

# Problemas comuns na depuração de TACACS+, PAP e CHAP

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## [Introduction](#)

**Observação:** as informações neste documento são baseadas no Cisco IOS<sup>®</sup> Software Releases 11.2 e posteriores.

Este documento examina problemas comuns de depuração para TACACS+ quando o PAP (Password Authentication Protocol) ou o CHAP (Challenge Handshake Authentication Protocol Protocolo de Autenticação de Handshake de Desafio) são usados. Os parâmetros de configuração de PC comuns para Microsoft Windows 95, Windows NT, Windows 98 e Windows 2000 são fornecidos, bem como exemplos de configurações e exemplos de depurações corretas e incorretas.

## [Prerequisites](#)

## [Requirements](#)

Não existem requisitos específicos para este documento.

## Componentes Utilizados

Este documento não se restringe a versões de software e hardware específicas.

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.

## Conventions

Consulte as [Convenções de Dicas Técnicas da Cisco para obter mais informações sobre convenções de documentos](#).

## Configurações comuns de PC

### Windows 95

Conclua estes passos:

1. Na janela Rede dial-up, escolha o nome da conexão e, em seguida, **Arquivo > Propriedades**.
2. Na guia Server Type (Tipo de servidor), verifique se a caixa **Require Encrypted Password (Exigir senha criptografada)** abaixo de Type of Dial-up Server (Tipo de servidor dial-up) está marcada. Se esta caixa estiver marcada, o PC aceitará somente a autenticação CHAP. Se essa caixa não estiver marcada, o PC aceitará a autenticação PAP ou CHAP.

### Windows NT

Conclua estes passos:

1. Na janela Rede dial-up, escolha o nome da conexão e escolha **Arquivo > Propriedades**.
2. Verifique as configurações na guia Segurança: Se a caixa **Aceitar qualquer autenticação, incluindo texto claro**, estiver marcada, o PC aceitará PAP ou CHAP. Se a caixa **Aceitar somente autenticação criptografada** estiver marcada, o PC aceitará somente a autenticação CHAP.

### Windows 98

Conclua estes passos:

1. Na janela Rede dial-up, escolha o nome da conexão e escolha **Propriedades**.
2. Na guia Server Types, verifique as configurações na área Advanced Options: Se a caixa **Exigir senha criptografada** não estiver marcada, o PC aceitará a autenticação PAP ou CHAP. Se a caixa **Exigir senha criptografada** estiver marcada, o PC aceitará somente a autenticação CHAP.

### Windows 2000

Conclua estes passos:

1. Em Conexões dial-up e de rede, escolha o nome da conexão e escolha **Propriedades**.
2. Na guia Segurança, na área **Avançado > Configurações > Permitir estes protocolos**: Se a caixa **Senha não criptografada (PAP)** estiver marcada, o PC aceitará PAP. Se a caixa **Challenge Handshake Authentication Protocol (CHAP)** estiver marcada, o PC aceitará CHAP por RFC 1994. Se a caixa **Microsoft CHAP (MS-CHAP)** estiver marcada, o PC aceitará MS-CHAP versão 1 e não aceitará CHAP por RFC 1994.

## Exemplos de configurações e depurações

### Configuração - TACACS+ e PAP

```
Current configuration:

!
version 11.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers
!
hostname rtpkrb
!
aaa new-model
!
!--- The following four lines of the !--- configuration
are specific to !--- Cisco IOS 11.2 and later, until
11.3.3.T. !--- See below this configuration !--- for
commands for other Cisco IOS releases. ! aaa
authentication login default tacacs+ local
aaa authentication ppp default if-needed tacacs+ local
aaa authorization exec tacacs+ if-authenticated
aaa authorization network tacacs+ if-authenticated
enable secret 5 $1$pkX.$JdAySRE1SbdbDe7bj0wyt0
enable password ww
!
username john password 0 doe
username cse password 0 csecse
ip host rtpkrb 10.31.1.5
ip domain-name RTP.CISCO.COM
ip name-server 171.68.118.103
!
interface Loopback0
ip address 1.1.1.1 255.255.255.0
!
interface Ethernet0
ip address 10.31.1.5 255.255.0.0
no mop enabled
!
interface Serial0
no ip address
no ip mroute-cache
shutdown
!
interface Serial1
no ip address
shutdown
!
interface Async1
```

```
ip unnumbered Ethernet0
encapsulation ppp
async mode dedicated
peer default ip address pool async
no cdp enable
ppp authentication pap
!
ip local pool async 15.15.15.15
ip classless
ip route 0.0.0.0 0.0.0.0 10.31.1.1
!
tacacs-server host 171.68.118.101
tacacs-server key cisco
snmp-server community public RW
snmp-server host 171.68.118.100 traps public
!
line con 0
line 1
session-timeout 20
exec-timeout 20 0
password ww
autoselect during-login
autoselect ppp
modem InOut
transport input all
stopbits 1
speed 38400
flowcontrol hardware
line 2
modem InOut
speed 38400
flowcontrol hardware
line 3 16
line aux 0
line vty 0 4
password ww
!
end
```

