Configuration du tunnel L2TP entre un ordinateur Windows et un routeur Cisco

Contenu

Introduction

Ce document décrit comment configurer un tunnel L2TP (Layer 2 Tunneling Protocol) entre une machine Windows et un routeur Cisco.

Conditions préalables

Conditions requises

Cisco recommande que vous sachiez que la machine windows peut envoyer une requête ping à l'adresse IP de l'interface physique sur le routeur.

Components Used

Ce document n'est pas limité à des versions de matériel et de logiciel spécifiques.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Configuration

Diagramme du réseau

Ce document utilise la configuration réseau suivante :
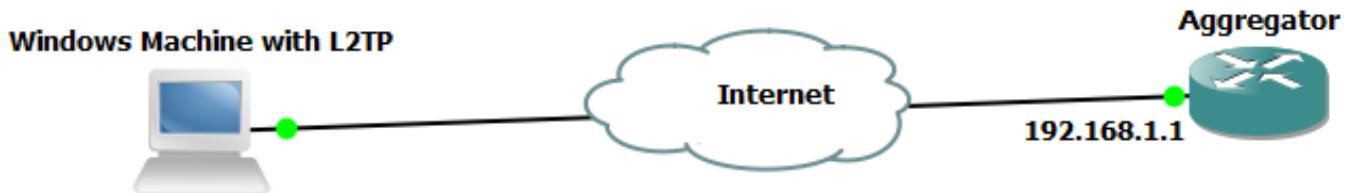
Configurations

### Configuration de l'agrégateur :

Un exemple de configuration sur l'agrégateur est illustré :

```
interface GigabitEthernet0/0/1
 ip address 192.168.1.1 255.255.255.0
 negotiation auto
end    interface Loopback100
 ip address 172.16.1.1 255.255.255.255
end    vpdn enable
vpdn-group 1
 ! Default L2TP VPDN group
 accept-dialin
 protocol l2tp
 virtual-template 1
 no l2tp tunnel authentication    interface Virtual-Template1
 ip unnumbered Loopback100
 peer default ip address pool test
 ppp authentication chap callout
 ppp ipcp dns 4.2.2.1 4.2.2.2
end    ip local pool test 10.1.1.2 10.1.1.100
```

Configurations et paramètres Windows Machine

Procédez comme suit :

