VERTIV

Avocent® Universal Management Gateway Appliance

Command Reference Guide

Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures. For additional assistance, visit https://www.VertivCo.com/en-us/support/.

1 COMMAND LINE INTERFACE

This guide is a supplement to the Avocent® Universal Management Gateway Appliance Installation/User Guide. The Avocent® Universal Management Gateway appliance is a 1U appliance that serves as a single point for secure local and remote access and administration of target devices.

This guide provides information to administer, access and navigate the appliance using the Command Line Interface (CLI) utility. The CLI uses text-based commands in place of the Web User Interface (UI) in order to perform tasks more quickly. For users familiar with the CLI, it can also offer greater control and power of the appliance than the Web UI. In some instances, the CLI can be used to configure multiple settings on the appliance simultaneously.

1.1 Accessing and starting the CLI

The CLI can be accessed through a local terminal or a computer that has a terminal emulation program connected to the CLI setup port of the appliance. The computer must have the session settings of 9600 bits per second (bps), 8 bits, 1 stop bit, no parity and no flow control.

Administrators have full access to the CLI and to connected devices. An administrator can authorize regular users to access ports, manage power, manage data buffer storage and use one or more appliance administration tools.

The default password for the administrator is admin; however, the default password may have been changed during installation of the appliance. Users can always change their own passwords.

After the appliance is connected to the network and is assigned an IP address, it can be accessed by one of the following methods:

- Locally or remotely with the web user interface (UI) using an appliance session.
- Remotely on a computer with an SSH or Telnet client such as PuTTY. (For this method, the SSH or Telnet protocol must be enabled in the selected security profile).

NOTE: For information to install or operate your appliance using the appliance web UI, or details on the remote access methods and IP address configuration options, see the Avocent® Universal Management Gateway Appliance Installation/User Guide.

To start the CLI from the web UI or client (SSL, Telnet):

1. From the sidebar of the Administration tab in the appliance web UI, click *Appliance Settings,* then click the *SSH* button at the top of the page. A .jnlp file is downloaded to the client server.

   -or-

   From an SSH or Telnet client on your computer, enter the appliance IP address and host name, then enter the username and password at the prompt.

2. In the new window, select CLI from the menu to display the cli-> prompt.

Figure 1.1 CLI Admin Menu

```
DCIMA Management Admin Menu    4.0.0.16

> 1  CLI
  2  Shell
  3  Targets
  4  Change Password
  5  Update Firmware via USB
  6  Update Firmware via /download
  0  Exit




  :
  For search type keyword.
```

Table 1.1 CLI Admin Menu Descriptions

ITEM	VALUE
1	Command Line Interface.
2	Shell - Gives you access to the Avocent® Universal Management Gateway appliance.
3	Targets - Gives you access to the devices monitored by the Avocent® Universal Management Gateway appliance.
4	Change Password - Allows you to change the password that gives you access to the web UI.
5	Update Firmware via USB - Allows you to execute a firmware upgrade from .img files located on a mass storage device.
6	Update Firmware via /download - Allows you to upgrade the firmware via the appliance's download folder. Any file in the download folder with an .img extension is available for selection.
0	Exit

1.2 Navigation

The CLI navigation options are in a nested tree configuration. When you log in to the CLI, the prompt indicates the level you are on. For example, when you log into the CLI, the following prompt is displayed:

Example: CLI Initial Prompt

```
Cli>
```

At any CLI prompt at any level, if you type **cd** and press **Tab Tab**, the navigation options for that level are listed. Type **cd** and one of the listed levels followed by **<Enter>** to navigate to that level.

NOTE: CLI commands are case sensitive.

Example: CLI CD Prompt

```
Cli> cd <Tab Tab>
appliance system targets
Cli> cd targets <Enter>
targets>
```

At any level, you can press **Tab Tab** to see the commands that can be entered at the current level.

NOTE: Different options may appear for administrators than for authorized users.

If you know the path, in a single command you can enter multiple path elements separated with forward slashes (/). For example, typing **cd appliance/monitor <Enter>** takes you to the monitor level of the CLI.

Example: Multiple Path Command

```
Cli> cd appliance/monitor <Enter>
monitor>
```

Type **cd .. <Enter>** to move up a level in the navigation tree. Type **cd ../.. <Enter>** to move up multiple levels, with each forward slash (/) representing a level.

NOTE: For the complete navigation tree of the CLI, see Navigation Tree on page 7.

1.2.1 Auto completion

Typing the first few letters of a command or navigation option and pressing **Tab** enables the auto complete function. If the typed letters are unique to one command or navigation option at that level, the name is filled in automatically. If the letters match more than one of the commands or navigation options for that level, the matching options are listed.

For example, if you type **cd app<Tab>** at the Cli> prompt, it will auto complete to cd appliance.

1.2.2 Syntax

The syntax consists of four parts: <command>, <options>, <target> and <properties>.

The commands, targets and properties are displayed according to a user's role. Users only see items for which they have permission. The maximum length of any single command line is 255 characters. Reserved characters are not allowed in the target or property names.

