

Power Management Application AHV Plugin

Installer/User Guide

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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.

Visit https://www.vertiv.com/en-us/support/ for additional assistance.

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Vertiv[™] Power Management Application AHV Plugin Installer/User Guide

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1 Product Overview

AHV Plugin is a power management application that enables you to administer Vertiv[™] Power Insight UPS data and Nutanix Servers associated with the UPSs.

1.1 Keywords

Abbreviation	Description
AHV	Nutanix Acropolis Hypervisor
CVM	Nutanix Controller VM
UVM	Nutanix User VM
AOS	Nutanix Acropolis OS
VM	Virtual Machine
RF	Redundancy Factor
UPS	Uninterruptible Power Supply
HCI	Hyperconverged Infrastructure

1.2 Features and Advantages

Following are the features and advantages of AHV Plugin:

- Simple deployment using virtual appliance.
- Convenient setup using web application.
- Power Insight integration.
- Nutanix Prism integration.
- Centralized access to UPSs and Nutanix HCl systems for association.
- Automatic graceful shutdown of Nutanix AHV hosts and clusters.

1.3 Compatible Version of AHV and Power Insight

Name	Version
AHV	AOS 6 or above
Power Insight	Power Insight 2.4

1.4 System Requirements

The hardware and network pre-requisites for the installation of AHV plugin are as follows:

1.4.1 Hardware

• Nutanix AHV environment, with at least one cluster and three AHV servers.

- One or more Vertiv UPSs.
- At least one server to run a virtual machine with 2 CPUs, 2 GB memory, and 10 GB hard disk, outside of the AHV Cluster.

1.4.2 Network and ports

- Only IPv4 addresses are supported.
- Plugin must be connected to the same management network where Power Insight application and Nutanix Cluster are running to ensure plugin has access to Power Insight application and Nutanix Cluster at all times.
- Plugin must be installed to run outside of the AHV Cluster it is configured to manage.
- SSH port 22 must be opened on all AHV Hosts and CVMs to ensure Plugin can connect and execute Nutanix acli, ncli, and cluster commands remotely.
- HTTPS port 8443 (or any custom port) must be opened on Power Insight server and network to ensure plugin can make REST API calls and retrieve UPS details successfully.
- HTTPS port 9440 must be opened on CVMs and network to ensure plugin can make REST API calls and retrieve AHV Cluster and Host details from Prism successfully.

1.4.3 Integration

- Nutanix Prism Central and Prism Element are supported.
- Plugin establishes SSH connections with AHV Hosts and CVMs to perform graceful shutdown and authenticates using trusted SSH public key and *Nutanix* user. When connected with Host, SSH user *Nutanix* must have permission to shutdown hypervisor. When connected with CVM the SSH user *Nutanix* user must have permission to shutdown UVMs, initiate maintenance mode, stop cluster and shutdown CVM.
- Nutanix AHV 1-Node, 3-Node, and 5-Node clusters are supported. 1-Node cluster is supported in RF1 configuration while 3-Node and 5-Node clusters are supported in both RF2 and RF3 configurations.
- Nutanix Pinned UVMs or non-migratable UVMs are always shutdown during a graceful shutdown of AHV Host.
- Plugin registers with Power Insight application for receiving alarms and invokes REST APIs during its operation to retrieve UPS IDs, UPS names, and UPS metrics. Permission to carry out these actions are assigned to admin user, by default. Credentials of admin user or any other users with necessary permissions are required for plugin to work.

2 Installation

The instructions in this chapter will help you to download and install the AHV plugin.

2.1 User Account Registration

If the power management AHV plugin is your first time downloading Vertiv software, you need to register first on the Vertiv software download portal. Once registration is complete you will be able to download and install the latest version of the application.

To register new users, follow the below steps:

- 1. Go to www.vertiv.com in the web browser.
- 1. Click My Account Login at the right top corner of the page.
- 2. Click Create an account.
- 3. Create your Vertiv account page will appear on screen.
- 4. To create an account, enter the mandatory field details.
- 5. Once you have entered all the necessary details and then click NEXT STEP button.
- 6. Click the checkbox to confirm that you not a robot.
- 7. Click the checkbox to agree to the conditions of Vertiv's use and privacy policy.
- 8. Click CREATE AN ACCOUNT.
- 9. Welcome message will appear on screen.
- 10. In order to complete the process follow the instructions mentioned on screen to verify the email address or else click *Continue Browsing.*

To download the AHV Plugin application, follow the below steps:

- 1. Click Products & Services at the top of the page.
- 2. Click Software under Monitoring & Management.
- 3. List of software appears on screen, search and click on Vertiv™ Power Insight.
- 4. Scroll down and click on Documents & Downloads tab.
- 5. Search for Software and click on Software Download: Vertiv™ Power Insight Application.
- 6. You will get the list of associated software and firmware.
- 7. Follow the instructions mentioned on screen to start the software download. Once the application is downloaded, you can install the power management application.

NOTE: AHV Plugin application is available in virtual appliance format (.ova). An OVA file is an archive file in tar format.

2.2 Power Management AHV Plugin Installation

Install Plugin in Nutanix Prism Element web console to generate a virtual machine and set the virtual machine IP address manually or automatically.

NOTE: Plugin should not be installed on the same AHV Cluster it is configured to manage.

NOTE: Ensure that you have downloaded the Plugin installation package from the www.Vertiv.com website.

To create a AHV Plugin VM from download OVA file, follow the below steps:

Figure 2.1 Extracting Files from OVA

vertiv-power-insight-nutanixahv-plugin-1.0.0.0.mf	04-Aug-22 5:52 PM	MF File	1 KB
💗 vertiv-power-insight-nutanixahv-plugin-1.0.0.0.ova	04-Aug-22 5:52 PM	Open Virtualization Format Archive	2,079,221 KB
💗 vertiv-power-insight-nutanixahv-plugin-1.0.0.0.vf	04-Aug-22 5:50 PM	Open Virtualization Format	30 KB
💗 vertiv-power-insight-nutanixahv-plugin-1.0.0.0-disk001.vmdk	04-Aug-22 5:50 PM	Virtual Machine Disk Format	2,079,189 KB

1. Extract files from the downloaded OVA file (an archive in tar format).

NOTE: 7-Zip is one of the popular tools used to extract files from an OVA.