## [Comandos para outras versões de Cisco IOS](#)

**Observação:** para usar esses comandos, remova os comandos em negrito da configuração e cole nesses comandos no, conforme indicado pela versão do Cisco IOS.

### [Cisco IOS 11.3.3.T até 12.0.5.T](#)

```
aaa authen login default tacacs+ local
aaa authen ppp default if-needed tacacs+ local
aaa authorization exec default tacacs+ if-authenticated
aaa authorization network default tacacs+ if-authenticated
```

### [Cisco IOS 12.0.5.T e posterior](#)

```
aaa authen login default group tacacs+ local
aaa authen ppp default if-needed group tacacs+ local
aaa authorization exec default group tacacs+ if-authenticated
aaa authorization network default group tacacs+ if-authenticated
```

## [Exemplo de depurações - TACACS+ e PAP](#)

**Observação:** na saída de depuração, o texto em negrito destaca problemas na depuração. O texto sem formatação indica uma boa depuração.

```
rtpkrb#show debug
General OS:
TACACS access control debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
rtpkrb#
3d22h: %LINK-3-UPDOWN: Interface Async1, changed state to up
3d22h: As1 PPP: Treating connection as a dedicated line
3d22h: As1 PPP: Phase is ESTABLISHING, Active Open
3d22h: As1 LCP: O CONFREQ [Closed] id 14 len 24
3d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
3d22h: As1 LCP: AuthProto PAP (0x0304C023)
3d22h: As1 LCP: MagicNumber 0xF45FB7A7 (0x0506F45FB7A7)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
!--- PC insists on doing CHAP !--- ("accept encrypted authentication only"), !--- but router is
set up for PAP. As1 LCP: I CONFNAK [REQsent] id 27 len 12
As1 LCP: AuthProto 0xC123 (0x0308C12301000001)
As1 PPP: Closing connection because remote won't authenticate

3d22h: As1 LCP: Interface transitioned, discarding packet
3d22h: As1 LCP: I CONFACK [REQsent] id 14 len 24
3d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
3d22h: As1 LCP: AuthProto PAP (0x0304C023)
3d22h: As1 LCP: MagicNumber 0xF45FB7A7 (0x0506F45FB7A7)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
3d22h: As1 LCP: TIMEout: Time 0x14417CC4 State ACKrcvd
3d22h: As1 LCP: O CONFREQ [ACKrcvd] id 15 len 24
3d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
3d22h: As1 LCP: AuthProto PAP (0x0304C023)
3d22h: As1 LCP: MagicNumber 0xF45FB7A7 (0x0506F45FB7A7)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
3d22h: As1 LCP: I CONFACK [REQsent] id 15 len 24
3d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
3d22h: As1 LCP: AuthProto PAP (0x0304C023)
3d22h: As1 LCP: MagicNumber 0xF45FB7A7 (0x0506F45FB7A7)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
3d22h: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 20
3d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)
3d22h: As1 LCP: MagicNumber 0x000030A3 (0x0506000030A3)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
3d22h: As1 LCP: O CONFACK [ACKrcvd] id 0 len 20
3d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)
3d22h: As1 LCP: MagicNumber 0x000030A3 (0x0506000030A3)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
3d22h: As1 LCP: State is Open
3d22h: As1 PPP: Phase is AUTHENTICATING, by this end
3d22h: As1 PAP: I AUTH-REQ id 4 len 20 from "papuser"
3d22h: As1 PAP: Authenticating peer papuser
3d22h: AAA/AUTHEN: create_user (0x16DAC0) user='papuser'
ruser='' port='Async1' rem_addr='async' authen_type=PAP
```

```
service=PPP priv=1
3d22h: AAA/AUTHEN/START (1190231344): port='Async1' list=''
      action=LOGIN service=PPP
3d22h: AAA/AUTHEN/START (1190231344): using "default" list
3d22h: AAA/AUTHEN (1190231344): status = UNKNOWN
3d22h: AAA/AUTHEN/START (1190231344): Method=TACACS+
3d22h: TAC+: send AUTHEN/START packet ver=193 id=1190231344
3d22h: TAC+: Using default tacacs server list.
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
```

