN: *
SFB.RAMLAN.CA
File share: *
sfb19share
Help
Back
Next
Cancel

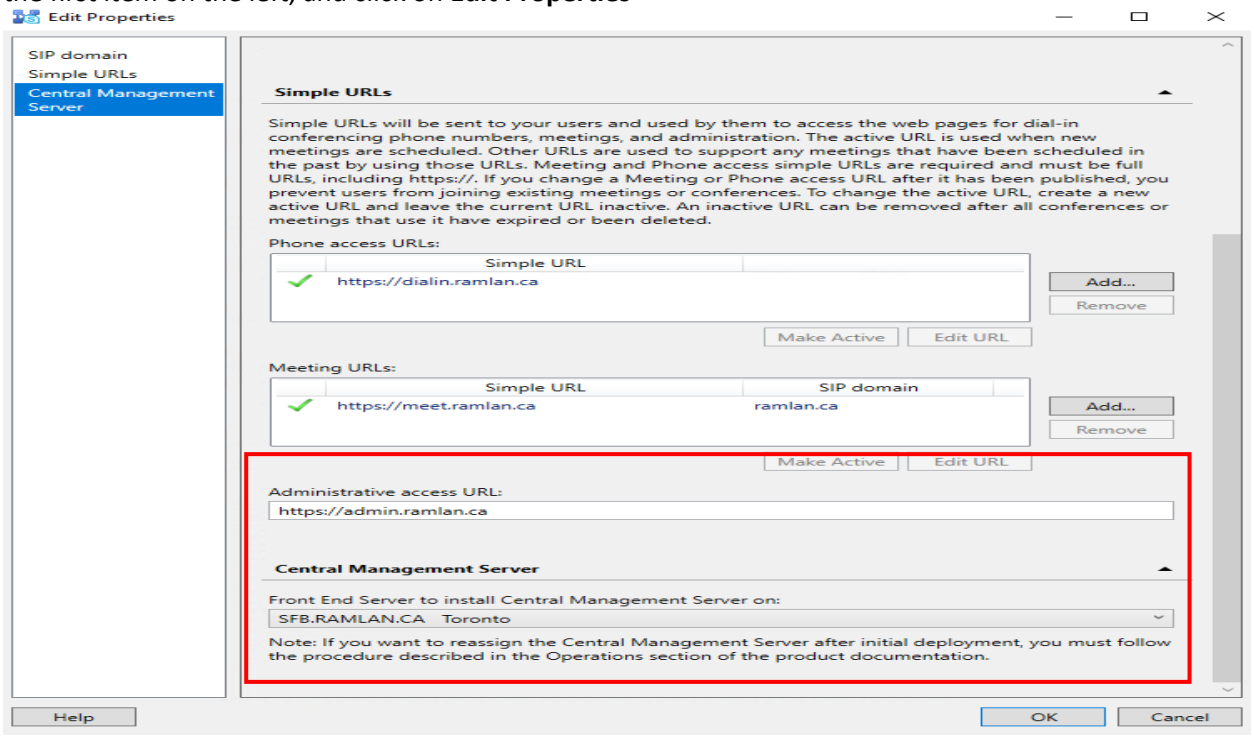

Define New Front End Pool
Specify the Web Services URL
You can specify an alternate fully qualified domain name (FQDN) for the external side of the Web Services. For a Standard Edition Front End Server, the internal FQDN is fixed.
Override internal Web Services pool FQDN
Internal Base URL:
SFB.RAMLAN.CA
External Base URL: *
webconf.ramlan.ca
Help
Back
Next
Cancel

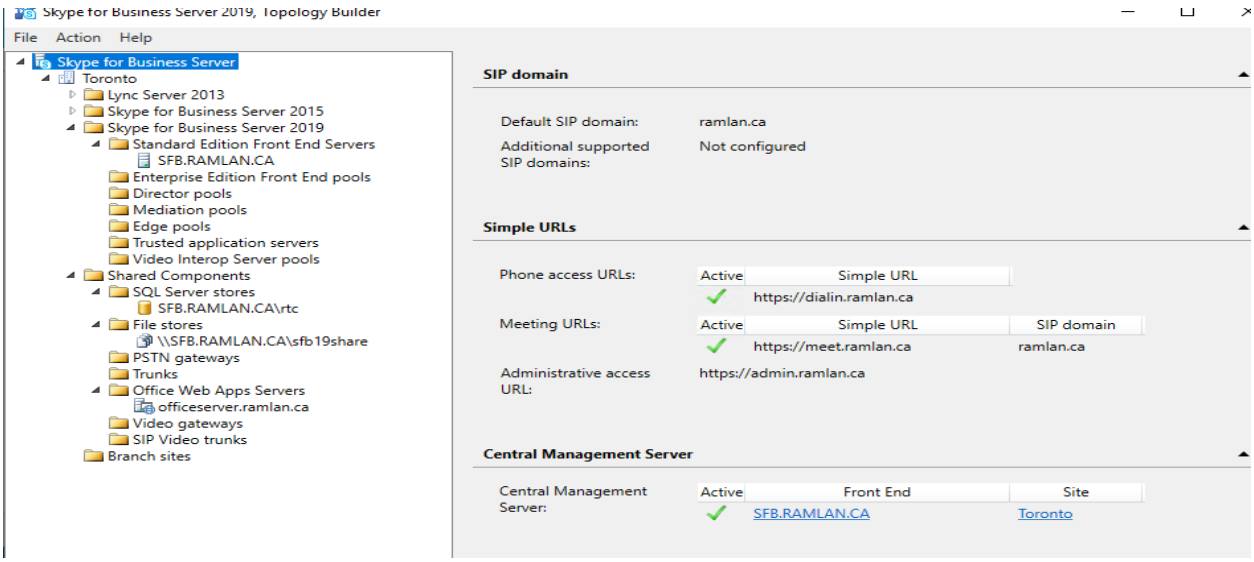

Define New Front End Pool
Select an Office Web Apps Server
Associate this Front End pool with an Office Web Apps Server to enable users to share and view PowerPoint presentations during meetings with enhancements including animations, slide transitions, embedded video, and the ability for users to independently navigate slides. If no Office Web Apps Server has been defined, click New.
Associate pool with an Office Web Apps Server
New...
Note: We strongly recommend that you deploy Office Web Apps Server. Without an Office Web Apps Server, PowerPoint presentation sharing capabilities are not available during meetings.
Help
Back
Finish
Cancel


Define New Office Web Apps Server
Office Web Apps Server FQDN: *
officeserver.ramlan.ca
Office Web Apps Server discovery URL: *
https://officeserver.ramlan.ca/hosting/discovery/
Office Web Apps Server is deployed in an external network (that is, perimeter/Internet)
Help
OK
Cancel

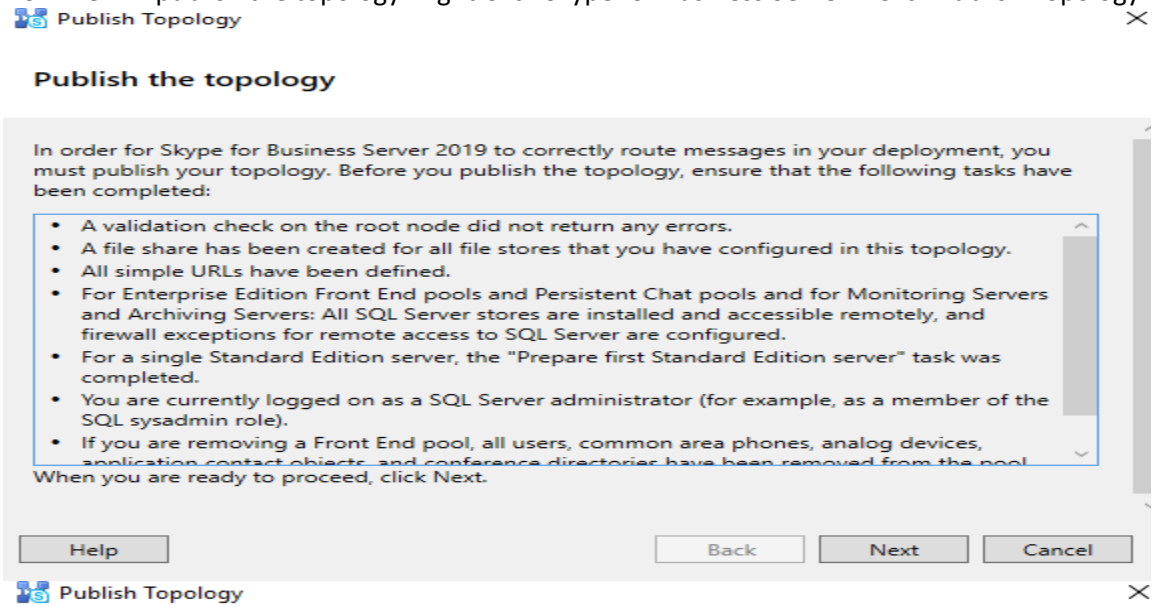


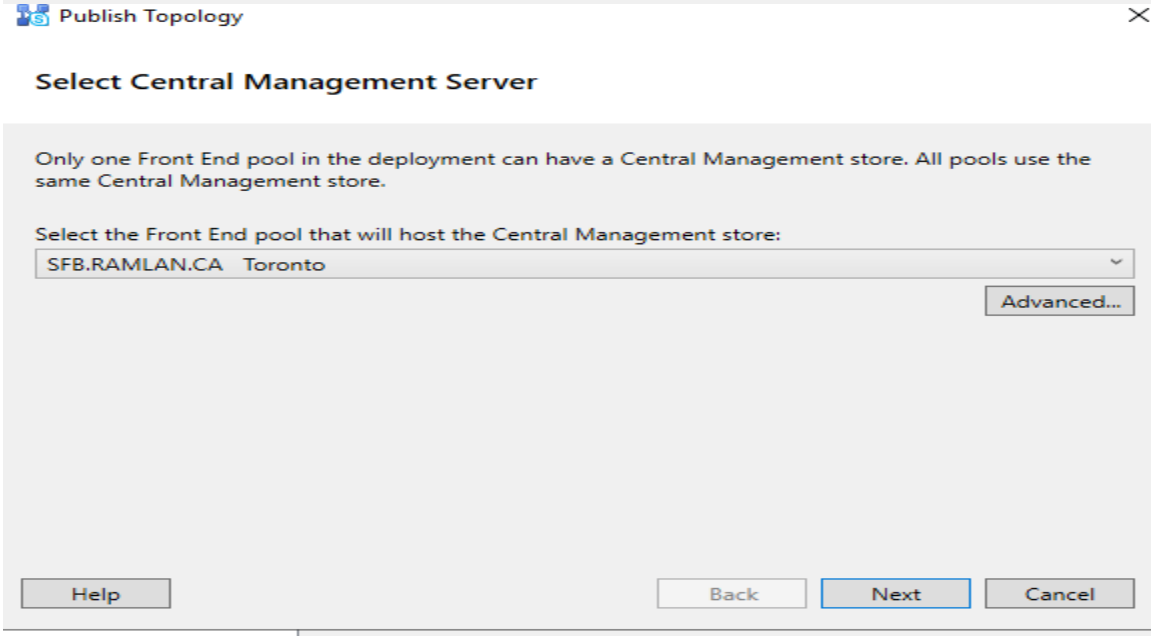
We still need to check and configure the Simple URLs, right-click on **Skype for Business Server** which is the first item on the left, and click on **Edit Properties**

