

# ACS 5.x AAA que oculta en el ejemplo de la configuración del Cisco IOS

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## Introducción

Este documento describe los pasos necesarios para configurar el almacenamiento en memoria inmediata de las credenciales del Usuario administrador TACACS+ para Telnet y la línea acceso del VTY. El almacenamiento en memoria inmediata de la autorización y de la autenticación fue integrado en la versión 15.0(1)M del <sup>®</sup> del Cisco IOS. Esta característica permite a un router para salvar las credenciales del Authentication, Authorization, and Accounting (AAA) en su caché después de que reciba una contestación TACACS+ a una petición AAA. El caché se utiliza para impulsar el funcionamiento y reducir la cantidad de peticiones enviadas al servidor de AAA, o como método de autenticación del retraso en caso de que el servidor de AAA sea inalcanzable.

## Prerrequisitos

### Requisitos

Cisco recomienda que usted:

- Confirme la conectividad del IP entre el router y la versión 5.x del Cisco Secure Access Control Server (ACS).
- Defina al router en el ACS como cliente AAA (dispositivos de red) con el mismo secreto compartido.

## Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- ACS versión 5
- Routers que funciona con la versión deL Cisco IOS 15.1

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en funcionamiento con una configuración verificada (predeterminada). Si la red está funcionando, asegúrese de haber comprendido el impacto que puede tener cualquier comando.

## Configurar

### Configuración en un router del Cisco IOS

1. Ingrese estos comandos para definir el servidor TACACS y la clave previamente compartida:

```
Router(config)#tacacs-server host 192.168.159.41
Router(config)#tacacs-server timeout 4
Router(config)#tacacs-server key SECRET12345
```

2. Ingrese estos comandos para definir a los grupos del perfil del caché.

Nota: Cada nombre del perfil debe hacer juego un nombre de usuario AAA.

```
Router(config)#aaa cache profile admin
Router(config-profile-map)# profile peteradmin
```

3. Ingrese estos comandos para asignar la autenticación y autorización que oculta las reglas a los Grupos de servidores AAA:

```
Router(config-profile-map)# aaa group server tacacs+ admin-tac
Router(config-sg-tacacs+)# server 192.168.159.41
Router(config-sg-tacacs+)# cache authentication profile admin
Router(config-sg-tacacs+)# cache authorization profile admin
```

4. Defina las listas de métodos de la autenticación y autorización que contienen el método del caché. En este ejemplo de configuración, el caché se utiliza solamente si no responden los servidores de AAA. Si la orden se conmuta para ocultar el grupo admin-TAC de admin-TAC, el caché se mira-para arriba primero.

Nota: La contraseña habilitada del TACACS no se oculta.

```
aaa authentication login mtac group admin-tac cache admin-tac local
aaa authorization exec default group admin-tac cache admin-tac local
aaa accounting exec default start-stop group admin-tac
```

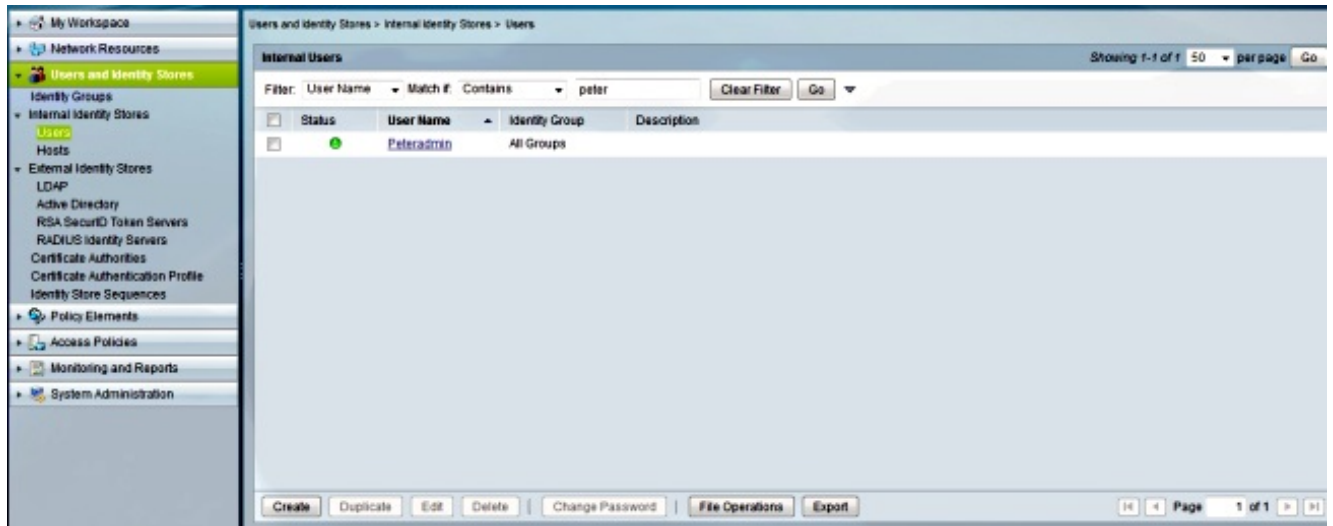
5. Ingrese estos comandos para configurar el TACACS+ en las líneas del VTY:

```
Router(config)#line vty 0 4
Router(config-line)#login authentication mtac
```

