

Configura mapping attributi RADIUS per utenti remoti FlexVPN

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Introduzione

Questo documento descrive come configurare FlexVPN con Cisco Identity Services Engine (ISE) per verificare le identità ed eseguire il mapping degli attributi.

Prerequisiti

Requisiti

Cisco raccomanda la conoscenza dei seguenti argomenti:

- RAVPN (Virtual Private Network) ad accesso remoto con configurazione IKEV2/IPsec su un router Cisco IOS® XE tramite CLI
- Configurazione Cisco Identity Services Engine (ISE)
- Cisco Secure Client (CSC)
- protocollo RADIUS

Componenti usati

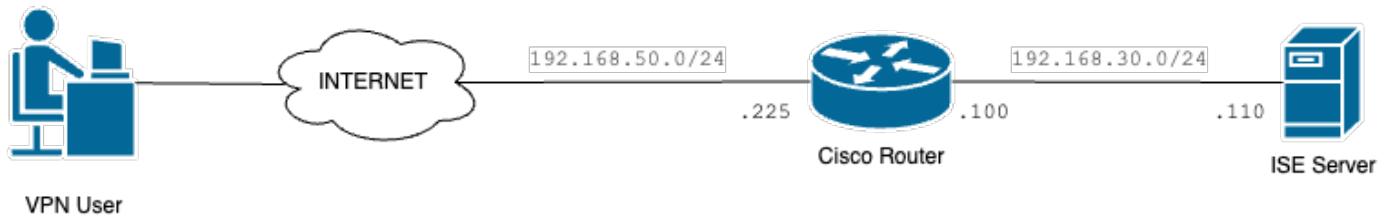
Questo documento si basa sulle seguenti versioni software e hardware:

- Cisco CSR1000V (VXE) - Versione 17.03.04a
- Cisco Identity Services Engine (ISE) - 3.1
- Cisco Secure Client (CSC) - Versione 5.0.05040
- Windows 11

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Configurazione

Esempio di rete



Esempio di rete di base

Configurazioni

Configurazione del router

Passaggio 1. Configurare un server RADIUS per l'autenticazione e l'autorizzazione locale sul dispositivo:

```

aaa new-model
aaa group server radius FlexVPN-Authentication-Server
server-private 192.168.30.110 key Cisco123
aaa authentication login FlexVPN-Authentication-List group FlexVPN-Authentication-Server
aaa authorization network FlexVPN-Authorization-List local
  
```

Il comando `aaa authentication login <nome_elenco>` fa riferimento al gruppo di autenticazione, autorizzazione e accounting (AAA), che definisce il server RADIUS.

Il comando locale `<list_name>` della rete di autorizzazione aaa indica che devono essere utilizzati utenti/gruppi definiti localmente.

Passaggio 2. Configurare un trust point per archiviare il certificato del router. Poiché l'autenticazione locale del router è di tipo RSA, il dispositivo richiede che il server si autentichi utilizzando un certificato:

```
crypto pki trustpoint FlexVPN-TP
enrollment url http://192.168.50.230:80
subject-name CN=192.168.50.225
revocation-check none
rsakeypair FlexVPN_KEY
```

Passaggio 3. Definire un pool locale IP per ogni gruppo di utenti diverso:

```
ip local pool group1 172.16.10.1 172.16.10.50
ip local pool group2 172.16.20.1 172.16.20.50
```

Passaggio 4. Configurare il criterio di autorizzazione locale:

```
crypto ikev2 authorization policy FlexVPN-Local-Policy
```

Non è necessaria alcuna configurazione nel criterio di autorizzazione perché il server di autenticazione è responsabile dell'invio dei valori pertinenti (DNS, pool, route protette e così via) in base al gruppo a cui appartiene l'utente. Tuttavia, deve essere configurato in modo da definire il nome utente nel database di autorizzazione locale.

Passaggio 5 (facoltativo). Crea una proposta e un criterio IKEv2 (se non configurati, vengono utilizzati i valori predefiniti intelligenti):

```
crypto ikev2 proposal IKEv2-prop
  encryption aes-cbc-256
  integrity sha256
  group 14
```

```
crypto ikev2 policy IKEv2-pol
  proposal IKEv2-prop
```

Passaggio 6 (facoltativo). Configurare il transform-set (se non è configurato, vengono utilizzati i valori predefiniti intelligenti):

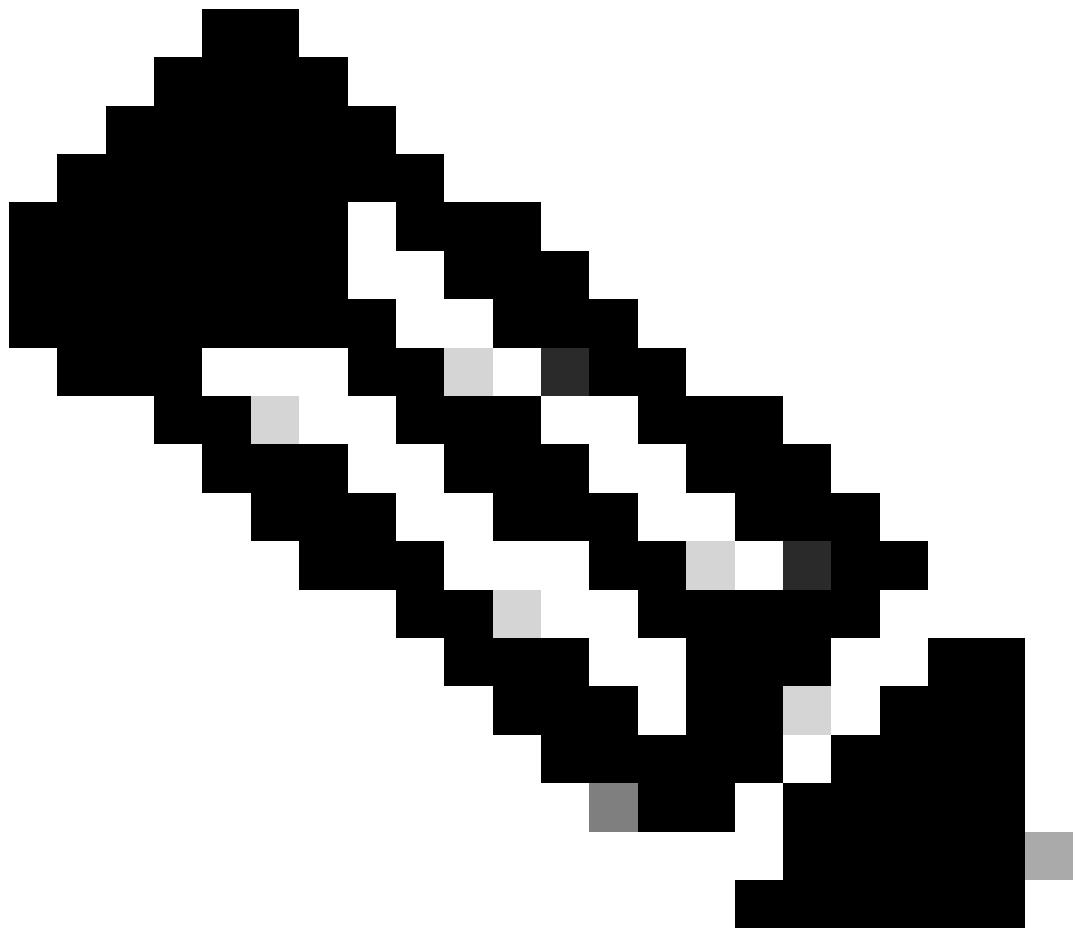
```
crypto ipsec transform-set TS esp-aes 256 esp-sha256-hmac
  mode tunnel
```

Passaggio 7. Configurare un profilo IKEv2 con le identità locali e remote appropriate, i metodi di

autenticazione (locale e remota), il trust point, l'AAA e l'interfaccia del modello virtuale utilizzati per le connessioni:

```
crypto ikev2 profile FlexVPN-IKEv2-Profile
match identity remote key-id cisco.example
identity local dn
authentication local rsa-sig
authentication remote eap query-identity
pki trustpoint FlexVPN-TP
aaa authentication eap FlexVPN-Authentication-List
aaa authorization group eap list FlexVPN-Authorization-List FlexVPN-Local-Policy
aaa authorization user eap cached
virtual-template 100
```

Il comando aaa authorization user eap cached specifica che gli attributi ricevuti durante l'autenticazione EAP devono essere memorizzati nella cache. Questo comando è essenziale per la configurazione in quanto, senza di esso, i dati inviati dal server di autenticazione non vengono utilizzati, determinando un errore di connessione.



Nota: l'ID della chiave remota deve corrispondere al valore ID della chiave nel file XML. Se non viene modificato nel file XML, viene utilizzato il valore predefinito (*\$AnyConnectClient\$*) che deve essere configurato nel profilo IKEv2.

Passaggio 8. Configurare un profilo IPsec e assegnare il set di trasformazioni e il profilo IKEv2:

```
crypto ipsec profile FlexVPN-IPsec-Profile  
set transform-set TS  
set ikev2-profile FlexVPN-IKEv2-Profile
```

Passaggio 9. Configurare un'interfaccia di loopback. Le interfacce di accesso virtuale prendono in prestito l'indirizzo IP da esso:

```
interface Loopback100
```

```
ip address 10.0.0.1 255.255.255.255
```

Passaggio 10. Creare il modello virtuale da utilizzare per creare le diverse interfacce di accesso virtuale e collegare il profilo IPSec creato nel passaggio 8:

```
interface Virtual-Template100 type tunnel  
ip unnumbered Loopback100  
tunnel mode ipsec ipv4  
tunnel protection ipsec profile FlexVPN-IPsec-Profile-1
```

Passaggio 11. Disabilitare la ricerca dei certificati basata su URL HTTP e il server HTTP sul router:

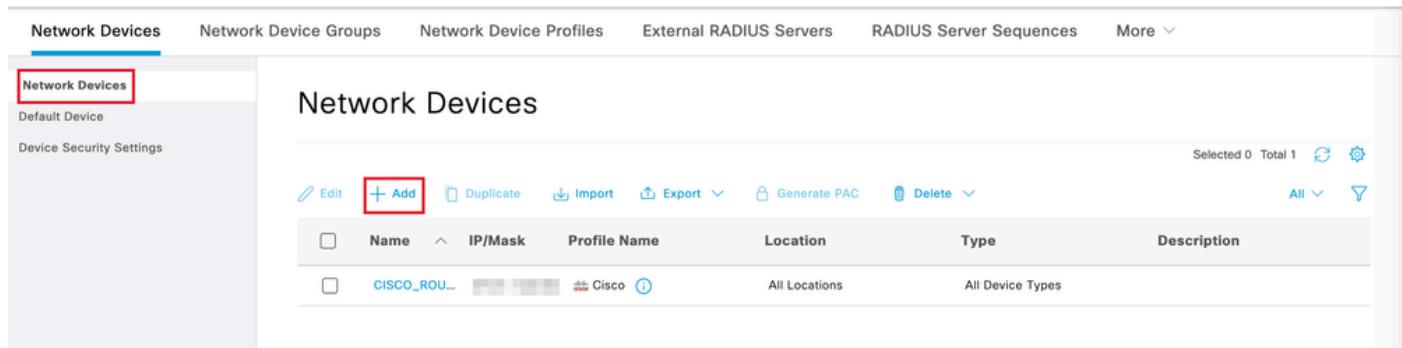
```
no crypto ikev2 http-url cert  
no ip http server  
no ip http secure-server
```

Configurazione Identity Services Engine (ISE)

Passaggio 1. Accedere al server ISE e selezionare Amministrazione > Risorse di rete > Dispositivi di rete:

The screenshot shows the Cisco ISE web interface. The top navigation bar has tabs: Dashboard, Context Visibility, Operations, Policy, Administration (which is highlighted with a red box), and Work Centers. Below the navigation is a search bar. On the left, there's a sidebar with 'Recent Pages' (Identities, Groups, Authorization Profiles, Results, Network Devices, Policy Sets) and 'Shortcuts' (+ / - Expand menu, esc - Collapse menu). The main content area is divided into several sections: 'System' (Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Health Checks, Backup & Restore, Admin Access, Settings), 'Identity Management' (Identities, Groups, External Identity Sources, Identity Source Sequences, Settings), 'Network Resources' (Network Devices, Network Device Groups, Network Device Profiles, External RADIUS Servers, RADIUS Server Sequences, NAC Managers, External MDM, Location Services), 'Device Portal Management' (Blocked List, BYOD, Certificate Provisioning, Client Provisioning, Mobile Device Manageme..., My Devices, Custom Portal Files, Settings), 'pxGrid Services' (Summary, Client Management, Diagnostics, Settings), 'Feed Service' (Profiler), and 'Threat Centric NAC' (Third Party Vendors). A 'Make a wish' button is at the bottom.

Passaggio 2. Fare clic su Add (Aggiungi) per configurare il router come client AAA:

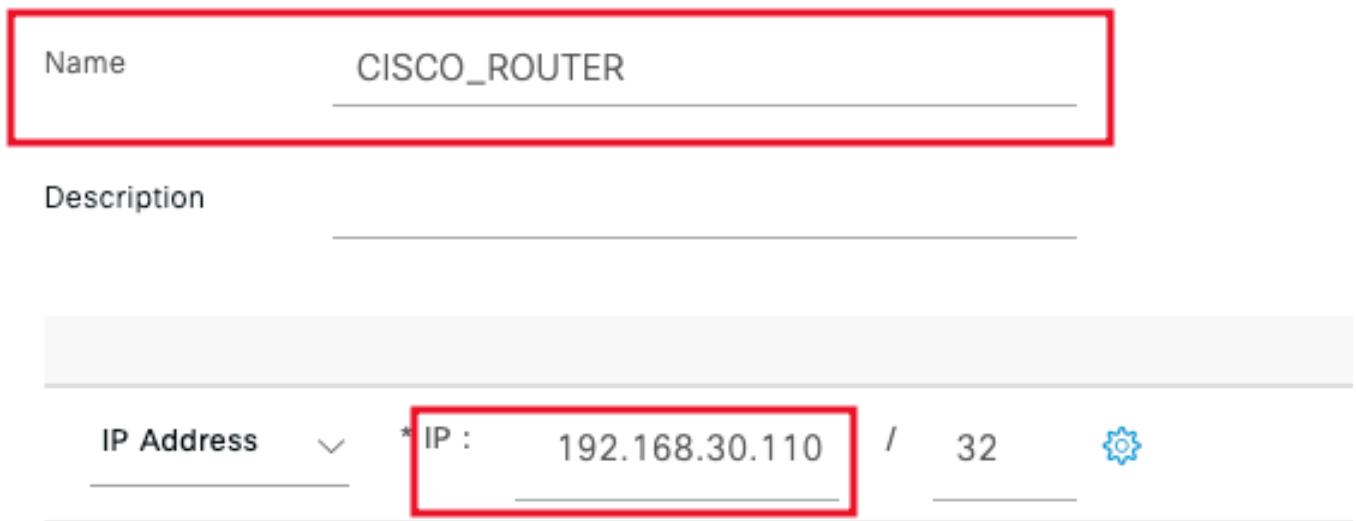


The screenshot shows the 'Network Devices' section of the ISE interface. At the top, there are tabs for 'Network Devices', 'Network Device Groups', 'Network Device Profiles', 'External RADIUS Servers', 'RADIUS Server Sequences', and 'More'. The 'Network Devices' tab is selected. On the left, there are links for 'Default Device' and 'Device Security Settings'. The main area is titled 'Network Devices' and contains a table with columns: Name, IP/Mask, Profile Name, Location, Type, and Description. A single row is visible, showing 'CISCO_ROU...' as the name, 'Cisco' as the profile, and 'All Locations' as the location. At the top of the table area, there are buttons for 'Edit', 'Add' (which is highlighted with a red box), 'Duplicate', 'Import', 'Export', 'Generate PAC', and 'Delete'. To the right, there are filters for 'Selected 0 Total 1' and 'All'.

Aggiunta di un nuovo dispositivo di rete

Immettere i campi Nome dispositivo di rete e Indirizzo IP, selezionare la casella Impostazioni autenticazione RADIUS e aggiungere il segreto condiviso. Questo valore deve essere lo stesso utilizzato al momento della creazione dell'oggetto Server RADIUS sul router.

Network Devices



The screenshot shows the 'Add Network Device' form. It has fields for 'Name' (set to 'CISCO_ROUTER'), 'Description' (empty), 'IP Address' (set to '192.168.30.110'), and a subnet mask ('/32'). There is also a gear icon for settings.

Name	CISCO_ROUTER
Description	
IP Address	192.168.30.110 / 32

Nome e indirizzo IP



✓ RADIUS Authentication Settings

RADIUS UDP Settings

Protocol RADIUS

Shared Secret [Show](#)

Use Second Shared Secret [i](#)

networkDevices.secondSharedSecret

[Show](#)

Password Radius

Fare clic su Save (Salva).

Passaggio 3. Passare a Amministrazione > Gestione delle identità > Gruppi:

The screenshot shows the Cisco ISE Administration interface. The top navigation bar has tabs: Dashboard, Context Visibility, Operations, Policy, Administration (which is highlighted with a red box), and Work Centers. On the left, there's a sidebar with 'Recent Pages' (Identities, Groups, Authorization Profiles, Results, Policy Sets) and 'Shortcuts' (Expand menu, Collapse menu). The main content area is divided into several sections: 'System' (Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Health Checks, Backup & Restore, Admin Access, Settings); 'Network Resources' (Network Devices, Network Device Groups, Network Device Profiles, External RADIUS Servers, RADIUS Server Sequences, NAC Managers, External MDM, Location Services); 'pxGrid Services' (Summary, Client Management, Diagnostics, Settings); 'Feed Service' (Profiler); 'Device Portal Management' (Blocked List, BYOD, Certificate Provisioning, Client Provisioning, Mobile Device Management..., My Devices, Custom Portal Files, Settings); and 'Threat Centric NAC' (Third Party Vendors). A red box highlights the 'Groups' link under 'Identity Management' in the 'System' section.

Menu generale di ISE

Passaggio 4. Fare clic su Gruppi di identità utente e quindi su Aggiungi:

Identity Groups

<

> Endpoint Identity Groups

> User Identity Groups

User Identity Groups

Selected 0 Total 10

All

Name	Description
<input type="checkbox"/> ALL_ACCOUNTS (default)	Default ALL_ACCOUNTS (default) User Group
<input type="checkbox"/> Employee	Default Employee User Group
<input type="checkbox"/> GROUP_ACCOUNTS (default)	Default GROUP_ACCOUNTS (default) User Group

Aggiungi nuovo gruppo

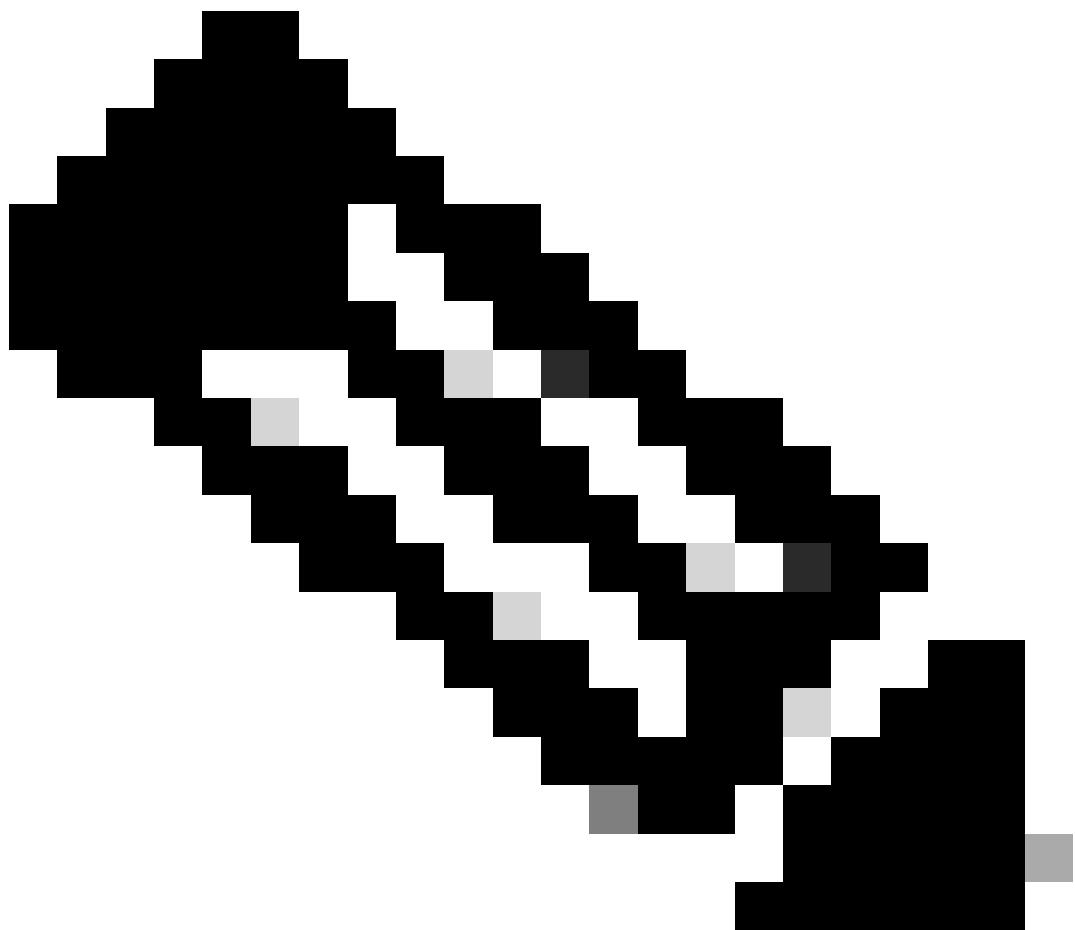
Immettere il nome del gruppo e fare clic su Invia.