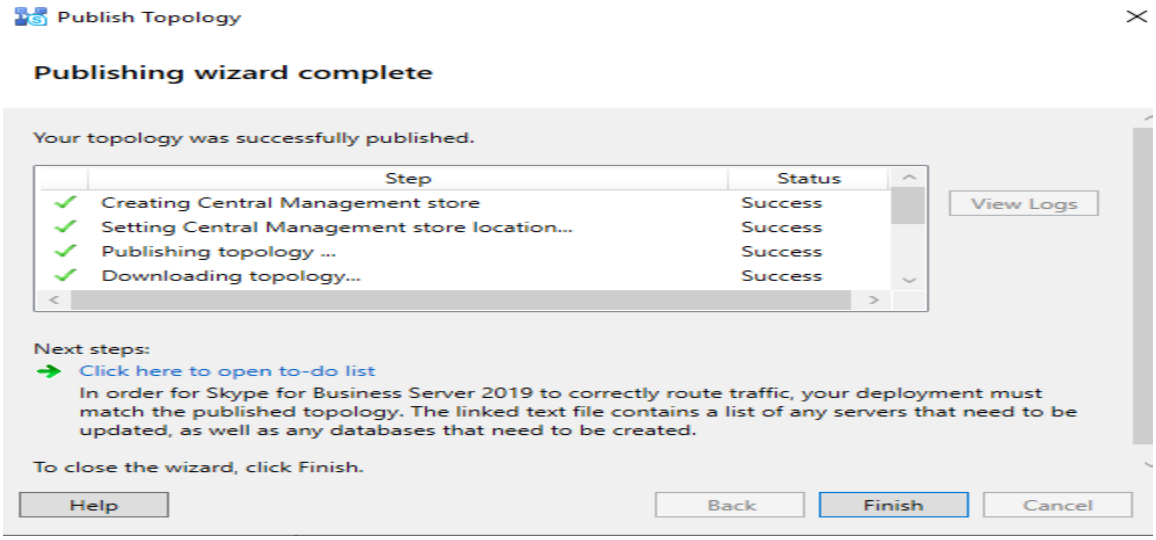




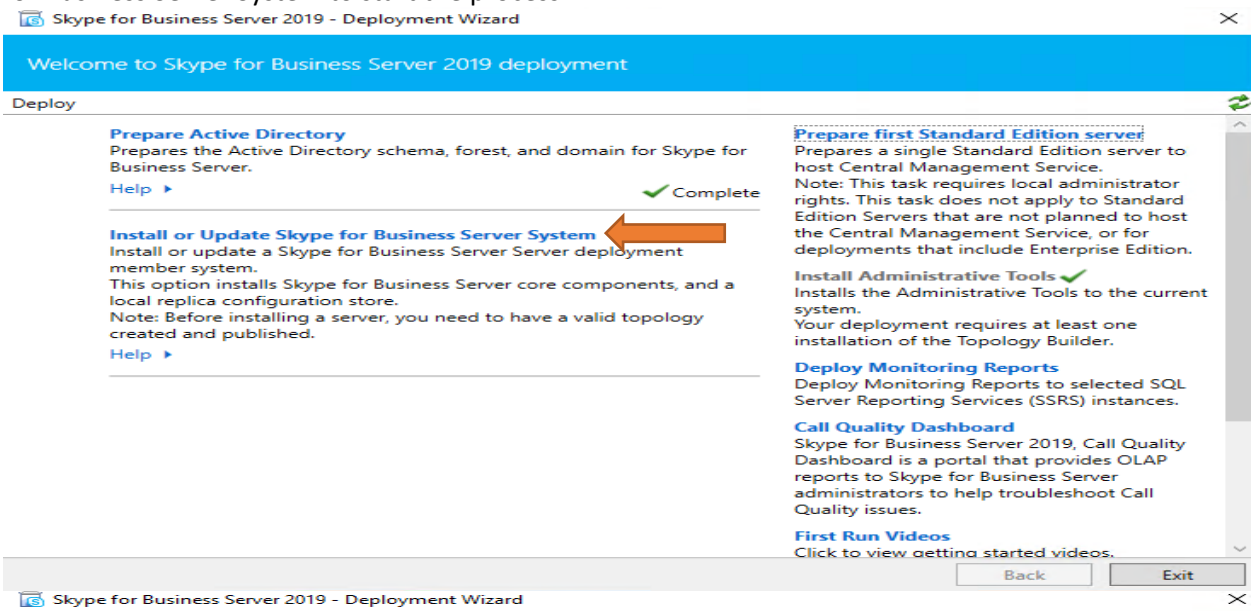
Now we will publish the topology. Right Click Skype for Business Server – Click Publish Topology

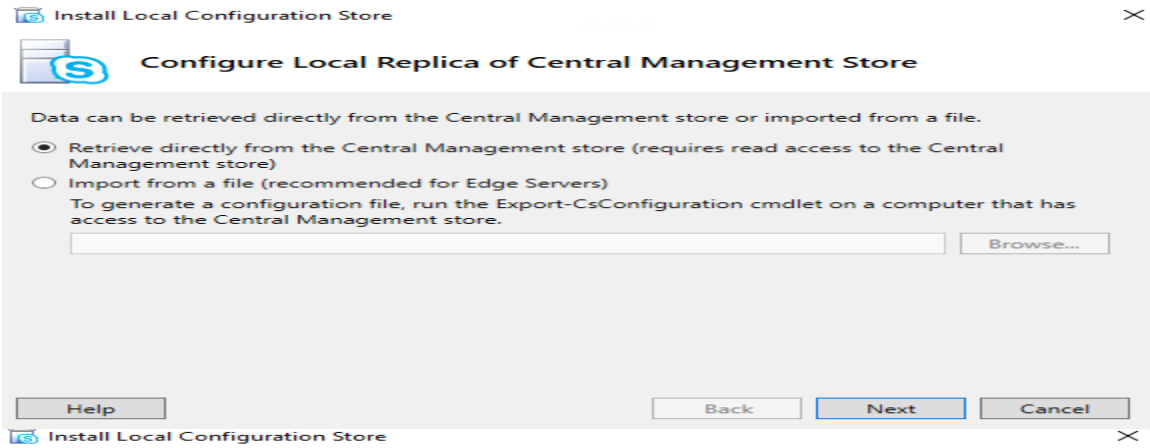


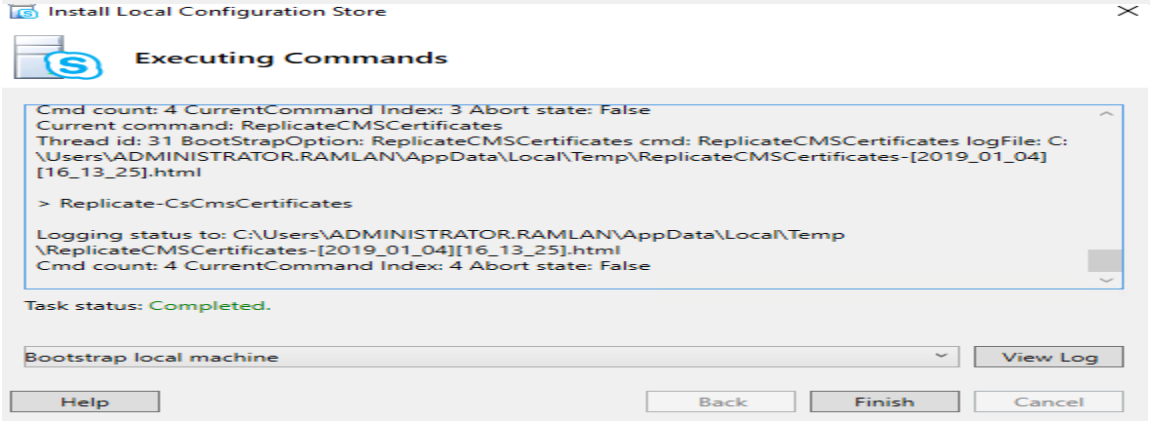




In the main page of Skype for Business Server 2015 deployment wizard, click on Install or Update Skype for Business Server System to start the process.