Étape 1. Ouvrez **Centre Réseau et partage** et cliquez sur **Configurer une nouvelle connexion ou un nouveau réseau** comme indiqué dans cette image.
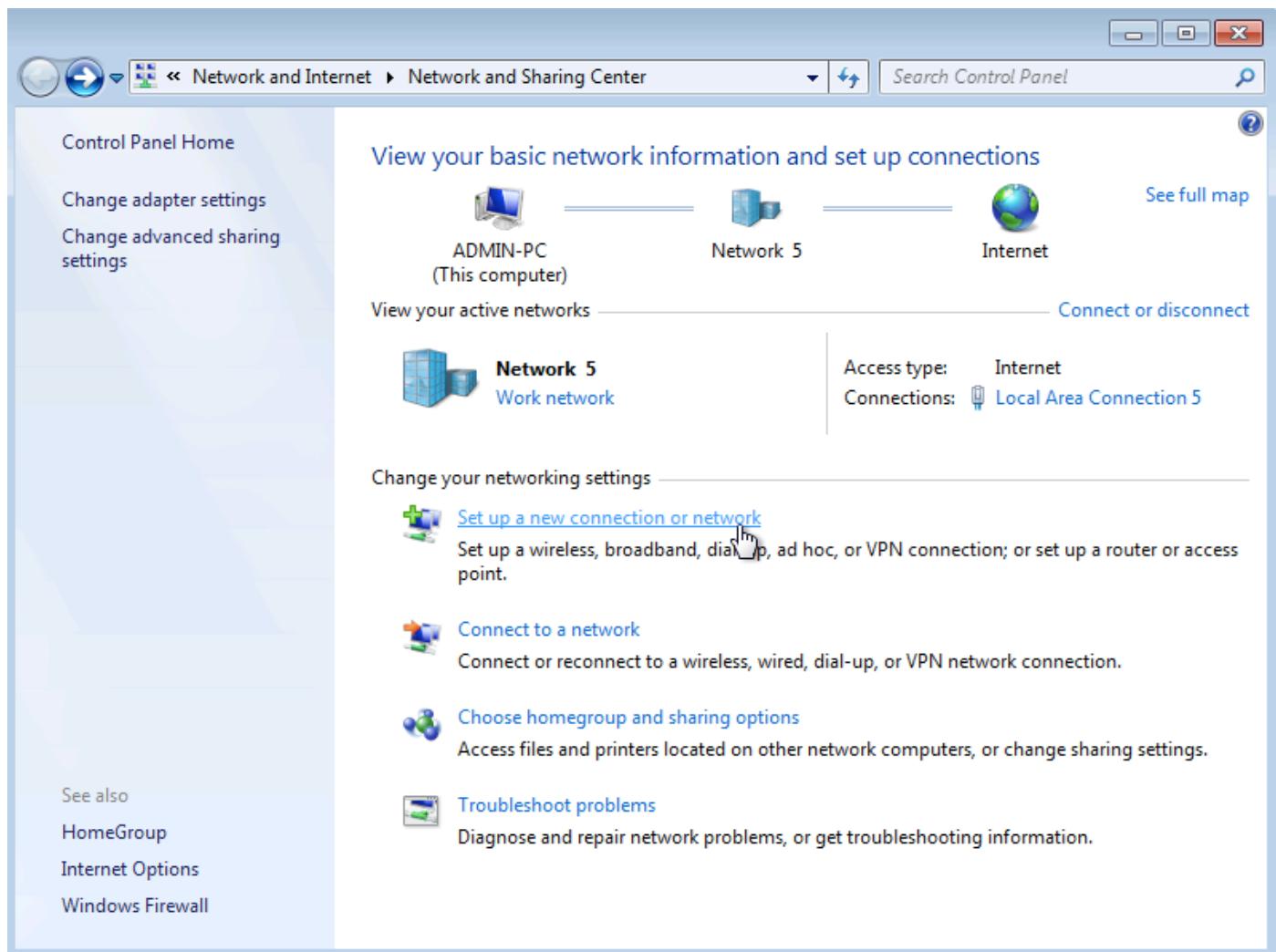
Étape 2. Sélectionnez **Se connecter à un lieu de travail** et cliquez sur **Suivant**
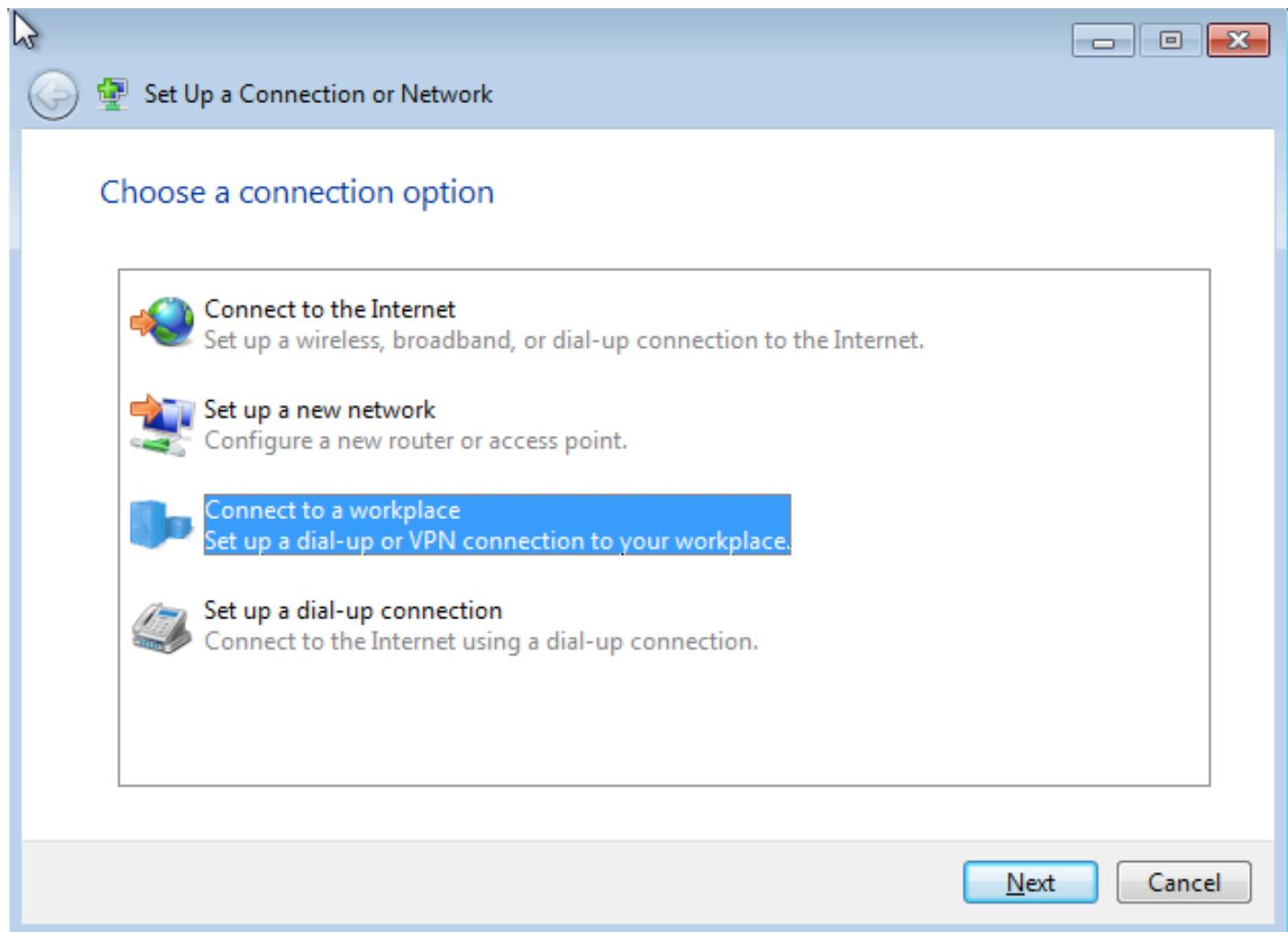
Étape 3. Sélectionnez **Utiliser ma connexion Internet (VPN)**
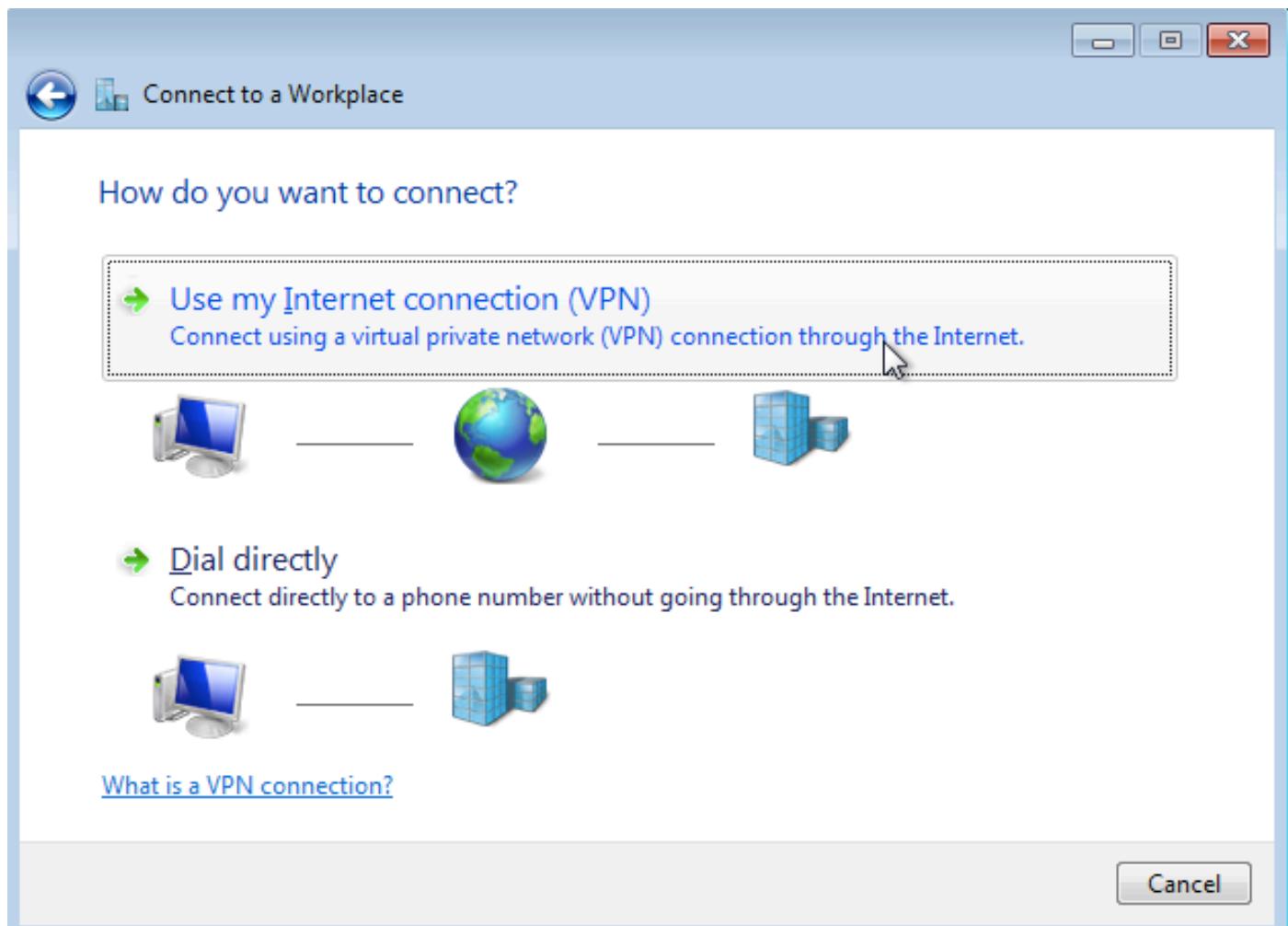