Identity Group

* Name

Description

Informazioni sul gruppo



Nota: ripetere i passi 3 e 4 per creare tutti i gruppi necessari.

Passaggio 5. Passare a Amministrazione > Gestione delle identità > Identità:

The screenshot shows the Cisco ISE Administration interface. The top navigation bar includes tabs for Dashboard, Context Visibility, Operations, Policy, Administration (which is highlighted with a red box), and Work Centers. On the left, there's a sidebar with 'Recent Pages' (Groups, Network Devices, Authorization Profiles, Results, Policy Sets) and 'Shortcuts' (Expand menu, Collapse menu). The main content area is divided into several sections: 'System' (Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Health Checks, Backup & Restore, Admin Access, Settings); 'Network Resources' (Network Devices, Network Device Groups, Network Device Profiles, External RADIUS Servers, RADIUS Server Sequences, NAC Managers, External MDM, Location Services); 'pxGrid Services' (Summary, Client Management, Diagnostics, Settings); 'Feed Service' (Profiler); 'Device Portal Management' (Blocked List, BYOD, Certificate Provisioning, Client Provisioning, Mobile Device Manageme...); and 'Threat Centric NAC' (Third Party Vendors). A large red box highlights the 'Identity Management' section under 'System', which contains 'Identities' (Groups, External Identity Sources, Identity Source Sequences, Settings). A watermark of a fingerprint is visible on the right.

Menu generale di ISE

Passaggio 6. Per creare un nuovo utente nel database locale del server, fare clic su Add (Aggiungi):

The screenshot shows the 'Network Access Users' page. At the top, there are tabs for Identities, Groups, External Identity Sources, Identity Source Sequences, and Settings. A red box highlights the 'Users' tab. Below the tabs, there's a search bar and a message 'Latest Manual Network Scan Res...'. The main area is titled 'Network Access Users' and contains a table header with columns: Status, Username, Description, First Name, Last Name, Email Address, User Identity Grou..., and Admin. A red box highlights the '+ Add' button in the toolbar above the table. The table body displays the message 'No data available'. The bottom right corner shows 'Selected 0 Total 0' and some filter icons.

Aggiungi utente

Immettere il nome utente e la password di accesso. Passare quindi alla fine di questa pagina e selezionare il gruppo di utenti:

✓ Network Access User

* Username user1

Status Enabled

Email

✓ Passwords

Password Type: Internal Users

Password

Re-Enter Password

* Login Password

.....

Generate Password



Enable Password

Generate Password



Nome utente e password

✓ Account Options

Description

Change password on next login

✓ Account Disable Policy

Disable account if date exceeds 20

✓ User Groups

User Groups

EQ

< >

- ALL_ACCOUNTS (default)
- Employee
- Group1
- Group2
- GROUP_ACCOUNTS (default)

Select an item

Assegna il gruppo corretto all'utente

Fare clic su Save (Salva).



Nota: ripetere i passaggi 5 e 6 per creare gli utenti necessari e assegnarli al gruppo corrispondente.

Passaggio 7. Passare a Criterio > Set di criteri:

Cisco ISE

What page are you looking for?

Dashboard

Context Visibility Operations **Policy** Administration Work Centers

Recent Pages

- Groups
- Network Devices
- Authorization Profiles
- Results
- Policy Sets

Policy Sets

Posture Profiling

Policy Elements

Dictionaries Client Provisioning

Conditions Results

Shortcuts

- + - Expand menu
- Collapse menu

[Make a wish](#)

A large blue fingerprint icon is on the right side.

Menu generale di ISE

Selezionare il criterio di autorizzazione predefinito facendo clic sulla freccia a destra della schermata:

Policy Sets

Reset [Reset Policyset Hitcounts](#) Save

	Status	Policy Set Name	Description	Conditions	Allowed Protocols / Server Sequence	Hits	Actions	View
	Search							
+								
	Default	Default policy set		Default Network Access 35				

Selezionare il criterio di autorizzazione

Passaggio 8. Fare clic sulla freccia del menu a discesa accanto a Criteri di autorizzazione per espanderlo. Quindi, fare clic sull'icona add (+) per aggiungere una nuova regola:

Authorization Policy (14)

	Status	Rule Name	Conditions	Profiles	Security Groups	Hits	Actions
	Search						

Aggiungi nuova regola di autorizzazione

Immettere il nome della regola e selezionare l'icona Aggiungi (+) nella colonna Condizioni:

Aggiungi una condizione

Passaggio 9. Fare clic nella casella di testo Editor attributi e fare clic sull'icona del gruppo Identità. Selezionare l'attributo Gruppo di identità - Nome:

Conditions Studio

Dictionary	Attribute	ID	Info
All Dictionaries	Attribute	ID	
CWA	CWA_ExternalGroups		
IdentityGroup	Description		
IdentityGroup	Name		
InternalUser	IdentityGroup		
PassiveID	PassiveID_Groups		

Selezionare la condizione

Selezionare Uguale a come operatore, quindi fare clic sulla freccia del menu a discesa per visualizzare le opzioni disponibili e selezionare Gruppi di identità utente:<NOME_GRUPPO>.

Editor

The screenshot shows the configuration of a rule condition. The condition is set to 'IdentityGroup·Name Equals User Identity Groups:GROUP_ACCOUNTS (default)'. A dropdown menu lists several other identity groups, with 'User Identity Groups:Group1' highlighted. A red box highlights the 'Save' button at the top right of the dropdown.

Selezionare il gruppo

Fare clic su Save (Salva).

Passaggio 10. Nella colonna Profili, fare clic sull'icona Aggiungi (+) e scegliere Crea nuovo profilo di autorizzazione:

The screenshot shows the 'Profiles' tab selected in a table interface. In the 'Actions' column for the first row, there is a '+' icon followed by a red box highlighting the text 'Create a New Authorization Profile'.

Creazione del profilo di autorizzazione

Immettere il nome del profilo

Add New Standard Profile

Authorization Profile

* Name

Description

* Access Type

Network Device Profile   

Service Template

Track Movement 

Agentless Posture 

Passive Identity Tracking 

Informazioni sul profilo

Passare alla fine di questa pagina in Impostazioni avanzate attributi e fare clic sulla freccia del menu a discesa. Quindi, fare clic su Cisco e selezionare cisco-av-pair-[1]:

Advanced Attributes Settings

Select an item  =  

Cisco

cisco-abort-cause-[21]
cisco-account-info-[250]
cisco-assign-ip-pool-[218]
cisco-av-pair-[1]
cisco-call-filter-[243]
cisco-call-id-[141]

Attributes Details
Access Type = ACCESS_ACCEPT

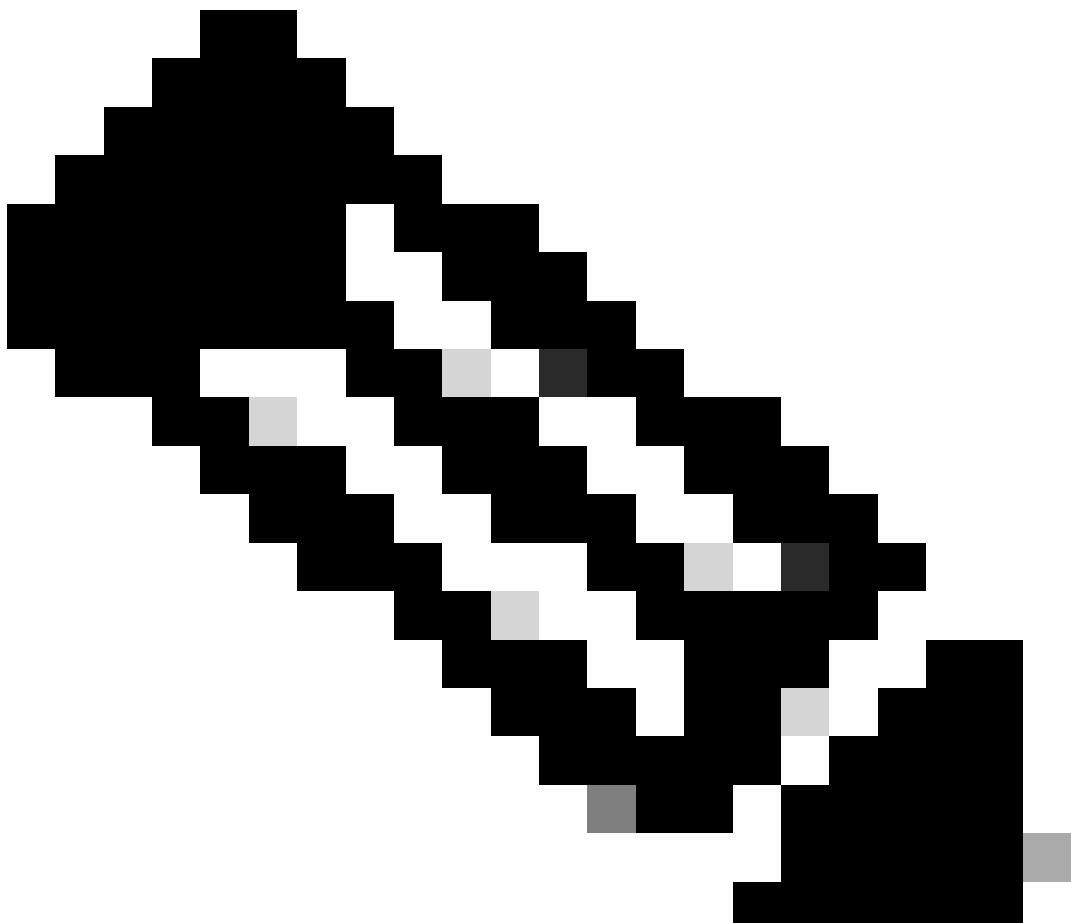
Selezionare il tipo di attributo

Aggiungere l'attributo cisco-av-pair che si desidera configurare e fare clic sull'icona add (+) per aggiungere un altro attributo:

Advanced Attributes Settings

Cisco:cisco-av-pair = ipsec:dns-servers=10.0.50.10

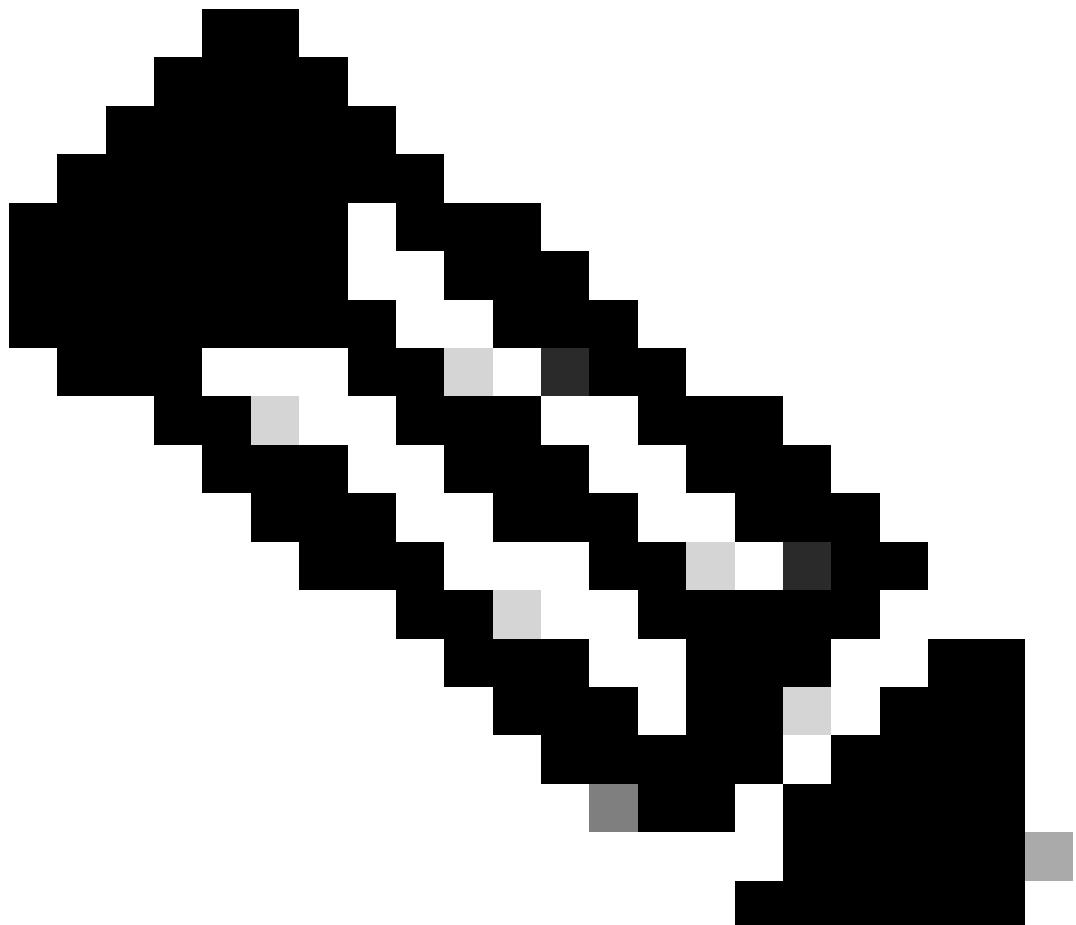
Configurare l'attributo



Nota: per le specifiche degli attributi (nome, sintassi, descrizione, esempio, ecc.), consultare la guida alla configurazione di FlexVPN RADIUS Attributes:

[Guida alla configurazione di FlexVPN e Internet Key Exchange versione 2, Cisco IOS XE](#)

[Fuji 16.9.x - Attributi RADIUS supportati](#)



Nota: ripetere il passo precedente per creare gli attributi necessari.

Fare clic su Save (Salva).

Gli attributi successivi sono stati assegnati a ciascun gruppo:

- Attributi gruppo 1:

✓ Advanced Attributes Settings

⋮ Cisco:cisco-av-pair	▼	=	ipsec:dns-servers=10.0.50.10	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:route-set=prefix 192.168.100.0/24	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:addr-pool=group1	▼	— +

✓ Attributes Details

```
Access Type = ACCESS_ACCEPT
cisco-av-pair = ipsec:dns-servers=10.0.50.101
cisco-av-pair = ipsec:route-set=prefix 192.168.100.0/24
cisco-av-pair = ipsec:addr-pool=group1
```

Attributo Group1

- Attributi gruppo 2:

✓ Advanced Attributes Settings

⋮ Cisco:cisco-av-pair	▼	=	ipsec:dns-servers=10.0.50.20	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:route-set=prefix 192.168.200.0/24	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:addr-pool=group2	▼	— +

✓ Attributes Details

```
Access Type = ACCESS_ACCEPT
cisco-av-pair = ipsec:dns-servers=10.0.50.202
cisco-av-pair = ipsec:route-set=prefix 192.168.200.0/24
cisco-av-pair = ipsec:addr-pool=group2
```

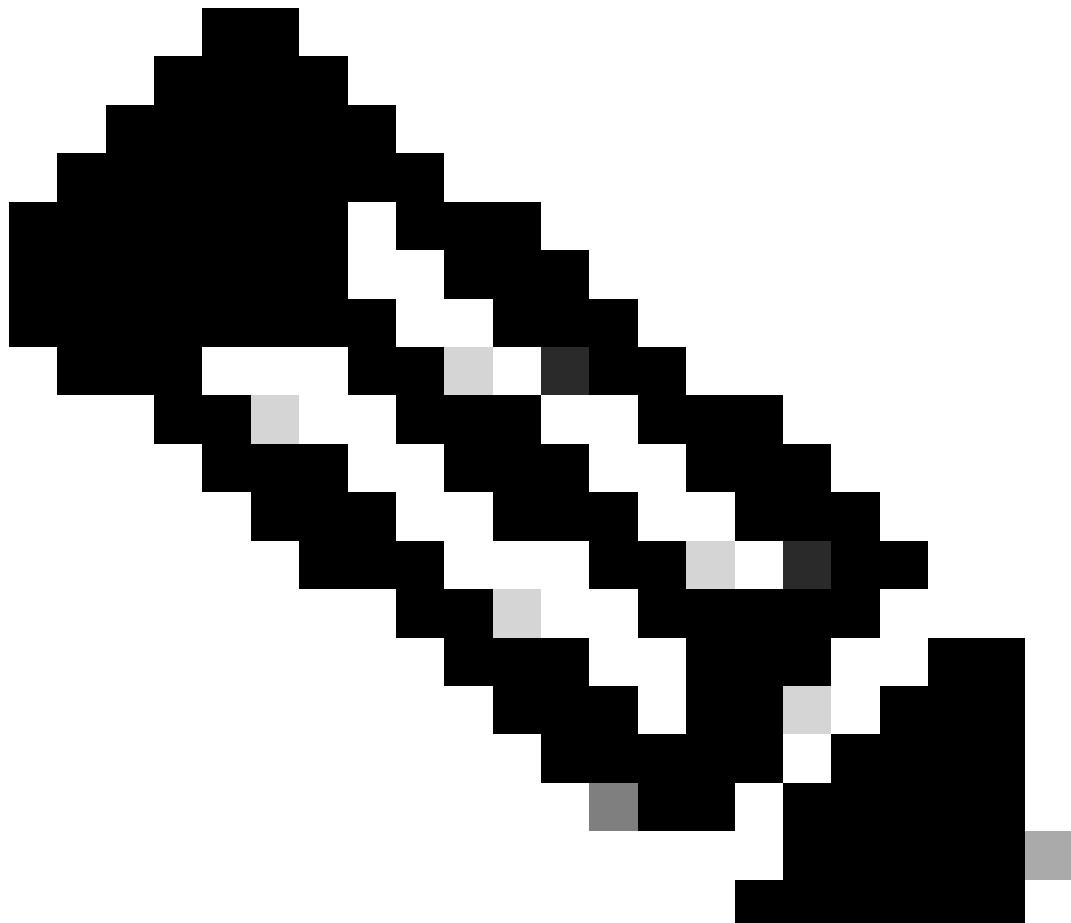
Attributi Group2

Passaggio 11. Fare clic sulla freccia del menu a discesa e selezionare il profilo di autorizzazione creato nel Passaggio 10:

Status	Rule Name	Conditions	Profiles	Security Groups	Hits	Actions
<input type="text"/> Search						
✓	Group1_AuthZ_Rule	User IdentityGroup-Name EQUALS User Identity Groups:Group1	Select from list ^ +	Select from list ^ + 10		⚙️
✓	Wireless Black List Default	AND User Wireless_Access User IdentityGroup-Name EQUALS Endpoint Identity Groups:Blacklist	DenyAccess NSP_Onboard Non_Cisco_IP_Phones PermitAccess Profile_group1	Select from list ^ + 0		⚙️
✓	Profiled Cisco IP Phones	User IdentityGroup-Name EQUALS Endpoint Identity Groups:Profiled:Cisco-IP-Phone		Select from list ^ + 0		⚙️
✓	Profiled Non Cisco IP Phones	User Non_Cisco_Profiled_Phones	Non_Cisco_IP_Phones ^ +	Select from list ^ + 0		⚙️

Assegna profilo di autorizzazione

Fare clic su Save (Salva).



Nota: ripetere i passaggi da 8 a 11 per creare le regole di autorizzazione necessarie per ogni gruppo.

