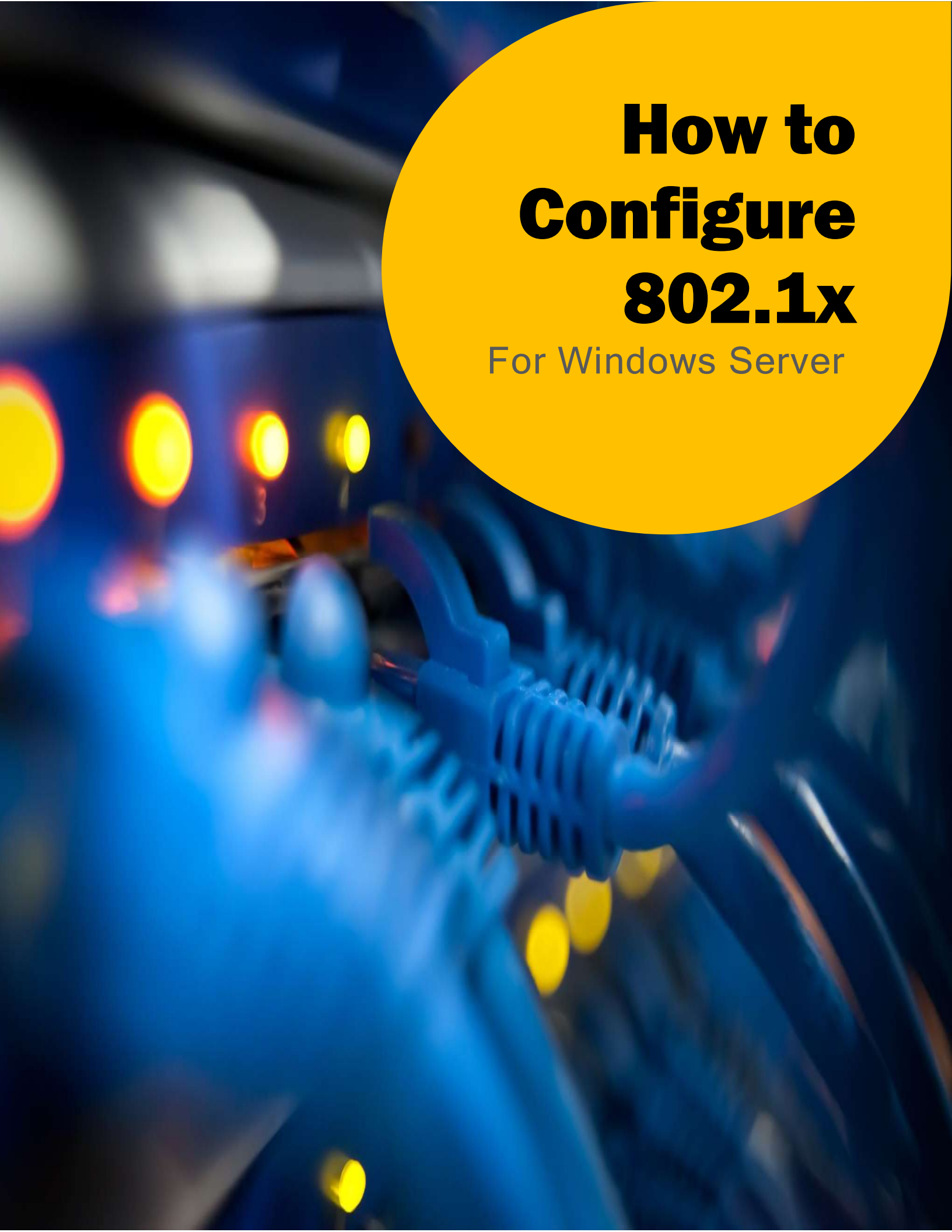


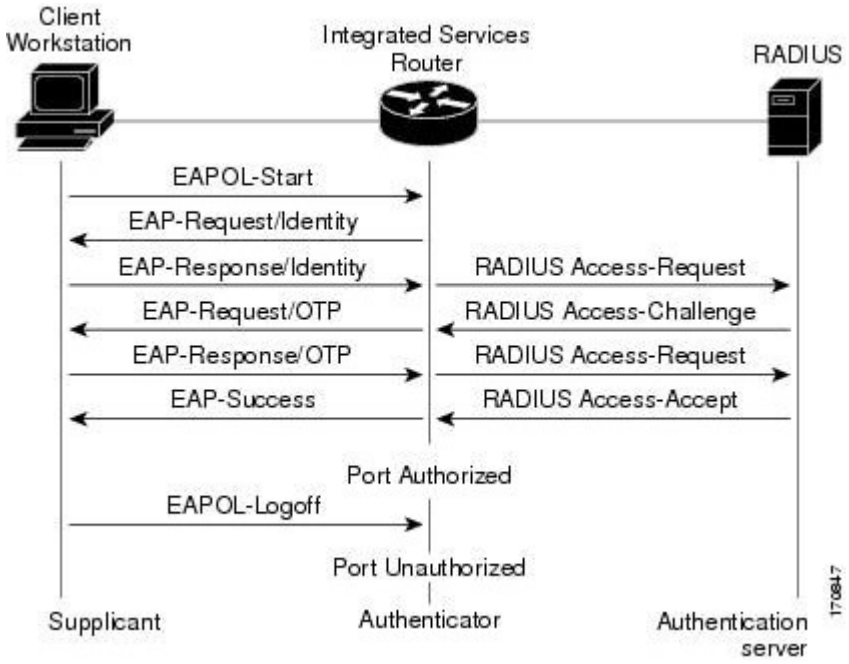
How to Configure 802.1x

For Windows Server

Contents

Switch Configuration

EAP Message Exchange



Configure 802.1x Port-Based Authentication

802.1x Global commands

1. Enable
2. Configure Terminal
3. Aaa new-model
4. Aaa authentication dot1x default group radius
5. Dot1x system-auth-control
6. End
7. Write memory

802.1x Port Configuration

1. Enable
2. Configure Terminal
3. Interface gi1/0/1
4. Dot1x port-control auto
5. Dot1x pae authenticator