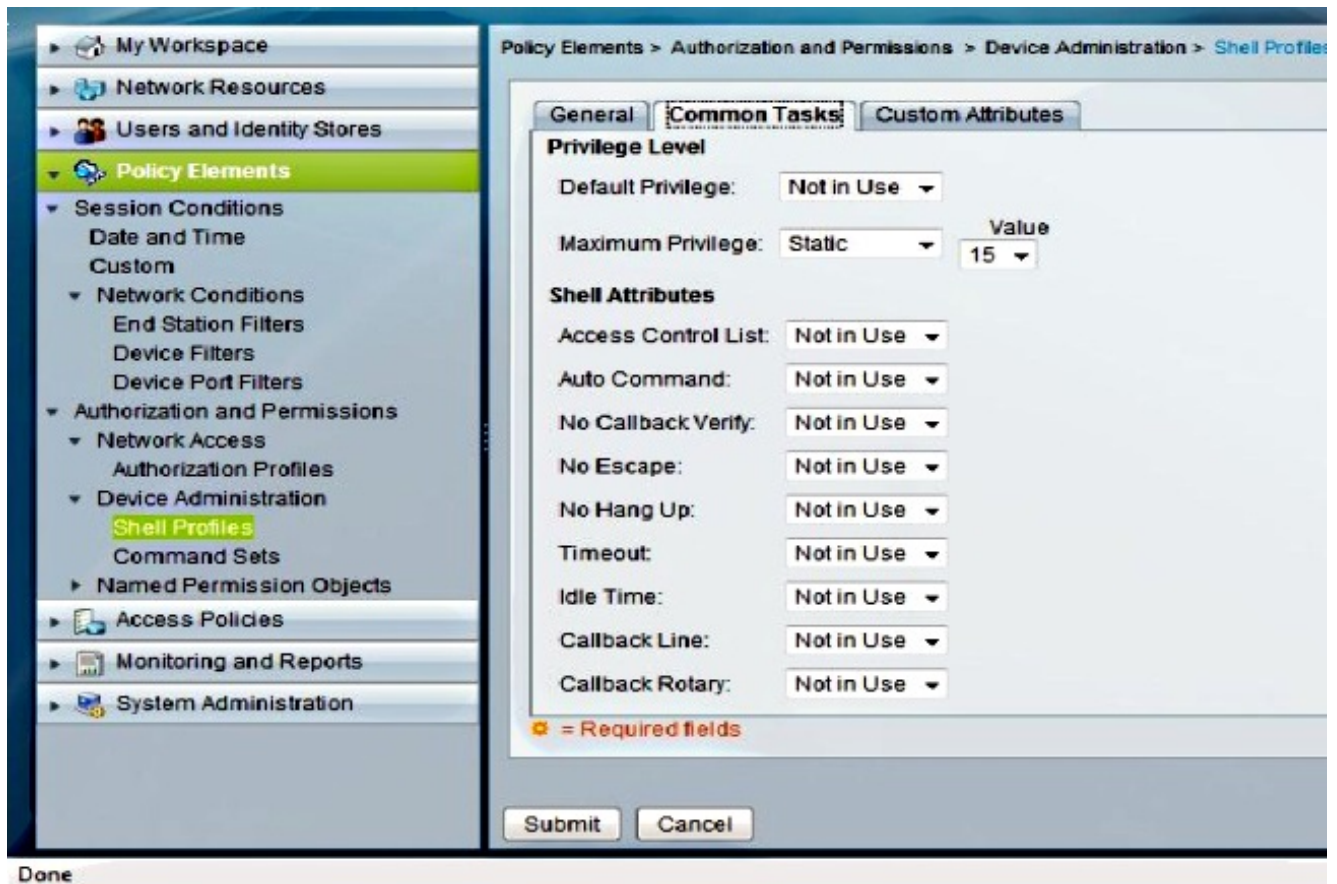
### Configuración en el ACS

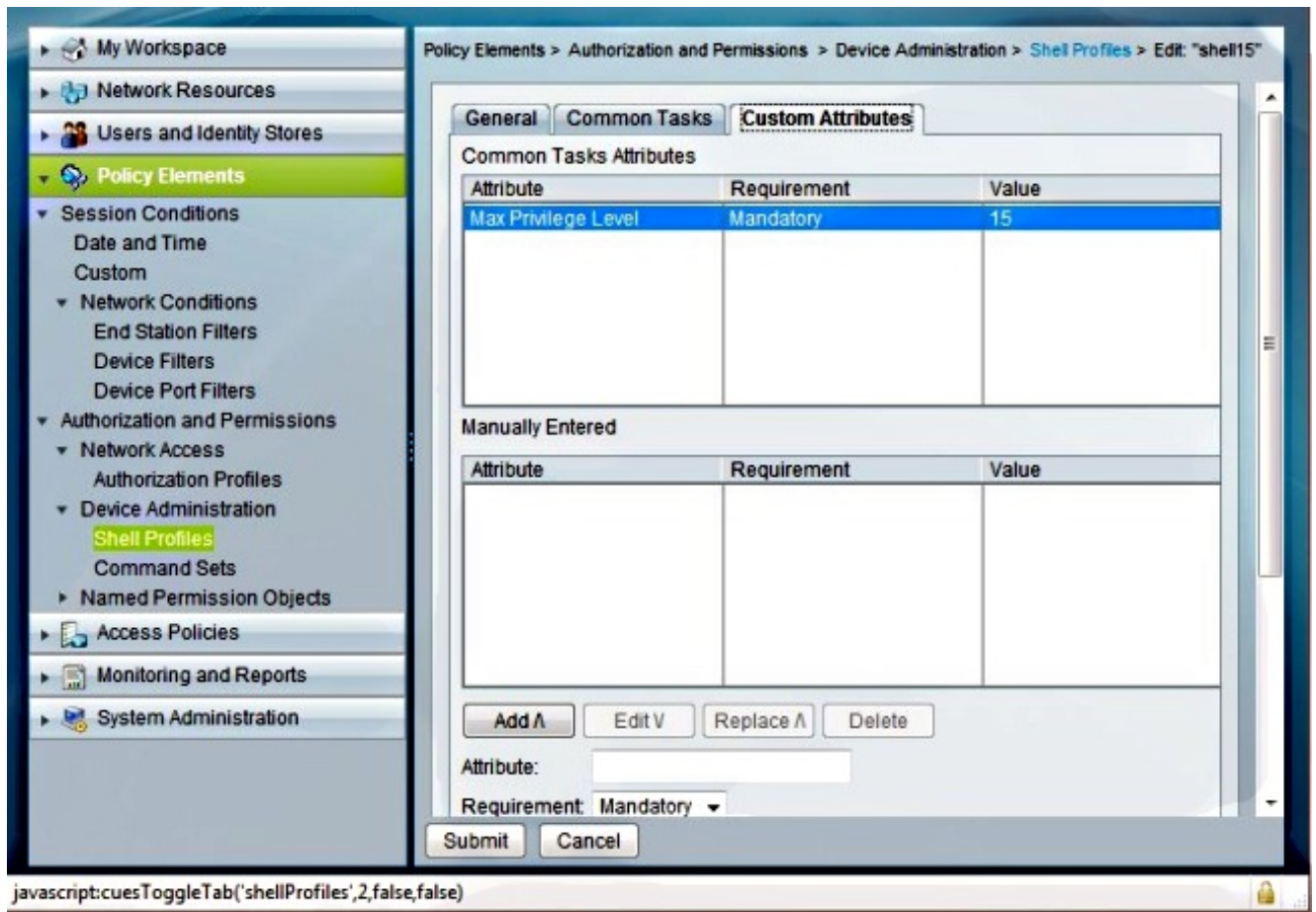
1. Cree a un usuario en el ACS. Navegue a los usuarios y los almacenes de la identidad >

crean al usuario. Este ejemplo utiliza al usuario a prueba **Peteradmin**.

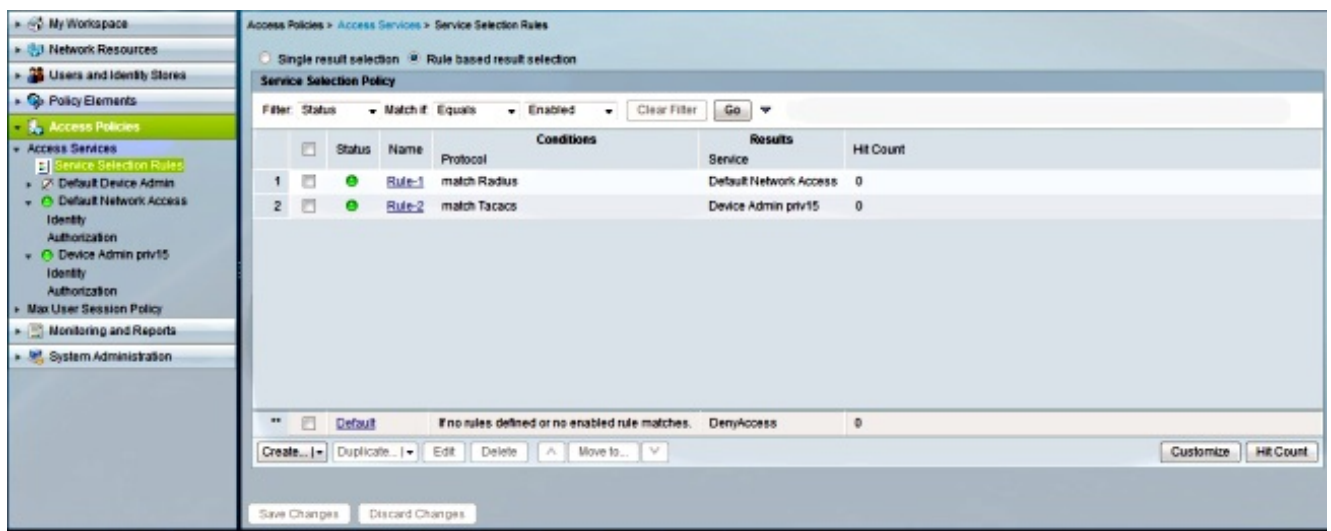


2. Los Usuarios administradores TACACS+ necesitan un perfil del shell que no les prohíba un nivel de privilegio de **15** de modo que puedan ingresar el **enable mode**. Para configurar el perfil del shell, navegue a los **elementos de la directiva > a la autorización y a los permisos > Device Administration (Administración del dispositivo) > los perfiles del shell**.