Étape 4. Entrez l'adresse IP de l'agrégateur (dans ce cas, 192.168.1.1), attribuez un nom à la connexion (dans ce cas, donnez le nom VPDN) et cliquez sur **Suivant**.
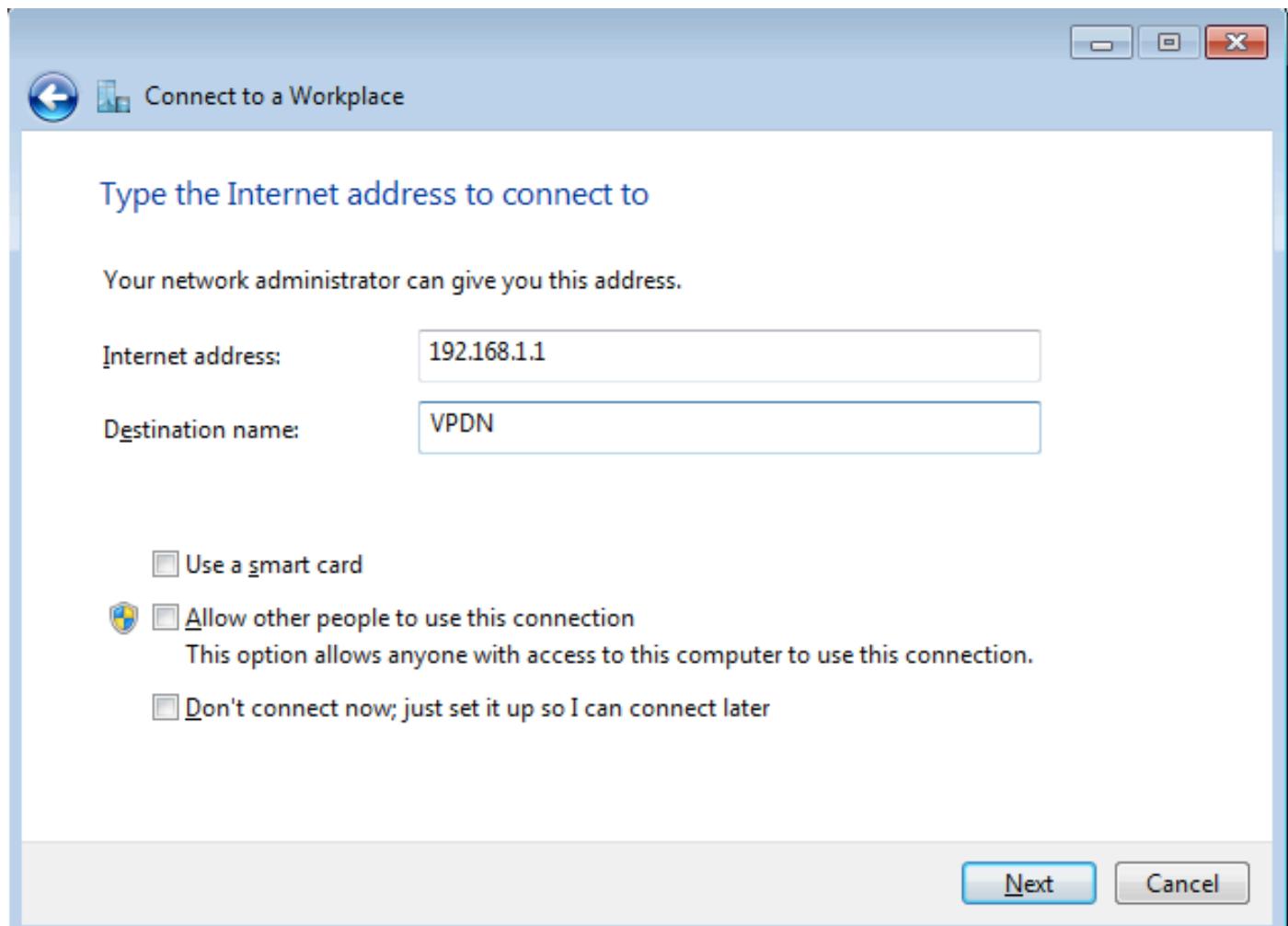
Étape 5. Entrez le nom d'utilisateur et le mot de passe, puis cliquez sur **Connect**
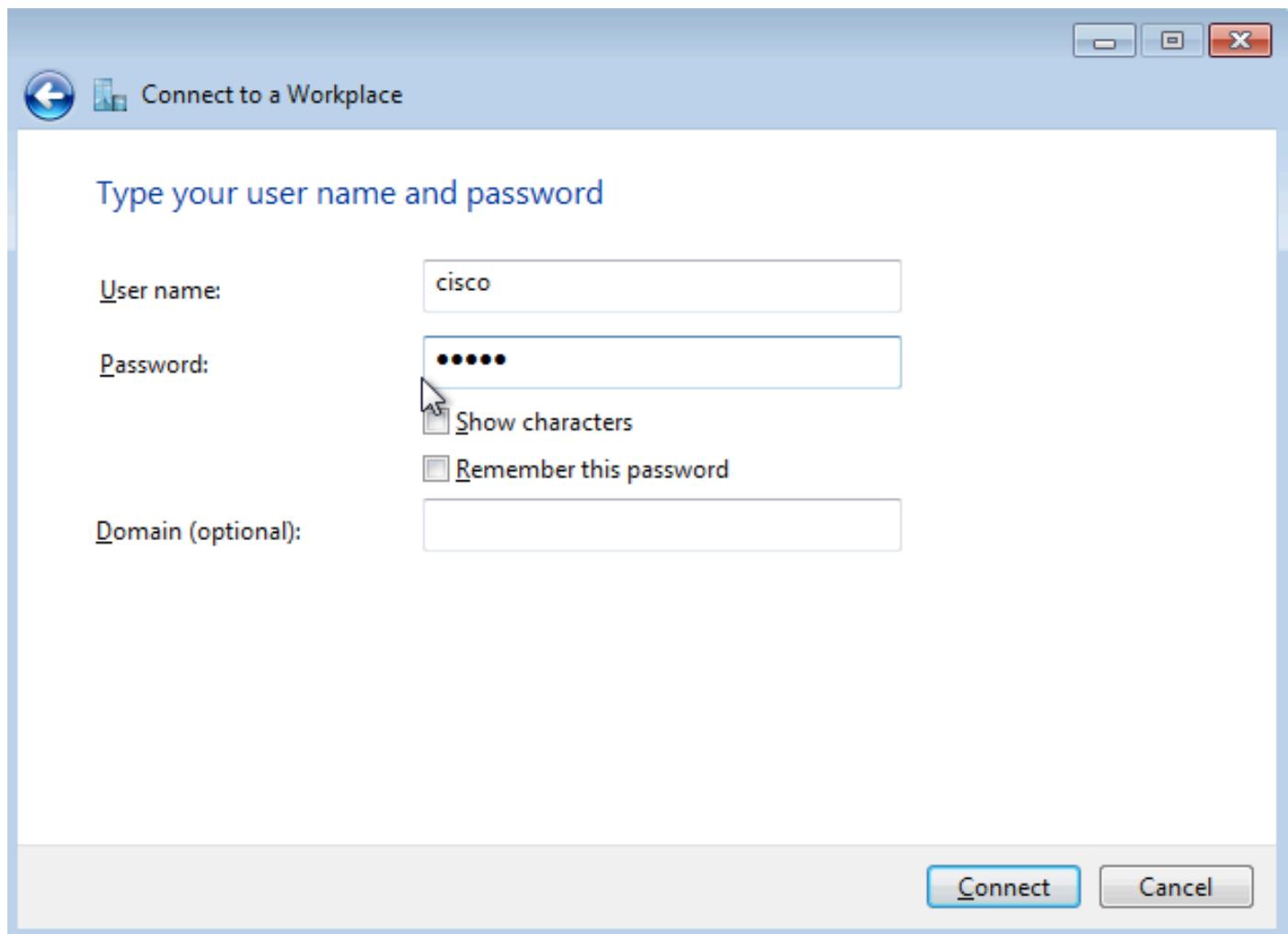
Étape 6. Vérifier le nom d'utilisateur et le mot de passe