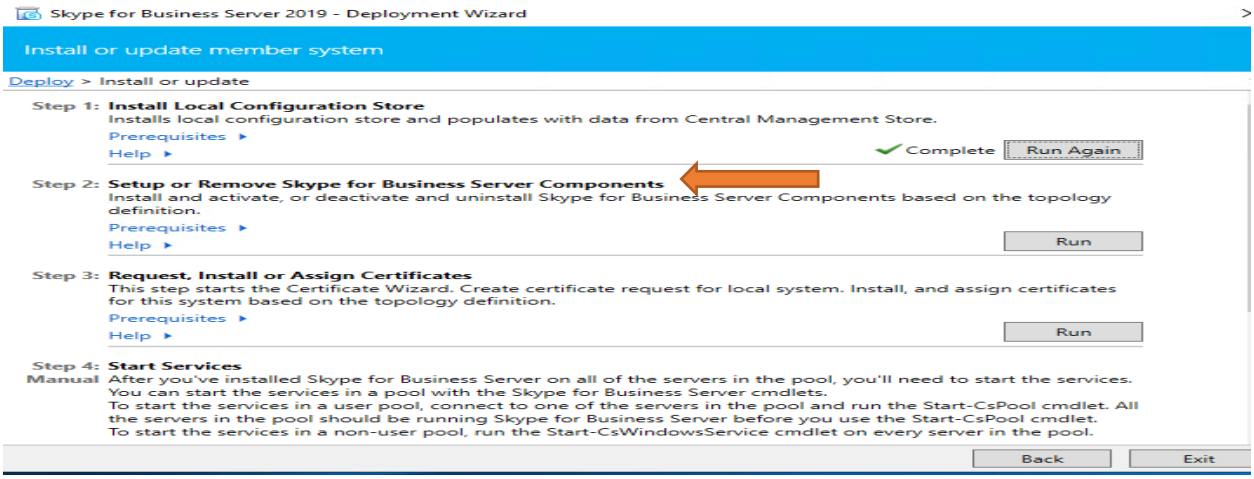
Before we started Local Configuration Store – you can see SQL Server has just RTC

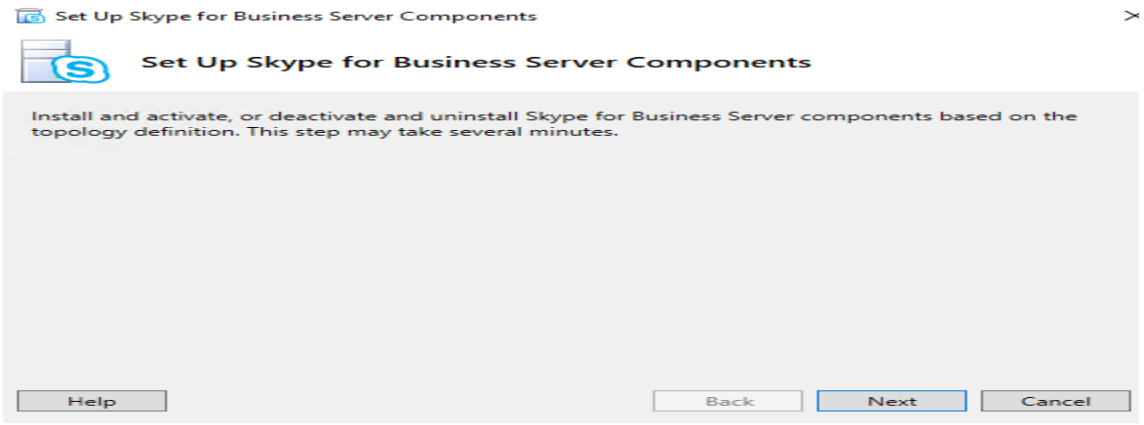
Spot Verifier	Verifies pote...		Manual (Trig...	Local Syste...
SQL Server (RTC)	Provides sto...	Running	Automatic	Network S...
SQL Server Agent (RTC)	Executes jo...		Disabled	Network S...
SQL Server Browser	Provides SQ...	Running	Automatic	Local Service
SQL Server VSS Writer	Provides th...	Running	Automatic	Local Syste...
SSDP Discovery	Discovers n...	Running	Manual	Local Service
State Repository Service	Provides re...	Running	Manual	Local Syste...

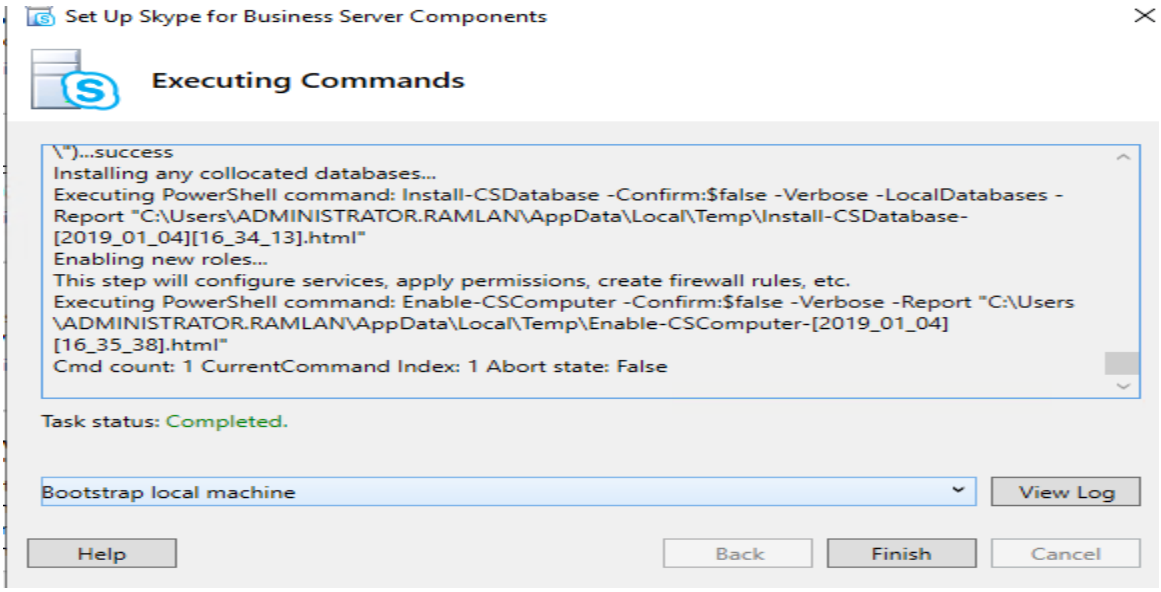
After we completed Local Configuration Store – you can see SQL Server has RTCLOCAL

Spot Verifier	Verifies pote...		Manual (Trig...	Local Syste...
SQL Server (RTC)	Provides sto...	Running	Automatic	Network S...
SQL Server (RTCLOCAL)	Provides sto...	Running	Automatic	Network S...
SQL Server Agent (RTC)	Executes jo...		Disabled	Network S...
SQL Server Agent (RTCLOCAL)	Executes jo...		Disabled	Network S...
SQL Server Browser	Provides SQ...	Running	Automatic	Local Service
SQL Server VSS Writer	Provides th...	Running	Automatic	Local Syste...
SSDP Discovery	Discovers n...	Running	Manual	Local Service
State Repository Service	Provides re...	Running	Manual	Local Syste...

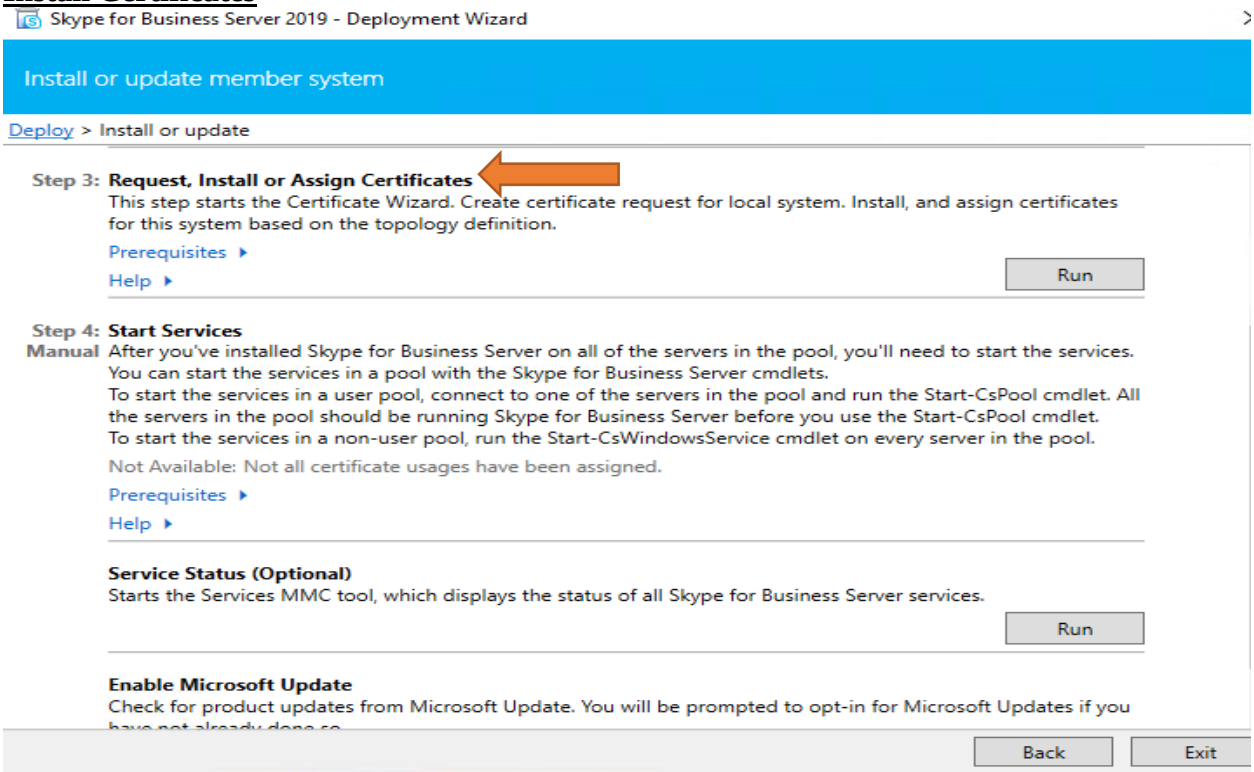
Now we will run Setup Skype for Business Server Components

