

# How To Check All Dictionary Attributes During Processing Of RADIUS Packets Using Cisco Access Registrar

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## Introduction

This document explains how you can configure Cisco Access Registrar (CAR) to see all dictionary attributes (environment, request, and response) when a packet is being processed through CAR. The same script is also helpful for debugging manually written scripts.

**Note:** Use this script with caution in a live environment with heavy traffic, since it could seriously impact the performance of your server.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

The information in this document is based on all versions of Cisco Access Registrar.

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

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## Procedure

Complete these steps:

1. Save the following script to your CAR server in the directory /opt/AICar1/scripts/radius/tcl.

```
proc ShowDictionaryContents {request response environ} {  
    set dict $request
```

```

set sizeOftheDictionary [$dict size]
set sizeOftheDictionaryMinusOne [expr $sizeOftheDictionary - 1]
set contents [$dict firstKey]
$request get $contents

for {set i 0} {$i < $sizeOftheDictionaryMinusOne} {incr i} {
    set contents [$dict nextKey]
    $request get $contents
}

set dict $response
set sizeOftheDictionary [$dict size]
set sizeOftheDictionaryMinusOne [expr $sizeOftheDictionary - 1]
if {$sizeOftheDictionary != 0} {
    set contents [$dict firstKey]
    $response get $contents
    for {set i 0} {$i < $sizeOftheDictionaryMinusOne} {incr i} {
        set contents [$dict nextKey]
        $response get $contents
    }
}

set dict $environ
set sizeOftheDictionary [$dict size]
set sizeOftheDictionaryMinusOne [expr $sizeOftheDictionary - 1]
if {$sizeOftheDictionary != 0} {
    set contents [$dict firstKey]
    $environ get $contents

    for {set i 0} {$i < $sizeOftheDictionaryMinusOne} {incr i} {
        set contents [$dict nextKey]
        $environ get $contents
    }
}
}

```

2. Log into CAR and create an entry in [ //localhost/Radius/Scripts/ ]. Here's an example:

```

[ //localhost/Radius/Scripts/show-contents ]
Name = show-contents
Description =
Language = tcl
Filename = show-contents.tcl
EntryPoint = show-contents-script
InitEntryPoint =
InitEntryPointArgs =

```

3. Attach this entry to any "IncomingScript"– or "OutgoingScript"–point in Access Registrar.
4. Reload CAR.
5. Go into the command line and type **trace /r 5** to enable the debugging.

In the following debug, you can clearly see the contents of all the variables of the three dictionaries.

```

----- *** ../logs/name_radius_1_trace ***
02/22/2001 16:19:06: P12699: Packet received from 127.0.0.1
02/22/2001 16:19:06: P12699: Trace of Access-Request packet
02/22/2001 16:19:06: P12699: identifier = 43
02/22/2001 16:19:06: P12699: length = 61
02/22/2001 16:19:06: P12699: reqauth = ec:4c:c6:74:8d:88:0b:48:2b:e4:74:4f:7f:3e:46:
02/22/2001 16:19:06: P12699: User-Name = jill
02/22/2001 16:19:06: P12699: User-Password = c2:59:fa:cc:1f:7c:6c:44:97:21:58:8e:
4a:85:6b:90