Figure 2.2 Checking Virtual Machine Settings



2. The OVA file has a .OVF file (XML format). Open the .OVF file in a text editor and check VM settings such as CPU, memory.

def-org-nwgvde	Home 👻 🚭	▲ ①・ ○ ② ·				c	λ? × ✿ admin Υ
Hypervisor Summary	Prism Central	Cluster-wide Controller IO	PS 0 IOPS	Health		Critical Alerts	
AHV 2 VERSIONS ()	Not registered Register or create new	426 IOPS 03:30 PM 04:30	PM 05:30 PM		GOOD	CRIT	ICAL
Storage Summary	🌣 🛛 Logical 🗸	Cluster-wide Controller IO	B/W 0 KBps	VMs	• 0 • 0 • 9	CVM 10.0.128	175 rebooted tes ago
1.6 TiB Total Capacity	View Details	4Z.55 MBps		Disks	• 0 • 0 • 6		
		03:30 PM 04:30	PM 05:30 PM	Hosts	• 0 • 0 • 3		
VM Summary		Cluster-wide Controller La	tency ⑦ 0 ms	Data Resiliency Status		Warning Alerts	
9 VM(S)	Availa Best Effort Off 6 On 3 Suspend 0	03:30 PM 04:30	PM 05:30 PM	Cr	itical	WARNING 24 minutes ago	CVM Time Difference High
Hardware Summary		Cluster CPU Usage	Cluster Memory Us	Data resilie	ncy not possible	Info Alerts	Events
З	AWS.z1d.metal	5.05%	9.8%	Failure Domain 👔	Rack	No lofe Alexia	311
HOSTS	MODEL	OF 163.2 GHz	OF 754.59 GIB	Fault Tolerance 👔	• 0	NO INTO Alerts	EVENTS Last event few seconds ago

Figure 2.3 Uploading VMDK File in Prism Element Console

3. The OVA file also has a .VMDK file (disk image). Upload the VMDK file by using Nutanix Prism Element web console by clicking the *gear icon* in top right corner.

Figure 2.4 Opening Image Upload Screen

🔀 def-org-nwgvde Settings 🗸 💝 🔿 🖓 🗸				Q ? × 🌣 🛛 admin 🗸
Settings	Image Configuration		?	
	Manage the images to be used for creating vir	tual disks.		
General	+ Upload Image			
Cluster Details				
Configure CVM	Name Annotation	Type State Size		
Convert Cluster	ubuntu	ISO ACTIVE 1.37 Gi	B 🖌 🛪	
Expand Cluster				
Image Configuration				
Licensing				
Reboot				
Remote Support				
Upgrade Software				
Setup				
Prism Control Registration				
Pilse				
Rack Configuration				
•				

4. Click Image Configuration and in the Image Configuration screen, click + Upload Image.

Figure 2.5 Starting Image Upload

🗶 def-org-nwgvde 🛛 Setti	ngs 🗸 😻 🗍 🕯 🛈 🕽 • 🗸		Q.?,⊻¢¢ admin ×
Settings	Uploading file 10.8%		×
Jettings		Create Image ?	
General		Name	
Cluster Details			
Configure CVM		Annotation	
Convert Cluster			
Expand Cluster		Image Type	
linage Conliguration			
Rebot		Storage Container	
Remote Support			
Upgrade Software		Image Source	
		O From URL	
		Upload a file Choose File works power insight putprivable plugin 10.0.0 disk001 mg/r	
Setup		encode ne verus power insigner intanixans spingire totol or diskoot and k	
Connect to Citrix Cloud		Cancel Saving	
Prism Central Registration			
Pulse			
Rack Configuration			

5. In the Create Image screen, specify the necessary details. Select *DISK* in the *Image Type* drop-down list, browse and select your *VMDK file* for upload and Click *Save*. This will initiate image upload.

Figure 2.6 Viewing Uploaded Image

🗙 def-org-nwgvde Settings 🔹 💱 🖡 🚺 + 🔘 🔊						Q ? ~ 🌣 🛛 admin ~
Settings	Image Configuration				1	2
	Manage the images to be used for	or creating virtual disks.				
General	+ Upload Image					
Cluster Details						
Configure CVM	Name Annotation	п Туре	State	Size		
Convert Cluster	ubuntu	ISO	ACTIVE	1.37 GiB	× · ×	
Expand Cluster	VertivPINutanixA	DISK	ACTIVE	10 GiB	2 · X	
Image Configuration						
Licensing						
Reboot						
Remote Support						
Upgrade Software						
Setup						
Connect to Citrix Cloud						
Prism Central Registration						
Pulse						
Rack Configuration						
Ť						

6. When upload is 100% complete, Create Image screen closes automatically and the uploaded image appears in the Image Configuration.

🗙 def-org-nwgvde VM	~	🗢 🔺 🛈	• •	7 ~								Q ? ~ 1	🗘 🕴 admin 🗸 🗸
Overview - Table											+ Cr	eate VM	Network Config
VM								Include Contro	ller VMs 🕔 🔇	6 VMs (filtered from	n9) 🧿 · 🕸 🗸 ·	search in tab	ale Q
 VM Name 	Host	IP Addresses	Cores	Memory Capacity	Storage	CPU Usage	Memory Usage	Controller Read IOPS	Controller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT		10.0.130.7	1	8 GiB	4.34 GiB / 10 GiB	0%	0%		-			Yes	No
• testvm2-without-NGT1		10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%					Yes	No
testvm3-without-NGT1		10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%		-			Yes	No
testvm4-without-NGT1		10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-	-		Yes	No
• testvm5-without-NGT1		10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-			Yes	No
testvm6-without-NGT1		10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-	-		Yes	No

Figure 2.7 Opening Create Virtual Machines Screen

7. Open VM screen and select Table format. This page displays any VMs already created and some details for each VM. In top right corner, click on *+ Create VM*.