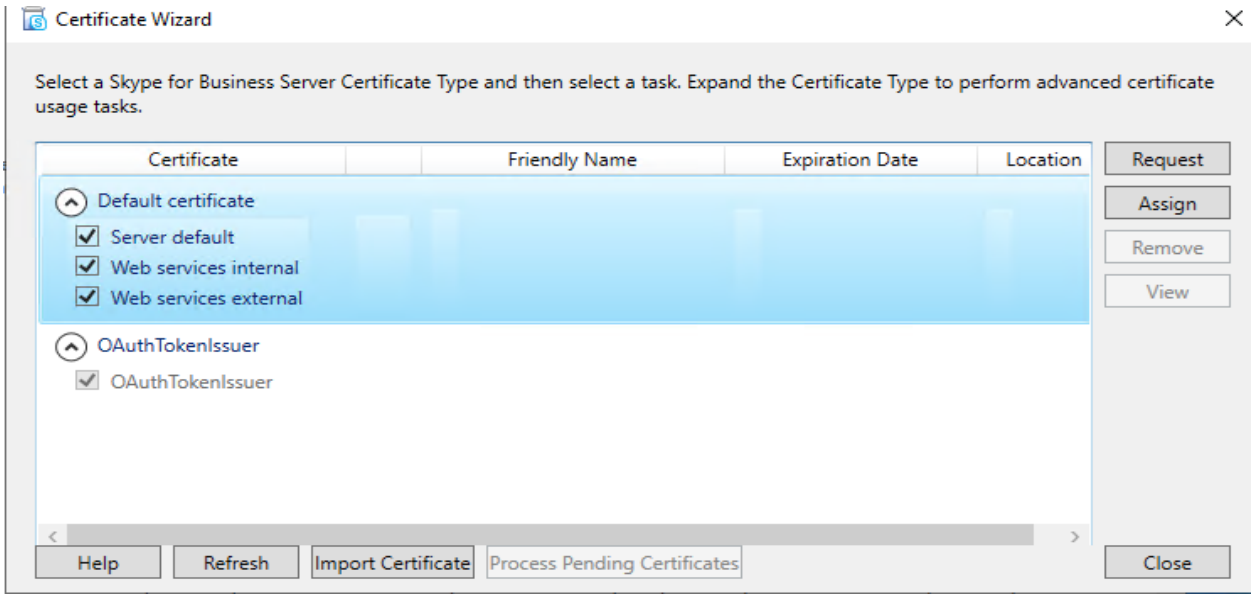


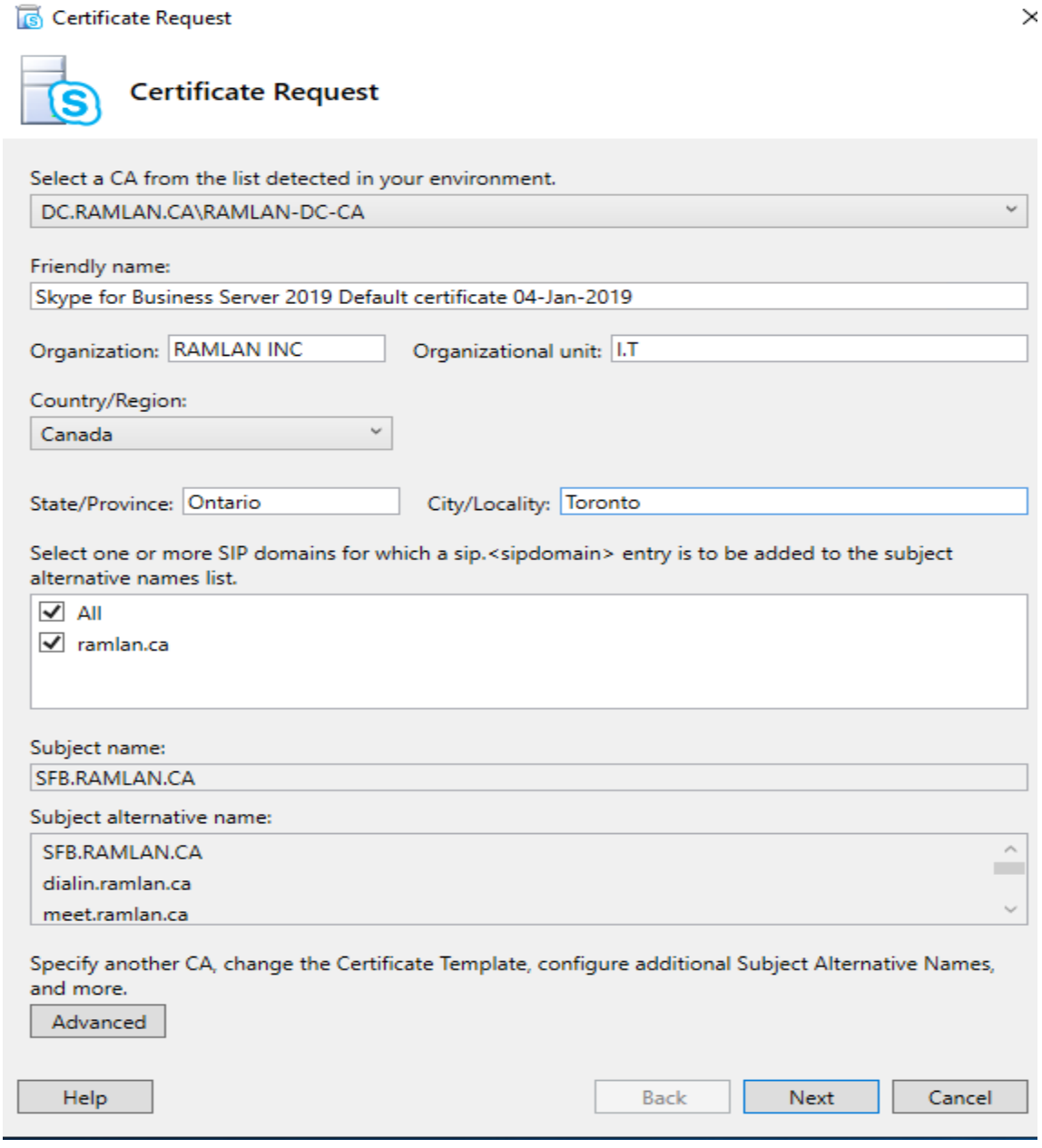


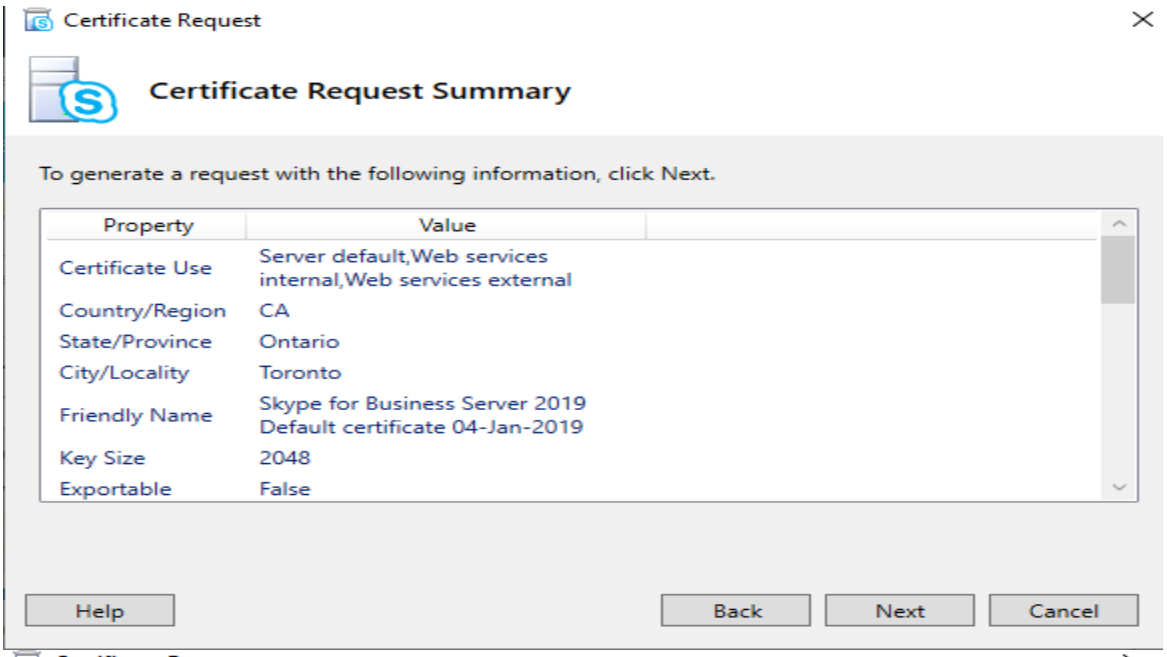


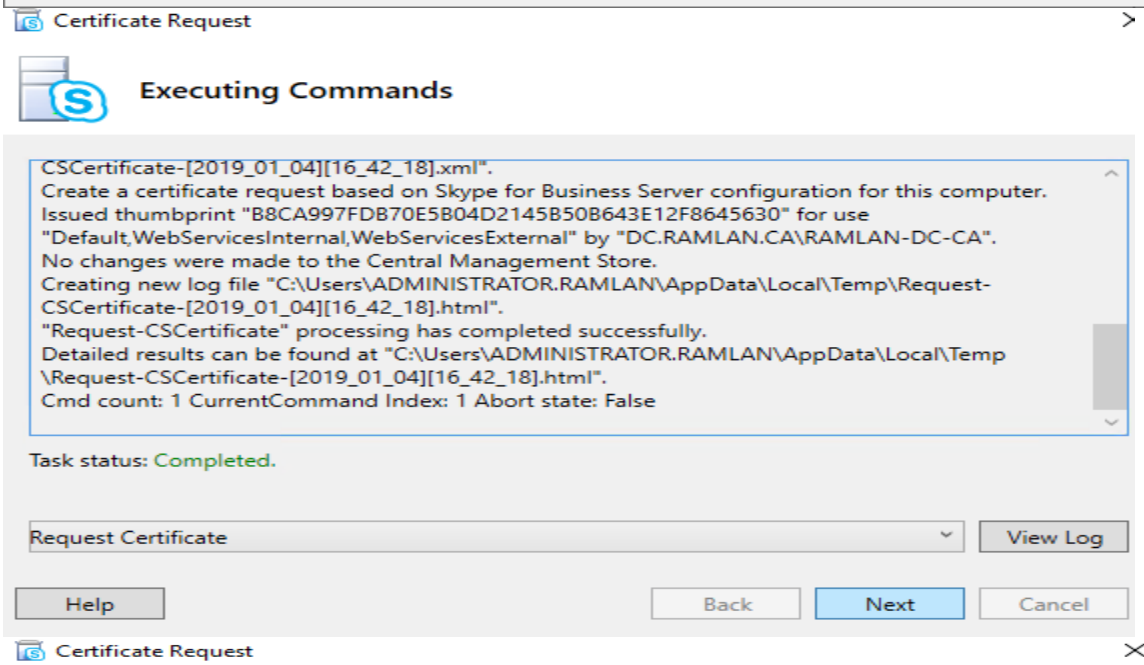
Install Certificates

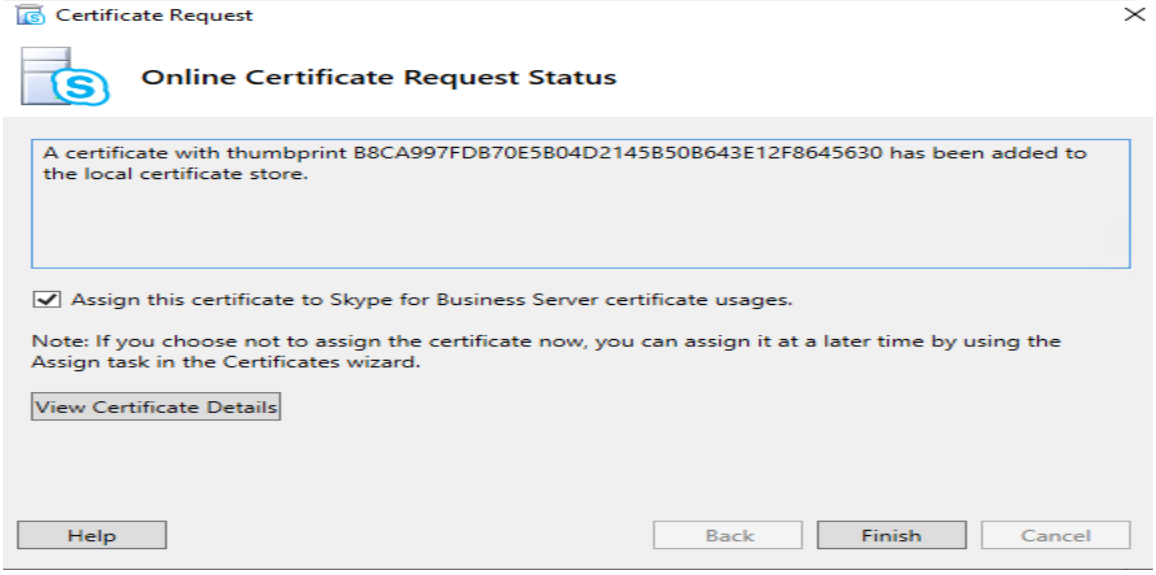


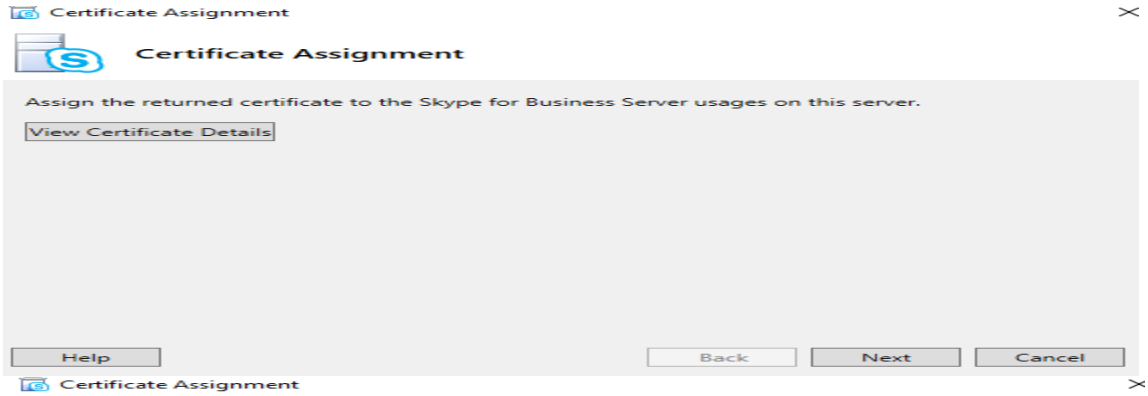

Certificate Wizard
Select a Skype for Business Server Certificate Type and then select a task. Expand the Certificate Type to perform advanced certificate usage tasks.
Certificate
Friendly Name
Expiration Date
Location
Request
Assign
Remove
View
Default certificate
Server default
Web services internal
Web services external
OAuthTokenIssuer
OAuthTokenIssuer
Help
Refresh
Import Certificate
Process Pending Certificates
Close

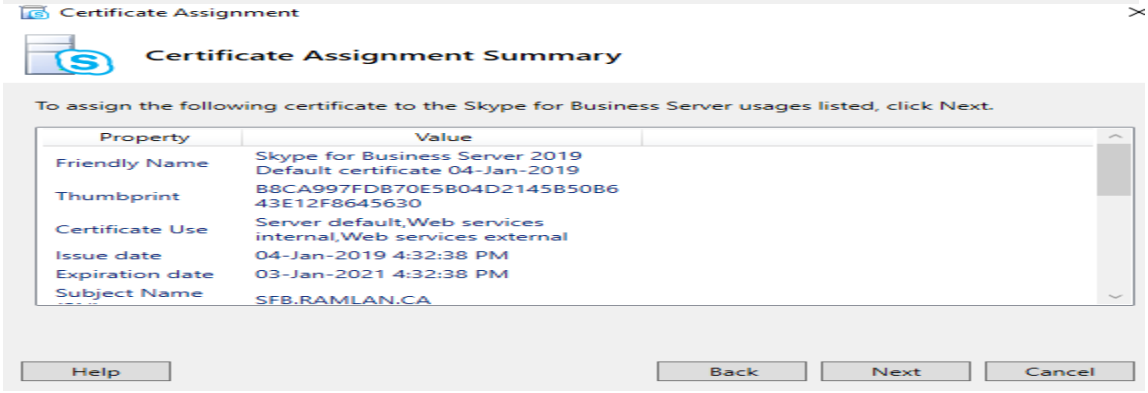

Certificate Request
Certificate Request
Select a CA from the list detected in your environment.
DC.RAMLAN.CA\RAMLAN-DC-CA
Friendly name:
Skype for Business Server 2019 Default certificate 04-Jan-2019
Organization:
RAMLAN INC
Organizational unit:
I.T
Country/Region:
Canada
State/Province:
Ontario
City/Locality:
Toronto
Select one or more SIP domains for which a sip.<sipdomain> entry is to be added to the subject alternative names list.
All
ramlan.ca
Subject name:
SFB.RAMLAN.CA
Subject alternative name:
SFB.RAMLAN.CA
dialin.ramlan.ca
meet.ramlan.ca
Specify another CA, change the Certificate Template, configure additional Subject Alternative Names, and more.
Advanced
Help
Back
Next
Cancel

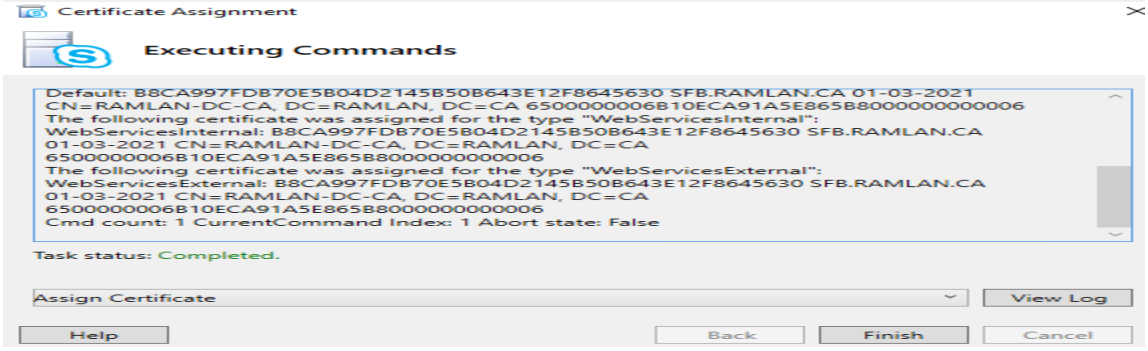

Certificate Request
Certificate Request Summary
To generate a request with the following information, click Next.