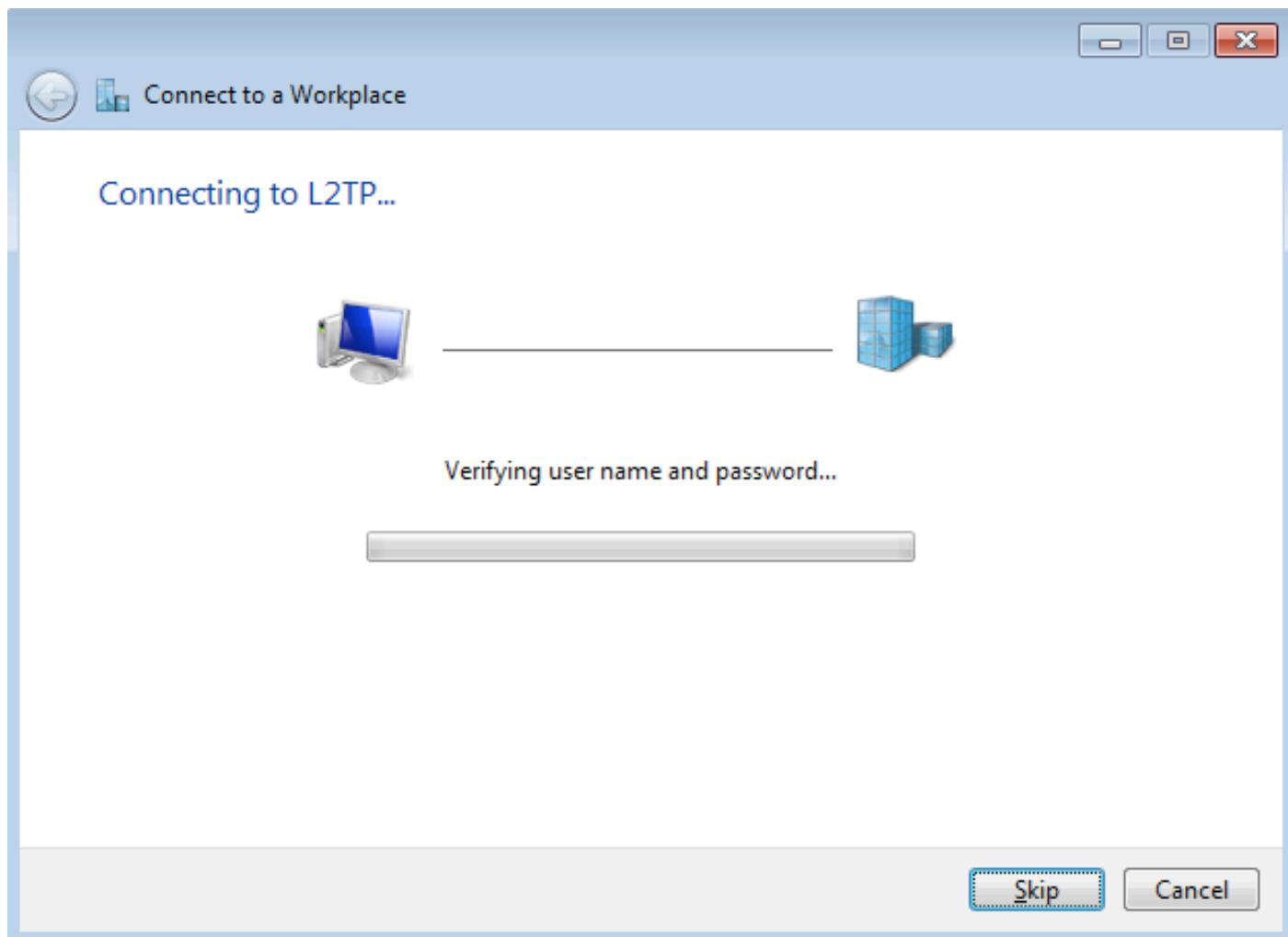
Étape 7. Il peut échouer pour la première fois, comme le montre cette image.
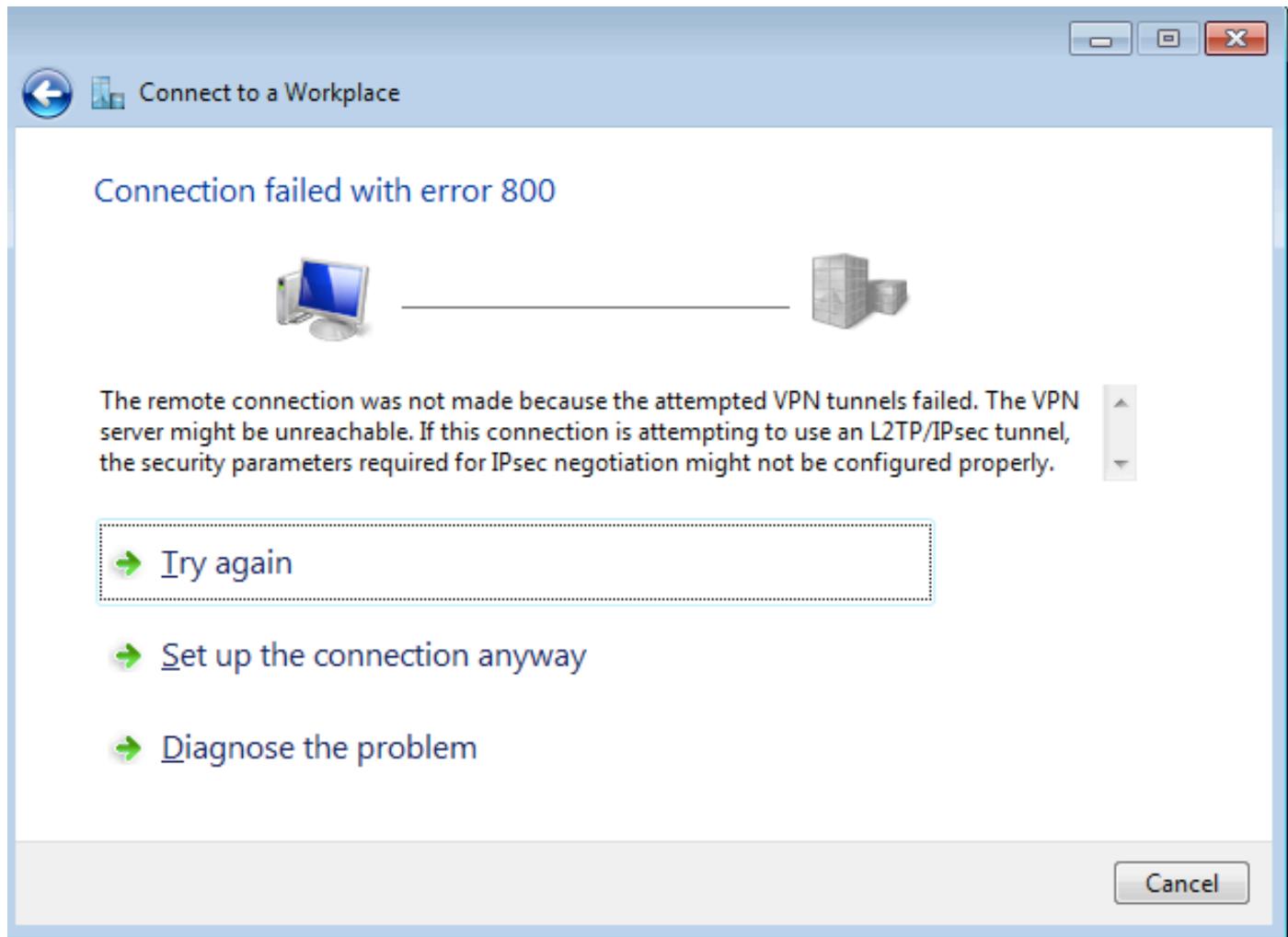
Étape 8. Cliquez sur **Configurer la connexion de toute façon** et ouvrez l'onglet **Réseaux**.
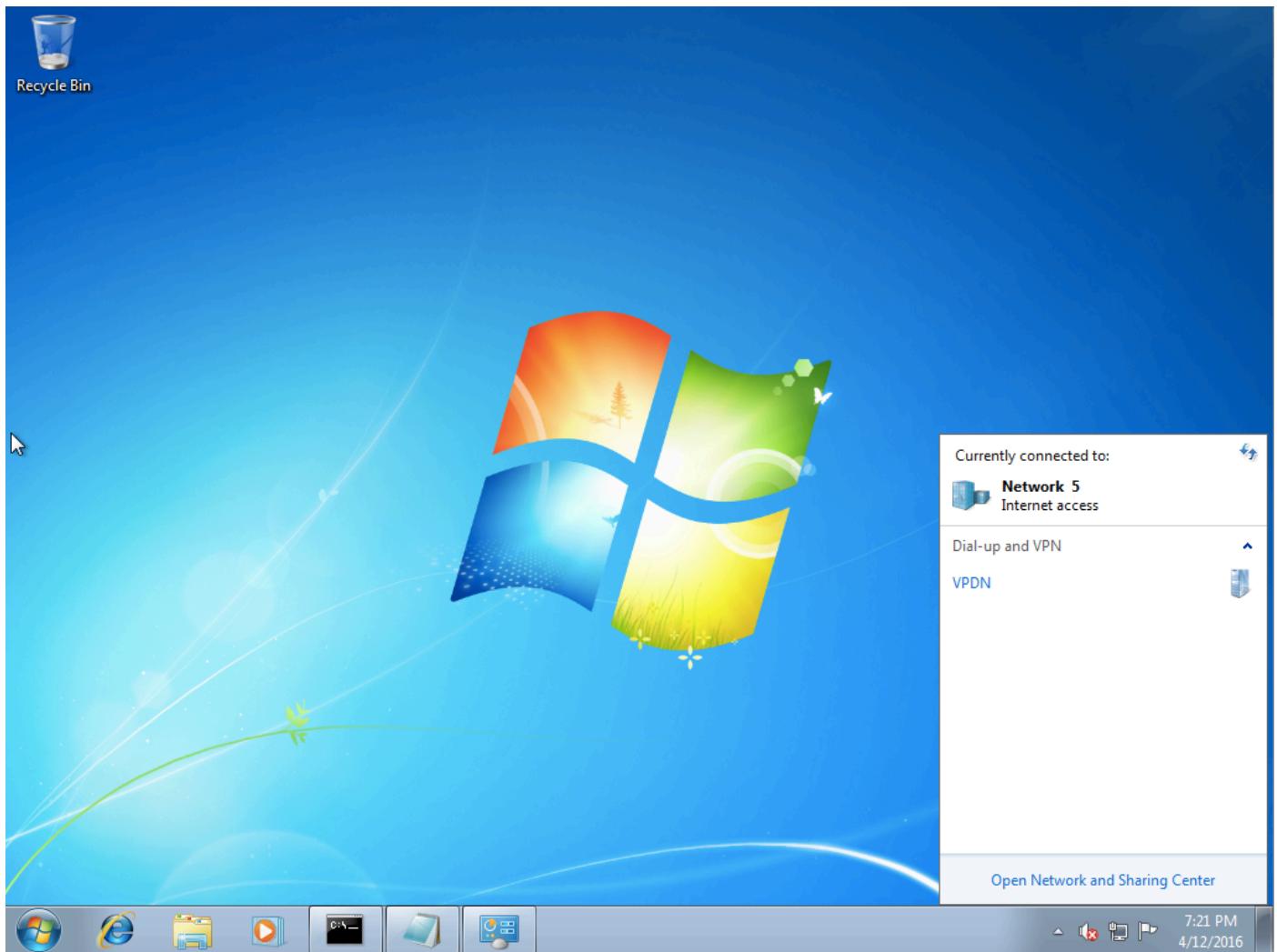
Étape 9. Cliquez avec le bouton droit sur la connexion (ici VPDN) et cliquez sur **Propriétés**.
Vérifiez l'adresse IP de l'agrégateur (ici 192.168.1.1)