Figure 2.8 Entering Name for the VM

🗙 def-org-nwgvde VM	• \$		• • •) v					Q ? ~ 1	🗘 admin 🗸
Overview · Table				Create VM ?	×			+ Cr	eate VM 🕴	Network Config
VM				General Configuration		VMs · 🔇	6 VMs (filtered fror	n9) 🧿 · 🌣 ~ ·	search in tab	le Q
* VM Name	Host IP Ac	ddresses	Cores	Name VertivPINutanixPlugin		xoller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT	10).0.130.7	1	Description VertivPINutanixPlugin					Yes	No
• testvm2-without-NGT1	10	0.0.130	1	Timezone UTC) UTC Cluster	•				Yes	No
• testvm3-without-NGT1	10	0.0.130	1	Use UTC timezone for Linux VMs and local timezone for Windows VMs.					Yes	No
• testvm4-without-NGT1	10	0.0.130	1	Use this VM as an agent VM Compute Details		-	-	-	Yes	No
• testvm5-without-NGT1	10	0.0.130	1	vCPU(s)		-		-	Yes	No
• testvm6-without-NGT1	10	0.0.130	1	Number Of Cores Per vCPU		• •			Yes	No
				Cancel	ave					

8. Enter name for the VM.

Figure 2.9 Entering VM Settings

🔍 def-org-nwgvde VM 🗸 🦃 🗍 🔹	•				Q ? ~ 1	🗘 admin 🗸
Overview · Table	Create VM ? ×	:		+ Cr	eate VM 🕴	Network Config
VM	Compute Details	▲ VMs · (6 VMs (filtered from	m 9) 💿 · 🅸 🗸 ·	search in tab	le Q
* VM Name Host IP Addresses	s 2	roller Writ	e Controller IO S Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT 10.0.130.7	Number Of Cores Per vCPU 1		. <u>-</u>	-	Yes	No
• testvm2-without-NGT1 10.0.130	Memory ⑦ 2 GiB		· -		Yes	No
• testvm3-without-NGT1 10.0.130	Boot Configuration				Yes	No
• testvm4-without-NGT1 10.0.130	Legacy BIOS Set Boot Priority Default Part Order (CD BOM Dick Maturals) Y				Yes	No
• testvm5-without-NGT1 10.0.130					Yes	No
• testvm6-without-NGT1 10.0.130	I Disks + Add New Disk	•			Yes	No
	Cancel Save					

9. Enter values for CPU, memory and other settings similar to the settings in the .OVF file from Step 2.

Figure 2.10 Adding New Disk

def-org-nwgvde VM	~ 🧇 🔺 🤇	• • •						Q ? ~ 1	🗘 admin 🗸
Overview · Table			Create VM	? ×			+ Cre	eate VM 🕴 🕴	Network Config
VM			Disks	+ Add New Disk	VMs · 🔇	6 VMs (filtered from	n 9) 🚺 · 🅸 🗸 ·	search in tab	le Q
≜ VM Name	Host IP Addresses	Cores	Type Address Parameters CD-ROM ide.0 EMPTY=true; BUS=ide	2 · X	roller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT	10.0.130.7	1	Volume Groups			-	-	Yes	No
• testvm2-without-NGT1	10.0.130	1	Please create a VM before you can add a vo	lume group.				Yes	No
• testvm3-without-NGT1	10.0.130	1	+ Add Volume Group					Yes	No
• testvm4-without-NGT1	10.0.130	1						Yes	No
• testvm5-without-NGT1	10.0.130	1	Network Adapters (NIC)					Yes	No
• testvm6-without-NGT1	10.0.130	1	+ Add New NIC					Yes	No
				Cancel Save					

10. Click + Add New Disk.

Figure 2.11 Setting Up New Disk

Mef-org-nwgvde VM		0 7						Q ? ~ 1	🗘 admin 🗸
Overview - Table				2			+ Cr	eate VM I	letwork Config
м			Туре	: ^	VMs · 🔇	6 VMs (filtered fror	m9) 🚺 · 🌣 ~ ·	search in tab	le Q
* VM Name Host	IP Addresses	Cores	DISK Operation	*	roller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT	10.0.130.7	1	Clone from Image Service Bus Type	~				Yes	No
• testvm2-without-NGT1	10.0.130	1	SCSI	•				Yes	No
• testvm3-without-NGT1	10.0.130	1	Image () VertivPINutanixAppliance	•				Yes	No
• testvm4-without-NGT1	10.0.130	1	Size (GIB) ①					Yes	No
• testvm5-without-NGT1	10.0.130	1	Please note that changing the size of an image is not allowed. Index					Yes	No
• testvm6-without-NGT1	10.0.130	1	Next Available					Yes	No
			Cancel	Add					

- 11. Select *Clone from Image Service* from the Operation drop-down list, *DISK* from *Type* drop-down list and Image that you uploaded in Step 3.
- 12. Click Add.



🔀 def-org-nwgvde 🛛 VM			0 7							Q ? ~	🗘 ac	dmin v
Overview · Table				Create VM	?	×			+ Cr	eate VM	Network	Config
VM				+ Add Volume Group		-	VMs · 🔇	6 VMs (filtered from	m 9) 🔕 · 🌣 🗸 ·	search in ta	ble	۹
 VM Name 	Host	IP Addresses	Cores				roller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode	
• testvm1-without-NGT		10.0.130.7	1	Network Adapters (NIC)						Yes	No	
• testvm2-without-NGT1		10.0.130	1	+ Add New NIC						Yes	No	
• testvm3-without-NGT1		10.0.130	1	VM Host Affinity						Yes	No	
• testvm4-without-NGT1		10.0.130	1	You haven't pinned the VM to any hosts yet.		ł				Yes	No	
• testvm5-without-NGT1		10.0.130	1	+ Set Affinity		1		-	-	Yes	No	
• testvm6-without-NGT1		10.0.130	1	Custom Script						Yes	No	
				Cancel	Save							

13. You are back in Create VM screen. Scroll down and click + Add New NIC.

Figure 2.13 Setting Up Network

🔀 def-org-nwgvde 🛛 VM 🛛 🗸 🗌	🌚 🔺 🛈	• • •) v					Q ? ~ 1	🕽 🕴 admin 👻
Overview · Table							+ Cri	eate VM 🛛 🕅	letwork Config
			Create NIC ?	×					_
VM			Subnet Name	v	/Ms · 🔇	6 VMs (filtered from	19) 💽 · 🌣 🗸 ·	search in tab	e Q
▲ VM Name Host	IP Addresses	Cores	NutanixAHV-Subnet	• 1	roller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT	10.0.130.7	1	Network Connection State Connected	•				Yes	No
• testvm2-without-NGT1	10.0.130	1	Private IP Assignment Network address / prefix Free IPs (Subnet) Free IPs (Pool)					Yes	No
• testvm3-without-NGT1	10.0.130	1	10.0.130.0/24 247 244				-	Yes	No
• testvm4-without-NGT1	10.0.130	1	Assign with DHCP	•				Yes	No
• testvm5-without-NGT1	10.0.130	1	Assignment type will appear as static after it has been assigned DHCP because the IP is permanently associated with the VM.		-			Yes	No
• testvm6-without-NGT1	10.0.130	1	Cancel Add			-	-	Yes	No

14. Select the subnet for AHV Plugin VM and let DHCP assign an IP address or manually enter IP configuration.

NOTE: Ensure you choose a subnet that gives AHV Plugin VM access to Nutanix AHV management network.

