APIs - CLIs - nCLI and aCLI

[PDF generated May 21 2024. For all recent updates please see the Nutanix Bible releases notes located at https://nutanixbible.com/release_notes.html. Disclaimer: Downloaded PDFs may not always contain the latest information.]

aCLI

The Acropolis CLI (aCLI) is the CLI for managing the Acropolis and AHV portion of the Nutanix product for tasks like AHV host, network, and VM management. These capabilities were enabled in releases after AOS 4.1.2 and are available on Nutanix AHV cluster CVMs only. **aCLI** is not supported on Prism Central.

The current aCLI command reference can be found on the Nutanix Portal.

Enter aCLI Shell

Description: Enter aCLI shell.

```
acli
```

OR

Description: Execute aCLI command via Linux shell

```
acli <command>
```

Output aCLI Response in JSON Format

Description: Enter aCLI shell. Any responses to commands will be in JSON format.

```
acli -o json
```

List AHV Hosts

Description: Lists AHV nodes in the cluster.

```
host.list
```

This screenshot shows the output from 'host.list' in both tabulated and JSON format. The obfuscated information are cluster specific serial numbers and IP address details.

Tabulated vs JSON output from aCLI

Create Network

Description: Create network based on VLAN

```
net.create NAME TYPE.ID[.VSWITCH] ip_config=A.B.C.D/NN vlan="VLAN"
```

Example:

```
net.create vlan.133 ip_config=10.1.1.1/24 vlan="133"
```

List Networks

Description: List networks

```
net.list
```

Create DHCP Scope

Description: Create dhcp scope

```
net.add_dhcp_pool NET NAME start=START IP A.B.C.D end=END IP W.X.Y.Z
```

Note: The last usable IP address in the network range is selected for the Acropolis DHCP server if an address for the DHCP server wasn't set during network creation.

Example:

```
net.add_dhcp_pool vlan.100 start=10.1.1.100 end=10.1.1.200 vlan="100"
```

Get Existing Network Details

Description: Get a network's VMs and details including VM name / UUID, MAC address and IP

```
net.list_vms NETNAME
```

Example:

```
net.list_vms vlan.133
```

Configure DHCP DNS Servers for Network

Description: Set DHCP DNS

```
net.update_dhcp_dns NETNAME servers=COMMA SEPARATED DNS IPs domains=COMMA SEPARATED DOMAINS
```

Example:

```
net.update_dhcp_dns vlan.100 servers=10.1.1.1,10.1.1.2 domains=ntnxlab.local
```

Create Virtual Machine

Description: Create VM

```
vm.create COMMA SEPARATED VM NAMES memory=NUM MEM MB num_vcpus=NUM VCPU num_cores_per_vcpu=NUM CORES ha_priority=PRIORITY INT
```

Example:

```
vm.create testVM memory=2G num_vcpus=2
```

Bulk Create Virtual Machines

Description: Create bulk VMs

```
vm.create CLONEPREFIX[STARTING INT..END INT] memory=NUM MEM MB num_vcpus=NUM VCPU num_cores_per_vcpu=NUM CORES ha_priority=PRIORITY INT
```

Example:

```
vm.create testVM[000..999] memory=2G num_vcpus=2
```

Clone VM from Existing

Description: Create clone of existing VM

```
vm.clone CLONE NAME(S) clone_from_vm=SOURCE VM NAME
```

Example:

```
vm.clone testClone clone_from_vm=MYBASEVM
```

Bulk Clone VMs from Existing VM

Description: Create bulk clones of existing VM

```
vm.clone CLONEPREFIX[STARTING INT..END INT] clone_from_vm=SOURCE VM NAME
```

Example:

```
vm.clone testClone[001..999] clone_from_vm=MYBASEVM
```

Create Disk and Add to VM

Description: Create disk for OS

```
vm.disk_create VM NAME create_size=Size and qualifier, e.g. 500G container=CONTAINER NAME
```

Example:

```
vm.disk_create testVM create_size=500G container=default
```

Add NIC to VM

Description: Create and add NIC

```
vm.nic_create VM NAME network=NETWORK NAME model=MODEL
```

Example:

```
vm.nic_create testVM network=vlan.100
```

Set VM Boot Device to Disk

Description: Set a VM boot device

Set to boot from specific disk id

```
vm.update_boot_device VM NAME disk_addr=DISK BUS
```

Example:

```
vm.update_boot_device testVM disk_addr=scsi.0
```

Add CD-ROM to VM

```
vm.disk_create VM NAME cdrom="true" empty="true"
```

Example:

```
vm.disk_create testVM cdrom="true" empty="true"
```

Set VM Boot Device to CD-ROM

Set to boot from CD-ROM

```
vm.update_boot_device VM NAME disk_addr=CD-ROM BUS
```