Property
Value
Certificate Use
Server default,Web services internal,Web services external
Country/Region
CA
State/Province
Ontario
City/Locality
Toronto
Friendly Name
Skype for Business Server 2019 Default certificate 04-Jan-2019
Key Size
2048
Exportable
False
Help
Back
Next
Cancel


Certificate Request
Executing Commands
CSCertificate-[2019_01_04][16_42_18].xml".
Create a certificate request based on Skype for Business Server configuration for this computer.
Issued thumbprint "B8CA997FDB70E5B04D2145B50B643E12F8645630" for use "Default,WebServicesInternal,WebServicesExternal" by "DC.RAMLAN.CA\RAMLAN-DC-CA".
No changes were made to the Central Management Store.
Creating new log file "C:\Users\ADMINISTRATOR.RAMLAN\AppData\Local\Temp\Request-CSCertificate-[2019_01_04][16_42_18].html".
"Request-CSCertificate" processing has completed successfully.
Detailed results can be found at "C:\Users\ADMINISTRATOR.RAMLAN\AppData\Local\Temp\Request-CSCertificate-[2019_01_04][16_42_18].html".
Cmd count: 1 CurrentCommand Index: 1 Abort state: False
Task status: Completed.
Request Certificate
View Log
Help
Back
Next
Cancel

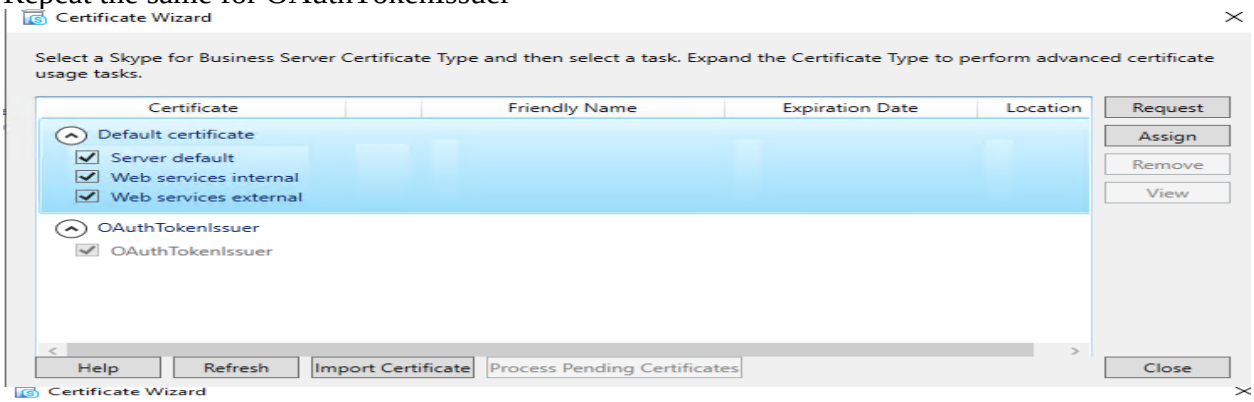

Certificate Request
Online Certificate Request Status
A certificate with thumbprint B8CA997FDB70E5B04D2145B50B643E12F8645630 has been added to the local certificate store.
Assign this certificate to Skype for Business Server certificate usages.
Note: If you choose not to assign the certificate now, you can assign it at a later time by using the Assign task in the Certificates wizard.
View Certificate Details
Help
Back
Finish
Cancel