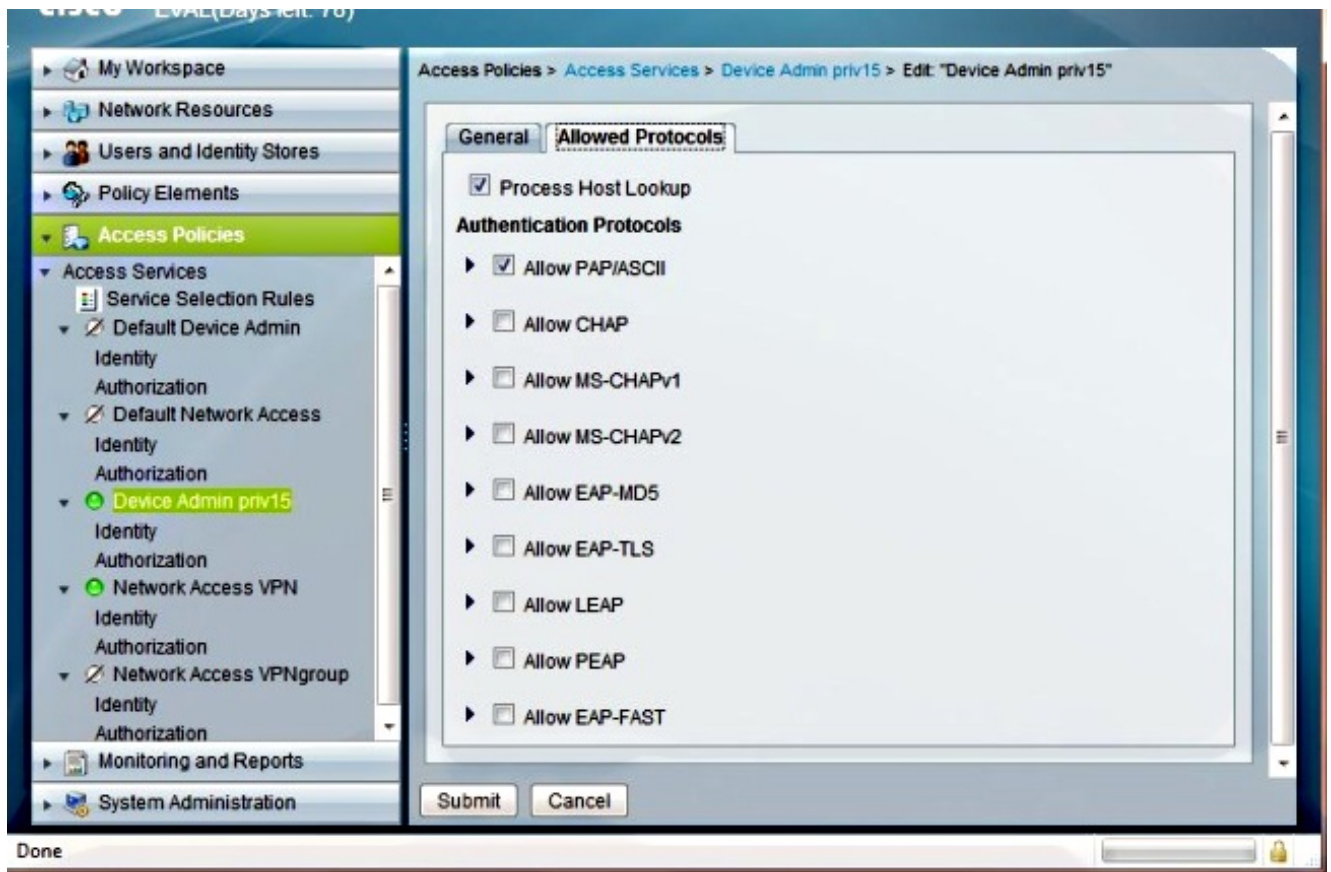


3. Cree una regla de selección del servicio bajo las políticas de acceso > servicios del acceso para hacer juego el TACACS:

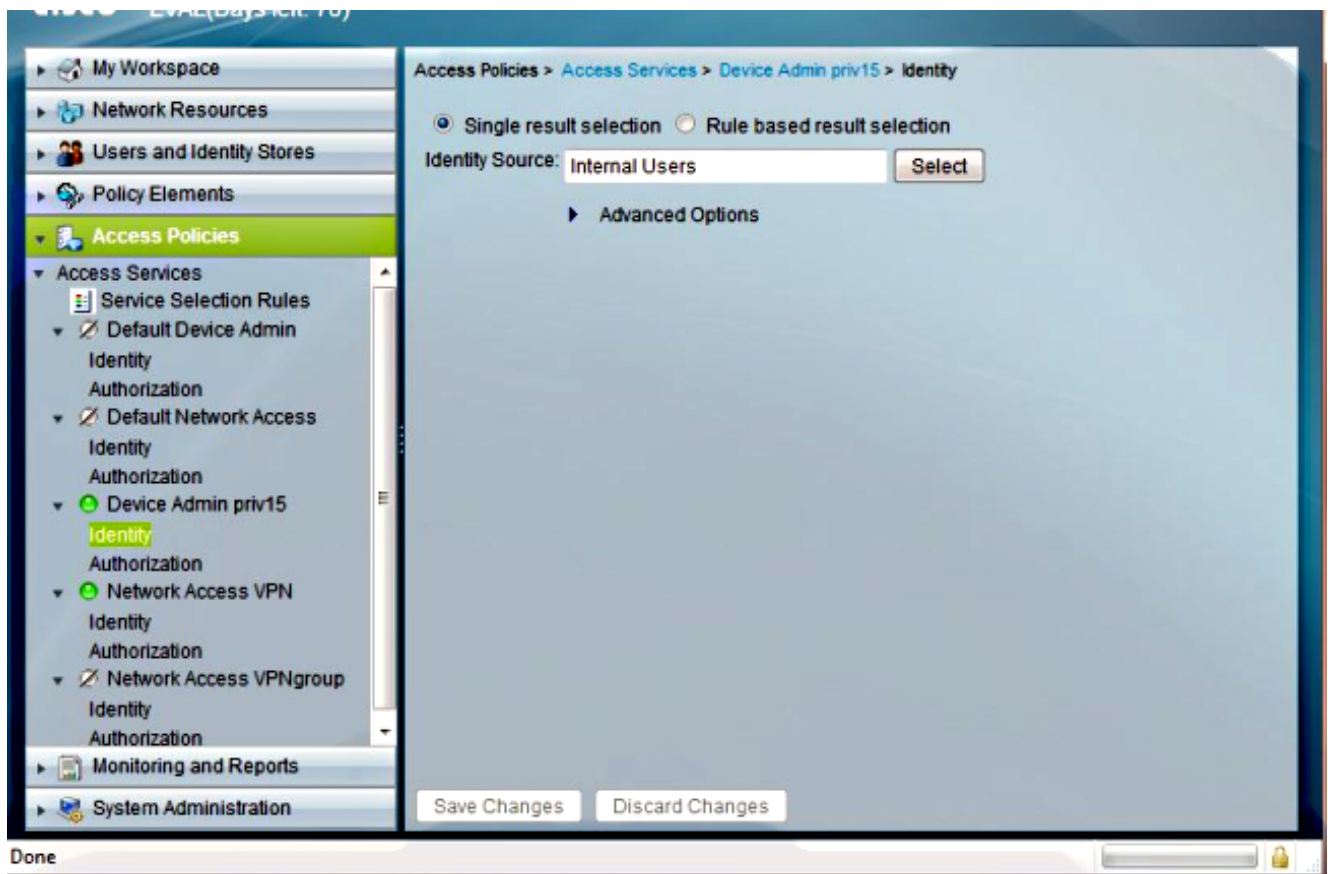


4. Navegue al dispositivo Admin priv15 > los protocolos permitidos > los Protocolos de autenticación selectos, y configure los protocolos permitidos. Este ejemplo utiliza PAP/ASCII.

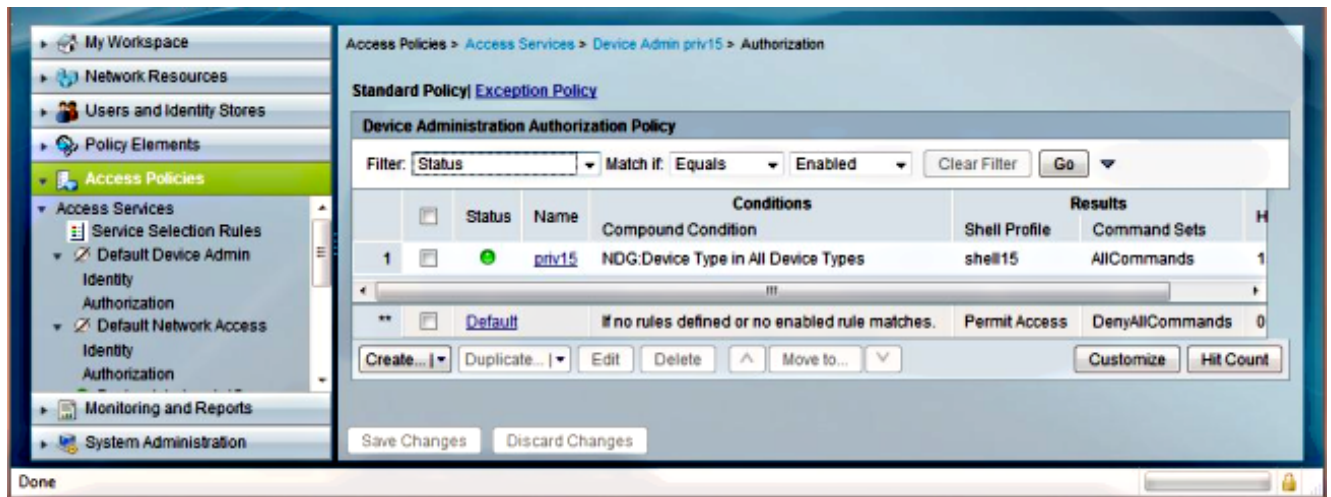




5. Navegue a las políticas de acceso > al acceso mantiene > el dispositivo Admin priv15 > identidad, y configura la fuente de la identidad para los usuarios internos.