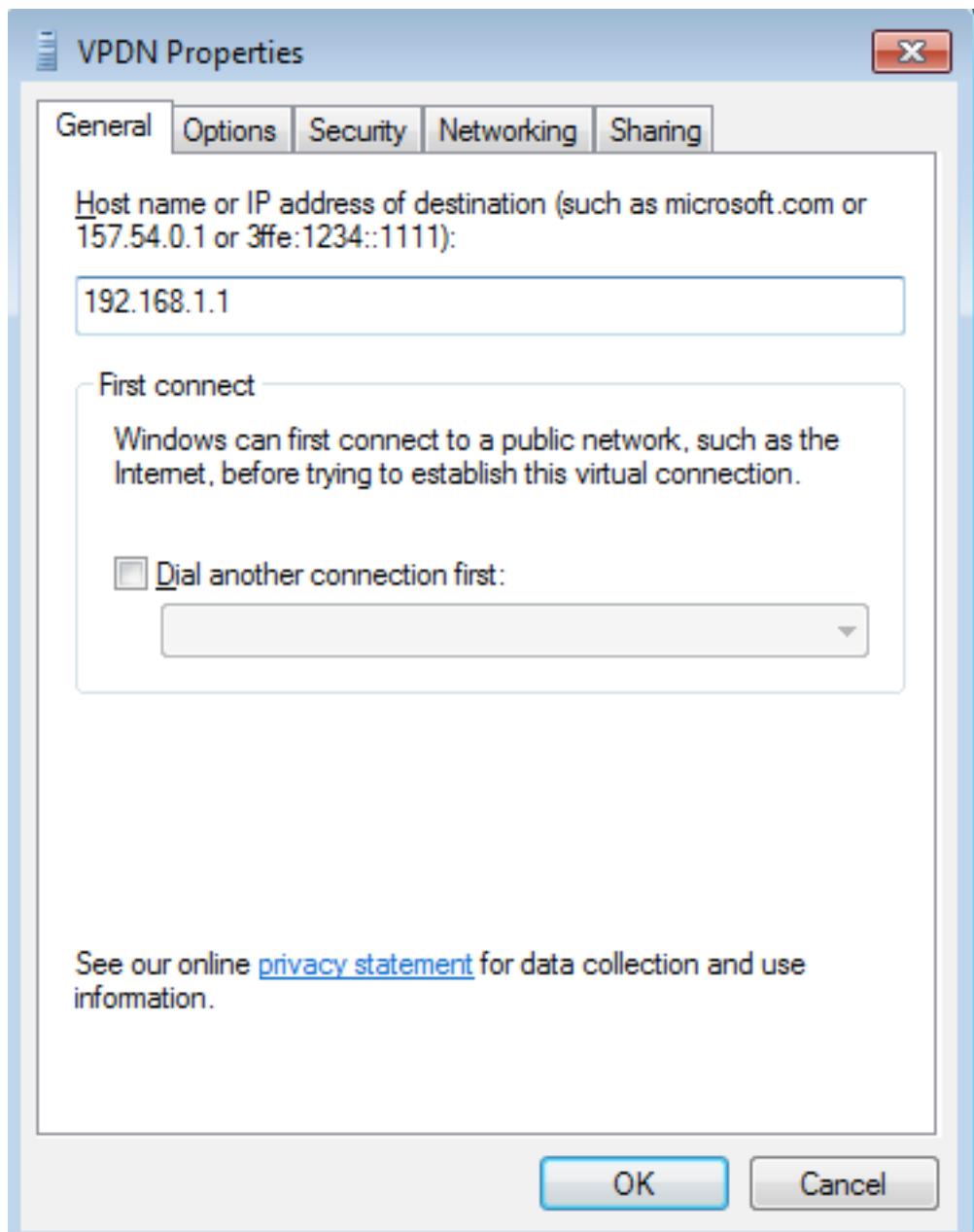
Étape 10. Accédez à **Options>PPP Settings** et vérifiez les paramètres, comme indiqué dans cette image.
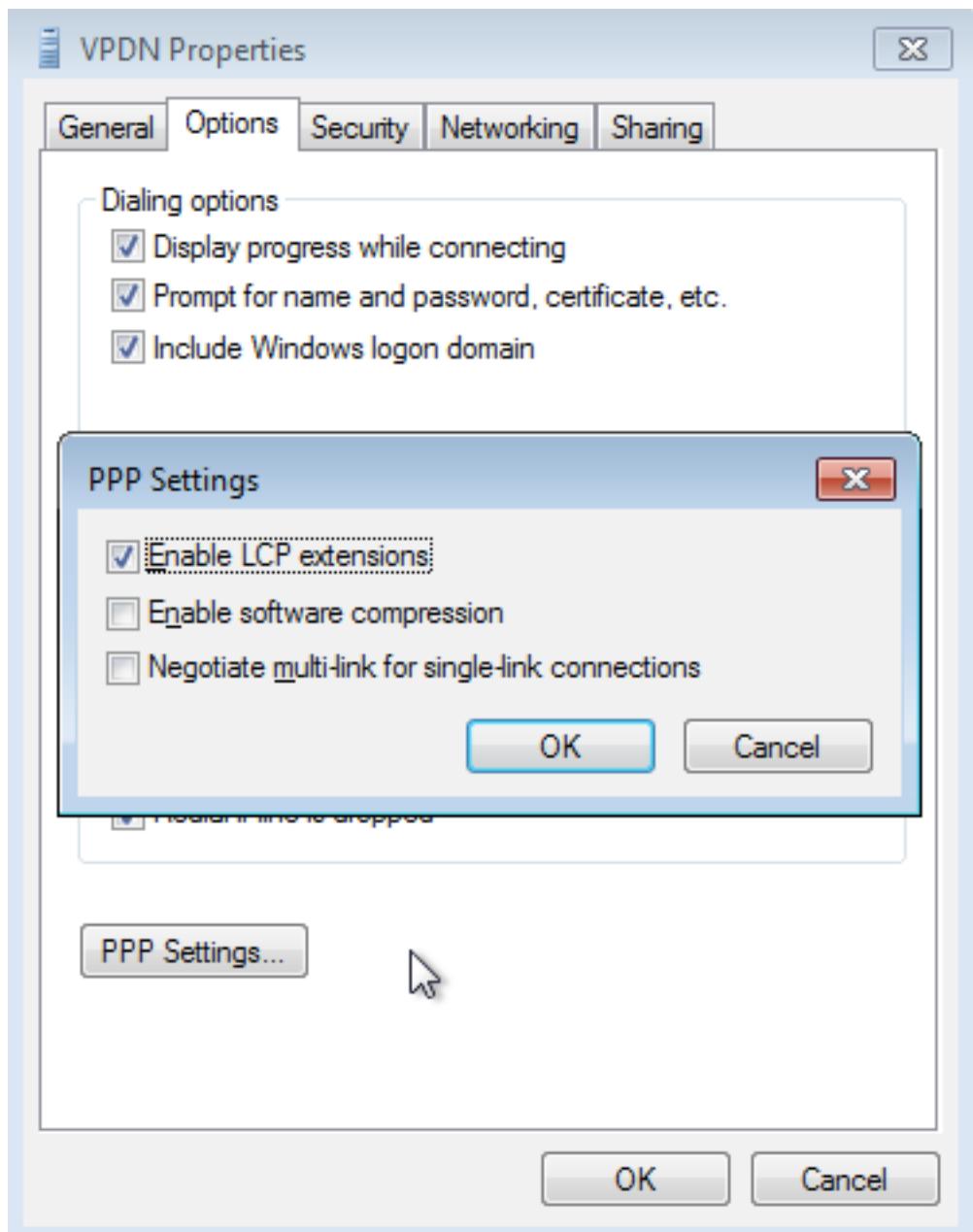
Étape 11. Accédez à **Security >Type of VPN >Layer 2 Tunneling Protocol with IPsec,** comme illustré dans cette image.
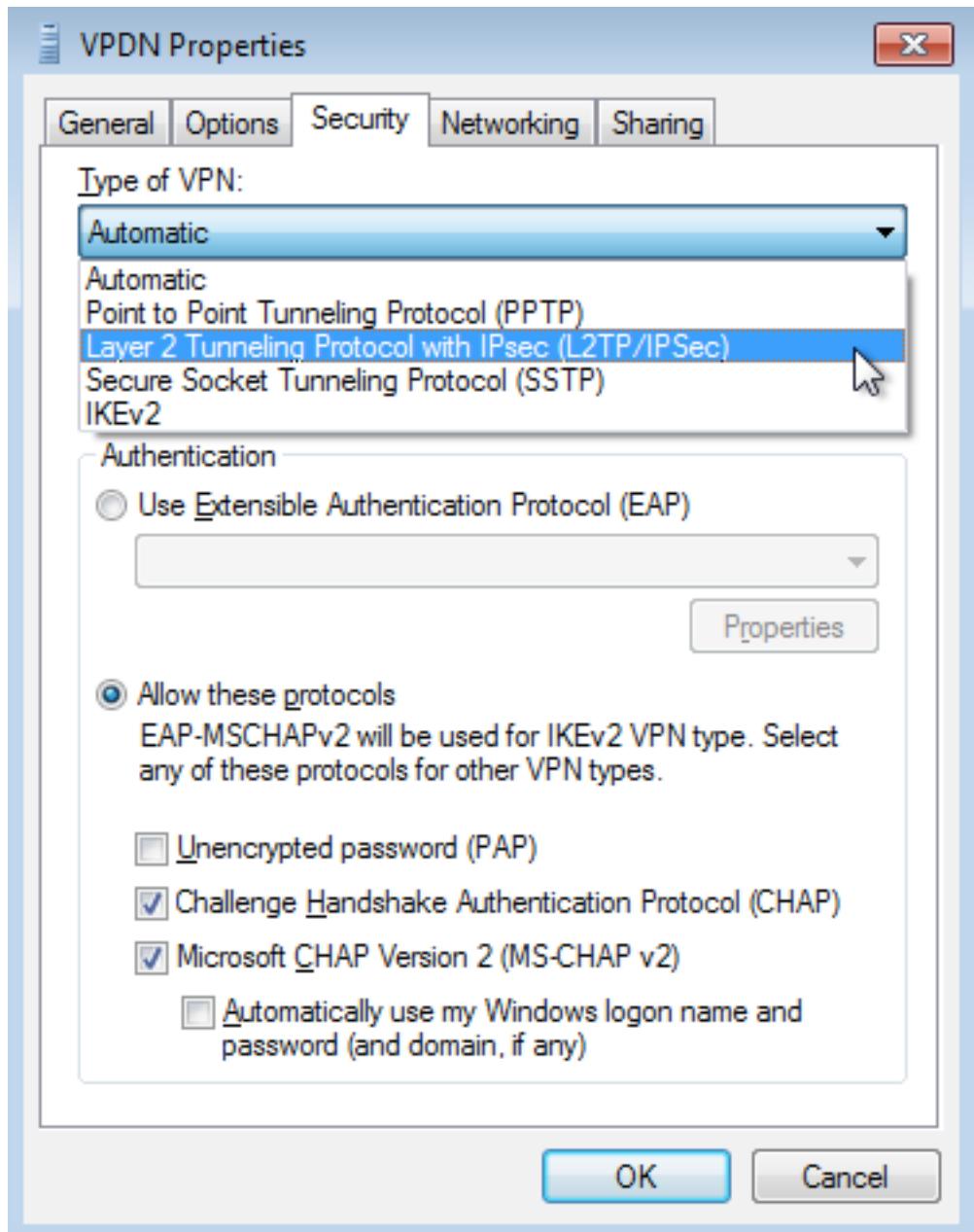