6. End
7. Write memory

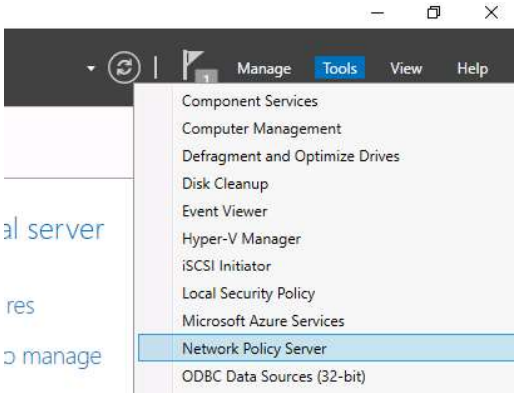
Radius Global commands

1. Enable
2. Configure Terminal
3. Radius-server host XXX.XXX.XXX.XXX auth-port 1812 key XXXXXXXXXX
4. Radius-server host XXX.XXX.XXX.XXX acct-port 1813 key XXXXXXXXXX
5. End
6. Write memory

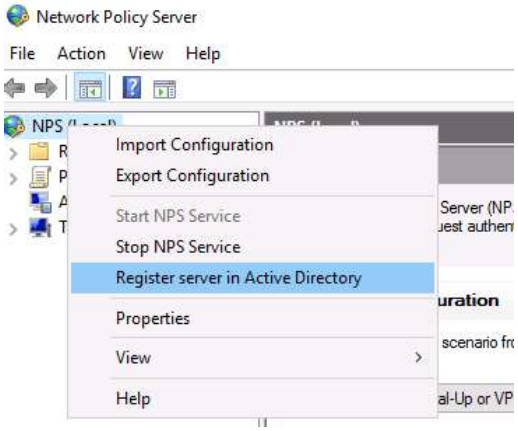
Windows Server Configuration

Install Network Policy and Access Services Role

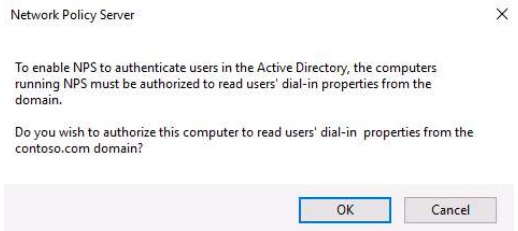
1. Install Network Policy and Access Services Role to Server (NPS)