Example:

```
vm.update_boot_device testVM disk_addr=ide.0
```

Mount ISO to CD-ROM

Description: Mount ISO to VM CD-ROM

Steps:

1. Upload ISOs to container
2. Enable whitelist for client IPs
3. Upload ISOs to share

Create CD-ROM with ISO

```
vm.disk_create VM NAME clone_from_afsf_file=/CONTAINER/ISO CD-ROM=true
```

Example:

```
vm.disk_create testVM clone_from_adfs_file=/default/myfile.iso CD-ROM=true
```

Detach ISO from CD-ROM

Description: Remove ISO from CD-ROM

```
vm.disk_update VM NAME CD-ROM BUS empty=true
```

Power On VM(s)

Description: Power on VM(s)

```
vm.on VM NAME(S)
```

Example:

```
vm.on testVM
```

Power on all VMs.

Example:

```
vm.on *
```

Power on all VMs matching a prefix.

Example:

```
vm.on testVM*
```

Power on range of VMs.

Example:

```
vm.on testVM[0-9][0-9]
```

nCLI

The current nCLI command reference can be found on the Nutanix Portal.

The Nutanix Command Line Interface (nCLI) allows you to run system administration commands against the Nutanix cluster. In contrast to aCLI, nCLI can be installed on your local machine. See the Nutanix Portal link above for installation details.

Display Nutanix Version

Description: Displays the current version of the Nutanix software

```
ncli cluster version
```

This screenshot shows the output from 'ncli version' as both a single-line command and from within an ncli "session".

ncli command usage options

Add Subnet to NFS whitelist

Description: Adds a particular subnet to the NFS whitelist

```
ncli cluster add-to-nfs-whitelist ip-subnet-masks=10.2.0.0/255.255.0.0
```

List Storage Pools

Description: Displays the existing storage pools

```
ncli sp ls
```

Note: This example shows the use of shortened commands. "storagepool" becomes "sp", "list" becomes "ls".

List Storage Containers

Description: Displays the existing containers

```
ncli ctr ls
```

Create Storage Container

Description: Creates a new container

```
ncli ctr create name=NAME sp-name=SP NAME
```

List VMs

Description: Displays the existing VMs

```
ncli vm ls
```

List Public Keys

Description: Displays the existing public keys

```
ncli cluster list-public-keys
```

Add Public Key

Description: Adds a public key for cluster access

SCP public key to CVM

Add public key to cluster

```
ncli cluster add-public-key name=myPK file-path=~/mykey.pub
```

Remove Public Key

Description: Removes a public key for cluster access

```
ncli cluster remove-public-keys name=myPK
```

Create Protection Domain

Description: Creates a protection domain

```
ncli pd create name=NAME
```

Create Remote Site

Description: Create a remote site for replication

```
ncli remote-site create name=NAME address-list=Remote Cluster IP
```

Create Protection Domain For All VMs In Storage Container

Description: Protect all VMs in the specified container

```
ncli pd protect name=PD NAME ctr-id=Container ID cg-name=NAME
```

Create Protection Domain With Specified VMs

Description: Protect the VMs specified

```
ncli pd protect name=PD NAME vm-names=VM Name(s) cg-name=NAME
```

Create Protection Domain for AOS files (aka vDisk)

Description: Protect the DSF Files specified

```
ncli pd protect name=PD NAME files=File Name(s) cg-name=NAME
```

Create Protection Domain Snapshot

Description: Create a one-time snapshot of the protection domain

```
ncli pd add-one-time-snapshot name=PD NAME retention-time=seconds
```

Create Snapshot and Replication Schedule to Remote Site

Description: Create a recurring snapshot schedule and replication to n remote sites

```
ncli pd set-schedule name=PD NAME interval=seconds retention-policy=POLICY remote-sites=REMOTE SITE NAME
```

List Replication Status

Description: Monitor replication status

```
ncli pd list-replication-status
```

Migrate Protection Domain to Remote Site

Description: Fail-over a protection domain to a remote site

```
ncli pd migrate name=PD NAME remote-site=REMOTE SITE NAME
```

Activate Protection Domain

Description: Activate a protection domain at a remote site

```
ncli pd activate name=PD NAME
```

Check Cluster Resiliency Status

```
# Node status
ncli cluster get-domain-fault-tolerance-status type=node
```

```
# Block status
ncli cluster get-domain-fault-tolerance-status type=rackable_unit
```