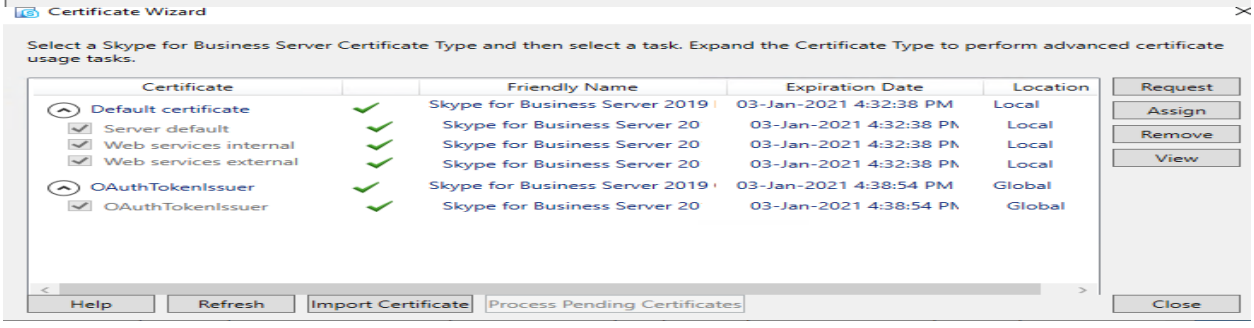




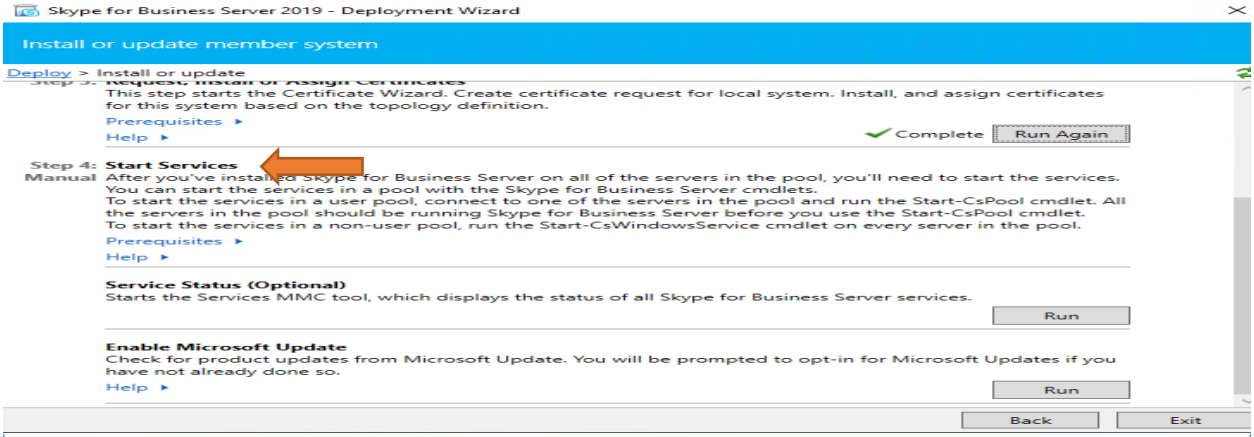


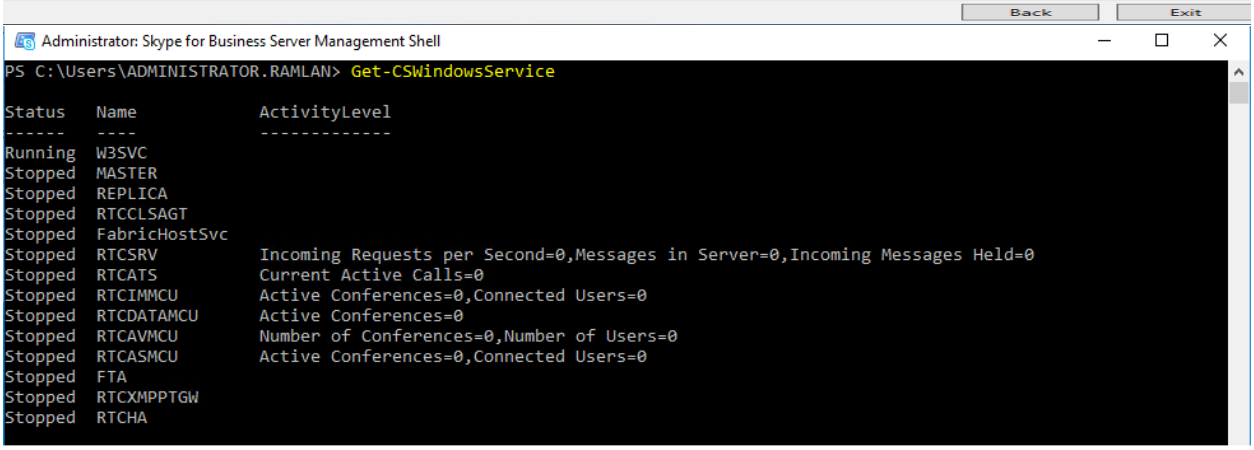
Repeat the same for OAuthTokenIssuer

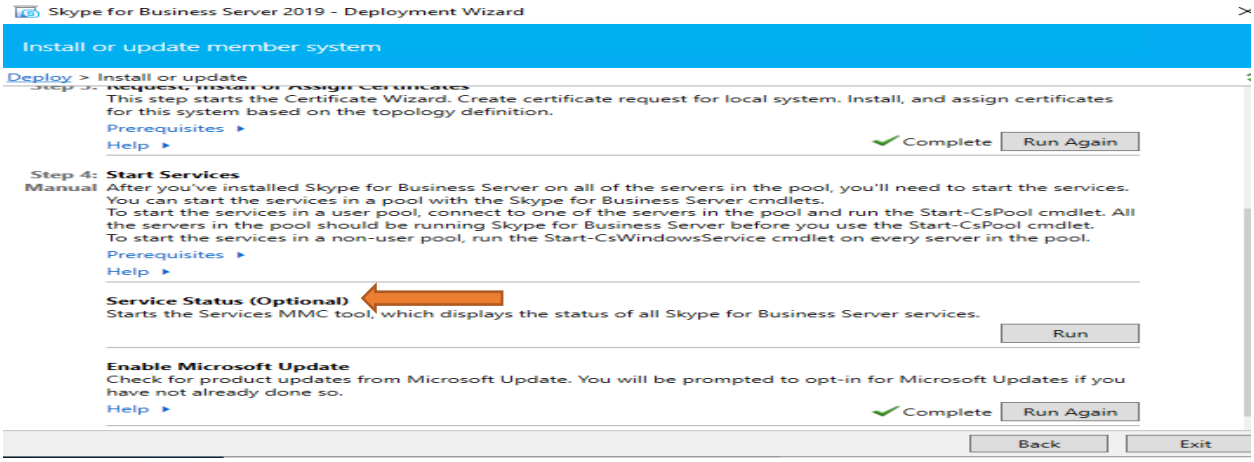


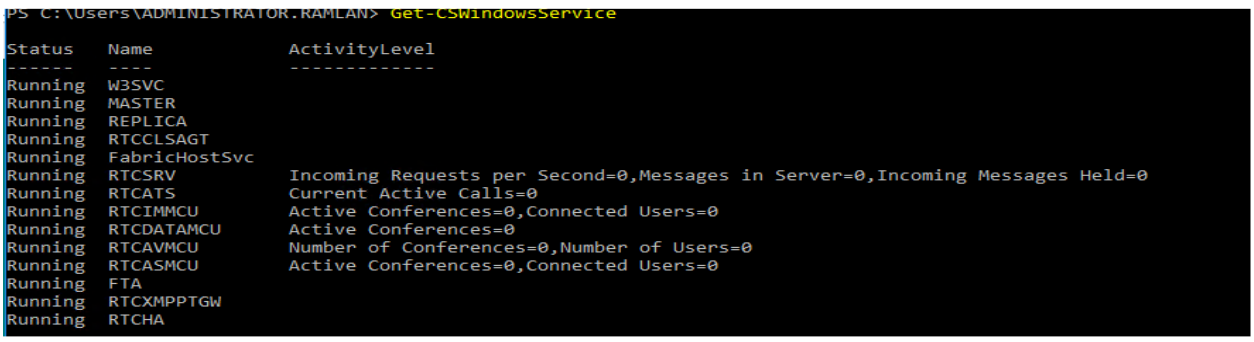


Now we can start all the Skype for Business Server services. Open Skype for Business Server Management Shell

