



Lenovo XClarity Administrator PowerShell tool

Yu Quan (yuquan1@lenovo.com)

Overview

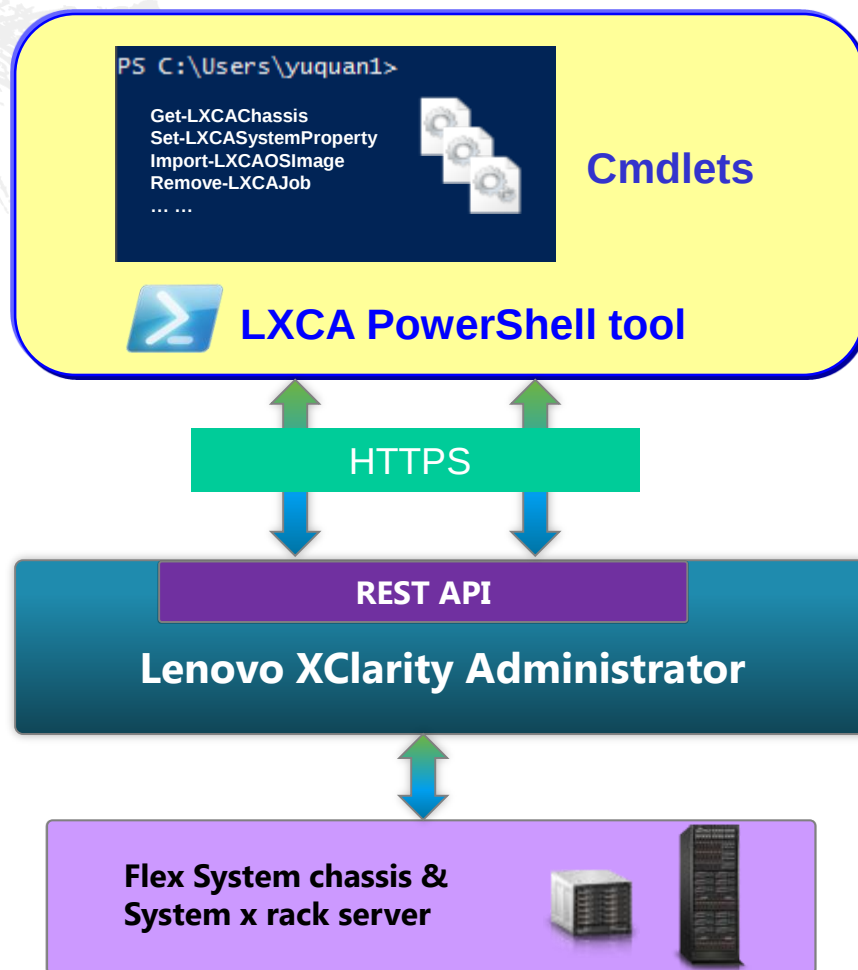
➤ Lenovo XClarity Administrator PowerShell tool

PowerShell tool provides cmdlets that you can run in a Microsoft PowerShell session to automate the system management functions that are available from Lenovo XClarity Administrator.

➤ Major functions

- Manage New Devices
- Inventory
- Configuration pattern
- OS deployment
- Firmware update
- Account management
- Others

Architecture (via REST API)



Function list

Component	Support in PowerShell	Not support in PowerShell
Inventory	➤ Get chassis inventory data ➤ Get compute node inventory data ➤ Get storage node inventory data ➤ Get I/O module inventory data ➤ Get rack server inventory data ➤ Power operation on endpoints ➤ Basic configuration	➤ Launch console ➤ Remote control ➤ Cabinet(rack) support
Manage new device	➤ Manage/unmanage chassis ➤ Manage/unmanage rack server ➤ Bulk import support	
Configuration Pattern	➤ Get configuration pattern ➤ Get configuration profile ➤ Get deployable server according to pattern/profile ➤ Deploy pattern to endpoint ➤ Deploy profile to endpoint ➤ Unassign profile from endpoint	➤ Create configuration pattern ➤ View / Edit configuration pattern ➤ Delete configuration pattern
Firmware update	➤ Get update package from repository ➤ Import local update package ➤ Get update compliance policy ➤ Assign policy to target endpoint ➤ Perform firmware update	➤ Acquire update package ➤ Delete update package ➤ Create compliance policy ➤ View / Edit compliance policy ➤ Delete compliance policy ➤ Unassign policy from target endpoint

Function list – Cont.