6. Configure la directiva de la autorización bajo las políticas de acceso > acceso mantiene > el dispositivo Admin priv15 > autorización.



## Verificación

Utilize esta sección para confirmar que su configuración funcione correctamente.

### Pruebe el acceso de Telnet

Estos debugs se utilizan para verificar la autenticación y autorización que oculta para el TACACS+:

- eventos de los tacacs del debug
- grupo del caché aaa del debug

Telnet al router con el usuario de TACACS y la contraseña habilitada TACACS:

```
username: peteradmin
password: peteradmin
```

```
R102>en
password: cpeter
R102#
```

```
R102#debug tacacs events
R102#debug aaa cache group
R102#
```

```
11:35:47.151: TPLUS: Queuing AAA Authentication request 16 for processing
11:35:47.159: TPLUS: processing authentication start request id 16
11:35:47.163: TPLUS: Authentication start packet created for 16()
11:35:47.167: TPLUS: Using server 192.168.159.41
11:35:47.187: TPLUS(00000010)/0/NB_WAIT/69540BEC: Started 4 sec timeout
11:35:47.223: TPLUS(00000010)/0/NB_WAIT: wrote entire 37 bytes request
11:35:47.227: TPLUS: Would block while reading pak header
11:35:47.251: TPLUS(00000010)/0/READ: read entire 12 header bytes (expect 16
bytes)
11:35:47.255: TPLUS(00000010)/0/READ: read entire 28 bytes response
11:35:47.255: TPLUS(00000010)/0/69540BEC: Processing the reply packet
11:35:47.259: TPLUS: Received authen response status GET_USER (7)
11:35:47.263: AAA/AUTHEN/CACHE: No username in response
11:35:56.703: TPLUS: Queuing AAA Authentication request 16 for processing
11:35:56.711: TPLUS: processing authentication continue request id 16
11:35:56.715: TPLUS: Authentication continue packet generated for 16
11:35:56.719: TPLUS(00000010)/0/WRITE/69540BEC: Started 4 sec timeout
```

11:35:56.727: TPLUS(00000010)/0/WRITE: wrote entire 27 bytes request  
11:35:56.751: TPLUS(00000010)/0/READ: read entire 12 header bytes (expect 16 bytes)  
11:35:56.751: TPLUS(00000010)/0/READ: read entire 28 bytes response  
11:35:56.755: TPLUS(00000010)/0/69540BEC: Processing the reply packet  
11:35:56.759: TPLUS: Received authen response status GET\_PASSWORD (8)  
11:35:56.763: AAA/AUTHEN/CACHE: Request status = 8, cannot add to cache  
11:36:02.943: TPLUS: Queuing AAA Authentication request 16 for processing  
11:36:02.955: TPLUS: processing authentication continue request id 16  
11:36:02.959: TPLUS: Authentication continue packet generated for 16  
11:36:02.963: TPLUS(00000010)/0/WRITE/69540BEC: Started 4 sec timeout  
11:36:02.967: TPLUS(00000010)/0/WRITE: wrote entire 27 bytes request  
11:36:03.971: TPLUS(00000010)/0/READ: read entire 12 header bytes (expect 6 bytes)  
11:36:03.975: TPLUS(00000010)/0/READ: read entire 18 bytes response  
11:36:03.975: TPLUS(00000010)/0/69540BEC: Processing the reply packet  
11:36:03.979: TPLUS: Received authen response status PASS (2)  
11:36:03.983: AAA/AUTHEN/CACHE: SG profile admin  
11:36:03.987: AAA/AUTHEN/CACHE: SG block for admin found  
11:36:03.987: AAA/AUTHEN/CACHE: matching profile found for peteradmin in admin  
11:36:03.991: AAA/AUTHEN/CACHE: Dealing with authen\_type = 1  
11:36:03.995: TPLUS: Error occurs in reading packet header, shutdown the single connection  
11:36:04.047: TPLUS: Queuing AAA Authorization request 16 for processing  
11:36:04.055: TPLUS: processing authorization request id 16  
11:36:04.059: TPLUS: Protocol set to None .....Skipping  
11:36:04.063: TPLUS: Sending AV service=shell  
11:36:04.067: TPLUS: Sending AV cmd\*  
11:36:04.067: TPLUS: Authorization request created for 16(peteradmin)  
11:36:04.071: TPLUS: using previously set server 192.168.159.41 from group admin-tac  
11:36:04.091: TPLUS(00000010)/0/NB\_WAIT/689C0FDC: Started 4 sec timeout  
11:36:04.127: TPLUS(00000010)/0/NB\_WAIT: wrote entire 66 bytes request  
11:36:04.131: TPLUS: Would block while reading pak header  
11:36:05.319: TPLUS(00000010)/0/READ: read entire 12 header bytes (expect 6 bytes)  
11:36:05.323: TPLUS(00000010)/0/READ: read entire 18 bytes response  
11:36:05.327: TPLUS(00000010)/0/689C0FDC: Processing the reply packet  
11:36:05.327: TPLUS: received authorization response for 16: PASS  
11:36:05.335: AAA/AUTHEN/CACHE: SG profile admin  
11:36:05.335: AAA/AUTHEN/CACHE: SG block for admin found  
11:36:05.339: AAA/AUTHEN/CACHE: matching profile found for peteradmin in admin  
11:36:05.339: AAA/AUTHOR/CACHE(00000010): Existing entry no set for authorization  
11:36:05.347: TPLUS: Error occurs in reading packet header, shutdown the single connection  
11:36:05.419: TPLUS: Queuing AAA Accounting request 16 for processing  
11:36:05.431: TPLUS: processing accounting request id 16  
11:36:05.439: TPLUS: Sending AV task\_id=6  
11:36:05.439: TPLUS: Sending AV timezone=UTC  
11:36:05.443: TPLUS: Sending AV service=shell  
11:36:05.443: TPLUS: Accounting request created for 16(peteradmin)  
11:36:05.447: TPLUS: using previously set server 192.168.159.41 from group admin-tac  
11:36:05.471: TPLUS(00000010)/0/NB\_WAIT/689C0FDC: Started 4 sec timeout  
11:36:05.523: TPLUS(00000010)/0/NB\_WAIT: wrote entire 85 bytes request  
11:36:05.523: TPLUS: Would block while reading pak header  
11:36:05.587: TPLUS(00000010)/0/READ: read entire 12 header bytes (expect 5 bytes)  
11:36:05.591: TPLUS(00000010)/0/READ: read entire 17 bytes response  
11:36:05.591: TPLUS(00000010)/0/689C0FDC: Processing the reply packet  
11:36:05.595: TPLUS: Received accounting response with status PASS  
11:36:05.603: TPLUS: Error occurs in reading packet header, shutdown the single connection