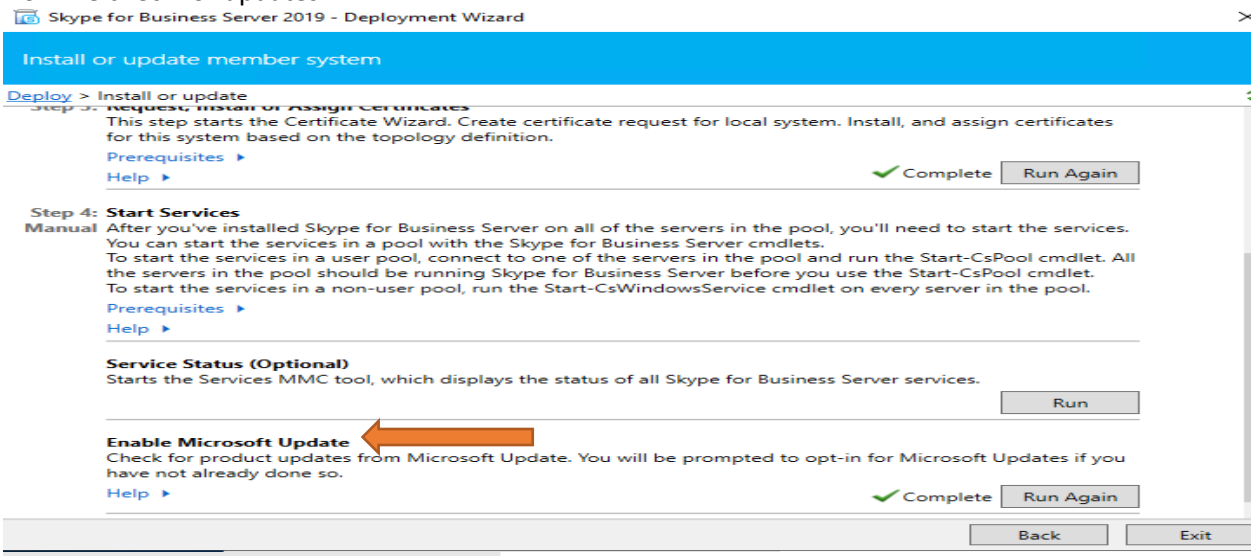


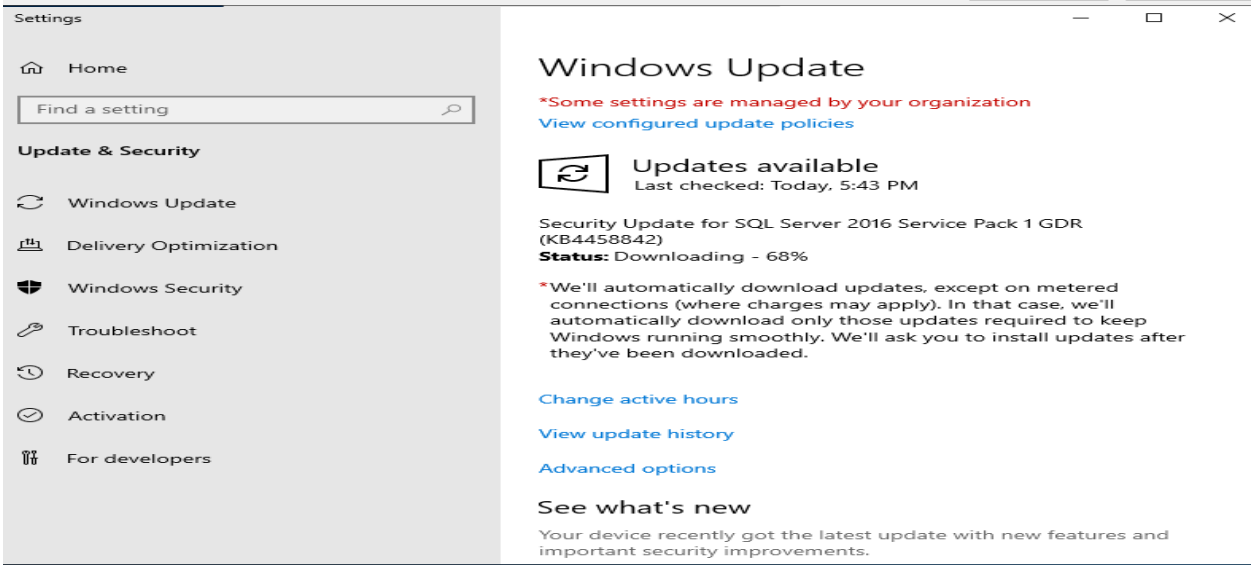




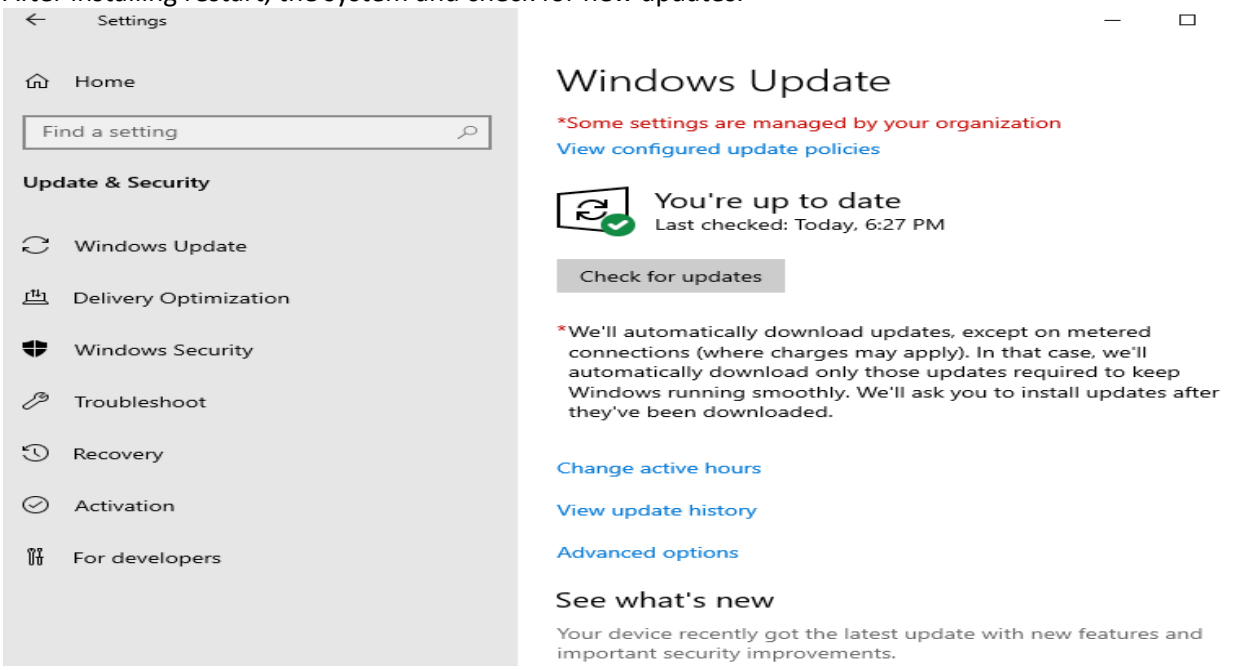


Now we check for updates

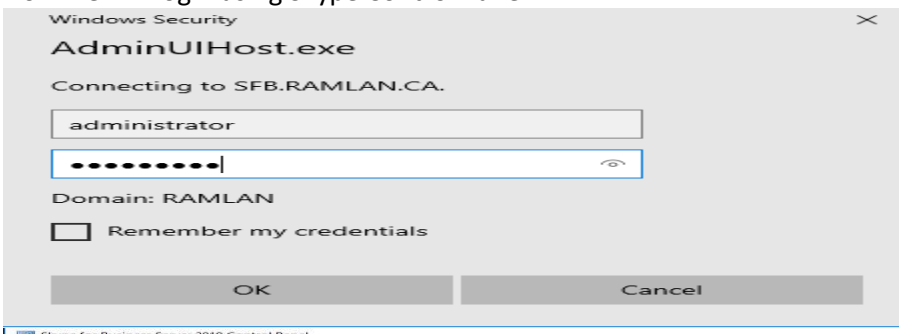


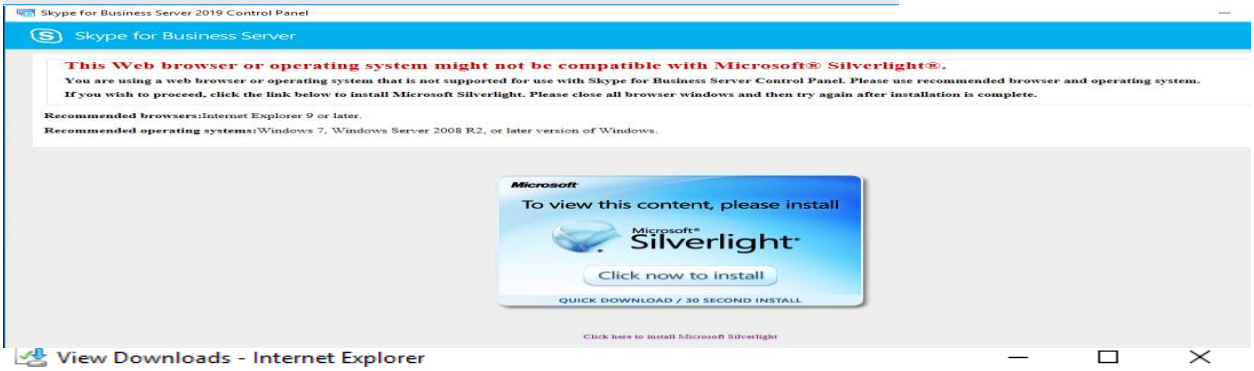


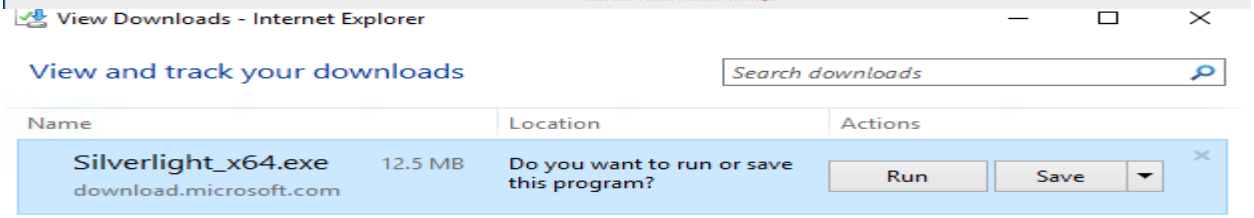
After installing restart, the system and check for new updates.

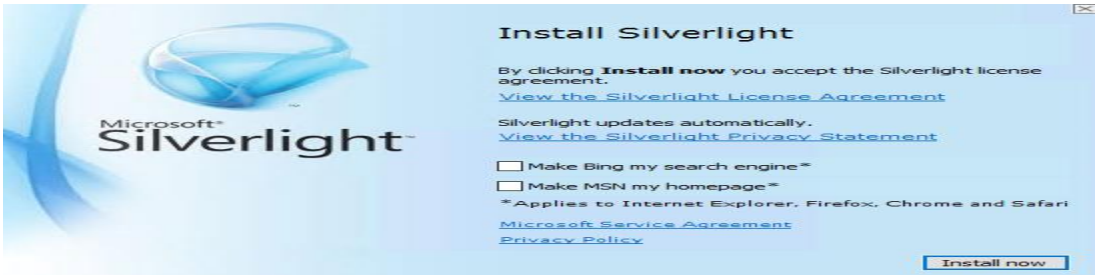


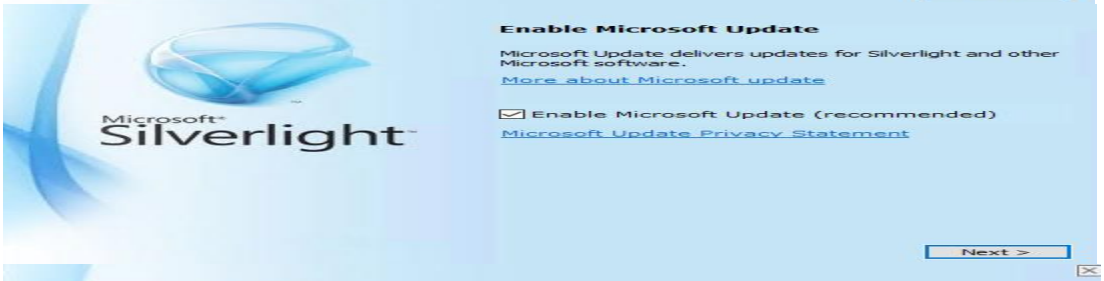
Now we will login using Skype Control Panel