```

```
02/22/2001 16:19:06: P12699: NAS-Port = 2
02/22/2001 16:19:06: P12699: NAS-Identifier = localhost
02/22/2001 16:19:06: P12699: Running Server's IncomingScript: ShowDictionaryContents
02/22/2001 16:19:06: P12699: Tcl: request size --> 4
02/22/2001 16:19:06: P12699: Tcl: request firstKey --> User-Name
02/22/2001 16:19:06: P12699: Tcl: request get User-Name --> jill
02/22/2001 16:19:06: P12699: Tcl: request nextKey --> User-Password
02/22/2001 16:19:06: P12699: Tcl: request get User-Password --> jill
02/22/2001 16:19:06: P12699: Tcl: request nextKey --> NAS-Port
02/22/2001 16:19:06: P12699: Tcl: request get NAS-Port --> 2
02/22/2001 16:19:06: P12699: Tcl: request nextKey --> NAS-Identifier
02/22/2001 16:19:06: P12699: Tcl: request get NAS-Identifier --> localhost
02/22/2001 16:19:06: P12699: Tcl: response size --> 0
02/22/2001 16:19:06: P12699: Tcl: environ size --> 4
02/22/2001 16:19:06: P12699: Tcl: environ firstKey --> Source-Port
02/22/2001 16:19:06: P12699: Tcl: environ get Source-Port --> 41948
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Source-IP-Address
02/22/2001 16:19:06: P12699: Tcl: environ get Source-IP-Address --> 127.0.0.1
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Request-Type
02/22/2001 16:19:06: P12699: Tcl: environ get Request-Type --> Access-Request
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Trace-Level
02/22/2001 16:19:06: P12699: Tcl: environ get Trace-Level --> 4
02/22/2001 16:19:06: P12699: Using Client: localhost (127.0.0.1)
02/22/2001 16:19:06: P12699: Running Client localhost (127.0.0.1)
IncomingScript: ParseServiceHints
02/22/2001 16:19:06: P12699: Rex: environ-->get( "Request-Type" ) --> "Access-Request"
02/22/2001 16:19:06: P12699: Rex: environ-->get( "Request-Type" ) --> "Access-Request"
02/22/2001 16:19:06: P12699: Rex: environ-->get( "User-Name" ) --> ""
02/22/2001 16:19:06: P12699: Rex: request-->get( "User-Name", 0 ) --> "jill"
02/22/2001 16:19:06: P12699: Using NAS: localhost (127.0.0.1)
02/22/2001 16:19:06: P12699: Request is directly from a NAS: TRUE
02/22/2001 16:19:06: P12699: Authenticating and Authorizing with Service wwf.org
02/22/2001 16:19:06: P12699: Getting User jill's UserRecord from UserList Default
02/22/2001 16:19:06: P12699: User jill's password matches
02/22/2001 16:19:06: P12699: User jill is part of UserGroup PPP-users
02/22/2001 16:19:06: P12699: Merging UserGroup PPP-users's BaseProfile
default-PPP-users into response dictionary
02/22/2001 16:19:06: P12699: Using SessionManager session-mgr-1
02/22/2001 16:19:06: P12699: Acquiring session for localhost:2... 02/22/2001
16:19:06: P12699: Session S1 acquired...
02/22/2001 16:19:06: P12699: Checking User-Name in Session S1 against
User-Name in packet...

02/22/2001 16:19:06: P12699: User-Name's match
02/22/2001 16:19:06: P12699: ResourceManager IPA-Pool allocated a resource
to Session S1: IP Address 192.168.0.0 already allocated to this session, re-using it
02/22/2001 16:19:06: P12699: ResourceManager Per-Group allocated a resource
to Session S1: Group session count already incremented for this session,
count remains at 1 out of 256
02/22/2001 16:19:06: P12699: ResourceManager Per-User allocated a resource
to Session S1: User count for "jill" already incremented for this session,
count remains at 1 out of 1
02/22/2001 16:19:06: P12699: ResourceManager IPX-Pool allocated a resource
to Session S1: IPX Network 0x1 already allocated to this session, re-using it
02/22/2001 16:19:06: P12699: Writing Session S1 to backing store.
02/22/2001 16:19:06: P12699: Releasing acquired Session S1
02/22/2001 16:19:06: P12699: SessionManager session-mgr-1 done with packet
02/22/2001 16:19:06: P12699: Running Server's OutgoingScript: ShowDictionaryContents
02/22/2001 16:19:06: P12699: Tcl: request size --> 4
02/22/2001 16:19:06: P12699: Tcl: request firstKey --> User-Name
02/22/2001 16:19:06: P12699: Tcl: request get User-Name --> jill
02/22/2001 16:19:06: P12699: Tcl: request nextKey --> User-Password
02/22/2001 16:19:06: P12699: Tcl: request get User-Password --> jill
02/22/2001 16:19:06: P12699: Tcl: request nextKey --> NAS-Port
02/22/2001 16:19:06: P12699: Tcl: request get NAS-Port --> 2
02/22/2001 16:19:06: P12699: Tcl: request nextKey --> NAS-Identifier
```

```
02/22/2001 16:19:06: P12699: Tcl: request get NAS-Identifier --> localhost
02/22/2001 16:19:06: P12699: Tcl: response size --> 11
02/22/2001 16:19:06: P12699: Tcl: response firstKey --> Service-Type
02/22/2001 16:19:06: P12699: Tcl: response get Service-Type --> Framed
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-Protocol
02/22/2001 16:19:06: P12699: Tcl: response get Framed-Protocol --> PPP