Table 1.2   Reserved Characters

CHARACTER/SEQUENCE	NAME	DESCRIPTION
	Space	Command line item separator.
`	Escape	Used to embed special characters in a string.
<cr>, <lf>, <cr>, <lf>	End of line	Each of these sequences represents an end-of-line indicator.
=	Assignment operator	Separates a property/command option from its value.
-	Option operator	Denotes a command option when followed by a space.
.	Current target	Represents the current target.
..	Parent target	Represents the parent target of the current target.
/	Path	Used for path only.
"	String	Represents a string which may contain non-escaped characters until the next double quotation mark

CHARACTER/SEQUENCE	NAME	DESCRIPTION
		(") is reached.

1.2.3 Parameters

Some CLI commands use parameters. If you press Tab Tab after a command that requires a parameter, you are prompted to enter the parameter.

1.3 Command Set

The following table describes the general commands used when accessing the appliance from the CLI. Commands are used to perform actions on targets or to change/display the properties of targets. Most of the commands work from any location when the path to the command parameter is included.

NOTE: The word "node" refers to any entity (such as a route, host or user) that can be added, configured or deleted.

Table 1.3   Commands Used for the CLI

COMMAND	DESCRIPTION	SYNTAX
cd	Changes the target directory.	Cli> cd <path>
create	Used to create a new target node. Not all targets are creatable.	Cli> create <path> <parameter>
delete	Deletes a target node that was previously created. All other target nodes cannot be deleted.	Cli> delete <path> <parameter>
exit	Exits the CLI from any level of the CLI.	Cli> exit
help	Provides general information for CLI syntax and basic operations. This can be done from any level.	Cli> help
pwd	Displays the current full path of the target (print working directory).	Cli> pwd
reboot	Reboots the appliance.	Cli> reboot
set	Sets the parameter for the selected node.	<Level> set <path> <parameter> = <value>
show	Displays target nodes. Adding the command -p after show displays the target node properties.	Cli> show
shutdown	Shuts down the appliance.	Cli> shutdown
version	Displays the current CLI version.	Cli> version

For some commands, such as set or show, you can issue the command using the complete path of the parameter you want. See the following example.

Example: Complete Command Path

```
Cli> set /appliance/applianceSettings contactName=john
Cli> show -p appliance/applianceSettings
* contactName=john
* contactPhone=
```

For the complete command path to assign an IP address to the Avocent® Universal Gateway appliance, use the following example.

Example: Command Path for Assigning an IP Address

```
Cli>cd system/administration/networkManagement/networkInterfaces/eth0
eth0>set dhcp=false
```

```
eth0>set addr=xxx.xxx.xxx.xxx
eth0>set mask=255.xxx.xxx.xxx
eth0>set gateway=xxx.xxx.xxx.xxx
eth0>exit
```

1.4 Batch Script Mode

The CLI supports the following types of batch scripts.

1.4.1 File script

The CLI executes the batch of command lines that are stored in a script file as shown in the following example.

If using the filename: test-script0.txt

Example: Executed Command Lines using the File Name

```
show
set /system/administration/datetime newTime=10:10:10Z
```

Under the CLI prompt, type:

Example: Executed Command Lines using the File Name cont'd

```
->cli -f test-script0.txt
```

1.4.2 CLI shell script mode

Start the script by entering **#!/usr/bin/cli** with the -f option as shown in the following example.

Example: -f Option Command

```
#!/usr/bin/cli -f
set /system/administration/datetime newTime=10:10:10Z
```

You could then make the script executable from the command line, as shown in the following example.

Example: Executable Command Line Script

```
root@MergePoint:~$ chmod 777 scriptname1
root@MergePoint:~$ ./scriptname1
```

1.4.3 Linux Bash or python and other shell modes

If you want to run a CLI command from the same script that is running other Linux commands, enter the command in a bash shell as shown in the following example.

Example: Bash Shell Single Command

```
#!/bin/bash
...
/usr/bin/cli -s set /system/administration/datetime newTime=10:10:10Z
...
```

If you want to run multiple CLI commands from a script that is also running other Linux commands, add multiple CLI commands as shown in the following example.

Example: Bash Shell Multiple Command

```
#!/bin/bash
...
/usr/bin/cli <<EOF
set /system/administration/datetime newTime=10:10:10Z
set /system/administration/datetime newDate=2011-01-31
EOF
```

2 NAVIGATION TREE

The following tables display the navigation tree of the CLI. Use these tables as a reference guide to navigate the CLI.

2.1 Appliance

From the main Cli> prompt, type **cd appliance** to access the appliance navigation tree.