15. Click Add.

Figure 2.14 Viewing Network Adapters

🛛 🔀 def-org-nwgvde VM 🔹 😂 🐥 🧃	••••	v	Q ? × \$\$ admin •
Overview · Table		Create VM ? × + Cr	eate VM Network Config
∨м		CD-ROM ide.0 EMPTY=true; BUS=ide ✓	search in table Q
* VM Name Host IP Addresses	Cores	DISK scsi.0 SIZE-10GiB; BUS-scsi 🖌 K roller Write Controller 10 Controller Avg D Bandwidth Latency	Flash Backup a Mode
• testvm1-without-NGT 10.0.130.7	1	Volume Groups Please create a VM before you can add a volume group.	Yes No
• testvm2-without-NGT1 10.0.130	1	Add Volume Group	Yes No
• testvm3-without-NGT1 10.0.130	1	· · · · · · · · · · · · · · · · · · ·	Yes No
• testvm4-without-NGT1 10.0.130	1	Network Adapters (NIC) + Add New NIC	Yes No
• testvm5-without-NGT1 10.0.130	1	VLANID PRIVATE IP MAC	Yes No
• testvm6-without-NGT1 10.0.130	1	NutarioAHV	Yes No
		Cancel Save	

16. You are back in Create VM screen and the new NIC is displayed under Network Adapters.

Figure 2.15 Viewing Created VM

X def-org-nwgvde VM ~	S 🕈 🛈	• •	7 ~								Q ? ~ 1	🗘 admin 🗸
Overview · Table										+ Cr	eate VM	Network Config
VM						0	Include Control	ller VMs 🕐 🔇	7 VMs (filtered from	10) 📀 · 🌣 ~ ·	search in tab	ie Q
* VM Name Host	IP Addresses	Cores	Memory Capacity	Storage	CPU Usage	Memory Usage	Controller Read	Controller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup a	Flash Mode
• testvm1-without-NGT	10.0.130.7	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-	-	-	Yes	No
• testvm2-without-NGT1	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-		-	Yes	No
• testvm3-without-NGT1	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-		-	Yes	No
• testvm4-without-NGT1	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-		-	Yes	No
• testvm5-without-NGT1	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-		-	Yes	No
• testvm6-without-NGT1	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%	-	-		-	Yes	No
VertivPINutanixPlugin	10.0.130	2	2 GiB	- / 10 GiB	0%	0%	-	-	-	-	Yes	No

17. Click Save to create the VM. In few moments, new VM will be displayed in table.

Figure 2.16 Powering on VM

🗙 def-org-nwgvde VM	- I 🤓 🔺 🕕 -	0 7 -								(י _` י	🗘 admin
testvin3-without-ivern	10.0.150		8 GIB	GiB	0%	0%				-	res	NO
 testvm4-without-NGT1 	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%			-	-	Yes	No
 testvm5-without-NGT1 	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%		-	-	-	Yes	No
 testvm6-without-NGT1 	10.0.130	1	8 GiB	4.34 GiB / 10 GiB	0%	0%		-	-	-	Yes	No
VertivPINutanixPlugin	10.0.130	2	2 GiB	3.94 GiB / 10 GiB	0%	0%		-			Yes	No
Summary > VertivPINutanixPlugin				Manage Gue	est Tools		le P	ower on Take Snapshot		Clone	Update	× Delete
VM DETAILS	VM Performance	V	ïrtual Disks	VM NIC	s	VM Snapshot	s	VM Tasks	I/O Metrics	5	Cons	sole
Name • VertivPlNutanixPlugin Description VertivPlNutanixPlugin ID	CPU Usage										Peak: 0.01%	Current: 0%
1ec63083-bebb-49a3-ab71-0df4acb45 Host	Memory Usage			04:30 PM				05:30 PM			Peak: 0.01%	06:30 Current: 0%

- 18. Click the new VM name and scroll down until you see VM actions.
- 19. Click Power on and wait for few seconds.



🗙 def-org-nwgvde VM 🗸 🗸	♥ A () · O (• •					Q ? Y 🌣 🛛 admin Y
VertivPINutanixPlugin VertivPINutanixPlugin ta/AHV	- 10.0.130 2	2 GIB 3	.94 GIB / 10 GIB 19.71%	10.04 745 %	0 12.03 M	1Bps 0.05 ms	Yes No
Summary > VertivPINutanixPlugin		Mar	age Guest Tools 원 L	aunch Console Power (Off Actions Take Snapsho	ot Migrate Clone	✓ Update X Delete
VM DETAILS	VM Performance	Virtual Disks	VM NICs	VM Snapshots	VM Tasks	I/O Metrics	Console
Name • VertivPlNutanixPlugin Description VertivPlNutanixPlugin	CPU Usage					Pe	eak: 19.71% Current: 19.71%
ID 1ec63083-bebb-49a3-ab71-0df4acb45			04:30 PM		05:30 PM		06:30 F
Host 10-0-128-121-aws-ap-south-1a Host IP 10.0.128.121	Memory Usage					Pea	k: 10.04% Current: 10.04%
Memory 2 GiB			04:30 PM		05:30 PM		06:30 F
Cores 2	Controller IOPS					Peak: 74	IS IOPS Current: 745 IOPS
Network Adapters 1							
IP Addresses 10.0.130.86 Storage Container SelfServiceContainer	Controller IO Bandwidth		04:30 PM		05:30 PM	Peak: 12.03	06:30 F MBps Current: 12.03 MBps

20. When VM starts running Power on option disappears and Power Off Actions and Launch Console options appear.

NOTE: At this point you may click *Launch Console* to check whether VM boot process is complete and Ubuntu server login prompt is displayed. When Ubuntu server login prompt appears, AHV Plugin VM is ready and AHV Plugin web application can be launched.