Component	Support in PowerShell	Not support in PowerShell
OS Deployment	➤ Get OS image ➤ Delete OS image ➤ Import OS image ➤ Get/set the global setting ➤ Get deployable server ➤ Deploy OS image	
User account (Security)	➤ Get user account ➤ Change user account ➤ Change password ➤ Create a new user account ➤ Delete a user account ➤ Get active session	➤ Other security related functions
Event and log	➤ Get event log ➤ Get audit log ➤ Get system active alert ➤ Get system active status ➤ Get FFDC file ➤ Monitor event ➤ Backup event log ➤ Set event exclusion filter	➤ Event forwarding
Job management	➤ Get job ➤ Cancel a running job ➤ Delete a job	

Install PowerShell tool

➤ Prerequisites

- .Net Framework 4.0, <http://go.microsoft.com/fwlink/?LinkID=212547>
- Windows PowerShell 3.0, <http://www.microsoft.com/en-us/download/details.aspx?id=34595>

➤ Procedure

1. Download the PowerShell for Lenovo XClarity Administrator zip file.
2. Unzip the package into a local directory.
3. Run the installation BAT file to install the tool.
[unzip_directory\InstallLXCAPSTool.bat](#)
Note: To remove the Lenovo XClarity Administrator PowerShell tool, use [RemoveLXCAPSTool.bat](#)
4. Start a PowerShell session.
5. Validate that the module was imported.
[Get-Command *LXCA*](#)
This command will list all cmdlets in our PowerShell tool.

Help and Usage

- **View** all cmdlets
`Get-Command *LXCA*`
- **Get help** for each cmdlet
`Get-Help <cmdlet_name> <-Full>`
e.g. `Get-Help Get-LXCACHassis -Full`
- **Log** (for PowerShell tool)
 - Log level:
Default log level is **Info**, you can run cmdlet "`Set-LXCAPSLogLevel`" to change it.
 - Log file:
Under `C:\Lenovo_Support\PowerShell_Logs\`
- **Connect / Disconnect** to LXCA
`$UserName = "USERID"`
`$Password = ConvertTo-SecureString "Password" -AsPlainText -Force`
`$Cred = New-Object System.Management.Automation.PSCredential($UserName, $Password)`
`Connect-LXCA -Host 10.115.253.96 -Credential $Cred -SkipCertificateCheck`
`$Chassis = Get-LXCACHassis`
... ..
`Disconnect-LXCA`

A sample

- **Get all** (managed) System x rack servers and Power off them

Step-1: **Connect to LXCA server**

```
$LxcaUserName = "USERID"
```

```
$LxcaPassword = ConvertTo-SecureString "Password" -AsPlainText -Force
```

```
$LxcaIP = "10.20.10.1"
```

```
$Cred = New-Object System.Management.Automation.PSCredential($LxcaUserName, $LxcaPassword)
```

```
Connect-LXCA $LxcaIP -Credential $Cred -SkipCertificateCheck
```

Step-2: **Get all managed System x rack servers and output some properties in table format**

```
$allServers = Get-LXCARackServer
```

```
Write-Host "`nAll managed rack servers"
```

```
$allServers | Sort-Object Name | Format-Table -Property Name,MachineType,IPAddresses,AccessState,HealthState,PowerState -Wrap
```

Step-3: **Power off each rack server**

```
Foreach ($server in $allServers)
```

```
{
```

```
    Invoke-LXCASystemAction -RackServerUuid $server.Uuid -RackServerAction ShutdownOSandPowerOff
```

```
}
```

Step-4: **Disconnect from LXCA server**

```
Disconnect-LXCA
```

There are more sample scripts under [unzip_directory\Sample](#).