Table 2.1 Appliance Navigation Tree

appliance settings
contactName=
contactPhone=
hasSecondPowerSupply=
helpURL=
model=
otherInfo=
partNumber=
rackName=
serialNumber=
supplyOnePluggedIn=
supplyTwoPluggedIn=
version=
eMailServer
auth_password=
auth_username=
mail_server=
port=
monitor
alert
eMailDestAddr
toaddress=
localFacility
syslog_facility=
destinationConfig
<destination>
alertid=
dsviewenable=
emailenable=
relayenable=
relay2enable=
smsenable=
snmpenable=

		syslogenable=	
		uitext=	
	syslogConfig		
	<rule>		
		destination=	
		enable=	
		facility=	
		id=	
		level=	
		tag=	

2.2 System

From the main Cli> prompt, type **cd system** to access the system navigation tree.

Table 2.2 System Navigation Tree

preferences			
	keyboardLayout		
		keyboardlayout=	
administration			
	account		
		users	
			admin operator user
			account_expiration=
			account_expiration_enabled=
			change_password=
			password=
			password_expiration_inactive_days=
			password_expiration_inactive_days_enabled=
			password_expiration_max_days=
			password_expiration_max_days_enabled=
			password_warned_days=
			password_warned_days_enabled=
			preemption_lvl=
			role=
			session_can_timeout=
			timeout=
			username=
		groups	
			appliance-admin power-user user

group_name=		
preemption_lvl=		
role=		
timeout=		
accessGroupedTargets accessTargets		
	<target>	
		Allow_Access_Service_Processor
		Allow_AutoLogin=
		Allow_AutoLogin_Service=
		Allow_Manage_Target_Setting=
		Allow_Physical_KVM=
		Allow_Physical_Receptacle_Control=
		Allow_Physical_Serial=
		Allow_Serial_Over_LAN=
		Allow_View_Env_Data=false
		Allow_View_Logs=false
		Allow_Virtual_KVM=
		Allow_Virtual_Media=
		Allow_Virtual_Receptacle_Control=
		Deny_Access_Service_Processor=
		Deny_AutoLogin=
		Deny_AutoLogin_Service=
		Deny_Manage_Target_Setting=
		Deny_Physical_KVM=
		Deny_Physical_Receptacle_Control=
		Deny_Physical_Serial=
		Deny_Serial_Over_LAN=
		Deny_View_Env_Data=
		Deny_View_Logs=
		Deny_Virtual_KVM=
		Deny_Virtual_Media=
		Deny_Virtual_Receptacle_Control=
		IsManaged=false
		SessionAccess=
		targetName=
authenticInfo		
strength=		
authenticCfg		
authenticaion.0=		
strength=		

LDP		
	base=	
	binddn=	
	bindpw=	
	host=	
	pam_login_attribute=	
	ssl=	
ADSAP2		
	enabled=	
	local_cred_key_path=	
	local_cred_x509_path=	
	mode=	
	remote_cred_x509_path=	
	server_1=	
	server_2=	
	server_3=	
	server_4=	

networkManagement		
networkSettings		
	domainname=	
	gateway=	
	gateway6=	
	hostname=	
	mode=	
	primary_dns=	
	secondary_dns=	
networkInterfaces		
	eth 0 eth 1	
	addr=	
	addr6=	
	bcast=	
	dhcp=	
	dhcp6=	
	gateway=	
	gateway6=	
	hwaddr=	
	interface=	
	mask=	
	mask6=	
	mtu=	

hosts

  <host>

    alias=

    hostname=

    ip=

  routes

    <route>

      dstip=

      gateway=

      iface=

      metric=

      netmask=

      status=

  routes6

    <route6>

      dstip6=

      iface=

      netmask6=

  security

    Telnet

      available=

    sshPort
    httpsPort

      port=

datetime

  currentDateTime=

  currentDateTimeLabel=

  ntpServer=

  timeMethod=

  timezone=

daylightSaving

  status=

systemHelpURL

  helpURL=

systemDiagnostic

  logdir=

  option=

  timeout=

licenseInfo

  licensesAvailable=

  licensesTotal=

	licensesUsed=
firmware	
	factoryRestore
	dataBackup
	dataRestore
dsview	
	access
	dsviewAccessMode=

2.3 Targets

From the main Cli> prompt, type **cd targets** to access the targets navigation tree.

Table 2.3 Targets Navigation Tree

SP	
	<SP target>
	alias=
	internalID=
	ipAddress=
	isManaged=
	numBlades=
	opStatus=
	password=
	portNum=
	powerStatus=
	slotNum=
	spProfileType=
	spProperties=
	targetID=
	targetType=
	username=
	powerControl
	frontPanelLockout=
	powerStatus=
portConfig	
	portAssignment
	<port>
	auto_sense=
	conn_type=
	device=
	device_type=
	port_class=

		state=	
	serialSettings		
		\<port\>	
			data-size=
			flow=
			major=
			minor=
			name=
			parity=
			pinout=
			port=
			speed=
			status=
			stopbits=
serialManagement			
	serialConsolePort		
		\<port\>	
			cd general
			dataBuffering
	serialPduPort		
		\<port\>	
			pdu_type=
			speed_auto_detection=
			poll_rate=
			pdu_cycle=
			pdu_syslog=
			pdu_buzzer=
			pdu_overcurrent=

This page intentionally left blank.

VERTIV™