**LXCA Python CLI aka Lenovo xClarity PyCLI.**

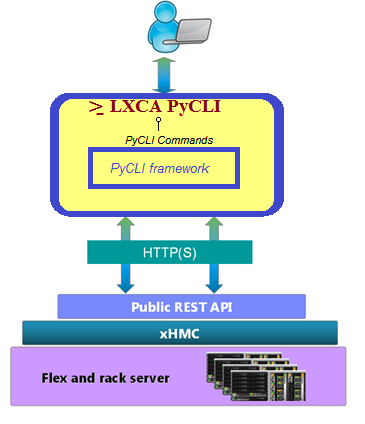
The Python Command Line tool for Lenovo XClarity Administrator (LXCA) is designed for users who wish to leverage Python-based scripts to do IT management automation in their environment.

The Python CLI cmdlets will wrap major LXCA exposed functions (Data Management, Config Patterns, FlexCat, Update, Event, etc) via REST API interface.

The Python CLI for LXCA will follow Python standards and best practices and will use python standard modules. This tool will also expose module which can be imported in Python script so that IT Administrator can create their own automation using it.

**Proposal**

**Architecture**

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**PyCLI Framework**

*PyCLI* framework will act as a base for writing LXCA Python CLI commands. All command will be based on and utilize the framework capabilities. Framework will use all standard and internal modules of python and will not create dependency on any external third party modules. This framework should provide following basic capabilities.

1. Connection and Session establishment, management, termination.
2. Base framework for writing new commands.
3. Input / Output Argument parsing.
4. REST command handling support.



**Function List**

Following is list of commands supported in PowerShell tool

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| **Component** | **Cmdlet** | **Description** |
| Common | Connect-LXCA | Connect (login) to LXCA server. |
|  | Disconnect-LXCA | Disconnect (logoff) from LXCA server. |
|  | Get-LXCAInformation | 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-LXCAComputeNode | Get compute node list |
|  | Get-LXCAStorageNode | 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 |

|  |  |  |
| --- | --- | --- |
| 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 |
| 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 |

**Efforts**

Python CLI Framework - 10 Person Days.

Individual command implementation - 1.5 to 2.5 Person Days