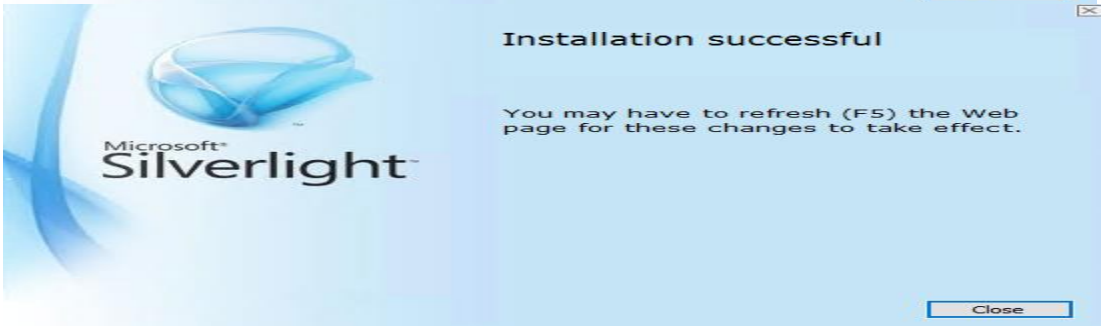


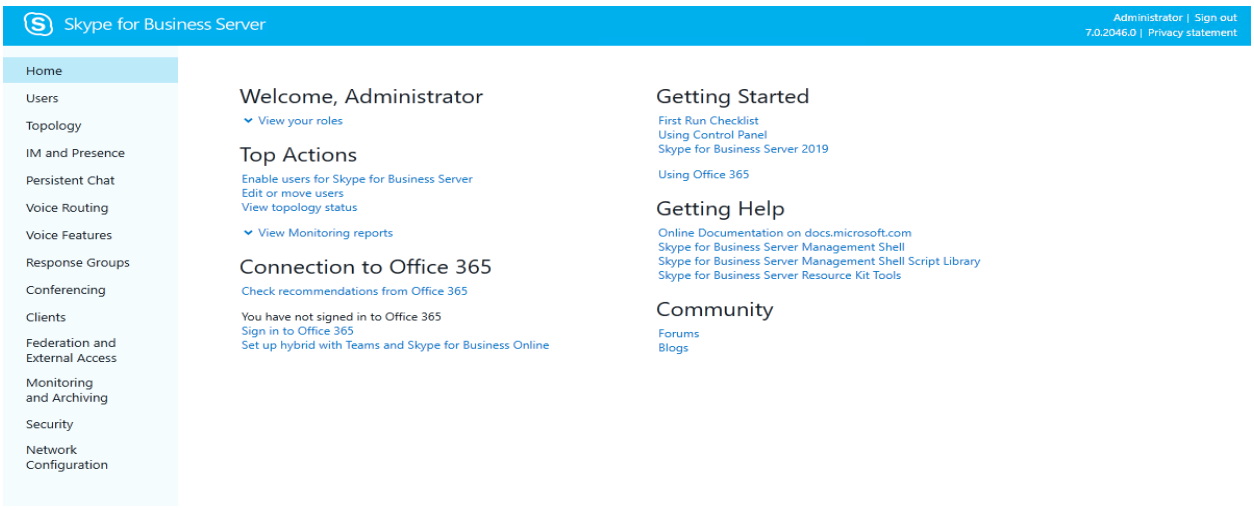






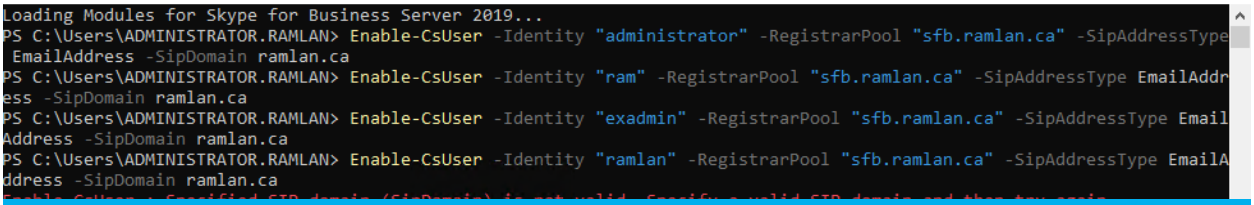


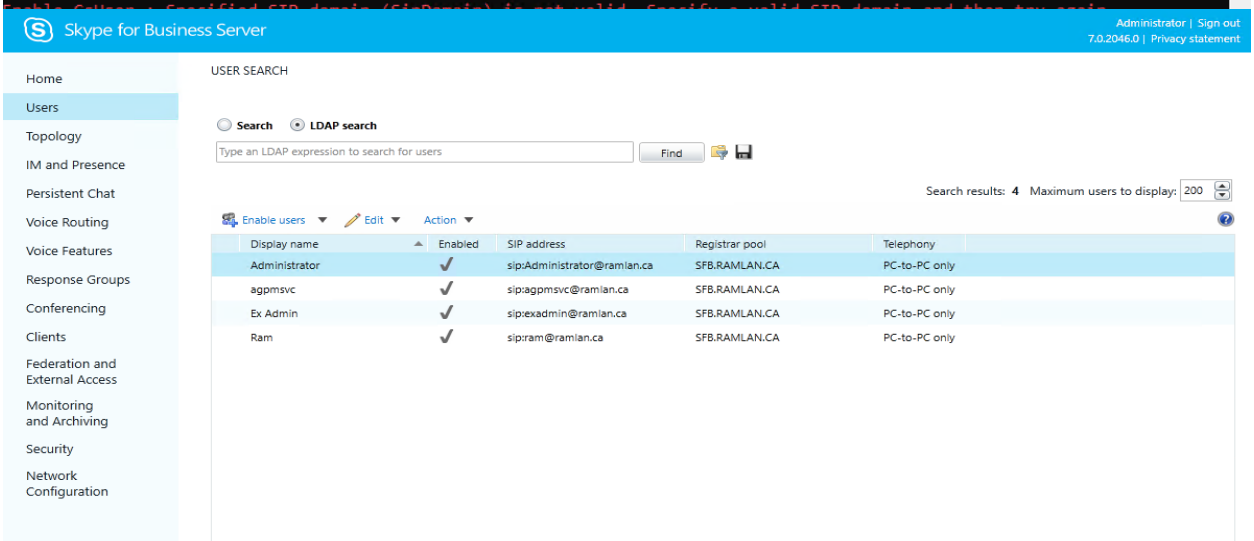


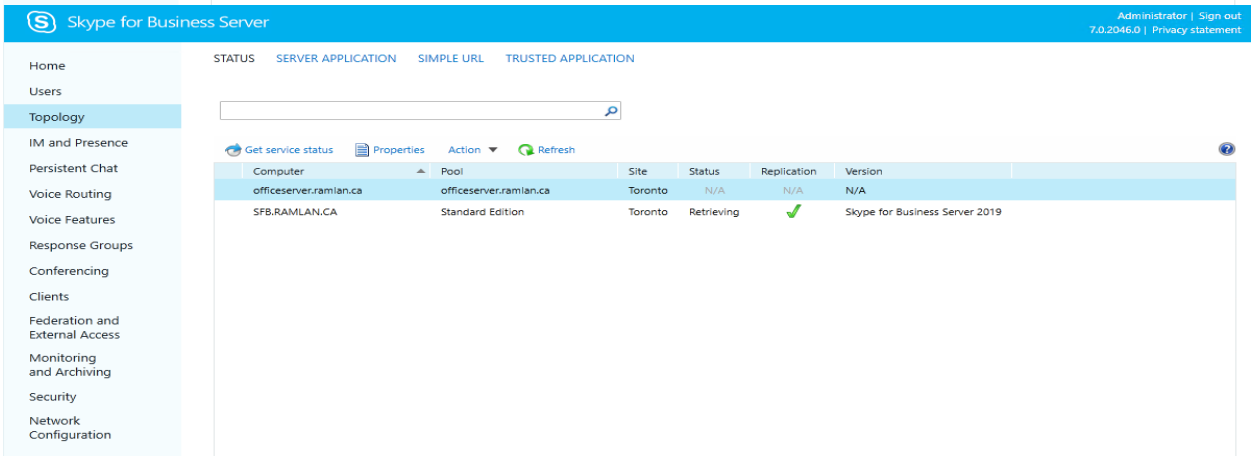


Click Users to add Domain Users. If you have Domain Admin or Administrator you will have to enable through Skype for Business Server Management Shell as detailed below

Enable-CsUser -Identity "administrator" -RegistrarPool "sfb.ramlan.ca" -SipAddressType EmailAddress -SipDomain ramlan.ca



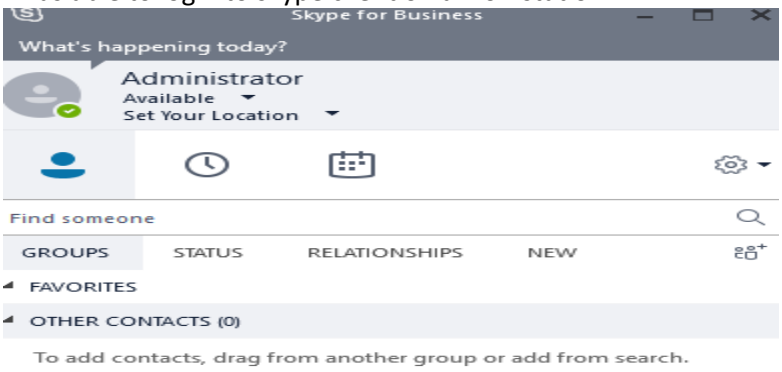




To move a user by using the Skype for Business Server 2019 Control Panel

1. Log on to the Front End Server with an account that is a member of the RTCUniversalServerAdmins group or a member of the CsAdministrator or CsUserAdministrator administrative role.
2. Open **Skype for Business Server Control Panel**.
3. Click **Users**, click **Search**, and then click **Find**.
4. Select a user that you want to move to the Skype for Business Server 2019 pool. In this example, we will move user Sara Davis.
5. On the **Action** menu, select **Move selected users to pool**.
6. From the drop-down list, select the Skype for Business Server 2019 pool.
7. Click **Action**, and then click **Move selected users to pool**. Click **OK**.
8. Verify that the **Registrar pool** column for the user now contains the Skype for Business Server 2019 pool, which indicates that the user has been successfully moved.

I was able to login to skype client on a workstation.



This concludes the whole process of installing and configuring Skype for Business 2019 on Windows Server 2019.

Thanks

Ram Lan
4th Jan 2019