2. Register NPS in Active Directory



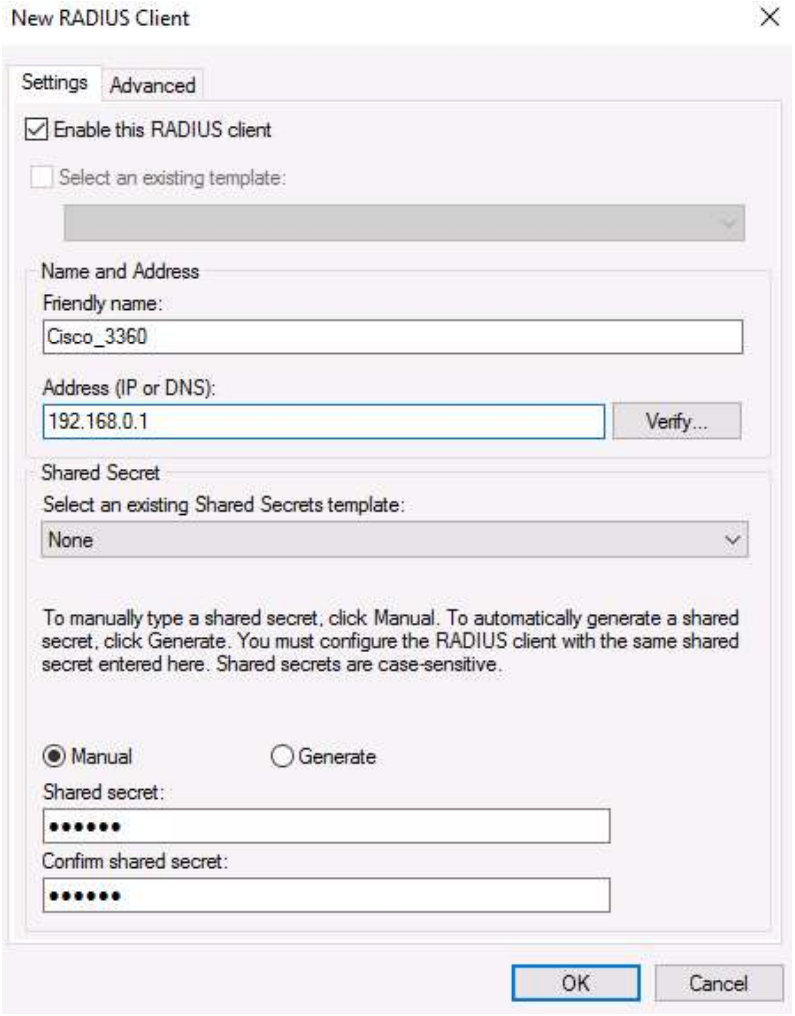
3. Confirm the registration



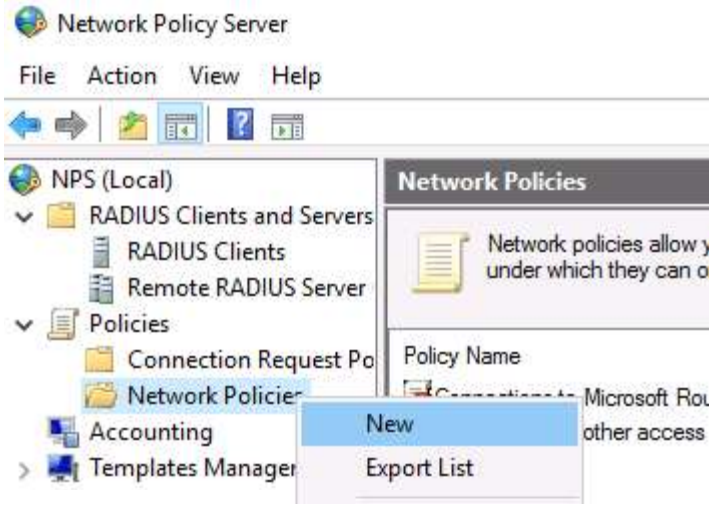
Add the Radius Client

4. Expand the Radius Clients and Servers section in the NPS console tree and select New on the Radius Clients item

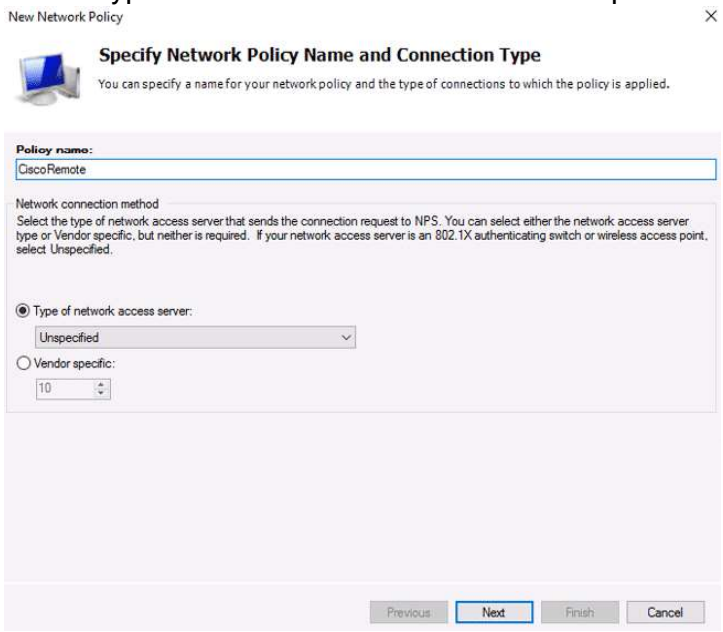
5. On the Settings tab, create a Friendly Name, client address (IP or DNS) and Shared Secret (the password you used in the Switch configuration – See Radius Global Command numbers 3 and 4 on page 4)



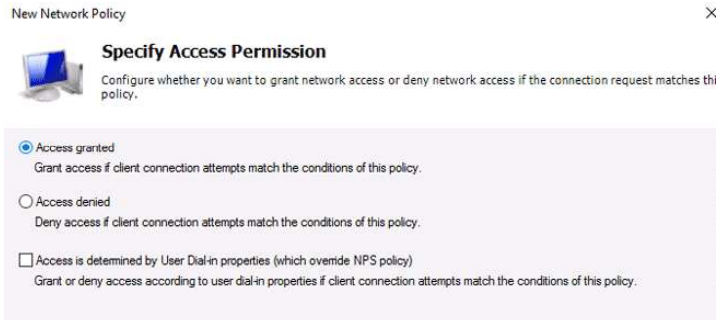