*!--- The TAC+ server is down, producing an error. !--- Since the user is not in the local database, !--- the failover to local fails. TAC+: TCP/IP open to 171.68.118.101/49 failed --*

**Connection refused by remote host**

```
AAA/AUTHEN (866823886): status = ERROR
AAA/AUTHEN/START (866823886): Method=LOCAL
AAA/AUTHEN (866823886): status = FAIL
```

```
3d22h: TAC+: Opened TCP/IP handle 0x16C1F8 to 171.68.118.101/49
3d22h: TAC+: 171.68.118.101 (1190231344) AUTHEN/START/LOGIN/PAP queued
3d22h: TAC+: (1190231344) AUTHEN/START/LOGIN/PAP processed
```

*!--- The key in the router does not match that of the server. TAC+: received bad AUTHEN packet: length = 68, expected 67857*

```
TAC+: Invalid AUTHEN/START packet (check keys)
AAA/AUTHEN (1771887965): status = ERROR
```

```
3d22h: TAC+: ver=192 id=1190231344 received AUTHEN status = GETPASS
3d22h: TAC+: Closing TCP/IP 0x16C1F8 connection to 171.68.118.101/49
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: AAA/AUTHEN: create_user (0x16C5EC) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
3d22h: TAC+: rev0 inbound pap login for id=1190231344 using id=3112896669
3d22h: TAC+: 171.68.118.101 (3112896669) AUTHEN/START/LOGIN/PAP queued
3d22h: TAC+: (3112896669) AUTHEN/START/LOGIN/PAP processed
3d22h: TAC+: ver=192 id=3112896669 received AUTHEN status = GETPASS
3d22h: TAC+: send AUTHEN/CONT packet
3d22h: TAC+: 171.68.118.101 (3112896669) AUTHEN/CONT queued
3d22h: TAC+: (3112896669) AUTHEN/CONT processed
```

*!--- The NT client sends the "DOMAIN\user" !--- and the TAC+ server expects "user". TAC+: ver=192 id=260507389 received AUTHEN status = FAIL*

```
TAC+: rev0 inbound pap completed for 1139034411 status=FAIL
AAA/AUTHEN: free_user (0x16CDD4) user='CISCO\papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
```

*!--- The TAC+ server refuses the user !--- because the user is set up for PAP. !--- The user enters a bad password, !--- or both the username and password are bad. TAC+: ver=192*

```
id=691012958 received AUTHEN status = FAIL
TAC+: rev0 inbound pap completed for 3917384959 status=FAIL
AAA/AUTHEN: free_user (0x15AD58) user='idochap' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
```

```
3d22h: TAC+: ver=192 id=3112896669 received AUTHEN status = PASS
3d22h: TAC+: rev0 inbound pap completed for 1190231344 status=PASS
3d22h: AAA/AUTHEN: free_user (0x16C5EC) user='papuser' ruser=''
port='Async1' rem_addr='async' authen_type=PAP service=PPP priv=1
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHEN (1190231344): status = PASS
3d22h: AAA/AUTHOR/LCP As1: Authorize LCP
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): user='papuser'
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): send AV service=ppp
3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): send AV protocol=lcp
```