21. Make note of the VM IP address in Prism Element UI.

3 Application Usage

The instructions in this chapter describe the screen elements of the User Interface (UI).

3.1 Overview

AHV Plugin enables Nutanix Administrators to configure and automate graceful shutdown actions on Nutanix AHV hosts and clusters, based on automatic event triggers (alarms) from Vertiv Power Devices such as low battery level of UPS.

To setup AHV Plugin, follow the steps below:

1. Open AHV Plugin UI and sign in with default credentials.

NOTE: It is recommended to change the default password on first login.

- 2. Setup integration with Nutanix Prism management platform (Prism Element or Prism Central). This allows AHV Plugin to discover and gather details on AHV hosts, clusters and CVMs.
- 3. Setup integration with Power Insight application. This enables Power Insight application to send alarms to AHV Plugin.
- 4. Associate UPSs with each AHV host in the clusters you would like to manage. AHV Plugin uses these details to determine specific AHV Hosts where graceful shutdown actions must be performed, upon receipt of an alarm.
- 5. Copy SSH public key from AHV Plugin VM and add in Prism management console to allow SSH connectivity between AHV Plugin and AHV hosts and CVMs.
- 6. Verify SSH user *nutanix* is available on AHV hosts and CVMs. AHV Plugin uses *nutanix* user when establishing SSH connections with AHV hosts and CVMs for graceful shutdown management.

At this point AHV Plugin is setup to receive alarms and perform graceful shutdown actions.

WARNING! Once UPS associations are setup, these stay in AHV Plugin database forever. If you wish to change the Prism settings and integrate AHV Plugin with a different Prism server, it is highly recommended that you assess implications of the change because this can have an impact on graceful shutdown of AHV Hosts. When Prism settings are changed to point to a new Host, the previous associations are not removed and stay as is.

If you no longer with to perform graceful shutdown management of AHV Hosts in a cluster and remove these from management by AHV Plugin, select the corresponding Cluster and remove all associations from all Hosts. Click *Apply* when done. All associations are removed from AHV Plugin database and the Cluster is reverted to unmanaged state.

AHV Plugin database name is vertivpluginb and table names where associations are stored are hosts and hostpdassociation respectively.

Graceful shutdown actions are performed in response to the following four alarms received from Power Insight application:

- Trigger Event from UPS UPS on Battery (Automatic or Manual)
- Trigger Event from UPS UPS Low Battery (Automatic or Manual)
- Trigger Event from UPS UPS Overload (Automatic or Manual)
- Trigger Event from UPS UPS Over Temperature (Automatic or Manual)

3.2 Plugin Login

To login, follow the below steps:

- Open a web browser and enter the Plugin IP address to access Plugin UI. For example, if Plugin VM IP address is 1.1.2.2 then open <u>https://1.1.2.2/</u> in web browser to access login page. Since AHV Plugin is setup to use self-signed certificates, this generates a security warning.
- 2. Click Proceed to localhost (unsafe) to launch AHV Plugin login page.

Figure 3.1 Launching AHV Plugin

Your connection is not private	
Attackers might be trying to steal your information from localhost (for example, passwords, messages, or credit cards). Learn more	
Q To get Chrome's highest level of security, <u>turn on enhanced protection</u>	
Hide advanced Back to safety	
This server could not prove that it is localhost; its security certificate is not trusted by your	
intercepting your consection.	
Process to incarnosi (unsate)	

- 3. Once login page is displayed, enter default user name and password and then click *Login*. The default login credentials are:
 - a. User name: admin
 - b. Password: vertiv-pi

NOTE: It is recommended to change the default password on first login.

Figure 3.2 Plugin Login Page

😯 VERTIV.	
	Please enter your login details
	Username
	admin
	Password
	Password
	Login
	Restore Password

4. Successful login opens AHV Plugin Home Page. Configuration options are displayed in vertical menu on the left side of the screen, *Logout* button on top right and plugin version number in footer section.

Figure 3.3 Home Page

\sim	VERTIV. Logout
=	Vertiv Plugin for Nutanix AHV Platform
НОМЕ	AHV Plugin is a power management application that enables you to administer Vertiv Power Insight UPS alarms and Nutanix Servers associated with the UPSs. AHV Plugin receives alarms from
G- SSH ACCESS	Power Insight application and performs graceful shut down actions on Nutanix Hyperconverged Infrastructure. Graceful shut down actions include shut down of user VMs, pinned user VMs, clusters, CVMs and Hosts.
	For AHV Plugin to carry out graceful shut down actions, following steps must be completed:
UPS ASSOCIATION	1. In Change Password screen, change default password. This step does not affect graceful shut down actions performed by AHV Plugin but is highly recommended.
_	2. In Prism Settings screen, specify Nutanix Prism server details and Apply. This sets up integration with Prism and enables AHV Plugin to discover AHV Hosts, CVMs and Clusters.
POWER INSIGHT	In Power Insight screen, specify Power Insight server details and Apply. This sets up integration with Power Insight application and enables AHV Plugin to discover UPSs.
	4. In SSH Access screen, copy AHV Plugin SSH public key and add in Nutanix Prism. This enables AHV Plugin to establish SSH connections with Nutanix Hosts and CVMs and carry out graceful shut down actions on affected Hosts in response to Power Insight alarms.
PRISM SETTINGS	In UPS Association screen, select each Cluster you wish to manage and associate Cluster Hosts with UPSs. This enables AHV Plugin to determine Hosts affected by an alarm received from Power Insight and carry out graceful shut down actions on affected Hosts.
CHANGE PASSWORD	
Version: 1.0.0.0	

3.3 Power Insight Integration

- 1. Integration with Power Insight application enables AHV Plugin to achieve the following:
- Receive UPS alarms from Power Insight.
- Make REST API calls to Power Insight to retrieve list of UPSs and UPS metrics.

 To complete this step, user must create API key and secret in Power Insight application and copy the details over to AHV Plugin UI. In Power Insight application, browse to Settings and open Integrated Management section. Click the *plus (+) icon* to open the Add page. Choose the category corresponding to Nutanix AHV integration, enter IP address of your AHV Plugin VM in *Require Source Address* and enter a meaningful description.