6. Configure NPS Policies on the Radius Server by expanding the Policies>Network Policies branch and Select New



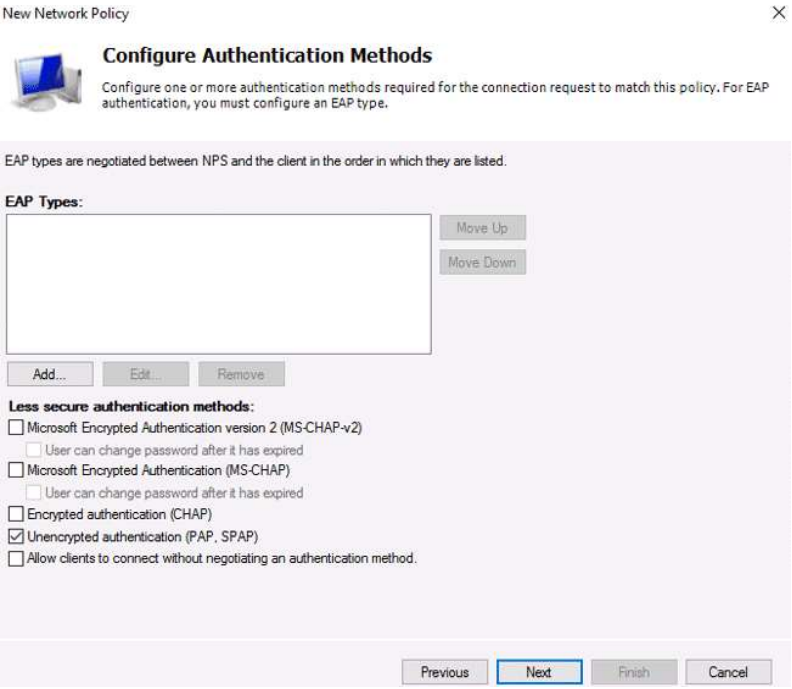
7. Leave Type of Network Access Server as “Unspecified



8. Specify Conditions by adding Windows Groups Domain Users and Domain Computers from Active Directory
9. On the next screen select Access Granted



10. Check MS-CHAP-v2, MS-CHAP and add EAP (in the EAP Type box)

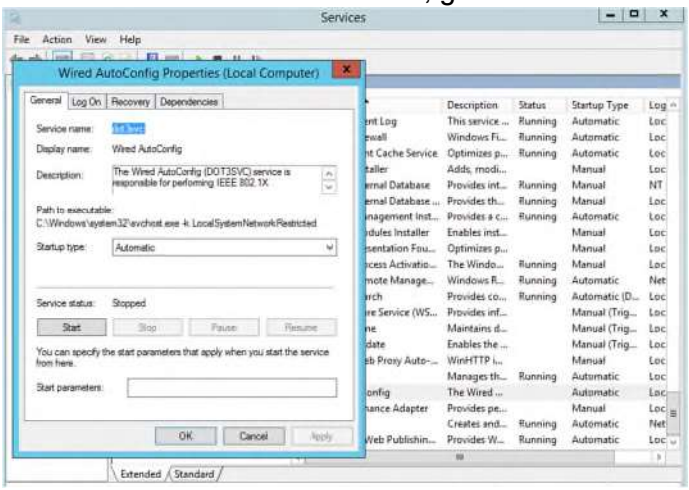


11. From the EAP Types, ensure that you add Certificate Authority from the dropdown
12. Ensure that you add the Radius certificate to the Trust Certificates on the Server