3d22h: AAA/AUTHOR/LCP: Async1: (1061976769): Method=TACACS+  
3d22h: AAA/AUTHOR/TAC+: (1061976769): user=papuser  
3d22h: AAA/AUTHOR/TAC+: (1061976769): send AV service=ppp  
3d22h: AAA/AUTHOR/TAC+: (1061976769): send AV protocol=lcp  
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5  
3d22h: TAC+: Opened TCP/IP handle 0x16C9E0 to 171.68.118.101/49  
3d22h: TAC+: Opened 171.68.118.101 index=1  
3d22h: TAC+: 171.68.118.101 (1061976769) AUTHOR/START queued  
3d22h: TAC+: (1061976769) AUTHOR/START processed

*!--- The user passes authentication !--- (the username/password is good) !--- but fails authorization !--- (the profile is not set up to authorize PPP).* TAC+: (1793875816): received  
**author response status = FAIL**  
**TAC+: Closing TCP/IP 0x17054C connection to 171.68.118.101/49**  
**AAA/AUTHOR (1793875816): Post authorization status = FAIL**  
**AAA/AUTHOR/LCP As1: Denied**

3d22h: TAC+: (1061976769): received author response status = PASS\_ADD  
3d22h: TAC+: Closing TCP/IP 0x16C9E0 connection to 171.68.118.101/49  
3d22h: AAA/AUTHOR (1061976769): Post authorization status = PASS\_ADD  
3d22h: As1 PAP: O AUTH-ACK id 4 len 5  
3d22h: As1 PPP: Phase is UP  
3d22h: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?  
3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): user='papuser'  
3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): send AV service=ppp  
3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): send AV protocol=ip  
3d22h: AAA/AUTHOR/FSM: Async1: (3602788894): Method=TACACS+  
3d22h: AAA/AUTHOR/TAC+: (3602788894): user=papuser  
3d22h: AAA/AUTHOR/TAC+: (3602788894): send AV service=ppp  
3d22h: AAA/AUTHOR/TAC+: (3602788894): send AV protocol=ip  
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5  
3d22h: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,  
changed state to up  
3d22h: TAC+: Opened TCP/IP handle 0x17054C to 171.68.118.101/49  
3d22h: TAC+: Opened 171.68.118.101 index=1  
3d22h: TAC+: 171.68.118.101 (3602788894) AUTHOR/START queued  
3d22h: As1 IPCP: I CONFREQ [Closed] id 1 len 34  
3d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)  
3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)  
3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)  
3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)  
3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)  
3d22h: TAC+: (3602788894) AUTHOR/START processed  
3d22h: TAC+: (3602788894): received author response status = PASS\_ADD  
3d22h: TAC+: Closing TCP/IP 0x17054C connection to 171.68.118.101/49  
3d22h: AAA/AUTHOR (3602788894): Post authorization status = PASS\_ADD  
3d22h: AAA/AUTHOR/FSM As1: We can start IPCP  
3d22h: As1 IPCP: O CONFREQ [Closed] id 10 len 10  
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)  
3d22h: As1 IPCP: I CONFACK [REQsent] id 10 len 10  
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)  
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 1 len 34  
3d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)  
3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)  
3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)  
3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)  
3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)  
3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,  
we want 0.0.0.0  
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp  
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip  
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded  
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,  
we want 0.0.0.0

```
3d22h: As1 IPCP: Using pool 'async'
3d22h: As1 IPCP: Pool returned 15.15.15.15
3d22h: As1 IPCP: O CONFREQ [ACKrcvd] id 1 len 22
3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 16
3d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,
we want 15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 3 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15,
we want 15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): user='papuser'
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV service=ppp
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV protocol=ip
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): send AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3654974050): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (3654974050): user=papuser
3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV protocol=ip
3d22h: AAA/AUTHOR/TAC+: (3654974050): send AV addr*15.15.15.15
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (3654974050) AUTHOR/START queued
3d22h: TAC+: (3654974050) AUTHOR/START processed
3d22h: TAC+: (3654974050): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (3654974050): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: As1 IPCP: State is Open
3d22h: As1 IPCP: Install route to 15.15.15.15
```