Figure 3.4 Power Insight API Key and Secret

-	ADMINISTRATION	=			×		admin 👻
٢	EventsNotification Settings	← Add					
*	 System Settings 	Category	Require Souces Address				_
•	 User Defined Properties Trellis System Health 	Required					
	 Address Book Contacts Trust Store 	AHV Plugin Integration			CA	NCEL	OK
	 Integrated Management 					TCLL	

- 2. Save the settings. Power Insight application will generate a unique API key and secret for you.
- 3. Make note of API key and secret.

Figure 3.5 Integrated Management

=	ADMINISTRATION	≡									8		admin 👻
٢	EventsNotification Settings	Integ	rated Manag	ement									
*	 System Settings User Defined Properties 								C	۹	T		0
	 Trellis System Health 	٩	Search										
	 Address Book Contacts Trust Store 		COMPANY	REQUIRE SOUCES ADDRESS	ΑΡΙ ΚΕΥ		API SECRET		CREATED DATE TIME		DESCRIPTION	4	
	Integrated Management		VMware	172.31.32.138	dp08NF (ð	7b22c17503df1c2d7594a74895e8ea58	Ô	2022-08-17 14:13:59	9	AHV Plugin	Integratio	on :

- 4. In AHV Plugin UI, open Power Insight Integration tab. Enter IP address, port of the VM where Power Insight application is running as well as user name and password that will allow AHV Plugin to authenticate with Power Insight and make REST API calls.
- 5. Enter API key and secret you copied from Power Insight Integration Management section under Power Insight Alarm Registration to register AHV Plugin with Power Insight application for receiving alarms.
- 6. Click Apply.

Figure 3.6 Power Insight Integration

\$	VERTIV.	
=	Power Insight Integration:	
🕈 НОМЕ	Accept untrusted SSL/TLS Certificates: 🥌	
	Power Insight Server:	
G 3017400200	10.10.103.202	
UPS ASSOCIATION	8443	
POWER INSIGHT	admin	
PRISM SETTINGS		
	Power Insight Alarm Registration:	
CHANGE PASSWORD	NqtRxhOn	
	Apply	
	Power Insight registration is successful.	
Version: 1.0.0.0		

3.4 Nutanix Prism Integration

Nutanix Prism is the centralized management solution for Nutanix environments.

Prism Element is a service built into the platform for every Nutanix cluster deployed. It provides the ability to fully configure, manage, and monitor Nutanix clusters but only manages the cluster it is part of.

Prism Central is a centralized management tool to monitor and manage multiple clusters through a single web console that runs as a separate instance comprised of either a single VM or a set of VMs.

AHV Plugin retrieves details about AHV Clusters, Hosts and CVMs by making REST API calls to Prism.

Open Prism Settings link in plugin menu, add Prism details and click *Apply*. AHV plugin authenticates the Prism details entered and saves in AHV plugin database if authentication is successful.

Both Prism Element and Prism Central are supported by AHV plugin. With Prism Element configuration, AHV plugin can manage one cluster while with Prism Central configuration, AHV plugin supports association and graceful shutdown of multiple clusters.

Figure 3.7 Prism Integration

VERTIV. Logout	
Prism Integration (Prism Central or Prism Element):	
Accept untrusted SSL/TLS Certificates:	
10.10.10.10	
9440	
admin	
Apply	
Prism Integration settings saved successfully.	
1	
	VERTIV. Logott Prime Integration (Prism Central or Prism Element): Accept untrusted SSL/TLS Certificates: 10.10.10 Advantation 9440 Admin

3.5 Specifying Associations Between UPSs and AHV Hosts, Clusters

An Administrator specifies associations between UPSs and corresponding AHV Hosts. These associations are stored in AHV Plugin database. Each association record consists of identifiers that uniquely identify a Vertiv UPS from Power Insight repository as well as AHV Host from Nutanix Infrastructure. When AHV Plugin receives an alarm, it uses the association information to identify the AHV Hosts affected so it can carry out graceful shutdown if required.

NOTE: An Administrator must select a minimum of one UPS for each AHV Host before applying the associations.

To add UPS associations, follow the below steps:

Prism and Power Insight integrations must be completed successfully before adding UPS associations.

- 1. Click on UPS ASSOCIATION in Plugin menu to open associations screen.
- 2. Names of all clusters available in Prism along with their number of nodes are populated in drop-down with placeholder text *Search and select cluster to associate with UPSs.*
- 3. Select the cluster you would like to add associations for.

S.	VERTIV.	Logout
=	Associate UPS(s) with AHV Host(s) for selected cluster:	
♠ НОМЕ	Search and select cluster to associate with UPSs	
Or SSH ACCESS	demo-aws-3n-9v7jzv (3 Nodes)	
	nc2-1n-pc-aws-esbcg2 (1 Nodes)	
UPS ASSOCIATION		
POWER INSIGHT		
PRISM SETTINGS		
CHANGE PASSWORD		
	_	
/ersion: 1.0.0.0		

Figure 3.8 Selecting AHV Cluster

4. All AHV Hosts in the selected cluster are displayed in expanded form to list any UPS associations. To add or remove associations open the UPS filter drop-down with placeholder text *Search and select UPSs to associate*.

Figure 3.9 AHV Host from the Selected Cluster are Displayed along with Associated UPSs (if Any)

\sim	VERTIV.	Logout
=	Associate UPS(s) with AHV Host(s) for selected cluster:	
🔒 НОМЕ	demo-aws-3n-9v7/zv (3 Nodes) *	
O- SSH ACCESS	Search and select UPSs to associate 👻	
UPS ASSOCIATION	10.0.128.70	
DOWER INSIGHT	10.0.128.7310.0.128.53	
PRISM SETTINGS	Apply Cancel	
CHANGE PASSWORD		
Version: 1.0.0.0		

5. When UPS filter drop-down is opened, all UPSs available in Power Insight are displayed. You may selectively associate one or more UPSs or use the *Select All* option. To apply UPSs selected, close the filter drop-down.

Figure 3.10 Selecting One or More UPSs to Associate

Sector 1	VERTIV.	Logout
=	Associate UPS(s) with AHV Host(s) for selected cluster:	
🕈 НОМЕ	demo-aws-3n-9v7jzv (3 Nodes) *	
O- SSH ACCESS	Search and select UPSs to associate	
UPS ASSOCIATION	Select All Clear All	
	TestLab_ohio_UPS3	
POWER INSIGHT	TestLab_ny_UPS2	
PRISM SETTINGS	TestLab_UPS1 Apply Cancel	
CHANGE PASSWORD		
Version: 1.0.0.0		

The selected UPSs are now displayed under each AHV Host in unselected state.