Windows Client Configuration

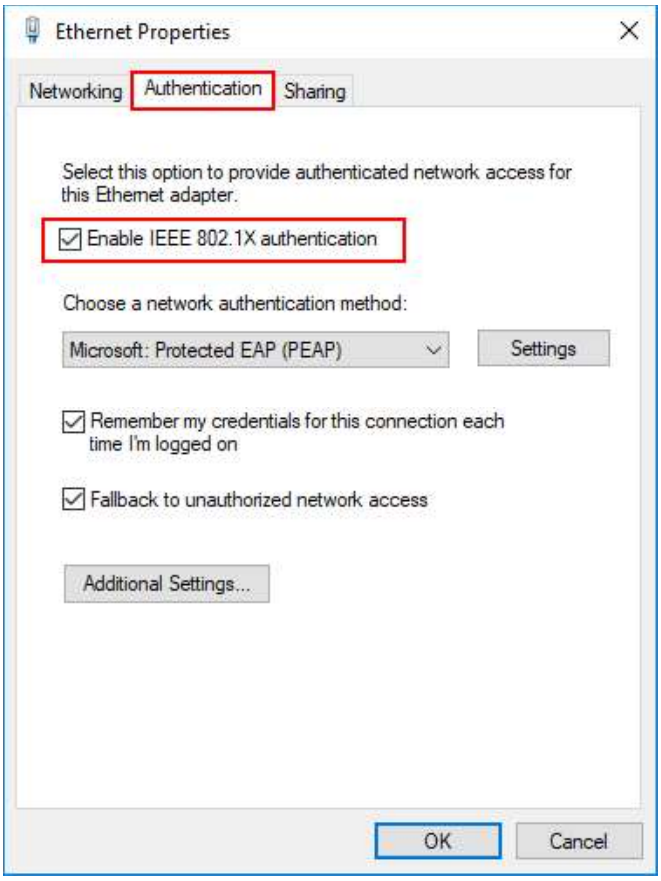
Turn on Wired Service

13. On the Windows 10 Start screen, go to the Services and find Wired AutoConfig and turn it on to Automatic.

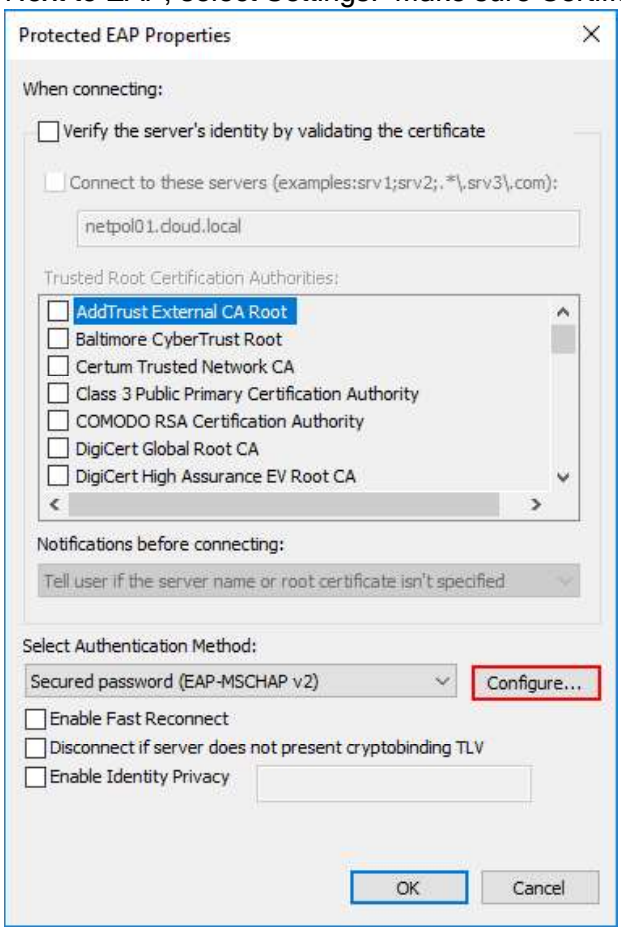


Enable 802.1x

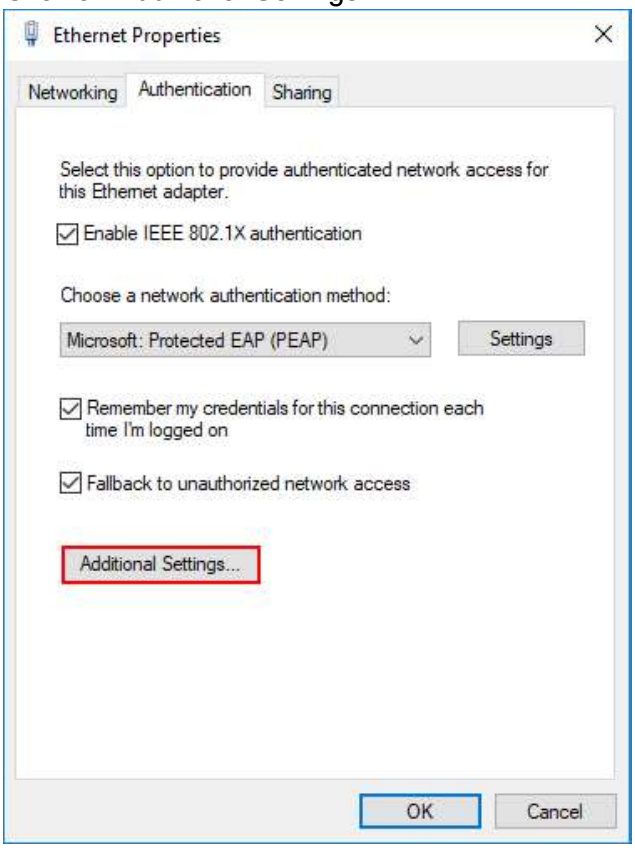
14. Go to the Ethernet properties adapter settings and go to the Authentication tab (added by turning on Wired AutoConfig service)
15. Select the Enable IEEE 802.1x authentication box and ensure Protected EAP is selected (also make sure Fallback to unauthorized network access is selected).