rtppkrb#

## Configuração - TACACS+ e CHAP

```
Current configuration:
!
version 11.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service udp-small-servers
service tcp-small-servers
```



```
!  
hostname rtpkrb  
!  
aaa new-model  
!  
!--- The following four lines of the configuration !---  
are specific to Cisco IOS 11.2 and later, until  
11.3.3.T. !--- See below this configuration !--- for  
commands for other Cisco IOS releases. ! aaa  
authentication login default tacacs+ local  
aaa authentication ppp default if-needed tacacs+ local  
aaa authorization exec tacacs+ if-authenticated  
aaa authorization network tacacs+ if-authenticated  
enable secret 5 $1$pkX.$JdAysRE1SbdbDe7bj0wyt0  
enable password ww  
!  
username john password 0 doe  
username cse password 0 csecse  
ip host rtpkrb 10.31.1.5  
ip name-server 171.68.118.103  
!  
interface Loopback0  
ip address 1.1.1.1 255.255.255.0  
!  
interface Ethernet0  
ip address 10.31.1.5 255.255.0.0  
no mop enabled  
!  
interface Serial0  
no ip address  
no ip mroute-cache  
shutdown  
!  
interface Serial1  
no ip address  
shutdown  
!  
interface Async1  
ip unnumbered Ethernet0  
encapsulation ppp  
async mode dedicated  
peer default ip address pool async  
no cdp enable  
ppp authentication chap  
!  
ip local pool async 15.15.15.15  
ip classless  
ip route 0.0.0.0 0.0.0.0 10.31.1.1  
!  
tacacs-server host 171.68.118.101  
tacacs-server key cisco  
snmp-server community public RW  
snmp-server host 171.68.118.100 traps public  
!  
line con 0  
line 1  
session-timeout 20  
exec-timeout 20 0  
password ww  
autoselect during-login  
autoselect ppp  
modem InOut  
transport input all  
stopbits 1
```

```
speed 38400
flowcontrol hardware
line 2
modem InOut
speed 38400
flowcontrol hardware
line 3 16
line aux 0
line vty 0 4
password ww
!
end
```

## Comandos para outras versões de Cisco IOS

**Observação:** Observação: Para usar esses comandos, remova os comandos em negrito da configuração e cole esses comandos, conforme indicado pela versão do Cisco IOS.

### Cisco IOS 11.3.3.T até 12.0.5.T

```
aaa authen login default tacacs+ local
aaa authen ppp default if-needed tacacs+ local
aaa authorization exec default tacacs+ if-authenticated
aaa authorization network default tacacs+ if-authenticated
```

### Cisco IOS 12.0.5.T e posterior

```
aaa authen login default group tacacs+ local
aaa authen ppp default if-needed group tacacs+ local
aaa authorization exec default group tacacs+ if-authenticated
aaa authorization network default group tacacs+ if-authenticated
```

## Exemplo de depurações - TACACS+ e CHAP

**Observação:** na saída de depuração, o texto em negrito destaca problemas na depuração. O texto sem formatação indica uma boa depuração.

```
General OS:
TACACS access control debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
PPP:
PPP authentication debugging is on
PPP protocol negotiation debugging is on
rtpkrb#
3d22h: As1 LCP: I CONFREQ [Closed] id 0 len 20
3d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)
3d22h: As1 LCP: MagicNumber 0x000042C5 (0x0506000042C5)
3d22h: As1 LCP: PFC (0x0702)
3d22h: As1 LCP: ACFC (0x0802)
3d22h: As1 LCP: Lower layer not up, discarding packet
3d22h: %LINK-3-UPDOWN: Interface Async1, changed state to up
3d22h: As1 PPP: Treating connection as a dedicated line
3d22h: As1 PPP: Phase is ESTABLISHING, Active Open
3d22h: As1 LCP: O CONFREQ [Closed] id 12 len 25
3d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
3d22h: As1 LCP: AuthProto CHAP (0x0305C22305)
```