Figure 3.11 UPSs are Displayed Under Each AHV Host

Sector 100 (Sector 100 (Sec	VERTIV.	Logout
=	Associate UPS(s) with AHV Host(s) for selected cluster:	
🔒 НОМЕ	demo-aws-3n-9v7jzv (3 Nodes) *	
Or SSH ACCESS	× TestLab_ohio_UPS3 × TestLab_ny_UPS2 ~	
UPS ASSOCIATION	10.0.128.70	
POWER INSIGHT	TestLab_ny_UPS2 10.0.128.73	
PRISM SETTINGS	TestLab_ohio_UPS3 TestLab_ny_UPS2	
CHANGE PASSWORD	 10.0.128.53 TestLab_ohio_UPS3 	
	TestLab_ny_UPS2	
	Apply Cancel	
Version: 1.0.0.0		

In case association is missing for one or more AHV Hosts in the selected cluster and you click *Apply* button, error message is displayed, see **Figure 3.12** on the facing page .

\sim	VERTIV.	ec2-34-216-183-97.us-west-2.c	ompute.amazonaws.com says	Logout
=	Associate UPS(s) with AHV Ho	remove a cluster from graceful shut selected UPSs and Apply.	down management, clear all	
🕈 НОМЕ	demo-aws-3n-9v7jzv (3 Nodes)		ок	
O- SSH ACCESS	× TestLab_ohio_UPS3 × TestLab_ny_UPS2	×]	
UPS ASSOCIATION	- 10.0.128.70			
POWER INSIGHT	TestLab_onio_0PS3 TestLab_ny_UPS2 10.0.129.72			
PRISM SETTINGS	TestLab_ohio_UPS3 TestLab_py_UPS2			
CHANGE PASSWORD	 10.0.128.53 TestLab_ohio_UPS3 			
	□ TestLab_ny_UPS2			
	Apply	Cancel		
Version: 1.0.0.0				

Figure 3.12 Each AHV Host Associating with at Least 1 UPS

6. Ensure at least one UPS is selected for each AHV Host and then click Apply.

Figure 3.13 Applying Associations

Sector	VERTIV.	Logout
=	Associate UPS(s) with AHV Host(s) for selected cluster:	
✿ HOME	demo-aws-3n-9v7jzv (3 Nodes) *	
C- SSH ACCESS	× TestLab_ohio_UPS3 × TestLab_ny_UPS2	
UPS ASSOCIATION	 ☐ 10.0.128.70 ☑ TestLab_ohio_UPS3 	
POWER INSIGHT	TestLab_ry_UPS2 10.0.128.73	
PRISM SETTINGS	□ TestLab_ohio_UPS3 Z TestLab_ny_UPS2	
CHANGE PASSWORD	 □ 10.0.128.53 ☑ TestLab_ohio_UPS3 	
	TestLab_ny_UPS2	
	Apply Cancel	
	UPS associations saved successfully.	
Version: 1.0.0.0		

AHV Plugin keeps track of changes made in associations and allows associations to be applied only if changes are detected since the last time associations were applied.

Figure 3.14 No Changes Detected in Associations

S	VERTIV.	ec2-34-216-183-97.us-west-2.c	ompute.amazonaws.com says	Logout
≡	Associate UPS(s) with AHV Ho		ок	
🔒 НОМЕ	demo-aws-3n-9v7jzv (3 Nodes)			
O- SSH ACCESS	× TestLab_ohio_UPS3 × TestLab_ny_UPS2	×]	
UPS ASSOCIATION	- 10.0.128.70			
POWER INSIGHT	 TestLab_ny_UPS2 10.0.128.73 			
PRISM SETTINGS	TestLab_ohio_UPS3 TestLab_ny_UPS2			
CHANGE PASSWORD	 10.0.128.53 TestLab_ohio_UPS3 			
	TestLab_ny_UPS2			
	Apply	Cancel		
Version: 1.0.0.0				

7. In the filter drop-down if you want to clear all UPSs from filter and remove all associations, click the *Clear All* option and confirm by clicking the *Yes* button. If *Clear All* was clicked in error, cancel the operation by clicking the *No* button.



	$\mathbf{\hat{v}}$	VERTIV.		
≡		Associate UPS(s) with AHV	Host(s) for selected cluster:	:
🔒 НОМЕ		demo-aws-3n-9v7jzv (3 Nodes)	*]
Or SSH ACCES	s	× TestLab_ohio_UPS3 × TestLab_ny_	UPS2	
UPS ASSO		Select All Clear All		
-		TestLab_ohio_UPS3		
POWER INS	SIGHT	TestLab_ny_UPS2	UPS Association	×
PRISM SET	TINGS	TestLab_UPS1	Do you want to remove all association	ns for all UPSs applied in filter?
CHANGE P	ASSWORD	 10.0.128.53 TestLab_ohio_UPS3 		Yes No
		TestLab_ny_UPS2		
		Apply	Cancel	
Version: 1.0.0.0				

8. At any point, if you switch to a different cluster from the cluster drop-down you may receive a warning if any unsaved changes in associations of currently selected cluster are found. If the unsaved associations are important click the *No* button.

Statistics	VERTIV.		Logout
=	Associate UPS(s) with AHV	Host(s) for selected cluster:	
✿ HOME	nc2-1n-pc-aws-esbcg2 (1 Nodes)	v	
O- SSH ACCESS	× TestLab_ohio_UPS3 × TestLab_ny_U	JPS2 ¥	
UPS ASSOCIATION	- 10.0.128.70		
POWER INSIGHT	TestLab_ny_UPS2 10.0.128.73	UPS Association X	
PRISM SETTINGS	TestLab_ny_UPS2 TestLab_ohio_UPS3	Do you want to discard unsaved associations?	
CHANGE PASSWORD	 10.0.128.53 TestLab_ohio_UPS3 TestLab_nu_UPS2 	Yes No	
		Cancel	

Figure 3.16 Switching Cluster Selection

NOTE: If you no longer with to perform graceful shutdown management of AHV Hosts in a cluster and remove these from management by AHV Plugin, select the Cluster and remove all associations from all Hosts. Click *Apply* when done. All associations are removed from AHV Plugin database and the Cluster is reverted to unmanaged state.