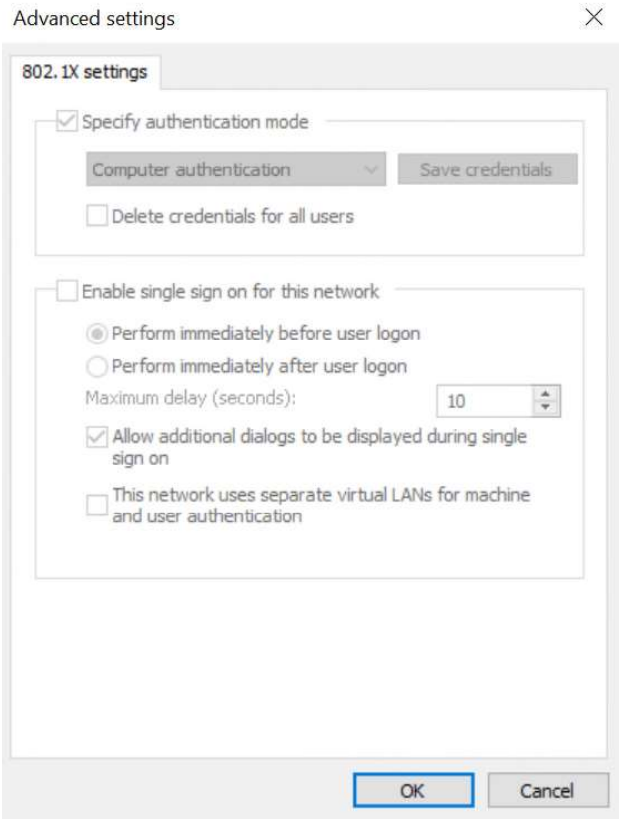
16. Next to EAP, select Settings. Make sure Certificate Authority and Radius certificates are selected



17. Click on Additional Settings



18. Select Computer Authentication



19. Install the Radius certificate under your Trusted certificates for the machine.

Certificate Authority Configuration

20. Log into the Certificate Authority Server
21. Create a new certificate for your Radius server
22. Create a GPO to push out Radius server certificate on all your Windows Machines so that it trusts the Radius server for 802.1x authentication