R102#

## Marque el caché

Ingrese estos comandos para revisar y borrar la información de la memoria caché:

- muestre el [cache group name] todo del grupo del caché aaa
- borre el [cache group name] todo del grupo del caché aaa

```
R102#show aaa cache group admin-tac all
```

```
-----  
Entries in Profile dB admin-tac for exact match  
-----
```

```
Profile: peteradmin
```

```
Updated: 00:00:42
```

```
Parse User: N
```

```
Authen User: Y
```

```
Query Count: 2
```

```
6731AF7C 0 00000009 username(422) 10 peteradmin, service shell, protocol none
```

```
6731AF8C 0 0000000A cmd(73) 0 , service shell, protocol none  
-----
```

```
Entries in Profile dB admin-tac for regexp match  
-----
```

```
No entries found for regexp match
```

## Simule un error ACS

Desconecte al servidor ACS de la red para simular un error e invocar marcar del caché.

Telnet al router con el usuario de TACACS y la contraseña habilitada local (la contraseña habilitada del TACACS no se puede ocultar):

```
username: peteradmin
```

```
password: peteradmin
```

```
R102>en
```

```
password:
```

```
R102#
```

```
11:39:10.723: TPLUS: Queuing AAA Authentication request 17 for processing
```

```
11:39:10.735: TPLUS: processing authentication start request id 17
```

```
11:39:10.739: TPLUS: Authentication start packet created for 17()
```

```
11:39:10.743: TPLUS: Using server 192.168.159.41
```

```
11:39:10.759: TPLUS(00000011)/0/NB_WAIT/68A4A820: Started 4 sec timeout
```

```
11:39:14.759: TPLUS(00000011)/0/NB_WAIT/68A4A820: timed out
```

```
11:39:14.763: TPLUS(00000011)/0/NB_WAIT/68A4A820: timed out, clean up
```

```
11:39:14.767: TPLUS(00000011)/0/68A4A820: Processing the reply packet
```

```
11:39:14.771: AAA/AUTHEN/CACHE: Don't cache responses with errors
```

```
11:39:14.779: AAA/AUTHEN/CACHE(00000011): GET_USER for username NULL
```

```
11:39:23.315: AAA/AUTHEN/CACHE(00000011): GET_PASSWORD for username peteradmin
```

```
11:39:25.191: AAA/AUTHEN/CACHE(00000011): Found a match
```

```
11:39:25.195: AAA/AUTHEN/CACHE(00000011): PASS for username peteradmin
```

```
11:39:25.215: TPLUS: Queuing AAA Authorization request 17 for processing
```

```
11:39:25.223: TPLUS: processing authorization request id 17
```

```
11:39:25.227: TPLUS: Protocol set to None .....Skipping
```

```
11:39:25.231: TPLUS: Sending AV service=shell
```

```
11:39:25.235: TPLUS: Sending AV cmd*
```

```
11:39:25.239: TPLUS: Authorization request created for 17(peteradmin)
```

```
11:39:25.239: TPLUS: Using server 192.168.159.41
```

```
11:39:25.243: TPLUS(00000011)/0/IDLE/689C3A0C: got immediate connect on new 0
```

```
11:39:25.247: TPLUS(00000011)/0/WRITE/689C3A0C: Started 4 sec timeout
```

```
11:39:25.251: TPLUS(00000011)/0/WRITE: write to 192.168.159.41 failed with errno
```

```
257( (ENOTCONN) )
```