3d22h: As1 LCP: MagicNumber 0xF45D776F (0x0506F45D776F)  
3d22h: As1 LCP: PFC (0x0702)  
3d22h: As1 LCP: ACFC (0x0802)  
3d22h: As1 LCP: I CONFACK [REQsent] id 12 len 25  
3d22h: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)  
3d22h: As1 LCP: AuthProto CHAP (0x0305C22305)  
3d22h: As1 LCP: MagicNumber 0xF45D776F (0x0506F45D776F)  
3d22h: As1 LCP: PFC (0x0702)  
3d22h: As1 LCP: ACFC (0x0802)  
3d22h: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 20  
3d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)  
3d22h: As1 LCP: MagicNumber 0x000042C5 (0x0506000042C5)  
3d22h: As1 LCP: PFC (0x0702)  
3d22h: As1 LCP: ACFC (0x0802)  
3d22h: As1 LCP: O CONFACK [ACKrcvd] id 0 len 20  
3d22h: As1 LCP: ACCM 0x00000000 (0x020600000000)  
3d22h: As1 LCP: MagicNumber 0x000042C5 (0x0506000042C5)  
3d22h: As1 LCP: PFC (0x0702)  
3d22h: As1 LCP: ACFC (0x0802)  
3d22h: As1 LCP: State is Open  
3d22h: As1 PPP: Phase is AUTHENTICATING, by this end  
3d22h: As1 CHAP: O CHALLENGE id 3 len 27 from "rtppkrb"  
3d22h: As1 CHAP: I RESPONSE id 3 len 29 from "chapuser"  
3d22h: AAA/AUTHEN: create\_user (0x15B394) user='chapuser'  
ruser='' port='Async1' rem\_addr='async' authen\_type=CHAP  
service=PPP priv=1  
3d22h: AAA/AUTHEN/START (2183639772): port='Async1' list=''  
action=LOGIN service=PPP  
3d22h: AAA/AUTHEN/START (2183639772): using "default" list  
3d22h: AAA/AUTHEN (2183639772): status = UNKNOWN  
3d22h: AAA/AUTHEN/START (2183639772): Method=TACACS+  
3d22h: TAC+: send AUTHEN/START packet ver=193 id=2183639772  
3d22h: TAC+: Using default tacacs server list.  
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5

*!--- The TAC+ server is down, producing an error. !--- Since the user is not in the local database, !--- the failover to local fails. TAC+: TCP/IP open to 171.68.118.101/49 failed --*

**Connection refused by remote host**

**AAA/AUTHEN (2546660185): status = ERROR**

**AAA/AUTHEN/START (2546660185): Method=LOCAL**

**AAA/AUTHEN (2546660185): status = FAIL**

**As1 CHAP: Unable to validate Response. Username chapuser: Authentication failure**

3d22h: TAC+: Opened TCP/IP handle 0x17054C to 171.68.118.101/49  
3d22h: TAC+: 171.68.118.101 (2183639772) AUTHEN/START/LOGIN/CHAP queued  
3d22h: TAC+: (2183639772) AUTHEN/START/LOGIN/CHAP processed

*!--- The key in the router does not match that of the server. TAC+: received bad AUTHEN packet: length = 68, expected 67857*

**TAC+: Invalid AUTHEN/START packet (check keys)**

**AAA/AUTHEN (1771887965): status = ERROR**

3d22h: TAC+: ver=192 id=2183639772 received AUTHEN status = GETPASS  
3d22h: TAC+: Closing TCP/IP 0x17054C connection to 171.68.118.101/49  
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5  
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49  
3d22h: TAC+: Opened 171.68.118.101 index=1  
3d22h: AAA/AUTHEN: create\_user (0x170940) user='chapuser' ruser=''  
port='Async1' rem\_addr='async' authen\_type=CHAP service=PPP priv=1  
3d22h: TAC+: rev0 inbound chap for id=2183639772 using id=166703029  
3d22h: TAC+: 171.68.118.101 (166703029) AUTHEN/START/SENDPASS/CHAP queued  
3d22h: TAC+: (166703029) AUTHEN/START/SENDPASS/CHAP processed

*!--- The NT client sends the "DOMAIN\user" !--- and the TAC+ server expects "user". TAC+:*

ver=192 id=3373385106 received AUTHEN status = FAIL  
TAC+: rev0 inbound chap FAIL for id=2082151566  
AAA/AUTHEN: free\_user (0x170940) user='CISCO\chapuser' ruser=''  
port='Async1' rem\_addr='async' authen\_type=CHAP service=PPP priv=1