Passaggio 12 (facoltativo). Se è necessario modificare il profilo di autorizzazione, passare a Criterio > Risultati:

The screenshot shows the Cisco ISE dashboard with the following navigation bar:

- Dashboard (highlighted)
- Context Visibility
- Operations
- Policy** (highlighted with a red box)
- Administration
- Work Centers

In the center, there are three main sections:

- Policy Sets**
- Profiling**
- Posture**
- Client Provisioning**

Under the **Policy Elements** section, the following links are listed:

- Dictionaries
- Conditions
- Results** (highlighted with a red box)

On the left sidebar, under **Recent Pages**, the following items are listed:

- Authorization Profiles
- Results
- Identities
- Groups
- Network Devices

At the bottom left, there are **Shortcuts**:

- ⌘ + /** - Expand menu
- esc** - Collapse menu

Menu generale di ISE

Passare a Autorizzazione > Profili di autorizzazione. Fare clic sulla casella di controllo del profilo che si desidera modificare, quindi fare clic su Modifica:

The screenshot shows the **Standard Authorization Profiles** page in Cisco ISE. The left sidebar shows the following categories:

- Authentication
- Authorization** (highlighted)
- Authorization Profiles (highlighted)
- Downloadable ACLs
- Profiling
- Posture
- Client Provisioning

The main area displays a table of authorization profiles:

<input type="checkbox"/>	Name	Profile	Description
<input type="checkbox"/>	Blackhole_Wireless_Access	Cisco	Default profile used to blacklist wireless devices. Ensure that you correctly define the blacklisted devices.
<input type="checkbox"/>	Cisco_IP_Phones	Cisco	Default profile used for Cisco Phones.
<input type="checkbox"/>	Cisco_Temporal_Onboard	Cisco	Onboard the device with Cisco temporal agent
<input type="checkbox"/>	Cisco_WebAuth	Cisco	Default Profile used to redirect users to the CWA portal.
<input type="checkbox"/>	NSP_Onboard	Cisco	Onboard the device with Native Suplicant Provisioning
<input type="checkbox"/>	Non_Cisco_IP_Phones	Cisco	Default Profile used for Non Cisco Phones.
<input checked="" type="checkbox"/>	Profile_group1	Cisco	
<input type="checkbox"/>	Profile_group2	Cisco	
<input type="checkbox"/>	UDN	Cisco	Default profile used for UDN.
<input type="checkbox"/>	DenyAccess		Default Profile with access type as Access-Reject
<input type="checkbox"/>	PermitAccess		Default Profile with access type as Access-Accept

At the top of the table, there are buttons for **Edit**, **+ Add**, **Duplicate**, and **Delete**. To the right of the table, there are filters for **All** and **Selected 1 Total 11**.

Modifica il profilo di autorizzazione

Configurazione client

Passaggio 1. Creare un profilo XML utilizzando l'editor di profili XML. L'esempio seguente è quello utilizzato per la creazione del documento:

```
<#root>
```

```
<AnyConnectProfile xmlns="http://schemas.xmlsoap.org/encoding/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<ClientInitialization>
<UseStartBeforeLogon UserControllable="true">true</UseStartBeforeLogon>
<AutomaticCertSelection UserControllable="false">true</AutomaticCertSelection>
<ShowPreConnectMessage>false</ShowPreConnectMessage>
<CertificateStore>All</CertificateStore>
<CertificateStoreMac>All</CertificateStoreMac>
<CertificateStoreLinux>All</CertificateStoreLinux>
<CertificateStoreOverride>true</CertificateStoreOverride>
<ProxySettings>Native</ProxySettings>
<AllowLocalProxyConnections>true</AllowLocalProxyConnections>
<AuthenticationTimeout>30</AuthenticationTimeout>
<AutoConnectOnStart UserControllable="true">false</AutoConnectOnStart>
<MinimizeOnConnect UserControllable="true">true</MinimizeOnConnect>
<LocalLanAccess UserControllable="true">false</LocalLanAccess>
<DisableCaptivePortalDetection UserControllable="true">false</DisableCaptivePortalDetection>
<ClearSmartcardPin UserControllable="false">true</ClearSmartcardPin>
<IPProtocolSupport>IPv4,IPv6</IPProtocolSupport>
<AutoReconnect UserControllable="false">
    true
    <AutoReconnectBehavior UserControllable="false">ReconnectAfterResume</AutoReconnectBehavior>
</AutoReconnect>
<SuspendOnConnectedStandby>false</SuspendOnConnectedStandby>
<AutoUpdate UserControllable="false">true</AutoUpdate>
<RSASecurIDIntegration UserControllable="false">Automatic</RSASecurIDIntegration>
<WindowsLogonEnforcement>SingleLocalLogon</WindowsLogonEnforcement>
<LinuxLogonEnforcement>SingleLocalLogon</LinuxLogonEnforcement>
<WindowsVPNEstablishment>AllowRemoteUsers</WindowsVPNEstablishment>
<LinuxVPNEstablishment>LocalUsersOnly</LinuxVPNEstablishment>
<AutomaticVPNPolicy>false</AutomaticVPNPolicy>
<PPPExclusion UserControllable="false">
    Disable
    <PPPExclusionServerIP UserControllable="false"/>
</PPPExclusion>
<EnableScripting UserControllable="false">false</EnableScripting>
<EnableAutomaticServerSelection UserControllable="false">
    false
    <AutoServerSelectionImprovement>20</AutoServerSelectionImprovement>
    <AutoServerSelectionSuspendTime>4</AutoServerSelectionSuspendTime>
</EnableAutomaticServerSelection>
<RetainVpnOnLogoff>false </RetainVpnOnLogoff>
<CaptivePortalRemediationBrowserFailover>false</CaptivePortalRemediationBrowserFailover>
<AllowManualHostInput>true</AllowManualHostInput>
</ClientInitialization>
<ServerList>
<HostEntry>
<HostName>
    FlexVPN HUB
</HostName>
<HostAddress>
```

192.168.50.225

```
</HostAddress>
<PrimaryProtocol>

IPsec

<StandardAuthenticationOnly>
true
<AuthMethodDuringIKENegotiation>

EAP-MD5

</AuthMethodDuringIKENegotiation>
<IKEIdentity>

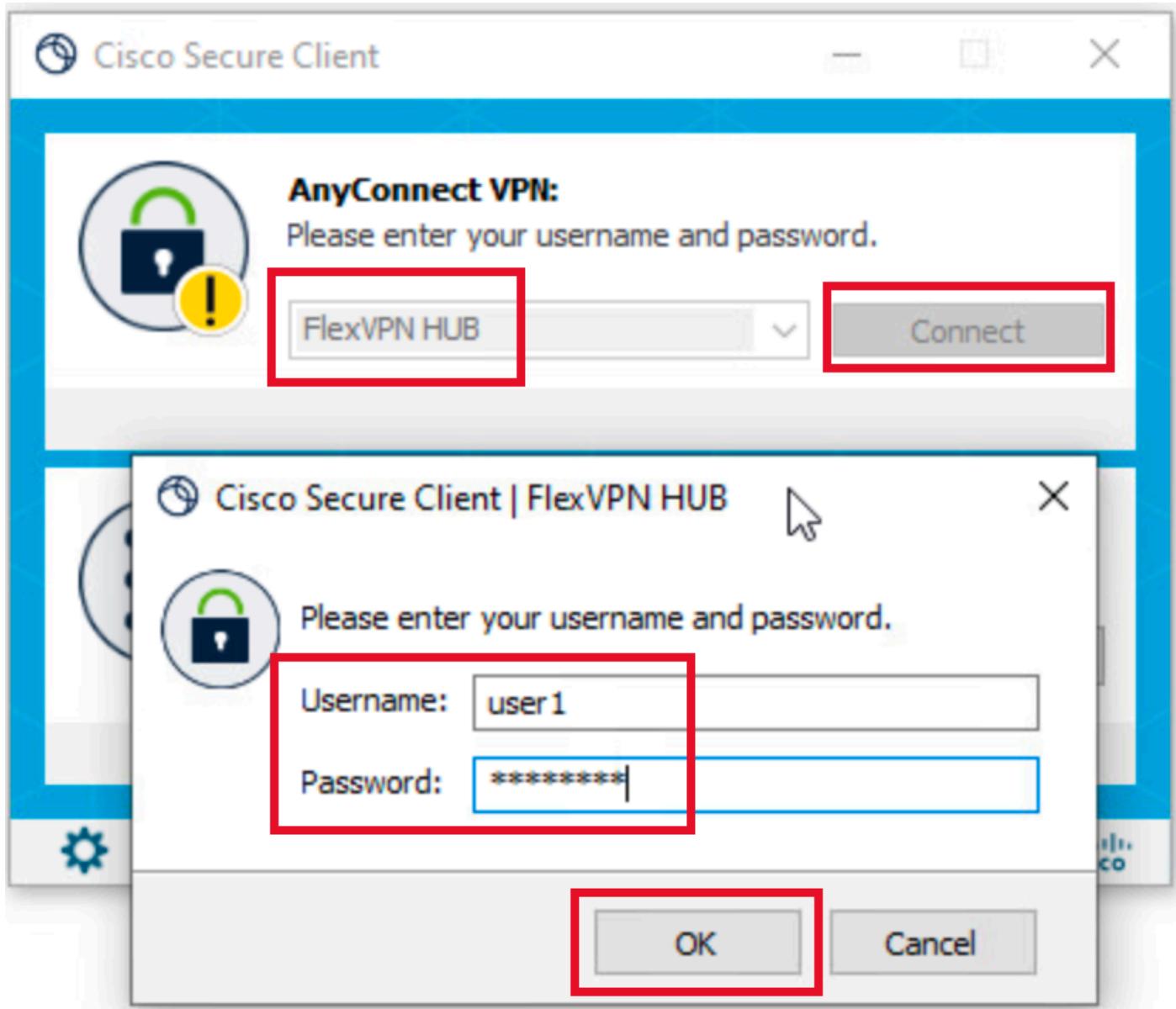
cisco.example

</IKEIdentity>
</StandardAuthenticationOnly>
</PrimaryProtocol>
</HostEntry>
</ServerList>
</AnyConnectProfile>
```

- <NomeHost> - Alias utilizzato per fare riferimento all'host, all'indirizzo IP o al nome di dominio completo (FQDN). Viene visualizzato nella casella CSC.
- <HostAddress> - Indirizzo IP o FQDN dell'hub FlexVPN.
- <PrimaryProtocol> - Deve essere impostato su IPsec per forzare il client a utilizzare IKEv2/IPsec anziché SSL.
- <AuthMethodDuringIKENegotiation> - Deve essere impostato per utilizzare EAP-MD5 in EAP. Questa opzione è necessaria per l'autenticazione sul server ISE.
- <IKEIdentity> - Questa stringa viene inviata dal client come payload ID tipo ID_GROUP. Può essere utilizzato per associare il client a un profilo IKEv2 specifico nell'hub.