Étape 12. Sélectionnez **No encryption allowed** option dans le menu déroulant Data encryption :
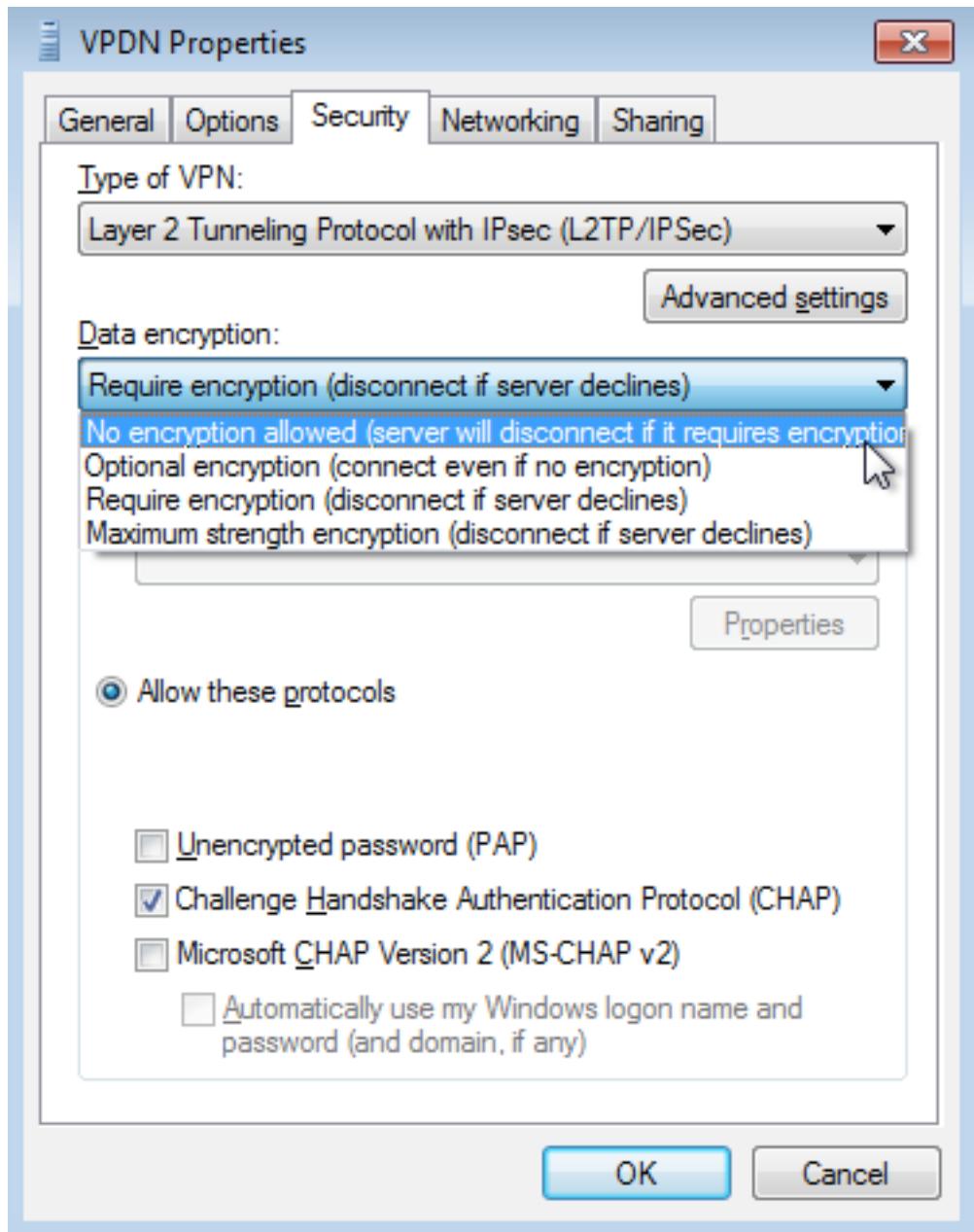
Étape 13. Désélectionnez **Microsoft CHAP Version 2** et cliquez sur **OK.**
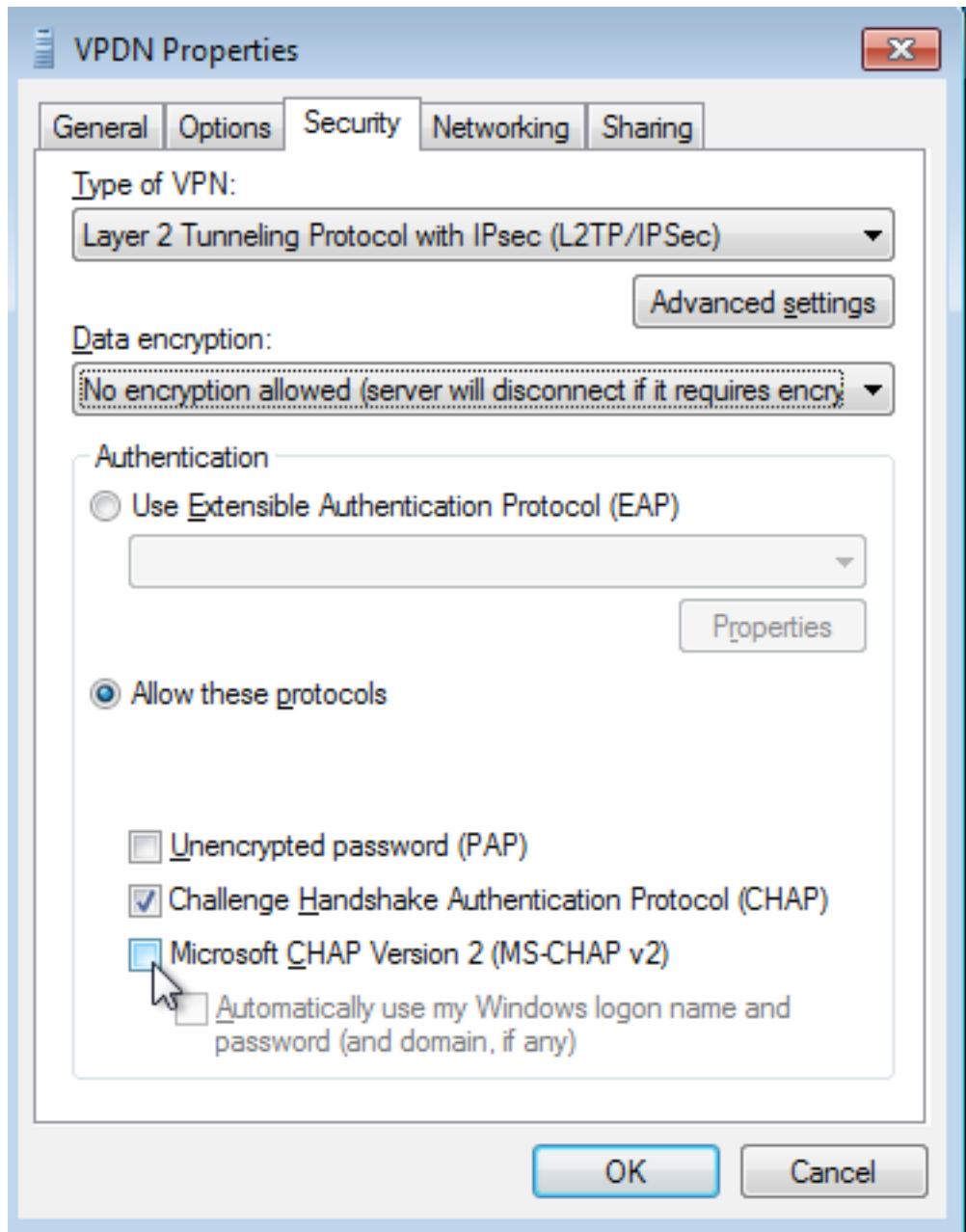
Étape 14. Ouvrez le réseau (ici VPDN) et cliquez sur **Connect.**
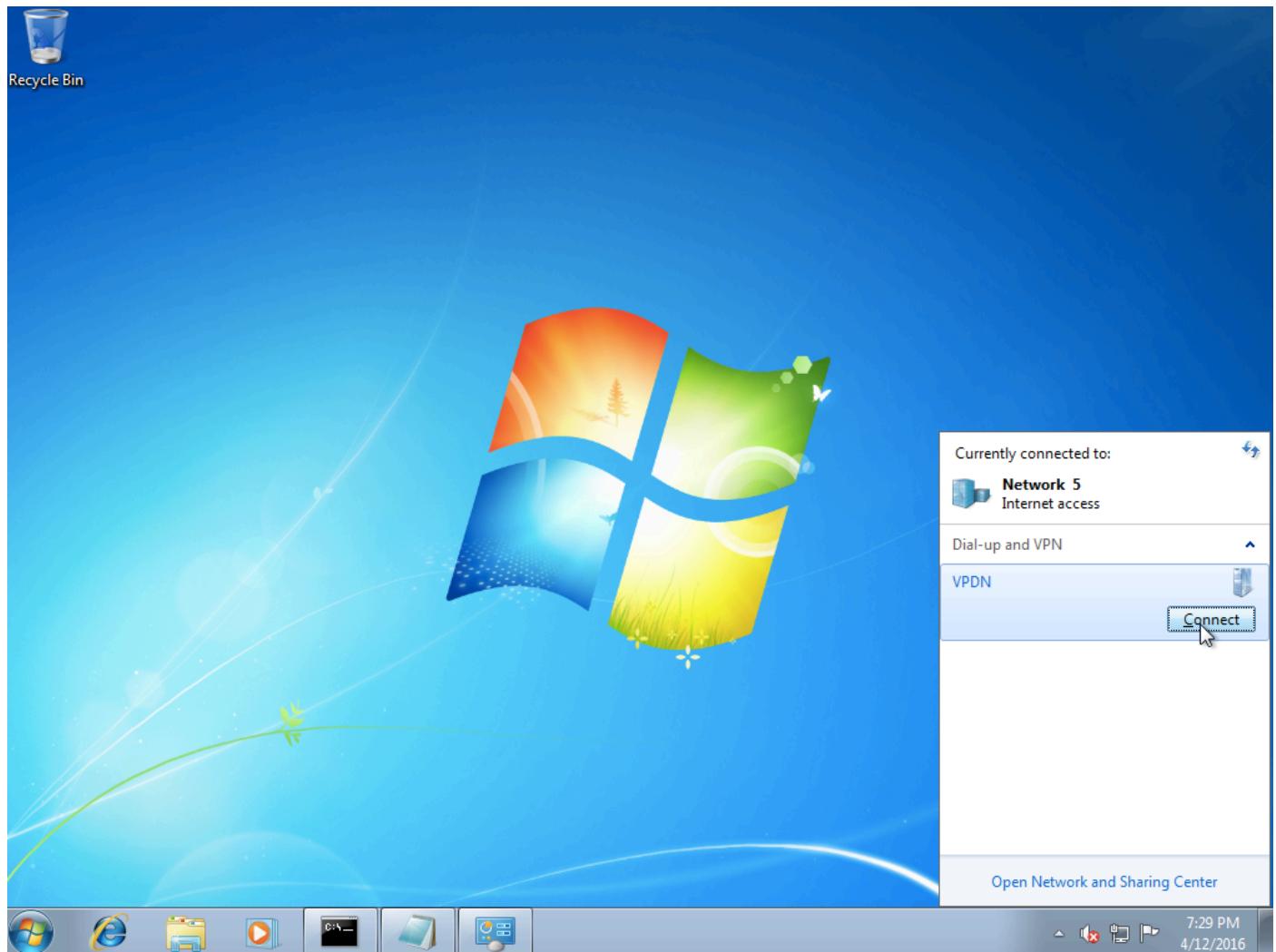
Étape 15. Saisissez le nom d'utilisateur et le mot de passe, puis cliquez sur **Connect**