*!--- The TAC+ server refuses the user !--- because the user is set up for PAP. !--- The user enters a bad password, !--- or both the username and password are bad. TAC+: ver=192*

id=1989464562 received AUTHEN status = PASS  
TAC+: rev0 inbound chap SENDPASS status=PASS for id=3657266965  
TAC+: rev0 inbound chap MD5 compare FAILED  
AAA/AUTHEN: free\_user (0x170940) user='chapuser' ruser=''  
port='Async1' rem\_addr='async' authen\_type=CHAP service=PPP priv=1  
TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49  
AAA/AUTHEN (2082151566): status = FAIL  
As1 CHAP: Unable to validate Response. Username papuser: Authentication failure

3d22h: TAC+: ver=192 id=166703029 received AUTHEN status = PASS  
3d22h: TAC+: rev0 inbound chap SENDPASS status=PASS for id=2183639772  
3d22h: TAC+: rev0 inbound chap MD5 compare OK  
3d22h: AAA/AUTHEN: free\_user (0x170940) user='chapuser' ruser=''  
port='Async1' rem\_addr='async' authen\_type=CHAP service=PPP priv=1  
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49  
3d22h: AAA/AUTHEN (2183639772): status = PASS  
3d22h: AAA/AUTHOR/LCP As1: Authorize LCP  
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): user='chapuser'  
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): send AV service=ppp  
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): send AV protocol=lcp  
3d22h: AAA/AUTHOR/LCP: Async1: (683360936): Method=TACACS+  
3d22h: AAA/AUTHOR/TAC+: (683360936): user=chapuser  
3d22h: AAA/AUTHOR/TAC+: (683360936): send AV service=ppp  
3d22h: AAA/AUTHOR/TAC+: (683360936): send AV protocol=lcp  
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5  
3d22h: TAC+: Opened TCP/IP handle 0x16C1F8 to 171.68.118.101/49  
3d22h: TAC+: Opened 171.68.118.101 index=1  
3d22h: TAC+: 171.68.118.101 (683360936) AUTHOR/START queued  
3d22h: TAC+: (683360936) AUTHOR/START processed

*!--- The user passes authentication !--- (the username/password is good) !--- but fails authorization !--- (the profile is not set up to authorize PPP). TAC+: (3803447096): received*

author response status = FAIL  
TAC+: Closing TCP/IP 0x16C2A4 connection to 171.68.118.101/49  
AAA/AUTHOR (3803447096): Post authorization status = FAIL  
AAA/AUTHOR/LCP As1: Denied  
AAA/AUTHEN: free\_user (0x15B2E8) user='noauth' ruser='' port='Async1'  
rem\_addr='async' authen\_type=CHAP service=PPP priv=1  
As1 CHAP: O FAILURE id 9 len 24 msg is "Authorization failed"