11:39:25.255: TPLUS: Protocol set to None .....Skipping  
11:39:25.259: TPLUS: Sending AV service=shell  
11:39:25.259: TPLUS: Sending AV cmd\*  
11:39:25.263: TPLUS: Authorization request created for 17(peteradmin)  
11:39:25.263: TPLUS(00000011): Start write failed  
11:39:29.247: TPLUS(00000011)/0/WRITE/689C3A0C: timed out  
11:39:29.251: TPLUS: Protocol set to None .....Skipping  
11:39:29.255: TPLUS: Sending AV service=shell  
11:39:29.255: TPLUS: Sending AV cmd\*  
11:39:29.259: TPLUS: Authorization request created for 17(peteradmin)  
11:39:29.263: TPLUS(00000011)/0/WRITE/689C3A0C: timed out, clean up  
11:39:29.267: TPLUS: Error occured while writing, shutdown the single connection  
11:39:29.267: TPLUS(00000011)/0/689C3A0C: Processing the reply packet  
11:39:29.271: AAA/AUTHEN/CACHE: Don't cache responses with errors  
11:39:29.331: TPLUS: Queuing AAA Accounting request 17 for processing  
11:39:29.343: TPLUS: processing accounting request id 17  
11:39:29.351: TPLUS: Sending AV task\_id=7  
11:39:29.351: TPLUS: Sending AV timezone=UTC  
11:39:29.355: TPLUS: Sending AV service=shell  
11:39:29.359: TPLUS: Accounting request created for 17(peteradmin)  
11:39:29.359: TPLUS: using previously set server 192.168.159.41 from group admin-tac  
11:39:29.379: TPLUS(00000011)/0/NB\_WAIT/689C0FDC: Started 4 sec timeout  
11:39:33.375: TPLUS(00000011)/0/NB\_WAIT/689C0FDC: timed out  
11:39:33.379: TPLUS: Choosing next server 192.168.159.41  
11:39:33.383: TPLUS(00000011)/689C0FDC: releasing old socket 0  
11:39:33.387: TPLUS(00000011)/0/NB\_WAIT/689C0FDC: got immediate connect on new 0  
11:39:33.387: TPLUS(00000011)/0/WRITE/689C0FDC: Started 4 sec timeout  
11:39:33.391: TPLUS(00000011)/0/WRITE: write to 192.168.159.41 failed with errno 257((ENOTCONN))  
11:39:33.399: TPLUS: Sending AV task\_id=7  
11:39:33.399: TPLUS: Sending AV timezone=UTC  
11:39:33.403: TPLUS: Sending AV service=shell  
11:39:33.403: TPLUS: Accounting request created for 17(peteradmin)  
11:39:33.407: TPLUS(00000011)/0/WRITE/689C0FDC: Write failed, this request will be cleaned up after timeout  
11:39:37.387: TPLUS(00000011)/0/WRITE/689C0FDC: timed out  
11:39:37.395: TPLUS: Sending AV task\_id=7  
11:39:37.395: TPLUS: Sending AV timezone=UTC  
11:39:37.399: TPLUS: Sending AV service=shell  
11:39:37.403: TPLUS: Accounting request created for 17(peteradmin)  
11:39:37.407: TPLUS: Choosing next server 192.168.159.41  
11:39:37.407: TPLUS(00000011)/689C0FDC: releasing old socket 0  
11:39:37.411: TPLUS(00000011)/0/WRITE/689C0FDC: got immediate connect on new 0  
11:39:37.415: TPLUS(00000011)/0/WRITE/689C0FDC: Started 4 sec timeout  
11:39:37.415: TPLUS(00000011)/0/WRITE: write to 192.168.159.41 failed with errno 257((ENOTCONN))  
11:39:37.423: TPLUS: Sending AV task\_id=7  
11:39:37.427: TPLUS: Sending AV timezone=UTC  
11:39:37.427: TPLUS: Sending AV service=shell  
11:39:37.431: TPLUS: Accounting request created for 17(peteradmin)  
11:39:37.431: TPLUS(00000011)/0/WRITE/689C0FDC: Write failed, this request will be cleaned up after timeout  
11:39:41.411: TPLUS(00000011)/0/WRITE/689C0FDC: timed out  
11:39:41.419: TPLUS: Sending AV task\_id=7  
11:39:41.423: TPLUS: Sending AV timezone=UTC  
11:39:41.423: TPLUS: Sending AV service=shell  
11:39:41.427: TPLUS: Accounting request created for 17(peteradmin)  
11:39:41.431: TPLUS(00000011)/0/WRITE/689C0FDC: timed out, clean up  
11:39:41.431: TPLUS: Error occured while writing, shutdown the single connection

11:39:41.435: TPLUS(00000011)/0/689C0FDC: Processing the reply packet

Cached username and password works.

```
R102#clear aaa cache group admin-tac all
```

```
R102#show aaa cache group admin-tac all
```

```
-----  
Entries in Profile dB admin-tac for exact match  
-----
```

```
No entries found in Profile dB
```

## Troubleshooting

Los ciertos comandos show de los soportes de la [herramienta del Output Interpreter \(clientes registrados solamente\)](#). Utilice la herramienta del Output Interpreter para ver una análisis de la salida del comando show.

Actualmente, no hay información específica de troubleshooting disponible para esta configuración.