Verifica

Passaggio 1. Passare al computer client in cui è installato CSC. Connetersi all'hub FlexVPN e immettere le credenziali utente1:



Credenziali utente1

Passaggio 2. Una volta stabilita la connessione, fare clic sull'icona a forma di ingranaggio (nell'angolo in basso a sinistra) e selezionare AnyConnectVPN > Statistics (Statistiche). Verificare nella sezione Address Information che l'indirizzo IP assegnato appartenga al pool configurato per il gruppo 1:

Cisco Secure Client

Secure Client

Status Overview

AnyConnect VPN >

Secure Endpoint

Virtual Private Network (VPN)

Preferences Statistics Route Details Firewall Message History

Connection Information

State:	Connected
Tunnel Mode (IPv4):	Split Include
Tunnel Mode (IPv6):	Drop All Traffic
Dynamic Tunnel Exclusion:	None
Dynamic Tunnel Inclusion:	None
Duration:	00:00:22
Session Disconnect:	None
Management Connection State:	Disconnected (user tunnel active)

Address Information

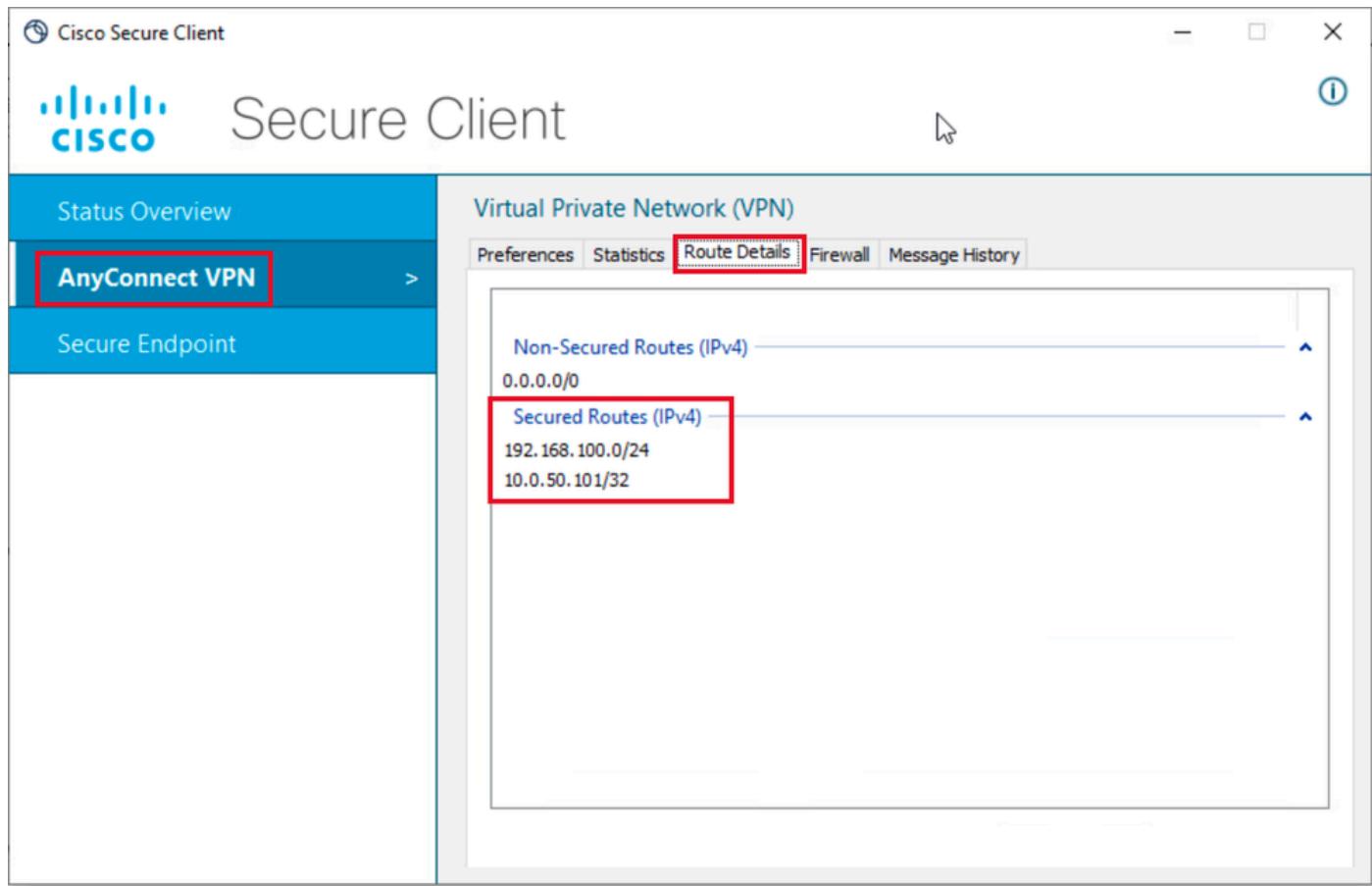
Client (IPv4):	172.16.10.5
Client (IPv6):	Not Available
Server:	[REDACTED]
Bytes	---

Reset Export Stats

The screenshot shows the Cisco AnyConnect Secure Client interface. On the left, there's a sidebar with 'Status Overview' and two main items: 'AnyConnect VPN' and 'Secure Endpoint'. The 'AnyConnect VPN' item is highlighted with a red box. On the right, the main window title is 'Virtual Private Network (VPN)'. Below it is a navigation bar with tabs: 'Preferences', 'Statistics' (which is selected and highlighted with a red box), 'Route Details', 'Firewall', and 'Message History'. The main content area is titled 'Connection Information' and lists various connection parameters. Below that is another section titled 'Address Information' which shows the client's IPv4 address as 172.16.10.5. At the bottom right of the main window are 'Reset' and 'Export Stats' buttons.

Statistiche utente 1

Passare a AnyConnectVPN > Dettagli route e verificare che le informazioni visualizzate corrispondano alle route sicure e al DNS configurato per il gruppo1:



Dettagli route utente1

Passaggio 3. Ripetere i passaggi 1 e 2 con le credenziali utente 2 per verificare che le informazioni corrispondano ai valori configurati nel criterio di autorizzazione ISE per questo gruppo:



Cisco Secure Client



AnyConnect VPN:

Please enter your username and password.

FlexVPN HUB

Connect



Cisco Secure Client | FlexVPN HUB



Please enter your username and password.

Username: user2

Password: *****

OK

Cancel

Credenziali utente 2

Cisco Secure Client

Secure Client

Status Overview

AnyConnect VPN >

Secure Endpoint

Virtual Private Network (VPN)

Preferences Statistics Route Details Firewall Message History

Connection Information

State:	Connected
Tunnel Mode (IPv4):	Split Include
Tunnel Mode (IPv6):	Drop All Traffic
Dynamic Tunnel Exclusion:	None
Dynamic Tunnel Inclusion:	None
Duration:	00:00:12
Session Disconnect:	None
Management Connection State:	Disconnected (user tunnel active)

Address Information

Client (IPv4):	172.16.20.5
Client (IPv6):	Not Available
Server:	[REDACTED]

Bytes

Reset Export Stats

Client (IPv4): 172.16.20.5

Statistiche utente 2

Cisco Secure Client

Secure Client

Status Overview

AnyConnect VPN >

Secure Endpoint

Virtual Private Network (VPN)

Preferences Statistics Route Details Firewall Message History

Non-Secured Routes (IPv4)

0.0.0.0/0

Secured Routes (IPv4)

192.168.200.0/24
10.0.50.202/32

192.168.200.0/24

10.0.50.202/32

Dettagli route utente 2

Risoluzione dei problemi

Debug e log

Su router Cisco:

1. Utilizzare i debug IKEv2 e IPSec per verificare la negoziazione tra l'headend e il client:

```
debug crypto ikev2
debug crypto ikev2 packet
debug crypto ikev2 error
debug crypto ikev2 internal
debug crypto ipsec
debug crypto ipsec error
```

2. Utilizzare i debug AAA per verificare l'assegnazione degli attributi locali e/o remoti:

```
debug aaa authorization
debug aaa authentication
debug radius authentication
```

ISE:

- Registri attivi RADIUS

Scenario di lavoro

Gli output successivi sono esempi di connessioni riuscite:

- Output debug utente1:

```
<#root>
```

```
Jan 30 02:57:21.088: AAA/BIND(000000FF): Bind i/f
Jan 30 02:57:21.088: AAA/AUTHEN/LOGIN (000000FF):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 02:57:21.088: RADIUS/ENCODE(000000FF):Orig. component type = VPN IPSEC
Jan 30 02:57:21.088: RADIUS/ENCODE(000000FF): dropping service type, "radius-server attribute 6 on-for-
Jan 30 02:57:21.088: RADIUS(000000FF): Config NAS IP: 0.0.0.0
Jan 30 02:57:21.088: vrfid: [65535] ipv6 tableid : [0]
Jan 30 02:57:21.088: idb is NULL
Jan 30 02:57:21.088: RADIUS(000000FF): Config NAS IPv6: :::
Jan 30 02:57:21.089: RADIUS/ENCODE(000000FF): acct_session_id: 4245
Jan 30 02:57:21.089: RADIUS(000000FF): sending
```

```
Jan 30 02:57:21.089: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 02:57:21.089: RADIUS: Message Authenticator encoded
Jan 30 02:57:21.089: RADIUS(000000FF):

Send Access-Request to 192.168.30.110:1645 id 1645/85, len 229

RADIUS: authenticator C9 82 15 29 AF 4B 17 61 - 27 F4 5C 27 C2 C3 50 34
Jan 30 02:57:21.089: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 26
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 36
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 02:57:21.089: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 64
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194CAE2Z"
Jan 30 02:57:21.089: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 21
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 02:57:21.089: RADIUS: EAP-Message [79] 12
RADIUS: 02 3B 00 0A 01 75 73 65 72 31 [ ;user1]
Jan 30 02:57:21.089: RADIUS: Message-Authenticato[80] 18
RADIUS: E7 22 65 E0 DC 03 3A 49 0B 01 49 2A D5 3F AD 4F [ "e:II*?0"]
Jan 30 02:57:21.089: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 02:57:21.089: RADIUS(000000FF): Sending a IPv4 Radius Packet
Jan 30 02:57:21.090: RADIUS(000000FF): Started 5 sec timeout
Jan 30 02:57:21.094: RADIUS:
```

```
Received from id 1645/85 192.168.30.110:1645, Access-Challenge, len 137
```

```
RADIUS: authenticator 67 2B 9D 9C 4D 1F F3 E8 - F6 EC 9B EB 8E 49 C8 A5
Jan 30 02:57:21.094: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29;]
Jan 30 02:57:21.094: RADIUS: EAP-Message [79] 8
RADIUS: 01 52 00 06 0D 20 [ R ]
Jan 30 02:57:21.094: RADIUS: Message-Authenticato[80] 18
RADIUS: 38 8A B1 31 72 62 06 40 4F D4 58 48 E8 36 E7 80 [ 81rb@0XH6]
Jan 30 02:57:21.094: RADIUS(000000FF): Received from id 1645/85
RADIUS/DECODE: EAP-Message fragments, 6, total 6 bytes
Jan 30 02:57:21.097: AAA/AUTHEN/LOGIN (000000FF):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 02:57:21.097: RADIUS/ENCODE(000000FF):Orig. component type = VPN IPSEC
Jan 30 02:57:21.097: RADIUS/ENCODE(000000FF): dropping service type, "radius-server attribute 6 on-for-
Jan 30 02:57:21.097: RADIUS(000000FF): Config NAS IP: 0.0.0.0
Jan 30 02:57:21.097: vrfid: [65535] ipv6 tableid : [0]
Jan 30 02:57:21.097: idb is NULL
Jan 30 02:57:21.097: RADIUS(000000FF): Config NAS IPv6: :::
Jan 30 02:57:21.097: RADIUS/ENCODE(000000FF): acct_session_id: 4245
```

```
Jan 30 02:57:21.097: RADIUS(000000FF): sending
Jan 30 02:57:21.097: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 02:57:21.097: RADIUS: Message Authenticator encoded
Jan 30 02:57:21.097: RADIUS(000000FF):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/86, len 316
```

```
RADIUS: authenticator 93 07 42 CC D1 90 31 68 - 56 D0 D0 5A 35 C3 67 BC
Jan 30 02:57:21.097: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 02:57:21.097: RADIUS: Vendor, Cisco [26] 26
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 02:57:21.098: RADIUS: Vendor, Cisco [26] 36
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 02:57:21.098: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 02:57:21.098: RADIUS: Vendor, Cisco [26] 64
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194CAE2Z"
Jan 30 02:57:21.098: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.098: RADIUS: Vendor, Cisco [26] 21
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 02:57:21.098: RADIUS: EAP-Message [79] 8
RADIUS: 02 52 00 06 03 04 [ R ]
Jan 30 02:57:21.098: RADIUS: Message-Authenticator[80] 18
RADIUS: E0 67 24 D3 BB CF D9 E0 EE 44 98 8A 26 64 AC C9 [ g$D&d ]
Jan 30 02:57:21.098: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29; ]
Jan 30 02:57:21.098: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 02:57:21.098: RADIUS(000000FF): Sending a IPv4 Radius Packet
Jan 30 02:57:21.099: RADIUS(000000FF): Started 5 sec timeout
Jan 30 02:57:21.101: RADIUS:
```

```
Received from id 1645/86 192.168.30.110:1645, Access-Challenge, len 161
```

```
RADIUS: authenticator 42 A3 5F E0 92 13 51 13 - B2 80 56 A3 91 36 BD A1
Jan 30 02:57:21.101: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29; ]
Jan 30 02:57:21.101: RADIUS: EAP-Message [79] 32
RADIUS: 01 53 00 1E 04 10 D7 61 AE 69 3B 88 A1 83 E4 EC 0F B6 EF 68 58 16 49 53 45 2D 44 49 41 4E [ Sai
Jan 30 02:57:21.101: RADIUS: Message-Authenticator[80] 18
RADIUS: 3E C9 C1 E1 F2 3B 4E 4C DF CF AC 21 AA E9 C3 F0 [ >;NL! ]
Jan 30 02:57:21.101: RADIUS(000000FF): Received from id 1645/86
RADIUS/DECODE: EAP-Message fragments, 30, total 30 bytes
Jan 30 02:57:21.103: AAA/AUTHEN/LOGIN (000000FF):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 02:57:21.103: RADIUS/ENCODE(000000FF):Orig. component type = VPN IPSEC
Jan 30 02:57:21.103: RADIUS/ENCODE(000000FF): dropping service type, "radius-server attribute 6 on-for-
Jan 30 02:57:21.103: RADIUS(000000FF): Config NAS IP: 0.0.0.0
Jan 30 02:57:21.103: vrfid: [65535] ipv6 tableid : [0]
Jan 30 02:57:21.104: idb is NULL
Jan 30 02:57:21.104: RADIUS(000000FF): Config NAS IPv6: :::
Jan 30 02:57:21.104: RADIUS/ENCODE(000000FF): acct_session_id: 4245
Jan 30 02:57:21.104: RADIUS(000000FF): sending
Jan 30 02:57:21.104: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 02:57:21.104: RADIUS: Message Authenticator encoded
Jan 30 02:57:21.104: RADIUS(000000FF):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/87, len 332
```

```
RADIUS: authenticator 89 35 9C C5 06 FB 04 B7 - 4E A3 B2 5F 2B 15 4F 46
Jan 30 02:57:21.104: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 26
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 36
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 02:57:21.104: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 64
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194CAE2Z"
Jan 30 02:57:21.104: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 21
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 02:57:21.104: RADIUS: EAP-Message [79] 24
RADIUS: 02 53 00 16 04 10 B0 BB 3E D5 B1 D6 01 FC 9A B7 4A DB AB F7 2F B6 [ S>J/]
Jan 30 02:57:21.104: RADIUS: Message-Authenticato[80] 18
RADIUS: 79 43 97 A7 26 17 3E 3B 54 B4 90 D4 76 0F E0 14 [ yC&>;Tv]
Jan 30 02:57:21.104: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29;]
Jan 30 02:57:21.104: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 02:57:21.105: RADIUS(000000FF): Sending a IPv4 Radius Packet
Jan 30 02:57:21.105: RADIUS(000000FF): Started 5 sec timeout
Jan 30 02:57:21.170: RADIUS:
```

```
Received from id 1645/87 192.168.30.110:1645, Access-Accept, len 233
```

```
RADIUS: authenticator 75 F6 05 85 1D A0 C3 EE - F8 81 F9 02 38 AC C1 B6
Jan 30 02:57:21.170: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.170: RADIUS: Class [25] 68
RADIUS: 43 41 43 53 3A 4C 32 4C 34 32 46 32 46 30 31 31 [CACS:L2L42F2F011]
RADIUS: 36 5A 4F 32 4C 34 32 46 32 46 30 31 36 46 5A 48 [6Z02L42F2F016FZH]
RADIUS: 31 31 39 34 43 41 45 32 5A 4E 31 46 3A 49 53 45 [1194CAE2ZN1F:ISE]
```

```

RADIUS: 2D 44 49 41 4E 2F 34 39 33 30 38 30 30 31 38 2F [-DIAN/493080018/]
RADIUS: 32 39 [ 29]
Jan 30 02:57:21.170: RADIUS: EAP-Message [79] 6
RADIUS: 03 53 00 04 [ S]
Jan 30 02:57:21.170: RADIUS: Message-Authenticato[80] 18
RADIUS: 8A A9 CC 07 61 A2 6D BA E4 EB B5 B7 73 0E EC 28 [ ams()]
Jan 30 02:57:21.170: RADIUS: Vendor, Cisco [26] 37
Jan 30 02:57:21.170: RADIUS: Cisco AVpair [1] 31

"ipsec:dns-servers=10.0.50.101"

Jan 30 02:57:21.170: RADIUS: Vendor, Cisco [26] 47
Jan 30 02:57:21.170: RADIUS: Cisco AVpair [1] 41

"ipsec:route-set=prefix 192.168.100.0/24"

Jan 30 02:57:21.170: RADIUS: Vendor, Cisco [26] 30
Jan 30 02:57:21.170: RADIUS: Cisco AVpair [1] 24

"ipsec:addr-pool=group1"

Jan 30 02:57:21.171: RADIUS(000000FF): Received from id 1645/87
RADIUS/DECODE: EAP-Message fragments, 4, total 4 bytes
Jan 30 02:57:21.175: AAA/BIND(00000100): Bind i/f
Jan 30 02:57:21.175: AAA/AUTHOR (0x100):

Pick method list 'FlexVPN-Authorization-List'

Jan 30 02:57:21.176: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access1, changed state to up
Jan 30 02:57:21.192: %SYS-5-CONFIG_P: Configured programmatically by process Crypto INT from console as
Jan 30 02:57:21.376: %LINEPROTO-5-UPDOWN:

Line protocol on Interface Virtual-Access1, changed state to up

• Output debug utente2:
```