3d22h: TAC+: (683360936): received author response status = PASS\_ADD  
3d22h: TAC+: Closing TCP/IP 0x16C1F8 connection to 171.68.118.101/49  
3d22h: AAA/AUTHOR (683360936): Post authorization status = PASS\_ADD  
3d22h: As1 CHAP: O SUCCESS id 3 len 4  
3d22h: As1 PPP: Phase is UP  
3d22h: AAA/AUTHOR/FSM As1: (0): Can we start IPCP?  
3d22h: AAA/AUTHOR/FSM: Async1: (977509495): user='chapuser'  
3d22h: AAA/AUTHOR/FSM: Async1: (977509495): send AV service=ppp  
3d22h: AAA/AUTHOR/FSM: Async1: (977509495): send AV protocol=ip  
3d22h: AAA/AUTHOR/FSM: Async1: (977509495): Method=TACACS+  
3d22h: AAA/AUTHOR/TAC+: (977509495): user=chapuser  
3d22h: AAA/AUTHOR/TAC+: (977509495): send AV service=ppp  
3d22h: AAA/AUTHOR/TAC+: (977509495): send AV protocol=ip  
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5  
3d22h: TAC+: Opened TCP/IP handle 0x16EF4C to 171.68.118.101/49  
3d22h: TAC+: Opened 171.68.118.101 index=1  
3d22h: TAC+: 171.68.118.101 (977509495) AUTHOR/START queued

```
3d22h: As1 IPCP: I CONFREQ [Closed] id 1 len 34
3d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
3d22h: TAC+: (977509495) AUTHOR/START processed
3d22h: TAC+: (977509495): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16EF4C connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (977509495): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/FSM As1: We can start IPCP
3d22h: As1 IPCP: O CONFREQ [Closed] id 8 len 10
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
3d22h: As1 IPCP: I CONFACK [REQsent] id 8 len 10
3d22h: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105)
3d22h: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
changed state to up
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 1 len 34
3d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,
we want 0.0.0.0
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 0.0.0.0
3d22h: As1 IPCP: Using pool 'async'
3d22h: As1 IPCP: Pool returned 15.15.15.15
3d22h: As1 IPCP: O CONFREQ [ACKrcvd] id 1 len 22
3d22h: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
3d22h: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
3d22h: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 2 len 16
3d22h: As1 IPCP: Address 0.0.0.0 (0x030600000000)
3d22h: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 0.0.0.0,
we want 15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 0.0.0.0,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFNAK [ACKrcvd] id 2 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: As1 IPCP: I CONFREQ [ACKrcvd] id 3 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: AAA/AUTHOR/IPCP As1: Start. Her address 15.15.15.15,
we want 15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): user='chapuser'
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV service=ppp
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV protocol=ip
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): send AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP: Async1: (3918374858): Method=TACACS+
3d22h: AAA/AUTHOR/TAC+: (3918374858): user=chapuser
3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV service=ppp
3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV protocol=ip
3d22h: AAA/AUTHOR/TAC+: (3918374858): send AV addr*15.15.15.15
3d22h: TAC+: Opening TCP/IP to 171.68.118.101/49 timeout=5
```

```
3d22h: TAC+: Opened TCP/IP handle 0x16C9E0 to 171.68.118.101/49
3d22h: TAC+: Opened 171.68.118.101 index=1
3d22h: TAC+: 171.68.118.101 (3918374858) AUTHOR/START queued
3d22h: TAC+: (3918374858) AUTHOR/START processed
3d22h: TAC+: (3918374858): received author response status = PASS_ADD
3d22h: TAC+: Closing TCP/IP 0x16C9E0 connection to 171.68.118.101/49
3d22h: AAA/AUTHOR (3918374858): Post authorization status = PASS_ADD
3d22h: AAA/AUTHOR/IPCP As1: Processing AV service=ppp
3d22h: AAA/AUTHOR/IPCP As1: Processing AV protocol=ip
3d22h: AAA/AUTHOR/IPCP As1: Processing AV addr*15.15.15.15
3d22h: AAA/AUTHOR/IPCP As1: Authorization succeeded
3d22h: AAA/AUTHOR/IPCP As1: Done. Her address 15.15.15.15,
we want 15.15.15.15
3d22h: As1 IPCP: O CONFACK [ACKrcvd] id 3 len 16
3d22h: As1 IPCP: Address 15.15.15.15 (0x03060F0F0F0F)
3d22h: As1 IPCP: PrimaryDNS 171.68.118.103 (0x8106AB447667)
3d22h: As1 IPCP: State is Open
3d22h: As1 IPCP: Install route to 15.15.15.15
rtpkrb#
```

## Comandos debug

Esses comandos debug foram usados para produzir o exemplo de saída debug neste documento.

**Observação:** antes de emitir comandos debug, consulte [Informações importantes sobre comandos debug](#).

- **debug aaa authentication** — Exibe informações sobre a autenticação AAA.
- **debug aaa authorization** — Exibe informações sobre a autorização AAA.
- **debug tacacs+** — Exibe informações detalhadas de depuração associadas ao TACACS+.
- **debug ppp negotiation** — Exibe os pacotes PPP transmitidos durante a inicialização do PPP, onde as opções do PPP são negociadas.

## Informações Relacionadas

- [TACACS+ na Documentação do IOS](#)
- [Página de suporte de TACACS+](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)