Vérification

Étape 1. Ouvrez à nouveau l'onglet **Réseaux**, sélectionnez le réseau (nommé VPDN dans cet exemple) et vérifiez que l'état est Connecté.
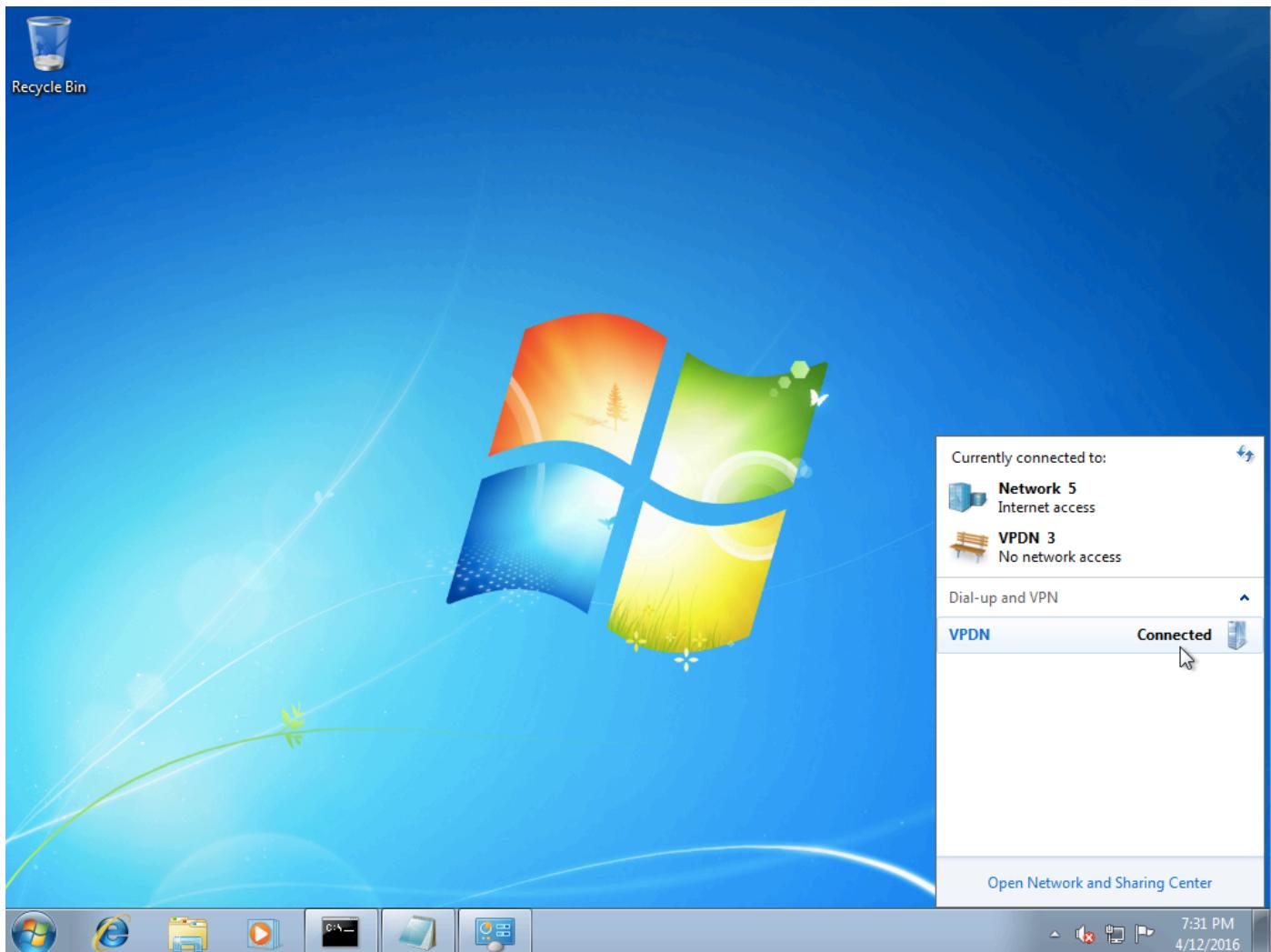
Étape 2. Ouvrez l'invite de commandes et exécutez la commande **ipconfig /all**.

L'adresse IPv4 et le serveur de noms de domaine (DNS) sont attribués par l'agrégateur après avoir terminé la phase PPP IPCP (Internet Protocol Control Protocol).