<#root>

```

Jan 30 03:28:58.102: AAA/BIND(00000103): Bind i/f
Jan 30 03:28:58.102: AAA/AUTHEN/LOGIN (00000103):

Pick method list 'FlexVPN-Authentication-List'

Jan 30 03:28:58.103: RADIUS/ENCODE(00000103):Orig. component type = VPN IPSEC
Jan 30 03:28:58.103: RADIUS/ENCODE(00000103): dropping service type, "radius-server attribute 6 on-for-
Jan 30 03:28:58.103: RADIUS(00000103): Config NAS IP: 0.0.0.0
Jan 30 03:28:58.103: vrfid: [65535] ipv6 tableid : [0]
Jan 30 03:28:58.103: idb is NULL
Jan 30 03:28:58.103: RADIUS(00000103): Config NAS IPv6: :::
Jan 30 03:28:58.103: RADIUS/ENCODE(00000103): acct_session_id: 4249
Jan 30 03:28:58.103: RADIUS(00000103): sending
Jan 30 03:28:58.103: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 03:28:58.103: RADIUS: Message Authenticator encoded
Jan 30 03:28:58.103: RADIUS(00000103):

Send Access-Request to 192.168.30.110:1645 id 1645/88, len 229
```

```

RADIUS: authenticator 71 99 09 63 19 F7 D7 0B - 1D A9 4E 64 28 6F A5 64
Jan 30 03:28:58.103: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 03:28:58.103: RADIUS: Vendor, Cisco [26] 26
Jan 30 03:28:58.103: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 03:28:58.103: RADIUS: Vendor, Cisco [26] 36
Jan 30 03:28:58.104: RADIUS: Cisco AVpair [1] 30

"isakmp-phase1-id=cisco.example"

Jan 30 03:28:58.104: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 03:28:58.104: RADIUS: Vendor, Cisco [26] 64
Jan 30 03:28:58.104: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194E444Z"
Jan 30 03:28:58.104: RADIUS: User-Name [1] 7

"user2"

Jan 30 03:28:58.104: RADIUS: Vendor, Cisco [26] 21
Jan 30 03:28:58.104: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 03:28:58.104: RADIUS: EAP-Message [79] 12
RADIUS: 02 3B 00 0A 01 75 73 65 72 32 [ ;user2]
Jan 30 03:28:58.104: RADIUS: Message-Authenticato[80] 18
RADIUS: 12 62 2F 51 12 FC F7 EC F0 87 E0 34 1E F1 AD E5 [ b/Q4]
Jan 30 03:28:58.104: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 03:28:58.104: RADIUS(00000103): Sending a IPv4 Radius Packet
Jan 30 03:28:58.105: RADIUS(00000103): Started 5 sec timeout
Jan 30 03:28:58.109: RADIUS:

Received from id 1645/88 192.168.30.110:1645, Access-Challenge, len 137

RADIUS: authenticator 98 04 01 EA CD 9B 1E A9 - DC 6F 2F 17 1F 2A 5F 43
Jan 30 03:28:58.109: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.110: RADIUS: EAP-Message [79] 8
RADIUS: 01 35 00 06 0D 20 [ 5 ]
Jan 30 03:28:58.110: RADIUS: Message-Authenticato[80] 18
RADIUS: E3 A6 88 B1 B6 3D 93 1F 39 B3 AE 9E EA 1D BB 15 [ =9]
Jan 30 03:28:58.110: RADIUS(00000103): Received from id 1645/88
RADIUS/DECODE: EAP-Message fragments, 6, total 6 bytes
Jan 30 03:28:58.112: AAA/AUTHEN/LOGIN (00000103):

Pick method list 'FlexVPN-Authentication-List'

Jan 30 03:28:58.112: RADIUS/ENCODE(00000103):Orig. component type = VPN IPSEC
Jan 30 03:28:58.112: RADIUS/ENCODE(00000103): dropping service type, "radius-server attribute 6 on-for-"
Jan 30 03:28:58.112: RADIUS(00000103): Config NAS IP: 0.0.0.0
Jan 30 03:28:58.112: vrfid: [65535] ipv6 tableid : [0]
Jan 30 03:28:58.113: idb is NULL
Jan 30 03:28:58.113: RADIUS(00000103): Config NAS IPv6: :::
Jan 30 03:28:58.113: RADIUS/ENCODE(00000103): acct_session_id: 4249
Jan 30 03:28:58.113: RADIUS(00000103): sending
Jan 30 03:28:58.113: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 03:28:58.113: RADIUS: Message Authenticator encoded
Jan 30 03:28:58.113: RADIUS(00000103):

Send Access-Request to 192.168.30.110:1645 id 1645/89, len 316

```

```

RADIUS: authenticator 56 BD F0 9A 4B 16 5C 6C - 4E 41 00 56 8D C0 3A 8C
Jan 30 03:28:58.113: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 26
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 36
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 30

"isakmp-phase1-id=cisco.example"

Jan 30 03:28:58.113: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 64
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194E444Z"
Jan 30 03:28:58.113: RADIUS: User-Name [1] 7

"user2"

Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 21
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 03:28:58.113: RADIUS: EAP-Message [79] 8
RADIUS: 02 35 00 06 03 04 [ 5]
Jan 30 03:28:58.113: RADIUS: Message-Authenticato[80] 18
RADIUS: 47 1F 36 A7 C3 9B 90 6E 03 2C B8 D7 FE A7 13 44 [ G6n,D]
Jan 30 03:28:58.113: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.114: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 03:28:58.114: RADIUS(00000103): Sending a IPv4 Radius Packet
Jan 30 03:28:58.114: RADIUS(00000103): Started 5 sec timeout
Jan 30 03:28:58.116: RADIUS:

Received from id 1645/89 192.168.30.110:1645, Access-Challenge, len 161

RADIUS: authenticator 84 A3 30 3D 80 BC 71 42 - 1B 9B 49 EF 0B 1B 02 02
Jan 30 03:28:58.116: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.116: RADIUS: EAP-Message [79] 32
RADIUS: 01 36 00 1E 04 10 EB 9F A5 AC 70 1F 4D D6 48 05 9D EC 1F 29 67 AE 49 53 45 2D 44 49 41 4E [ 6pM]
Jan 30 03:28:58.116: RADIUS: Message-Authenticato[80] 18
RADIUS: 08 5E BC EF E5 38 50 CD FB 3C B3 E9 99 0A 51 B3 [ ^8P<Q]
Jan 30 03:28:58.116: RADIUS(00000103): Received from id 1645/89
RADIUS/DECODE: EAP-Message fragments, 30, total 30 bytes
Jan 30 03:28:58.118: AAA/AUTHEN/LOGIN (00000103):

Pick method list 'FlexVPN-Authentication-List'

Jan 30 03:28:58.118: RADIUS/ENCODE(00000103):Orig. component type = VPN IPSEC
Jan 30 03:28:58.118: RADIUS/ENCODE(00000103): dropping service type, "radius-server attribute 6 on-for-
Jan 30 03:28:58.118: RADIUS(00000103): Config NAS IP: 0.0.0.0
Jan 30 03:28:58.118: vrfid: [65535] ipv6 tableid : [0]
Jan 30 03:28:58.118: idb is NULL

```

```
Jan 30 03:28:58.118: RADIUS(00000103): Config NAS IPv6: ::  
Jan 30 03:28:58.118: RADIUS/ENCODE(00000103): acct_session_id: 4249  
Jan 30 03:28:58.118: RADIUS(00000103): sending  
Jan 30 03:28:58.118: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.110  
Jan 30 03:28:58.119: RADIUS: Message Authenticator encoded  
Jan 30 03:28:58.119: RADIUS(00000103):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/90, len 332
```

```
RADIUS: authenticator A1 62 1A FB 18 58 7B 47 - 5C 8A 64 FA B7 23 9B BE  
Jan 30 03:28:58.119: RADIUS: Service-Type [6] 6 Login [1]  
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 26  
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 20 "service-type=Login"  
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 36  
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 03:28:58.119: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"  
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 64  
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194E444Z"  
Jan 30 03:28:58.119: RADIUS: User-Name [1] 7
```

```
"user2"
```

```
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 21  
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 15 "coa-push=true"  
Jan 30 03:28:58.119: RADIUS: EAP-Message [79] 24  
RADIUS: 02 36 00 16 04 10 73 B7 F2 42 09 5B AB 21 D8 77 96 A2 F7 C7 83 AD [ 6sB[!w]  
Jan 30 03:28:58.119: RADIUS: Message-Authenticato[80] 18  
RADIUS: B1 68 3C 25 9E FE 52 13 10 69 E6 BB 17 67 6F 18 [ h<?Rigo]  
Jan 30 03:28:58.119: RADIUS: State [24] 91  
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]  
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]  
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]  
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]  
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]  
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]  
Jan 30 03:28:58.119: RADIUS: NAS-IP-Address [4] 6 192.168.30.100  
Jan 30 03:28:58.119: RADIUS(00000103): Sending a IPv4 Radius Packet  
Jan 30 03:28:58.119: RADIUS(00000103): Started 5 sec timeout  
Jan 30 03:28:58.186: RADIUS: Received from id 1645/90 192.168.30.110:1645, Access-Accept, len 233  
RADIUS: authenticator 48 A5 A0 11 ED B8 C2 87 - 35 30 17 D5 6D D7 B4 FD  
Jan 30 03:28:58.186: RADIUS: User-Name [1] 7
```

```
"user2"
```

```
Jan 30 03:28:58.186: RADIUS: Class [25] 68  
RADIUS: 43 41 43 53 3A 4C 32 4C 34 32 46 32 46 30 31 31 [CACS:L2L42F2F011]  
RADIUS: 36 5A 4F 32 4C 34 32 46 32 46 30 31 36 46 5A 48 [6Z02L42F2F016FZH]  
RADIUS: 31 31 39 34 45 34 34 34 5A 4E 32 30 3A 49 53 45 [1194E444ZN20:ISE]  
RADIUS: 2D 44 49 41 4E 2F 34 39 33 30 38 30 30 31 38 2F [-DIAN/493080018/]  
RADIUS: 33 30 [ 30]  
Jan 30 03:28:58.186: RADIUS: EAP-Message [79] 6  
RADIUS: 03 36 00 04 [ 6]  
Jan 30 03:28:58.186: RADIUS: Message-Authenticato[80] 18  
RADIUS: 9E A6 D9 56 40 C8 EB 08 69 8C E1 35 35 53 18 83 [ V@i55S]  
Jan 30 03:28:58.187: RADIUS: Vendor, Cisco [26] 37  
Jan 30 03:28:58.187: RADIUS: Cisco AVpair [1] 31
```

```
"ipsec dns-servers=10.0.50.202"
```

```
Jan 30 03:28:58.187: RADIUS: Vendor, Cisco [26] 47
Jan 30 03:28:58.187: RADIUS: Cisco AVpair [1] 41
"ipsec:route-set=prefix 192.168.200.0/24"

Jan 30 03:28:58.187: RADIUS: Vendor, Cisco [26] 30
Jan 30 03:28:58.187: RADIUS: Cisco AVpair [1] 24
"ipsec:addr-pool=group2"

Jan 30 03:28:58.187: RADIUS(00000103): Received from id 1645/90
RADIUS/DECODE: EAP-Message fragments, 4, total 4 bytes
Jan 30 03:28:58.190: AAA/BIND(00000104): Bind i/f
Jan 30 03:28:58.190: AAA/AUTHOR (0x104):
Pick method list 'FlexVPN-Authorization-List'

Jan 30 03:28:58.192: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access2, changed state to up
Jan 30 03:28:58.209: %SYS-5-CONFIG_P: Configured programmatically by process Crypto INT from console as
Jan 30 03:28:58.398: %LINEPROTO-5-UPDOWN:
Line protocol on Interface Virtual-Access2, changed state to up
```

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