Figure 3.17 Unmanage AHV Hosts to Exclude from Graceful Shutdown Management

\sim	VERTIV.	Logout
=	Associate UPS(s) with AHV Host(s) for selected cluster:	
🔒 НОМЕ	demo-aws-3n-9v7jzv (3 Nodes) 🔹	
O- SSH ACCESS	× TestLab_ohio_UPS3 × TestLab_ny_UPS2 ×	
UPS ASSOCIATION	10.0.128.70	
POWER INSIGHT	TestLab_ny_UPS2 10.0.128.73	
PRISM SETTINGS	TestLab_ny_UPS2 TestLab_ohio_UPS3	
CHANGE PASSWORD	0.0.128.53	
	TestLab_ny_UPS2	
	Apply Cancel	
	UPS associations saved successfully.	
Version: 1.0.0.0		

3.6 Establishing SSH Trust between AHV Hosts, CVMs and AHV Plugin

In order to perform a graceful shutdown of AHV hosts in a cluster, AHV Plugin must be able to establish SSH connection with the hosts and cvms.

- 1. Click SSH Access from Plugin menu.
- 2. Click Copy SSH key button to copy the SSH public key of AHV plugin to clipboard.
- 3. Open Prism console for clusters you would like to manage with AHV plugin and add the copied key in Prism cluster lockdown section. From this point onwards AHV can establish SSH connection with hosts and cvms in the cluster.

Figure 3.18 SSH Authentication

\sim	VERTIV.	ogout	
=	SSH Authentication:		
🕈 НОМЕ	In order to carry out graceful shut down of AHV Hosts in a Nutanix cluster, AHV Plugin establishes SSH connection with AHV Hosts and CVMs in the cluster. To facilitate this, AHV Plugin invitual appliance comes pre-installed with SSH key-pair. Copy the SSH public key and add it in 'Prism consolé' -> Settings -> 'Cluster Lockdown' section for all the clusters you wish to manage with AHV Plugin. This establishes a relation of rust between AHV Hosts and CVMs in Nutanix cluster and AHV Plugin. From this point onwards AHV Plugin can establish key-based SSH connections with AHV Hosts and CVMs.		
O- SSH ACCESS			
UPS ASSOCIATION	Note: AHV Plugin establishes SSH connections with AHV Hosts and CVMs using 'nutanix' user.		
POWER INSIGHT	AHV Plugin SSH public key for quick reference: ssh-rsa AAAAB3Nzac1yo2EAAAADAQABAAACAQCmi5NwZdQ1xkcaNfwVUKflk5xjk8kD0y8p/d+LRckTXS9WNXiRJiDhniDEJVAnbKDIFuoFKu2valUWZ2gmr AzqBq0V+g1D5Ng6BV/Rn30OF89qJYM+Pssfk5ik0wdjVLo8rDy0+3VFiUB8pcxU+NUiTprP27288meBuAlci9GcrP8zftSqH1tpeqGMkvq4qzDwR0iJ1T3EHdwS8 pwfeGc2550/d/kawHsPSDU&i+PrAX0mJSDBik4ymi+qWKle50EfnsXYu1wrN2MggoXBrd1tuc11n7Jo5FKqarVL7+9n0gSQwKJuk6y4Fow2bD5VJCqRwubysJX 54Pp1wt745fXYLNxx/Zxms2MZHRy3Jt+DzFC5Pr2xiv6/Vxxuh53Sp3pzzBQpimMHLuUIpaqNnHmmOHxdQl/YgXJCsoYfRzD1ZhZfp68w7lc6y1VFxyrA3nPaAQ X4/u1E3k/uqM0x/Yq+xBi9R4HCfLvLKkmPNBIYuPcr/UMKwrZntW7c19iyK9Dh+5hUniv/A6pcjJn8qQkS1aLNDTQAUplCupmMB4CassQPbmMQQyQUMlfzShHn bOWKJS+Hg28EiqwzSsFoyhHum0ARy52++9KUF1MT0n+uGizmiSRJktzmJQNELbKNMfwfcvtDsGIRXEad12jg8HPdD8T6is5cVX3p5WA7w== vertiv@ip-10-0- 1-182		
PRISM SETTINGS			
CHANGE PASSWORD			
	Copy SSH key		
Version: 1.0.0.0			

3.7 Change Password

To change password for admin user, follow the below steps:

- 1. Click *Change Password* in Plugin menu.
- 2. Enter current password, new password and then re-type new password.
- 3. Click Apply.

NOTE: It is recommended to change the default password on first login.

Figure 3.19 Change Password

VERTIV.			Logout
=	Change Password:		
🕈 НОМЕ	Current password	-	
C- SSH ACCESS	New password	-	
UPS ASSOCIATION	Confirm new password		
POWER INSIGHT	Apply		
PRISM SETTINGS			
CHANGE PASSWORD			
Version: 1.0.0.0			

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4 Troubleshooting

This chapter details various problems or cases you may encounter and provides a troubleshooting actions. See **Table 4.1** below to find the solution for the listed problems.

Table 4.1 Troubleshooting

Problem	Solution	
 When you open the UPS association screen, and you may observe one of the following errors: Cannot find Power Insight registration details in database. Prism Settings are unavailable, add details in Prism Settings section and try again. 503 SERVICE UNAVAILABLE: <i>Http request to endpoint 127.0.0.19080 failed with error. Response status: 2.</i> Error connecting with Prism <i>https://nutanix-ahv-servername:9440/PrismGateway/services/rest/v2.0/clusters: java.net.ConnectException: Connection timed out.</i> 	Check you have valid Host details setup in Power Insight and Prism Settings sections.	
To uninstall AHV Plugin.	 If you copied AHV Plugin SSH public key and added it in Nutanix Prism cluster lockdown section, delete it from Prism. If you created Power Insight API key and secret and added these in AHV Plugin Power Insight integration section, open Power Insight application, browse to Integration Management section and delete the API key and secret. Shutdown AHV Plugin VM and delete the virtual machine. 	
If you need to use two AHV plugin instances, it may happen that the IP addresses of the two virtual machines running the plugins are the same.	Run the following command to reset the IP address: echo -n> /etc/machine-id systemd-machine-id-setup 	

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