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-IP-Address
02/22/2001 16:19:06: P12699: Tcl: response get Framed-IP-Address --> 192.168.0.0
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-IP-Netmask
02/22/2001 16:19:06: P12699: Tcl: response get Framed-IP-Netmask --> 255.255.255.0
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-Routing
02/22/2001 16:19:06: P12699: Tcl: response get Framed-Routing --> None
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-MTU
02/22/2001 16:19:06: P12699: Tcl: response get Framed-MTU --> 1500
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-Compression
02/22/2001 16:19:06: P12699: Tcl: response get Framed-Compression -->
VJ TCP/IP header compression
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Ascend-Idle-Limit
02/22/2001 16:19:06: P12699: Tcl: response get Ascend-Idle-Limit --> 1800
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Framed-IPX-Network
02/22/2001 16:19:06: P12699: Tcl: response get Framed-IPX-Network --> 1
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> State
02/22/2001 16:19:06: P12699: Tcl: response get State --> lef3:2:localhost
02/22/2001 16:19:06: P12699: Tcl: response nextKey --> Termination-Action
02/22/2001 16:19:06: P12699: Tcl: response get Termination-Action --> RADIUS-Request
02/22/2001 16:19:06: P12699: Tcl: environ size --> 14
02/22/2001 16:19:06: P12699: Tcl: environ firstKey --> Group-Session-Limit
02/22/2001 16:19:06: P12699: Tcl: environ get Group-Session-Limit --> 256
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Session-Manager
02/22/2001 16:19:06: P12699: Tcl: environ get Session-Manager --> session-mgr-1
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> User-Group
02/22/2001 16:19:06: P12699: Tcl: environ get User-Group --> PPP-users
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Current-Group-Count
02/22/2001 16:19:06: P12699: Tcl: environ get Current-Group-Count --> 1
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Authorization-Service
02/22/2001 16:19:06: P12699: Tcl: environ get Authorization-Service --> wwf.org
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Source-Port
02/22/2001 16:19:06: P12699: Tcl: environ get Source-Port --> 41948
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Source-IP-Address
02/22/2001 16:19:06: P12699: Tcl: environ get Source-IP-Address --> 127.0.0.1
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Authentication-Service
02/22/2001 16:19:06: P12699: Tcl: environ get Authentication-Service --> wwf.org
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Request-Type
02/22/2001 16:19:06: P12699: Tcl: environ get Request-Type --> Access-Request
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Trace-Level
02/22/2001 16:19:06: P12699: Tcl: environ get Trace-Level --> 4
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Provider-Identifier
02/22/2001 16:19:06: P12699: Tcl: environ get Provider-Identifier --> Default
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Allow-Null-Password
02/22/2001 16:19:06: P12699: Tcl: environ get Allow-Null-Password --> FALSE
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Session-Notes
02/22/2001 16:19:06: P12699: Tcl: environ get Session-Notes -->
02/22/2001 16:19:06: P12699: Tcl: environ nextKey --> Response-Type
02/22/2001 16:19:06: P12699: Tcl: environ get Response-Type -->
Access-Accept
02/22/2001 16:19:06: P12699: Trace of Access-Accept packet
02/22/2001 16:19:06: P12699: identifier = 43
02/22/2001 16:19:06: P12699: length = 104
02/22/2001 16:19:06: P12699: reqauth = 15:f4:cf:f3:a6:22:37:e0:7d:9c:06:71:7d:72:2d
02/22/2001 16:19:06: P12699: Service-Type = Framed
02/22/2001 16:19:06: P12699: Framed-Protocol = PPP
02/22/2001 16:19:06: P12699: Framed-IP-Address = 192.168.0.0
02/22/2001 16:19:06: P12699: Framed-IP-Netmask = 255.255.255.0
02/22/2001 16:19:06: P12699: Framed-Routing = None
02/22/2001 16:19:06: P12699: Framed-MTU = 1500
02/22/2001 16:19:06: P12699: Framed-Compression = VJ TCP/IP
```

```
header compression
02/22/2001 16:19:06: P12699: Ascend-Idle-Limit = 1800
02/22/2001 16:19:06: P12699: Framed-IPX-Network = 1
02/22/2001 16:19:06: P12699: State = 1ef3:2:localhost
02/22/2001 16:19:06: P12699: Termination-Action = RADIUS-Request
02/22/2001 16:19:06: P12699: Sending response to 127.0.0.1
```

```
-----
end of debug
-----
```

---

## Related Information

- [Cisco Access Registrar Support Page](#)
- [Documentation for Cisco Access Registrar](#)
- [Cisco Access Registrar Dictionaries](#)
- [Cisco Access Registrar 1.7 User's Guide](#)
- [Environment Dictionary](#)
- [Technical Support – Cisco Systems](#)

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