Étape 3. Exécutez la commande **debug ppp negotiation** et les autres commandes show sur Aggregator :

```
Aggregator#
*Apr 12 06:17:38.148: PPP: Alloc Context [38726D0C]
*Apr 12 06:17:38.148: ppp11 PPP: Phase is ESTABLISHING
*Apr 12 06:17:38.148: ppp11 PPP: Using vpn set call direction
```

```
*Apr 12 06:17:38.148: ppp11 PPP: Treating connection as a callin
*Apr 12 06:17:38.148: ppp11 PPP: Session handle[A600000B] Session id[11]
*Apr 12 06:17:38.148: ppp11 LCP: Event[OPEN] State[Initial to Starting]
*Apr 12 06:17:38.148: ppp11 PPP: No remote authentication for call-in
*Apr 12 06:17:38.148: ppp11 PPP LCP: Enter passive mode, state[Stopped]
*Apr 12 06:17:38.607: ppp11 LCP: I CONFREQ [Stopped] id 0 len 21
*Apr 12 06:17:38.607: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.607: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.607: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.607: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.607: ppp11 LCP:    Callback 6 (0x0D0306)
*Apr 12 06:17:38.608: ppp11 LCP: O CONFREQ [Stopped] id 1 len 10
*Apr 12 06:17:38.608: ppp11 LCP:    MagicNumber 0xF7C3D2B9 (0x0506F7C3D2B9)
*Apr 12 06:17:38.608: ppp11 LCP: O CONFREJ [Stopped] id 0 len 7
*Apr 12 06:17:38.608: ppp11 LCP:    Callback 6 (0x0D0306)
*Apr 12 06:17:38.608: ppp11 LCP: Event[Receive ConfReq-] State[Stopped to REQsent]
*Apr 12 06:17:38.615: ppp11 LCP: I CONFACK [REQsent] id 1 len 10
*Apr 12 06:17:38.615: ppp11 LCP:    MagicNumber 0xF7C3D2B9 (0x0506F7C3D2B9)
*Apr 12 06:17:38.615: ppp11 LCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Apr 12 06:17:38.615: ppp11 LCP: I CONFREQ [ACKrcvd] id 1 len 18
*Apr 12 06:17:38.615: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.615: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.616: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.616: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.616: ppp11 LCP: O CONFNAK [ACKrcvd] id 1 len 8
*Apr 12 06:17:38.616: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.616: ppp11 LCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.617: ppp11 LCP: I CONFREQ [ACKrcvd] id 2 len 18
*Apr 12 06:17:38.617: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.617: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.617: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.617: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.617: ppp11 LCP: O CONFNAK [ACKrcvd] id 2 len 8
*Apr 12 06:17:38.617: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.617: ppp11 LCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.618: ppp11 LCP: I CONFREQ [ACKrcvd] id 3 len 18
*Apr 12 06:17:38.618: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.618: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.618: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.618: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.618: ppp11 LCP: O CONFACK [ACKrcvd] id 3 len 18
*Apr 12 06:17:38.618: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.618: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.618: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.619: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.619: ppp11 LCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 4 len 18 magic 0x795C7CD1MSRASV5.20
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 5 len 24 magic 0x795C7CD1MSRAS-0-ADMIN-PC
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 6 len 24 magic 0x795C7CD1Z8Of(U3G.cIwR<#!
*Apr 12 06:17:38.626: ppp11 PPP: Queue IPV6CP code[1] id[7]
*Apr 12 06:17:38.626: ppp11 PPP: Queue IPCP code[1] id[8]
*Apr 12 06:17:38.640: ppp11 PPP: Phase is FORWARDING, Attempting Forward
*Apr 12 06:17:38.640: ppp11 LCP: State is Open
*Apr 12 06:17:38.657: Vi3.1 PPP: Phase is ESTABLISHING, Finish LCP
*Apr 12 06:17:38.657: Vi3.1 PPP: Phase is UP
*Apr 12 06:17:38.657: Vi3.1 IPCP: Protocol configured, start CP. state[Initial]
*Apr 12 06:17:38.657: Vi3.1 IPCP: Event[OPEN] State[Initial to Starting]
*Apr 12 06:17:38.657: Vi3.1 IPCP: O CONFREQ [Starting] id 1 len 10
*Apr 12 06:17:38.657: Vi3.1 IPCP:    Address 172.16.1.1 (0x0306AC100101)
*Apr 12 06:17:38.657: Vi3.1 IPCP: Event[UP] State[Starting to REQsent]
*Apr 12 06:17:38.657: Vi3.1 PPP: Process pending ncp packets
*Apr 12 06:17:38.657: Vi3.1 IPCP: Redirect packet to Vi3.1
*Apr 12 06:17:38.657: Vi3.1 IPCP: I CONFREQ [REQsent] id 8 len 34
*Apr 12 06:17:38.657: Vi3.1 IPCP:    Address 0.0.0.0 (0x030600000000)
```

```
*Apr 12 06:17:38.657: Vi3.1 IPCP:     PrimaryDNS 0.0.0.0 (0x810600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:     PrimaryWINS 0.0.0.0 (0x820600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:     SecondaryDNS 0.0.0.0 (0x830600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:     SecondaryWINS 0.0.0.0 (0x840600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP AUTHOR: Done. Her address 0.0.0.0, we want 0.0.0.0
*Apr 12 06:17:38.657: Vi3.1 IPCP: Pool returned 10.1.1.9
*Apr 12 06:17:38.657: Vi3.1 IPCP: O CONFREJ [REQsent] id 8 len 16
*Apr 12 06:17:38.658: Vi3.1 IPCP:     PrimaryWINS 0.0.0.0 (0x820600000000)
*Apr 12 06:17:38.658: Vi3.1 IPCP:     SecondaryWINS 0.0.0.0 (0x840600000000)
*Apr 12 06:17:38.658: Vi3.1 IPCP: Event[Receive ConfReq-] State[REQsent to REQsent]
*Apr 12 06:17:38.658: Vi3.1 IPV6CP: Redirect packet to Vi3.1
*Apr 12 06:17:38.658: Vi3.1 IPV6CP: I CONFREQ [UNKNOWN] id 7 len 14
*Apr 12 06:17:38.658: Vi3.1 IPV6CP:     Interface-Id F0AA:D7A4:5750:D93E (0x010AF0AAD7A45750D93E)
*Apr 12 06:17:38.658: Vi3.1 LCP: O PROTREJ [Open] id 2 len 20 protocol IPV6CP
(0x0107000E010AF0AAD7A45750D93E)
*Apr 12 06:17:38.672: Vi3.1 IPCP: I CONFACK [REQsent] id 1 len 10
*Apr 12 06:17:38.672: Vi3.1 IPCP:     Address 172.16.1.1 (0x0306AC100101)
*Apr 12 06:17:38.672: Vi3.1 IPCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Apr 12 06:17:38.672: Vi3.1 IPCP: I CONFREQ [ACKrcvd] id 9 len 22
*Apr 12 06:17:38.672: Vi3.1 IPCP:     Address 0.0.0.0 (0x030600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP:     PrimaryDNS 0.0.0.0 (0x810600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP:     SecondaryDNS 0.0.0.0 (0x830600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP: O CONFNAK [ACKrcvd] id 9 len 22
*Apr 12 06:17:38.672: Vi3.1 IPCP:     Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.672: Vi3.1 IPCP:     PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.672: Vi3.1 IPCP:     SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.672: Vi3.1 IPCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.747: Vi3.1 IPCP: I CONFREQ [ACKrcvd] id 10 len 22
*Apr 12 06:17:38.747: Vi3.1 IPCP:     Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.747: Vi3.1 IPCP:     PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.747: Vi3.1 IPCP:     SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.747: Vi3.1 IPCP: O CONFACK [ACKrcvd] id 10 len 22
*Apr 12 06:17:38.748: Vi3.1 IPCP:     Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.748: Vi3.1 IPCP:     PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.748: Vi3.1 IPCP:     SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.748: Vi3.1 IPCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Apr 12 06:17:38.768: Vi3.1 IPCP: State is Open
*Apr 12 06:17:38.769: Vi3.1 Added to neighbor route AVL tree: topoid 0, address 10.1.1.9
*Apr 12 06:17:38.769: Vi3.1 IPCP: Install route to 10.1.1.9


Aggregator#show caller ip
 Line           User         IP Address      Local Number    Remote Number   <->
 Vi3.1          -            10.1.1.9        -               -               in


Aggregator#show ip interface brief | exclude un
Interface           IP-Address      OK? Method Status              Protocol
GigabitEthernet0/0/1   192.168.1.1   YES manual up                 up
Loopback100            172.16.1.1    YES manual up                 up
```

Étape 4. Vérifiez si l'ordinateur Windows peut atteindre le réseau distant derrière Aggregator (dans ce cas, l'interface de bouclage 100)

```
C:\Users\admin>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:
Reply from 172.16.1.1: bytes=32 time=1ms TTL=255
Reply from 172.16.1.1: bytes=32 time<1ms TTL=255
Reply from 172.16.1.1: bytes=32 time<1ms TTL=255
Reply from 172.16.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Dépannage

Il n'existe actuellement aucune information de dépannage spécifique pour cette configuration.

Informations connexes

- [Présentation de VPDN](#)
- [TSupport technique et documentation - Cisco Systems](#)