THANK YOU GRAZIE MERCI DANKE GRAZIAS 謝謝 СПАСИБО
GRACIAS OBRIGADO ありがとう DANK TAKK BEDANKT DAKUJEM

PowerShell Cmdlet list (1)

Component	Cmdlet	Description
Common	Connect-LXCA	Connect (login) to LXCA server.
	Disconnect-LXCA	Disconnect (logout) from LXCA server.
	Get-LXCACInformation	Get LXCA information
	Set-LXCAPSLogLevel	Set the log level of PowerShell
Inventory	Get-LXCACHassis	Get chassis list
	Get-LXCACHassisMember	Get chassis member list
	Get-LXCACHassisInventory	Get chassis inventory data
	Get-LXCACComputeNode	Get compute node list
	Get-LXCASStorageNode	Get storage node list
	Get-LXCARackServer	Get rack server list
	Get-LXCAIOModule	Get I/O module (switch) list
	Get-LXCAScalableComplexSystem	Get scalable complex system
	Set-LXCASystemProperty	Set system basic information (name, location, contact, etc)
	Set-LXCASystemIPInterface	Set system IP interface
	Invoke-LXCASystemAction	Power on / off / restart endpoint
Manage new device	Add-LXCAManagedDevice	Manage chassis / rack server in LXCA
	Remove-LXCAManagedDevice	Unmanage chassis / rack server from LXCA
Configuration Pattern	Get-LXCAConfigPattern	Get server pattern
	Get-LXCAConfigProfile	Get server profile
	Get-LXCAConfigPatternDeployableServer	Get deployable server according to pattern/profile
	Install-LXCAConfigPattern	Deploy server pattern to endpoint
	Install-LXCAConfigProfile	Deploy server profile to endpoint
	Remove-LXCAConfigProfileFromSystem	Unassign server profile from target endpoint

PowerShell Cmdlet list (2)

Component	Cmdlet	Description
OS Deployment	Get-LXCAOSImage	Get OS image
	Remove-LXCAOSImage	Delete OS image
	Import-LXCAOSImage	Import local OS image to LXCA
	Get-LXCADeployGlobalSetting	Get the global setting
	Set-LXCADeployGlobalSetting	Set the global setting
	Get-LXCADeployableServer	Get deployable server
	New-LXCADeployTask	Deploy OS image to target server
	Install-LXCAOSImage	
Event and log	Get-LXCAEvent	Get events
	Get-LXCAAuditLog	Get audit events
	Get-LXCAActiveAlert	Get system active alert
	Get-LXCAActiveStatus	Get system active status
	Get-LXCAFFDCFile	Get debug data (FFDC file)
	Get-LXCAServiceFile	Get service FFDC file that LXCA has collected from a specified endpoint system
	Start-LXCAEventMonitor	Start an event monitor
	Backup-LXCAEventLog	Backup LXCA events to local file
	Get-LXCAEventExclusionFilter	Get LXCA event exclusion filters
	Add-LXCAEventExclusionFilter	Add a LXCA event exclusion filter
	Remove-LXCAEventExclusionFilter	Remove a LXCA event exclusion filter

PowerShell Cmdlet list (3)

Component	Cmdlet	Description
Firmware Update	Get-LXCAUpdatePackage	Get update package from LXCA repository
	Import-LXCAUpdatePackage	Import local update package to LXCA repository
	Get-LXCAUpdateCompliancePolicy	Get available update policy
	Join-LXCAUpdateCompliancePolicy	Assign update policy to target endpoint
	Get-LXCASystemCompliance	Get system compliance result
	Install-LXCAUpdatePackage	Apply update to target endpoint
User management	Get-LXCAUserAccount	Get user account
	Set-LXCAUserAccount	Change user account
	Set-LXCAUserAccountPassword	Change password
	Add-LXCAUserAccount	Create a new user account
	Remove-LXCAUserAccount	Delete a user account
	Get-LXCAUserAccount	Get user account
Job management	Get-LXCAJob	Get jobs
	Stop-LXCAJob	Cancel a running job
	Remove-LXCAJob	Delete a job